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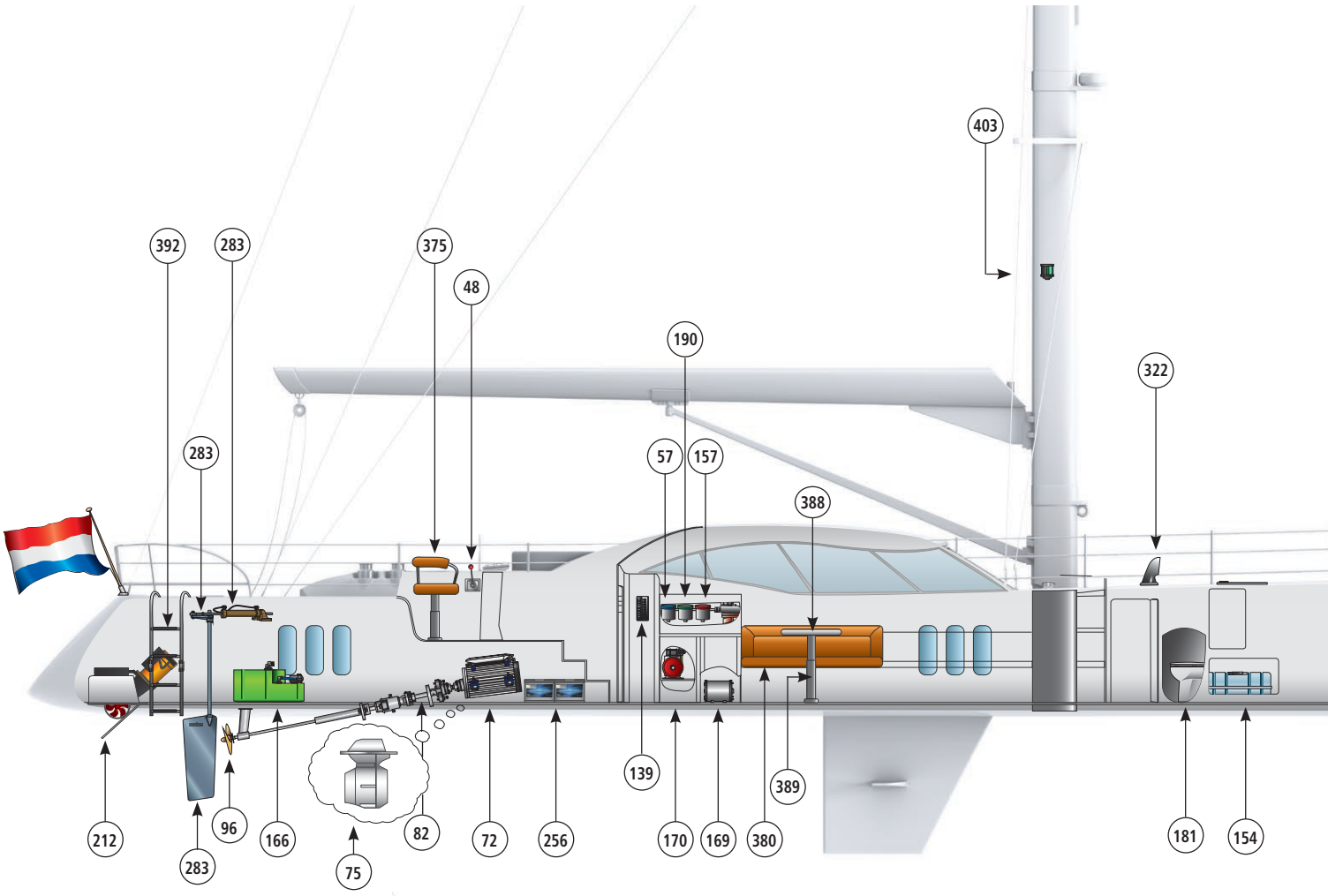
CREATORS OF BOAT SYSTEMS

2021
2022
2023

vetus MAXWELL MAREX V-QUIPMENT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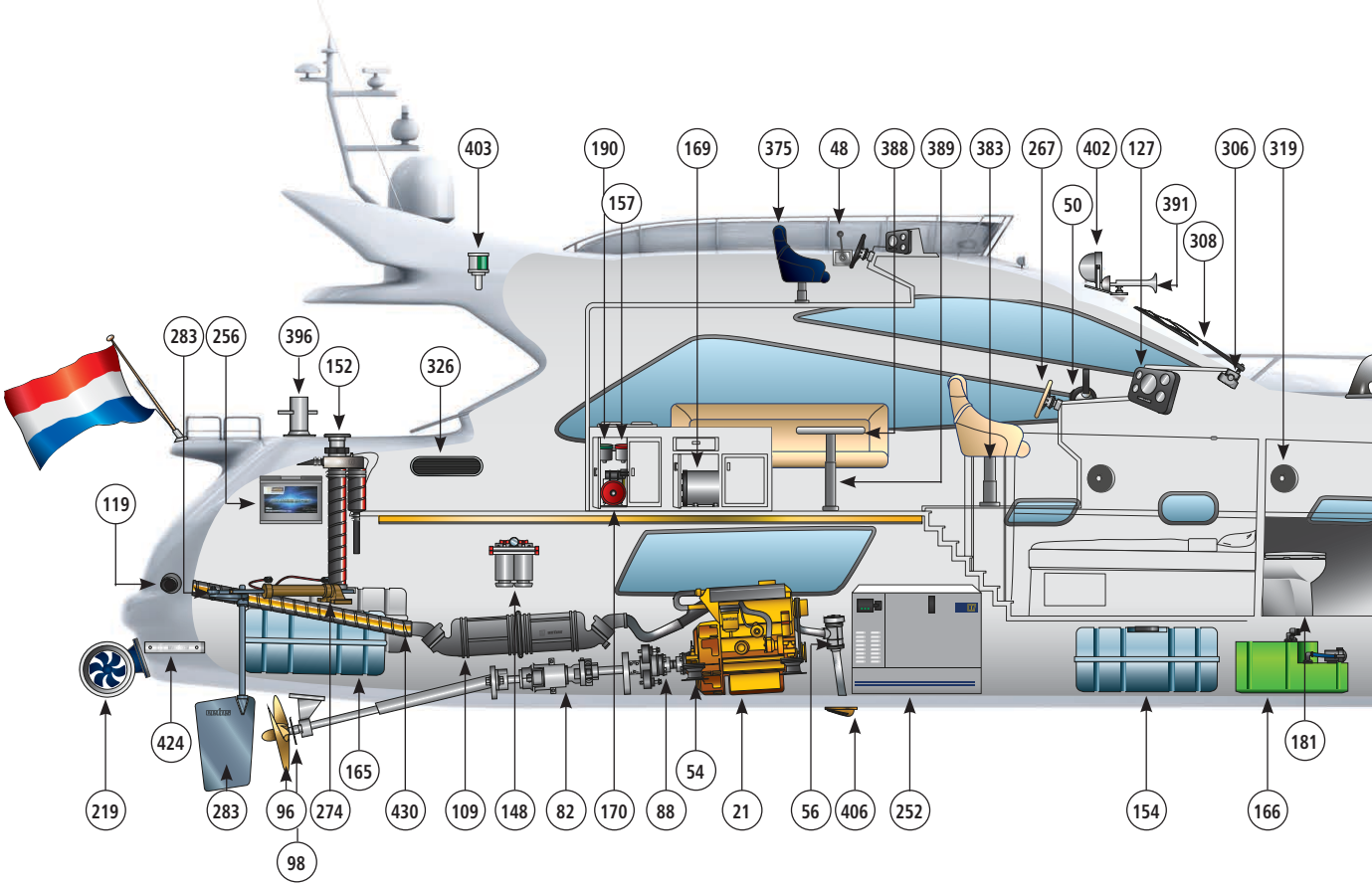
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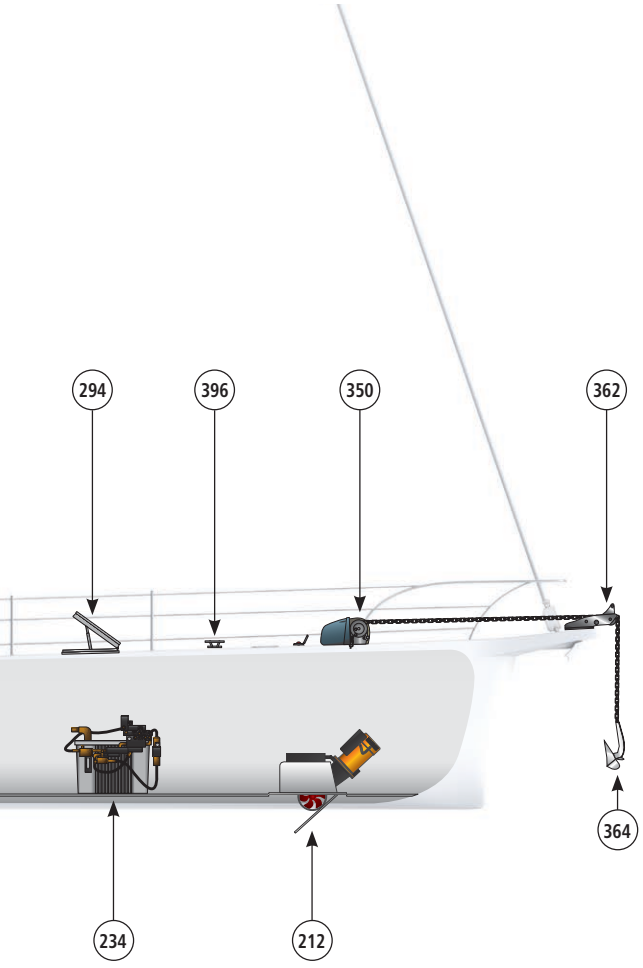

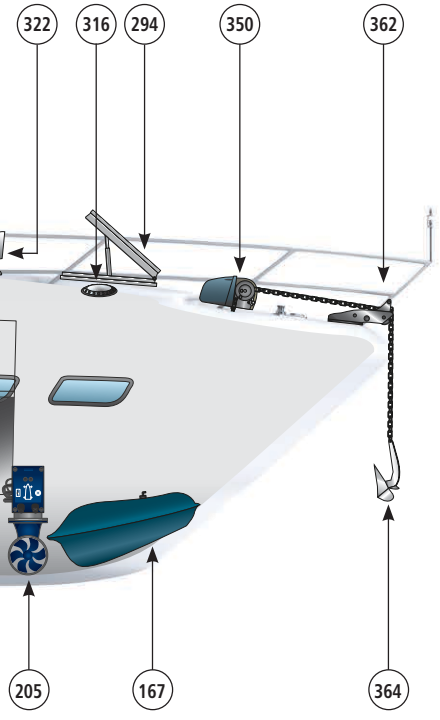

VETUS, Creators of boat systems

Why choose VETUS?

VETUS supplies complete boat systems. We are not just a wholesaler, nor do we focus on one product - we are industry wide specialists who design complete systems. Systems meticulously engineered to one another so they go together like a dream.

VETUS is the one-stop-shop you are looking for, whether you need a complete propulsion system or only a waterlock. An advisory partner with knowledge of both technique and market, who has a global network and offers a unrivalled service. VETUS - for boaters by boaters.

Who are we?

VETUS was founded in 1964 and started out as a wholesale business. Our goal today is to be the leading company in innovative systems and products for pleasure boats and light duty commercial boats. Our mission is to constantly provide the best products in our industry to enhance our customers pleasure in boating.

Who we are? We are VETUS, Creators of boat systems

Our brands

Throughout the years we have obtained some businesses, each keeping their specialism. We now consist of:

VETUS - *complete product systems numbering over 4,000 high quality products*

Over 70% of our quality products are partly or completely developed in-house. Only the most knowledgeable and experienced companies are added to our list of selected partners, but only when we've verified those are the best match to our self-developed products. We've developed many innovations, such as the EP2200 (electric propulsion: introduced early 2000) and the BOW PRO thrusters (brushless bow thrusters: introduced in 2018) and this year we add our new Electric Propulsion solutions to this list: the E-Line. The first complete package solution for Electric Boating!

Maxwell - *anchoring systems to stay in position: at the top*

For over 50 years Maxwell has been known for its comprehensive programme of windlasses, capstans and accessories providing optimal anchoring solutions for pleasure boats/yachts (from 6-90 metres) and commercial vessels. In the marine industry Maxwell's products are renowned for their quality, innovative design, performance and reliability. Maxwell made the world's first automatic rope/chain windlass in the mid 90's and is known for its Freedom series which have been replaced by the brilliantly evolved RC series.

Marex - *providing clear vision since 1950*

Marex is a leading manufacturer of custom made boat windows. Marex stands for quality, innovation and stylish design. Offering several base product ranges including the outstanding Marex Screw-On line, Marex Comfort Line and the Marex Exclusive Line.

V-Quipment - *auxiliary items to meet the needs of every boat owner*

V-Quipment has a diverse range of high quality, carefully selected marine products to complement our VETUS range. That range is divided into theme groups: Comfort, Deck Equipment, Fittings, Pumps, Outboard, Materials, Accessories, Locks and Stays. All V-Quipment products are tested and approved in the VETUS test lab in Schiedam (The Netherlands) and therefore carry our 3-year warranty.

VETUS, Creators of boat systems

Yanmar Marine International

Since 2013 VETUS is part of Yanmar Group.

The leading supplier of innovative engines and technology driven marine propulsion systems, YANMAR Marine International (YMI) supplies the world's cleanest, most efficient, reliable and durable diesel engines for the recreational sector - both sailboats and powerboats – and light duty commercial applications. Its trusted range of common rail marine diesel engines encompass an output range from 40 hp to 640 hp, the most comprehensive offering available from any marine engine manufacturer. Committed to the development of advanced technology for the best and most sustainable solutions to meet the evolving needs of boat owners and OEMs, YMI's mission is to enhance the entire boating experience for all its customers.

To achieve this mission, we are actively listening to the needs and desires of our customers, and delighting them with imaginative and groundbreaking integrated boat systems, at the heart of which is the Yanmar engine. The concept of a total system is the result Yanmar Marine International's building of a group of over 60 subsidiary and partner companies. Together, our goal is to provide everything a boat owner needs, whether for sailboat, powerboat or commercial vessel use-each tested and proven in real-world conditions.

Yanmar Partners & Affiliates

DTorque

German manufacturer Neander Shark set a new benchmark in diesel engineering with its innovative 50 hp Dtorque 111 turbo diesel outboard. With a remarkable torque output peaking at 111 Nm at 2,500 rpm, the smooth-running 804cc outboard's torque performance surpasses the leading 70 hp fuel-injected, four-stroke gasoline outboards.
The Dtorque features a fuel consumption of less than 12 litres per hour with a service life in excess of 10,000 hours. See page 160 for more info.

Flexofold

Founded in 1992 by entrepreneur and hydrodynamics expert Jack Skrydstrup, Flexofold is a global leader in the development, manufacture and distribution of highly efficient folding propellers. The sailboat propellers, which are sold directly to boat builders as well as private boat owners worldwide, are built in the company's Denmark factory, equipped with modern CNC equipment and robot technology. Noted for achieving high performance and low drag, the advanced propeller product line continues to expand with the introduction of new models. See page 100 for more info.

GETMYBOAT

Established in 2013 in San Francisco, GetMyBoat has grown to become the world's largest online boat rental and water experience marketplace, featuring an impressive 130,000+ listings in 184 countries and covering over 9,300 destinations globally. This innovative peer-to-peer boat rental approach brings the world of boating to everyone, whether they are an accomplished captain or completely new to boating. GetMyBoat empowers owners of every type of boat, from kayaks to sailboats to motorboats, to reach thousands of potential customers. For more info see page 176.

SmartGyro

Founded in 2014, Smartgyro is a gyro stabilization technology company based in La Spezia, Italy, driven by a mission to offer boat stabilization for vessels from 30ft to 80ft. The company has designed and developed a full range of state-of-the-art gyro stabilizers for recreational and commercial marine vessels, suitable for new boats and refit installations. Feel the magic. For more info see page 443.

NEW!

E-Line
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E-POD
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ZWBH30/35
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VRC
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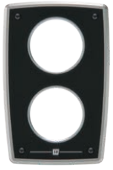
FTR330..M Series
Page 58

NLP3..15L Series
Page 109

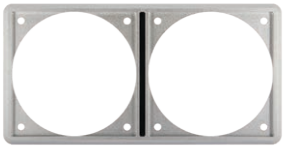


MPA1XB
Page 127 - 128

MPA10
Page 128

MPA1KB
Page 130

MPA1MB
Page 130



XTASF2P
Page 130

TACHMD
Page 131

CANA2J1
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NEW!

ILT120B / ILT120X

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DBPPJA

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BOW4012

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BOW18024D

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BOWB180 / 210

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BOWB300

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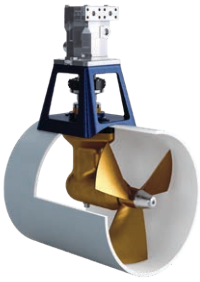

BOWH

Page 219

GHX5

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BC120517

Page 255

PL Series

Page 289

PPL2

Page 292

FGHF Series

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V-CAN (VETUS Controller Area Network)

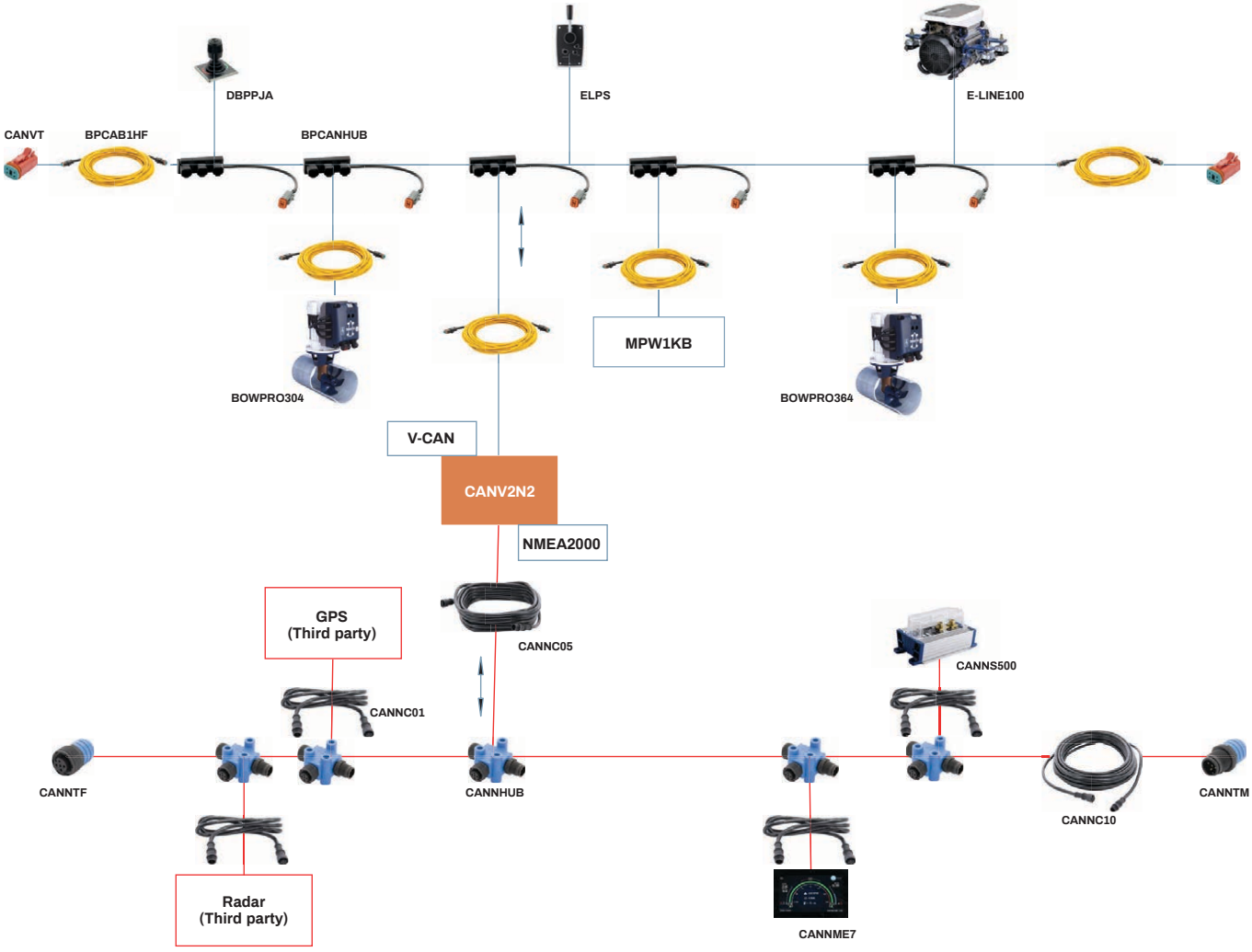
Over the past few years, VETUS has made increasing steps to develop products which function in the CAN bus environment.

CAN bus is a digital communication network, used to monitor and control devices which are connected on the CAN bus line. There are many different CAN bus networks in the world. The most common for marine applications are J1939® and NMEA0183® or NMEA2000®.

VETUS has designed its own CAN bus system called V-CAN, which is intended for VETUS products only. It has also made products which will communicate between this proprietary V-CAN system and J1939® or NMEA2000®.

VETUS has also assisted the NMEA2000® organization in the implementation of thrusters and electric propulsion to operate on that network. For this reason, VETUS is a NMEA2000® member.

The development of a proprietary V-CAN protocol enables VETUS to stay in control and maintain implemented safety factors designed into our products. External control or monitoring by other systems must always be done with VETUS approval. This is either via a Gateway to the other system, or through approved use of the V-CAN command structure (see the schematic).



VETUS V-CAN

V-CAN connection cables

Available in six different lengths for use with BOW PRO and RIMDRIVE installations.

Type	Description
BPCAB1HF	CAN cable 1 m Halogen free
BPCAB5HF	CAN cable 5 m Halogen free
BPCAB10HF	CAN cable 10 m Halogen free
BPCAB15HF	CAN cable 15 m Halogen free
BPCAB20HF	CAN cable 20 m Halogen free
BPCAB25HF	CAN cable 25 m Halogen free

BPCAB..HF

BPCABCPC

BPCANT

BPCANHUB

Type	Description
BPCABCPC	Power supply cable
BPCANT	CAN bus termination resistor
BPCABCGC	Gender changer for joining CAN bus extension cables
BPCANHUB	CAN bus 3-point hub

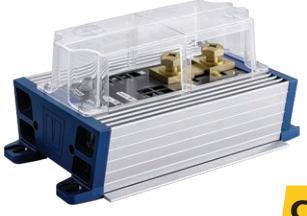
BPCABCGC

CANVERTER

The V-CAN network can be linked to the J1939® or NME2000® networks using a CANVERTER. By connecting these two networks you can benefit from the advantages of both.

CANVERTER

Type	Description
CANJ2N1	CANverter mono directional J1939 to NMEA2000
CANV2N1	CANverter mono directional V-CAN to NMEA2000
CANV2N2	CANverter bi directional NMEA2000 to V-CAN
CANV2Y2	CANverter bi directional J1939 to V-CAN
CANY2N1	CANverter mono directional NMEA2000 to J1939



CANNS500

Type	Description
CANNS500	Digital Battery Monitoring Shunt NMEA2000 and WiFi connection, max. current 500A
CANNME7	Multifunction Display for Electric Propulsion 7" display, NMEA2000

CANNME7

NMEA2000®

Cables

Available in 4 different lengths.

CANNC01

CANNC02

CANNC05

CANNC10

Type	Description
CANNC01	NMEA2000® Cable - 1 m - male-female
CANNC02	NMEA2000® Cable - 2 m - male-female
CANNC05	NMEA2000® Cable - 5 m - male-female
CANNC10	NMEA2000® Cable - 10 m - male-female

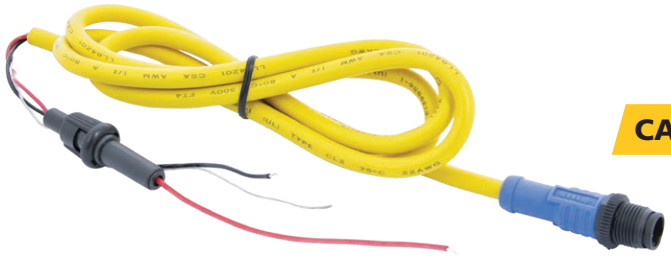
Hub

Type	Description
CANNHUB	NMEA2000® Hub - male-female-male

CANNHUB

Power supply cable

Type	Description
CANNPSCM	NMEA2000® Power supply cable - 3A fuse - male connector -1 m



CANNPSCM

Terminating resistor

Type	Description
CANNTF	NMEA2000® Terminating resistor - Female -120 Ohm

CANNTF

Terminating resistor

Type	Description
CANNTM	NMEA2000® Terminating resistor - Male -120 Ohm

CANNTM

VETUS V-CAN products

Electric Propulsion Page 67

E-LINE

E-POD

E-Line panels and controls Page 76

MPE1KB

MPE1MB

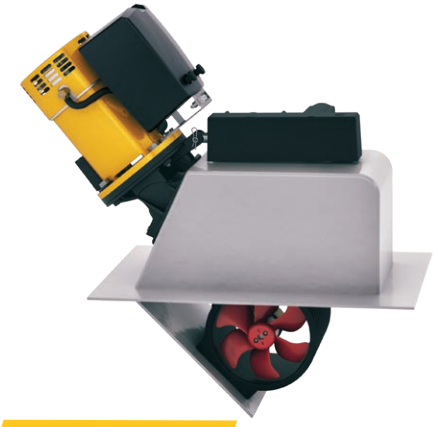
ELPS

Thrusters Page 197

BOWA

BOWB

RIMDRIVE



RETRACTABLE

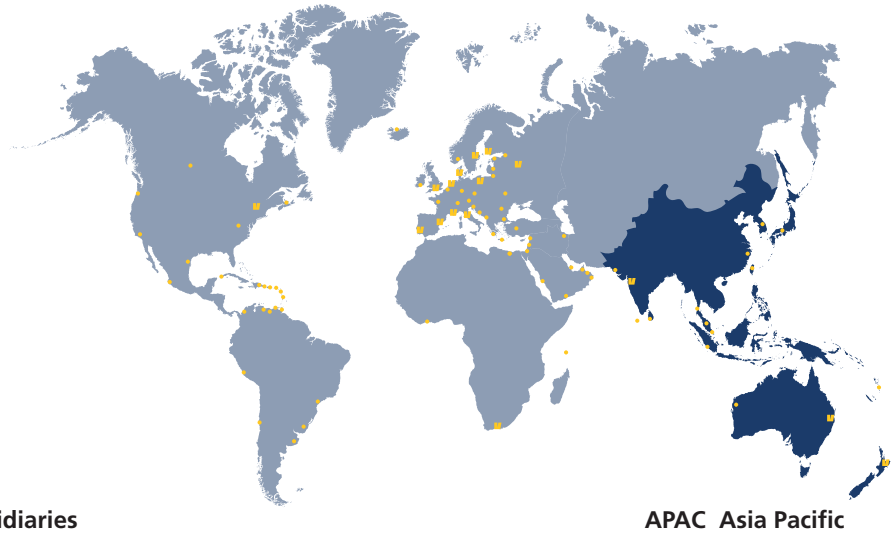
Thruster panels Page 223

BPPJA

BPPPA

DBPPJA

Service & distribution network



Head office and subsidiaries

VETUS B.V.
Fokkerstraat 571
3125 BD Schiedam-Holland
Tel.: + 31 (0)10 4377700
sales@vetus.com (export)
info@vetus.com (NL)

Asia
VETUS-Maxwell
Tel.: +886 909 390 358
salesasia@vetus-maxwell.com

Australia
VETUS-Maxwell Pty Ltd
Tel.: +61 (0)7 3245 4755
salesau@vetus-maxwell.com

Belgium
VETUS Belgium
Tel.: +32 499 82 57 22
info@vetus.be

Denmark
VETUS ApS
Tel.: +45 76 975 000
info@vetus.dk

Finland
VETUS Oy
Tel.: +358 207 756 740
info@vetus.fi

France
VETUS Maxwell France
Tel.: +33 4 94 14 93 53
info@vetus.fr

Germany
VETUS Deutschland GmbH
Tel.: +49 431 97 99 77 15
vetusdeutschland@vetus.com

India
VETUS Maxwell India
Tel.: +912 265 346 225
smiranda@vetus.com

Italy
VETUS Maxwell SRL
Tel.: +39 0571 57122
info@vetusitalia.it

New Zealand
VETUS-Maxwell Apac
Tel.: +64 (0) 9 985 66 00
salesnz@vetus-maxwell.com

Poland
VETUS Sp. z o.o.
Tel.: +48 22 452 40 52
+48 22 452 40 53
info@vetus.pl

Portugal
VETUS Portugal
Tel.: +351 211 328582
info@vetus.pt

Russia
VETUS
Tel.: +7 916 591 5331 /
+358 503 472 412
info@vetus.ru

South Africa
VETUS Maxwell South Africa
Tel.: +27 21 552 42 75
info@vetus.co.za

Spain
VETUS Hispania S.A.
Tel.: +349 02 101 883
vetus@vetus.es

Sweden
VETUS AB
Tel.: +46 854 444 270
info@vetus.se

United Kingdom
VETUS Ltd.
Tel.: +44 23 8045 4507
sales@vetus.co.uk

United States
VETUS Maxwell AMERICA
(Head office for North, Central and South America and the Caribbean)
Tel.: +1 410 712 0740
sales-service@vetus.com

APAC Asia Pacific

Asia
VETUS-Maxwell
Tel.: +886 909 390 358
salesasia@vetus-maxwell.com

Australia
VETUS-Maxwell Pty Ltd
Tel.: +61 (0)7 3245 4755
salesau@vetus-maxwell.com

New Zealand
VETUS-Maxwell Apac
Tel.: +64 (0) 9 985 6600,
salesnz@vetus-maxwell.com

China
Shanghai Yikang
Chemical & Industries Co., Ltd
Tel.: +86 021 52419090
wayne.jin@yk.wahlee.com

Hong Kong
Ronsil Development Ltd.
Tel.: +852 2834 1633
ronsil@netvigator.com

Indonesia
PT Jelajah Samudera
Internasional
Tel.: +62 812-2515-7712 /
+62 813-2653-3543
jelajah_samudera@yahoo.com

PT Sumber Marine Equipment
Tel.: +6221 690 06 31
inbox@sumber-marine.com

Japan
Marine Services Kojima Co., Ltd.
Tel.: +81 45 790 35 81
toiawase@mskojima.co.jp

Korea
Nadae-Soonshin Technology
Tel.: +82 51 832 15 95
boatcreator@soonshin.kr

Plus Service Co., Ltd
Tel.: +82 51 745 82 04
isseo@plusengg.com

Malaysia
Edaran Marin Centre Sdn Bhd
Tel.: +603 80 52 11 11
edaranmarin@gmail.com

Marine Supplies Asia Ltd
Tel.: +60 (0) 49610696
sarah.n@marinesuppliesasia.com

Maldives
Marine Equipments pvt Ltd.
Tel.: +960 333 88 20
www@meq.mv

New Caledonia
Limousin Marine
Tel.: +687 274186/282295
limousin@limousin.nc

Pacific Islands
see Australia

Philippines
Shoreline Yachts
International Ltd.
Tel.: +63 927 6486463
wvcpang@aim.com

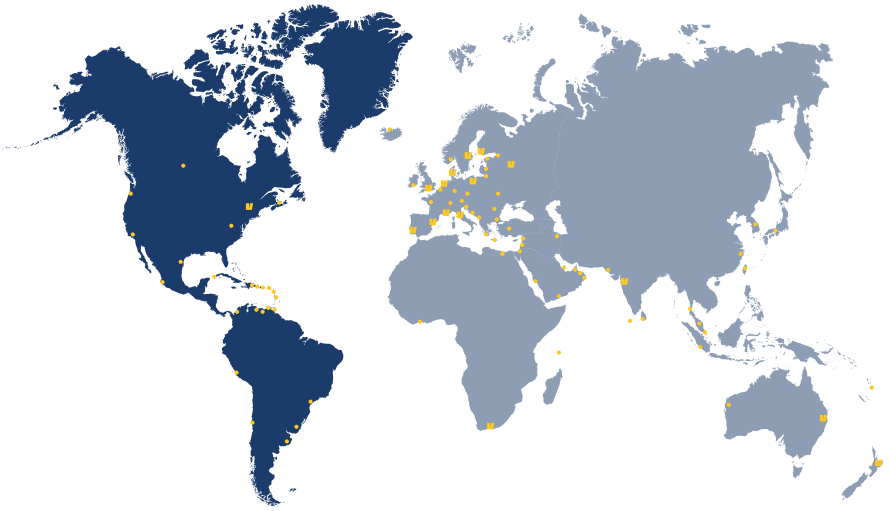
Singapore
Best Marine Electrical
Tel.: +65 674 10 317
bme17@singnet.com.sg

Sri Lanka
Neil Fernando & Co. Pvt Ltd.
Tel.: +94 11 574 07 67
nkfernando@neilmarine.com

Taiwan
Maxwell
Merc. International
Trade Co., Ltd.
Tel.: +886 7 813 3233 / 5
mms46654@ms16.hinet.net

Thailand
Electrical Marine co.,Ltd.
Tel.: +66 76 510 782
sales@electrical-marine.com

Service & distribution network



Americas and the Caribbean

United States
VETUS Maxwell America
(Head office for North, Central and South America and the Caribbean)
Tel.: +1 410 712 0740
sales-service@vetus.com

Argentina
see United States

Maxwell
Trimer S.A.
Tel.: +54 11 4580 0444
Email: trimer@trimer.com.ar

Belize
Blue Hole Marine Supply
Tel.: 610 2295 670007
dannymadrid@hotmail.com

Brazil
Marine Office Com. Imp.
e Repr. Ltda
Tel.: +55 11 34775655
marine.office@
marineoffice.com.br

Canada
Stright-Mackay Ltd.
Tel.: +1 800 565 4394
info@stright-mackay.com

Western Marine
Tel.: (604) 253 3322

The Caribbean
Antigua
Budget Marine
Jolly Harbour Boatyard
Tel.: +1 268 462 8753
Antigua@budgetmarine.com

Budget Marine Antigua
English Harbour
Tel.: +1 268-562-8443
Antigua@budgetmarine.com

Budget Marine Antigua
North Sound
Tel.: +1 268-562-8753
Antigua@budgetmarine.com

Aruba
Budget Marine Aruba
Tel.: +1 297 585 3769
aruba@budgetmarine.com

Barbados
Marine Power Solutions
Barbados
Tel.: +1 246 231 2199
alex@mps.bb

Bermuda
Spar Yard Marine Solutions
Tel.: +1 441 234 2235
kareem@sparyard.bm

Bonaire
Budget Marine Bonaire
Tel.: +599 717 3710
Bonaire@budgetmarine.com

British Virgin Islands
Golden Hind Chandleries
Tel.: +1 284 340 0150
matt@goldenhindchandleries.com

Nanny Cay Chandlery
Tel.: +284 494 2512
chandlery@nannycay.com

Parts & Power Ltd.
Tel.: +284 494 2830
tom@partsandpower.com

Curacao
Budget Marine Curacao
Tel.: +5999 462 7733
Curacao@budgetmarine.com

Budget Marine
Boat Yard
Tel.: +5999 465 5686
Curacao@budgetmarine.com

Grenada
Budget Marine Carriacou
Tel.: +1 473 443 1983
Grenada@budgetmarine.com

Budget Marine Grenada
Tel.: +1 473 439 1983
Grenada@budgetmarine.com

Island Water World
St. George's
Tel.: +473 435 2150/1
sales@islandwaterworld.com

Island Water World
St. David's Harbour
Tel.: +473 443 1028
sales@islandwaterworld.com

Jamaica
Durae's Boat Sales
and Marine
Tel.: +1 876 905 1713
duraes@cwjamaica.com

Puerto Rico
Martinez Marine
Puerto Del Rey Marina
Tel.: +1 787 863 4646
martinezmarine@hotmail.com

St. Kitts and Nevis
Budget Marine St. Kitts
Tel.: +1 869 466 0026
stkitts@budgetmarine.com

St. Lucia
Island Water World
Rodney Bay Marina
Tel.: +758 452 1222
sales@islandwaterworld.com

St. Maarten
Budget Marine St. Maarten
Tel.: +1 721 544 3134
sales@budgetmarine.com

Island Water World
Tel.: +1 721 544 5310
sales@islandwaterworld.com

St. Thomas
Budget Marine
Independent Boatyard
Tel.: +1 340 779 2219
StThomas@budgetmarine.com

Trinidad
Budget Marine Trinidad
Tel.: +1 868 634 2006
trinidad@budgetmarine.com

Budget Marine
Trinidad - TTYC
Tel.: +1 868 270 4141
trinidad@budgetmarine.com

LP Marine & Industrial
Supplies Ltd.
Tel.: + 1 868 633 3395
info@lpmarinett.com

Turks and Caicos Islands
Caribbean
Marine & Diesel Ltd.
Tel.: 561-214-4854
caribmarinediesel@tciway.tc

Chile
Motonautica Chile S.A.
Tel.: +562 757 7900
info@motonautica.cl

Colombia
Transmidiesel S.A.S.
Tel.: +57 2 414 0000
emiliod@transmidiesel.com

Ecuador
Motores del Pacífico Corp.
Tel.: +593 4 217 4067
repuestos@motoresdelpacifico.com

Mexico
Mara Marlin SA de CV
Tel.: +52 998 843 0253
jgarcia@maramarlin.com

Zaragoza Marine
Tel.: +52 322 226 3232
info@zaragoza.com.mx

Peru
Fibrecon Marine
Amazonica S.A.C
Tel.: +51 1 348 1500 ex 302
jesus.vargas@
fibreconmarine.com.pe

Rivera Diesel Amazonica SAC
Tel.: +51 1 065 234 221
manuel.salazar@
fibreconmarine.com.pe

United States
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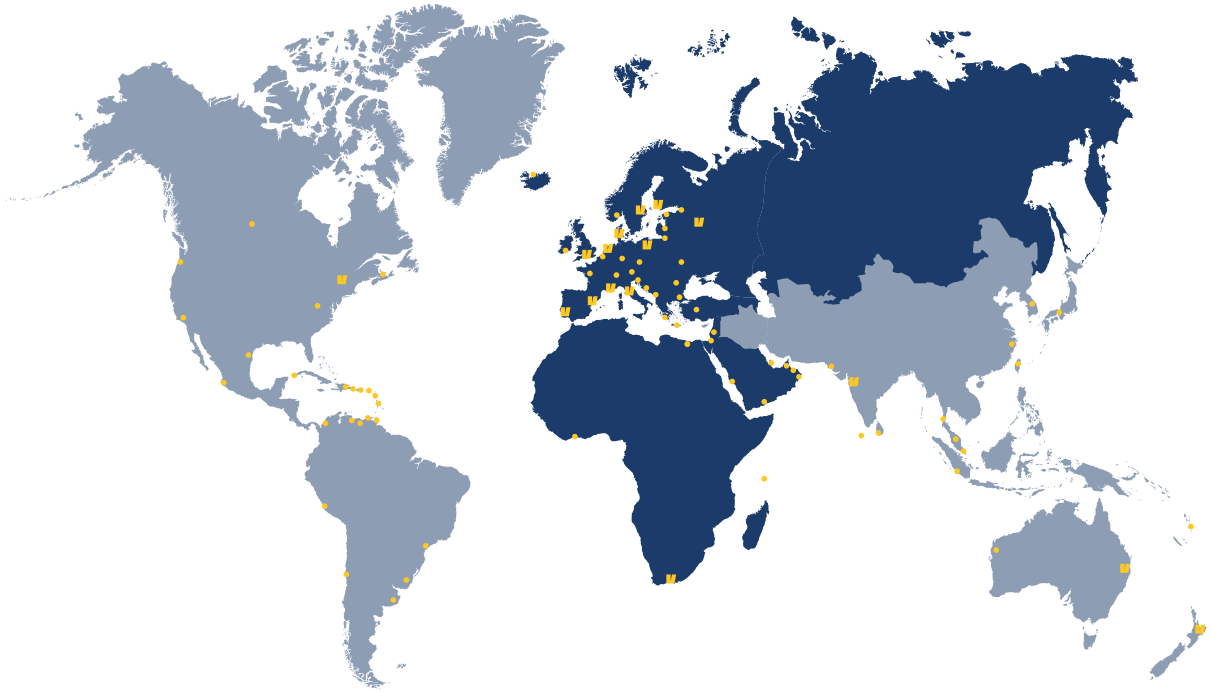
(South West)
714-373-8099
www.tdcmarineequipment.com

VETUS Marine
(Independent Distributor)
877-783-8873
www.vetusmarine.com

West Marine (National)
800-262-8464
www.westmarine.com

Uruguay
Bermúdez Náutica
Tel.: +598 2 628 8059
info@nautica.com.uy

Service & distribution network



EMEA Europe, Middle East and Africa

VETUS B.V.
Fokkerstraat 571
3125 BD Schiedam-Holland
Tel.: +31 (0)10 4377700
info@vetus.com (NL)
sales@vetus.com (export)

Belgium
VETUS Belgium
Tel.: +32 499 82 57 22
info@vetus.be

Denmark
VETUS ApS
Tel.: +45 76 975 000
info@vetus.dk

Finland
VETUS Oy
Tel.: +358 207 756 740
info@vetus.fi

France
VETUS Maxwell France
Tel.: +33 4 94 14 93 53
info@vetus.fr

Germany
VETUS Deutschland GmbH
Tel.: +49 431 97 99 77 15
vetusdeutschland@vetus.com

Italy
VETUS Maxwell SRL
Tel.: +39 0571 57122
info@vetusitalia.it

Poland
VETUS Sp. z o.o.
Tel.: +48 22 452 40 52 /
+48 22 452 40 53
info@vetus.pl

Portugal
VETUS Portugal
Tel.: +351 211 328582
info@vetus.pt

Russia
VETUS
Tel.: +7 916 591 5331 /
+ 358 503 472 412
info@vetus.ru

South Africa
VETUS Maxwell
South Africa
Tel.: +27 21 552 4275
info@vetus.co.za

Spain
VETUS Hispania S.A.
Tel.: +34 902 101 883
vetus@vetus.es

Sweden
VETUS AB
Tel.: +46 854 444 270
info@vetus.se

United Kingdom
VETUS Ltd.
Tel.: +44 23 8045 4507
sales@vetus.co.uk

Austria
Bukh-Bremen GmbH
Tel.: +49 421 535070
info@bukh-bremen.de

Bahrain
VETUS
see United Arab Emirates

Maxwell
H Al Dhaen Boats
Tel.: +973 17290400
info@aldhaenmarine.com

Bulgaria
Yacht Center Varbanov Ltd.
Tel.: +359 56 843 232
mail@yachtbg.com

Croatia
WASI d.o.o.
Tel.: +385 13 498 248
info@wasi.hr

Cyprus
M.D.I. Mercury Co. Ltd.
Tel.: +357 25877933
mercury@mercury.com.cy

Czech Republic
Im-marine s.r.o.
Tel.: +420 603 427 606
imramovsky.michal@seznam.cz

Egypt
Dolphin Marine Co
Tel.: +2012 7959096
info@dolphin-marine.net

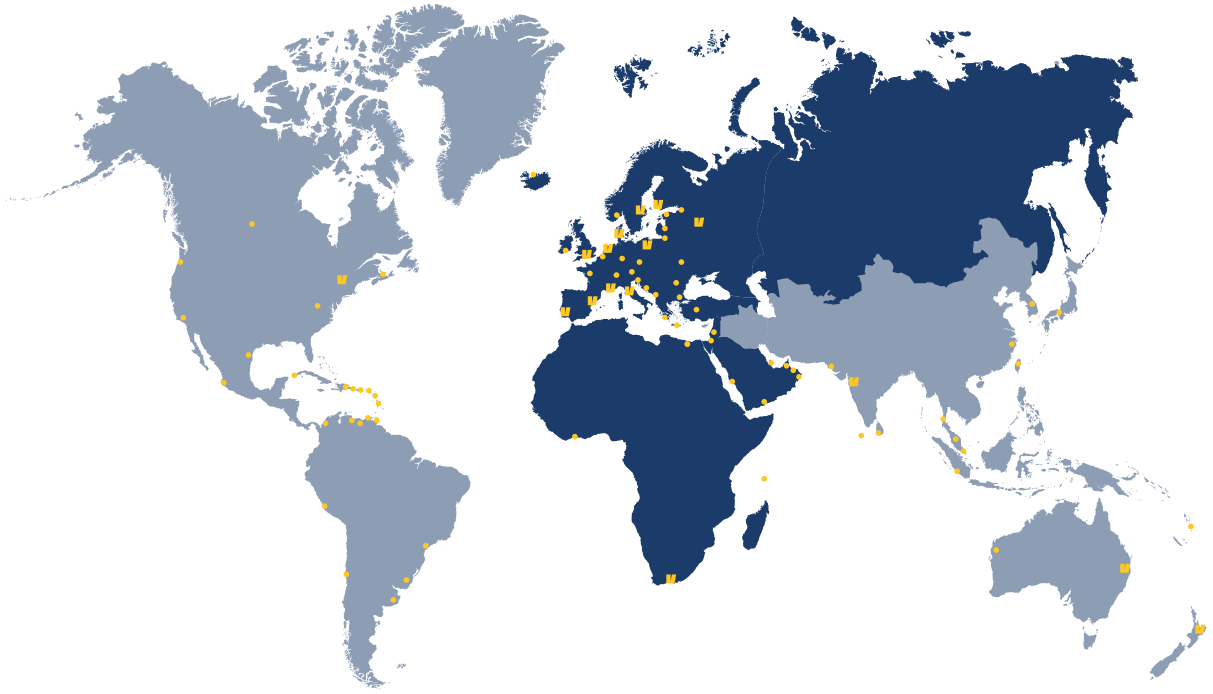
Estonia
BMG Power Systems OÜ
Tel.: +372 5628 9999
vp@bm.ee

Germany
Bukh-Bremen GmbH
Tel.: +49 421 535070
info@bukh-bremen.de

Gibraltar
M. Sheppard & Co Ltd
Tel.: +350 200 75148
retail@sheppard.gi

Greece
VETUS Hellas Ltd.
Tel.: +30 210
4135 531 / 4133 639
info@vetus.gr

Service & distribution network



EMEA Europe, Middle East and Africa

Hungary
Fuke Yacht Ltd.
Tel.: +36 88 432 897
info@fukeyacht.hu

Iceland
Baldur Halldorsson ehf.
Tel.: +354 462 37 00
b.h@mi.is

Ireland
Union Chandlery
Tel.: +353 21 4554 334
vetus@unionchandlery.com

Israel
Yamit YSB Ltd. Marine Trade Co.
Tel.: +972 3 527 1777
office@yamitysb.co.il

Ivory Coast
Divertech
divertech_ci@yahoo.fr

Jordan
see United Arab Emirates

Kuwait
VETUS
see United Arab Emirates

Maxwell
Al Sabih Marine Equipment Company
Tel.: +965 24835228
alsabihmarine@yahoo.com

Latvia
BMG Power Systems OÜ LV
Tel.: +371 26 606 457
info.lv@bm.ee

Lebanon
see United Arab Emirates

Lithuania
BMG Power Systems OÜ LT
Tel.: +370 600 94 382
klaipeda@bm.ee

Malta
Gauci Borda & Co. Ltd.
Tel.: +356 21 340 491
+356 21 313 758
sales@gauciborda.com

Norway
Univa A/S
Tel.: +47 37 06 20 50
post@univa.no

Oman
see United Arab Emirates

Qatar
see United Arab Emirates

Romania
S.C. Technoind SRL
Tel.: +40 744 593 593
+40 236 415 442
puiu.maris@technoind.ro

Saudi Arabia
see United Arab Emirates

Serbia
BeoMarine D.O.O.
Tel.: +381 11 312 15 52/53
commercial@beomarine.rs

Seychelles
Adesho Marine
Tel.:+248 4224216
adesho@seychelles.net

Power Marine & Accessories
Tel.: +248 4601005
info@pmaseychelles.com

Slovakia
PHAROS s.r.o.
Tel.: +421 911 233 202
pharos@pharos.sk

Slovenia
Seawave Marine d.o.o.
Tel.: +386 45302 444
info@seawave-marine.si

Switzerland
VETUS AG Schweiz
Tel.: +41 26 660 7190/91
info@vetus.ch

Turkey
VETUS
Marintek Deniz Ve Yat Malzemeleri Ticaret A.S.
Tel.: +90 216 317 10 10
info@marintek.com.tr

Maxwell
DEKA Marin Deniz Malzemeleri Ticaret A.S.
Tel.: +90 444 11 75
info@dekamarine.com

Ukraine
Marina Oriyana
Tel.: +380 44 451 50 20
waterline@oriyana.com

United Arab. Emirates
Exalto Emirates LLC.
Tel.: +971 6545 3366
info@exalto-emirates.com

Yemen
see United Arab Emirates

Certification

We take our responsibilities very seriously

VETUS is ISO 9001:2015 certified, meaning that we guarantee our quality by working according to certain established guidelines and processes which we monitor continuously. We deliver quality and service. This important certificate is a confirmation of our commitment.

Below you will find the organisations that have been accredited by a European Union Member State and International Inspection Agencies to assess whether our products meet established standards through assessment, inspection and examination of a product, its design and manufacturer.

- CE guidelines e.g. RCD (Recreational Craft Directive)
- MED (Marine Equipment Directive)
- EMC (Electromagnetic Compatibility Directive)
- LVD (Low Voltage Directive)
- ABYC (American Boating and Yachting Council)
- NMMA (National Marine Manufacturers Association)

VETUS online

Keeping you up-to-date with the latest activities

Our complete product range can be found on our website www.vetus.com. In addition to new product introductions and activities such as boat shows, you will also find our product manuals, instructional videos, service and maintenance information and frequently asked questions.

Please follow our social media for daily updates!

VETUS Virtual Boat Show

To be able to meet our latest technology and innovations, we present to you our Virtual Online Boat Show. This show gives you the feeling you are visiting VETUS at a boat show, from your comfortable chair in your living room, or from the cockpit of your boat.

You can download the tool on your computer or phone via Google PlayStore.

UNIQUE 3 YEAR WARRANTY
VETUS equipment

VETUS offers an industry leading 3 year warranty on all equipment and a 5 year warranty on engines.

Your interests are the most important consideration for VETUS. We want you to enjoy life on the water and not be let down by technical failure. We want you to have confidence in your boat and the equipment on board. This is the starting point for the development of all new and existing VETUS products. Naturally quality, innovation, ease of use and ease of installation are equally important for every product developed.
Besides a world beating warranty, VETUS also provides a worldwide service network, so that our customers can always count on outstanding support.

UNIQUE 5 YEAR WARRANTY
VETUS engines

(Pleasure Craft Application)

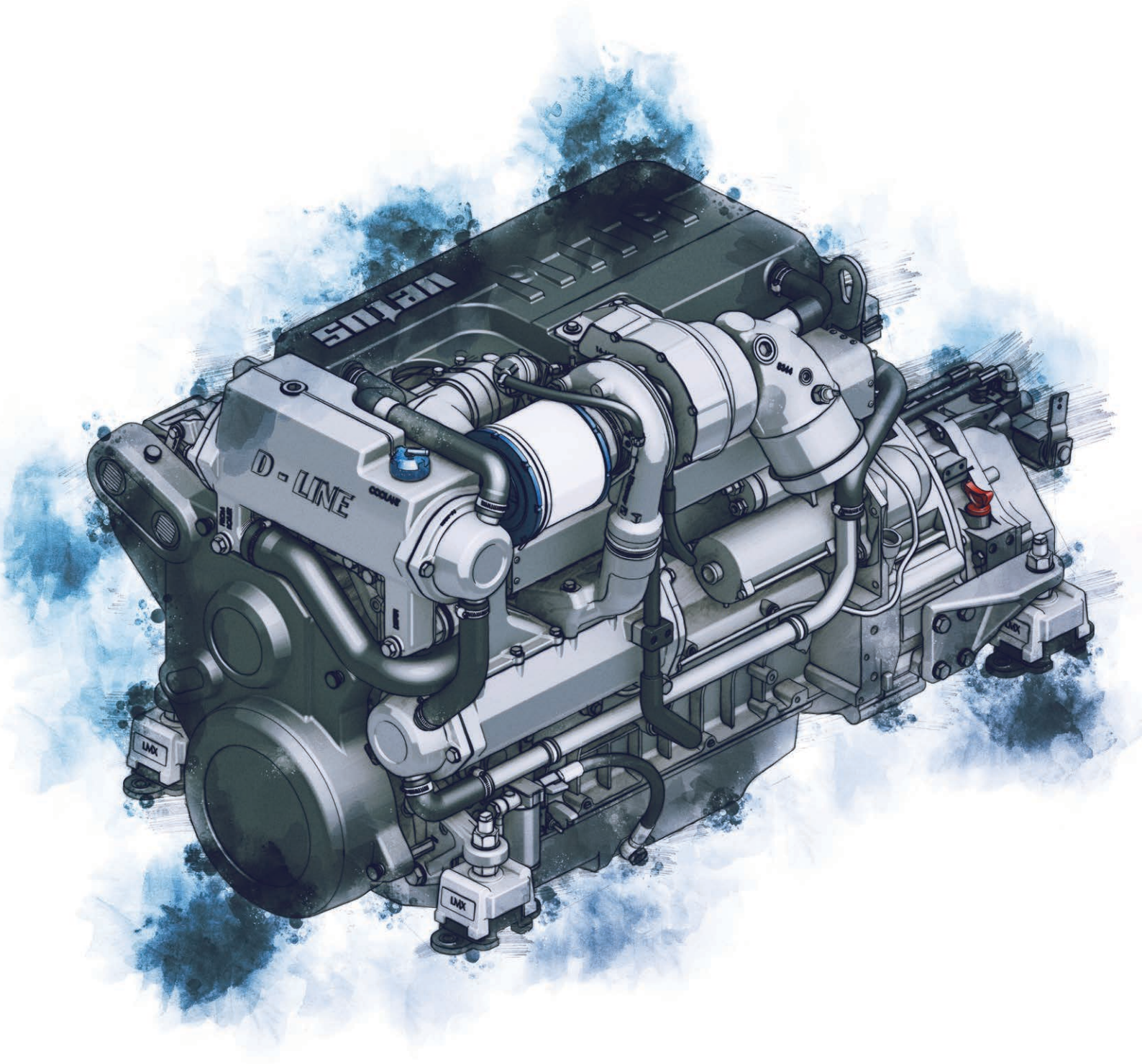
For the first 36 months after the date of delivery to the first owner, all VETUS diesel propulsion engines are fully warranted in accordance with the conditions specified in the VETUS Owner's manual. For an additional period of 24 months thereafter, or 1000 additional operating hours whichever comes first, VETUS offers an extended limited warranty.

5+ EXTENDED WARRANTY
VETUS package deals

When a VETUS engine is purchased together with a complete VETUS around the Engine package, warranty will be extended from 3 to 5 years on the around the engine package. Together with the already very good warranty conditions on VETUS engines (3+2 years) VETUS products will ensure you to have a long and carefree use of your boat!

For more information check the VETUS warranty conditions on **www.vetus.com** or **www.vetus.com/en/5-plus-warranty**

Engines and around the engine



Marine Diesel Engines

Most pleasure boat owners long for the moment they can set foot aboard. Work is forgotten and other worries vanish into the air. That sense of happiness is complete, when the engine comes to life with a healthy roar. The owner of a power or sailing boat with a VETUS engine is in a position to enjoy every moment on the water to the max, and that is the way it should be! Whether you own a sturdy two cylinder with saildrive or a whispering six cylinder beauty, a VETUS Diesel Engine will be your faithful servant. To complement each marine engine in the range, VETUS also offers a well-thought-out complete package of "around the engine" products: from the engine remote control to the fuel filter to the propeller shaft to the exhaust system.

Purchasing a VETUS engine brings a host of related benefits

- The extensive VETUS dealer network is on hand to provide service, spare parts and points of contact worldwide
- A VETUS engine brings with it over 50 years of experience in producing reliable and compact marine engines, ensuring safe and continuous boating pleasure
- All VETUS engines come with a 5 year warranty in accordance with the VETUS Warranty and Service Conditions

M-LINE

VETUS offers a complete range of M-Line marine diesel engines, suitable for many different types of boats including launches, sailing yachts, canal boats and small cabin cruisers. Over the course of many years of steady development these engines have proven both their quality and reliability.

M2.13

M2.18

M3.29

M4.35

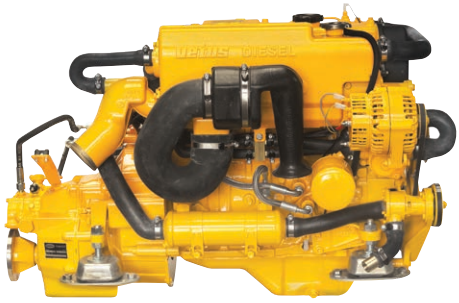
M4.45

M4.56

H-LINE

The H-Line engines are sturdy, reliable marine diesel engines and are suitable for all kinds of applications, such as cabin boats, small fishing boats and larger canal boats. These engines have low noise and vibration levels due to their robust construction. They are also highly fuel efficient.

VETUS offers the VH4.65, 65hp at 3000 rpm and VH4.80, 80hp at 4000 rpm which both are naturally aspirated engines.



VH4.65
VH4.80

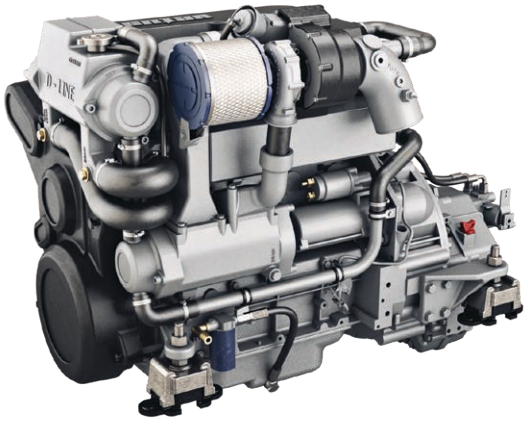
F-LINE

This new F-Line series of modern high-speed common-rail diesel engines is suitable for planing and semi-planing boats. They are compact, reliable, light weight and very fuel efficient. The power-to-weight ratio is excellent combined with high torque outputs. Due to the small overall dimensions, they are ideal for replacing existing petrol (gasoline) engines. Available with gearbox or sterndrive.

VF4.145
VF4.180
VF4.200

D-LINE

VETUS D-Line common-rail engines are ideal for heavy displacement boats. They are slow running and exceptionally smooth, making them the engine of choice where long distance cruising is involved. Based on the quality of the well-known Deutz engine blocks, they are exceptionally reliable and durable.



VD4.120
VD4.140

VD6.170
VD6.210

VETUS marine diesel engines certifications

Engine type	RCD	BSOII pleasure craft		SOLAS
		single	twin	
M2.13	2	✓	✓	x
M2.18	2	✓	✓	x
M3.29	2	✓	✓	✓
M4.35	2	✓	✓	✓
M4.45	2	✓	✓	✓
M4.56	2	x	x	✓
VH4.65	2	x	x	x
VH4.80	1	x	x	x
VF4.145	2	x	x	x
VF4.180	2	x	x	x
VF4.200	2	x	x	x
VD4.120	2	✓	✓	x
VD4.140	2	✓	✓	x
VD6.170	2	✓	✓	x
VD6.210	2	✓	✓	x

M-LINE

M-Line engines are quiet running, highly fuel-efficient, reliable and offer high power and torque output. The fuel systems are automatically self-bleeding, a great convenience after a fuel filter replacement. All engines are equipped with a high output marine alternator as standard for fast recharging of batteries. A second alternator is available as an option on all type M4 engines. And there is more….!

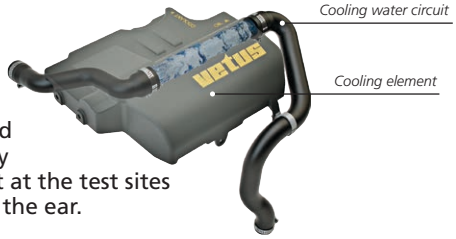
INNOVATION

Engine space temperature reduction

The heat build-up in engine spaces can easily reach temperatures of 70°C. High ambient temperatures in the engine space can have negative effects on engine performance and installed equipment.

VETUS has developed an elegant yet efficient solution by fitting a water-cooled aluminium top cover. Located directly above the cylinder head, this huge cooling element absorbs radiant heat coming from the engine. This innovative concept results in a significant temperature reduction of up to 15°C - a 20% reduction! In turn, the cooler ambient temperature provides a more fuel-efficient air supply to the engine and better combustion. To the best of our knowledge, no other marine engine manufacturer uses such an incorporated cooling element to reduce ambient temperature in the engine space. A truly unique solution developed by VETUS.

Engine sound reduction

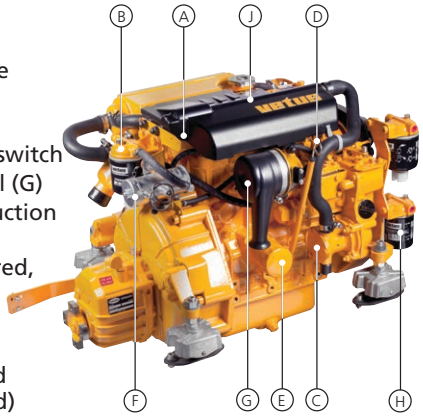


People often go boating to enjoy the peace of the water. VETUS likes to add to this experience by creating a propulsion system that performs as quietly as possible.

The sturdy, aluminium top cover also significantly reduces the noise level. When combined with the newly designed air filter housing, tests show a sound reduction of approximately 5 dB(A) and 'near silent' operation at a cruising speed of around 2200 rpm. Those present at the test sites have all enthusiastically described the engine sound as being incredibly more pleasant to the ear.

FEATURES

Based on customer feedback, the M-Line incorporates many features designed to make life easier for both the boat builder and the end user.



- Service parts such as fuses and relays (A), fuel filter and fuel connections (B), impeller (C), dipstick (D), and oil filter (E) are all easily accessible. On all M4 engines (except M4.56) the impeller is located at the front, for even easier access
- The wiring is improved to offer easy connection and extra safety
- All M-Line engines are equipped with an electric fuel pump (F), actuated by the ignition switch
- A new air inlet filter housing attenuates the airflow and lowers the induction sound level (G)
- The heat exchanger unit has 26 improvements over earlier versions, including the construction materials and surface treatments
- The synthetic front cover enhances safety and appearance. All pulleys and belts are covered, thereby meeting the EC Machinery Directive
- Front mounted oil and fuel filters including a bracket are available as an option, making servicing as convenient as possible (H)
- When higher charging output is required, all M4 engines are designed to accept a second alternator as an option (when a second alternator is fitted, the front cover is not supplied)
- All M4 engines can also be supplied as a power pack or hydraulic propulsion, see page 31
- Furthermore, all M-Line engines can be supplied with an adapter kit for Volvo Penta saildrives (110S/120S and 120SB)
- The oil sump pump on all M-Line engines is already installed on the engine for easy maintenance (I)
- Finally yet importantly, the water-cooled top cover not only reduces engine room temperature, but is designed to be used as a step, making it easier to move around or over the engine (J)

All these new advantages come without compromising any other features. With a range from 12 - 52 HP (9 - 37.5 kW) the VETUS M-Line is the preferred choice for many boat builders. Do you need more reasons to choose a VETUS engine?

You can expect the highest level of service when choosing a VETUS engine, together with high quality and professional advice.

SOLAS
For our SOLAS solutions see page 44.

M-Line

M2.13

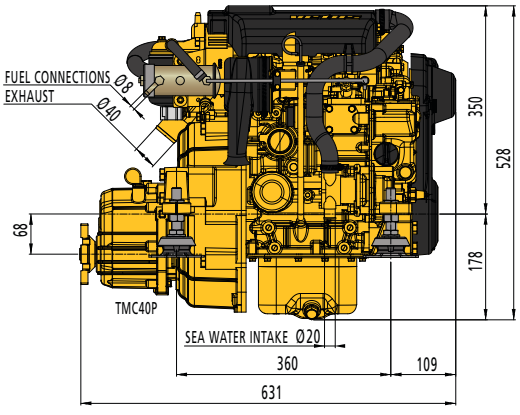
8.8 kW / 12 HP

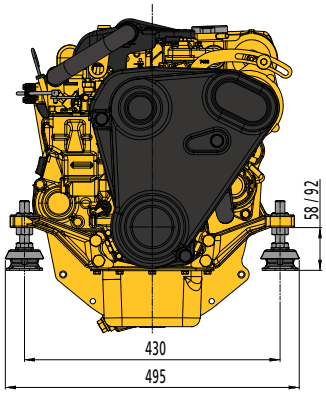
Supplied as standard with instrument panel type MPA10 (see page 128), four flexible engine mounts type KSTEUN25V (see page 54) and a pre-installed oil sump pump.

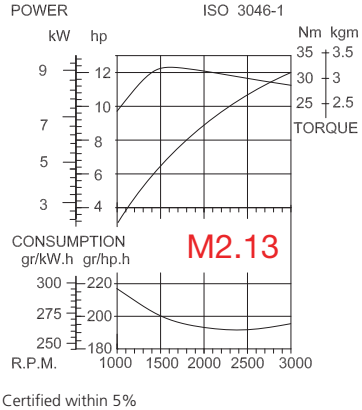
TECHNICAL SPECIFICATIONS

Engine model	M2.13
Max. output at flywheel (ISO 8665) Max. output at propeller shaft (ISO 8665)	8.8 kW (12 hp) 8.7 kW (11.8 hp)
Maximum rpm	3000
Max. torque	32.7 Nm / 1600 rpm
Bore x stroke	76 mm x 70 mm
Displacement	635 cm^3
Number of cylinders	2 in line
Combustion system	indirect injection
Compression ratio	23:1
Firing order	1-2
Intake	naturally aspirated
Electrical system	12 VDC - 85 Amps.
Cooling system (standard)	indirect cooling (keel cooling optional)
Gearbox, standard	TMC40 (2 / 2.60:1)
Gearbox options	ZF12M 2.14 / 2.63:1 ZF15MIV 2.13 / 2.99:1 TMC60A 2 / 2.5:1

Saildrive	SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1
Dry weight (incl. std. gearbox)	107 kg
Fuel consumption at 2500 rpm	268 g / kW.h (196 g / hp.h)
Max. backwards installation angle	15°
Max. lateral inclination angle;	
Continuously	25°
5 minutes max.	30°
Suction height of fuel lift pump	1.5 m
Calorifier connection kit	optional
Instrument panel (standard)	MPA10
Warning lights and audible alarm	oil pressure, temperature (coolant and exhaust), charging current
Control light for	pre-heating/glow plugs
Electric circuit protection	fuse 20 Amps.
Certifications	EU-RCD II, BSO II







Certified within 5%

M-Line

M2.18

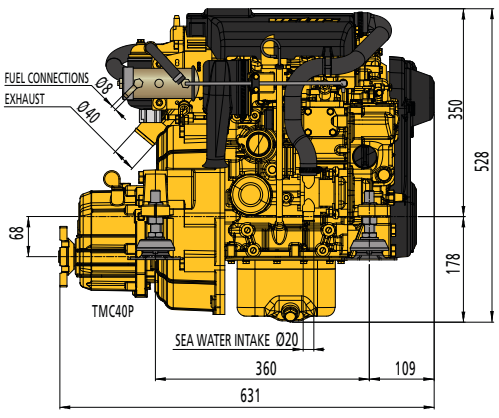
11.8 kW / 16 HP

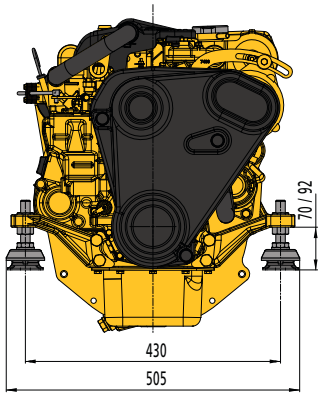
Supplied as standard with instrument panel type MPA10 (see page 128), four flexible engine mounts type KSTEUN35V (see page 54) and a pre-installed oil sump pump.

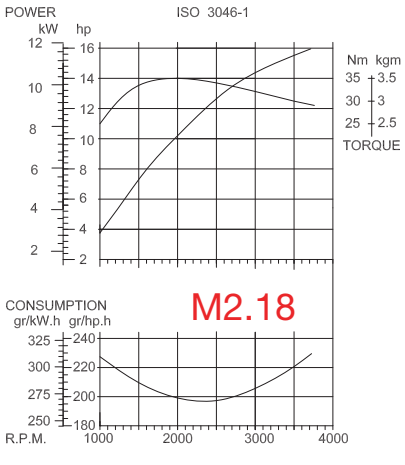
TECHNICAL SPECIFICATIONS

Engine model	M2.18
Max. output at flywheel (ISO 8665) Max. output at propeller shaft (ISO 8665)	11.8 kW (16 hp) 11.6 kW (15.8 hp)
Maximum rpm	3600
Max. torque	35.1 Nm / 2000 rpm
Bore x stroke	76 mm x 70 mm
Displacement	635 cm^3
Number of cylinders	2 in line
Combustion system	indirect injection
Compression ratio	23:1
Firing order	1-2
Intake	naturally aspirated
Electrical system	12 VDC - 85 Amps.
Cooling system (standard)	indirect cooling (keel cooling optional)
Gearbox, standard	TMC40 (2 / 2.60:1)
Gearbox options	ZF12M 2.14 / 2.63:1 ZF15MIV 2.13 / 2.99:1 TMC60A 2 / 2.5:1

Saildrive	SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1
Dry weight (incl. std. gearbox)	107 kg
Fuel consumption at 2500 rpm	268 g / kW.h (196 g / hp.h)
Max. backwards installation angle	15°
Max. lateral inclination angle;	
Continuously	25°
5 minutes max.	30°
Suction height of fuel lift pump	1.5 m
Calorifier connection kit	optional
Instrument panel (standard)	MPA10
Warning lights and audible alarm	oil pressure, temperature (coolant and exhaust), charging current
Control light for	pre-heating/glow plugs
Electric circuit protection	fuse 20 Amps.
Certifications	EU-RCD II, BSO II







Certified within 5%

M3.29

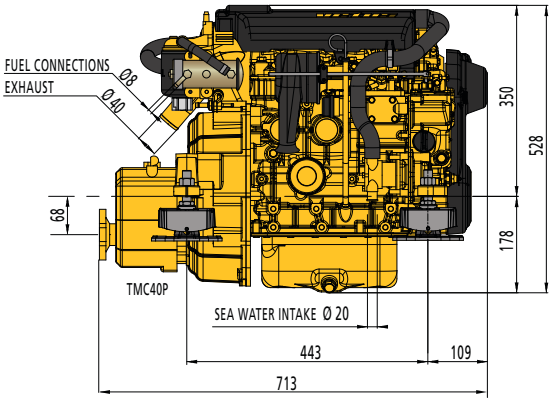
20 kW / 27 HP

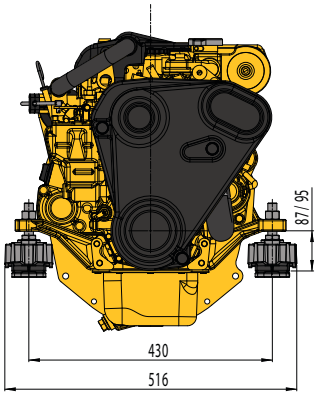
Supplied as standard with instrument panel type MPA22KBS2 (see page 128), four flexible engine mounts type KSTEUN40A (see page 54) and a pre-installed oil sump pump.

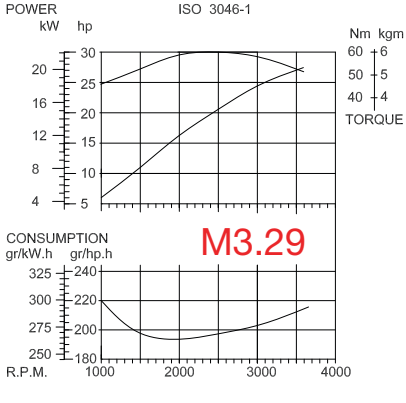
TECHNICAL SPECIFICATIONS

Engine model	M3.29
Max. output at flywheel (ISO 8665) Max. output at propeller shaft (ISO 8665)	20 kW (27 hp) 19.3 kW (26.2 hp)
Maximum rpm	3600
Max. torque	60.2 Nm / 2500 rpm
Bore x stroke	76 mm x 70 mm
Displacement	952 cm³
Number of cylinders	3 in line
Combustion system	indirect injection
Compression ratio	22:1
Firing order	1-3-2
Intake	naturally aspirated
Electrical system	12 VDC - 85 Amps.
Cooling system (standard)	indirect cooling (keel cooling optional)
Gearbox, standard	TMC40 (2 / 2.60:1)
Gearbox options	ZF12M 2.14 / 2.63:1 ZF15MIV 2.13 / 2.99:1 TMC60A 2 / 2.5:1

Saildrive	SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1
Dry weight (incl. std. gearbox)	134 kg
Fuel consumption at 2500 rpm	270 g / kW.h (199 g / hp.h)
Max. backwards installation angle	15°
Max. lateral inclination angle;	
Continuously	25°
5 minutes max.	30°
Suction height of fuel lift pump	1.5 m
Calorifier connection kit	optional
Instrument panel (standard)	MPA22KBS2
Warning lights and audible alarm	oil pressure, temperature (coolant and exhaust), charging current
Control light for	pre-heating/glow plugs
Electric circuit protection	fuse 20 Amps.
Certifications	EU-RCD II, BSO II, SOLAS







Certified within 5%

M-Line

M4.35

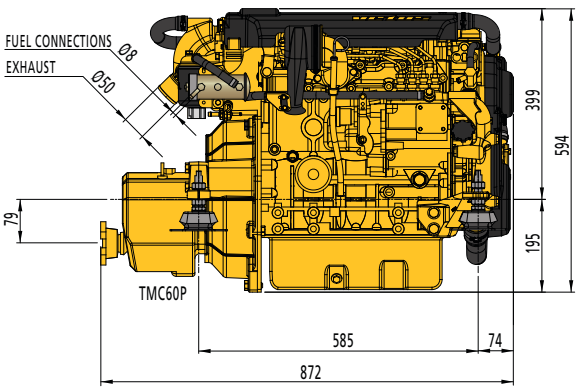
24.3 kW / 33 HP

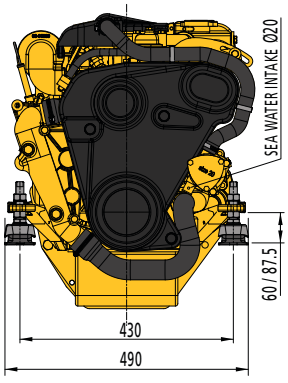
Supplied as standard with instrument panel type MPA22KBS2 (see page 128), four flexible engine mounts type KSTEUN75V (see page 54) and a pre-installed oil sump pump.

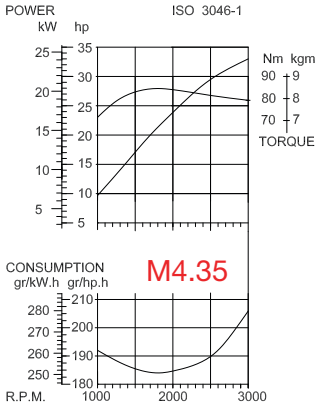
TECHNICAL SPECIFICATIONS

Engine model	M4.35
Max. output at flywheel (ISO 8665) Max. output at propeller shaft (ISO 8665)	24.3 kW (33 hp) 23.6 kW (32.1 hp)
Maximum rpm	3000
Max. torque	83.8 Nm/1700 rpm
Bore x stroke	78 mm x 92 mm
Displacement	1758 cm³
Number of cylinders	4 in line
Combustion system	indirect injection
Compression ratio	22:1
Firing order	1-3-4-2
Intake	naturally aspirated
Electrical system	12 VDC - 110 Amps.
Cooling system (standard)	indirect cooling (keel cooling optional)
Gearbox, standard	TMC60 (2 / 2.5 / 2.94:1)
Gearbox options	ZF12M 2.14 / 2.63:1 TMC60A 2 / 2.5:1

Saildrive	SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1
Dry weight (incl. std. gearbox)	199 kg
Fuel consumption at 2500 rpm	252 g / kW.h (185 g / hp.h)
Max. backwards installation angle	15°
Max. lateral inclination angle;	
Continuously	25°
5 minutes max.	30°
Suction height of fuel lift pump	1.5 m
Calorifier connection kit	optional
Instrument panel (standard)	MPA22KBS2
Warning lights and audible alarm	oil pressure, temperature (coolant and exhaust), charging current
Control light for	pre-heating/glow plugs
Electric circuit protection	fuse 20 Amps.
Certifications	EU-RCD II, BSO II, SOLAS







Certified within 5%

M-Line

M4.45

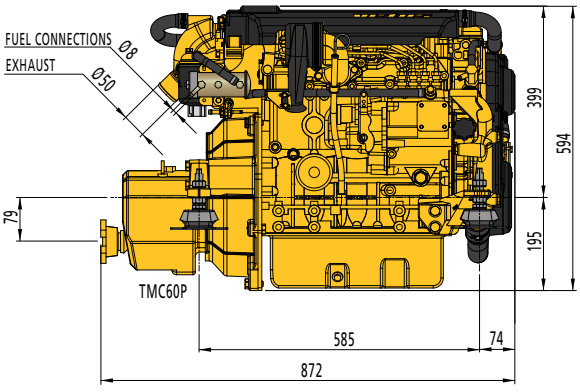
30.9 kW / 42 HP

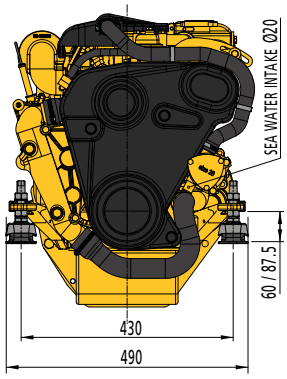
Supplied as standard with instrument panel type MPA22KBS2 (see page 128), four flexible engine mounts type KSTEUN75V (see page 54) and a pre-installed oil sump pump.

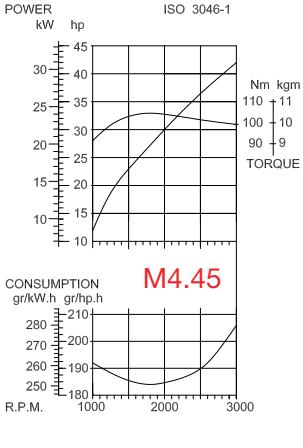
TECHNICAL SPECIFICATIONS

Engine model	M4.45
Max. output at flywheel (ISO 8665) Max. output at propeller shaft (ISO 8665)	30.9 kW (42 hp) 30 kW (40.8 hp)
Maximum rpm	3000
Max. torque	106.4 Nm / 1750 rpm
Bore x stroke	78 mm x 92 mm
Displacement	1758 cm³
Number of cylinders	4 in line
Combustion system	indirect injection
Compression ratio	22:1
Firing order	1-3-4-2
Intake	naturally aspirated
Electrical system	12 VDC - 110 Amps.
Cooling system (standard)	indirect cooling (keel cooling optional)
Gearbox, standard	TMC60 (2 / 2.5 / 2.94:1)
Gearbox options	ZF12M 2.14 / 2.63:1 TMC60A 2 / 2.5:1

Saildrive	SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1
Dry weight (incl. std. gearbox)	199 kg
Fuel consumption at 2500 rpm	252 g / kW.h (185 g / hp.h)
Max. backwards installation angle	15°
Max. lateral inclination angle;	
Continuously	25°
5 minutes max.	30°
Suction height of fuel lift pump	1.5 m
Calorifier connection kit	optional
Instrument panel (standard)	MPA22KBS2
Warning lights and audible alarm	oil pressure, temperature and (coolant exhaust), charging current
Control light for	pre-heating/glow plugs
Electric circuit protection	fuse 20 Amps.
Certifications	EU-RCD II, BSO II, SOLAS







Certified within 5%

M-Line

M4.56

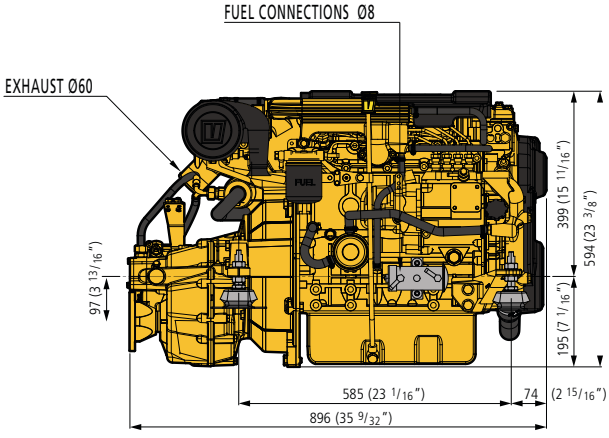
38.3 kW / 52 HP

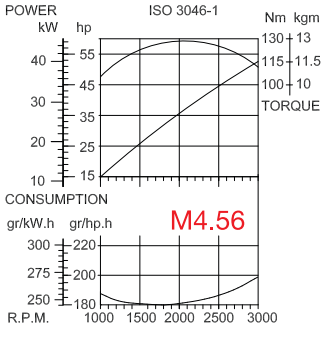
Supplied as standard with instrument panel type MPA22KBS2 (see page 128), four flexible engine mounts type KSTEUN80V (see page 54) and a pre-installed oil sump pump.

TECHNICAL SPECIFICATIONS

Engine model	M4.56
Max. output at flywheel (ISO 8665) Max. output at propeller shaft (ISO 8665)	38.3 kW (52 hp) 37.1 kW (51 hp)
Maximum rpm	3000
Max. torque	127 Nm / 2000 rpm
Bore x stroke	78 mm x 92 mm
Displacement	1758 cm³
Number of cylinders	4 in line
Combustion system	indirect injection
Compression ratio	22:1
Firing order	1-3-4-2
Intake	Turbo charged
Electrical system	12 VDC - 110 Amps.
Cooling system (standard)	indirect cooling (keel cooling optional)
Gearbox, standard	TM345(A) (2 / 2.47:1)
Gearbox options	ZF12M 2.14:1 ZF15MIV 2.13 / 2.99:1 TMC60 2 / 2.5:1

Saildrive	SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1
Dry weight (incl. std. gearbox)	206 kg
Fuel consumption at 2500 rpm	244 g / kW.h (179 g / hp.h)
Max. backwards installation angle	15°
Max. lateral inclination angle;	
Continuously	25°
5 minutes max.	30°
Suction height of fuel lift pump	1.5 m
Calorifier connection kit	optional
Instrument panel (standard)	MPA22KBS2
Warning lights and audible alarm	oil pressure, temperature (coolant and exhaust), charging current
Control light for	pre-heating/glow plugs
Electric circuit protection	fuse 20 Amps.
Certifications	EU-RCD II, SOLAS





Certified within 5%

H-LINE

The H-Line engines are sturdy, reliable engines and are suitable for many applications, such as cabin boats, small fishing boats and larger canal boats. These engines have low noise and vibration levels due to their robust construction. They are also highly fuel efficient.

The H-Line engines are four-cylinder 4-stroke engines with an indirect fuel injection system, a dual-circuit cooling system with integrated heat exchanger and a seawater injected exhaust bend.

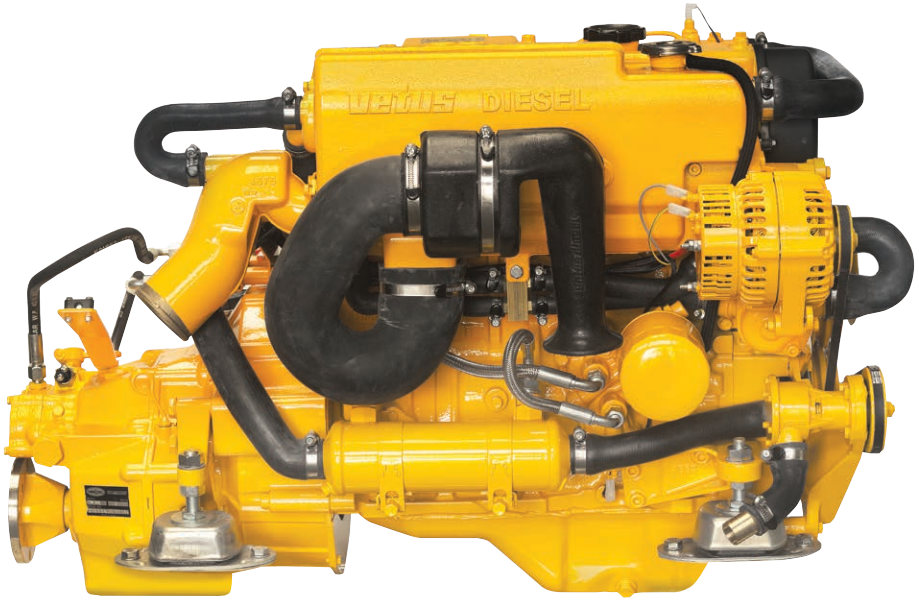
Available in two versions: VH4.65 and VH4.80.

A few advantages of these engines

- Extremely favourable power to weight ratio
- Very low noise and vibration levels due to counter balancing shafts
- Very low fuel consumption
- Minimum hose connections, owing to extensive use of molded rubber cooling system components
- High alternator output as standard, developed for marine applications for fast recharging of the batteries
- Self-bleeding fuel system
- Readily accessible parts for easy maintenance

Options

- The H-Line engines can be supplied with gearbox or saildrive
- Available as a power pack complete with hydraulic pump, when hydraulic power is needed for auxiliary components on board (see page 32)



H-Line

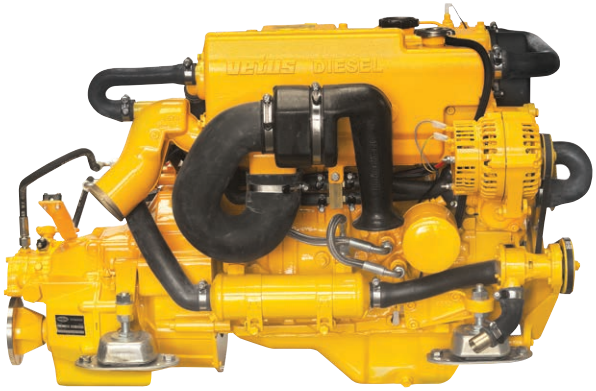
VH4.65

48 kW / 65.3 HP

VH4.80 *)

59 kW / 80.3 HP

*) Only available for sale outside the EU, with RCD1 certification



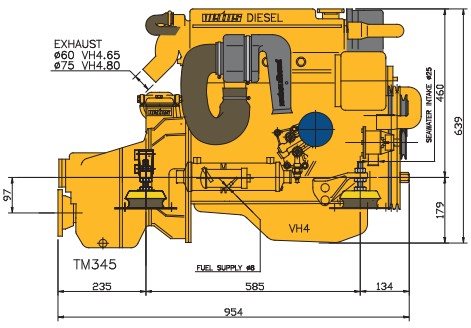
Supplied as standard with instrument panel type MPA22KBS2 / BS25 (see page 128), four flexible engine mounts type HY100 (see page 55) and an oil sump pump.

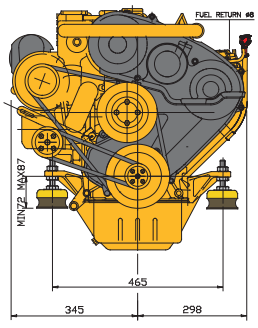
TECHNICAL SPECIFICATIONS

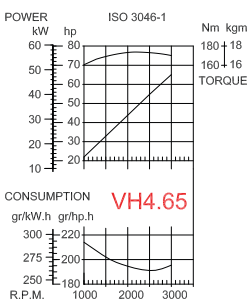
Engine model	VH4.65 / VH4.80
*Max. output at flywheel (ISO 3046-1)	48 kW (65.3 hp) (VH4.65) 59 kW (80.3 hp) (VH4.80)
*Max. output at propeller shaft (ISO 3046-1)	46.6 kW (63.4 hp) (VH4.65) 57.2 kW (77.6 hp) (VH4.80)
Maximum rpm	3000 (VH4.65) / 4000 (VH4.80)
Bore x stroke	91.1 mm x 100 mm
Displacement	2607 cm³
Number of cylinders	4 in line
Combustion system	indirect injection
Compression ratio	22:1
Firing order	1-3-4-2
Intake	Naturally aspirated
Electrical system	12 VDC - 115 Amps.
Cooling system (standard)	indirect cooling (keel cooling optional)
Gearbox (standard)	TM345(A)
Ratio	2 / 2.47:1
Gearbox options	ZF25A 1.93 / 2.29 / 2.71:1 ZF25 1.97 / 2.8:1

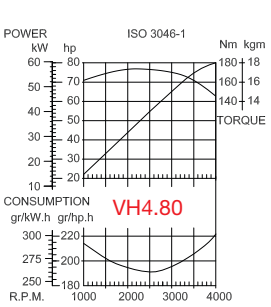
Saildrive	SP60 2.15:1 SD10 2.23:1
Dry weight (incl. std. gearbox)	240 kg (VH4.65) 245 kg (VH4.80)
Fuel consumption at 2500 rpm	260 g / kW.h (190 g / hp.h)
Max. torque	170 Nm / 2.200 rpm
Max. backwards installation angle	15°
Max. lateral inclination angle;	
Continuously	25°
5 minutes max.	30°
Suction height of fuel lift pump	1.5 m
Calorifier connection kit	optional
Instrument panel (standard)	MPA22KBS2 / BS25
Warning lights and audible alarm	oil pressure, temperature (coolant and exhaust), charging current
Control light for	pre-heating
Electric circuit protection	fuse 20 Amps.
Certifications	EU-RCD II (VH4.65) EU-RCDI, RCDII pending (VH4.80) RRR emission standards (VH4.65/VH4.80)

* In accordance with ISO 8665









Certified within 5%

Equipment selection table for M-Line and H-Line

COMFL

See flexible couplings on page 84

See fuel filters on page 147

See propellers on page 96

FTR470

See water strainers on page 57

SISCO

See remote controls on page 48

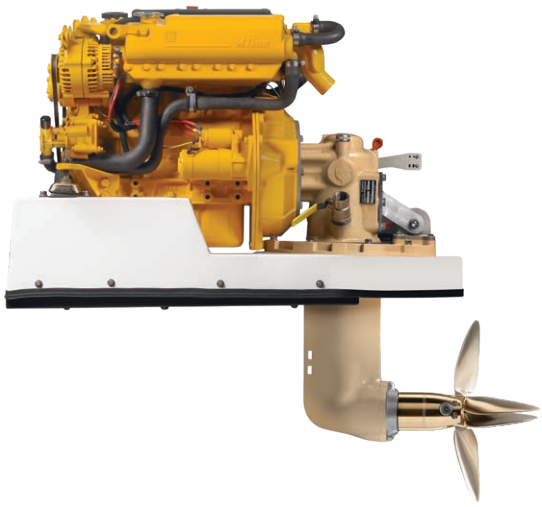
NLP40

See waterlocks on page 108 and 113

NLP40HD

Engine model	M2.13		M2.18		M3.29		M4.35		M4.45		M4.56		VH4.65		VH4.80	
Gearbox reduction	2:1	2.6:1	2:1	2.6:1	2:1	2.6:1	2:1	2.5:1	2:1	2.5:1	2:1	2,47:1	2:1	2.63:1	1.97:1	2.8:1
VETUS water lubricated propeller shaft system																
* Shaft diam., Remanit 4462			25				30			35	30	35	30	35	30	40
VETUS manganese bronze propeller for displacement boats																
* 3-blade, P3B, diameter in inches	13"	15"	13"	15"	14"	16"		18"		20"	18"	20"	17"	21"	request	22"
* 4-blade, P4E, diameter in inches								on request								
Flexofold NiAlBz folding propellers for sailing boats can exclusively be purchased through the Flexofold network (look at: www.flexofold.com)																
2-blade, FoF folding propeller	13"	15"	13"	15"	15"						n.a.					
3-blade, FoF folding propeller			n.a.			15"	16"	17"	17"	18"	18"	20"	18"	20"	request	20"
4-blade, FoF folding propeller								on request								
VETUS flexible couplings																
* Bullflex type		01		02			04			08	04	08	04	08	04	08
* Uniflex type				13						16	13			16		
* Combiflex type				12						n.a.	12			n.a.		
VETUS water strainer																
* hose connection diam.(mm)				20										25		
* water strainer, type FTR470, FTR330 or CWS:				330 or 470/19										330 or 470/25 / CWS1		
* water strainer kit, type				WKIT33019										WKIT33025		
VETUS water separator / fuel filter																
* hose connection suction/return in mm								8-8								
* water separator / fuel filter, type:								(75)330VTEB or WS180								
VETUS water-injected exhaust systems																
* exhaust hose, diam. (mm)			40				50				60				75	
* waterlock, type			NLP(3)40/LP40 NLP40HD				NLP(3)50/L50R/S NLP50HD				NLP(3)60/LP60 NLP60HD				NLP(3)75/LP75 NLP75HD	
* combi waterlock/muffler, type			NLPH40				NLPH50				n.a.				n.a.	
* muffler, type			MP40				MP50				MP60		MP60		MP75	
* gooseneck, type			LT40				LT50				LT60		LT60		LT75	
* combi muffler/gooseneck, type			NLPG40				NLPG50				n.a.		n.a.		n.a.	
* transom exhaust connection, type TRC			40R / PV or SV				50R / PV or SV				60R / PV or SV				TRC7590R	
* anti-siphon, type AIRVENT or ASD								V or H								
VETUS engine remote controls																
* to be selected								SICO, SISCO, AFSTZIJ, RCTOPB, RCTOPS, AFSTTOP								
VETUS maintenance free batteries																
* voltage								12								
* starter battery, min. Ah				55										105		
* service battery, Ah.								to be selected								
VETUS louvered air suction vents																
* per engine, type ASV, SSV or SSVL	1 x 25		2 x 25		2 x 25		2 x 40 or 4 x 20		2 x 50 or 4 x 30		2 x 60 or 4 x 30/ 3 x 40		2 x 70 or 2 x 30 + 2 x 40		2 x 80 or 4 x 40	

Options for M-Line and H-Line

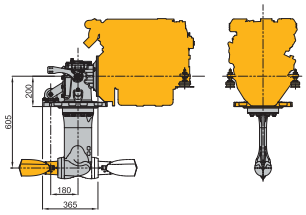


Saildrive

VETUS can supply a saildrive for all M-Line and H-Line engines. There are two different types available which are the Technodrive SP60, ratios 2.15:1 or 2.38:1 and the ZF SD10, ratios 2.23:1 or 2.49:1. They can be used for both single and twin engine installations.

The underwater drive leg can be fitted 180° reversed. This will permit the engine to be installed ahead or behind the saildrive unit for greater flexibility of installation.

We will be pleased to recommend the correct Flexofold propeller for your saildrive (www.flexofold.com).



Filters

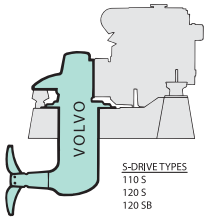
Front mounted oil and fuel filters including a bracket are available as an option on the M-Line range, making servicing as convenient as possible.

Code	Engine type
08-01454	M2
08-01455	M3
08-01479	M4
08-01456	M2 + electric fuel pump
08-01457	M3 + electric fuel pump

Saildrive kits

All VETUS M-Line engines can be supplied with an adapter kit to fit an existing Volvo Penta sail drive.
Kits are available for 110S, 120S or 120SB saildrives.

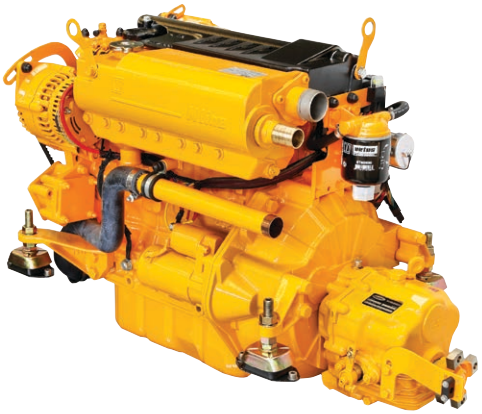
Code	Saildrive
STM7614	110S
STM7619	120SB
STM7621	120S



Second alternator M4 models

Engine models M4.35, M4.45 and M4.56 can be supplied with a second factory fitted alternator of 110A, if specified at the time of order. When this option is specified, the front belt cover is not fitted. For older M4 models (M4.15/M4.17/ M4.55) an 75A alternator can be ordered.

Please visit our website www.vetus.com if you require more information.



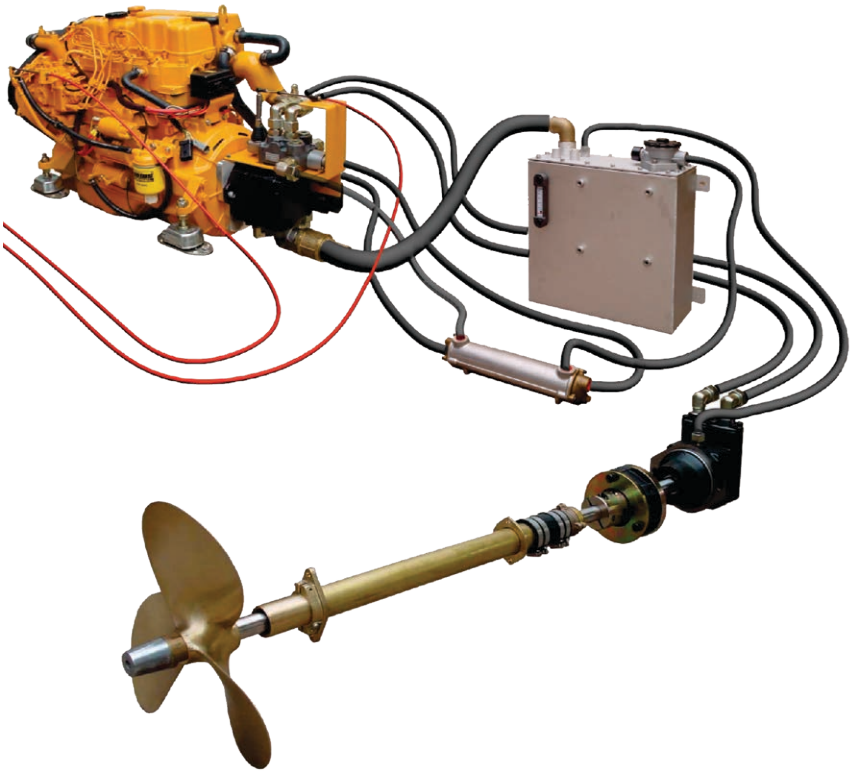
Keelcooling

M-Line and H-Line models are also available as keelcooled versions. Keelcooling systems are normally installed when the boat is used in shallow waters.

Please visit our website www.vetus.com if you require more information.

Hydraulic propulsion

In many cases it may be preferable to drive the propeller shaft by means of a hydraulic motor, instead of using the conventional set up of engine and gearbox.



How it works

A hydraulic vane pump is fitted to the engine in place of the gearbox. This pump draws hydraulic fluid from a storage tank and delivers it under pressure to the speed and direction control valve. The control valve determines the direction and volume of hydraulic flow to the hydraulic vane motor, which can then rotate clockwise or counter clockwise as selected. This hydraulic motor drives the propeller shaft via a flexible coupling.

The VETUS system uses a hydraulic pump and motor with fixed swept volumes. The transmission ratios (reduction) in the propulsion system are achieved by the difference in volume between the vane pump and the hydraulic motor.

The reduction between the engine RPM and the shaft RPM is 2:1 for models HPM4.35, HPM4.45 and HPM4.56 and 1.9:1 for model HPH4.65. The maximum permissible engine power is 50 kW (67 HP), with a maximum engine speed of 3,000 RPM. In most cases a shaft diameter Ø 25 mm will suffice. The output flange of the VETUS hydraulic motor fits all VETUS flexible couplings.

Scope of supply

VETUS hydraulic propulsion is available in 4 versions:
Model HPM4.35 has a VETUS M4.35 marine diesel engine of 24.3 kW (33 hp).
Model HPM4.45 has a VETUS M4.45 marine diesel engine of 30.9 kW (42 hp).
Model HPM4.56 has a VETUS M4.56 marine diesel engine of 38 kW (52 hp).
Model HPH4.65 has a VETUS VH4.65 marine diesel engine of 48 kW (65 hp).

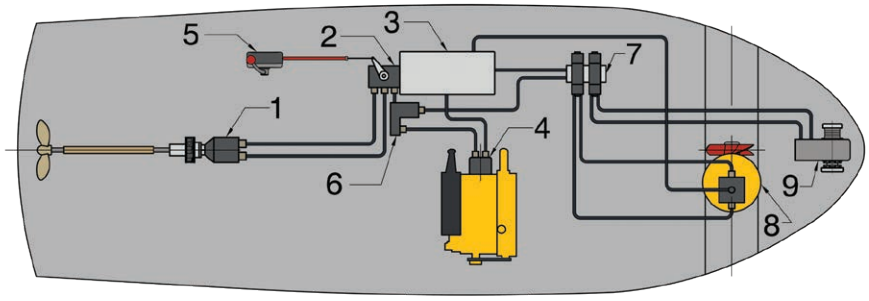
VETUS hydraulic vane motor

Stainless steel storage tank

VETUS hydraulic vane pump

All versions include

- Hydraulic vane pump
- Adapter flange and coupling to fit the pump to the relevant engine
- Hydraulic vane motor
- 35 litre hydraulic oil tank
- Oil cooler
- Control valve
- Flexible engine mounts
- Engine instrument panel and loom



1. Hydraulic vane motor
2. Mechanically operated control valve
3. Stainless steel storage tank
4. Hydraulic vane pump
5. Remote control handle with cable
6. Connection for ancillary devices
7. Control unit for ancillary devices
8. Bow thruster
9. Anchor windlass

Hydraulic powerpack

A stand-alone diesel engine with a hydraulic pump, dedicated to driving a hydraulic system

Although most hydraulic systems will use the propulsion engines or genset engine as the prime mover, there are some circumstances where a powerpack is necessary or more economical to operate, including:

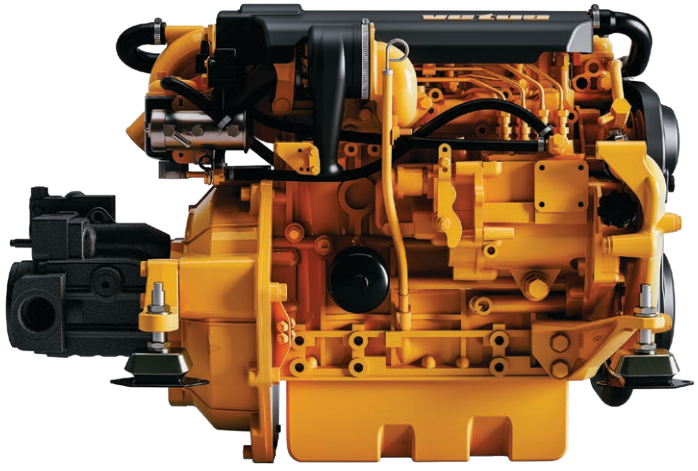
- When adequate power for hydraulic applications is not available from propulsion or genset engines
- When running large propulsion engines or genset engines to power relatively small hydraulic power needs consumes excessive quantities of fuel, is uneconomical and over time, damaging to the propulsion or genset engines through under-loading
- When station holding can be accomplished by thrusters only without running main propulsion engines
- On some towed workboats and barges which do not have propulsion engines but which can be maneuvered around a worksite on thrusters only
- When some functions conventionally powered by electricity can be driven hydraulically, substantially reducing genset size
- When propulsion transmission is completely hydraulic, as in some single engine catamarans
- When a hydraulically driven "pony" shaft and feathering propeller is installed in the hull as a "get-you-home" drive to save the day in the event of main engine failure. (This concept is also particularly useful (and comforting) on single engine trawlers and similar vessels equipped with PTO fitted gensets.)

Typically a VETUS powerpack will consist of an M or VH series diesel engine with an appropriately sized hydraulic pump (variable volume, load-sensing or vane type depending upon the application) mounted on an adapter plate in place of a gearbox.
VETUS diesel engines meet all European emission requirements but at the time of publication of this catalogue are not EPA certified for use in the USA or Canada. If the powerpack is entirely devoted to propulsion, then its diesel engine will be controlled by a throttle lever, but in a multiple user-device system with a load sensing pump an electronic control will be fitted to the powerpack engine.

As with all VETUS hydraulic systems, a customer support engineer will work with you to configure the powerpack and related systems to suit your vessel and its needs.

There are three VETUS powerpack models available:

Model	Power engine	Max rpm	Hydr. pump
PPM435	24,3 kW / 33 HP	3000	30 cm³ / rpm
PPM445	30,9 kW / 42 HP	3000	30 cm³ / rpm
PPH465	48 kW / 65 HP	3000	30 cm³ / rpm



Supplied as standard with instrument panel type MPA22KBS2 (see page 128), four flexible engine mounts type KSTEUN75V (see page 54) and a pre-installed oil sump pump.

F-LINE

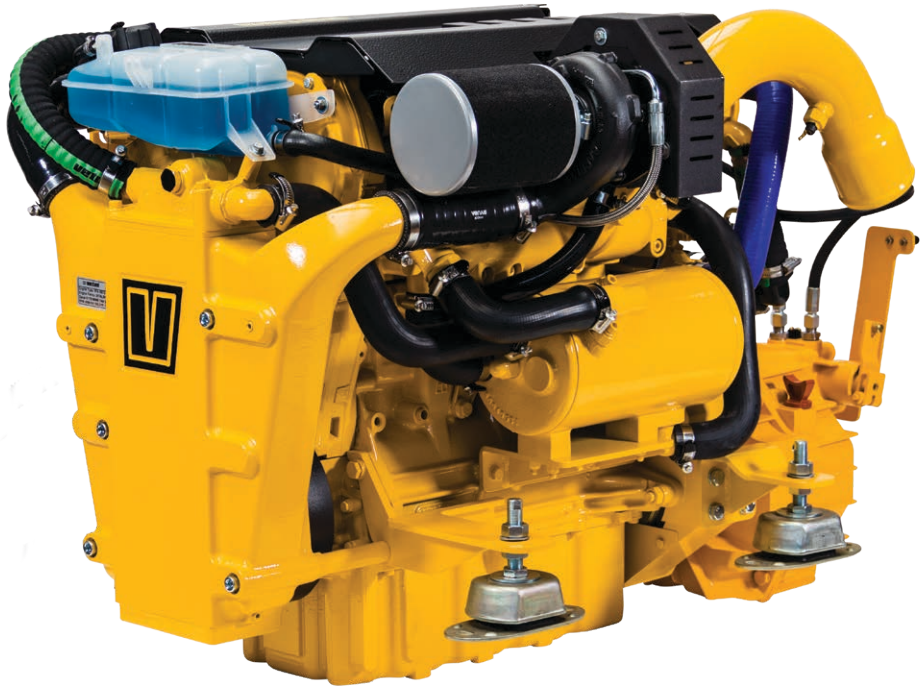
Next generation F-Line 4-cylinder engines

The new generation VETUS high performance common-rail diesel engines with variable geometry turbo charger, is especially designed for installation in fast semi-planing and planing boats. These marine diesel engines are compact, lightweight, fuel efficient and have an excellent power-to-weight ratio. The new range covers three different models; VF4.145, VF4.180 and VF4.200 which are supplied with a SAEJ1939 Canbus protocol, meaning more precise data collection through less wiring. The wiring itself is made from higher grade material and less prone to interference. The VETUS F-Line marine diesel engines meet the RCD2012/53/EU emission regulations.

Suitable for semi-planing and planing boats, RIB'S and tenders, runabouts, speed boats, and cruisers. The F-Line series can be recognized from the V-shaped intercooler and a newly designed top cover which gives this range the well-known VETUS appearance, complemented by a revised heat shield on the turbocharger. Components are rearranged for better accessibility and easy maintenance. The new position of the oil filter is near one of the engine mounts. Moving the filter away from the hot side increases the accessibility and makes room for another improvement: to prevent oil spills with filter changes, a small collector is integrated on the engine mount itself keeping your engine bay clean and tidy.

Specifications
- Uniquely, designed VETUS top cover which can be used as a step
- Power output from 145 - 190 hp @ max 4100 rpm
- Canbus system SAEJ1939
- Good accessibility of service components for easy maintenance
- Supplied with an aluminium MPA34 Canbus instrument panel
- Can be supplied with a gearbox or a Mercruiser sterndrive
- Meets the new RCD2013/53/EU emission regulations

Options
Potentiometer kit for mechanical controls; electrical trolling valve for ZF gearboxes; mechanical trolling valve for TM345(A) gearboxes; boiler take-off kit. There is also a kit for an Alpha One sterndrive available for the VF4.145.



All VETUS marine diesel engines come with a 5 year warranty in accordance with the VETUS Warranty and Service Conditions.

F-Line

VF4.145

108 kW / 145 HP

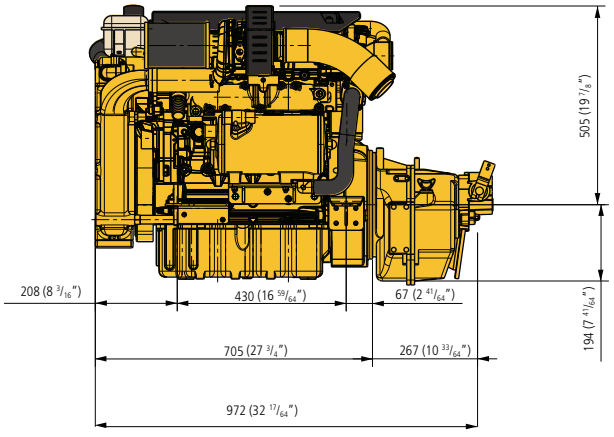
4 stroke diesel, in line, common rail

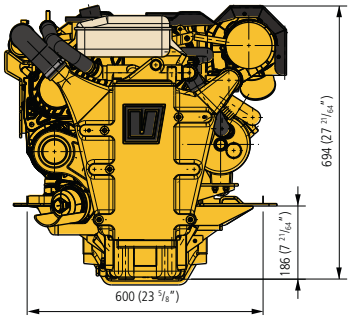
Supplied as standard with instrument panel type MPA34CANBS2 (see page 127) and four flexible engine mounts type HY150 (see page 55).

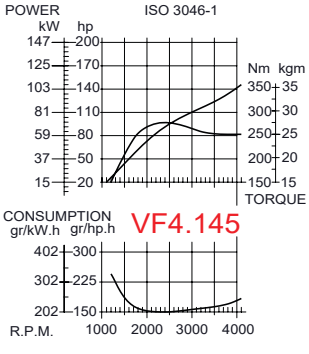
TECHNICAL SPECIFICATIONS

Engine model	VF4.145
CAN bus	SAE J1939
Max. output at flywheel (ISO 3046-1)	108 kW (145 hp)
Max. output at propeller shaft (ISO 3046-1)	104.7 kW (142.4 hp)
Maximum rpm	4100
Bore x stroke	83 x 90,4 mm
Total displacement	1956 cm³
Number of cylinders	4 in line
Injection	Direct injection, common-rail
Intake	Turbo-charged with variable geometry turbo
Compression ratio	16,5:1
Firing order	1-3-4-2
Alternator	12 VDC - 105 Amps.
Torque	280 Nm / 2300 rpm
Idle speed	800 rpm
Fuel consumption at max. rpm	235 g / kW.h
Gearbox (standard)	TM345(A)
Ratio	2 / 2,47:1

Gearbox (optional)	ZF45 (2.2/2.51/3:1), ZF45A (1.26/1.51/2.03/2.44:1), TM485A (1.51/2.09/2.4:1) ZF68IV (2.0/2.48:1)
Mercruiser Bravo sterndrive	Bravo I (1.36/1.5/1.65:1) Bravo II (1.5/1.65/1.81/2.0/2.2:1) Bravo III (1.36/1.5/1.65/1.81/2.0/2.2:1)
Dry weight (incl. standard gearbox)	320 kg
Fuel lift pump	1.5 m
Max. installation angle (backwards)	10°
Max. athwartship angle (continuously)	20°
Instrument panel	MPA34CANBS2
Acoustic alarm	oil pressure, temperature, charging current, fresh and raw water
Electrical circuit protection	Various fuses and emergency shut-down switch
Certification	EU-RCDII







VF4.180

129 kW / 175 HP

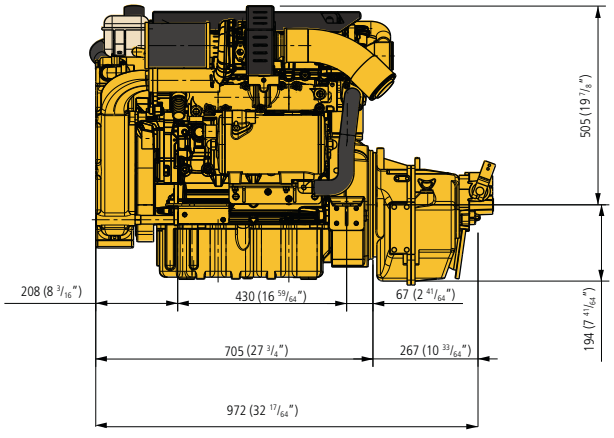
4 stroke diesel, in line, common rail

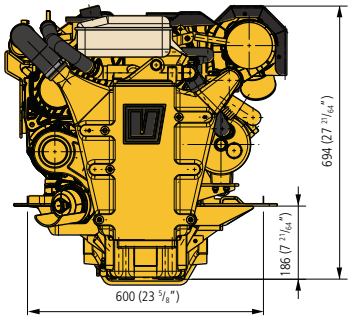
Supplied as standard with instrument panel type MPA34CANBS2 (see page 127) and four flexible engine mounts type HY150 (see page 55).

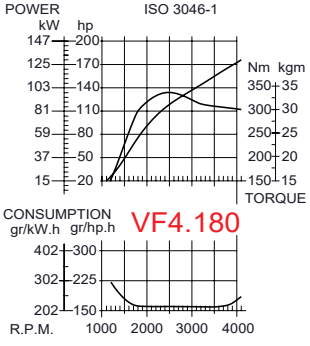
TECHNICAL SPECIFICATIONS

Engine model	VF4.180
CAN bus	SAE J1939
Max. output at flywheel (ISO 3046-1)	129 kW (175 hp)
Max. output at propeller shaft (ISO 3046-1)	125.1 kW (170.1 hp)
Maximum rpm	4100
Bore x stroke	83 x 90,4 mm
Total displacement	1956 cm³
Number of cylinders	4 in line
Injection	Direct injection, common-rail
Intake	Turbo-charged with variable geometry turbo
Compression ratio	16,5:1
Firing order	1-3-4-2
Alternator	12 VDC - 105 Amps.
Torque	340 Nm / 2300 rpm
Idle speed	800 rpm
Fuel consumption at max. rpm	222 g / kW.h
Gearbox (standard)	ZF45
Ratio	2,2 / 2,5 / 3:1

Gearbox (optional)	ZF45A (1.26/1.51/2.03/2.44:1), TM485A (1.51/2.09/2.4:1), ZF68IV (2/2.48:1)
Mercruiser Bravo sterndrive	Bravo I (1.36/1.5/1.65:1) Bravo II (1.5/1.65/1.81/2.0/2.2:1) Bravo III (1.36/1.5/1.65/1.81/2.0/2.2:1)
Dry weight (incl. standard gearbox)	320 kg
Fuel lift pump	1.5 m
Max. installation angle (backwards)	10°
Max. athwartship angle (continuously)	20°
Instrument panel	MPA34CANBS2
Acoustic alarm	oil pressure, temperature, charging current, fresh and raw water
Electrical circuit protection	Various fuses and emergency shut-down switch
Certification	EU-RCDII







F-Line

VF4.200

140 kW / 190 HP

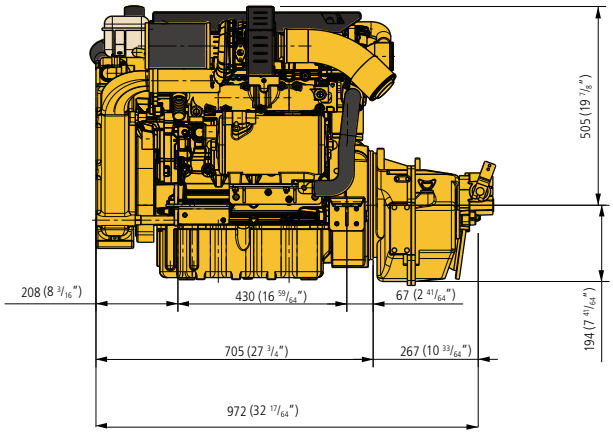
4 stroke diesel, in line, common rail

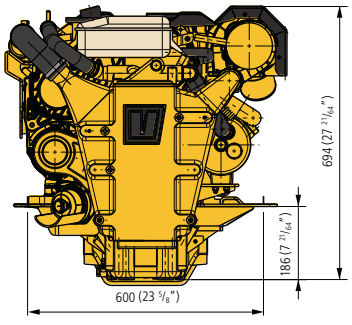
Supplied as standard with instrument panel type MPA34CANBS2 (see page 127) and four flexible engine mounts type HY150 (see page 55).

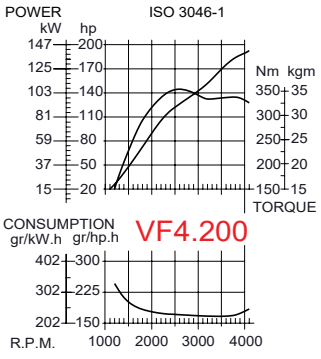
TECHNICAL SPECIFICATIONS

Engine model	VF4.200
CAN bus	SAE J1939
Max. output at flywheel (ISO 3046-1)	140 kW (190 hp)
Max. output at propeller shaft (ISO 3046-1)	135.8 kW (184.3 hp)
Maximum rpm	4100
Bore x stroke	83 x 90,4 mm
Total displacement	1956 cm^3
Number of cylinders	4 in line
Injection	Direct injection, common-rail
Intake	Turbo-charged with variable geometry turbo
Compression ratio	16,5:1
Firing order	1-3-4-2
Alternator	12 VDC - 105 Amps.
Torque	355 Nm / 2300 rpm
Idle speed	800 rpm
Fuel consumption at max. rpm	237 g / kW.h
Gearbox (standard)	ZF45
Ratio	2,2 / 2,5 / 3:1

Gearbox (optional)	ZF45A (1.26/1.51/2.03/2.44:1), TM485A(1.51/2.09/2.4:1) ZF68IV (2.0/2.48:1)
Mercruiser Bravo sterndrive	Bravo I (1.36/1.5/1.65:1) Bravo II (1.5/1.65/1.81/2.0/2.2:1) Bravo III (1.36/1.5/1.65/1.81/2.0/2.2:1)
Dry weight (incl. standard gearbox)	320 kg
Fuel lift pump	1.5 m
Max. installation angle (backwards)	10°
Max. athwartship angle (continuously)	20°
Instrument panel	MPA34CANBS2
Acoustic alarm	oil pressure, temperature, charging current, fresh and raw water
Electrical circuit protection	Various fuses and emergency shut-down switch
Certification	EU-RCDII







Equipment selection table for F-line

Engine model	VF4.145E			VF4.180E					VF4.200E				
Gearbox reduction	1,54:1	2:1	2,47:1	1,26:1	1,51:1	2:1	2,5:1	3:1	1,26:1	1,51:1	2:1	2,5:1	3:1
VETUS lubricated sterngear systems													
* Shaft diam., Duplex 1-4462,	30	35	35	30	35	35	40	40	30	35	35	40	40
VETUS manganese bronze propeller													
* 4 or 5-blade	on request												
VETUS flexible couplings, to be selected													
* Bullflex type	8		12	8		8/12	12	12/16	8		8/12	12	12/16
VETUS intermediate flange between gearbox and flexible coupling													
* type, suitable for Technodrive gearboxes:	TM345(A): CT50086			TM485(A): CT50009					TM485(A): CT50009				
* type, suitable for ZF gearboxes (not V-drive).:	ZF45: CT50068			ZF45A: CT50009					ZF45A: CT50009				
* type, suitable for ZF gearbox for Bullflex 32:	n/a			n/a					n/a				
VETUS water strainer													
* hose connection diam. (mm)	32 mm												
* water strainer, type FTR470, FTR330 or CWS:	FTR47032 or 330/32 / CWS1¼												
* water strainer installation kit	WKIT33032												
VETUS fuel filter/water separator													
* hose connection suction/return in mm	8-8 mm												
* fuel filter/water separator, type	75340VTEB or 340VTEB												
VETUS exhaust system with water injection													
* exhaust hose, diam. (mm)	90												
* waterlock, type	NLP / MV / MF or MGP												
* gooseneck, type	LT9090												
* transom connection type	TRC 90SV or PV/TC90												
* anti-siphon, type ASD or AIRVENT	V or H												
VETUS engine remote control													
* type	A mechanical remote control or an electronic remote control 3500 Series can be used with our VF engines												
VETUS maintenance free batteries													
* voltage	12 VDC												
* start battery, Ah	min. 120 Ah, max. 200 Ah												
* light battery, Ah	to be selected												
VETUS louvered air suction vents													
* per engine, type ASV, SSV or SSVL	4 x 70			2 x 80 + 2 x 90 / 2 x 90+ 2 x 100					2 x 80 + 2 x 90 / 2 x 90+ 2 x 100				

Selection table EC3/4 electronic remote control for VETUS VF Engines

1st position = throttle, second position = gearbox M = Mechanical, E = Electrical		1 Engine M/M	2 Engines M/M	1 Engine M/E	2 Engines M/E
EC3/4 remote control					
EC3/4 handle for 1 engine, without trim	EC3H1/EC4H1(R)	1	xx	1	xx
EC3/4 handle for 2 engines, without trim	EC3H2/4H2	xx	1	xx	1
EC3/4 handle for 1 engine, with trim	EC3HT1/4HT1	1	xx	1	xx
EC3/4 handle for 2 engines, with trim	EC3HT2/4HT2	xx	1	xx	1
VETUS control box					
Control box, engine electronic, gearbox electrical, with trim 12 VDC	EC312EE	xx	xx	1	1
Control box, engine electronic, gearbox electrical, with trolling 12 VDC	EC312EET	xx	xx	1	1
Control box, 1 engine electronic, gearbox mechanical, no trim 12 VDC	EC312EM1	1	xx	xx	xx
Control box, 2 engines electronic, gearbox mechanical, no trim 12 VDC	EC312EM2	xx	1		
Control box, 1 engine electronic, gearbox mechanical, with trim 12 VDC	EC312EMT1	1	xx		
Control box, 2 engines electronic, gearbox mechanical, with trim 12 VDC	EC312EMT2	xx	1		
Required cables					
Can-bus cable control box -> control head 3/5/10 m	DTCAN3/5/10M	1	1	1	1
Extension can-bus cable	DTCAN30M	Optional			
Can-bus T-piece	CANT	Optional			
Push/pull cable	CABLE/CABLF	1	2	xx	xx
Cable from EC312EE to trim/trolling, length 2m	EC3T2	xx	xx	1	2
Cable from control box EC**EE to gearbox L=3m 6 wire	ECG3/6				
Cable from control box EC**EE to gearbox L=5m 6 wire	ECG5/6				
Cable from control box EC**EE to gearbox L=7m 6 wire	ECG7/6				
Cable from control box to VF engine, length 2m	EC3E3M	1	2		

D-LINE

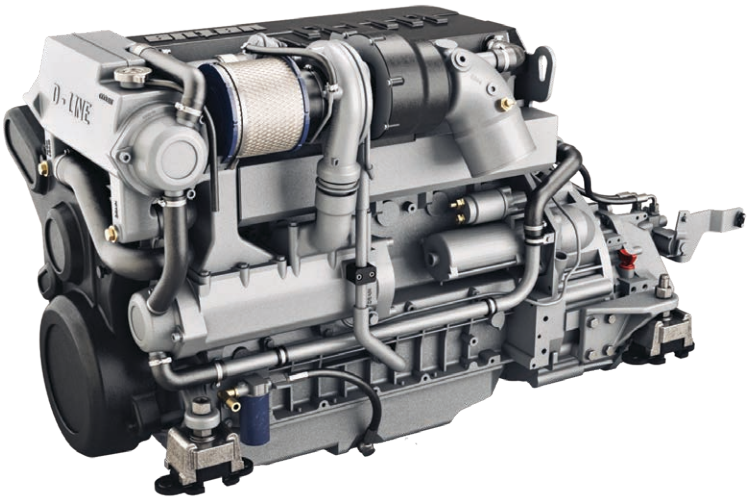
COMMON-RAIL D-LINE ENGINES 122 - 210 HP

VETUS D-Line common-rail engines run smoothly, have a high power and torque, low revolutions and are highly reliable and durable. They are in conformity with the new RCD2 emission regulations. Extremely suitable for power hydraulics on board. These engines have a CAN bus system with a SAEJ1939 protocol but can easily work with NMEA2000 systems on board as well.

These VETUS D-Line engines have the unique VETUS designed water cooled top cover, not only to reduce the heat in the engine room but also to reduce the engine noise of an already quiet engine block. This top cover can be used as a step as well. Other features added to the D-Line engines are: a smaller air filter in order to save space in the engine room, new exhaust manifold insulation, high output alternator as standard (160 Amps) and a second alternator as an option. When this option is specified, the front belt cover is not fitted. An electric sump pump is fitted as standard.

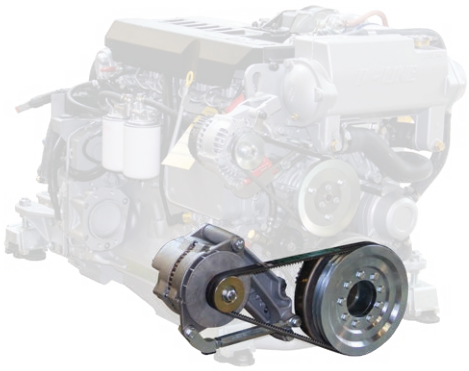
The following options can be ordered with the engine

- 24 VDC electrical installation
- Double pole isolation
- PTO for installation a hydraulic pump
- Second alternator 12 VDC / 160 Amps or 24 VDC / 60 Amps
- Second alternator 24 VDC / 75 Amps including ACR regulator (WP)
- Potentiometer for mechanical controls
- Front belt cover for second 24 VDC/75A alternator
- Calorifier kit
- Electrical trolling valve 12 VDC or 24 VDC
- Extra pulley 2x SPA
- Fly-bridge instrument panel



Second alternator 24 VDC 75 Amps including ACR regulator

Code	Engine type
18-15756	VD4
18-14446	VD4
18-15004	VD6
18-14446	VD6

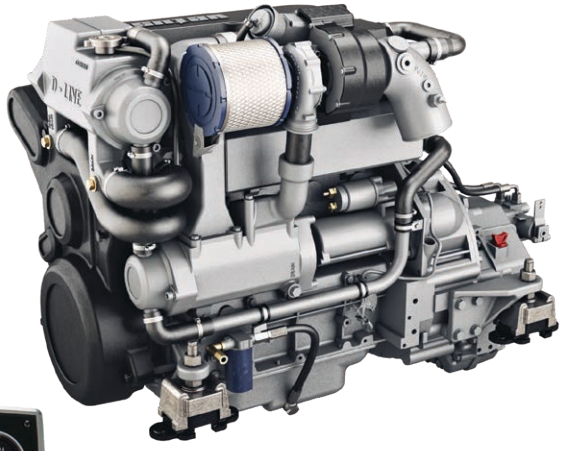


D-Line

VD4.120

90 kW / 122 HP

DI diesel / 4 stroke / 4 cyl. in line / turbo-charged aftercooled / common rail / EMR 3

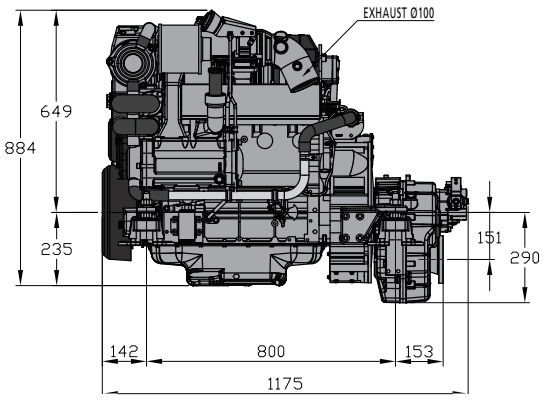


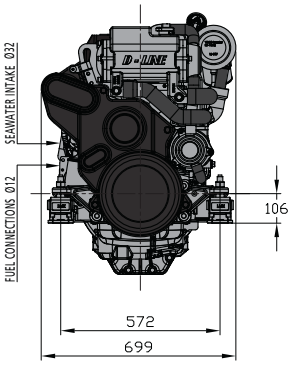
Supplied as standard with instrument panel type MPA34CANBS2 (see page 127) and four flexible engine mounts type LMX140 (see page 55).
Fuel filter/water separator type 340VTEB including water sensor.

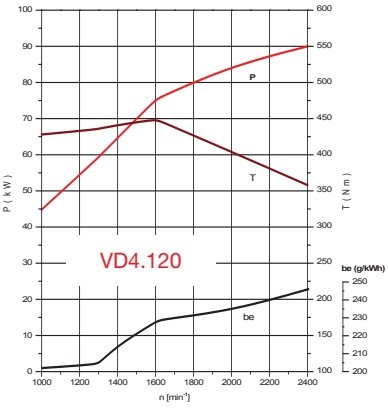
TECHNICAL SPECIFICATIONS

Engine model	VD4.120
CAN bus	SAE J1939
Max. output at flywheel (ISO 8665)	90 kW (122 hp)
Max. output at propeller shaft (ISO 8665)	86 kW (117 hp)
Maximum rpm	2400
Bore x stroke	101 mm x 126 mm
Capacity	4040 cm³
Number of cylinders	4 in line
Cooling system	intercooling
Compression ratio	18:1
Firing order	1-3-4-2
Alternator	12 VDC - 160 Amps. 24 VDC - 60 Amps.
Optional second alternator	12 VDC - 160 Amps. 24 VDC - 60 Amps. 24 VDC - 75 Amps. ACR regulator (WP)
Torque	449 Nm / 1600 rpm
Idle speed	800 rpm
Fuel consumption at max. rpm	235 g / kW.h
Gearbox (standard)	ZF45
Ratio	2.2 /2.51 / 3.1

Gearbox (optional)	ZF45A 1.26:1 / 1.51 / 2.03 / 2.44:1 ZF68IV 1.29 / 1.56 / 1.99 / 2.47:1
Dry weight (incl. standard gearbox)	532 kg
Fuel lift pump	1.5 m
Max. installation angle (backwards)	15°
Max. athwartship angle (continuously)	30°
Calorifier connection kit	optional
Electric oil drain pump	standard
P.T.O. flange to install hydr. pump	optional
Instrument panel	MPA34CANBS2
Instruments	Key switch, tacho meter/hour counter, volt meter, oil pressure gauge, temperature gauge
Acoustic alarm	Oil pressure, temperature, charging current fresh and raw water
Electric circuit protection	Resetable circuit breaker
Certification	2013/53/EU RCD II







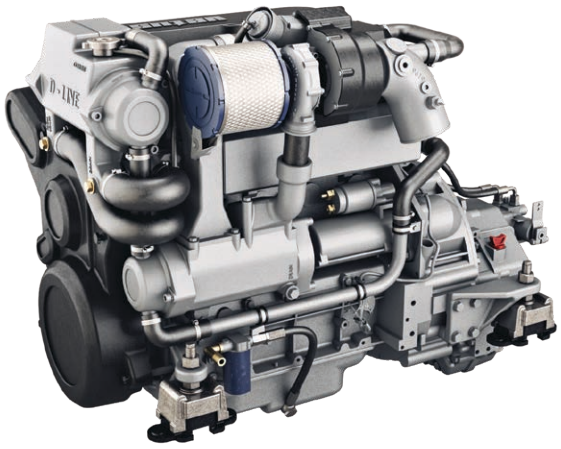
Certified within 5%

D-Line

VD4.140

103 kW / 140 HP

DI diesel / 4 stroke / 4 cyl. in line / turbo-charged aftercooled / common rail / EMR 3

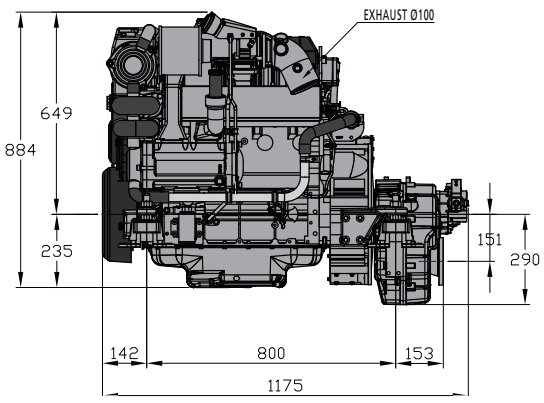


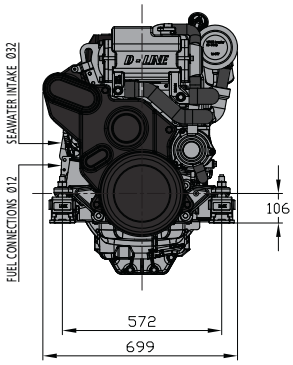
Supplied as standard with instrument panel type MPA34CANBS2 (see page 127) and four flexible engine mounts type LMX140 (see page 55). Fuel filter/water separator type 340VTEB including water sensor.

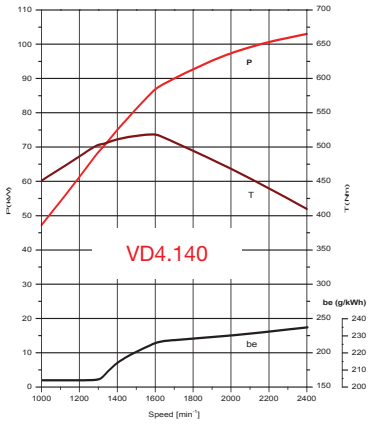
TECHNICAL SPECIFICATIONS

Engine model	VD4.140
CAN bus	SAE J1939
Max. output at flywheel (ISO 8665)	103 kW (140 hp)
Max. output at propeller shaft (ISO 8665)	98.9 kW (134.4 hp)
Maximum rpm	2400
Bore x stroke	101 mm x 126 mm
Capacity	4040 cm³
Number of cylinders	4 in line
Cooling system	intercooling
Compression ratio	18:1
Firing order	1-3-4-2
Alternator	12 VDC - 160 Amps. 24 VDC - 60 Amps.
Optional second alternator	12 VDC - 160 Amps. 24 VDC - 60 Amps. 24 VDC - 75 Amps. ACR regulator (WP)
Torque	520 Nm / 1600 rpm
Idle speed	800 rpm
Fuel consumption at max. rpm	235 g / kW.h
Gearbox (standard)	ZF45
Ratio	2.2 /2.51 / 3.1

Gearbox (optional)	ZF45A 1.26:1 / 1.51 / 2.03 / 2.44:1 ZF68IV 1.29 / 1.56 / 1.99 / 2.47:1
Dry weight (incl. standard gearbox)	532 kg
Fuel lift pump	1.5 m
Max. installation angle (backwards)	15°
Max. athwartship angle (continuously)	30°
Calorifier connection kit	optional
Electric oil drain pump	standard
P.T.O. flange to install hydr. pump	optional
Instrument panel	MPA34CANBS2
Instruments	Key switch, tacho meter/hour counter, volt meter, oil pressure gauge, temperature gauge
Acoustic alarm	Oil pressure, temperature, charging current fresh and raw water
Electric circuit protection	Resetable circuit breaker
Certification	2013/53/EU RCD II







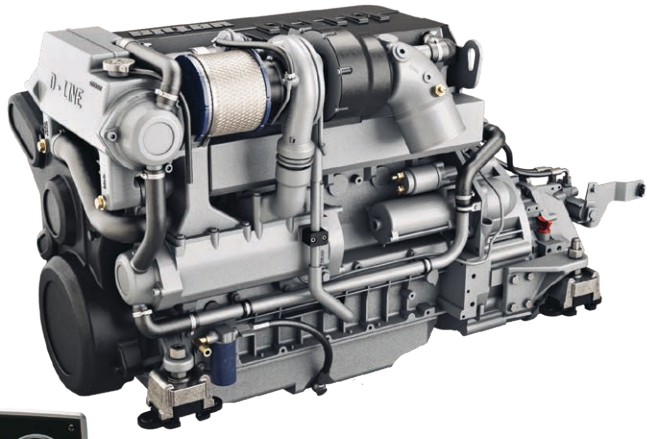
Certified within 5%

D-Line

VD6.170

● ● ● ● ● ● *125 kW / 170 HP*

DI diesel / 4 stroke / 6 cyl. in line / turbo-charged aftercooled / common rail / EMR 3

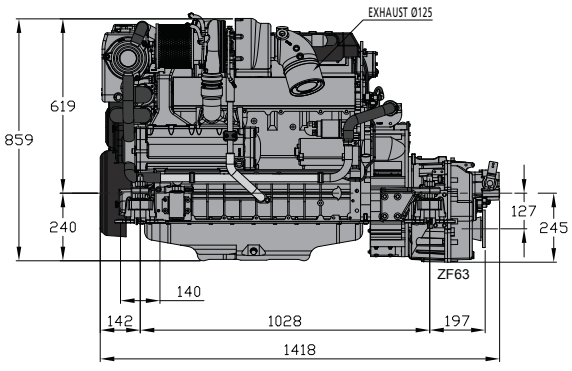


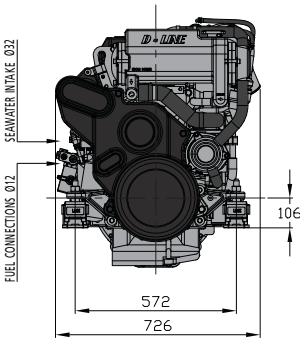
Supplied as standard with instrument panel type MPA34CANBS2 (see page 127) and four flexible engine mounts type LMX210 (see page 55).
Fuel filter/water separator type 340VTEB including water sensor.

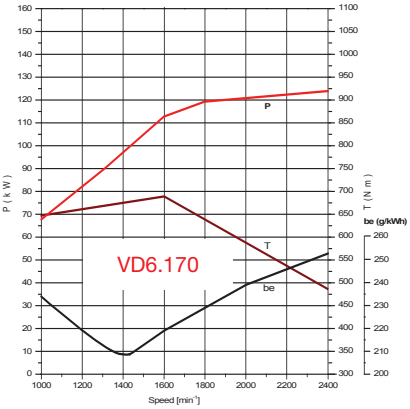
TECHNICAL SPECIFICATIONS

Engine model	VD6.170
CAN bus	SAE J1939
Max. output at flywheel (ISO 8665)	125 kW (170 hp)
Max. output at propeller shaft (ISO 8665)	120 kW (163 hp)
Maximum rpm	2400
Bore x stroke	101 mm x 126 mm
Capacity	6060 cm³
Number of cylinders	6 in line
Cooling system	intercooling
Compression ratio	18:1
Firing order	1-5-3-6-2-4
Alternator	12 VDC - 160 Amps. 24 VDC - 60 Amps.
Optional second alternator	12 VDC - 160 Amps. 24 VDC - 60 Amps. 24 VDC - 75 Amps. ACR regulator (WP)
Torque	680 Nm / 1600 rpm
Idle speed	800 rpm
Fuel consumption at max. rpm	240 g / kW.h
Gearbox (standard)	ZF68
Ratio	1.51 / 1.93 / 2.48 / 2.78:1

Gearbox (optional)	ZF68A 1.22 / 1.56 / 2.04 / 2.52:1 ZF68IV 1.29 / 1.56 / 1.99 / 2.47:1
Dry weight (incl. standard gearbox)	657 kg
Fuel lift pump	1.5 m
Max. installation angle (backwards)	15°
Max. athwartship angle (continuously)	26°
Calorifier connection kit	optional
Electric oil drain pump	standard
P.T.O. flange to install hydr. pump	optional
Instrument panel	MPA34CANBS2
Instruments	Key switch, tacho meter/hour counter, volt meter, oil pressure gauge, temperature gauge
Acoustic alarm	Oil pressure, temperature, charging current fresh and raw water
Electric circuit protection	Resetable circuit breaker
Certification	2013/53/EU RCD II







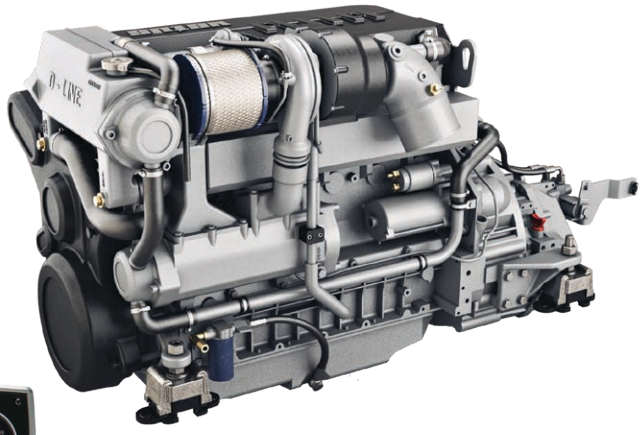
Certified within 5%

D-Line

VD6.210

155 kW / 210 HP

DI diesel / 4 stroke / 6 cyl. in line / turbo-charged aftercooled / common rail / EMR 3

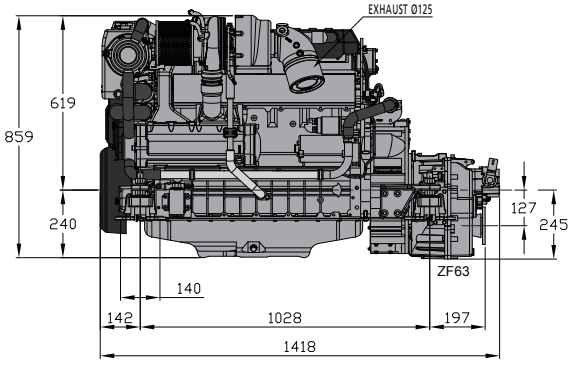


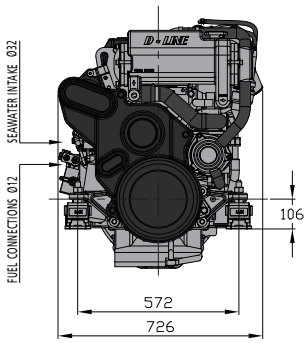
Supplied as standard with instrument panel type MPA34CANBS2 (see page 127) and four flexible engine mounts type LMX210 (see page 55). Fuel filter/water separator type 340VTEB including water sensor.

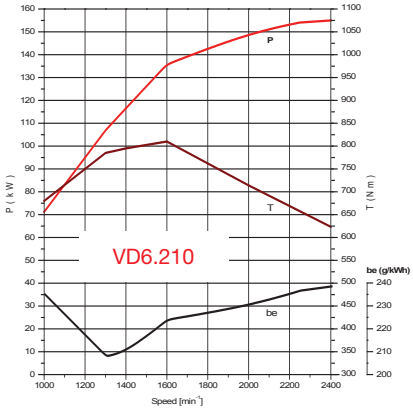
TECHNICAL SPECIFICATIONS

Engine model	VD6.210
CAN bus	SAE J1939
Max. output at flywheel (ISO 8665)	155 kW (210 hp) (VD6.210)
Max. output at propeller shaft (ISO 8665)	149 kW (203 hp) (VD6.210)
Maximum rpm	2400
Bore x stroke	101 mm x 126 mm
Capacity	6060 cm³
Number of cylinders	6 in line
Cooling system	intercooling
Compression ratio	18:1
Firing order	1-5-3-6-2-4
Alternator	12 VDC - 160 Amps. 24 VDC - 60 Amps.
Optional second alternator	12 VDC - 160 Amps. 24 VDC - 60 Amps. 24 VDC - 75 Amps. ACR regulator (WP)
Torque	810 Nm / 1600 rpm
Idle speed	800 rpm
Fuel consumption at max. rpm	240 g / kW.h
Gearbox (standard)	ZF68
Ratio	1.51 / 1.93 / 2.48 / 2.78:1

Gearbox (optional)	ZF68A 1.22 / 1.56 / 2.04 / 2.52:1 ZF68IV 1.29 / 1.56 / 1.99 / 2.47:1
Dry weight (incl. standard gearbox)	657 kg
Fuel lift pump	1.5 m
Max. installation angle (backwards)	15°
Max. athwartship angle (continuously)	26°
Calorifier connection kit	optional
Electric oil drain pump	standard
P.T.O. flange to install hydr. pump	optional
Instrument panel	MPA34CANBS2
Instruments	Key switch, tacho meter/hour counter, volt meter, oil pressure gauge, temperature gauge
Acoustic alarm	Oil pressure, temperature, charging current fresh and raw water
Electric circuit protection	Resetable circuit breaker
Certification	2013/53/EU RCD II







Certified within 5%

Equipment selection table for D-line

VDR

See flexible couplings on page 88

75330VTEB

See fuel filters on page 148

CWS

See water strainers on page 59

MGP

See waterlocks on page 110 and 113

HPW127

Engine model	VD4.120		VD4.140		VD6.170		VD6.210	
Gearbox reduction	2,2:1	2,5:1	2,2:1	2,5:1	2,04:1	2,5:1	2,04:1	2,5:1
VETUS water lubricated propeller shaft system								
* Shaft diam., Duplex 1-4462	40	40	40	40	45	45	45	50
VETUS manganese bronze propeller								
* 3- or 4-blade	on request							
VETUS flexible couplings								
* Bullflex type	12	12	12	16	16	16	16	32
VETUS intermediate flange between gearbox and flexible coupling								
* Type, only suitable for ZF gearbox	ZF45A: CT50009; ZF45: CT50068; ZF68(A)/16: CT50009; ZF68(A)/32: CT50065							
VETUS constant velocity joint with integrated thrust bearing								
* Type	depending on the application							
* Dimensions gearbox flange	ZF45: 6", ZF45A: 5", ZF68: 5", ZF68A: 5"							
VETUS water strainers								
* hose connection (mm)	32							
* water strainer, type FTR470, FTR330 or CWS:	330 or 470/32 / CWS1¼							
* water strainer kit, type	WKIT33032							
VETUS water separator / fuel filter (standard 340VTEB included with the engine)								
* hose connection suction/return in mm	12 - 10							
* water separator / fuel filter, type:	(75)330VTEB							
VETUS water-injected exhaust systems								
* exhaust hose, diam. (mm)	100				125			
* waterlock, type	MF or MGP				MF - MGS or HPW127			
* muffler, type	MP100				n.a.			
* gooseneck, type	LT102				LT127			
* exhaust transom connection, type	TRCR/PV or SV							
* anti-siphon, type AIRVENT or ASD	AIRVENTV or -H/ASDV or -H							
VETUS engine remote controls								
* to be selected	SICO, SISCO, AFSTZIJ, RCTOPB, RCTOPS, AFSTTOP, EC4							
VETUS maintenance free batteries								
* voltage	12							
* start battery, min. Ah	105							
* light battery, Ah	to be selected							
VETUS louvered air suction vents								
* per engine, type ASV, SSV or SSVL	4 x 60		4 x 70		2 x 80 + 2 x 90		4 x 50 + 4 x 60	

Engines and around the engine

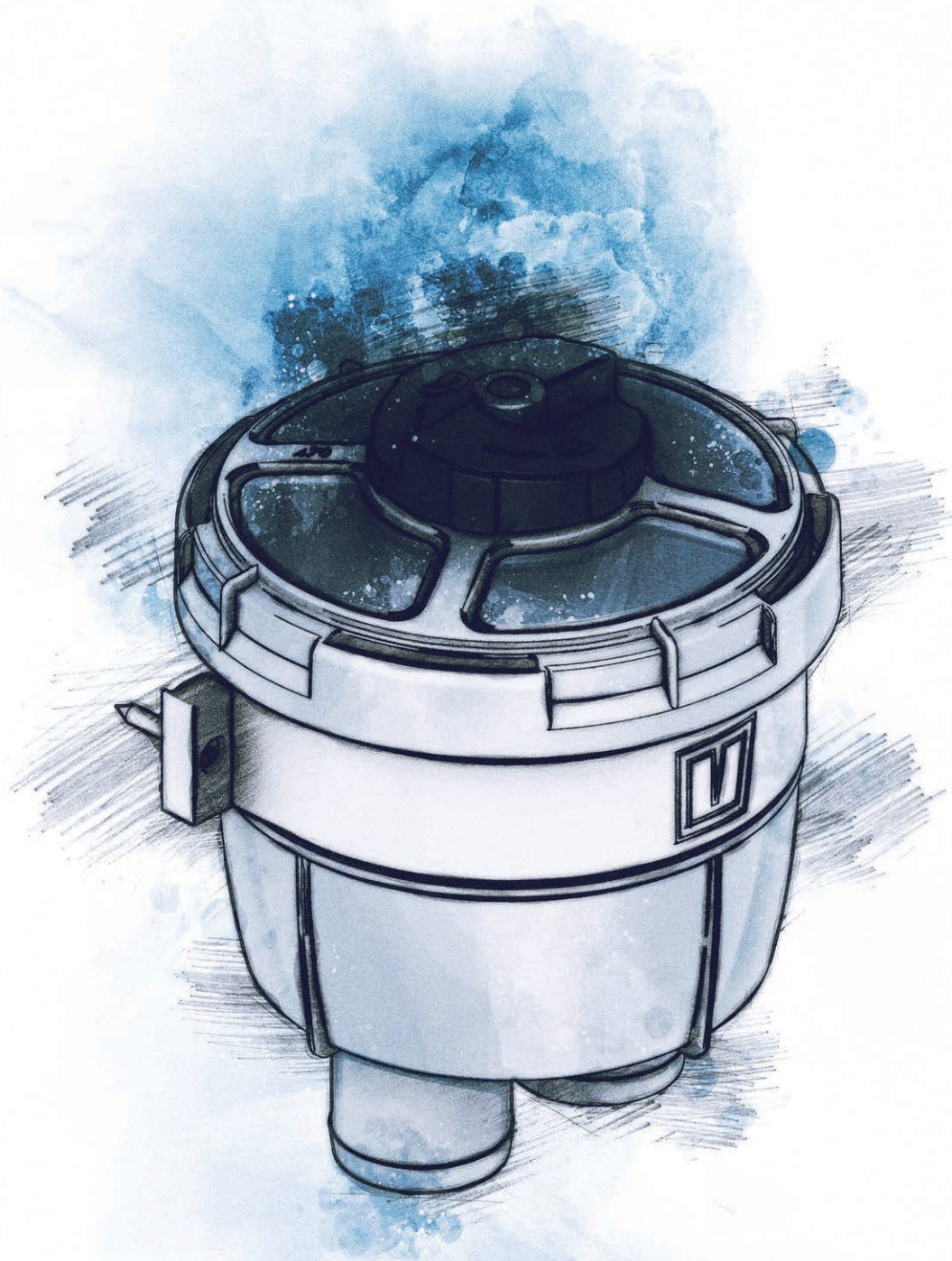
SOLAS Engines

VETUS also offers a range of marine diesel engines which are SOLAS approved for life and rescue boats and tenders. This range comprises of four models from 27hp up to 52hp.

Standard specification
- Keelcooling system with thermostat and dry exhaust fitting
- Tilt switch
- Electric fuel lift pump
- Automatic self-bleeding system
- Fuel filter/water separator
- Electric start
- Air inlet filter
- Alternator 12 VDC/85A (M3) or 12 VDC/110A (M4)
- MP10 SOLAS panel including 2 metre cable, warning lights and audible alarm for low oil pressure, high coolant temperature and exhaust temperature and manual turn switch for start and stop
- V-belt cover
- Oil sump pump supplied separately

Options
- Intercooling system including exhaust injection bend with seawater protection alarm
- Fire fighting pump including pump bracket
- Engine heating (48 VDC)
- Spring starter
- Hydraulic starter
- Bigger alternator 12 VDC/140A for M4 engines
- Second alternator 12 VDC/110A or 12 VDC/140A for M4 engines
- Remote control panels type MP22 or MP34
- Flexible engine mounts
- Bracket for remote oil and fuel filter
- Spare parts kit

In addition we can offer:
- Complete propeller shaft system
- Exhaust system for intercooled engines
- Remote controls and push-pull cables
- All other around the engine equipment



Overview VETUS around the engine

Mechanical engine remote controls see page 48 - 49

SISCO

SICO

RCTOPS

RCTOPTS

RCTOPTB

RCTOPB

AFSTTOPT

AFSTZIJ

Electronic engine remote controls see page 50 - 52

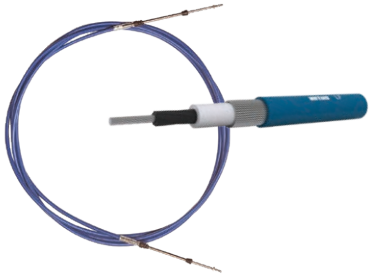
EC4

EC3

ECS

Push-pull cables and accessories

see page 53



CABLF

Flexible engine mounts see page 54 - 55

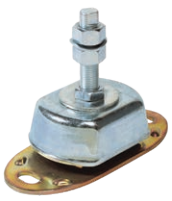
KSTEUN25V

KSTEUN35V

KSTEUN40A

KSTEUN..V

MITSTEUN



HY

LMX

Cooling water strainers see page 56 - 59

FTR140

FILTER150

FTR330

FTR470

FTR1320

FTR1900

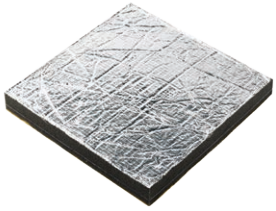
NEW!

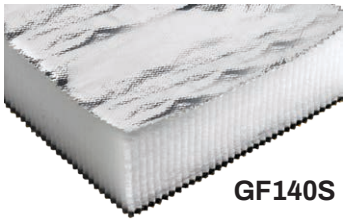
FTR330..M

CWS

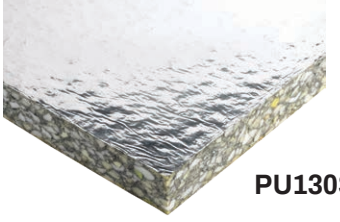
FTR525

Sound insulation materials see page 62 - 65





GF140S



PU130S

ARM10X12

Mechanical engine remote controls

All remote controls (except type AFST) have a neutral safety switch as standard, which prevents the engine from being started when the gearbox is engaged. Controls which are shown with a red knob are also supplied with a black knob as standard.

Type SISCO - single lever

With stainless steel (AISI 316) handle and housing

VETUS single lever remote control for side mounting. The push-pull cables can be installed horizontally or vertically.

Type	Length (mm)	Width (mm)	Height (mm)	Handle length from centre (mm)	Mechanism depth from centre (mm)
SISCO	142	122	85	200	243
SISCOG	142	122	85	200	243

Type SICO - single lever

With stainless steel (AISI 316) handle and synthetic housing

VETUS single lever remote control for side mounting.

Type	Length (mm)	Width (mm)	Height (mm)	Handle length from centre (mm)	Mechanism depth from centre (mm)
SICO	147	127	85	200	243
SICOG	147	127	85	200	243

Type RCTOPS - single lever

With high-gloss polished stainless steel (AISI 316) handle and housing

VETUS single lever remote control for top mounting.

Type	Length (mm)	Width (mm)	Height (mm)	Handle length from centre (mm)	Mechanism depth (mm)
RCTOPS	162	104	237	200	208
RCTOPSG	162	104	237	200	208

Type RCTOPTS - twin lever

With high-gloss polished stainless steel (AISI 316) handles and housing

VETUS twin lever remote control for top mounting.

Type	Length (mm)	Width (mm)	Height (mm)	Handle length from centre (mm)	Mechanism depth (mm)
RCTOPTS	162	200	237	200	208
RCTOPTSG	162	200	237	200	208

Mechanical engine remote controls

Type RCTOPTB - twin lever

With cast aluminium housing and stainless steel (AISI 316) handles

VETUS twin lever remote control for top mounting

Type	Length (mm)	Width (mm)	Height (mm)	Mechanism depth (mm)
RCTOPTB	162	200	237	208
RCTOPTBG	162	200	237	208

RCTOPTB

RCTOPTBG

Type RCTOPB - single lever

With cast aluminium housing and stainless steel (AISI 316) handles

VETUS single lever remote control for top mounting

Type	Length (mm)	Width (mm)	Height (mm)	Mechanism depth (mm)
RCTOPB	162	104	237	208
RCTOPBG	162	104	237	208

RCTOPB

RCTOPBG

Black/silver synthetic housings with black metal and synthetic levers

(Without neutral safety switch)

Type AFSTTOPT

VETUS twin lever control for top mounting with synthetic housing and handle. Top mounting for twin engines.

Type AFSTTOP

VETUS single lever control for top mounting with synthetic housing and handle. Top mounting for single engine.

Type	Length (mm)	Width (mm)	Height (mm)
AFSTTOPT	154	208	238
AFSTTOP	154	118	238

AFSTTOPT

AFSTTOP

Type AFSTZIJ

This side mount engine control can be used with mechanically controlled engines from 12 - 110 hp. The AFSTZIJ should be mounted in reach of the vessel's helm on either port or starboard side.

The mechanical part of the lever is made of painted zinc, finished with a synthetic housing and an ergonomically shaped rubber grip. The AFSTZIJ works with push/pull cables and features an integrated safety mechanism to protect the transmission. The gearbox can only be shifted at idling speed. The AFSTZIJ is the ideal engine control for sailing boats.

Type	Length (mm)	Width (mm)	Height (mm)
AFSTZIJ	138	110	78

AFSTZIJ

Electronic engine remote control

Type EC4

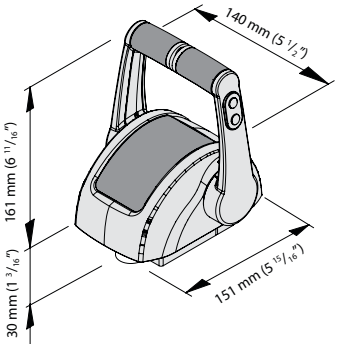
High quality with the latest technology

This high quality electronic engine control lever is made of high-grade stainless steel (AISI 316) with hand-polished stainless steel (AISI 316) casing and is suitable for power and sailing yachts. It can operate single or twin engines and has multiple helm station possibilities with identical controls at all helm stations. The communication goes via CAN-bus protocol.
The EC4 is easy to install and configure and meets the EMC requirements as standard.

Characteristics
- Available for 12 and 24 VDC
- Waterproof (IP67)
- Suitable for mechanically controlled engines, combination mechanical / electronic engine control or fully electronic engine control
- Suitable for mechanical or hydraulic gearboxes and stern drives

Optional
Trolling valve control, trim tab or bow thruster control.

Type	Length (mm)	Width (mm)	Height (mm)	Engines
EC4H1	151	140	161	1 (left handle)
EC4H1R	151	140	161	1 (right handle)
EC4HT1	151	140	161	1 with trim control
EC4H2	151	140	161	2
EC4HT2	151	140	161	2 with trim control



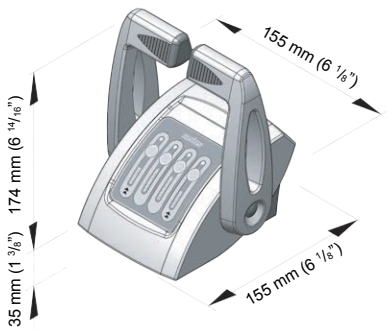
Engine control boxes

This engine control can be used with electrical and / or mechanical controlled diesel engines and gearboxes. Ask your dealer for more information.

Type EC3

The housing of the EC3 model is made from composites.
All other technical specifications are the same as the EC4.

Type	Length (mm)	Width (mm)	Height (mm)	Engines
EC3H1	155	155	174	1
EC3HT1	155	155	174	1 with trim control
EC3H2	155	155	174	2
EC3HT2	155	155	174	2 with trim control



Selection table

EC3 / EC4 Electronic motor control system			1 Engine	2 Engines	1 Engine	2 Engines	1 Engine	2 Engines	1 Engine	2 Engines	Optional
Control method: first position=Throttle, Second position = Gear actuation M = mechanical, E = Electrical			M/M	M/M	M/E	M/E	E/E	E/E	E/M	E/M	Per extra control head Max. total units = 4
EC3 Composite control head single engine		EC3H1	O = 1		O = 1		O = 1		O = 1		+1/+2/+3
EC3 Composite control head single engine + Trim buttons		EC3HT1	O = 1		O = 1		O = 1		O = 1		+1/+2/+3
EC3 Composite control head twin engines		EC3H2		O = 1		O = 1		O = 1		O = 1	+1/+2/+3
EC3 Composite control head twin engines + Trim buttons		EC3HT2		O = 1		O = 1		O = 1		O = 1	+1/+2/+3
EC4 Stainless steel control head single engine		EC4H1/ EC4H1R (right)	O = 1		O = 1		O = 1		O = 1		+1/+2/+3
EC4 Stainless steel control head single engine + Trim buttons		EC4HT1	O = 1		O = 1		O = 1		O = 1		+1/+2/+3
EC4 Stainless steel control head twin engines		EC4H2		O = 1		O = 1		O = 1		O = 1	+1/+2/+3
EC4 Stainless steel control head twin engines + Trim buttons		EC4HT2		O = 1		O = 1		O = 1		O = 1	+1/+2/+3
Electronic control box for full mechanical control	12 + 24 VDC	EC3UMM1/ EC4UMM1	1	2	x	x	x	x	x	x	
Electronic control box for full mechanical control and **trim/flap**	12 + 24 VDC	EC3UMMT1/ EC4UMMT1	1	2	x	x	x	x	x	x	
Electronic control box for mechanical motor and electrical gear (will be replaced by EC4UMET1)	12 + 24 VDC	EC3UME1	x	x	1	2	x	x	x	x	
Electronic control box for 2 mechanical motor and electrical gear (will be replaced by EC4UMET2)	12 + 24 VDC	EC3UME2	x	x	x	1	x	x	x	x	
Electronic control box for mechanical motor and electrical gear and **trim/flap**	12 + 24 VDC	EC3UMET1/ EC4UMET1	x	x	1	2	x	x	x	x	
Electronic control box for 2 mechanical motor and electrical gear and **trim/flap**	12 + 24 VDC	EC3UMET2/ EC4MET2	x	x	x	1	x	x	x	x	
Electronic control box for mechanical motor and electrical gear and **trolling**	12 + 24 VDC	EC3UMETR1/ EC4UMETR1	x	x	1	2	x	x	x	x	
Electronic control box for full electric control and **trim/flap**	12 VDC	EC312EE/ EC4UEE	x	x	x	x	1	1	x	x	
Electronic control box for full electric control and **trim/flap**	12 + 24 VDC	EC312EE/ EC4UEE	x	x	x	x	1	1	x	x	
Electronic control box for full electric control and **trolling**	12 + 24 VDC	EC312EET/ EC4EETR	x	x	x	x	1	1	x	x	
Electronic control box for electric motor control and mechanical gear	12 VDC	EC312EM1/ EC4UEM1	x	x	x	x	x	x	1	2	
Electronic control box for electric motor control and mechanical gear and **trim/flap**	12 VDC	EC312EMT1/ EC4EMT1	x	x	x	x	x	x	1	2	
Electric throttle cable universal L=3M		EC3E3U	x	x	x	x	O = 1	O = 2	O = 1	O = 2	
Electric throttle cable for VF engine L=3M		EC3E3M	x	x	x	x	O = 1	O = 2	O = 1	O = 2	
Throttle control cable for D-Line engines		EC3E3MD									
Electric gear cable L=3M (Elec. Gear box = 6 wires)		ECG3/6	x	x	O = 1	O = 2	O = 1	O = 2	x	x	Select desired cable length
Electric gear cable L=5M (Elec. Gear box = 6 wires)		ECG5/6	x	x	O = 1	O = 2	O = 1	O = 2	x	x	
Electric gear cable L=7M (Elec. Gear box = 6 wires)		ECG7/6	x	x	O = 1	O = 2	O = 1	O = 2	x	x	
Trim/Trolling cable L=2M		EC3T2	O = 1		O = 1		O = 1		O = 1		
Trim/Trolling cable L=3M		EC3T3	O = 1		O = 1		O = 1		O = 1		
Trim/Trolling cable EC3 L=3M		EC3TM									
Trim/Trolling cable L=3M for Mercruiser		EC3T3MM	O = 1		O = 1		O = 1		O = 1		

x = Not applicable O = Optional

Electronic engine remote control

Type ECS

The ECS electronic engine controls developed by Rexroth meet the highest production and quality standards and provide operators with maximum reliability, as proven by endurance testing with one million lever actuation's. They feature plug-and-play installation and easy operation with a unique design and extensive range of options.

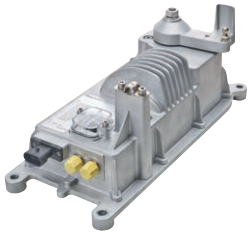
Type ECS can be used to control single or twin engine applications from up to four control stations. Trolling gear control is available as an option. The system is designed for pleasure and small work boats and is compatible with all common engine types and reversing gears. The hardware originates from proven automotive applications. The well-established CAN-bus technology ensures reliable communication between all the components. Sophisticated auto-diagnostics inform the operator of the current operating state.

Type	Length (mm)	Width (mm)	Height (mm)
ECSH1	125	130	160
ECSH2	125	130	160

Design - pairing form with function
- Timeless appearance
- Easy to integrate
- Backlit illumination

User experience
- Wi-Fi web server for diagnostics
- Auto-configuration
- Language-independent icons
- Plug and play installation

Safety
- Proven BOSCH components
- ABYC compliant

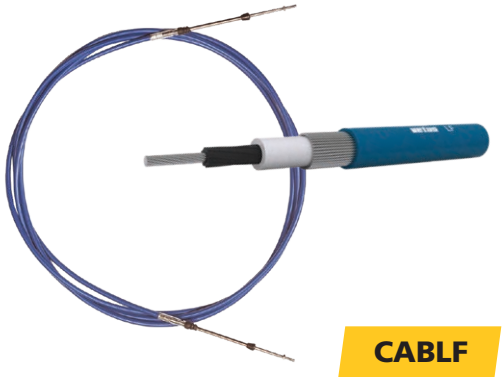


Electronic motor control system			1 Engine	2 Engines	1 Engine	2 Engines	1 Engine	2 Engines	1 Engine	2 Engines	Optional
Control method first position=Throttle, Second position = Gearbox M = Mechanical, E = Electrical			M/M	M/M	M/E	M/E	E/M	E/M	E/E	E/E	Per extra control head. Max. total units = 4
ECS Control head single engine		ECSH1	1	xx	1	xx	1	xx	1	xx	+1/+2/+3
ECS Control head twin engines		ECSH2	xx	1	xx	1	xx	1	xx	1	+1/+2/+3
ECS system control unit		ECSCU	1	1	1	1	1	1	1	1	
ECS Single engine wiring harness		ECSSWH	1	xx	1	xx	1	xx	1	xx	
ECS Twin engine wiring harness)		ECSTWH	xx	1	xx	1	xx	1	xx	1	
ECS Actuator 12/24 VDC (incl. 1 connection kit for push-pull cable *)		ECSA12/24	2	4	1	2	1	2	xx	xx	
		CABLF15/20	2	4	1	2	1	2			
Mechanical push-pull cables and connectors		KOGELGEWR	2	4	1	2	1	2			
		KABEKL	2	4	1	2	1	2			
ECS power cable 5/10 m (**)		ECSPC5/10	3	5	2	3	2	3	xx	xx	
ECS bus cable (station and prop). 5/10/15/20/30 m		ECSBC05/10/15/20/30	3	5	2	3	2	3	1	1	+1/+2/+3
ECS gender changer male / female (to extend standard cable length)		ECSBCC	0	0	0	0	0	0	0	0	
ECS Terminating resistor		ECSBTR	2	2	2	2	2	2	xx	xx	
ECS Gear control cable without connector 10 m	/a	ECSGCM10	xx	xx	1 (a/b)	2 (a/b)	xx	xx	1 (a/b)	2 (a/b)	
ECS Gear control cable solenoid valve 5/10 m	/b	ECSGCSV5/10	xx	xx	1 (a/b)	2 (a/b)	xx	xx	1 (a/b)	2 (a/b)	
ECS electrical throttle cable 4-20mA 10/20 m	/c	ECSTC4210/20	xx	xx	xx	xx					
ECS electrical throttle cable 0-5V 10/20 m	/d	ECSTC0510/20	xx	xx	xx	xx	1 (c/d/e)	2 (c/d/e)	1 (c/d/e)	2 (c/d/e)	
ECS electrical throttle cable PWM 10/20 m	/e	ECSTCPW10/20	xx	xx	xx	xx					
ECS auxilliary cable start interlock 10 m		ECSCSI10	0 = 1	0 = 2	0 = 1	0 = 2	0 = 1	0 = 2	0 = 1	0 = 2	
ECS cable start interlock contact safety stop high idle 10 m		ECSCSIC10	0 = 1	0 = 2	0 = 1	0 = 2	0 = 1	0 = 2	0 = 1	0 = 2	
ECS cable alarm and monitoring interface 10 m		ECSCAM10	0 = 1	0 = 2	0 = 1	0 = 2	0 = 1	0 = 2	0 = 1	0 = 2	
ECS Power ignition cable 20 m		ECSPCI20	0 = 1	0 = 1	0 = 1	0 = 1	0 = 1	0 = 1	0 = 1	0 = 1	
ECS trolling/PWM (special order)		ECSTRPWM									

(*) Mechanical push pull cables to be ordered from the VETUS catalogue
(**) 10M power supply wire not to be used with 12 VDC actuator

xx = Not applicable (a/b/c/d/e) = Select correct cable O = Optional

Push-pull cables



CABLF

Type LF (low friction)

Superb strength and flexibility

This high quality cable utilise a multi-strand wire core and a ribbed synthetic sheath to ensure that contact with the outer casing is kept to a minimum. Type LF is ideal for long and complicated runs and dual station installations.

Specifications

- Available lengths from 0,5 to 15 m (up to 17 m available to special order)
- Nominal travel 75 mm
- Minimum bend radius 165 mm
- Stroke 76,2 mm (3")
- Standard rod 10-32 UNF threaded ends

Type	Description
CABLF05	LF cable, length 0.5 m
CABLF075	LF cable, length 0.75 m
CABLF10	LF cable, length 1.0 m
CABLF15	LF cable, length 1.5 m
CABLF20	LF cable, length 2.0 m
CABLF25	LF cable, length 2.5 m
CABLF30	LF cable, length 3.0 m
CABLF35	LF cable, length 3.5 m
CABLF40	LF cable, length 4.0 m
CABLF45	LF cable, length 4.5 m
CABLF50	LF cable, length 5.0 m
CABLF55	LF cable, length 5.5 m
CABLF60	LF cable, length 6.0 m
CABLF65	LF cable, length 6.5 m

Type	Description
CABLF70	LF cable, length 7.0 m
CABLF75	LF cable, length 7.5 m
CABLF80	LF cable, length 8.0 m
CABLF85	LF cable, length 8.5 m
CABLF90	LF cable, length 9.0 m
CABLF95	LF cable, length 9.5 m
CABLF100	LF cable, length 10.0 m
CABLF105	LF cable, length 10.5 m
CABLF110	LF cable, length 11 m
CABLF120	LF cable, length 12 m
CABLF130	LF cable, length 13 m
CABLF140	LF cable, length 14 m
CABLF150	LF cable, length 15 m

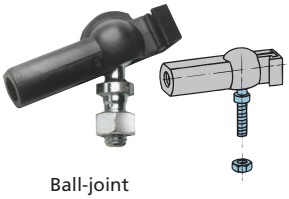
Type	Description
CABLE05A	Standard 33C cable*, length 0.5 m
CABLE10A	Standard 33C cable*, length 1.0 m
CABLE15A	Standard 33C cable*, length 1.5 m
CABLE20A	Standard 33C cable*, length 2.0 m
CABLE25A	Standard 33C cable*, length 2.5 m
CABLE30A	Standard 33C cable*, length 3.0 m
CABLE35A	Standard 33C cable*, length 3.5 m
CABLE40A	Standard 33C cable*, length 4.0 m
CABLE45A	Standard 33C cable*, length 4.5 m
CABLE50A	Standard 33C cable*, length 5.0 m

* Normal friction

Cable accessories

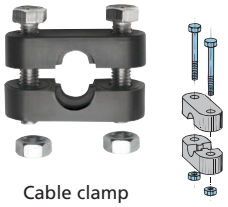
Ball-joint / Cable clamp

An extra for all VETUS push-pull cables.



Ball-joint

KOGELGEWR



Cable clamp

KABELKL

Type	Description
KABELKL	Cable clamp for cables type 33 and LF
KOGELGEWR	Ball-joint for cables type 33 and LF

Shut-off control

Type DC

Type DC is corrosion resistant and easy to install (horizontally or vertically) and can be used with VETUS push-pull cables. Comes with a 30° mounting bracket.

DC

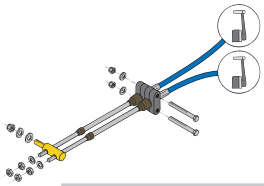
Type	Description
DC	Cable pull handle type DC

Dual station units type DS

Type DS combines the action of a single lever control from either of two command stations, providing a single output to the engine throttle or gearbox lever. Two dual station units are needed per engine (type DS-UNIT for the gearbox and type DS-KITF for the throttle).

DS-kit throttle

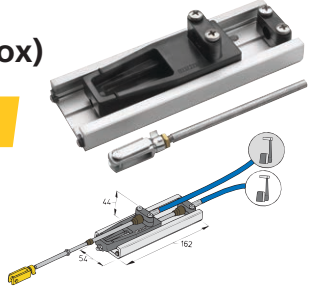
(only suitable for throttle control by pulling).



DSKITF

DS-unit (gearbox)

DS



Type	Description
DSKITF	Dual station unit type DS, for throttle
DS	Dual station unit type DS, for gearbox

Flexible engine mounts

The torque of an engine is one of the deciding factors for determination of the load applied to the engine mounts. When more powerful engines are installed, it is important to use the following formula to define the load per support in kg (four supporting points).

$$\frac{\text{engine weight in kg}}{\text{number of supports}} + \frac{\text{kW x 487 x reduction of gearbox}}{\text{engine revs/min. x centre to centre spacing in metres of the longitudinal engine bearers}} = \text{max. load per support in kg}$$

Type K25V and K35V

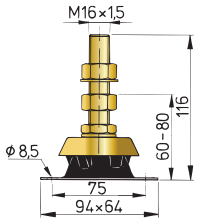
For small engines and generator sets with 1 or 2 cylinders

These flexible mounts contain a special rubber compound with excellent vibration damping properties. They are suitable for marine engines in the power range between 4 and 15 kW (6-20 hp).

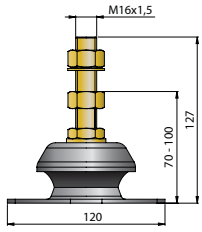
KSTEUN25V

KSTEUN35V

K25V



K35V

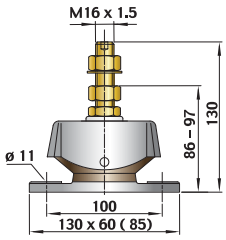


Type K40A

For 3-cylinder marine diesel engines

Type K40 has a relatively soft, rubber compound which fulfills the requirements of light-weight vessels with a modern 3-cylinder marine diesel engine. The rubber elements create optimum vibration dampening. Type KSTEUN40 features internal buffers which limit the engine movements when started or stopped. It is also secured against overload and shearing off.

KSTEUN40A



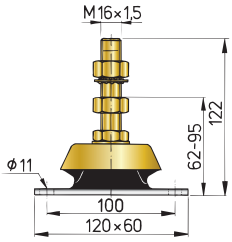
Type K

For smaller engines up to ± 60 kW (80 hp)

This type is suitable for smaller engines up to approximately 60 kW (80 hp).

KSTEUN50V **KSTEUN75V**

KSTEUN80V **KSTEUN100V**



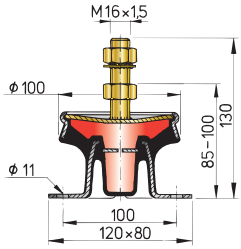
Type	Stiffness ratio			Min. load kg	Min. compression mm	Max. load kg	Max. compression mm	Hardness in ° Shore
	vertical	athwart ships	fore and aft	static		static + dynamic		
KSTEUN25V	1	1,4	1,4	15	1,3	25	3	45
KSTEUN35V	1	1,4	1,4	15	1,3	30	7	45
KSTEUN40A	1	1	2,4	25	5	40	8	50
KSTEUN50V	1	0,75	2,5	25	2	50	4	45
KSTEUN75V	1	0,75	2,5	38	2	75	4	55
KSTEUN80V	1	0,75	2,5	40	2	80	4	60
KSTEUN100V	1	0,75	2,5	50	2	100	4	65

Flexible engine mounts

Type MITSTEUN

For marine diesel engines from 18 up to 26 kW (25-35 hp)

This hydro-damper is a combination of a conventional rubber-metal damper and a hydraulic shock absorber. Its reduction of vibration and noise is truly amazing. The maximum static load per support is 60 kg and the maximum thrust 50 kg.

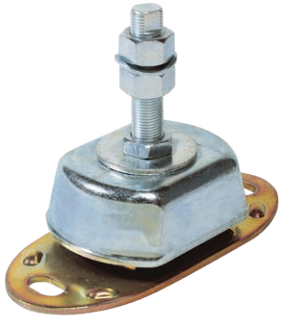


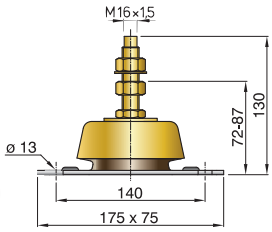
MITSTEUN

Type HY

For heavy-weight engines with 4 or more cylinders

This type is extremely suitable for application with marine diesel engines in the power range between 30 and 125 kW (40-170 hp), by virtue of a low stiffness combined with high stiffness in the longitudinal direction.



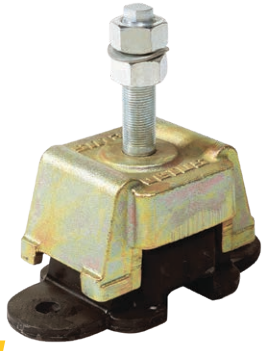


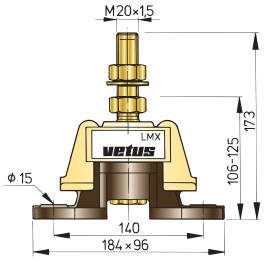
HY100 **HY150** **HY230**

Type LMX

For marine diesel engines from 70 up to 350 kW (95-480 hp)

This type has been designed with particular regard to the power to weight ratio of modern diesel engines. The weight of an engine, in comparison to its thrust, has become lower and lower. Type LMX guarantees optimum damping of vibrations, even at idling revs. It has a very high horizontal and aft stiffness which allows the acceptance of considerable thrust. The cushioning of vibrations in horizontal direction athwart-ships is of equal excellence.





LMX140 **LMX210** **LMX340** **LMX500**

Type	Stiffness ratio			Min. load kg	Min. compression mm	Max. load kg	Max. compression mm	Hardness in ° Shore
	vertical	athwart ships	fore and aft	static		static + dynamic		
MITSTEUN	1	1	1	25	1,3	67	4,5	45
HY100	1	1,2	3,5	40	2	100	5	40
HY150	1	1,2	3,5	60	2	150	5	50
HY230	1	1,2	3,5	92	2	230	5	60
LMX140	1	1	7	85	3	140	5	35
LMX210	1	1	7	125	3	210	5	45
LMX340	1	1	7	205	3	340	5	55
LMX500	1	1	7	300	3	500	5	65

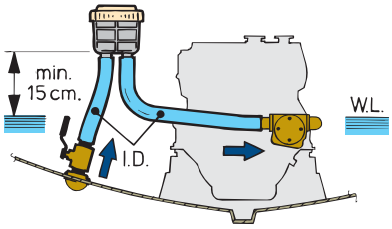
Around the engine

Cooling water strainers

All VETUS cooling water strainers have a transparent cover for easy inspection of the filter without dismantling. Cleaning of the filter seldomly needs to be done but can be easily and quickly achieved.

Typical installation

VETUS advises to install the water strainer always above the waterline.
Only type CWS and FTR330..M series can be installed below the waterline.
Always install a sea-cock behind the inlet water scoop.

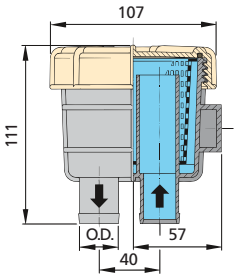


Type FTR140

This water strainer is available with trhee different hose connection diameters.
See page 60 for water strainer install kit.

Specifications
- Housing is made of Polypropylene GF
- Filter element is made of HD Polyethylene
- Cover is made of Styrol/Acrylonitrile SAN

Type	Internal hose Ø		Recommended input
	mm	inches	l/min.
FTR140/13	12,7	1/2	23
FTR140/16	15,9	5/8	35
FTR140/19	19,1	3/4	51



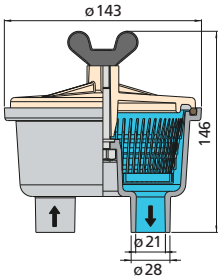
FTR140

Type FILTER150

This water strainer is suitable for Ø 28,5 mm hoses.

Specifications
- Housing is made of Polypropylene GF
- Filter element is made of Polyamide
- Cover is made of A.B.S.

Type	Internal hose Ø		Recommended input
	mm	inches	l/min.
FILTER150	28,5	1 1/8	114



FILTER150

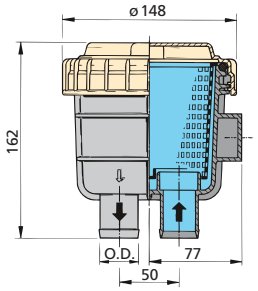
Cooling water strainers

Type FTR330

This water strainer is available for six different hose connections.
See page 60 for water strainer install kit.

Specifications
- Housing is made of polypropylene GF
- Filter element is made of HD Polyethylene
- Cover is made of Styrol/Acrylonitrile SAN

Type	Internal hose Ø mm	Internal hose Ø inches	Recommended input l/min.
FTR330/13	12,7	½	23
FTR330/16	15,9	⅝	35
FTR330/19	19,1	¾	51
FTR330/25	25,4	1	91
FTR330/32	31,8	1¼	143
FTR330/38	38,1	1½	200



FTR330

Type FTR470

Easy mounting with 360° rotating wall bracket

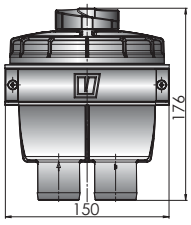
This strainer is supplied with a rotating stainless steel (AISI 316) wall bracket for easy alignment of the hose connections and clamping it securely in place. This eliminates the need for back-bolting and simplifies the mounting process.

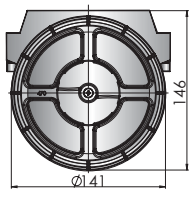
Specifications
- Housing is made of Polypropylene GF
- Filter element is made of HD Polyethylene
- Cover is made of Polypropylene GF/Polycarbonate

See page 60 for the water strainer installation kit.

Type	Internal hose Ø mm	Internal hose Ø inches	Recommended input l/min.
FTR470/13	12,7	½	23
FTR470/16	15,9	⅝	35
FTR470/19	19,1	¾	51
FTR470/25	25,4	1	91
FTR470/32	31,8	1¼	143
FTR470/38	38,1	1½	200

FTR470



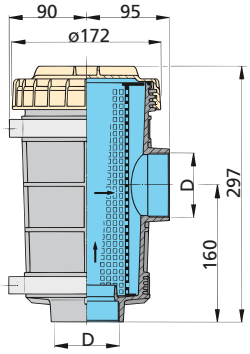


Type FTR1320

This type is provided with adjustable stainless steel (AISI 316) brackets for bulkhead mounting and is available with three different threaded connection diameters.
Hose pillars are not supplied as standard.
They can be found on page 408 of this catalogue.

Specifications
- Housing is made of Polypropylene GF
- Filter element is made of Polyethylene
- Cover is made of A.B.S.

Type	D	Internal hose Ø mm	Internal hose Ø inches	Recommended input l/min.
FTR132038	G 1½	38	1½	205
FTR132050	G 2	50	2	365
FTR132063	G 2½	63	2½	570



FTR1320

Cooling water strainers

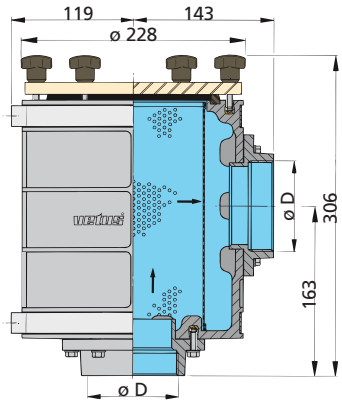
Type FTR1900

This type has two different threaded connection diameters and comes with adjustable stainless steel (AISI 316) mounting brackets for bulkhead installation. Hose pillars are not supplied as standard. They can be found on page 408 of this catalogue.

Specifications

- Housing is made of Polypropylene
- Stainless steel (AISI 316) filter element
- Acrylic cover

Type	D	Internal hose Ø		Recommended input l/min.
		mm	inches	
FTR190063	G 2½	63	2½	570
FTR190076	G 3	76	3	820



FTR1900

Type FTR330..M

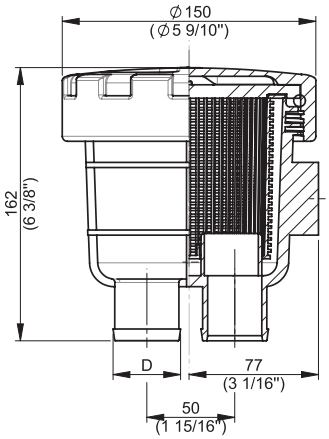
The filter housing is made of NAVIDURIN® and features 19, 25, 32 or 38 mm hose connections. The metal lid allows easy inspection of the filter without removal. The FTR330..M series is tested up to a maximum of 8 bar over pressure, which means these filters are safe to place below the waterline!

NEW!

Specifications

- NAVIDURIN® material
- Easy inspection without dismantling
- New easily removable metal cover
- Robust and durable filter
- Can be mounted below the waterline

Type	Internal hose Ø		Recommended input l/min.
	mm	inches	
FTR33019M	19	1¾	51
FTR33025M	25	1	91
FTR33032M	32	1¼	143
FTR33038M	38	1½	200



FTR330..M

Cooling water strainers

Heavy duty filter: Type CWS

For installations where the cooling water strainer must be mounted close to or below the waterline and for commercial applications, these nickel plated bronze strainers are an ideal solution. The cover is removable with one screw. Tested up to 7 bar overpressure.

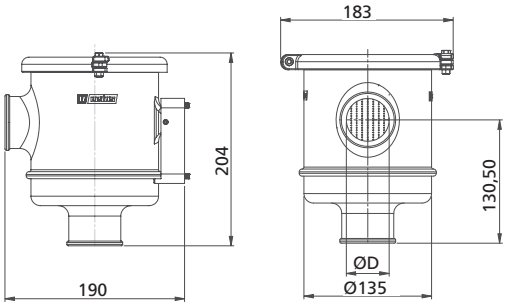
This filter is available in three different sizes, with threaded connections of G1, G1 ¼ and G1 ½. Matching V-Quipment hose connections are available separately, see table below for item numbers.

CWS

Specifications

- Housing is made of nickel plated bronze
- Cover is made of polycarbonate
- Filter element is made of stainless steel (AISI 316)
- Mounting bracket is made of nickel plated bronze
- Can be mounted near or below the waterline
- V-Quipment hose connections available separately, see also page 404

Type	Matching hose connector			Hose size	Recommended input (l/min.)
	Bronze	Brass	Brass		
CWS1	HPB1	HPM1	SLP125	25,4 mm - 1 inch	91
CWS1¼	HPB11/4	HPM11/4	SLP11/438	31,8 mm - 1¼ inch	143
CWS1½	HPB11/2	HPM11/2	SLP11/432	38,1 mm - 1½ inch	200



Type FTR525

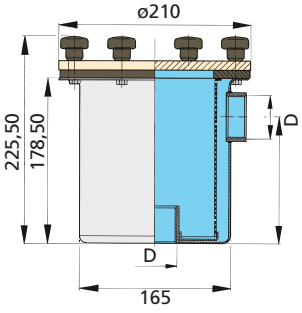
This water strainer has G 1½ threaded connections. A set of stainless steel (AISI 316) mounting brackets can be supplied as an option. Hose pillars are not supplied as standard. They can be found on page 408 of this catalogue.

FTR525

Specifications

- Stainless steel (AISI 316) housing and filter element
- Acrylic cover

Type	D	Internal hose Ø		Recommended input l/min.
		mm	inches	
FTR525	G 1½	38	1½	205



Accessories

Water strainer kit with brass fittings

Installation kit for any VETUS cooling water strainer with 13, 19, 25, 32 or 38 mm hose connection. For continuous immersion in salt water, we advise against the use of brass fittings.

The kit consists of: 2 metres drinking water hose, one ball valve, four hose clamps, one water scoop and one hose pillar.

WKIT330..

Type	Hose connection	Thread connection
WKIT33013	13 mm	½" Brass
WKIT33019	19 mm	¾" Brass
WKIT33025	25 mm	1" Brass
WKIT33032	32 mm	1¼" Brass
WKIT33038	38 mm	1½" Brass
BKIT33013	13 mm	½" Bronze
BKIT33019	19 mm	¾" Bronze
BKIT33025	25 mm	1" Bronze
BKIT33032	32 mm	1¼" Bronze
BKIT33038	38 mm	1½" Bronze

Connection parts for water strainers, type CONN330

Easy interconnecting

With these connection parts two water strainers type 330/32 or 470/32 can be interconnected with a maximum capacity of 460 L/min.

Type 470 cannot be rotated when the kit is used.

CONN330

Type	Description
CONN330	Connection kit for two FTR330/32 strainers

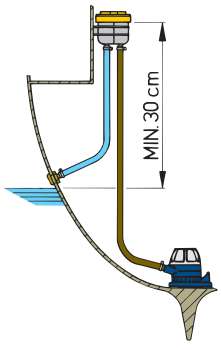
Bilge water/oil separator, type BISEP

Collecting and retaining oil and grease from bilge water

This VETUS separator has a replaceable filter element with a capacity of 600 grams. It can remove 95% of oil in the bilge water. The bilge pump used in combination with this filter should have a maximum capacity of 25 litres/min.

The BISEP19 is now supplied with new filter elements. These filter discs are made from a different material, have a larger capacity (up to 600 grams of oil) and filter up to 15.000 litres of water, outperforming the previous filter by 87%! The new filter elements are reusable and made entirely from waste fibres. They absorb oils and oil-based contamination, thus removing oils, oil film and fats from the bilge water. The absorbed oil can be collected and recycled, after which the filter can be washed and reused.

Specifications
- Connections for Ø 19 mm hoses
- Dimensions l 148 x w 150 x h 162 mm



BISEP19

Type	Description
BISEP19	Bilge water/oil separator
BISEP19F2	Replacement element for bilge water/oil filter BISEP19, set of 15 pieces

Accessories

Fire port

The fire port permits a fire extinguisher to be discharged into the engine space, or any other enclosed area without opening the engine access hatch or panel.

Specifications
- Nozzle can be inserted through the port in complete safety
- Minimizes the amount of oxygen so the fire does not increase
- Made of UV and seawater resistant synthetic material
- Available with black flange

Dimensions
- Cut-out Ø 38 mm
- Outside Ø 76 mm

FIREPORTB

Type	Description
FIREPORTB	Fire port for engine compartment with black finishing ring

Cooling water hose, type MWHOSE

For all cooling fluids

Type MWHOSE is made of EPDM rubber with synthetic fabric and spiraled steel reinforcement. Suitable for cooling water, both suction and pressure (max. 2,5 bar), salt and fresh water. Temperature resistant between -30° and +120°C.

Unlike lower quality un-reinforced hoses, MWHOSE will not kink or fold shut, thereby preventing a major cause of low seawater flow to the engine cooling system and consequent damage to the impeller and the exhaust system. Similar benefits accrue from the use of this hose for cockpit drains and other critical water connections.

MWHOSE

MWHOSE

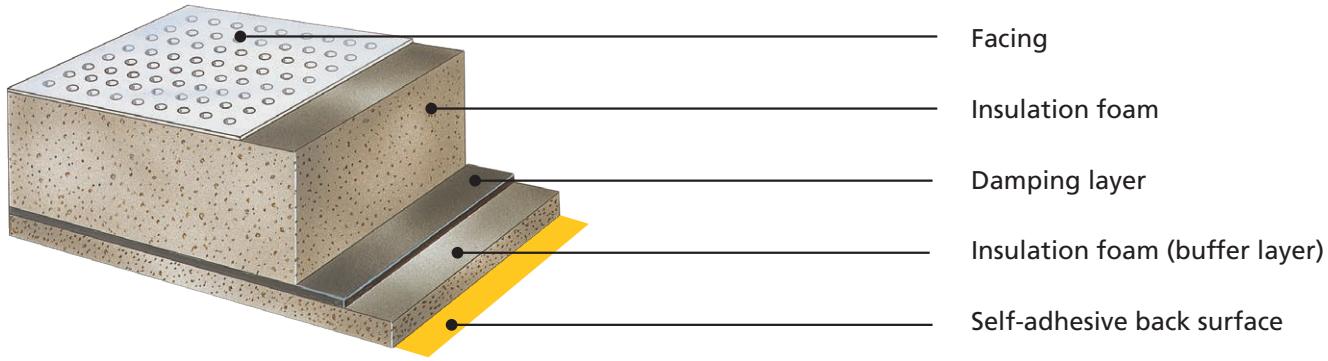
Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit		HCS clamp to suit		Roll length (m)
MWHOSE19	19	28	0,39	2.5	29			HCS20	HCS25	20
MWHOSE25	25	34	0,51	2.5	38			HCS25	HCS32	20
MWHOSE32	32	41	0,71	2.5	48	HCHD(S)040		HCS32	HCS40	20
MWHOSE38	38	47	0,88	2.5	57	HCHD(S)043	HCHD(S)047	HCS32	HCS40	20
MWHOSE51	51	60	1,15	2.5	77	HCHD(S)059		HCS50		20

Sound insulation materials

VETUS sound insulation, discover peace and quiet!

VETUS sound insulation is a versatile range of materials especially developed for marine applications. These products are liquid tight, fire resistant and consist of the highest quality insulation foams. VETUS' product lines are based on two insulation foams, Sonitech and Prometech, and are available in various sheet thicknesses. The sound absorption coefficients of these base foam materials are tested according to ISO 10534.

Base materials
The range is built around a number of base materials. Various compositions of these base materials form the four main product lines, which are available in various sheet thicknesses. In the selection table below the possible combinations are presented, to help you select the correct product for your application.



Sound insulation
The sound absorption coefficients of both base foam materials are tested according to ISO 10534.

Guaranteed fire resistance; Class 0
The 'BS476 Class 0' fire resistance rating is the most demanding rating on the market today. To achieve class 0 the product must achieve:
- BS476 part 7, Surface spread of flame, Class 1
- BS476 part 6, Fire propagation, Index I <12 and i1 < 6

This means that the material does not spread flames and limits the amount of heat released from the surface during a fire.

Range		Sonitech light				Sonitech single				Prometech single						Prometech double					
Product code (All sheets are 600 x 1000 mm)		ST020A	ST040A	ST020W	ST040W	ST135A	ST145A	ST135W	ST145W	PT112A	PT135A	PT145A	PT112W	PT135W	PT145W	PT225S	PT245S	PT260S	PT225W	PT245W	PT260W
Material	Sonitech	•	•	•	•	•	•	•	•												
	Prometech									•	•	•	•	•	•	•	•	•	•	•	•
	Number of damping layers	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	Total thickness	20	40	20	40	35	45	35	45	12	35	45	12	35	45	25	45	60	25	45	60
Facing	Aluminium	•	•			•	•			•	•	•									
	White foil			•	•																
	Glass cloth Silver															•	•	•			
	Glass cloth White							•	•				•	•	•				•	•	•
Back	Self-adhesive	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Weight	(kg)	0,4	0,7	0,4	0,7	3,6	3,8	3,6	3,8	3,6	4,9	5,4	3,6	4,9	5,4	7,2	7,8	9,2	7,2	7,8	9,2
Class 0	Fire resistant									•	•	•	•	•	•	•	•	•	•	•	•


Photo: Eva Landgren

Sound insulation materials

VETUS offers four product lines, based on two insulation foams: Sonitech and Prometech. Both foams have excellent sound reducing capabilities and are fire resistant. Prometech is rated to BS476 Class 0 fire resistance.

All sheets measure 100 x 60 cm and are supplied with a self-adhesive backing for quick and easy installation. The modified acrylic adhesive has high initial tag and adhesion of 1000 N/m to steel (ATM.1-PSTC.1).

Prometech double

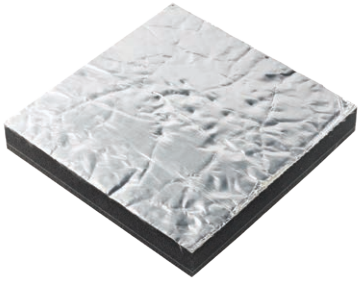
Ultimate sound insulation and safety

This line is designed to absorb as much sound as possible. It is the top of the range product line with double damping layers.

Prometech single

Excellent sound insulation, highest safety level

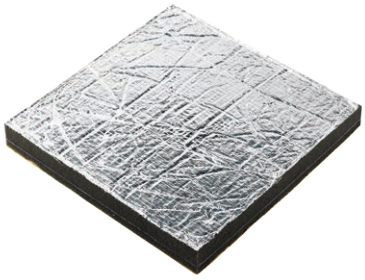
This product has good sound reducing capabilities and the highest level of safety. Ideal for applications where space is limited.



Sonitech single

Good sound insulation capabilities

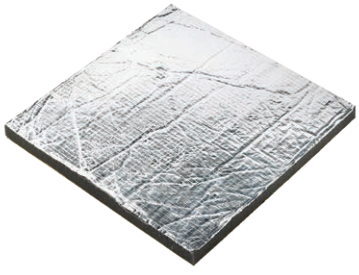
These sheets have a single damping layer resulting in good sound insulation. It gives excellent results at reasonable prices.



Sonitech light

Flexible and light-weight sheet

This product has efficient sound insulation and is ideal for use when cost or space is the prime concern.



Sound insulation materials

Installation guidelines

Preparing the engine room

Sound is like water and until the last gap is closed, it will find a way out of the engine room. Therefore it is important to cover as much of the surface in the engine room as possible and to close all possible leaks. Any small gaps or holes in, between or under the bulkheads should be filled with flexible sealant, foam or other material. When the 'engine room' is in direct contact with the bilge or other spaces that run through the boat, it is recommended to build bulkheads or a box around the engine.

Fitting the sheets

While fitting the sheets, work around obstacles by cutting the sheet into the right shape and try to fit the puzzle as neatly as possible before actually sticking the sheets in place. Note that tanks tend to amplify noise. When a tank is in the same space as the engine, cover the tank in insulation sheets or build a bulkhead between them.

Hatches and air intakes

Hatches and air intakes may leak noise. Hatches can be sound proofed by using an insulation tape between the touching surfaces. Air intakes however are more difficult to insulate, as the engine needs air for combustion and cooling. Creating a labyrinth or installing a special damper will generally solve the noise leak without choking the engine.

Sound deadening sheet type GF140S

Absorbing both high and low frequency noise and vibration

These modern light-weight sound deadening sheets are self-adhesive and have an aluminium face layer.

Specifications
- Dimensions 120 cm x 80 cm x 40 mm
- Weight per plate 5,6 kg
- Temperature resistance up to 140°C

Type	Description
GF140S	Sound-deadening glass wool sheet

GF140S

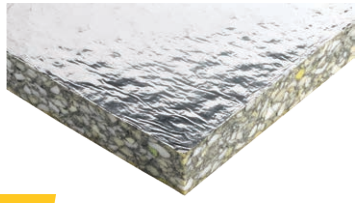
Sound deadening sheet type PU130S

Ideal for smaller engine installations

These sound deadening sheets have excellent noise and vibration reducing qualities and come in packs of four sheets.

Specifications
- Dimensions 100 cm x 50 cm x 30 mm
- Weight per plate 1,5 kg
- Temperature resistance -30°C to +90°C

Type	Description
PU130S	Sound-deadening sheets (pack of 4 sheets)



PU130S

Sound insulation materials

Anti-reverberation material type ARM

Reduces structure borne sounds

Type ARM specifically reduces structure-borne sounds caused by, for example, the ship's propeller. These plates are suitable for steel and aluminium structures.

Specifications
- Plate dimensions 100 cm x 120 cm x 4 mm
- Weight per plate 8 kg
- Temperature resistance -10° C to +90°C

Type	Description
ARM10X12	Anti-reverberation plate

ARM10X12

Self-adhesive tape

Providing a neat and professional finish

When installing any VETUS sound insulation sheet, we recommend using these self-adhesive tapes to cover the joints.

Specifications
- Come in rolls of 30 m long and 50 mm wide
- Available in the colours grey (TAPEG30), white (TAPEW30) and aluminium (TAPEA30)

Type	Description
TAPEG30	Self-adhesive tape, grey
TAPEW30	Self-adhesive tape, white
TAPEA30	Self-adhesive tape, aluminium

TAPE

Glass cloth tape

For use with glass cloth faced insulation sheets

This tape is perfect for sound insulation applications, requiring strength, flexibility and resistance to heat. Especially suitable for use with the VETUS glass fibre faced sound isolation sheets.

Available in rolls of 50 m x 50 mm wide.

Type	Description
TAPEGF50	Self-adhesive tape, glass fibre

TAPEGF50

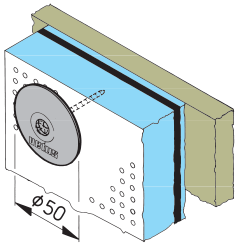
Sound insulation materials

Rosettes

For easy installation of heavy sheets

These fixing rosettes made of Polypropylene are ideal for easy installing of heavy sheets. They come in packs of fifteen pieces (screw not supplied).

Type	Description
FIXP	Ceiling rosette for fastening sound insulation sheets



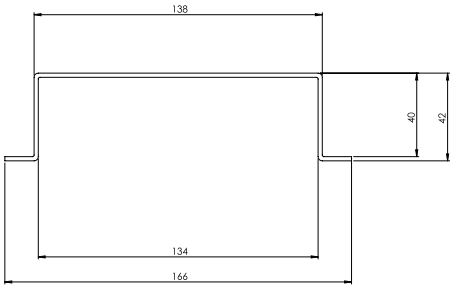
FIXP

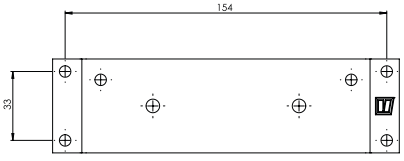
Mounting bracket type MBSET

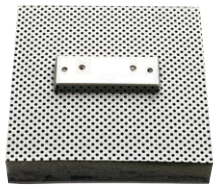
For easy fixing of ancillary equipment

With these stainless steel (AISI 316) mounting brackets you easily fix cooling water strainers, no-smell and fuel filters on sound insulation materials up to 40 mm thick. They are supplied with bolts, washers and self-locking nuts. Fixings to mount the brackets are not included.

Type	Description
MBSET01	Mounting bracket set M5 x 35 for ASD38V, ASD38H
MBSET02	Mounting bracket set for ASDV/H, AIRVENTV/H
MBSET03	Mounting bracket set for FTR140, WS180, WS720, NSFS
MBSET04	Mounting bracket set for fuel filters 330VTE(P)B, 340VTE(P)B & 350VTE(P)B
MBSET05	Mounting bracket set for FTR330, FILTER150, NSF



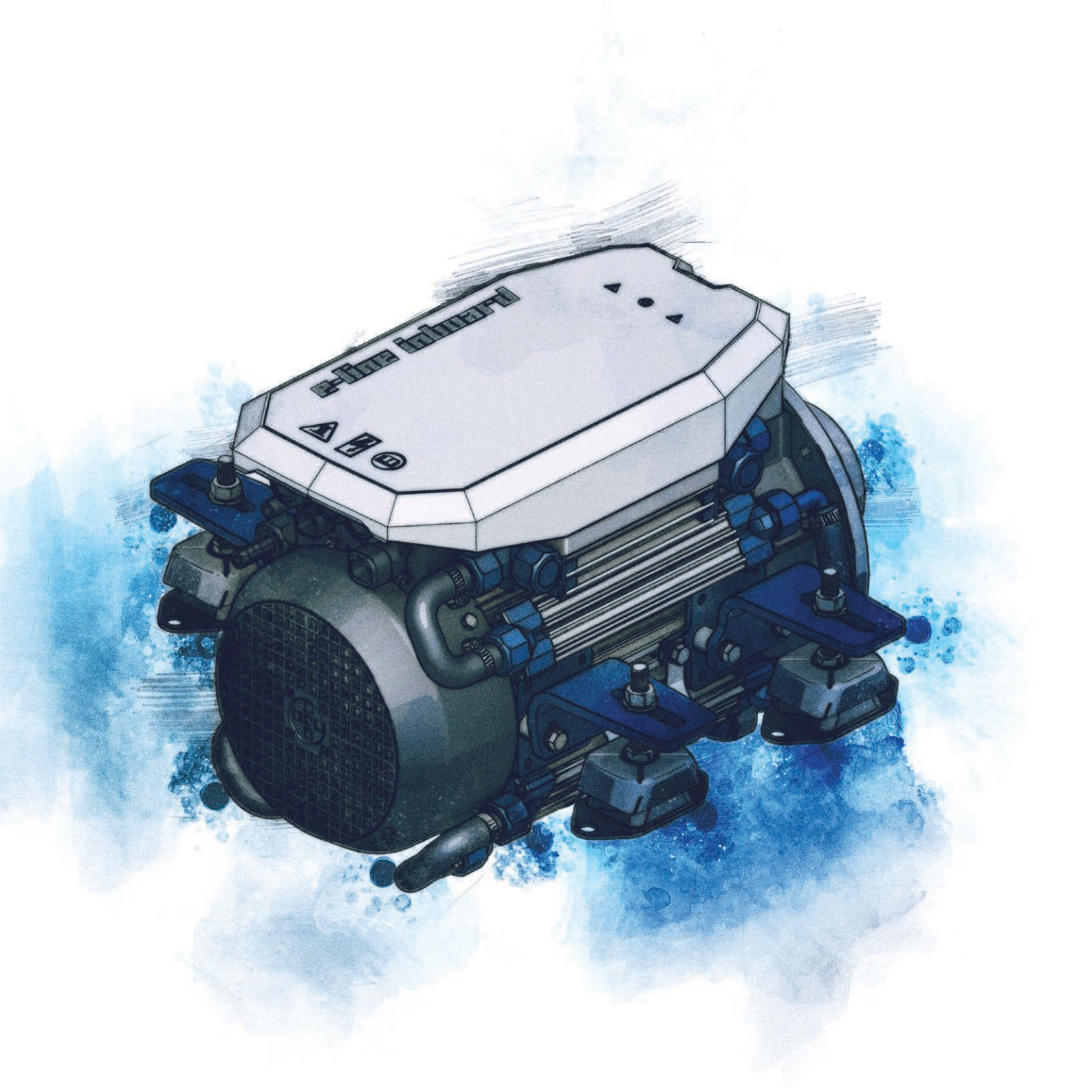




MBSET01 MBSET02 MBSET03

MBSET04 MBSET05

Electric propulsion



VETUS Electric propulsion

The pioneer of electric propulsion is back! VETUS introduces a completely new electric propulsion package twenty years after introducing the EP2200. With our improved all in one solution, VETUS honours the title “Creator of Boat Systems”. The newly introduced system group “Electric Propulsion” creates a total package, consisting of different modules.

Control the boat like you’re used to, with only the sound of the water

During the development of the systems, the sailing experience of the electric motor is designed in such a way that it is as close as possible to that of sailing with an internal combustion engine - but of course without the emissions and noise! On this page several of the unique benefits of the VETUS Electric Propulsion system are described.

Active Electric Braking

The E-LINE motor and E-POD system accelerate more powerful and faster than a diesel engine. In addition, gearbox and clutch are not required for the electric propulsion system. This means that when reversing the propeller, the complete high speed electric motor has to immediately come to a full stop and then rotate in the opposite direction. To enable a quick reverse power manoeuvre like with a clutch, VETUS has developed Active Electric Braking for the E-LINE and E-POD e-drive systems. The high torque of the electric motor is used to change the direction of rotation quickly and actively. With Active Electric Braking, it is possible to stop the boat within one boat length if necessary. Full control, a familiar way of sailing, with the advantages of the electric motor with high starting torque.

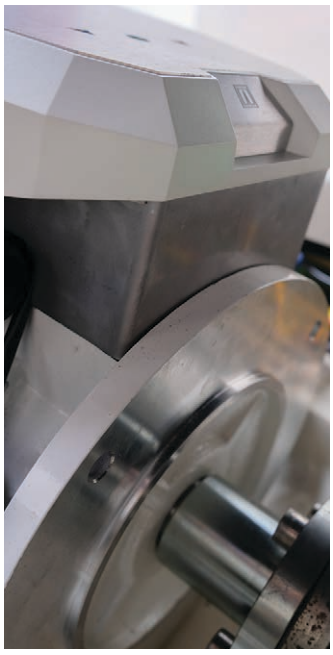
Battery Protection function

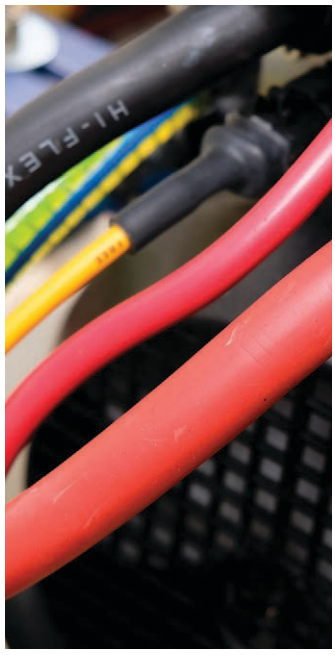
The Battery Protection function of the VETUS electric propulsion motor also ensures that the battery pack is not unnecessarily damaged, and the service life cycle of the batteries is guarded for the present and future boating seasons. Discharging a battery pack below the specified minimal voltage will damage the batteries and reduce the life span. To prevent this the patented Motor Controller of the VETUS e-drives actively monitors the battery pack state of charge by verifying voltage and current draw.

Boosted Battery Charge function

Another unique feature of the VETUS e-drive motors is the patented Boosted Battery Charge function. See page 78 for a schematic overview. Using the Boosted Battery Charge function a 24 VDC charger can be used to charge up the required 48 VDC battery pack for propulsion. This is an economic advantage as the 24 VDC battery charger is more common. Plus this allows the boat builder an easy way to provide a low voltage 24 VDC electric board network.

How long can you sail then? A full day with ease!





A long day on the water with peace of mind, now and in the future

Thanks to the cleverly applied cooling, you get the maximum power from the motor and the maximum range from the batteries. A full day on the water without any limitations. With the monitoring panels, the energy levels are easy to gauge and with the right battery pack you can sail all day long.

VETUS' view of electric boating is compact, complete, very efficient, plug & play and suitable for both new and existing vessels. The VETUS electric propulsion system integrates with our V-CAN bus system and of course meets all emission requirements. Noiseless, infinitely adjustable and equipped with comprehensive protection against overload: the ideal companion for a comfortable trip!

Creators of Electric Propulsion Systems

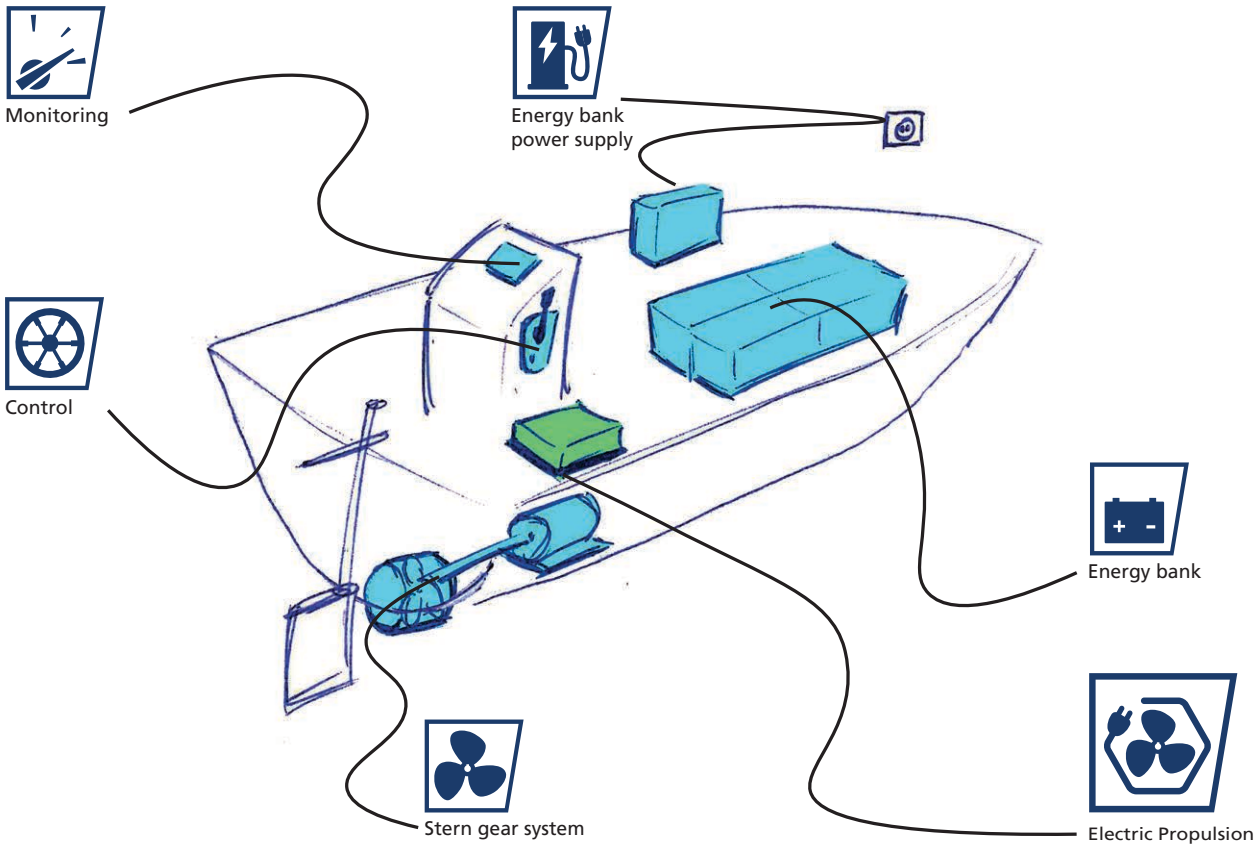
The Electric Boating system consists of five modules. Within each of the five modules, multiple choices and combinations are possible. This makes it possible to select the best total package for each type of boat.

The system blocks are:
1. Propulsion
2. Control
3. Monitoring
4. Energy storage
5. Energy supply

The E-POD is a true all-in-one solution, combining motor, stern gear system, propeller, everything into one complete system.

For the E-LINE inboard motor VETUS offers a wide range of stern gear system solutions (see page 79). Selecting the right propeller to match the motor characteristics is essential.

Contact your local VETUS dealer for propeller calculations.



Module: Propulsion

The heart of the system is the motor. Connected via the modular digital CAN-bus communication system V-CAN (see page 8). Quiet, reliable and low-maintenance sailing.

VETUS offers the E-LINE in-line propeller shaft solutions and the innovative compact E-POD solution. Below an indication which type of electric VETUS motor system suits which size boat. Please note that this is a rough guideline. The motor selection depends on multiple parameters such as hull shape, please feel free to contact your dealer for detailed advice.

Model	Indicative comparable combustion engine	Indication for suitable boat length
E-LINE rental *	5-12 hp (max. input 3.2 - 5.6 - 8.6 kW)	4-7 metre
E-LINE 050	11 hp (max. input 5,6 kW / 7,3 kW peak)	up to 7 metre or 3 ton
E-LINE 075	16 hp (max. input 8,4 kW / 10,2 kW peak)	up to 9 metre or 5 ton
E-LINE 100	22 hp (max. input 11,3 kW / 13,3 kW peak)	up to 11 metre or 7 ton
E-POD	20 hp (max. input 9,1 kW / 11,3 kW peak)	up to 11 metre or 7 ton

*For more information, please contact your local dealer

The E-LINE motor range is designed to be compact and fit the existing propulsion foundation and propeller shaft installation. The supplied Swap & Go mounting brackets with motor mounts can easily be adjusted in height and set to angle the shaft to 0° or 8°. This makes the re-powering and connecting to an existing propeller shaft easy. The included motor mounts are specially developed for electric propulsion motors.

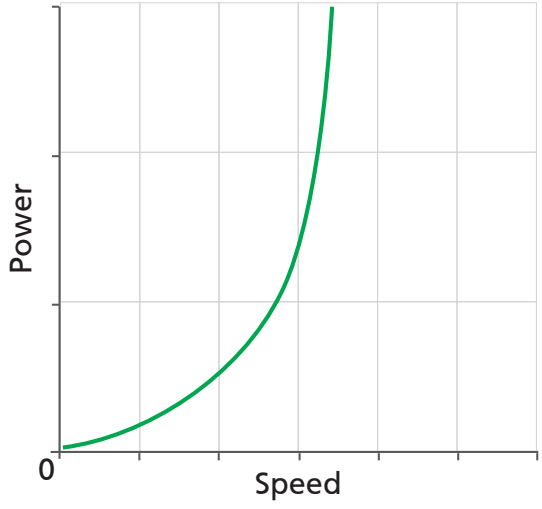
The E-POD combines the motor, suspension, cooling, gearbox, clutch, propeller shaft, propeller, all into one complete system. This space saving solution makes the engine box and propeller shaft through the boat redundant. Opening up the floor space. This makes a completely new boat design possible.

Both the E-LINE and the E-POD motors have been developed for an optimal boating experience with the control as a combustion engine - but without the emission and noise. The E-LINE and E-POD let you enjoy nature at its best.

The hull speed, also known as limit speed, is the maximum speed at which a boat can sail. When a displacement boat reaches the hull speed, the speed no longer increases, regardless of the increase in propulsion power. This can be explained by the bow wave. A boat cannot overtake its own bow wave. By adding more power at maximum hull speed, the bow wave becomes larger, more energy is used, more water is displaced, but no increase in speed is gained.

Below is a table with the different speeds per boat length and corresponding consumption power as reference only. Knowing that every boat is different, this calculation is based on a theoretical standard displacement vessel and propeller.
The battery pack used for the calculation is an 440 Ah, 48 VDC VETUS AGM deep cycle pack. This 440 Ah pack has about 14,8 kWh nett. usable energy and can be charged overnight with a light 6A shore connection. In many countries, the shore connections go up to 16A, in which case charging can take place 2.5 times faster.

Note that the available boating time exponentially increases when the speed is reduced below hull speed or limit speed.
A full day continuously on the move is possible. How long can you sail? A full day with ease!



Hull speed or limit speed of a typical water displacement vessel. By adding more power at maximum hull speed, the bow wave becomes larger, more energy is used, more water is displaced, but no increase in speed is gained.

Boat length (waterline)	4 metre (13 feet)	6 metre (19 feet)	8 metre (26 feet)	10 metre (33 feet)	12 metre (39 feet)
Calm paced in km/h (knots)	6 (3,3)	6 (3,3)	6 (3,3)	6 (3,3)	6 (3,3)
Consumed input power in kW	1	0,7	0,8	1	1,1
Boating time calm paced with 440 Ah @ 48 V battery pack	15 h 30 m	20 h 45 m	17 h 30 m	14 h 15 m	13 h
Cruising speed in km/u (knots)	7,2 (3,8)	8,8 (4,7)	10,2 (5,5)	11,4 (6,1)	12,5 (6,7)
Consumed input power in kW	1,5	2,1	3,9	6,7	9,6
Boating time cruising speed with 440 Ah @ 48 V battery pack	10 h 15 m	7 h 15 m	3 h 45 m	2 h 15 m	1 h 30 m
Hull speed / Limit speed in km/u (knots)	9 (4,9)	11 (5,9)	12,8 (6,9)	14,3 (7,7)	15,7 (8,4)
Consumed input power in kW	3,1	4,1	7,7	13,4	18,9
Boating time limit speed with 440 Ah @ 48 V battery pack	4 h 45 m	3 h 30 m	1 h 45 m	1 h 15 m	45 m

Indication only. Values strongly depending on hull shape, boat length, weight, propeller pitch/diameter and other parameters.

E-Line

050

5,6 kW input power
1200 RPM - 36 Nm output

7,3 kW input peak power
1350 RPM - 43 Nm output

MPE1KB

MPE1MB

ELINE050

Ideal solution for boats up to 7 metres. Slim design with motor controller and motor in one, very efficient, plug & play and including Swap & Go engine brackets and mounts specially developed for electric inboard motors.

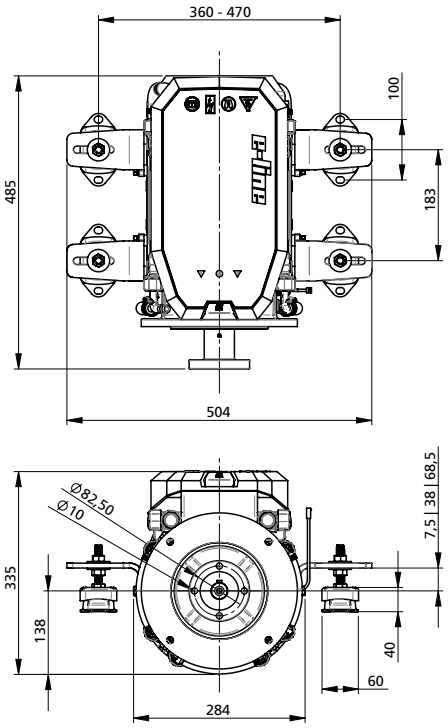
Long distances on one battery charge due to efficient motor management and liquid cooling. A full day on the water without any limitations. The supplied Swap & Go mounting brackets with motor mounts can easily be adjusted during the installation in height and set to angle the shaft to 0° or 8°. This makes the re-powering and connecting to an existing propeller shaft easy. The included motor mounts are specially developed for electric propulsion motors. See page 76 for E-motor V-CAN control panel with different propulsion modes to enable the right power at the right moment.

Supplied as standard with

- MPE1KB key switch - all-in-one solution; V-CAN power supply, external 12 VDC power supply and anti-theft
- MPE1MB monitoring panel - V-CAN monitoring, battery indication, motor alarms and motor status
- Fresh surface water cooling package (see page 429 for hoses)
  Also available with closed circulation keel cooling system (see page 76)
- Swap & Go motor brackets and motor mounts type EMX65
- Integrated thrust bearing
- Mounting flange 4" suitable for COMFL, BULFL01 (see page 84 for couplings and propeller shaft products)

TECHNICAL SPECIFICATIONS

E-LINE model	050
Motortype	Brushless induction motor
CAN bus	V-CAN
Nominal input voltage	48 VDC
Maximum input current draw	155 A
Maximum output power	6,0 kW (cf. 11 pk)
Indicative energy consumption*	1 kWh @ 6 km/u (3,5 knt)*
Suitable for indicative boat length	up to 7 metre or 3 ton*
Maximum shaft rpm in NORMAL mode	1200 rpm
Maximum shaft rpm in ECO mode	1000 rpm
Maximum shaft rpm in POWER mode	1350 rpm
Maximum torque	45 Nm
Transmission ratio	1:1 direct electric drive
Coupling (optional)	Combiflex 1225 / 1230 | Bullflex 0120 / 0125
IP-rating motor	IP65 with gore-tex membrane and IP43 cover
Cooling system	Air and liquid cooled +
Liquid cooling system connections	12,7 mm (1/2") (intake and outlet)
Control and warning lights and audible indication on MPE1MB panel (standard)	Propulsion active, POWER mode, temperature, battery level indication, high current draw, low voltage, limiting alarm
Electric circuit protection	Fuse 200 Amps
Dry weight	68 kg
Equipped with	Active Electronic Braking (2500 rpm brake) Battery Protection function Boosted Battery Charge function



*Indication only. Values strongly depending on hull shape, boat length, weight, propeller pitch/diameter and other parameters.

E-Line

075

8,4 kW input power
1400 RPM - 48 Nm output

10,2 kW input peak power
1500 RPM -
55 Nm output

MPE1KB

MPE1MB

ELINE075

Perfect solution for boats up to 9 metres. Compact design with motor controller and motor in one, very efficient, plug & play and including Swap & Go engine brackets and mounts specially developed for electric inboard motors.

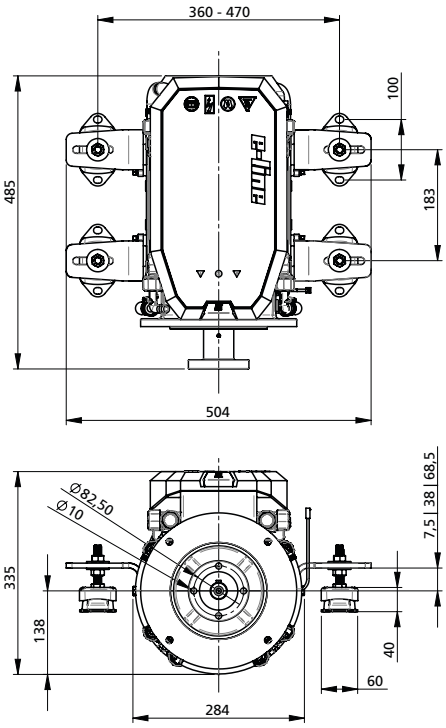
High motor power and long distances on one battery charge due to efficient motor management and liquid cooling. A full day on the water without any limitations. The supplied Swap & Go mounting brackets with motor mounts can easily be adjusted during the installation in height and set to angle the shaft to 0° or 8°. This makes the re-powering and connecting to an existing propeller shaft easy. The included motor mounts are specially developed for electric propulsion motors. See page 76 for E-motor V-CAN control panel with different propulsion modes to enable the right power at the right moment.

Supplied as standard with

- MPE1KB key switch - all-in-one solution; V-CAN power supply, external 12 VDC power supply and anti-theft
- MPE1MB monitoring panel - V-CAN monitoring, battery indication, motor alarms and motor status
- Fresh surface water cooling package (see page 429 for hoses)
  Also available with closed circulation keel cooling system (see page 76)
- Swap & Go motor brackets and motor mounts type EMX65
- Integrated thrust bearing
- Mounting flange 4" suitable for COMFL, BULFL01 (see page 84 for couplings and propeller shaft products)

TECHNICAL SPECIFICATIONS

E-LINE model	075
Motortype	Brushless induction motor
CAN bus	V-CAN
Nominal input voltage	48 VDC
Maximum input current draw	220 A
Maximum output power	8,5 kW (cf. 16 pk)
Indicative energy consumption*	1 kWh @ 6 km/u (3,5 knt)*
Suitable for indicative boat length	up to 9 metre or 5 ton*
Maximum shaft rpm in NORMAL mode	1400 rpm
Maximum shaft rpm in ECO mode	1100 rpm
Maximum shaft rpm in POWER mode	1500 rpm
Maximum torque	60 Nm
Transmission ratio	1:1 direct electric drive
Coupling (optional)	Combiflex 1225 / 1230 | Bullflex 0120 / 0125
IP-rating motor	IP65 with gore-tex membrane and IP43 cover
Cooling system	Air and liquid cooled ++
Liquid cooling system connections	12,7 mm (1/2") (intake and outlet)
Control and warning lights and audible indication on MPE1MB panel (standard)	Propulsion active, POWER mode, temperature, battery level indication, high current draw, low voltage, limiting alarm
Electric circuit protection	Fuse 250 Amps
Dry weight	69 kg
Equipped with	Active Electronic Braking (2500 rpm brake) Battery Protection function Boosted Battery Charge function



*Indication only. Values strongly depending on hull shape, boat length, weight, propeller pitch/diameter and other parameters.

E-Line

100

11,3 kW input power
1500 RPM - 61 Nm output

13,3 kW input peak power
1600 RPM - 67 Nm output

MPE1KB

MPE1MB

ELINE100

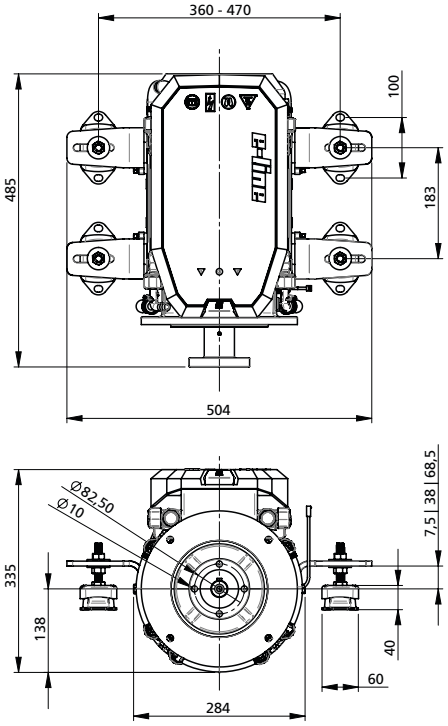
Maximum power solution in the compact 360° liquid cooled design. Very efficient plug & play motor controller and motor in one system. Ideal for boats up to 11 metre or even above. Including Swap & Go engine brackets and mounts specially developed for electric inboard motors.

Long distances and maximum motor power on one battery charge due to efficient motor management and liquid cooling. A full day on the water without any limitations. The supplied Swap & Go mounting brackets with motor mounts can easily be adjusted during the installation in height and set to angle the shaft to 0° or 8°. This makes the re-powering and connecting to an existing propeller shaft easy. The included motor mounts are specially developed for electric propulsion motors. See page 76 for E-motor V-CAN control panel with different propulsion modes to enable the right power at the right moment.

Supplied as standard with
- MPE1KB key switch - all-in-one solution; V-CAN power supply, external 12 VDC power supply and anti-theft
- MPE1MB monitoring panel - V-CAN monitoring, battery indication, motor alarms and motor status
- Fresh surface water cooling package (see page 429 for hoses). Also available with closed circulation keel cooling system (see page 76)
- Swap & Go motor brackets and motor mounts type EMX65
- Integrated thrust bearing
- Mounting flange 4" suitable for COMFL, BULFL01 (see page 84 for couplings and propeller shaft products)

TECHNICAL SPECIFICATIONS

E-LINE model	100
Motortype	Brushless induction motor
CAN bus	V-CAN
Nominal input voltage	48 VDC
Maximum input current draw	295 A
Maximum output power	11,2 kW (cf. 22 pk)
Indicative energy consumption*	1 kWh @ 6 km/u (3,5 knt)*
Suitable for indicative boat length	up to 12 metre or 8 ton*
Maximum shaft rpm in NORMAL mode	1500 rpm
Maximum shaft rpm in ECO mode	1200 rpm
Maximum shaft rpm in POWER mode	1600 rpm
Maximum torque	70 Nm
Transmission ratio	1:1 direct electric drive
Coupling (optional)	Combiflex 1225 / 1230 | Bullflex 0120 / 0125
IP-rating motor	IP65 with gore-tex membrane and IP43 cover
Cooling system	Air and liquid cooled +++
Liquid cooling system connections	12,7 mm (1/2") (intake and outlet)
Control and warning lights and audible indication on MPE1MB panel (standard)	Propulsion active, POWER mode, temperature, battery level indication, high current draw, low voltage, limiting alarm
Electric circuit protection	Fuse 300 Amps
Dry weight	71 kg
Equipped with	Active Electronic Braking (2500 rpm brake) Battery Protection function Boosted Battery Charge function



*Indication only. Values strongly depending on hull shape, boat length, weight, propeller pitch/diameter and other parameters.

E-POD

100

9,1 kW input power
1100 RPM - 79 Nm output

11,3 kW input peak power
1280 RPM - 84 Nm output

MPE1KB

MPE1MB

EPOD100

The E-POD combines the motor, suspension, cooling, gearbox, clutch, propeller shaft, propeller, all into one complete system. This space saving solution makes the engine box and propeller shaft through the boat redundant. Opening up the floor space. This makes a completely new boat design possibly.

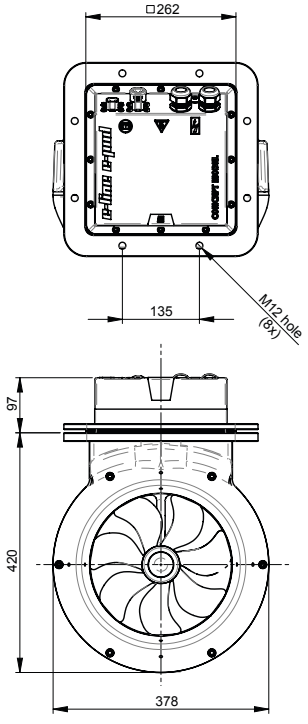
Another unique feature is that with the E-POD, there are no rotating or vibrating parts inside the boat. Even better, there is no shaft or shaft bearings. The propeller submerged in the water outside the boat is powered directly. This propeller is the rotor of the energy efficient permanent magnet brushless induction motor drive. To reduce propulsion sounds even more, the propeller is designed to minimize cavitation however keep maximum propulsion power.

Maximum motor power and long distances on one battery charge due to efficient motor management and direct 360° liquid cooling. A full day on the water without any limitations. See page 76 for E-motor V-CAN control panel with different propulsion modes to enable the right power at the right moment.

Supplied as standard with
- MPE1KB key switch - all-in-one solution; V-CAN power supply, external 12 VDC power supply and anti-theft
- MPE1MB monitoring panel - V-CAN monitoring, battery indication, motor alarms and motor status
- All-in-one system solution. Integrated cooling system, thrust bearing, shaft system and propeller

TECHNICAL SPECIFICATIONS

E-POD model	100
Motortype	PMAC Permanent Magnet brushless induction motor
CAN bus	V-CAN
Nominal input voltage	48 VDC
Maximum input current draw	255 A
Maximum output power	10,2 kW (cf. 20 pk)
Indicative energy consumption*	0,9 kWh @ 6 km/u (3,5 knt)*
Suitable for indicative boat length	up to 12 metre or 8 ton*
Maximum shaft rpm in NORMAL mode	1100 rpm with Ø 250 mm (9,84”) propeller
Maximum shaft rpm in ECO mode	750 rpm with Ø 250 mm (9,84”) propeller
Maximum shaft rpm in POWER mode	1280 rpm with Ø 250 mm (9,84”) propeller
Maximum torque	84 Nm
Transmission ratio	1:1 direct electric drive
Coupling and shaft system	All-in-one system including propeller
IP-rating motor	IP69 sealed motor and IP67 top cover
Cooling system	Direct 360° cooling; submerged in water
Control and warning lights and audible indication on MPE1MB panel (standard)	Propulsion active, POWER mode, temperature, battery level indication, high current draw, low voltage, limiting alarm
Electric circuit protection	Fuse 300 Amps
Dry weight	61 kg
Equipped with	Active Electronic Braking (2500 rpm brake) Battery Protection function Boosted Battery Charge function

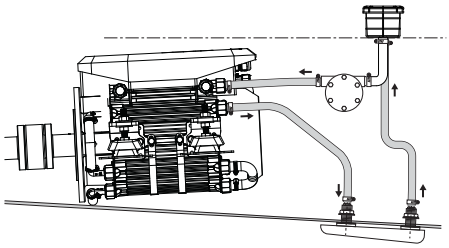


*Indication only. Values strongly depending on hull shape, boat length, weight, propeller pitch/diameter and other parameters.

Cooling system for E-Line inline motor

Fresh surface water cooling package. See page 404 for water scoop and hose barbs, page 56 for water strainer, page 429 for hoses and page 416 for hose clamps.

Also available with closed circulation keel cooling system, advised for salt or muddy waters. Using the ELINEKC keel cooler the coolant VOC (VETUS Organic Coolant) medium transports heat away from the motor and controller.



Module: Control

The VETUS e-drives (E-LINE and E-POD) work with V-CAN as do the VETUS proportional thrusters (BOW PRO). This in-house designed data traffic solution ensures less cables through your boat, robust reliable control and simple expandability. More (technical) information can be found on page 8.

Key switch for e-drives

MPE1KB key switch - all-in-one solution; V-CAN power supply, 12 VDC cooling pump power supply and anti-theft. Engaging the V-CAN line and 12 VDC cooling pump by the turn of the key.

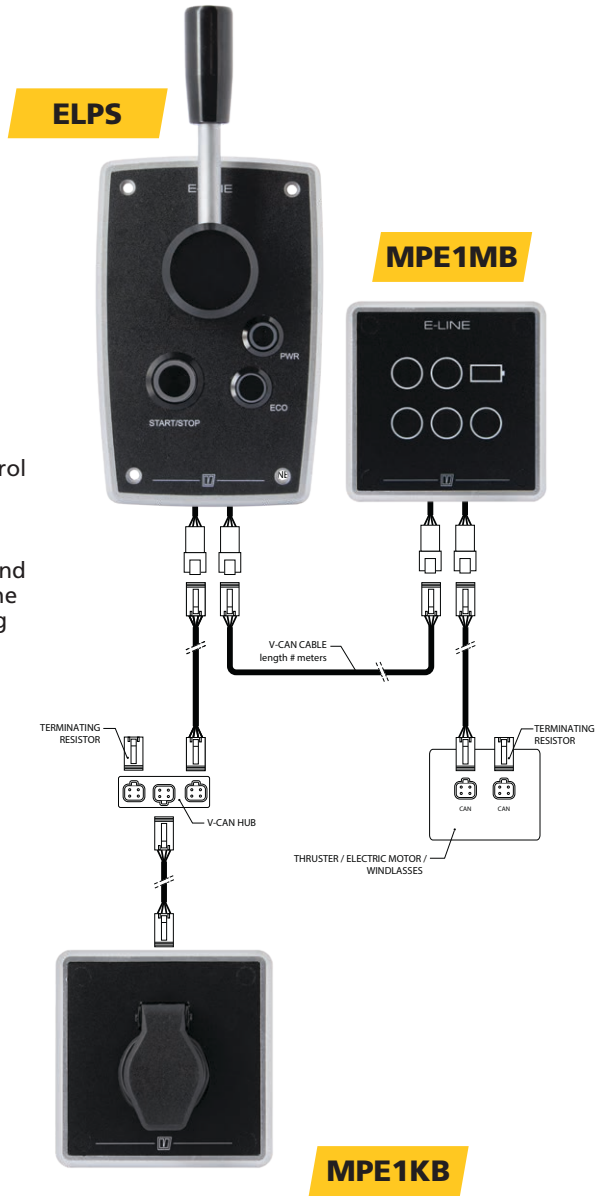
Specifications
- Compact design and high quality materials
- Stylish designed aluminium bezel (85 x 85 mm)
- Quick installation in Ø 75 mm cut-out hole
- Can be installed in double frame (XTASF2P 167,5 x 85 mm)
- Waterproof IP65 when mounted
- V-CAN CANBUS protocol certified
- Input wires 12 VDC
- Reverse polarity protection for V-CAN output
- Switched output V-CAN connector 12 VDC, fuse protected 5 A max.
- Switched output 12 VDC, fuse protected 30 A max.
- LED indication when engaged

Control lever for e-drives

The E-LINE and E-POD are controlled by the ELPS side mounted V-CAN control lever. The panel has a neutral safety switch as standard, which prevents the motor from being started when the propulsion thrust is engaged.

This control lever enables three propulsion control modes; NORMAL, ECO and POWER mode. By pressing the ECO mode the maximum output power of the e-drive is limited. When in ECO the POWER mode is not available. Switching off the ECO mode, the e-drive is in NORMAL mode. Pressing the POWER button unleashes the electric peak power kick for those fast manoeuvres.

Specifications
- Start/Stop Command button with LED status indication
- ECO mode latching button for increased range
- POWER (PWR) mode button to unleash full electric power
- LED and audible indication on e-drive status
- Safe and easy proportional control of your vessel
- High quality materials
- Stylish designed aluminium bezel (154 x 100 mm)
- Waterproof IP65 when mounted
- V-CAN CANBUS protocol certified
- Twin connector for multiple stations



Module: Monitoring

To monitor the e-drive status, warning and alarms there are multiple options. To see the most important instances at a glance the MPE1MB V-CAN monitoring panel can be used. To see the rich digital information available on the digital CANbus line, the NMEA2000 connected solution can be selected. By using the CANV2N CANverter messages on the V-CAN line are translated towards NMEA2000 and can be displayed on NMEA2000 devices.

Monitoring panel for e-drives

MPE1MB monitoring panel - important instances insight; the electric monitoring dashboard instrument. Clear LED light indication of V-CAN electric propulsion activities.

Specifications
- Compact design and high quality materials
- Stylish designed aluminium bezel (85 x 85 mm)
- Quick installation in Ø 75 mm cut-out hole
- Can be installed in double frame (XTASF2P 167,5 x 85 mm)
- Waterproof IP65 when mounted
- Control and warning lights; Propulsion active, POWER mode, temperature, limiting power alarm, battery level indication (four levels), high current draw, low voltage, charging active indication
- V-CAN CANBUS protocol certified
- Twin connectors for multiple stations

NMEA2000 monitoring solution for e-drives

VETUS is actively involved with NMEA2000 to enable electric propulsion data visible on NMEA2000. Using the VETUS CANverter (CANV2N) the V-CAN line can be connected to a NMEA2000 CAN-BUS line. When connecting a NMEA2000 display (CANNME7, TACHMD. See page 131) a rich set of parameters can be displayed. For example the rpm and temperatures are visible.

This Digital Battery Monitoring Shunt is especially designed for Electric Propulsion in order to monitor the percentage state of charge left in the batteries to calculate the remaining available boating time and ensure a worry free stay on the water. The Digital Battery Monitoring Shunt (CANNS500 shunt) is equipped with connectivity via WiFi protocol. Meaning that a smart phone, tablet or laptop can be used to log on to the Digital Battery Monitoring Shunt to read-out data and set battery information. Connecting your phone or other WiFi device to the CANNS500 shunt provides you with information about power consumption and battery state of charge is available. It also gives an calculated estimation on remaining time when continuing at the current speed. As seen before, keeping the power around cruising speed or calm paced increases the battery usage time exponentially.
For easy on board monitoring the CANNS500 shunt can also be connected to the NMEA2000 system. The rich information can then be displayed on the for example CANNME7 NMEA2000 display.

NMEA2000 monitoring components (also see page 8)

CANV2N1	CANverter mono directional V-CAN to NMEA2000
CANNS500	Digital Battery Monitoring Shunt NMEA2000 and WiFi connection, max. current 500A
CANNME7	Multifunction Display for Electric Propulsion 7” display, NMEA2000
CANNPSCM	NMEA2000 Power Supply Cable Male connector, 3A fuse, 1 metre cable
CANNC..	NMEA2000 Cable of certain length
CANNHUB	NMEA2000 hub 3 way M-F-M
CANNTF	NMEA2000 terminating resistor F - 120 Ohm
CANNTM	NMEA2000 terminating resistor M - 120 Ohm

CANV2N1

CANNS500

CANNME7

Module: Energy storage

To get the boat moving energy is needed. For Electric Propulsion instead of a tank, filters, hoses, etc a battery bank with nominal voltage 48 VDC is required. For electric propulsion VETUS offers AGM deep cycle (see page 257) and lithium batteries (on request only).

To calculate the required battery pack for your boat the following data is important:

- Desired usage and vessel specifications, such as boat length and average boating speed
  This data is to be used to calculate the average required consumption input power in kW per hour. For a combustion engine this would be the fuel consumption ratio of the boat.
  Note that the designed hull speed, design cruising speed of the boat and actual usage are important values here.
  A calculation of a standard water displacement boat of 6 metre (1,1 ton) shows the following indicative data:
  - Energy consumption 0,7 kW at paced of 6 km/h (3,3 knts)
  - Energy consumption 2,1 kW at paced of 8,8 km/h (4,7 knts)
  - Energy consumption 4,1 kW at paced of 11 km/h (5,9 knts)

  Slightly reducing average speeds exponentially increases available boating range due to the water displacement hull design.
- Type of battery. For example AGM deep cycle
  An VETUS AGM deep cycle can be discharged up to 70%.

Example: 440 Ah at 48 VDC is a battery pack of 8x AGM 220Ah 12 VDC and gives a total battery pack of (440 Ah x 48 VDC x 70%) 14,8 kWh nett. usable energy capacity. With an energy consumption of 2,1 kW, this would give a total continuous sailing time of (14,8 / 2,1 =) over 7 hours.

Battery pack	Motor type	Calm paced	Average paced	Fast paced	Intense paced
220 Ah @ 48 VDC (AGM battery pack)	E-LINE 050	14 h 45 m	7 h 15 m	3 h	1 h 30 m
	E-LINE 075	10 h	5 h	2 h	1 h 15 m
	E-LINE 100	7 h 15 m	3 h 30 m	1 h 30 m	45 m
	E-POD	9 h 15 m	4 h 30 m	1 h 45 m	1 h
440 Ah @ 48 VDC (AGM battery pack)	E-LINE 050	29 h 30 m	14 h 45 m	6 h	3 h 15 m
	E-LINE 075	19 h 45 m	10 h	4 h	2 h 15 m
	E-LINE 100	14 h 45 m	7 h 15 m	3 h	1 h 30 m
	E-POD	18 h 30 m	9 h 15 m	3 h 30 m	2 h 15 m

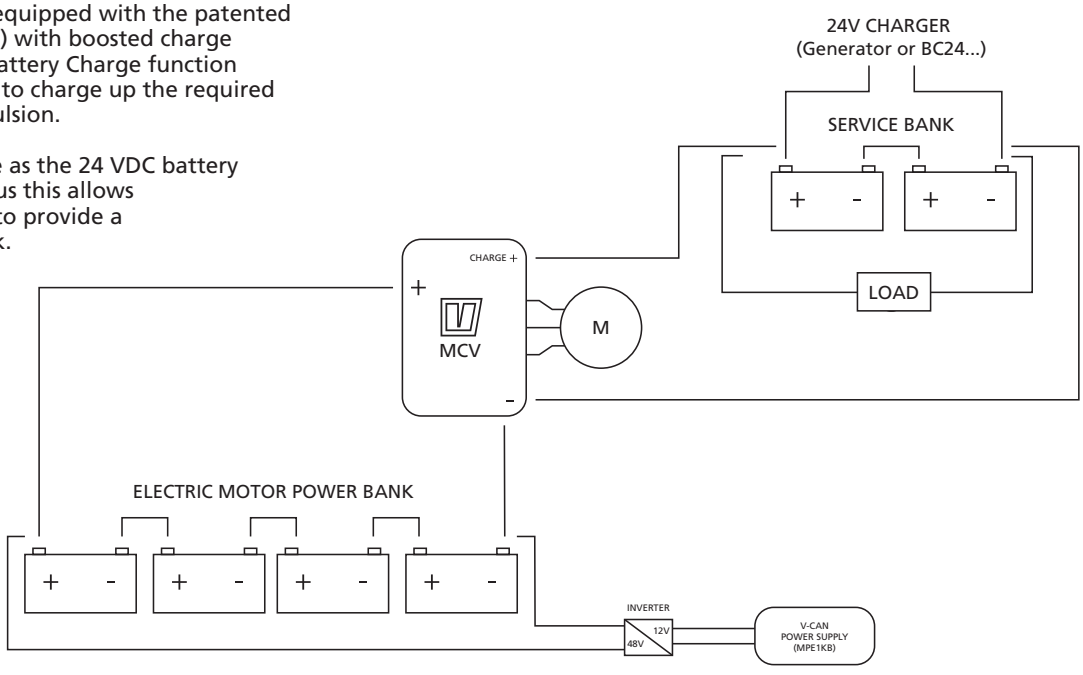
Module: Energy supply

What filling up the tank is for combustion engine systems, is charging the batteries for an electric propulsion system. Difference is there is no jerrycan or petrol filler nozzle. There are in fact multiple ways to charge a battery pack. Think about shore power, generator set, solar panels, wind generator, etc.

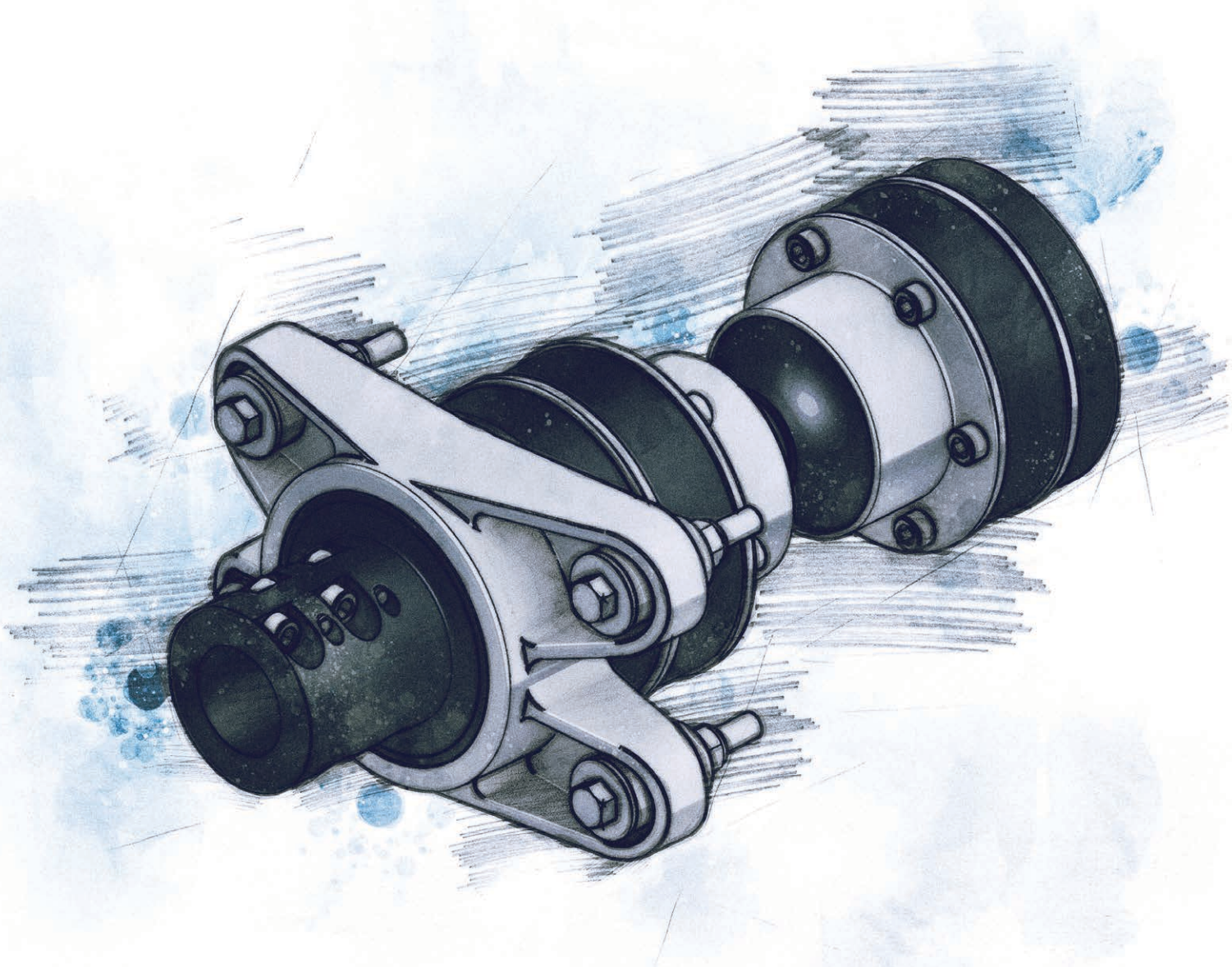
All VETUS e-drive motors are equipped with the patented Motor Controller VETUS (MCV) with boosted charge function. Using the Boosted Battery Charge function a 24 VDC charger can be used to charge up the required 48 VDC battery pack for propulsion.

This is an economic advantage as the 24 VDC battery charger is readily available. Plus this allows the boat builder an easy way to provide a 24 VDC electric board network.

For shore power connections material see page 261.
For generator sets, chargers and other electricity on board materials see page 249.

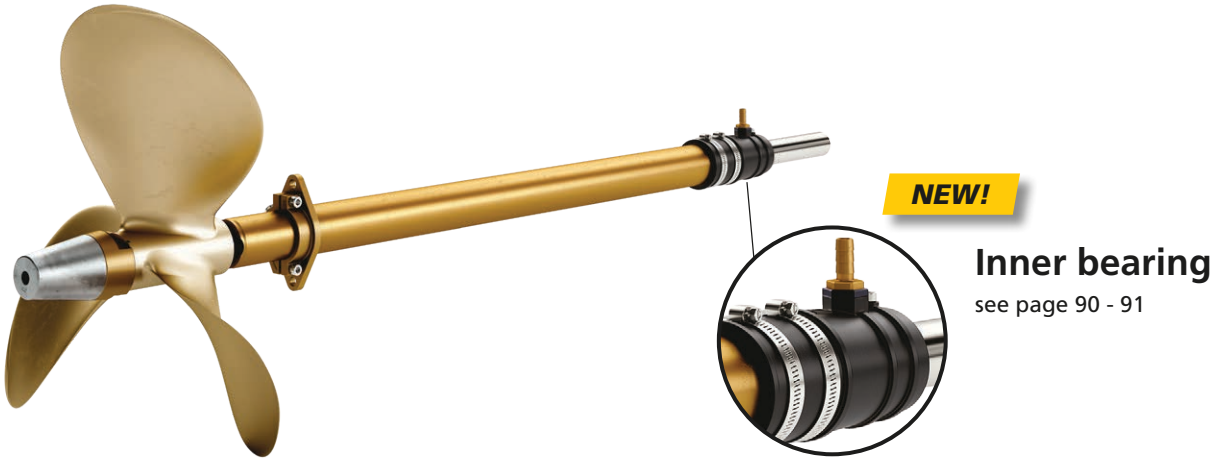


Stern gear systems



Overview

Stern gear see page 82 - 83



Inner bearing
see page 90 - 91

Flexible couplings see page 84 - 87

COMBIFLEX

UNIFLEX

KO5

BULLFLEX

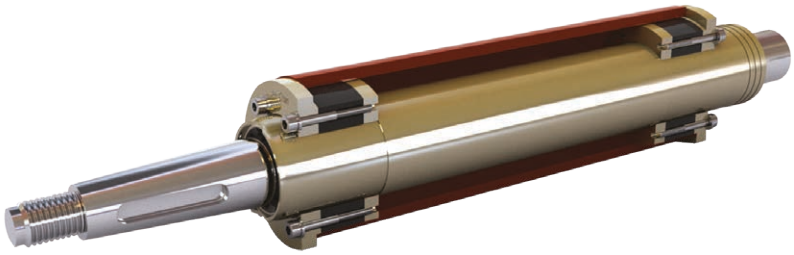
Constant velocity joint couplings see page 88 - 89

VDR

Adapter flanges see page 89

FLANGE

Water lubricated stern gear see page 90 - 95



Propellers see page 96 - 97

P3B

P4G

P5G

Rope cutter see page 98

NEW!

VRC

Cutlass bearings see page 99

Why VETUS Stern gear systems?

The stern gear is one of the most important systems in a boat and deserves special attention. After all, a well-calculated, manufactured and installed propeller shaft system can greatly enhance the performance and reliability of your boat. Our engineers, responsible for propulsion systems, feel like they represent the heart of the boat. They work with only the best quality propellers, propeller shafts, stern tubes and couplings to design perfectly tuned systems.

The desired boat speed, waterline length, hull shape and weight are the key factors to determine the perfect engine and gear box combination for a boat. Stern gear transfers the power of the engine to the water. The determination of the optimum propeller is specialized work that has to be carried out with sophisticated propeller calculation programmes and needs above all, experience.

VETUS has many years of experience with stern gear and offers a wide range of products which are environmentally friendly and which increase comfort on board. Water-lubricated propeller shafts eliminate the need for oil or grease while flexible couplings absorb deviations in the alignment of the propeller shaft and ensure that vibration transferred from the propeller shaft system to the boat is kept to a minimum.

A well-designed stern gear system needs

- A dynamically balanced propeller to prevent vibration, resonance and cavitation
- A propeller shaft to transmit the engine power to the propeller
- Rubber bearings to ensure that vibration and noise are reduced to a minimum
- A stern tube and reliable stern gland
- A coupling to make alignment of the shaft and engine easier

Good reasons to choose a VETUS stern gear system

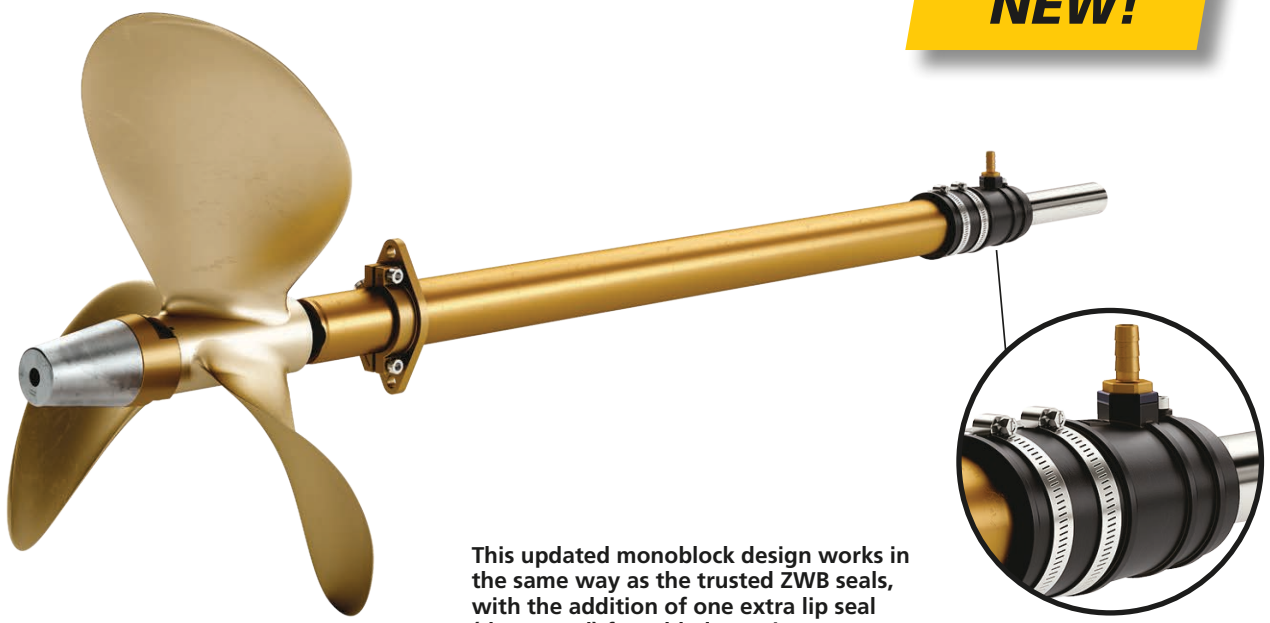
- VETUS offers free calculation of the correct propeller size using a special computer program
- VETUS large stock of standard high quality propellers in various sizes, pitches and blade areas
- VETUS provides in-house emergency repairs and modifies the bore and taper of stock propellers if necessary
- VETUS uses high quality corrosion-free materials designed for long life
- VETUS supplies a complete system, using both standard and custom made products
- VETUS offers various stern tube systems for shafts from 25 to 60 mm diameter
- VETUS offers various flexible couplings which significantly reduce vibration
- VETUS shaft assemblies protect the environment; water lubrication means no oil or grease pollution

Self-aligning inner bearing and triple shaft seal for extra security

Type ZWBH

Please check page 91 for further details about the new version of the ZWBH.

NEW!



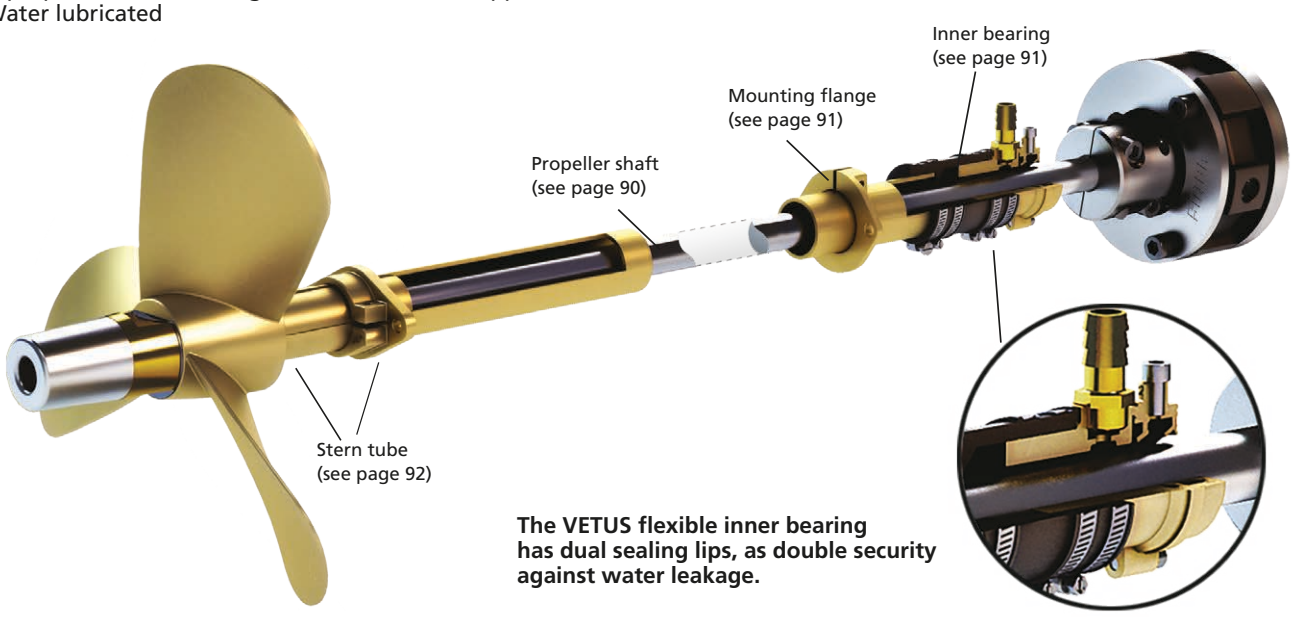
This updated monoblock design works in the same way as the trusted ZWB seals, with the addition of one extra lip seal (three total) for added security.

Water lubricated stern gear

Water lubricated stern gear for wooden, steel or polyester (G.R.P.) vessels

VETUS is able to deliver stern gear assemblies directly from stock. Machining, threading and keyway cutting have all been taken care of, so easy installation is guaranteed.

Specifications
- All VETUS propeller shafts are made of stainless steel type Duplex 1-4462, corrosion-free and with excellent running properties in rubber bearings
- Dual or even triple shaft seal (eliminating the need for a stuffing box)
- A propeller nut with integrated zinc anode is supplied as standard
- Water lubricated

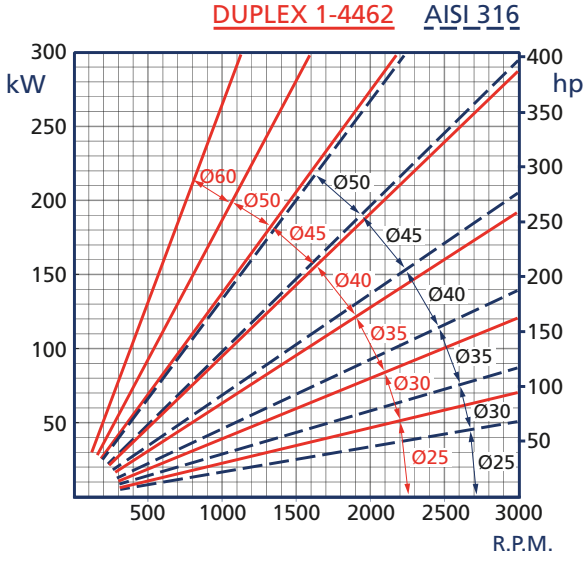


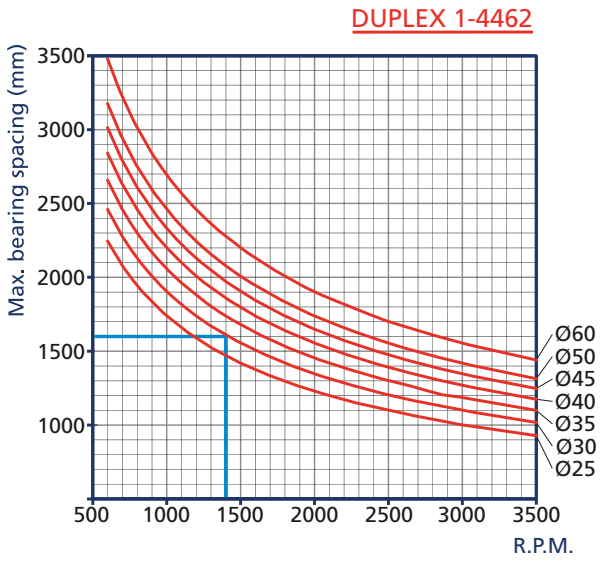
The VETUS flexible inner bearing has dual sealing lips, as double security against water leakage.

Why Duplex 1-4462 instead of AISI 316
All VETUS propeller shafts are made of stainless steel type "Duplex 1- 4462". In comparison with stainless steel materials like AISI 316 and Aquamet 17 or 22, the corrosion resistance of "Duplex 1-4462" is much greater. In addition the tensile strength of "Duplex 1-4462" is about 30% greater than AISI 316 and its hardness is approximately 40% higher. It is precisely this high degree of hardness, which gives "Duplex 1-4462" its excellent running properties in rubber bearings.

Depending on shaft length, diameter and speed of rotation (rpm), one, two or three cutlass bearings must be installed.

Example
Imagine, you have a shaft with a maximum shaft speed of 1400 r.p.m. and a diameter of 30 mm. The diagram shows (blue line) that the maximum distance between two bearings amounts to 1600 mm. If you have a shaft of e.g. 1500 mm. length, then one rubber bearing will be sufficient. Should you have a shaft of 2000 mm. length, in this case two rubber bearings have to be used. For shafts with a length of 3200 mm or longer, three bearings are needed.





Flexible couplings

VETUS offers a variety of solutions to connect the propeller shaft to the engine. The flexible rubber element of the flexible coupling ensures low-noise vibration-free transmission, without backlash between the engine and the propeller shaft. For smaller stern gear installations up to 30 mm, depending on the space available in the engine room, you can either choose the Bullflex, Combiflex, Uniflex type 13 or the KO5. These couplings all permit a misalignment of 2° maximum. Only the KO5 is suitable for V-drives. For stern gear installations up to 70 mm, you can choose between Bullflex and Uniflex type 16.

Last but not least, VETUS offers the VDR. This double acting constant velocity joint comes with a thrust bearing. The VDR is used when considerable misalignment angles need to be overcome.

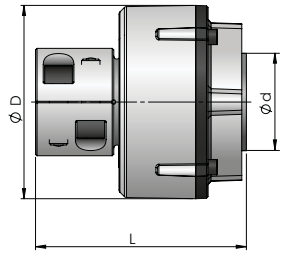
Type COMBIFLEX

Optimum damping of torsional vibrations

The Combiflex coupling has been designed to ensure optimum damping of torsional vibrations, created by cycle irregularities especially at low engine revolutions. The Combiflex coupling is secured against shearing off, both axially and radially, thus ensuring safe transmission under all circumstances. The Combiflex coupling also provides excellent alignment of the propeller shaft. Aligning the engine and propeller shaft can be a rather time consuming affair, however the Combiflex will remain perfectly centred onto the gearbox flange, even if the shaft has a misalignment of 2° maximum. The parallel clamping hub ensures easy installation and probably even more importantly, easy dismantling of the shaft assembly. Available for shafts of Ø 25 or 30 mm. Comes with a 4" flange to fit most common gearbox models.

For specifications, please see the table on the next page.

COMFL



Type Uniflex

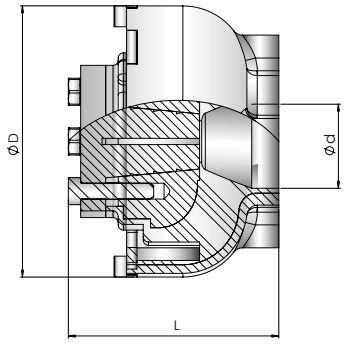
Exact alignment and concentric installation of propeller shaft

Couplings of type Uniflex permit a misalignment of 2° maximum. Uniflex couplings will centre the shaft on the gearbox by means of a conical clamping hub and are an ideal flexible coupling between a propeller shaft with a self-aligning bearing and an engine on flexible supports. These couplings are axially and radially secured against shearing off. When the propeller shaft is connected to the engine at an angle of 2°, the maximum admissible number of revolutions is 1500 r.p.m. on the shaft.

Specifications Uniflex type 13 and 16

- With cylindrical bore
- Clamping hub for shafts with a diameter of 20, 25 and 30 (type 13), and 30, 35 or 40 mm for type 16
- 4" Connection (type 13) and/or 5" (type 16) for Hurth, Velvet, Technodrive, ZF, PRM and other makes
- Not suitable for V-Drives

UNIFL



Flexible couplings

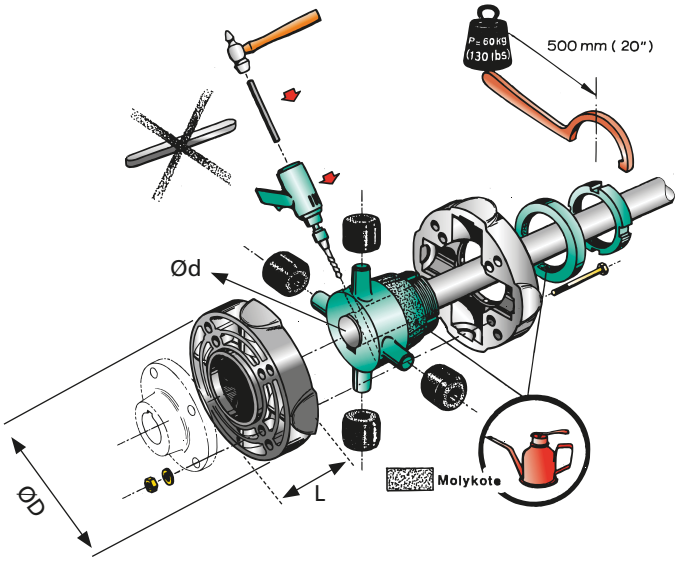
Type KO5 (type 6)

100% Concentric fit

This flexible coupling has a special conical clamping hub and is suitable for V-drives.

Type 6 saves considerable installation time. It is pilot bored Ø 20 mm or with a cylindrical bore for Ø 25, 30 and 35 mm shaft. Comes with 4 and 5" connectors for Hurth, Velvet, Technodrive, ZF and PRM.

KO5



Specifications

Type	DIN 6270 B = pleasure craft. kW/100 r.p.m. on shaft (HP)	Example: at 1500 r.p.m. the max. admissible power is (DIN B)	DIN 6270 A = commercial craft. kW/100 r.p.m. on shaft (HP)	D mm	L mm	Ø d	Weight kg
COMFL1325	2,4 (3,2)	15 x 2,4 = 36 kW (48 hp)	1,7 (2,2)	126	137	25	3,5
COMFL1330	2,4 (3,2)	15 x 2,4 = 36 kW (48 hp)	1,7 (2,2)	126	137	30	3,2
COMFL1225	5,2 (7,1)	15 x 5,2 = 79 kW (107 hp)	3,6 (5)	126	137	25	3,5
COMFL1230	5,2 (7,1)	15 x 5,2 = 79 kW (107 hp)	3,6 (5)	126	137	30	3,2
KO51	3,9 (5,3)	15 x 3,9 = 58,5 kW (79,5 hp)	3,3 (4,5)	137	84	25	2,7
KO52	3,9 (5,3)	15 x 3,9 = 58,5 kW (79,5 hp)	3,3 (4,5)	137	84	30	2,7
KO53	3,9 (5,3)	15 x 3,9 = 58,5 kW (79,5 hp)	3,3 (4,5)	137	84	35	2,7
KO54 (type 6)	3,9 (5,3)	15 x 3,9 = 58,5 kW (79,5 hp)	3,3 (4,5)	137	84	20 Pilot	2,7
UNIFL1320	2,6 (3,6)	15 x 2,6 = 39 kW (53 hp)	1,8 (2,5)	130	98	20	2,4
UNIFL1325	2,6 (3,6)	15 x 2,6 = 39 kW (53 hp)	1,8 (2,5)	130	98	25	2,4
UNIFL1330	2,6 (3,6)	15 x 2,6 = 39 kW (53 hp)	1,8 (2,5)	130	98	30	2,4
UNIFL1630	5,2 (7,1)	15 x 5,2 = 79 kW (107 hp)	3,6 (5)	199	131	30	6,9
UNIFL1635	5,2 (7,1)	15 x 5,2 = 79 kW (107 hp)	3,6 (5)	199	131	35	6,9
UNIFL1640	5,2 (7,1)	15 x 5,2 = 79 kW (107 hp)	3,6 (5)	199	131	40	6,9

Bolt sets required to attach the flexible coupling to gearbox drive flange

Type	Description
SET64	Set bolts for coupling type 6, for flange 4"
SET65	Set bolts for coupling type 6, for flange 5"
UNISET4/5	Set studs and bolts (M10) for couplings Combiflex, Uniflex and Bullflex 1-8, for flange 4"/5"

Flexible couplings

Type Bullflex

Ensuring optimum damping of vibrations

The Bullflex is the answer to the increasing demand of greater boating comfort. It is especially designed to ensure optimum damping of vibrations. Torsional vibrations are smoothed out extremely efficiently by its very flexible rubber element, ensuring low-noise and vibration-free transmission without backlash between the engine and propeller shaft. Another strong characteristic is the excellent alignment of the propeller shaft. For the most popular Volvo, Yanmar and Kanzaki gearboxes special (also custom made) adapter flanges are available (see page 89).

Features
- Very high flexibility
- Secured against shearing off (axially and radially) ensuring safe transmission under all circumstances
- Misalignment of up to 2° permissible
- Excellent centring of the shaft, allowing high shaft revolutions
- Shaft remains centred even in reverse gear
- Possibility to remove the centring ring, in case two or more bearings are applied
- Built-in thrust damper reducing axial vibrations
- Non-tapered clamping hub for perfect centring and easy dismantling of the shaft assembly

BULFL

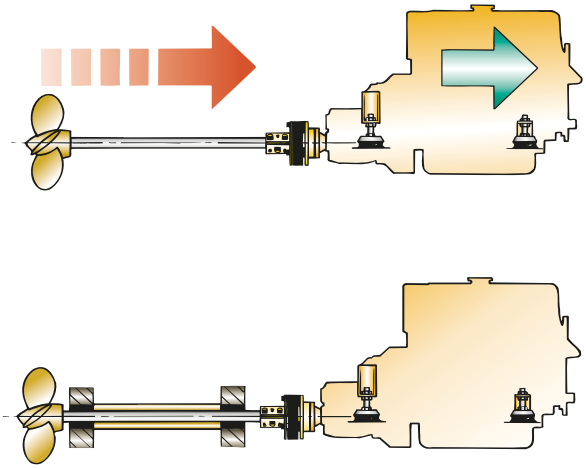
Specifications
- Models 1, 2 and 4 have a 4" gearbox connection
- Models 8, 12 and 16 feature a 4" and 5" gearbox connection
- Model 32 is provided with six threaded M16 holes on a pitch circle diameter of Ø 120,65 mm / 4,75" enabling mounting of the couplings to most models of gearboxes (Hurth, Velvet, Technodrive, ZF and P.R.M.)
- VETUS can also supply the required fasteners for installation of the Bullflex onto the gearbox. This coupling is not suitable for V-Drives

For specifications, please see the table on the next page.

Centring the Bullflex

An engine on flexible mountings will by definition, always move. When the propeller shaft is installed rigidly - which means to say: supported by two or more non-flexible bearings - the propeller shaft should not be affected by engine movements.

If this should happen, damage of engine mounting, coupling and sealing of the shaft may result. Where a rigid shaft assembly is installed, the centring ring can be removed from the Bullflex coupling. This must be done if the distance between the output flange of the gearbox and the first shaft bearing is less than twenty times the shaft diameter. Pendulum movements of the flexible mounted engine will then not be transmitted onto the propeller shaft, but will be effortlessly absorbed by the Bullflex coupling. Naturally, removal of the centring ring has no adverse effects on the vibration damping properties. Where the propeller shaft is supported by one rigid bearing only, the Bullflex coupling - with its centring ring installed - will function as a flexible ball joint. The propeller shaft will thus be supported and centered inside the Bullflex coupling, regardless of any engine movements.

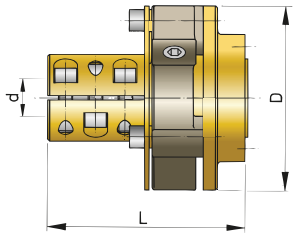


Model	Type	Shaft Size Imperial Ø
BULFL011	Type Bullflex1	1"
BULFL021	Type Bullflex2	1"
BULFL041	Type Bullflex4	1"
BULFL0814	Type Bullflex8	1¼"
BULFL0812	Type Bullflex8	1½"
BULFL1212	Type Bullflex12	1½"

Model	Type	Shaft Size Imperial Ø
BULFL1213	Type Bullflex12	1¾"
BULFL1612	Type Bullflex16	1½"
BULFL1613	Type Bullflex16	1¾"
BULFL162	Type Bullflex16	2"
BULFL3213	Type Bullflex32	1¾"
BULFL322	Type Bullflex32	2"

Flexible couplings

Type Bullflex



Example
An engine has an output of 84 kW at maximum 3,600 r.p.m. and a gearbox ratio of 2.1:1.

The maximum speed of the propeller shaft is $\frac{3.600}{2,1}$ = 1,714 r.p.m.

Therefore, the power to be transmitted per 100 r.p.m. is $\frac{84}{17,14}$ = 4.9 kW/100 r.p.m.

From the table, the correct model is a Bullflex 8 for a pleasure craft or a Bullflex 12 for a commercial craft.
This formula can also be used with the relevant tables for Uniflex, Combiflex and Type 6 flexible couplings.

Type Bullflex	DIN 6270 B = pleasure craft kW (HP)/ 100 shaft RPM	DIN 6270 A = commercial craft kW (HP)/ 100 shaft RPM	maximum torque Nm		max. r.p.m. at zero misalignment	max. r.p.m. at 2° misalignment	D mm	L mm	d mm
			DIN 6270B	DIN 6270A					
1	0.8 (1.1)	0.5 (0.7)	75	45	7000	3500	100	85	20, 25
2	1.6 (2.1)	0.9 (1.3)	150	90	6500	3250	120	120	20, 25
4	3.1 (4.3)	2.1 (2.8)	300	200	6000	3000	150	152	25, 30
8	6.3 (8.5)	4.3 (5.8)	600	410	5000	2500	170	166	30, 35, 40
12	9.8 (12.8)	7.1 (9.6)	900	540	4000	2000	200	177	35,40,45
16	12.6 (17.1)	9.8 (13.3)	1200	935	4000	2000	205	197	40, 45, 50
32	23.0 (31.3)	18.6 (25.3)	2200	1780	3600	1800	260	263	40, 50, 60, 70

Specifications

Type	DIN 6270 B = pleasure craft kW (HP)/ 100 shaft RPM	DIN 6270 A = commercial craft kW (HP)/ 100 shaft RPM	maximum torque Nm		max. r.p.m. at zero misalignment	max. r.p.m. at 2° misalignment	D mm	L mm	d mm
			DIN 6270B	DIN 6270A					
BULFL0120	0.8 (1.1)	0.5 (0.7)	75	45	7000	3500	100	85	20
BULFL0125	0.8 (1.1)	0.5 (0.7)	75	45	7000	3500	100	85	25
BULFL0220	1.6 (2.1)	0.9 (1.3)	150	90	6500	3250	120	120	20
BULFL0225	1.6 (2.1)	0.9 (1.3)	150	90	6500	3250	120	120	25
BULFL0425	3.1 (4.3)	2.1 (2.8)	300	200	6000	3000	150	152	25
BULFL0430	3.1 (4.3)	2.1 (2.8)	300	200	6000	3000	150	152	30
BULFL0830	6.3 (8.5)	4.3 (5.8)	600	410	5000	2500	170	166	30
BULFL0835	6.3 (8.5)	4.3 (5.8)	600	410	5000	2500	170	166	35
BULFL0840	6.3 (8.5)	4.3 (5.8)	600	410	5000	2500	170	166	40
BULFL1235	9.8 (12.8)	7.1 (9.6)	900	540	4000	2000	200	177	35
BULFL1240	9.8 (12.8)	7.1 (9.6)	900	540	4000	2000	200	177	40
BULFL1245	9.8 (12.8)	7.1 (9.6)	900	540	4000	2000	200	177	45
BULFL1640	12.6 (17.1)	9.8 (13.3)	1200	935	4000	2000	205	197	40
BULFL1645	12.6 (17.1)	9.8 (13.3)	1200	935	4000	2000	205	197	45
BULFL1650	12.6 (17.1)	9.8 (13.3)	1200	935	4000	2000	205	197	50
BULFL3245	23.0 (31.3)	18.6 (25.3)	2200	1780	3600	1800	260	263	45
BULFL3250	23.0 (31.3)	18.6 (25.3)	2200	1780	3600	1800	260	263	50
BULFL3260	23.0 (31.3)	18.6 (25.3)	2200	1780	3600	1800	260	263	60
BULFL3270	23.0 (31.3)	18.6 (25.3)	2200	1780	3600	1800	260	263	70

Type	Description	
BUL16SET	Set stud & bolts	7/16" UNF for couplings type Bullflex 12 and 16
BUL32SET	Set stud & bolts	For couplings type Bullflex 32
TMCSET	Set stud & bolts	For couplings type Bullflex with Technodrive Gearbox
UNISET4/5	Set stud & bolts	For couplings type 1-8, and for flange 4"/5"

Drive for propeller shaft

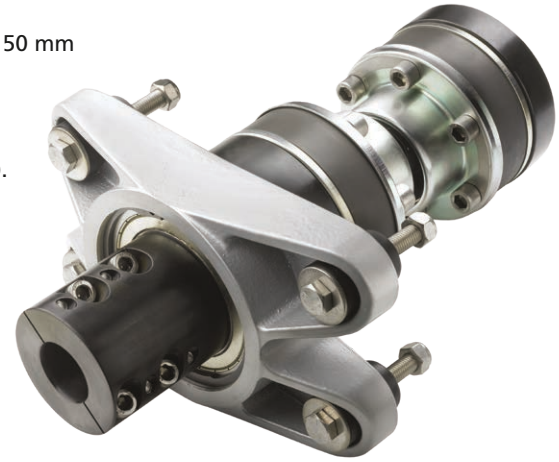
Type VETUS DRIVE

More freedom for engine movement, less freedom for vibration

The VETUS DRIVE (Type VDR) is a combination of a self-aligning thrust bearing and a double acting constant velocity joint. The propeller thrust is absorbed by the inbuilt thrust bearing allowing the engine to be set up on softer mountings, resulting in lower vibration and transmitted noise. The VDR is made of black passivated steel and high performance rubber. This heavy duty VDR has been tested under the toughest conditions and is suitable for maximum thrust up to 24000 N.

Specifications
- VDR6 is available for shaft diameters of 50, 60 or 70 mm
- VDR2 and 4 are available for shaft diameters of 25, 30, 35, 40, 45 or 50 mm
- Interchangeable with other well-known models
- Durable design with long lifetime

Note: For the most popular Volvo, Yanmar and Kanzaki gearboxes special (also custom made) adapter flanges are available (see page 89).

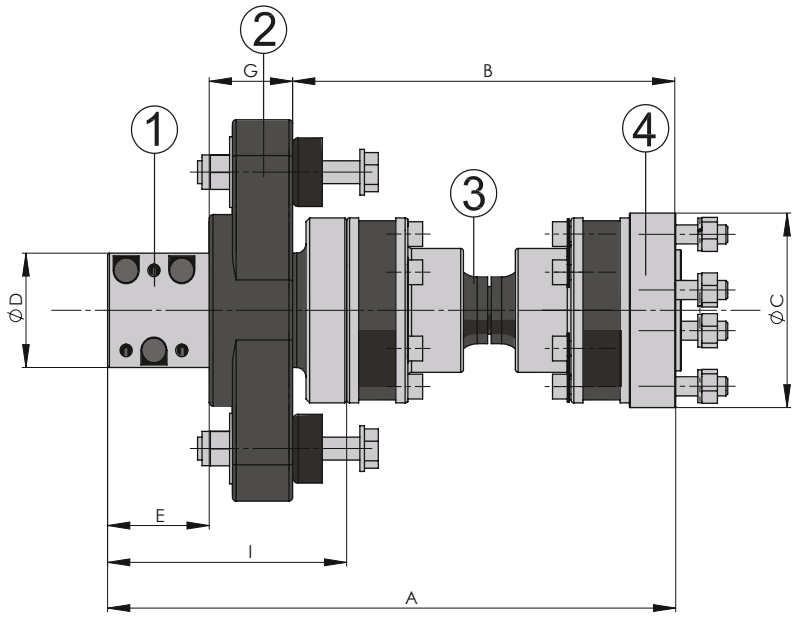


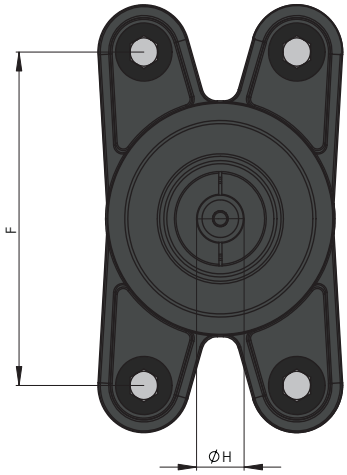
VDR

Dimensions for VDR constant velocity joint

Type	A mm	B mm	C mm	D Ø	E mm	F mm	G mm	H mm	I mm
VDR210254	325	217	101.6	60	63	145	45	25	143
VDR210255	325	217	127	60	63	145	45	25	143
VDR210304	325	217	101.6	60	63	145	45	30	143
VDR210305	325	217	127	60	63	145	45	30	143
VDR215254	376	268	101.6	60	63	145	45	25	175
VDR215255	376	268	127	60	63	145	45	25	175
VDR215304	376	268	101.6	60	63	145	45	30	175
VDR215305	376	268	127	60	63	145	45	30	175
VDR215354	401	268	101.6	69	88	145	45	35	200
VDR215355	401	268	127	69	88	145	45	35	200
VDR221304	429	321	101.6	60	63	145	45	30	183
VDR221305	429	321	127	60	63	145	45	30	183
VDR221354	454	321	101.6	69	88	145	45	35	208
VDR221355	454	321	127	69	88	145	45	35	208
VDR221404	454	321	101.6	69	88	145	45	40	208
VDR221405	454	321	127	69	88	145	45	40	208
VDR421404	437	294	101.6	85	90	214	53	40	188
VDR421405	437	294	127	85	90	214	53	40	188
VDR421454	437	294	101.6	85	90	214	53	45	188
VDR421455	437	294	127	85	90	214	53	45	188
VDR421505	448	294	127	89	102	214	53	50	199
VDR430404	538	395	101.6	85	90	214	53	40	233
VDR430405	538	395	127	85	90	214	53	40	233
VDR430454	538	395	101.6	85	90	214	53	45	233
VDR430455	538	395	127	85	90	214	53	45	233
VDR430504	549	395	101.6	89	101	214	53	50	244
VDR430505	549	395	127	89	101	214	53	50	244
VDR630505	522	333	127	87.5	87.5	250	87	50	250
VDR630605	522	333	127	87.5	87.5	250	87	60	250
VDR630705	522	333	127	87.5	87.5	250	87	70	250
VDR630506	522	333	152.4	87.5	87.5	250	87	50	250
VDR630606	522	333	152.4	87.5	87.5	250	87	60	250
VDR630706	522	333	152.4	87.5	87.5	250	87	70	250
VDR642505	579	362	127	87.5	87.5	250	87	50	250
VDR642605	579	362	127	87.5	87.5	250	87	60	250
VDR642705	579	362	127	87.5	87.5	250	87	70	250
VDR642506	579	362	152.4	87.5	87.5	250	87	50	250
VDR642606	579	362	152.4	87.5	87.5	250	87	60	250
VDR642706	579	362	152.4	87.5	87.5	250	87	70	250

Drive for propeller shaft





1. Clamp Hub
2. Thrust Bearing
3. CV Joint (Constant Velocity Joint)
4. Flange

The selection of the correct VDR constant velocity joint is dependent on some variables, such as: boat speed, engine HP, RPM, gearbox reduction and shaft diameter. We therefore recommend that you use the VETUS drive selector tool on our website www.vetus.com/en/stern-gear-systems/drives-for-propeller-shafts

Type FLANGE

Adapter flanges for connecting gearboxes to flexible couplings

These adapter flanges can be used for many gearboxes made by Volvo, Yanmar and Kanzaki and are available as an option. When the pump unit on some hydraulic gearboxes is positioned in a way that it is impossible to install a flexible coupling directly onto the output flange, an intermediate flange will have to be fitted as well. Intermediate flange are available on special request.

Type	Description
FLANGE1	Adapter flange for Yanmar KM2C; KMP2P; KM3P, Kanzaki KC30; KC45 and KC100
FLANGE2	Adapter flange for Volvo MS10A/L; MS15A/L and MS25A/L
FLANGE2A	Adapter flange for Volvo MS; MSB and all types MS2
FLANGE3	Adapter flange for Yanmar KM4A; KM4A1; KMH4A; KBW20-1; KBW21 and Kanzaki KC180

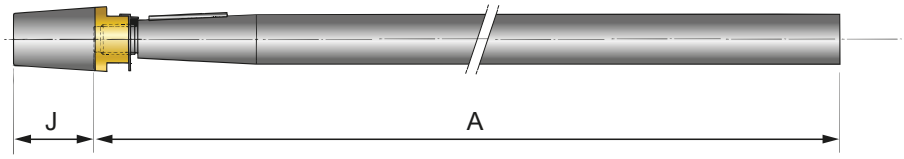
FLANGE

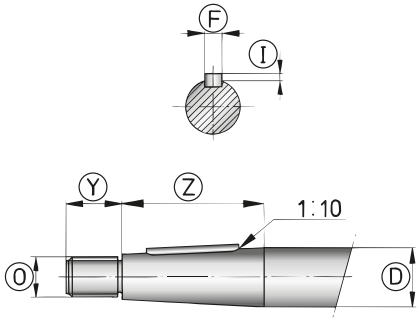
Water lubricated stern gear

Propeller shaft type SA

Duplex 1-4462 stainless steel propeller shaft

This shaft is machined with 1:10 taper and a keyway as standard. It is supplied with key and propeller nut with integrated zinc anode. The dimensions of taper and keyway are in accordance with ISO 4566.





Shaft types with all dimensions in mm

Type	Ø D mm	Shaft lengths (A) (mm)	F	I	J	O	Y	Z
SA25	25	1000 / 1500 / 2000 / 2500 / 3000	8	3	40	M16 x 1.5	25	55
SA30	30	1000 / 1500 / 2000 / 2500 / 3000	8	3	57	M20 x 1.5	30	75
SA35	35	1000 / 1500 / 2000 / 2500 / 3000	10	3	54	M24 x 2	35	85
SA40	40	on request	12	3	64	M24 x 2	35	95
SA45	45	on request	14	3,5	69	M30 x 2	40	105
SA50	50	on request	14	3,5	79	M36 x 2	45	115
SA60	60	on request	18	4	96	M42 x 3	55	130
SA301500A	30	1500	8	3	40	M16 x 1.5	25	55
SA302000A	30	2000	8	3	40	M16 x 1.5	25	55
SA302500A	30	2500	8	3	40	M16 x 1.5	25	55

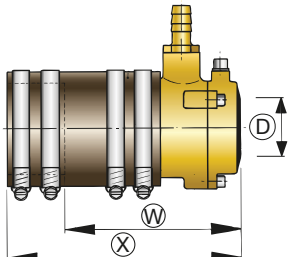
Type	
SA25/+	Extra charge per 500 mm
SA30/+	Extra charge per 500 mm
SA35/+	Extra charge per 500 mm

Type	
SA40/+	Extra charge per 500 mm
SA45/+	Extra charge per 500 mm
SA50/+	Extra charge per 500 mm
SA60/+	Extra charge per 500 mm

Bronze self-aligning inner bearing and dual shaft seal

The VETUS flexible inner bearing used in this system has dual sealing lips for double security against water leakage.

Type	Description	H	L	D	d
ZWB35A	Bronze flexible inner bearing Ø 35 mm, with dual lip seal	112	145	56	35
ZWB40A	Bronze flexible inner bearing Ø 40 mm, with dual lip seal	114	150	61	40
ZWB45A	Bronze flexible inner bearing Ø 45 mm, with dual lip seal	129	165	71	45
ZWB50A	Bronze flexible inner bearing Ø 50 mm, with dual lip seal	129	165	76	50
ZWB60	Bronze flexible inner bearing Ø 60 mm, with dual lip seal	129	165	90	60
ZWB2540	Replacement set for VETUS 25 mm inner bearing with stuffing box				
ZWB3044	Replacement set for VETUS 30 mm inner bearing with stuffing box				



ZWB

All dimensions are in mm.

Water lubricated stern gear

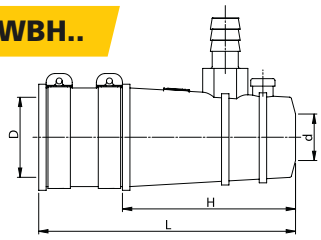
NEW!

Self-aligning inner bearing and triple shaft seal for extra security

ZWBH seals are developed for use with water lubricated stern gear. This updated monoblock design works in the same way as the trusted ZWB seals, with the addition of one extra lip seal (three total) for added security. Minimal friction, oil and grease resistant and with a seperate 3/8" x 10 mm hose pillar for water injection. As the ZWBH has a threaded connection, also a valve can easily be applied on it.

VETUS advices annual lubrication with silicon grease to keep this stern gear seal in optimal condition. ZWBH seals can withstand temperatures between -15° and + 85° and are suitable for VETUS bronze, steel or GRP stern tubes. The set comes with two stainless steel hose clamps and grease.

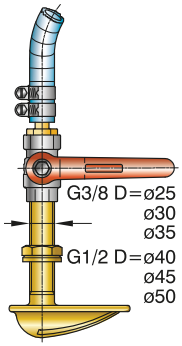
ZWBH..



Type	Description	H	L	D	d
ZWBH25	Flexible inner bearing, with triple lip seal	112	144	43	25
ZWBH30	Flexible inner bearing, with triple lip seal	112	144	49,5	30
ZWBH35	Flexible inner bearing, with triple lip seal	112	145	56	35

Water lubrication connections

There are two possibilities to water lubricate your shaft assembly
1. By means of a water scoop G 3/8, with ball valve, hose pillar, 1 metre of water hose and hose clamps, or
2. By tapping a small amount of water from the main engine's raw water cooling circuit.



WCAPS

Type	Description
WCAPSET	Water scoop kit for Ø 25-30-35 mm, shaft
WCAPS1/2	Water scoop kit for Ø 40-45-50 mm, shaft

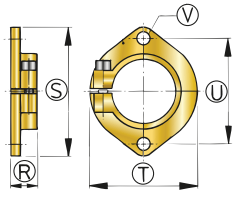
For the second option we offer the ZWBKIT. With this kit you have all you need to water lubricate your shaft assembly by using water from the main engine's raw water cooling circuit. The kit consists of a T-piece (18 -10 -18 mm), 3 metres of Ø 10 mm hose (DWHOSE10A) and four hose clamps.

ZWBKIT

Type	Consist of	Code
ZWBKIT	1 TP1810 T-piece	TP1810
	3 Fresh water hose per metre	DWHOSE10A
	4 Hose clamps AISI 304 9 mm Ø 8 - 16 mm	HCS08

Mounting flange for stern tube

The propeller end of the bronze stern tube is provided with an outer cutlass bearing and a mounting flange. The slots in the tube are designed for easy replacement of the cutlass bearing. A second flange maybe required to secure the inboard end of the stern tube and can be ordered separately.



FLK

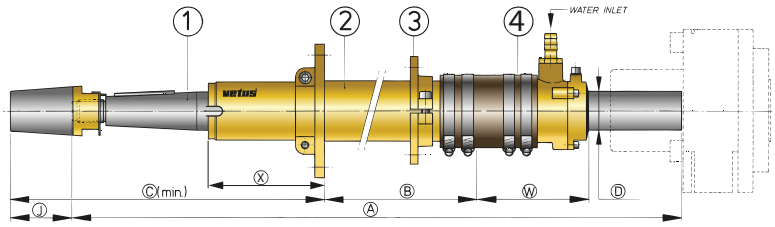
Type	Ø D	R	S	T	U	Ø V
FLK25	25	18	86	72	70	8,5
FLK30	30	18	90	78	74	8,5
FLK35	35	23	112	97	92	10,5
FLK40	40	23	116	101	96	10,5
FLK45	45	28	132	118	108	13
FLK50	50	28	138	125	114	13
FLK60	60	28	148	136	124	13

All dimensions are in mm.

Water lubricated stern gear

Bronze stern tube assembly

1. Propeller shaft
2. Stern tube
3. Mounting flange
4. Inner bearing

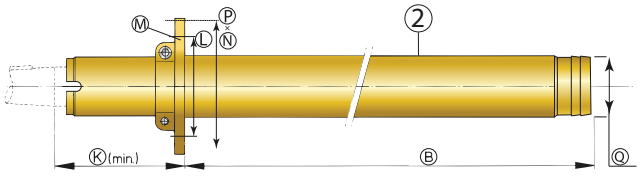


When ordering, please specify dimensions A, B and D.

Type	Ø Shaft (D)	A	B	X	C	W	J
BL25	25	Shaft length	Stern tube length	88	210	112	40
BL30	30			105	267	112	57
BL35	35			117	291	112	54
BL40	40			113	327	114	64
BL45	45			145	359	129	69
BL50	50			162	401	129	79
BL60	60			190	430	129	80

Type BL

Bronze stern tube with mounting flange and one cutlass aft bearing. The slots in the tube are designed for easy replacement of the cutlass bearing.



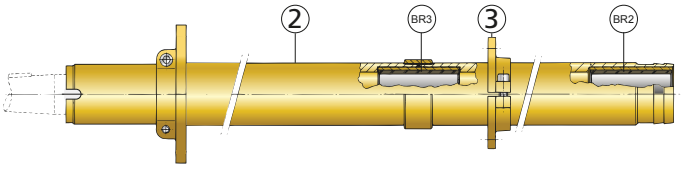
Type	Ø D	Length B				K	L	Ø M	N	P	Q
BL25	25	500	1000	1500	2000	88	90	8,5	110	60	43
BL30	30	500	1000	1500	2000	105	100	8,5	120	67	49,5
BL35	35	on request				117	110	10,5	132	76	57
BL40	40	on request				113	116	10,5	138	82	62
BL45	45	on request				145	150	13	180	93	71
BL50	50	on request				162	165	15	197	99	76,1
BL60	60	on request				190	155	15	180	106	92

Type	
BL25/+	Extra charge per 500
BL30/+	Extra charge per 500
BL35/+	Extra charge per 500

Type	
BL40/+	Extra charge per 500
BL45/+	Extra charge per 500
BL50/+	Extra charge per 500
BL60/+	Extra charge per 500

Type BR2

Forward cutlass bearing for bronze stern tube. When ordering please specify type BL and type BR2. The tube will be supplied with the second bearing already installed.



Type BR3

Intermediate cutlass bearing for bronze stern tube. When ordering please specify type of BL, type BR2 and type BR3.

The tube will supplied with ordered bearings already installed.

Forward bearing for stern tubes

Type	Description
BR225	Bearing for Ø 25 mm stern tube
BR230	Bearing for Ø 30 mm stern tube
BR235	Bearing for Ø 35 mm stern tube
BR240	Bearing for Ø 40 mm stern tube
BR245	Bearing for Ø 45 mm stern tube
BR250	Bearing for Ø 50 mm stern tube
BR260	Bearing for Ø 60 mm stern tube

Intermediate bearing for stern tubes

Type	Description
BR325	Bearing for Ø 25 mm stern tube
BR330	Bearing for Ø 30 mm stern tube
BR335	Bearing for Ø 35 mm stern tube
BR340	Bearing for Ø 40 mm stern tube
BR345	Bearing for Ø 45 mm stern tube
BR350	Bearing for Ø 50 mm stern tube
BR360	Bearing for Ø 60 mm stern tube

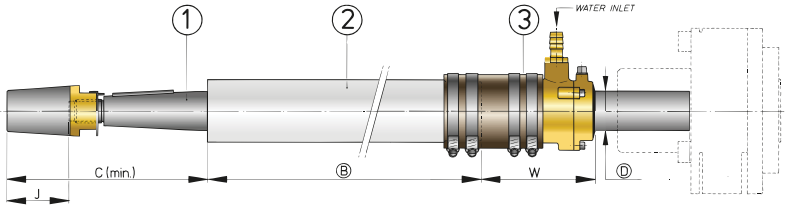
All dimensions are in mm.

Water lubricated stern gear

G.R.P. (Polyester) stern tube assembly

Type	Ø D	Length	J	Ø Q	W	C	Length B			
BG25	25	500	40	44	112	127	581,5	1081,5	1581,5	2081,5
BG30	30	500	57	50	112	172	595,5	1095,5	1595,5	2095,5
BG35	35	500	54	57	112	184	595,5	1095,5	1595,5	2095,5
BG40	40	500	64	62	114	214	595,5	1095,5	1595,5	2095,5

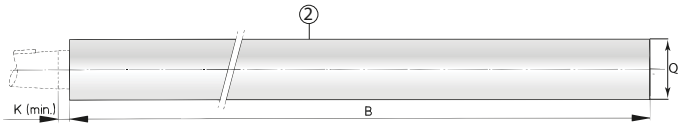
1. Propeller shaft
2. Stern tube
3. Inner bearing



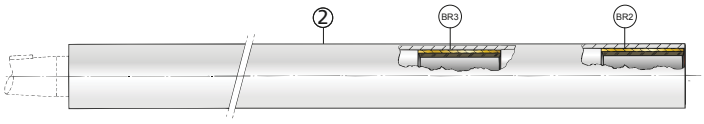
Note: GRP tube types BG35 and BG40 can be supplied with the same ZWB dual shaft seal as shown on page 90. GRP tube types BG25, BG30 and BG35 can be supplied with triple lip seal type ZWBH shown on page 91.

G.R.P. stern tubes - type BG

The propeller end of the G.R.P. stern tube is provided with an outer cutlass bearing. The stern tubes must be bonded directly into the hull.



Type	Ø D	Length B				K	Ø Q
BG25	25	581,5	1081,5	1581,5	2081,5	8	44
BG30	30	595,5	1095,5	1595,5	2095,5	10	50
BG35	35	595,5	1095,5	1595,5	2095,5	10	57
BG40	40	581,5	1081,5	1581,5	2081,5	12	62



Depending on the length, diameter and RPM of the shaft, there is a need for one, two or three cutlass bearings.

Forward bearing for stern tubes

Type	Description
BR225	Bearing for Ø 25 mm stern tube
BR230	Bearing for Ø 30 mm stern tube
BR235	Bearing for Ø 35 mm stern tube
BR240	Bearing for Ø 40 mm stern tube

Intermediate bearing for stern tubes

Type	Description
BR325	Bearing for Ø 25 mm stern tube
BR330	Bearing for Ø 30 mm stern tube
BR335	Bearing for Ø 35 mm stern tube
BR340	Bearing for Ø 40 mm stern tube

All dimensions are in mm.

Stern gear systems

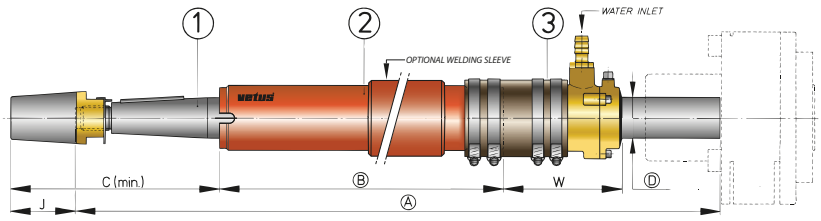
Water lubricated stern gear

Steel stern tube assembly

When ordering, please specify dimensions A, B and D.

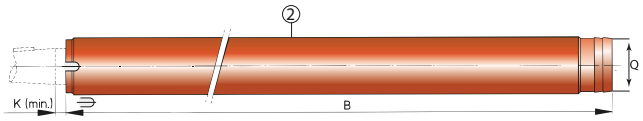
Type	Ø Shaft (D)	Shaft length A	Stern tube length B	C	W	J
BS25	25	on request	on request	127	112	40
BS30	30	on request	on request	172	112	57
BL35S	35	on request	on request	184	112	54
BL40S	40	on request	on request	206	114	64
BL45S	45	on request	on request	226	129	69
BL50S	50	on request	on request	254	129	79
BL60S	60	on request	on request	287	93	96

1. Propeller shaft
2. Stern tube
3. Inner bearing



Steel stern tubes

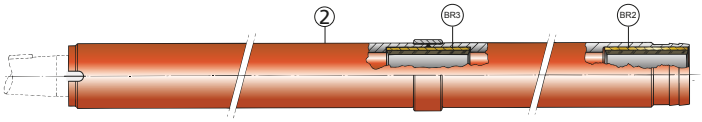
The propeller end of the steel stern tube is provided with an outer cutlass bearing. The slots in the tube are designed for easy replacement of the cutlass bearing. All steel stern tubes may be supplied with additional sleeves to reduce distortion when welding. Please specify when ordering.



Type	Ø D	Length B	K	Ø Q
BS25	25	on request	8	44
BS30	30	on request	10	51
BL35S	35	on request	10	57
BL40S	40	on request	12	62
BL45S	45	on request	12	70
BL50S	50	on request	15	76,1
BL60S	60	on request	15	92

Type BR2

Forward cutlass bearing for steel stern tube. When ordering please specify type BL and type BR2. The tube will be supplied with second bearing already installed.



Type BR3

Intermediate cutlass bearing for steel stern tube. When ordering please specify type BL, type BR2 and type BR3.

The tube will supplied with ordered bearings already installed.

Forward bearing for stern tubes

Type	Description
BR225	Bearing for Ø 25 mm stern tube
BR230	Bearing for Ø 30 mm stern tube
BR235	Bearing for Ø 35 mm stern tube
BR240	Bearing for Ø 40 mm stern tube
BR245	Bearing for Ø 45 mm stern tube
BR250	Bearing for Ø 50 mm stern tube
BR260	Bearing for Ø 60 mm stern tube

Intermediate bearing for stern tubes

Type	Description
BR325S	Bearing for Ø 25 mm stern tube
BR330S	Bearing for Ø 30 mm stern tube
BR335S	Bearing for Ø 35 mm stern tube
BR340S	Bearing for Ø 40 mm stern tube
BR345S	Bearing for Ø 45 mm stern tube
BR350S	Bearing for Ø 50 mm stern tube
BR360S	Bearing for Ø 60 mm stern tube

All dimensions are in mm.

Water lubricated stern gear

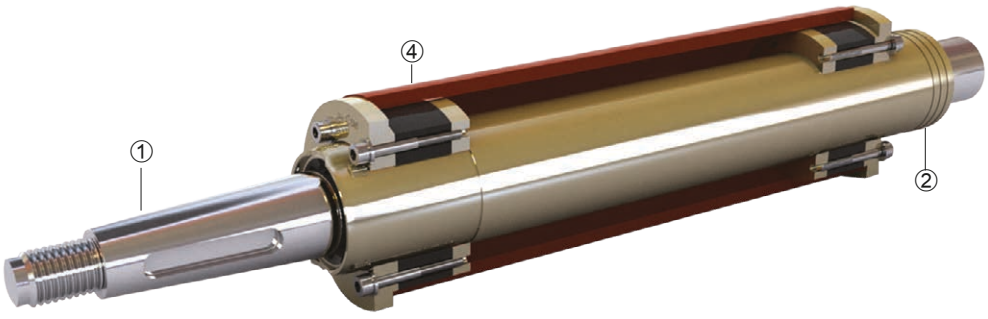
Type CS with dual lip seal and rubber bushings

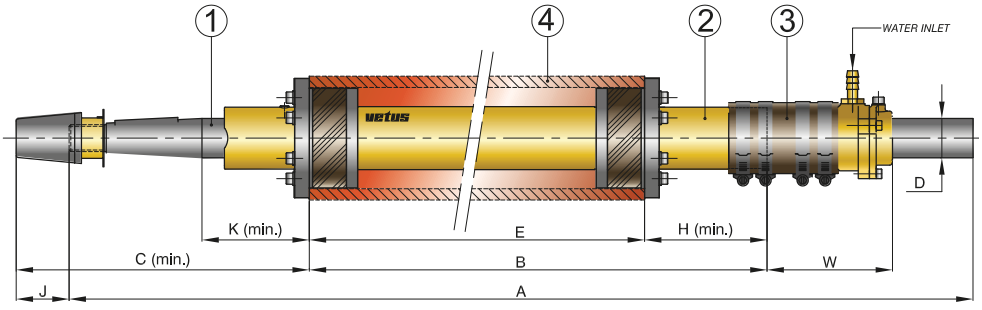
This water-lubricated propeller shaft assembly uses a thick walled steel outer tube which can be welded into a steel boat with minimum distortion. In this steel tube you can easily fit a bronze stern tube with the aid of rubber bushings.

Specifications

- One rear cutlass bearing (additional bearings can be supplied on request)
- Bronze stern tube (can be supplied with a VETUS self-aligning inner bearing with dual lip seal type ZWB)

For dimensions see table below. Please state dimensions A, B, D and E when ordering.





1. Propeller shaft
2. Stern tube
3. Inner bearing
4. Thick walled steel outer tube

Ø D	A	B	C	E	H	J	K	W	Precision steel tube
Ø 35	on request	on request	291	on request	60	54	117	112	I.D. = 89 / O.D. = 101.6
Ø 40	on request	on request	327	on request	63	64	133	114	I.D. = 89 / O.D. = 101.6
Ø 45	on request	on request	359	on request	63	69	145	129	I.D. = 112.8 / O.D. = 127
Ø 50	on request	on request	401	on request	63	79	162	129	I.D. = 112.8 / O.D. = 127

All dimensions are in mm.

Propellers

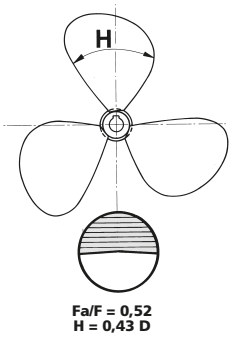
The most essential component of your boat

VETUS makes good use of an especially developed computer programme, which determines exactly the right propeller for your boat. The most important elements of propeller design and manufacture are balance, dimensions, material and the blade area.

1. If you bear in mind that a propeller is often rotating at 2000 r.p.m. (more than thirty revolutions per second), you will understand that it is an absolute must that a good propeller is well-balanced.
2. In order to achieve the best performance and to minimize vibration, it is extremely important to ensure that the pitch of each blade is identical and that the distance between the blades does not vary. This requires great manufacturing precision.
3. VETUS propellers are made of manganese bronze, an extremely resilient, yet flexible material.
4. The choice of a good propeller with all above combined qualities, is of the utmost importance.
5. A propeller specialist must always determine the diameter and pitch and the required (fixed) Fa/F ratio. This means the total area of the propeller circle (F) in comparison to the surface area (stretched and developed) of all blades (Fa). The choice of the Fa/F ratio is dependent on the shape of the underwater section and the speed of the boat in question.

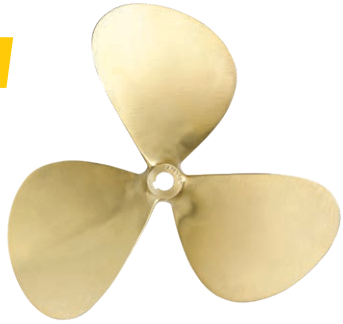
3-Bladed propeller
Type P3B

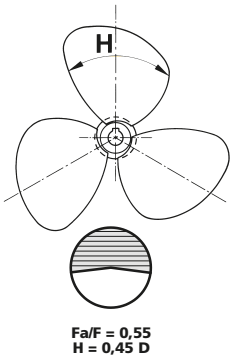
P3B



3-Bladed propeller
Type P3C

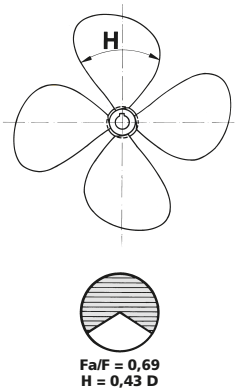
P3C





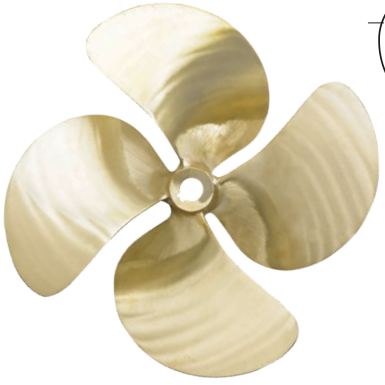
4-Bladed propeller
Type P4E

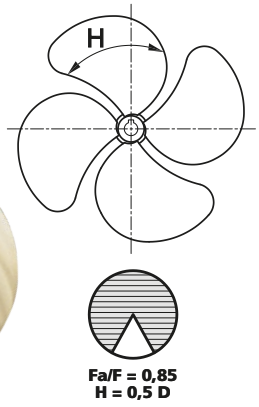
P4E



4-Bladed propeller
Type P4G

P4G



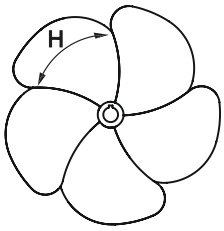


Propellers

Propellers of different types and dimensions are available to special order

5-Bladed propeller
Type P5G

P5G

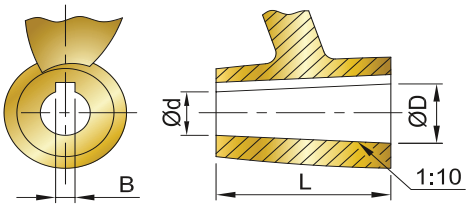


Fa/F = 1,06
H = 0,5 D

Note: Types P3B, P3C and P4E have standard shaft holes and keyway. Dimensions are according to ISO 4566. Sizes are indicated in the tables. VETUS can also supply matching propeller shafts from stock (see page 90).

Standard taper of shaft holes of VETUS propellers (1:10). Dimensions according to ISO 4566

Propeller diameter					Shaft hole		Hub	
3-bladed propeller P3B	3-bladed propeller P3C	4-bladed propeller P4E	4-bladed propeller P4G	5-bladed propeller P5G	Largest diameter D (mm)	Smallest diameter d (mm)	Hub length L (mm)	Keyway width B (mm)
12”-15”	12”-15”	14”-15”	-	-	25	19	60	8
16”-18”	16”-18”	16”-17”	on request	on request	30	22	80	8
19”-21”	19”-21”	18”-20”	on request	on request	35	26	90	10
22”-24”	22”-24”	21”-22”	on request	on request	40	30	100	12
25”	25”	23”-24”	on request	on request	45	34	110	14
greater than 25”	greater than 25”	on request	on request	on request	50	38	120	14



How to order?

Please give us the propeller diameter and pitch, as well as the number of blades, the sense of rotation and the dimensions of the hub and the taper as shown below. In case propeller details are not known to you: VETUS makes use of an especially developed programme, which determines the exact right propeller for your boat.

Propeller shaft taper

All stock VETUS propellers have a standard taper of 1:10. This means that the difference between the largest and the smallest diameter of the tapered hole represents 10% of the propeller hub length (D-d=0.1xL). If required, we can machine the hub to a taper of 1:12, 1:16, etc. It takes a few days extra delivery time plus a small surcharge (see price list).

Note: VETUS offers a wide variety of propeller sizes to special order. Propellers are supplied in manganese bronze. Aluminium bronze propellers can also be supplied to special order.

Stern gear systems

Propellers

Zinc anode for shaft nut

Type	Specifications
SN25B	Spare zinc anode for Ø 25 mm shaft nut
SN30B	Spare zinc anode for Ø 30 mm shaft nut
SN35B	Spare zinc anode for Ø 35 mm shaft nut
SN40B	Spare zinc anode for Ø 40 mm shaft nut

Type	Specifications
SN45B	Spare zinc anode for Ø 45 mm shaft nut
SN50B	Spare zinc anode for Ø 50 mm shaft nut
SN60B	Spare zinc anode for Ø 60 mm shaft nut

For more information or an overview of anodes see page 424.

Rope cutter

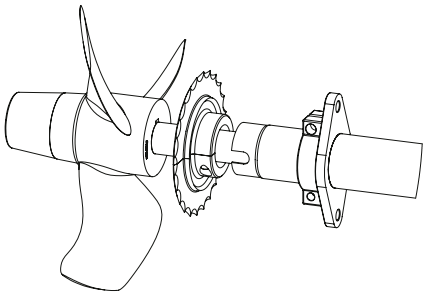
NEW!

Designed to stop ropes jamming between the cutlass bearing and the propeller. The VETUS Rope cutter (VRC) is a circular AISI Type 316L stainless steel saw blade positioned behind the propeller.

Type VRC

(Disc made of 2 parts) is suitable for 25 and 30 mm propeller shafts and fits in VETUS Stern gear Systems as well as in other shaft systems.

Includes
- VRC25 Rope Cutter Disc half A
- VRC25 Rope Cutter Disc half B
- Nuts and bolts



Type	Main dimensions (mm)	Shaft dimension Ø (mm)
VRC25	115 x 30	25
VRC30	115 x 30	30

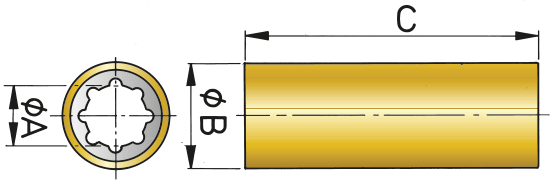
VRC

Bearings

Water lubricated cutlass bearings

These cutlass bearings have a nitrile rubber lining. The outer bushings are made of either brass or phenolic resin. Phenolic resin is lightweight, cannot corrode and can easily be replaced. These bearings are available for shaft diameters between Ø 20 and Ø 100 mm and from Ø 1" through Ø 4". VETUS rubber bearings are also available for larger shaft diameters to special order.

For dimensions please see the tables below.



Rubber bearings with shaft size (A) in mm and shell size (B) in inches. Length (C) in mm.

Brass shell	Phenolic shell	A	B**	C
RULAGER20	RULAG25PH	20 *	1 1/4	76
RULAGER22		22 *	1 1/4	76
RULAGER25		25	1 1/2	100
RULAGER30	RULAG30PH	30	1 3/4	127
RULAGER35	RULAG35PH	35	1 7/8	140
RULAGER40	RULAG40PH	40	2 1/8	160
RULAGER45	RULAG45PH	45	2 3/8	180
RULAGER50	RULAG50PH	50	2 5/8	200
RULAGER60	RULAG60PH	60	3	240
RULAGER65		65 *	3 3/8	260
RULAGER70	RULAG70PH	70	3 1/2	280
RULAGER80	RULAG80PH	80	4	320

Rubber bearings with shaft size (A) in mm and shell size (B) in mm. Length (C) in mm.

Brass shell	Phenolic shell	A	B	C
RL2540	RL2540PH	25	40	100
RL3045	RL3045PH	30	45	120
RL3550	RL3550PH	35	50	140
RL4055	RL4055PH	40	55	160
RL4565	RL4565PH	45	65	180
RL5070	RL5070PH	50	70	200
RL6080	RL6080PH	60	80	240
RL7090	RL7090PH	70	90	280
RL8010	RL8010PH	80	100	320
RL9011	RL9011PH	90	110	360
RL1012	RL1012PH	100	125	400

Rubber bearings with shaft size (A) in inches and shell size (B) in inches. Length (C) in inches.

Brass shell	Phenolic shell	A	B	C
RULAG1	RL1PH	1	1 1/2	4
RULAG11/8	RL11/8PH	1 1/8	1 5/8	4 1/2
RULAG11/4	RL11/4PH	1 1/4	1 3/4	5
RULAG13/8	RL13/8PH	1 3/8	1 7/8	5 1/2
RULAG11/2	RL11/2PH	1 1/2	2	6
RULAG15/8		1 5/8	2 1/8	6 1/2
RULAG13/4	RL13/4PH	1 3/4	2 3/8	7
RULAG2	RL2PH	2	2 5/8	8
RULAG21/4	RL21/4PH	2 1/4	3	9
RULAG21/2	RL21/2PH	2 1/2	3 1/4	10
RULAG23/4	RL23/4PH	2 3/4	3 3/4	11
RULAG3	RL3PH	3	4	12
RULAG31/2	RL31/2PH	3 1/4	4 1/2	14
RULAG4	RL4PH	4	5	16

* Available to special order
** Used in VETUS stern gear

RULAGER RULAG..PH RL

flexofold
sailboat propellers

The Flexofold folding propeller will be an improvement to any sailboat with shaft or saildrive. High thrust under power and low drag under sail. The low drag under sail will improve the sailing ability, increase the speed and enabling sailing even in very light wind. Also the comfort on board will improve as you don't need the propeller to free-wheel under sail - this of course also reduce wear on bearings etc.

Flexofold offers 2-, 3- and 4-blade propellers from 12-27" diameter for both shaft and saildrive installations. The Flexofold sales department will calculate and advise the specific type and size to be used for the specific sailboat/engine in question.

Worldwide shipping. Easy to mount.

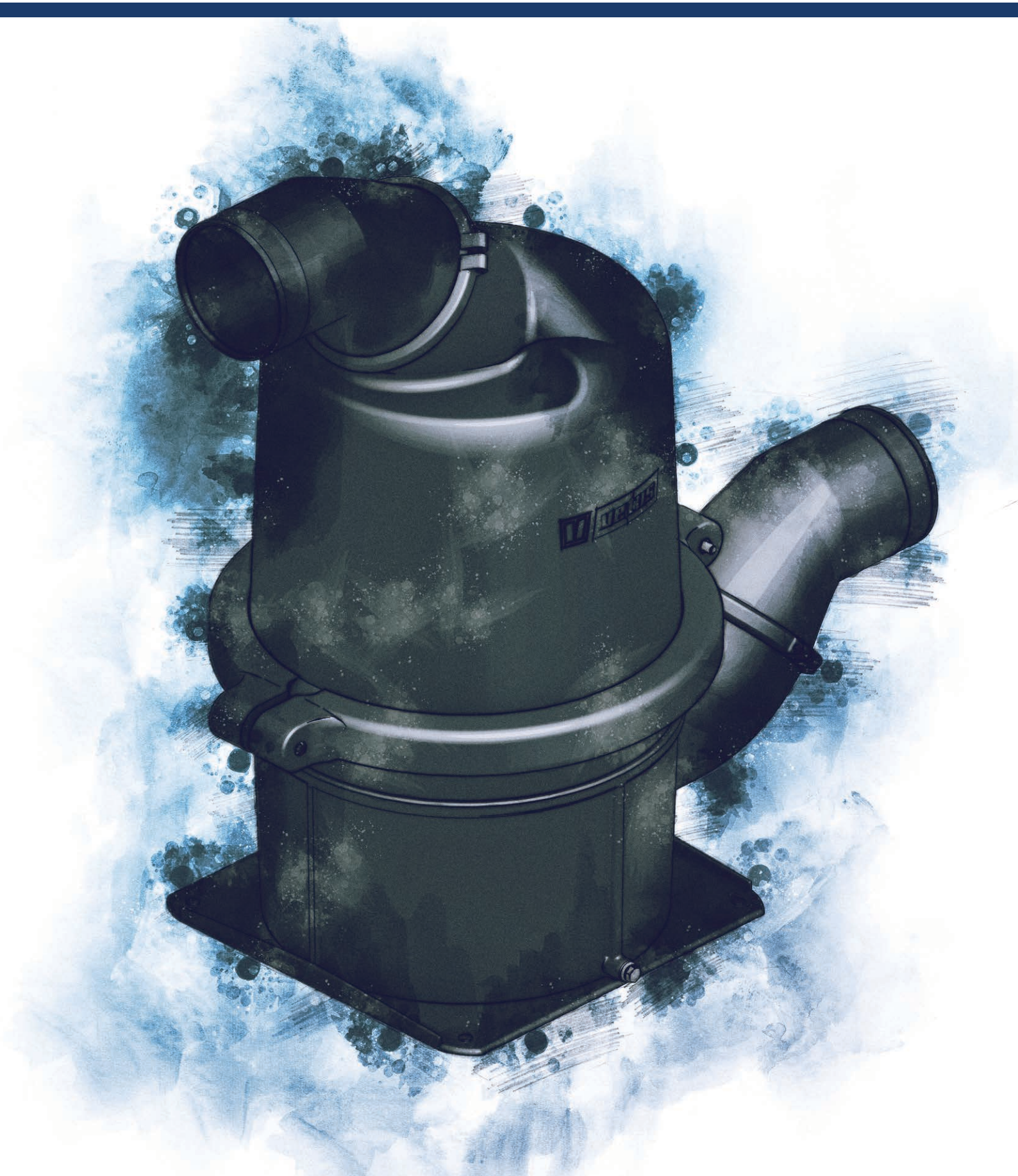
Saildrive Propellers

Shaft Propellers

Spare Parts

Simply make your inquiry on **www.flexofold.com/propeller-inquiry/**
or send an email to **sales@flexofold.com**

Exhaust systems



Overview

Waterlock

Standard installations see page 106 - 107

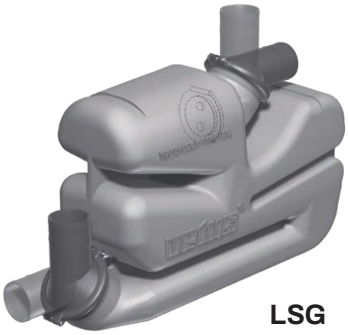
WLOCKLP30

WLOCKLR

WLOCKL

LSSA

LSL



LSG

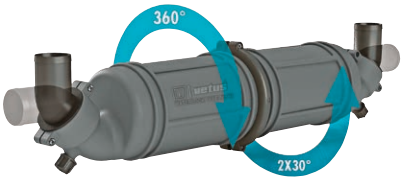
Waterlock

Dual stage see page 108

NLP

Waterlock

For installations with limited space such as sail boats see page 109



NLPH

NLP3

Waterlock

For larger boats see page 110

MG

Muffler

For high-performace craft see page 111

MV

MF

Waterlock

Heavy Duty Line see page 112

NLPHD

HPW

Muffler see page 114

DEMPMP

Gooseneck see page 114 - 115

NLPG

WLOCKLT

LT

Air vent see page 116 - 117

ASD

ASD38

AIRVENT

Separator see page 118

LGS

LGS

LGS

Transom exhaust connection see page 119

TRCR

TRCPV

TRCSV

TC

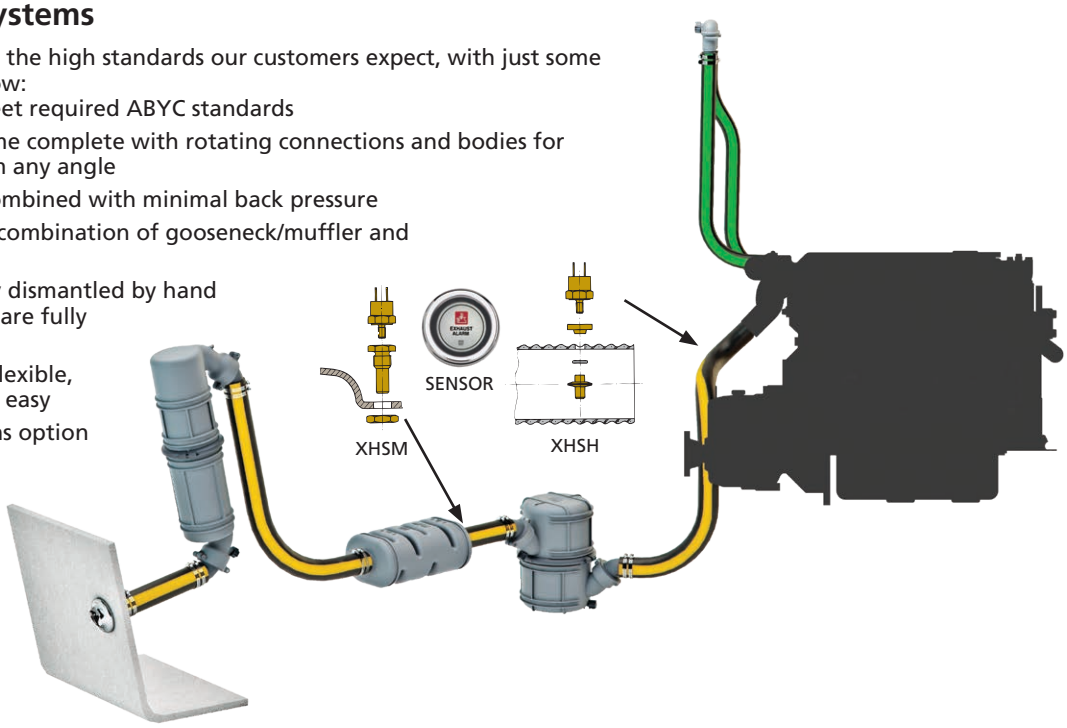
A wet exhaust system

VETUS exhaust systems are based on "wet" systems in which engine cooling water is injected into the exhaust line. This reduces the exhaust gas temperature to about 40°C to 50°C along with a reduction in diesel exhaust fumes. The "wet" exhaust system is much preferred over a "dry" exhaust system in which the exhaust gas temperatures can reach 600°C or more.

Depending on the overall system design, the exhaust gas may flow through one or more of:
- Exhaust hose
- A waterlock/muffler
- A gooseneck
- A transom connector

Why VETUS exhaust systems

All VETUS exhaust systems meet the high standards our customers expect, with just some of the benefits highlighted below:
- All VETUS exhaust systems meet required ABYC standards
- Many system components come complete with rotating connections and bodies for easy installation of hoses from any angle
- Excellent noise reduction is combined with minimal back pressure
- Some available systems use a combination of gooseneck/muffler and waterlock/muffler
- The ASD air vent can be easily dismantled by hand for cleaning and all materials are fully corrosion resistant
- Exhaust hoses are extremely flexible, making installation quick and easy
- Exhaust temperature sensor, as option available, for extra safety



Heavy Duty waterlocks

Made of the special blended composite NAVIDURIN® which is temperature resistant up to 260°C - these Heavy Duty waterlocks outperform standard GRP materials by 170%! The same applies for the thermal resistance to deformation under pressure.

NLPHD Series

The NLPHD series is perfect for medium to large size sail or power boats, with exhaust diameters from Ø 40 to 90 mm.

- Unique features
- Special composite blend (NAVIDURIN®) is capable of handling temperatures up to 260°C
- Fits Ø 40, 45, 50, 60, 75 and 90 mm exhausts
- Excellent sound attenuation with minimal back pressure
- Rotating body and hose connections for easy installation
- Available in black

HPW Series

The HPW series was designed for heavy duty applications such as commercial and military vessels.
The ability to handle extreme conditions combined with the rotating bodies and hose connections makes the HPW series an cost effective solution for your vessel compared to higher priced custom solutions.

Unique features
- Special composite blend (NAVIDURIN®) is capable of handling temperatures up to 260°C
- High capacity water lift design providing complete security for your engine
- Excellent sound attenuation with minimal back pressure
- Rotating body and hose connections for easy installation
- Complete with floor mounting brackets

Preventing water running back to the engine

Installation above or below waterline

The cooling water injection point is crucial. If the water injection point is 15 cm or more above the waterline, the cooling water can be injected directly into the exhaust system. But when it is less than 15 cm above or even below the waterline, the cooling system can siphon water through the intake when the engine is turned off. Water can fill up the exhaust system and backflow into the engine through the exhaust valves. This can be prevented by using a breather hose (1) in the cooling water system or an air vent (2).

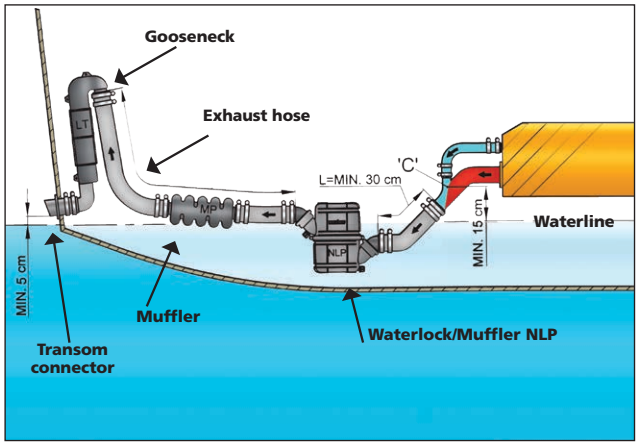
Calculation tool

The waterlock capacity can be easily determined by the following formula:

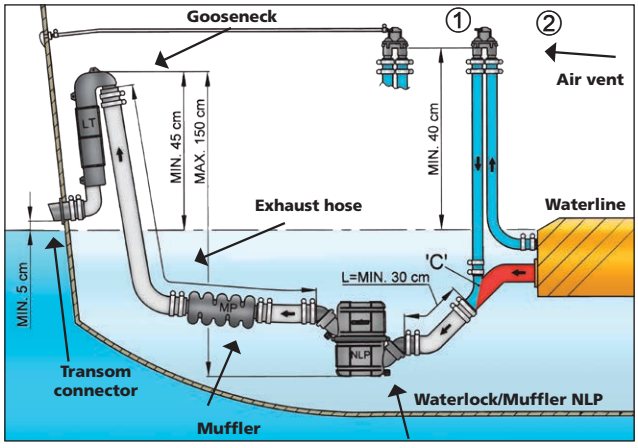
$$2 \times \left(\frac{\pi}{4} \times D^2 \times L \right) \times 0{,}25 / 1000.000$$

Safety margin	Volume	25% Water in hose	Conversion to litre

D = Internal diameter of the hose (mm)
L = Length of hose (mm)



Exhaust system with the water injection point "C" **15 cm or more** above the waterline.



Exhaust system with the water injection point "C" **below or less than 15 cm** above the waterline.

How to choose your perfect exhaust system

The combination of engine and waterlock determines the optimum sound attenuation. By using this table you can choose a waterlock which is suitable for your engine power and exhaust diameter. The permitted back pressure can be found in the engine specifications.

Permitted engine back pressure									
0,1 bar back pressure		0,2 bar back pressure		0,3 bar back pressure		0,4 bar back pressure			
Rounded hp	Rounded kW	Rounded hp	Rounded kW	Rounded hp	Rounded kW	Rounded hp	Rounded kW	Inlet mm	Outlet mm
13	9	26	18	39	27	52	36	30	30
22	16	44	32	66	48	88	64	40	40
28	21	56	42	84	63	112	84	45	45
34	25	68	50	102	75	136	100	50	50
49	36	98	72	147	108	196	144	60	60
77	56	154	112	231	168	308	224	75	75
110	81	220	162	330	243	440	324	90	90
141	104	282	208	423	312	564	416	102	102
178	131	356	262	534	393	712	524	102	127
219	161	438	322	657	483	876	644	127	127
264	194	528	388	792	582	1056	776	127	152
313	230	626	460	939	690	1252	920	152	152
427	313	854	626	1281	939	1708	1252	152	203
558	409	1116	818	1674	1227	2232	1636	203	203
707	519	1414	1038	2121	1557	2828	2076	203	254

Waterlocks

Easy installation

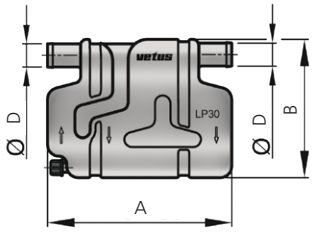
Once the engine of your boat has stopped a VETUS waterlock of the correctly chosen capacity will make sure that water will not backflow into the engine. All VETUS waterlocks are provided with a drain plug for winter storage.

Type WLOCKLP

- Suitable for exhaust hose with an internal diameter of Ø 30 mm

WLOCKLP30

Type	Capacity (litre)	A (mm)	B (mm)	Ø (D) (mm)
WLOCKLP30	2.3	240 x 90	180	30

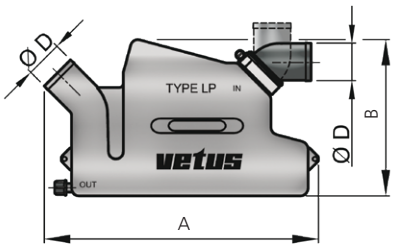


Type WLOCKLR

- Suitable for exhaust hose with internal diameter of Ø 40, 45 or 50 mm

WLOCKLR

Type	Capacity (litre)	A (mm)	B (mm)	Ø (D) (mm)
WLOCKL40R	4.3	372 x 110	211	40
WLOCKL45R	4.3	372 x 110	211	45
WLOCKL50R	4.3	372 x 110	211	50



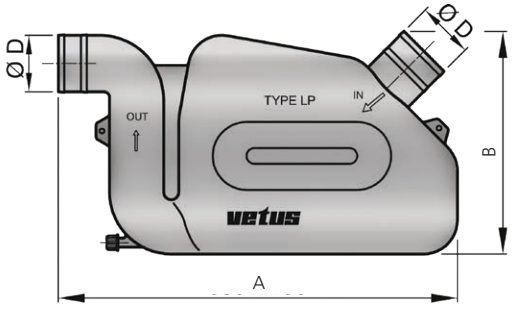
Type WLOCKLS and WLOCKLP

- Suitable for exhaust hose with internal diameter of Ø 50, 60, 75 or 90 mm

WLOCKL50S

WLOCKLP

Type	Capacity (litre)	A (mm)	B (mm)	Ø (D) (mm)
WLOCKL50S	10.5	530 x 138	290	50
WLOCKLP60	10.5	530 x 138	290	60
WLOCKLP75	10.5	530 x 138	290	75
WLOCKLP90	10.5	530 x 138	290	90



Waterlocks

Long exhaust systems

Sometimes the exhaust line is so long that an extra large capacity waterlock is required to prevent water from running back into the engine. The VETUS waterlock type LS is the ideal solution.

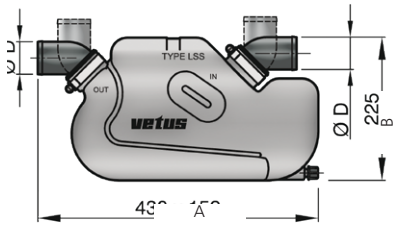
Type LSSA

For standard hose connections

- Suitable for exhaust hose with internal diameter of Ø 40, 45 or 50 mm
- 360° Rotating inlet and outlet connections
- Comes with one securing strap

Type	Capacity (litre)	A (mm)	B (mm)	Ø (D) (mm)
LSS40A	5.7	430 x 152	225	40
LSS45A	5.7	430 x 152	225	45
LSS50A	5.7	430 x 152	225	50

LSSA



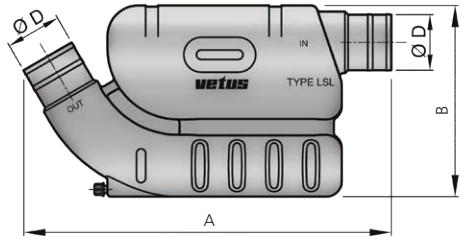
Type LSL

For long relatively straight exhaust runs

- Suitable for exhaust hose with internal diameter of Ø 60, 75 or 90 mm
- Non-rotating inlet and outlet connections
- Comes with two securing straps

Type	Capacity (litre)	A (mm)	B (mm)	Ø (D) (mm)
LSL60	16	596 x 170	310	60
LSL75	16	596 x 170	310	75
LSL90	16	596 x 170	310	90

LSL



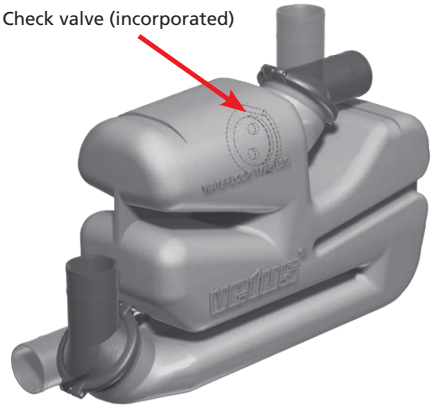
Type LSG

With incorporated check valve for extra security

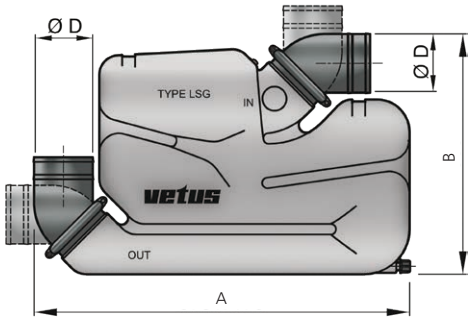
- Suitable for exhaust hose with internal diameter of Ø 60, 75 or 90 mm
- 360° Rotating inlet and outlet connections
- Comes with two securing straps

Type	Capacity (litre)	A (mm)	B (mm)	Ø (D) (mm)
LSG60	17	578 x 170	368	60
LSG75	17	578 x 170	368	75
LSG90	17	578 x 170	368	90

Check valve (incorporated)



LSG



Dual stage waterlocks

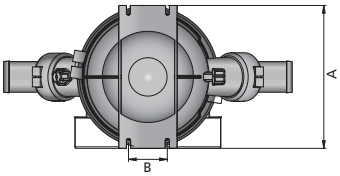
Type NLP

Superior silencing, minimal back pressure

Our NLP waterlocks are of dual stage construction featuring upper and lower chambers with a horizontal partition plate and a riser tube through the centre. The installation of the exhaust system, even in confined engine spaces, is greatly simplified due to the 360° rotating top chamber and rotating inlet and outlet connectors. For optimum silencing of exhaust noise you can also use a VETUS muffler and gooseneck, after the waterlock.

Including mounting brackets for bulkhead or floor mounting

Type	NLP40	NLP45	NLP50	NLP50S	NLP60	NLP75	NLP90
A	186	186	186	240	240	240	240
B	50.5	50.5	50.5	75.5	75.5	75.5	75.5



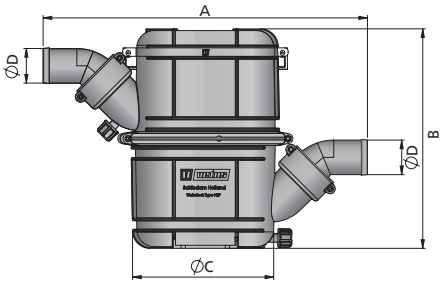
NLP

NLP50S*

Specifications

- Type NLP40/45/50 is suitable for exhaust hose with inside diameter of Ø 40, 45 or 50 mm and has a capacity of 4,5 litre
- Type NLP60/75/90/50S is suitable for exhaust hose with inside diameter of Ø 50, 60, 75 or 90 mm and has a capacity of 10 litre
- Comes with two securing straps

Type	Capacity (litre)	A (mm)	B (mm)	Ø (C) (mm)	Ø (D) (mm)
NLP40	4,5	385	254	165	40
NLP45	4,5	385	254	165	45
NLP50	4,5	385	254	165	50
NLP50S	10	515	362	210	50
NLP60	10	515	362	210	60
NLP65	10	515	362	210	65
NLP75	10	515	362	210	75
NLP90	10	515	362	210	90



Dimensions: plus or minus 2%
* Capacity of 10 litre, Ø 50 mm

Waterlock/Muffler

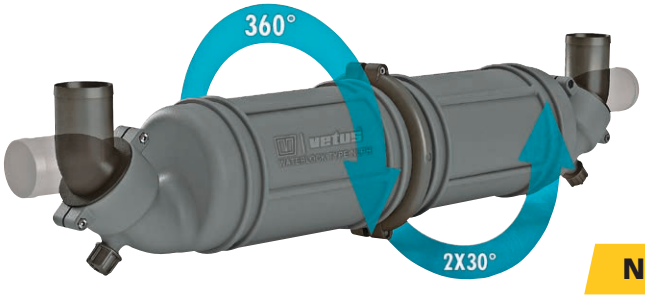
Designed for horizontal installation

The body of this waterlock / muffler consists of two rotatable chambers and fully rotatable hose connections, ensuring simple and time saving installation in a wide range of applications.

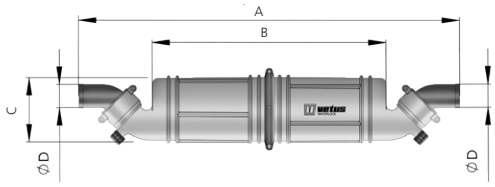
Type NLPH

Suitable for a wide range of applications

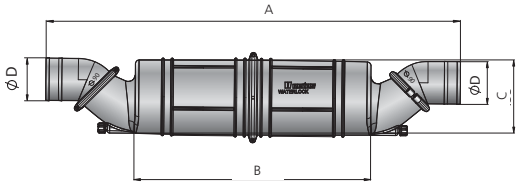
- Suitable for Ø 40, 45, 50, 60, 75 or 90 mm internal hose diameters
- Comes with two securing straps



NLPH



Type 40, 45, 50



Type 60, 75, 90

Type	Capacity (litre)	A (mm)	B (mm)	C (mm)	Ø (D) (mm)
NLPH40	3	652	400	110	40
NLPH45	3	652	400	110	45
NLPH50	3	652	400	110	50
NLPH60	10	879	500	155	60
NLPH75	10	879	500	155	75
NLPH90	10	879	500	155	90

Type NLP3

The quietest waterlock in the world!

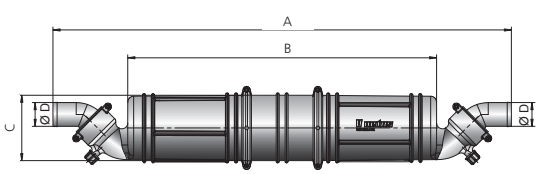
Due to its unique three chamber technology it has a sound reduction of an incredible 10dB more than the traditional waterlocks. Its rotatable chambers and hose connections ensure a quick and simple installation even in the most confined spaces.

- Suitable for Ø 40, 45, 50, 60, 75 or 90 mm internal hose diameters
- Comes with two securing straps

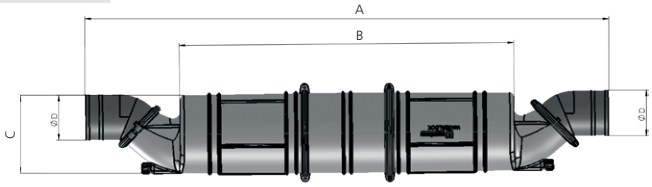
NLP3

NEW!

Type	Capacity (litre)	A (mm)	B (mm)	C (mm)	Ø (D) (mm)
NLP340	5	772	520	110	40
NLP345	5	772	520	110	45
NLP350	5	772	520	110	50
NLP360	10	1050	670	155	60
NLP375	10	1050	670	155	75
NLP390	10	1050	670	155	90
NLP36015L	15	1200	825	155	60
NLP37515L	15	1200	825	155	75
NLP39015L	15	1200	825	155	90



Type 40, 45, 50



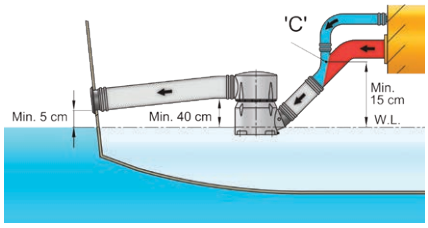
Type 60, 75, 90

Waterlocks specifically for larger boats

Excellent sound reduction, minimal back pressure

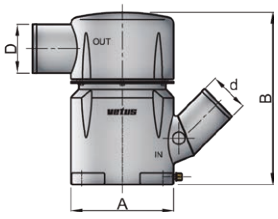
This type of waterlock is designed for modern high performance boats with one or two large engines which have little space to spare in the engine room. The outlet connection at the top can rotate through 360° and the inlet connection is at an angle of 45° upward. Type MG can only be installed in water injected exhaust systems. Its body is entirely made of synthetic materials, therefore not susceptible to corrosion or galvanic action.

Type MG



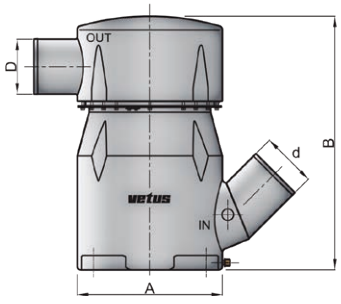
Specifications
- Excellent sound reduction
- Minimal back pressure
- Drain valve for winter storage
- Suitable for Ø 90, 102, 127, 152, 209 or 250 mm internal hose diameters
- Capacities of 23, 75 or 130 litre
- Comes with stainless steel (AISI 316) clamp bands
- Drain thread size M12

Type	Ø d (mm)	Ø D (mm)	Ø A (mm)	B (mm)	Capacity (litre)
MGP9090	90	90	270	450	23
MGP102102	102	102	270	450	23
MGP5455	127	127	270	450	23
MGP102127	102	127	270	450	23



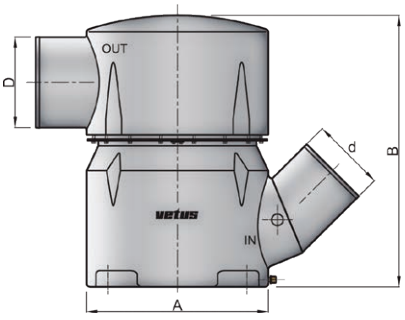
MGP

Type	Ø d (mm)	Ø D (mm)	Ø A (mm)	B (mm)	Capacity (litre)
MGS5455A	127	127	400	700	75
MGS5456A	127	152	400	700	75
MGS6456A	152	152	400	700	75



MGS

Type	Ø d (mm)	Ø D (mm)	Ø A (mm)	B (mm)	Capacity (litre)
MGL6458A	152	203	500	750	130
MGL8458A	203	203	500	750	130
MGL84510A	203	250	500	750	130



MGL

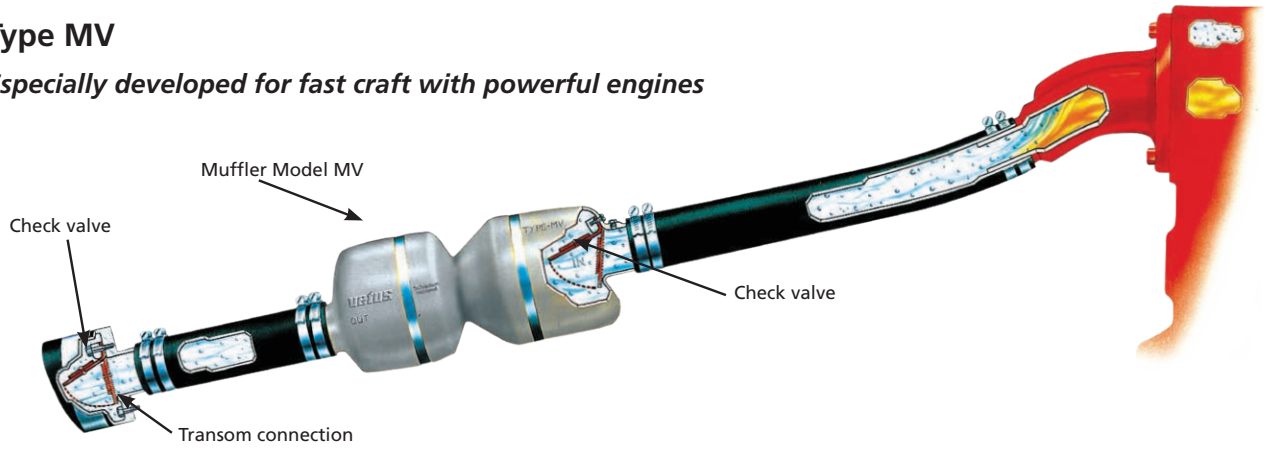
Flexible mountings for waterlocks, see page 122.

Note: For a minimum order of ten pieces, we can supply these waterlocks with inlet or outlet connection at an angle of 0°, 15° or 30°.

Exhaust systems for high-performance craft

Type MV

Especially developed for fast craft with powerful engines



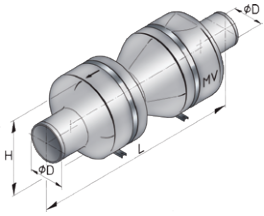
This system is perfect for fast craft with powerful engines without available space for installation of a waterlock and/or gooseneck. By using one of these compact mufflers, you have tremendous reduction of exhaust noise with minimal back pressure. All parts are made of synthetic materials, corrosion free and light weight.

The transom connections for this system are available in stainless steel (AISI 316) or reinforced black synthetic. Waterlock type MV and the transom connection are provided with a check valve which prevents the seawater from flowing into the engine.

Early warning of engine overheating can be achieved with an exhaust temperature alarm. VETUS highly recommends installing an exhaust temperature alarm, which triggers when the temperature in the waterlock exceeds a safe level. The alarm sensor can be installed in the waterlock (model XHSM), or in the exhaust hose (model XHSH).
For more info see page 120.

Specifications
- For hose diameters Ø 90, 100, 125 and 150 mm
- Comes with stainless steel (AISI 316) mounting brackets
- Temperature sensor for a raw water alarm is optional (recommended) See page 120

Connection point for temperature sensor

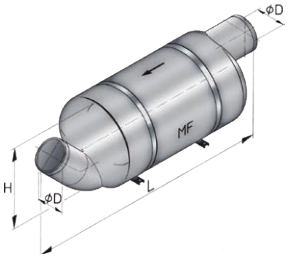


MV

Type	ø D (mm)	ø H (mm)	L (mm)	Capacity (litre)
MV090	90	210	702	11,5
MV100	100	210	702	11,5
MV125	125	320	910	37
MV150	150	320	910	37

Type MF

Specifications
- For hose diameters Ø 90, 102, 127 and 152 mm
- Comes with stainless steel (AISI 316) mounting brackets



MF

Type	ø D (mm)	ø (mm)	L (mm)	Capacity (litre)
MF090	90	210	728	13
MF100	100	210	735	13
MF125	125	320	940	43,5
MF150	150	320	959	43,5

Note: Both types should be installed exclusively in combination with an approved reinforced rubber exhaust hose (see page 121).

Waterlocks specifically for commercial boats Heavy Duty Line

Heavy Duty waterlocks

Made of the special blended composite NAVIDURIN® - which is temperature resistant up to 260°C - these Heavy Duty waterlocks outperform standard GRP materials by 170%! The same applies for the thermal resistance to deformation under pressure. We offer two types of HD waterlocks; the NLPHD (4.5 - 10 litre) and the HPW (55 litre).

The NLP waterlock design is already known for its extraordinary noise reduction features, versatile installation options and extremely low back pressure. Made from NAVIDURIN®, this product can meet any challenge. The Heavy Duty Line is therefore unique in this market! A more cost effective and technically superior exhaust component, even compared with GRP or stainless steel waterlocks. The HPW series is perfect for applications where the system is put to the test such as commercial or coastguard vessels.

For specifications see next page.

NLPHD

HPW

Specifications	VETUS Heavy Duty Composite (NAVIDURIN®)	GRP	Class 1 Epoxy Vinyl Ester resin
Material temperature resistance	**260 °C**	150 °C	174 °C
Continuous operating temperature	**180 °C**	120 °C	140 °C
Maximum operating temperature	**250 °C**	150 °C	174 °C
Temperature for deflection under load (1.8 MPa, 18 Bar, 260 psi)	**250 °C**	120 °C	140 °C
Tensile strength	**190 Mpa** **1900 Bar** **27,560 psi**	100 Mpa 1000 Bar 14500 psi	114 Mpa 1140 Bar 16,530 psi
Flexural strength	**300 Mpa** **3000 Bar** **43,500 psi**	140 Mpa 1400 Bar 20,300 psi	167 Mpa 1670 Bar 24,200 psi

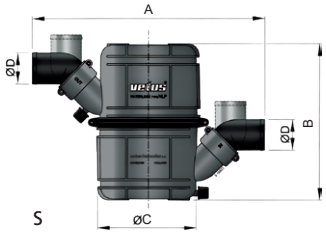
Waterlocks specifically for commercial boats Heavy Duty Line

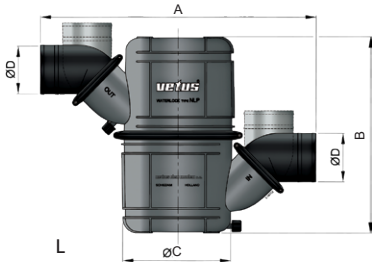
NLPHD

Specifications
- Suitable for Ø 40, 45, 50, 60, 75 and 90 mm internal hose diameters
- Special composite blend (NAVIDURIN®) is capable of handling temperatures up to 260°C
- 360° Rotating bodies and hose connections (infinite connection possibilities)
- Comes with floor and bulkhead mounting brackets

Type	Colour	Hose Ø D mm	Capacity (litre)	Drawing S			Drawing L		
				A	B	C	A	B	C
NLP40HD	Black	40	4.5	385	254	165			
NLP45HD	Black	45	4.5	385	254	165			
NLP50HD	Black	50	4.5	385	254	165			
NLP50SHD	Black	50	10				515	362	210
NLP60HD	Black	60	10				515	362	210
NLP75HD	Black	75	10				515	362	210
NLP90HD	Black	90	10				515	362	210

NLPHD

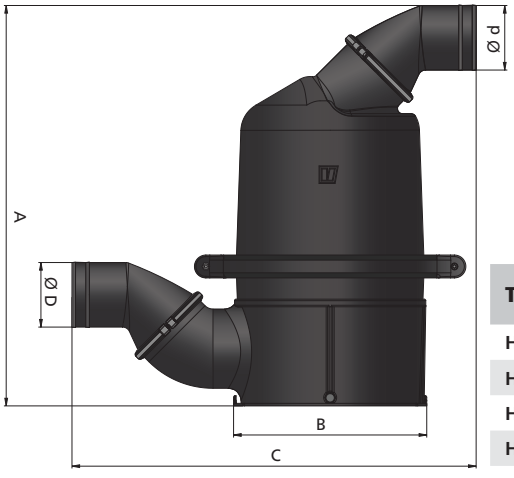




HPW

Specifications
- Suitable for Ø 102, 127 and 152 mm internal hose diameters
- Special composite blend (NAVIDURIN®) is capable of handling temperatures up to 260°C
- High capacity waterlift design providing complete security for your engine
- Excellent sound attenuation with minimal back pressure
- Rotating body and hose connections for easy installation
- Complete with floor mounting brackets
- Drain: G 1/4 internal thread
  A second drain, to simplify access with twin engine installations, will be available as standard soon

HPW



Type	Colour	Ø D mm	Ø d mm	Capacity (litre)	A mm	B mm	C mm
HPW102	Black	102	102	55	788	380	795
HPW127	Black	127	127	55	788	380	795
HPW152	Black	152	152	55	788	380	795
HPW127152	Black	127	152	55	788	380	795

Muffler

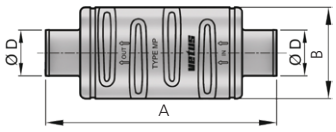
Type DEMPMP

Better noise reduction

The construction of this muffler causes almost no resistance to the free flow of the exhaust gases. It creates additional mixing of the water inside the exhaust line which results in even better noise reduction.

- Suitable for Ø 40, 45, 50, 60, 75, 90 or 102 mm internal hose diameters

Type	A (mm)	B (mm)	Ø D (mm)
DEMPMP40	368 x 108	158	40
DEMPMP45	368 x 108	158	45
DEMPMP50	368 x 108	158	50
DEMPMP60	368 x 108	158	60
DEMPMP75	456 x 130	180	75
DEMPMP90	456 x 130	180	90
DEMPMP100	580 x 168	202	102



DEMPMP

Muffler and gooseneck

Type NLPG

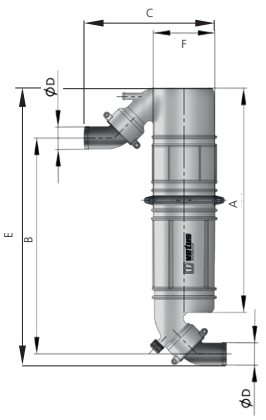
Perfect combination of a muffler and gooseneck

Combining the functions of a muffler and gooseneck saves installation time and space while maintaining the essential qualities of a good exhaust system with impressive negligible back pressure. The gooseneck prevents water back filling the exhaust and the muffler creates additional water mixing to further reduce the exhaust noise.

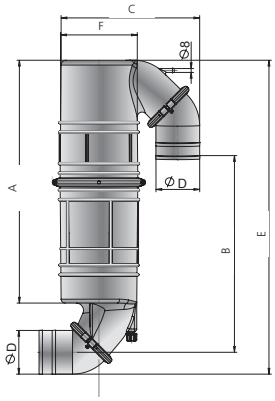
Specifications
- Suitable for Ø 40, 45, 50, 60, 75 or 90 mm internal hose diameters
- Fully rotatable sections and hose connections to ensure easy installation
- Comes with a hose barb to connect the air vent

Type	Capacity (litre)	A (mm)	B (mm)	Ø C (mm)	Ø (D) (mm)	E (mm)	Ø F (mm)
NLPG40	3	385	400	110	40	494	110
NLPG45	3	385	400	110	45	494	110
NLPG50	3	385	400	110	50	494	110
NLPG60	10	405	500	285,3	60	646,4	160
NLPG75	10	405	500	285,3	75	646,4	160
NLPG90	10	405	500	285,3	90	646,4	160

NLPG



Type NLPG40 - 45 - 50



Type NLPG60 - 75 - 90

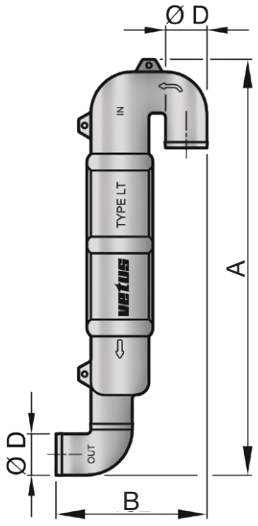
Gooseneck

The gooseneck raises the exhaust line above the waterline and provides additional noise reduction. The outlet fits directly to all VETUS rubber transom connectors.

Type WLOCKLT

This gooseneck is suitable for exhaust hose with an internal diameter of Ø 40, 45, 50 or 60 mm. Engines with a Ø 57 mm exhaust elbow can be connected to a Ø 60 mm VETUS exhaust hose and use Ø 60 mm exhaust components.

Type	A (mm)	B (mm)	Ø D (mm)
WLOCKLT40	502 x 135	182	40
WLOCKLT45	502 x 135	182	45
WLOCKLT50	502 x 135	182	50
WLOCKLT60	502 x 135	182	60



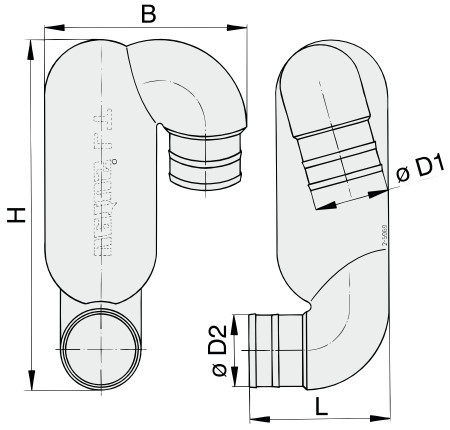
WLOCKLT

Type LT

This type is suitable for exhaust hose with an internal diameter of Ø 65, 75, 90, 102, 127 or 152 mm. Supplied with stainless steel (AISI 316) mounting brackets.

Type	L (mm)	H (mm)	B (mm)	Ø D1 (mm)	Ø D2 (mm)
LT6565	155	500	235	65	65
LT6575	155	500	235	65	75
LT7575	155	500	235	75	75
LT9090	210	525	300	90	90
LT90110	210	525	300	90	110
LT102	210	525	300	102	102
LT110110	210	525	300	110	110
LT127	275	565	380	127	127
LT152	275	565	380	152	152

LT

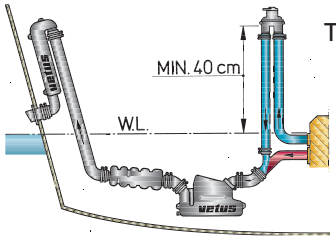


Air vents

Anti-siphoning

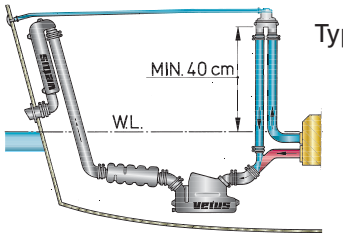
When the cooling water injection point is less than 15 cm above the waterline, the cooling system can siphon water through the intake when the engine is turned off. Water can siphon into the exhaust system and even into the engine itself. This can be prevented by using an air vent.

Type ASDV with pressure valve



Type V

Type ASDH with ventilation hose



Type H

Type ASDV with pressure valve

Less maintenance is needed

This air vent is made of synthetic material and is exchangeable with type AIRVENT due to the same fixing holes centres. It has a silicone anti-siphon pressure valve and is self-contained.

Specifications
- Types ASDV and type AIRVENTV can be used with hoses with an internal diameter of Ø 13, 19, 25 or 32 mm
- Type ASD38V can be used with hoses with an internal diameter of Ø 38 mm and is ideal for toilets or holding tanks which are installed below the waterline

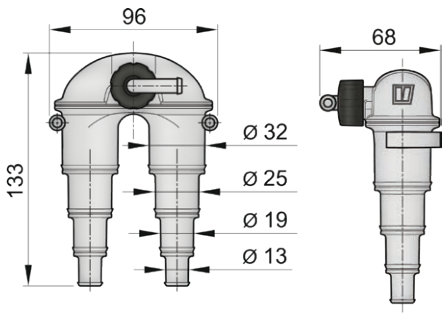
Type ASDH with ventilation hose

Constant bleed of cooling water

This air vent has a hose connection to the outside of the hull and has a constant bleed of cooling water through the hose while the engine is running. Type H comes with a skin fitting, hose clamps and 4 metres of hose.

Specifications
- Types ASDH and type AIRVENTH can be used with hoses with an internal diameter of Ø 13, 19, 25 or 32 mm
- Type ASD38H can be used with hose with an internal diameter of Ø 38 mm hose connection and is ideal for toilets or holding tanks which are installed below the waterline

Type		Ø Hose (mm)
ASDV	Anti syphon device with valve	13 / 19 / 25 / 32
ASDH	Anti syphon device with hose	13 / 19 / 25 / 32
ASDVS	Spare set: ASDV valves	



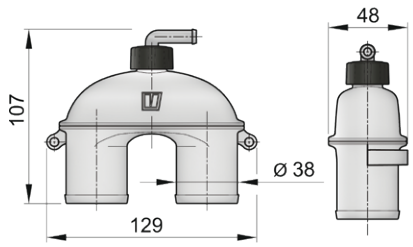
ASDVS

ASDV

ASDH

Air vents

Type ASD

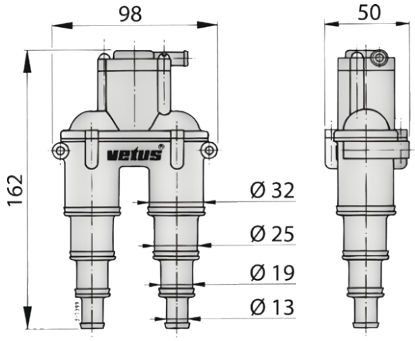


ASD38V

ASD38H

Type		Ø Hose (mm)
ASD38V	Anti syphon device with valve	38
ASD38H	Anti syphon device with hose	38

Type AIRVENT



AIRVENTV

AIRVENTH

Type		Ø Hose (mm)
AIRVENTV	Air vent with valve	13 / 19 / 25 / 32
AIRVENTH	Air vent with hose	13 / 19 / 25 / 32
AV006	Replacement valve for AIRVENTV	

For both model ASD and AIRVENT a mounting bracket is available to facilitate installation onto surfaces clad with sound insulation (see page 66). This mounting bracket is supplied with bolts, washers and self-locking nuts to mount the air vent.

Gas / water separator

For marine engines and generator sets

The VETUS gas / water separator has a double function. It separates the injected raw cooling water from the exhaust gases and also functions as a gooseneck. Particularly important for generator sets, the separator reduces the exhaust noise and drains the cooling water below the waterline, thus preventing the characteristic splashing sound.

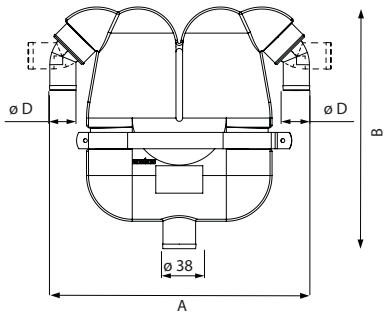
Type LGS 40/45/50/60/75/90

Specifications

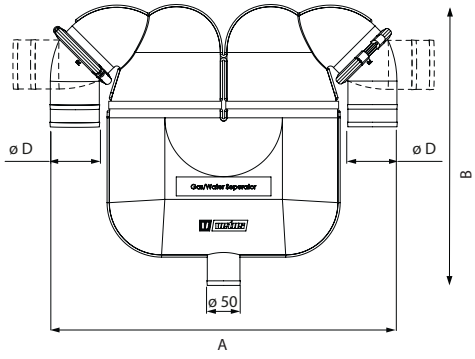
- 360° Rotating hose connections for 40, 45 or 50, 60, 75 or 90 mm internal hose diameters
- Cooling water drain of 38 mm or 50 mm
- All models come with a stainless steel (AISI 316) mounting bracket and synthetic straps, except LGS9075 which has a stainless steel mounting strap

LGS

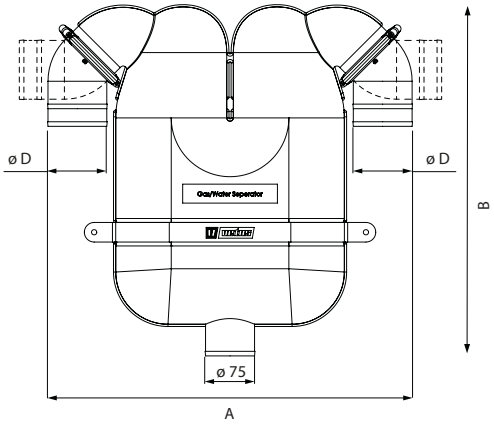
Type	A (mm)	B (mm)	Ø D (mm)	Capacity (litre)
LGS4038	406 x 134	370	40	7
LGS4538	406 x 134	370	45	7
LGS5038	406 x 134	370	50	7
LGS6050	540 x 170	420	60	12
LGS7550	540 x 170	420	75	12
LGS9075	559 x 170	537	90	20



Type LGS40 - 45 - 50



Type LGS60 - 75



Type LGS90

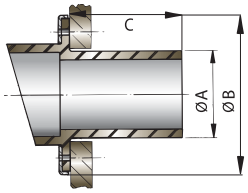
Transom exhaust connections

Easy mounting to transom

Type TRCR

The flexible EPDM rubber connector is mounted to the outside of the transom with a 2 mm thick stainless steel (AISI 316) mounting ring. VETUS mufflers and goosenecks with corresponding dimensions fit directly into the rubber sleeve.
For connection of the exhaust hose, a synthetic connector type SLVBR or SLVBG is required (see page 121 - 122).

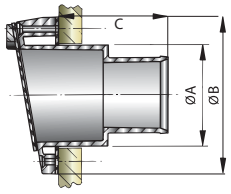
Type	For exhaust hose (I.D.) (mm)	A = hole size Ø (mm)	Ø B (mm)	C (mm)
TRC40R	40	53	87	86
TRC45R	45	58	114	86
TRC50R	51	63	114	86
TRC60R	60	73	114	86
TRC7590R	76 and 90	111	164	90



Type TRCPV

Type TRCPV has a synthetic body and an integral check valve. The exhaust hose can be fitted directly to this transom connector.

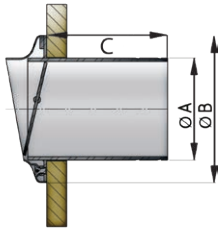
Type	For exhaust hose (I.D.) (mm)	A = hole size Ø (mm)	Ø B (mm)	C (mm)
TRC40PV	40	52	88	75
TRC45PV	45	52	88	75
TRC50PV	50	68	108	75
TRC60PV	60	68	108	75
TRC75PV	75	97	140	95
TRC90PV	90	97	140	95



Type TRCSV

Type TRCSV is made from stainless steel (AISI 316) and has an integral check valve. The exhaust hose can be fitted directly to this transom connector.

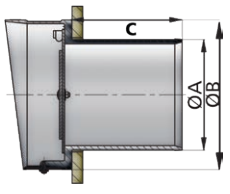
Type	For exhaust hose (I.D.) (mm)	A = hole size Ø (mm)	Ø B (mm)	C (mm)
TRC40SV	40	41	74	75
TRC45SV	45	46	79	75
TRC50SV	50	51	84	75
TRC60SV	60	61	94	75
TRC75SV	75	77	110	93
TRC90SV	90	91	123	110
TRC100SV	102	103	140	117
TRC125SV	127	128	169	140
TRC150SV	152	153	194	153



Type TC

Type TC is made from black glass reinforced synthetic with a decorative stainless steel (AISI 316) band. The exhaust hose can be fitted directly to this transom connector.

Type	For exhaust hose (I.D.) (mm)	A = hole size Ø (mm)	Ø B (mm)	C (mm)
TC90	90	93	141	110
TC100	102	103	155	115
TC125	127	128	178	140
TC150	152	153	203	150



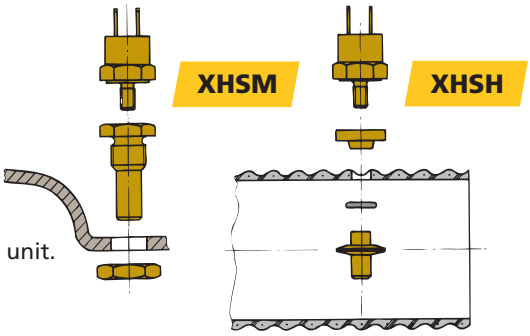
Exhaust temperature alarm

Safety first. Always place an alarm in the exhaust line!

A blockage in the engine water intake or a damaged pump impeller will result in a complete loss, or severe reduction in the volume of cooling water in the exhaust system. In this case the temperature in the exhaust will rise much faster than the temperature of the engine. VETUS always recommends placing an exhaust temperature alarm that provides a visual and audible alarm when the temperature inside the exhaust hose or the muffler exceeds an acceptable level.

Specifications
- Alarm cut-out dimension Ø 52 mm, overall diameter 62 mm
- Build-in depth 40 mm
- Suitable for 12 or 24 VDC
- Use sensor XHSM in VETUS waterlocks that have a pre-installed connection
- Use sensor type XHSH for fitting in the exhaust hose

Note: The temperature sensors and the alarm unit must be ordered separately.
In case of a twin engine installation, two sensors can be connected to one alarm unit.



Type		Colour
XHI12B	Dashboard instrument for exhaust temperature alarm 12 VDC	Black
XHI24B	Dashboard instrument for exhaust temperature alarm 24 VDC	Black
XHI12W	Dashboard instrument for exhaust temperature alarm 12 VDC	Cream
XHI24W	Dashboard instrument for exhaust temperature alarm 24 VDC	Cream
XHSM	Sensor for exhaust temperature alarm to fit MF/MV/LSG/LSS/MGS/MGL/MGP/HPW	
XHSH	Sensor for exhaust temperature alarm to fit exhaust hose	

Hoses

Silicone hose type SIHOSE

Extremely high temperature resistant

Type SIHOSE is made of high grade silicone rubber with woven synthetic and an encapsulated steel spiral with an external smooth gloss finish. This flexible hose is highly resistant to ageing and suitable for a wide range of applications (exhaust, cooling and waste water hose). Temperature range of -54 to 177°C (intermittently up to 250°C).

Type SIHOSE meets all the requirements of the ISO13363 type Class B and SAE J 2006 R1 standards.

SIHOSE

SIHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit	Roll length (m)
SIHOSE25	25	35	0,60	5.0	62	HCHD034	HSC25	20
SIHOSE32	32	41	0,73	4.5	80	HCHD040	HSC32	20
SIHOSE38	38	47	0,85	4.0	95	HCHD043	HSC40	20
SIHOSE51	51	61	1,31	4.0	150	HCHD059	HSC50	20
SIHOSE63	63	74	1,60	3.5	190	HCHD073	HSC60	20
SIHOSE76	76	87	2,06	3.5	225	HCHD085	HSC75	20
SIHOSE102	102	113	2,70	2.0	360	HCHD0112	HSC110	20

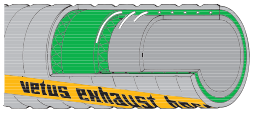
For a complete overview of our range of hoses see page 430.

Hoses

Rubber exhaust hose type SLANG

Flexible and strong, saving valuable installation time

VETUS exhaust hose type SLANG is the most flexible hose because of the increased spiral reinforcement and the extremely supple rubber. The completely smooth internal surface of the hose will reduce back pressure in the engine. Exhaust hoses with an internal diameter up to Ø 152mm have a bending radius of 1,5 x the diameter. Exhaust hoses with an internal diameter of more than Ø 152 mm have a bending radius of twice the diameter. Temperature resistant between -30° + 100°C with brief temperatures of 115°C.



Type SLANG is approved by Lloyds Register and meets the requirements of the SAE J2006 R2 standard.

SLANG

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit		HCS clamp to suit		Roll length (m)
SLANG30	30	38	0,55	4	45	HCHD(S)037		HCS25	HCS32	20
SLANG40	40	48	0,79	4	60	HCHD(S)047		HCS32	HCS40	20
SLANG45	45	53	0,88	4	68	HCHD(S)051		HCS40	HCS50	20
SLANG50	51	59	1,0	4	77	HCHD(S)059		HCS40	HCS50	20
SLANG57	57	65	1,1	3.3	86	HCHD(S)063		HCS50	HCS60	20
SLANG60	60	68	1,2	3.3	90	HCHD(S)063	HCHD(S)068	HCS50	HCS60	20
SLANG65	65	73	1,3	3.3	98	HCHD(S)068	HCHD(S)073	HCS60		20
SLANG75	76	84	1,4	3.3	114	HCHD(S)085		HCS75		20
SLANG90	90	98	1,9	2	135	HCHD(S)097		HCS90		20
SLANG100	102	110	2,3	2	153	HCHD(S)104		HCS90	HCS110	20
SLANG110	110	119	2,8	2	165	HCHD(S)112		HCS110		20
SLANG125	127	137	3,3	2	191	HCHD(S)130		HCS130		20
SLANG150	152	163	4,4	2	228	HCHD(S)162		HCS150		20
SLANG200	203	218	6,8	2	406	HCHD(S)213		HHCS200		12
SLANG250	254	270	8,5	2	508	HCHD(S)260		HHCS250		12
SLANG300	305	323	10,8	2	606	HCHD(S)300		HHCS300		12

For a complete overview of our range of hoses see page 430.

Synthetic hose connectors

These hose connectors are made of synthetic material and are available in a straight, 60° or 90° bend type.

Type SLVBR

This is a straight type and suitable for hoses with an internal diameter of Ø 40 to 150 mm.

Type	
SLVBR40K	Straight Ø 40 mm
SLVBR45K	Straight Ø 45 mm
SLVBR50K	Straight Ø 50 mm
SLVBR60K	Straight Ø 60 mm
SLVBR65K	Straight Ø 65 mm
SLVBR75K	Straight Ø 75 mm

Type	
SLVBR90K	Straight Ø 90 mm
SLVBR100K	Straight Ø 100 mm
SLVBR110K	Straight Ø 110 mm
SLVBR125K	Straight Ø 125 mm
SLVBR150K	Straight Ø 150 mm

SLVBR

Exhaust systems

Synthetic hose connectors

These hose connectors are made of synthetic material and are available in a straight, 60° or 90° bend type.

Type SLVBG

This is a 60° bend type and suitable for hoses with an internal diameter of Ø 40 to 150 mm.

Type	
SLVBG40K	Bent 60° Ø 40 mm
SLVBG45K	Bent 60° Ø 45 mm
SLVBG50K	Bent 60° Ø 50 mm
SLVBG60K	Bent 60° Ø 60 mm
SLVBG65K	Bent 60° Ø 65 mm
SLVBG75K	Bent 60° Ø 75 mm

Type	
SLVBG90K	Bent 60° Ø 90 mm
SLVBG100K	Bent 60° Ø 100 mm
SLVBG110K	Bent 60° Ø 110 mm
SLVBG125K	Bent 60° Ø 125 mm
SLVBG150K	Bent 60° Ø 150 mm

SLVBG

Type ELB

This is a 90° bend type and suitable for hoses with an internal diameter of Ø 127, 152, 203 or 254 mm.

Type	
ELB90127	Bent 90° Ø 127 mm
ELB90152	Bent 90° Ø 152 mm

Type	
ELB90203	Bent 90° Ø 203 mm
ELB90254	Bent 90° Ø 254 mm

ELB

Flexible mountings for waterlocks

Minimise the noise

These flexible mountings can be used to minimise the noise caused by induced vibrations in the waterlock. Code is for a set of four mounts.

Type	
MGVIB45	Anti vibration mounts for MGP waterlocks up to 35 kg
MGVIB55	Anti vibration mounts for MGS, MGL and HPW waterlocks up to 65 kg

MGVIB45 **MGVIB55**

Water mixer

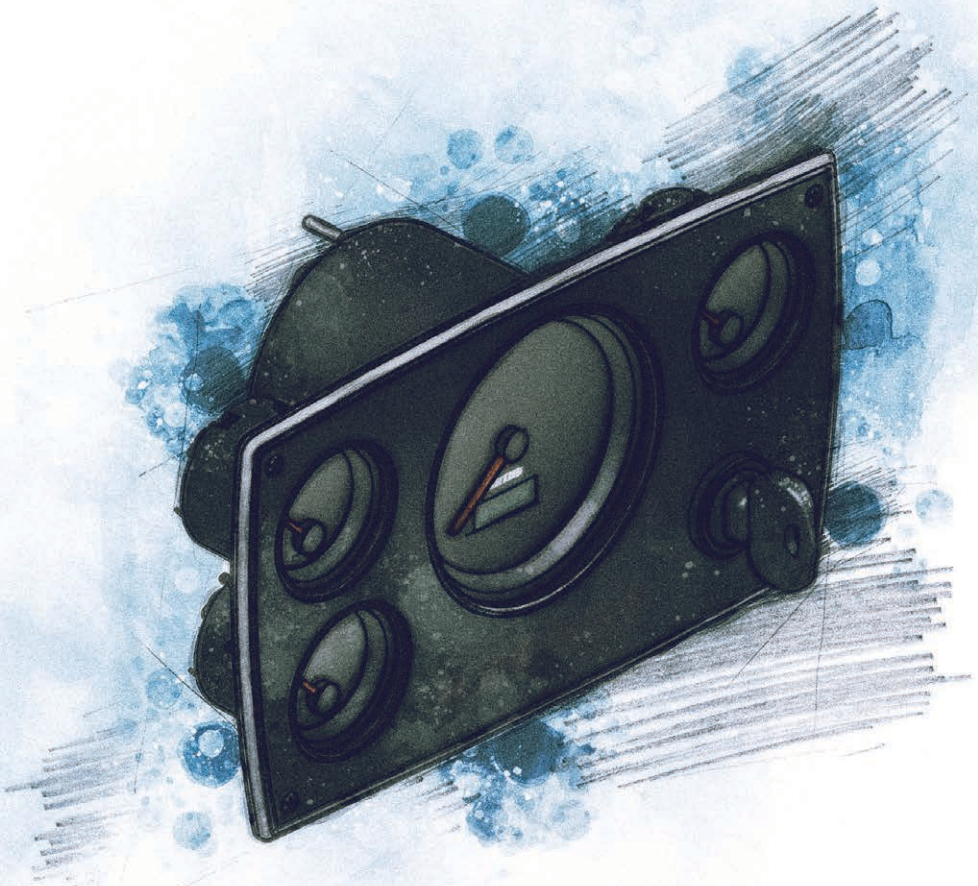
In some boats the exhaust waterlock must be positioned so closely behind the engine's exhaust manifold (this is especially true in the case of near horizontal exhaust assemblies), that the injected cooling water does not always mix properly with the hot exhaust gases. This often results in the exhaust hose and/or the waterlock becoming overheated. Installation of a water mixer directly behind the exhaust manifold will prevent this problem.

The water mixer is available for exhaust hoses with inside diameter of 90, 100, 125 or 150 mm.

Type	For exhaust hoses Ø (mm)
MIXER090	90
MIXER100	100

Type	For exhaust hoses Ø (mm)
MIXER125	125
MIXER150	150

MIXER



Overview

Engine instrument panels see page 127 - 131

MPA34B

MPA22B

NEW!

MPA10

NEW!

MPA1XB

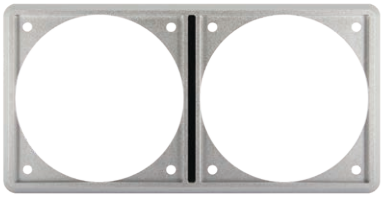
NEW!

MPA1KB

NEW!

MPA1MB

NEW!



XTASF2P

NEW!

TACHMD

NEW!

CANA2J1

Dashboard gauges see page 132 - 136

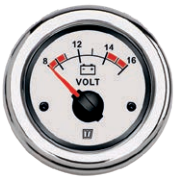
TACH

XHI

TRIM

TEMP

HOUR



VLT

AMP

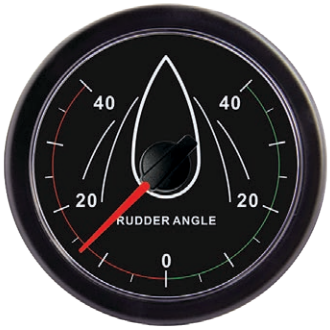
OIL

WAST

FUEL

WATER

RUDD



RUDD.40

Rudder position sending units see page 136

RUDDS

RUDDHD

Tank senders / sensors see page 137 - 138

SENSOR

WWSENSORA

FSENSOR

SENSORA

SENSORD

Switch panels see page 139 - 140

P8FA

P6CB P6F

P12F P12CB

Detectors see page 141

GD1000

GSENSOR

PD1000

Boat instruments

Why VETUS Boat instruments?

VETUS offers a complete range of high quality panels and instruments for every boat. New in our line-up are the V-CAN panels (for the new D-Line and F-Line engines). Just like our other switch panels, these CAN-bus panels come pre-wired for easy installation. Existing VETUS instrument panels can easily be extended for total control of your boat. For an optimal overview of your boats (vital) functions, VETUS offers a complete program of double-glazed gauges, such as gauges for your engine (tachometer, volt meter, oil water temperature and oil pressure meter), panels to operate your bow thruster, but also to check the levels of your tanks (fuel, water, waste).

All VETUS boat instruments meet the EMC requirements and are thoroughly tested by our R&D department, so we can guarantee smart looking panels and gauges that last.

Our range of boat instruments includes

- Engine instrument panels
- E-Line panels
- Bow and stern thruster control panels
- Switch panels
- Detectors and sensors
- Windscreen wiper control panels
- Gauges, sensors and wiring harnesses

Five good reasons to choose for VETUS boat instruments

1. **Highly accurate instrument and gauges**
   Meticulously control and monitor every function of your boat. Suitable for most vessels, as each instrument can be calibrated individually.
2. **Reliable and durable products**
   All panels and gauges are tested in-house, to guarantee highly reliable and long lasting products, even in the toughest environments. All instruments are **double glazed** to minimise condensation.
3. **Good readability**
   The translucent dials are backlit with bright dimmable and switchable bi-colour LEDs, offering high contrast, good readability and the ability to colour match your existing cockpit illumination.
4. **OEM looks**
   Gauges are supplied with two bezels: one in solid black and one in chrome coloured synthetic to match your existing interior.
5. **Standardised dimensions**
   VETUS panels and gauges are engineered to fit factory cut-outs for easy retrofit. The large instruments have an overall diameter of Ø 114 mm and fit a cut-out of Ø 100 mm, while the small instruments have an overall diameter of Ø 63 mm and fit a cut-out of Ø 52 mm. Both large and small instruments have a 10 mm height and will match your other gauges perfectly.

Type MPA

Stylish aluminium engine panels

Thanks to their stylish appearance and quality materials, these engine panels are an upgrade for your dashboard. The panels are made from marine grade anodized aluminium with a textured foil facing, which gives them and the individual gauges a classy look.

The 52 mm diameter gauges can be installed in an extension panel or mounted separately on the dashboard. This will give you the freedom of placing individual gauges or matching them with the engine panel.

For a minimum order of 100 pieces, these engine panels can be customised with your own logo or supplied in a special colour. Please contact us for pricing.

Specifications
- Easy installation (from the front)
- Available with black or white gauges
- Supplied with gaskets and mounting screws
- Plug and play
- After mounting, the panel is splash proof from front face (IP 64)

Type MPA34

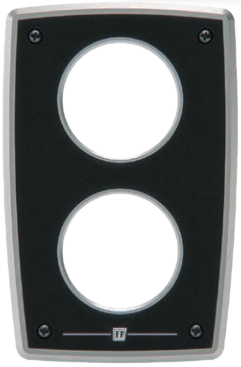
This engine panel is equipped with six warning lights, acoustic alarm, pre-heat / ignition switch with removable key, combined revolution/hour counter, temperature gauge, oil pressure gauge and a voltmeter.

Type MPA1XB

This extension panel allows you to add a further two 52 mm diameter gauges to your dashboard.

NEW!

MPA34B



MPA1XB

Type	Description	Dial colour	RPM	Dimensions (mm)	Built in depth (mm)	Voltage (DC)
MPA34BS2	Aluminium engine panel	Black	0-4000	267 x 157	120	12
MPA34BW2	Aluminium engine panel	White	0-4000	267 x 157	120	12
MPA34BS25	Aluminium engine panel	Black	0-5000	267 x 157	120	12
MPA34BW25	Aluminium engine panel	White	0-5000	267 x 157	120	12
MPA34BS4	Aluminium engine panel	Black	0-4000	267 x 157	120	24
MPA34BW4	Aluminium engine panel	White	0-4000	267 x 157	120	24
MPA34CANBS2	Aluminium engine panel **CAN**	Black	0-4000	267 x 157	120	12
MPA34CANBS4	Aluminium engine panel **CAN**	Black	0-4000	267 x 157	120	24
MPA1XB	Aluminium extension panel for two extra gauges	Black		154 x 100	100	

Boat instruments

Type MPA22

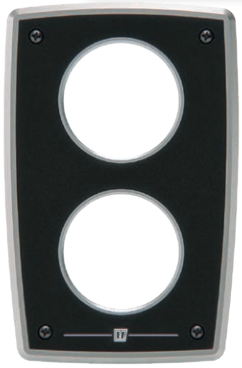
This engine panel is equipped with six warning lights, acoustic alarm, pre-heat / ignition switch with removable key, combined revolution/hour counter and a voltmeter.

Type MPA1XB

This panel creates the possibility to extend the number of suited 52 mm panels/meters for your dashboard.

MPA22B

NEW!



MPA1XB

Type	Description	Dial colour	RPM	Dimensions (mm)	Built in depth (mm)	Voltage (DC)
MPA22KBS2	Aluminium engine panel	Black	0-4000	218 x 157	120	12
MPA22KBS25	Aluminium engine panel	Black	0-4000	218 x 157	120	12
MPA22KBW2	Aluminium engine panel	White	0-4000	218 x 157	120	12
MPA22BS2	Aluminium engine panel	Black	0-4000	218 x 157	120	12
MPA22BW2	Aluminium engine panel	White	0-4000	218 x 157	120	12
MPA22KW25	Aluminium engine panel	Black	0-5000	218 x 157	120	12
MPA22BS25	Aluminium engine panel	Black	0-5000	218 x 157	120	12
MPA1XB	Aluminium extension panel for two extra gauges	Black		154 x 100	100	

Type MPA10

This engine panel is equipped with six warning lights, acoustic alarm and a pre-heat / ignition switch with removable key. The panel has a small footprint and is therefore ideally suited for a dashboard with a limited amount of space.

NEW!

MPA10

Type	Dial colour	Dimensions (mm)	Built-in depth (mm)	Voltage (DC)
MPA10	Black	100 x 154	120	12

Type MP34B

This engine instrument panel is supplied with six monitoring lights, acoustic alarm, pre-heating/starter switch with removable key, combined revolution/hour counter, temperature gauge, voltmeter and oil pressure gauge. Waterproof according to IP64.

Type	Dial colour	Rpm	Dimensions (mm)	Built-in depth (mm)	Voltage (DC)
MP34BS12A	Black	0-4000	255 x 161	121	12
MP34BW12A	White	0-4000	255 x 161	121	12
MP34BN12A	Cream	0-4000	255 x 161	121	12
MP34BS15A	Black	0-5000	255 x 161	121	12
MP34BW15A	White	0-5000	255 x 161	121	12
MP34BN15A	Cream	0-5000	255 x 161	121	12
MP34BS24A	Black	0-4000	255 x 161	121	24
MP34BW24A	White	0-4000	255 x 161	121	24
MP34BN24A	Cream	0-4000	255 x 161	121	24

MP34B..

Type MP21B and MP22B

This engine instrument panel is provided with six monitoring lights, combined revolution/hour counter, acoustic alarm and pre-heating/starter switch with removable key. An additional instrument can be fitted if required. This panel is ideal for installation on a fly-bridge or at a second steering position. Waterproof according to IP64.

Type	Dial colour	RPM	Dimensions (mm)	Built-in depth (mm)	Voltage (DC)
MP21BS12A	Black	0-4000	193 x 161	121	12
MP21BN12A	Cream	0-4000	193 x 161	121	12
MP22BS12A	Black	0-4000	193 x 161	121	12
MP22BW12A	White	0-4000	193 x 161	121	12
MP22BN12A	Cream	0-4000	193 x 161	121	12
MP22BS15A	Black	0-5000	193 x 161	121	12
MP22BS12D	Black	0-4000	193 x 161	121	12
MP22BS24A	Black	0-4000	193 x 161	121	24
MP22BW24A	White	0-4000	193 x 161	121	24

MP21B.. **MP22B..**

Extension panel

This panel is designed to receive two VETUS instruments with a cut-out diameter of Ø 52 mm.

(Instruments to be ordered separately).

Type	Dial colour	Dimensions (mm)
XTPAN252A	Black	99 x 161

XTPAN..

Type MPA1KB

NEW!

This panel features a dedicated pre-heat / ignition switch with removable key. The panel can be used in isolation or combined with other 75 mm diameter panels by using the XTASF2P mounting frame shown below. Also suitable for use with the PWLK system.

Type	Colour	Cut-out size (Ø mm)	Dimensions (mm)	Built-in depth (mm)
MPA1KB	Black	75	85 x 85	90

MPA1KB

Type MPA1MB

NEW!

This panel is equipped with six warning light and an acoustic alarm. The panel can be used in isolation or combined with other 75 mm diameter panels by using the XTASF2P mounting frame shown below. Also suitable for use with the PWLK system.

Type	Colour	Cut-out size (Ø mm)	Dimensions (mm)	Built-in depth (mm)
MPA1MB	Black	75	85 x 85	60

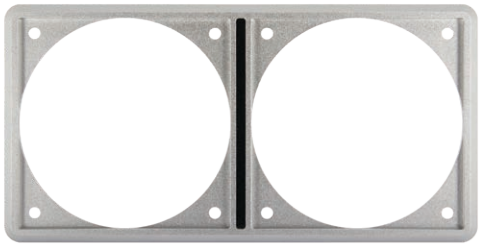
MPA1MB

Double mounting frame Type XTASF2P

NEW!

This frame is designed to accept two VETUS control or monitoring panels with a cut out size of Ø 75 mm. You have the freedom to decide which panels you want to combine.

XTASF2P



Examples of combined Ø 75 mm panels.

XTASF2P + DBPPJA + MPA1KB

XTASF2P + MPA1MB + MPA1KB

Type TACHMD

Digital CANbus multifunction display

NEW!

This multifunctional digital display replaces multiple conventional gauges in one modern and stylish instrument. The 100 mm diameter display is interchangeable with existing instruments of the same diameter and can either be mounted separately or in a panel assembly. Suitable for direct CANbus connection to VETUS E-Line, D-line & F-line engines and to VETUS M-Line and H-line engines in combination with a CANA2J1 signal converter.

TACHMD

Specifications
- Easy operation with a single push button
- Shows all necessary engine information, such as: RPM, hour counter, coolant temperature, oil pressure, battery potential, etc.
- Ø 75 mm screen, Ø 100 mm cutout and Ø 116 mm overall diameter
- Easy installation and built in depth of 60 mm
- Supplied with gaskets and mounting lock nut
- Panel is splash proof from front face (IP 64)

Type	Description	Colour	Dimensions (mm)
TACHMD	Multifunctional display	Black	100 x 100

COMING SOON

VETUS gauges are engineered to fit each other's bezel. This means that you interchange them with each other 100 mm and 52 mm gauges and instruments in panels or loose assembly. For example you can retrofit an TACHMD in a standard engine panel.

Mono directional CAN converter type CANA2J1

NEW!

The CANA2J1 gives you the possibility to connect a digital display to mechanical, analogue engines which do not have a Canbus protocol. The CANA2J1 converter "translates" analogue engine signals into a Canbus signal and can be used in combination with a SAE J1939 Canbus instrument panel or display.

CANA2J1

Specifications
- Values for revolutions, temperature and oil pressure adjustable on device
- For the M-Line and H-Line engines you need to replace the oil pressure and water temperature switches for sensors for a full functionality of the SAE J1939 Canbus panel
- Switches for sending units
- Connects directly to the B connection of a VETUS engine wiring harness
- 1 m connection cable

Boat instruments

Design your own panel with the “PWLK” system

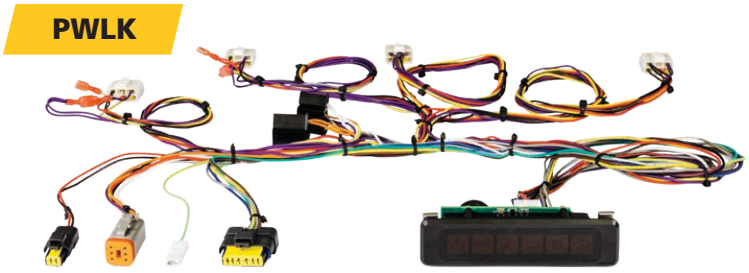
Many designers and installers wish to lay out their own instrument panel, rather than using a standard panel supplied by the engine manufacturer. This can be easily accomplished using the PWLK system.

Advantages
- Choose your own instruments, black, cream or white and for 12 or 24 VDC supply
- All cables are bundled and colour coded: no more tracing loose wires
- Cable plugs and connectors are factory fitted, ready to connect to VETUS engine instruments
- The instruments can be positioned up to 50 cm away from the key switch

Standard system
- Monitoring panel (130 x 35 mm) with six warning lights
- Acoustic alarm
- Glow plug pre-heat and starting key switch
- Cable for tachometer (revolution counter/hour counter)
- Cables for voltmeter, oil pressure gauge, water temperature gauge
- Plugs for connection of extension cables

Optional equipment to complete the system
- Extension cable to the engine, available in 2, 4 or 6 metre length
- Cable splitter to connect to a second panel
- Revolution counter / hour counter
- Voltmeter, oil pressure gauge, water temperature gauge

Type	
PWLK	Wiring loom for engine instruments, including warning light panel and starter switch, 12 / 24 VDC



Dashboard instruments with cream, black or white dials

The range of VETUS gauges has been updated. The gauges are now **dual** voltage (12 VDC / 24 VDC naturally with the exception of the voltmeters) and come with two bezels: one solid black and one chrome effect synthetic. Three reasons to choose VETUS boat instruments:

- High degree of accuracy: You can effortlessly monitor the vital functions of your boat, as VETUS gauges are thoroughly tested for accuracy. The tachometer is easily calibrated to suit your engine
- Reliability and longevity: High quality gauges that you can rely on for a very long time
- Smart illumination: Clear visibility in any condition, as the dials are backlit by dimmable LEDs for the best possible readability in bright sunshine or the darkest night. Switchable between yellow and red back lighting

In order to minimize condensation and subsequent water damage to internal components, all VETUS instruments have double glazed faces.

Black and creme faced instruments are supplied with two round bezels, one in black synthetic and the other chrome finish synthetic. White instruments are supplied with two round bezels, one in white synthetic and the other in chrome finish synthetic.

Code suffix

N = cream

B = black

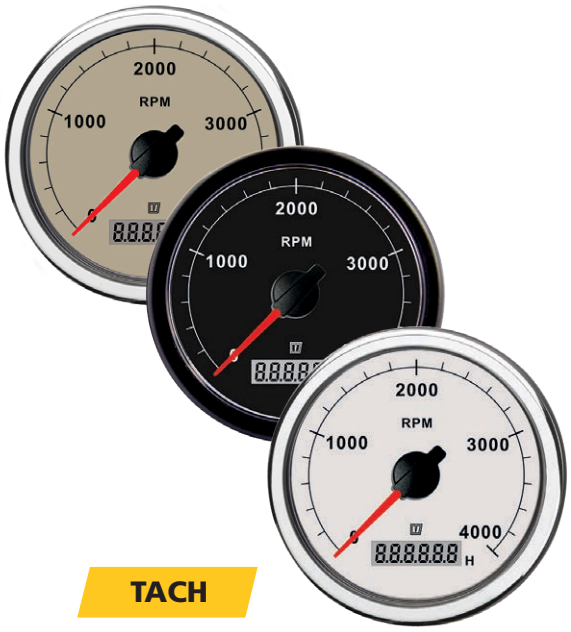
W = white

Dashboard instruments with cream, black or white dials

Tachometer (revolution counter)

Available in 114 mm diameter as 0-4000 r.p.m. version (for most diesel engines) or as 0-5000 r.p.m. version (to suit high speed engines). Suitable for both 12 VDC and 24 VDC and with incorporated digital hour counter.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
TACHB4000	Black	12/24	100	114
TACHW4000	White	12/24	100	114
TACHN4000	Cream	12/24	100	114
TACHB5000	Black	12/24	100	114
TACHW5000	White	12/24	100	114
TACHN5000	Cream	12/24	100	114



TACH

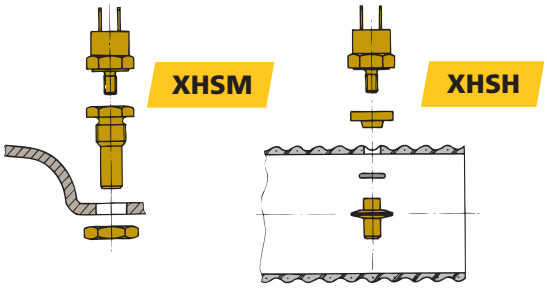
Exhaust/gas temperature alarm

Available in 63 mm diameter. Designed for water injected exhaust systems. Provides a visual and an audible alarm when the temperature inside the exhaust hose or the waterlock exceeds an acceptable level.

A temperature sensor, to be fitted into the exhaust hose or the waterlock must be ordered separately. In the case of a twin engine installation two sensors may be connected to one alarm unit if required. One sensor will also operate two alarm units, in the case of a second steering position.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
XHI12B	Black	12	52	63
XHI24B	Black	24	52	63
XHI12W	Cream	12	52	63
XHI24W	Cream	24	52	63
XHSH	Sensor for exhaust temp. alarm to fit exhaust hose			
XHSM	Sensor for exhaust temperature alarm to fit muffler types MV/LSG			

XHI



XHSM **XHSH**

Trim gauge

Available in 63 mm diameter. For connection to the trim sensor of a stern drive or a set of trim tabs. Sensor resistance range: Trim down: 10 Ohm. Trim up: 180 Ohm. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
TRIMB	Black	12/24	52	63
TRIMN	Cream	12/24	52	63
TRIMW	White	12/24	52	63
TRIMWR	Connection cable			

TRIM

Dashboard instruments with cream, black or white dials

Temperature gauge

Available in 63 mm diameter. Scale calibration: 40-120°C. and 105-250°F. Temperature sensors are available as optional equipment. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
TEMPB	Black	12/24	52	63
TEMPN	Cream	12/24	52	63
TEMPW	White	12/24	52	63
TEMPSR120	Sender for temperature gauge, 12/24 VDC, single pole M14 x 1.5			
TEMPSR122	Sender for temperature gauge, 12/24 VDC, double pole M14 x 1.5			

Hour counter

Available in 63 mm diameter. Analogue engine hour counter which connects to the ignition switch. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
HOURCB	Black	12/24	52	63
HOURCN	Cream	12/24	52	63
HOURCW	White	12/24	52	63

Voltmeter

Available in 63 mm diameter. Can be supplied for 12 or 24 VDC, with scale calibration respectively: 8 -16 VDC and 16 - 32 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
VLT12B	Black	12	52	63
VLT24B	Black	24	52	63
VLT12N	Cream	12	52	63
VLT24N	Cream	24	52	63
VLT12W	White	12	52	63
VLT24W	White	24	52	63

Amp meter

Available in 63 mm diameter. Scale calibration: +/- 50 A, 80 A or 150A. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Scale calibration	Cut-out size (Ø mm)	Overall diameter (mm)
AMP050B	Black	12/24	+/- 50A	52	63
AMP050N	Cream	12/24	+/- 50A	52	63
AMP050W	White	12/24	+/- 50A	52	63
AMP080B	Black	12/24	+/- 80A	52	63
AMP080N	Cream	12/24	+/- 80A	52	63
AMP080W	White	12/24	+/- 80A	52	63
AMP150B	Black	12/24	+/- 150A	52	63
AMP150N	Cream	12/24	+/- 150A	52	63
AMP150W	White	12/24	+/- 150A	52	63

Dashboard instruments with cream, black or white dials

Black or grey waste water gauge

Available in 63 mm diameter. The waste water indicator can be provided with an interface (code EP412326). A warning light can be connected to this interface, which will indicate when the holding tank is almost full. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
WASTB	Black	12/24	52	63
WASTN	Cream	12/24	52	63
WASTW	White	12/24	52	63

WAST

Oil pressure gauge

Available in 63 mm diameter. Scale calibration 0-8 kg/cm² and 0-110 p.s.i. Oil pressure sensors are available as optional equipment. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
OILB	Black	12/24	52	63
OILN	Cream	12/24	52	63
OILW	White	12/24	52	63
OILS	Oil pressure sender 12/24 VDC, single pole, M10 x 1K			
OILS2	Oil pressure sender 12/24 VDC, double pole, M10 x 1K			

OIL

Fuel gauge

Available in 63 mm diameter. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
FUELB	Black	12/24	52	63
FUELN	Cream	12/24	52	63
FUELW	White	12/24	52	63

FUEL

Fresh water gauge

Available in 63 mm diameter. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
WATERB	Black	12/24	52	63
WATERN	Cream	12/24	52	63
WATERW	White	12/24	52	63

WATER

Rudder indicator

Available in 63 mm diameter. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
RUDDB	Black	12/24	52	63
RUDDN	Cream	12/24	52	63
RUDDW	White	12/24	52	63

RUDD

Rudder position sending unit

Type RUDDS is required for indicators 63 mm (RUDD.) and should be ordered separately.

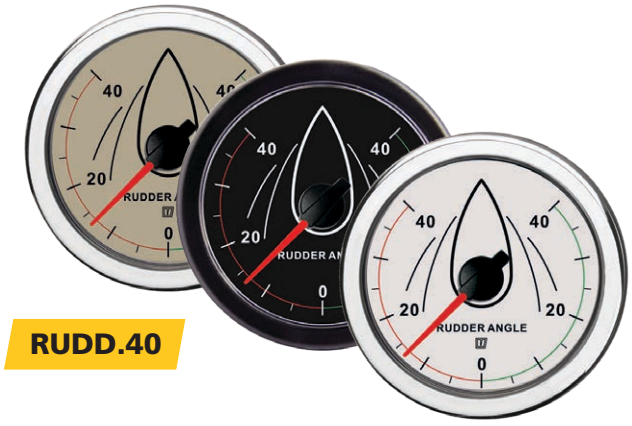
Type	Description	Voltage (DC)
RUDDS	Rudder position sending unit	12/24

RUDDS

Rudder indicator

Available in 114 mm diameter. Suitable for both 12 VDC and 24 VDC.

Type	Colour	Voltage (DC)	Cut-out size (Ø mm)	Overall diameter (mm)
RUDDB40	Black	12/24	100	114
RUDDN40	Cream	12/24	100	114
RUDDW40	White	12/24	100	114



RUDD.40

Heavy Duty position sending unit

Type RUDDSHD is required for 114 mm indicators (RUDD.40) and should be ordered separately.

Type	Description	Voltage (DC)
RUDDSHD	Heavy Duty position sending unit	12/24

RUDDSHD

Energy consumption gauge / battery monitor

Type BATMONB

Knowing the exact state of charge

The monitor shows you the exact state of charge of a battery or battery bank. The BATMONB has several functions such as voltage, charge or discharge current, scale range of the nominal battery capacity and the time to complete discharge at the present discharge rate.

Specifications

- Suitable for 12 and 24 VDC electrical systems
- Hole diameter Ø 85 mm, overall diameter Ø 97 mm
- Supplied with a 200 A shunt and black and white bezels

Type	Description	Voltage (DC)
BATMONB	Energy consumption gauge	12/24

BATMONB

Tank Senders / sensors

Universal sender for fresh water, petrol/gasoline and diesel fuel

Universal tank sender for fresh water, petrol and diesel fuel (type SENSOR). Available in seven different lengths: 280, 320, 380, 480, 580, 680 or 780 mm. The VETUS universal tank sender indicates the difference in fluid level in steps of 2.5 cm. Just compare this with other systems which can only show three positions (full - about half full - empty).

Specifications
- Empty 300 Ω
- Full 10 Ω
- For 12 and 24 VDC

Type	Length (mm)	Voltage (DC)
SENSOR280	280	12/24
SENSOR320	320	12/24
SENSOR380	380	12/24
SENSOR480	480	12/24
SENSOR580	580	12/24
SENSOR680	680	12/24
SENSOR780	780	12/24

Each tube length contains the maximum number of reed contacts (electronic switches), instead of the bare minimum of just three (full, half full, empty).
Because of this, your tank gauges will read with maximum accuracy. The reed contacts are sealed "fluid-tight".

SENSOR

Waste water tank sensor type WWSENSORA

Easy measurement

Simple to fit, reliable waste water tank sensor. The arm length is adjustable between 200 mm and 412 mm.

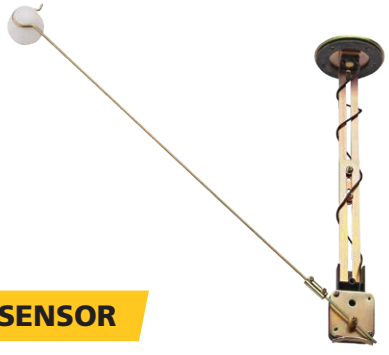
Specifications
- Empty 300 Ω
- Full 0 Ω
- For 12 and 24 VDC

Type	Description	Voltage (DC)
WWSENSORA	Waste water sensor	12/24

WWSENSORA

Sender for fuel tanks

Sender for all rigid petrol and diesel fuel tanks with a depth between 140 and 660 mm. Both the vertical strip and the horizontal float arm are completely adjustable.



Specifications
- Empty 280 Ω
- Full 40 Ω
- For 12 and 24 VDC

Type	Description	Voltage (DC)
FSENSOR	Fuel tank float	12/24

FSENSOR

All VETUS level gauges are matched with our tank senders and can be connected directly to each other to give an accurate reading. To connect certain VDO level indicators to a VETUS tank sender, it is necessary to install a signal converter (code EP46849) in the circuit.

Ultrasonic level sensors

The ultrasonic level sensors, SENSORA and SENSORB are contactless and will measure the fluid level in any shape of tank. They are suitable for use with: petrol, diesel fuel, fresh water, black and grey waste water. After installation, the sensor can be calibrated very easily with the aid of a LED and a calibration wire; no other equipment is required. The sensor may be installed in any shape of tank, regardless of its dimensions, but with a maximum depth of 120 cm. Max. tank capacity 5000 litre. Model SENSORA may be connected to all standard VETUS analogue level indicators and also to the VETUS waste water control panel (WWCP). Model SENSORB has a CANbus output and may be connected to the VETUS ultrasonic level display SENSORD. SENSORA and SENSORB are **not** recommended for use with metal tanks.

Specifications SENSORA
- Can be used with all standard VETUS analogue level indicators
- Voltage: 12 and 24 VDC
- Current consumption: 35 mA
- Interface: Analogue
- Tank depth: 120 cm
- Accuracy : + / - 5%
- Temperature range: - 20 to + 70°C
- Flange: SAE, 5 holes
- Dimensions: Ø 77 x 23 mm

SENSORA

Specifications SENSORB
- Only works with SENSORD
- Voltage: 12 and 24 VDC
- Current consumption: 35 mA
- Interface: Bus (RS485 bus)
- Tank depth: 120 cm
- Accuracy : + / - 5%
- Temperature range: - 20 to + 70°C
- Flange: SAE, 5 holes
- Dimensions: Ø 77 x 23 mm

SENSORB

Type	Description	Voltage (DC)
SENSORA	Ultrasonic level sensor, for analogue indication of water, fuel and waste levels	12/24
SENSORB	Ultrasonic level sensor, for indication via bus system of water, fuel and waste levels	12/24

Ultrasonic level system-bus version (RS485-bus) and graphic display

The VETUS ultrasonic level sensor, type SENSORB is contactless and will measure the fluid level in any shape of tank (except for metal tanks, the ultrasonic level system does not work), regardless of its dimensions, but with a maximum depth of 120 cm. It is suitable for use with: petrol, diesel fuel, fresh water, black and grey waste water. After installing the SENSORB it can be calibrated very easily using the SENSORD graphic display. The graphic display instrument model SENSORD can be used to show the contents of up to four different tanks on one screen. A maximum of eight tanks can be monitored with this system.

Specifications
- Power supply: 8 - 32 VDC
- Current consumption
  Instrument: 125 mA at 12 VDC 63 mA at 24 VDC
  Including background lighting
- Current consumption sensor: 35mA
- Number of sensors: max. 8
- Number of display instruments: max. 2
- Max. current on alarm output: 200 mA
- Operating temperature: 0 to +50 °C
- Protection class: IP66

EMC-directive 89/336/EEC, 92/31/EEC and 93/68/EEC

The tank management system consists of a display instrument (SENSORD) and an ultrasonic level sensor (SENSORB) for each tank. The required number of sensors must be purchased separately.

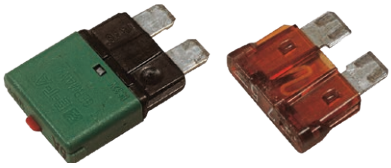
SENSORD

Type	Description	Dimensions (mm)
SENSORD	Display for level indication via bus-system, max four tanks	110 x 110

Switch panels

Type P8F

This panel is splash proof according to IP 64. It has eight separate circuits, each provided with a switch, indicator LED and fuse holder and it is suitable for both 12 and 24 VDC circuits.



The panel can be used with conventional automotive (ATO) fuses or with automatic fuses.

The following automotive (ATO) fuses are supplied as standard:
2 x 1A, 2 x 3A, 4 x 5A, 2 x 7.5A, 4 x 10A and 2 x 15A. Automatic fuses may be ordered as optional equipment (see price list).

The eight fuse holders are located in a separate compartment, which can be opened at the front of the panel and either type of fuse may be fitted. Sixty self-adhesive name/symbol plates for different functions are supplied. There are also two covers supplied for the fuse compartment, depending on whether automatic fuses or conventional automotive (ATO) fuses are used.

The panel is completely pre-wired and provided with a terminal rail, for connection of the power supply and the consumer equipment. The panel is made of synthetic and non-corrosive materials.

Specifications

- Dimensions 99 x 161 mm
- Built-in depth 45 mm

Type	Specifications		Voltage (DC)
FUSE06A4	Automatic fuse 6 Amps, for P8FA	Set of four pcs.	12/24
FUSE08A4	Automatic fuse 8 Amps, for P8FA	Set of four pcs.	12/24
FUSE10A4	Automatic fuse 10 Amps, for P8FA	Set of four pcs.	12/24
FUSE15A4	Automatic fuse 15 Amps, for P8FA	Set of four pcs.	12/24
P8FA	Switch panel, for eight blade fuses or automatic fuses (sixteen blade fuses supplied)		12/24

With automatic fuses

P8FA

With conventional automotive (ATO) fuses

Switch panels

Type P6

This panel features six on/off switches, six monitoring L.E.D.'s and a choice of either six automatic fuses, or six tubular glass fuses of 10 A.

Specifications
- Dimensions 94 x 156 mm
- Built-in depth 50 mm

Available for 12 or 24 VDC circuits.
Sixty self-adhesive name/symbol plates for different functions are supplied.

Type	Specifications	Voltage (DC)
P6F12	Switch panel type P6 with 6 fuses	12
P6F24	Switch panel type P6 with 6 fuses	24
P12F12	Switch panel type P12 with 12 fuses	12
P12F24	Switch panel type P12 with 12 fuses	24
P6CB12	Switch panel type P6 with 6 circuit breakers	12
P6CB24	Switch panel type P6 with 6 circuit breakers	24
P12CB12	Switch panel type P12 with 12 circuit breakers	12
P12CB24	Switch panel type P12 with 12 circuit breakers	24

P6CB12
P6CB24
Automatic fuses

P6F12
P6F24
Tubular glass fuses

Type P12

This panel features twelve on/off switches, twelve monitoring L.E.D.'s and a choice of either twelve automatic fuses or twelve tubular glass fuses of 10 A.

Available for 12 or 24 VDC circuits.
Sixty self-adhesive name/symbol plates for different functions are supplied.

Specifications
- Dimensions 188 x 156 mm
- Built-in depth 50 mm

P12F12 **P12F24** Tubular glass fuses

P12CB12 **P12CB24** Automatic fuses

VETUS switch panels are supplied pre-wired. The only work required is to connect the positive and negative feeds of the various services (lights, pumps etc.). These panels are made of synthetic and non-corrosive materials, but are not waterproof.

Detectors

GD1000

Gas detector GD1000 panel and sensor

The VETUS gas detector model GD1000 offers a gas detection system for a range of combustible gases including propane, butane, methane and hydrogen. In addition it will also detect poisonous carbon monoxide.

A single sensor is supplied as standard, which can detect both flammable gases (such as bottled gas) and carbon monoxide. A second sensor can be fitted as an option, for gas detection in an alternative location.

A push button will manually actuate a remote solenoid operated cooking gas supply valve, if this is installed in the system. If this solenoid valve is in the open position (or not fitted), the presence of gas is detected continuously. If the valve is closed, detection will take place intermittently. Please note, the valve itself is not supplied with the gas detector.

GD1000 and PD1000

Specifications

- Voltage: 12 or 24 VDC
- Maximum relay contact ratings for extractor fan, gas solenoid valve and external alarm: 1 A for each function
- Control panel dimensions: 85 x 85 mm
- Built-in depth: 40 mm
- Sensor: 35 x 26 x 62 mm high

Type	Specifications	Voltage (DC)
GD1000	Gas & carbon monoxide detector, incl. sensor	12/24
GSENSOR	Additional sensor for gas & carbon monoxide detector type GD1000	12/24

PD1000

Gas detector PD1000 panel and sensor

Gas detector model PD1000 specifically detects petrol vapour to prevent the risk of explosion in the engine room, as well as poisonous carbon monoxide (CO).

This gas detector can be supplied with one or two sensors. Both detection functions are carried out simultaneously. All other functions are as described for model GD1000 shown above.

Gas detector PD1000 is suitable for both 12 and 24 VDC supply and its dimensions are identical to model GD1000.

Type	Specifications	Voltage (DC)
PD1000	Petrol vapour & carbon monoxide detector, incl. sensor	12/24
PSENSOR	Extra sensor for petrol vapour detection	12/24

It is recommended that the possible presence of petrol vapour and carbon monoxide be checked on a permanent basis; even when the boat is not in use! Therefore, always keep the power supply to this gas detector switched on.

Control panels for bow and stern thrusters

Below a brief overview of some of the control panels for bow and stern thrusters.

For more models and information see system group Thrusters (page 222 - 224).

BPPPA

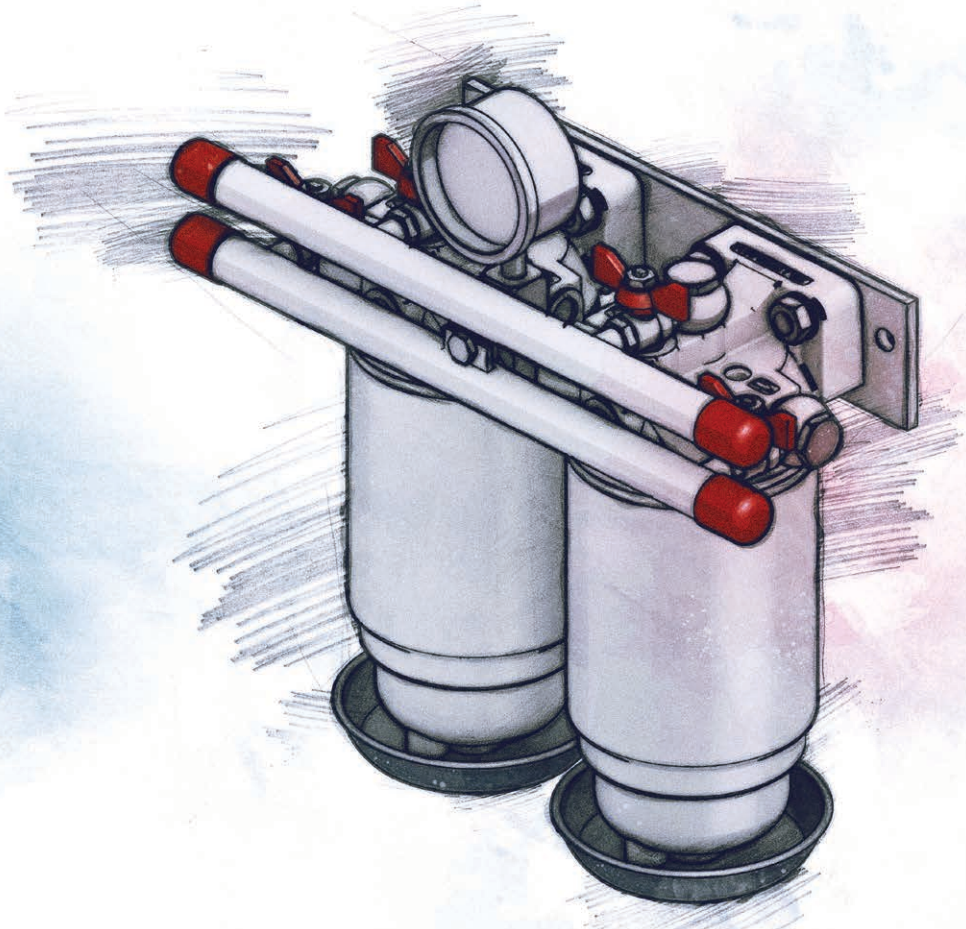
BPPJA

DBPPJA

BPSR

BPJR

Fuel systems



Overview

Spin-on filters see page 147 - 148

VTEPB

350VTEB

75330VTEB

75350VTEB

Centrifugal filters see page 149

75100VTE

91100VTE

Fuel filter hose connectors

see page 150

FFD0890

Petrol/diesel filters see page 151

WS180

WS720

Petrol fuel filter see page 151

320VTNEB

Splash stops see page 152

FSA

FS

Tanks see page 153 - 154

ATANK

FTANK

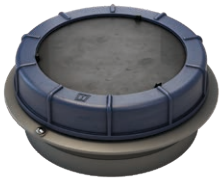
APT100

Tank kits see page 155 - 156

FTL

FTLDB

NEW!



ILT120B
ILT120X

ILTCONF38

No-smell filters see page 157

NSF

NSFCAN NSFCANS

Why VETUS fuel systems?

The fuel system on a boat is a VETUS specialty. You don't have to experience that helpless feeling when an engine unexpectedly stops at a critical moment. VETUS can provide you with the best products, accessories and tips to keep your engine running smoothly, ensuring your safety, comfort and compliance with good practice and environmental regulations.

A good working fuel system

Many people are unaware of the problems that water in fuel can cause. Even a small drop of water can be extremely damaging for the fuel pump, injectors, filters and engine. Water carries dirt, rust and micro-organism through the narrow pipes into the system and when trapped, the water becomes a perfect breeding place, resulting in blockage in the fuel pump and additional wear and tear. Placing a fuel filter / water separator between the tank and the fuel lift pump will prevent damage to the engine and ensures easy starting and smooth running.

VETUS offers the following types of filters

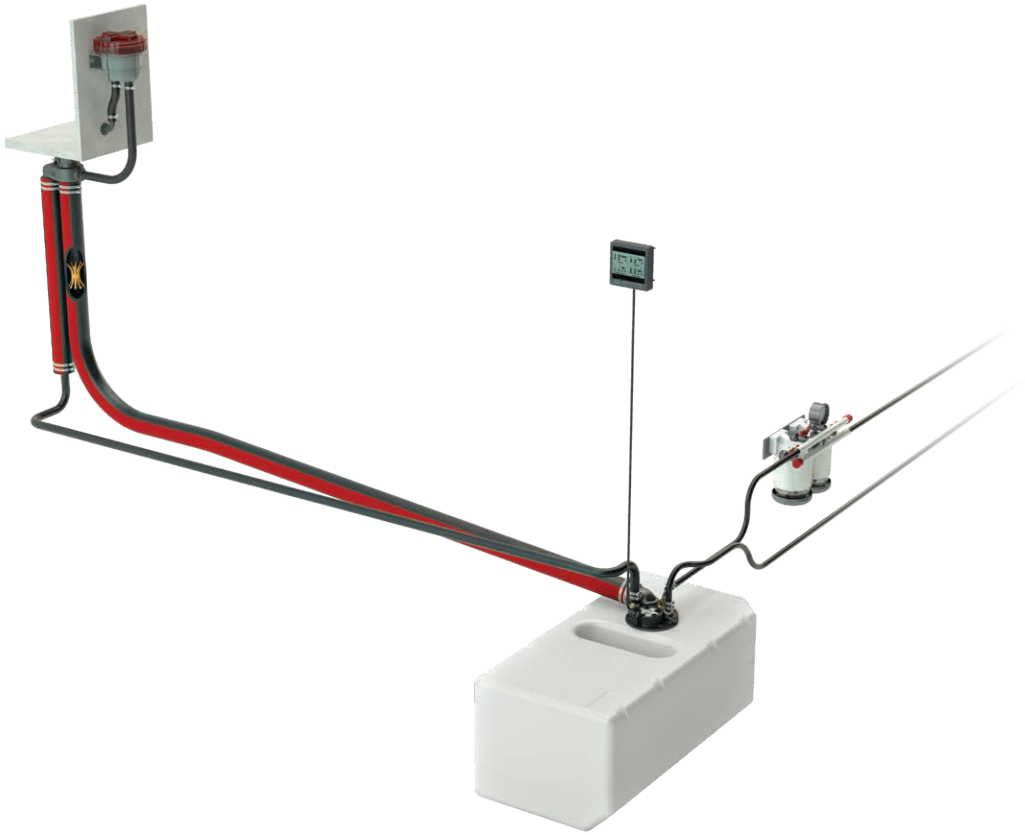
Spin-on filters

With a maximum capacity from 360 to 800 litre per hour, based on a patented fuel flow system in which water is separated from the fuel before the fuel flows back through the filter element.

Centrifugal filters

With a maximum capacity of 720 up to 3600 litre/hr. This modular system can be ordered in combinations of two to six filters for engines up to 5000 hp. The fuel inlet and outlet can be configured on the same or the opposite sides.

7 Reasons why you should choose a VETUS fuel system
- Our patented full-flow system gives VETUS fuel filters up to five times larger filtering surface
- Our fuel filters have a CE and ABYC approved clear bowl
- Our fuel filters use O-ring sealing for leak-free element replacement
- Our Splash Stop protects the environment by preventing fuel spillages
- Our fuel tanks are made from synthetic, corrosion free material resulting in less condensation
- Our fuel tanks are ready for installation, complete with a flange with bolt holes for gauge sender
- Our Fuel-safe provides complete low cost protection against fuel theft



Spin-on filter

Patented fuel flow system

VETUS Spin-on fuel filters, with maximum capacities ranging from 360 to 800 litre per hour, are based on a patented fuel flow system in which water and dirt is separated from the fuel before the fuel flows through the filter element. This way damage can be prevented and an easy starting, smooth running engine is guaranteed.

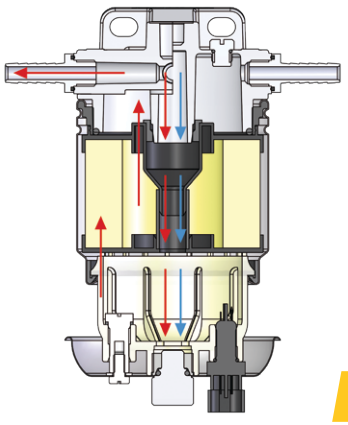
Note: All VETUS Spin-on filters meet the CE (ISO 10088) and ABYC requirements (relating to installation in the engine room) and can withstand a fire test of 2½ minutes.

Type VTEB / VTEPB

Consistent filtering and a longer lifetime

These filters have an increased filtering surface and efficiency up to five times the surface of conventional filters. They are provided with a transparent bowl, which allows easy checking for water contamination. The elements can be easily replaced as a single unit, ruling out leakage or spills. The filters can be replaced without tools and with the engine running.

Characteristics
- Suitable for all diesel engines up to 600 hp
- A connection kit for 10 mm hose incl. three blind plugs is included
- All fittings feature O-ring sealing
- Single Spin-on filters are available with or without a manual pump to facilitate easy bleeding of the fuel system (type VTEPB)



VTEB

VTEPB

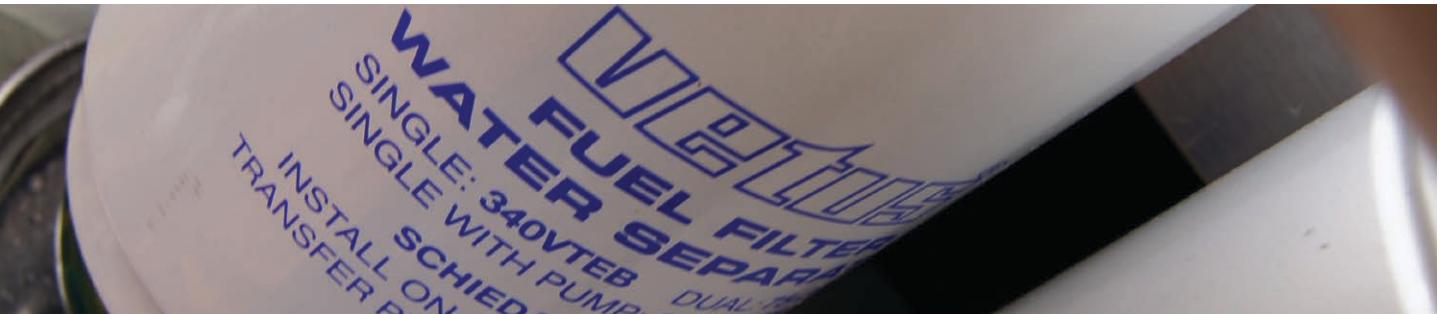
Double Spin-on filters

For boats that sail offshore

For boats that sail offshore, we strongly recommend these dual filter systems. In rougher sea conditions, dirt and water accumulated in the fuel tank becomes agitated and can rapidly clog the filter with little warning. This may result in loss of engine power and all the dangers that may present.

By turning the changeover valve, the system will switch over to a clean spare filter without having to turn off the engine. This dual filter system is supplied with a vacuum gauge which shows when the filter element should be replaced.

75...VTEB



Spin-on filter

Product overview - Spin-on filters for diesel fuel

Single Spin-on filters
with or without bleed pump

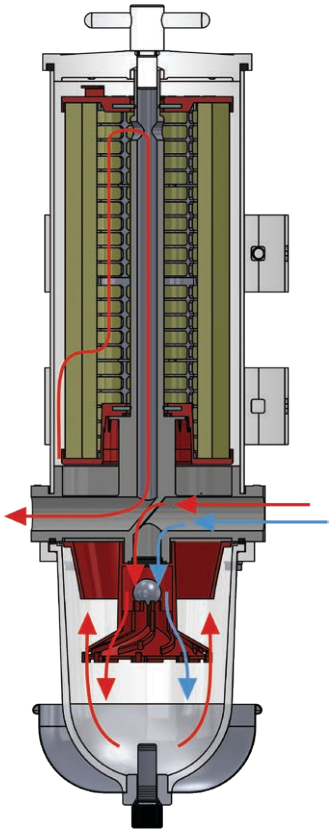
Type		330VTEB	330VTEPB	340VTEB	340VTEPB	350VTEB	350VTEPB
Max. capacity in l/hr (g/hr)		360 (79)	270 (59)	620 (136)	465 (102)	800 (176)	600 (132)
Version		single	with pump	single	with pump	single	with pump
Connections*		M16 x 1.5*		M16 x 1.5*		M16 x 1.5*	
Dimensions (mm)	Height	205		265		325	
	Width	120		120		120	
	Depth	120		120		120	
Weight (kg)		1.3		1.45		1.6	
Replacement filter	10 µm (standard)	VT33EB		VT34EB		VT35EB	
	30 µm (optional)	VT33ER		VT34ER		VT35ER	
Replacement advice		Minimum annually					
Certification		CE and ABYC					

**A connection kit for 10mm hose and three blind plugs is standard supply*

Double Spin-on filters
Parallel or in line

Type		75330VTEB	75340VTEB	75350VTEB
Max. capacity in l/hr (g/hr)		360 (79)	620 (136)	800 (176)
When both filters are in use		380 (84)	760 (168)	920 (204)
Version		Double	Double	Double
Connections		R ½	R ½	R ½
Dimensions (mm)	Height	305	365	425
	Width	310	310	310
	Depth	167	167	167
Weight (kg)		4,7	5	5,3
Replacement filter	10 µm (standard)	2 x VT33EB	2 x VT34EB	2 x VT35EB
	30 µm (optional)	2 x VT33ER	2 x VT34ER	2 x VT35ER
Replacement advice		When vacuum gauge indicates between -0.2 and -0.38 kg/cm², or annually		
Certification		CE and ABYC		

Centrifugal filters



Modular system for effective filtering

VETUS centrifugal filters have maximum capacities ranging from 720 up to 3600 litre/hr. This modular system can be ordered in combinations of two to six filters for engines up to 5000 hp. The fuel inlet and outlet can be configured on the same or the opposite sides. When determining the required capacity, it is always assumed that one filter is held in reserve. In case of a six filter configuration, five elements are in use and one is in reserve.

Note: All VETUS centrifugal filters meet the CE (ISO 10088) and ABYC and are Germanischer Lloyd certified which makes them applicable for commercial vessels.

Specifications
- Suitable for all diesel engines up to 5000 hp
- All fittings feature O-ring sealing
- Centrifugal filters are equipped with a vacuum gauge

Multiple centrifugal filters for diesel fuel

Available in parallel or in line

For the capacities, dimensions and specifications see table below.

..VTE

Type		75100VTE	79100VTE	83100VTE	87100VTE	91100VTE
Max. capacity in l/hr (g/hr)		720 (160)*	1440 (320)*	2160 (480)*	2880 (640)*	3600 (800)*
Version		2	3	4	5	6
Connections*		R ¾	R 1	R 1½	R 1½	R 1½
Dimensions (mm)	Height	540	540	540	540	540
	Width	465	630	788	940	1100
	Depth	335	335	335	335	335
Weight (kg)		12,5	20	27,6	35	41
Replacement filter	30 µm (standard)	2 x 2020VTR	3 x 2020VTR	4x 2020VTR	5 x 2020VTR	6 x 2020VTR
	10 µm (optional)	2 x 2020VTB	3 x 2020VTB	4x 2020VTB	5 x 2020VTB	6 x 2020VTB
Replacement advice		When vacuum gauge indicates between -0.2 and -0.38 kg/cm², or once a year				
Certification		CE, ABYC and Germanischer Lloyd				

* When determining the required capacity it is always assumed that one filter is held in reserve. When all filters are in use, 720 l/hr (160 g/hr) can be added to the capacity!

Replacement elements for spin-on and centrifugal filters

VETUS recommends having a spare fuel filter at all times. This can be done by changing over filters in a multi-filter system or by keeping a spare element on board.

Spare Spin-on filter type VT3

Comes with a 10 micron element as standard. A spare part element with a filtration of 30 micron is also available (a filter of 10 micron will filter out more dirt but will also become clogged sooner). A 30 micron element is recommended when the tank is very large, infrequently filled or the fuel used is of low quality. Filtration of 10 micron has text printed in blue and 30 micron has text printed in red.

VT3..

Replacement elements for spin-on filters

Type	Description	Filter	Spin-on filter
VT33EB	Replacement fuel filter element	10 micron	330VTEB, 330VTEPB, 75330VTEB
VT34EB	Replacement fuel filter element	10 micron	340VTEB, 340VTEPB, 75340VTEB
VT35EB	Replacement fuel filter element	10 micron	350VTEB, 350VTEPB, 75350VTEB
VT33ER	Replacement fuel filter element	30 micron	330VTEB, 330VTEPB, 75330VTEB
VT34ER	Replacement fuel filter element	30 micron	340VTEB, 340VTEPB, 75340VTEB
VT35ER	Replacement fuel filter element	30 micron	350VTEB, 350VTEPB, 75350VTEB

Spare element for centrifugal filter type 2020VT

Comes with a 30 micron element as standard. Also available in 10 micron.

Note: Filtration of 10 micron has an endcap in blue and 30 micron has an endcap in red. Just choose the product code ending with a R (red) or a B (blue) for the right spare part element.

This also holds true for older VETUS filters. These are still available and can be ordered using the code on the existing filter element that is being replaced.


2020VTR

Also available in blue (10 micron)

Replacement elements for centrifugal filters

Type	Description	Filter	Max. l/h
2020VTB	Replacement fuel filter element	10 micron	720
2020VTR	Replacement fuel filter element	30 micron	720

Fuel filter hose connectors

VETUS single 'Spin-on' fuel filters are supplied as standard with Ø 10 mm straight hose connectors. In some situations different connectors may be preferred. Therefore we offer Ø 10 mm connectors with a 90° bend, as well as straight and angled Ø 8 mm connectors.

The double 'Spin-on' filters feature a R1/2 male thread connection. For these filters both straight and angled connections of Ø 8 and 10 mm are available.

Type	Suitable for	Hose Ø (mm)	Model	Thread
FFS0800	Single spin-on filters type 330VTE(P)B, 340VTE(P)B and 350VTE(P)B	8	Straight	M16 x 1.5 male
FFS0890		8	90° Angled	M16 x 1.5 male
FFS1000		10	Straight	M16 x 1.5 male
FFS1090		10	90° Angled	M16 x 1.5 male
FFS1300		13	Straight	M16 x 1.5 male
FFS1390		13	90° Angled	M16 x 1.5 male
FFD0800	Double spin-on filters type 75330VTEB, 75340VTEB and 75350VTEB	8	Straight	G1/2 female
FFD0890		8	90° Angled	G1/2 female
FFD1000		10	Straight	G1/2 female
FFD1090		10	90° Angled	G1/2 female


FFS0890


FFD0800

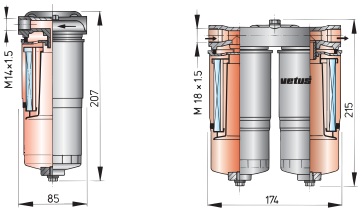

FFD0890

Petrol/diesel filters

Type WS

Filter for both petrol and diesel

Type WS180 and WS720 comply with the fire resistance test according to ISO 10088. These filters must be installed in a vertical position as close to the fuel tank as possible.



WS180

WS720

Type		WS180	WS720
Max. capacity in l/hr (g/hr)		180 (40)	720 (158)
Recommended capacity in l/hr (g/hr)		110 (24)	440 (97)
Connections	Thread	M14 x 1.5	M18 x 1.5
	Fittings	8 mm hose barb	15 mm compression fitting
Dimensions (mm)	Height	207	215
	Width	85	174
	Depth	85	85
Weight (kg)		0.7	1.5
Replacement filter	40 µm	WS180FE	2 x WS180FE
Replacement advice		After 200 service hours or annually	
Certification		Fire resistant ISO 10088	

Petrol fuel filter

Designed for use with outboard engines

Type 320VTNEB (Spin-on)

Type 320VTNEB is designed for use with outboard engines, but can also be used as a pre-filter for inboard engines. It fits petrol engines with a maximum of 500 hp.

320VTNEB

Type		320VTNEB
Max. capacity in l/hr (g/hr)		120 (26)
Hose connections (mm)		10
Dimensions (mm)	Height	195
	Width	116
	Depth	116
Weight (kg)		1.3
Replacement filter	10 µm	VTN32EB
Replacement advice		After 200 service hours or at least once a year
Certification		Fire resistant ISO 10088

Fuel Splash-Stop

Overflowing fuel or foam collector

Type FSA

The fuel Splash-stop is connected right under the deck filler plate to ensure that overflowing fuel or foam cannot flood onto the deck. The excess diesel* or petrol fuel is collected in a parallel hose which functions as a reservoir, returning the fuel back into the tank.

The capacity of the reservoir is determined by the length and diameter of the hose (see three types below). Always choose the largest reservoir possible, with a maximum of 2,2 litre. The housing and hose connection are made of anodized aluminium. The fill and vent lines, hose clamps and a matching stainless steel (AISI 316) deck entry should be ordered separately. The fuel Splash-Stop meets all the latest CE (ISO 10088) and ABYC standards.

FSA

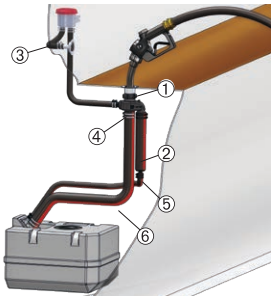
FSA3816
- Suitable for Ø 38 mm hose and 16 mm breather line. The capacity of Ø 38 mm hose is 1,1 ltr p/mtr.

FSA5116
- Suitable for Ø 51 mm hose and 16 mm breather line. The capacity of Ø 51 mm hose is 2 ltr p/mtr.

FSA5119
- Suitable for Ø 51 mm hose and 19 mm breather line. The capacity of Ø 51 mm hose is 2 ltr p/mtr.

Type	L x W x H (mm)	Hose Ø (mm)	Breather Ø (mm)	Capacity (ltr p/mtr)
FSA3816	146 x 86 x 121	38	16	1,1
FSA5116	146 x 86 x 121	51	16	2
FSA5119	146 x 86 x 121	51	19	2

*** Note:** A no-smell filter (for diesel only) can be fitted in the tank breather line to prevent unpleasant smells. If the filter is located well above the deck entry, the breather line may exit lower than the deck level if required. To prevent expensive fuel theft, we recommend placing a FUELSAFE (see page 158) into the Splash-Stop.



1. Deck entry
2. Reservoir / overflow hose and breather line
3. Tank breather line to outside
4. Splash-Stop
5. Hose connection
6. Fuel filling hose

Type FS

FS3816
- Deck entry Ø 38 mm
- Filler hose connection Ø 38/51 mm
- Breather connection Ø 16 mm

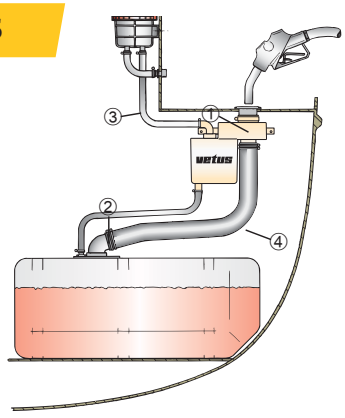
FS5116
- Deck entry Ø 51 mm
- Filler hose connection Ø 38/51 mm
- Breather connection Ø 16 mm

FS5125
- Deck entry Ø 51 mm
- Filler hose connection Ø 51 mm
- Breather connection Ø 25 mm

Note: For use outside the engine room only!

FS

Type	L x W x H (mm)	Hose Ø (mm)	Breather (mm)	Deck entry Ø (mm)
FS3816	250 x 120 x 215	38 / 51	16	38
FS5116	250 x 120 x 215	38 / 51	16	51
FS5125	250 x 120 x 215	51	25	51



VETUS Splash-Stop model FS is directly connected to a deck entry plate (1), with a diameter of 38 or 51 mm (optional equipment).
It ensures that overflowing diesel fuel or foam will not come out of the deck entry - soiling your deck and polluting the water, but will be neatly caught inside the reservoir (with a capacity of approx. 2 litre). Excessive fuel will flow back into the main tank through connection (2).
This connection also serves as the necessary tank ventilation. The breather line to outside is to be installed to connection (3).
A VETUS diesel smell filter may be installed into this breather line as well. If the diesel smell filter is positioned well above the deck, the breather line may exit below the deck level, if so required. FS is supplied with connections for Ø 38 mm or for Ø 51 mm fuel filling hose (4).

Rigid tanks for diesel fuel

Basic tank type ATANK

Multiple purpose - material ideal for diesel fuel (fresh water and waste water)

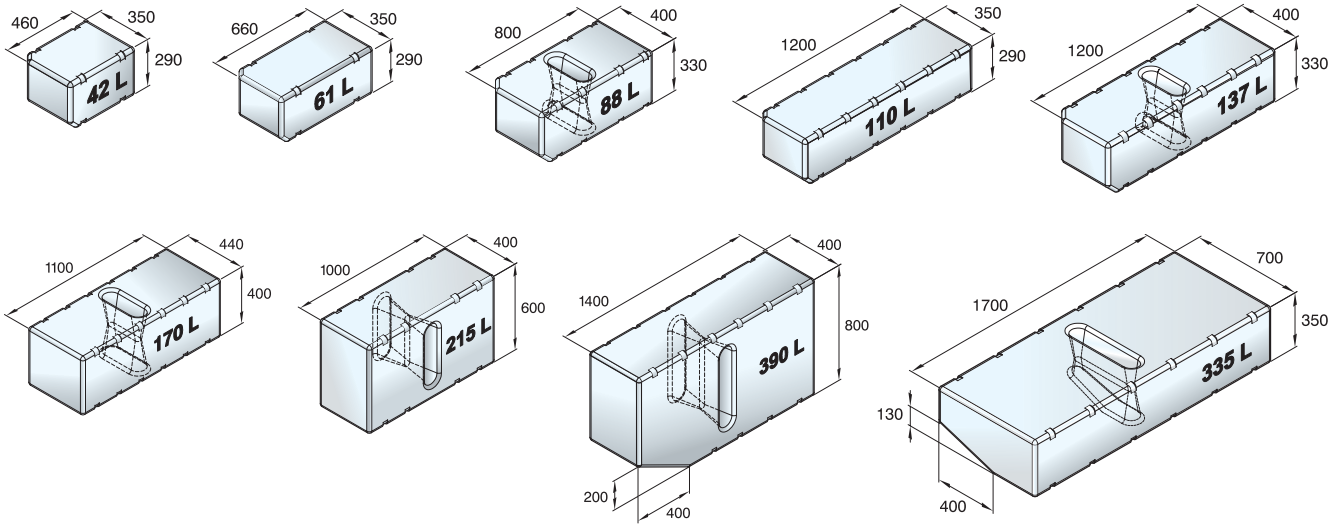
These tanks are made of thick walled (5-7 mm) high-grade polyethylene which is both rust free and less prone to condensation compared with metal tanks. Due to the seamless construction of the tanks, leakage is impossible. Fittings can be installed wherever you choose and can be ordered separately.

Tanks are supplied with diesel, fresh water and waste water labels.

Specifications

- Tanks are in accordance within the ISO 21487 standard when inspection lid ILT (see page 156) is installed and the supplied diesel sticker is used
- Available in 42, 61, 88, 110, 137, 170, 215, 335 and 390 litre
- Wall thickness 5-7 mm
- Colour Light blue translucent
- Suitable for diesel (up to 100°C)

For dimensions and types see details below.



Dimensions: plus or minus 2%

Type	Suitable for	Capacity (litre)
ATANK042	Diesel, fresh water and waste water	42
ATANK061	Diesel, fresh water and waste water	61
ATANK088 *	Diesel, fresh water and waste water	88
ATANK110	Diesel, fresh water and waste water	110
ATANK137 *	Diesel, fresh water and waste water	137
ATANK170 *	Diesel, fresh water and waste water	170
ATANK215 *	Diesel, fresh water and waste water	215
ATANK335 *	Diesel, fresh water and waste water	335
ATANK390 *	Diesel, fresh water and waste water	390

*Provided with a baffle as a standard construction element

Rigid tanks for diesel fuel

Tank with connectors type FTANKA/B

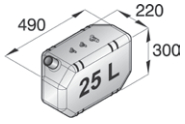
Designed for diesel fuel

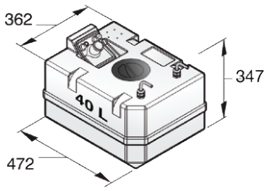
This range of rigid VETUS tanks are made of high-grade polyethylene. The centre point for a SAE flange gauge sender is incorporated (except FTANK25) together with five blind bolt holes. The gauge sender should be ordered separately. Tanks are in accordance with the ISO 21487 standard.

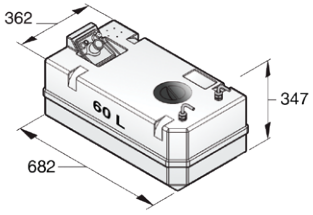
Each tank is supplied with the following connections
- Fixed hose connector Ø 38 mm (Ø 51 mm for FTANK25) for filling and 16 mm for breather line
- Rotating hose connector Ø 8 mm (type A + FTANK25) or 10 mm (type B) with pick-up pipe for suction
- Rotating hose connector Ø 8 mm (type A + FTANK25) or 10 mm (type B) for fuel-return

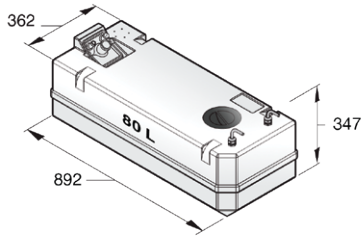
FTANK..A **FTANK..B**

Type	Description	Capacity (litre)
FTANK25	Synthetic diesel fuel tank	25
FTANK40A	Synthetic diesel fuel tank	40
FTANK60A	Synthetic diesel fuel tank	60
FTANK80A	Synthetic diesel fuel tank	80
FTANK40B	Synthetic diesel fuel tank	40
FTANK60B	Synthetic diesel fuel tank	60
FTANK80B	Synthetic diesel fuel tank	80









Dimensions: plus or minus 2%. Height dimensions includes connectors

APT100 - All Purpose Tank

Diesel, fresh water or waste water: this tank can handle it

A new series of all-purpose tanks is introduced by VETUS: meet the APT100. Made from high-grade polyethylene, this large capacity tank handles almost any liquid you would like to store on your boat. It features an inspection lid and is ready for the appropriate ILT connection kit. On the bottom is a 38 mm connection that can be drilled out for interconnection purpose or draining. The robust appearance and the design make this the tank to have.

Due to the large inspection hole (140 mm) the tank meets ISO 21487 when it comes to fuel directives. Depending on the purpose you have for this tank, an appropriate connection set is available from VETUS. The tank is easy to install and has enough capacity for longer boat trips.

APT100

ILTCONF38 (Fuel)

Specifications
- All-purpose 100 litre tank is suitable for diesel, fresh water or waste water
- Made from high-grade polyethylene
- Large inspection port of 140 mm to meet ISO 21487 requirements
- 38 mm connection (to drill open) for interconnection purpose or draining
- Suitable for ILTCONF38

Typ	Tank capacity (litre)	Dimensions (mm)	Wall thickness (mm)	Ø Bottom connection (mm)
APT100	100	1010 x 390 x 315	8	38
VTSTRAP	Lashing straps, two pieces, 3 m x 25 mm with VETUS logo			

Connection kit for rigid tanks

Type FTL....B

Saves considerable installation time

This connection kit has an anodized, salt water resistant aluminium lid with a counter flange and a rubber seal which is tightened very easily with just three bolts compressing the rubber seal to ensure a perfect seal. The set contains all the required connections, only one single hole with a diameter of 114 mm needs to be cut in the top of the fuel tank. This connection kit is suitable for synthetic, metal or GRP, diesel or petrol fuel tanks.

The following connections are supplied

- Hose connection for filling Ø 38 or 51 mm and a 16 mm tank ventilation connection
- Fuel suction pipe according to model selected
  - Ø 8 mm, max. tank depth 440 mm
  - Ø 10 mm, max. tank depth 850 mm
  - Ø 15 mm, max. tank depth 970 mm
- Fuel return for Ø 8, 10 or 15 mm hose
- Mounting flange for tank level sensors (connection is suitable for sensors with a 5-hole SAE flange)
- Terminal tag 6,3 mm for ground wire
- Two lashing straps to secure tank

Type	Filler (mm)	Supply/return Ø (mm)	Vent (mm)
FTL3808B	38	8	16
FTL3810B	38	10	16
FTL3815B	38	15	16

Type	Filler (mm)	Supply/return Ø (mm)	Vent (mm)
FTL5108B	51	8	16
FTL5110B	51	10	16
FTL5115B	51	15	16

VTSTRAP

Lashing straps with VETUS logo.

Type	Description
VTSTRAP	Lashing straps, two pieces, 3 m x 25 mm with VETUS logo

Type FTLDB

For installation of twin tanks

With this interconnection kit, two VETUS fuel tanks can be connected. The lid of this set has two 16 mm connections for tank ventilation. Two brass skin fittings (G3/4) and a coupling are supplied to connect the tanks. Including two lashing straps to secure the tank.

Type	Description
FTLDB	Connection kit for two fuel tanks
VSAW114	Ø 114 hole saw for FTL. For synthetic, G.R.P. or metal tanks

Connection kit for rigid tanks

NEW!

Universal inspection port for tanks type ILT120B and ILT120X

Innovative inspection port with robust design

The VETUS ILT is an innovative inspection port which facilitates easy opening, inspecting and cleaning the tank, even after being closed for a long time. The ILT120 is available in two ISO approved models: the ILT120B and the ILT120X. By improving the design of the cover and reinforcing the material with fiberglass, they now meet both the ISO 21487 and ISO 10088 standards.

ILT120B

ILT120X

ISO 10088 Small craft - Permanently installed fuel systems
This ISO standard requires a 120 mm inspection port in the fuel tank. This is not only regulated by law but is also a sensible fixture given the problems that possible fuel contamination can cause.

ISO 21487 Small craft - Permanently installed petrol and diesel fuel tanks
This mandatory standard for fuel tanks includes a stringent fire test, which both the ILT120B and ILT120X passed with ease! A unique performance, as we are the only company with a certificate for a standalone inspection port.

Customers who use our certified VETUS tanks together with one of these inspection ports will have an instantly approved system.

Both inspection ports have a counter flange and a rubber seal which are inserted into a Ø 159 mm hole in the tank. All that needs to be done is tighten the four supplied bolts which compresses the rubber seal to ensure perfect sealing.

The “clamp and seal” design simplifies installation, making the drilling of a Ø 159 mm hole the hardest part of the installation! The black blind plate can be replaced by various connection kits.

ILT120B
Suitable for (up to 10% bio)diesel, fresh and waste water tanks.
- Internal aperture: Ø 120 mm - Cut-out dimensions: Ø 159 mm
- Suitable for G.R.P., stainless steel and synthetic tanks with different wall thicknesses
- A hole saw is available separately. Article code: VSAW159

ILT120X
Suitable for petrol or (>10% bio) diesel fuel tanks.
- Viton gasket set for use with petrol or (>10% bio)diesel fuel
- Internal aperture: Ø 120 mm - Cut-out dimensions: Ø 159 mm
- Suitable for G.R.P., stainless steel and synthetic tanks with different wall thicknesses
- A hole saw is available separately. Article code: VSAW159

Fuel connection kit type ILTCONF38

This fuel connection disc will take care of all fuel related connections
- Ø 38 mm fuel fill connection
- Ø 8 / 10 mm fuel suction connection
- Ø 8 / 10 mm fuel return connection
- Ventilation connection Ø 16 mm
- 5 hole SAE flange tank level sensor connection
- Ø 8 mm suction connection for marine diesel heaters

ILTCONF38

Type	Description	Diameter (mm)	Diameter hole (mm)
ILT120B	Inspection port with counter flange (ISO 10088 and ISO 21487 compliant)	120	159
ILT120X	Inspection port with counter flange and Viton ring, suitable for petrol and 10% >(bio)diesel (ISO 10088 and ISO 21487 compliant)	120	159
VSAW159	Ø 159 mm hole saw for ILT120. For synthetic, G.R.P. or metal tanks		159
ILTCONF38	Fuel connection kit		
ILTCON90	Ø 38 mm 90-degree fill connection elbow for ILTCONF38		

No-smell filters

No-smell filters for diesel tanks type NSFD/S

Remedy for escaping diesel fuel odours

With these filters, diesel fuel smells can no longer escape through the breather line, which is required for all fuel tanks on boats.
The no-smell filters are easy to install and contain activated carbon material to absorb odours. To avoid diesel fuel and froth entering the filter housing and its element, it is imperative to install in combination with a Splash-Stop (page 152). A VETUS no-smell filter should not be used for petrol tanks.

NSF..D NSF16DS

Specifications
- Model NSFD: l 148 x w 150 x h 162 mm
- Suitable for Ø 16, 19 or 25 mm connectors
- Model NSFDS: l 107 x w 111 x h 111 mm
- Only suitable for Ø 16 mm breather hose

Please note: The filter element is replaceable. Replacement can be done with traditional carbon filters or with the improved solution: the dual function filter canister type NSFCAN. It should be renewed once a year.

Type	Description	L x W x H (mm)	Hose Ø (mm)
NSF16D	Large no-smell filter	148 x 150 x 162	16
NSF19D	Large no-smell filter	148 x 150 x 162	19
NSF25D	Large no-smell filter	148 x 150 x 162	25
NSF16DS	Small no-smell filter	107 x 111 x 111	16
NSF16FES	Spare filter element for small no-smell filters		
NSF16FE	Spare filter element for large no-smell filters		

No-smell filters element type NSFCAN

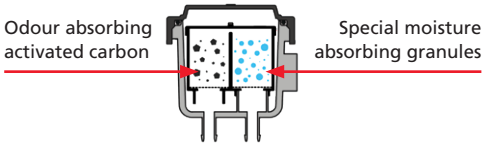
Revolutionary dual function

Type NSFCAN is a pre-filled canister with a measured quantity of activated carbon and special gel granules. The combination of gel granules and carbon provides a perfect dual function. Traditional carbon filters often lose efficiency due to humidity and condensation. The gel granules in this filter absorb the moisture which cause the efficiency loss and also ensure significantly less air borne moisture allowed into the fuel tank.

NSFCAN NSFCANS

Specifications
- Suitable for new and existing VETUS no-smell filters type NSFD
- Transparent cover so you can easily see when the special gel is saturated and replacement of the canister is necessary
- The filters reduce the risk of mould and 'diesel bug' in the tank (moisture in diesel fuel can be a perfect breeding ground for mould and bacteria)
- The smaller version type NSFCANS can be used with no-smell filter NSF16DS

Type	Description
NSFCAN	Dual function no-smell filter canister for type NSF_D filters
NSFCANS	Dual function no-smell filter canister for type NSF_DS filters



Accessories

Hole saw type VSAW

Type	Description
VSAW114	Ø 114 hole saw for FTL. For synthetic, G.R.P. or metal tanks
VSAW159	Ø 159 hole saw for ILT120. For synthetic, G.R.P. or metal tanks

VSAW114

VSAW159

FUELSAFE

No more fuel pumped out of the tank

Type FUELSAFE is made of petrol and diesel resistant synthetic material. No dismantling is required which makes installation of this safety device very simple. The synthetic packaging sleeve can be used to insert the device.

Specifications
- Dimensions Ø 55 x 72 mm
- Suitable for hoses with internal diameters of Ø 38 mm (1½") and 51 mm (2")

Type	Description
FUELSAFE	Fuel theft security device

FUELSAFE

Fuel filling hose type FFHOSE

Extremely flexible!

This type of hose, made of NBR rubber with spiralled steel inlay, is suitable for petrol and diesel fuels. Type FFHOSE meets requirements of SAE J 1527 and the standard ISO 7840 marine fuel A2 and is resistant to temperatures of -30° and up to 100°C.

For a complete overview of our range of hoses see page 430.

FFHOSE

FFHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit		HCS clamp to suit		Roll length (m)
FFHOSE38	38	50	1,1	4	76	HCHD(S)047		HCS40		20
FFHOSE51	51	63	1,5	4	102	HCHD(S)059	HCHD(S)063	HCS50	HCS60	20

Accessories

Fuel hose type FUHOSEA

For transportation of petrol and diesel fuels

The inside is made of NBR rubber and the outside is CR rubber. This hose can also be used as a ventilation line. Available as quality type A1, which means that these fuel hoses have been successfully subjected to a fire test for 2,5 minutes and have a maximum permeability of 100 grams/m²/ 24 hour.

Meets the CE standard: ISO 7840 marine fuel A1.

For a complete overview of our range of hoses see page 430.

FUHOSEA

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit		Roll length (m)
FUHOSE05A	5	11	0,13	10	22		HCS08	HCS12	30
FUHOSE06A	6	13	0,16	10	25		HCS08	HCS12	30
FUHOSE08A	8	16	0,24	10	30		HCS12		30
FUHOSE10A	10	18	0,28	10	35		HCS12	HCS16	30
FUHOSE13A	13	22	0,39	10	50		HCS16	HCS20	30
FUHOSE16A	16	25	0,45	10	60		HCS16	HCS20	30
FUHOSE19A	19	28	0,52	10	80		HCS20	HCS25	30
FUHOSE25A	25	35	0,73	10	110	HCHD(S)034	HCS25	HCS32	30

Type FHA115

Especially suitable for use with petrol because of its low permeability of 15 grams/m²/ 24 hour. The lining is translucent nylon for fuel and permeation resistance to 100°C. These fuel hoses have been successfully subjected to a fire test for 2,5 minutes.

Suitable for diesel fuel, bio diesel (up to B100), petrol fuel, oil and ethanol.

FHA115

Meets the highest CE standard: ISO 7840 marine fuel A1-15 and ISO 10088, CE, ABYC, CARB, EPA, SAE J 1527 A1-15, NMMA Type Accepted (2618936 and 2618937), USCG A1.

For a complete overview of our range of hoses see page 430.

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCS clamp to suit	Roll length (m)
FHA11506A	6	14	0,16	7	63,5	HCS8	76
FHA11508A	8	16	0,19	7	63,5	HCS12	76
FHA11510A	10	17	0,23	7	63,5	HCS12	76
FHA11513A	13	21	0,29	7	114,3	HCS16	76

Dtorque 111
TURBO DIESEL

SAFETY WITHOUT COMPROMISE

HIGH TORQUE AT LOW RPM
DURABLE & RELIABLE
SOLAS CERTIFIED

LOW NOISE AND VIBRATION
FUEL ECONOMY AND RANGE

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Fresh water systems

Overview

Rigid tanks see page 165 - 166

ATANK

WTANKC

DWSC

Flexible tanks see page 167

TANKW

Water heaters see page 168 - 169

WHT

WHD

Pressurized water systems

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HF

HYDRF

Pressurized water system pumps

see page 171

WP

Accumulator tank

see page 171

EXPAT075

Accessories see page 172 - 174

DWHOSEB

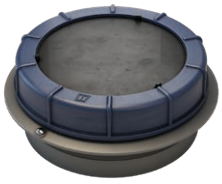
HWHOSE

ILTCOND

WTK02

WTKIT

NEW!



ILT120F

Accessories for hot water systems see page 175

WTS44513B

WHEL

WHMIXER

Fresh water systems

Why VETUS Fresh water systems?

Clean fresh water is life's number one necessity. Therefore you should always have the best quality of water on board.
The quality of the components selected for the on-board fresh water system, will determine how long the stored water remains safe and potable. VETUS uses sophisticated materials to make sure the water in the tanks remains fresh for a long time.

Why you should choose a VETUS Fresh water system?

- Our water tanks are made of synthetic material, perfect for fresh water
- Our tanks can be cleaned easily because of the large inspection cover
- The tank wall thicknesses vary from 5-8 mm
- We offer complete water pressure systems with integral pump and water pressure control
- Our electrical components are available for 12 and 24 VDC systems
- Our systems are quick and easy to install
- Our tanks are available in a wide range of capacities
- Our tanks avoid all of the corrosion problems associated with metal tanks

VETUS offers the following products for a good working fresh water system

Rigid tanks

High-grade synthetic tanks, especially designed for use with fresh water. Available in different shapes, sizes and capacities.

Ready-to-go tanks

These tanks are equipped as standard with an electric water pump, tank gauge sender, inspection lid and all connections required for the filler, suction and breather hoses.

Flexible water tanks

These tanks are made of durable material and can be easily installed and positioned in places which are normally difficult to reach. Ideal when space is a problem.

Water heaters

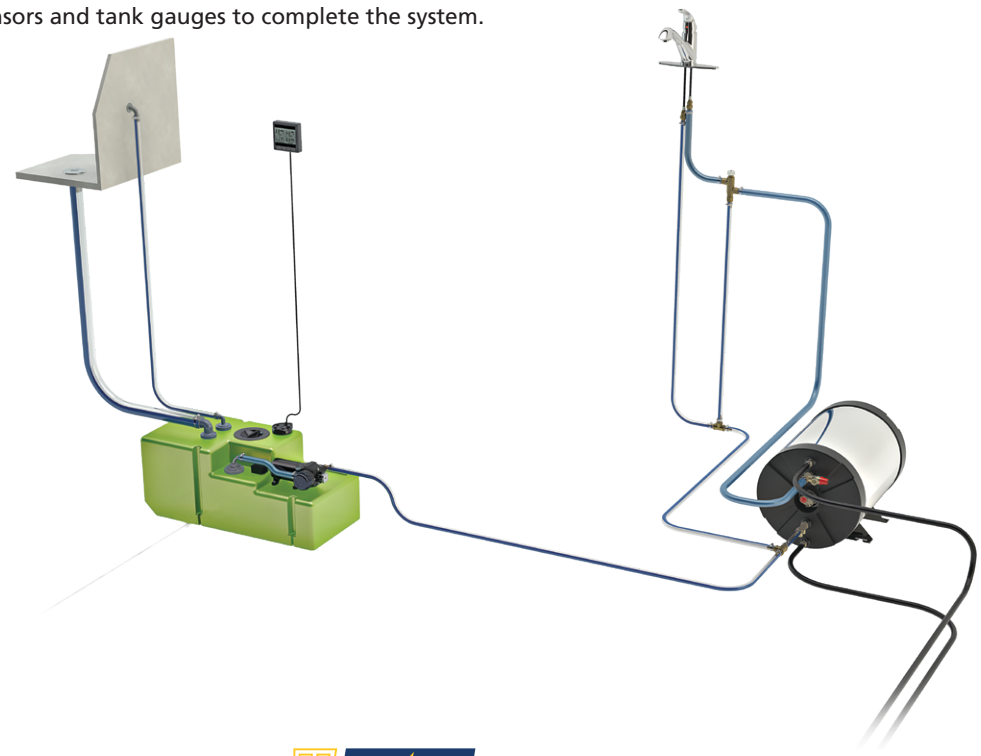
To create hot water when the engine is running. Our premium double wall design will heat up your fresh water five to seven times faster than conventional designs.

Pressurised water systems

Provides a constant water flow in the fresh water circuit of the boat.

Accessories

Hoses, connection kits, level sensors and tank gauges to complete the system.



Rigid tanks for fresh water

Basic tank type ATANK

All purpose tank ideal for fresh water (also for waste water and diesel)

These tanks are made of thick walled high-grade polyethylene which is both rust free and less prone to condensation compared to metal tanks. Due to the seamless construction of the tanks, leakage is impossible. Fittings can be installed wherever you choose and can be ordered separately.

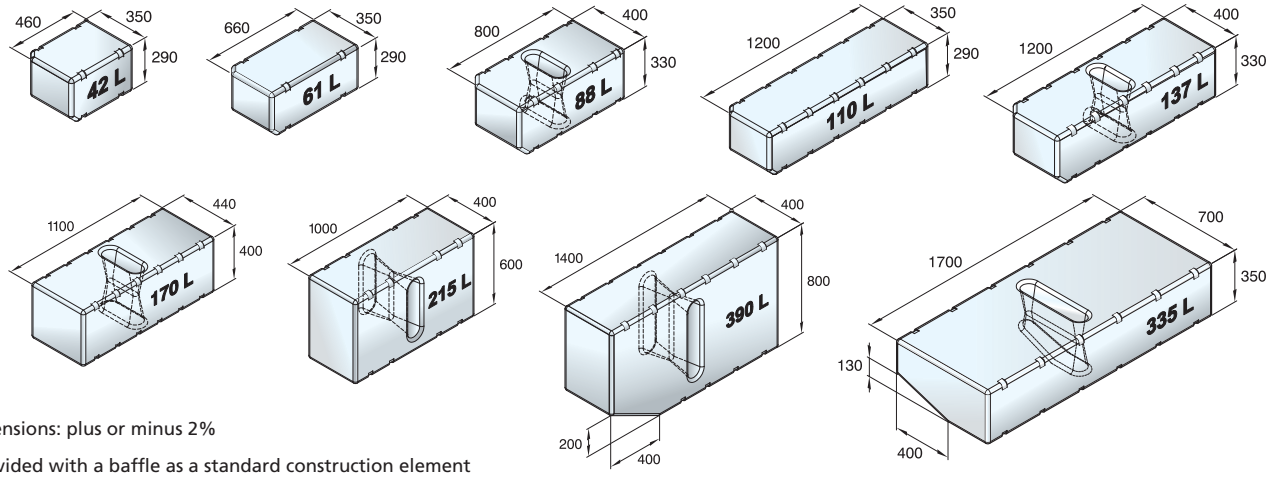
Tanks are supplied with diesel, fresh water and waste water labels.

ATANK

Specifications
- Available in 42, 61, 88, 110, 137, 170, 215, 335 and 390 litre
- Wall thickness 5-7 mm
- Colour Light blue translucent

Type	Capacity (litre)
ATANK042	42
ATANK061	61
ATANK088 *	88
ATANK110	110
ATANK137 *	137

Type	Capacity (litre)
ATANK170 *	170
ATANK215 *	215
ATANK335 *	335
ATANK390 *	390



Dimensions: plus or minus 2%

*Provided with a baffle as a standard construction element

APT100 - All Purpose Tank

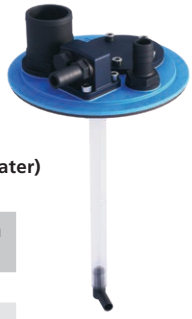
Fresh water, waste water or diesel: this tank can handle it

Made from high-grade polyethylene, this large capacity tank handles almost any liquid you would like to store on your boat. It features an inspection lid and is ready for the appropriate ILT connection kit. On the bottom is a 38 mm connection that can be drilled out for interconnection purpose or draining. The robust appearance and the design make this the tank to have.

Due to the large inspection hole (140 mm) the tank meets ISO 21487 when it comes to fuel directives. Depending on the purpose you have for this tank, an appropriate connection set is available from VETUS. The tank is easy to install and has enough capacity for longer boat trips.

Specifications
- All-purpose 100 litre tank, suitable for fresh water, waste water or diesel
- Made from high-grade polyethylene
- Large inspection port of 140 mm to meet ISO 21487 requirements
- 38 mm connection (to drill open) for interconnection purpose or draining
- ILTCOND ready

APT100



ILTCOND (Fresh water)

Type	Tank capacity (litre)	Dimensions (mm)	Wall thickness (mm)	Ø Bottom connection (mm)
APT100	100	1010 x 390 x 315	8	38
VTSTRAP	Lashing straps, 2 pieces, 3 m x 25 mm (see picture op page 155)			

Rigid tanks for fresh water

Basic tank type WTANKC

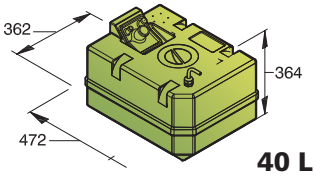
With easy screw down inspection lid

This type is made of high grade synthetic like all other VETUS rigid fresh water tanks and is supplied with all required connections which saves considerable installation time. A centre point for a SAE flange gauge sender is incorporated in the moulding together with five blind bolt holes.

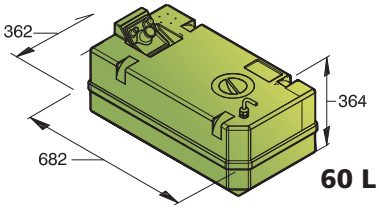
Specifications
- Tank capacities of 40, 60 and 80 litre
- Wall thickness 7 mm
- Hose connectors for filling line Ø 38 mm and breather line Ø 16 mm
- Rotating hose connector Ø 13 mm with pick-up pipe for water suction
- Supplied with installed screw down inspection lid

Note: The gauge sender should be ordered separately and the appropriate hole should be cut in the tank.

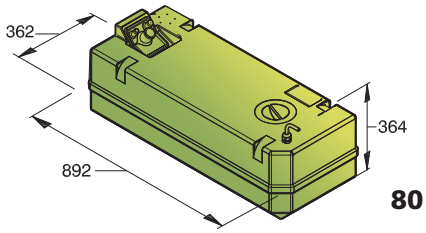
Dimensions: plus or minus 2% - Height dimension includes connectors



40 L



60 L



80 L

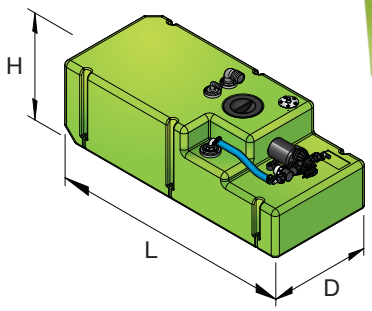
Type	Tank capacity (litre)	Ø Filler connection (mm)	Ø Breather connection (mm)	Ø Outlet connection (mm)
WTANK40C	40	38	16	13
WTANK60C	60	38	16	13
WTANK80C	80	38	16	13

Fresh water system type DWSC

Comfort 'ready to go' system

This high grade synthetic tank for fresh water is supplied with an electric pump which automatically switches on when the pressure in the system drops (for example when a tap is opened).

Specifications
- Tank capacity of 42, 61, 88 and 120 litre
- Wall thickness 6,35 mm
- System is available for 12 or 24 VDC
- Pump capacity 13.2 l/min at zero head
- Connections for filling line Ø 38 mm, outlet line Ø 13 mm and ventilation line Ø 16 mm
- Also supplied with inspection cover, gauge sender, connectors and filter in suction line



Type	Tank capacity (litre)	Voltage (DC)	Ø Filler connection (mm)	Ø Breather connection (mm)	Ø Outlet connection (mm)	Pump capacity (l/min)	Pump pressure (Bar)	L Length (mm)	D Depth (mm)	H Height (mm)
DWSC04212	42	12	38	16	13	13,2	3,1	610	350	400
DWSC04224	42	24	38	16	13	13,2	3,1	610	350	400
DWSC06112	61	12	38	16	13	13,2	3,1	780	350	400
DWSC06124	61	24	38	16	13	13,2	3,1	780	350	400
DWSC08812	88	12	38	16	13	13,2	3,1	930	400	400
DWSC08824	88	24	38	16	13	13,2	3,1	930	400	400
DWSC12012	120	12	38	16	13	13,2	3,1	1050	450	400
DWSC12024	120	24	38	16	13	13,2	3,1	1050	450	400

Flexible tanks for fresh water

Type TANKW

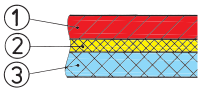
Easy installation

These tanks can be installed easily and quickly; they assume the shape of the space in which they are placed. Often, they can be used in awkward spaces or in locations which are difficult to reach. All fittings are supplied as standard. Fitting the outlet nipple and connecting the inlet and outlet hoses are the only things that need to be done.

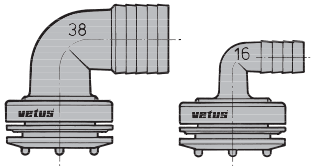
Standard supplied with
- One angled connector for filling pipe Ø 38 mm (is fitted to the top of the tank)
- One angled connector for the pump hose Ø 16 mm (loose)

Additional nipples can be supplied as an option.

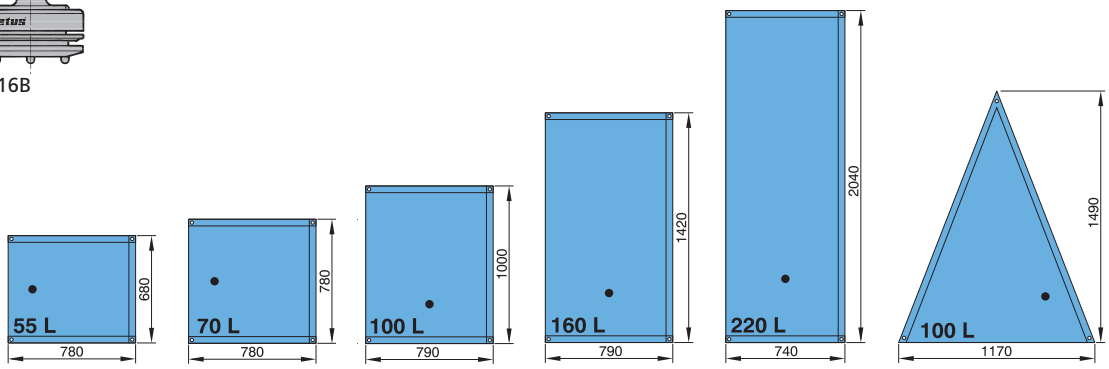
The VETUS flexible water tanks consists of three layers
1. A wear resistant layer
2. A reinforcement layer
3. A layer suitable for contact with fresh water

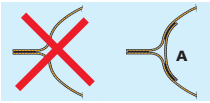


Type	Capacity (appr.) (litre)	Dimensions (appr.) (mm)	Height filled (appr.) (mm)
TANKW55	55	680 x 780	250
TANKW70	70	780 x 780	270
TANKW100	100	790 x 1000	270
TANKW160	160	790 x 1420	270
TANKW220	220	740 x 2040	270
TANKW1003	100 (Δ)	1170 x 1490	240



FT38B FT16B



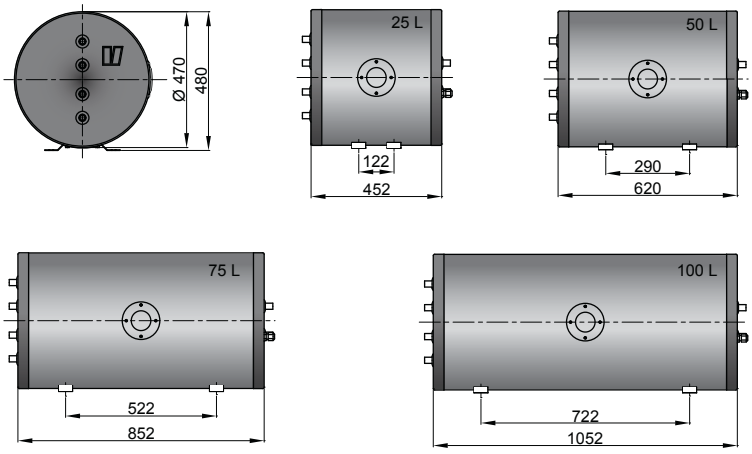


We not only weld the seams, but in addition we also weld an extra strip (see drawing A). This makes the VETUS flexible tank resistant against much higher pressures, especially if the contents are moving when the boat is rolling or pitching.

Water heaters

Improved standard twin coil water heater type WHT

This twin coiled calorifier range will double your comfort on board when it comes to hot water. One heating coil can be connected to the engine cooling circuit to make use of surplus engine heat. The other coil can be connected to an on board heating system. All water heaters are supplied with; a 1500 Watt electric heating element, six hose connectors 16 mm and a 6 bar pressure relief/ non return valve.



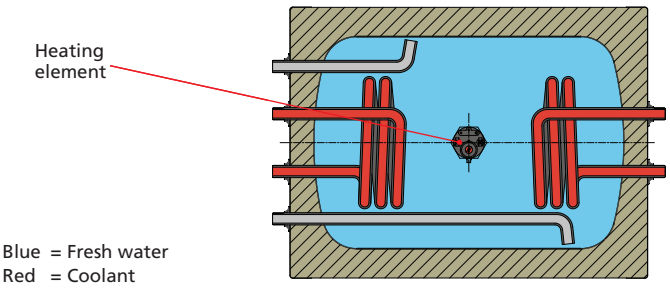
WHT

Type	Contents of fresh water (litre)	Contents of coolant (litre)
WHT025	25	0.5
WHT050	50	0.5
WHT075	75	0.5
WHT100	100	0.5

Specifications WHT

Construction	
Tank	Duplex stainless steel AISI 316
Insulation	Polyurethane foam, 50 mm thickness, supplied with white coated steel outer jacket

Connections	
Engine coolant	G ½
On-board heating system	G ½
Fresh water	G ½
Heating element	G 1¼, 1500 Watt, 230 VDC
Pressure relief valve setting	6 bar (87 lbs / sq.inch)



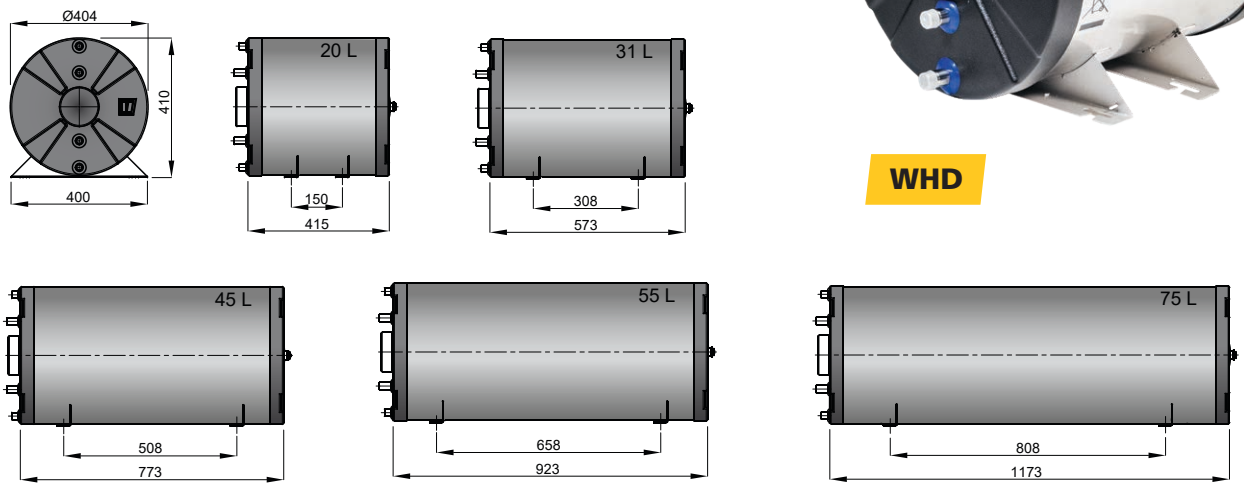
Blue = Fresh water
Red = Coolant

Water heaters

Premium double wall water heater type WHD

While conventional water heaters use a spiral tube to heat the water, these water heaters use a very efficient double wall principle. Thanks to this double wall principle, the VETUS double wall calorifiers have a heating surface, which is much greater than that of a conventional heating spiral tube. This means that the double walled water heaters will heat the water significantly faster than conventional calorifiers. All calorifiers are supplied with; a 1500 Watt electric heating element, 4 x 16 mm hose connectors and a 6 bar pressure relief/non return valve.

WHD

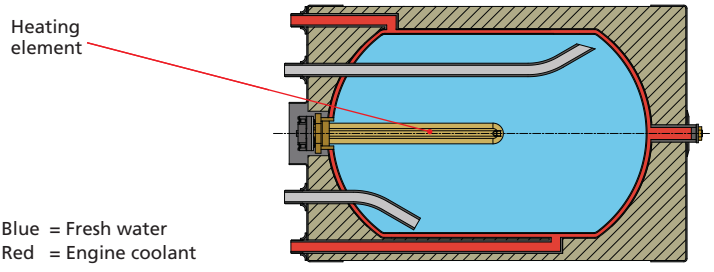


Type	Contents of fresh water (litre)	Contents of coolant (litre)
WHD020	20	2
WHD031	31	3
WHD045	45	5
WHD055	55	7
WHD075	75	9

Specifications WHD

Construction	
Inner + outer tank	Stainless steel AISI 316L
Insulation	Polyurethane foam, 35 mm thickness, supplied with high gloss finished stainless steel outer jacket

Connections	
Engine coolant	G ½
Fresh water	G ½
Heating element	G 1¼, 1500 Watt, 230 VDC
Pressure relief valve setting	6 bar (87 lbs / sq.inch)



Pressurized water systems

Pressurized water system type HF

Ensuring constant water flow

This VETUS pressurized water system provides a constant flow in the fresh water circuit of the boat. It is comparable with a piped water system at home. The pressurized tank with a rubber diaphragm inside, prevents the pump motor being started each time a supply of water is required. The diaphragm is suitable for fresh water and can be replaced. This system ensures a constant water flow, saving of energy and minimum noise.

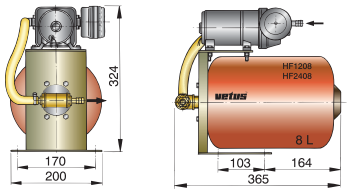
Supplied with
- Self-priming pump
- Inlet water strainer
- Pressure switch
- Mounting bracket

HF

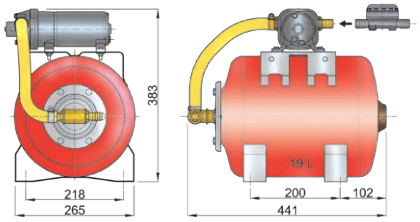
Extremely low noise level

Water system	Type HF1208 - HF2408	Type HF1219 - HF2419
Contents of pressure tank	8 litre	19 litre
Available in	12 VDC (3.9 A) 24 VDC (2,0 A)	12 VDC (6 A) 24 VDC (2,5 A)
Connection for hose	Ø 13 mm	Ø 19 mm
Weight	6,2 kg	7,5 kg
Capacity	12,5 l/min.	17 l/min.
Max. pressure	2,5 bar (35 psi)	2,8 bar (39 psi)
Max. suction height	3 m	3 m

Type 8



Type 19



Pressurized water system type HYDRF

With adjustable pressure switch

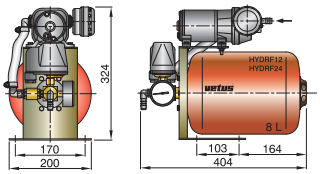
Type HYDRF works the same as the basic pressurized water system type HF, but has an adjustable pressure switch, a manometer (pressure gauge) and an additional non-return valve. Both VETUS pressurized water systems meet the EMC requirements. For more information about this pressurized water system, see type HF.

HYDRF

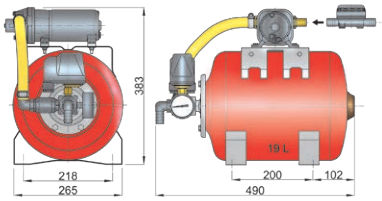
Water system	Type HYDRF12 - 24	Type HYDRF1219 - 2419
Contents of pressure tank	8 litre	19 litre
Available in	12 VDC (3.9 A) 24 VDC (2,0 A)	12 VDC (6 A) 24 VDC (2,5 A)
Connection for hose	Ø 13 mm	Ø 19 mm
Weight	8,2 kg	9,5 kg
Capacity	12,5 l/min.	17 l/min.
Max. pressure	2,5 bar (35 psi)	2,8 bar (39 psi)
Max. suction height	3 m	3 m

Extremely low noise level

Type 8



Type 19



Pressurized water systems

Pressurized water system pump type WP

Silent running and smooth operation

These pumps are designed for pressurized water systems, washing, liquid transfer etc. Type WP is noiseless, low in energy consumption and can run dry without damage. It is well equipped with a thermal overload protection, built-in check valve and is auto demand with built-in pressure switch. This pump is supplied with two straight and two angled 13 mm hose connections, and inlet filter.

WP..08B

WP..13B

WP..20B

Type	Voltage (DC)	Flow (lpm)	Pressure (bar)	Max Current (A)	L x W x H (mm)
WP1208B	12	7.6	2.1	5	212 x 130 x 123
WP2408B	24	7.6	2.1	3	212 x 130 x 123
WP1213B	12	13.2	3.1	7	212 x 130 x 123
WP2413B	24	13.2	3.1	4	212 x 130 x 123
WP1220B	12	20	4.2	17	229 x 147 x 132
WP2420B	24	20	4.2	10	229 x 147 x 132

Accumulator tank type EXPAT075

Steady water pressure in the system

Made from high grade polyamide, this compact small capacity accumulator with rubber membrane provides a constant flow in the vessels water circuit. The pressure in the accumulator prevents the water pump motor being started each time a supply of water is required and the butyl rubber membrane is suitable for fresh water. Connecting is easy as there is no preferred IN or OUT connection on this accumulator.

The EXPAT075 ensures a constant water flow, saves energy and minimizes noise. The accumulator is set to a pre-charge pressure of 0,7 bar, but can be adjusted to optimal settings for your fresh water system (to a maximum of 8,5 bar). Overall dimensions are 223 mm x 194 mm x 114 mm and the accumulator is supplied with two angled and two straight 13 mm hose pillars.

Specifications

- Smooths water flow
- Extends the lifespan of your fresh water pump
- Tank is suitable for confined spaces
- Dampens pulsation in the system
- Volume: 0,75 litre
- Temperature range: 0 to 50°C
- Connections: ½" NPT Male
- Hose pillars: ½" NPT - ½" (13 mm) hose
- Weight: 0,36 kg

EXPAT075

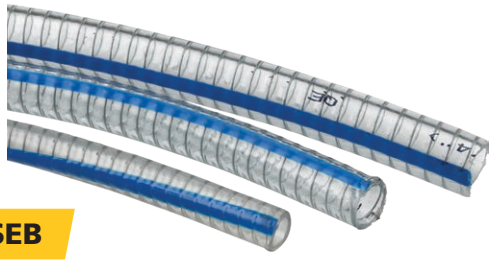
Typ	Capacity (litre)	Max. pressure (bar)	Connections	Dimensions l x b x h (mm)
EXPAT075	0,75	8,5	13 mm hose	223 x 194 x 114

Accessories

Hose type DWHOSEB

Temperature resistant between -5 and + 65°C

This hose is made of transparent PVC with spiral inlay and is suitable for transportation of fresh water on board, both suction and pressure.



DWHOSEB

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit	Roll length (m)
DWHOSE10B	10	16	0,16	7	20		HCS12	30
DWHOSE12B	12	18	0,18	7	25		HCS12	30
DWHOSE16B	16	22	0,24	6	35		HCS16 HCS20	30
DWHOSE19B	19	26	0,32	5	50		HCS16 HCS20 HCS25	30
DWHOSE25B	25	33	0,53	5	60		HCS25 HCS32	30
DWHOSE28B	28	36	0,57	4,5	66	HCHD(S)034	HCS25 HCS32	30
DWHOSE30B	30	38	0,60	4,5	70	HCHD(S)037	HCS25 HCS32	30
DWHOSE32B	32	40	0,56	4,5	75	HCHD(S)037 HCHD(S)040	HCS32 HCS40	30
DWHOSE35B	35	44	0,73	4	80	HCHD(S)043	HCS32 HCS40	30
DWHOSE38B	38	47	0,80	4	90	HCHD(S)043 HCHD(S)047	HCS32 HCS40	30
DWHOSE40B	40	49	0,87	3	95	HCHD(S)047	HCS32 HCS40	10
DWHOSE45B	45	55	1,10	3	105	HCHD(S)051 HCHD(S)055	HCS40 HCS50	10
DWHOSE50B	50	60	1,20	3	125	HCHD(S)059	HCS50	10

Hose type HWHOSE

Ideal for use with calorifier and hot water systems

Type HWHOSE is made of EPDM rubber with an inlay of woven synthetic fabric. This hose is suitable for fresh water and is temperature resistant between -30 and + 160°C.

HWHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCS clamp to suit	Roll length (m)
HWHOSE13	13	23	0,36	8	95	HCS16 HCS20	10
HWHOSE16	16	26	0,40	8	110	HCS16 HCS20 HCS25	10

Accessories

Inspection lid type WTK02

For (waste) water tanks only!

Specifications
- Overall diameter Ø 156 mm
- Cut out diameter Ø 115 mm
- Not suitable for fuel tanks
- Ideal for metal tanks

Type	Description
WTK02	Inspection lid only, for rigid fresh water tanks

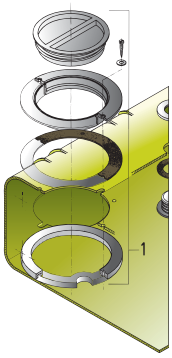
WTK02

Inspection lid kit type WTIKIT

Complete with gasket, counter flange and fastenings

Specifications
- Overall diameter Ø 156 mm
- Cut out diameter Ø 115 mm
- Not suitable for fuel tanks

Type	Description
WTIKIT	Inspection lid for rigid fresh water tanks



WTIKIT

Universal sender for fresh water, petrol/gasoline and diesel fuel

Universal tank sender for fresh water, petrol and diesel fuel (type SENSOR). Available in seven different lengths: 280, 320, 380, 480, 580, 680 or 780 mm. The VETUS universal tank sender indicates the difference in fluid level in steps of 2.5 cm. Just compare this with other systems which can only show three positions (full - about half full - empty).

Specifications
- Empty 300 Ω
- Full 10 Ω
- For 12 and 24 VDC

Type	Length (mm)	Voltage (DC)
SENSOR280	280	12/24
SENSOR320	320	12/24
SENSOR380	380	12/24
SENSOR480	480	12/24
SENSOR580	580	12/24
SENSOR680	680	12/24
SENSOR780	780	12/24

SENSOR

Each tube length contains the maximum number of reed contacts (electronic switches), instead of the bare minimum of just three (full, half full, empty). Because of this, your tank gauges will read with maximum accuracy.
The reed contacts are sealed “fluid-tight”.

Accessories

Installation kit type WTKIT

With inspection lid and angled connectors

The installation kit consists of
1. One inspection lid (WTIKIT)
2. One right angle connector (RT38B) for filling hose Ø 38 mm
3. One right angle connector (RT16B) for water pump Ø 16 mm
4. One right angle connector (RT16B) for ventilation Ø 16 mm
5. Two lashing straps
6. T-piece for interconnecting two tanks Ø 16 mm

WTKIT

Type	Description
WTKIT	Installation kit for fresh water tanks

Universal inspection port for tanks type ILT120F

NEW!

Innovative inspection port with robust design

The ILT is an innovative inspection port which facilitates easy opening, inspecting and cleaning the tank, even after being closed for a long time. The inspection port has a counter flange and a rubber seal which are inserted into a Ø 159 mm hole in the tank. All that needs to be done is tighten the four supplied bolts which compresses the rubber seal to ensure perfect sealing.

The "clamp and seal" design simplifies installation, making the drilling of a Ø 159 mm hole the hardest part of the installation! The black blind plate can be replaced by various ILT connection kits.

ILT120F

Fresh water connection kit type ILTCOND

Keeping fresh water fresh and preventing marine growth can be tricky, but a large opening will help to do the job! Periodic cleaning of all connections and of course the tank itself will be a much easier job if it can be done in a fraction of the time!
For fresh water tanks in all varieties the VETUS ILT freshwater disc is all you need!

The connections that come with this set are
- Ø 38 mm fresh water fill connection
- Ø 13 mm fresh water suction connection
- Ventilation connection Ø 16 mm
- Five hole SAE flange tank level sensor connection

ILTCON90

ILTCOND

Type	Description	Diameter (mm)	Diameter hole (mm)
ILT120F	Inspection port with counter flange	120	159
VSAW159	Ø 159 mm hole saw for ILT120. For synthetic, G.R.P. or metal tanks		159
ILTCOND	Fresh water connection kit		
ILTCON90	Ø 38 mm 90-degree fill connection elbow for ILTCOND		

Accessories

Suction pipe type WTS44513B

Fitted to the top of fixed tanks

This suction pipe can be fitted to the top of most of the fixed tanks with a maximum depth of 410 mm and is suitable for Ø 13 mm fresh water systems.

Type	Description
WTS44513B	Suction pipe for fresh water tanks

WTS44513B

Accessories for water heaters

Heating element type WHEL

Adjustable thermostat (40 - 80°C.). Male thread size, ISO 228/1 G1¼.
Screw-in length of element is 300 mm.

Electric heating elements
- 500 Watt, 230 VDC
- 1000 Watt, 120 VDC
- 1000 Watt, 230 VDC
- 1500 Watt, 230 VDC

VETUS heating elements type WHEL meet the low voltage requirements.

WHEL

Type	Voltage (DC)	Watt (W)
WHEL22500	230	500
WHEL220	230	1000
WHEL110	120	1000
WHEL1500	230	1500

Thermostatic mixer for water heaters

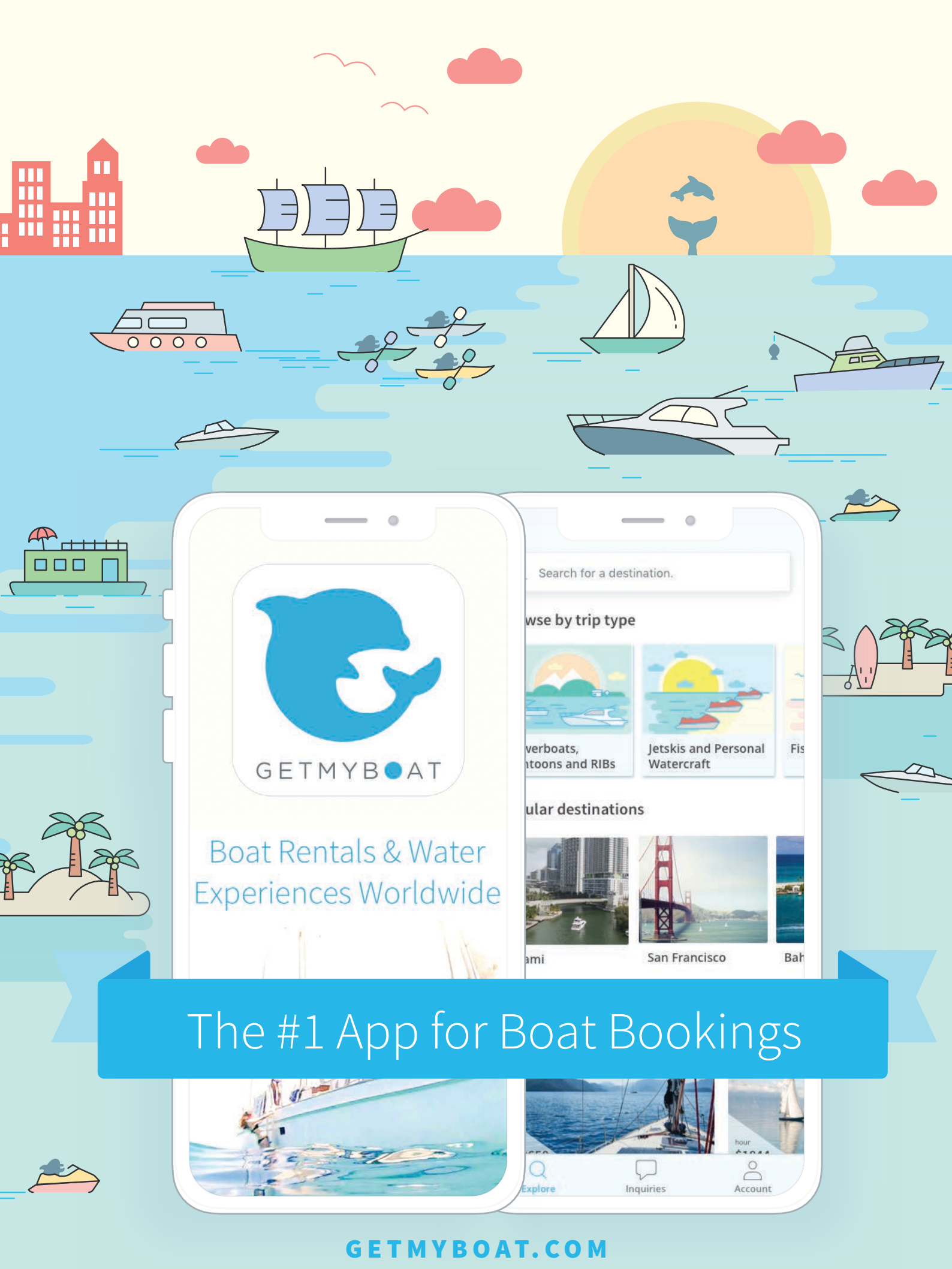
Water heaters which are heated by the engine coolant, can deliver their fresh water contents at temperatures of more than 90°C. There is always a risk that these high temperatures could cause scalding when washing or showering. Using a mixer tap can take too long to a find a suitable temperature, with high water usage as a consequence.

By fitting a thermostatic mixer, the risk of scalding is eliminated and a safe and comfortable temperature for each requirement is easily selected. So, no more hot water wastage, a constant safe temperature at the tap and energy saving.

The thermostatic mixer is provided with G½ thread. The temperature is infinitely adjustable between 30° and 70°C.

WHMIXER

Type	Description
WHMIXER	Thermostatic mixer for water heaters



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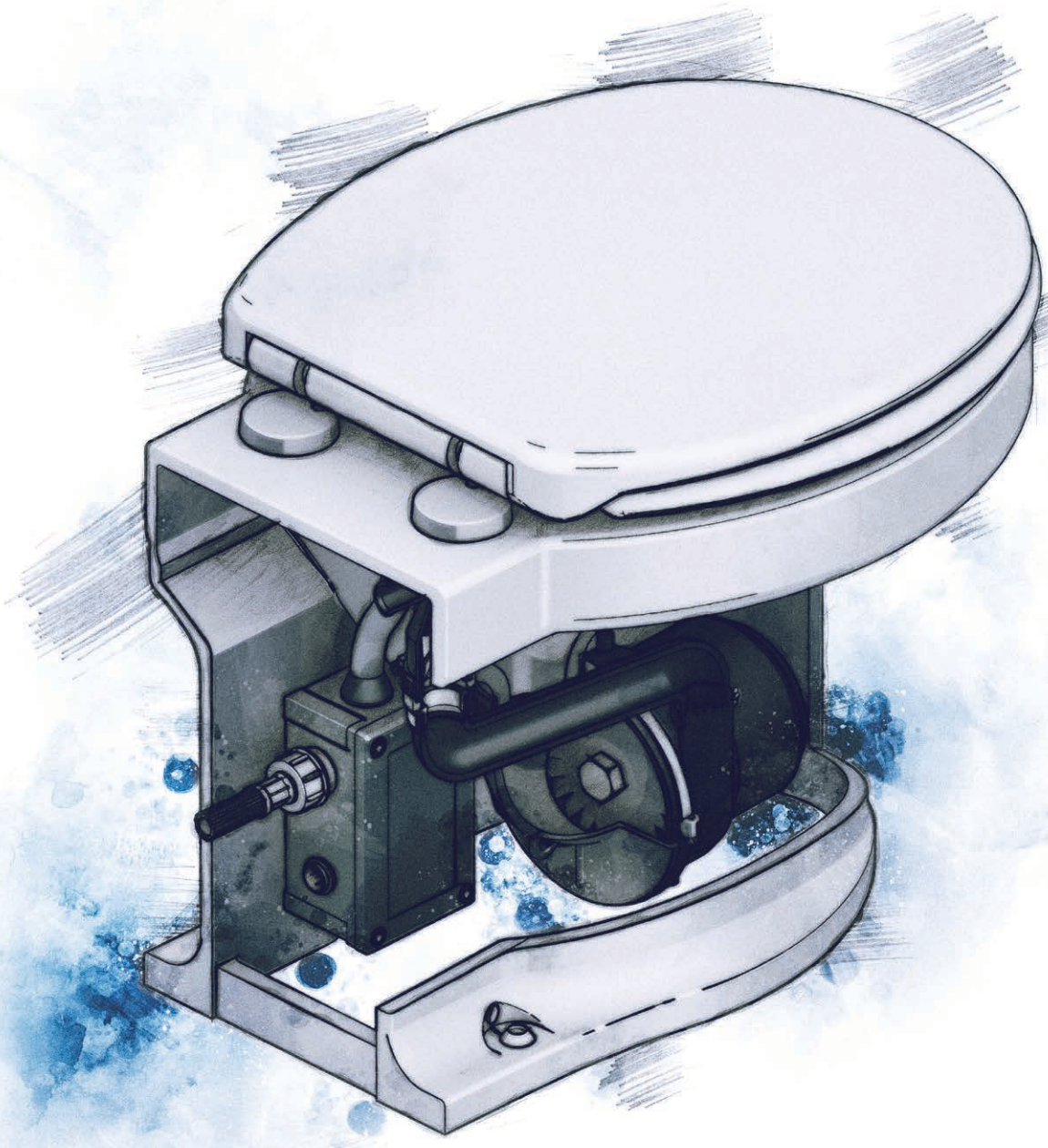
Waste water systems



Overview

Electric marine toilets see page 181 - 183

TMWQ

HATO

WCS

SMTO

WCP

Electric toilet control panels see page 184

TMWBP

TMWBS

SET0137

SET0212

Sani-processors see page 185 - 186

SAPRO

GWDS

Rigid tanks for waste water see page 187 - 189

ATANK

BTANKC

WW25WH

WWS

Flexible waste water tanks see page 190

TANKV

TankFresh see page 190

TFRESH

Accessories for waste water holding tanks see page 191 - 196

WWSENSORA

WWCP

EMP140

VRF56A

RT

NEW!

ILT120F

HA

MV

Y3C

ILTCONW

Why VETUS Waste water systems?

An odourless waste water system is possible, however, you do need to follow some guidelines to keep your waste water free from unwanted odours. Below we highlight a few tips. Please visit our website www.vetus.com if you require more information.

Tips for an odour-free waste water system

1. Hoses: Make sure the outlet hoses are properly installed with a constant fall towards the holding tank. Flush the hoses thoroughly with sufficient fresh water every time the toilet is used.
2. Flushing: Flush your hoses sufficiently. Installing a VETUS electric toilet also helps. These toilets have a powerful macerator pump that ensures all waste water is pumped through the hoses at high pressure, and less water is needed to flush them.
3. Holding tank: Use VETUS holding tanks. The thick walls of our synthetic tanks make them completely odour proof. The hose connection kit and fittings with watertight seals ensure that no leaks can occur. Empty and rinse the tank regularly. All VETUS waste water tanks are certified according ISO 8099.
4. Ventilation: Proper ventilation is the main requirement for an odourless system. It is very important that the tank is well ventilated. Use large diameter fittings and VETUS hoses for ventilation. Make sure that the hoses are not clogged!
   As an option you can install a No-Smell filter in the ventilation hoses.
5. TankFresh: A concentrate of completely organic bacteria that break down faeces in the waste water system without emitting any odour. Any well-designed waste water system can function virtually without odour just by using TankFresh.

Why you should choose a VETUS Waste water system?

VETUS WWS waste water system

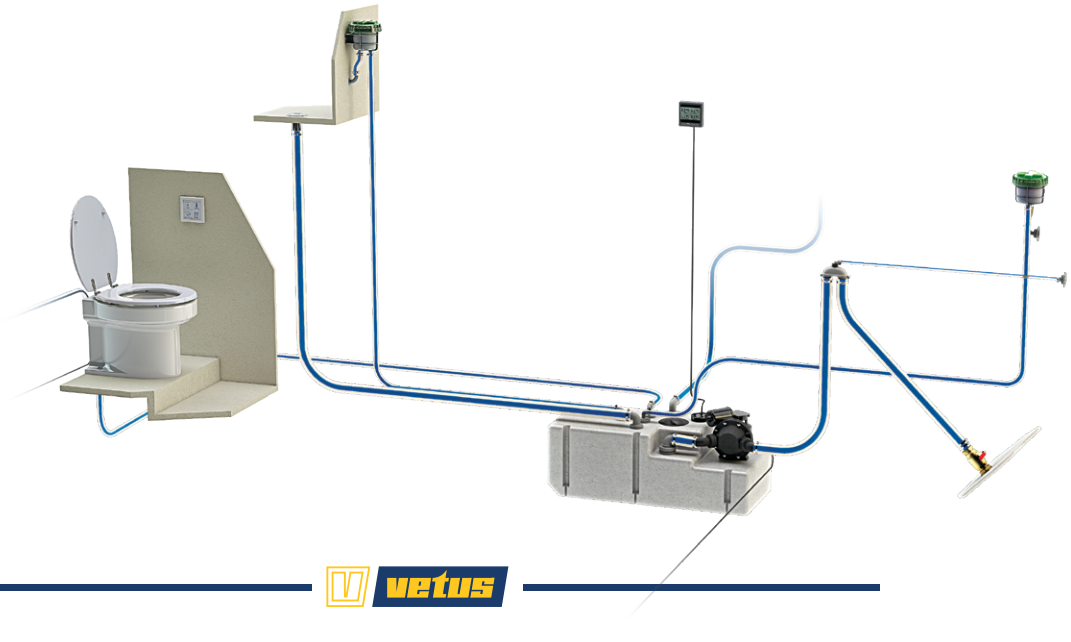
- Is easy to install, low maintenance and space-saving
- Comes pre-fitted with pump, discharge pipe, breather, inspection lid and ultrasonic sensor
- Is robust and corrosion-free and available in capacities of 42, 61, 88 and 120 litre

VETUS EMP 140 waste pump

- Is a powerful diaphragm pump equipped with ‘duck bill’ valves
- Produces very low noise levels, is self-priming and low maintenance
- Comes complete with rotatable connectors allowing hose connections from any angle
- Has a large capacity of 27 litre/minute, suction height 3 metres, discharge height 5 metres

VETUS electric toilets

- Come with high quality soft close and quick release seat / lid and operate at the touch of a button
- Low maintenance and low water consumption (ECO flush)
- Feature a very low noise macerator pump and requires only a 19 mm diameter outlet pipe
- Equipped with porcelain toilet bowl, stainless steel (AISI 316) macerator blades and a non-return valve
- VETUS electric marine toilets meet the EMC requirements



Electric marine toilets

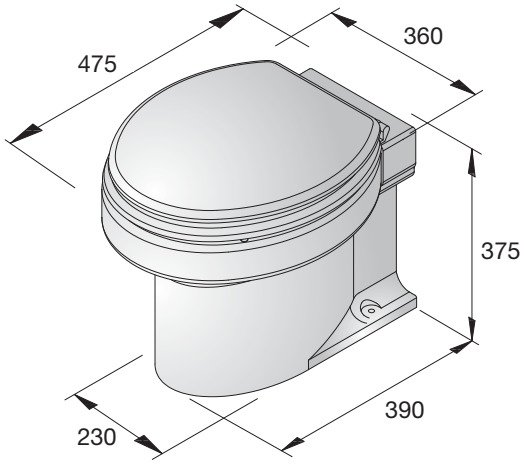
Soft close toilet type TMWQ

Compact dimensions without sacrificing comfort

Very competitively priced and comfortable toilet. A welcome alternative to manually operated hand-pumped toilets. Operated by a simple rocker switch or control panel which must be ordered separately (see page 184).

Specifications

- Soft close and quick release seat / lid
- Easy to clean porcelain bowl / simple maintenance
- Powerful macerator with full stainless steel (AISI 316) blades and high capacity discharge pump (60dB)
- Comes with three discharge hose adapters Ø 19, 25 and 38 mm and a 700 mm long water inlet hose
- Very low water consumption



TMWQ

Type	Voltage (DC)	Power consumption (A)	Type of control	External Ø discharge (mm)	Water inlet connection
TMW12Q	12	25	Panel or Switch	19, 25 or 38	Female G¾
TMW24Q	24	12.5	Panel or Switch	19, 25 or 38	Female G¾

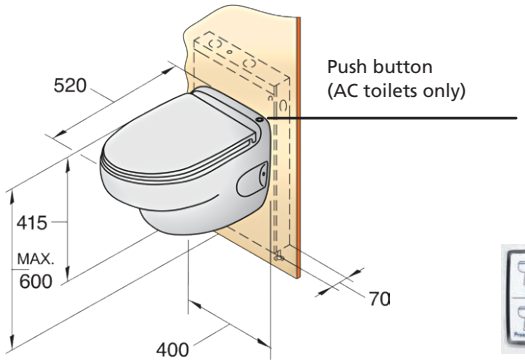
Electric marine toilets

Hanging toilet type HATO

Creating more floor space

A practical wall mounted toilet without connection to the floor to simplify cleaning. This toilet has a porcelain bowl and a comfortable sized seat. The waste connection is in the back wall, which can be an advantage.

Specifications
- Soft close and quick release seat / lid
- Easy to install and maintain
- Super quiet macerator (60dB (A)) with full stainless steel (AISI 316) blades and large capacity discharge pump
- Comes with a waterproof electronic operating panel or a pneumatic push button
- Very low water consumption
- Available for DC or AC power supply



HATO212B

HATO224B

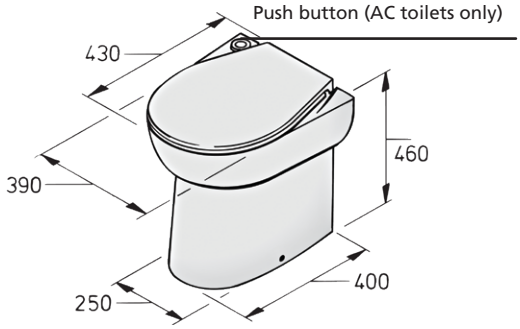
HATO

Toilet type WCS

Floor standing comfort

Comfortable floor standing toilet with porcelain bowl and a normal sized seat and lid.

Specifications
- Soft close and quick release seat / lid
- Easy to install and maintain
- Super quiet macerator with full stainless steel (AISI 316) blades and large capacity discharge pump (60dB (A))
- Comes with a waterproof electronic operating panel or pneumatic push button
- Very low water consumption
- Available for DC or AC power supply



WCS12S2

WCS24S2

WCS

Type	Voltage (DC)	Power consumption (A)	Type of control	External Ø discharge (mm)	Water inlet connection
HATO212B	12	25	Panel	19	Female G¾
HATO224B	24	12.5	Panel	19	Female G¾
HATO110	110 VDC (60 Hz)	5	Push button	19	Female G¾
HATO220	230 VDC (50 Hz)	2.5	Push button	19	Female G¾
WC12S2	12	25	Panel	19	Female G¾
WC24S2	24	12.5	Panel	19	Female G¾
WC110S	110 VDC (60 Hz)	5	Push button	19	Female G¾
WC220S	230 VDC (50 Hz)	2.5	Push button	19	Female G¾

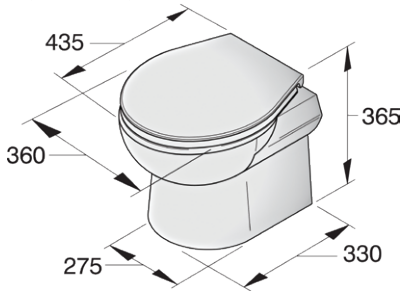
Electric marine toilets

Toilet type SMTO

Small size, big performance

This is one of the smallest and lightest electric toilets on the market.
A high-quality solid floor standing model, with a porcelain bowl and comfortable seat and lid.

Specifications
- Soft close and quick release seat / lid
- Easy to install and maintain
- Super quiet macerator with full stainless steel (AISI 316) blades and large capacity discharge pump (60dB (A))
- Comes with a waterproof electronic operating panel (type SMTO2) or rocker switch (type SMTO2S)
- Very low water consumption



SMTO

SMTO2

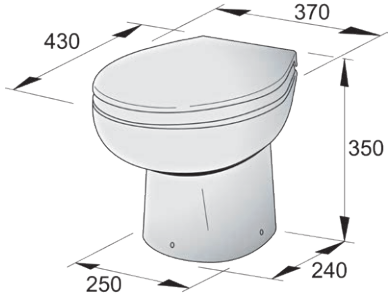
SMTO2S

Compact toilet type WCP

Small footprint, big performance

This toilet has a very small footprint because the electronic control box is mounted outside the toilet.

Specifications
- Soft close and quick release seat / lid
- Easy to install and maintain
- Super quiet macerator with full stainless steel (AISI 316) blades and large capacity discharge pump (60dB (A))
- Comes with a waterproof electronic operating panel (type WCP) or rocker switch (type WCPS)
- Very low water consumption



WCP

WCP

WCPS

Type	Voltage (DC)	Power consumption (A)	Type of control	External Ø discharge (mm)	Water inlet connection
SMTO212	12	25	Panel	19	Female G¾
SMTO224	24	12.5	Panel	19	Female G¾
SMTO2S12	12	25	Switch	19	Female G¾
SMTO2S24	24	12.5	Switch	19	Female G¾
WCP12	12	25	Panel	19	Female G¾
WCP24	24	12.5	Panel	19	Female G¾
WCPS12	12	25	Switch	19	Female G¾
WCPS24	24	12.5	Switch	19	Female G¾

Electric toilet control panels

Control panel for TMW toilet

Pre-programmed comfort

The panel is easy to operate with just four functions. It has an eco (± 1,2 ltr) and normal flush (± 2,2 ltr) button and a fill or empty bowl button. Using a marine toilet was never this easy, just touch the button!

Specifications
- Panel dimensions 110x110 mm
- Build-in depth 50 mm
- Complete installation package including 3 mtr cable
- Suitable for 12 or 24 VDC
- Waterproof IP65

TMWBP

Control switch for TMW toilet

Full control over the flush

A simple and effective two function switch to fill or empty the bowl.

Specifications
- Switch dimensions 78x47 mm
- Build-in depth 40 mm
- Complete installation package including 3 mtr cable
- Suitable for 12 or 24 VDC
- Waterproof IP65

TMWBS

Marine toilet control panel

(Supplied as standard with toilet types WCP, WCS, HATO and SMTO)

This pre-programmed three function panel has an eco and normal flush and bowl evacuation.

Specifications
- Panel dimensions 72x72 mm
- Build-in depth 21 mm
- Complete installation package including 1,5 mtr cable
- Suitable for 12 or 24 VDC
- Waterproof IP65

SET0137

Marine toilet rocker switch

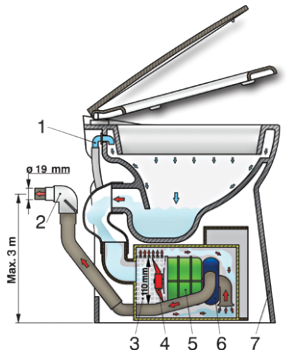
(Supplied as standard with toilet types SMTOS and WCPS)

Rocker switch with two functions to fill or flush the bowl.

Specifications
- Switch dimensions 45x75 mm
- Build-in depth 40 mm
- Complete installation package including 3 mtr cable
- Suitable for 12 or 24 VDC
- Waterproof IP65

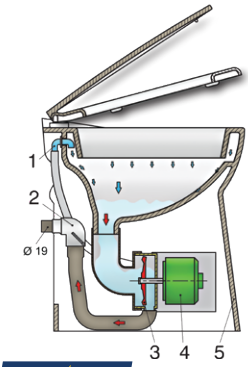
SET0212

All VETUS toilets are equipped with an electric pump with powerful macerator to ensure proper evacuation of contents in one single action.



120/230 VDC models

1. Flushing water inlet
2. Discharge of waste water
3. Protective grille
4. Stainless steel (AISI 316) blades
5. Macerator motor
6. Discharge pump
7. Porcelain toilet bowl



12/24 VDC models

1. Flushing water inlet
2. Discharge of waste water
3. Stainless steel (AISI 316) blades
4. Macerator motor
5. Porcelain toilet bowl

Sani-processor

Compact Sani-Processor for black and grey water

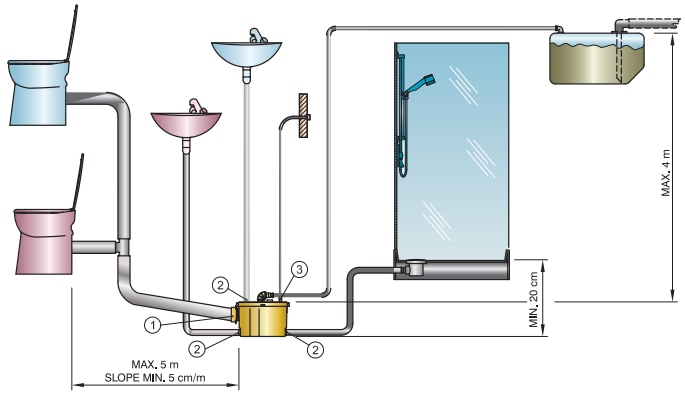
The comfort and style of home

On larger boats, owners want to have the comfort and looks of their toilet at home. Therefore VETUS has developed the Sani-Processor with an electric macerator and a powerful pump in order to use an ordinary gravity flow, domestic toilet on board. When flushing the toilet, the Sani-Processor collects the contents, macerates and pumps the slurry into a holding tank. The whole process takes only 10 to 30 seconds and is very quiet. The unit can be easily cleaned by removing the inspection lid. We recommend using the VETUS sanitary connecting hoses, type SAHOSE, to ensure an odour-tight process.

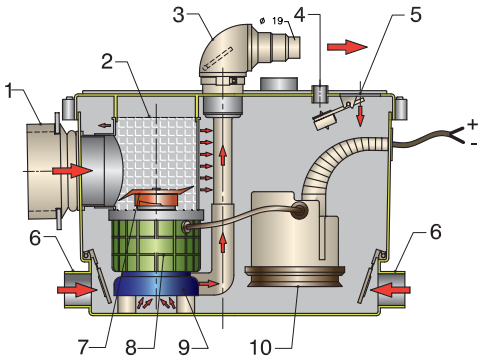
Specifications
- Processor dimensions l 420 x w 120 x h 360 mm
- Holding tank placement max. 4 mtr higher than Sani-Processor
- Macerator diameter 98 mm
- Weight 4,8 kg
- Pump capacity approx. 50 ltr/min at 4 mtr head
- Power consumption approx. 370W (12 VDC), 435W (24 VDC), 580W (110 VDC), 400W (230 VDC)
- Available for 12 or 24 VDC, 230 VDC/50Hz or 120 VDC/60Hz
- Maximum permissible water temperature 35°C

Connections
- Hose from toilet to Sani-Processor: Ø 102 mm, max. length 4 mtr
- Hose from Sani-Processor to holding tanks: Ø 19 mm, max. length 20 mtr
- Washbasin/bidet connections: Ø 40 mm

Type	Voltage (DC)
SAPRO12	12
SAPRO24	24
SAPRO220	230 VDC / 50 Hz



1. Hose connection Ø 102 mm (SLVBR100K)
2. Hose connection Ø 40 mm (SLVBR40K or HA3060)
3. Hose connection HA1338



1. Toilet connection, Ø 102 mm
2. Protective grille
3. Waste discharge connections: male Ø 19 mm o.d. and female Ø 25 / 28 / 32 mm i.d
4. Breather connection, Ø 19 mm
5. Washbasin / bidet connection, Ø 40 mm
6. Washbasin or shower connection, Ø 40 mm
7. Stainless steel (AISI 316) blades
8. Electric macerator motor
9. Discharge pump
10. Float switch

Sani-processor

Discharge system to transport waste water into holding tank

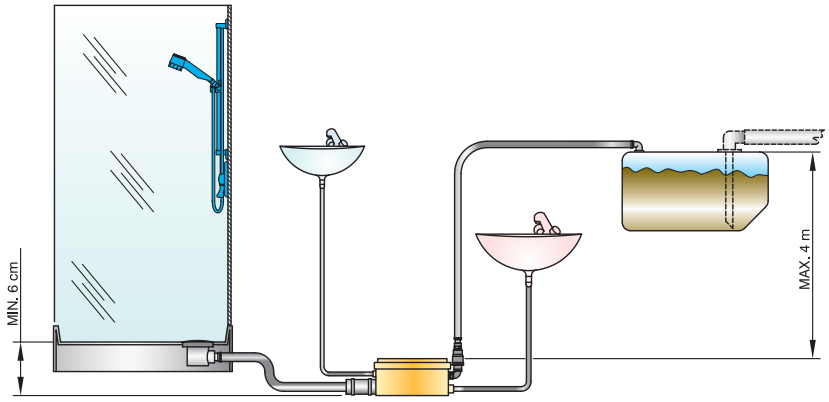
Pumping water automatically from the shower tray or washbasin into a waste water tank is possible with the VETUS grey water discharge system (GWDS). It has a watertight housing with a low noise discharge pump, automatic flow switch and a non-return valve in the discharge line. You can easily pump the water into the holding tank.

Specifications
- Dimensions tank l 300 x w 165 x h 145 mm
- Waste water tank location up to 4 mtr above GWDS unit or up to 20 mtr away from it
- Bottom of GWDS unit must be placed at least 6 cm below shower tray or washbasin
- Weight 3,5 kg
- Pump output approx. 44 ltr/min
- Power consumption approx. 340 W (12 VDC), 350 W (24 VDC), 600 W (120 VDC), 250 W (230 VDC)
- Available for 12 or 24 VDC, 230 VDC / 50Hz or 120 VDC / 60Hz
- Maximum permissible water temperature 35°C

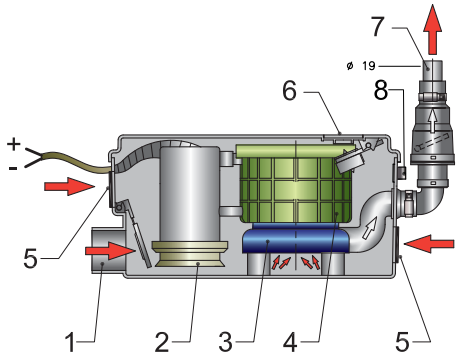
Connections
- Outlet discharge to holding tank: Ø 19 mm
- Inlet connections from shower or washbasin: Ø 32 or 40 mm

GWDS

Type	Voltage (DC)
GWDS12	12
GWDS24	24
GWDS220	230 VDC / 50 Hz
GWDS110	120 VDC / 60 Hz



Hose connectors (1) HA1338 and (2) HA3060 are shown on page 193.



1. Shower or washbasin connection Ø 40 mm
2. Float switch
3. Discharge pump
4. Electric motor
5. Washbasin connection, Ø 32 or 40 mm
6. Breather
7. Waste water discharge connection: male Ø 19 mm o.d
8. Air conditioner connection, Ø 12 mm

Rigid tanks for waste water

Basic tank type ATANK

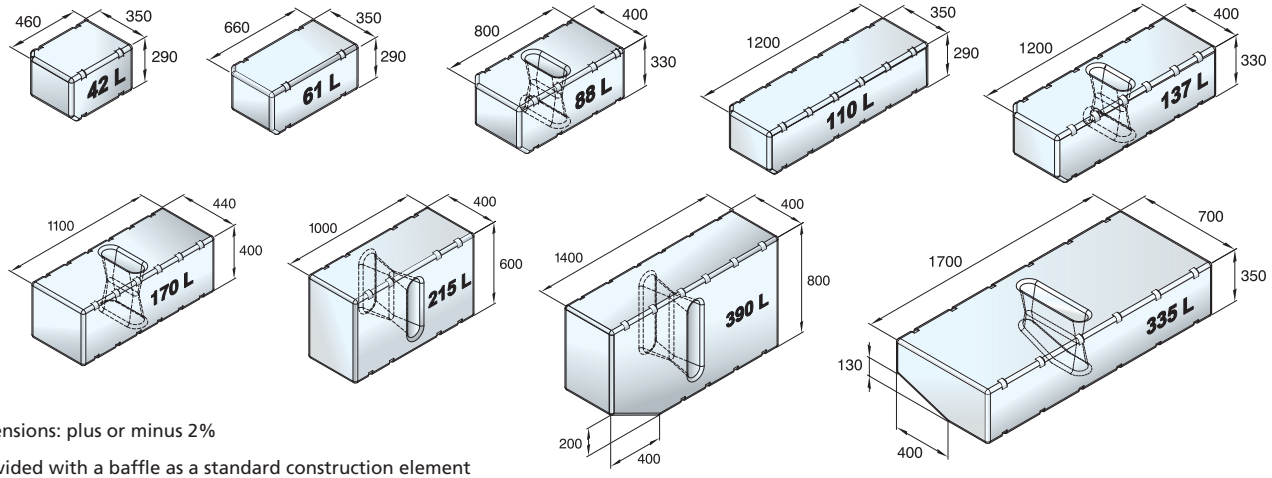
All purpose tank ideal for wast water (also for fresh water and diesel)

These tanks are made of a thick walled high-grade polyethylene which is both rust free and less prone to condensation compared to metal tanks. Due to the seamless construction of the tanks, leakage is impossible. Fittings can be installed wherever you choose and can be ordered separately.
Tanks are supplied with diesel, fresh water and waste water labels.

Specifications
- Available in 42, 61, 88, 110, 137, 170, 215, 335 and 390 litre
- Wall thickness 5-7 mm
- Colour Light blue translucent
- Suitable for diesel (up to 100°C)

Type	Capacity (litre)
ATANK042	42
ATANK061	61
ATANK088 *	88
ATANK110	110
ATANK137 *	137

Type	Capacity (litre)
ATANK170 *	170
ATANK215 *	215
ATANK335 *	335
ATANK390 *	390



Dimensions: plus or minus 2%

*Provided with a baffle as a standard construction element

Basic tank including connectors type BTANKC

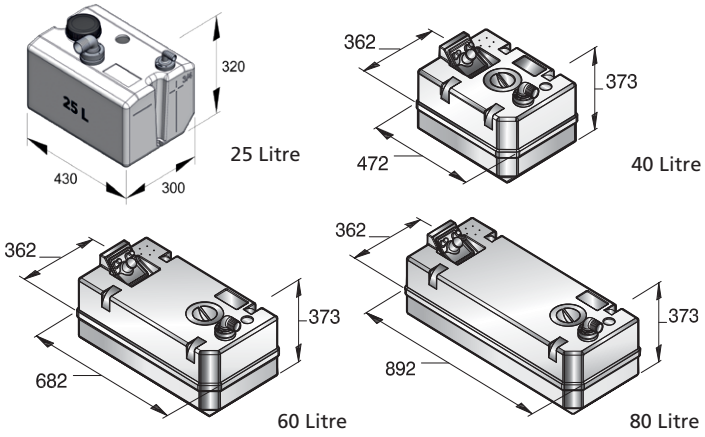
These tanks will save considerable installation time!

These tanks are made of odour impermeable synthetic see-through material so the content level can be seen from the outside. The centre point for a SAE flange gauge sender has already been provided in the moulding, together with five bolt holes (except BTANK25C). This will save you considerable installation time. The tanks are supplied with connectors, a screw down inspection lid and two securing straps. The inlet fitting (type RT..B) should be ordered separately matching the inlet hose diameter.

Specifications
- Tanks are according to the ISO 8099 standard
- Tank capacities of 25, 40, 60 or 80 litre
- Wall thickness 7 mm

Connections
- Fixed hose connector Ø 19 mm for breather line, rotating for BTANK25C
- Rotating hose connector Ø 38 mm with pick-up pipe for suction
- Hole for inlet fitting type RT..B

Type	Suitable for	Capacity (litre)
BTANK25C	Waste water	25
BTANK40C	Waste water	40
BTANK60C	Waste water	60
BTANK80C	Waste water	80



Dimensions: plus or minus 2%.
Height dimensions includes connectors

Rigid tanks for waste water

Bulkhead mounted tank type WW

Can be emptied without a pump

These tanks are made of odour impermeable synthetic translucent material so the content level can be seen from the outside. Available in four sizes, horizontal as well as vertical and suitable for mounting under the side decks, above the waterline. The tanks are supplied with inspection cover and connectors. The hole for the inlet fitting RT..B has already been provided. The inlet fitting should be ordered separately.

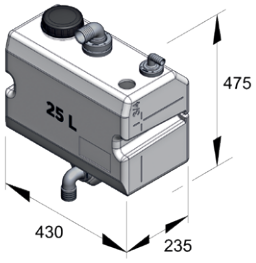
Specifications
- Tanks are according to the ISO 8099 standard
- Tank capacities of 25, 60 or 80 litre
- Wall thickness is 6,35 mm

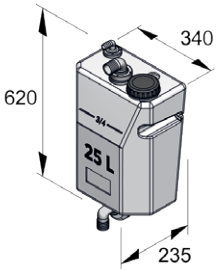
Connections
- Suction pipe with angled Ø 38 mm hose connector for deck plate connection
- Angled hose connector Ø 38 mm for gravity discharge
- Angled hose connector Ø 19 mm for tank ventilation
- Hole for inlet fitting type RT..B

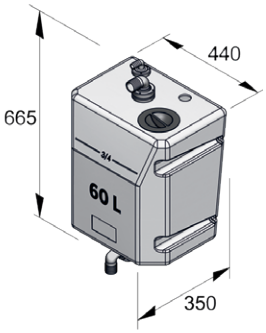
Type	Suitable for	Capacity (litre)
WW25WH	Waste water (horizontal version)	25
WW25W	Waste water	25
WW60W	Waste water	60
WW80W	Waste water	80

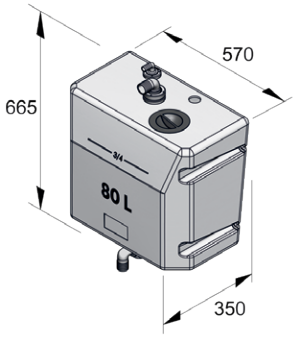
WW25WH

WW..W









Dimensions: plus or minus 2%
Height dimensions includes connectors

Rigid tanks for waste water

Complete tank type WWS

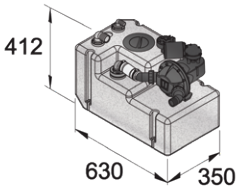
Ready to go!

These tanks are made of odour impermeable synthetic translucent material, so the content level can be seen from the outside. These complete tanks come with a VETUS waste water pump (type EMP140, see page 191), inspection cover, ultrasonic level sensor and connectors. Only the 12 or 24 VDC level gauge and the inlet fitting (type RT..B) must be ordered separately (see page 192). All connections go through the top of the tank. Type WWS is suitable for storing black water as well as grey waste water and is especially designed to save installation time.

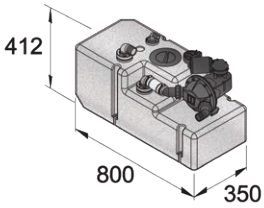
Specifications
- Suitable for 12 or 24 VDC
- Tanks are according to the ISO 8099 standard
- Tank capacities of 42, 61, 88 or 120 litre
- Wall thickness is 6,35 mm

Connections
- Suction pipe with angled hose connector Ø 38 mm for discharge to onshore holding facility
- Breather connection Ø 19 mm
- Pump-out connection Ø 38 mm
- Hole for inlet fitting type RT..B

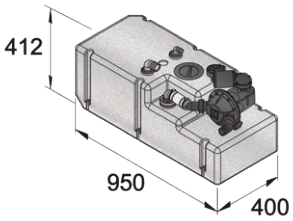
Type	Suitable for	Capacity (litre)
WWS4212B	Black and grey waste water incl. 12 VDC pump	42
WWS4224B	Black and grey waste water incl. 24 VDC pump	42
WWS6112B	Black and grey waste water incl. 12 VDC pump	61
WWS6124B	Black and grey waste water incl. 24 VDC pump	61
WWS8812B	Black and grey waste water incl. 12 VDC pump	88
WWS8824B	Black and grey waste water incl. 24 VDC pump	88
WWS12012B	Black and grey waste water incl. 12 VDC pump	120
WWS12024B	Black and grey waste water incl. 24 VDC pump	120



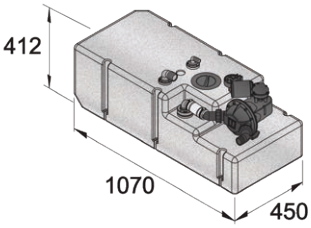
42 Litre



61 Litre



88 Litre



120 Litre

Height dimensions includes connectors

APT100 - All Purpose Tank

Fresh water, waste water or diesel: this tank can handle it

Made from high-grade polyethylene, this large capacity tank handles almost any liquid you would like to store on your boat. It features an inspection lid and is ready for the appropriate ILT connection kit. On the bottom is a 38 mm connection that can be drilled out for interconnection purpose or draining. The robust appearance and the design make this the tank to have.

Due to the large inspection hole (140 mm) the tank meets ISO 21487 when it comes to fuel directives. Depending on the purpose you have for this tank, an appropriate connection set is available from VETUS. The tank is easy to install and has enough capacity for longer boat trips.

Specifications
- All-purpose 100 litre tank, suitable for waste water, fresh water or diesel
- Made from high-grade polyethylene
- Large inspection port of 140 mm to meet ISO 21487 requirements
- 38 mm connection (to drill open) for interconnection purpose or draining
- ILTCONW ready

ILTCONW (Waste water)

Type	Tank capacity (litre)	Dimensions (mm)	Wall thickness (mm)	Ø Bottom connection (mm)
APT100	100	1010 x 390 x 315	8	38
VTSTRAP	Lashing straps, 2 pieces, 3 m x 25 mm (see picture op page 155)			

Flexible tanks for toilet and waste water

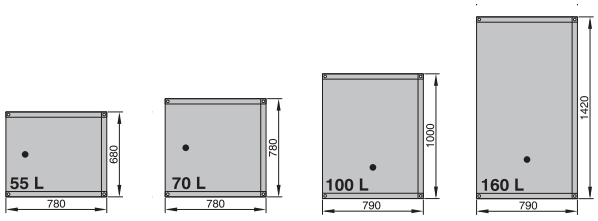
VETUS flexible tank type TANKV

Short term waste water storage

These flexible tanks are constructed in the same robust way as the flexible fresh water tanks (see page 167). However, the material used is suitable to store waste water. These tanks should be pumped and flushed after a day's boating. Available in several dimensions and capacities.

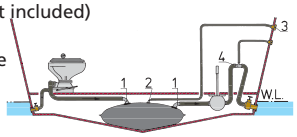
A repair kit is available (REPSETOT).

Type	Capacity (appr.) (litre)	Dimensions (appr.) (mm)	Height filled (appr.) (mm)
TANKV55	55	680 x 780	250
TANKV70	70	780 x 780	270
TANKV100	100	790 x 1000	270
TANKV160	160	790 x 1420	270



TANKV

1. Two Angled hose connectors Ø 38 mm (supplied with each tank)
2. Angled breather nipple Ø 16 mm, already fitted
3. Breather nipple Ø 16 mm (not included)
4. Air vent for anti-siphoning, see page 116. When discharge of the tank through a deck plate is required, a Ø 38 mm tank connector type FT38B is available as an option, see the price-list



No-smell filters

Filter types NSF and NSFS

Fresh air

Allowing fresh air into a waste tank reduces anaerobic growth and the build up of gas. However, unpleasant odours can also escape through this air breather line. This can be prevented by the installation of a VETUS no-smell filter. The no-smell filter is easy to install and contains activated carbon material to absorb odours. Add the VETUS waste water breather hose made of reinforced PVC for a proper operating system.

Please note: The filter element is replaceable and should be renewed once a year.

NSF NSFS

Type	Description	L x W x H (mm)	Hose Ø (mm)
NSF16S	Small no-smell filter	107 x 111 x 111	16
NSF16	Large no-smell filter	148 x 150 x 162	16
NSF19	Large no-smell filter	148 x 150 x 162	19
NSF25	Large no-smell filter	148 x 150 x 162	25
NSF38	Large no-smell filter	148 x 150 x 162	38

Type	Description
NSF16FES	Spare filter element for small no-smell filters
NSF16FE	Spare filter element for large no-smell filters

No-smell filters element type NSFCAN

Revolutionary dual function

For specifications and dimensions see page 157.

NSFCAN

NSFCANS

TankFresh

Odour-free tank guaranteed

This VETUS product is an organic concentrate of bacteria which cause the faeces in the waste water system to break down without emitting any odour, unlike other chemical products that often only mask the smell. When using just one bottle of TankFresh periodically, your waste water system can function virtually without odour for an entire boating season.

Specifications
- Comes in a convenient 500 ml dosage bottle
- Consists of nature's own ingredients only
- Proven reduction of odours in the tank

Type	Description
TFRESH05	500 ml bottle

TFRESH

Accessories for waste water tanks

Waste water tank sensor type WWSENSORA

Easy measurement

Simple to fit, reliable waste water tank sensor. The arm length is adjustable between 200 mm and 412 mm.

Specifications
- Empty 300 Ω
- Full 0 Ω
- For 12 and 24 VDC

Type	Description	Voltage (DC)
WWSENSORA	Waste water sensor	12/24

WWSENSORA

Waste water control panel type WWCP

Integrated tank level monitoring

This easy-to-use control panel with security lock can be used manually or automatically to control the full tank pump-out and manage the complete waste water system. The WWCP panel is connected to a VETUS level sensor (type WSENSORA or SENSORA) and indicates the content level in the tank using LED's, it will ignore brief maximum level peaks caused by boat movements.

A motorised ball valve can also be connected to the panel. In either manual or automatic mode, the valve will open before the pump starts. Once the tank is empty, the pump will switch off and the valve will close automatically. A switched outlet on the panel, connected to a relay in the toilet power supply, makes it possible to prevent the toilet(s) from being flushed if the tank is full.

Specifications
- Panel dimensions 85 x 85 mm
- Build-in depth 40 mm
- Suitable for 12 or 24 VDC
- Usage in stand-by mode 4 mA, electric pump 10 A max, remotely controlled ball valve 5 A max and external alarm 1 A max.
- Valve and level sensor are not included

WWCP

Type	Description
WWCP	Waste water control panel

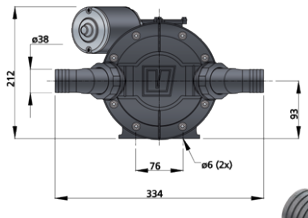
Waste water / bilge pump type EMP140

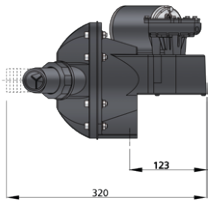
360° Rotating hose connections, less installation time

This reliable pump with a capacity of 27 l/min at zero head, is self-priming, provided with 2 duck-bill valves and suitable for pumping grey and black water. It has rotating hose connections so installation time will be reduced.

Specifications
- Weight 7 kg
- Max suction height 3 mtr
- Max delivery height 5 mtr
- Available in 12 or 24 VDC
- Current at 12 VDC 6 A and at 24 VDC 4 A

Type	Voltage (DC)	Hose connection (mm)
EMP14012B	12	38
EMP14024B	24	38





EMP140

Accessories for waste water tanks

Vacuum operated vent valve type VRF

Indispensable safety factor

To prevent the possibility of insufficient air entering through the vent line during pump out operations causing the tank to implode, VETUS has developed a valve according to the ISO 8099 standard. In case of significantly reduced pressure in the holding tanks, the valve will open automatically to let air into the tank. By using this valve, fitting of a large diameter vent line is no longer necessary. The valve is made from synthetic materials and therefore absolutely corrosion-free. Hole size in the tank is 56 mm.

VRF56A

Type	Description
VRF56A	Vacuum valve for waste water tank

Angled fittings

Synthetic fittings for VETUS flexible tanks (type FT) or rigid tanks (type RT). Suitable for hoses with an internal diameter of Ø 13, 16, 19, 25 or 38 mm. The required hole size for flexible tank is Ø 42 mm and for rigid tanks Ø 43 mm.

RT

FT

Type	Hose Ø (mm)	Angle
RT13B	13	right angle
RT16B	16	right angle
RT19B	19	right angle
RT25B	25	right angle
RT38B	38	right angle

Type	Hose Ø (mm)	Angle
FT13B	13	right angle
FT16B	16	right angle
FT19B	19	right angle
FT25B	25	right angle
FT38B	38	right angle

Installation kit type BTKIT

Consisting of one inspection lid with counter-flange and fastenings, two securing straps, and one wrench for angled fittings.

Specifications
- Overall diameter Ø 156 mm
- Cut out diameter Ø 115 mm

BTKIT

Type	Description
BTKIT	Fitting kit for synthetic waste water tanks

Lockable ball valve type BV1½L

This stainless steel (AISI 316) ball valve with G1½ thread is in some countries a legal requirement to prevent the accidental discharge of black water in port. This valve can be padlocked (padlock itself is not supplied).

BV1½L

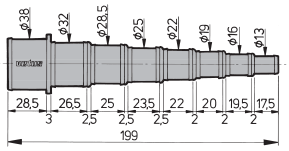
Type	Description
BV1½L	Stainless steel (AISI 316) ball valve

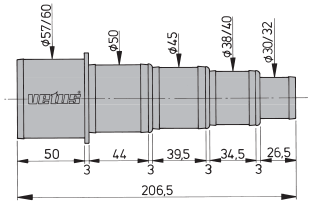
Accessories for waste water tanks

Synthetic hose adapters type HA

These synthetic hose adapters can be cut to the appropriate hose sizes.

Type	Ø Dim. (mm)
HA1338	13 - 38
HA3060	30 - 60





HA1338

HA3060

Universal inspection port for tanks type ILT120F

NEW!

Innovative inspection port with robust design

The VETUS ILT is an innovative inspection port which facilitates easy opening, inspecting and cleaning the tank, even after being closed for a long time. The inspection port has a counter flange and a rubber seal which are inserted into a Ø 159 mm hole in the tank. All that needs to be done is tighten the four supplied bolts which compresses the rubber seal to ensure perfect sealing.

The "clamp and seal" design simplifies installation, making the drilling of a Ø 159 mm hole the hardest part of the installation! The black blind plate can be replaced by various connection kits.

ILT120F

Waste water connection kit ILTCONW

Although not mandatory as with fuel tanks, a large inspection port in a waste water tank will facilitate cleaning. Having all the connections at a single point also makes inspection simpler. The VETUS waste water disc is supplied with everything you need for your waste water tank, it doesn't matter if it's a custom made steel, aluminium or a VETUS thick walled rigid tank.

Connections that come with this interchangeable disc are

- Ø 38 mm straight connection included for discharge (convert this to a suction pipe by mounting a standard Ø 40 mm PVC pipe)
- Ø 38 mm inlet connection
- Ø 25 mm inlet connection
- Ø 19 mm inlet connection
- Ventilation connection Ø 19 mm
- 5 hole SAE flange tank level sensor connection (suitable for SENSORA and SENSORB)

ILTCONW

ILTCON90

Type	Description	Diameter (mm)	Diameter hole (mm)
ILT120F	Inspection port with counter flange	120	159
ILTCONW	ILT connection kit for waste water		
ILTCON90	Ø 38 mm 90-degree connection elbow for ILTCONW		
VSAW159	Ø 159 mm hole saw for synthetic, G.R.P. or metal tanks		159

Accessories for waste water tanks

Remotely controlled ball valves type MV

Simple manual override

These motorised stainless steel (AISI 316) valves with a powder coated aluminium actuator housing enable any skin fitting/through hull to be electrically opened or closed from a remote location. Also suitable for every type of fuel, ignition protected. The G-threading meets the requirements of ISO 228-1 and 9093-1. IP rating: IP67. The valves can be powered fully opened or closed in approximately 12 to 25 seconds. The powerful motors have a maximum torque of 40 or 220Nm.

Type	MV12A	MV24A	MV24B
Power supply range	11-14 V	18-28 V	20-28 V
Operating current @ max. torque	2.2 A ± 10% @ 13.8 VDC	1.2 A ± 10% @ 27.6 VDC	4.1 A ± 5% @ 27.6 VDC
Static current	50±5 mA	25±5 mA	60±5 mA
Opening and closing		✓	
Max. operation Torque		40Nm	220Nm
Manual over-ride tool		Hex Key	Wrench
Ambient temp. (Celsius)		-20° to +45°	
ISO 8846 certified		Yes	

MV

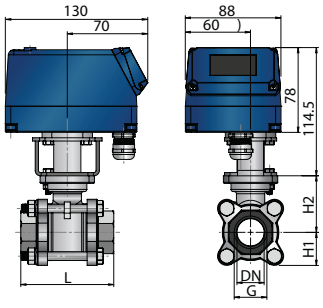
Control panels*	MV12A	MV24A	MV24B
ELVPAN12	✓		-
ELVPAN24	-		✓
WWCP (page 191)	✓		✓

ELVPAN

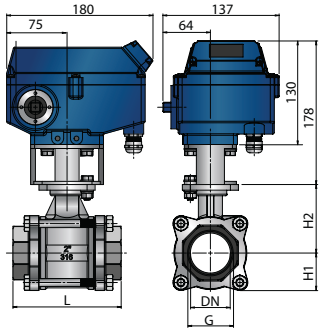
*Ordered separately

Type		G (ISO 228)	DN (mm)	H1 (mm)	H2 (mm)	L (mm)	Weight (kg)
MV12A1/2	**MV24A1/2**	1/2"	15	22.5	42	72	2.2
MV12A3/4	**MV24A3/4**	3/4"	20	22.5	48	80	2.4
MV12A1	**MV24A1**	1"	25	30	55	85	2.8
MV12A11/4	**MV24A11/4**	1 1/4"	32	36.5	60	105	3.4
MV12A11/2	**MV24A11/2**	1 1/2"	38	40	70	113	4.2
	MV24B2	2"	50	46.5	85	132	7.8

MV..A



MV..B



Extraction pipes type WTS for rigid waste water tanks

These extraction pipes are for both grey and black water tanks. They can be used for electrical or manually operated diaphragm pumps, or for direct connection to deck plate. With the choice between angled or straight connections of Ø 38 mm and with a tube length of 780 mm (can be cut to size).

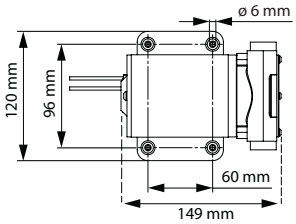
Type	Length (mm)	Hose nipple Ø (mm)	Angle
WTS78038S	780	38	straight
WTS78038B	780	38	right angle

WTS

Accessories for waste water tanks

Self-priming general purpose pump type EIP12

The EIP12 self-priming pump can be used for bilge water or as a deck wash pump. Available in 12 VDC. Connections: 2x G1/2 internal thread.



Type	Voltage (DC)	Max. pressure (bar)	Weight (kg)
EIP12	12	1 bar	2.48

Waste water hose type WWHOSE..B

For transportation of grey waste water

This type of hose is made of white PVC with a steel spiral inlay. It is recommended for the transportation of grey waste water (not toilet waste).

WWHOSE..B

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit		HCS clamp to suit		Roll length (m)
WWHOSE16B	16	22	0,23	6	35			HCS16	HCS20	30
WWHOSE19B	19	26	0,32	5	50			HCS16	HCS20	30
WWHOSE25B	25	33	0,53	5	60			HCS25	HCS32	30
WWHOSE38B	38	47	0,80	4	90	HCHD(S)043	HCHD(S)047	HCS32	HCS40	30
WWHOSE45B	45	55	1,10	3	105	HCHD(S)051	HCHD(S)055	HCS40	HCS50	10

Impermeable sanitary no-smell hoses type SAHOSE

An absolute must for toilets

These hoses are made of SBR rubber with inlays of woven synthetic fabric and steel spiral. Recommended especially for transportation of biological waste from (marine) toilets (black water).

SAHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit			Roll length (m)
SAHOSE16	16	26	0,45	3	50		HCS16	HCS20	HCS25	20
SAHOSE19	19	29	0,55	3	65		HCS20	HCS25		20
SAHOSE25	25	36	0,72	3	75	HCHD(S)034	HCS25	HCS32		20
SAHOSE38	38	48	1,15	3	100	HCHD(S)047	HCS32	HCS40		20

HCS and HCHDS (heavy duty) clamps are made of stainless steel. For more information about hose clamps see page 416.

Inspection lid type WTK02

For (waste) water tanks only!

Specifications
- Overall diameter Ø 156 mm
- Cut out diameter Ø 115 mm
- Not suitable for fuel tanks
- Ideal for metal tanks

WTK02

Type	Description
WTK02	Inspection lid only, for rigid water tanks

Anti-siphoning air vent

For more information and available types see page 116.

ASD38H

Accessories for waste water tanks

The waste water connector line-up consists of a three-way valve, an Y connector, a non-return valve and the additional hose connectors. These hose connectors are fully rotatable and are ordered separately to fit your existing hoses. Made entirely from high grade nylon, these products are strong and durable. With connectors variations from 19 mm up to 38 mm, it's plug-and-play on every boat.

This line-up allows you to professionally connect or expand your waste water system. With the three-way valve and the Y connector you can have as many connections as you like, while the duck bill valve keeps contaminated water from flowing back. Hose connectors are sold per piece or 2 pack, so you can mix and match to your needs. The three-way valve can be padlocked in one position (e.g. when harbours want to ensure waste water is directed to the tank instead of discharged overboard). Both the three-way valve and the Y connector come equipped with a bracket for easy mounting on wall or floor.

Synthetic three-way valve

(without hose connections)

Max. pressure 1 bar.
Rotatable hose connections should be ordered separately (five different sizes available).

Type	Description
Y3V	Synthetic three-way valve

Y3V

Synthetic Y-connector

(without hose connections)

Rotatable hose connections should be ordered separately (five different sizes available).

Type	Description
Y3C	Synthetic Y-connector

Y3C

Synthetic in-line non-return valve

(without hose connections)

Rotatable hose connections should be ordered separately (five different sizes available).

Type	Description
YNRE	Synthetic in-line non-return valve (duck bill)

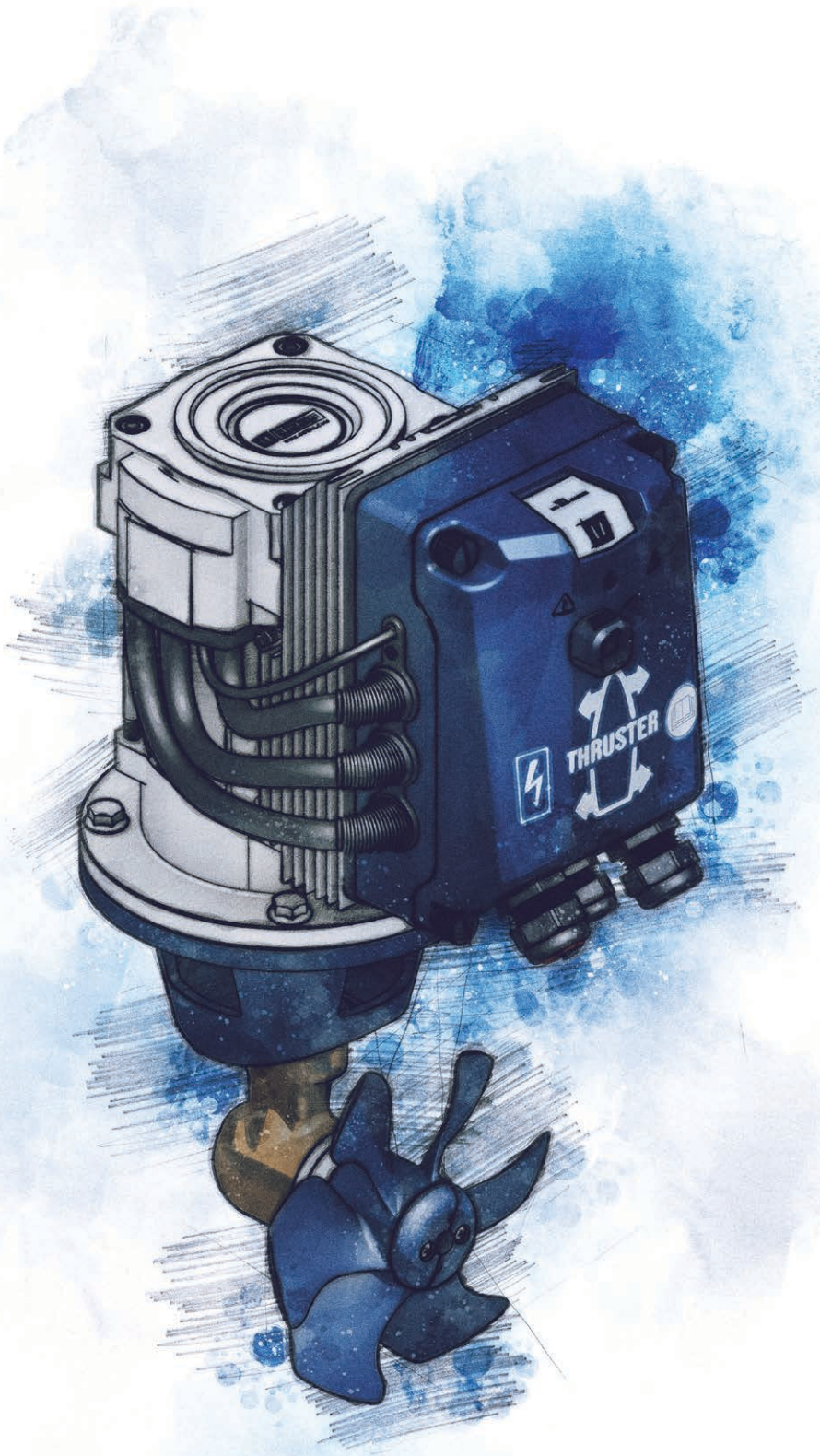
YNRE

Synthetic hose connections for Y3V, Y3C and YNRE

Type	Description
YPA38P2	Hose connector 38 mm (2 pcs.)
YPA38P1	Hose connector 38 mm (1 pcs.)
YPA32P2	Hose connector 32 mm (2pcs.)
YPA32P1	Hose connector 32 mm (1 pcs.)
YPA28P2	Hose connector 28 mm (2 pcs.)
YPA28P1	Hose connector 28 mm (1 pcs.)
YPA25P2	Hose connector 25 mm (2 pcs.)
YPA25P1	Hose connector 25 mm (1 pcs.)
YPA19P2	Hose connector 19 mm (2 pcs.)
YPA19P1	Hose connector 19 mm (1 pcs.)

YPA

Thruster systems



The world of VETUS thrusters

DC bow and stern thrusters

The original recreational boat thruster, developed and refined over 30 years of hard work on boats ranging from 20 to 80 feet. These DC thrusters have been a proven concept and affordable thruster solution for many years.

- On-off, port-starboard controls
- Simple and intuitive to operate
- Lowest cost, simplest installation, easy retrofit
- A range of nineteen thrusters, with thrust outputs ranging from 25 kgf to 285 kgf
- Battery powered at 12, 24 and 48 VDC
- Run time: 2-4 minutes continuous or combined in one hour
- Motor technology: direct current, series wound with carbon brushes

Turn to page 202 for detailed information.

BOW PRO proportional brushless bow and stern thrusters

NEW MODELS!

The new leading edge of thruster development, utilizing well proven components and technology. For boats ranging from 20 to 100 feet.

- Proportional control allows you to vary the power output of the thruster for more precise control
- Digitally controlled by a (patented) VETUS V-CAN canbus motor controller
- Resistant to damage from misuse and overuse, with heat sensing and self-regulating electronics
- Simple and intuitive to operate, with a small self learning curve on adjusting the thrust
- Control panel with lock and hold function to make single handed docking much easier
- A range of more than twenty thrusters, from 30 kgf to 320 kgf
- Battery powered at 12, 24 and 48 VDC
- Longer run time: 10 minutes (minimum) at full power and even longer runtimes at reduced power, ultimately limited by battery capacity and recharge rate
- Motor technology: efficient, sealed, brushless induction motors giving maximum run time on a charged battery bank

Turn to page 205 for detailed information.

RIMDRIVE proportional permanent magnet thrusters

If you treasure peace, perfect peace, on calm waters, or need to move with stealth on rough waters, the world's quietest thrusters are for you. For boats ranging from 40 to 65 feet.

- Proportional control allows you to vary the power output of the thruster for more precise control
- Extremely quiet thruster due to its unique design without gears
- Digitally controlled by a (patented) VETUS V-CAN canbus motor controller
- Resistant to damage from misuse and overuse, with heat sensing and self-regulating electronics
- Simple and intuitive to operate, with a small learning curve on adjusting the thrust
- Control panel with lock and hold function to make single handed docking much easier
- A range of two thrusters with power outputs of 125 kgf and 160 kgf
- Battery powered at 48 VDC
- Longer runtime: 10 minutes (minimum) at full power and even longer runtime at reduced power, on minimum recommended battery bank, but easily extended by increasing battery capacity
- Motor technology: highly efficient permanent magnet motors giving maximum run time on a charged battery bank

Turn to page 209 for detailed information.

Extended runtime DC bow and stern thrusters

An extension of the well-known DC thruster, developed for use of DC thruster systems requiring longer runtimes at high power outputs. For boats ranging from 36 to 75 feet.

- Five models with power outputs ranging from 95 kgf to 220 kgf
- Battery powered at 12 and 24 VDC
- Run time 4-8 minutes continuous or combined in one hour
- Motor technology: direct current, series wound with carbon brushes

Turn to page 214 for detailed information.

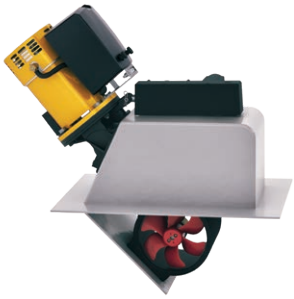
Ignition protected DC bow and stern thrusters

An extension of the well-known DC thruster, which makes this the only electric thruster type suitable for use in compartments containing gasoline / petrol engines, tanks and fuel lines, propane tanks and lines, jet skis / pwcs or outboard engines and their fuel tanks, as the motor is encased to prevent explosive fumes reaching its interior. For boats ranging from 20 to 60 feet.

- Ten models with power outputs ranging from 25 kgf to 160 kgf
- Battery powered at 12 and 24 VDC
- Run times 2-4 minutes continuous or combined in one hour
- Motor technology: direct current, series wound with carbon brushes

Turn to page 215 for detailed information.

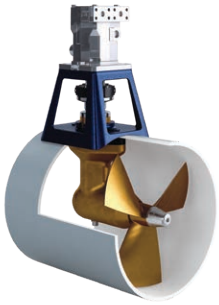
Retractable DC bow and stern thrusters



The thruster to select when your boat's shallow draft does not allow a conventional bow or stern tunnel to be adequately submerged. A well-known VETUS DC thruster mounted on a swing mechanism that extends below the boat prior to operation and retracts back into the hull after use. For boats ranging from 25 to 60 feet.

- On-off, port-starboard controls with automatic deployment and retraction
- Simple and intuitive to operate
- Six models with power outputs ranging from 55 kgf to 160 kgf
- Battery powered at 12 and 24 VDC
- Run times 2-4 minutes continuous or combined in one hour
- Motor technology: direct current, series wound with carbon brushes

Turn to page 216 for detailed information.



Hydraulic thrusters

Thrust whenever you need it, for as long as you need it -, is the defining characteristic of these powerful machines and their systems. Built with industrial grade components and ideal for commercial and recreational heavy-duty applications. For boats ranging from 35 to 120 feet.

- Controls can be simple on-off port-starboard, dual stage with half power or proportional control to full power
- Made for very hard work - long lived, reliable, accustomed to abuse and highly resistant to damage
- Specialist installation required due to complex components
- Seven models with power outputs ranging from 55 kgf to 550 kgf
- Powered by propulsion engine(s) or generator
- Continuous runtime with proper setup
- Motor technology: hydraulic

Turn to page 218 for detailed information.

Thruster systems

Thrusters can take the stress out of docking by giving you sideways control of the movement and position of the bow and the stern of your boat. They work by rotating a propeller in a submerged tunnel or a housing mounted athwartships and located near the bow and/or the stern. A control panel allows you to push the bow and/or stern sideways, to resist the force of a crosswind and cross current, while you are manoeuvring in close quarters.

What thrusters will do for you and your boat

- Allow you to maintain control while docking and manoeuvering, even into a very tight slip in a crowded marina
- Allow a single crew member to pick up and secure the dock lines while you move the boat sideways from one piling or mooring buoy to the next - slowly, carefully, quietly and with very little pushing, pulling or shouting
- Allow you and your one-person crew to handle and control a much bigger and more comfortable boat
- Avoid the possibility of hitting another boat, a dock or a piling, that might cause expensive damage to your boat, another boat or the marina facilities
- Minimize the risk of a crew member being injured during docking manoueuvres in difficult conditions
- Allow you to handle your boat with the same expertise, grace and panache as the other captains whose boats are equipped with VETUS thrusters

How to choose the correct bow and stern thruster

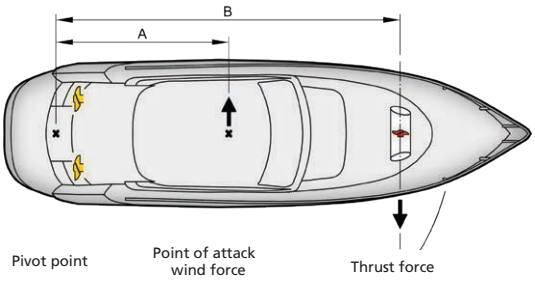
After you have selected your type of thruster, the following tools can be used to calculate and select the required thrust force for your boat.

The influence of the wind
The force applied to the boat by the wind is determined by the wind speed, the wind angle and the lateral wind draft area of the boat. If the wind blows at right angles to the boat, this wind pressure is most difficult to counter. However, this is seldom the case and as most boat superstructures are fairly streamlined, a reduction factor of 0.75 is generally applied, when calculating the wind pressure.

The turning moment
The turning moment is calculated by multiplying the wind force by the distance (A) between the centre of effort of the wind and the pivot point. In order to simplify this: for the vast majority of boats a rule of thumb may be applied that the turning moment is calculated by multiplying the wind force by half of the boat's overall length.

The thrust force
It is the thrust force which is the true measure of a bow thrusters usefulness and not the output of the electric or hydraulic motor in kW or HP. The nominal thrust force is a combination of the motor power, the shape of the propeller and the efficiency losses inside the tunnel. VETUS electrical bow thrusters have a very high thrust of between 17 and 23 kgf per kW motor power.

The required thrust force to counter the effects of the wind is calculated by dividing the turning moment by the distance (B) between the centre of the bow thruster tunnel and the pivot point of the boat.



Wind force Beaufort	Description	Wind speed m/s	Wind pressure N/m² - (kgf/m²)
4	moderate breeze	5,5 to 7,9	20 to 40 - (2,0 to 4,1)
5	fresh breeze	8,0 to 10,7	41 to 74 - (4,2 to 7,5)
6	strong breeze	10,8 to 13,8	75 to 123 - (7,7 to 12,5)
7	near gale	13,9 to 17,1	125 to 189 - (12,7 to 19,2)
8	gale	17,2 to 20,7	191 to 276 - (19,4 to 28,2)

Calculation example
The boat has an overall length of 11 metre and the lateral wind draft measures 18 m². It is required that the bow can be controlled easily when wind force Beaufort 5 applies, which gives a wind pressure is: Rho= 41 to 74 N/m², i.e. Rho (average) = 60 N/m².

The required torque is
T = wind pressure x wind draft x reduction factor x distance centre of effort to pivot point, (= approx. half the ship's length)
T = 60 N/m² x 18 m² x 0,75 x (11 x 0,5) m = 4455 Nm

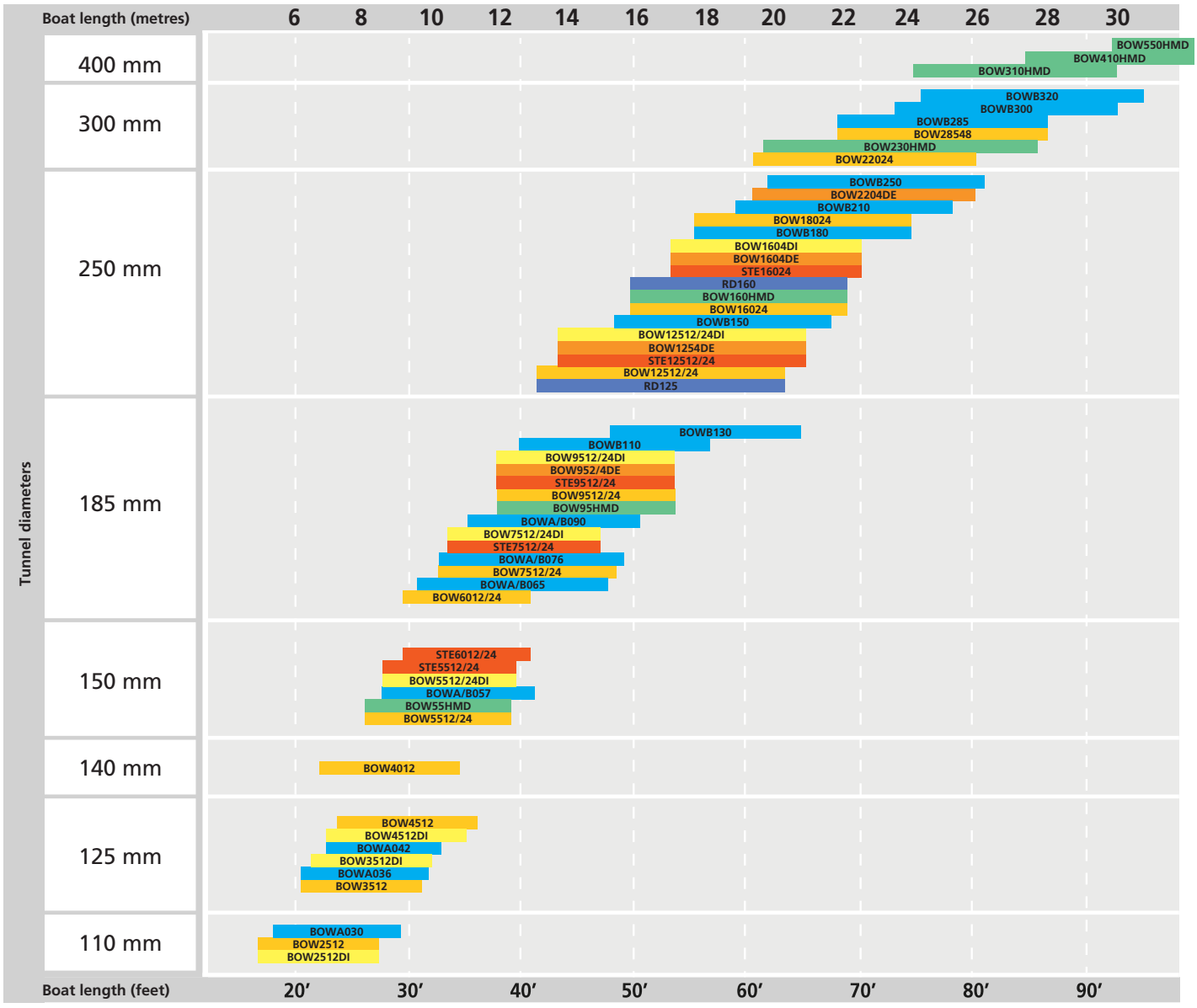
The required thrust force is calculated as follows

$$F = \frac{\text{torque}}{\text{distance between centre of bow thruster and the pivot point of the boat (with the transom as pivot of the boat)}} = \frac{4455\ \text{Nm}}{10{,}5\ \text{m}} = 420\ \text{N (42 kgf)}$$

The most suitable VETUS bow thruster for this vessel with a wind force of Beaufort 5 is our 45 kgf (99 lbf) unit. For a wind force of Beaufort 4, the 25 kgf (55 lbf) can be used. A wind force of Beaufort 6 would require our 75 kgf (156 lbf) thruster. Always bear in mind that the effective performance of a bow thruster will vary with each particular boat, as the displacement, the shape of the underwater section and the positioning of the bow thruster will always remain variable factors. As a rule of thumb it can be assumed that the stern thruster may be "one model smaller" than the bow thruster model, as it has been calculated. Therefore, in this case a stern thruster type 35 kgf will be the correct model with a wind force of Beaufort 5.

On the next page there is a selection table of all VETUS thruster models against recommended boat length. Please note that this table is given for general guidance only and the calculation shown above prevails.

Overview per tunnel



Specifications	DC THRUSTERS	BOW PRO THRUSTERS	RIMDRIVE THRUSTERS	HYDRAULIC THRUSTERS	EXTENDED RUNTIME DC THRUSTERS	IGNITION PROTECTED DC THRUSTERS	RETRACTABLE DC THRUSTERS
Sound	dB	dB	dB	dB	dB	dB	dB
Commercial use	1	2	2	3	1	1	1
Proportional	×	✓	✓	✓	×	×	×
Maintenance	3	1	1	1	3	3	3

DC bow and stern thrusters

Proven concept, optimum flow

These original VETUS DC bow and stern thrusters are the base of an extensive range of DC electric thrusters such as the standard DC thrusters, extended runtime thrusters, ignition protected thrusters and retractable thrusters of VETUS. Developed and refined over 30 years of hard work, installed on boats world wide and operating in every possible condition.

The advantages of VETUS bow thrusters are endless, however below we highlight the most important characteristics.

Minimal noise because of its unique six blade propellor design, spiral gears and flexible coupling

High quality control panels made of aluminum and interchangeable with older panels

Optimum flow due to the streamlined tailpiece

Integrated thermal switch to prevent overheating

Eliminated corrosion and reduced weight with the synthetic propellors

High performance, efficient and reliable series wound carbon brushed electric DC motor

Easy installation and clear instructions

Simple and intuitive to operate

The standard VETUS DC thruster comes in a range of eleven thrusters for boats from 15 to 90 feet and has become a proven concept and affordable solution in the thruster market.

- On / off, port-starboard controls
- Lowest costs, simplest installation, easy retrofit
- A range of eleven thrusters with thrust outputs ranging from 25 Kgf to 285 Kgf
- Battery powered at 12, 24 and 48 VDC
- Run time of 2 -4 minutes continuous or combined in one hour
- Motor technology: direct current, series wound with carbon brushes

A complete overview with technical specifications and dimensions of the DC bow and stern thrusters are shown on the next page.

Bow thruster control panels

VETUS has different bow thruster panels available in both deluxe or compact versions. All of these control panels easily fit in a 52 mm diameter cut-out and are waterproof to IP 66.

A complete overview and more information on control panels for DC bow and stern thrusters are shown on page 220.

DC bow and stern thrusters

BOW2512

BOW3512

BOW4012

BOW6012

DC series - Type	BOW2512E(I)	BOW3512E(I)	BOW3512F(I)	BOW4012(I)	BOW4512D(I)	BOW5512D(I)	BOW5524D(I)
Thrust at 12/24 VDC (kgf)*	25	35	35	40	45	55	60
Available ignition protected (I)	✓	✓	✓	✓	✓	✓	✓
Power (kw-hp)	1,5 - 2	1,5 - 2	1,5 - 2	1,5 - 2	3 - 4	3 - 4	3 - 4
Motor DC	12	12	12	12	12	12	24
Advised boat length (ft - m)	<24' / <7	20'-30'/6-10	20'-30'/6-10	26'-34'/ 8-10,5	26'-37'/8-11,5	26'-39'/8-12	26'-39'/8-12
Tunnel diameter (mm - inch)	110 - 4,33"	150 - 5,9"	125 - 4,92"	140 - 5,5"	125 - 4,92"	150 - 5,9"	150 -5,9"
Weight excl. tunnel (kg)	10	12	12	12	16	17	17
For DC system V	12	12	12	12	12	12	24
Battery main switch: model BATSW / type BPMAIN	250/12	250/12	250/12	250/12	250/12	250/12	250/24
Main fuse	125**	160**	160**	160**	250	250	200

DC series - Type	BOW6012D	BOW6024D	BOW7512D(I)	BOW7524D(I)	BOW9512D(I)	BOW9524D(I)
Thrust at 12/24 VDC (kgf)*	65	70	80	85	95	105
Available ignition protected (I)	-	-	✓	✓	✓	✓
Power (kw-hp)	3 - 4	3 - 4	4,4 -6	4,4 -6	5,7 - 8	5,7 - 8
Motor DC	12	24	12	24	12	24
Advised boat length (ft - m)	27'-40'/8-12,5	27'-40'/8-12,5	30'-45'/10-14	30'-45'/10-14	36'-55'/11,5-17	36'-55'/11,5-17
Tunnel diameter (mm - inch)	185 - 7,3"	185 - 7,3"	185 - 7,3"	185 - 7,3"	185 - 7,3"	185 - 7,3"
Weight excl. tunnel (kg)	17	17	19	19	26	26
For DC system V	12	24	12	24	12	24
Battery main switch: model BATSW / type BPMAIN	250/12	250/24	250/12	250/24	600/12	250/24
Main fuse	200	100	355	200	425	200

DC series - Type	BOW12512D(I)	BOW12524D(I)	BOW16024D(I)	BOW18024D	BOW22024D	BOW28548D
Thrust at 12/24 VDCV (kgf)*	125	140	160	180	220	285 (48V)
Available ignition protected (I)	✓	✓	✓	-	-	-
Power (kw-hp)	5,7 - 8	5,7 - 8	7 - 9,5	7 - 9,5	11 - 15	17,5 - 23,5
Motor DC	12	24	24	24	24	48
Advised boat length (ft - m)	40'-60'/12,5-18	40'-60'/12,5-18	44'-68/15-20	46'-70/14-22	50'-75'/16-22	60'-100'/20-30
Tunnel diameter (mm - inch)	250 - 9,8"	250 - 9,8"	250 - 9,8"	250 - 9,8"	300 - 11,8"	300 - 11,8"
Weight excl. tunnel (kg)	32	32	38	38	68	68
For DC system V	12	24	24	24	24	48***
Battery main switch: model BATSW / type BPMAIN	600/12	250/24	600/24	600/24	600/24	600/24
Main fuse	500	300	355	355	500	355

* All VETUS DC thrusters are rated at a battery voltage of 10,5 or 21 VDC. This takes into account the voltage drop caused by the thruster.
** Fuse is supplied as standard.
*** Thruster model BOW28548D is supplied as standard with a series/parallel switch to permit connection to a 24 VDC battery bank.

Battery state of charge, battery cable size, ambient temperature and other factors can affect thruster performance and operating time.
For advice on battery cable length per model, see page 216.

DC bow and stern thrusters


BOW9512D

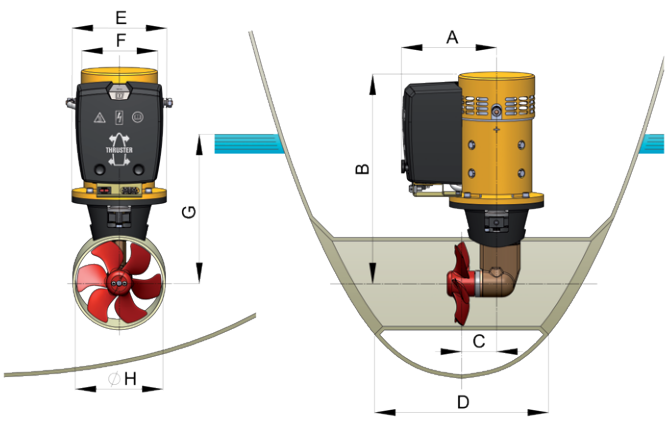

BOW12512D


BOW22024D

Dimensions of DC bow and stern thrusters (in mm)

Code	BOW2512E	BOW3512E	BOW3512F	BOW4012	BOW4512D	BOW5512D	BOW5524D	BOW6012D BOW6024D
A	138	138	138	138	143	143	143	143,5
B	323	340	340	340	365	377	377	397
C	73	79	79	79	79	79	79	77
D min./max.	220 / 440	300 / 600	300 / 600	300 / 600	250 / 500	300 / 600	300 / 600	370 / 740
E	149	149	149	149	160	160	160	160
F Ø	112	112	112	112	130	130	130	130
G min.	110	150	125	140	125	150	150	185
H Ø	110	150	125	140	125	150	150	185

Code	BOW7512D BOW7524D	BOW9512D BOW9524D	BOW12512D BOW12524D	BOW16024D	BOW18024D	BOW22024D	BOW28548D
A	155	209	209	222	247	247	247
B	435	443	500	548	600	627	627
C	77	77	108	108	108	136	136
D min./max.	370 / 740	370 / 470	500 / 1000	500 / 1000	500 / 1000	600 / 1200	600 / 1200
E	200	200	200	240	258	258	258
F Ø	135	150	150	185	212	212	212
G min.	185	185	250	250	250	300	300
H Ø	185	185	250	250	250	300	300



BOW PRO proportional bow and stern thrusters

NEW!

Revolutionary concept matched with proven technology

Our new BOW PRO is a one of a kind thruster, which is standard fully proportional controlled. This thruster is equipped with brushless induction motors. Therefore the bow / stern thruster motor is maintenance-free and has much longer runtimes compared to conventional DC thrusters.
The BOW PRO thruster is V-CAN canbus controlled by the patented VETUS motor controller (MCV), which features built-in over temp and low battery protection. Those built-in safeties combined with the brushless induction motor make the BOW PRO thruster series highly resistant to abuse and ideal for every boater in the most difficult maneuvering situations

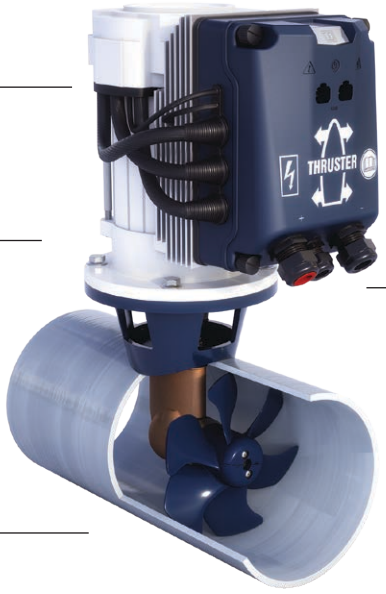
BOW PRO thrusters utilize the same propellers and gearboxes proven in VETUS thrusters for over 30 years. Upgrading a boat with an existing thruster to a BOW PRO thruster is easily accommodated as the BOW PRO thruster was made to share tunnel sizes with current VETUS thrusters as well as many other brands.

Fully proportional control

Digitally controlled by (patented) MCV motor controller

Maintenance-free brushless induction motor

Built-in over-temp and low battery protection



*Unlimited runtimes**

Connectivity to devices with canbus carrying signals possible

Available with lock-and-hold controls

Highly efficient thruster system

Interchangeable with existing thrusters (shared tunnel sizes)

* BOW PRO thrusters will run continuously for 6 or 10 minutes (dependent on thruster model) at full power, after that the power may reduce. At less than full power setting, run time is greatly enhanced. To achieve these results installation instructions must be adhered.

V-CAN control panels

The BOW PRO thruster is digitally controlled by proprietary CANBUS protocol V-CAN. There are three fully proportional control panels available for the BOW PRO thruster series; one basic paddle panel and one panel with lock-and-hold function. With the press of a button, you are able to lock the thrust at any desired speed, freeing you to step away from the control panel to tie up your boat. A feature that makes single handed docking much easier.

VETUS also offers a new double control panel with lock-and-hold function which controls the bow and stern thruster simultaneously. See page 221 for detailed information.

BOW PRO series: BOWA

The complete BOW PRO thrusters range starts with the BOWA series.

- A range of thrusters with thrust outputs ranging from 30 Kgf to 76 Kgf
- Battery powered at 12 VDC
- Runtime of 10 minutes at full power and even longer runtimes at reduced power

BOWA0361

BOWA0761

BOW PRO series - Type	BOWA0301	BOWA0361	BOWA0421	BOWA0571	BOWA0651	BOWA0761
Thrust at 12/24 VDC (kgf)*	30	36	42	57	65	76
Power (kw-hp)	1,2 - 1,6	1,2 - 1,6	2,7 - 3,7	2,7 - 3,7	2,7 - 3,7	2,7 - 3,7
Brushless AC motor	✓	✓	✓	✓	✓	✓
Advised boat length (ft - m)	<24' / <7	20'-30'/6-10	26'-37'/8-11,5	26'-39'/8-12	27'-40'/8-12,5	30'-45'/10-14
Tunnel diameter (mm - inch)	110 - 4,33"	125 - 4,92"	125 - 4,92"	150 - 5,9"	185 - 7,3"	185 - 7,3"
Weight excl. tunnel (kg)	24	24	35	35	35	35
Operating time, continuously max per hour in minutes**	10	10	10	6	10	6
For DC system V	12	12	12	12	12	12
Battery main switch: model BATSW / type BPMAIN	250/12	250/12	250/12	250/12	250/12	250/12
Main fuse	250	355	355	355	355	425

BOW PRO Boosted series: BOWB

All the features of the phenomenal BOWA series with a bonus. All BOW PRO Boosted (BOWB) include an exclusive built in DC-to-DC smart charger function that allows 24 VDC thruster battery banks to be charged by a 12 VDC power supply and in the case of 48 VDC BOWB, to be charged from an existing 24 VDC power supply. BOWB thrusters do this through a third charge connection on the thruster. This charge connection is constantly monitored and is only activated once the voltage level of the charging source reaches a suitable level. This feature prevents the charging source from being depleted, such as the engine starting bank. They then boost that input to a higher voltage and regulate it in a smart way to charge the thruster supply bank. In practice, this means you are able to connect the 24 VDC BOW PRO Boosted with a 12 VDC power supply to charge its battery bank. The built in smart three stage charging process ensures that the thruster batteries are kept at their optimum level.

Connecting the BOW PRO Boosted directly to a 24 or 48 VDC power supply is also possible.

- A range of thrusters with thrust outputs ranging from 57 Kgf to 320 Kgf
- Battery powered at 24 VDC (or 48 VDC)
- Runtime of 10 minutes at full power and even longer runtimes at reduced power
- MCV motor controller with integrated boost charger 12/24 VDC (or 24/48 VDC)

BOW PRO Boosted Type	BOWB057	BOWB065	BOWB076	BOWB090	BOWB110	BOWB130
Thrust at 12/24 VDC (kgf)*	57	65	76	90	110	130
Power (kw-hp)	3,1 - 4,1	3,1 - 4,1	3,1 - 4,1	5,7 - 8	5,7 - 8	5,7 - 8
Brushless ac motor	✓	✓	✓	✓	✓	✓
Advised boat length (ft - m)	26'-39'/8-12	27'-40'/8-12,5	30'-45'/10-14	36'-55'/11,5-17	36'-56'/11,5-18	40'-60'/12,5-18
Tunnel diameter (mm - inch)	150 -5,9"	185 - 7,3"	185 - 7,3"	185 - 7,3"	185 - 7,3"	185 - 7,3"
Weight excl. tunnel (kg)	28	29	29	33	33	33
Operating time, continuously max per hour in minutes**	10	10	10	10	10	10
For DC system (Volt)	12/24	12/24	12/24	12/24	12/24	12/24
Battery main switch: model BATSW / type BPMAIN	250/24	250/24	250/24	250/24	250/24	250/24
Main fuse	250	300	250	250	355	355

BOW PRO Boosted series: BOWB

BOWB150

BOWB180

NEW! NEW! NEW!

BOW PRO Boosted Type	BOWB150	BOWB180	BOWB210	BOWB285	BOWB300	BOWB320
Thrust at 12/24 VDC (kgf)*	150	180	210	285	300	320
Power (kw-hp)	5,7 - 8	11 - 15	11 - 15	18,4 - 25	18,4 - 25	18,4 - 25
Brushless ac motor	✓	✓	✓	✓	✓	✓
Advised boat length (ft - m)	40'-60'/12,5-18	44'-68/15-20	50'-75'/16-22	60'-100'/20-30	60'-100'/20-30	60'-100'/20-30
Tunnel diameter (mm - inch)	250 - 9,8"	250 - 9,8"	250 - 9,8"	300 - 11,8"	300 - 11,8"	300 - 11,8"
Weight excl. tunnel (kg)	38	45	45	on request	on request	on request
Operating time, continuously max per hour in minutes**	10	10	10	10	10	10
For DC system (Volt)	12/24	24/48	24/48	24/48	24/48	24/48
Battery main switch: model BATSW / type BPMAIN	250/24	250	250	600	600	600
Main fuse	355	355	355	355	355	355

BOW PRO 48 VDC series

The increasing popularity of environmentally friendly boats with 48 VDC electric propulsion required the development of thrusters running at the same voltage, and these BOW PROs are designed to meet that need. The 48 VDC BOW PRO thrusters offers all the advantages of the standard BOW PRO; available in several propeller and tunnel diameters and are more than powerful enough to turn your runabout in the desired direction.

- A range of smaller thrusters with thrust outputs ranging from 30 Kgf to 76 Kgf
- A range of bigger thrusters with thrust outputs ranging from 180 to 320 Kgf
- Battery powered at 48 VDC
- Runtime of 10 minutes at full power and even longer runtimes at reduced power

BOW PRO series - Type	BOWA0304	BOWA0364	BOWA0574	BOWA0764
Thrust at 48 VDC (kgf)*	30	36	57	76
Power (kw-hp)	1,2 - 1,6	1,2 - 1,6	3,1 - 4,2	3,1 - 4,2
Brushless AC motor	✓	✓	✓	✓
Advised boat length (ft - m)	<24' / <7	20'-30'/6-10	26'-39'/8-12	30'-45'/10-14
Tunnel diameter (mm - inch)	110 - 4,33"	125 - 4,92"	150 -5,9"	185 - 7,3"
Weight excl. tunnel (kg)	24	24	35	35
Operating time, continuously max p/h in minutes full power**	10	10	10	10
For DC system (Volt)	48	48	48	48
Battery main switch: model BATSW / type BPMAIN	250	250	250	250
Main fuse	125	125	125	125

* When the BOW PRO is operating within the set boundaries, the thrust output is not affected by voltage drop (10.5-15V, 21-30V, 41-60V).

** BOW PRO thrusters will run continuously for 6 or 10 minutes (dependent on thruster model) at full power, after that the power may reduce. At less than full power setting, run time is greatly enhanced. To achieve these results installation instructions must be adhered.

Battery state of charge, battery cable size, ambient temperature and other factors can affect thruster performance. Advise for battery cable length per model see page 217.

BOW PRO 48 VDC series

BOW PRO series - Type	BOWB180	BOWB210	BOWB285	BOWB300	BOWB320
Thrust at 48 VDC (kgf)*	180	210	285	300	320
Power (kw-hp)	11 - 15	11 - 15	18,4 - 25	18,4 - 25	18,4 - 25
Brushless AC motor	✓	✓	✓	✓	✓
Advised boat length (ft - m)	44'-68/15-20	50'-75'/16-22	60'-100'/20-30	60'-100'/20-30	60'-100'/20-30
Tunnel diameter (mm - inch)	250 - 9,8"	250 - 9,8"	300 - 11,8"	300 - 11,8"	300 - 11,8"
Weight excl. tunnel (kg)	45	45	on request	on request	on request
Operating time, continuously max p/h in minutes full power**	10	10	10	10	10
For DC system (Volt)	24/48	24/48	24/48	24/48	24/48
Battery main switch: model BATSW / type BPMAIN	250	250	600	600	600
Main fuse	355	355	355	355	355

* When the BOW PRO is operating within the set boundaries, the thrust output is not affected by voltage drop (10.5-15 VDC, 21-30 VDC, 41-60 VDC).
** BOW PRO thrusters will run continuously for 6 or 10 minutes (dependent on thruster model) at full power, after that the power may reduce. At less than full power setting, run time is greatly enhanced. To achieve these results installation instructions must be adhered.

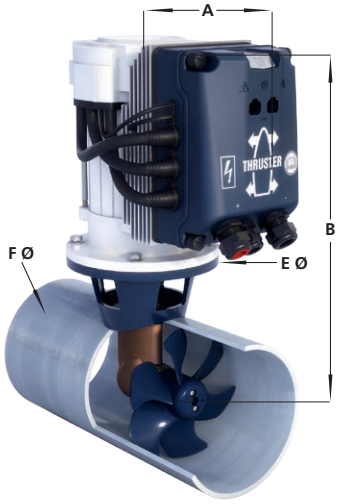
Battery state of charge, battery cable size, ambient temperature and other factors can affect thruster performance. Advise for battery cable length per model see page 217.

Dimensions of all BOW PRO's (in mm)

SERIES	BOWA	BOWA	BOWA	BOWA BOWB	BOWA BOWB
Output	30 kgf	36 kgf	42 kgf	57 kgf	65 kgf
A	210	210	210	210	210
B	350	358	378	434	413/ 450
E Ø	200	200	200	200	200
F Ø	110	125	125	150	185

SERIES	BOWA BOWB	BOWA BOWB	BOWB	BOWB	BOWB
Output	76 kgf	90 kgf	110 kgf	130 kgf	150 kgf
A	210	282	282	282	282
B	450	452	452	452	507
E Ø	200	200	200	200	200
F Ø	185	185	185	185	250

SERIES	BOWB	BOWB	BOWB	BOWB	BOWB
Output	180 kgf	210 kgf	285 kgf	300 kgf	320 kgf
A	282	282	250	250	250
B	528	528	740	740	740
E Ø	240	240	258	258	258
F Ø	250	250	300	300	300



BOWHPCK

High power connection kit

The BOWHPCK is a connection kit for bow thrusters in the VETUS BOW PRO series. This connection kit is used to simplify the implementation of big diameter supply wires. When using diameters 95 mm² (AWG 0) or above this kit is required.

RIMDRIVE thrusters

The RD125 and RD160

Peaceful power at your fingertips

The RIMDRIVE is unique in its design; when operating, this thruster is *extremely quiet*! The propeller forms the rotating part of the electric motor (rotor) and the fixed winding (stator) is mounted in the tunnel. Therefore gears are not used in this design. Secondly a ring mounted around the propeller, prevents the propeller from cavitating.

The RIMDRIVE is available in 125 and 160 kgf and needs a thruster supply voltage of 48 VDC. The panel should be ordered separately.

Unique features

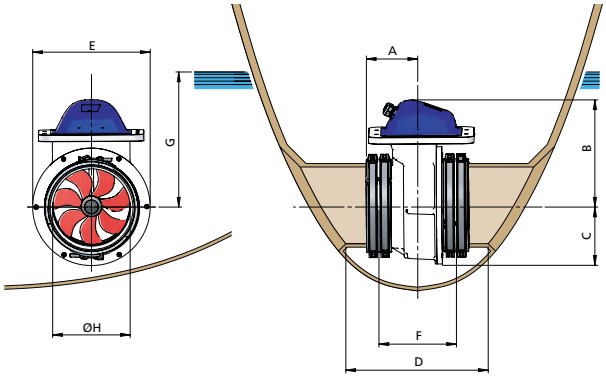
- Permanent magnet induction motor design, no carbon brushes
- Quiet operation due to a virtually cavitation free propeller and no use of gears
- Proportional control as standard via V-CAN
- Runtime only limited by the supply bank
- Easy to install
- Maintenance free
- IP67 top cover / ISO 8846 ignition protection compliant
- Lock the thruster at any speed and hold the boat alongside the dock
- Can be used as a stern thruster
- Suitable for aluminum, steel and GRP boats

RIMDRIVE series	RD125	RD160
Thrust at 48 VDC (kgf)*	125	160
Power (kw-hp)	6,7 - 9,1	9,5 -12,9
Motor DC	48	48
Advised boat length (ft - m)	40'-60'/12,5-18	44'-65/15-20
Tunnel diameter (mm - inch)	250 - 9,8"	250 - 9,8"
Weight excl. tunnel (kg)	37	37
For DC system (Volt)	48	48
Battery main switch: model BATSW / type BPMAIN	250	250
Main fuse	250	250

* When the RIMDRIVE is operating within the set boundaries, the thrust output is not affected by voltage drop (41-60 VDC).

Battery state of charge, battery cable size, ambient temperature and other factors can affect thruster performance. Advise for battery cable length per model see page 217.

Model number (dimensions in mm)	RD125	RD160
A	170	170
B	341	341
C	190	190
D min/max.	400/1000	400/1000
E	380	380
F	247	247
G min.	250	250
H	250	250



The RIMDRIVE from 2020 onwards will also be V-CAN controlled. To control the RIMDRIVE thruster we use the same control wiring and panels as for the BOW PRO series. See page 221 for detailed information.

VETUS strongly advices the use of original V-CAN connection cables to ensure optimal connection between controls and thruster.

Extended runtime DC bow and stern thrusters

Delivers the thruster longer

An extension of the well-known DC thruster, developed for use of DC thruster systems requiring longer runtimes at high power outputs. For boats ranging from 36 to 75 feet. Extended runtime thrusters can be operated continuously for at least eight minutes without overheating. There is no doubt that all boaters can benefit highly from these thrusters designed for more demanding applications.

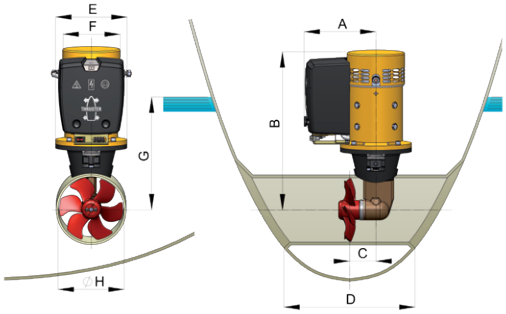
- On-off, port starboard controls
- Simple and intuitive to operate
- Simple installation, easy retrofit
- Four models with power outputs ranging from 95 Kgf to 220 Kgf
- Battery powered at 24 VDC
- Runtime 4-8 minutes continuous or combined in one hour
- Motor technology: direct current, series wound with carbon brushes

Specifications	BOW954DE	BOW1254DE	BOW1604DE	BOW2204DE
Thrust at 12/24 VDC (kgf)*	100	145	165	220
Power (kw-hp)	5,7 - 8	5,7 - 8	7 - 9,5	11 -15
Motor VDC	24	24	24	24
Advised boat length (ft - m)	36'-55'/11,5-17	40'-60'/12,5-18	44'-68/15-20	50'-75'/16-22
Tunnel diameter (mm - inch)	185 - 7,3"	250 - 9,8"	250 - 9,8"	300 - 11,8"
Weight excl. tunnel (kg)	31	36	55	68
Operating time continuously max per hour in minutes	5 - 8	5 - 8	5 - 8	4 - 7
For DC system V	24	24	24	24
Battery main switch: model BATSW / type BPMAIN	600/24	600/24	600/24	NA
Main fuse	355	500	425	675

* All VETUS DC thrusters are rated at a output of 10,5 or 21 VDC, this is the taken into consideration the voltage drop of the thrusters.

Battery state of charge, battery cable size, ambient temperature and other factors can affect thruster performance and operating time. Advise for battery cable length per model see page 216.

Model number (dimensions in mm)	BOW954DE	BOW1254DE	BOW1604DE	BOW2204DE
A	222	222	247	247
B	492	523	600	627
C	77	108	108	136
D min/max.	370/740	500/1000	500/1000	600/1200
E	240	240	258	258
F	185	185	212	212
G min.	185	250	250	300
H	185	250	250	300



Ignition protected DC bow and stern thrusters

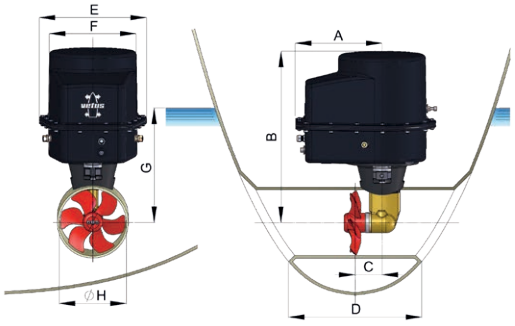
Watertight and ignition protected motor housing

In compartments with a gasoline/petrol engine, tank or fuel line, or propane gas storage, a thruster must be ignition protected to avoid the possibility of fumes or gas reaching the internal mechanism of the thruster and causing an explosion. All models come with the required seals, electrical connectors, fastening components and an automatic fuse which can be reset externally without having to open the housing. Furthermore the housing is an excellent protection against corrosion.

Characteristics

- The housing enables thrusters to comply with ISO 8846 Marine 'Ignition protection' standard
- Can be used as a stern thruster in combination with the appropriate kit
- Supplied with all the required seals, electrical connectors and fastening components
- Has an automatic fuse for the control loom that can be reset from the outside

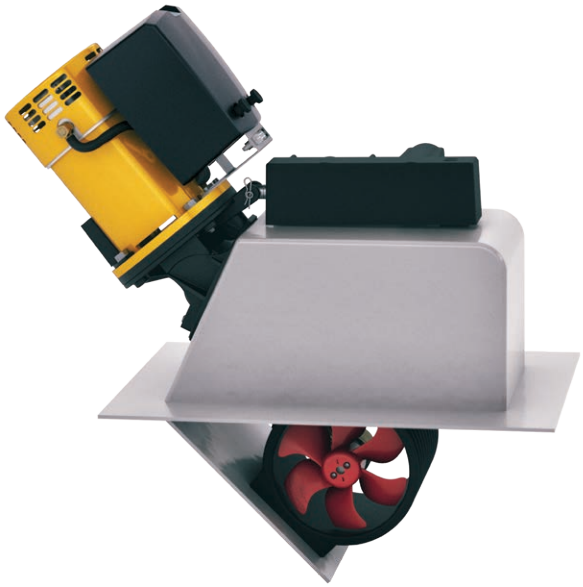
Model nr (dim. in mm)	BOW 2512EI	BOW 3512EI	BOW 3512FI	BOW 4512DI	BOW5512DI BOW5524DI	BOW7512DI BOW7524DI	BOW9512DI BOW9524DI	BOW 1252DI	BOW 1254DI	BOW 1604DI
A	136	136	136	195	195	238	238	238	238	254
B	352	371	350	400	412	460	460	534	517	586
C	73	79	79	79	79	77	77	108	108	108
D min./max.	220/440	300/600	300/600	250/500	300/600	370/740	370/470	500/1000	500/1000	500/1000
E	181	181	149	250	250	296	296	296	296	318
F	157	157	112	195	195	240	240	240	240	280
G min.	110	150	125	125	150	185	185	250	250	250
H Ø	110	150	125	125	150	185	185	250	250	250



Retractable DC bow and stern thrusters

Want a thruster but your hull is too shallow for a tunnel thruster? Here's the solution

For any thruster to work properly, the propeller and the tunnel in which it is mounted must be adequately submerged. Without this, the thruster will create a whirlpool at the water's surface, on the suction side of the boat and pump a mixture of air and water, instead of all water, with a great reduction in thrust.



The minimum submersion of the top of the tunnel is considered to be half of the tunnel diameter. As an example, the top of the tunnel for a thruster running in a 300 mm / 12" tunnel must be at least 150 mm / 6" below the water. This applies equally to bow and stern thrusters. In addition, a bow thruster must be as far forward as the waterline and underwater profile of the boat will allow, and the stern thruster as far aft as possible, in both cases to create the maximum turning effect when the thruster is activated.

If the design of the vessel is such that these forward and aft thruster locations are in parts of the hull which are too shallow for a conventional athwartship tunnel or stern tube to be adequately submerged, then the solution is to install a retractable thruster.

A VETUS Retractable DC electric thruster is housed entirely inside the hull when not in use, but when sideways force is required for docking or maneuvering, the thruster swings down into the water, then retracts when docking and maneuvering operations are safely completed. These retractable thrusters may be used in bow and stern applications.

The VETUS retractable has some big advantages

- The ability to equip a shallow draft boat, including a sailing boat with a cutaway forefoot and raised stern, with thrusters
- Constructed around our standard VETUS DC thruster
- A simple and sturdy swing mechanism, with a minimum of moving parts. The thruster pivots on a permanently lubricated and substantial bearing
- The propeller revolves in a short duct, creating focused flow and minimum energy losses
- The hull bottom plate (lid) is attached directly to the propeller duct so no additional or complex mechanism is required to open or close. It swings in and out with the thruster
- When the thruster is retracted and the bottom plate closed, the retractable creates slightly less drag than a standard tunnel, which may be significant on a sailing boat
- Fiberglass housing and electronic control mechanism (excl. the dashboard panel and cables) are supplied in the base package
- The thrusters deploys and retracts automatically, as the control panel is deactivated, so no separate controls need to be operated
- It will also retract automatically if the thruster has not been used for fifteen minutes
- Electronic sensing protects the actuator of the swing mechanism from damage in event of an overload or jam
- There is a one and a half second time delay when changing thrust direction to prevent shock loads on gears, drive mechanism and swing mechanism
- The thruster(s) and their control panels are connected by cables carrying digital V-CAN signals (VETUS canbus type) allowing future integration into boat-wide electronic systems and information displays

VETUS Retractable Thrusters are suitable for installation in power and sailing boats ranging from 30 to 60 feet. They are available at thrust (effective power) ratings of 55 Kgf, 60 Kgf, 75 Kgf, 95 Kgf, 125 Kgf and 160 Kgf, at 12 VDC and 24 VDC.

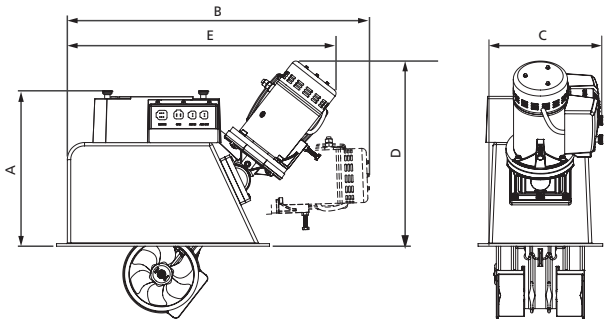
See next page for specifications.

VETUS strongly advices the use of original V-CAN connection cables to ensure optimal connection between controls and thruster.

Retractable DC bow and stern thrusters

DC retractable series - Type	STE5512D	STE5524D	STE6012D	STE6024D	STE7512D	STE7524D
Thrust at 12/24 VDC (kgf)*	55	60	60	67	80	85
Power (kw-hp)	3 - 4	3 - 4	3 - 4	3 - 4	4,4 -6	4,4 -6
Motor DC	12	24	12	24	12	24
Advised boat length (ft - m)	26'-39'/8-12	26'-39'/8-12	27'-40'/8-12,5	27'-40'/8-12,5	30'-45'/10-14	30'-45'/10-14
Tunnel diameter (mm - inch)	150 -5,9"	150 -5,9"	185 - 7,3"	185 - 7,3"	185 - 7,3"	185 - 7,3"
Weight excl. tunnel (kg)	26	26	28	28	30	30
For DC system V	12	24	12	24	12	24
Battery main switch: model BATSW / type BPMAIN	250/12	250/24	250/12	250/24	250/12	250/24
Main fuse	250	200	200	100	355	200
Installation	Mould-in	Mould-in	Mould-in	Mould-in	Mould-in	Mould-in

DC retractable series - Type	STE9512D	STE9524D
Thrust at 12/24 VDC (kgf)*	95	100
Power (kw-hp)	5,7 - 8	5,7 - 8
Motor DC	12	24
Advised boat length (ft - m)	36'-55'/11,5-17	36'-55'/11,5-17
Tunnel diameter (mm - inch)	185 - 7,3"	185 - 7,3"
Weight excl. tunnel (kg)	42	42
For DC system V	12	24
Battery main switch: model BATSW / type BPMAIN	600/12	250/24
Main fuse	425	200
Installation	Mould-in	Mould-in



* All VETUS DC thrusters are rated at a output of 10,5 or 21 VDC, this is the taken into consideration the voltage drop of the thrusters.

Battery state of charge, battery cable size, ambient temperature and other factors can affect thruster performance and operating time. Advise for battery cable length per model see page 216.

Thruster systems

Hydraulic bow and stern thrusters

Type BOW..HMD

These are the thrusters for the most demanding maneuvering situations and are available in power outputs of 55 Kilograms Force (Kgf), 95 Kgf, 160 Kgf, 230 Kgf, 310 Kgf, 410 Kgf and 550 Kgf. They operate in hydraulic systems delivering flow rates ranging from 13 litre / 3.4 U.S gallons per minute to 91 litre / 24 U.S. gallons per minute, at pressures ranging from 165 bar/ 2393 p.s.i to 280 bar / 4061 p.s.i., all depending on thruster model selected.

VETUS hydraulic thrusters are able to run continuously, although not as primary propulsion units. They deliver high power and great reliability, with no electrical connections at the thruster or pump(s) and they need little routine maintenance. These thrusters are available with several control heads including proportional control.

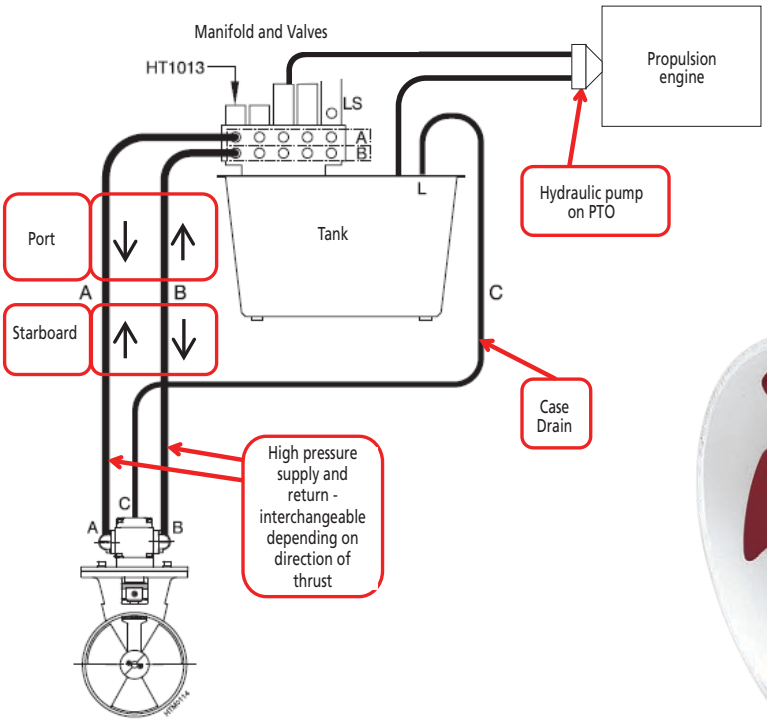
The skill and knowledge set required to plan, integrate and implement a hydraulic installation work is extensive, and includes all of the skills required to install electric thrusters and a lot more. Such work should not be undertaken by persons who are not trained in power hydraulics theory and practice. Access to local hydraulic hose and fitting suppliers is also essential for a well-organized and successful installation.

If an existing hydraulic system can deliver the flow and allows the working pressure required by the thruster(s) appropriate for your vessel, it is often possible to add VETUS thrusters to the system. VETUS also offers complete hydraulic systems as described in this catalogue section.

Whether you buy a complete hydraulic system from VETUS, or just the thrusters, a VETUS customer support team member will review the entire system with you to ensure that your thrusters work according to our specifications after installation.

See the next page for specifications.

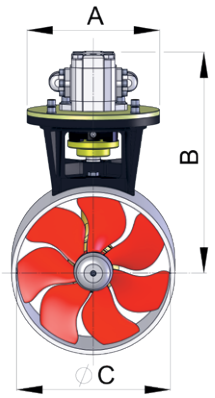
The connections and flow of oil for a thruster



Hydraulic bow and stern thrusters

Type BOW...HMD

Specifications	BOW55HMD	BOW95HMD	BOW160HMD	BOW230HMD	BOW310HMD
Thrust N (kgf) (power output)	**550 (55)**	**950 (95)**	**1600 (160)**	**2300 (230)**	**3100 (310)**
Hydraulic motor power kW	3,5	6,0	9,5	12,5	20
Hydraulic motor speed rpm	3000	4100	3300	1900	2000
Hydraulic motor capacity cm³/rev	4,2	4,2	7	16,8	26,4
Flow rate l/min	13	18	28	40	70
Operating pressure bar	165	230	250	230	225
Internal tunnel diameter mm	150	185	250	300	300
A mm Ø	160	200	240	258	258
B mm	258	276	345	431	455
C mm Ø	150	185	250	300	300
Connection kit*	HT3057	HT3057	HT3056	HT3061	HT3058



* The connection kit consists of couplings required for the correct size hydraulic hoses.

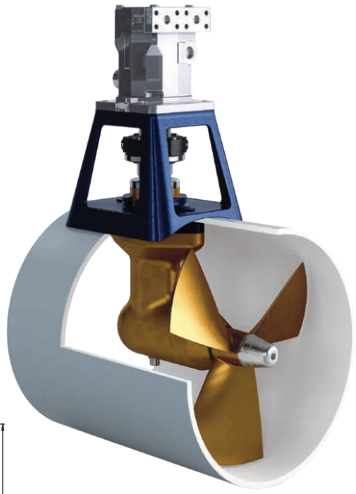
Type	Specifications	Tunnel diam. (mm)
BOW55HMD	Hydraulic bow thruster 55 kgf incl. hydraulic motor 3,5 kW	150
BOW95HMD	Hydraulic bow thruster 95 kgf incl. hydraulic motor 6,0 kW	185
BOW160HMD	Hydraulic bow thruster 160 kgf incl. hydraulic motor 12,3 kW	250
BOW230HMD	Hydraulic bow thruster 230 kgf incl. hydraulic motor 16,4 kW	300
BOW310HMD	Hydraulic bow thruster 310 kgf incl. hydraulic motor 26,8 kW	300
BP1053	Bronze propeller for BOW22024D / BOW230HM	
BP1182	Bronze propeller for BOW310HM	

Type BOWH410 - BOWH550

NEW!

Newly designed tailpiece for types BOWH410 and BOWH550.

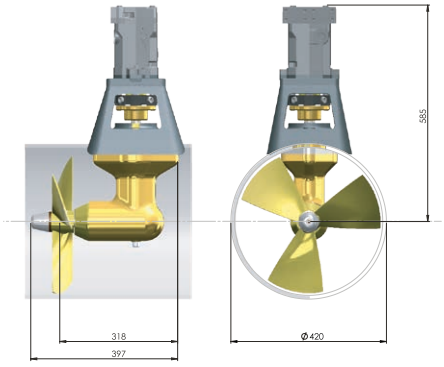
Type	Specifications
BOWH410	Hydraulic bow thruster 410 kgf, incl. hydro motor 22 kW, for tunnel diam. 400 mm
BOWH550	Hydraulic bow thruster 550 kgf, incl. hydro motor 33 kW, for tunnel diam. 400 mm
BP1259	Bronze propeller for BOWH410
BP1260	Bronze propeller for BOWH550



Specifications	BOWH410	BOWH550
Thrust N (kgf) (power output)	**4100 (410)**	**5500 (550)**
Hydraulic motor power kW	22	33
Hydraulic motor speed rpm	1920	1920
Hydraulic motor capacity cm³/rev	45	45
Flow rate l/min	92	92
Operating pressure bar	180	280
Internal tunnel diameter mm	400	400

BOWH410

BOWH550



Electrical installation specifications for bow and stern thrusters

The total battery capacity and minimum diameter of the battery cables must be sufficient for the thruster's current draw in use and the voltage drop must not exceed certain values. We therefore recommend you to consult the table below when planning your new thruster system.

Thruster	Current	Voltage (DC)	Min. batt CCA	Max. batt CCA	Total length of positive and negative cables together (m)										
			(EN)	(EN)	25 mm²	35 mm²	50 mm²	70 mm²	95 mm²	120 mm²	2x 70 mm²	150 mm²	2x 95 mm²	2x 120 mm²	2x 150 mm²
BOW2512	200	12	333	667	4,2 m	6 m	8,5 m	12 m	16 m	20,5 m	24 m	25,7 m	30,8 m	41,1 m	51,4 m
BOW3512	220	12	367	733	3,8 m	5,5 m	7,7 m	10,9 m	14,8 m	18,7 m	21,8 m	23,4 m	29,6 m	37,4 m	46,8 m
BOW4012	220	12	367	733	3,8 m	5,5 m	7,7 m	10,9 m	14,8 m	18,7 m	21,8 m	23,4 m	29,6 m	37,4 m	46,8 m
BOW4512	375	12	625	1250	2,3 m	3,2 m	4,5 m	6,4 m	8,7 m	11 m	12,8	13,7 m	17,3 m	22 m	27,4 m
BOW5512	375	12	625	1250	2,3 m	3,2 m	4,5 m	6,4 m	8,7 m	11 m	12,8	13,7 m	17,3 m	22 m	27,4 m
BOW5524	205	24	342	683	8,4 m	11,7 m	16,7 m	23,4 m	31,7 m	40,1 m	46,8 m	50,2 m	63,5 m	80,3 m	100 m
BOW6012	300	12	500	1000	2,9 m	4 m	5,7 m	8 m	10,8 m	13,7 m	16 m	17,2 m	21,7 m	27,4 m	34,3 m
BOW6024	165	24	275	550	10,3 m	14,5 m	20,8 m	29 m	39,5 m	49,8 m	58 m	62,3 m	79 m	99,7 m	124,6 m
BOW7512	550	12	917	1833	NA	NA	3,1 m	4,4 m	5,9 m	7,5 m	8,7 m	9,4 m	11,8 m	14,9 m	18,7 m
BOW7524	315	24	525	1050	5,4 m	7,6 m	10,9 m	15,2 m	20,6 m	26,1 m	30,5 m	32,6 m	41,3 m	52,2 m	65,3 m
BOW9512	650	12	1083	2166	NA	NA	2,6 m	3,7 m	5 m	6,3 m	7,4 m	7,9 m	10 m	12,7 m	15,8 m
BOW9524	320	24	533	1067	5,4 m	7,5 m	10,8 m	15, m	20,5 m	26 m	30,4 m	32,5 m	41,2 m	52,1 m	65,2 m
BOW12512	840	12	1400	2800	NA	NA	2 m	2,9 m	3,9 m	4,9 m	5,7 m	6,4 m	7,8 m	9,8 m	12,8 m
BOW12524	470	24	783	1567	NA	NA	7,3 m	10,2 m	13,9 m	17,5 m	20,4 m	21,9 m	27,7 m	35 m	43,8 m
BOW16024	560	24	933	1866	NA	NA	6,2 m	8,6 m	11,6 m	14,7 m	17,1 m	18,4 m	23,2 m	29,3 m	36,7 m
BOW1804	400	24	668	1336	NA	NA	8,5 m	12 m	16,2 m	20,5 m	24 m	25,7 m	32,6 m	41,1 m	51,4 m
BOW2204	760	24	1267	2533	NA	NA	4,5 m	6,3 m	8,6 m	10,9 m	12,6 m	13,5 m	17,1 m	21,6 m	27,1 m
BOW28548	560	48	933	1866	NA	NA	6,2 m	8,6 m	11,6 m	14,7 m	17,1 m	18,4 m	23,2 m	29,3 m	36,7 m
BOW95DE	680	12	1133	2267	NA	NA	2,5 m	3,5 m	4,8 m	6 m	7 m	7,6 m	9,6 m	12,1 m	30,3 m
BOW954DE	340	24	567	1133	5 m	7 m	10 m	14,1 m	19,2 m	24,2 m	28,2 m	30,3 m	38,3 m	48,4 m	60,5 m
BOW125DE	470	24	783	1567	NA	NA	7,3 m	10,2 m	13,9 m	17,5 m	20,4 m	21,9 m	27,7 m	35 m	43,8 m
BOW160DE	400	24	667	1333	NA	NA	8,5 m	12 m	16,2 m	20,5 m	24 m	25,7 m	32,6 m	41,1 m	51,4 m
BOW220DE	680	24	1133	2267	NA	NA	5 m	7 m	9,5 m	12,1 m	14,1 m	15,1 m	19,2 m	24,2 m	30,3 m

Conversion table mm² to AWG

MM²	AWG	MM²	AWG	MM²	AWG	MM²	AWG
25	4	50	0 (1/0)	95	000 (3/0)	150	300 MCM
35	2	70	00 (2/0)	120	0000 (4/0)	185	350 MCM

Electrical installation specifications for bow and stern thrusters

Thruster	Current	Voltage (DC)	Min. batt CCA	Min. batt Ah	Total length of positive and negative cables together (m)									
			(EN)	(C20)	25 mm²	35 mm²	50 mm²	70 mm²	95 mm²	120 mm²	2x 70 mm²	150 mm²	2x 95 mm²	2x 120 mm²	2x 150 mm²
BOWA0301	199	12	333	(1x) 90Ah	NA	6 m	8,6 m	12 m	16,4 m	20,6 m	24 m	25,8 m	32,7 m	41,3 m	51,6 m
BOWA0304	80	48	185	(4x) 60Ah	42,8 m	60 m	85,7 m	120 m	162,9 m	205 m	---	---	---	---	---
BOWA0361	273	12	500	(1x) 170Ah	NA	NA	6,3 m	8,8 m	11,9 m	15 m	17,6 m	18,8 m	23,8 m	30 m	37,6 m
BOWA0364	71	12	185	(4x) 60Ah	48,2 m	67,6 m	96,5 m	135,2 m	183,5 m	231,8 m	---	---	---	---	---
BOWA0421	250	12	475	(1x) 145Ah	NA	4,8 m	6,9 m	9,6 m	13 m	16,5 m	19,2 m	20,5 m	26 m	33 m	41,1 m
BOWA0571	337	12	750	(1x) 185Ah	NA	NA	5 m	7,1 m	9,7 m	12,2 m	14,2 m	15,2 m	19,3 m	24,4 m	30,5 m
BOWA057	189	24	325	(2x) 90Ah	NA	12,6 m	18,1 m	25,4 m	34,5 m	43,5 m	50,8 m	54,4 m	68,9 m	87 m	108,8 m
BOWA0574	90	48	205	(4x) 60Ah	38 m	53,3 m	76,2 m	106,7 m	144,8 m	182,9 m	213,3 m	---	---	---	---
BOWA0651	271	12	500	(1x) 170Ah	NA	NA	6,3 m	8,9 m	11,9 m	15,1 m	17,6 m	18,9 m	23,9 m	30 m	37,9 m
BOWA0761	368	12	925	(1x) 200Ah	NA	NA	4,5 m	6,5 m	8,7 m	11,1 m	12,8 m	13,9 m	17,4 m	22 m	27,9 m
BOWA0764	93	48	205	(4x) 60Ah	37,7 m	53,1 m	76 m	106,3 m	144,4 m	182,5 m	213 m	---	---	---	---
BOWB057	189	24	325	(2x) 90Ah	NA	12,6 m	18,1 m	25,3 m	34,5 m	43,5 m	50,8 m	54,4 m	68,9 m	87 m	108,8 m
BOWB065	137	24	225	(2x) 90Ah	NA	17,5 m	25 m	35 m	47,5 m	60 m	70 m	75 m	95 m	120 m	150 m
BOWB076	184	24	350	(2x) 90Ah	NA	13 m	18,6 m	26 m	35 m	44,7 m	52,1 m	55,9 m	70,8 m	89,4 m	111,8 m
BOWB090	220	24	400	(2x) 145Ah	NA	NA	15,5 m	21,8 m	29,6 m	37,4 m	43,6 m	46,8 m	59,2 m	74,8 m	93,5 m
BOWB110	330	24	600	(2x) 170Ah	NA	NA	10,4 m	14,5 m	19,7 m	24,9 m	29 m	31,2 m	39,5 m	49,8 m	62,3 m
BOWB130	350	24	925	(2x) 185Ah	NA	NA	4,9 m	6,8 m	9,3 m	11,8 m	13,7 m	19,7 m	18,6 m	23,5 m	29,4 m
BOWB150	276	24	500	(2x) 170Ah	NA	NA	6,3 m	8,7 m	11,8 m	14,7 m	17,4 m	18,7 m	23,5 m	29,2 m	37,6 m
BOWB180	289	48	525	(4x) 185Ah	NA	NA	23,7 m	33,2 m	45,1 m	56,9 m	66,4 m	71,2 m	90,2 m	113,8 m	122,5 m
BOWB210	300	48	550	(4x) 185Ah	NA	NA	22,9 m	32 m	43,4 m	54,9 m	64 m	68,6 m	86,9 m	109,7 m	118 m
BOWB250	340	48	750	(4x) 200Ah	NA	NA	5 m	7,1 m	9,7 m	12,2 m	14,2 m	15,2 m	19,3 m	24,4 m	30,5 m
BOWB Boost charge	80	12	NA	NA	10,7 m	15 m	21,4 m	30 m	40,7 m	51,4 m	60 m	64,3 m	81,4 m	102,9 m	128,6 m
	80	24	NA	NA	21,4 m	30 m	42,9 m	60 m	81,4 m	102,9 m	120 m	128,6 m	162,9 m	205,7 m	---
RIMDRIVE															
RD125	200	48	350	4x 90Ah	NA	6 m	8,6 m	12 m	16,4 m	20,6 m	24 m	25,8 m	32,7 m	41,3 m	51,6 m
RD160	225	48	400	4x 145Ah	NA	5,2 m	7,8 m	10,5 m	14,2 m	19 m	21,8 m	23 m	30 m	39 m	48 m

Tunnels for bow and stern thrusters

Our tunnels are available in several lengths and diameters and purpose built for all VETUS thrusters. They are available in GRP, steel and aluminum and provide ultimate strength and accuracy to easily install the tunnel for your VETUS thruster system. An overview of all available tunnels is shown below.

Important note: Installer must measure actual external diameter of the tunnel before cutting the hull.

Glassfibre reinforced polyester

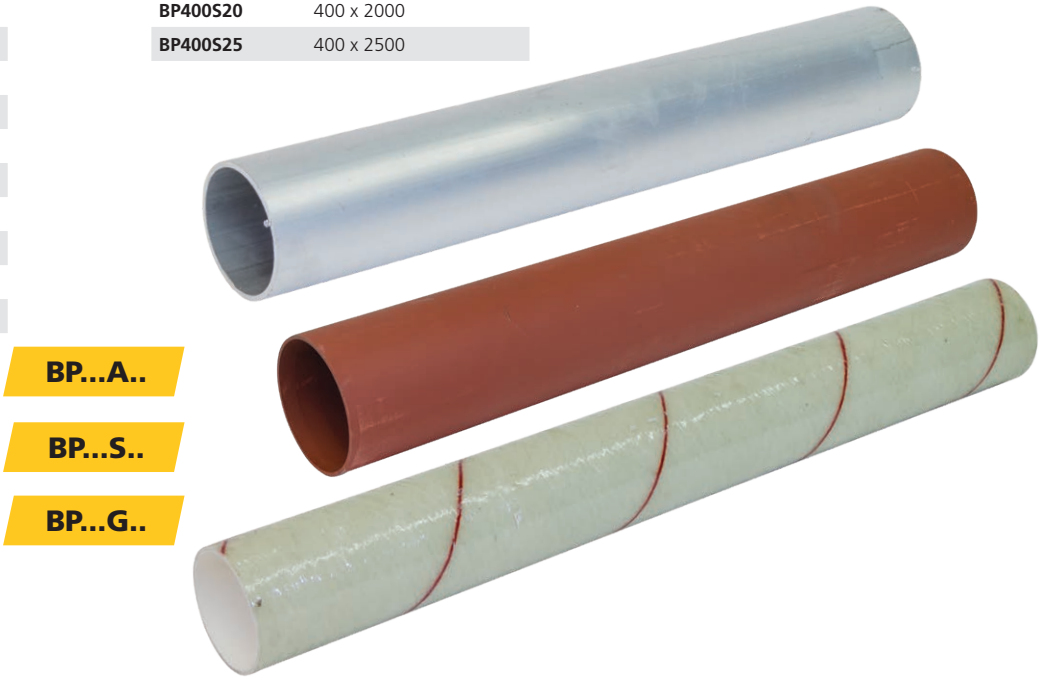
Type	Internal diameter and length (in mm)
BP110G75	110 x 750
BP110G10	110 x 1000
BP110G15	110 x 1500
BP110G20	110 x 2000
BP110G30	110 x 3000
BP125G75	125 x 750
BP125G10	125 x 1000
BP125G15	125 x 1500
BP125G20	125 x 2000
BP125G30	125 x 3000
BP140G75	140 x 750
BP140G10	140 x 1000
BP140G15	140 x 1500
BP150G75	150 x 750
BP150G10	150 x 1000
BP150G15	150 x 1500
BP150G20	150 x 2000
BP150G30	150 x 3000
BP185G75	185 x 750
BP185G10	185 x 1000
BP185G15	185 x 1500
BP185G20	185 x 2000
BP185G30	185 x 3000
BP250G10	250 x 1000
BP250G15	250 x 1500
BP250G20	250 x 2000
BP250G25	250 x 2500
BP250G30	250 x 3000
BP300G10	300 x 1000
BP300G15	300 x 1500
BP300G20	300 x 2000
BP300G25	300 x 2500
BP300G30	300 x 3000
BP400G20	400 x 2000
BP400G25	400 x 2500

Steel

Type	Internal diameter and length (in mm)
BP110S75	110 x 750
BP110S10	110 x 1000
BP110S15	110 x 1500
BP110S30	110 x 3000
BP125S10	125 x 1000
BP125S15	125 x 1500
BP125S30	125 x 3000
BP150S10	150 x 1000
BP150S15	150 x 1500
BP150S20	150 x 2000
BP150S30	150 x 3000
BP185S10	185 x 1000
BP185S15	185 x 1500
BP185S20	185 x 2000
BP185S30	185 x 3000
BP250S10	250 x 1000
BP250S15	250 x 1500
BP250S20	250 x 2000
BP250S25	250 x 2500
BP250S30	250 x 3000
BP300S10	300 x 1000
BP300S15	300 x 1500
BP300S20	300 x 2000
BP300S25	300 x 2500
BP300S30	300 x 3000
BP400S20	400 x 2000
BP400S25	400 x 2500

Aluminium

Type	Internal diameter and length (in mm)
BP110A75	110 x 750
BP110A10	110 x 1000
BP110A15	110 x 1500
BP110A30	110 x 3000
BP125A75	125 x 750
BP125A10	125 x 1000
BP125A15	125 x 1500
BP125A20	125 x 2000
BP125A30	125 x 3000
BP150A10	150 x 1000
BP150A15	150 x 1500
BP150A20	150 x 2000
BP150A30	150 x 3000
BP185A10	185 x 1000
BP185A15	185 x 1500
BP185A30	185 x 3000
BP250A10	250 x 1000
BP250A15	250 x 1500
BP250A30	250 x 3000
BP300A10	300 x 1000
BP300A15	300 x 1500
BP300A30	300 x 3000



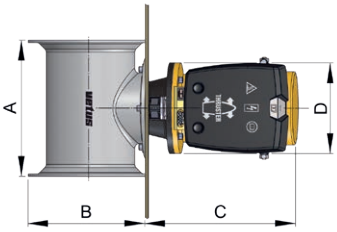
Stern thruster tunnels for transom mounting

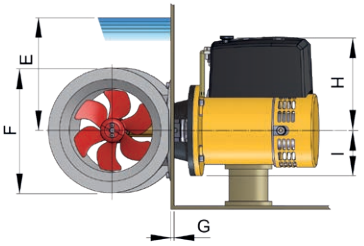
Combining a VETUS stern thruster with a VETUS bow thruster, will provide an even greater manoeuvrability of your boat in locks or harbours. By placing a side-directional thruster in the bow and another one at the transom, docking, sailing away, finding a spot on the dock or marina, becomes child's play! Even the effects of wind and current can be effectively countered. Installation of a VETUS stern thruster is simple, the electric motor and other electric components are fitted internally to the transom of the boat. The stern thruster tunnel and the propeller are installed externally on the transom.

Note: The range of eight different stern thruster tunnel kits can make 31 different stern thruster models. These stern thruster tunnel kits may also be used with "ignition protected" thrusters, extended runtime thrusters, BOW PRO thrusters and RIMDRIVE thrusters.
For sizes and specifications see details below.

Type	Tunnel Ø (mm)
STERN110P	110
STERN125P	125
STERN150P	150
STERN185P	185
STERN250P	250
STERN300P	300
STERN400P	400
STERN250R*	250

* RIMDRIVE thruster



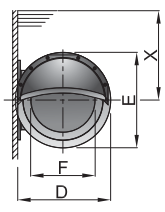


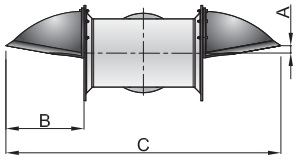
	STERN110P	STERN125P	STERN150P			STERN185P				STERN250P			STERN300P				STERN400P	
	COMBINED WITH																	
Model number (dim. in mm)	BOW25	BOW35F BOW45 BOWA0361 BOWA0364 BOWA0421	BOW35E / BOW55 BOW55HYDR. BOWB0571 BOWB057			BOW60 / BOW75 / BOW95 BOW95HYDR. / BOWA0651 BOWA0761 / BOWA0764 BOWB065 / BOWB076 BOWB090 / BOWB110 BOWB130				BOW125 / BOW160 BOW160HYDR. BOWB150 BOWB180 BOWB210 / BOWB250			BOW220 / BOW230HYDR. BOW285 / BOW310HYDR. BOWB300				BOW410HYDR. BOW550HYDR.	
A	230	250	270	270	270	300	300	300	300	460	460	460	540	540	540	540	740	740
B	155	192	215	215	215	268	268	268	268	360	360	360	437	437	437	437	543	543
C	232	275	219	282	163	267	305	313	151	313	373	168	416	242	416	242	0	0
D	149	160	149	160	160	160	200	200	200	200	240	240	258	258	258	258	0	0
E min.	110	125	150	150	150	185	185	185	185	250	250	250	300	300	300	300	400	400
F Ø	180	205	240	240	240	275	275	275	275	370	370	370	450	450	450	450	550	550
G max.	25	40	19	47	47	33	26	26	26	58	92	92	50	50	50	50	UNLIMITED	
H	138	143	138	143	80	143	155	209	100	209	222	120	237	192	237	129	0	0
I	87	117	117	117	117	111	111	111	111	111	154	154	172	172	172	172	200	200

Extension kit for stern thruster tunnels

If the openings of the stern thruster are too close to the waterline, then it will suck air and considerable loss of thrust will occur. This can be prevented by using an extension kit which ensures both tunnel openings are adequately submerged. By installing these deflector shells, the flow of water can also be directed away from transom mounted obstructions including outdrives, trim tabs and swim-platform brackets, maintaining stern thruster effectiveness. The kit consists of two fibreglass shells and stainless steel (AISI 316) fastenings. It can easily be retrofitted to existing installations. The SDKIT is available for stern thrusters tunnels of Ø 125, 150, 185, 250 or 300 mm.

Type	A	B	C	D	E	F Ø	X (= ½ F + A) (mm)
SDKIT125	10	107	464	190	205	125	Min. 73
SDKIT150	27	195	650	220	232	150	Min. 102
SDKIT185	17	237	774	268	275	185	Min. 110
SDKIT250	28	303	1066	360	370	250	Min. 153
SDKIT300	39	365	1270	437	450	300	Min. 189





Control panels for bow and stern thrusters

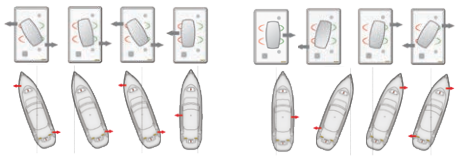
Control panels for DC thrusters

Control panels type BPSR, BPJR, BPAS and BPAJ can be easily fitted in a 52 mm diameter hole. The panels are waterproof to IP65 and provided with a switched outlet (max. 3A) to connect extra equipment. All panels are backwards compatible with other VETUS bow thruster panels and shut down automatically after thirty minutes of inactivity. The thruster switches off after continuous running for more then two minutes and resets itself after five seconds.

Control panels type 2 (EZDOCK2, BPSE2, BPJE2 & BPJDE2) are protected against accidental or unauthorised operation and circuit overload. They have a panel power indicator and warning LED and buzzer in case of continuous running for more than two minutes. These panels are easily interconnected and can be fitted at any helm position.

The EZDOCK2 combines twin joysticks into one easy operating knob, see the picture on the right.

Note: For optimum safety and performance we recommend using VETUS control panels with VETUS thrusters.



BPSR

BPJR

BPAS

BPAJ

BPJSTA

EZDOCK2

BPSE2

BPJE2

BPJDE2

BPA

Type	Description	Voltage (DC)	Front panel (mm)	Bezel	Ingression protected	Built-in depth (mm)	Cut-out size (mm)	Child protection
BPSR	Thruster touch panel with time delay	12 / 24	Ø 63	White/Black/Chrome	IP65	90	Ø 52	✓
BPJR	Thruster panel with joy-stick and time delay	12 / 24	Ø 63	White/Black/Chrome	IP65	90	Ø 52	✓
BPAS	Thruster touch panel with time delay	12 / 24	97 x 95	Aluminium	IP65	90	Ø 52	✓
BPAJ	Joystick with time delay	12 / 24	97 x 95	Aluminium	IP65	90	Ø 52	✓
BPJSTA	Joystick without time delay device (excl. connection cable)	12 / 24	N/A	N/A	IP65	50	Ø 22	-
EZDOCK2	Easy docking system for thrusters, with time delay	12 / 24	85 x 138	Synthetic	IP65	90	130 x 75	✓
BPSE2	Thruster touch panel with time delay	12 / 24	85 x 85	Synthetic	IP65	90	Ø 75	✓
BPJE2	Thruster panel with joy-stick and time delay	12 / 24	85 x 85	Synthetic	IP65	90	Ø 75	✓
BPJDE2	Thruster panel with two joy-sticks and time delay	12 / 24	85 x 138	Synthetic	IP65	50	130 x 75	✓
BPA	Adapter plate to replace the old BPS/BPJ panels with the new BPSE2/BPJE2 panels							

Control panels for bow and stern thrusters

Control panels for BOW PRO thrusters

The BOW PRO thruster is digitally controlled by proprietary CANBUS protocol V-CAN. There are three fully proportional control panels available for the BOW PRO thruster series; one basic paddle panel and one panel with lock-and-hold function. With the press of a button, you are able to lock the thrust at any desired speed, freeing you to step away from the control panel to tie up your boat. A feature that makes single handed docking much easier.

VETUS also offers a new double control panel with lock-and-hold function which controls the bow and stern thruster either individually or simultaneously. Rotating the joystick will operate them in opposite directions to rotate the boat on its axis.

Specifications

- Compact design and high quality materials
- Safe and easy proportional control of your vessel
- Aluminium bezel
- Quick installation in Ø 75 mm cut-out hole
- Waterproof housing IP65
- V-CAN CANBUS protocol compliant
- Twin connector for multiple stations
- Status indicator
- Can be flush mounted
- With thruster lock and hold function (BPPJA and DBPPJA)

BPPJA

BPPPA

NEW!

DBPPJA

Type	Description	Voltage (DC)	Front panel (mm)	Bezel	Ingression protected	Built-in depth (mm)	Cut-out size (mm)	Child protection
BPPJA	Proportional control for the BOW PRO with lock and hold function (CAN BUS)	12 (V-CAN)	85 x 85	Aluminium	IP65	120	Ø 75	✓
BPPPA	Proportional control for the BOW PRO (CAN BUS)	12 (V-CAN)	85 x 85	Aluminium	IP65	90	Ø 75	✓
DBPPJA	Double thruster panel (proportional, CAN)	12 (V-CAN)	85 x 85	Aluminium	IP65	120	Ø 76	✓

Control panels for retractable thrusters

These bow thruster panels are developed to work with the V-CAN BUS for retractable thrusters. Both panels can be easily fitted in a 52 mm diameter hole. The panels are waterproof to IP65 and provided with a switched outlet (max. 3A) to connect extra equipment. Safety features shut the panel down automatically after 15 minutes of inactivity. Including time delay device.

BPSRC

BPJRC

Type	Description	Voltage (DC)	Front panel (mm)	Bezel	Ingression protected	Built-in depth (mm)	Cut-out size (mm)	Child protection
BPSRC	Thruster touch panel w/ time delay (CAN BUS)	12 / 24	Ø 63	White/Black/Chrome	IP65	90	Ø 52	✓
BPJRC	Thruster panel w/ joy-stick & time delay (CAN BUS)	12 / 24	Ø 63	White/Black/Chrome	IP65	90	Ø 52	✓

Thruster systems

Control panels for hydraulic bow and stern thrusters

Two stage controls
Models BPJSTH5, BPJ5 and BPJ5D have five positions- Off and first/second step to either port or starboard. The first detent step will permit continuous hands-off operation at partial power. The second stage will provide full power.

Single stage controls
Models BPJSTA, BPJE2 and BPJDE2 are single stage On-Off controls and are provided with a time delay.

Fully proportional control
Model HT1034 is a fully proportional joystick with a twistlock and must be used in conjunction with proportional valves HT1032 or HT1035.

Specifications
- Type BPJE2: Thruster panel with joystick and time delay. Dimensions 85 x 85 mm
- Type BPJDE2: Thruster panel with two joysticks & time delay. Dimensions 85 x 136 mm
- Type BPJSTA: Joystick without time delay device

Note: All models are watertight to IP65.

HT1034

BPJSTH5

BPJ5

BPJ5D

BPJE2

BPJDE2

Type	Specification
BPJSTH5	Joystick only for hydraulic bow thrusters (5 positions)
BPJ5	Bow thruster panel with joystick, for hydraulic bow thruster (5 positions)
BPJ5D	Bow thruster panel with two joysticks, for hydraulic bow and stern thruster (5 positions)
HT1034	Proportional bow thruster panel with twistlock for HT1032 and HT1035
BPJE2	Thruster panel with joystick and time delay
BPJDE2	Thruster panel with two joysticks and time delay
BPJSTA	Joystick without time delay device

BPJSTA

Control panels for bow and stern thrusters

Electric remote control

Type RECON can be used for the operation of DC and DC extended runtime bow and stern thrusters, anchor windlasses, remote controlled gangways, electric cranes, hydraulic steering systems etc. This electric remote control has a stainless steel (AISI 316) hanger loop which is fitted on the back.

Specifications
- Suitable for 12 or 24 VDC
- Max switching capacity of 6A
- Supplied with three-core spiralled wire of 3,5 mtr
- Complete with watertight plug and socket

Type	Specifications
RECON	Hand held remote control for operation of bow and stern thrusters, windlasses, etc.

Wireless remote control

The VETUS wireless remote control comes in two versions: WRC and CANVWRC.

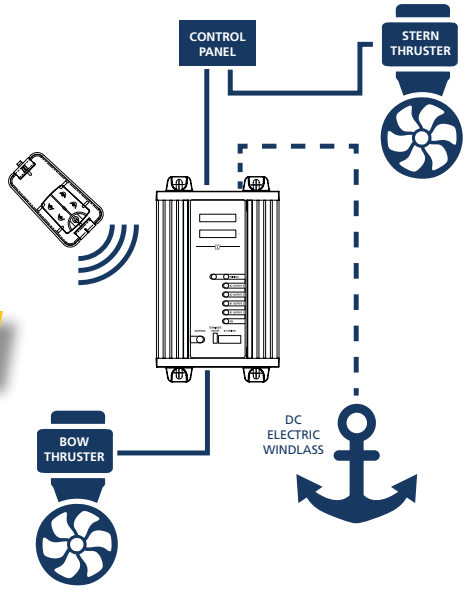
WRC remote control system is designed to work with electrically controlled "on-off" devices and not proportionally controlled devices. Ideal for use with solenoid actuated thrusters, -windlasses and non-proportional hydraulic thrusters.

The new CANVWRC is designed to work with "on-off" DC devices, but it can also work with VETUS V-CAN devices. These will be controlled in an on-off control method also. In the CANVWRC a DC connected device can be combined with a V-CAN device, or a DC only, or a V-CAN only setup is allowed.

Specifications receiver
- Receiver accepts 12 or 24 VDC power supply
- Connections for one or two DC electric or hydraulic thrusters, or for one DC electric or hydraulic thruster and one DC electric or hydraulic windlass
- Maximum five hand-held remote transmitters
- Detachable antenna
- Protection class IP40 (for use in dry locations only)

Specifications hand-held remote control transmitter
- Power supply - 3 V battery type CR2032
- Maximum distance to receiver 10 - 15 metres
- Protection class IP66 (resistant to high pressure water from any direction)

NEW!



Type	Description	Dimensions
CANVWRC	**NEW!** Base unit for wireless remote control + hand held remote control also suitable for V-CAN	208 mm x 124 mm x 50 mm
WRC	Base unit for wireless remote control + hand held remote control (DC devices only)	208 mm x 124 mm x 50 mm
WRCKF	Additional hand held remote control	42 mm x 78 mm x 16 mm

Total boat control system - one hand manoeuvring and docking

V-DOCKER Joystick

Bow thruster, stern thruster, single engine and gearbox on a single joystick for one hand manoeuvring and docking

The V-DOCKER works with a single (mechanically controlled) engine and a combination of a bow and stern thruster. Only this combination ensures an optimal use of the generated forces, giving you the power exactly where you need it! Where other systems make use of opposing forces situated at the stern of the boat, the VETUS systems just needs a nudge of the thruster to tip the bow in the right direction.

Because of the precise cooperation between thrusters and engine, drifting will be a thing of the past. Unlike expensive systems that claim to work without thrusters, the V-DOCKER system evenly distributes the forces between the bow and stern of the boat. Manoeuvring your boat in a tight spot has never been easier.

This sail-by-wire system replaces your mechanically controlled throttle lever, enabling single-handed boat control! It works with both inboard and outboard engines and is available in two different kits: one kit for those with regular bow thrusters, one kit for the those with retractable thrusters. When there are no thrusters present, these have to be purchased with the kit as well.

Unique features

- Unrivaled ease of installation
- Competitively priced compared to other alternatives on the market
- Pressure-sensitive joystick for precise operating
- Works with one engine, and a combination of bow and stern thruster
- Multiple helm stations are easily connected
- Suitable for retrofit
- The perfect match with:
  - VETUS DC thrusters
  - VETUS extended runtime thrusters
  - VETUS retractable thrusters
- Also available as electronic control handle

An example of the V-DOCKER fully integrated at the steering position.

Another example of the V-DOCKER installed on a Linjet 43.

Total boat control system - one hand manoeuvring and docking

V-DOCKER Bow thruster kit (VDSETT)

- Joystick (VDJOY) (a)
- Actuator (VDACT) (b)
- Termination plug (CANVT) (c)
- CAN Hub (BPCANHUB) 3x (d)
- Security module (VDIO) (e)
- Can interface for thrusters (BPCANIN) 2x (f)
- Power cable (BPCABCPC) (g)
- Standard thruster to CAN cable (BPCABSC) (h)
- Gender change cable (BPCABCGC (i)

V-DOCKER Retractable thruster kit (VDSETR)

- Joystick (VDJOY) (a)
- Actuator (VDACT) (b)
- Termination plug (CANVT) (c)
- CAN Hub (BPCANHUB) 3x (d)
- Security module (VDIO) (e)
- Power cable (BPCABCPC) (g)

When purchasing a V-DOCKER kit, please base your selection on the type and number of thrusters installed. Both kits can be extended to suit your needs, for example if more joysticks are desired. This kit needs to be complemented with BPCABC CAN cables, with the actual length depending on the size of the boat. We strongly advise to use these cables only.

	Suitable for (current equipment) Mechanical throttle control Single engine					
Requirements for a complete joystick system ↓	**Outboard, no thrusters**	**Outboard, 1 thruster**	**Outboard, 2 thrusters**	**Inboard, no thrusters**	**Inboard, 1 thruster**	**Inboard, 2 thrusters**
V-DOCKER KIT	-	-	✓	-	-	✓
V-DOCKER RETRACTABLE KIT	-	-	✓	-	-	✓
V-DOCKER BOW KIT +1 THRUSTER (sold separately)	-	✓	-	-	✓	-
V-DOCKER RETRACTABLE KIT +1 THRUSTER (sold separately)	-	✓	-	-	✓	-
V-DOCKER BOW KIT +2 THRUSTERS (sold separately)	✓	-	-	✓	-	-
V-DOCKER RETRACTABLE KIT +2 THRUSTERS (sold separately)	✓	-	-	✓	-	-

Accessories for bow and stern thrusters

Bow thruster control panel for DC thrusters

For side mounting - ideal for sailing boats.

Specifications
- With on/off switch and rocker switch
- Diameter 102 mm
- Build-in depth 79 mm
- Watertight to IP 65
- Without time delay device

Type	Description
BPSM	Bow thruster control panel for side mounting with toggle switch Ø 102 mm

BPSM

Time delay device

Eliminates the risk of the bow thruster being switched over too quickly. It is highly recommended for rental craft to prevent motor damage. Applicable for external switches, or BPJSTA and BPSM panels only. Standard VETUS DC thruster panels are already equipped with a time delay.

Type	Description
BPTD12	Time delay unit for 12 VDC bow thruster panel BPSM and BPJSTA
BPTD24	Time delay unit for 24 VDC bow thruster panel BPSM and BPJSTA

BPTD

Panel connection cables

These panel connection cables are supplied with multi-plugs and available in five different lengths. They can be used with all VETUS electric thrusters except BOW PRO, RIMDRIVE and retractable thrusters.

Type	Description
BP29	6 m control panel/bow thruster
BP2910	10 m control panel/bow thruster
BP2916	16 m control panel/bow thruster
BP2918	18 m control panel/bow thruster
BP2920	20 m control panel/bow thruster

BP29..

V-CAN connection cables

Available in six different lengths for use with BOW PRO and RIMDRIVE installations.

Type	Description
BPCAB1HF	CAN cable 1 m Halogen free
BPCAB5HF	CAN cable 5 m Halogen free
BPCAB10HF	CAN cable 10 m Halogen free
BPCAB15HF	CAN cable 15 m Halogen free
BPCAB20HF	CAN cable 20 m Halogen free
BPCAB25HF	CAN cable 25 m Halogen free

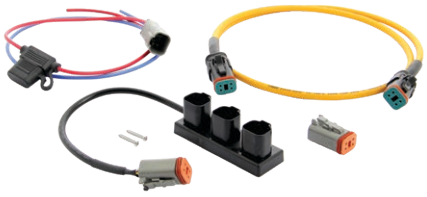
BPCAB..HF

Accessories for bow and stern thrusters

Installation set BPROASET

When installing a BOW PRO (BOWA) a few components are required to activate V-CAN communication. These components are put together in a installation set and include following items.

Type	Description
BPCABCPC	Power supply cable
CANVT	CAN bus termination resistor
BPCAB1HF	CAN cable 1 metre - Halogen free
BPCANHUB	CAN bus 3-point hub



In addition to this installation set a V-CAN connection cable between the thruster unit and control panel is required. These cables are shown on page 226.

BPROASET

Installation set BPROBSET

When installing a BOW PRO (BOWB) a few components are required to activate V-CAN communication. These components are put together in a installation set and include following items.

Type	Description
BPCABCPC	Power supply cable
CANVT	CAN bus termination resistor
BPCAB1HF	CAN cable 1 metre - Halogen free

In addition to this installation set a V-CAN connection cable between the thruster unit and control panel is required. These cables are shown on page 226.

BPROBSET

Remotely controlled battery main switch and emergency stop

Type BPMAIN

Ideal for use with bow thrusters, anchor windlasses or other high current consumers. A remotely controlled battery switch is in many countries required by law. The BPMAIN can be remotely controlled electrically or activated by hand in an emergency. The switch should be fitted as close as possible to the battery of the bow thruster or other consumers, and should be placed in a position where the red emergency stop button is within reach. For switching on/off a control panel is supplied with pre-wired loom and multi-plugs.

Specifications
- Available in 12 or 24 VDC
- Extension looms and control panels are optional
- Maximum load 250 Amps continuous or 800 Amps for 3 minutes

Note: When a 24 VDC bow thruster is connected to a 12 VDC circuit by a series/parallel switch, a 12 VDC battery main switch must be selected. When a 48 VDC bow thruster is connected to a 24 VDC circuit by a series/parallel switch, a 24 VDC main switch must be used.

Type	Description
BPMAIN12	Remotely controlled battery main switch and emergency stop 12 VDC
BPMAIN24	Remotely controlled battery main switch and emergency stop 24 VDC
BPMEC	Extension cable 6 metre for BPMAIN
BPMRC	Remote control for BPMAIN

BPMAIN

Thruster systems

Battery main switches type BATSW

May be connected to either the positive or the negative electric cable. Two positions: "ON" and "OFF". In the "OFF"position the key may be removed (except models 150 and 600). Provided with two M10 connectors. Model 250T is a twin pole switch to make/break both the positive and negative cables. Model 600 is watertight according to IP 67.

BATSW075

BATSW100

BATSW150

BATSW250

BATSW250T

BATSW600

Type	BATSW075	BATSW100	BATSW150R* BATSW150B**	BATSW250	BATSW250T	BATSW600
Nominal operational (V)	max. 24	max. 24	max. 24	max. 24	max. 48	max. 24
Current max.:						
- Continuous operation	75 A	100 A	150 A	250 A	2 x 250 A	450 A
- 3 minutes' load						800 A
- 5 seconds' load	350 A	500 A	1000 A	2500 A	2 x 2500 A	3500 A

* BATSW150R = with red handle **BATSW150B = with black handle

Fuses and fuse holder type ZE

Type ZEHC is suitable for VETUS fuses of 40 - 500 Amp. The fuses to match are encapsulated in glass to prevent splatter and fire. The fuse holder comes with a protector cover. **Note:** Can be used in combination with strip fuses type ZE (slow-blow fuse).

Type	Description	Amp.
ZE040	Strip fuse C20	40
ZE050	Strip fuse C20	50
ZE063	Strip fuse C20	63
ZE080	Strip fuse C20	80
ZE100	Strip fuse C20	100
ZE125	Strip fuse C20	125
ZE160	Strip fuse C20	160

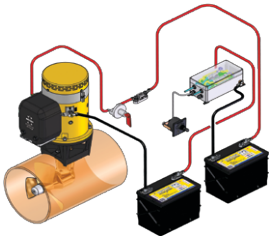
Type	Description	Amp.
ZE200	Strip fuse C20	200
ZE250	Strip fuse C20	250
ZE300	Strip fuse C20	300
ZE355	Strip fuse C20	355
ZE425	Strip fuse C20	425
ZE500	Strip fuse C20	500
ZEHC100	Fuse holder, type C100 including cover	

ZE

ZEHC100

Series/parallel switch

Bow thrusters of 160 and 220 kgf are only available in 24 VDC. This series/parallel switch enables them to be connected to a 12 VDC on board supply. When the thruster is operated, the 12 VDC batteries are connected in series to provide the required 24 VDC supply. When the thruster is not operated, they are automatically connected in parallel and linked to the 12 VDC charging system. This series/parallel switch comes with a pre-assembled auxiliary relays to ensure easy connection between the battery bank and the bow thruster. The charging contacts of the series/parallel switch have a continuous duty rating of 100 Amps and an intermittent rating of 150 Amps at 20% duty. The series/parallel switches meet the EMC requirements.

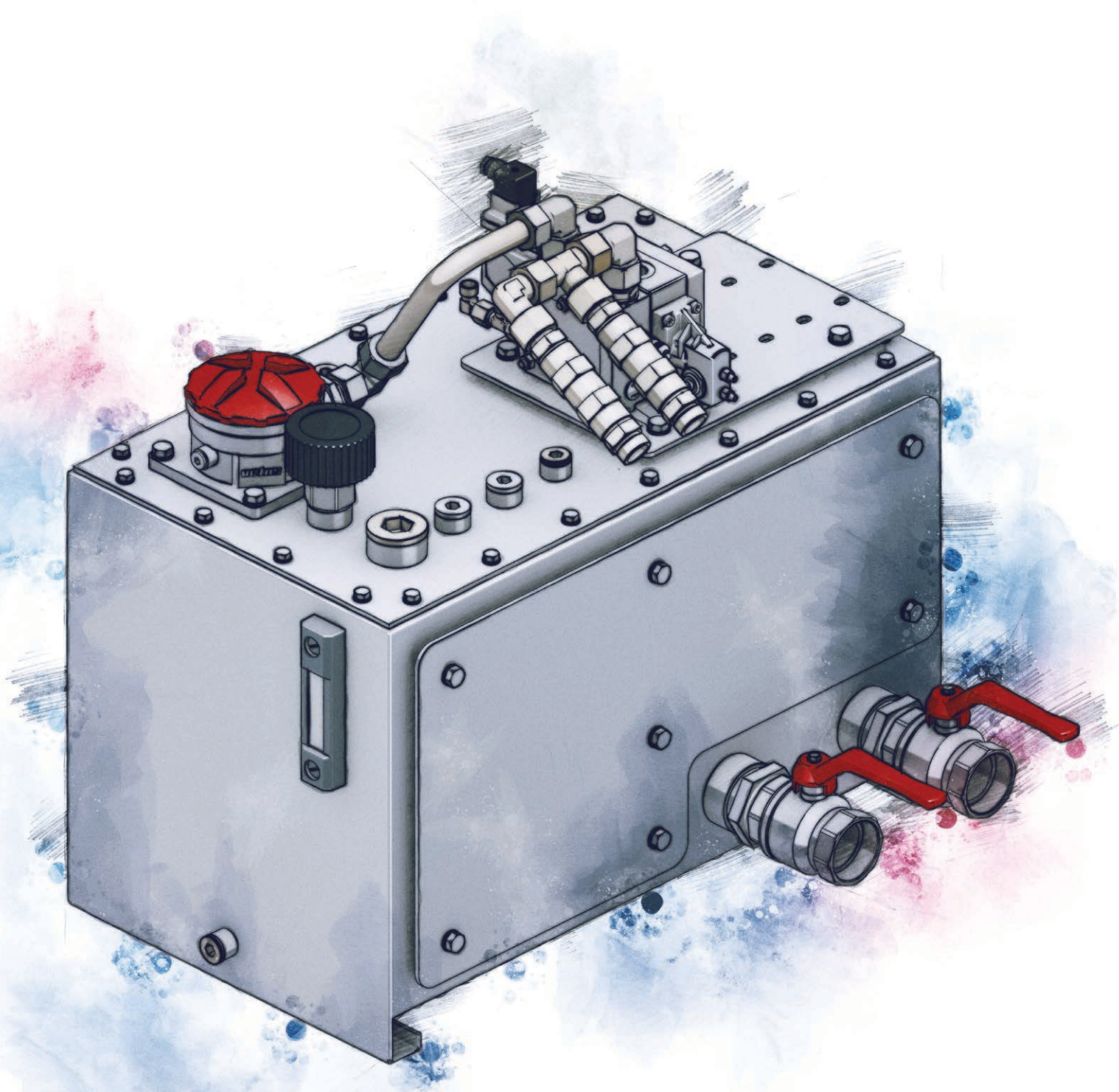


Note: Thruster model BOW28548D is supplied as standard with a series/parallel switch to permit connection to a 24 VDC battery bank. This 24 - 48 VDC series/parallel switch can also be ordered separately: Code BP3008.

Type	Description
BPSPE	Series parallel switch for 24 VDC thruster with 12 VDC charging system
BP3008	Series parallel switch for 48 VDC thruster with 24 VDC charging system

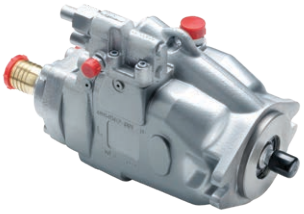
BPSPE

Power hydraulics

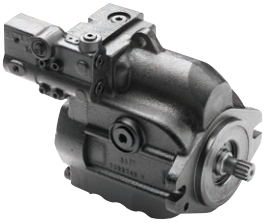


Overview

Hydraulic pumps see page 233

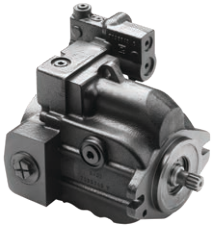


HT1015E62



HT1015SD2

HT1022SD



HT1017SD

HT1016SD

Hydraulic tanks see page 234

HT1028B

HPTANK

HT1010BS

Hydraulic bow and stern thrusters see page 239 - 240

BOW..HMD

NEW!

BOWH

Stabilizers see page 240

STAFIN..B

Hydraulic power steering see page 242

HT1038

Hydraulic propulsion see page 244

Hydraulic windlasses see page 248

VWC SERIES

VWCLP SERIES

VC SERIES

Power hydraulics in general

Power where you need it, for as long as you need it

VETUS Hydraulic Systems are an excellent way to move the power of a "Prime Mover" engine to user devices around the boat, by means of the controlled flow of high pressure fluid moving through flexible hoses or rigid tubes. The prime mover may be a main propulsion engine, the engine of a diesel generator, or a "powerpack" engine dedicated to powering the hydraulic system. A user device is any item or system of mechanical equipment, including bow and stern thrusters, windlasses, capstans, winches, cranes, hatch lifters, roll stabilizers and power steering.

Hydraulic systems are complex and require a lot of expertise but the results are well worth the effort. A VETUS customer support team member is available by email, to discuss your boat configuration and usage and to recommend hydraulic user devices and central system equipment.

You will receive our recommendations for your Power Hydraulic system within 48 hours of all information being received and finalized. Remember that in some cases it is difficult or impossible to retrofit a power take-off and it is therefore recommended to order a power take-off when purchasing an engine or gearbox.

Hydraulic Pumps

VETUS hydraulic pumps are variable volume, load sensing, piston pumps and are able to provide full hydraulic flow and pressure at all PTO/ prime-mover engine speeds, providing the engine is producing enough power at those speeds. These pumps adjust themselves to meet the requirement of the activated user devices, and when no hydraulic flow is required, stop pumping and freewheel, so no clutch is required at the Power Take Off (PTO) on which the pump is mounted.

Standard hydraulic pumps stocked by VETUS

Non-standard pumps are made to order.

Part Code	Pump capacity (cc) (fluid pumped in one revolution)	Direction of Rotation	Shaft	Weight kg approx	Torque in Newton Metres for each bar of operating pressure*	Suction and pressure port location	Available SAE flange	Max cont rpm
HT1015SD2	45	LH - anticlockwise	13 spline	27	0.72	rear	SAE B 2 bolt	2800
HT1015E62	62	LH - anticlockwise	13 spline	24	1	rear	SAE B 2 bolt	2600
HT1016SD1	30	LH - anticlockwise	13 spline	24	0.48	side	SAE B 2 bolt	3200
HT1016SD2	45	LH - anticlockwise	13 spline	27	0.72	side	SAE B 2 bolt	2800
HT1017E62	62	RH - clockwise	13 spline	24	1	rear	SAE B 2 bolt	2600
HT1017SDI	30	RH - clockwise	13 spline	24	0.48	side	SAE B 2 bolt	3200
HT1017SD2	45	RH - clockwise	13 spline	27	0.72	side	SAE B 2 bolt	2650
HT1022SD	75	LH - anticlockwise	14 spline	27	1.2	side	SAE C 4 bolt	2400
HT1023SD	75	RH - clockwise	14 spline	27	1.2	side	SAE C 4 bolt	2400
HT1016SD3	100	LH - anticlockwise	17 spline	56	1.6	side	SAE C 4 bolt	2450
HT1016SD4	130	LH - anticlockwise	17 spline	56	2.1	side	SAE C 4 bolt	2200
HT1027**	45	RH - clockwise	13 spline	27	0.72	side	SAE B 2 bolt	2800

* It may be necessary to reduce pump pressure to avoid exceeding the maximum allowed torque for the PTO, even if that means reduced power for the user device.

** This pump is configured to mount on the PTO of a John Deere diesel engine.

All pumps come standard with a connection kit.

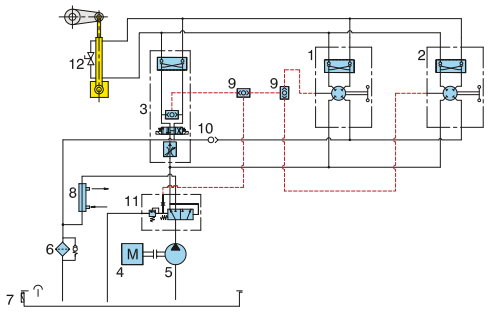


Diagram of a single hydraulic drive

It is possible to connect various equipment devices to one hydraulic pump.

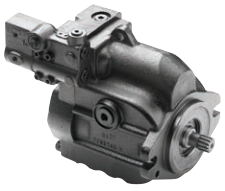
1. Steering pump
2. Second steering position
3. Autopilot
4. Engine
5. Hydraulic pump
6. Return filter
7. Hydraulic fluid tank
8. Oil cooler
9. Shuttle valve
10. Non-return valve
11. Priority valve
12. Steering cylinder with bypass

Hydraulic pumps (Load-sensing)

Specifications
- Capacity: 62 cc
- Rotation: Counterclockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
  Rear connection for suction and pressure
  Fits VETUS DEUTZ engines and PRM gearboxes
- Maximum r.p.m.: 2.880

HT1015E62

Specifications
- Capacity: 45 cc
- Rotation: Counterclockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
  Rear connection for suction and pressure
- Fits VETUS DEUTZ engines and PRM gearboxes
- Maximum r.p.m.: 2.800
- Displacement limiter



HT1015SD2

Specifications
- Capacity: 62 cc
- Rotation: Clockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
  Rear connection for suction and pressure
- Maximum r.p.m.: 2.880

HT1017E62

Specifications
- Capacity: 30 cc (SD1) or 45 cc (SD2)
- Rotation: Counterclockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
  Side connection for suction and pressure
- Maximum r.p.m.: 3.600 SD1. / 2.800 SD2
- Displacement limiter

HT1016SD1

HT1016SD2

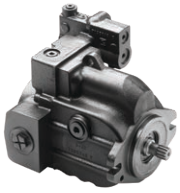
Specifications
- Capacity: 75 cc
- Rotation: Counterclockwise (HT1022SD), clockwise (HT1023SD) viewed from end of shaft
- Connection: SAE-C flange, 14 spline shaft
  Side connection for suction and pressure
- Maximum r.p.m.: 2.880

HT1022SD

HT1023SD

Specifications
- Capacity: 30 cc (SD1) or 45 cc (SD2)
- Rotation: Clockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
  Side connection for suction and pressure
- Maximum r.p.m.: 3.600 SD1. / 2.800 SD2
- Displacement limiter

  For John Deere engines, pump type HT 1027 has an extension shaft, for connection to the water pump.



HT1017SD1

HT1017SD2

Specifications
- Capacity: 100 cc (SD3) or 130 cc (SD4)
- Rotation: Counterclockwise viewed from end of shaft
- Connection: SAE-C flange, 17 spline shaft
  Side connection for suction and pressure
- Maximum r.p.m.: 2.800 SD3
  2.600 SD4

HT1016SD3

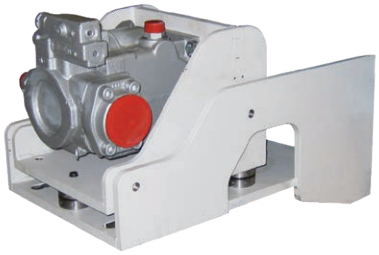
HT1016SD4

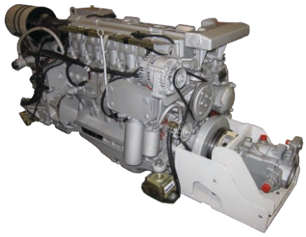
Power hydraulics

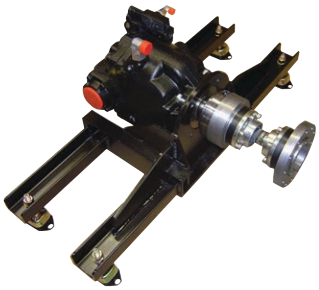
Brackets

A hydraulic pump is an essential part of any hydraulic system. This pump can be installed on the PTO of the main engine or the gearbox if this is possible. However, if there is no PTO, or if the PTO does not have an SAE-B or SAE-C flange, it is often possible to install the pump on the front of the engine using a pump bracket.

VETUS has developed pump mounting brackets for a number of popular engines, capable of generating enough power for PTO operation.







Hydraulic tanks

Hydraulic systems require the installation of a hydraulic tank, as a collection point for hot hydraulic fluid returning from all of the user devices in the system, and as a reservoir from which the pump or pumps can draw the hydraulic fluid and re-pressurize it for re-use. The returning hydraulic fluid foams when it reaches the tank and returns to atmospheric pressure. So the tank must be sized so that the fluid is in the tank long enough for the foam to “boil out”, returning the fluid to a completely liquid state, able to maintain its volume as it is re-pressurized by the pump(s).

The table shown on the next page provides guidance for tank selection for systems driving thrusters. All other device will be covered if the system is adequately sized for the thrusters.

Hydraulic reservoir tanks

Examples of hydraulic reservoir tanks.

HT1010 comes with a NG6 (D03) 5 fold manifold and one HT1013 on/off directional valve as standard. A HT1011 single step or HT1012 dual step load sensing device should be ordered separately.

HT1028B

HPTANK

HT1010

HT1010BS

Tank type	HT1028B	HPTANK	HT1010	HT1010BS
Tank capacity litre	20	38	70	130
Weight (kg)	24	29	34	68
Total height (mm)	415	565	490	580
Wide (mm)	470 x 310	530 x 210	620 x 480	730 x 600
Voltage (DC)	24 (12 on request)	24 (12 on request)	24 (12 on request)	24 (12 on request)
Vibration dampers (ordered separately) Height (mm)	HT3020 (set of 4) 15	HT3010 (set of 4) 30	HT3010 (set of 4) 30	HT3010 (set of 4) 30
Material body	aluminium alloy	stainless steel (AISI 316)	aluminium alloy	stainless steel (AISI 316)

Hydraulic tanks

The chart below provides a guideline for tank types for systems including thrusters, although this will be reviewed by your VETUS Power Hydraulics support engineer in developing the equipment list for your system. In most circumstances, all other devices will be covered if the tank is big enough for the thrusters.

Tank specifier for thruster systems

		One thruster				Two thrusters			
Tank type		**HT1028B**	**HPTANK**	**HT1010**	**HT1010BS**	**HT1028B**	**HPTANK**	**HT1010**	**HT1010BS**
	Tank capacity litre	20	38	70	130	20	38	70	130
	Maximum oil contents litre	18	35	63	117	18	35	63	117
	Approx. weight of oil in kg	17	32	58	107	17	32	58	107
	Dry (empty) of tank in kg	24	29*	34	68**	24	29*	34	68**
	Approx weight of full tank in kg	41	61	92	175	41	61	92	175
	Approx height overall including valves and dampers (mm)	430	565*	680	610**	430	565*	680	610**
	Approx length (mm)	470	530	620	730**	470	530	620	730**
	Approx depth overall including valves (mm)	310	430***	480	600**	310	430***	480	600**
	Additional minimum clearance required at top for filling and filter maintenance	250	300	250	350	250	300	250	350
Thruster type	Single thruster flow rate litre per minute								
BOW55HMD	13	✓	✓	✓	✓	x	✓	✓	✓
BOW95HMD	18	✓	✓	✓	✓	x	✓	✓	✓
BOW160HMD	28	x	✓	✓	✓	x	x	✓	✓
BOW230HMD	40	x	✓	✓	✓	x	x	✓	✓
BOW310HMD	70	x	x	✓	✓	x	x	x	✓
BOWH410	92	x	x	x	✓	x	x	x	✓
BOWH550	92	x	x	x	✓	x	x	x	✓

* No manifold/valve block or valves can be mounted on the top of the HP tank
** This weight or dimension does not include valves, blocks or manifolds, as these are assembled to each customer's order
*** It is possible, with a mounting plate, to install a manifold and valves on the front of the HP tank, but those dimensions are not included here

The weights and dimensions provided in this chart are approximate and will vary with each tank, manifold and valve assembly, but for a successful installation, it is essential that adequate space and support is planned and designed into the engine room for the tank assembly and hydraulic pumps.

Manifold for additional control units

An extension of the basic manifold block. Required if more than five solenoid control devices are installed. Includes additional electrical connection box.

HT1026

Hydraulic oil

We recommend the use of the following hydraulic fluids: VETUS Hydraulic oil HT (HLP ISO-VG46).

Type	Specification	
VHT1	1 L	ISO VG 46
VHT4	4 L	ISO VG 46
VHT20	20 L	ISO VG 46

VHT

Hydraulic load sensing and control devices

In order to direct the oil flow from the hydraulic pump to the equipment to be driven, load sensing and control devices, which are built up in modular construction segments, are used. These ensure the correct speed and sense of rotation of the equipment to be driven. Supplied as standard for 24 VDC electric installations, 12 VDC on request.

HT1011

Single step load sensing device (24 VDC). Gives zero or full flow rate, depending on whether a load is sensed or not. Used for e.g. bow and stern thrusters. Includes electrical connection box.

HT1011

HT1012

Dual step load sensing device (24 VDC). Gives zero, partial or full flow rate, dependent on load sensed. Used for e.g. bow and stern thrusters. Includes electrical connection box.

Not compatible for systems with a fixed displacement pump.

HT1012

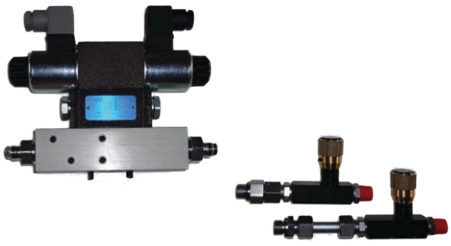
HT1013

Solenoid control unit (24 VDC) for bow and stern thrusters.

HT1013

HT1014

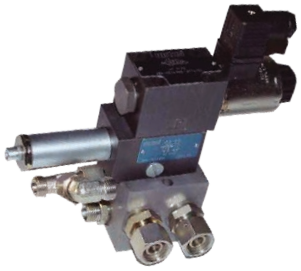
Solenoid control unit (24 VDC) with counterbalance, for e.g. mast lowering, hinged radar support (or any other hydraulic cylinder for numerous applications).



HT1014

HT1024

Solenoid control unit (24 VDC) for use with a set of stabilisers.



HT1024

HT102311

Control unit for anchor winches, capstans and other applications which are driven by a hydromotor with a flow rate of up to 60 litre/minute. Pressure and oil flow separately adjustable.

HT102312

Control unit for anchor winches, capstans and other applications which are driven by a hydromotor with a flow rate of up to 60 litre/minute. Only the oil flow is adjustable.

HT102311

HT102312

Hydraulic thruster control joysticks

BPJSTA

Joystick (3-positions) for operation, with full thrust only, of a hydraulic bow- or stern thruster. Only suitable for a single step load-sensing device (HT1011). Intended for dashboard mounting, without panel, without on/off switch.

Watertight to IP 65.

BPJSTA

BPJSTH5

Joystick (5-positions) for operation, with full or half thrust, of an hydraulic bow- or stern thruster in combination with a dual step load-sensing device (HT1012). Intended for dashboard mounting, without panel, without on/off switch.

Watertight to IP 65.

BPJSTH5

BPJ5

Control panel with on/off switch and a single 5 position joystick. Intended for operation, with full or half thrust, of a hydraulic bow- or stern thruster in combination with a dual step load-sensing device (HT1012).
Hold function in first step/position.

Watertight to IP 65.

BPJ5

BPJ5D

Control panel with on / off switch and dual five position joysticks. Intended for operation, with full or half thrust, of a hydraulic
bow thruster and stern thruster in combination with two dual step load-sensing devices (HT1012).
Hold function in first step/position.

Watertight to IP 65.

BPJ5D

BPJE2

Control panel with built in time delay when reversing the direction of rotation. For operation of a bow thruster at full thrust, in combination with a single step load sensing device (HT1011). Panel suitable for 12 or 24 VDC.

Watertight to IP 65.

BPJE2

BPJDE2

Control panel with two joysticks and built in time delay when reversing the direction of rotation. For operation of bow and stern thrusters at full thrust, in combination with two single step load sensing devices (HT1011).
Panel suitable for
12 or 24 VDC.

Watertight to IP 65.

BPJDE2

HT5034

This electrical connection box is supplied with type HT1011, HT1012 and HT1026.

HT5034

Type	Specification
HT1011	Single step load sensing device, incl. electrical connection box
HT1012	Dual step load sensing device, incl. electrical connection box
HT1013	Solenoid control unit 24 V, for bow and stern thrusters, (12 VDC available to special order)
HT102311	Control unit 24 VDC, for anchor windlass, (12 VDC available to special order)
HT102312	Control unit 24 VDC, for anchor windlass, (12 VDC available to special order)
BPJSTA	Joystick switch only for dashboard mounting
BPJSTH5	Joystick only for hydraulic bow thrusters (5 positions)
BPJ5	Bow thruster panel with joystick, for hydraulic bow thruster (5 positions)
BPJ5D	Bow thruster panel with two joysticks, for hydraulic bow and stern thruster (5 positions)
BPJE2	Control panel with built in time delay and single joystick
BPJDE2	Control panel with built in time delay and two joysticks
HT5034	Electrical connection box

Proportional valves

HT1032/35

Proportional valve assemblies. HT1032 for one thruster or windlass HT1035 for two thrusters or a thruster and a windlass. These valves can be mounted on a HT1010 tank.

NEW!

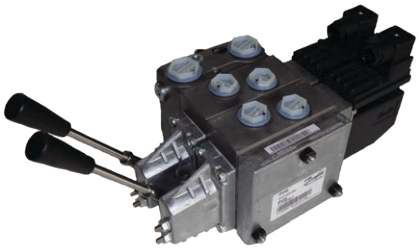
0 - 10 VDC

HT1032EU

HT1035EU

24 VDC (12 VDC on request)

HT1032



24 VDC (12 VDC on request)

HT1035

If the system incorporates two thrusters with proportional control, then a HT1035 dual valve assembly will be supplied, rather than two HT1032s.

Model HT1034 Proportional control joystick

Single joystick control.
A LED lights up when the joystick opens the proportional valve.
The LED will go out when the joystick is in neutral.

The LED can be installed in one of the mounting holes of the joystick.

If more than 1 steering position is required, a MSCOBOX must be ordered for every extra steering position to let the joysticks communicate.

HT1034

Thruster type	Valve type	Valve Assembly or Part Number	
		on/off-directional	Two stage, Load sensing
BOW55HMD	Direct operating	HT1013	HT1012
	Proportional	HT1032	Not applicable
BOW95HMD	Direct operating	HT1013	HT1012
	Proportional	HT1032	Not applicable
BOW160HMD	Direct operating	HT1013	HT1012
	Proportional	HT1032	Not applicable
BOW230HMD	Direct operating	HT1013	HT1012
	Proportional	HT1032	Not applicable
BOW310HMD	Direct operating	HT1013	HT1012
	Proportional	HT1032	Not applicable
BOWH410	Direct operating	Not applicable	Not applicable
	Proportional	HT1032	Not applicable
BOWH550	Direct operating	Not applicable	Not applicable
	Proportional	HT1032	Not applicable

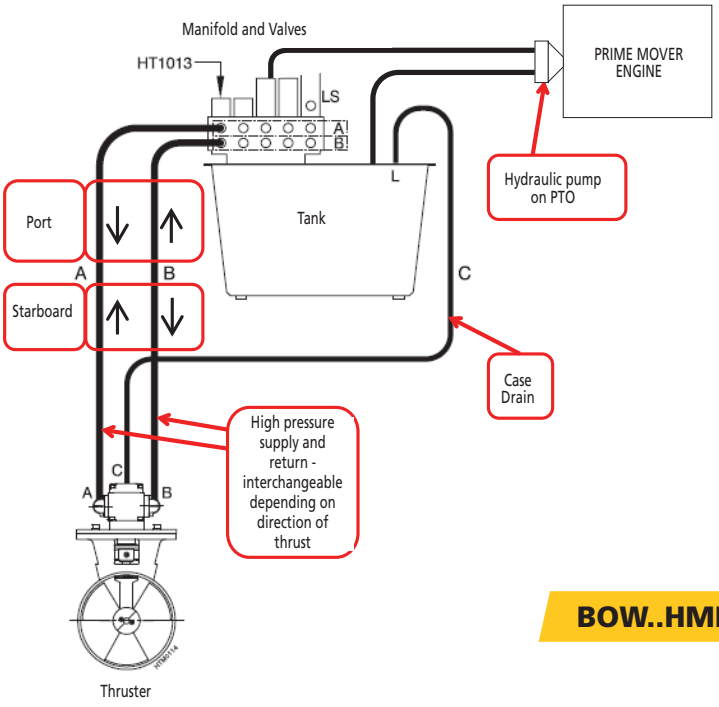
Note: HT1011 single stage and HT1012 two stage, load-sensing valve set is supplied standard with an HT5034 electrical junction box.

Hydraulic bow and stern thrusters

Type BOW..HMD

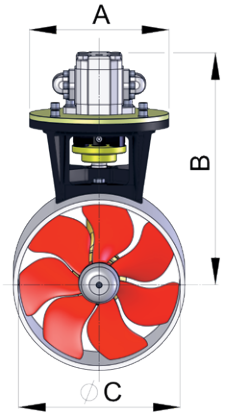
VETUS hydraulic thrusters are able to run continuously, although not as primary propulsion units. They deliver high power and great reliability, with no electrical connections at the thruster or pump(s) and they need little routine maintenance. These thrusters are available with several control heads, in three control regimes, including proportional control.

The connections and flow of oil for a thruster



Type	Specifications	Connection kit
BOW55HMD	Hydraulic bow thruster 55 kgf incl. hydro motor 3,5 kW, for tunnel diam. 150 mm	HT3057
BOW95HMD	Hydraulic bow thruster 95 kgf incl. hydro motor 6,0 kW, for tunnel diam. 185 mm	HT3057
BOW160HMD	Hydraulic bow thruster 160 kgf incl. hydro motor 12,3 kW, for tunnel diam. 250 mm	HT3056
BOW230HMD	Hydraulic bow thruster 230 kgf incl. hydro motor 16,4 kW, for tunnel diam. 300 mm	HT3061
BOW310HMD	Hydraulic bow thruster 310 kgf incl. hydro motor 26,8 kW, for tunnel diam. 300 mm	HT3058
BP1053	Bronze propeller for BOW22024/BOW230HM	
BP1182	Bronze propeller for BOW300HM/310HM	

Note: The connection kit consists of couplings specially selected for the desired hydraulic hoses.



Specifications	BOW55HMD	BOW95HMD	BOW160HMD	BOW230HMD	BOW310HMD
Thrust N (kgf)	**550 (55)**	**950 (95)**	**1600 (160)**	**2300 (230)**	**3100 (310)**
Hydraulic motor power kW	3,5	6,0	12,3	16,4	26,8
Hydraulic motor speed rpm	3000	4100	3730	2540	2760
Hydraulic motor capacity cm³/rev	4,2	4,2	8,4	16,8	27
Flow rate l/min	13	18	28	40	70
Operating pressure bar	165	230	260	245	230
Internal tunnel diameter mm	150	185	250	300	300
A mm	160 Ø	200 Ø	240 Ø	258 Ø	258 Ø
B mm	258	276	345	431	455
C mm	150 Ø	185 Ø	250 Ø	300 Ø	300 Ø

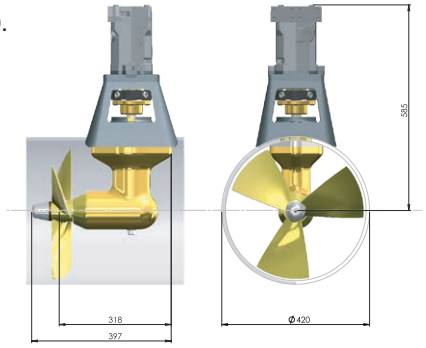
Hydraulic bow and stern thrusters

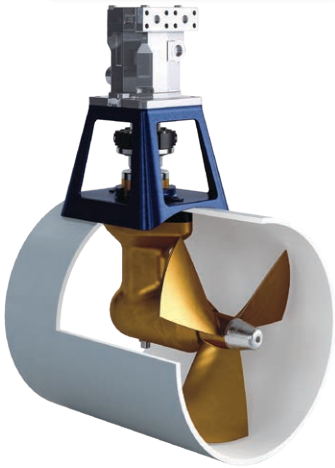
Type BOWH410 - BOWH550

Newly designed tailpiece for types BOWH410 and BOWH550.

NEW!

Specifications	BOWH410	BOWH550
Thrust N (kgf) (power output)	**4100 (410)**	**5500 (550)**
Hydraulic motor power kW	22	33
Hydraulic motor speed rpm	1920	1920
Hydraulic motor capacity cm³/rev	45	45
Flow rate l/min	92	92
Operating pressure (bar)	180	280
Internal tunnel diameter mm	400	400





BOWH410 BOWH550

Type	Specifications
BOWH410	Hydraulic bow thruster 410 kgf, incl. hydro motor 22 kW, for tunnel diam. 400 mm
BOWH550	Hydraulic bow thruster 550 kgf, incl. hydro motor 33 kW, for tunnel diam. 400 mm
BP1259	Bronze propeller for BOWH410
BP1260	Bronze propeller for BOWH550

Stabilizers (hydraulic) 10 - 24 m

What are fin stabilizers?

Fin stabilizers are fins mounted beneath the waterline of a yacht which are installed on both sides of the vessel at a downward angle.

The VETUS stabilizer fins are computer controlled and have the ability to change their angle via a hydraulic system to counteract roll caused by waves or wind.

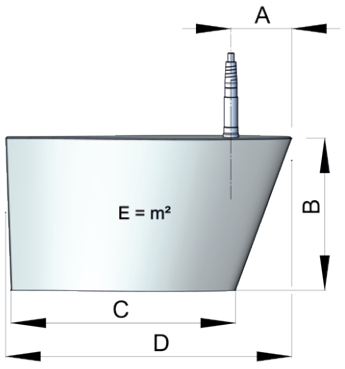
- "Plug and Play" installation for steel, GPR and aluminum vessels
- Greatly reduces pitch and roll
- Available as a stand alone system
- Easy to install in an existing hydraulic system
- Automatic centering
- Fully automatic operation
- The fin movement is automatically adjusted according to the degree of damping selected, the speed of the vessel and the sea state
- All electronic components are solid state
- Also suitable for refit projects

STAFIN..B

Technical specifications

Standard fin sizes : 0.3 m² - 0.4 m² - 0.5 m² - 0.6 m² - 0.7 m²
Fin material : AISI 316 Stainless steel
System voltage : 24 VDC

NB: a converter (12 VDC to 24 VDC) is required when the boat has a 12 VDC power supply (code: STA12/24)



	03	04	05	06	07
A	142	176	215	250	291
B	431	497	554	600	605
C	620	716	801	873	1021
D	798	921	1024	1125	1318
E	0.3	0.4	0.5	0.6	0.7

Stabilizers (hydraulic)

Installation options

Available as a stand alone system

- Connected to a belt driven hydraulic pump with bearing support and pulley
  or
- Connected to a hydraulic pump fitted to a SAE-A PTO on the engine or gearbox

Our stabilizers are also easy to integrate into existing systems
- By adding a VETUS hydraulic control unit (HT1024) between the current hydraulic system and the VETUS stabilizers

Scope of supply

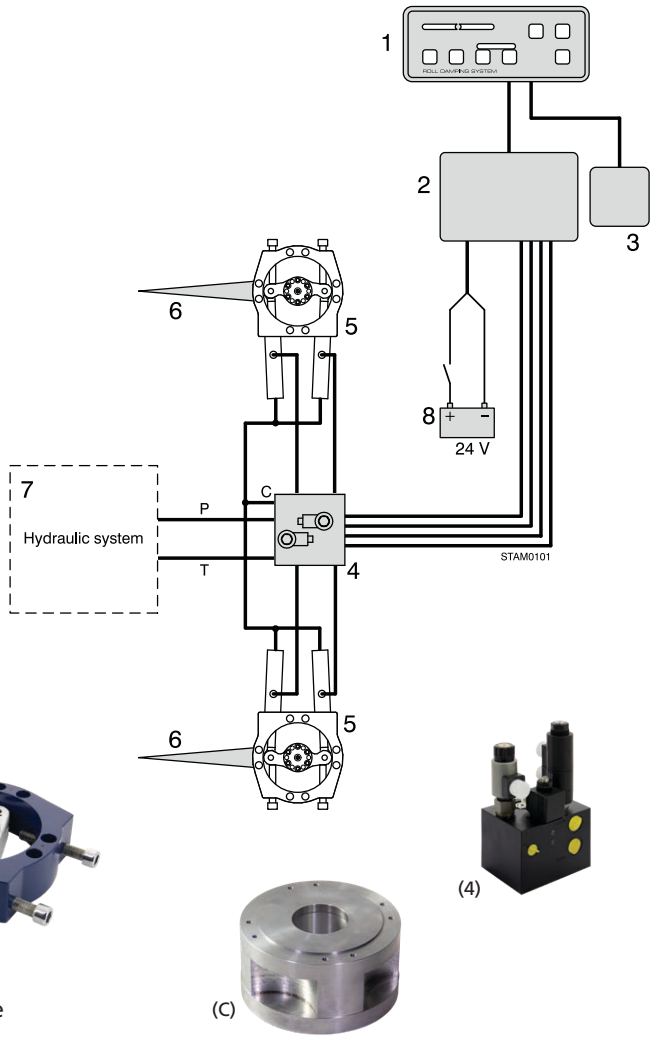
The following parts are included:

A Basic set (code: STA24VA), consisting of:
- Control panel (1)
- Junction box (2)
- Roll sensor ('solid state' gyroscope) (3)
- Hydraulic valve block (4)
- Two actuator units with hydraulic cylinders (5)

B Set of two AISI 316 stainless steel fins:
- Set of fins with surface area of 0,3 m² - 0.7 m² (6)

C Two bushes (to install fins through hull):
- Welding bushes, steel (code: STATHS)
- Welding bushes, aluminium (code: STATHA)
- Laminated bushes (code: STATHG)

Also required:
- Hydraulic pump(s) (7)
- Hydraulic tank (7)
- Hydraulic control unit (code: HT1024) (7)



(1)

(5)

(4)

(C)

Automatic centreing

Putting the gearbox in neutral or astern, the fins will centre automatically. This reduces drag and makes manoeuvring in the marina a lot easier.

VETUS CAN DESIGN AND SUPPLY THE COMPLETE HYDRAULIC SYSTEM IF REQUIRED

Hydraulic power steering

For larger boats, VETUS hydraulic power steering is a most comfortable and extremely safe steering system. The effort required at the helm is only about 10% of a non-powered steering system. In other words: the boat can be steered literally with one finger. Because of this, the steering wheel diameter can be considerably smaller than normal; a wheel diameter of just Ø 360 mm will usually suffice.

Steering pumps

The VETUS steering pump has a closed mid position, ensuring that there will be no oil flow as long as the wheel remains untouched.

To connect one or more VETUS steering pumps and/or an automatic pilot to a VETUS hydraulic system, a control unit model HT1019 must be used.

The external flange of the steering pump is made of seawater resistant aluminium, hand polished and anodised. The steering wheel shaft is made of stainless steel, type I-4462, Ø 19 mm, taper 1:12.

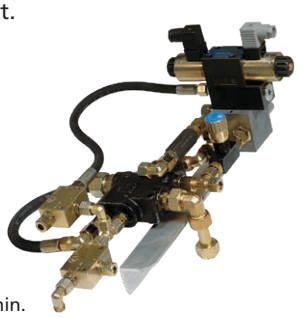
HT1018
HT1020
HT1025
HT1038
NEW!

Type	Specifications
HT1020	Hydraulic power steering 75 cm³/rev for cylinders up to MTC17510
HT1018	Hydraulic power steering 95 cm³/rev for cylinders up to MT0230B
HT1025	Hydraulic power steering 145 cm³/rev for cylinders up to MT0345B
HT1038	Hydraulic power steering 185 cm³/rev for cylinders up to MT0455B
HT1019	Steering and control unit for hydraulic power steering and autopilot
HT1021	Dual non-return valve for hydraulic power steering

HT1019

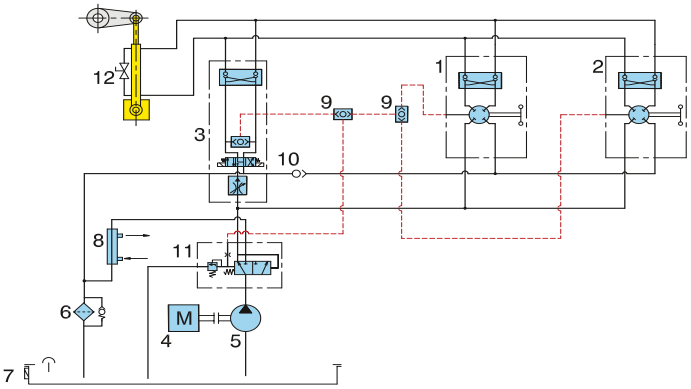
Solenoid control unit (24 VDC) for use with a hydraulically powered steering system or an automatic pilot.

HT1019



* Standard: Max. 75 l/min.

Schematic based on Fixed Pump



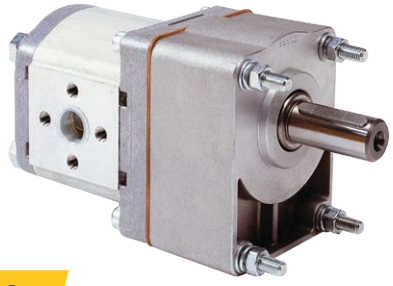
1. Steering pump with non-return valve
2. Steering pump with non-return valve (second steering position)
3. Control unit
4. Propulsion engine
5. Hydraulic pump
6. Filter
7. Hydraulic tank
8. Oil cooler
9. Shuttle valve
10. Non-return valve
11. Priority valve
12. Cylinder with by-pass

Pump type Assuming 4 - 6 steering wheel revolutions from port to starboard	Cylinder volume in cm³	VETUS cylinder model	Oil flow to steering pump litre/min.	Pipe diameter mm	Bypass kit
HT1020 (75 cm³/rev.)	300 to 450 cm³	up to MTC17510	30 ltr./min.	Ø 10 mm	HT3013
HT1018 (95 cm3/rev.)	380 to 570 cm³	up to MT0230B	30 ltr./min.	Ø 18 mm	HT5598
HT1025 (145 cm3/rev.)	580 to 870 cm³	up to MT0345B	30 ltr./min.	Ø 18 mm	HT5599
HT1038 (185 cm3/rev.)	740 to 1110 cm³	up to MT0455B	30 ltr./min.	Ø 18 mm	HT5611

Hydraulic power steering

Hydraulic pump type HT1029

VETUS offers a fixed volume hydraulic pump, which is belt driven off the main engine. This pump can be used in conjunction with our hydraulic power steering. This pump has a built in bearing block. Its dimensions are small and are comparable with those of the alternator. The pump has a power take-off of approximately 1 kW (1.5 hp).



- Dimensions (l x w x h): 220 x 90 x 112 mm
- Weight: 5 kg
- Shaft diameter: 22 mm
- Maximum shaft speed: 3,500 rpm
- Suction and pressure connections are included
- Direction: HT1029 Clockwise
  HT1029CCW Counter clockwise

HT1029

HT1029CCW

If an existing engine driven pump is to be used, the hydraulic flow rate must be minimum 7 l/min and maximum 40 l/min, with a maximum working pressure of 70 bar.

Oil cooler type HT3011MP - 2 KW

If a pump with a fixed swept volume, or a high capacity is installed, or if the ambient temperature is high, a lot of heat can be generated. In these cases, the installation of an oil cooler in the return line will be required. Cooling water hose diameter Ø 2" thread.

Specifications
- Max oil flow: 40 l/min.
- Working pressure: 25 bar
- Connections for the hydraulic side ¾" BSP, two straight screw-in fittings included
- Connections for the cooling water side 2" BSP
- Length: 338 mm

HT3011MP

Oil cooler type HPCOOLER 10 - KW

Large capacity oil cooler. Couplings for the oil connections are supplied.

Specifications
- Max oil flow: 90 l/min.
- Working pressure: 20 bar
- Connections for the hydraulic side ¾" BSP, two straight screw-in fittings included
- Connections for the cooling water side 1 ½" BSP
- Length: 442 mm

HPCOOLER

Small hydraulic tank type HT1028

VETUS power steering can be connected to an existing on board hydraulic system. However, if one is not fitted and only power steering is required, this small hydraulic tank (contents about 18 litre) will be sufficient. The tank comes complete with all the necessary control components mounted on the top.

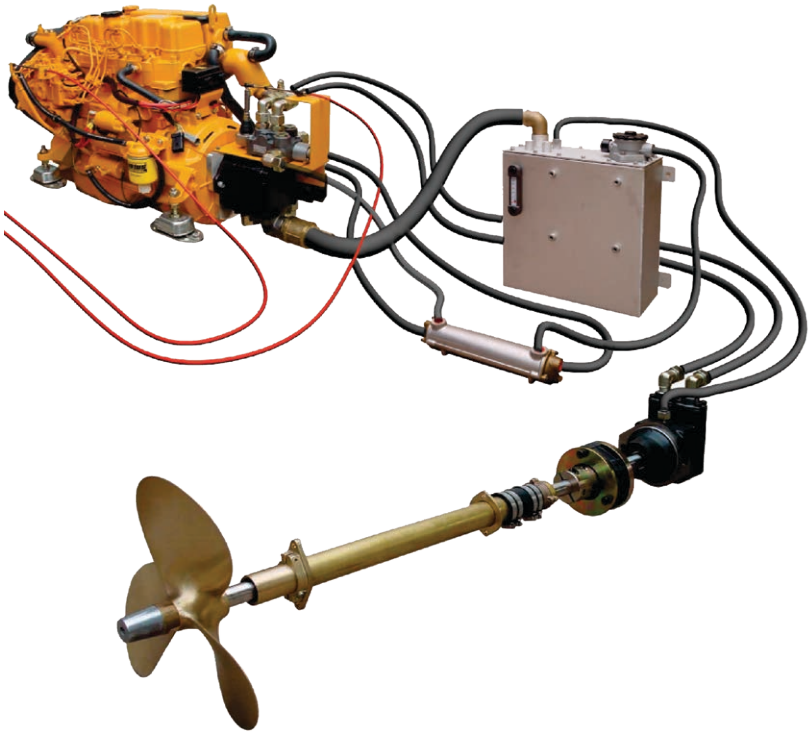
Dimensions of the tank
- Length 460 mm
- Width 300 mm
- Height 470 mm

Type	Specifications
HT1028	Hydraulic tank for power steering (complete)
HT1029	Hydraulic pump with bearing block, 11.3 cm³/rev
HT301132	Hydraulic oil cooler for hose ID Ø 32 mm
HT3011MP	Oil cooler, 2" BSP

HT1028

Hydraulic propulsion

In many cases it may be preferable to drive the propeller shaft by means of a hydraulic motor, instead of using the conventional set up of engine and gearbox.



How it works

A hydraulic vane pump is fitted to the engine in place of the gearbox. This pump draws hydraulic fluid from a storage tank and delivers it under pressure to the speed and direction control valve. The control valve determines the direction and volume of hydraulic flow to the hydraulic vane motor, which can then rotate clockwise or counter clockwise as selected. This hydraulic motor drives the propeller shaft via a flexible coupling.

The VETUS system uses a hydraulic pump and motor with fixed swept volumes.
The transmission ratios (reduction) in the propulsion system are achieved by the difference in volume between the vane pump and the hydraulic motor.

The reduction between the engine RPM and the shaft RPM is 2:1 for models HPM4.35, HPM4.45 and HPM4.56 and 1.9:1 for model HPH4.65.
The maximum permissible engine power is 50 kW (67 HP), with a maximum engine speed of 3,000 RPM. In most cases a shaft diameter Ø 25 mm will suffice. The output flange of the VETUS hydraulic motor fits all VETUS flexible couplings.

Scope of supply

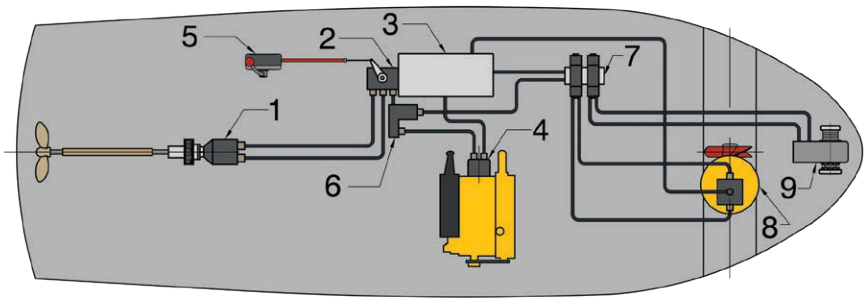
VETUS hydraulic propulsion is available in four versions:
Model HPM4.35 has a VETUS M4.35 marine diesel engine of 24.3 kW (33 hp).
Model HPM4.45 has a VETUS M4.45 marine diesel engine of 30.9 kW (42 hp).
Model HPM4.56 has a VETUS M4.56 marine diesel engine of 38 kW (52 hp).
Model HPH4.65 has a VETUS VH4.65 marine diesel engine of 48 kW (65 hp).

VETUS hydraulic vane motor

Stainless steel storage tank

VETUS hydraulic vane pump

All versions include
- VETUS marine diesel engine as selected
- Hydraulic vane pump
- Adapter flange and coupling to fit the pump to the relevant engine
- Hydraulic vane motor
- 35 litre hydraulic oil tank
- Oil cooler
- Control valve
- Flexible engine mounts
- Engine instrument panel and loom

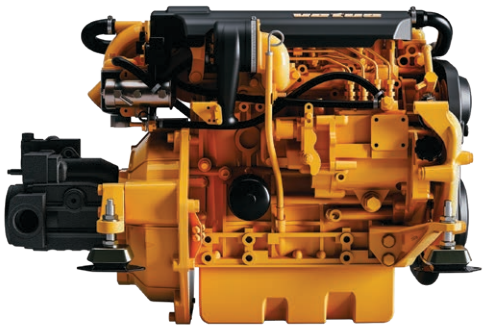


Example System
1. Hydraulic vane motor
2. Mechanically operated control valve
3. Stainless steel storage tank
4. Hydraulic vane pump
5. Remote control handle with cable
6. Connection for ancillary devices
7. Control unit for ancillary devices
8. Bow thruster
9. Anchor windlass

Powerpack

Hydraulic powerpack

A stand-alone diesel engine with a hydraulic pump, dedicated to driving a hydraulic system



A VETUS powerpack will consist of an M or VH series diesel engine with an appropriately sized hydraulic pump (variable volume, load-sensing or vane type depending upon the application) mounted on an adapter plate in place of a gearbox.

VETUS diesel engines meet all European emission requirements. If the powerpack is entirely devoted to propulsion, then its diesel engine will be controlled by a throttle lever, but in a multiple user-device system with a load sensing pump an electronic control will be fitted to the powerpack engine.

As with all VETUS hydraulic systems, a customer support engineer will work with you to configure the powerpack and related systems to suit your vessel and its needs. There are three VETUS powerpack models available.

Model	Power engine	Max rpm	Hydr. pump
PPM435	24,3 kW / 33 HP	3000	30 cm^3 / rpm
PPM445	30,9 kW / 42 HP	3000	30 cm^3 / rpm
PPH465	48 kW / 65 HP	3000	30 cm^3 / rpm

Accessories included as standard with a VETUS Powerpack

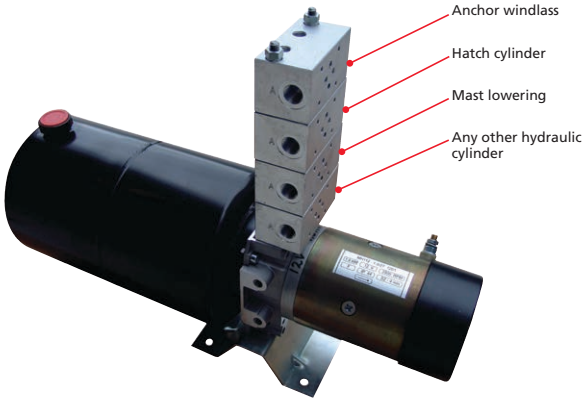
Four flexible engine mounts.

Engine instrument panel type MPA22KBS2.
Including 4 m cable.
A flybridge panel is available as an option.

Electric powerpacks, 12 and 24 VDC

For multiple applications

Most VETUS power hydraulic systems are designed to run from an engine driven hydraulic pump. With such a system on board, there will be enough power to operate various pieces of hydraulic equipment such as anchor windlasses, capstans, gangways etc. However, these devices can only operate when the main engine or generator is running, depending on where the pump is powered from. In certain circumstances though, it may be desirable to operate the hydraulic systems without a running engine or generator. In these cases, a VETUS electric powerpack will provide the answer: either as a stand alone system or as an additional power source in the main power hydraulics system.



These powerpacks can be supplied in various configurations: 12 or 24 VDC and with power capacities from 800 watt up to 3 kW, pump outputs, tank capacities, etc. The powerpack can be used to operate a maximum of four functions. In the example shown here, the powerpack is equipped with four NG6 base plates, to which standard VETUS solenoid control units may be connected (HT1014, HT102311, HT102312).

For the electrical operation of the powerpack and the control units, the VETUS junction box HT5034 is required together with one or more switches.

Contact your VETUS representative to discuss the configuration options.

*The electric powerpacks meets the EMC requirements.

To prevent overheating, VETUS advices to install a forced air cooler for DC Powerpacks. Available in 12 VDC (VENT12PP) and 24 VDC (VENT24PP).

Electric powerpacks, 12 and 24 VDC

Type EHP....R2

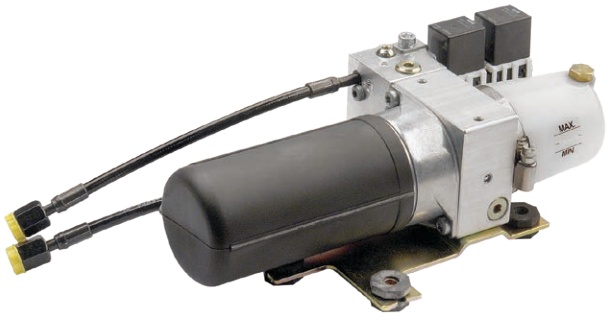
Opening a heavy hatch was never this easy

Due to the build-in check valve and short-circuit valve, the VETUS EHP's can be used for many purposes, such as: hatch lifters, gangways, mast lowering systems, swim platforms etc.

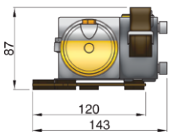
These powerpacks are available in various executions: 12 or 24 VDC and with different pump outputs. All variants are standard supplied with a relay and wiring for reversing the direction of rotation of the pump. A set of couplings for 8 and 10 mm pipes must be ordered separately.

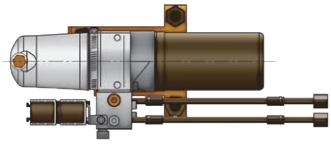
Type	Voltage (DC)	Volume l/min.	Power consumption	Max. working pressure
EHPA12R2	12	0,35	6,5 - 12 A	40 bar
EHPA24R2	24	0.35	5 - 6.5 A	40 bar
EHPB12R2	12	0,70	7,5 - 13,5 A	40 bar
EHPB24R2	24	0,70	5,5 - 7 A	40 bar
EHPC12R2	12	0,95	10 -15 A	40 bar
EHPC24R2	24	0,95	5,7 - 10 A	40 bar

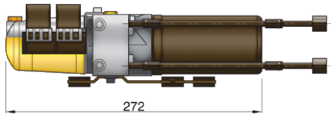
* Tank capacity 0,2 l



EHPA12R2 **EHPA24R2**
EHPB12R2 **EHPB242R2**
EHPC12R2 **EHPC24R2**





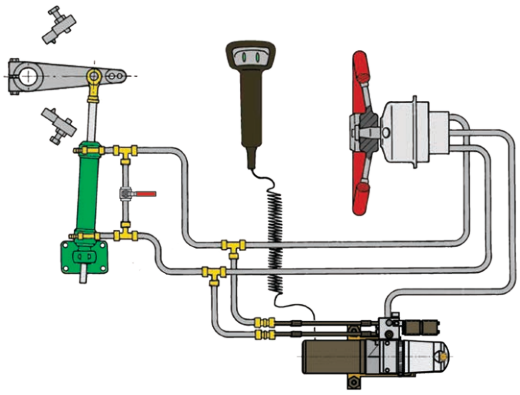


Electric remote control type RECON

Conventional wheel operated hydraulic systems equipped with a hydraulic powerpack (e.g. the VETUS EHP) can be easily equipped with this electrically operated remote control unit from virtually any point on board. Suitable for 12/24 VDC.

Also suitable for the operation of bow or stern thrusters, anchor windlasses, gangways, electric cranes, etc.

Type RECON consist of
- A rocker switch
- 3,5 mtr spiraled wire with a watertight plug
- Deck connector



Type	Description
RECON	Hand held remote control for operation of: bow and stern thrusters, windlasses, etc.

‘Stand-alone’ lifting system

Type HL12500..

The VETUS EHP..R2 is also available as an electro-hydraulic ‘stand-alone’ lifting system for opening a heavy hatch. The standard system consists of a seawater resistant aluminium cylinder with a stainless steel (AISI 316) rod, an electro-hydraulic pump, a waterproof control panel, 12 metres of hydraulic piping and all required hose connectors. VETUS electro-hydraulic lifting systems meet the EMC requirements.

Not suitable for our glazing hatches.

In order to calculate the required lifting power, the following data must be taken into consideration:

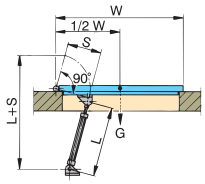
W = Width of the object to be lifted (e.g. 1300 mm)
G = Weight of the object to be lifted (e.g. 90 kg)
S = Stroke of the piston in mm
F = Required lifting power in kgf

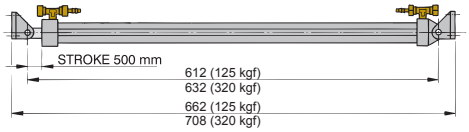
The formula then works as follows

$$F = \frac{1}{2} \times \frac{W}{S} \times G = F$$

Example

$$F = \frac{1}{2} \times \frac{1300}{500} \times 90 = 117$$





In this case, system HL12500A featuring one cylinder with a lifting power of 125 kgf will be sufficient. If two cylinders must be installed an additional connection kit will be required; please see the price list. Hydraulic fluid will have to be ordered separately.

Type	Description	Voltage (DC)	Stroke mm	Lifting power
HL12500A	Complete system	12	500	125 kgf
HL12500B	Complete system	12	500	320 kgf
HL500	Additional cylinder		500	125 kgf
HL500B	Additional cylinder		500	320 kgf
SLP7/1620	Hose pillar 7/16”-20 UNF - 8 mm			

HL500A

HL500B

Set of limit switches

To avoid damage to the steering system components, the action of any electronic or electrical steering system should be tempered by limit switches located at the rudder stops.

Type	Description
EHPESSET	Set of limit switches (two pieces)

EHPESSET

Hydraulic windlasses

These hydraulic windlasses and capstans are powered by a gerotor type hydraulic motor with a two high pressure ports. No separate case drain is required.

No electrical connections are required at the windlass or capstan. All electrical control connections are made at the control valves, most frequently located at the hydraulic reservoir tank, in or near the engine room.

Hydraulic port sizes and hydraulic hose type and diameters will be provided by your VETUS hydraulic support engineer.

As with all Maxwell windlasses, the maximum pull should equal or exceed three times the total weight of the ground tackle (chain and anchor).

Please see the Maxwell windlass section of this catalogue for details of the chainwheel and warping drums, as these are common to both electric and hydraulic windlasses. In that catalogue section you will also find information about bow rollers, chain stoppers, anchors, chains, rodes and many other anchoring system components.

VWCLP

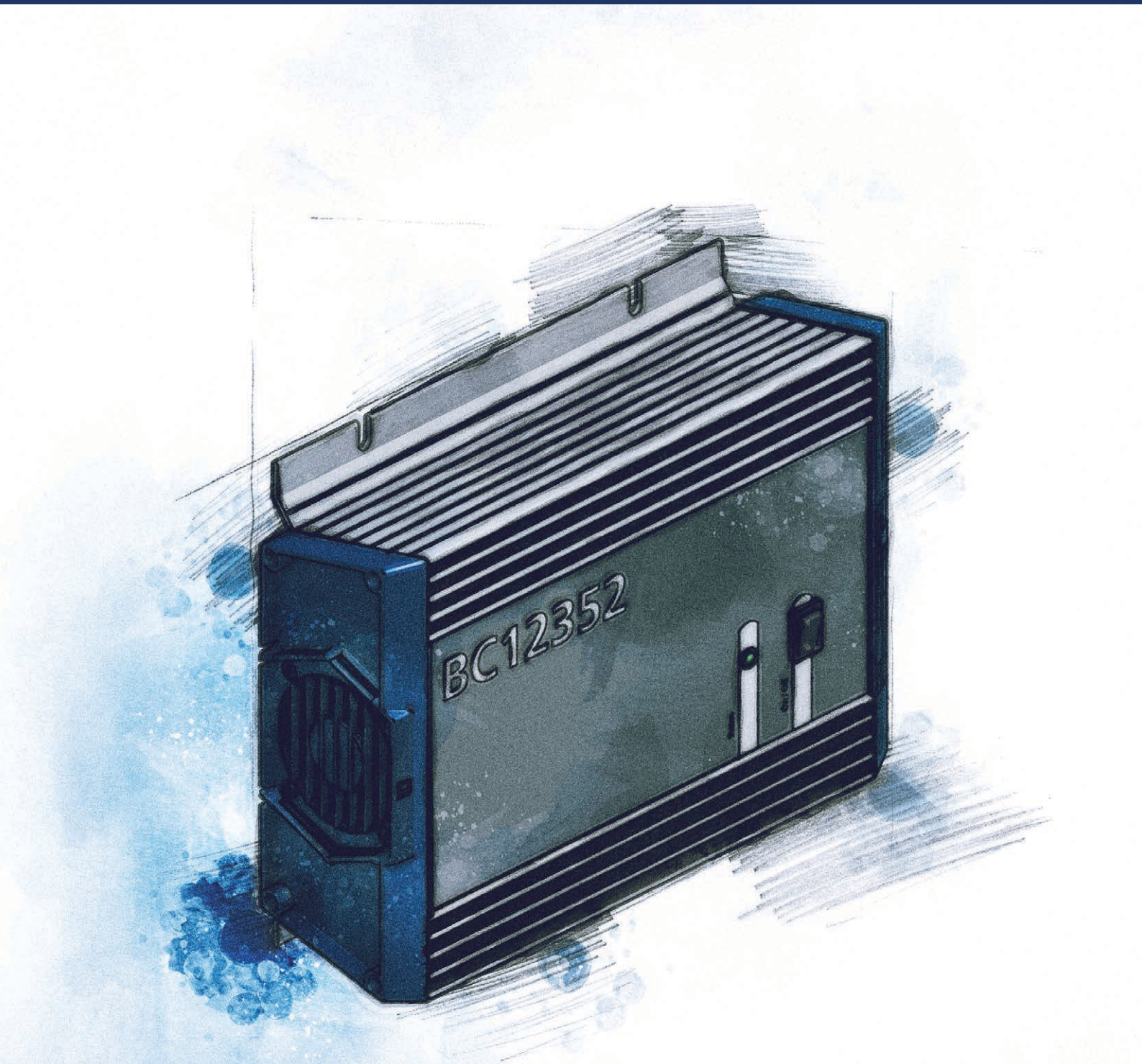
Maxwell hydraulic windlasses and capstans

Type Windlass	Maximum Pull		Chain size if applicable inch - mm	Rope size if applicable inch - mm	Hydraulic Flow		Hydraulic Pressure		Weight - topworks, gearbox, motor	
	Kg	Pounds			Litre/ minute	US. Gallons/ minute	bar	psi	Kg	Pounds
RC8-8	600	1320	5/16 - 8	5/8 - 16	20	5.3	138	2000	10.5	23
RC10-8	700	1540	5/16 - 8	5/8 - 16	20	5.3	138	2000	13.6	30
RC10-10	850	1870	3/8 - 10	5/8 - 16	20	5.3	138	2000	14	31
RC12-10	1134	2500	3/8 - 10/11	5/8- 3/4-16/20	42	11	138	2000	26	57
RC12-12	1590	3500	1/2 -12/13	3/4 - 20	42	11	138	2000	26	57
HRC10-8	700	1540	5/16 - 8	5/8 - 16	20	5.3	138	2000	13	28.5
HRC10-10	850	1870	3/8 - 10	5/8 - 16	20	5.3	138	2000	13	28.5
VC1000	700	1540	N/A		20	5.3	100	1450	11	24
VW1000	700	1540	1/4 to 3/8 - 6- 10		20	5.3	100	1450	15	33
VW1500	850	1870	1/4 to 3/8 - 6- 10		20	5.3	138	2000	15	33
VW2500	1135	2500	5/16 to 3/8 -9-11		36	9.5	138	2000	32	70.5
VW3500	1590	3500	3/8 to 1/2 -10-13		42	11	138	2000	40	88
VWC1000	700	1540	1/4 to 3/8 - 6- 10		20	5.3	100	1450	17	37
VWC1500	850	1870	1/4 to 3/8 - 6- 10		20	5.3	138	2000	17	37
VWC2500	1135	2500	5/16 to 3/8 -9-11		36	9.5	138	2000	32	70.5
VWC2500 Tall Drum	1135	2500	5/16 to 3/8 -9-11		36	9.5	138	2000	32	70.5
VWC3500	1590	3500	3/8 to 1/2 -10-13		42	11	138	2000	40	88
HWC2500	1135	2500	5/16 to 3/8 -9-11		36	9.5	138	2000	48.5	107
HWC3500	1590	3500	3/8 to 1/2 -10-13		40	10.6	138	2000	49	108

VWC

VWCLP

VC


BC12352

Overview

Diesel generator sets see page 252 - 253

GX

Battery chargers see page 254

BC

Battery charger/maintainer see page 255

BC120517

Battery splitters see page 255

BS150..C

Batteries see page 256 - 257

SMF

AGM

VEDC110TC

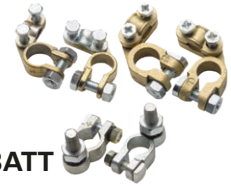
Accessories see page 258 - 260

ACCUSCH

BATSW250T

AFST1512D

BATSW250



BATT

Shore power see page 261 - 262

EOCABC5M

EOQSPW16S

NEW!

EOQ1RCBO

Power on board

Power on board not only has an important role in creating comfortable living conditions, but also plays a vital part in safe operations. A pleasant stay on board is dependent on reliable electrical power. VETUS supplies a wide range of products that will exceed your expectations when it comes to power on board. Whenever you need power, you can rely on VETUS.

VETUS offers the following electrical system components

Gensets

When high capacity power supply is needed. All VETUS generators are supplied as standard with a complete exhaust and water intake system and a remote control panel.

Batteries

VETUS offers three different types of batteries: The SMF (Sealed Maintenance Free), AGM (Absorbed Glass Mat) and the Deep Cycle marine battery series. These very low self discharge batteries are designed to live up to the varying seasonal demands on a battery which is used on board.

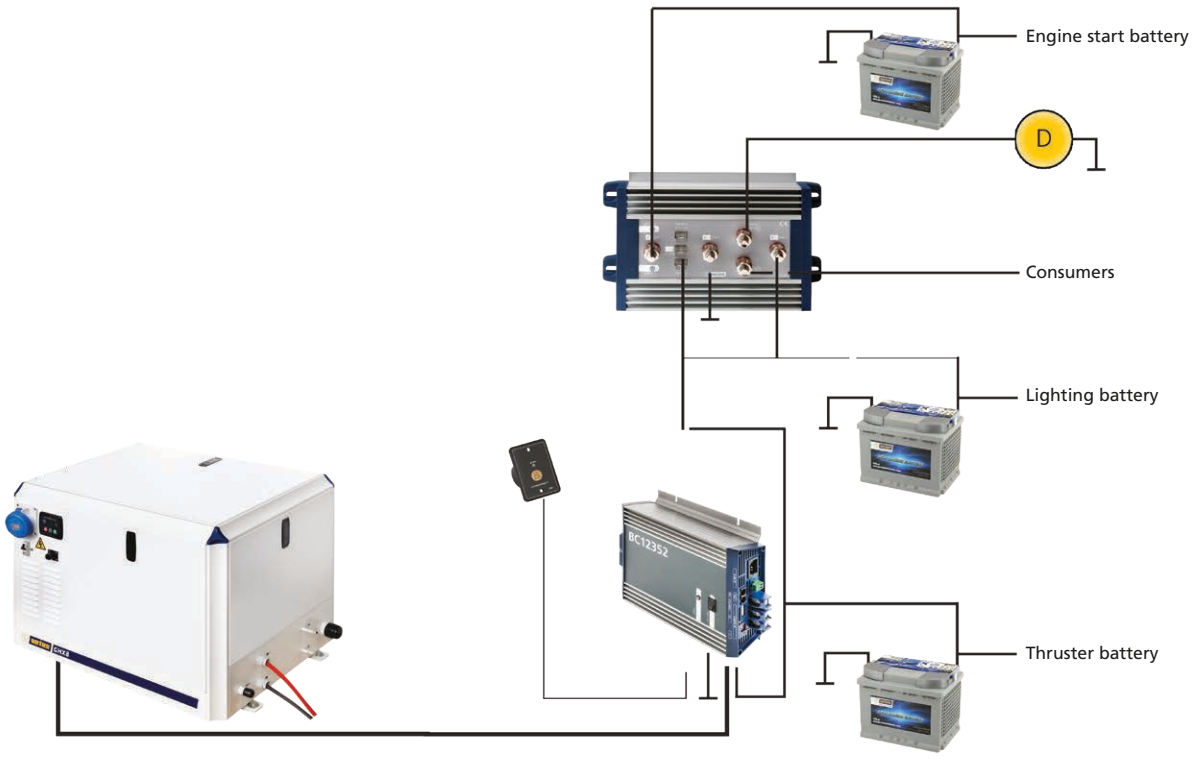
Battery chargers and splitters

Providing optimum simultaneous charging with lower cost, faster installation time, fewer cables and more space.

Why VETUS power on board

Below we have highlighted a few good reasons to consider VETUS power on board.

- All VETUS power on board products meet the EMC requirements
- Exceptionally quiet generators supplied with auto demand start as standard



Diesel generator set

GX series

Reliable, easy to maintain and exceptionally quiet!

VETUS GX generators range from 5 kVA to 24 kVA and are available in 50 or 60 Hertz. The base engines are carefully selected for power output and fuel economy, depending on the speed and output of the generator.

These high or low fixed speed gensets can be placed even in the most confined spaces because of their compact dimensions and lower weight. The high quality of design, insulation and finish of the generators used in this range, guarantee a long reliable life time and are especially designed for marine applications.

Characteristics
- The reliable, highly fuel efficient engines which are used are all marinised in-house
- Sturdy aluminium engine cover acts as a sound barrier and thermal insulator
- Very stable sine wave with a low signal to noise ratio < 3% THD and overload protection
- Easy installation and maintenance - high serviceability!
- Pre-installed connections for battery cables, fuel supply / return, exhaust, raw water and air vent
- Comes with a remote control panel (MPRGEN) including six metre cable

MPRGEN

Specifications
- Gensets from 5 kVA to 24 kVA
- 50 or 60 Hertz output
- High speed (3000 / 3600 rpm) and low speed (1500 / 1800 rpm) models available
- Single phase (120 - 230 VDC) and three phase (240 - 400 VDC)
- Maximum voltage variance: plus or minus 2%
- Protection: IP55
- Max. ambient temperature: 40°C
- Max. raw water temperature: 30°C
- Noise level (GLX) with sound-proof box: 57 dB(A)
- Noise level (GHX) with sound-proof box: 65 dB(A) / 68 dB(A)
- Max. cont. angle of inclination: fore and aft: 15° athwartships: 25°

All GX gensets are supplied with a digital control panel. An autostart function to start (and stop) the generator via external devices is an available option.

GHX5

NEW!

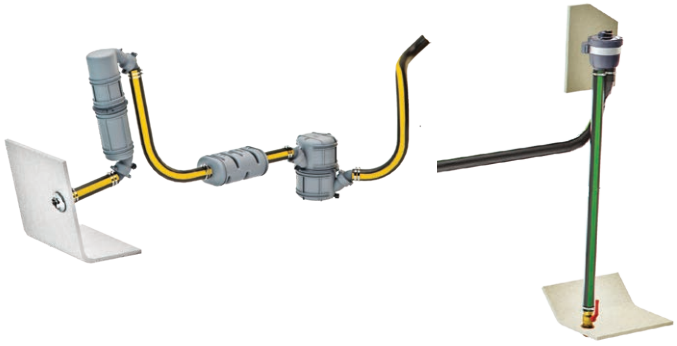
VETUS presents an addition to the current genset series: The GHX5!

This latest addition to the VETUS gensets programme is based on an efficient single cylinder C-LINE VC1.08 engine and is very suitable for installation in small craft. This small but powerful generator set has an AVR controlled generator and is a solid performer due to its electronic speed regulation. Because of the stable sine wave, this generator is suitable for use in combination with electronics such as a computer. In other words, this is a compact and reliable partner for your boat.

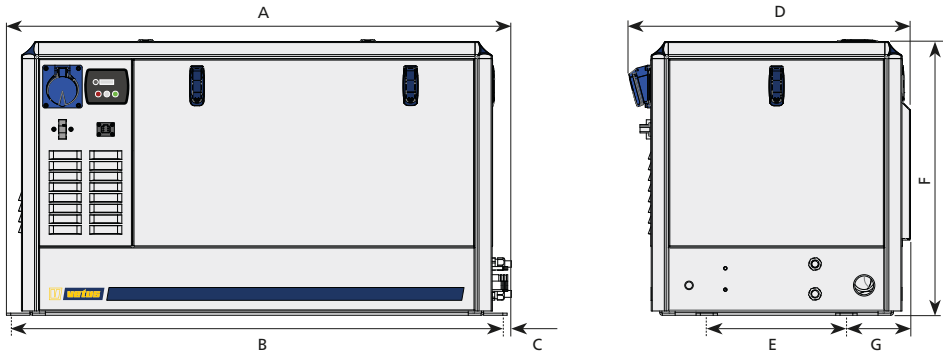
For dimensions and available types see next page.

Standard scope of supply

All VETUS generators meet the EMC Low Voltage and machine requirements when mounted in a sound enclosure. They are supplied as standard with an exhaust system, a water intake system and a remote control panel.



Diesel generator set



Dimensions

	GHX 5 SIC	GLX 6/7 SIC/TIC	GHX 8/9 SIC/TIC	GHX 14/17 SIC	GHX 14/17 TIC	GLX 14/17 SIC	GLX 14/17 TIC	GLX 20/24 TIC
A (mm)	770	927	884	1082	1082	1172	1172	1292
B (mm)	730	887	844	1042	1042	1132	1132	1332
C (mm)	20	20	20	20	20	20	20	20
D (mm)	499	657	659	659	659	659	659	739
E (mm)	225	297	327	327	327	327	327	407
F (mm)	544	644	571	641	641	641	641	694
G (mm)	110	165	150	150	150	150	150	150

Type	Power kVA	Engine speed (rpm)	Frequency (Hz)	Phase	Voltage (DC)	Weight (kg)	Engine type
50 Hertz							
GHX5SIC NEW	5	3000	50	Single	230	135	VC1.08
GHX8SIC	8	3000	50	Single	230	185	M2.18
GHX8TIC	8	3000	50	Three	3 x 230/400	185	M2.18
GHX14SIC	14	3000	50	Single	230	295	M3.29
GHX14TIC	14	3000	50	Three	3 x 230/400	295	M3.29
GLX6,5SIC	6	1500	50	Single	115 or 230	245	M3.29
GLX6,5TIC	6	1500	50	Three	3 x 230/400	245	M3.29
GLX14SIC	14	1500	50	Single	115 or 230	395	M4.45
GLX14TIC	14	1500	50	Three	3 x 230/400	395	M4.45
GLX20TIC	20	1500	50	Three	3 x 230/400	465	VH4.65
60 Hertz							
GHX9SIC	9	3600	60	Single	120 or 240	185	M2.18
GHX9TIC	9	3600	60	Three	3 x 240/415	185	M2.18
GHX17SIC	17	3600	60	Single	120 or 240	295	M3.29
GHX17TIC	17	3600	60	Three	3 x 240/415	295	M3.29
GLX7SIC	7	1800	60	Single	120 or 240	245	M3.29
GLX7TIC	7	1800	60	Three	3 x 240/415	245	M3.29
GLX17SIC	17	1800	60	Single	120 or 240	395	M4.45
GLX17TIC	17	1800	60	Three	3 x 240/415	395	M4.45
GLX24TIC	24	1800	60	Three	3 x 240/415	465	VH4.65

Other voltages on request

Battery chargers

Type BC

Especially designed for marine use

These battery chargers have a four stage IUoU charge programme:
In the first bulk charge stage, the battery receives a continuous maximum current charge. Once the battery is recharged to approximately 75% of its full capacity, the charger switches automatically to a constant voltage absorption stage for the remaining 25%.

When the battery is fully charged, the charger will maintain this charge phase for 15 minutes (providing the charge is under 6.25 % of the full charge current) and then switches over to the float charge stage. In this stage the battery charger maintains the full charge without overloading the battery. It compensates for self-discharge and “floats” any loads on the battery.

After being in the float stage for twelve days, the charger implements the final reconditioning stage. In this stage the charger will switch to the bulk stage for 85 minutes only to ensure that the battery stays in optimum condition. With easy access DIP switches, the maximum charge voltage can be adapted to suit the type of battery being charged. These chargers are suitable for all AC power sources from 90 V to 265 V. The active Power Factor Correction feature takes care of any unwanted line disturbances.

VETUS battery chargers are extensively tested, including a 2G vibration test, to meet our quality standards and ensure long term operation. These chargers are compatible with Lead Acid, Li-ion, Gel, AGM and Deep Cycle batteries, and can be connected to a remote control panel (BCRC) and a battery temperature sensor (BCTS). The chargers have a separate alarm contact and the fan speed can be adjusted for comfort reasons.

A trickle charger with maximum output of 2A is provided on models BC12151, BC12252 and BC12352.

Specifications
- Universal AC input with active PFC (90 - 264 VAC)
- Compatible with Lead Acid, Li-ion, Gel and Deep Cycle batteries
- Remote control panel BCRC available as optional accessory
- Optional battery temperature sensor BCTS
- Voltage/temperature compensation
- High efficiency and high reliability
- Protection against short circuit/over voltage/over temperature

BC12...

BC24...

Type	Dimensions W x H x D (mm)	Standard Boost Charge Voltage (DC)	Standard Float Charge Voltage (DC)	Max Rated Current (A)	Single Output Current Limit (A)	Number of Outputs
BC12151	205 x 84 x 259	14.4 / 14.7	13.8 / 13.5	15	15	1 (1)
BC12252	205 x 84 x 259	14.4 / 14.7	13.8 / 13.5	25	25	2 (1)
BC12352	205 x 87 x 279	14.4 / 14.7	13.8 / 13.5	35	35	2 (1)
BC24122	205 x 84 x 259	28.8 / 29.4	27.6 / 27	12.5	12.5	2
BC12503	237 x 90 x 288	14.4 / 14.7	13.8 / 13.5	50	40	3
BC24253	237 x 90 x 288	28.8 / 29.4	27.6 / 27	25	25	3
BC12803	237 x 90 x 328	14.4 / 14.7	13.8 / 13.5	80	40	3
BC24403	237 x 90 x 328	28.8 / 29.4	27.6 / 27	40	40	3
BCRC	Remote control panel (72 x 57 mm), cut-out size Ø 44 mm					
BCTS	Battery temperature sensor					

BCRC

BCTS

Trickle charger / battery maintainer

Type BC120517

Intelligent charging in seven stages

BC120517 controls the battery charging in seven stages ensuring optimal performance from your batteries. It has an Ingress Protection Rating IP65, so it is dust, splash and rainproof. Comes with two connection leads, terminating with either crocodile clips or ring terminals.

Stage 1 Desulfation; reduces battery sulfation
Stage 2 Soft start
Stage 3 Bulk charge
Stage 4 Absorption
Stage 5 Battery test
Stage 6 Recondition
Stage 7 Float

Specifications
- Dimensions L 160 x W 960 x H 540 mm
- Weight 0,85 kg
- Ambient temperature -20° to +50°C
- AC Voltage input 220-240 VAC, 50/60Hz
- DC output 12 VDC - 5,0 A

Type	Description
BC120517	7-stage battery charger/maintainer

BC120517

Battery splitter

For optimal charging and maintenance

VETUS battery separators or splitters simultaneously charge two or three battery banks from any charging source with negligible voltage drop due to the use of mosfet transistors instead of diodes. One discharged battery cannot discharge another battery. This battery splitter ensures automatic distribution of the charging current from the alternator and/or battery charger. Once the engine has started, the alternator will automatically recharge all banks of batteries. The VETUS battery separators feature an auxiliary connection which provides feedback to voltage sensed alternators.

Specifications
- Suitable for 12 and 24 VDC installations, two or three battery banks and one or two alternators
- Maximum charging current 150A
- Input 8-30 VDC

Type	Number of inputs	Number of outputs	Maximum charging current (A)	Input Voltage (DC)	Weight (kg)
BS1502C	1	2	150	8-30	1,0
BS1503C	1	3	150	8-30	1,2
BS15032C	2	3	150 (2x)	8-30	1,3

BS1502C BS1503C BS15032C

Battery boxes type BATBOX

For all VETUS batteries

VETUS battery boxes are made of polypropylene and come in three different sizes.

Type		Internal dimensions LxBxH (mm)
BATBOXS	Battery box - small	255 x 180 x 195
BATBOXM	Battery box - medium	350 x 180 x 195
BATBOXL	Battery box - large	360 x 175 x 230

Recommended battery box by battery

BATBOXS	VESMF60 - VEAGM60
BATBOXM	VESMF70 - VEAGM70
BATBOXL	VESMF85 - VESMF105 - VEAGM90 - VEAGM100

BATBOX

VETUS batteries

Specially designed for use aboard pleasure craft

VETUS batteries are designed with consideration of the varying seasonal demands of boating. During the winter months the battery will mostly be unused, therefore the batteries have a minimal rate of self-discharge and can still be relied on to start the engine again the following season. We strongly advise the use of a float charger during winter storage. During the boating season, the batteries are able to supply both small constant loads as well as heavy but short loads for the use of a bow thruster. VETUS offers three different types of marine batteries, each with their own characteristics. To help you select the best battery for a specific purpose, please refer to the battery selection chart.

The SMF (Sealed Maintenance Free) series

Maintenance free, no need to be refilled!

- Sealed and maintenance free
- Lids which internally re-generate any gas that occurs during use or charging
- Construction based on use of lead-calcium plates which reduce water usage
- Models VESMF60, 70, 85 and 105 are equipped with a 'magic eye' which indicates the state of charge
- Manufactured in the EU

Specifications VETUS SMF batteries

Type	VESMF60	VESMF70	VESMF85	VESMF105	VESMF125	VESMF145	VESMF165	VESMF200	VESMF220
VDC	12	12	12	12	12	12	12	12	12
Capacity C20	60 Ah	70 Ah	85 Ah	105 Ah	125 Ah	150 Ah	170 Ah	200 Ah	230 Ah
Cold Cranking Amps CCA (EN)	540 A	640 A	700 A	750 A	800 A	900 A	1050 A	1200 A	1300 A
Reserve capacity in minutes at 25A	96	116	138	160	210	250	315	400	445
Dimensions LxBxH	242x175 x175	278x175 x175	353x175 x175	345x175 x230	513x189 x220	513x223 x223	513x223 x223	514x276 x242	514x276 x242
Weight (kg)	13,9	16,3	19,8	24	33,2	38,7	42,2	54,2	56,2
BATBOX	S	M	L	L	-	-	-	-	-

The AGM (Absorbed Glass Mat) series

Multipurpose marine batteries with long life spans

- Sealed VRLA (Valve Regulated Lead Acid) and maintenance free (does not contain any free electrolyte)
- Electrolyte is absorbed by glass fibre mat separators between battery plates
- Leakage-free even when the battery is dropped and the casing is damaged
- Battery can even be shipped by airfreight
- Manufactured in the EU

Specifications VETUS AGM marine batteries

Type	VEAGM60	VEAGM70	VEAGM90	VEAGM100	VEAGM140	VEAGM170	VEAGM185	VEAGM220
Voltage (DC)	12	12	12	12	12	12	12	12
Capacity C20	60 Ah	70 Ah	90 Ah	100 Ah	135 Ah	170 Ah	195 Ah	220 Ah
Capacity C5	45 Ah	52 Ah	67 Ah	85Ah	110 Ah	130 Ah	145 Ah	170 Ah
Cold Cranking Amps CCA (EN)	640 A	760 A	860 A	760 A	1000 A	1100 A	1200 A	1400 A
Reserve capacity in minutes at 25A	110	130	175	180	260	300	350	430
Dimensions LxBxH	242x175x190	278x175x190	353x175x190	345x175x230	513x189x223	513x223x223	514x274x242	514x274x242
Weight (kg)	18,6	21,2	27,8	26,8	40,7	46,6	56,2	60,7
BATBOX	S	M	L	L	-	-	-	-

VETUS Deep Cycle battery

This type of deep cycle battery is ideal for applications such as electric propulsion. The VEDC110TC is a "Deep Cycle / Semi-traction" battery featuring two different connections. One set of conventional tapered battery clamp connections and one set of threaded connection (5/16") for cable lugs. Thicker plates inside the battery allow deeper discharging (up to 75%) compared to conventional batteries and can used for cyclic applications. Because of this, the battery is very suitable for electric boating where the battery is discharged over a longer period of time. The VEDC110TC battery is based on a Sealed Maintenance Free battery, so the same battery chargers are applicable.

Specifications VEDC110TC

Type	
VDC	12
Capacity C20	110 Ah
Capacity C5	90 Ah
Cold Cranking Amps CCA (EN)	700 A
Reserve capacity in minutes at 25A	200
Dimensions LxBxH	330x175x235
Weight (kg)	28
BATBOX	L

Specifications

- Suitable for heavy use over a longer period of time
- Two different connections
- Thicker battery plates
- Dischargeable up to 75%
- Compact
- Very suitable for electric propulsion or as a service battery
- Manufactured in the EU

Battery selection chart

Application	SMF Marine Battery	AGM Marine Battery	VEDC110TC Marine Battery
Engine starting	✓✓✓✓	✓✓✓✓	✓✓✓✓
Generator starting	✓✓✓✓	✓✓✓✓	✓✓✓✓
Bow thruster	✓✓✓	✓✓✓	✓✓✓✓
Anchor windlass	✓✓✓✓	✓✓✓✓	✓✓✓✓
Pumps	✓✓✓	✓✓✓	✓✓✓✓
Use with inverter	✓	✓✓✓	✓✓✓✓
Refrigeration	✓	✓✓✓	✓✓✓✓
Air conditioning	✓	✓✓✓	✓✓✓✓
Lighting	✓	✓✓✓	✓✓✓✓
Electric propulsion	✓	✓✓✓✓	✓✓✓✓

✓ - Not recommended ✓✓ - Suitable ✓✓✓ - Recommended ✓✓✓✓ - Highly recommended

Battery selection chart

	SMF Marine Battery	AGM Marine Battery	VEDC110TC Marine Battery
General			
Maintenance free	✓	✓	✓
Deep discharge	-	✓	✓✓
Typical life span	5-6 years	6-8 years	5-6 years
Number of cycles - % of discharge	350 - 35%	500 - 75%	+400 - 75%
Self discharge	< 3% per month	< 3% per month	< 3% per month
Electrolyte	Wet acid	Absorbed glass mat	Wet acid
Plate materials	Lead - calcium	Lead - calcium	Lead - calcium
VRLA (pressure relief vent)	-	✓	-
Series connection allowed	✓	✓	✓
Parallel connection allowed	✓	✓	✓
Safe transportation	-	✓	-
Maximum angle in use	55°	55°	55°
Maximum installation angle	0°	0°	0°
Charging with standard charger	✓	✓	✓

Accessories

Battery selector switch type ACCUSCH

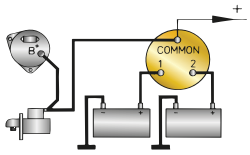
Famous for its multifunctional use

From the OFF position, in accordance with the switch pattern, battery 1 only, battery 1 plus battery 2 or battery 2 only can be switched on. The switch enables usage and charging of the batteries individually and in parallel connection. The switch has a red locking button which indicates and locks the switch position, discouraging enthusiastic operation. Even though the battery selector is fitted, you still have the choice which battery will supply which service. If your chosen battery is nearly discharged or defective, the other battery can be called to the rescue. By using a VETUS battery selector switch, the starter and domestic battery can be used and charged as you desire. The switch will "make before break" and so battery selection is possible even with the engine running (does not go through the "Off" position).

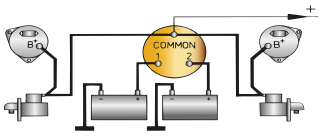
Specifications
- Capacity at 6, 12, 24 or 32 VDC
- Continuous 175A / interval 300A
- Dimensions 135 x 135 x 75 mm

Type	Description
ACCUSCH	Battery selector switch

ACCUSCH



one engine - two batteries



two engines - two batteries

Battery main switches type BATSW

Twin pole switching

May be connected to either the positive or the negative electric cable. Two positions: "ON"and "OFF". In the "OFF"position the key may be removed (except models 150 and 600). Provided with two M10 connectors. Model 250T is a twin pole switch to make/break both the positive and negative cables. Model 600 is watertight according to IP 67.

BATSW075

BATSW100

BATSW150

BATSW250

BATSW250T

BATSW600

Type	BATSW075	BATSW100	BATSW150R* BATSW150B**	BATSW250	BATSW250T	BATSW600
Nominal operational (VDC)	max. 24	max. 24	max. 24	max. 24	max. 48	max. 24
Current max.:						
- Continuous operation	75 A	100 A	150 A	250 A	2 x 250 A	450 A
- 3 minutes' load						800 A
- 5 seconds' load	350 A	500 A	1000 A	2500 A	2 x 2500 A	3500 A

* BATSW150R = with red handle **BATSW150B = with black handle

Accessories

Fuses and fuse holder type ZE

Type ZEHC is suitable for VETUS fuses of 40 - 500 Amp. The fuses to match are encapsulated in glass to prevent splatter and fire. The fuse holder comes with a protector cover.

Note: Can be used in combination with strip fuses type ZE (slow-blow fuse).

ZEHC100

ZE

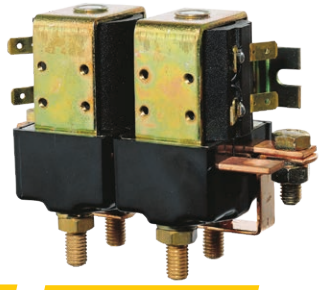
Type	Description
ZEHC100	Fuse holder, type C100 including cover

Type	Description	Amp.
ZE040	Strip fuse C20	40
ZE050	Strip fuse C20	50
ZE063	Strip fuse C20	63
ZE080	Strip fuse C20	80
ZE100	Strip fuse C20	100
ZE125	Strip fuse C20	125
ZE160	Strip fuse C20	160

Type	Description	Amp.
ZE200	Strip fuse C20	200
ZE250	Strip fuse C20	250
ZE300	Strip fuse C20	300
ZE355	Strip fuse C20	355
ZE425	Strip fuse C20	425
ZE500	Strip fuse C20	500

Make/break relay - solenoid type AFSTD and SOL

Make/break relay to reverse the direction of rotation of an electric motor (e.g. windlass) with a maximum output of 1.5 kW at 12 VDC, 3 kW at 24 VDC and 6 kW at 24 VDC (type AFST624D).
* Type SOL is watertight to IP66.



AFST1512D **SOL1512D*** **SOL324D*** **AFST324D** **AFST624D**

Type	Description	VDC / Watt	Terminals
AFST1512D	Dual make/break relay	12 / 1500	M8
SOL1512D	Dual make/break relay	12 / 1500	M6
SOL324D	Dual make/break relay	24 / 3000	M6
AFST324D	Dual make/break relay	24 / 3000	M8
AFST624D	Dual make/break relay	24 / 6000	M10

Single relay - solenoid type AFSTS and SOL

When the motor has two field windings, two of these relays can be used to operate the motor in either direction.
* Type SOL is watertight to IP66.

AFST1512S **SOL1512S*** **SOL324S*** **AFST324S** **AFST624S**

Type	Description	VDC / Watt	Terminals
AFST1512S	Single relay	12 / 1500	M8
SOL1512S	Single relay	12 / 1500	M6
SOL324S	Single relay	24 / 3000	M6
AFST324S	Single relay	24 / 3000	M8
AFST624S	Single relay	24 / 6000	M10

Accessories

Battery cables type BATC

These extremely flexible cables have a PVC insulation jacket with a temperature range of -20° to +85°C. The cables are available in black for negative and red for positive direct current with a cross sectional area of 6, 10, 35, 50, 70, 95 or 120 mm².

Note: The matching battery cable tags should be ordered separately (type BATCC).

Type	Cross sectional area (mm²)	Colour
BATC06M	6	Black
BATC10M	10	Black
BATC35	35	Black
BATC50	50	Black
BATC70	70	Black
BATC95	95	Black
BATC120	120	Black

Type	Cross sectional area (mm²)	Colour
BATC06RM	6	Red
BATC10RM	10	Red
BATC35R	35	Red
BATC50R	50	Red
BATC70R	70	Red
BATC95R	95	Red
BATC120R	120	Red

Cable lugs for battery cables type BATCC

Type	For cable cross sections (mm²)	Hole	Pack of
BATCC0606	6	M6	10
BATCC0608	6	M8	10
BATCC0610	6	M10	10
BATCC1006	10	M6	10
BATCC1008	10	M8	10
BATCC1010	10	M10	10
BATCC3506	35	M6	2
BATCC3508	35	M8	2
BATCC3510	35	M10	2
BATCC5006	50	M6	2
BATCC5008	50	M8	2

Type	For cable cross sections (mm²)	Hole	Pack of
BATCC5010	50	M10	2
BATCC7006	70	M6	2
BATCC7008	70	M8	2
BATCC7010	70	M10	2
BATCC9508	95	M8	2
BATCC9510	95	M10	2
BATCC9512	95	M12	2
BATCC1210	120	M10	2
BATCC1212	120	M12	2
BATCC1510	150	M10	2
BATCC1512	150	M12	2

Battery terminal sets type BATT

Suitable for cables with cross sections of 16 - 35 mm² / 50 - 95 mm² and up to 150 mm². Supplied with a M10 bolt for a cable up to 150 mm². Made of tinned brass with a stainless steel nut and bolt.

Type	Description
BATT1635	Terminal set for cable 16 - 35 mm², pack of 2
BATT5095	Terminal set for cable 50 - 95 mm², pack of 2
BATT150	Terminal with M10 bolt, for cable up to 150 mm², pack of 2

Shore power

NEW!

The Shore connection system consists of two sets of similar accessories: the first group consists of general products to set up a good quality shore connection, and the second group of this shore connection group, is made up of Quick connect parts which will minimize installation time to install a shore connection in your boat. If you want to save time, only select the products marked Quick connect parts.

General parts

Shore cables

Type	Description	Length (metre)	Max. rating
EOCABC5M	CEE shore power cable IP44, H07BQ-F 3G 2,50 mm² PUR	5	16A
EOCABC15M	CEE shore power cable IP44, H07BQ-F 3G 2,50 mm² PUR	15	16A
EOCABX15M	CEE-CEE extension power cable, H07BQ-F 3G 2,50mm² PUR	15	16A

EOCABX15M

EOCABC5M

EOCABC15M

Adapter cord set

Type	Description
EOADAP	CEE-Schuko EURO adapter cable 16A, cable length 0,3 meter

EOADAP

Shore power cord dock / rail clip

Type	Description
EOCLDSET	Dock clip shore power 16A cable (set of 6 pieces) incl. mounting screws
EOCLRSET	Rail clip shore power 16A cable (set of 6 pieces)

EOCLDSET

EOCLRSET

Shore power inlets

Type	Description
EOSPW16S	Shore power wall inlet 16A, polished IP56, flush mounted Stainless steel AISI 316
EOSPW16W	Shore power wall inlet 16A, white IP56, flush mounted Polyamide

EOSPW16S

EOSPW16W

Shore power inlets Quick Connect system

Type	Description
EOQSPW16S	Quick Connect - Shore power wall inlet 16A, polished IP56, flush mounted Stainless steel AISI 316
EOQSPW16W	Quick Connect - Shore power wall inlet 16A, white IP56, flush mounted Polyamide

EOQSPW16S

EOQSPW16W

RCBO Cabinet

Type	Description
EO1RCBO	Electrical Cabinet RCBO single Schuko wall socket 30mA/16A Housing IP65

EO1RCBO

Shore power

RCBO Cabinet Quick Connect

Type	Description
EOQ1RCBO	Quick Connect - Electrical Cabinet RCBO, 30mA/16A Housing IP65

EOQ1RCBO

Galvanic isolator Quick Connect

Type	Description
EOQISOLA	Quick Connect - Galvanic isolator. Max. rating 16A

EOQISOLA

Splitter Quick Connect

Type	Description
EOQSPLIT	Quick Connect system splitter 1 to 3. Max. rating 16A

EOQSPLIT

Extension cables Quick Connect

Type	Description	Length (metre)	Max. rating
EOQCABX1M	Quick Connect system extension cable 1 metre 20A, H07RN-F 3G 2,50 mm²	1	20A
EOQCABX3M	Quick Connect system extension cable 3 metre 20A, H07RN-F 3G 2,50 mm²	3	20A
EOQCABX5M	Quick Connect system extension cable 5 metre 20A, H07RN-F 3G 2,50 mm²	5	20A

EOQCABX1M

Wall socket

Type	Description
EOW1RFS	Schuko wall socket 16A, polished steel

EOW1RFS

Wall sockets Quick Connect

Type	Description
EOQW1NFW	Quick Connect - Schuko wall socket 16A, white flush mounted
EOQW1NFB	Quick Connect - Schuko wall socket 16A, black flush mounted

EOQW1NFW

EOQW1NFB

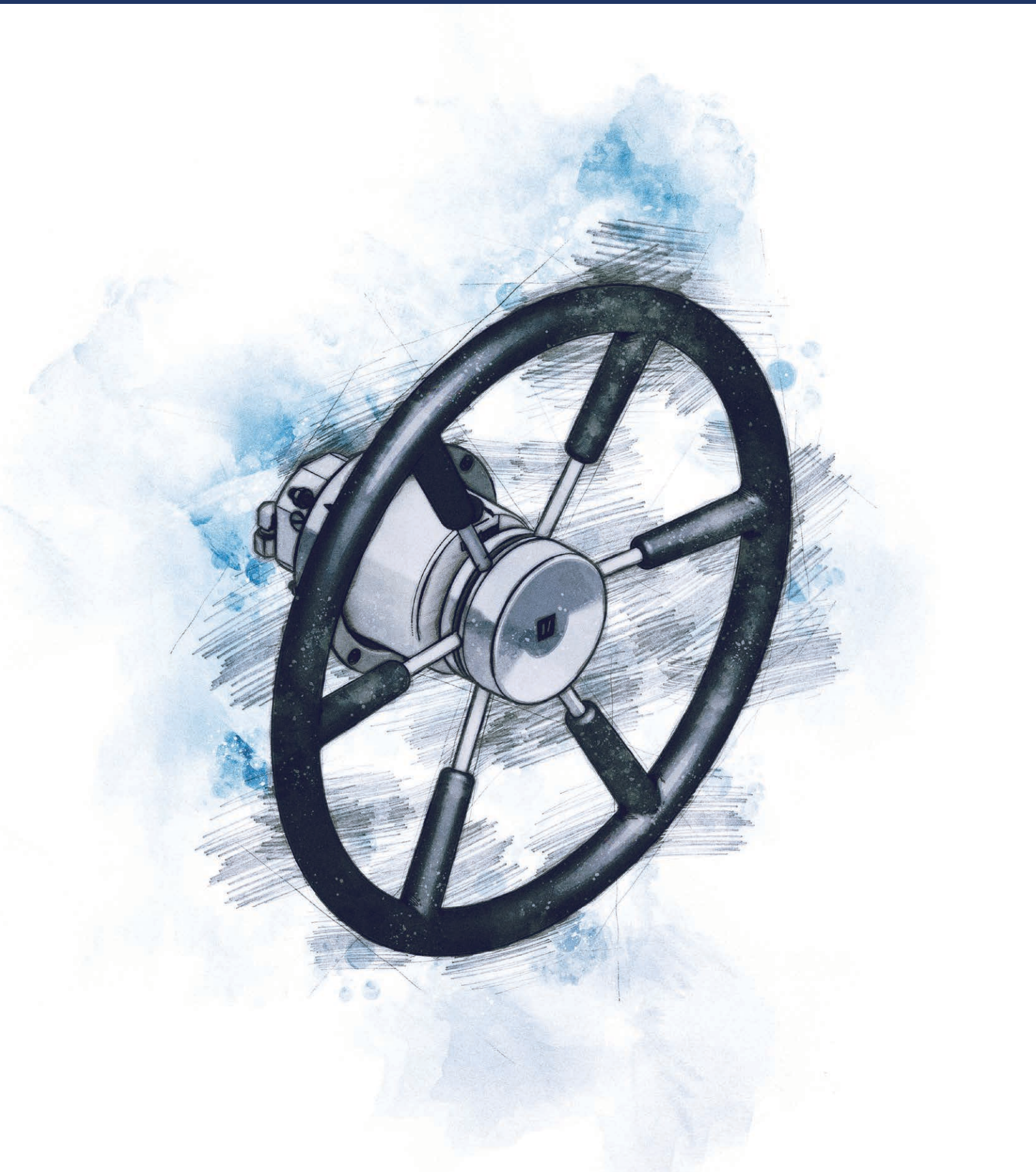
Type	Description
EOQW1RFS	Quick Connect - Schuko wall socket 16A, polished IP56, flush mounted, Stainless steel AISI 316

EOQW1RFS

Type	Description
EOQW2NSG	Quick Connect - Schuko wall socket 16A, grey IP55, wall mounted

EOQW2NSG

Steering systems

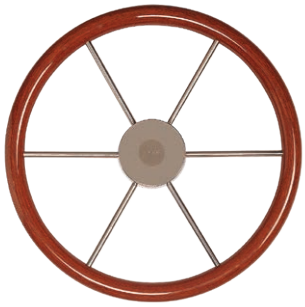


Overview

Steering wheels see page 267 - 271

PRO..P

PRO..T



KW

KWL

KS38

KS36

SWALB

SWCRUISER

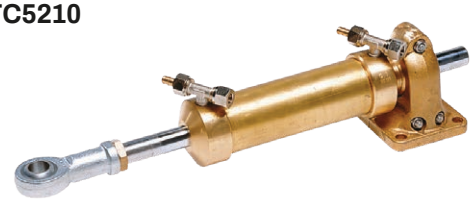
Steering pumps see page 273 - 277

HTP..B

HTP..T

Steering cylinders see page 274 - 279

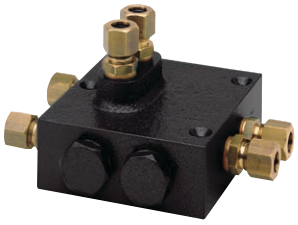
MTC5210



MTC12510..B

OBC225

Accessories see page 280 - 282



K30/140B

BYPASS

HHOSE

HS10131

HS145S

COPPER

Rudders see page 283 - 284

RUDS..40

HELM

HENKO

How to determine the correct VETUS steering

Various combinations of boat speed, rudder blade surface area and balance sections apply a variety of forces on steering systems. Furthermore the dynamic influences of wind and currents cause steering systems to be continuously used under sometimes harsh conditions.

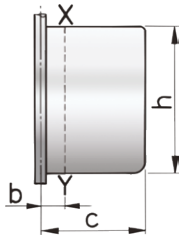
A skipper is dependent on the steering system and therefore it must be reliable under all circumstances. The design of the steering system determines how rapidly the vessel responds to helm movements. Fast light boats react quickly to small rudder movements, while a slow, heavy displacement boats will usually be set up to require more wheel movement for a given change of course.
A thoughtful calculation of a steering system is therefore essential.

This section explains how the appropriate steering system can be determined for any boat. Make your choice from a wide range of steering wheels and steering systems.

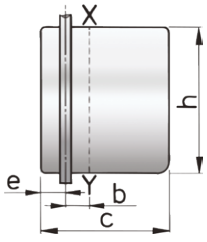
Rudder torque

The choice of the correct cylinder is determined by the rudder torque in Nm (or kg). The rudder torque is the determining factor (Torque = force x lever). To ascertain the correct rudder torque, only the maximum speed of the boat, the surface area of the rudder blade and the maximum rudder angle (in degrees) are of importance. Information such as length of boat and engine power are irrelevant. With a few exceptions, the rudder performs best with a maximum rudder angle of 35° to either side. Contrary to what is sometimes claimed for rudders with normal dimensions, a larger rudder angle does not enhance the manoeuvring capabilities of a boat.

We will be pleased to provide you with recommendations for all steering system components, based on the maximum speed of the boat and a dimensioned sketch or the rudder (provided by you).



Rudder without balance section



Rudder with balance section

The formula to determine the rudder torque:

M (torque) = F x b (per rudder)
In other words: the force F, which is applied to the rudder (given in Newton = N), is being multiplied by the lever "b", being the distance between the center line of the rudder stock and the centre of pressure which lies on the line X-Y.

F (the force applied to the central line XY) – taking into consideration a maximum rudder angle of 2 x 35° – is constituted in the following manner:
$F = 23.3 \times A \times v^2$ **in Newton** (N), or: $F = 2.33 \times A \times v^2$ **in kgf.**

A = total surface area of rudder blade in m^2.
v = speed in km/hour.
A rudder **without** balance section requires the formula:
b = 0.37 x c (in metres);
A rudder **with** balance section calls for the formula:
b = (0.37 x c) - e (in metres).

Calculation example of one rudder with balance section
The maximum speed of the boat is 16 km/hour (v); the total width of the rudder blade is 57 cm (c); the width of the balance section is 9 cm (e); the height of the rudder blade is 100 cm (h).
$F = 23.3 \times 0.57 \times 1.00 \times 16^2 = 3400$ N (340 kgf)
b = (0.37 x 0.57) - 0.09 = 0.12 m.

Therefore, the rudder torque amounts to 3400 x 0.12 = 408 Nm (41 kgm). So, the hydraulic steering to be selected in this case is model MTC52. With a twin rudder installation, the required torque is 2 x 408 Nm = 816 Nm, which makes model MTC125 the one to choose. We recommend that you consult us for an accurate calculation. We also calculate the effects of the propeller wash, as well as the torque when going astern. Because smaller boats tend to respond quite sharply to the rudder commands, the maximum rudder torque is not used and a reduction of 10 to 20% off the calculated maximum torque is quite acceptable most of the time.
Be careful: some manufacturers of hydraulic steering have already taken such reduction into account when stating their capacity (torque). We are of the opinion however, that the choice of whether or not such reduction should be applied, is exclusively the option of the naval architect.

All VETUS steering systems meet the CE ISO 8848 standard.

Steering wheels

Type PRO

The perfect match for traditional and modern boats

Type PRO has two models. Type 'T' with a satin-gloss varnished teak rim and type 'P' with a semi-hard polyurethane rim which will keep your hands warm. Both models have substantial spokes and a hub cover made of high-gloss polished stainless steel (AISI 316). The hub itself is made of synthetic material and bored for a Ø ¾" shaft with 1:12 taper which will fit most steering systems. These steering wheels are according to the CE and ABYC directives.

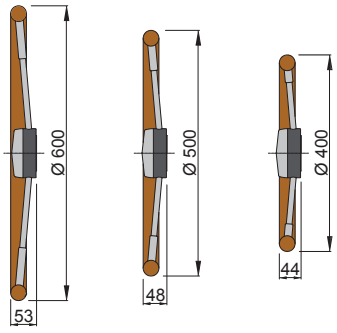
Specifications
- Available with overall diameters of 400, 500 or 600 mm
- Outer rim Ø 32 mm

Note: An alternative hub to suit older steering pumps with a Ø 1" hole shaft and 3½:12 taper is also available (product code: SETPS1).

PRO..P

PRO..T

Type	Description	Ø (mm)	Ø Outer rim (mm)
PRO40P	Polyurethane rim steering wheel	400	32
PRO50P	Polyurethane rim steering wheel	500	32
PRO60P	Polyurethane rim steering wheel	600	32
PRO40T	Teak steering wheel	400	32
PRO50T	Teak steering wheel	500	32
PRO60T	Teak steering wheel	600	32



PASBUSA

All VETUS wheels and steering pumps have a Ø ¾" bore, with a 1:12 taper. The PASBUS is a tapered bushing that can be applied to the ¾" shaft of a steering pump so that it can receive a wheel with a 1" bore. This allows wheels made by others to be installed on our pumps.

PASBUSA

Steering wheels

Mahogany steering wheels - Type KW / KWL

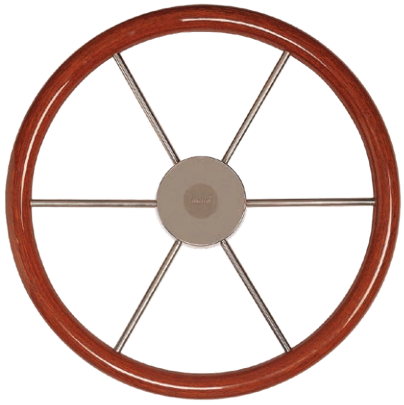
This mahogany steering wheel range now has five models from 380 to 810 mm diameter.

The spokes and hubcap are made from stainless steel (AISI 316). The hub itself is made from seawater resistant aluminium. The beautiful rim is constructed from high gloss lacquered mahogany. Type KWL also features lacquered mahogany spoke sleeves.

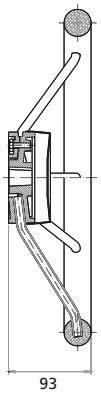
Characteristics
- KW series are available in the following diameters: 380, 450, 550, 710 and 810 mm
- High-quality mahogany rim paired to stainless steel (AISI 316) spokes and hubcap
- Aluminium hub bored 19 mm (3/4") with 1:12 taper as standard

Note: An alternative hub to suit older VETUS steering pumps with a Ø 1" hole shaft and 3½:12 taper is also available (product code: SETKS1).

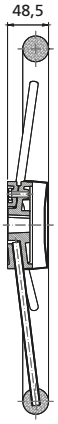
Type	Description	Ø mm	Ø shaft mm	Taper
KW38	Steering wheel with mahogany rim	380	19	1:12
KW45	Steering wheel with mahogany rim	450	19	1:12
KW55	Steering wheel with mahogany rim	550	19	1:12
KW71	Steering wheel with mahogany rim	710	19	1:12
KW81	Steering wheel with mahogany rim	810	19	1:12



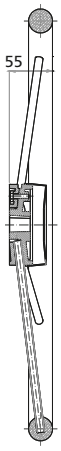
KW38



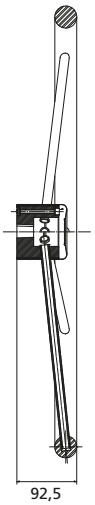
KW45



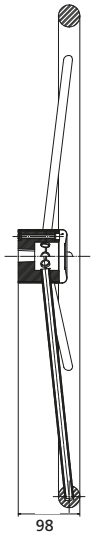
KW55



KW71



KW81

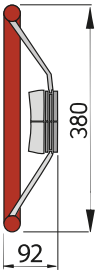


Steering wheels

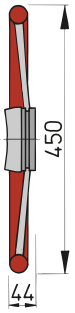
Type KWL

With a mahogany rim

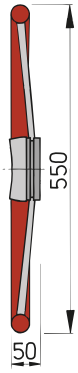
Type	Description	Ø mm	Ø shaft mm	Taper
KWL38	Steering wheel with mahogany rim and spokes	380	19	1:12
KWL45	Steering wheel with mahogany rim and spokes	450	19	1:12
KWL55	Steering wheel with mahogany rim and spokes	550	19	1:12



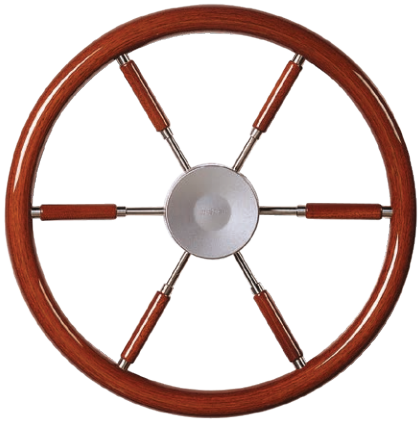
KWL38



KWL45



KWL55



Type KS

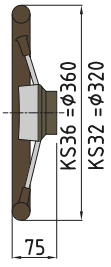
No more cold hands

Model KS has stainless steel (AISI 316) rims, spokes and cap. The rims have a layer of semi-hard PU-foam with an integral skin. These soft-feel wheels are resistant to all weather conditions.

Specifications
- Available with overall diameters of 320, 360, 380, 450 and 550 mm
- All type KS wheels are supplied in the colours grey (RAL 704) or black
- Bored for Ø ¾" shaft, tapered 1:12

Note: An alternative hub to suit older steering pumps with a Ø 1" hole shaft and 3½:12 taper is also available (product code: SETKS1).

Type	PU-foam layer	Ø mm	Ø shaft mm	Taper
KS32G	Grey	320	19	1:12
KS32Z	Black	320	19	1:12
KS36G	Grey	360	19	1:12
KS36Z	Black	360	19	1:12



KS32G

KS32Z

KS36G

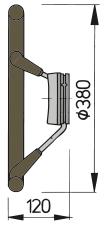
KS36Z

Steering systems

Steering wheels

Type KS

Type	PU-foam layer	Ø mm	Ø shaft mm	Taper
KS38G	Grey	380	19	1:12
KS38Z	Black	380	19	1:12
KS45G	Grey	450	19	1:12
KS45Z	Black	450	19	1:12
KS55G	Grey	550	19	1:12
KS55Z	Black	550	19	1:12

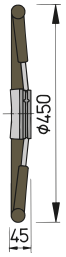


KS38G

KS38Z

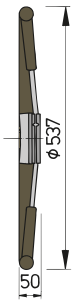
KS45G

KS45Z



KS55G

KS55Z



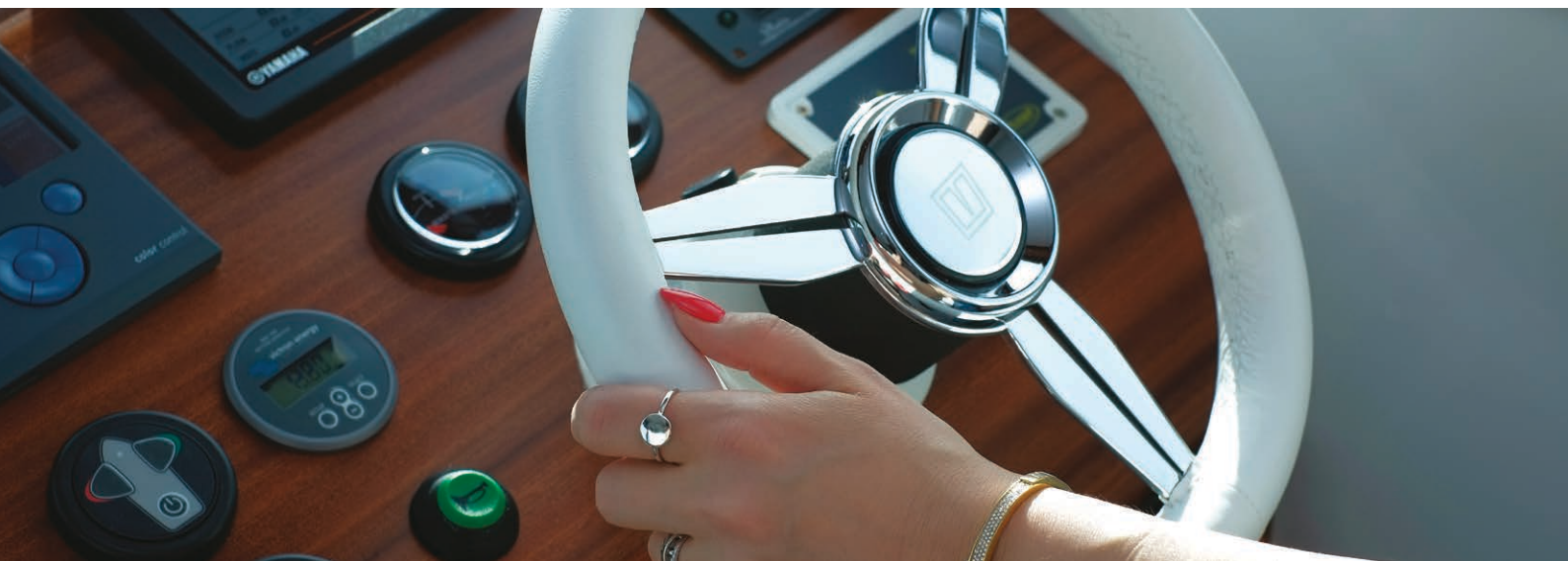
Type SWCRUISER

Cruiser steering wheel

A three-spoke steering wheel finished in silver aluminium accents and a diameter of 350 mm. Bored for Ø ¾" shaft, tapered 1:12.

Type		Ø mm
SWCRUISER	Three spoke sport steering wheel, black with aluminium inserts	350

SWCRUISER



Steering wheels

SW Series

Made from high-quality polyurethane rubber, leather, wood and polished aluminium, these six steering wheels each emit their own vibe. From the classic wooden Tectona, to the futuristic Argentus and the minimalistic Ravus: all styles are present. Dimensions are kept small to maximize feel and enforce the sporty image, ranging from 300 mm to 350 mm. All steering wheels feature a classy chromed ABS centre cap with the distinctive 'V' logo. Upgrade your interior with one of these stylish steering wheels.

The purpose-built and sporty appearance of the steering wheels complements your boat and with the materials used, they are built to last.

Specifications

- SW series is available in the following diameters: 300, 320, 330 and 350 mm
- Six models in different colors to suit all vessels
- High-quality polyurethane rim paired to polished aluminium spokes and hubcap
- High-quality wooden rim paired to polished aluminium spokes and hubcap
- Bored for Ø ¾" shaft, tapered 1:12.

SWALB30

Type	Description	Diameter (mm)	Colour / Material
SWALB30	Steering wheel "Albus"	300	White leather
SWTEC35	Steering wheel "Tectona"	350	Wood
SWALT33	Steering wheel "Alter"	330	Black polyurethane rubber
SWRAV33	Steering wheel "Ravus"	330	Gray polyurethane rubber
SWARG32	Steering wheel "Argentus"	320	Black p.u. rubber w/ chrome inserts
SWNOC35	Steering wheel "Noctis"	350	Black p.u. rubber w/ chrome inserts

SWTEC35

SWALT33

SWRAV33

SWARG32

SWNOC35

Steering systems

Steering system configurations

Below you will find examples of steering systems with one or two steering positions and one or two rudders, with or without non return valves.

Single steering position base system components

One steering pump with or without built-in non-return valves

- One cylinder
- One steering pump
- Hydraulic tubing (with end fittings) and fluid
- Optional: Separate dual non-return valve or by-pass valve (see below)

Dual steering positions base system components

- Two steering pumps with built-in non-return valves
- Alternatively: two steering pumps without non-return valves, in which case a separate dual non-return valve block must be fitted
- One cylinder
- Two T- pieces
- Hydraulic tubing (with end fittings) and fluid
- Optional: By-pass valves (see below)

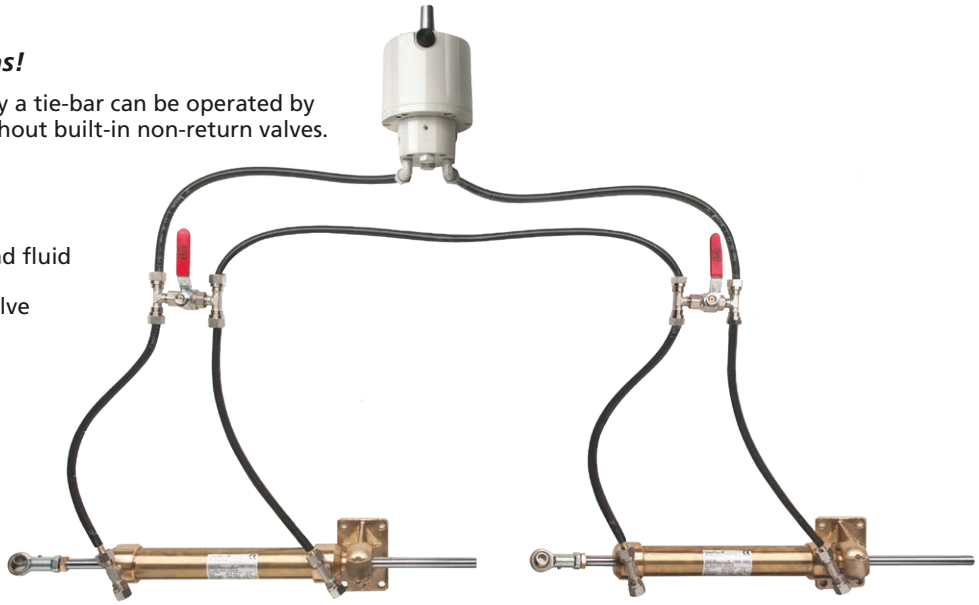
Dual rudder steering

Specifically suitable for catamarans!

Dual rudders which are not connected by a tie-bar can be operated by two cylinders and one pump with or without built-in non-return valves.

Specifications

- Twp cylinders
- One steering pump
- Hydraulic tubing (with end fittings) and fluid
- Twp by-pass valves
- Optional: Separate dual non-return valve



Steering pumps

HTP and HTPR

These hydraulic steering pumps are suitable for almost all steering wheels (see pages 267 - 271) and have a Ø ¾" shaft, tapered 1:12. Available in black or white.

Both types are supplied with
- Compression fittings (for the pressure lines) and a balance pipeline port
- Mounting studs, nuts and washers
- One vented and one un-vented filler plug

Type HTPR has in addition
- An integral non-return valve with continuous air bleeding system
- An integral pressure relief valve for protection against over pressurisation of the system

HTP..B

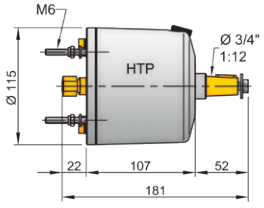
HTP

VETUS offers two different types of steering pumps

Types HTP 20/30/42

A steering pump without non-return valves.

HTP20 HTP30 HTP42



HTP

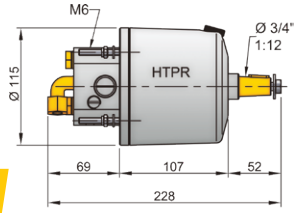
Steering pumps without non return valves

Type	Color	Ø mm tubing	Capacity cm³/rev.	Number of pistons	Weight without valve kg
HTP2010	White	10	19,7	5	3,3
HTP3010	White	10	30,0	5	3,3
HTP4210	White	10	42,0	7	3,3
HTP2010B	Black	10	19,7	5	3,3
HTP3010B	Black	10	30,0	5	3,3
HTP4210B	Black	10	42,0	7	3,3

Type HTPR 20/30/42

A steering pump with integral non-return valve and pressure relief valves.

HTP20R HTP30R HTP42R



HTPR

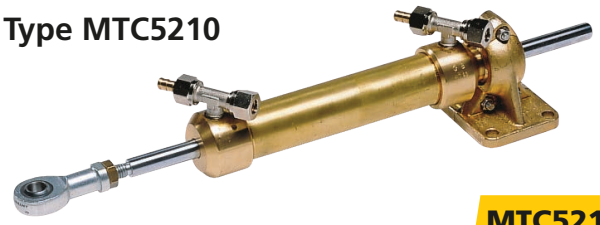
Steering pumps with non return valves

Type	Color	Ø mm tubing	Capacity cm³/rev.	Number of pistons	Weight with valve kg
HTP2010R	White	10	19,7	5	4,1
HTP3010R	White	10	30,0	5	4,1
HTP4210R	White	10	42,0	7	4,1
HTP2010RB	Black	10	19,7	5	4,1
HTP3010RB	Black	10	30,0	5	4,1
HTP4210RB	Black	10	42,0	7	4,1

Cylinders

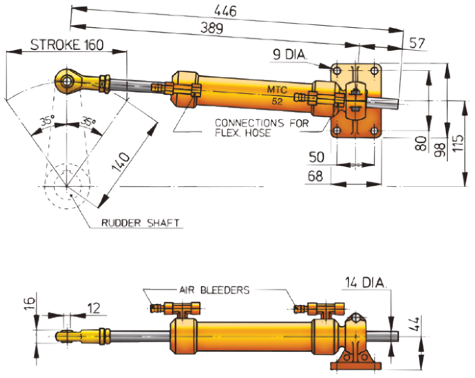
The cylinders below are supplied as standard with zinc plated steel rod ends. Stainless steel (AISI 316) rod ends are available as an option. For accessories see page 280.

Type MTC5210

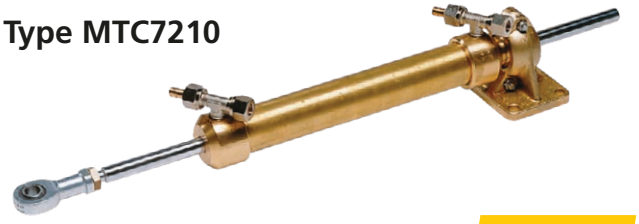


MTC5210

Type	Ø mm tubing
MTC5210	10

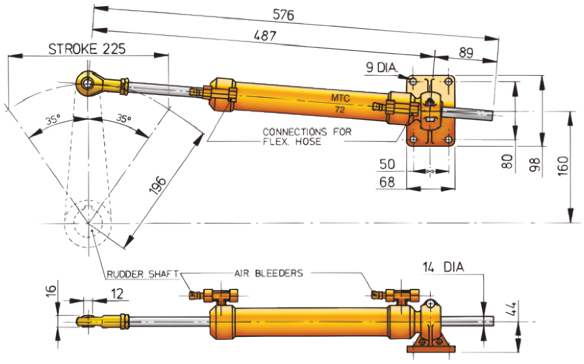


Type MTC7210



MTC7210

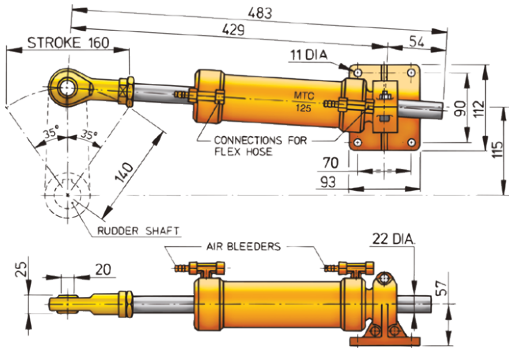
Type	Ø mm tubing
MTC7210	10



Type MTC12510

MTC12510

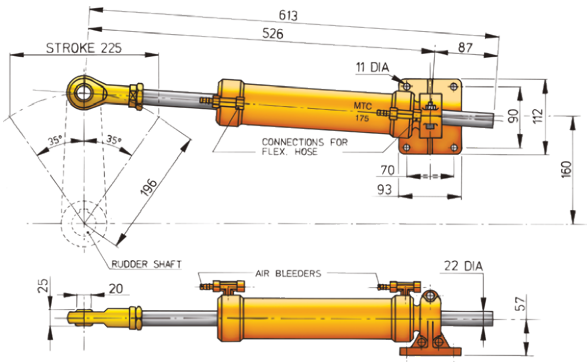
Type	Ø mm tubing
MTC12510	10



Type MTC17510

MTC17510

Type	Ø mm tubing
MTC17510	10



Steering pumps and cylinders

This table shows combination of pumps and cylinders.



	Pump type 20	Pump type 30	Pump type 42
Cylinder type MTC5210	**Wheel turns 5.3**	**Wheel turns 3.5**	
• Stroke 160 mm • Volume 104 cm³ • Length of tiller arm 140 mm • Weight 3,4 kg 	• Max. Torque **510**Nm (**52**kgm) (376ft.lbs). • Torque at 35° and 56kg/cm² 412Nm (42kgm) (304ft.lbs) • Tubing nylon hose Ø 6 x Ø 10mm copper Ø 8 x Ø10 mm	• Max. Torque **510**Nm (**52**kgm) (376ft.lbs). • Torque at 35° and 56kg/cm²: 412Nm (42kgm) (304ft.lbs) • Tubing: nylon hose Ø 6 x Ø 10mm or Ø 8 x Ø 12mm copper Ø 8 x Ø 10mm	N/A
Cylinder type MTC7210	**Wheel turns 7.5**	**Wheel turns 4.9**	**Wheel turns 3.5**
• Stroke 225 mm • Volume 146 cm³ • Length of tiller arm 196 mm • Weight 3,8 kg 	• Max. Torque: **706**Nm (**72**kgm) (521ft.lbs). • Torque at 35° and 56kg/cm²: 589Nm (60kgm) (434ft.lbs) • Tubing: nylon hose Ø 6 x Ø 10mm or copper Ø 8 x Ø 10mm	• Max. Torque **706**Nm (**72**kgm) (376ft.lbs). • Torque at 35° and 56kg/cm²: 589Nm (60kgm) (434ft.lbs) • Tubing: nylon hose Ø 6 x Ø 10mm or Ø 8 x Ø 12mm or copper Ø 8 x Ø 10mm	• Max. Torque **706**Nm (**72**kgm) (376ft.lbs). • Torque at 35° and 56kg/cm²: 589Nm (60kgm) (434ft.lbs) • Tubing: nylon hose Ø 6 x Ø 10mm or Ø 8 x Ø 12mm or copper Ø 8 x Ø 10mm
Cylinder type MTC12510		**Wheel turns 8.5**	**Wheel turns 6.1**
• Stroke 160 mm • Volume 253 cm³ • Length of tiller arm 140 mm • Weight 7,1 kg 	N/A	• Max. Torque **1226**Nm (**125**kgm) (904ft.lbs). • Torque at 35° and 56kg/cm2: 981Nm (100kgm) (723ft.lbs) • Tubing: nylon hose Ø 6 x Ø 10mm or Ø 8 x Ø 12mm or copper Ø 8 x Ø 10mm	• Max. Torque **1226**Nm (**125**kgm) (904ft.lbs). • Torque at 35° and 56kg/cm²: 981Nm (100kgm) (723ft.lbs) • Tubing: nylon hose Ø 6 x Ø 10mm or Ø 8 x Ø 12mm or copper Ø 8 x Ø 10mm
Cylinder type MTC17510			**Wheel turns 8.5**
• Stroke 225 mm • Volume 356 cm³ • Length of tiller arm 196 mm • Weight 8 kg 	N/A	N/A	• Max. Torque **1717**Nm (**175**kgm) (1266ft.lbs). • Torque at 35° and 56kg/cm²: 1373Nm (140kgm) (1013ft.lbs) • Tubing: nylon hose Ø 6 x Ø 10mm or Ø 8 x Ø 12mm or copper Ø 8 x Ø 10mm

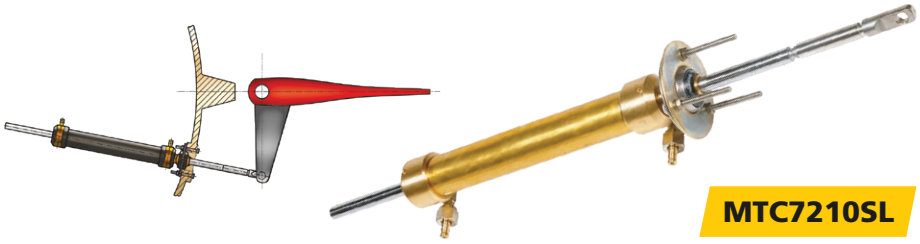
Steering systems

Cylinders

Hydraulic steering cylinder

For transom hung rudders

Specifications
- Stroke 225 mm
- Volume 146 m³
- Length of arm 196 mm



Type	
MTC7210SL	Cylinder type MTC72SL for transom hung rudders

Hydraulic steering kit

An attractive solution for smaller boats

This kit includes:
- Pump type HTP2010 (white)
- Cylinder type MTC3008
- Nylon hose 15 mtr type HS04N
- Hydraulic steering oil 1 ltr type VHS1
- All required fittings

Specifications
- Max. torque 294Nm (30 kgm, 216 ft.lbs)
- Wheel turns 3,4
- Stroke 150 mm
- Volume 67 m³
- Length of tiller arm 129 mm

Type	
MTC30KIT	Hydraulic steering kit including cylinder (MTC30), pump (HTP2008), nylon tubing (15 metres), fittings and oil

Filler kit for hydraulic steering systems type HTPFK

This filler kit provides an easy means of filling or refilling the hydraulic steering system.

Type	
HTPFK	Filler kit for hydraulic steering systems

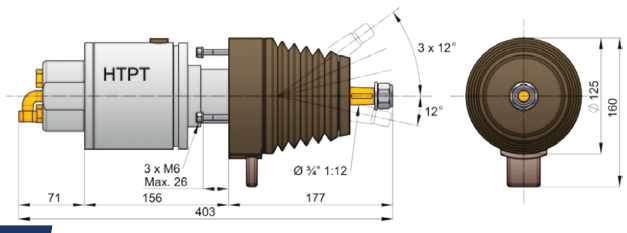
Steering pumps

Tilting steering pumps type HTPT

For both seated and standing steering positions

Type HTPT has a tilt mechanism which allows the steering wheel to be locked in five different positions with a total tilt range of 48°. The steering wheel shaft is made of stainless steel (AISI 316) and all other visible parts are made of black rubber and synthetic material. These pumps are supplied with built-in non-return valves, a pressure relief valve and feature the same specifications as steering pump type HTPR.

Type	Colour	Ø mm tubing	Capacity cm³/rev.	Number of pistons
HTP2008T	Black	8	19,7	5
HTP2010T	Black	10	19,7	5
HTP3008T	Black	8	30,0	5
HTP3010T	Black	10	30,0	5
HTP4210T	Black	10	42,7	7



Steering systems for commercial craft

Type MT0230B / MT0345B / MT0455B / MT0600B / MT0900B / MT1200B

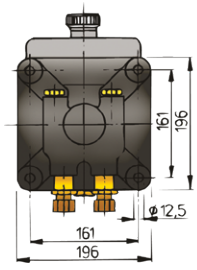
The best possible combination

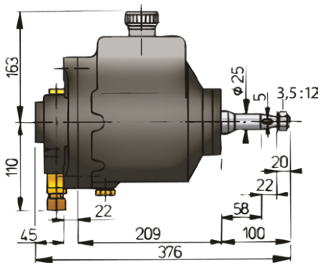
Choosing the right combination of pump and cylinder can be quite difficult. VETUS pumps and cylinders are fully compatible, enabling the builder and owner to choose the best combination of price and number of wheel turns lock to lock.
The smaller the pump unit, the lower the price but also the higher the number of turns. However, the choice of cylinder is always determined by the rudder torque. Please see the tables below for determination of the wheel turns.

Specifications
- Available for single and dual station control
- Cylinders are supplied with flexible hose tails, bleed nipples (which accept a quick-release coupling for rapid bleeding) and a base plate with universal joint and a swiveling rod end
- Axial plunger pumps with seven plungers
- 25 mm / 1" diameter Stainless steel (AISI 316) steering wheel shaft (extra strong for large steering wheels)
- Cylinder and pump can be supplied separately

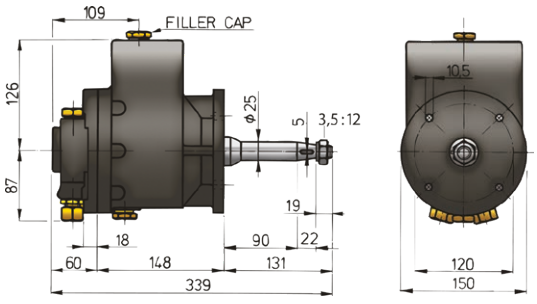
MTP151B
MTP191B

MTP089B





MTP0151B
MTP191B



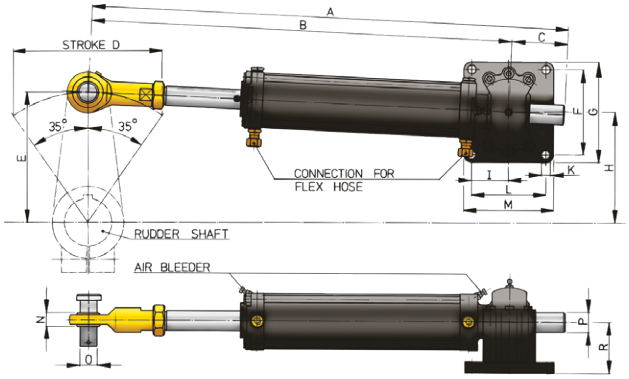
MTP089B

Specifications pump units	MTP089B	MTP151B	MTP191B
Capacity of pump unit	89 cm³/rev.	151 cm³/rev.	191 cm³/rev.
Number of pistons	7	7	7
Maximum pressure	63 kg/cm² (6178 kPa) (896 lbs/sq. inch)		
Dimensions of tubes	Ø 18 x 15 mm		
Connections	G ½ female pipe thread		
Weight of pump unit	9,1 kg	23 kg	23 kg
Min. steering wheel diameter	65 cm	110 cm	135 cm

Steering systems for commercial craft

MT1200B

MT0230B



MT0230B -MT1200B

Cylinder	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	R
MT0230B	733	607	127	200	175	112	140	143	36	11	72	100	31	25	28	55
MT0345B	933	757	177	300	260	112	140	215	36	11	72	100	31	25	28	55
MT0455B	1133	907	227	400	350	112	140	286	36	11	72	100	31	25	28	55
MT0600B	735	695	40	200	175	160	198	143	71,5	18,5	143	182	25	35	40	102
MT0900B	935	845	90	300	260	160	198	215	71,5	18,5	143	182	25	35	40	102
MT1200B	1135	995	140	400	350	160	198	286	71,5	18,5	143	182	25	35	40	102

Theoretical number of steering wheel turns from starboard to port

Pump unit	Cylinder					
	MT0230B	MT0345B	MT0455B	MT0600B	MT0900B	MT1200B
MTP089B	5.6	8.4	11.2	14.8	22.2	29.6
MTP151B	3.3	5.0	6,6	8.8	13.1	17.5
MTP191B	2.6	3.9	5.2	6.9	10.4	13.8

Technical data cylinders	MT0230B	MT0345B	MT0455B	MT0600B	MT0900B	MT1200B
Max torque at 35° rudder angle	2207 Nm (225 kgm)	3335 Nm (340 kgm)	4415 Nm (450 kgm)	5886 Nm (600 kgm)	8829 Nm (900 kgm)	11772 Nm (1200 kgm)
Cylinder stroke	200 mm	300 mm	400 mm	200 mm	300 mm	400 mm
Max. pressure	6178 kPa (63 kg/cm²) (896 lbs/sq.inch)					
Cylinder volume	500 cm³	750 cm³	1000 cm³	1319 cm³	1978 cm³	2638 cm³
Total rudder angle	70°					
Length of tiller arm	175 mm	260 mm	350 mm	175 mm	260 mm	350 mm
Weight of cylinder	13,8 kg	15,9 kg	18 kg	35,1 kg	38,8 kg	42,5 kg
Dimensions of tubes	Ø 18 x 15 mm					
Connections	All connections are provided with G ½ female pipe thread.					

Also available for single and dual steering

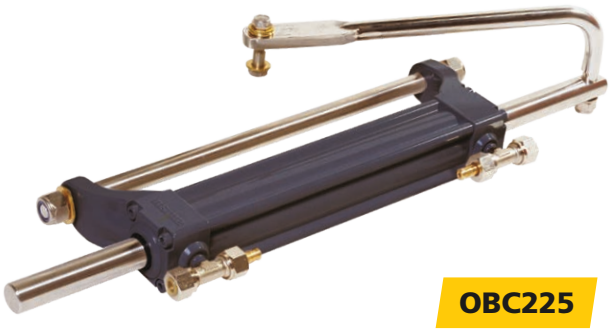
Type	Description
HS81B	Dual non-return valve (G1/2) (incl. tube connectors Ø 18 mm)
HS74B	Single non-return valve (G1/2) with by-pass valve (incl. tube connectors Ø 18 mm) (suitable for single and dual station)
HS42B	Pressure relief valve (G1/2) (incl. tube connectors Ø 18 mm)

Steering systems for outboard engines/z-drives

A outboard engine/Z-drive steering system consists of a steering pump with non-return and pressure relief valves and a cylinder. The cylinder is connected to the pump with nylon hydraulic hose. We offer the MTC hydraulic cylinder suitable for outboard motors with an output of 90 kW (125hp) up to 165 kW (225hp).

Cylinder type OBC225

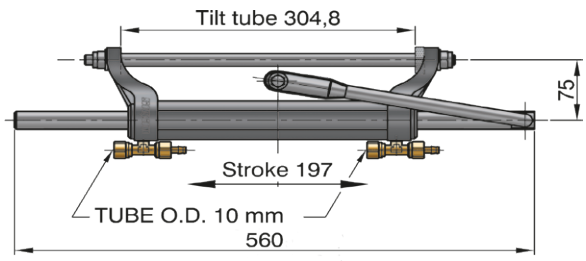
Specifications
- Balanced cylinder
- Supplied with combined Ø 10 mm hose connections and bleed nipples
- Piston rod with scraper seals preventing damage from salt and dirt and T-pieces to connect the cylinders



OBC225

Required components to order separately
- OBC225 cylinder
- One or two steering pumps with built-in non-return valves, type HTPR
- Length of hydraulic hose Ø 8 x 12 mm, type HHOSE8
- Straight or right angle hose connectors
- Hydraulic fluid
- T-pieces for Ø 10 mm pipe (when more than one pump or cylinder is installed)

Type	Max. hp
OBC225	225



OB1000 Tie bar

For connecting two outboard motors up to 300 hp each

The tie bar has adjustable ends and connection bolts (3/8"UNF). The maximum centre-to-centre distance between the steering arms is 915 mm. The bar can be easily cut to the required length. All components of the tie bar are made of stainless steel (AISI 316).

OB1000

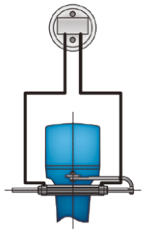
Type	Description
OB1000	Tie bar for outboard engines

Steering systems for outboard engines/z-driveS

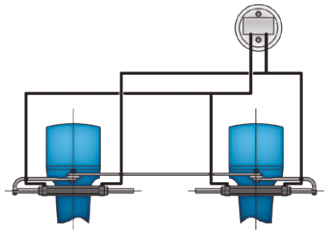
Specifications
- Maximum operating pressure 70 bar
- Connections G 1/4- Ø 10mm
- Nylon hose Ø 8 x Ø 12mm
- Pump fitting Front Mount

	HTP2010R	HTP3010R	HTP4210R
	• Capacity 19,9 cm³/rev. • Number of pistons 5 • Weight 4,1kg	• Capacity 30,0 cm³/ rev. • Number of pistons 5 • Weight 4,1kg	• Capacity 42,0 cm³/ rev. • Number of pistons 7 • Weight 4,1kg
			
OBC225 • Maximum rudder torque 1026 Nm • Volume 172,6 cm³ • Maximum output 165 kW (225 hp) • Maximum speed 85 km/h (45 knots)	Wheels turns port - starboard: 8,8	Wheels turns port - starboard: 5,8	Wheels turns port - starboard: 4,1
OBC225 the piston rod moves inside the cylinder			

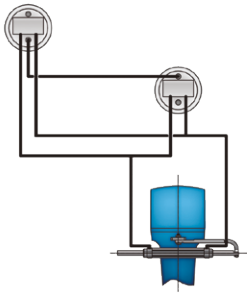
A single cylinder can operate a **twin** outboard motor installation. If both propellers rotate in the same direction, the total engine output may not exceed the maximum capacity of the selected cylinder. If the motors have handed (counter-rotating) propellers, the total combined output may be twice the rated capacity of the chosen cylinder.



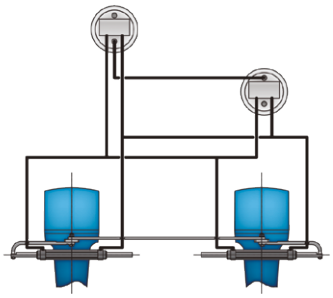
Single steering position for one engine



Single steering position for two engines



Dual steering position for one engine



Dual steering position for two engines

Accessories for steering systems

Pump flanges type HTPF

Embellishment for your pump

These polished stainless steel (AISI 316) flanges can be used to fit pump type HTP (or to replace older type MTP) and to recess your pump by 38 mm (type HTPF) or 74 mm (type HTPF2). It can also be used to give your pump a more refined look.

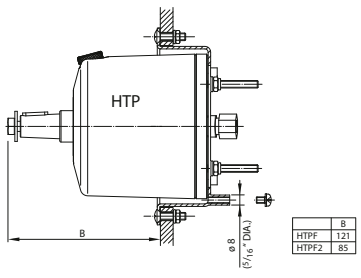
On an outside helm station, with a pump mounted on an inclined bulkhead or sloping dashboard, the housing of the telescopic wheel adjuster may catch water. To prevent this water entering the boat, a seal set is recommended (Type HTPF3).

Type	Description
HTPF	Adapter flange, stainless steel (AISI 316) for HTP pump, 38 mm depth
HTPF2	Adapter flange, stainless steel (AISI 316) for HTP pump, 78 mm depth
HTPF3	Waterproof seal kit for HTP pump in a HTPF flange

HTPF

HTPF2

HTPF3

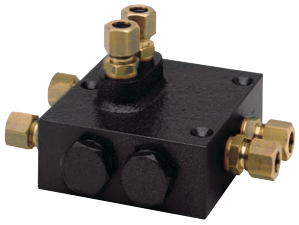


Accessories for steering systems

Dual non-return valve

This dual non-return valve block has to be installed when dual station steering is required and the pumps do not have integral non-return valves. Alternatively, you can use two steering pumps with built-in non-return valves type HTPR. This is also the case when an electro-hydraulic pump needs to be installed when fitting an autopilot and the installed steering pumps do not have integral non-return valves.

The connection kit must be ordered separately and is not included with the K30/140B.



K30/140B

KITK30

KITK52175

Type	Description
K30/140B	Dual non-return valve block without fittings used with cylinders MTC3008 to MTC17510
KITK30	Connection kit, 8 mm, to be used with K30/140B and MTC3008
KITK52175	Connection kit, 10 mm, to be used with K30/140B and MTC5210 - MTC17510

By-pass valve

If a quick change-over to tiller steering has to be done in case of an emergency, installation of a by-pass valve is necessary.

BYPASS

Type	Tubing Ø mm
BYPASS8	8
BYPASS10	10
BYPASS18	18

Nylon hose

Suitable for cylinders MTC52-175.

HHOSE

Type	Internal Ø mm	External Ø mm	Length in rolls of (m)	Required connection parts
HS04N	6	8	15	HS1011S Sleeve insert (20 pieces)
HHOSE6015	6	10	15	HS145S Sleeve insert (20 pieces)
HHOSE6030	6	10	30	HS145S Sleeve insert (20 pieces)
HHOSE6050	6	10	50	HS145S Sleeve insert (20 pieces)
HHOSE6100	6	10	100	HS145S Sleeve insert (20 pieces)
HHOSE8015	8	12	15	HS1031MS (straight, set of 2 pieces) / HS1037MS (angled, set of 2 pieces)
HHOSE8030	8	12	30	HS1031MS (straight, set of 2 pieces) / HS1037MS (angled, set of 2 pieces)
HHOSE8050	8	12	50	HS1031MS (straight, set of 2 pieces) / HS1037MS (angled, set of 2 pieces)
HHOSE8100	8	12	100	HS1031MS (straight, set of 2 pieces) / HS1037MS (angled, set of 2 pieces)

Accessories for steering systems

Connection parts

When using compression fittings supplied as standard with non-commercial pumps and cylinders, a brass sleeve must be inserted into each end of the nylon hose in order to maintain hose circularity. An alternative connection method for 8 x 12 mm nylon hose is to use barbed connections HS1031MS and HS1037MS.

Type	Description
HS10131	Sleeve insert Ø 6 mm and olive, Ø 8 mm for use with HS04N nylon hose, pack of 10 pieces
HS1011S	Sleeve insert, Ø 6 mm, for use with HS04N, pack of 20 pieces
HS145S	Sleeve insert, Ø 6,5 mm, for use with nylon hose (HHOSE6...), pack of 20 pieces
HS1031MS	Straight brass hose connector for nylon hose Ø 8 x 12 mm (HHOSE8..), pack of 2 pieces
HS1037MS	Right angle brass hose connector for nylon hose Ø 8 x 12 mm (HHOSE8..), pack of 2 pieces

HS10131

HS1011S

HS145S

HS1031MS

HS1037MS

Copper tubing

Copper tubing is available per roll in three different sizes.

Type	Internal Ø mm	External Ø mm	Length m	Required connection parts
COPPER08	6	8	16	MTC610 Flexible hose tail set
COPPER10	8	10	20	MTC810 Flexible hose tail set
COPPER18	15	18	10	N/A

COPPER

Hydraulic steering oil type VHS1

Optimal functioning in all temperatures

For more information see page 435.

VHS

Hydraulic fluid header tank type HTANK

This transparent tank can be installed with all steering pumps up to 89 cm^3 per revolution.
It is also recommended for electro-hydraulic hatch lifters when operating more than one cylinder.
By installing this tank, the breather plug in the steering pump can be replaced with the supplied solid plug, eliminating the possibility of steering fluid dribbling from the breather in big seas.

Specifications

- Capacity 200 cm^3
- Supplied with a large mounting bracket
- Comes with 1 mtr of Ø 8 mm hose, two matching hose clips, one G¼ and one 1 $G^3/_8$ nylon hose pillar

Type	Description
HTANK	Expansion tank kit for hydraulic steering systems

HTANK

Rudders

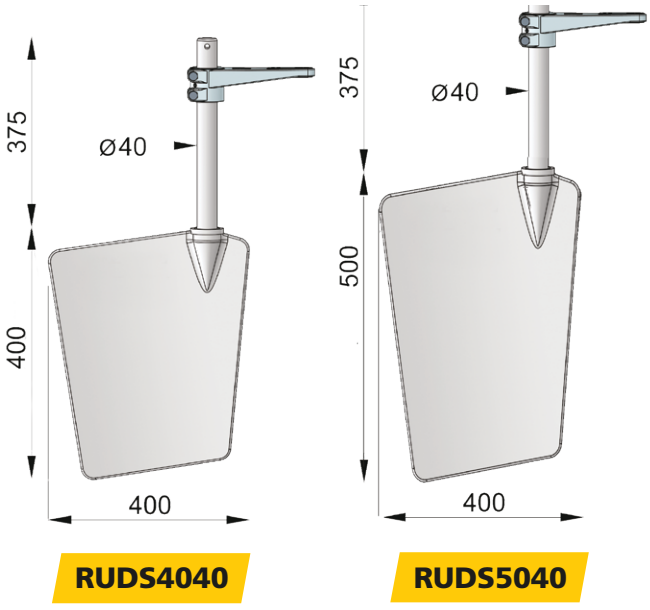
Type RUDS

These rudders with stainless steel (AISI 316) blade come complete with a rudder arm to which a VETUS hydraulic steering cylinder can be connected. The blade sides are polished and need no additional finishing. The stainless steel (AISI 316) rudder stock is provided with a hole to facilitate the fitting of an emergency tiller. Type RUDS comes in two heights.

Specifications type RUDS4040
- Dimensions w 400 x h 400 mm (excluding rudder arm)
- Speed with cylinder MTC30 30 knots, MTC52 42 knots

Specifications type RUDS5040
- Dimensions w 400 x h 500 mm (excluding rudder arm)
- Speed with cylinder MTC30 27 knots, MTC52 34 knots

A rudder gland may be supplied as an extra (type HENKO only).



RUDS4040 **RUDS5040**

Type	Width mm	Height mm
RUDS4040	400	400
RUDS5040	400	500

	RUDS4040	RUDS5040
With cylinder MTC30	30 knots	27 knots
With cylinder MTC52	42 knots	34 knots

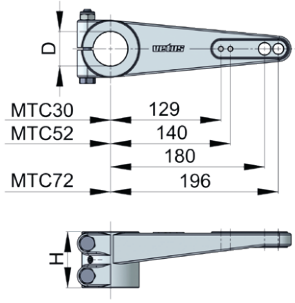
The indicated speed figures are the maximum permissible speeds.

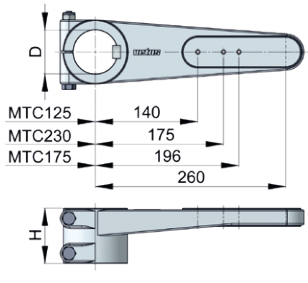
Aluminium rudder arms type HELM

These rudder arms are available for Ø 30, 40, 50 or 60 mm rudder stocks. They are connected by two clamp bolts. The Ø 30 and 40 mm rudder arms have two locking grub screws onto the shaft and feature four attachment points for the steering cylinder making them suitable for VETUS hydraulic cylinders type MTC30/52 and 72. The Ø 50 and 60 mm rudder arms have a stainless steel (AISI 316) key and feature three attachment points which match type MTC125/175 and 230. For connecting VETUS cylinder types MTC30/175 matching bolt sets (HSET10/HSET12/HSET20) are available.

Type	Ø D	H
HELM30	30	56
HELM40	40	66

Type	Ø D	H
HELM50	50	66
HELM60	60	76





HELM

HSET

Type	Description
HSET10	Connection kit M10, for rudder arm to cylinder MTC30
HSET12	Connection kit M12, for rudder arm to cylinders MTC52-72
HSET20	Connection kit M20, for rudder arm to cylinders MTC125-175

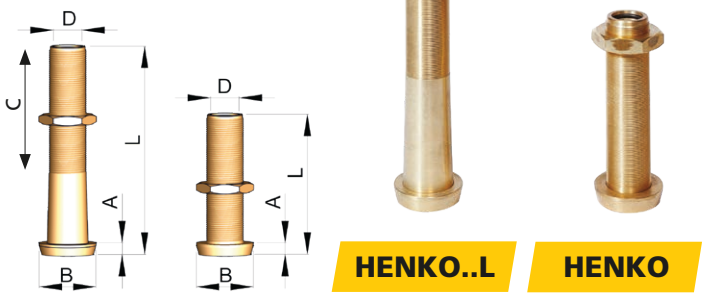
Steering systems

Rudders

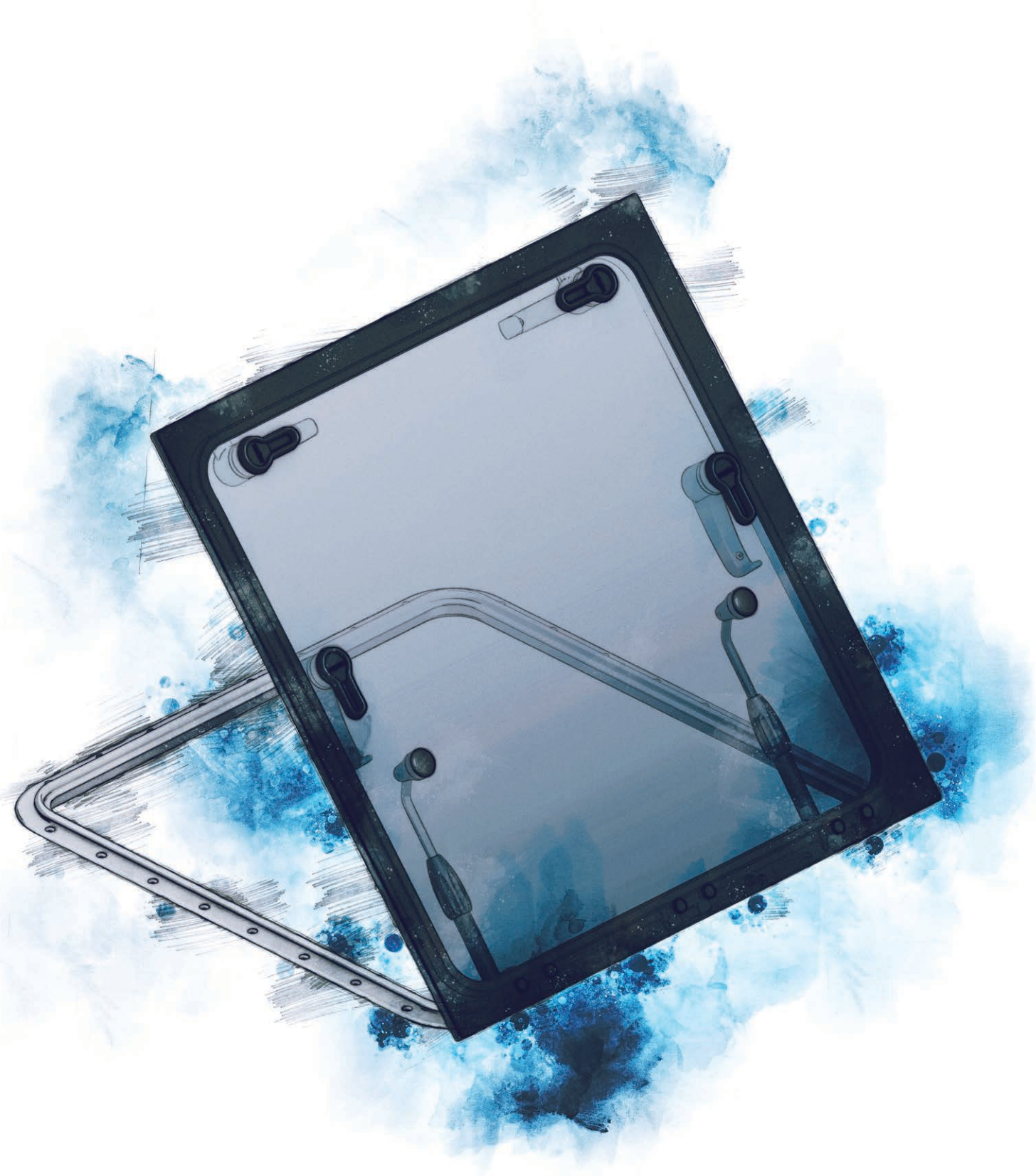
Rudder gland type HENKO

This bronze rudder gland is available in two different lengths for Ø 30 or Ø 40 mm rudder stocks.

Type	Ø D mm	L mm	A mm	Ø B mm	C mm
HENKO30	30	175	15	65	-
HENKO30L	30L	275	15	65	160
HENKO40	40	205	17	80	-
HENKO40L	40L	305	17	80	160



Glazing systems



Overview

Portholes see page 289 - 293


PM

NEW!


PL


PZ


PMS


PWS


PQ


PW


PX


PA

Escape and ventilation hatches see page 294 - 300


PLA


ALT


LIB


MAG


FGH

NEW!


FGHF

Hatch trims with mosquito screen see page 299

HCM

HMB

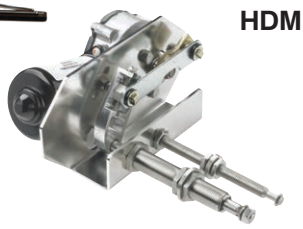
Custom made glazing products see page 303 - 305

NEW!

FBH

Windscreen wipers, arms and blades see page 306 - 310

WBB



HDM

ORW12SET

Clear view screens

see page 309

SLR

Accessories see page 311 - 312

HDS

WPANEL

RWPANEL2

Glazing systems

VETUS has produced glazing products for over 50 years. Over these years we have gained a huge amount of knowledge and experience, giving us the ability to offer the best quality at the most competitive price. To maintain this leadership position we are constantly monitoring and improving the production processes.

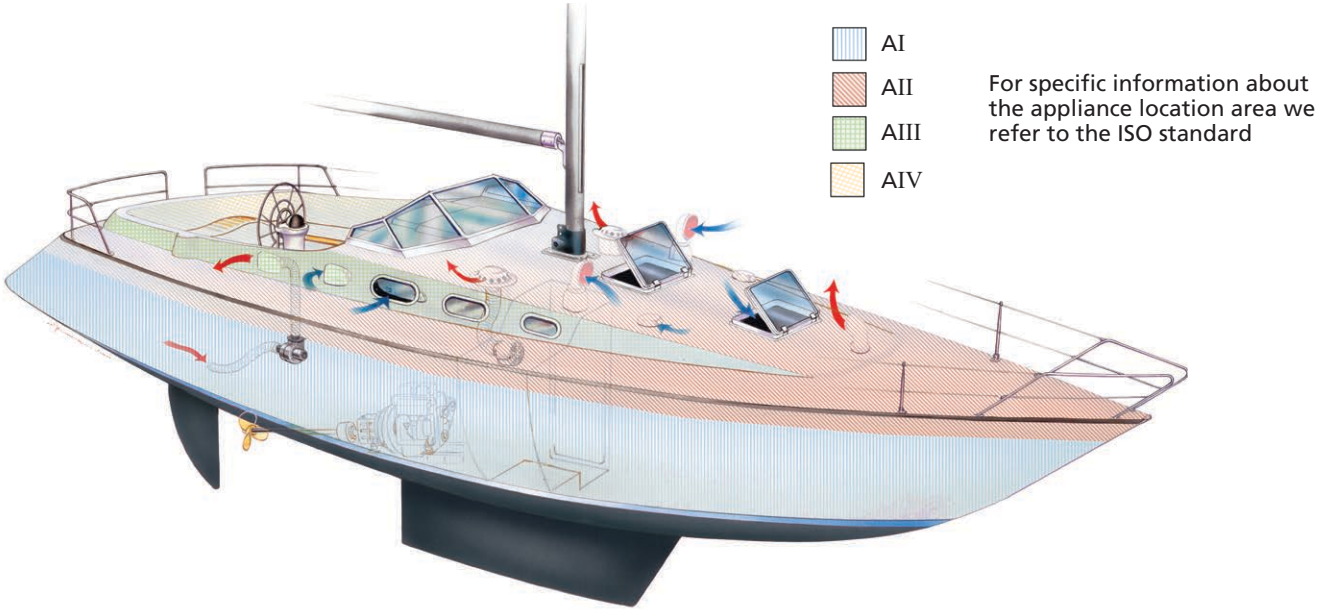
Whether you need a windscreen wiper system, a flush hatch or a custom window, our dedicated glazing team will be there to provide you with solid advice and excellent after-sales service.

Why use VETUS glazing products?

- We provide a complete solution to all your marine glazing requests
- Competitive price/quality ratio
- We offer a wide range of standard and custom made windows, portholes and hatches
- All portholes are delivered with a mosquito screen as a standard
- High quality marine wipers featuring a powerful electric motor and separate worm wheel transmission
- Uniform appearance of all glazing components
- All hatches and portholes are CE marked in accordance with the Recreational Craft Directive
- All windows, doors and cabin entries have been tested according to ISO 12216

CE marking

By affixing the CE marking to our products we declare that our products are in conformity with the applicable directives; for example the Recreational Craft Directive. Specific requirements for windows, portlights, hatches and doors are given in ISO 12216. Naturally our complete range of glazing products comply with this standard. The criteria to be met depend on the design category (A, B, C or D) of the boat and on the area where the port, hatch etc. must be installed in the boat. There is always a VETUS product that is tested and certified to suit your situation. Please visit our website www.vetus.com if you require more information.



Portholes

These AI portholes are all-rounders

These portholes are suitable for all areas listed in the ISO standard, even for use in the hull side. The 10 mm 'smoke' coloured opening pane is set in a satin anodized or a black powder coated aluminium frame. The clamp fixing ensures that no fasteners are visible from either inside or outside. The portholes can be held open in any position due to the friction type hinges.

The new ergonomic VP000044 knobs ensure complete water tightness in closed position. The porthole can be fitted in a surface with a minimum thickness of 2 mm and a maximum thickness of 18 mm. As standard a mosquito screen is supplied.

The frequent requested options are listed below the porthole types, but you can always contact VETUS for other options.

Type PL Series (AI)

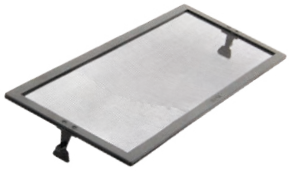
NEW!

Ultra-low profile portlights

New by VETUS: ultra slim portlights suitable for panel thicknesses of 2 - 20 mm.

PL series portlights are so flush that they resemble fritted glass and are suitable to be installed into a variety of materials. Although their slimness they are still location area AI CE approved, which means they are usable for all areas listed in the ISO standard! These ultra slim portlights can handle panel thicknesses ranging from 2 up to 20 mm. Suitable for appliance location area AI.

PL

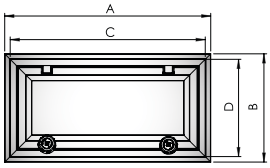


Replacement mosquito screen
HOR711
HOR721
HOR731
HOR741
HOR751

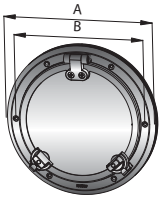
Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of hinges and knobs
PL711	176 x 323	156 x 303	2
PL721	191 x 367	171 x 347	2
PL731	191 x 449	171 x 429	3
PL741	191 x 646	171 x 626	5
PL751	264 x 449	244 x 429	4

On request

Type	Code	Example PF711
Blanc anodized	Type code + A	PF711A
Fixed	Type code - 1 + F	PF71F
Blanc anodized fixed	Type code - 1 + F + A	PF71FA



Type PW (AI)



Replacement mosquito screen
HOR2013
HOR2113
HOR2213

PW

Type	External dimensions A (mm) Ø	Cut-out dimensions B (mm) Ø
PW201	198	174
PW211	220	196
PW221	260	236

On request

Type	Code	Example PW201
Black powder coated	Type code + P	PW201P
Fixed	Type code - 1 + F	PW20F
Black powder coated fixed	Type code - 1 + F + P	PW20FP

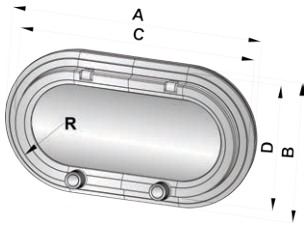
Glazing systems

Portholes

Type PM (AI)

PM

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Cut-out radius R (mm)
PM111	244 x 146	220 x 122	61
PM121	294 x 172	270 x 148	74
PM131	344 x 198	320 x 174	87
PM141	362 x 146	338 x 122	61
PM151	390 x 220	366 x 196	98
PM161	399 x 199	375 x 175	87



Replacement mosquito screen
HOR11
HOR12
HOR13
HOR14
HOR15
HOR16

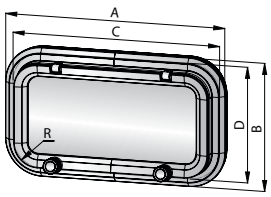
On request

Type	Code	Example PM111
Black powder coated	Type code + P	PM111P
Fixed	Type code - 1 + F	PM11F
Black powder coated fixed	Type code - 1 + F + P	PM11FP

Type PZ (AI)

PZ

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Cut-out radius R (mm)
PZ611	301 x 164	277 x 140	54
PZ621	368 x 179	344 x 155	61
PZ631	622 x 197	598 x 173	61
PZ641	397 x 197	373 x 173	61
PZ651	399 x 190	375 x 166	54
PZ661	399 x 234	375 x 210	54
PZ671	451 x 274	427 x 250	54



Replacement mosquito screen
HOR61
HOR62
HOR63
HOR64
HOR65
HOR66
HOR67

On request

Type	Code	Example PZ611
Black powder coated	Type code + P	PZ611P
Fixed	Type code - 1 + F	PZ61F
Black powder coated fixed	Type code - 1 + F + P	PZ61FP

Portholes

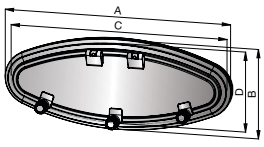
AIII Medium duty portholes

These portholes are suitable for use in the coachroof side. They come with a 10 mm 'smoke' coloured, unframed opening pane.

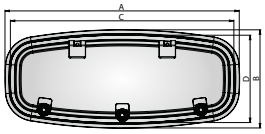
PX

PXF

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)
PX45	441 x 179	417 x 155
PX46	492 x 196	468 x 172
PX47	544 x 217	520 x 193
PXF	522 x 219	498 x 195



PX



PXF

Replacement mosquito screen
HOR45
HOR46
HOR47
HORPXF

On request

Type	Code	Example PX45
Black powder coated	Type code + P	PX45P
Fixed	Type code + F	PX45F
Black powder coated fixed	Type code + F + P	PX45FP

VP000044 knobs

NEW!

Ergonomic porthole knobs

A retrofit upgrade for PL, PM, PZ, PW and PX portlights with a knob: These knobs are ergonomically refined to allow your fingers to grip better: operating it becomes a breeze. The new VP000044 knobs are interchangeable with the original PPL knobs.

Type	Description
VP000044	Window knob suitable for portlights PL, PM, PZ, PW and PX

VP000044

Glazing systems

Portholes

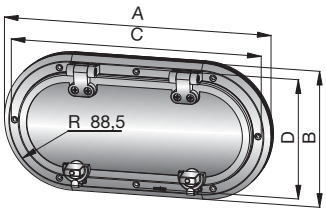
Stainless steel (AISI 316) portholes

These portholes are suitable for a panel thickness from 3 up to 18 mm. They come with a stainless steel (AISI 316) inner frame, "smoke"coloured 8 mm acrylic and an anodised aluminium mosquito screen. Screws for different wall thicknesses can be ordered separately (PMS and PWS). Appliance location area AI.

Type PMS (AI)

PMS

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)
PMS23A1	346 x 199	322 x 177
PMS24A1	390 x 199	366 x 177

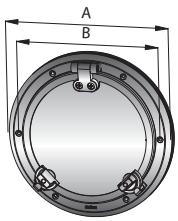


Replacement mosquito screen
HOR23S
HOR24S

Type PWS (AI)

PWS

Type	External dimensions A (mm) Ø	Cut-out dimensions B (mm) Ø
PWS31A1	220	198
PWS32A1	260	238



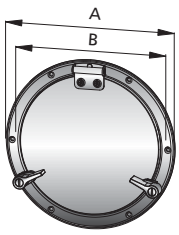
Replacement mosquito screen
HOR31S
HOR32S

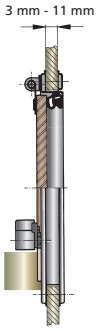
Portholes

Portholes type PQ (AII)

PQ portholes are made of stainless steel (AISI 316) and include a counter flange. They have an 8 mm thick acrylic 'smoke' coloured pane and come with a mosquito screen.

PQ





Type	External dimensions A (mm) Ø	Cut-out dimensions B (mm) Ø
PQ51	158	126
PQ52	184	151
PQ53	210	176

Replacement mosquito screen
HORPQ51
HORPQ52
HORPQ53

Portholes - PA series (AIII)

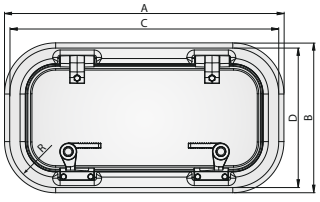
The low profile portholes

The ergonomic closures are easy to open and close and with the included interior trim you can have the same level of finish as our other products. On the outside the beautiful anodized aluminium frame gives the PA series a premium look and feel, with a slightly different finish compared to other portholes. The portholes come with a stylish black unframed opening pane. Fasteners are invisible from inside or outside and the windows are held open by friction type hinges.

The portholes are suitable for appliance location area AIII.

PA

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Cut-out radius R (mm)
PA3016	315 x 180	297 x 162	57
PA3517	368 x 193	350 x 175	57
PA4116	425 x 180	407 x 162	57
PA4317	453 x 193	435 x 175	57
PA6317	652 x 193	634 x 175	57



Replacement mosquito screen	Replacement white trim
WSP00K	WTP00W
WSP01K	WTP01W
WSP02K	WTP02W
WSP03K	WTP03W
WSP04K	WTP04W

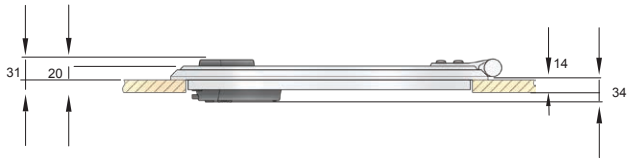
Escape and ventilation hatches

Type PLANUS (AII)

Stylish budget model

These hatches have a satin sheen anodised aluminium frame with a 75 mm corner radius and a 10 mm 'dark smoke' coloured acrylic lid. A friction hinge allows the hatch to remain open at any angle up to 180°.
Type PLANUS is suitable for appliance location area AII.

PLA



Maximum height (incl. dogs)

Escape hatches

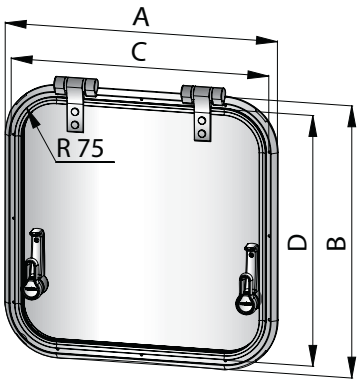
Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
PLA50L	521 x 521	471 x 471	2
PLA45L	474 x 474	424 x 424	2

Deck hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
PLA40L	424 x 424	374 x 374	2
PLA32L	474 x 344	424 x 294	2

Ventilation hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
PLA34L	390 x 260	340 x 210	1
PLA30L	350 x 280	300 x 230	1
PLA23L	280 x 280	230 x 230	1

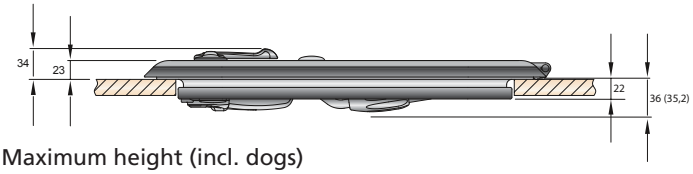


Escape and ventilation hatches

Type ALTUS (AII)

Best midrange hatch in the business

ALTUS is made of a sturdy aluminium profile (height 21 mm) with a satin sheen anodised frame and is suitable for appliance location area AII. The acrylic has a thickness of 10 mm and is 'dark smoke' coloured. These hatches come with adjusters which are stylish and easy to operate, allowing the lid to be held open at almost any angle up to 90°. Type ALTUS can be fitted on deck and opened from the inside or outside. It has a ventilation position and can be locked completely watertight.



Maximum height (incl. dogs)

Escape hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Model	Number of handles
ALT6363SL	701 x 701	627 x 627	1	2
ALT5151SL	581x 581	507 x 507	1	2
ALT4747SL	544 x 544	470 x 470	1	2
ALTD520SL	592 x 524	518 x 450	2	2
ALTR520SL	Ø 592	Ø 518	3	2

Deck hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Model	Number of handles
ALT4242SL	495 x 495	421 x 421	1	2
ALT5038SL	581 x 451	507 x 377	1	2
ALT4633SL	531 x 401	457 x 327	1	2
ALTR420SL	Ø 491	Ø 417	3	2

Ventilation hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Model	Number of handles
ALT2626SL	334 x 334	260 x 260	1	1
ALTD420SL	491 x 326	417 x 252	2	2
ALA3520L	421 x 276	347 x 202	1	1

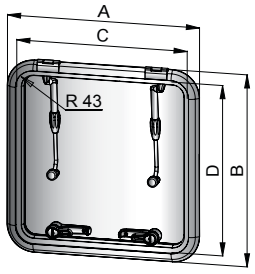
Trapezium hatch

Type	External dimensions A x B x E (mm)	Cut-out dimensions C x D x F (mm)	Model	Number of handles
ALA46TL	543 x 681 x 447	464 x 607 x 378	4	2

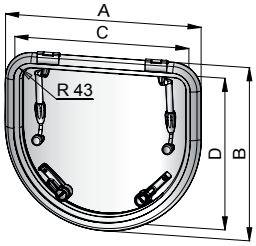
Trapezium hatch on request

Type	External dimensions A x B x E (mm)	Cut-out dimensions C x D x F (mm)	Model	Number of handles
ALA41TL	513 x 602 x 431	434 x 528 x 362	4	2
ALA56TL	636 x 659 x 500	557 x 588 x 436	4	2
ALA80TL	898 x 718 x 500	804 x 644 x 497	4	2

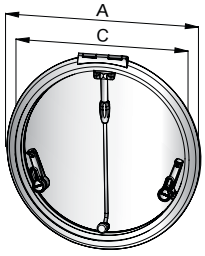
Model 1



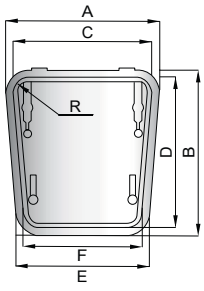
Model 2



Model 3



Model 4



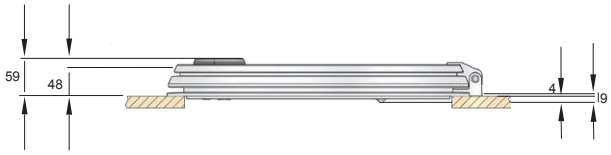
Escape and ventilation hatches

Type LIBERO (AII)

Still going strong

These hatches have a hand polished and anodised aluminium frame with a 32 or 55 mm corner radius and a 10 mm 'dark smoke' coloured acrylic lid. The escape and deck hatches come with adjusters allowing the lid to be held open at almost any angle up to 90°. A special friction hinge allows the ventilation hatches to remain open at any angle up to 180°.
Type LIBERO is suitable for design category A, area II.

LIB



Maximum height (incl. dogs)

Escape hatches with adjusters up to 90°

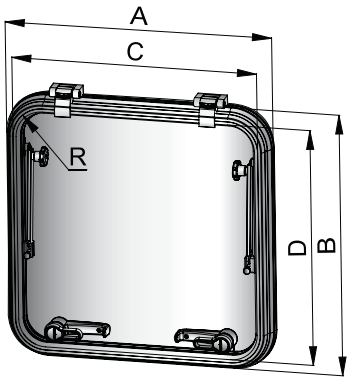
Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Cut-out radius R (mm)	Number of handles
LIB6232L	680 x 680	620 x 620	32	2
LIB6255L	680 x 680	620 x 620	55	2
LIB5032L	560 x 560	500 x 500	32	2
LIB5055L	560 x 560	500 x 500	55	2
LIB4155L	470 x 470	410 x 410	55	2

Deck hatches with adjusters up to 90°

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Cut-out radius R (mm)	Number of handles
LIB3732L	560 x 430	500 x 370	32	2
LIB3755L	560 x 430	500 x 370	55	2
LIB3232L	510 x 380	450 x 320	32	2
LIB3255L	510 x 380	450 x 320	55	2

Ventilation hatches with friction hinge up to 180°

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Cut-out radius R (mm)	Number of handles
LIB3432L	400 x 255	340 x 195	32	1
LIB2032L	260 x 260	200 x 200	32	1

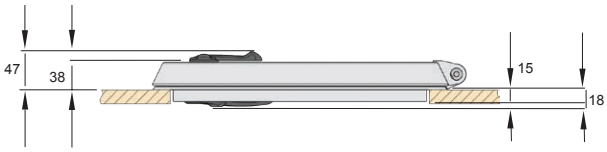


Escape and ventilation hatches

Type MAGNUS (AI)

Heavy duty ocean hatch

MAGNUS hatches have a satin sheen anodised frame profile with a 10 mm thick 'dark smoke' coloured acrylic and are designed for ocean use, design category A, area I. Because of the friction hinges, these hatches can remain open at any angle up to 180°. They have a ventilation position and can be locked completely watertight from the inside and outside.



Maximum height (incl. dogs)

MAG

Escape hatches

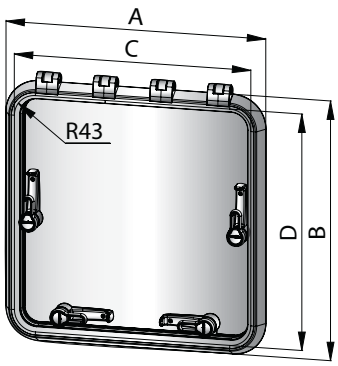
Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
MAG6363SL	679 x 679	627 x 627	4
MAG5151SL	559 x 559	507 x 507	4
MAG4747SL	522 x 522	470 x 470	2

Deck hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
MAG4242SL	473 x 473	421 x 421	2
MAG5038SL	559 x 429	507 x 377	2
MAG4633SL	509 x 379	457 x 327	2

Ventilation hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
MAG2626SL	312 x 312	260 x 260	1
MAA3520L	399 x 254	347 x 202	2



VETUS strongly advises against using MAGNUS hatches as an AI escape hatch in the underside of a multihull. Due to the flexible nature of these type of vessels, water tightness cannot be guaranteed unless the hatch is installed on a flat and inflexible structure.

Escape and ventilation hatches

FGH(F) Series (AII)

Stylish flush hatches

The FGH and the FGHF are specifically designed for new boats. Both are suitable for new builds because the need of a recess in the deck. After fitting the FGH(F), the hatch is completely recessed into the deck creating a smooth and flush look.

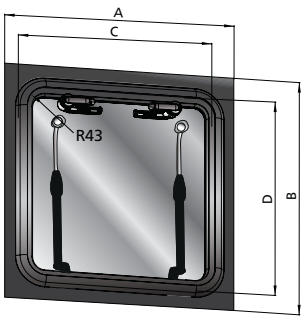
The FGHF differs from the FGH by its fully flush bolts and handles. Larger sizes FGHF hatches are equipped with a socket in the handle, so they can be opened from the outside with the help of a winch handle.

Type FGH (appliance location area AII) hatch is available in six sizes, while the fully flush type FGHF (also location area AII) hatch is available in four sizes. Both FGH and FGHF are made of 12 mm thick 'dark smoke' acrylic with a maintenance-free polished and anodised aluminium frame.

FGH

FGH Escape hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
FGH6363	700 x 700	627 x 627	4
FGH5151	580 x 580	507 x 507	4
FGH4633	527 x 397	457 x 327	2
FGH5139	577 x 462	507 x 392	2



FGH Deck hatches

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
FGH2626	330 x 330	260 x 260	1
FGH4444	515 x 515	442 x 442	3

FGHF Deck hatches

NEW!

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
FGHF5151	580 x 580	507 x 507	4
FGHF6363	700 x 700	627 x 627	4

FGHF Deck hatches

NEW!

Type	External dimensions A x B (mm)	Cut-out dimensions C x D (mm)	Number of handles
FGHF2626	330 x 330	260 x 260	1
FGHF4444	515 x 515	442 x 442	3

NEW!

FGHF

Escape and ventilation hatches

Type HCM - Hatch trims with mosquito screen

Neat finish and protection against insects

The complete range of hatches can be supplied with an adjustable depth trim complete with mosquito screen. These white synthetic trims are designed to cover the space between the hatch and the headlining inside the boat. The depth of the flange can be cut to size to suit the thickness of the deck. The integral and hinged mosquito screen can be easily removed to facilitate cleaning.

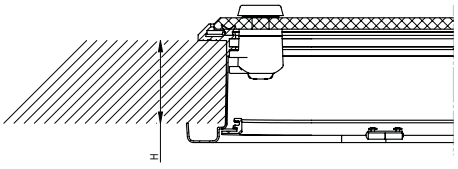
Type	Hatch
HCM23	PLA23L
HCM30	PLA30L
HCM32	PLA32L
HCM34	PLA34L
HCM40	PLA40L
HCM45	PLA45L
HCM50	PLA50L

Type	Hatches		
HCM2626	MAG2626SL	ALT2626SL	FGH(F)2626
HCM4242	MAG4242SL	ALT4242SL	
HCM4444			FGH(F)4444
HCM4633	MAG4633SL	ALT4633SL	
HCM4747	MAG4747SL	ALT4747SL	
HCM5038	MAG5038SL	ALT5038SL	
HCM5139			FGH5139
HCM5151	MAG5151SL	ALT5151SL	FGH(F)5151
HCM6363	MAG6363SL	ALT6363SL	FGH(F)6363

Type	Hatch
HCMD420	ALTD420SL
HCMD520	ALTD520SL
HCMR420	ALTR420SL
HCMR520	ALTR520SL

Type	Hatch
HCM2020	LIB2032L
HCM3420	LIB3432L
HCM4141	LIB4155L
HCM4532	LIB3255L
HCM5037	LIB3755L
HCM5050	LIB5055L
HCM6262	LIB6255L

Deck thickness H (mm)	
PLANUS	40 - 64
ALTUS	44 - 72
FGH(F)	78 - 105
MAGNUS	24 - 65
LIBERO	15 - 54



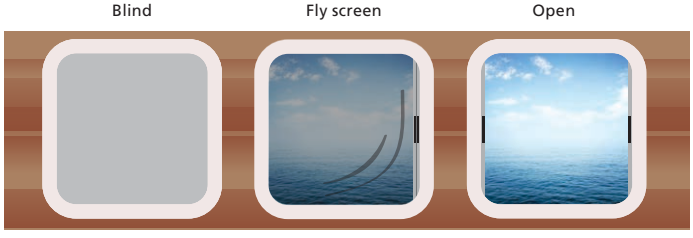
HCM

Type HMB

Swipe to your ideal cabin condition

The HMB is a mosquito screen and roller blind in-one. Designed to go unnoticed on your hatch and fitted with an easily adjustable spring to manually reset the tension of the screens. Suitable for the hatches mentioned in the overview.

Type	Suitable for hatch
HMB2626	ALT2626SL / MAG2626SL / FGH(F)2626
HMB4242	ALT4242SL / MAG4242SL
HMB4444	FGH(F)4444
HMB4633	ALT4633SL / MAG4633SL
HMB5038	ALT5038SL / MAG5038SL
HMB5139	FGH5139



Escape and ventilation hatches

Hopper Windows

HOP

Fresh air without a catch

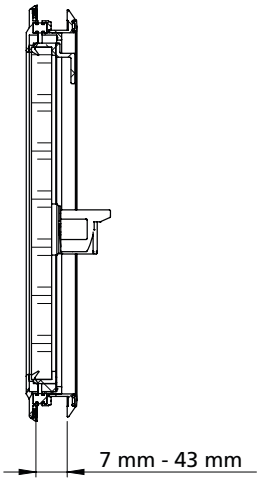
These new round windows with removable double glazed panes, are designed with canal boats in mind. These narrow boats are particularly cosy, with almost no room to spare. The round design of the hopper blends in perfectly with the trusted look of authentic canal boats.

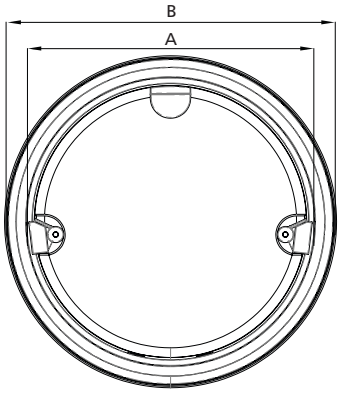
Available in two diameters of 380 mm or 459 mm, our double glazed hopper porthole is easy to clean and provides an unimpeded view. Ergonomic clamps press the window firmly into the rubber seal, making it suitable for design area III locations.

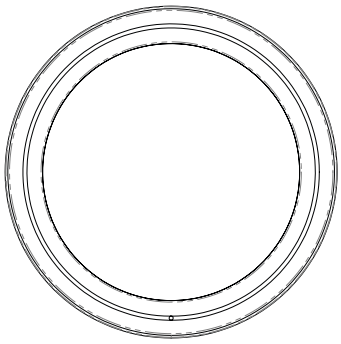
With the clamps unlocked, the Hopper tilts back slightly to provide ventilation. From this position the whole pane can be removed if required. The polished and anodized aluminum frame is both stylish and maintenance free. It features a thermal break between the inner and outer frames, to prevent condensation forming on the inside. The frame is identical to the custom made boat windows to maintain uniformity throughout the boat.

Specifications
- Full double glazed porthole
- Polished and anodised aluminum frame with insulation bridge type thermal break principal
- Ergonomic and precision engineered catches
- Glass panels are easy to remove
- Sturdy aluminium tab at the top of the glass panel can be used to wall-mount it
- Easy to clean and maintenance-free design
- Suitable for design AIII locations

Type	Description	A Cut-out dimensions (mm)	B External dimensions (mm)
HOP380	Round 380 mm double glass hopper with anodised aluminium frame and rubber seal	Ø 380	Ø 410
HOP459	Round 459 mm double glass hopper with anodised aluminium frame and rubber seal	Ø 459	Ø 489







Custom made boat glazing

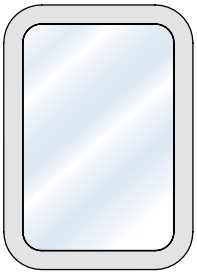
Marex is a brand long associated with high quality in custom made marine glazing products. The aluminium frames withstand a 1000-hour salt spray test without any observable damage. In addition, they are independently certified to comply with the applicable ISO standards. This all ensures that your glazing will look like new for a long time.

To meet your needs, we offer three different window profiles: screw-on, comfort and exclusive. In addition we can provide fritted glass (frameless glass), cabin entries and doors. All products are made to measure.

The following frame finishes are available:
anodised clear, powder coated in black (RAL 9005) or white (RAL 9010).
Other colours are available on request.

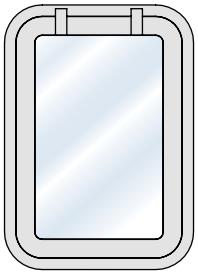
Sliding and halfdrop type windows can be provided with a mosquito screen.

Exclusive double glass
Comfort single glass and double glass
Screw-on single glass
Fritted glass



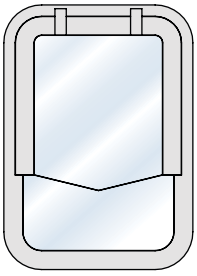
FIXED

Exclusive double glass
Comfort single glass and double glass
Screw-on single glass



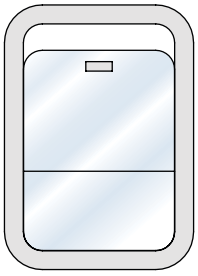
HINGED

Comfort single glass



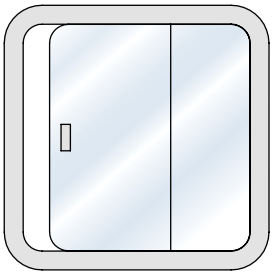
HALF HINGED

Comfort single glass
Screw-on single glass



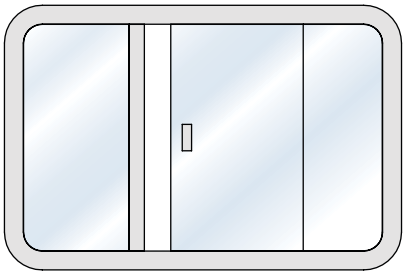
HALF DROP

Screw-on single glass
Comfort single glass



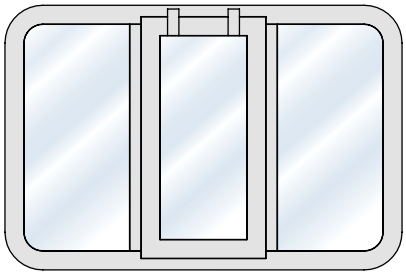
SLIDING

Screw-on single glass
Comfort single glass



COMBINATION FIXED/SLIDING

Comfort single and double glass
Exclusive double glass



COMBINATION FIXED/HINGED

Glazing systems

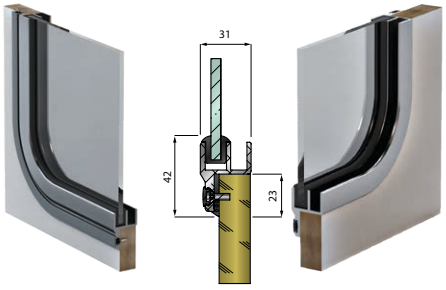
Custom made boat glazing

MAREX

Screw-on range

Specifications
- Particularly suitable for wooden superstructures
- Suitable for all panel thicknesses
- Supplied with a black, white or grey strip to cover the screws
- With corner radii (65, 75, 90 or 105 mm) or mitred corners
- Glass thickness: 6 mm or 8 mm

Cover strip

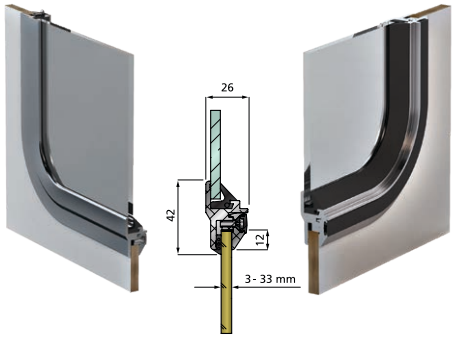


outside **Screw-on range** inside

Comfort range

Specifications
- Uses an aluminium clamp profile, fastened from inside by screws through the supplied aluminium counter flange (therefore no screws are visible from the outside of the boat)
- Suitable for panel thicknesses between 3 and 33 mm (fixed glass), 3 and 37 mm (sliding glass) or 3 and 42 mm (double glass)
- Supplied with a black, white or grey strip to cover the screws
- With corner radii (65, 75, 90 or 105 mm) or mitred corners
- Available glass thicknesses: 6, 8 and 10 mm for single glass or combined for double glass

Cover strip



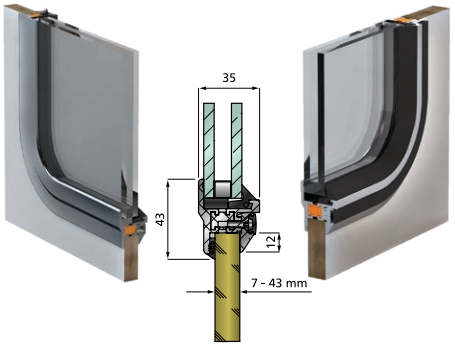
outside **Comfort range** inside

Exclusive range

Specifications
- Uses an aluminium clamp profile, fastened from inside by screws through the supplied aluminium counter flange (therefore no screws are visible from the outside of the boat)
- Suitable for panel thicknesses of 7 to 43 mm
- Supplied with a black, white or grey strip to cover the screws and a seal for fitting
- To prevent condensation on the inside glass pane and window frame, the Exclusive range has an insulation bridge thermal break between the inner and outer frames
- Available as fixed or fully hinged versions with double glass only
- With corner radii (75*, 90 or 105 mm) or mitred corners
- Available glass thicknesses (6, 8 and 10 mm) can be combined for the double glass. The standard is two panes, each 6 mm thick

*Except hinged windows

Cover strip



outside **Exclusive range** inside

Custom made boat glazing

NEW!

MAREX

Fritted Glass

VETUS offers custom made fritted glass, also known as structural or bonded glass.
These are special order and made to measure projects.

We can offer the following options
- Width of black frit: 40, 60, 80 mm (other sizes on request)
- Available glass colours: clear, grey, green
- All radii possible
- ISO 614 marking on all fritted / structural glass

If you have any questions or you want us to be your partner in your project: please contact us.

Glass type	Thickness (mm)
Single	5-10 (other sizes on request)
Double	5/8/6, 6/6/8, 6/8/10
Heated	4/0,76/4

Glass shape	Dimensions (mm)
Flat	from 200 x 200 up to 3000 x 2000
Cylindrical curved	from 200 x 200 up to 2500 x 2000
Spherical curved	from 200 x 200 up to 1900 x 1400

Custom made boat glazing

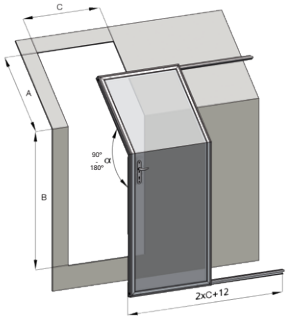
MAREX

Sliding cabin entry

Easy sliding!

Equipped with bearing runners this single unit cabin entry opens and shuts very easily. In order to keep the sliding door in its open position an end-lock is mounted. Available with mitred corners, acrylic pane and angles from 90-180 degrees.

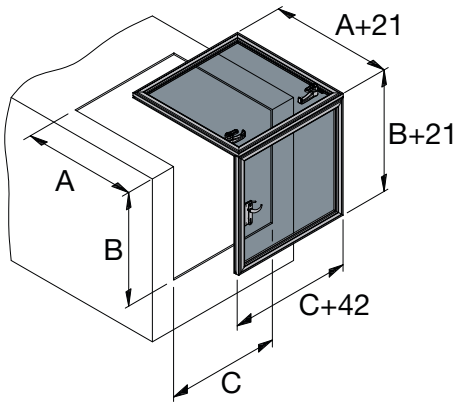
All cabin entries are suitable for appliance location area AIV.

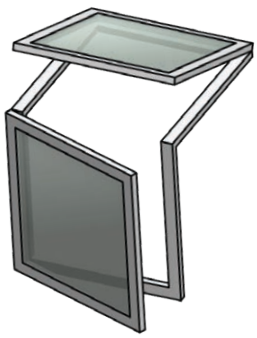


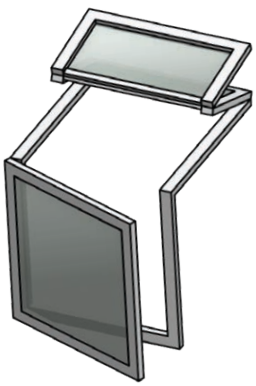
Cabin entries

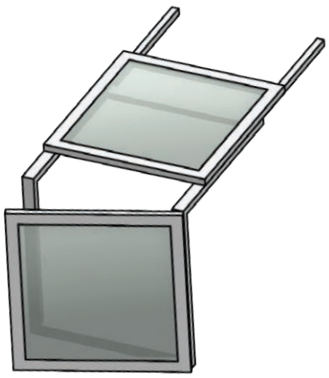
Made to your dimensions

Both the hinged door and the top cover (hinged or sliding) are made to order to your required dimensions. The cabin entries can also be supplied without a door and the doors can be ordered without a hatch.
Max. size 1500 x 1000 mm per part (A or B x C).









Custom made boat glazing

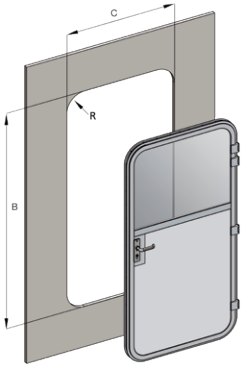
MAREX

Hinged doors

For boating in heavy weather, these hinged doors are fitted with a double seal for protection against flooding. The doors upper section can be double glazed (picture 1), with an aluminium framed window with single or double glass (picture 2) or just white honeycomb panel (picture 3). Available with mitred or rounded corners.

All doors are suitable for appliance location area AIII.

Specifications
- Corner radius 130 mm
- Door thickness 20 mm
- Panel thickness 3 - 43 mm



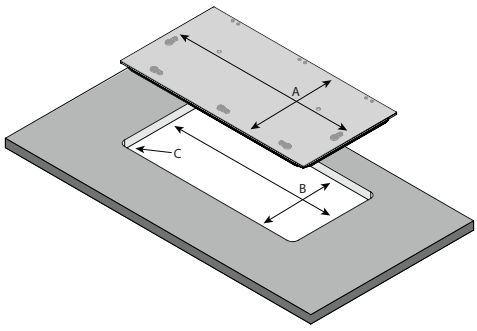
Type FBH - Fly Bridge Hatch

Slim and sleek design

To cover the opening between the deck and fly bridge we offer you: the FBH (Fly Bridge Hatch). The slim and sleek design of the FBH fits perfectly on modern type boats. This FBH can be tailor-made up to 630 mm width and 1300 mm long and features 12 mm dark smoke acrylic on a polished and anodised aluminum frame. With style and flair it merges flawlessly on the fly bridge of your vessel.

Specifications
- Privacy tinted fly bridge hatch
- 12 mm thick 'dark smoke' acrylic
- Polished and anodised high grade aluminium frame
- Ergonomic and precision engineered handles
- Hatches are available in both rectangular and square shapes
- Easy to clean and maintenance-free design
- Suitable for appliance location area AII

Type	External dimensions (mm) A	Cut-out dimensions (mm) B	Radius (mm) C
FBH	up to 703 x 1373	up to 630 x 1300	43



Windscreen wiper, arms and blades

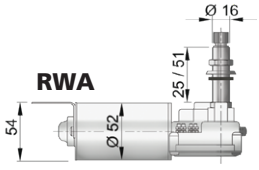
Windscreen wiper motor type RW and DIN

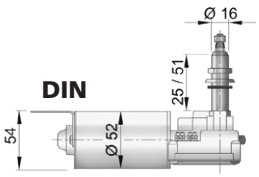
Ideal wiping for almost any window shape and size

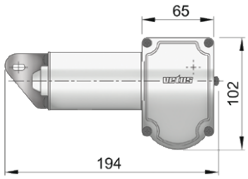
These high quality marine windscreen wipers feature a powerful but quiet two speed electric motor and a separate worm gear transmission. The wiping angle can be adjusted to eight different settings. Type RW has a parallel push fit connection. Type DIN has a tapered and knurled connection with a securing nut providing a stronger connection between the wiper arm and the motor drive shaft resulting in a longer life span for both parts. Both types are self-parking and meet the EMC requirements.

Specifications
- Available for 12 or 24 VDC supply
- Output 30 Watt
- Suitable for panel thickness from 3 to 13 mm (25 mm, short shaft) or 3 to 38 mm (51 mm, long shaft)
- Type RW with straight knurled stainless steel shaft end of Ø 13,5 mm, 72 teeth
- Type DIN with tapered and knurled stainless steel shaft according to DIN 72783
- Optional: screen washer kit, 3-position switch, protective synthetic cover, control panel

Type	Description
RW01A	Wiper motor 12 VDC, 51 mm spindle with parallel end
RW02A	Wiper motor 24 VDC, 51 mm spindle with parallel end
RW08A	Wiper motor 12 VDC, 25 mm spindle with parallel end
RW09A	Wiper motor 24 VDC, 25 mm spindle with parallel end
DIN1250	Wiper motor 12 VDC, 51 mm spindle with DIN tapered end
DIN2450	Wiper motor 24 VDC, 51 mm spindle with DIN tapered end
DIN1225	Wiper motor 12 VDC, 25 mm spindle with DIN tapered end
DIN2425	Wiper motor 24 VDC, 25 mm spindle with DIN tapered end

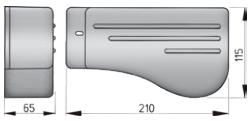






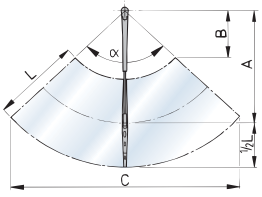
Synthetic cover for wiper type RW and DIN

By installing the synthetic cover, you will reduce the indicated panel thickness by 3 mm, complete with bottom plate.



How to choose wiper arms and blades (single arm)

When ordering, the voltage, shaft length and shaft end type must be stated. The table below shows the required wiping angle for almost any window. Wiper arms and blades should be ordered separately (see page 308).



Single arm adjustable from 395 mm to 481 mm

α°		L: 305 Min.	L: 305 Max.	L: 410 Min.	L: 410 Max.	L: 508 Min.	L: 508 Max.
40	A:	395	481	395	481	395	481
	B:	228	309	179	259	132	213
	c:	375	433	410	469	444	503
50	A:	395	481	395	481	395	481
	B:	220	298	172	250	128	206
	c:	463	535	507	580	549	621
60	A:	395	481	395	481	395	481
	B:	210	284	165	239	122	197
	c:	548	634	600	686	649	735
70	A:	395	481	395	481	395	481
	B:	199	269	156	226	116	186
	c:	628	727	688	787	745	843
80	A:	395	481	395	481	395	481
	B:	186	252	146	211	108	140
	c:	704	814	771	882	834	888
90	A:	395	481	395	481		
	B:	171	232	134	195		
	c:	774	896	849	970		
100	A:	395	481	395	434		
	B:	156	211	122	147		
	c:	839	971	919	979		
110	A:	395	481	395			
	B:	139	188	109			
	c:	897	1038	983			

Single arm adjustable from 473 mm to 559 mm

α°		L: 305 Min.	L: 305 Max.	L: 410 Min.	L: 410 Max.	L: 508 Min.	L: 508 Max.
40	A:	473	559	473	559	473	559
	B:	301	382	252	333	206	287
	c:	428	487	464	523	497	556
50	A:	473	559	473	559	473	559
	B:	290	368	243	321	198	276
	c:	529	601	573	646	614	687
60	A:	473	559	473	559	473	559
	B:	278	352	232	307	190	264
	c:	626	712	678	764	727	813
70	A:	473	559	473	559	473	500
	B:	263	333	220	290	179	202
	c:	718	816	778	876	834	865
80	A:	473	559	473	542		
	B:	246	311	205	258		
	c:	804	915	872	960		
90	A:	473	559	473	482		
	B:	227	287	190	196		
	c:	885	1006	959T	972		
100	A:	473	559				
	B:	206	261				
	c:	958	1090				
110	A:	473	530				
	B:	184	217				
	c:	1025	1118				

Single arm adjustable from 280 mm to 366 mm

α°		L: 305 Min.	L: 305 Max.	L: 410 Min.	L: 410 Max.	L: 508 Min.	L: 508 Max.
40	A:	280	366	280	366	280	366
	B:	120	201	70	151	24	105
	c:	296	355	332	391	365	424
50	A:	280	366	280	366	280	366
	B:	116	193	68	146	24	102
	c:	366	438	410	483	451	524
60	A:	280	366	280	366	280	366
	B:	110	185	65	139	24	97
	c:	433	519	485	571	534	620
70	A:	280	366	280	366	280	366
	B:	104	175	61	132	23	92
	c:	496	595	556	655	613	711
80	A:	280	366	280	366	280	366
	B:	98	164	57	123	20	86
	c:	556	667	624	734	686	797
90	A:	280	366	280	366	280	366
	B:	90	151	53	114	18	79
	c:	612	733	686	808	755	877
100	A:	280	366	280	366	280	366
	B:	82	137	48	103	17	62
	c:	663	794	743	875	818	925
110	A:	280	366	280	366	280	318
	B:	73	122	43	92	15	37
	c:	709	849	795	935	875	937

Windscreen wiper, arms and blades

How to choose wiper arms and blades (dual arm)

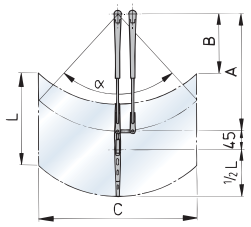
When ordering, the voltage, shaft length and shaft end type must be stated. The table below shows the required wiping angle for almost any window. Wiper arms and blades should be ordered separately (see following page).

Dual arm, adjustable from 308 mm to 393 mm 45+

		L: 305		L: 410		L: 508	
α°		Min.	Max.	Min.	Max.	Min.	Max.
40	A:	308	393	308	393	308	393
	B:	182	262	129	209	80	160
	c:	211	269	211	269	211	269
50	A:	308	393	308	393	308	393
	B:	172	249	119	196	70	147
	c:	260	332	260	332	260	332
60	A:	308	393	308	393	308	393
	B:	159	233	107	180	58	131
	c:	308	393	308	393	308	393
70	A:	308	393	308	393	308	393
	B:	145	214	92	162	43	113
	c:	353	451	353	451	353	451
80	A:	308	393	308	393	308	393
	B:	128	194	76	141	27	92
	c:	396	505	396	505	396	505
90	A:	308	393	308	393	308	393
	B:	110	170	58	118	9	66
	c:	436	556	436	556	436	556
100	A:	308	393	308	393	308	393
	B:	90	145	38	93	0	16
	c:	472	602	472	602	498	536
110	A:	308	393	308	393		
	B:	69	118	17	65		
	c:	505	644	505	644		

Dual arm, adjustable from 386 mm to 471 mm 45+

		L: 305		L: 410		L: 508	
α°		Min.	Max.	Min.	Max.	Min.	Max.
40	A:	386	471	386	471	386	471
	B:	255	335	203	283	154	335
	c:	264	322	264	322	264	322
50	A:	386	471	386	471	386	471
	B:	242	319	190	267	141	319
	c:	326	398	326	398	326	398
60	A:	386	471	386	471	386	471
	B:	227	300	174	248	125	300
	c:	386	471	386	471	386	471
70	A:	386	471	386	471	386	471
	B:	209	278	156	226	107	177
	c:	443	540	443	540	443	540
80	A:	386	471	386	471	386	471
	B:	188	253	136	201	87	126
	c:	496	606	496	606	496	562
90	A:	386	471	386	471	386	389
	B:	165	226	113	173	64	66
	c:	546	666	546	666	546	550
100	A:	386	471	386	471		
	B:	141	195	88	119		
	c:	591	722	591	722		
110	A:	386	471	386	471		
	B:	114	163	61	66		
	c:	632	772	632	772		



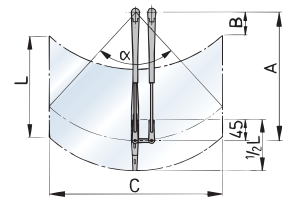
Wiper blade fitted to lower bayonet on the arm

Dual arm, adjustable from 308 mm to 393 mm 45 -

		L: 305		L: 410		L: 508	
α°		Min.	Max.	Min.	Max.	Min.	Max.
40	A:	308	393	308	393	318	393
	B:	92	172	39	119	0	70
	c:	211	269	211	269	218	269
50	A:	308	393	308	393	330	393
	B:	82	159	29	106	0	57
	c:	260	332	260	332	279	332
60	A:	308	393	308	393	345	393
	B:	69	143	17	90	0	41
	c:	308	393	308	393	345	393
70	A:	308	393	308	393	365	393
	B:	55	124	2	72	0	23
	c:	353	451	353	451	419	451
80	A:	308	393	326	393	390	393
	B:	38	104	0	51	0	2
	c:	396	505	419	505	501	505
90	A:	308	393	354	393		
	B:	20	80	0	28		
	c:	436	556	501	556		
100	A:	308	393	389	393		
	B:	0	55	0	3		
	c:	472	602	596	602		
110	A:	345	393				
	B:	0	28				
	c:	565	644				

Dual arm, adjustable from 386 mm to 471 mm 45 -

		L: 305		L: 410		L: 508	
α°		Min.	Max.	Min.	Max.	Min.	Max.
40	A:	386	471	386	471	386	471
	B:	165	245	113	193	64	144
	c:	264	322	264	322	264	322
50	A:	386	471	386	471	386	471
	B:	152	229	100	177	51	128
	c:	326	398	326	398	326	398
60	A:	386	471	386	471	386	471
	B:	137	210	84	158	35	109
	c:	386	471	386	471	386	471
70	A:	386	471	386	471	386	471
	B:	119	188	66	136	17	87
	c:	443	540	443	540	443	540
80	A:	386	471	386	471	390	437
	B:	98	163	46	111	0	36
	c:	496	606	496	606	501	562
90	A:	386	471	386	471		
	B:	75	136	23	83		
	c:	546	666	546	666		
100	A:	386	471	386	434		
	B:	51	105	0	29		
	c:	591	722	596	665		
110	A:	386	471				
	B:	24	73				
	c:	632	772				



Wiper blade fitted to upper bayonet on the arm

Custom chosen combination - in case of not using the table:
In order to prevent overloading the wiper motor, the right combination of arm length mm x blade length mm x wiping angle in degrees is essential. The result of this multiplication should not exceed 17.800.000.

Example
- Blade length = 410 mm
- Arm length = 366 mm
- Wiping angle = 120°

410 x 366 x 120 = 18.007.200
Therefore this combination is not allowed.

Windscreen wipers

Wiper arm types RWA and DINP

Adjustable single / dual wiper arms

These wiper arms are made of high-gloss polished AISI 316 stainless steel and black components of top-grade synthetic materials. Both types are available in several sizes (see below). All dual wiper arms are supplied with an idle spindle and connection set.

Single wiper
- Sizes: **S** from 280 to 366 mm / **L** from 395 to 481 mm / **X** from 473 to 559 mm
- Spade connector 7,2 x 2,5 mm

Dual wiper
- Sizes: **D** from 308 to 393 mm / **DX** from 386 to 471 mm
- Spindle centres 45 mm
- Spade connector 7,2 x 2,5 mm

Type	Arm	Length (mm)	Motor type
RWAS	Black single arm	280 - 366	RW
RWAL	Black single arm	395 - 481	RW
RWAX	Black single arm	473 - 559	RW
RWAD	Black dual arm set	308 - 393	RW
RWADX	Black dual arm set	386 - 471	RW
DINPS	Black single arm	280 - 366	DIN
DINPL	Black single arm	395 - 481	DIN
DINPX	Black single arm	473 - 559	DIN
DINPD	Black dual arm set	308 - 393	DIN
DINPDX	Black dual arm set	386 - 471	DIN

RWA Without taper

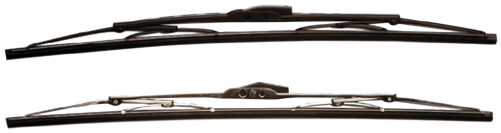
DINP With DIN taper

Wiper blade type WBB and WBS

Fit almost all makes and types of wiper arms with a 7,2 x 2,5 mm bayonet

The metal parts of these blades are made of AISI 316 stainless steel, either high-gloss polished or black coated. These blades will fit almost all makes and types of wiper arms with a 7,2 x 2,5 mm bayonet. They are available in lengths of 305, 410 or 508 mm.

Type	Wiper blade	Finish	Length (mm)
WBB30	Stainless steel	Coated black	305
WBB41	Stainless steel	Coated black	410
WBB51	Stainless steel	Coated black	508
WBS30	Stainless steel	Gloss polished	305
WBS41	Stainless steel	Gloss polished	410
WBS51	Stainless steel	Gloss polished	508



WBB **WBS**

Wiper arm type SSA and DINS

Strong, durable and stylish!

These arms are entirely made of strong and durable high-gloss polished AISI 316 stainless steel. In combination with VETUS polished wiper blades they will enhance the appearance of any boat!

Type	Arm	Length (mm)	Motor type
SSAS	Single arm, stainless steel	280 - 366	RW
SSAL	Single arm, stainless steel	395 - 481	RW
SSAX	Single arm, stainless steel	473 - 559	RW
SSAD	Dual arm set, stainless steel	308 - 393	RW
SSADX	Dual arm set, stainless steel	386 - 471	RW
DINSS	Single arm, stainless steel	280 - 366	DIN
DINSL	Single arm, stainless steel	395 - 481	DIN
DINSX	Single arm, stainless steel	473 - 559	DIN
DINSD	Dual arm set, stainless steel	308 - 393	DIN
DINSDX	Dual arm set, stainless steel	386 - 471	DIN

SSA Without taper

DINS With DIN taper

Windscreen wipers

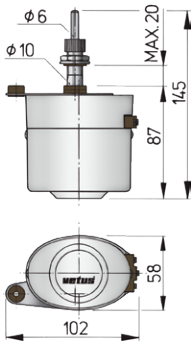
Wiper type ORW12SET

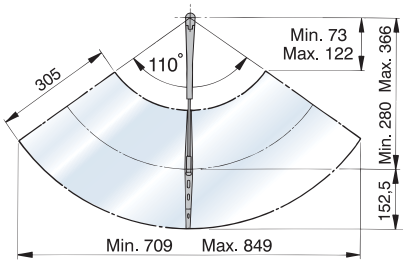
Supplied as a complete set comprising motor, arm and blade

The arm length is adjustable from 280 to 366 mm. The motor is self-parking, has a single speed and a wiping angle of 80° or 110°. The wiper blade is made of black synthetic and fits also other makes of wiper arms with a 7,2 x 2,5 mm bayonet. Type ORW12SET meets all the EMC requirements.

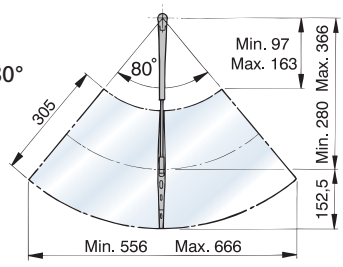
Specifications
- Available for 12 VDC
- Max. current consumption 2A
- Max. panel thickness 20 mm
- Blade length 305 mm

Type	Description
ORW12SET	Wiper motor set, incl. wiper motor, arm and blade (12 VDC)
WBB30	Wiper blade, stainless steel, coated black





Wiping angle: standard 110°, adjustable to 80°



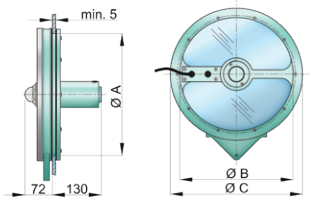
Clear view screens type SLR

Completely clear vision at all times

The centrifugal force caused by the rotating toughened glass, which reaches its maximum revolutions per minute within 25 seconds, instantly clears the screen from rain, snow and spray. Even dirt and salt will not cause any smears. Type SLR is available in two sizes and meets all the EMC requirements.

Specifications
- Type 300 (screen Ø 300 mm) / type 350 (screen Ø 350 mm)
- Both types available for 12 or 24 VDC
- Max. current consumption 2,7A (12 VDC) / 1,4A (24 VDC)

Type	Description
SLR30012	Clear view screen Ø 300 mm o.a. 12 VDC
SLR30024	Clear view screen Ø 300 mm o.a. 24 VDC
SLR35012	Clear view screen Ø 350 mm o.a. 12 VDC
SLR35024	Clear view screen Ø 350 mm o.a. 24 VDC

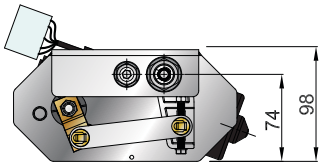


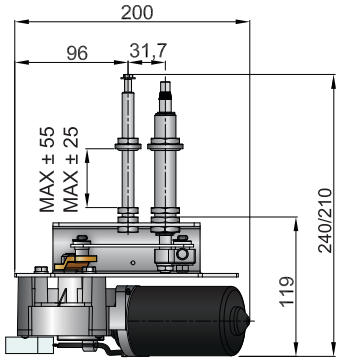
	Dimensions		
Type	**Cut-out Ø A**	**Ø B**	**Ø C**
Type 300	275	250	300
Type 350	326	300	350

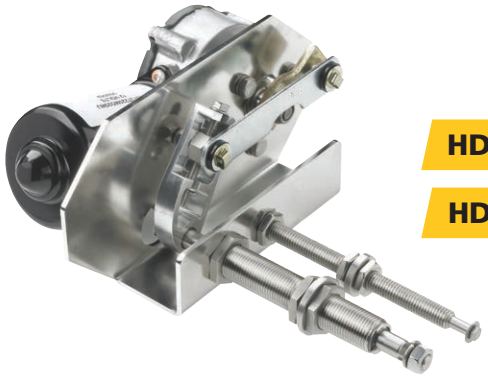
Windscreen wipers heavy duty (HDM)

This quiet windscreen wiper is interchangeable with previous models HDM (A, B and C). It has a thermal cut-out which will protect the electric motor in case of excessive operating temperature. Type HDM is self-parking on either side, has two speeds and is available with two different shaft lengths. The wiping angle is fully adjustable between 62° and 92°. To determine the optimum wiping surface of each specific window, please see tables below for detailed specifications. All visible parts of the mechanism are made of stainless steel and meet the EMC requirements.

Specifications
- Available for 12 or 24 VDC
- Power 75 Watt
- Weight (without arm and blade) 2,5 kg







HDM..DS Short shafts

HDM..DL Long shafts

HDMCOVER

Type	Description
HDM12DL	Heavy duty wiper motor, long shaft, adjustable wipe angle, 12 VDC
HDM24DL	Heavy duty wiper motor, long shaft, adjustable wipe angle, 24 VDC
HDM12DS	Heavy duty wiper motor, short shaft, adjustable wipe angle, 12 VDC
HDM24DS	Heavy duty wiper motor, short shaft, adjustable wipe angle, 24 VDC
HDMCOVER	Synthetic cover for HDM motors

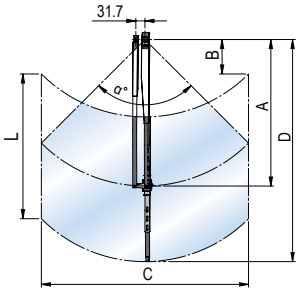
Type	Description	Length (mm)
	Wiper arms	
SHDA400	Stainless steel AISI 316 dual wiper arm	401 - 486
SHDA500	Stainless steel AISI 316 dual wiper arm	508 - 593
SHDA760	Stainless steel AISI 316 dual wiper arm	677 - 762

SHDA..

Wiped areas of heavy duty windscreen wiper assemblies with HDM motors

SHDA760

		L: 460		L: 560		L: 660	
α°		Min.	Max.	Min.	Max.	Min.	Max.
62	A	677	762	677	762	677	762
	B	350	423	300	373	250	323
	C	697	785	697	785	697	785
	D	907	992	957	1042	1007	1092
92	A	677	762	677	762	677	762
	B	240	299	190	249	140	199
	C	974	1096	974	1096	974	1096
	D	907	992	957	1042	1007	1092



SHDA500

		L: 460		L: 560		L: 660	
α°		Min.	Max.	Min.	Max.	Min.	Max.
62	A	508	593	508	593	508	593
	B	205	278	155	228	105	178
	C	523	611	523	611	523	611
	D	738	823	788	873	838	923
92	A	508	593	508	593	508	593
	B	123	182	73	132	23	82
	C	731	853	731	853	731	853
	D	738	823	788	873	838	923

SHDA400

		L: 460		L: 560		L: 660	
α°		Min.	Max.	Min.	Max.	Min.	Max.
62	A	401	486	401	486	401	486
	B	114	187	64	137	14	87
	C	413	501	413	501	413	501
	D	631	716	681	766	731	816
92	A	401	486	401	486	401	486
	B	49	108	-1	58	-51	8
	C	577	699	577	699	577	699
	D	631	716	681	766	731	816

Windscreen wipers

Wiper arms and blades type WB and SHDA

Heavy duty stainless steel wiper arms and blades for wiper motor HDMD

These heavy duty wiper arms and blades are made from AISI 316 stainless steel, ensuring a long and trouble free life. They are available in a high gloss polished finish or coated black.

Type	Description	Length (mm)
	Wiper blades	
WBS46H	Wiper blade, made of high-gloss polished stainless steel AISI 316	460
WBS56H	Wiper blade, made of high-gloss polished stainless steel AISI 316	560
WBS66H	Wiper blade, made of high-gloss polished stainless steel AISI 316	660
WBB46H	Wiper blade, made of stainless steel AISI 316, coated black	460
WBB56H	Wiper blade, made of stainless steel AISI 316, coated black	560
WBB66H	Wiper blade, made of stainless steel AISI 316, coated black	660

WBS..H

WBB..H

Accessories

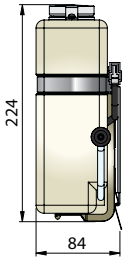
Complete screen washer kit type WWFR

Always a clear view

Type WWFR includes a reservoir with integral pump, tubing with non-return valve, rotary switch and a unique long double spray nozzle to reach over thick windscreen frame profiles and wiper blades. An extension kit (code HDSXTB) consisting of a second double spray nozzle, additional tubing and a T-piece is available and recommended to maintain sufficient flow and pressure.

Specifications
- Available in 12 or 24 VDC
- Max. current consumption 1,8A (12 VDC) / 0,9A (24 VDC)
- Tubing length 3 mtr
- Reservoir capacity 1,5 litre
- Pump output 0,88 litre/min.

WWFR..



Type	Description	Voltage (DC)	Current (A)	Capacity (L/min)
WWFR12	Screen washer kit complete, including reservoir (1,5L)	12	1,8	0,88
WWFR24	Screen washer kit complete, including reservoir (1,5L)	24	0,9	0,88
HDSXTB	Extension screen washer kit for additional windscreen			

Three-position switch

For two-speed wiper motors

Available as rotary or rocker type switch. Suitable for two-speed wiper motors RWS, DIN and HDM. Not suitable for type ORW.

Type	Max. panel thickness (mm)	Max. switch current (A)
HDMSW	7	20
HDMSW2	6	20

HDMSW

HDMSW2

Accessories

Screen washer

Suitable for all VETUS wiper types

This screen washer is fed by a pressurised, potable water system. The screen washer comes with a hose, solenoid valve (12 or 24 VDC) and switch, hose pillars, spray nozzles and skin fittings and is easy to install.

Type	Description	Voltage (DC)
HDS12B	Screen washer kit	12
HDS24B	Screen washer kit	24
HDSXTB	Extension screen washer kit for additional windscreen	

HDS

Type WPANEL in combination with rain sensor type MARBO

Completely pre-wired motor wipe panel

Type WPANEL can control up to five wiper motors to run synchronously at high or low speed. Each wiper motor is individually switched, so you can select which wipers are operational. They also feature a combination switch for screen wash/wipe activation, speed selection and interval wipe delay. The wiper motors to be connected must have a two speed motor and an automatic parking position. It is optional to connect up to three MARBO rain sensors to the control unit. The rain sensor function can be activated by the supplied switch panel and can activate all two wipers simultaneously.

Type WPANEL is supplied with
- One control unit with electronic overload protection (can be DIN rail mounted)
- Five wiper motor switches
- One combined switch for wash/wipe and speed selection
- One mounting plate with room for six switches and two blind plates

Specifications
- Available for 12 or 24 VDC supply
- Power consumption in stand-by mode approx. 10 mA
- Maximum power per wiper motor 120 W
- Internal fuses 10 A each wiper motor, 5 A for screen wash pump or solenoid valve
- Dimensions control panel 49 x 24 x 37,5 mm, control unit 159 x 90 x 58 mm

WPANEL

Automatic rain-sensor for wiper activation

Type	Description
MARBO	Rain sensor incl. switch, 12/24 VDC
MARBO2	Additional rain sensor, 12/24 VDC
WPANEL	Windscreen wiper control panel for up to five wipers, 12/24 VDC, incl. switches

MARBO

MARBO2

Type RWPANEL

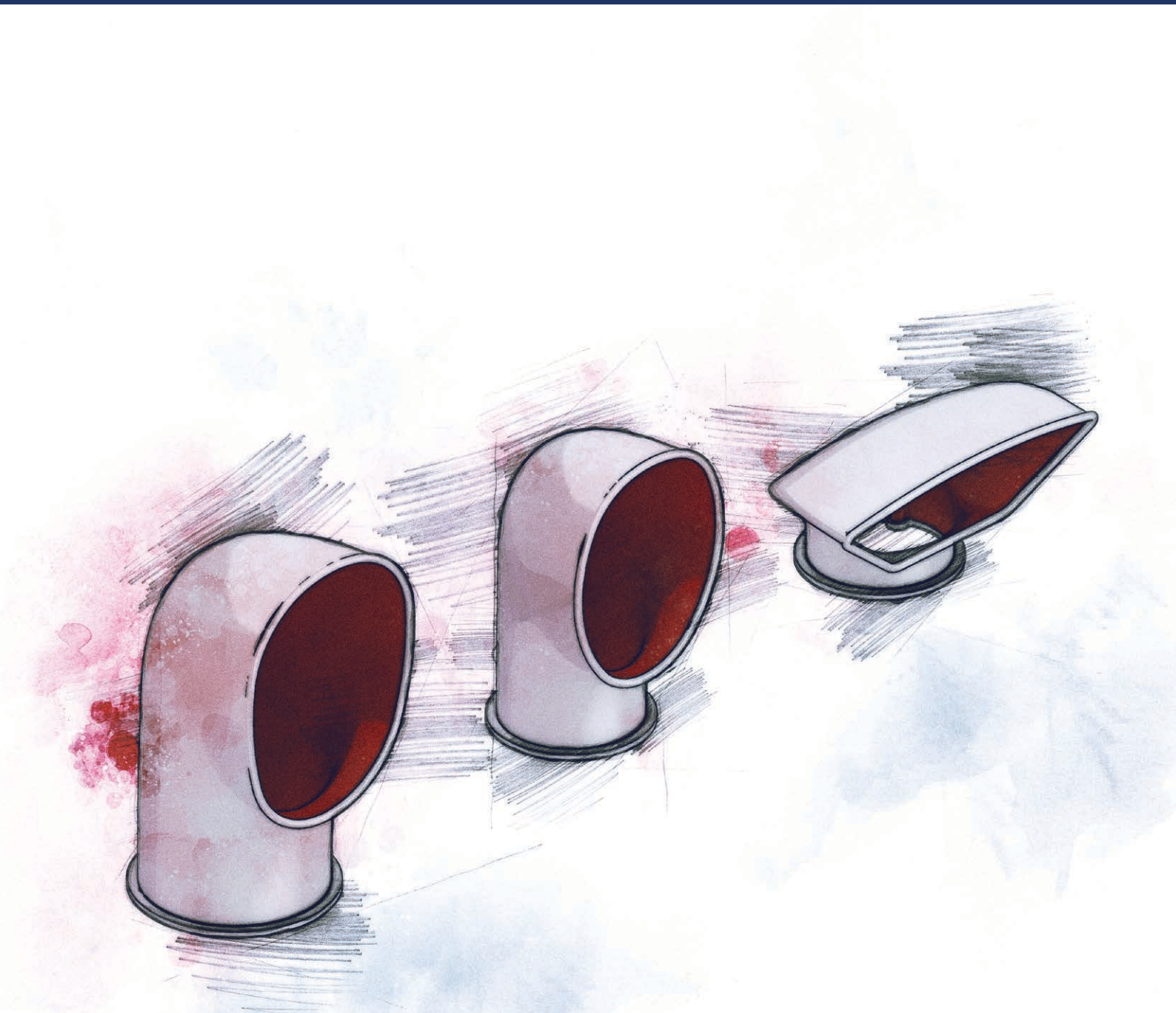
Control panel for up to three windscreen wipers

This panel will control up to three switched windscreen wipers synchronously and also activate a screen wash system. The wipers can be set to run at high or low speed at one of five interval wipes and will self-park when they are switched off. It is possible to connect up to three rain sensors (type MARBO2) for automatic operation of the wipers.

Specifications
- Panel is suitable for 12 or 24 VDC supply
- Dimensions control panel 85 x 85 mm, control unit 159 x 90 x 58 mm
- Built-in depth 40 mm

Type	Description
RWPANEL2	Windscreen wiper control panel for up to three wipers, 12/24 VDC, incl. control panel

RWPANEL2



Overview

Deck ventilators see page 316 - 317

UFO

UFO2

ATHOS1

PORTOS1

Shell ventilators see page 318

TYPHOON

SCIROCCO

Electric extractor fans see page 319

FAN

Extraction ventilators see page 319 - 321

TWINLINE

VENT76A

NEW!

VENT102

NEW!

VENTKIT

VENT178

Cowl ventilators see page 322 - 323

SAMOEN

CHINOOKS

YOG316R

TOM316WR

TRAMON

TRAMONS

DON316R

Accessories see page 324 - 325

BOX

YBOX

RING

Louvred air suction vents see page 326 - 327

ASV

SSVL

SSV

ASVREC

Ventilation

Good ventilation on your boat is very important if you have enclosed areas. It can help prevent mildew and bad odours and can save lives by taking carbon monoxide or petrol fumes out of the boat. When it comes down to making the best choice of ventilation system, VETUS has a wide range, even for the harshest conditions, both extremely safe and stylish as well. We at VETUS understand that ventilation isn't just a hole in your boat. When done correctly it can be a breath of fresh air!

There are two types of ventilation systems

1. Natural (passive) ventilation

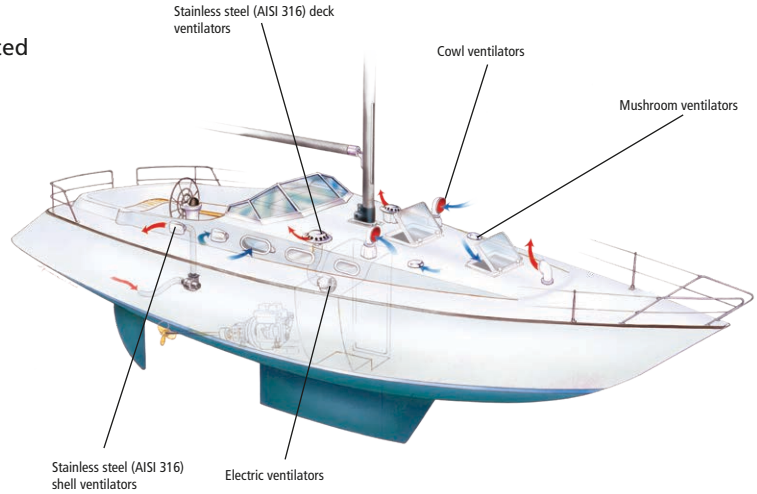
Consists of vents, cowls and other permanent openings in the boat, designed to let air enter or exit using wind power or the boat's motion to move the air. Primarily used for living spaces.

2. Power extraction ventilators

Specifically designed to clear fumes from closed compartments. VETUS power extraction ventilators are ignition protected to prevent sparks and are built to resist overheating and corrosion.

Why choose VETUS ventilation

- One stop shop for a complete range to ensure a healthy on board climate
- We put safety first! Offering only certified ignition protected electric fans
- VETUS has ventilation products for any compartment, from engine room to sleeping quarters, from mushroom ventilators to extraction ventilators for the engine room
- VETUS UFO ventilators provide permanent boat ventilation, day and night, rain and splash proof, but also fully closeable for the hardest conditions
- VETUS cowl ventilators are available in different designs, sizes and materials; the choice is yours!



Deck ventilators

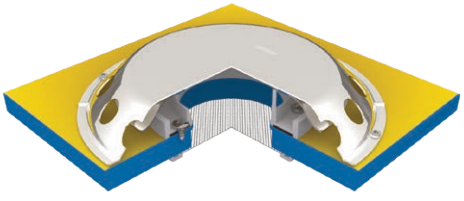
Small cabins aboard boats must be ventilated adequately. It is very important when the temperature drops to keep the air humidity inside and outside as similar as possible to prevent condensation and its consequences, mould and mildew.

Open ventilators type UFO and UFOTRANS

Reliable, easy to maintain and good looking

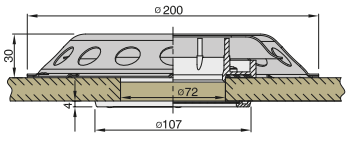
These stainless steel (AISI 316) models with high-gloss polished shell cannot be closed thus ensuring permanent ventilation. They are rain and splash proof and can be used in combination with our electric extraction ventilators (see page 319). For dimensions please see diagram below.

Characteristics
- Free flow area 31,8 cm^2
- TRANS (UFOTR) version is translucent
- Supplied with mosquito screen and interior finishing ring



UFO

UFOTR



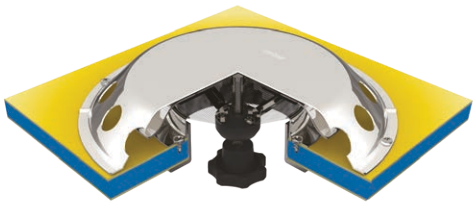
Deck ventilators

Closeable deck ventilator type UFO2

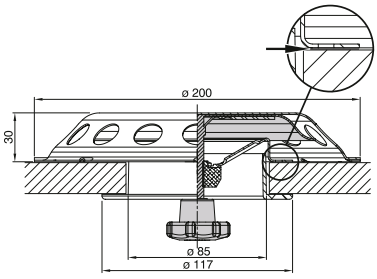
Low profile deck ventilator with integral mushroom ventilator

This deck ventilator can be closed and made absolutely watertight. When opened the UFO2 ensures constant ventilation and still remains rain and splash proof. Its cover is made of high-gloss polished stainless steel (AISI 316) as is the internal mushroom ventilator. CE marking: AII

Characteristics
- Free flow area 30 cm²
- Comes with an integral mosquito screen
- A synthetic finishing ring is supplied as standard



UFO2



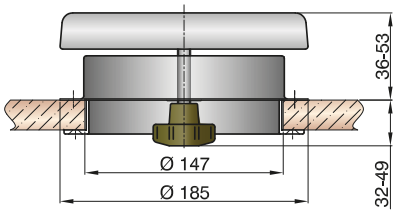
Type	Description	Free flow area cm²
UFO	Deck ventilator (stainless steel AISI 316)	31,8
UFOTR	Deck ventilator (stainless steel AISI 316)	31,8
UFO2	Closeable deck ventilator (stainless steel AISI 316)	30

Mushroom ventilators type DARTAGN1, ATHOS1 and PORTOS1

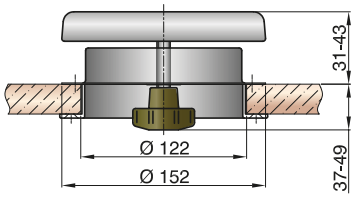
High polished stainless steel (AISI 316) ventilators

These mushroom ventilators can be opened from the outside or from the inside using an integral knob. They include a mosquito screen and counter flange, both made of synthetic material. CE marking AII

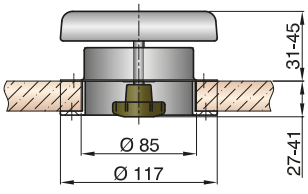
DARTAGN1



ATHOS1



PORTOS1



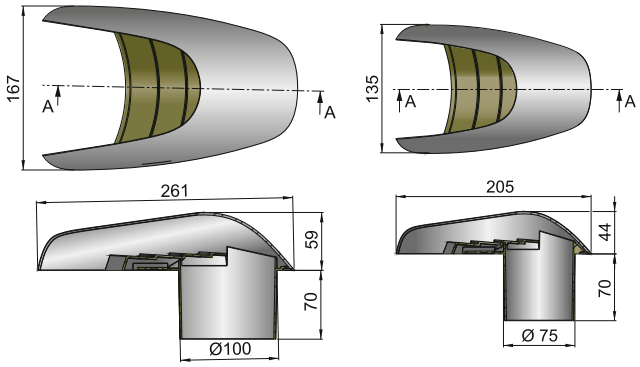
Type	Description	Free flow area cm²
DARTAGN1	Mushroom ventilator	76
ATHOS1	Mushroom ventilator	45
PORTOS1	Mushroom ventilator	30

Shell ventilators

Ventilator type TYPHOON

A redefined and updated 'traditional' shell ventilator

The outer cover of this shell ventilator is made of high-gloss polished stainless steel (AISI 316) and all other parts are of synthetic materials. When installed, no screws are visible. This intake or outlet ventilator is available in two sizes and suitable for horizontal or vertical use.



TYP75

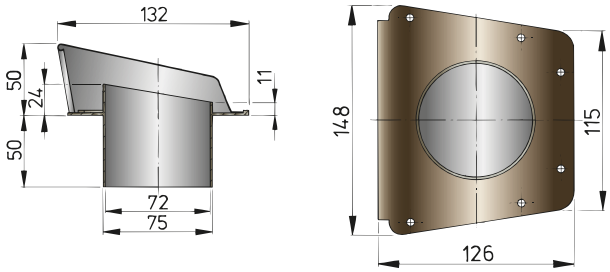
TYP100

Type	Description	Free flow area cm²	Hose connection Ø
TYP75	Shell ventilator	30	75
TYP100	Shell ventilator	41	100

Ventilator type SCIROCCO

The ideal solution for ventilation openings to the engine room

This stainless steel (AISI 316) intake or outlet ventilator can be screwed directly on to hull or superstructure. A synthetic base plate with water guard and hose connection is standard supply. This type can be installed horizontally or vertically.



SCIROCCO

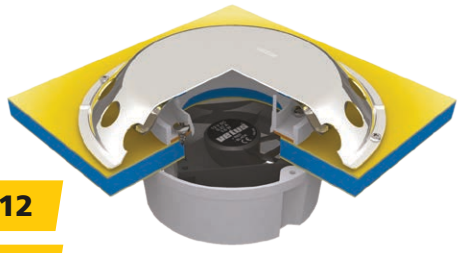
Type	Description	Free flow area cm²	Hose connection Ø
SCIROCCO	Shell ventilator	38,5	76

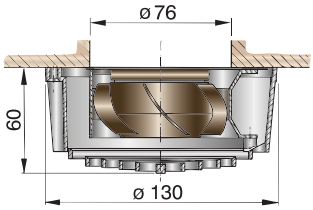
Electric ventilators

Type FAN

Extremely low energy consumption and noise level

This barely audible electric ventilator is specified for saloons, cabins, galleys and toilets and is also ideal for heat extraction near a refrigerator. It can be installed in both ceilings and bulkheads. It can be used in combination with VETUS deck ventilators UFO and UFOTR (see page 316). With its long-life motor it can operate for at least 50.000 hours. VETUS recommends that every area should have an air-exchange rate of three to four times per hour.





FAN12

FAN24

Specifications
- Available in 12 or 24 VDC
- Capacity 72 m³/hour (42 cfm)
- Provided with a 2-speed switch

Type	Description	Voltage (DC)
FAN12	Electric ventilator	12 V - 0,15A
FAN24	Electric ventilator	24 V - 0,073A

Extraction ventilators

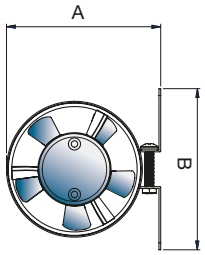
Type TWINLINE

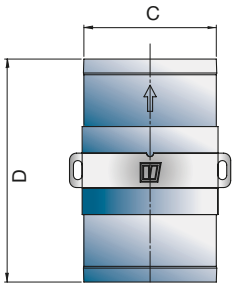
The perfect heat extractor

The purpose of these ignition protected (IP67) extraction ventilators is to extract the heat from the engine room when the engine is not running or, when a petrol/gasoline engine is installed, to extract any possible petrol/gasoline fumes prior to starting the engine(s).

Specifications
- Complies with ISO 9097 Marine Standard
- Hose may be connected to Scirocco or Typhoon Shell ventilators

Note: VETUS does NOT recommend using extraction ventilators to provide air to the main engine(s)!





TWINLINEA **TWINLINEB**

TWINLINEC **TWINLINED**

Type	A (mm)	B (mm)	C (mm)	D (mm)	Capacity (m³/min)	I.D.hose Ø (mm)	Voltage (DC) - Amp*
TWINLINEA	88,5	92,5	76	128	5	76	12 - 2,8 A max.
TWINLINEB	116	119	101,6	180	7	102	12 - 8,0 A max.
TWINLINEC	88,5	92,5	76	128	5	76	24 - 1,6 A max.
TWINLINED	116	119	101,6	180	7	102	24 - 5,0 A max.

* When using hose 10 mtr.

Extraction ventilators

Type VENT76A and VENT102

Ideal for galley, toilet and engine room

These extraction ventilators are ignition protected (IP67) and complies with the ISO 9097 Marine Standard. They include a mounting bracket.

Note: VETUS does NOT recommend using extraction ventilators to provide air to the main engine(s)!

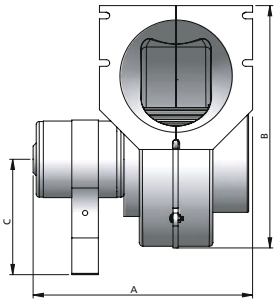
VENT7612A

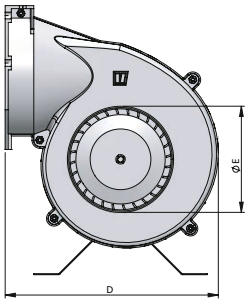
VENT7624A

NEW!

VENT10212

VENT10224





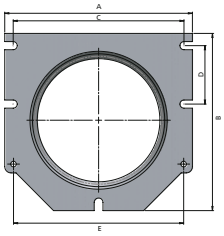
Type	Dimensions (mm)				Voltage (DC)	I.D.hose Ø (mm) (E)	Capacity per minute
	A	B	C	D			
VENT7612A	186	168	88	157	12 - 8 A	76	4 m³
VENT7624A	186	168	88	157	24 - 4 A	76	4 m³
VENT10212	215	237	113	209	12 - 9 A	102	8 m³
VENT10224	215	237	113	209	24 - 4,5 A	102	8 m³

Connection flange

Spare in-line hose connection flanges for VENT76A and VENT102.

VENTKIT

NEW!



Type	Dimensions (mm)						
	A	B	C	D	E	Ø F	Ø G
VENTKITA	120	115	106.5	46.5	106	83.3	76
VENTKITB	150	141	136.5	46.5	136	109.7	102

Extraction ventilators

Type VENT178A

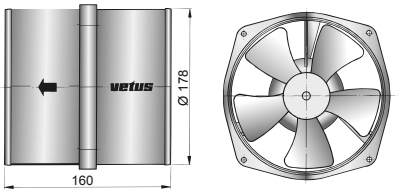
Suitable for bulkhead mounting and receiving air ducting hose

This extraction ventilator is ignition protected (IP67) and complies with the ISO 9097 Marine Standard.

Note: VETUS does NOT recommend using extraction ventilators to provide air to the main engine(s)!

Specifications
- Available in 12 or 24 VDC (consumption 6 A or 3 A)
- Capacity 12,2 m³ at 12 VDC or 12,5 m³ at 24 VDC per minute
- Suitable for receiving Ø 178 mm internal air ducting hose

Type	Description	Voltage (DC)	I.D.hose Ø (mm)
VENT17812A	Extraction ventilator	12	178
VENT17824A	Extraction ventilator	24	178



VENT17812A

VENT17824A

Ventilation hose

Type BLHOSE

For shell and extraction ventilators

Type BLHOSE is made from PVC coated glassfibre with a steel spiral.
Temperature resistant between -20° and +100°C.
Available with internal diameters of 79 or 102 mm.

BLHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Bending radius mm	Roll length (m)
BLHOSE310A	79	85	0,2	47	10
BLHOSE410A	102	108	0,2	61	10

Hose type VHOSE

Very flexible suction or pressure hose

Flexible TPE ducting hose with steel spiral.
Temperature resistant between -30° and +140°C.
Available with internal diameters of 152 or 178 mm.

VHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Bending radius mm
VHOSE152	152	158	0,94	150
VHOSE178	180	186	1,09	180

Cowl ventilators

Silicone cowl ventilators

Guaranteed to withstand the test of time!

These cowl ventilators are made of silicone. Silicone rubber is a very flexible synthetic material with a service temperature range between -100°C and +200°C. It is resistant to UV light and does not discolour, so it will always looks like it's brand new. The cowl ventilators are removable.

The ring nuts and mating deck flanges are made of hard synthetic. The internal colour is red (RAL3020). A mosquito screen and a stainless steel (AISI 316) cover plate for closing off the cowl ventilator can be supplied as an option.

Available in three sizes with a vertical opening and one with a horizontal opening.

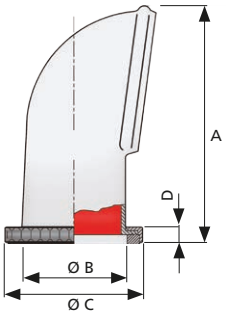
Models with suffix S have a screwed down synthetic ring. This ring is easily removable and so these versions should be ordered when just a replacement cowl is required.

SAMOENS

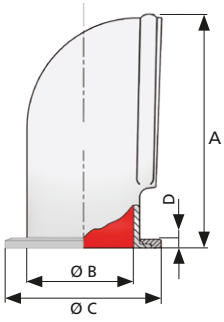
CHINOOKS

LIBECS

TRAMONS



Removable and rotatable



Fixed

SAMOEN

CHINOOK

LIBEC

TRAMON

Dimensions (mm)							
Type	**Replaces**	**A**	**B**	**C**	**D**	**Free flow area (cm²)**	**Material**
TRAMON	DONALD2	115	75	125	25	44,2	Silicone
TRAMONS	DONALDS	100	75	127	11	44,2	Silicone
LIBEC	JERRY2	205	75	125	25	44,2	Silicone
LIBECS	JERRYS	192	75	127	11	44,2	Silicone
CHINOOK	TOM2	244	100	152	25	78,6	Silicone
CHINOOKS	TOMS	230	100	152	11	78,6	Silicone
SAMOEN	YOGI2	295	125	176	25	122,8	Silicone
SAMOENS	YOGIS	282	125	179	11	122,8	Silicone

Cowl ventilators

Stainless steel (AISI 316) cowl ventilators

Stylish appearance

Both the cowls and rings are made of cast stainless steel (AISI 316). The cowls rotate and are removable and the clamping ring can be tightened by hand. A threaded ring nut and deck ring are supplied as standard. A mosquito screen and a stainless steel (AISI 316) cover plate for closing off the cowl ventilator are optional.

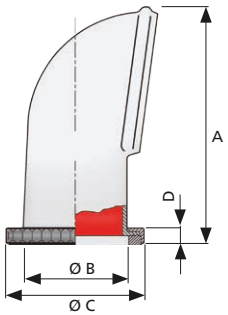
Available in three sizes with a vertical opening and one with a horizontal opening and with red or white interior.

YOG316R

TOM316R

JER316R

DON316R



Removable and rotatable

YOG316WR

TOM316WR

JER316WR

DON316WR

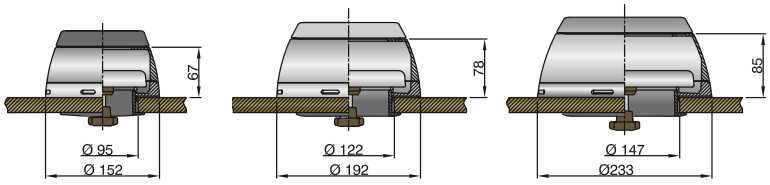
Dimensions (mm)						
Type	**A**	**B**	**C**	**D**	**Free flow area (cm²)**	**Material**
DON316R	111	75	123	22	44,2	Stainless steel (AISI 316)
DON316WR	111	75	123	22	44,2	Stainless steel (AISI 316)
JER316R	205	75	123	22	44,2	Stainless steel (AISI 316)
JER316WR	205	75	123	22	44,2	Stainless steel (AISI 316)
TOM316R	250	100	153	22	78,6	Stainless steel (AISI 316)
TOM316WR	250	100	153	22	78,6	Stainless steel (AISI 316)
YOG316R	296	125	181	22	122,8	Stainless steel (AISI 316)
YOG316WR	296	125	181	22	122,8	Stainless steel (AISI 316)

Accessories for cowl ventilators

Dorade box type BOX and BOXS

Prevents water from entering the ventilator

This box drains off any water entering the interior of the boat from the cowl ventilator and can be closed off entirely by means of the incorporated stainless steel (AISI 316) mushroom ventilator. Available in synthetic material or stainless steel (AISI 316), maximum deck thickness 25 mm. **For thicker decks use adapter BOXAD.** Choose the same size BOX as the diameter (B) of the cowl ventilator. CE marking: AII



Bottom

Top

Type	Ø (mm)	Max. deck thickness	Material
BOX75	75	25	Synthetic
BOX100	100	25	Synthetic
BOX125	125	25	Synthetic
BOXS75	75	25	Stainless steel (AISI 316)
BOXS100	100	25	Stainless steel (AISI 316)
BOXS125	125	25	Stainless steel (AISI 316)

BOX

BOXS

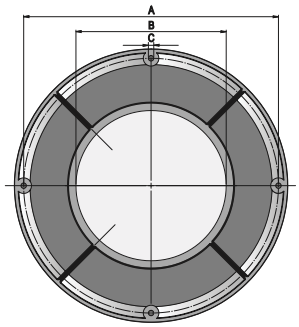
Adapter to fit dorade box type BOX

For use with thicker decks

For deck thicknesses 25 mm and up, VETUS offers the BOXAD adapter flange. This flange can be mounted to the dorade box using the counter flange, after which the adapter can be screwed down to the deck. The result is a perfect finish of the cut-out and a snug fit of the dorade box. The adapter flanges are made of high gloss polished stainless steel (AISI 316) to match the stainless steel (AISI 316) cowl ventilators and dorade boxes.

BOXAD

Type	Suitable for	A Ø mm	B Ø mm	C Ø mm	Thickness mm
BOXAD75	BOX75, BOXS75	167	95	5.2	6
BOXAD100	BOX100, BOXS100	202	118.5	5.2	6
BOXAD125	BOX125, BOXS125	245	144.5	5.2	6



Accessories for cowl ventilators

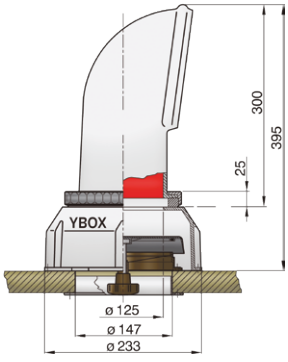
Dorade box type DJBOX, TBOX and YBOX

Synthetic boxes

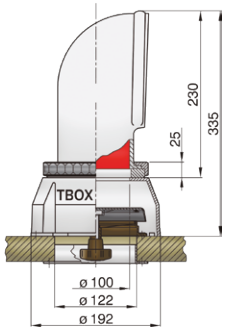
This synthetic box drains off any water entering the ventilator and can be closed off entirely by means of the incorporated stainless steel (AISI 316) mushroom ventilator. The screw down deck ring supplied with the cowl ventilator can be easily fitted to the dorade box using the supplied nuts and bolts. A mosquito screen and a stainless steel (AISI 316) cover plate for closing off the cowl ventilator can be supplied as an option.

Note: These boxes are not suitable for cowl ventilator type S.

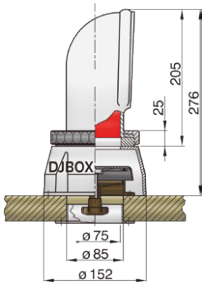
Type	Description
YBOX	Dorade box for YOGI / SAMOEN, including mushroom ventilator
TBOX	Dorade box for TOM / CHINOOK, including mushroom ventilator
DJBOX	Dorade box for DONALD / JERRY / TRAMON / LIBEC, including mushroom ventilator



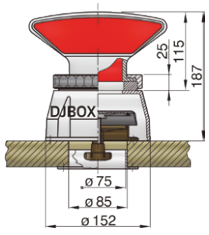
YBOX



TBOX



DJBOX



Ring and nut type RING

Complete set

This set consists of a stainless steel (AISI 316) ring nut, a male deck ring and fastening key. A ring nut set is available for each size of synthetic cowl ventilator and can be retrofitted to existing cowls.

Type	Description
RING75	Ring and nut, AISI 316, for cowl ventilator TRAMON / LIBEC
RING100	Ring and nut, AISI 316, for cowl ventilator CHINOOK
RING125	Ring and nut, AISI 316, for cowl ventilator SAMOEN

Type	Description
SET75	Cover plate and mosquito screen S/S 316 for all cowl ventilators Ø 75 mm
SET100	Cover plate and mosquito screen S/S 316 for all cowl ventilators Ø 100 mm
SET125	Cover plate and mosquito screen S/S 316 for all cowl ventilators Ø 125 mm

RING

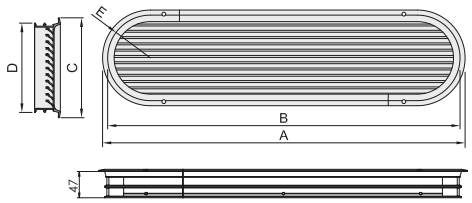
Louvred air suction vents

In addition to combustion air, an engine also requires sufficient ventilation air to dissipate the residual heat. The required volume of ventilation air is about the same as the combustion air needed which is approximately 6.1 m^3 per kW (4.5 m^3 per hp) per hour based on a maximum air velocity of 3 m/sec. The design of these VETUS air suction vents is based on these principles. The model numbers (see the tables below) relate to the engine horsepower for which they are suitable. So for example, a 40HP engine could use 1 x type 40, or 2 x type 20 vents.

Type ASV

This type has a polished anodised aluminium frame with grilles of anodised aluminium.

ASV

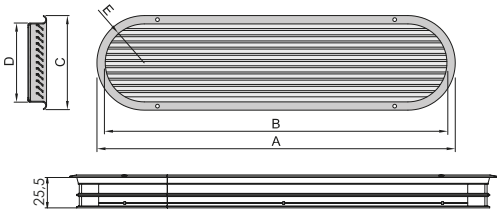


Type	A (mm)	B = Cutout (mm)	C (mm)	D = Cutout (mm)	E = Cutout radius (mm)	Free flow area in cm²
ASV020A	300	280	117	97	R 48,5	83
ASV025A	350	330	117	97	R 48,5	100
ASV030A	360	340	130	110	R 55	122
ASV040A	450	430	130	110	R 55	159
ASV050A	490	470	146	126	R 63	202
ASV060A	570	550	146	126	R 63	241
ASV070A	590	570	159	139	R 69,5	283
ASV080A	660	640	159	139	R 69,5	321
ASV090A	670	650	172	152	R 76	363
ASV100A	730	710	172	152	R 76	400
ASV125A	750	730	198	178	R 89	503
ASV150A	890	870	198	178	R 89	603

Type SSV

Type SSV is made of high gloss stainless steel (AISI 316) with grilles of anodised aluminium.

SSV

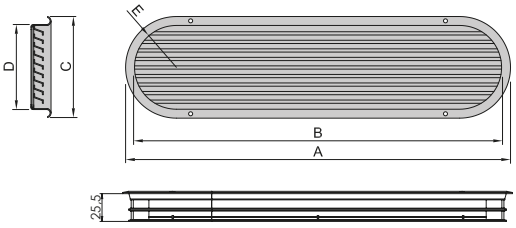


Type	A (mm)	B = Cutout (mm)	C (mm)	D = Cutout (mm)	E = Cutout radius (mm)	Free flow area in cm²
SSV070	590	570	159	139	R 69,5	283
SSV080	660	640	159	139	R 69,5	321
SSV090	670	650	172	152	R 76	363
SSV100	730	710	172	152	R 76	400
SSV125	750	730	198	178	R 89	503
SSV150	890	870	198	178	R 89	608

Louvred air suction vents

Type SSVL

The frame and grilles of this type are made of high gloss polished stainless steel (AISI 316).



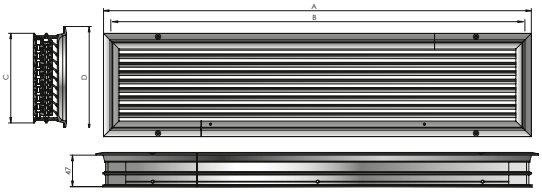
SSVL

Type	A (mm)	B = Cutout (mm)	C (mm)	D = Cutout (mm)	E = Cutout radius (mm)	Free flow area in cm²
SSVL070	590	570	159	139	R 69,5	283
SSVL080	660	640	159	139	R 69,5	321
SSVL090	670	650	172	152	R 76	363
SSVL100	730	710	172	152	R 76	400
SSVL125	750	730	198	178	R 89	503
SSVL150	890	870	198	178	R 89	608

Type ASVREC

Rectangular louvred air suction vent

The frames of this type are made of polished anodised aluminium and the grilles of anodised aluminium.



ASVREC

Type	A (mm)	B = Cutout (mm)	C (mm)	D = Cutout (mm)	Free flow area in cm²
ASVREC20	300	280	117	97	83
ASVREC30	360	340	130	110	125
ASVREC40	450	430	130	110	162
ASVREC50	490	470	146	126	205
ASVREC60	570	550	146	126	245
ASVREC70	590	570	159	139	285
ASVREC80	660	640	159	139	325

Note: VETUS can supply louvred air vents in other shapes and sizes to special order.

Dorade boxes

Type DBOX for louvered air suction vents

All standard air suction vents can be supplied with a synthetic dorade box as an option (except type ASVREC).

Type	Description
DBOX020	Dorade box for ASV, SSV, SSVL, type 20
DBOX025	Dorade box for ASV, SSV, SSVL, type 25
DBOX030	Dorade box for ASV, SSV, SSVL, type 30
DBOX040	Dorade box for ASV, SSV, SSVL, type 40
DBOX050	Dorade box for ASV, SSV, SSVL, type 50
DBOX060	Dorade box for ASV, SSV, SSVL, type 60

Type	Description
DBOX070	Dorade box for ASV, SSV, SSVL, type 70
DBOX080	Dorade box for ASV, SSV, SSVL, type 80
DBOX090	Dorade box for ASV, SSV, SSVL, type 90
DBOX100	Dorade box for ASV, SSV, SSVL, type 100
DBOX125	Dorade box for ASV, SSV, SSVL, type 125
DBOX150	Dorade box for ASV, SSV, SSVL, type 150

DBOX

Round air suction vents

Type ERV

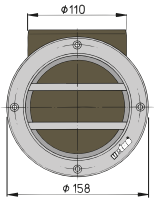
Air suction vent with rotating connector

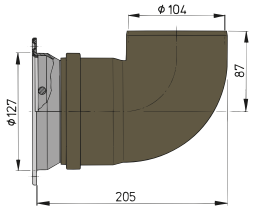
This vent is suitable for up to 16 hp of engine power. For a 60 hp engine you would need four of these air suction vents of which two should be fitted to port and two to starboard.

Type ERV is made of stainless steel (AISI 316) and has a synthetic rotating connector which functions as a watertight dorade box. The free flow area is 66 cm². A matching hose must be ordered separately.

ERV110A

Type	Description
ERV110A	Round air suction vent type 110, with stainless steel (AISI 316) grille and synthetic housing





Hose for fluids in closed heating / cooling systems

Type CCHOSE

Excellent for fluids in air conditioning and central heating

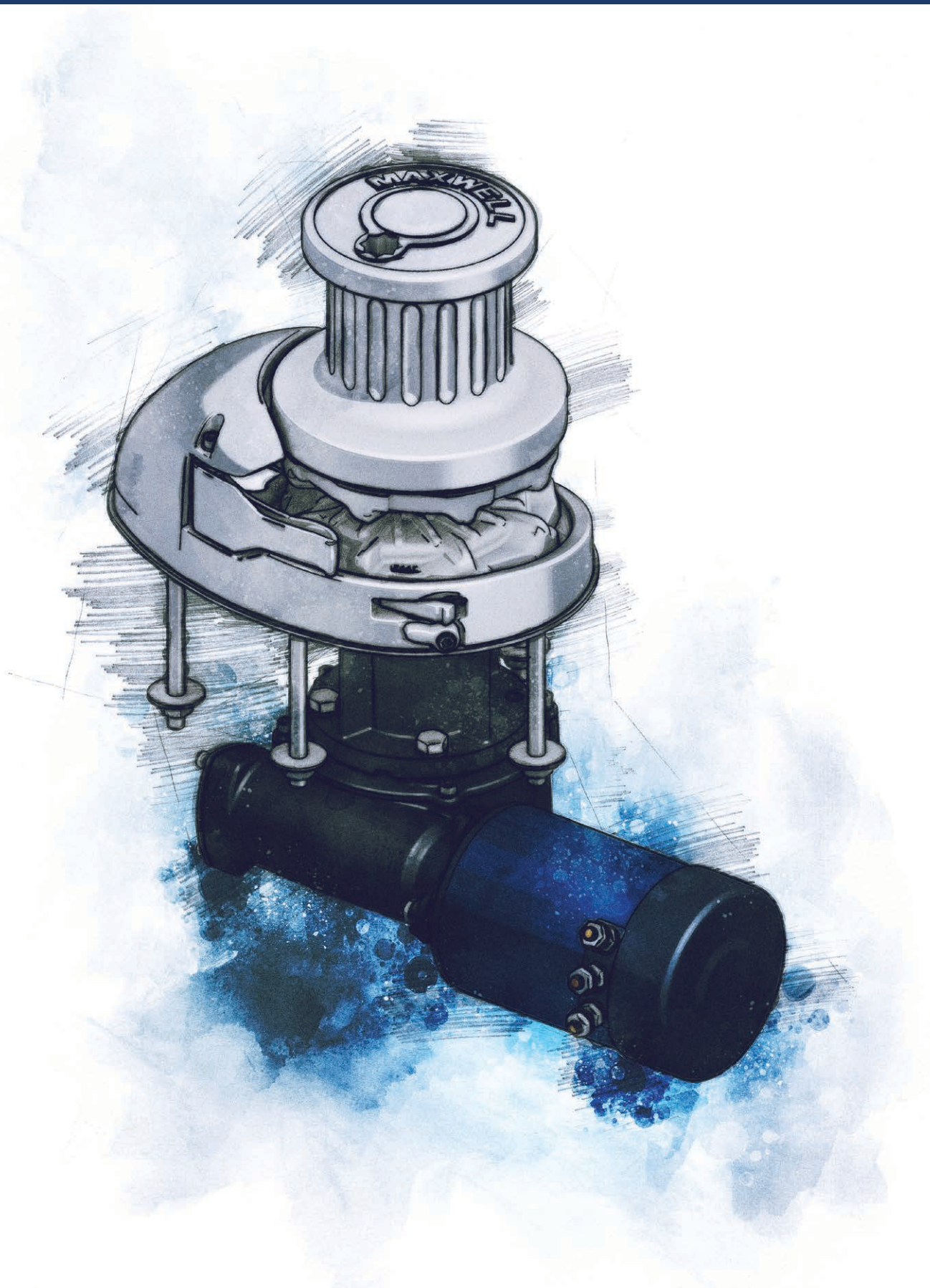
Type CCHOSE is made of EPDM rubber with inlay of woven reinforcement fabric. Suitable for fluids in closed heating and/or cooling systems. When used with air conditioning units, an insulating sleeve (made of a combination of polythene and rubber with a closed cell structure) is required. Temperature resistant between +3° and 80°C.

CCHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	Roll length m
CCHOSE16	16	30	0,54	1.5	112	20
CCHOSE25	25	39	0,76	1.5	175	20

MAXWELL

Anchoring systems



Maxwell Product Innovation

Maxwell equipment is born of innovation and backed by years of experience in the manufacture of the world's highest quality anchor windlasses, ancillary deck gear and stern handling products.

Maxwell's innovative approach to design resulted in the introduction of automatic rope/chain windlasses to the global marine market during the mid 1990's. These were a radical departure from all other windlasses, revolutionary in design and technical features.
Building on the success of these products, Maxwell designed and developed an exciting RC range of automatic rope/chain windlasses. Maxwell broke the design barriers with the development of a vertical and horizontal rope/chain windlass range incorporating two unique and internationally patented features. The RC and HRC Series attest to Maxwell's ongoing commitment to innovative design and development.

Maxwell continues to evolve its existing range of proven windlasses and capstans.The RC12 is the culmination of Maxwell's evolution of a full range of automatic rope/chain windlasses suitable for use on vessels from 4.5 metres (15 feet) to over 22 metres (75 feet).

Maxwell's ongoing commitment to product development can also be seen in the upgrading of the 'traditional' and continually popular vertical VWC Series. Stalwarts since the early nineties, the VWC windlasses were always great performers and now, with advanced engineering features incorporated into our improved designs, they work even better.
Maxwell recognises that boat owners not only want equipment that works flawlessly, they want products that look good as well. To this end, Maxwell designers spend countless hours improving the look, functionality and robustness of all Maxwell products.

With an ongoing commitment to excellence, product innovation, research and development, you can count on Maxwell to secure your investment!



HRCFF

The compact HRCFF6, HRCFF7 and HRCFF8 are Maxwell's horizontal versions of the innovative vertical RC Series automatic rope/chain windlasses. Packed with original and proven features, such as automatic 'Free Fall' and including the patented rode management technology developed by Maxwell, the HRCFF6, HRCFF7 and HRCFF8 have become industry icons.

RC12HD

The RC12HD has been designed to meet typical classification society requirement or regulations. This design is particularly well suited to vessels requiring high service speeds such as patrol vessels as the reduced weight of rope/chain combination rodes removes weight from the front of the vessel.

TASMAN

Our Tasman Series has a powerful motor and is highly reliable; ready for whatever situation or adventure you can throw at it. The gearbox, made from marine grade aluminium, is anodised for optimal protection.
Tasman features are: • All rode is contained on drum making setup more compact than a traditional windlass and it does not require a large chain locker • Motor/gearbox can be fitted in fourteen different positions • Stainless steel (AISI 316) gearbox hub • Independent mounting legs • Simple emergency operation

An Introduction to Maxwell's Products

To make the proper selection in anchor-handling equipment it is important to give careful consideration to the style and size of boat, the anticipated anchoring conditions, and the weight and type of ground tackle. (Refer to 'Which Winch' article on page 333). Maxwell has an extensive range of windlasses for all types of ground tackle, bow configurations, locker spaces and power requirements including:

- The vertical stainless steel (AISI 316) RC Series and the horizontal HRC Series automatically handle rope/chain combination rodes and are suitable for boats from 4.5 metres (15 feet) up to approximately 22 metres (75 feet)
- The evolutionary RC12 Series automatically handles rope/chain combination rodes and is suitable for lighter displacement vessels up to approximately 24 metres (80 feet)
- The multipurpose VC (Vertical Capstan) Series, which can be used for all types of line handling
- The traditional rope and chain VW (Vertical Windlass) Series, designed for manually handling a rope and chain combination anchor rode joined by a conventional shackle and eye splice. The exception being the hybrid VW10, see page 346
- The VWC (Vertical Windlass/Capstan) and HWC (Horizontal Windlass/Capstan) Series, which handle chain only rodes automatically

VERTICAL OR HORIZONTAL - MAXWELL OFFERS BOTH

Vertical systems have several advantages: They take up less space on deck and are easier to maintain. They are less expensive than equivalent horizontal models. Chain, or rope/chain alignment with the bow roller, while not as critical as horizontal windlass alignment, should be within a tolerance of about +/- 2% for smooth retrieval of chain or rope/chain. Rode (rope/chain) alignment with RC Series winches is more critical (consult Owner's Manual). With vertical systems more chain is in contact with the chainwheel thus minimising the possibility of chain jump. Line-pull on the warping drum can be in any direction, as opposed to fore and aft only on horizontal models.

Horizontal models have the advantage of being better suited to applications where there is extreme deck thickness (over 200 mm - 8"), limited below deck accessibility or when two anchors must be handled from one winch. Maxwell products are distributed and supported worldwide by an extensive service network.

Each winch is available with a circuit breaker of an appropriate size to provide electrical protection during normal operation of the winch. Maxwell capstan winches and anchor windlasses fitted with capstan drums are manufactured with Maxwell's fluted stainless steel (AISI 316) design to ensure the best possible grip and control of rope lines or rodes.

'CHAIN' OR 'ROPE AND CHAIN'?

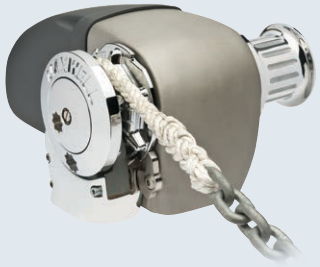
The two options for use with windlasses:

CHAIN ONLY

A rode consisting entirely of short link anchoring chain provides the ultimate in holding security. Chafe resistance combined with excellent catenary effect ensure the best holding , suitable for use on all Maxwell anchoring windlasses including those designed for use with rope/chain combination rodes.

ROPE AND CHAIN

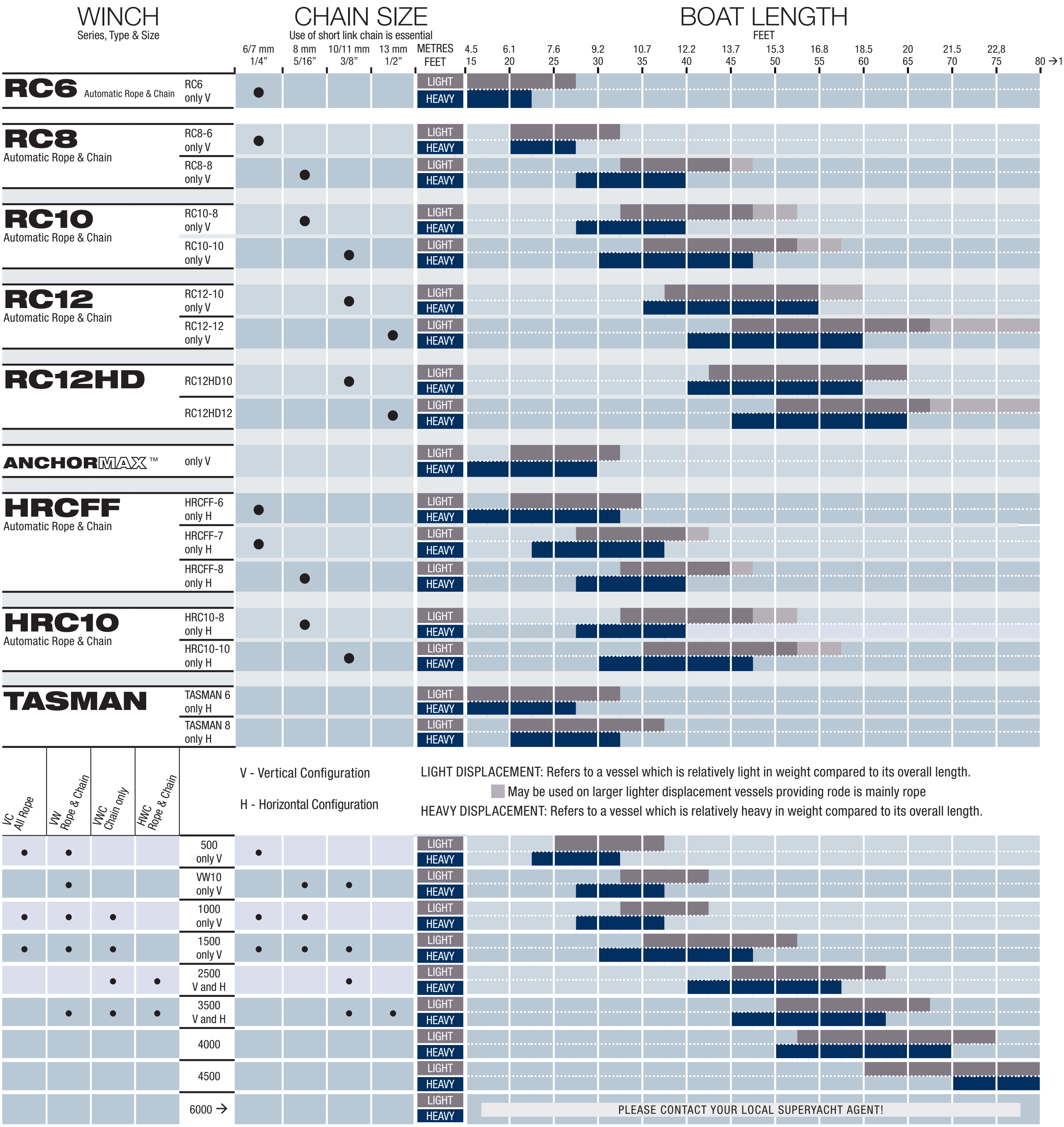
A rode consisting of a combination of short link chain and nylon rope, provides a good compromise between holding security, weight and shock absorption. A length of chain attached to the anchor provides good chafe resistance for those portions of the rode often touching the sea floor, the remainder of the rode being nylon rope which significantly reduces the weight of the rode and also provides some shock absorbing and noise cancelling. This type of rode is only suitable for use with Maxwell windlasses designed specifically for rope/chain combination rodes. The length of the chain or rope is only limited by chain locker size so it is possible to have for example 60 m of chain (used for most anchoring) and 100 m of rope (for those times where it is required to anchor in deep water). It is not recommended to leave a vessel anchored on the rope portion of the rode for extended periods without monitoring of the rope condition to ensure chafe does not become an issue.



WINDLASS AND CAPSTAN SELECTION CHART

This chart serves as a basic guide to assist in selecting the appropriate anchor winch system for your boat.

Please note: Size, displacement and type of vessel, as well as anchoring conditions, must be taken into consideration when selecting an anchor winch. Vessels of heavy displacement and/or high windage will require larger windlasses. All systems assume the use of a chain stopper, chain snubber or mooring cleat to remove the load when setting or breaking the anchor loose. The maximum pulling capacity of the windlass should not be less than three times the total weight of the ground tackle. Should you require any assistance or information, please do not hesitate to contact Maxwell Marine or any of our distributors or service centres world-wide.



This chart refers to anchor windlass selection only. When selecting a stern capstan for the same boat, Maxwell uses one size smaller drive, or down to a minimum of 50% of the pull rating of the windlass (unless specified otherwise).

WHICH WINCH? (Italicised items - refer to glossary, page 369)

There are a number of important criteria to be considered in selecting the correct anchor *winch*. These include the vessel size, displacement, windage, anchor size and *rode* selection. Practicalities such as locker space and depth of fall for the rode also play a part in deciding which *windlass* is ideal for you.

Maxwell Marine's range of windlasses and capstans is extensive, with models to suit boats up to 120 metres (over 380 feet). This section aims to simplify the selection process by taking you step by step through all the criteria that needs to be considered when choosing a windlass or capstan.

WHAT SIZE WINDLASS OR CAPSTAN FOR MY BOAT?

Consider the overall length and displacement (either light or heavy) of your boat and use the chart on the opposite page to identify the most suitable windlass or capstan for your vessel.

VERTICAL OR HORIZONTAL CONFIGURATION?

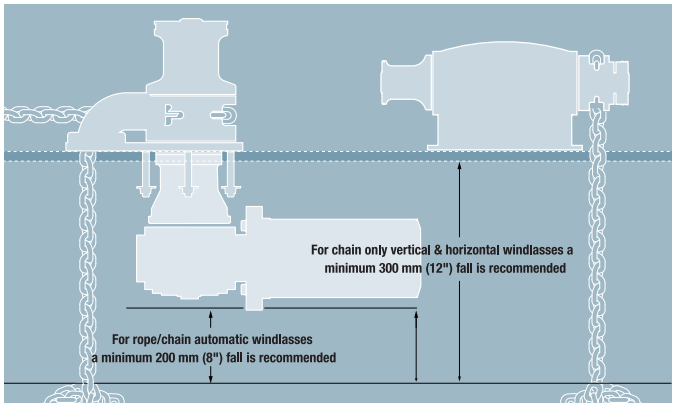
The two basic types of windlasses are differentiated by the drive shaft orientation. Deck thickness and underdeck space are the two main considerations when deciding which of the two types to fit.

Vertical windlasses make up the majority of anchor winch sales. They are characterised by situating the *capstan* and/or *gypsy* (topworks) above the deck and the motor and gearbox below. Vertical windlasses provide a 180^0 wrap of the anchor rode around the chainwheel giving optimal chain control, minimising slippage and jumping.

Horizontal windlasses are mounted completely above deck with gypsy and capstan located to either side. They provide a 90^0 wrap of the anchor rode around the chainwheel.

HOW MUCH SPACE DO I NEED IN MY CHAIN LOCKER?

Deck thickness and locker space play an important role in deciding whether to install a *vertical* or *horizontal* windlass. Estimating or measuring the depth of fall of the rode into the anchor locker may dictate which type of windlass is most suitable for your vessel. Calculating the depth of fall differs for horizontal chain only windlasses and for vertical chain or rope/chain windlasses (see diagram below).



Recommended minimum fall distances are measured from the top of rode pile (chain or rope/chain) after complete retrieval of the anchor.

ROPE SELECTION

Rope and, particularly chain, selection is extremely important. Deciding on the right anchor winch for your boat depends on the size, not only of the boat, but also the ground tackle. Maxwell anchor winches and capstans are designed to take chain only, rope only or a combination of both. Automatic rope/chain systems are now commonly used on boats up to 22 metres (75 feet). Consequently, Maxwell's HRCFF6, HRCFF7, HRCFF8, HRC10, RC6, RC8, RC10 and the evolutionary RC12 automatic rope/chain systems have become increasingly popular, as they offer the added benefit of less weight in the bow with the ability to carry an increased amount of rode. Chain only systems remain popular on heavier displacement sail and motor yachts. There are two main types of anchor chain. Short link chain is most commonly used on small and medium sized boats while stud link chain is generally used on much larger vessels such as Superyachts.

The latter is characterised by a stud (bar) joining the two sides of the link preventing them from deforming when overloaded. High test or calibrated short link chain should always be used. Long or regular link chain should not be used with anchor windlasses.

There are a wide variety of both metric (mm) and imperial (inches) chain sizes available and these will have bearing on your final windlass decision. It is important that the right size and right grade of chain is used to ensure a correct fit of the links to the gypsy. If the chain is not matched to the chainwheel problems may occur, such as the chain jumping off the gypsy or the chain jamming as it will not feed smoothly through the chain pipe. As chain to chainwheel compatibility is so important, Maxwell Marine supplies chainwheels to fit just about every known chain available on today's international market.

DC, AC OR HYDRAULIC?

The wattage of a DC electric motor is not the important factor. Rather it is the efficiency of the whole winch, including the gearbox and motor, which counts. With the increasing popularity of powerful and compact on-board generators, AC powered winches are becoming a practical consideration for bigger boats. Hydraulic systems provide another power source well worth considering as they have the advantage of constant speed under all load conditions and can be run almost constantly while coupled with safe guards such as pressure relief valves. Modern hydraulic systems offer an integrated, low maintenance and efficient, centrally managed, power pack.

WHAT PULL CAPABILITY WILL I NEED?

The only meaningful way to rate anchor winch performance is by looking at what it will lift and at what speed. The two things to consider are (a) the *maximum pull* capability and (b) the *working load* of the winch. Maximum pull (sometimes referred to as stall load) is the maximum short term or instantaneous pull of the winch. Working load is generally rated at about one third of the maximum pull and is usually considered to be the load that the winch is pulling once the anchor is off the bottom. To determine your required maximum pull capability, complete the calculation below.

1. Calculate ground tackle weight (anchor + chain + rope = ground tackle)

eg:	ANCHOR		18 m/60 ft CHAIN		61 m/200 ft ROPE		GROUND TACKLE
	30 kg/66 lbs	+	45 kg/100 lbs	+	12 kg/ 26 lbs	=	**87 kg/192 lbs**

2. Calculate the maximum pull (total ground tackle x 3 = Maximum pull)

Safety guidelines suggest that the pulling capacity of the windlass should not be less than 3 times the total weight of the ground tackle.

eg:	GROUND TACKLE		MAXIMUM PULL
	87 kg/192 lbs	x 3 =	**261 kg/576 lbs**

In this instance an **HRC8, HRC10, RC8, RC10, or VW1000** would be suitable, providing the chain and rope size is applicable to the windlass being considered. The maximum pull of 261 kg/576 lbs is well within the capability of all these anchor winches.

SAFETY AND SECURITY TIPS

Circuit breaker/isolators are used in the installation of any DC electric windlass to provide protection to motor and cables should the windlass be overloaded. Accessories such as *chain stoppers* or chain snubbers must be used for safe anchoring, the avoidance of unintentional self-launching of the anchor and for the prevention of damage to your anchor winch. You should never anchor off your winch or use your winch to pull your boat to the anchor spot. The anchor winch is designed to lift a dead weight and should not be subjected to the strain of your boat riding at anchor. If you think the winch you are considering may be too small, then go to the next size up. Better to have excess lifting capacity than not enough!

Maxwell Marine and our agents or distributors offer free and helpful advice should you have any questions. Alternatively, refer to Maxwell's website: www.maxwellmarine.com


HRCFF6-7-8


HRC10


VC SERIES Vertical Capstan


VW SERIES Vertical Windlass


VWC SERIES Vertical Windlass & Chainpipe


HWC SERIES Horizontal Windlass & Capstan

RC6

Vertical Rope/Chain Series RC6

The stainless steel (AISI 316) RC6 automatic rope/chain anchor winch is Maxwell's smallest version in the highly successful vertical RC Series Windlass Range.

RC6 Low Profile

RC6 showing, 'fast install', in-line vertical gearbox and motor

Features and benefits

- The stainless steel (AISI 316) RC6 Series incorporates a chromed bronze chainwheel suitable for use with 6 mm/7 mm (1/4") chain spliced to 12 mm (1/2") 8-brait (plait) rope
- The RC6 features Maxwell's revolutionary, and patented, Wave Design™ chainwheel. Refer below for more information about this innovative feature
- Providing most of the features of the larger RC8 (refer pages 336 - 337), the RC6 has been designed with the smaller, trailer boat market in mind
- The in-line, vertical gearbox and motor means quick and easy installation by either the boat yard or the DIY aftermarket customer
- An inexpensive, high performance and great looking windlass; the RC6 is built for durability and years of trouble free use
- The RC6 is a Low Profile unit (no optional capstan drum)

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency 'free fall' activation lever (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber

Every Maxwell RC6 automatic rope/chain windlass comes with top works, gearbox, motor and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 368.

3 YEAR Limited Warranty

Maxwell's smallest version of the rope/chain anchor winch

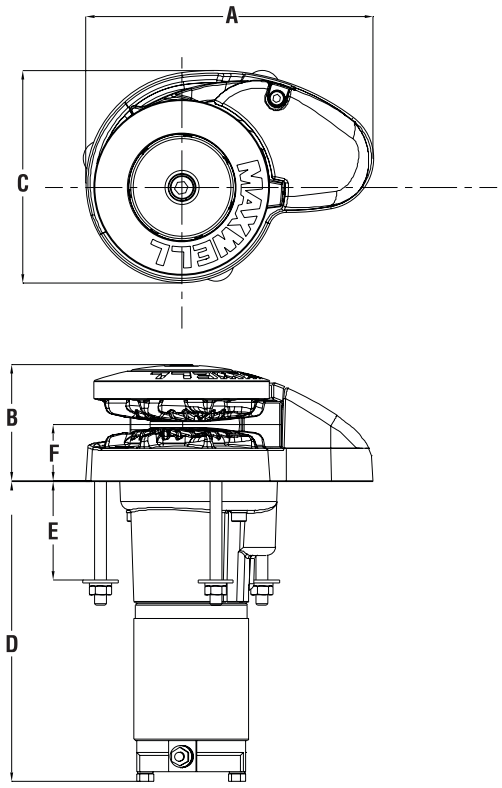
SPECIFICATIONS

Model	RC6
Maximum Pull/Lift	350 kg / 770 lbs
Static Hold	700 kg / 1540 lbs
Chain Short Link	6 mm/7 mm / 1/4"
Rope Size (Nylon)* (8 plait recommended)	12 mm / 1/2"
Chain Speed (Anchor Retrieval)	24 m/min / 79 ft/min
Rope Speed (Anchor Retrieval)	21 m/min / 69 ft/min
Power Supply (DC)	12 or 24 VDC
Motor Power	500 W
Net Weight	8.5 kg / 18.7 lb

* Refer to owners manual for rope size variations

DIMENSIONS

Model	RC6
A	196 mm / 7 3/4"
B	80 mm / 3 3/16"
C	145 mm / 5 3/4"
D	209 mm / 8 3/4"
E	65 mm / 2 1/2"
F	39 mm / 1 9/16"

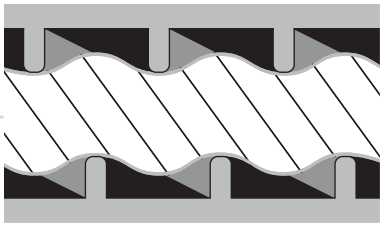


Important: **Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.**

MAXWELL'S REVOLUTIONARY CHAINWHEEL

Maxwell lead the market yet again in innovative thinking when they introduced the Wave Design™ chainwheel. This patented rope/chain wheel incorporates two unique design concepts that greatly improve the handling and control of the rope/chain spliced rode. The outer ribs of the chainwheel are angled slightly forward ensuring that the rope and the chain are smoothly guided in the wheel during anchor retrieval.

As the rope pulls into the wheel, the opposite facing inner ribs grip the rope in an undulating manner, securing the rope more firmly in a 'wave pattern' action that is far superior to the traditional 'jam cleat' manner of holding the rope compared to all other products on the market. Not only does this Wave Design™ hold the rope more securely, it is also kinder on the rope resulting in increased longevity of your anchor rode.



RC8

Vertical Rope/Chain Series RC8-6 • RC8-8

The stainless steel (AISI 316) RC8 Series of automatic rope/chain anchor winches are Maxwell's mid-range models in the highly success RC Series Windlass Range

3 YEAR Limited Warranty

RC8 Low Profile Version

RC8 Low Profile Version

Features and benefits

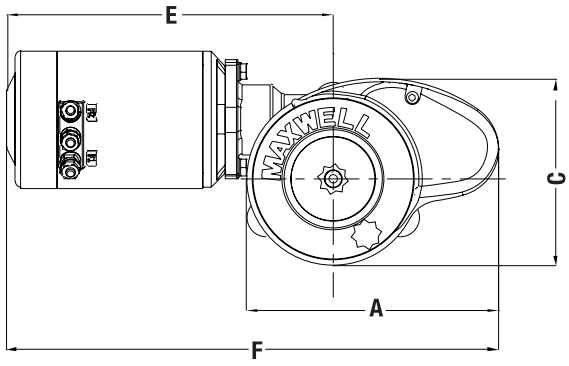
- The stainless steel (AISI 316) RC8-6 Series incorporates a chromed bronze chainwheel, designed to effortlessly retrieve and deploy 6 mm/7 mm (1/4") chain spliced to 12 mm (1/2") 8-brait (plait) rope
- The more powerful RC8-8 can be used with 8 mm (5/16") chain spliced to 14 mm or 16 mm (9/16" - 5/8") 8-brait (plait) rope
- The ingenious Wave Design™ rope/chain gypsy (chainwheel) is able to accommodate a wide range of chain pitch differences within the specified chain size diameters suitable for use with the RC8 Series
- A sleek, Low Profile version and a fluted stainless steel (AISI 316) capstan drum version, are available
- Simple two piece installation saves time and money and allows easy retrofitting without disassembly of the windlass
- Unique spacer tube design allows installation through virtually any deck thickness and the multiple mounting positions and self-aligning gearbox ensure optimal location of gearbox and motor in virtually all installation situations
- The RC8 features Maxwell's revolutionary, and patented, Wave Design™ chainwheel. Refer RC6 page 334 for more information about this innovative feature
- The heavy duty stainless steel (AISI 316) pressure arm is designed to effectively help grasp the rope/chain splice, giving the RC8 an unparalleled level of performance. In combination with a heavy duty, large wire diameter, stainless steel (AISI 316) pre-loaded spring, the pressure arm always exerts maximum control pressure
- The RC8 works just as effectively with all-chain rodes
- Huge, through deck hawse pipe throat ensures easy entry of the rope/chain rode into and out of the anchor locker
- Full disassembly capability of the topworks utilising only the handle provided and an Allen key
- Manual override and 'Free Fall', using the emergency crank/clutch handle provided
- Sealed oil bath and marine-grade hard anodised, alloy gearbox provides maximum output via a precision worm and worm wheel

Mid-range rope/chain anchor winch

SPECIFICATIONS

Model	RC8 (6/7 mm-1/4")	RC8 (8 mm-5/16")
Maximum Pull/Lift	350 kg / 770 lbs	600 kg / 1320 lbs
Static Hold	1200 kg / 2640 lbs	1200 kg / 2640 lbs
Chain Short Link	6/7 mm - 1/4"	8 mm - 5/16"
Rope Size (Nylon)* (8 plait recommended)	12 mm - 1/2"	14 mm/16 mm - 9/16"-5/8"
Chain Speed (Anchor Retrieval)	28 m/min - 92 ft/min	32 m/min - 105 ft/min
Rope Speed (Anchor Retrieval)	24 m/min - 79 ft/min	28 m/min - 92 ft/min
Power Supply (DC)	12 or 24 VDC	12, 24 or 48 VDC
Motor Power	600 W	1000 W
Net Weight	12.5 kg / 27.5 lbs	16.5 kg / 36.3 lbs

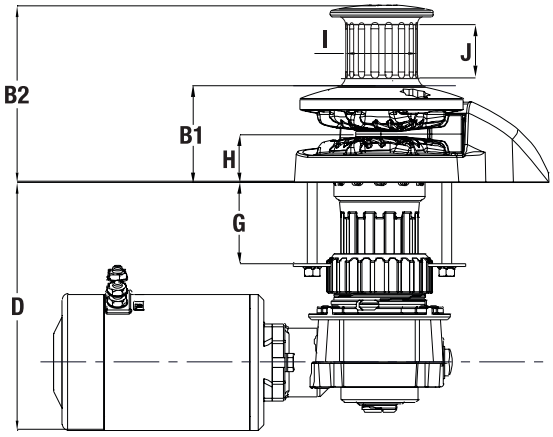
* Refer to owners manual for rope size variations



DIMENSIONS

Model	RC8 (6/7 mm-1/4")	RC8 (8 mm-5/16")
A	210 mm / 8 5/16"	210 mm / 8 5/16"
B1	83 mm / 3 5/16"	83 mm / 3 5/16"
B2 (with Capstan)	146 mm / 5 3/4"	146 mm / 5 3/4"
C	156 mm / 6 3/16"	156 mm / 6 3/16"
D	200 mm / 7 7/8"	208 mm / 8 1/4"
E	245 mm / 9 5/8"	272 mm / 10 3/4"
F	383 mm / 15"	410 mm / 16 1/4"
G (Std deck clearance) ^	65 mm / 2 1/2"	65 mm / 2 1/2"
H	40 mm / 1 5/8"	40 mm / 1 5/8"
I	66 mm / 2 5/8"	66 mm / 2 5/8"
J	44 mm / 1 3/4"	44 mm / 1 3/4"

^ extra deck clearance models available. Contact your Maxwell dealer.



Important: **Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.**

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency crank/clutch release handle lever (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

Every Maxwell RC8 automatic rope/chain windlass comes with the top works, gear box, motor and dual-direction solenoid. Switches and circuit breaker are available and need to be ordered separately.
Refer chart on page 368.

HEIGHT MATCHED CHAIN STOPPER

- For use with Maxwell's rope/chain vertical windlasses
- Height adjusted to most effectively align chain with the chainwheel
- No height adjustment plinth required
- Refer to page 363 for more information

Height Matched Chain Stopper

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber
6. Capstan model

RC10

Vertical Rope/Chain Series RC10-8 • RC10-10

The stainless steel (AISI 316) RC10 Series of automatic rope/chain anchor winches are Maxwell's upper mid-range models in the highly successful RC Series Windlass Range.

RC10 Capstan Version

Features and benefits

- The stainless steel (AISI 316) RC10-8 Series incorporates a chromed bronze chainwheel, designed to effortlessly retrieve and deploy 8 mm (5/16") chain spliced to 14 mm (9/16") or 16 mm (5/8") 8-brait (plait) rope
- The more powerful RC10-10 can be use with 10 mm (3/8") chain spliced to 16 mm (5/8") 8-brait (plait) rope
- A sleek, Low Profile version and a fluted stainless steel (AISI 316) capstan drum version, are available
- Simple two piece installation saves time and money and allows easy retrofitting without disassembly of the windlass. Unique spacer tube design allows installation through virtually any deck thickness and the multiple mounting positions and self aligning gearbox ensure optimal location of gearbox and motor in virtually all installation situations
- Full disassembly capability of the topworks utilising only the handle provided and an Allen key
- The RC10 is manufactured from marine-grade 316 stainless steel (AISI 316) and chromed bronze for long term durability. The heavy duty stainless steel (AISI 316) pressure arm, coupled with the unique rope/chain gypsy, is designed to effectively grasp the splice between rope and chain, giving the RC10 an unparalleled level of performance
- The Heavy Duty Stainless steel (AISI 316) pressure arm combined with a large wire diameter Stainless steel (AISI 316) spring ensures consistent pressure on the rode and splice
- The RC10 works just as effectively with all chain rodes for those who desire a Low Profile, elegantly styled windlass on their foredeck
- Huge, through deck hawse pipe throat ensures easy entry of the rope/chain rode into and out of the anchor locker
- Cone type clutch/brake mechanism permits manual, 'Free Fall' anchoring
- Sealed oil bath and marine-grade hard anodised, alloy gearbox provides maximum output via a precision worm and worm wheel

RC10 Low Profile Version

3YEAR Limited Warranty

SPECIFICATIONS

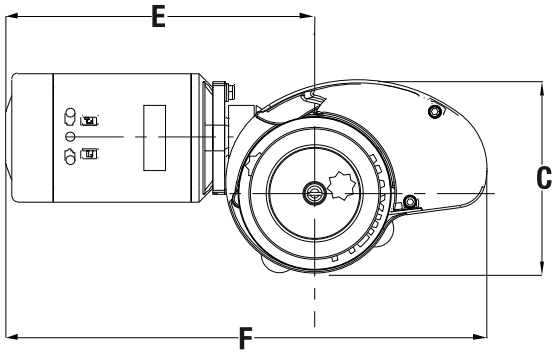
Model	RC10 (8 mm-5/16")	RC10 (10 mm-3/8")
Maximum Pull/Lift	700 kg 1540 lbs	850 kg 1870 lbs
Static Hold	1500 kg 3300 lbs	1500 kg 3300 lbs
Chain Short Link	8 mm 5/16"	10 mm 3/8"
Rope Size (Nylon)* (8 plait recommended)	14 mm - 16 mm 9/16"-5/8"	16 mm 5/8"
Chain Speed (Normal Working load)	24 m/min 79 ft/min	24 m/min 79 ft/min
Rope Speed (Normal Working load)	20 m/min 65 ft/min	20 m/min 65 ft/min
Power Supply (DC)	12, 24 or 48 VDC	12, 24 or 48 VDC
Motor (Watt)	1000 W	1200 W
Net Weight	19 kg 42 lbs	20 kg 44 lbs
Hydraulic Pressure	138 bar 2000 PSI	138 bar 2000 PSI
Hydraulic Flow	20 l/min 5.3 USgal/min	20 l/min 5.3 USgal/min
Net Weight - Hydraulic	14 kg/ 42 lbs 26 kg/ 57 lbs	14 kg/ 42 lbs 26 kg/ 57 lbs

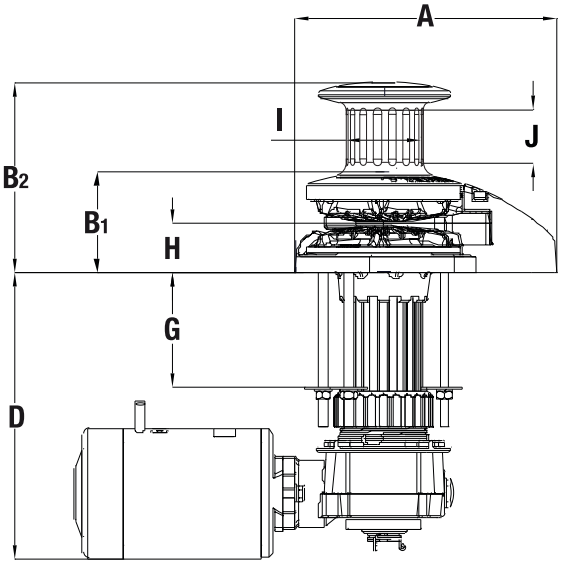
* refer to owners manual for rope size variations.

DIMENSIONS

Model	RC10 (8 mm-5/16")	RC10 (10 mm-3/8")
A	230 mm 9 1/8"	230 mm 9 1/8"
B1	89 mm 3 1/2"	89 mm 3 1/2"
B2 (with capstan)	168 mm 6 5/8"	168 mm 6 5/8"
C	170 mm 6 3/4"	170 mm 6 3/4"
D	251 mm 10"	251 mm 10"
E	272 mm 10 3/4"	272 mm 10 3/4"
F	424 mm 16 3/4"	424 mm 16 3/4"
G (Std deck clearance) ^	100 mm 4"	100 mm 4"
H	43 mm 1 3/4"	43 mm 1 3/4"
I	66 mm 2 5/8"	66 mm 2 5/8"
J	44 mm 1 3/4"	44 mm 1 3/4"

^ extra deck clearance models available. Contact your Maxwell dealer.





Important: **Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.**

HEIGHT MATCHED CHAIN STOPPER

- For use with Maxwell's rope/chain vertical windlasses
- Height adjusted to most effectively align chain with the chainwheel
- No height adjustment plinth required
- Refer to page 363 for more information

Height Matched
Chain Stopper

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)

Emergency crank/clutch release handle lever (included)

Up/Down remote control panel (not included)

Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber
6. Capstan model

Every Maxwell RC10 automatic rope/chain windlass comes with top works, motor/gear box and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 368.

RC12

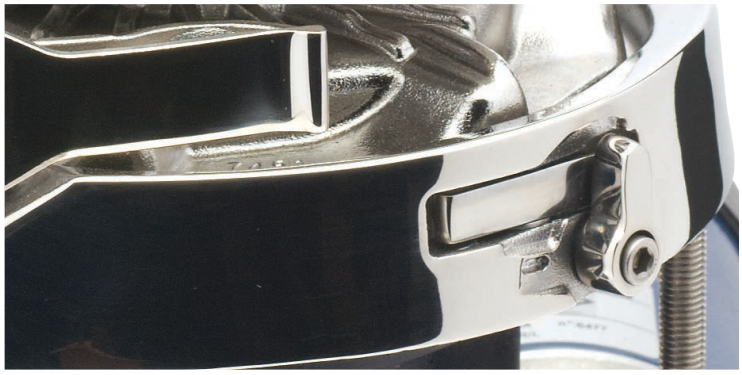
Vertical Rope/Chain Series RC12-10 • RC12-12

The RC12 Series incorporates Maxwell's latest stylish innovation in automatic rope/chain windlass technology. Retaining the classic open design styling more appropriate on larger boats, the RC12-10 and RC12-12 represent the next generation of rope/chain windlass evolution in every respect.

RC12 Capstan Model

3YEAR Limited Warranty

Activation of the ratcheted mechanism lever ensures the windlass cannot backwind during emergency (manual) retrieval of the rode (rope and/or chain) and anchor.



Features and benefits

- The RC12 fully automatic windlass series is designed to effortlessly retrieve and deploy 10 to 13 mm (3/8" to 1/2") short link chain combined with 16 to 22 mm (5/8" to 7/8") 8-brait (plait) nylon rope
- Stainless steel (AISI 316)
- With a maximum pull of 1590 kg (3500 lb), and an anchor retrieval rate of 15 m/min (50ft/min), the RC12-12 is one of the fastest and gruntiest windlasses in its class
- A sleek, Low Profile version and a fluted stainless steel (AISI 316) capstan drum version, are available
- The RC12 is packed with patented innovative features combined with Maxwell's traditionally classic aesthetics, but reflecting the modern "form follows function" of the highly successful RC6, RC8 and RC10 series windlasses
- The elegantly designed deckplate and chainpipe cover are manufactured in polished marine-grade (AISI 316) stainless steel, as are the heavy duty pressure arm, stripper, chainwheel and fluted capstan drum
- The huge, through deck hawse pipe throat ensures easy entry of the rope/chain rode into and out of the anchor locker
- Double cone-type brake/clutch mechanism permits 'Free Fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement, ensuring safe and precise operator control
- The RC12 features Maxwell's revolutionary and patented Wave Design™ chainwheel. Refer to RC6 page 335 for more information about this innovative feature
- Emergency manual retrieval is made simple and easy with Maxwell's unique "Active Latch Ratchet System" operation that prevents backwind of the windlass during manual hauling of the anchor
- The Maxwell designed, all new and innovative black, hard anodised gearbox provides numerous advantages:
  - Fast and easy windlass installation
  - More corrosion resistant
  - Easy to maintain and service
  - Takes up less room in the anchor locker
  - 75:1 Ratio (RC12-10) or 100:1 Ratio (RC12-12), single stage design with less moving parts, for smoother and quieter operation
  - Allows for multi-positioning of the gearbox/motor

SPECIFICATIONS

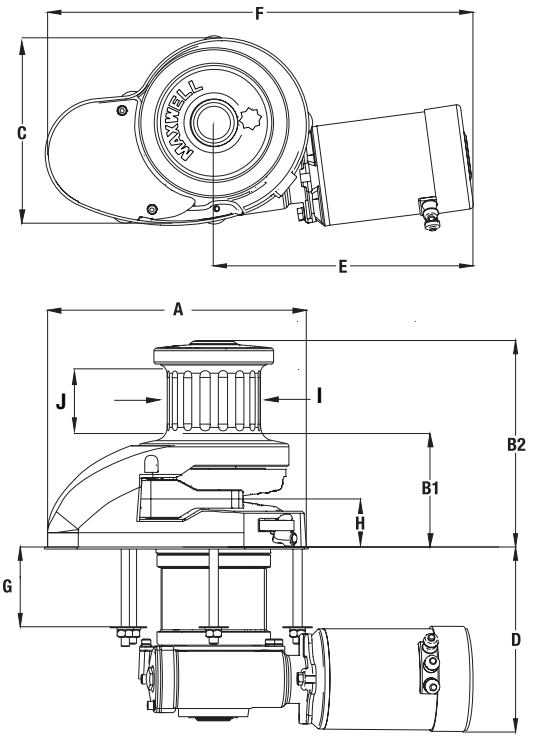
Model	RC12 (10/11 mm-3/8")	RC12 (12/13 mm-1/2")
Maximum Pull/Lift	1134 kg 2500 lbs	1590 kg 3500 lbs
Static Hold	2200 kg 4840 lbs	2200 kg 4840 lbs
Chain Short Link**	10/11 mm 3/8"	12/13 mm 1/2"
Rope Size (Nylon)** (8 plait recommended)	16-20 mm 5/8-3/4"	20-22 mm 3/4"-7/8"
Chain Speed (at normal working load)	24 m/min 79 ft/min	15 m/min 50 ft/min
Rope Speed (at normal working load)	20 m/min 65 ft/min	13 m/min 43 ft/min
Power Supply (DC)	12, 24 or 48 VDC	12, 24 or 48 VDC
Motor Power	1200 W	1200 W
Net Weight - DC (Capstan version)	32 kg 71 lbs	32 kg 71 lbs
Net Weight - DC (Low Profile version)	29 kg 64 lbs	29 kg 64 lbs
Hydraulic Pressure	138 bar 2000 PSI	138 bar 2000 PSI
Hydraulic Flow	40 l/min 11 USgal/min	40 l/min 11 USgal/min
Net Weight - Hyd (Low Profile) (Capstan version)	23 kg/ 51 lbs 26 kg/ 57 lbs	23 kg/ 51 lbs 26 kg/ 57 lbs

** When ordering please specify your specific rope and chain, combination rode

DIMENSIONS

Model	RC12 (10 mm-3/8")	RC12 (12/13 mm-1/2")
A	293 mm 11 5/8"	293 mm 11 5/8"
B[1] (Low Profile version)	128 mm 5 1/8"	128 mm 5 1/8"
B[2] (Capstan version)	233 mm 9 1/4"	233 mm 9 1/4"
C	206 mm 8 1/8"	206 mm 8 1/8"
D (Std deck clearance)	210 mm 8 3/8"	210 mm 8 3/8"
E	294 mm 11 5/8"	294 mm 11 5/8"
F	482 mm 19"	482 mm 19"
G (Std deck clearance)	90 mm 3 5/8"	90 mm 3 5/8"
H	54 mm 2 1/4"	54 mm 2 1/4"
I	106 mm 4 1/4"	106 mm 4 1/4"
J	62 mm 2 1/2"	62 mm 2 1/2"

Stylish innovation in automatic rope/chain windlass technology



RC12 Low Profile Model

Important: **Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.**

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency (manual) retrieval handle (included)
Clutch release handle (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber
6. Capstan model

HEIGHT MATCHED CHAIN STOPPER

- For use with Maxwell's rope/chain vertical windlasses
- Height adjusted to most effectively align chain with the chainwheel
- No height adjustment plinth required
- Refer to page 363 for more information

Height Matched Chain Stopper

Every Maxwell RC12 automatic rope/chain windlass comes with top works, motor/gear box and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 368.

Heavy Duty Rope/Chain Series

RC12HD Capstan Version

- The RC12HD is designed for use with 10 to 13 mm (3/8" to 1/2") short link chain combined with 16 to 22 mm (5/8" to 7/8") nylon rope
- Classification Society approval available for specific cases, contact your Maxwell representative
- This design is particularly well suited to light duty commercial vessels requiring high service speeds, e.g. patrol vessels, as the reduced weight of the rope/chain combination removes weight from the bow
- The 38 mm (1½") mainshaft is manufactured in high strength corrosion resistant 2205 Duplex stainless steel (AISI 316) and the above deck components in AISI 316 stainless steel (AISI 316) providing excellent corrosion resistance and highly polished finish
- The RC12HD is available with either a Heavy duty fan cooled 24 VDC, 48 VDC, 3 phase AC, Hydraulic motors of various displacements or single phase AC motor (contact your distributor for specifications and application). Run time and continuous pull varies between versions (see specifications on the following page)
- Double cone-type brake/clutch mechanism permits 'Free Fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement, ensuring safe and precise operator control
- The RC12HD features Maxwell's revolutionary and patented Wave Design™ chainwheel

3YEAR Limited Warranty

Important: **Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.**

RC12HD Low Profile Model

SPECIFICATIONS

	24 VDC Electric (2000W)	Hydraulic (Type 2)	Hydraulic GT (Type 1)	AC Electric
Maximum pull	1820 kg (4000 lbs)	1200 kg (2640 lbs)	1820 kg (4000 lbs)	1820 kg (4000 lbs)
Continuous pull	300 kg (660 lbs)	1200 kg (2640 lbs)	1250 kg (2750 lbs)	620 kg (1360 lbs)
Line speed at continuous pull	12 m/min (39 ft/min)	15 m/min (49 ft/min)	15 m/min (49 ft/min)	12 m/min (39 ft/min)
Working Load limit (10 min)	610 kg (1335 lbs)	1200 kg (2640 lbs)	1500 kg (3300 lbs)	750 kg (1650 lbs)
Maximum line speed	18 m/min (59 ft/min)	15 m/min (49 ft/min)	15 m/min (49 ft/min)	12 m/min (39 ft/min)
Static Hold	2200 kg (4840 lbs)	2200 kg (4840 lbs)	2200 kg (4840 lbs)	2200 kg (4840 lbs)
Net Weight (Capstan Version)	40 kg (88 lbs)	31.5 kg (69 lbs)	34 kg (75 lbs)	54 kg (118 lbs)
Power Supply	24 VDC	Hydraulic	Hydraulic	3Ph AC
Motor Power	2000 W	N/A	N/A	2200 W
Maximum Hydraulic Pressure	N/A	138 Bar (2000 PSI)	205 Bar (3000 PSI)	N/A
Recommended Hydraulic Flow	N/A	40 l/min (11 Gal/min)	28 l/min (7.5 Gal/min)	N/A

Accessories	Code	Voltage (DC)
Reversing Solenoid	SP5107	24 VDC
Circuit Breaker	P100791	135 Amp

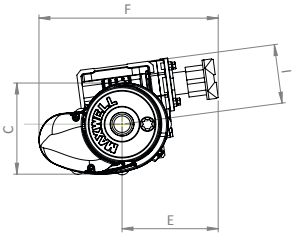
Refer to page numbers 358 - 361 for additional electrical accessories.

DIMENSIONS

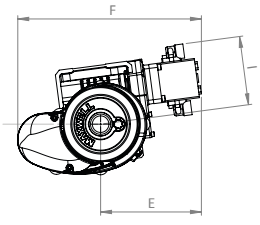
	Hydraulic Type 2	Hydraulic Type 1	24 VDC Electric	3phase AC Electric
A	293 mm 11 5/8"	293 mm 11 5/8"	293 mm 11 5/8"	293 mm 11 5/8"
B[1] (Low Profile version)	128 mm 5 1/8"	128 mm 5 1/8"	128 mm 5 1/8"	128 mm 5 1/8"
B[2] (Capstan version)	233 mm 9 1/4"	233 mm 9 1/4"	233 mm 9 1/4"	233 mm 9 1/4"
C	206 mm 8 1/8"	206 mm 8 1/8"	206 mm 8 1/8"	206 mm 8 1/8"
D	241 mm 9 1/2"	243 mm 9 9/16"	241 mm 9 1/2"	270 mm 10 5/8"
E	218 mm 8 5/8"	228 mm 9"	361 mm 14 1/4"	423 mm 16 5/8"
F	406 mm 16"	416 mm 16 3/8"	549 mm 21 5/8"	611 mm 24"
G	95 mm 3 3/4"	95 mm 3 3/4"	95 mm 3 3/4"	69 mm 2 3/4"
H	54 mm 2 1/4"	54 mm 2 1/4"	54 mm 2 1/4"	54 mm 2 1/4"
I	134 mm 5 1/4"	156 mm 6 1/8"	139 mm 5 1/2"	175 mm 6 7/8"

Extra Deck Clearance available, add 100m to dimensions D & G.

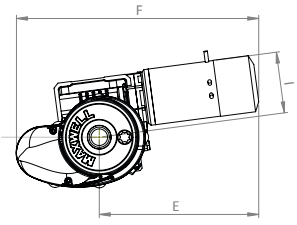
Hydraulic (Motor Type 2)



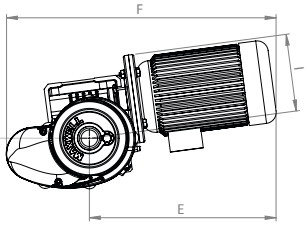
Hydraulic GT (Motor Type 1)



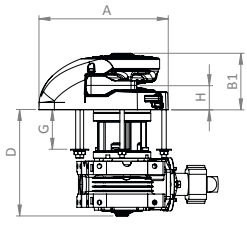
24V DC Electric



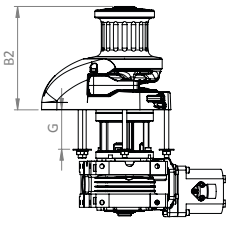
AC 3Phase Electric



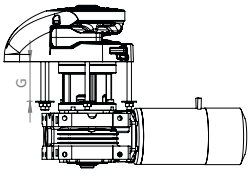
Low Profile Versions



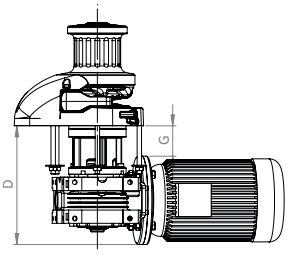
Capstan Versions



Low Profile Versions



Capstan Versions




VC500

An extremely versatile capstan

ANCHORMAX™

An extremely versatile vertical capstan or general purpose electric winch for use as an anchor winch, pot hauler or davit winch.

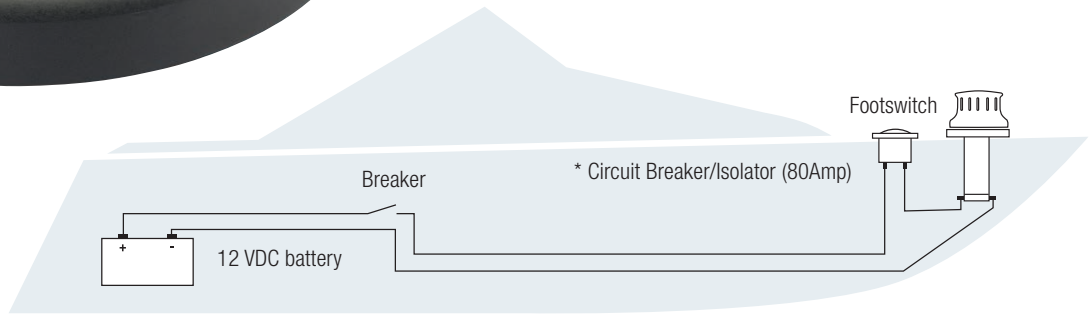
The ANCHORMAX™ has an extremely high power to weight ratio. The compact, fully sealed gearbox is driven by a vertically mounted, permanent magnet motor. Intrusion below decks is minimised making the design ideal for boats from 5 metres (16ft) to 10 metres (32ft). Fitting to the boat is simplicity itself as no dismantling of the winch is required.

The ANCHORMAX™ gear housings are marine-grade alloy and the drum is stainless steel (AISI 316). It is supplied as a single direction (clockwise) unit, complete with deck foot switch, fastenings, template and fitting instructions.

The ANCHORMAX™ is not recommended for use to haul halyards.

All standard and optional control accessories can be found on pages 358 - 361.

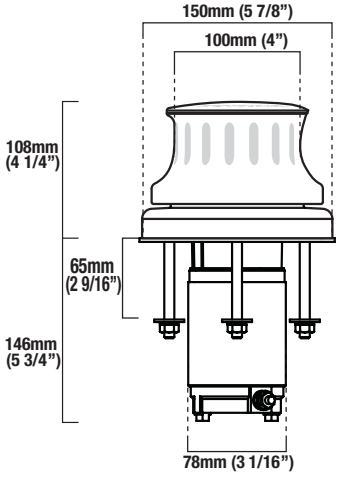
3YEAR Limited Warranty



*Not supplied with but recommended

ANCHORMAX SPECIFICATIONS

Maximum Line Pull/Lift	330 kg (740 lbs)
Speed @ nominal working load (80 Amps with 75 kg/165 lb load)	32 m/min (105' per min)
Voltage (DC)	12 VDC or 24 VDC
Power	500 W
Weight	5.5 kg (17.6 lbs)
Maximum Boat LOA	10 m (33')
Maximum Boat Weight	4 tonnes



High quality fluted capstan for smaller (power/sail) boats

VC500

The stainless steel (AISI 316) fluted capstan VC Series is designed for simple, low cost anchor recovery on smaller boats and rope hauling on larger vessels.

Features and benefits

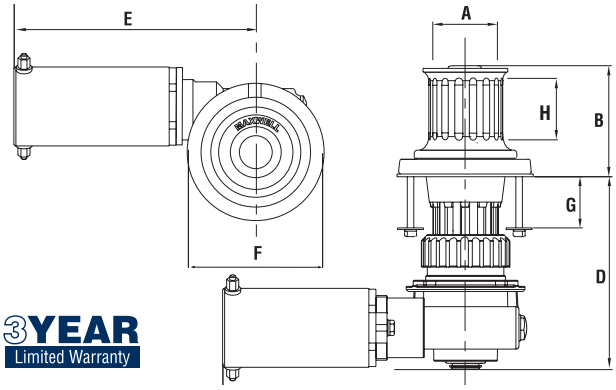
- Vertical design suits smaller powerboats or sailboats and can be utilised for anchor rodes, as a docking capstan on larger craft, or auxiliary line hauling from any direction
- High quality, hard wearing stainless steel (AISI 316) above deck components
- Functional rope hauling from any direction using fluted, snag-free warping drum for positive control of all ropes
- Simplified through deck installation by modular design and precise alignment of gearbox to the topworks
- Alternative gearbox/motor positions accommodate virtually all installation situations
- Compact, reliable gearbox, made of corrosion resistant materials
- Anodized aluminium gearbox and spacer on VC500 and VC1000 models
- Heavy duty, dual direction motors, designed for marine winches
- Easily disassembled for servicing
- Can be mounted horizontally for use as a pot hauler or davit winch

STANDARD EQUIPMENT REQUIRED FOR SINGLE DIRECTION CONTROL

Circuit breaker/isolator panel (not included)
Single direction solenoid (included)

OPTIONS

Extra deck clearance
Hydraulic motor*
Foot Switch



3YEAR Limited Warranty

SPECIFICATIONS

Model	500	1000
Maximum Pull/Lift	300 kg 660 lbs	700 kg 1540 lbs
Static Hold	N/A N/A	N/A N/A
Line Speed (Normal Working)	18 m/min 60 ft/min	20 m/min 65 ft/min
Power Supply (DC)	12 or 24 VDC	12, 24 or 48 VDC
Motor (Watt)	600 W	1000 W
Net Weight (Electric)	10 kg 22 lbs	18 kg 40 lbs
Hydraulic Pressure	*N/A *N/A	100 bar 1450 psi
Hydraulic Flow	*N/A *N/A	20 l/min 5.3 USgal/min
Net Weight - Hyd	*N/A *N/A	11 kg 24 lbs

DIMENSIONS

Model	500	1000
A	65 mm 2 9/16”	80 mm 3 1/8”
B	106 mm 4 3/16”	122.5 mm 4 5/6”
D (Std deck clearance)	173 mm 6 7/8”	252 mm 9 15/16”
E	245 mm 9 5.8”	272 mm 10 3/4”
F	132.5 mm 5 7/32”	160 mm 6 5/16”
G (Std deck clearance) OR**	57 mm 2 1/4”	100 mm 4”
G (Extra deck clearance) ^	N/A N/A	150 mm 6”
H	37.5 mm 1 7/16”	44 mm 1 3/4”

**For VC1000 a shorter deck clearance version is also available at 50 mm (2”)

^ A deck clearance increase will also increase the ‘D’ measurement by the same increment.

All standard and optional control accessories can be found on pages 358 - 361.

The VW Series of anchor winches are designed for traditional rope and chain combination anchor rodes, where manual transfer of the rode from the rope warping drum to the chainwheel is required.

3YEAR Limited Warranty

VW10 Capstan Version

Features and benefits

- Provides the versatility of operating two anchors from one winch
- Functional rope hauling from any direction using independent MAX-grip™ snag-free warping drum with clutch disengagement of chainwheel for positive control of all ropes
- Permits use of traditional shackle and thimble rope and chain connection
- Allows alternative mounting horizontally on a fore and aft bulkhead inside chain locker for below deck installation
- High-quality finish on above deck components, manufactured from marine grade stainless steel (AISI 316) and chromed bronze, for long term durability
- Cone type brake/clutch mechanism permits manual 'Free Fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement ensuring safe operator control
- Chainwheel locking pawl (except on VW500 and VW10)
- Simplified through deck installation by modular design and precise alignment of gearbox to the topworks utilising marine-grade stainless steel (AISI 316) bolts
- Anodized aluminium gearbox and spacertube
- Heavy duty, dual direction motor, designed for marine winches
- Easily disassembled for servicing

VW10 WINDLASS FOR USE WITH SPLICED ROPE/CHAIN

The VW10 evolved from the demand for a vertical windlass that could be used in a horizontally installed configuration, but which would also, interactively handle a rope/chain rode. The chainwheels on traditional VW models could be used with chain only rodes. The VW10, capable of automatically handling up to 10 mm (3/8") chain and 16 mm (5/8") rope, is ideally suited for use in sailing boat anchor lockers, where space considerations are critical. Quick and easy to install and available with or without independent warping capstan, the VW10 is destined to become an instant hit in this unique niche market.

STANDARD EQUIPMENT REQUIRED FOR SINGLE DIRECTION CONTROL

Dual Direction Solenoid (not included)

Emergency crank handle/clutch control lever (included, except with VW500)

Chainwheel to suit chain specified chain size (included)

Circuit breaker/isolator panel (not included)

Windlass electrical controls (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Foot Switches
3. Chain Stopper*
4. Chain Snubber
5. Extra deck clearance kit
6. Hydraulic motor (except on 500)
7. Up/Down remote control panel
8. Circuit breaker/isolator panel

All standard and optional control accessories can be found on pages 358 - 361.

Ideal for use in sailing boat anchor lockers with little available space

SPECIFICATIONS

MODEL	500	VW10-8 8 mm (5/16")	VW10-10 10 mm (3/8")	1000	1500	2500	3500
Maximum Pull/Lift	227 kg	700 kg	850 kg	700 kg	850 kg	1135 kg	1590 kg
	500 lbs	1540 lbs	1870 lbs	1540 lbs	1870 lbs	2500 lbs	3500 lbs
Static Hold	600 kg	1500 kg	1500 kg	1500 kg	1500 kg	2200kg	2200 kg
	1320 lbs	3300 lbs	3300 lbs	3300 lbs	3300 lbs	4840lbs	4840 lbs
Chain Short Link	6/7 mm	8 mm	10 mm	6-10 mm	6-10 mm	9-11 mm	10-13 mm
	1/4"	5/16"	3/8"	1/4" -3/8"	1/4" -3/8"	5/16"-3/8"	3/8"-1/2"
Line Speed**	18 m/min	24 m/min	24 m/min	18 m/min	18 m/min	15 m/min	15 m/min
(Normal Working)	59 ft/min	79 ft/min	79 ft/min	59 ft/min	59 ft/min	50 ft/min	50 ft/min
Power Supply (DC)	12 or 24 VDC	12, 24 or 48 VDC	12, 24 or 48 VDC	12, 24 or 48 VDC	12, 24 or 48 VDC	12, 24 or 48 VDC	12, 24 or 48 VDC
Motor (Watt)	600 W	1000 W	1200 W	1000 W	1200 W	1200 W	1200 W
Net Weight	10 kg	19 kg	20 kg	22 kg	22 kg	38 kg	48 kg
(Electric)	22 lbs	42 lbs	44 lbs	50 lbs	50 lbs	84 lbs	105 lbs
Hydraulic	N/A	N/A	N/A	100 bar	138 bar	138 bar	138 bar
Pressure	N/A	N/A	N/A	1450 psi	2000 psi	2000 psi	2000 psi
Hydraulic Flow	N/A	N/A	N/A	20 l/min	20 l/min	36 l/min	42 l/min
	N/A	N/A	N/A	5.3USgal/ min	5.3USgal/ min	9.5USgal/ min	11USgal/ min
Net Weight (Hyd)	N/A	N/A	N/A	15 kg	15 kg	32 kg	40 kg
	N/A	N/A	N/A	34 lbs	34 lbs	70 lbs	88 lbs

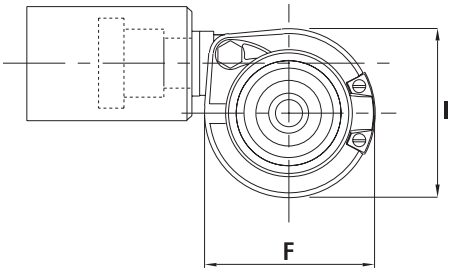
** Winch performance when hauling rope with capstan. Chain speed may vary depending on size of chain and gypsy.

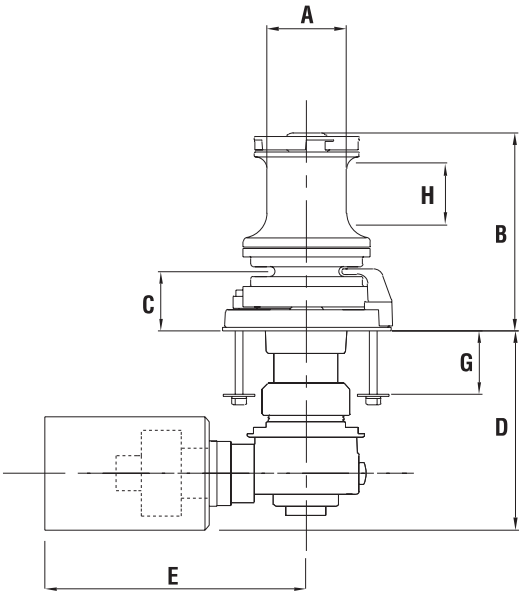
DIMENSIONS

MODEL	500	VW10-8	VW10-10	1000	1500	2500	3500
A	65 mm	66 mm	66 mm	80 mm	80 mm	94 mm	110 mm
	2 9/16"	2 5/8"	2 5/8"	3 1/8"	3 1/8"	3 11/16"	4 5/16"
B	151 mm	168 mm	168 mm	198 mm	198 mm	251 mm	276 mm
	6"	6 5/8"	6 5/8"	7 3/4"	7 3/4"	9 15/16"	10 7/8"
C	40 mm	43 mm	43 mm	59 mm	59 mm	80 mm	83 mm
	1 5/8"	1 3/4"	1 3/4"	2 3/8"	2 3/8"	3 5/32"	3 9/32"
D	173 mm	252 mm	252 mm	252 mm	252 mm	219 mm	219 mm
	6 7/8"	10"	10"	10"	10"	8 5/8"	8 5/8"
E	244 mm	272 mm	272 mm	272 mm	272 mm	281 mm	281 mm
	9 5/8"	10 3/4"	10 3/4"	10 3/4"	10 3/4"	11 1/8"	11 1/8"
F	133 mm	172 mm	172 mm	165 mm	165 mm	190 mm	270 mm
	5 1/4"	6 7/8"	6 7/8"	6 1/2"	6 1/2"	7 1/2"	10 5/8"
G (Std deck clearance)**	57 mm	100 mm	100 mm	100 mm	100 mm	85 mm	85 mm
	2 1/4"	4"	4"	4"	4"	3 11/32"	3 11/32"
G (Extra deck clearance) ^	N/A	150	150	150 mm	150 mm	190 mm	190 mm
	N/A	6"	6"	6"	6"	7 1/2"	7 1/2"
H (Working height of	37.5 mm	44 mm	44 mm	44 mm	44 mm	33 mm	54 mm
drum for rope warping)	1 1/2"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 5/16"	2 1/8"
I	133 mm	140 mm	140 mm	165 mm	165 mm	194 mm	270 mm
	5 1/4"	5 5/8"	5 5/8"	6 1/2"	6 1/2"	7 5/8"	10 5/8"

**For VW1000 and VW1500 shorter deck clearance version also available at 50 mm (2")

^ A deck clearance increase will also increase the 'D' measurement by the same increment.





1500 VWLP

Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position.

VWC SERIES
Vertical Windlass and Chain Pipe 1000 • 1500 • 2500 • 3500

The VWC Series is designed for automatic vertical handling of chain-only anchor rodes while offering an independent capstan for the retrieval of a secondary rope and chain rode or to assist with docking procedures.

3YEAR Limited Warranty

Features and benefits

- Fully automatic single or dual direction chainwheel operation
- High-quality finish on above deck components, manufactured from marine grade stainless steel (AISI 316), for long term durability
- Integral chain pipe and stripper are aligned for virtually jam-free operation providing automatic feed of chain into and out of the anchor locker
- Port and starboard chain pipes for twin installations (Sizes 2500 and above only)
- Cone-type brake/clutch mechanism permits manual 'free fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement ensuring safe and precise operator control
- Chainwheel locking pawl
- Optional Band Brake available for 3500 series unit
- Clutch disengagement of the chainwheel enables independent rope hauling from any direction, using the Max-grip™ snag-free warping drum for positive control of all ropes
- Simple through deck installation by modular design and precise alignment of gearbox to the topworks utilising marine-grade stainless steel (AISI 316) bolts
- Anodized aluminium gearbox and spacer tube on all models.
- Heavy duty, dual direction motor, designed for marine winches
- Low Profile configurations (no warping drum) are available

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency crank handle/clutch control lever (included)
Chainwheel to suit chain specified chain size (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Foot Switches
3. Chain Stopper*
4. Up/Down remote control panel
5. Extra deck clearance kit
6. Hydraulic motor
7. Compact Remote
8. Roving remote

VWC2500

All standard and optional control accessories can be found on pages 358 - 361.

Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

Fully automatic operation for chain-only installations

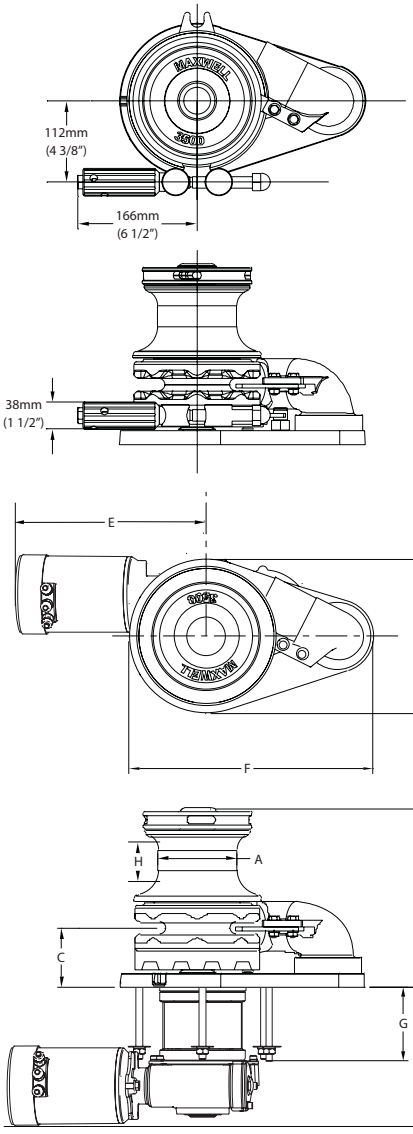
SPECIFICATIONS

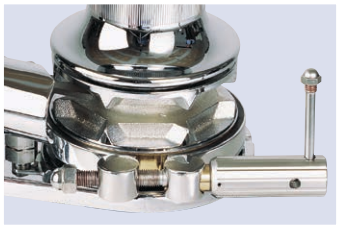
MODEL	1000	1500	2500	3500
Maximum Pull/Lift	700 kg 1540 lbs	850 kg 1870 lbs	1135 kg 2500 lbs	1590 kg 3500 lbs
Static Hold	1500 kg 3300 lbs	1500 kg 3300 lbs	2200 kg 4840 lbs	2200 kg 4840 lbs
Chain Short Link	6-10 mm 1/4"- 3/8"	6-10 mm 1/4"- 3/8"	9-11mm 5/16"- 7/16"	10-13 mm 3/8"- 1/2"
Line Speed (Normal Working)	18m/min 60 ft/min	18 m/min 60 ft/min	15 m/min 50 ft/min	15 m/min 50 ft/min
Power Supply (DC)	12, 24 or 48 VDC	12, 24 or 48 VDC	12, 24 or 48 VDC	12, 24 or 48 VDC
Motor (Watt)	1000 W	1200 W	1200 W	1200 W
Net Weight - DC	24 kg 52 lbs	24 kg 52 lbs	38 kg 84 lbs	48 kg 106 lbs
Hydraulic Pressure	100 bar 1450 PSI	138 bar 2000 PSI	138 bar 2000 PSI	138 bar 2000 PSI
Hydraulic Flow	20 l/min 5.3 USgal/min	20 l/min 5.3 USgal/min	36 l/min 9.5 USgal/min	42 l/min 11US gal/min
Net Weight - Hyd	17 kg 37 lbs	17 kg 37 lbs	32 kg 70 lbs	40 kg 88 lbs

DIMENSIONS

MODEL	1000	1500	2500	3500
A	80 mm 3 1/8"	80 mm 3 1/8"	94 mm 3 11/16"	110 mm 4 5/16"
B	195 mm 7 11/16"	195 mm 7 11/16"	242 mm 9 9/16"	254 mm 10"
B[1] (Low Profile)	98 mm 3 7/8"	98 mm 3 7/8"	148 mm 5 27/32"	149 mm 5 7/8"
C	56 mm 2 7/32"	56 mm 2 7/32"	80 mm 3 5/32"	83 mm 3 9/32"
D	252 mm 9 5/16"	252 mm 9 5/16"	219 mm 8 5/8"	219 mm 8 5/8"
E	262 mm 10 11/32"	272 mm 10 23/32"	281 mm 11 1/8"	281 mm 11 1/8"
F	224 mm 8 27/32"	224 mm 8 27/32"	297 mm 11 23/32"	342 mm 13 7/16"
G (Std deck clearance)*	100 mm 4"	100 mm 3 11/32"	85 mm 3 11/32"	100 mm 4"
G (Extra deck clearance)^	150 mm 6"	150 mm 6"	190 mm 7 1/2"	190 mm 7 1/2"
H (Working height of drum for rope warping)	44 mm 1 3/4"	44 mm 1 3/4"	33 mm 1 5/16"	29 mm 1 1/8"
I	165 mm 6 1/2"	165 mm 6 1/2"	190 mm 7 1/2"	215 mm 8 15/32"

***For VWC1000 and VWC1500 a shorter deck clearance version is also available at 50 mm (2").**
^ A deck clearance increase will also increase the 'D' measurement by the same increment.





VWC3500 Band Brake featuring Maxwell's innovative 'stow-a-way' tensioning lever

VWC3500 without Band Brake

VWCLP3500 Low Profile Version

The sleek, compact HRCFF 6-7-8 are Maxwell's horizontal versions of the latest innovative vertical RC6 and RC8 automatic rope/chain windlasses. The HRCFF Series are packed with original and proven features including patented rode management technology developed by Maxwell.

HRCFF

3YEAR Limited Warranty

Features and benefits

- Now incorporating Maxwell's automatic free-fall technology. Simply activate the windlass 'Free Fall' lever, operate your down control (helm station or footswitch) and the windlass will free fall your anchor. Ready to lift the anchor? Activate the up control and the 'free fall' device automatically disengages allowing you to power up your anchor
- Aesthetically pleasing above deck design, encapsulating the motor and drive in a watertight case, saving space below deck and allowing simple routine maintenance
- Die cast, marine-grade, alloy case is hard anodized for unsurpassed marine protection
- Simple 'bolt down' installation ensures effortless and rapid on-deck installation and set up
- Trouble free rode transition from rope to chain, by means of an innovative, proven and patented pressure arm system, within a safe enclosed design
- Integrated composite nylon, through deck hawse pipe for ease of installation and smooth, snag-free operation
- High efficiency spur gearbox incorporating a robust non-backwind mechanism
- High speed, jam-free retrieval of rope and chain controlled from a remote panel mounted Up/Down switch
- Emergency 'free fall' function in the event of onboard power failure. Activated by the supplied, emergency 'Free Fall' lever
- Revolutionary Wave Design™ chainwheel - see next page
- Heavy duty, dual direction motor incorporating new technology features, including integrated wiring for quick electrical installation

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Clutch Release Handle (included)
Up/Down remote control panel (not included)
Circuit breaker panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber

Every Maxwell HRCFF 6-7-8 windlass comes with top works, motor/gear box and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 368.

Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

3YEAR Limited Warranty

Compact horizontal automatic rope/chain windlass

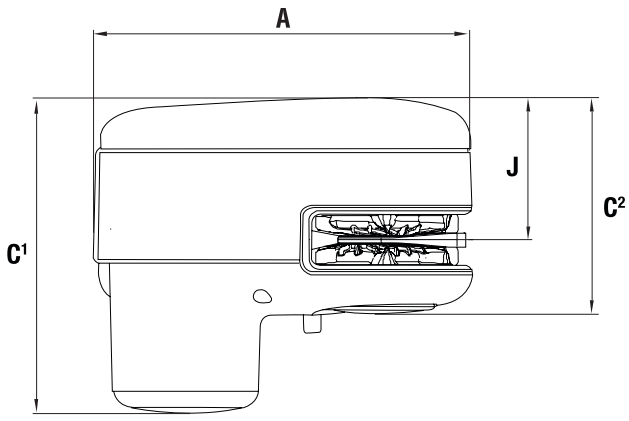
SPECIFICATIONS

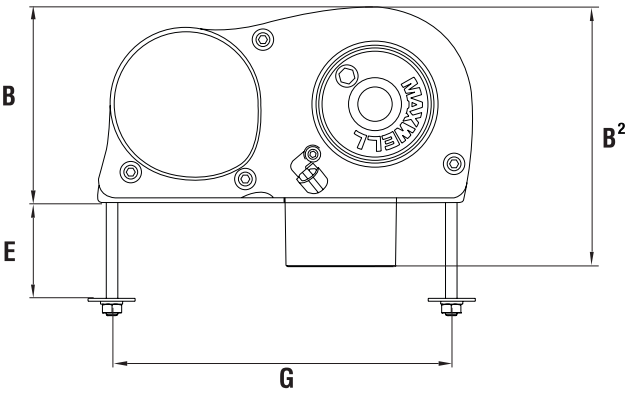
Model	HRCFF6	HRCFF7	HRCFF8
Maximum Pull/Lift	410 kg 900 lbs	410 kg 900 lbs	410 kg 900 lbs
Static Hold	700 kg 1540 lbs	700 kg 1540 lbs	700 kg 1540 lbs
Chain Short Link	6 mm	7 mm 1/4"	8 mm 5/16"
Rope Size (Nylon)* (8 plait recommended)	12 mm 1/2"	12 mm 1/2"	14 mm 9/16"
Line Speed (Anchor Retrieval) Nominal 30kg working load	33 m/min 108 ft/min	33 m/min 108 ft/min	33 m/min 108 ft/min
Power Supply (DC)	12 VDC	12 VDC	12 or 24 VDC
Motor Power	600 W	600 W	600 W
Net Weight	11.5 kg 25 lbs	11.5 kg 25 lbs	11.5 kg 25 lbs

***refer to owners manual for rope size variations.**

DIMENSIONS

All Models	mm	inches
A	256	10 1/8
B	132	5 11/32
B^2	176	6 7/8
C^1	214	8 7/16
C^2	147	5 3/4
E	65	2 1/2
G	230	9 1/16
J	96.4	3 7/8





All standard and optional control accessories can be found on pages 358 - 361.

MAXWELL'S REVOLUTIONARY CHAINWHEEL

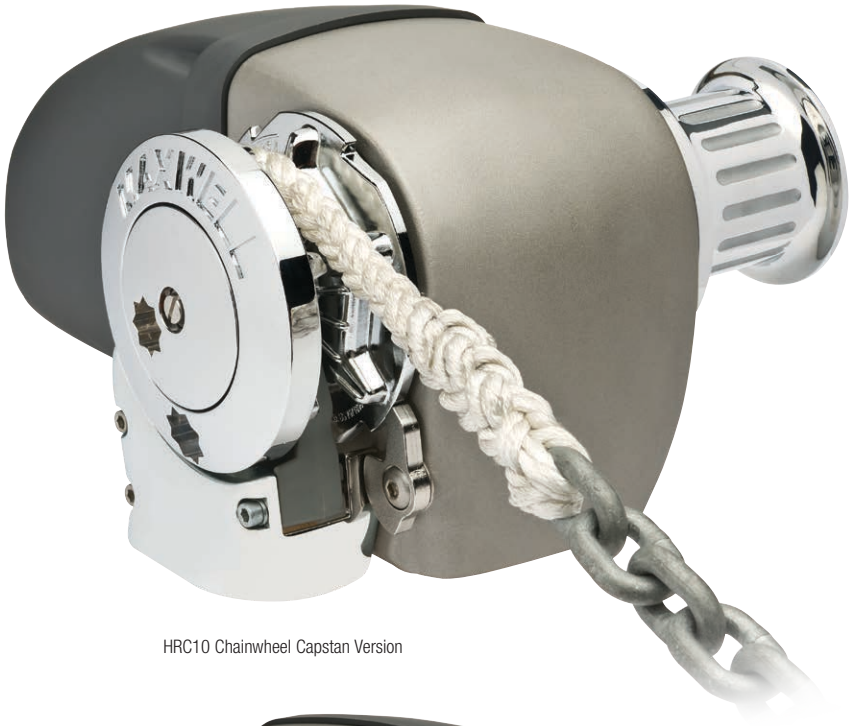
Maxwell lead the market yet again in innovative thinking when they introduced the Wave Design™ chainwheel. This patented rope/chain wheel incorporates two unique design concepts that greatly improve the handling and control of the rope/chain spliced rode.

The outer ribs of the chainwheel are angled slightly forward ensuring that the rope and the chain are smoothly guided in the wheel during anchor retrieval. As the rope pulls into the wheel, the opposite facing inner ribs grip the rope in an undulating manner, securing the rope more firmly in a 'wave pattern' action that is far superior to the traditional 'jam cleat' manner of holding the rope compared to all other products on the market. Not only does this Wave Design™ hold the rope more securely, it is also kinder on the rope resulting in increased longevity of your anchor rode.

HRC10

Horizontal Rope/Chain Series HRC10-8 • HRC10-10

The HRC10 Horizontal Series windlasses proudly follow in the highly successful footsteps of Maxwell's previous, fully automatic rope/chain anchor winches.



HRC10 Chainwheel Capstan Version

HRC10 Non Capstan Version

3YEAR Limited Warranty

Features and benefits

- The HRC10 fully automatic horizontal windlass series is designed to effortlessly retrieve and deploy 8 mm (5/16") and 10 mm (3/8") short link chain and 14 mm (9/16") and 16 mm (5/8") three strand or 8-brait (plait) rope
- The more powerful HRC10-10 can be use with 10 mm (3/8") chain spliced to 16 mm (5/8") 8-brait (plait) rope
- The aesthetically pleasing above deck design, evolved from the philosophy of form follows function, encapsulates the motor and drive in a two part watertight case, saving space below deck
- The two part case consists of a die cast, marine-grade hard anodised alloy front section and a rugged and easily removable composite motor cover aft section
- This two piece watertight case allows for quick and easy, on-deck, routine maintenance
- Simple 'bolt down' installation ensures effortless and rapid on-deck installation and set up
- The stainless steel (AISI 316) pressure arm always exerts maximum control pressure on the rode (rope, splice or chain)
- The revolutionary patented Wave Design™ chainwheel is able to accommodate a wide range of chain pitch differences, within the specified chain size diameters, suitable for use with the HRC10 Series. Refer page 351 for more information about this innovative feature
- The unique Maxwell 'wrap around' horizontal chainwheel ensures that more than 90° of the wheel is used, allowing greatly improved rope and chain handling compared with competitor designs
- The HRC10 works just as effectively with all-chain rodes for those who desire the added security and holding power of an all-chain anchor system
- The integral chain pipe and huge, through deck hawse pipe throat ensures easy entry of the rope/chain rode into and out of the anchor locker
- Cone type clutch/brake mechanism permits manual, 'free fall' anchoring and emergency crank recovery of the rode and anchor if required
- The sealed oil bath and marine-grade hard anodised, alloy gearbox provides high efficiency output drive via precision worm and wormwheel

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency crank/clutch release handle (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber

Every Maxwell HRC10 windlass comes with top works, motor/gear box and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 368.

3YEAR Limited Warranty

Eye-catching fully automatic horizontal windlass with great capacities

SPECIFICATIONS

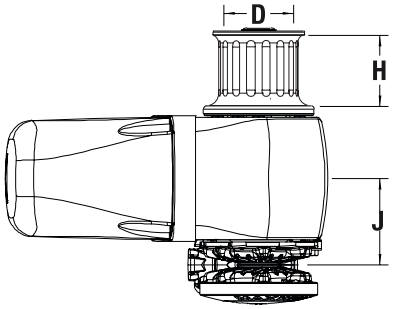
Model	HRC10-8* 8 mm - 5/16”	HRC10-10* 10 mm - 3/8”
Maximum Pull/Lift	700 kg 1540 lbs	850 kg 1870 lbs
Static Hold	1500 kg 3300 lbs	1500 kg 3300 lbs
Chain Short Link	8 mm 5/16”	10 mm 3/8”
Rope Size	14 mm - 16 mm 9/16” - 5/8”	16 mm 5/8”
Chain Speed (Anchor Retrieval)	24 m/min 79 ft/min	24 m/min 79 ft/min
Rope Speed (Anchor Retrieval)	20 m/min 65 ft/min	20 m/min 65 ft/min
Power Supply (DC)	12, 24 or 48 VDC	12, 24 or 48 VDC
Motor (Watt)	1000 W	1200 W
Net Weight	19 kg 42 lbs	20 kg 44 lbs
Hydraulic Pressure	138 bar 2000 psi	138 bar 2000 psi
Hydraulic Flow	20 L/min 5.3 USgal/min	20 L/min 5.3 USgal/min
Net Weight - Hyd	13 kg 28 1/2 lbs	13 kg 28 1/2 lbs

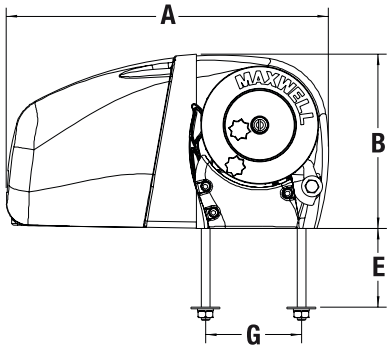
Non Capstan Version. Weight is 1kg/2.2lbs less than above indicated.

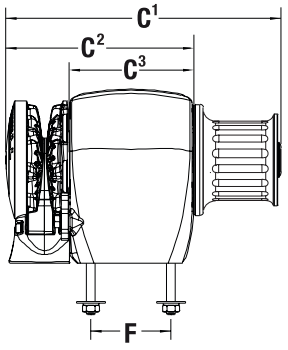
***8 mm - 5/16” or 10 mm - 3/8” chainwheels can be used on either of the above models**

DIMENSIONS

Model	HRC10-8* 8 mm - 5/16”	HRC10-10* 10 mm - 3/8”
A	369 mm 14 9/16”	369 mm 14 9/16”
B	199 mm 7 7/8”	199 mm 7 7/8”
C^1	316 mm 12 1/2”	316 mm 12 1/2”
C^2	225 mm 8 7/8”	225 mm 8 7/8”
C^3	140 mm 5 1/2”	140 mm 5 1/2”
D	80 mm 3 3/16”	80 mm 3 3/16”
E (standard deck clearance)	90 mm 3 9/16”	90 mm 3 9/16”
F	92 mm 3 9/16”	92 mm 3 9/16”
G	110 mm 4 3/8”	110 mm 4 3/8”
H	80 mm 3 3/16”	80 mm 3 3/16”
J	99 mm 4”	99 mm 4”







Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

Horizontal Windlass and Chain Pipe 2500 • 3500 • HWVC3500

The HWC Series is designed for automatic horizontal handling of chain-only anchor rodes while offering an independent capstan for the retrieval of a secondary rope and chain rode or to assist with docking procedures.

HWC3500 Chainwheel Capstan Version

3YEAR Limited Warranty

HWVC3500 Double Chainwheel Capstan Version

Features and benefits

- Fully automatic single or dual direction chainwheel operation, for use with chain only rodes
- Functional rope hauling from fore and aft using independent fluted stainless steel (AISI 316) snag-free warping drum with clutch disengagement of chainwheel for positive control of all ropes
- Optional dual anchor handling with smooth independent control of each chainwheel via cone clutches
- Chain pipe assembly supplied
- Cone-type clutch/brake mechanism permits manual 'free fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement ensuring safe and precise operator control
- Chainwheel locking pawl to assist when using warping drum independently
- Simple deck mounted installation with no under deck parts
- Simplified maintenance with ability to strip the running gear (chainwheel and drum) from the windlass without disturbing the windlass mounting
- Heavy duty, dual direction motor, designed for marine winches
- Chainwheel and warping drum of high-quality chrome finish over marine-grade bronze
- Marine-grade alloy casing pretreated, powder coated and finished with a two component white polyurethane paint

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)

Chain pipe and chainwheel to suit chain size specified (included)

Emergency crank/clutch release handle (included)

Up/Down remote control panel (not included)

Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Foot Switches
3. Chain Stopper*
4. Up/Down remote control panel
5. Hydraulic motor
6. Compact Remote
7. Roving remote

3 YEAR Limited Warranty

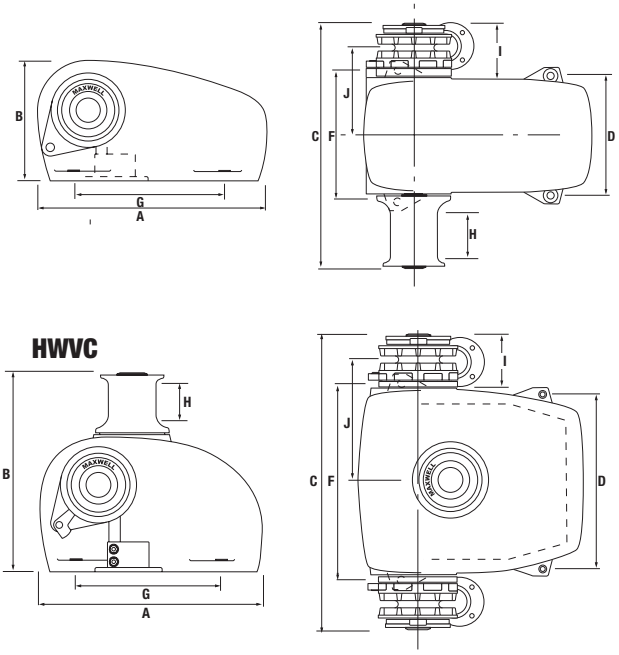
Horizontal handling for chain-only anchor rodes

SPECIFICATIONS

MODEL	2500	3500	HWVC3500
Maximum Pull/Lift	1135 kg 2500 lbs	1590 kg 3500 lbs	1590 kg 3500 lbs
Static Hold	2200 kg 4840 lbs	2200 kg 4840 lbs	2200 kg 4840 lbs
Chain Short Link	9-11mm 3/16"- 3/8"	8-13mm 3/8"- 1/2"	8-13mm 3/8"- 1/2"
Line Speed (Normal Working)	15 m/min 50 ft/min	15 m/min 50 ft/min	10 m/min 33 ft/min
Power Supply (DC)	12, 24 or 48 VDC	12, 24 or 48 VDC	12 or 24 VDC
Motor (Power)	1200 W	1200 W	1200 W
Net Weight - DC	55 kg 121 lbs	57 kg 125 lbs	94.5 kg 208 lbs
Hydraulic Pressure	135 bar 1950 psi	138 bar 2000 psi	138 bar 2000 psi
Hydraulic Flow	36 l/min 9.5 USgal/min	40 l/min 11 USgal/min	40 l/min 11 USgal/min
Net Weight - Hyd	48.5 kg 107 lbs	49 kg 107 lbs	80 kg 176 lbs

DIMENSIONS

MODEL	2500	3500	HWVC3500
A	495 mm 19 1/2"	515 mm 20 9/32"	515 mm 20 9/32"
B	289 mm 11 3/8"	316 mm 12 7/16"	446 mm 17 9/16"
C	516 mm 20 5/16"	549 mm 21 5/8"	710 mm 28"
D (Hole centres)	234 mm 9 1/4"	260 mm 10 1/4"	417 mm 18 7/16"
F (Hole centres)	278 mm 10 15/16"	308 mm 12 1/8"	464 mm 18 1/4"
G (Approximate hole centres)	300 mm 11 13/16"	348 mm 13 11/16"	348 mm 13 11/16"
H (Working height of drum for rope warping)	60 mm 2 3/8"	53 mm 2 3/32"	53 mm 2 3/32"
I	125 mm 4 15/16"	130 mm 5 1/8"	130 mm 5 1/8"
J	194 mm 7 5/8"	208 mm 8 3/16"	287 mm 11 19/64"



Note: HWC Single chainwheel, Single drum version shown. HWC and HWVC also available with variants of chainwheel, Chainwheel + drum, Drum only on either side of case.

Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

KADEY KROGEN 58' FITTED WITH HWVC3500

All standard and optional control accessories can be found on pages 358 - 361.

TASMAN SERIES

Drum winch TASMAN-8 • TASMAN-6

A new heavy duty winch has arrived: explore our TASMAN Series!

Tasman 8

SP5107 24 VDC
(see page 359)

P105093
P105094
(see page 363)

P102938
(see page 358)

P100789
P100790
P100791
P102903
(see page 359)

Features

- Robust, reliable, high performance Drum Winch
- Exceptional performance using Maxwell proven gearbox and motor
- Long life - Stainless steel (AISI 316) and Marine Anodised construction
- Easy install through separate legs and flexibility of motor positioning
- Simple emergency operation allows anchor deployment if power is lost
- Maxwell proprietary gearbox - custom ratio for optimised performance, direct fit to larger diameter shafts, large bearings and seals, robust design
- Proven Maxwell 1000W motor on the TASMAN 8 and 600W motor on TASMAN 6 series
- Large diameter high strength shaft - higher holding load and improved resistance to bending
- Large diameter plain bearings for a longer life, stronger and more robust in the harsh marine environment.
  Non gearbox end is self lubricated composite bearing for minimal maintenance
- MAX Warp - high strength combined with stretch for absorbing shock loads - optimised rope construction for maximum hold with enough stretch to minimise impact loads when anchored
- Engineered mounting design, optimised for strength, compact dimensions through integration with gearbox
- High quality marine galvanised chain

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)

Up/Down remote control panel (included)

Circuit breaker/isolator panel (included)

OPTIONS

1. AutoAnchor™ Equipment
2. Foot Switches
3. Chain Stopper*
4. Compact Remote
5. Roving remote

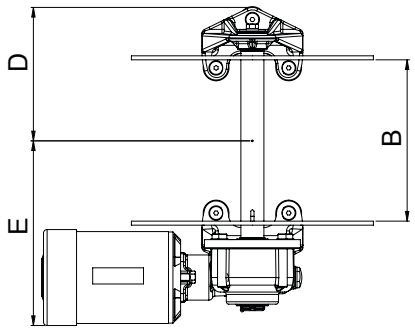
Tasman winch, reel in true adventure

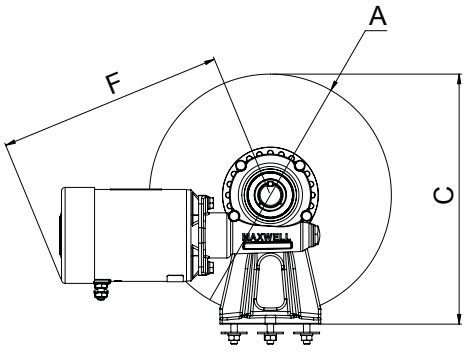
SPECIFICATIONS

MODEL	6-6	6-4	8-8	8-6
Electric motor	DC	DC	DC	DC
Motor power	600 W	600 W	1000 W	1000 W
Voltage (DC)	12 or 24 VDC	12 or 24 VDC	12, 24 or 48 VDC	12, 24 or 48 VDC
Max Pulling force				
- 1 layer on drum	700 kg 1540 lbs	700 kg 1540 lbs	1000 kg 2200 lbs	1000 kg 2200 lbs
- Full drum	100 kg 220 lbs	100 kg 220 lbs	350 kg 770 lbs	350 kg 770 lbs
Haulage Speed				
- 1 layer on drum	7.5 m/min	13 m/min	13 m/min	13 m/min
- Full drum	50 m/min	50 m/min	60 m/min	60 m/min
Rope size	6 mm MAX warp x 70 m	4 mm UHMWPE x 100 m + 6 mm MAX warp x 10 m	8 mm MAX warp x 100 m	6 mm MAX warp x 150 m
Chain size	6 mm Short Link DIN766 x 10 m	6 mm Short Link DIN766 x 10 m	8 mm Short Link DIN766 x 10 m	6 mm Short Link DIN766 x 10 m
Net weight (incl. rope/chain)	24 kg	24 kg	37 kg	31 kg

DIMENSIONS

MODEL	TASMAN 6		TASMAN 8	
	mm	inch	mm	inch
A	200	7 7/8	300	11 3/4
B	180	7 1/16	200	7 7/8
C	210	8 1/4	310	12 1/4
D	155	6 1/16	165	6 1/2
E	209	8 1/4	229	9
F	259	10 3/16	280	11





Tasman 6

3YEAR Limited Warranty

Accessories

Control Gear

When it comes to anchoring, Maxwell provides the ultimate anchoring solution backed by sound advice and after sales service. A full range of anchoring accessory items are available. Please contact your nearest Maxwell office or local distributor for helpful advice and assistance.

Maxwell will supply not only your anchor winch or capstan, but also a complete anchoring package consisting of control gear, circuit protection, anchors, rope, chain, chain stoppers, chain snubbers, swivels, shackles, bow rollers, etc.

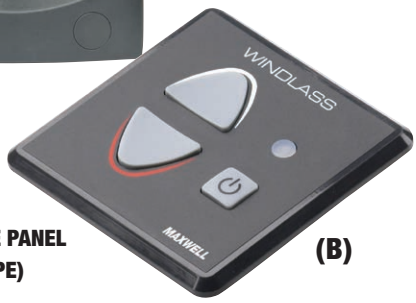
UP/DOWN CONTROLS

Easy to use, panel-mounted Up/Down switches for remote windlass operation from the helm, fly bridge or cockpit. Suitable for use with dual-directional solenoids.

- Manufactured from marine-grade materials
- Splash proof
- Suitable for 12 and 24 VDC use
- Includes on/off switch and power indicator light (B only)

UP/DOWN REMOTE PANEL (TOGGLE TYPE) (P102938)

(A)



UP/DOWN REMOTE PANEL (PUSH BUTTON TYPE) (P102983)

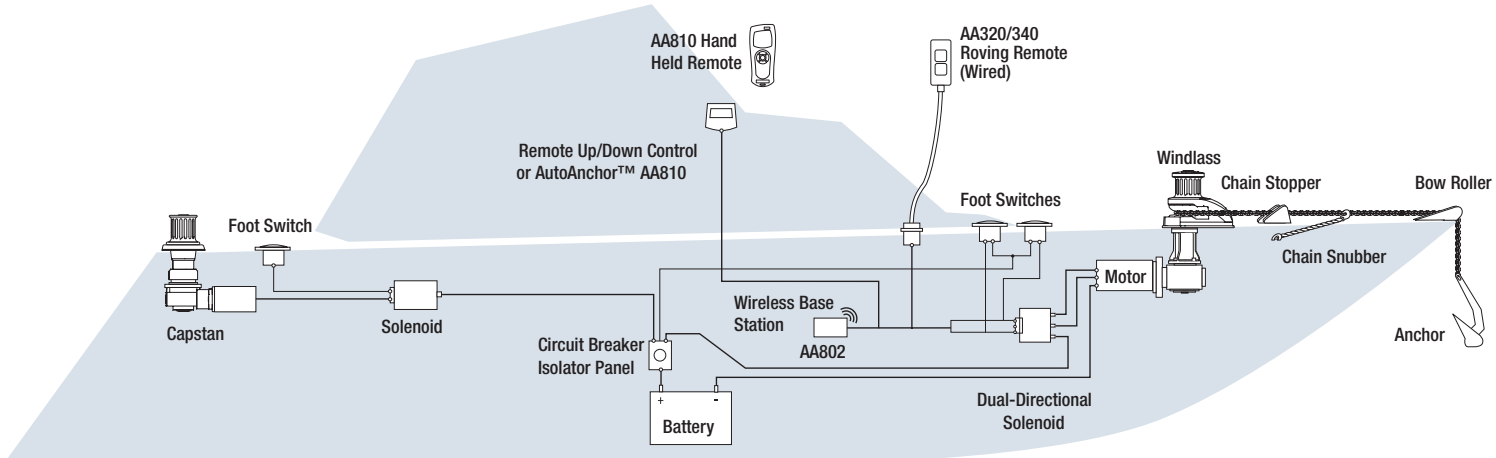
(B)

Accessories Positioning Guide

The correct installation of your Maxwell windlass or capstan and all associated anchoring equipment will ensure that you get years of trouble free service. It is worth taking the time to install all accessories and electrical wiring or hydraulic connections carefully and professionally.

Your Maxwell Owner's Manual will provide you with all the information you, or your service agent, needs to properly set up your specific installation. The indicative diagram gives you some idea of what is involved and is a guide only.

Note: All the accessories shown are not necessarily available from every Maxwell warehouse. Please contact your nearest Maxwell office for availability.



HEAVY DUTY FOOT SWITCH

Maxwell heavy-duty, weather resistant units have a UV stabilised water proof membrane and are supplied complete with mounting instructions and screws.

- Rated at 150 amps maximum current and suitable for 12 or 24 VDC applications
- Nickel-plated copper contacts ensure corrosion-free, reliable operation

Type	Description	Ø mm	Height mm	Depth mm
P19001	Foot switch, with stainless steel (AISI 316) bezel	108	20	49
P19006	Foot switch, with black cover	104	21	47
P19007	Foot switch, with white cover	104	21	47
P19008	Foot switch, black synthetic bezel	108	20	49
P100735	Foot switch, with stainless steel (AISI 316) cover	118	24	50

COMPACT FOOT SWITCH

Maxwell's, compact up and down foot switches now available in black and white cover versions. These 5 Amp rated switches are required to be operated via solenoids, which also allows for smaller diameter wiring.

Type	Description	Ø mm	Height mm
P104809	Compact Foot Switch with white cover	65	22
P104810	Compact Foot Switch with black cover	65	22

CIRCUIT BREAKER/ISOLATOR PANELS

Maxwell circuit breaker/isolator panels are available to suit a wide range of windlasses and capstans.

- For protection of the main conductor circuit for DC winches
- Enables the battery, or electrical supply, to be isolated when winch is not in use
- Suitable for 12 or 24 VDC systems

P100789 40 AMP
P100790 80 AMP
P100791 135 AMP
P102903 70 AMP

DUAL AND SINGLE DIRECTION SOLENOIDS

Dual Direction Solenoids are used in conjunction with remote Up/ Down panel, AutoAnchor™ Rode Counters, roving hand held remote controls and/or foot switches to switch the motor in the required direction.

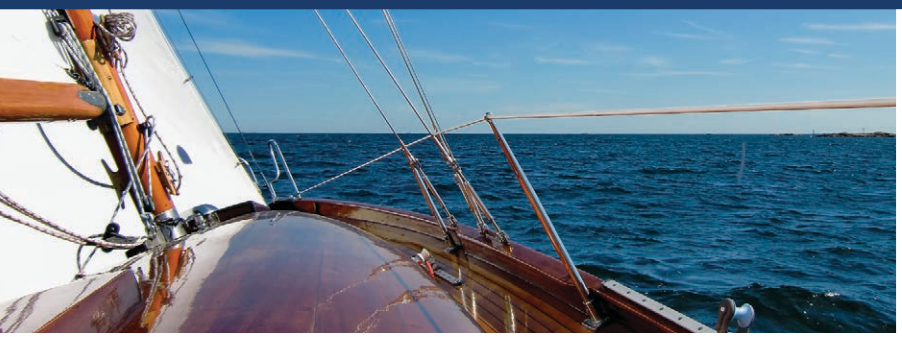
- Heavy-duty solenoids, suitably rated for our winch motors
- Available in 12 or 24 VDC control coil voltage
- Contacts suitable for voltages up to 48 VDC and configured for
  Single direction motors
  Single pole normaly open <2kw

  2 and 4 terminal motors (PM/FW)
  polarity reversing <1.2kw
  polarity reversing <2.5kw

  3 terminal motors (SW)
  Pole switching <2.5kw
- Ignition protected solenoids
- IP 66 rating
- Installation in a dry area is always recommended

Single Direction Solenoids should be used where only single direction motor rotation is necessary. E.g. capstan winches.

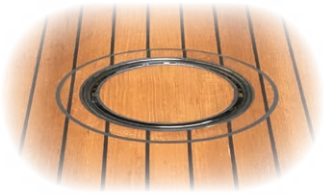
SINGLE DIRECTION	SP1393 12 VDC (PM/SW <15KW 40% DUTY)
SINGLE DIRECTION	SP1394 24 VDC (PM/SW <3KW 40% DUTY)
DUAL DIRECTION	SP5102 12 VDC (PM <1KW 40% DUTY)
DUAL DIRECTION	SP5103 24 VDC (PM <2KW 40% DUTY)
DUAL DIRECTION	SP5104 12 VDC (SW <1.5KW 40% DUTY)
DUAL DIRECTION	SP5105 24 VDC (SW <3KW 40% DUTY)
DUAL DIRECTION	SP5106 24 VDC (SW <3KW 100% DUTY)
DUAL DIRECTION	SP5107 24 VDC (FW <3KW 40% DUTY)

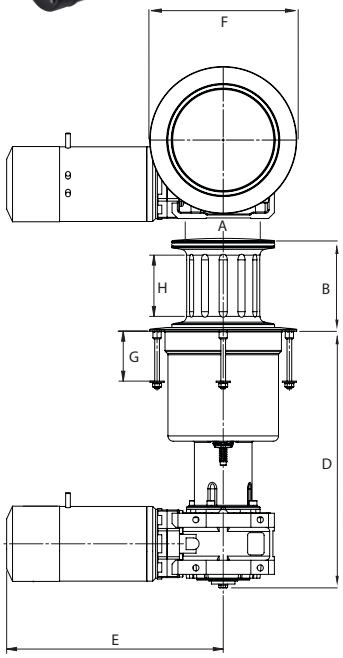


RETRACTABLE VERTICAL CAPSTAN

The Maxwell Retractable Vertical Capstan (RVC) has been designed not only for superb functionality, but with the aim that aesthetics aboard any yacht are also paramount. The top of the capstan drum is pleasing to the eye with a mirror polished surface, when flush with the deck in the fully retracted position.

The RVC is a great solution for; clear decks on the bow of high performance sailboats, cockpits without trip hazards on sports-fishers, amidship capstans with clear companionways or hidden line handling on classic motoryachts.





Features

- Retracts flush with deck
- All stainless steel (AISI 316) construction
- Robust design with environmental protection to withstand regular submersion on high performance sailboat installations
- Great option to free up space on deck
- Easy operation
  - one button to raise and use
  - one button reverse to retract
- Available in DC (12 VDC / 24 VDC / 48 VDC) and Hydraulic

STANDARD EQUIPMENT REQUIRED

Circuit breaker/isolator panel (not included)

Dual Direction Solenoid (included)

OPTIONS

1. Hydraulic motor
2. Foot Switch
3. Teak insert

SPECIFICATIONS

Model	1500	2500	2500	2500
Maximum Pull/Lift	680 kg 1500 lbs	1135 kg 2500 lbs	1135 kg 2500 lbs	1135 kg 2500 lbs
Static Hold	1750 kgf 3850 lbs	1750 kgf 4840 lbs	1750 kgf 4840 lbs	1750 kgf 4840 lbs
Line Speed (Normal Working)	22 m/min 72 ft/min	11 m/min (12 VDC) 36 ft/min	11 m/min (24 VDC) 65 ft/min	14 m/min (Hyd) 46 ft/min
Power Supply (DC)	12, 24 or 48 VDC	12 VDC	24 VDC	Hydraulic
Motor (Watt)	1200 W	1500 W	2000	N/A
Net Weight (Electric)	30 kg 66 lbs	37 kg 82 lbs	37 kg 82 lbs	37 kg 82 lbs
Hydraulic Pressure	N/A N/A	N/A N/A	N/A N/A	140 bar 2470 psi
Hydraulic Flow	40 l/min 11 USgal/min	50 l/min 13.2 USgal/min	50 l/min 13.2 USgal/min	50 l/min 13.2 USgal/min
Net Weight - Hyd	24 kg 53 lbs	31 kg 68 lbs	31 kg 68 lbs	31 kg 68 lbs

DIMENSIONS

Model	1500	2500	2500	2500
A	124 mm 4 7/8"	124 mm 4 7/8"	124 mm 4 7/8"	124 mm 4 7/8"
B	158 mm 6 1/4"	158 mm 6 1/4"	158 mm 6 1/4"	158 mm 6 1/4"
D	401 mm 15 13/16"	437 mm 17 13/16	437 mm 17 13/16	437 mm 17 13/16
E	281 mm 11 1/16"	323 mm (12 VDC) 12 11/16"	368 mm (24 VDC) 14 1/2"	240 mm (Hyd) 9 7/16"
F	250 mm 9 13/16"	250 mm 9 13/16"	250 mm 9 13/16"	250 mm 9 13/16"
G	85 mm 3 5/16"	85 mm 3 5/16"	85 mm 3 5/16"	85 mm 3 5/16"
H	104 mm 4 1/8"	104 mm 4 1/8"	104 mm 4 1/8"	104 mm 4 1/8"

PRODUCT FEATURES

- Windlass monitoring from the helm
- Simple Plug & Play sensor installation
- Accurate information for all-chain or combination rope/chain rodes
- Flexibility of magnet and sensor gap from 3 mm to 50 mm
- Easy set up
- Multiple unit installation options - combine with other Maxwell AA products for total windlass control
- Fits all DC, AC and hydraulic windlasses
- Inbuilt diagnostics for troubleshooting installation issues
- EMC protection to CE EN60945

MAXWELL AA710

WIRELESS, HAND HELD REMOTE WINDLASS CONTROLLER AND RODE COUNTER

(P102981)

All the features of the AA560 plus options to control a bow thruster or deck lights and anchor wash.

- High level wireless transmission security - 2.4GHz ISM band
- Hand held controller displays rode count plus signal strength and battery level
- Water resistant to IP67
- Console requires two AA batteries
- Rubber molding for grip and non-slip protection
- Ergonomic shape with wrist strap connector
- Console holder and protective cover
- Shockproof
- EEE 802.15.4 compliant

Kit includes: one hand held remote control and one base station, one sensor and one magnet.

Note: Two base stations can be operated by one remote to allow control of two windlasses. Plug and Play connectors, T-Connectors and Gender Adapters are also available. Contact your Maxwell Dealer.

MAXWELL AA560

WIRED PANEL MOUNT WINDLASS CONTROLLER AND RODE COUNTER

(P102944)

SPECIAL FEATURES

- Preset stopping point and docking alarm on retrieval
- One-touch function to deploy and retrieve a preset length of rode
- Adjustable back lit display in feet, metres or fathoms
- Graphic LCD screen featuring intuitive user interface for simple operation
- Displays windlass speed and direction
- Safety lock to help protect against accidental windlass deployment
- Logs windlass operation hours to help ensure regular windlass maintenance
- Weather cover and choice of black or gray console

Kit includes one console, one sensor and one magnet

MAXWELL AA150

WIRED PANEL MOUNT RODE COUNTER

- Docking alarm
- Standard 60mm (2.36") marine instrument console
- Choice of feet or metre count readout
- Large, adjustable, backlit LCD display

Kit includes one console, one sensor and one magnet

(P102939)

AUTOANCHOR WIRED ROVING REMOTE CONTROL UNITS

ANCHOR LAUNCHING OR RETRIEVAL FROM THE BOW WHEN VISION FROM THE HELM STATION IS OBSTRUCTED

- Use for Windlasses, Davits, Thrusters and other Marine Equipment
- Electrical protection against back-emf
- Rubber over-molding for shock protection and grip
- Stowage cradle
- Operate in parallel with all AutoAnchor™ products, toggle switches, foot switches or other control equipment
- Connect to DC, AC and Hydraulic systems
- Rugged 4.5 m coiled cable and connectors
- All products are rated to IP67 including cables, plugs and sockets
- Deck socket with 2 m flying lead reduces potential for corrosion (excluding AA320 series)
- Other Maxwell AutoAnchor controllers are available, check with your local Maxwell distributor

AA730
With Rode Counter
(P102994)

AA320
Windlass Control
(P102992)

AA342*
Dual Windlass Controller
(P102996)

All wires remotes are complete with moulded deck socket Rated to IP67.

Gender Adapter Cable Connector (SP4192)

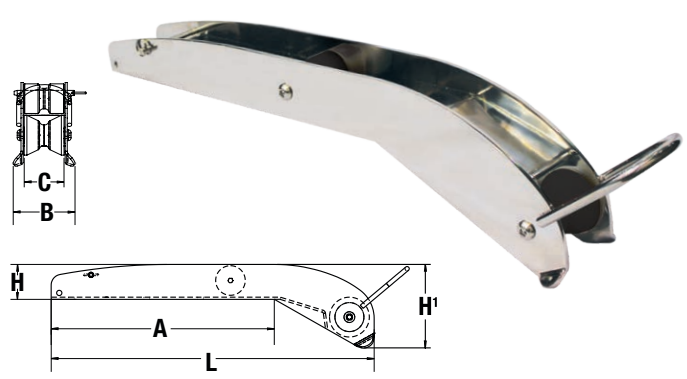
Dual Installation T Connector (SP4155)

* AA341 Model (P102995) is similar to AA342 but can be used as a general dual equipment controller (contact Maxwell for details).

Accessories

The MAXSET Bow Roller design guarantees that MAXSET stainless steel (AISI 316) and galvanised anchors, along with similar competitor versions, are efficiently self-launched during anchor deployment. When the anchor is fully retrieved, the MAXSET bow roller ensures that the anchor fits securely into the roller and will not rattle around when the boat is under way.

MAXSET BOW ROLLERS

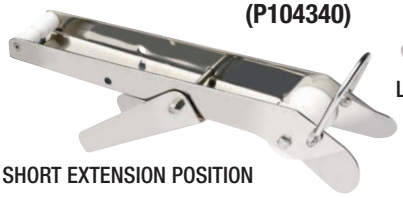


MAXSET ANCHORS AND MAXSET BOW ROLLERS

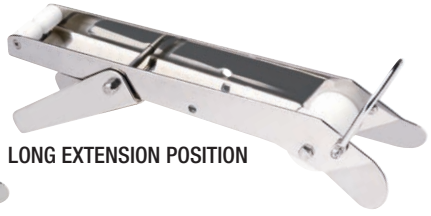
MAXSET (Delta Style Anchors) \ MAXSET Bow Roller Codes	Polished Finish					Satin Finish				
	P105075	P105077	P105079	P105081	P105083	P105074	P105076	P105078	P105080	P105082
4kg/9lbs	•					•				
6kg/13lbs	•					•				
10kg/22lbs		•					•			
16kg/35lbs			•					•		
20kg/44lbs				•					•	
25kg/55lbs					•					•
30kg/66lbs					•					•
40kg/88lbs					•					•

EXTENDABLE HINGED BOW ROLLER

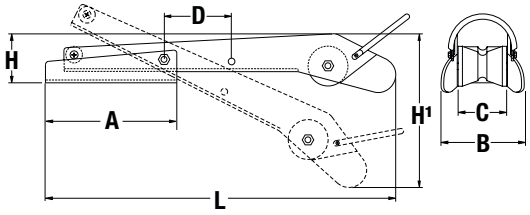
(P104340)



SHORT EXTENSION POSITION

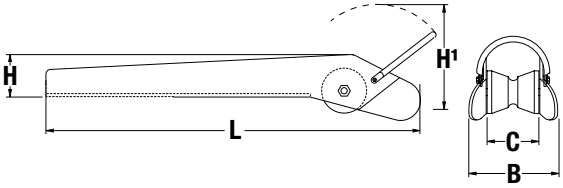


LONG EXTENSION POSITION



FIXED BOW ROLLER WITH ANCHOR LOOP

(P104345)



MAXSET ANCHORS AND BOW ROLLERS

MAXSET (Delta Style Anchors) \ Standard Bow Roller Codes	P104331	P104332	P104333	P104334	P104340	P104345
4 kg/9 lbs		•	•		•	•
6 kg/13 lbs		•	•		•	•
10 kg/22 lbs	•	•	•		•	•
16 kg/35 lbs		•	•	•	•	•
20 kg/44 lbs				•		
25 kg/55 lbs				•		
MAXCLAW (Claw Style Anchors) \ Standard Bow Roller Codes	**P104331**	**P104332**	**P104333**	**P104334**	**P104340**	**P104345**
5 kg/11 lbs		•	•		•	
8 kg/18 lbs		•	•		•	•
10 kg/22 lbs	•	•	•	•	•	•
15 kg/33 lbs				•	•	•
20 kg/44 lbs				•		

MAXSET AND STANDARD BOW ROLLER DIMENSIONS

	Extendable P104340	Fixed with Hoop P104345	P105074 P105075	P105076 P105077	P105078 P105079	P105080 P105081	P105082 P105083
A	198 mm (7 13/16")	N/A	315 mm (12 3/8")	414 mm (16 5/16")	480 mm (18 7/8")	510 mm (20")	560 mm (22")
B	125 mm (4 15/16")	134 mm (5 1/4")	84 mm (3 5/16")	112 mm (4 3/8")	112 mm (4 3/8")	114 mm (4 1/2")	153 mm (6")
C	73 mm (2 7/8")	75 mm (3")	62 mm (2 1/2")	78 mm (3")	78 mm (3")	78 mm (3")	105 mm (4 1/8")
D	101 mm (4")	N/A	N/A	N/A	N/A	N/A	N/A
H	75 mm (2 15/16")	65 mm (2 9/16")	55 mm (2 1/8")	65 mm (2 1/2")	72 mm (2 13/16")	78 mm (3")	95 mm (3 3/4")
H¹	239 mm (9 3/8")	155 mm (6 1/8")	122 mm (4 13/16")	152 mm (6")	165 mm (6 1/2")	175 mm (6 7/8")	215 mm (8 1/2")
L	527 mm (20 1/4")	460 mm (18 1/8")	465 mm (18 5/16")	600 mm (23 5/8")	715 mm (28 1/8")	762 mm (30")	850 mm (33 1/2")

BOW ROLLERS

HINGED BOW ROLLER

Suitable for rope and chain anchor rodes utilising up to 13 mm (1/2") chain.

FIXED BOW ROLLER

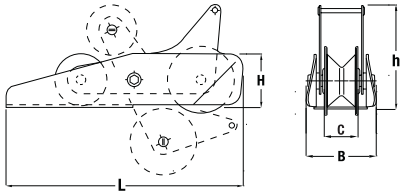
Suitable for rope and chain anchor rodes utilising up to 13 mm (1/2") chain.

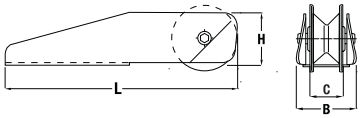
HINGED BOW ROLLER DIMENSIONS

Code	Type	L	B	H	h	C
P104330	Size 1	320 mm (12 5/8")	92 mm (3 5/8")	72 mm (2 7/8")	133 mm (5 1/4")	44 mm (1 3/4")
P104331	Size 2	430 mm (16 15/16")	160 mm (5 5/16")	100 mm (4")	190 mm (7 1/2")	66 mm (2 11/16")

FIXED BOW ROLLER DIMENSIONS

Code	Type	L	B	H	C
P104332	Size 1	205 mm (8 1/8")	72 mm (2 7/8")	74 mm (3")	44 mm (1 3/4")
P104333	Size 2	320 mm (12 5/8")	86 mm (3 7/16")	74 mm (3")	44 mm (1 3/4")
P104334	Size 3	444 mm (17 1/2")	110 mm (4 3/8")	110 mm (4 3/8")	68 mm (2 11/16")





CHAIN STOPPERS

Taking the load off the windlass

Chain stoppers hold the chain and take the load off the windlass. Always use a chain stopper to set and ride on the anchor, break free the anchor or to prevent accidental free fall of the anchor while under way.

To suit any installation configuration of chain stoppers and windlass combinations, Maxwell offers three types of chain stoppers: Height Matched, Levered and Economy.

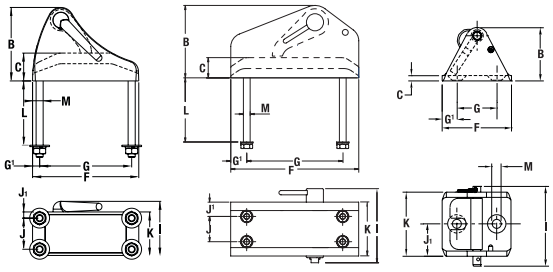
Height Matched

Levered

Economy

CHAIN STOPPER DIMENSIONS

	Height Matched		Levered			Economy
	RC8/10 (P104358)	RC12 (P104359)	8 mm (P104372)	10 mm (P104373)	13 mm (P104374)	8/10 mm (P104335)
B	105 mm (4 1/8")	127 mm (5")	72 mm (2 7/8")	86 mm (3 7/16")	105 mm (4 3/16")	62 mm (2 3/8")
C	40 mm (1 9/16")	48 mm (1 7/8")	20 mm (7/8")	20 mm (7/8")	26 mm (1 1/8")	6 mm (1/4")
F	150 mm (5 15/16")	182 mm (7 3/16")	152 mm (6")	190 mm (7 1/2")	219 mm (8 5/8")	80 mm (3 1/8")
G	130 mm (5 1/8")	159 mm (6 1/4")	92 mm (3 5/8")	130 mm (5 1/8")	159 mm (6 5/16")	46 mm (1 3/4")
G¹	10 mm (7/16")	11.5 mm (1/2")	30 mm (1 3/16")	30 mm (1 3/16")	30 mm (1 3/16")	17 mm (5/8")
I	77 mm (3")	97 mm (3 13/16")	70 mm (2 7/8")	86 mm (3 1/2")	100 mm (4")	92 mm (3 5/8")
J	44 mm (1 3/4")	53 mm (2")	31.5 mm (1 1/4")	44 mm (1 3/4")	53 mm (2 1/8")	N/A
J¹	8.8 mm (11/32")	12.5 mm (1/2")	10 mm (7/16")	10 mm (7/16")	12.5 mm (1/2")	37 mm (1 1/2")
K	61.5 mm (2 7/16")	78 mm (3")	51.5 mm (2 1/8")	64 mm (2 5/8")	78 mm (3 1/8")	74 mm (2 7/8")
L	90 mm (3 1/2")	125 mm (4 15/16")	95 mm (3 3/4")	95 mm (3 3/4")	130 mm (5 1/8")	N/A
M	M8	M10	M10	M10	M12	M10



STOPPER TENSIONER

The 10-13 mm chain stopper is now available with integral anchor tensioner which is used to pull the stowed anchor tightly into the bow roller or anchor pocket preventing unwanted noise from the anchor moving in the anchor pocket.

A retro-fit kit is available to fit the tensioner assembly onto existing Maxwell 10-13 mm chainstopper bodies.

P105257 - Stopper Tensioner 10-13 mm Removable Lever

P104740 - Stopper Tensioner Retrofit Kit for 13 mm Chainstoppers

WEBBING TENSIONER

Also available is a webbing strap tensioner for use on 7-12 mm chains. The webbing tensioner simply fits to a deck cleat/bollard and uses a stainless steel (AISI 316) claw to grip the chain and an over center cam lock to tension and secure the anchor.

P105072 - Webbing Tensioner 7-12 mm

INTERMEDIATE ROLLER

Designed for use with Tasman drum windlasses.

P105093

130 mm wide for 6 or 8 mm chain

P105094

180 mm wide for 6 or 8 mm chain

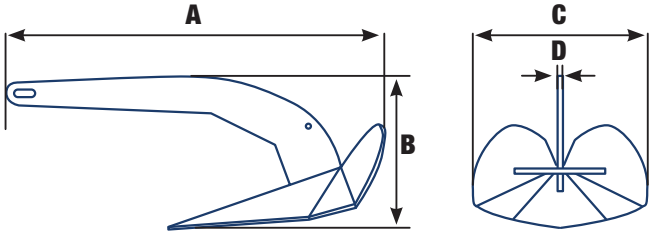
Accessories

Deck Gear ANCHORS • SWIVELS • HANDLES

When it comes to anchoring, Maxwell provides the ultimate anchoring solution backed by sound advice and after sales service. A full range of anchoring accessory items are available.
Please contact your nearest Maxwell office or local distributor for helpful advice and assistance.

MAXSET ANCHORS

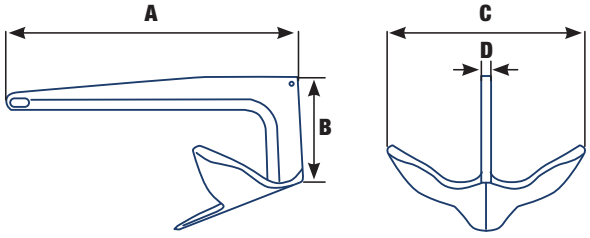
The "MAXSET" galvanised and stainless steel (AISI 316) anchor range, based on the proven 'Plough' design is available in eight different sizes to suit boats from approximately 4 metres (15') to 18 metres (58').



MAXSET ANCHORS STAINLESS STEEL	MAXSET ANCHORS GALVANISED	ANCHOR WEIGHTS	A	B	C	D
P105070	P105069	4 kg/9 lbs	530 mm (20 7/8")	222 mm (8 3/4")	245 mm (9 5/8")	8 mm (5/16")
P105055	P105000	6 kg/13 lbs	620 mm (24 1/2")	230 mm (9 1/8")	262 mm (10 3/8")	10 mm (3/8")
P105056	P105001	10 kg/22 lbs	730 mm (28 3/4")	275 mm (10 7/8")	315 mm (12 1/2")	12 mm (1/2")
P105057	P105002	16 kg/35 lbs	820 mm (32 3/8")	315 mm (12 1/2")	340 mm (13 1/2")	14 mm (9/16")
P105058	P105003	20 kg/44 lbs	890 mm (35")	345 mm (13 5/8")	400 mm (15 3/4")	16 mm (5/8")
P105059	P105004	25 kg/55 lbs	986 mm (38 7/8")	410 mm (16 1/8")	445 mm (17 1/2")	16 mm (5/8")
P105067	P105005	30 kg/66 lbs	1050 mm (38 7/8")	445 mm (16 1/8")	465 mm (17 1/2")	20 mm (5/8")
P105068	P105006	40 kg/88 lbs	1130 mm (44 1/2")	470 mm (18 1/2")	510 mm (20")	20 mm (3/4")

MAXCLAW ANCHORS

The "MAXCLAW" 316 Stainless steel (AISI 316) anchor range, based on the proven 'North Sea' claw design is available in seven different sizes to suit boats from approximately 4 metres (12') to 17 metres (55').



MAXCLAW STAINLESS STEEL	ANCHOR WEIGHTS	A	B	C	D
P105060	5 kg/11 lbs	470 mm (18 5/8")	190 mm (7 1/2")	310 mm (12 1/4")	15 - 18 mm (5/8"-3/4")
P105061	8 kg/18 lbs	530 mm (20 7/8")	210 mm (8 3/8")	360 mm (14 1/4")	15 - 18 mm (5/8"-3/4")
P105062	10 kg/22 lbs	600 mm (23 5/8")	228 mm (9")	380 mm (15")	15 - 18 mm (5/8"-3/4")
P105063	15 kg/33 lbs	670 mm (26 1/2")	265 mm (10 1/2")	450 mm (17 3/4")	15 - 18 mm (5/8"-3/4")
P105064	20 kg/44 lbs	715 mm (28 1/4")	360 mm (14 1/4")	470 mm (18 5/8")	15 - 20 mm (5/8"-7/8")
P105065	30 kg/66 lbs	815 mm (32 1/8")	425 mm (16 3/4")	550 mm (21 3/4")	18 - 25 mm (3/4"-1")
P105066	40 kg/88 lbs	1000 mm (39 3/8")	440 mm (17 3/8")	675 mm (26 5/8")	18 - 30 mm (3/4"-1 1/4")

MAXSET ANCHORS AND MAXSET BOW ROLLERS

See chart below to select the most suitable bow roller for use with your MAXSET or MAXCLAW anchor.

MAXSET ANCHORS			TO SUIT APPROXIMATE BOAT LENGTH														MAXSET BOW ROLLERS	
Stainless Steel	Galvanised	Weight	4M (13')	6M (20')	8M (26')	10M (33')	12M (39')	14M (46')	16M (52')	18M (59')							Satin Finish	Polished Finish
P105070	P105069	4 kg/9 lbs															P105074	P105075
P105055	P105000	6 kg/13 lbs															P105074	P105075
P105056	P105001	10 kg/22 lbs															P105076	P105077
P105057	P105002	16 kg/35 lbs															P105078	P105079
P105058	P105003	20 kg/44 lbs															P105080	P105081
P105059	P105004	25 kg/55 lbs															P105082	P105083
P105067	P105005	30 kg/66 lbs															P105082	P105083
P105068	P105006	40 kg/88 lbs															P105082	P105083
MAXCLAW ANCHORS			**TO SUIT APPROXIMATE BOAT LENGTH**															
P105060		5 kg/11 lbs																
P105061		7.5 kg/17 lbs																
P105062		10 kg/22 lbs																
P105063		15 kg/33 lbs																
P105064		20 kg/44 lbs																
P105065		30 kg/66 lbs																
P105066		40 kg/88 lbs																

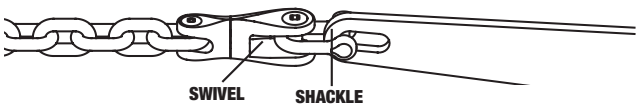
ANCHOR SWIVEL SHACKLES

Improve your anchor retrieval

The use of a swivel and joining shackle for your anchor and rode will greatly improve anchor retrieval and help ensure that the rode lays neatly into your anchor locker.

Maxwell has two available sizes for use with its automatic rope/chain series windlasses to suit vessels up to 20 metres (65 feet):

- 6-8 mm (1/4" - 5/16")
- 10-13 mm (3/8" - ½")



6-8 MM (P104370)

10-13 MM (P104371)

EMERGENCY CRANK/CLUTCH RELEASE HANDLES AND BI-SQUARE EXTENSION DRIVES

Especially for RC and HRC Series

These handles are available in two different sizes to suit the constraints of most foredeck configurations. They are constructed of light weight, durable injection-molded plastic and will float if accidentally dropped overboard.

Bi-square drives are also available in a 150 mm inline extension for use on windlasses mounted in recessed lockers.

A Bi-square to 1/2" square drive adapter which can be used in conjunction with standard 1/2" ratchets and tools.

10" (P103865)

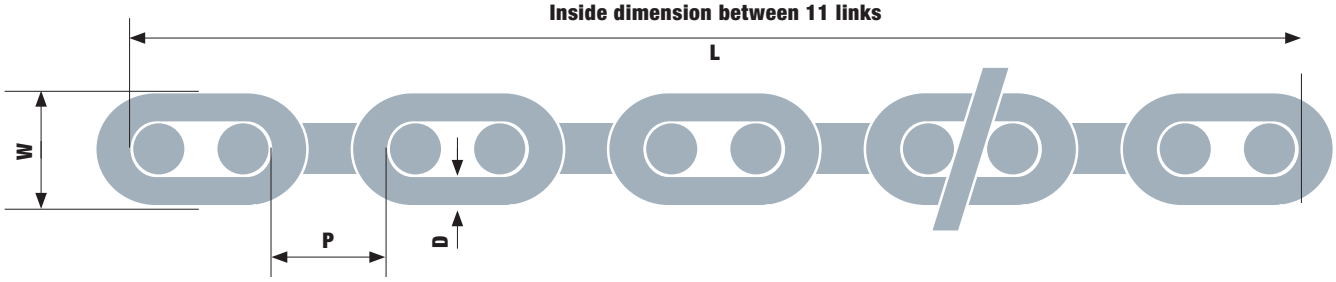
8" (P103864)

BI-SQUARE EXTENSION AND 1/2" DRIVE

(7038) **(7369)**

CHAINWHEEL SELECTION GUIDE

There are various grades of short link chain, relating to the raw metal quality, strength and finishing process. Both galvanised and stainless steel (AISI 316) chains are available. In order for your windlass to retrieve and deploy the anchor and chain smoothly, without jamming, it is of great importance that the chain and chainwheel (gypsy) match. Therefore Maxwell has devised a global chain and chainwheel spreadsheet which will help you to figure out what kind of chainwheel you need to order.



P = Pitch length inside link **D = Chain wire diameter** **W = width outside the link** **L = inside dimension between 11 links.**

Please take an 11 link section of your chain, lay it out in a stretched out straight line and measure the dimensions as indicated

DOWNLOAD THE MAXWELL CHAINWHEEL SELECTION GUIDE SPREADSHEET www.maxwellmarine.com/support_chainwheel.php

CHAIN SELECTION GUIDE																																
	DIN766		EN818	TO SUIT APPROXIMATE BOAT SIZE																												
CHAIN	HOT DIP GALVANISED	STAINLESS STEEL	HOT DIP GALVANISED	4M	(15FT)	5M	(16FT)	6M	(19FT)	7M	(22F)	8M	(26FT)	9M	(30FT)	10M	(32FT)	12M	(38FT)	14M	(45FT)	16M	(52FT)	18M	(58FT)	20M	(65FT)	22M	(72FT)	24M	(78FT)
6 mm	SP3105	SP4471	N/A																												
7 mm	SP4049	N/A	N/A																												
8 mm	SP4050	SP4207	N/A																												
10 mm	SP4051	SP2514	SP4012																												
12 mm	N/A	N/A	SP3666																												
13 mm	SP4052	SP4474	N/A																												

CHAIN INFORMATION

Chain Specification is the Standard a chain must be manufactured to in order to comply with a given International Standard.

Outside of North America the most common types of metric short link chain are DIN766 and EN-818. Within North America the most common imperial chains are BBB and G40.

The important thing to keep in mind is to select a chain grade and specification that complies with recognised standards.

In addition to the chains listed above, Maxwell can supply a variety of alternatives to meet any market demand. Please feel free to contact your nearest Maxwell dealer for assistance.

ROPE AND CHAIN

Maxwell can supply a full range of anchor rodes including chain-only, rope only or a pre-spliced combination of rope and chain rodes. Chains for vessels up to 100 metres (300 feet) and 8-plait (brait) nylon rope for vessels up to 20 metres (65 feet) in length as well as ropes and hawsers commonly used on superyachts.

Please see the pictures shown on this page for sizes and characteristics.

STANDARD COMBINATION ROPE CHAIN KITS						
CHAIN Ø	CHAIN LENGTH	ROPE Ø	ROPE LENGTH			
			50 m	100 m	150 m	200 m
6 mm	10 mtrs	12 mm	SP2627	SP2628	SP2629	SP2630
6 mm	20 mtrs	12 mm	N/A	SP2643	N/A	N/A
8 mm	10 mtrs	14 mm	SP2631	SP2632	SP2633	SP2634
8 mm	20 mtrs	14 mm	SP2644	SP2642	N/A	N/A
10 mm	10 mtrs	16 mm	SP2648	SP2649	N/A	N/A
10 mm	20 mtrs	16 mm	SP2645	SP2646	N/A	N/A

Custom lengths available. Contact your Maxwell Dealer.

NYLON 8 PLAIT ROPE

12MM (SP3167) **14MM (SP3168)**
16MM (SP3169) **20MM (SP3170)**

CHAIN SNUBBERS

Alternative method of taking the load of your windlass

These snubbers are recommended to secure the anchor while under way. Available in rope version with chain clevis hook.

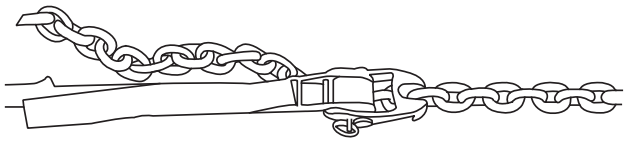
Type	Description
SP3174	6 mm chain hook 1.5 mtrs Ø12 mm Nylon 8 Plait rope
SP3175	8 mm chain hook 1.5 mtrs Ø14 mm Nylon 8 Plait rope
SP3176	10 mm chain hook 2 mtrs Ø16 mm Nylon 8 Plait rope

ANCHOR TENSIONER

Simple, easy to use and adjustable tensioner

This innovative anchor tensioner secures the anchor firmly into the bow roller, taking the weight off the windlass and preventing accidental deployment of the anchor. The tensioner is suitable for use with 7 mm (¼") to 12 mm (½") short link chain and can be secured to an existing cleat or bollard so no installation is required.

(P105072)



Electrical Accessories Selection Guide

Use this guide to select the electrical accessories you require and to confirm that they are suitable for use with your chosen windlass or capstan unit.
After identifying your winch, follow steps 1 through 5 below. See also additional information on page 332. **Note:** For 48 VDC applications please contact your Maxwell dealer.

1. Select Solenoid (when required)

	Windlass Model	**Anchor Max**	**500VC**	**HRCFF 6/7/8**	**RC6**	**RC8-6**	**RC 8-8**	**RC 10-8**	**RC 10-10**	**HRC 10-8**	**HRC 10-10**	**RC 12-10**	**RC 12-12**	**RC 12HD**	**VW 10-8**	**VW 10-10**	**1000**	**1500**	**2500**	**3500**	**TASMAN**
Part Number		500W	600W	600W	500W	600W	1000W	1000W	1200W	1000W	1200W	1200W	1200W	2000W	1000W	1200W	1000W	1200W	1200W	1200W	1000W
	Reversing Solenoids																				
SP5102	Reversing Solenoid 12 VDC			(•)	(•)	(•)															
SP5103	Reversing Solenoid 24 VDC			(•)	(•)	(•)															
SP5104	Reversing Solenoid 12 VDC						(•)	(•)	(•)	(•)	(•)	(•)	(•)		(•)	(•)	(•)	(•)	(•)	(•)	(•)
SP5105	Reversing Solenoid 24 VDC						(•)	(•)	(•)	(•)	(•)	(•)	(•)		(•)	(•)	(•)	(•)	(•)	(•)	(•)
SP5107	Reversing Solenoid 24 VDC													(•)							
	Single Direction Solenoids																				
SP1393	Single Direction 12 VDC	•	•	Single Direction Solenoid may be used with windlass if dual direction operation is not required.																	
SP1394	Single Direction 24 VDC	•	•																		
	Brackets		•																		
	(•) = part of the standard 12 VDC or 24 VDC windlass package • = optional extra																				

2. Select Circuit Breaker/Isolator (recommended)

	Circuit Breaker	**Anchor Max**	**500VC**	**HRCFF 6/7/8**	**RC6**	**RC8-6**	**RC 8-8**	**RC 1 10-8**	**RC 10-10**	**HRC 10-8**	**HRC 10-10**	**RC 12-10**	**RC 12-12**	**RC 12HD**	**VW 10-8**	**VW 10-10**	**1000**	**1500**	**2500**	**3500**	**TASMAN**
P100789	40 Amp circuit breaker	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC															
P102903	70 Amp circuit breaker			12 VDC	12 VDC																
P100790	80 Amp circuit breaker	12 VDC	12 VDC			12 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC		24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
P100791	135 Amp circuit breaker						12 VDC	12 VDC	12 VDC	12 VDC	12 VDC	12 VDC	12 VDC	24 VDC	12 VDC	12 VDC	12 VDC	12 VDC	12 VDC	12 VDC	12 VDC

3. Select Switch or Combination of Switches (as required)

	Foot Switches	**Anchor Max**	**500VC**	**HRCFF 6/7/8**	**RC6**	**RC8-6**	**RC 8-8**	**RC 10-8**	**RC 10-10**	**HRC 10-8**	**HRC 10-10**	**RC 12-10**	**RC 12-12**	**RC 12HD**	**VW 10-8**	**VW 10-10**	**1000**	**1500**	**2500**	**3500**	**TASMAN**
P19001	Foot Switch With Chrome Bezel	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P19006	Foot Switch Covered (Black)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P19007	Foot Switch Covered (White)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P19008	Foot Switch Plastic Bezel	(•)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P100735	Foot Switch Covered (Stainless Steel)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Compact Foot Switches																				
P104809	Foot Switch Covered (White)			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P104810	Foot Switch Covered (Black)			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Remote Panel (Up/Down)																				
P102938	Toggle Switch			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P102983	Push Button			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Hand Held Wired Roving Control																				
P102992	AA320 Roving Control Two Button			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P102995	AA342 Roving Control Two Button			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

4. Select Rode Counters (when desired)

P102939	AA150 Panel Mount Rode Counter Without Control Switch			•*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
P102994	AA730 Wired Roving Control with Rode Counter			•*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

*** HRC sensor P102909 is required to fit a chain counter to the HRCFF6 and HRCFF8 windlasses**

5. Select Sensor Cable Extension Packs for Rode Counters or Switches with Rode Counters (as required)

SP4154	2 m (6.5 ft) Dual Installation Connection cable			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SP4156	6.5 m (21 ft)			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SP4157	15 m (49 ft)			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SP4153	20 m (65 ft)			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SP4155	Dual Instalation "T" Connector			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SP4192	Gender Adapter (to join two sensor cables)			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Additional Anchoring Accessories Selection Guide Information

MAXSET Anchors

Stainless Steel	Galvanised	Anchor Weight
P105070	P105069	4kg/9lbs
P105055	P105000	6kg/13lbs
P105056	P105001	10kg/22lbs
P105057	P105002	16kg/35lbs
P105058	P105003	20kg/44lbs
P105059	P105004	25kg/55lbs
P105067	P105005	30kg/66lbs
P105068	P105006	40kg/88lbs

MAXSET Bow Rollers

Polished Finish	Anchor Weight
P105075	4kg/9lbs
P105075	6kg/13lbs
P105077	10kg/22lbs
P105079	16kg/35lbs
P105081	20kg/44lbs
P105083	25kg/55lbs
P105083	30kg/66lbs
P105083	40kg/88lbs

MAXSET Bow Rollers

Satin Finish	Anchor Weight
P105074	4kg/9lbs
P105074	6kg/13lbs
P105076	10kg/22lbs
P105078	16kg/35lbs
P105080	20kg/44lbs
P105082	25kg/55lbs
P105082	40kg/88lbs

Bow Rollers

Stainless Steel	
P104330	Hinged # 1 up to 8mm (5/16") chain
P104331	Hinged # 2 up to 13mm (1/2") chain
P104332	Fixed # 1 up to 8mm (5/16") chain
P104333	Fixed # 2 up to 8mm (5/16") chain
P104334	Fixed # 3 up to 13mm (1/2") chain
P104340	Extendable hinged up to 13mm (1/2") chain
P104374	Fixed with anchor loop up to 13mm (1/2") chain

MAXCLAW Anchors

Stainless Steel	Anchor Weight
P105060	5kg/11lbs
P105061	7.5kg/17lbs
P105062	10kg/22lbs
P105063	15kg/33lbs
P105064	20kg/44lbs
P105065	30kg/66lbs
P105066	40kg/88lbs

Chain Stoppers

P104335	Economy 8mm -10mm (5/16"-3/8") chain
P104372	Removable Levered Pawl 8mm (5/16") chain
P104373	Removable Levered Pawl 10mm (3/8") chain
P104374	Removable Levered Pawl 13mm (1/2") chain
P104358	Height Matched 8mm/10mm (5/16"-3/8") chain
P104359	Height Matched 10mm/13mm (3/8"-1/2") chain

Anchor Swivels

P104370	Stainless steel (AISI 316) 750 kg load 6mm-8mm (1/4"-5/16") chain
P104371	Stainless steel (AISI 316) 1500 kg load 10mm-13mm (3/8"-1/2") chain

Crank Handles

P103864	8 inch / 200mm RC8, RC10 and RC12 windlasses
P103865	10 inch / 250mm RC8, RC10 and RC12 windlasses

Chain Snubbers and Tensioners

SP3174	Snubbing Hook 6/7mm (1/4") chain
SP3175	Snubbing Hook 8mm (5/16") chain
SP3176	Snubbing Hook 10mm (3/8") chain
P105072	Webbing tensioner 7mm-12mm (1/4" to 1/2")

Installation and Maintenance

Maxwell provides a complete installation and maintenance manual with every windlass or capstan. This clear and detailed step-by-step guide, provides information on how and where to install your winch. Suggestions, practical tips and cautions provide a solid basis for usage and maintenance. These publications are available on the Maxwell website. A good installation could mean the difference between your winch performing as it should or ending up causing you problems. Please ensure that you carefully read the Owner's Manual before installing and using your winch. Simple guidelines and advice such as greasing the clutch cones, using products such as anti-corrosive and sealing spray on the motor and electrical terminals and bedding the winch to the deck with a top quality marine sealant will ensure that you get years of trouble free use from your Maxwell Marine products. If in doubt, contact your nearest Maxwell dealer.

Maxwell Three Year Warranty

Maxwell Marine provides a three year limited warranty on all windlasses, capstans and accessories for pleasure boat usage and a one year limited warranty for those systems used on commercial or charter vessels. Warranty, service and parts are available world-wide.
Contact your nearest Maxwell Marine office or check out the Maxwell Marine website:
www.maxwellmarine.com for a complete list of service centres, agents and distributors.

3YEAR Limited Warranty

www.maxwellmarine.com

Maxwell's ongoing commitment to customer service and technological excellence can be viewed online at www.maxwellmarine.com.
This fully interactive and constantly evolving website features Maxwell's easy to use winch selection guide, cad drawings, product manual downloads and up-to-date technical information regarding the latest product developments and innovations.
You can register warranties on line, ask for technical advice, find out what boat shows we are attending and locate the Maxwell office, agent or distributor nearest you.

Glossary

Capstan Often referred to as a drum, rope drum, or warping drum. The capstan is primarily used for hauling rope.

Chain Stopper Similarly, chain compressor. Located between the winch and bow roller. Secures chain and anchor and takes the load off the winch/windlass. Highly recommended for systems utilising all chain and for semi-automatic rope and chain systems.

Free Fall Release of the winch clutch mechanism allowing the anchor and rode (chain or rope and chain) to run out freely with no engagement of winch gearbox or motor.

Gypsy Often referred to as chainwheel or wildcat. A special wheel with pockets, to accommodate a specified chain size, for hauling up the chain and anchor. With automatic rope/chain systems the gypsy is designed to haul both rope and chain.

Hauling Often referred to as weighing or lifting. The operation of lifting the anchor and rode.

Horizontal Pertaining to the winch or windlass. Drive shaft, capstan and gypsy are positioned horizontally to the deck.

Manual Override System Often referred to as emergency crank system. A means of manually cranking the winch to haul in the rode and anchor should a failure occur in the motor, gearbox or power supply.

Maximum Pull Sometimes referred to as rated lift, stall load, or simply lift/pull. The maximum pull or lift load of the winch.

Rode The line that secures the boat to the anchor. This may consist of all chain, all rope, or a combination of rope and chain.

Static Hold The maximum load that the windlass can hold before permanent damage is caused. It is not recommended that the windlass be used in this manner.

Vertical Pertaining to the winch or windlass. The drive shaft, capstan and gypsy are positioned vertically to the deck.

Winch A windlass driven by a hand or power-operated crank or gearbox.

Often implies to pull or lift a weight by using a winch.

Windlass A machine for raising a weight by winding a rope and/or chain around a drum or chainwheel, driven by a crank, motor, etc.

Working load Often referred to as the normal working load or the typical lift of the winch. This is usually somewhere between 25% to 35% of the maximum pull or rated lift. This workload should approximately correspond to the total weight of the anchor and rode aboard the boat.

Superyacht Windlasses and Capstans

For over five decades Maxwell has been supplying anchoring solutions to the global marine market. The Superyacht industry poses unique challenges. Quality, reliability and style are a must. Owners and Captains depend on the finest equipment aboard their luxurious vessels to see them safely around the world or cruising in their home waters. Maxwell has become the manufacturer of choice on many of the world's Superyachts.

The 21st century has presented Maxwell with new opportunities and challenges. Larger Superyachts mean larger windlasses and anchor handling equipment. In response Maxwell has continued to develop and expand its highly successful 'SY' Series Superyacht windlasses. Complemented by new and innovative deck gear, such as integrated Roller-Stopper-Tensioners, Compressor-Roller-Tensioners and Chain Pipe-Rollers, Maxwell is able to meet the demands for a complete and integrated anchoring package for Megayachts.

All Superyacht products are manufactured to the stringent international requirements of ISO 9001 and are covered under the European CE standard. Maxwell Superyacht products are, and can be, certified to any of the major classification societies such as LR, DNV-GL, ABS, BV, etc.

For more information about Maxwell's extensive range of Superyacht products and services, see the Superyacht catalogue and information guide or visit www.maxwellmarine.com alternatively contact: superyacht@maxwellmarine.com

RETRACTABLE VERTICAL CAPSTAN RVC

The Maxwell Retractable Vertical Capstan (RVC) has been designed not only for superb functionality, but with the aim that aesthetics aboard any yacht are also paramount. The top of the capstan drum is pleasing to the eye and has been etched to provide a non-skid surface, when flush with the deck in the fully retracted position. Alternatively, it can be recessed allowing for compatible deck finishes to be attached.

SY Series

Developed for vessels up to approximately 120 metres, the SY Series gives Maxwell the ability to offer customers highly competitive, top quality anchoring equipment, without over or under specifying power, strength, reliability or performance.

Developed and engineered in response to the demand for bigger and stronger anchor windlasses for todays larger Superyachts and Megayachts, Maxwell has once again set the standard for others to follow.

V-QUIPMENT

Boat seats

Seat pedestals

Tables

Deck equipment

Fittings

Anodes

and more

The best equipment for your boat!

- High quality and reliability
- Complementary to the VETUS systems
- 3 Year warranty

ABYC-H-31 - Seat structure recommendations

The ABYC-H-31 - Seat structure recommendations applies to permanently installed seats in cockpits, deck areas and all helm positions, including their fastenings and structures to which they are attached. It is a guide for the design, testing, construction and installations of these product systems.

These recommendations are divided into the so called type “A” and type “B” system.

Type “A” system
A seating system (seat and pedestal) designed for occupancy while vessel is underway at any boat speed.

Type “B” system
A seating system (seat and pedestal) designed for occupancy only at boat speed not exceeding 8 km/h (5 miles per hour).

The type “A” system is sub-divided into

Type “AO” operators system
Seat mounts must have a positive locking mechanism which shall withstand a torque of 205Nm (150 foot pounds). (Positive locking = by means of a pin lock)

Type “A” system
Seat mounts shall withstand a torque of 41Nm (30 foot pounds).

VETUS has symbolized these recommendations into the below mentioned classification logos, which are shown next to each individual seat mount within the V-Quipment comfort section of this catalogue.

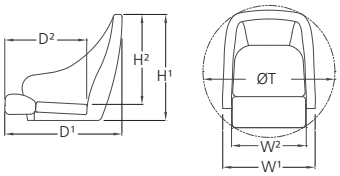
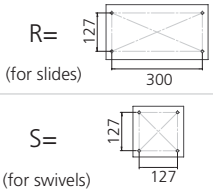
Source: ABYC-H-31

Note: All seats are classified as type “A”, a seat combined with a type “A0” seat mount is therefore usable as an operators system. A seat combined with a type “B” seat mount, has the above mentioned usage restrictions.

Boat seats

All seats and benches in this range are finished in maintenance free, water and UV resistant skai imitation leather and AISI 304 staples, which is ideal for marine use. The skai imitation leather can also be ordered in rolls of 5 metres to match the complete boat interior to your boat seats. See page 382 for more information.

Equivalent RAL colours: Grey white 9002, Cobalt blue 5013, Light ivory 1015, Traffic black 9017, Mahogany brown 8016 and Pure white 9010.

Seat dimensions	Hole pattern (threaded)
	

Which pedestal?

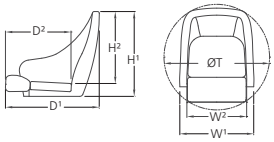
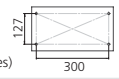
Seats are supplied without pedestal. Please find the pedestal of your choice on page 383. The hole patterns (R or S) in the specification tables of the seat and pedestal should match. See the table on the right for the dimensions of the hole patterns.

Comfort

CHCOMW

FLIP-UP

CHCOMB

Seat dimensions	Hole pattern (threaded)
	R= (for slides) 
	S= (for swivels) 

Commander

Luxurious chair with excellent support. The front part can be folded up for steering in a standing or leaning position.

Available colours:
- Grey white (CHCOMW)
- Cobalt blue (CHCOMB)
- Without upholstery (CHCOMU)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
684	485	715	610	610	415	720	R	15

CHFUS

FLIP-UP

CHFUSBL

Queen

Comfortable FLIP-UP boat seat. The front part can be folded up for steering in a standing or leaning position.

Available colours:
- Grey white (CHFUS)
- Cobalt blue (CHFUSBL)
- Without upholstery (CHFUSQU)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
715	490	600	510	560	460	800	R	12

CHFUSW

FLIP-UP

CHFUSC

CHFUSB

King

Comfortable FLIP-UP boat seat. The front part can be folded up for steering in a standing or leaning position. With comfortable head rest.

Available colours:
- Grey white with cobalt blue seams (CHFUSW)
- Cobalt blue with grey white seams (CHFUSB)
- Light ivory with light ivory seams (CHFUSC)
- Without upholstery (CHFUSKU)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

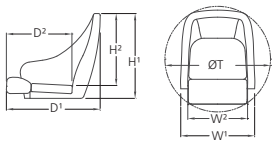
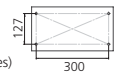
D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
720	490	620	500	570	450	800	R	13

Comfort

CHFASW

CHFASC

CHFASB

Seat dimensions	Hole pattern (threaded)
	R= (for slides)  S= (for swivels) 

Master

High quality helm seat with armrests.
Stainless steel frame (AISI 304).

Available colours:
- Grey white (CHFASW)
- Cobalt blue (CHFASB)
- Light ivory (CHFASC)
- Without upholstery (CHFASU)

Supplied without pedestal. Fits pedestals with slide only.
Use seat cover CCMB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
690	500	630	510	595	510	760	R	15

CHSAILW2

CHSAILB2

Sailor

Helm seat with stainless steel armrests (AISI 304).

Available colours:
- Grey white (CHSAILW2)
- Cobalt blue (CHSAILB2)

Supplied without pedestal. Fits pedestals with slide only.
Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
600	440	620	540	585	430	700	R	8,2

CHCASW

CHCASB

Skipper

Classic helm chair with comfortable arm rests.
Anodised aluminium frame.

Available colours:
- Grey white (CHCASW)
- Cobalt blue (CHCASB)

Supplied without pedestal. Fits all pedestals.
Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
590	420	535	415	595	430	680	R / S	9,5

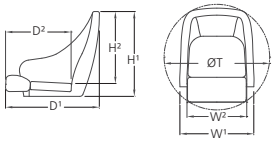
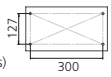
Dimensions in (mm)

Comfort

CHLIEUTB

FLIP-UP

CHLIEUTW

Seat dimensions	Hole pattern (threaded)
	R= (for slides) 
	S= (for swivels) 

Lieutenant

Comfortable seat with a foldable front part for steering in standing or leaning positions.

Available colours:
- Grey white (CHLIEUTW)
- Cobalt blue (CHLIEUTB)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
710	510	540	410	585	430	710	R	8

CHSPORTTB

CHSPORTW

FLIP-UP

CHSPORTWB

Pilot

Sporty seat with good lateral support. The front part can be folded up for steering in standing or leaning positions.

Available colours:
- Traffic black (CHSPORTTB)
- Grey white (CHSPORTW)
- Grey white with black (CHSPORTWB)
- Without upholstery (CHSPORTU)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
670	475	600	510	500	403	720	R	8,7

CHDRIVEW

CHDRIVEWB

Driver

Sporty seat with good lateral support. Modern design.

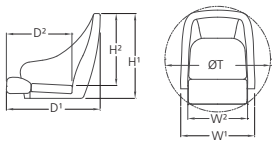
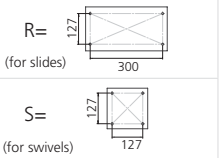
Available colours:
- Grey white (CHDRIVEW)
- Grey white with black (CHDRIVEWB)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
640	450	600	510	520	405	670	R	7

Dimensions in (mm)

Comfort

Seat dimensions	Hole pattern (threaded)
	

Admiral

A sporty and comfortable seat with lateral supports. The front part can be folded up for steering in standing or leaning positions.

Available colours:
- Grey white (CHADMW)
- Cobalt blue (CHADMB)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
730	510	620	550	580	430	730	R	8,5

Major

A comfortable seat with a foldable front part for steering in standing or leaning positions.

Available colours:
- Grey white (CHMAJORW)
- Cobalt blue (CHMAJORB)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
730	510	660	555	585	400	730	R	9,5

Seaman

A roomy, classy and comfortable seat with a classic appearance. The front part can be folded up for steering in standing or leaning positions. The armrest can be flipped up and the hinges are made of corrosion resistant aluminium.

Available colour:
- Mahogany brown (CHSEAMMB)
- Pure white (CHSEAMPW)
- Cream (CHSEAMC)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
590	530	610	490	590	435	730	R	13,7

Dimensions in (mm)

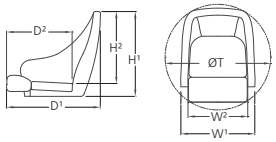
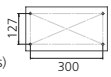
Comfort

CAPTCSL

CAPTCSB

CAPTSEAT3

Type	Description
CAPSEAT3	Seat "Captain" in grey white without cushions
CAPTCSL	Cushion set for "Captain" seat light grey with dark grey seams
CAPTCSB	Cushion set for "Captain" seat cobalt blue with light seams

Seat dimensions	Hole pattern (threaded)
	R= (for slides) 
	S= (for swivels) 

Captain

The CAPTSEAT3 is the well-known ergonomically shaped base seat without cushions. To make this seat complete a cushion set is available in two colours.

Cushions available in:
- Light grey with dark grey seams (CAPTCSL)
- Cobalt blue with light seams (CAPTCSB)

Supplied without pedestal. Fits pedestals with slide only. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
485	430	500	450	530	430	530	R	8,3

CHCS

CHCW

CHCBWB

CHCG

Crew

Deluxe light weight seat with folding back rest.
With or without cushions.

Available colours:
- Light grey (without upholstery) (CHCS)
- Grey white (CHCW)
- Grey white with cobalt blue insert (CHCBWB)
- Grey (CHCG)

Supplied without pedestal. Only fits pedestals without slide. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
482	435	435	405	470	470	630	S	3

CHFSWW

CHFSBW

Fisherman

Classic seat with folding back rest. Anodised aluminium hinges.

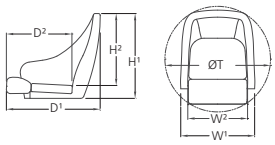
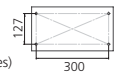
Available colours:
- Grey white with cobalt blue seams (CHFSWW)
- Cobalt blue with grey white seams (CHFSBW)

Supplied without pedestal. Fits all pedestals. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
480	350	450	360	400	400	575	R / S	3,3

Dimensions in (mm)

Comfort

Seat dimensions	Hole pattern (threaded)
	R= (for slides)  S= (for swivels) 

CHPRIVEL

Private seat

The trusted companion when it comes to fishing.
Gives you support when needed, is small, lightweight and easy to clean.

Available colour:
- Light grey with dark grey seam (CHPRIVEL)

Supplied without pedestal. Fits pedestals with swivel only.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
285	220	137	90	397	370	400	S	1,2

CHFSW

CHFSB

First Mate

Comfortable deluxe seat with folding back rest. Anodised aluminium hinges.

Available colours:
- Grey white with blue seams (CHFSW)
- Cobalt blue with grey white seams (CHFSB)
- Light grey with dark grey seams (CHFSL)
- Grey with light grey seams (CHFSD)

Supplied without pedestal. Fits all pedestals. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
480	350	450	360	400	400	575	R / S	3,3

CHFSL

CHFSD

DCHFSW

First Class

Comfortable deluxe double seat with folding back rest. Anodised aluminium hinges.

Available colours:
- Grey white with cobalt blue seams (DCHFSW)
- Cobalt blue with grey white seams (DCHFSB)

Supplied without pedestal. Fits on two pedestals.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
480	350	450	360	900	900	-	2xR	13

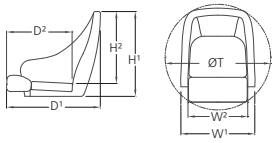
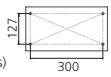
DCHFSB

Dimensions in (mm)

Comfort

CHTBSW

CHTBSB

Seat dimensions	Hole pattern (threaded)
	R= (for slides) 
	S= (for swivels) 

Ferry

Seat with moveable double sided backrest. Anodised aluminium hinges.

Available colours:
- Grey white with cobalt blue seams (CHTBSW)
- Cobalt blue with grey white seams (CHTBSB)

Supplied without pedestal. Fits all pedestals. Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
570	375	460	380	420	420	706	R / S	6

DCHTBSW

DCHTBSB

Ferry Bench

Double seat with moveable double sided backrest. Anodised aluminium hinges.

Available colours:
- Grey white with cobalt blue seams (DCHTBSW)
- Cobalt blue with grey white seams (DCHTBSB)

Supplied without pedestal. Fits on two pedestals (with or without slide).

D1	D2	H1	H2	W1	W2	ØT	Hole pattern	Weight (kg)
570	375	460	380	900	900	-	2xR / 2xS	15

CCDS

CCSB

Seat cover - weather proof

To keep the seat dry and clean and protected against UV. Made of nylon with PU coating. A drawstring is included.

Types CCDS and CCSB fit all single seats except the 'Master' seat.

Available colours:
- Dark blue
- Silver

CCMS

CCMB

Type	D	H	W
CCDS / CCSB	500	830	640
CCMB*/ CCMS**	580	700	580

* Type CCMB fits only the 'Master' seat (CHFAS..)
** We advise to use the silver cover for light colored seats and use the blue cover for dark seats.

Dimensions in (mm)

Comfort

Custom made - tailored fit

Freshen up your point of view
Would you like seats in different colours to the standard versions? Want to stand out from the crowd or trying to match the current upholstery? V-Quipment offers the solution: meet our custom made seat program.

V-Quipment offers fifteen colours of marine grade Skai imitation leather in the custom made seat programme. Simply select two or more of the un-upholstered seats from the custom made programme, pick your colour(s), and leave the rest to us! We can even embroider your logo if you wish. For existing boats we can also supply Skai by the roll, so the rest of your upholstery can be matched to your new seats. So whether you just want to change the existing colour scheme or are building a new boat, V-Quipment can be of assistance! The marine grade skai imitation leather is maintenance free, and water and UV resistant. Available from stock in rolls of 1.37 metre width and 5 metres long.

Specifications
- Fifteen colours of marine grade imitation leather
- Carbon weave or regular finish available
- Optional embroided logo

All seats are suitable for the custom seat programme, but the following un-upholstered seats are available from stock: Commander (CHCOMU), Queen (CHFUSQU), King (CHFUSKU), Master (CHFASU) and Pilot (CHSPORTU). V-Quipment un-upholstered seats come with a pattern sheet to facilitate DIY upholstering.

V-Quipment has fifteen colours to choose from. For an overview of the available colours and their corresponding RAL number, please see below.

Type	Colour	RAL code
CHSKAIB	Cobalt blue	5013
CHSKAIW	Grey white	9002
CHSKAIC	Light ivory	1015
CHSKAITG	Traffic grey	7043
CHSKAILG	Signal grey	7004
CHSKAIPW	Pure white	9010
CHSKAIRR	Ruby red	3003
CHSKAIGB	Graphite black	9011

Type	Colour	RAL code
CHSKAIGY	Golden yellow	1004
CHSKAIEG	Emerald green	6001
CHSKAIMB	Mahogany brown	8016
CHSKAISB	Sapphire blue	5003
CHSKAISG	Slate grey	7015
CHSKAIAW	Aluminium white	9006
CHSKAITB	Traffic black	9017

S.CHSKAI

You can order S.CHSKAI as a sample set.

Colour combinations are possible as well. V-Quipment custom made seat program is available to special order. Minimum order quantities for custom made upholstery are 2 of any seat type. Please ask for pricing.

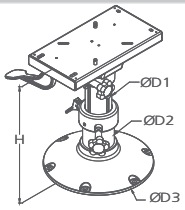
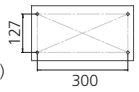
Without upholstery

Your logo here?

Comfort

Seat pedestals

All pedestals are made of high grade aluminum and have a 360° rotatable swivel on top. Gas adjustable pedestals are operated with a handle. Manually adjustable pedestals have both a lock-pin with a locking position every 25 mm and a clamping knob for complete security. The sliding mechanism can be moved through 135 mm in total and locked in one of seven positions.

Pedestal dimensions	Hole pattern
	R= (for slides)  S= (for swivels) 

Note: An explanation of the classification logo which is shown next to each seat mount can be found on page 374 of the catalogue.

PCM3040 **PCM3547** **PCM4363**

Manually adjustable pedestals without slide

Manually height adjustable aluminum seat pedestal with 360° swivel only. Anodised base.

Type	Height (H)	Hole pattern	Post Ø (D1 / D2)	Base Ø (D3)	Weight (kg)
PCM3040	300 - 400	S	60 / 73	228	4
PCM3547	350 - 470	S	60 / 73	228	5
PCM4363	435 - 635	S	60 / 73	228	5,8

PCMS3040 **PCMS3547** **PCMS4363**

Manually adjustable pedestals with slide

Manually height adjustable aluminum seat pedestal with slide and 360° swivel. Polished base.

Type	Height (H)	Hole pattern	Post Ø (D1 / D2)	Base Ø (D3)	Weight (kg)
PCMS3040	300 - 400	R / S	73 / 87	228	6
PCMS3547	350 - 470	R / S	73 / 87	305	7
PCMS4363	435 - 635	R / S	73 / 87	305	7,8

PCG3040 **PCG3547** **PCG4363** **PCG5680**

Gas adjustable pedestals with slide

For optimum enjoyment of your seat. Gas spring height adjustable aluminum seat pedestal with slide and 360° swivel. Polished base.

Type	Height (H)	Hole pattern	Post Ø (D1 / D2)	Base Ø (D3)	Weight (kg)
PCG3040	300 - 400	R / S	73 / 87	228	6
PCG3547	350 - 470	R / S	73 / 87	305	7
PCG4363	435 - 605	R / S	73 / 87	305	7,8
PCG5680	560 - 800	R / S	73 / 87	305	9

Comfort

Fixed height pedestals

With 360° swivel, available with or without slide. Anodised base.

Type	Slide	Height (H)	Hole pattern	Post Ø (D2)	Base Ø (D3)	Weight (kg)
PCFS33	✓	330	R / S	73	228	4,2
PCF33	-	330	S	73	228	
PCFS45	✓	457	R / S	73	228	4,8
PCF45	-	457	S	73	228	

AO

PCFS33

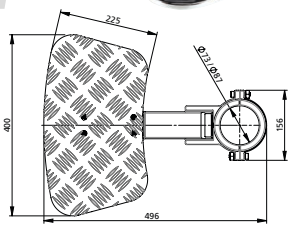
PCF33

PCFS45

PCF45

A

FTREST..



FTREST

Rotatable and foldable footrest for pedestals. Made from a marine grade aluminium with stainless steel fastenings. For extra grip the aluminium base plate has a diamond profile.

Type	Description	For post Ø (D2)	Suits pedestal type	Weight (kg)
FTREST73	Footrest	73	PCM, PCF	3,5
FTREST87	Footrest	87	PCMS, PCG	3,5

Does not fit type PCR nor PCQ pedestals.

B

PCBELL

Bell shape pedestal

A seat pedestal with a friction lock 360° swivel. The height is manually adjustable. Made from a marine grade aluminium. The large bell shaped base is grey powder coated.

Type	Height (H)	Hole pattern	Post Ø (D1)	Base Ø (D3)	Weight (kg)
PCBELL	330 - 430	S	60	254	2,3

A

PC13

Base with swivel

Low profile anodised base with 360° swivel.

Type	Height (H)	Hole pattern	Post Ø (D1)	Base Ø (D3)	Weight (kg)
PC13	134	S	73	228	2

Dimensions in (mm)

Comfort

A

PCS15

Base with swivel and slide

Low profile anodised base with 360° swivel and slide.

Type	Height (H)	Hole pattern	Post Ø (D1)	Base Ø (D3)	Weight (kg)
PCS15	153	R / S	73	228	4

A

PCBS

Swivel with slide

Aluminium 360° swivel with slide with seven locking positions.
For direct mounting.

Type	Height (H)	Hole pattern	Base Ø (D3)	Weight (kg)
PCBS	70	R / S	S	2,5
PCBSR	70	R / S	S	2,5

PCBSR

A

PCBL

Rotatable base with locking position

Aluminium 360° rotatable base with seven locking positions.
For direct mounting.

Type	Height (H)	Hole pattern	Base	Weight (kg)
PCBL	51	S	S	2

B

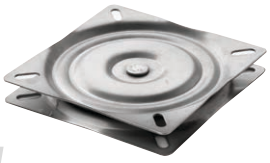
PCB

Removable swivel base

Rotatable and removable synthetic 360° swivel base for direct mounting.

Type	Height (H)	Hole pattern	Base	Weight (kg)
PCB	55	S	S	0,7

B



PCBR

Rotatable stainless steel base

360° Rotatable base for direct mounting. Made from stainless steel AISI 304.

Type	Height (H)	Hole pattern	Base	Weight (kg)
PCBR	23	S	S	1

Dimensions in (mm)

Comfort

Slide

Seat slide for direct mounting. The sliding mechanism can be moved through 135 mm in total and locked in one of seven positions.

SCU

Type	Height (H)	Hole pattern	Base	Weight (kg)
SCU	70	R + S	S	2

Removable pedestal (fixed height)

With 360° swivel or slide and recessed anodised base. Base and pedestal fit most commonly used similar systems in the market.

PCR38

PCRS38

Type	Swivel (hole pattern)	Height (H)	Post Ø (D2)	Base Ø (D3)	Recessed depth	Cut out deck Ø
PCR38	Swivel (S)	380	60	229	70	90
PCRS38	Slide (R)	380	60	229	70	90

Removable pedestal

With 360° swivel and recessed anodised base. Base and pedestal fit most commonly used similar systems in the market.

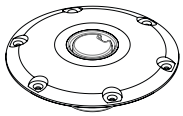
PCRQ33

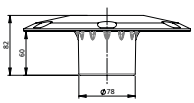
PCRQ38

Type	Swivel (hole pattern)	Height (H)	Post Ø (D2)	Base Ø (D3)	Recessed depth	Cut out deck Ø
PCRQ33	Quick position (S)	330	60	229	70	90
PCRQ38	Quick position (S)	380	60	229	70	90

PCRBASE

This (spare) plug-in pedestal base can be used as an extra mounting position or as replacement for existing pedestal bases. The base is made of a marine grade anodized aluminium.





PCRBASE

Type	Height	Base Ø (D3)	Recessed depth	Cut out deck Ø
PCRBASE	82	229	70	90

Dimensions in (mm)

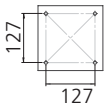
Comfort

Quick positioning series seat pedestals

Pedestals in the quick positioning series are specially suitable for applications where multiple seating positions are used, such as in fishing boats. There are two positioning systems: a very quick click in system and a more sturdy threaded system. The components that form a complete pedestal can be ordered separately to offer great flexibility in seating configuration. Please make sure you order a swivel, leg and base to complete the pedestal. The quick release pedestals fit seats with hole pattern type S.

Quick positioning series swivel

Seat mount swivel with spring. Angled 3°.
Outside dimension swivel: 168 x 168



Type	Connection	Hole pattern	Height	Weight (kg)
PCQSWIV	Click	S	140	1

Quick positioning series fixed height legs

Available with click or threaded connection. Anodised aluminium.

Type	Base Connection	Height (H)	Post Ø	Weight (kg)
PCQF28C	Click	280	45	0,6
PCQF28T	Threaded	280	45	0,7
PCQF33C	Click	330	45	0,65
PCQF33T	Threaded	330	45	0,75
PCQF38C	Click	380	45	0,8
PCQF38T	Threaded	380	45	0,85

Quick positioning series gas adjustable legs

Available with click or threaded connection. Angled 3°.
360° swivel included.

Type	Base Connection	Height (H)	Post Ø	Hole pattern	Weight (kg)
PCQG5774C	Click	570 - 740	45	S	2,1
PCQG5774T	Threaded	570 - 740	45	S	2,3

This adjustable pedestal contains chromed steel parts, we advise against use on salt water.

Quick positioning series baseplates

Stainless steel (AISI 316).

Type	Connection type	Base dimensions	Recessed depth	Hole Ø	Weight (kg)
PCQBASEC	Click	174 x 174	60	55	1
PCQBASET	Threaded	174 x 174	90	55	1,2

Dimensions in (mm)

Comfort

Tables

All table tops are made from white synthetic material and have four cupholders incorporated. The table pedestals are high grade aluminium. The unique locking systems on the threaded base ensures a sturdy table. Separate base plates make various table positions on your boat possible.

PTTF68

PTF68

Fixed height table

Removable from the base. The screwed connection ensures a very sturdy table. Anodised aluminium.

Type	Top	Height	Base Ø	Max. load (kg)
PTTF68	Oval, 450 x 760	685	178	22
PTF68	Round, Ø 600	685	178	22

PTT5070

TPM5070

Height adjustable table

Removable from the base. The screwed connection ensures a very sturdy table. Polished pedestal, anodised base.

Type	Top	Height	Base Ø	Max. load (kg)
PTT5070	Oval, 450 x 760	500 - 700	178	22
TPM5070	Round, Ø 600	500 - 700	178	22

PTTR68

PTR68

Quick remove table

Fixed height, easy to place and remove due to the countersunk connection to the base. Anodised aluminium.

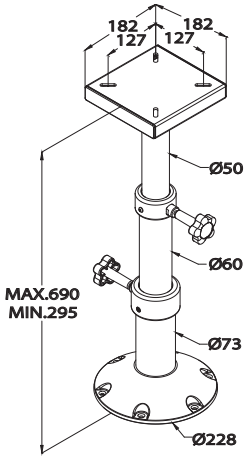
Type	Top	Height	Base Ø	Recessed depth	Cut out deck Ø	Max. load (kg)
PTTR68	Oval, 450 x 760	685	171	50	72	22
PTR68	Round, Ø 600	685	171	50	72	22

Dimensions in (mm)

Comfort

Table pedestals

PCMS2969



Telescopic pedestal

Three stage, height adjustable table pedestal. Anodised aluminium.

Type	Height	Base Ø	Max. load (kg) Extended	Max. load (kg) Retracted
PCMS2969	295 - 690	228	22	102

PT68

PS68

Removable pedestal

Fixed height, with screwed connection plate. Anodised base.

Type	Height	Base Ø
PT68	685	178

Quick remove pedestal

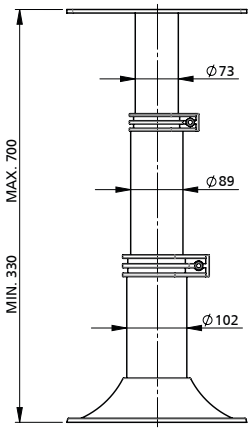
Fixed height, with quick remove countersunk connection. Anodised aluminium.

Type	Height	Base Ø	Recessed depth	Cut out deck Ø
PS68	685	171	50	72

Three stage table pedestal

A marine grade hand polished and anodized table pedestal. Height adjustment is assisted by a 230N gas spring.

PTG3370



PTG3370L

The height can easily be controlled by the cable activated handle.

PTG3370M

The height adjustment (assisted by a gas spring) must be locked with the handles.

Type	Height	Base Ø	Max load ext. (kg)	Max load retr. (kg)	Use
PTG3370L	330 - 700	305	102	102	Indoors
PTG3370M	330 - 700	305	102	102	In- and outdoors

Dimensions in (mm)

Comfort

Tables

These top quality parts and products in the V-Quipment table line are now available for a "mix and match to suit your needs". By having the choice to combine shape, size, options and finish we hope to cater to your needs in every possible situation. We guarantee that all choices are fit for combination and that the result will always be a sturdy, high quality product which is easy to install. The use of corrosion resistant materials will make sure that the combination of your choice will stand the test of time.

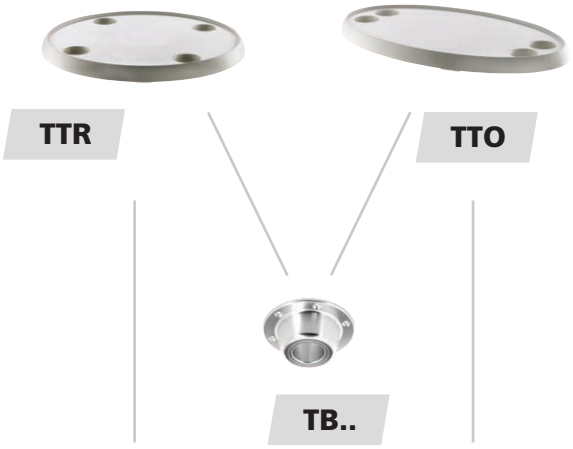


Table top

Made from white synthetic material.
With four cupholders incorporated.

Type	Top
TTR	Round, Ø 600
TTO	Oval, 450 x 760

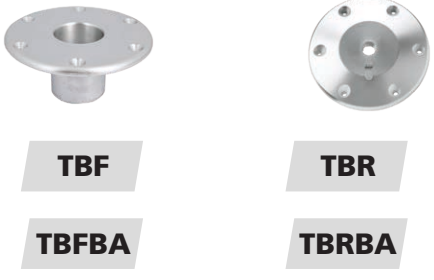
Swivel for table top

Type	Description
TBT	Table swivel anodised aluminium
TBTBA	Table swivel bright anodised aluminium

Table post

The table posts are made of high grade aluminium.
Available in fixed- or adjustable heights.

Type	Description	Height
TCCA	Table post with tapered ends, anodized	685
TCCP	Table post with tapered ends, polished	685
TCSA	Table post with screw connection, anodized	685
TCSP	Table post with screw connection, polished and bright anodised	685
TCSPM	Table post with screw connection, polished and bright anodised, manually adjustable	500 - 700
TCSPG	Table post with screw connection, polished and bright anodised, gas adjustable	500 - 700



Base

These (spare) bases can be mounted directly on the deck. In addition to being part of the "mix and match" programme they can also be used as an extra table position or as replacement for existing pedestal bases.
The bases are made of a marine grade anodized aluminium. The TBR and TBRBA have a unique locking system to ensure a sturdy table system.

Type	Description	Connection	Base Ø	Recessed depth	Hole Ø	Weight (kg)
TBF	Anodised	Countersunk	171	50	72	0,5
TBFBA	Bright anodised	Countersunk	171	50	72	0,5
TBR	Anodised	Screw down	178	-	-	0,4
TBRBA	Bright anodised	Screw down	178	-	-	0,4

Dimensions in (mm)

Deck equipment

Electric marine horns

H12. H24. H12D H24D

Electric marine horns made of stainless steel (AISI 304). Available in 12 or 24 VDC and with high and/or low pitch sound.

Type	Horns	Pitch	Vol.	Length	Height	Width
H12L	1	Low	115 dB	465	125	100
H12H	1	High	115 dB	410	125	100
H24L	1	Low	115 dB	465	125	100
H24H	1	High	115 dB	410	125	100
H12D	2	High + Low	115 dB	465	125	200
H24D	2	High + Low	115 dB	465	125	200

Flush mount electric horns

T12

Flush mounted electric horns. Synthetic housing, stainless steel (AISI 304) diaphragm. Available in 12 VDC. Includes white, black and chrome plated ABS cover.

Type	Vol.	Cover Length	Cover Height	Build in depth
T12	110 dB	128	62	95

Compact electric horns

TNA12. TNA24.

Deluxe compact electric horns. Horn made of chromium plated ABS and stainless steel (AISI 304). Available in 12 or 24 VDC and with high pitch and/or low pitch sound. Supplied with relay.

Type	Horns	Pitch	Freq. (Hz)	Vol.	Length	Height	Width
TNA12L	1	Low	420	115 dB	97	114	95
TNA12H	1	High	480	115 dB	97	114	95
TNA24L	1	Low	420	115 dB	97	114	95
TNA24H	1	High	480	115 dB	97	114	95
TNA12D	2	High + Low	Both	115 dB	195	114	95
TNA24D	2	High + Low	Both	115 dB	195	114	95

Deck equipment

C12L

C12D

Compact shell horns

Electric horns. Stainless steel (AISI 304). Available in 12 VDC.

Type	Horns	Pitch	Vol.	Length	Height	Width
C12L	1	Low	110 dB	83	56	104
C12D	2	High + low	110 dB	205	56	85

HORNPB

Push-button for marine horn

This push button may operate marine horns, with a current consumption of 15 A maximum. Suitable for 12 and 24 VDC electrical installations.

Specifications
- Cut-out diameter: Ø 31 mm
- Outside dimensions: Ø 38 mm
- Watertight to IP67

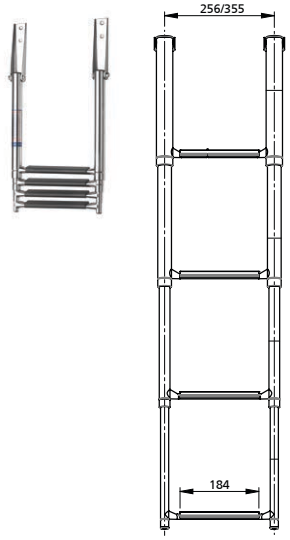
Type	Description
HORNPB	Horn push button, max 15A, 12/24 V

Boarding ladders (AISI 316)

All ladders are made of high-gloss polished stainless steel (AISI 316).

SLT3A

SLT4A



Telescopic ladder

Stainless steel (AISI 316). Available with three or four steps and in two different widths. With synthetic black grips.

Type	Steps	L (extended)	L (retracted)	Width (c to c)*	Tube Ø	Weight (kg)	Max. load (kg)
SLT3A	3	880	375	256	19/25/32	2,7	300
SLT4A	4	1165	405	256	19/25/32/38	3,6	300
SLT3AW	3	895	375	355	19/25/32	2,9	300
SLT4AW	4	1160	415	355	19/25/32/38	4,0	300

* c to c means distance between tube centers

Dimensions in (mm)

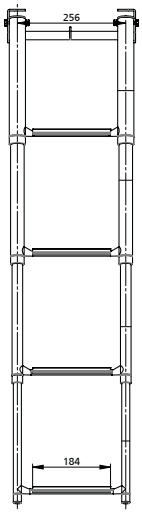
Deck equipment

Telescopic platform cassette ladder

Stainless steel (AISI 316). Available with three or four steps.
With synthetic black grips.

SLT3PA

SLT4PA



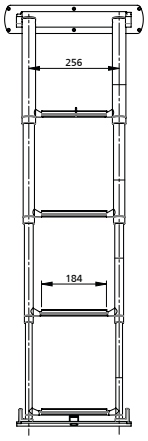
Type	Steps	L (extended)	L (retracted)	Width (c to c)*	Tube Ø	Weight (kg)	Max. load (kg)
SLT3PA	3	875	370	256	19/25/32	3,6	300
SLT4PA	4	1165	405	256	19/25/32/38	5,1	300

* c to c means distance between tube centers

Telescopic cassette ladder

High gloss polished stainless steel (AISI 316). Available with four steps.
With black synthetic grips.

SLT4CA



Type	Steps	L (extended)	L (retracted)	Width (c to c)*	Tube Ø	Weight (kg)	Max. load (kg)
SLT4CA	4	1160	0	256	19/25/32/38	8,0	300

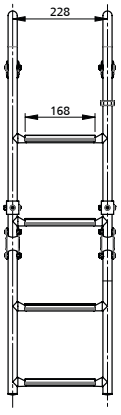
* c to c means distance between tube centers

Folding ladder, deck mounted

Stainless steel (AISI 316). Available with three or four steps with synthetic black grips.

SLFB3A

SLFB4A

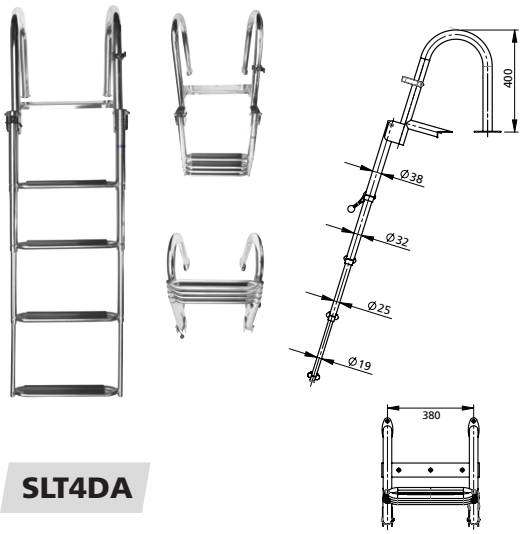


Type	Steps	L (extended)	L (retracted)	Width (c to c)*	Tube Ø	Weight (kg)	Max. load (kg)
SLFB3A	3	685	375	228	22	1,8	175
SLFB4A	4	920	550	228	22	2,3	175

* c to c means distance between tube centers

Dimensions in (mm)

Deck equipment



SLT4DA

Luxury swim ladder

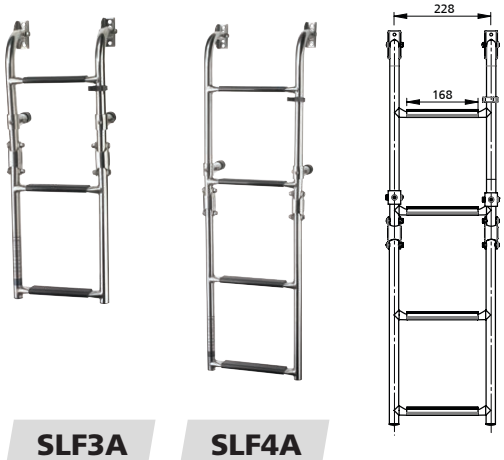
Telescopic swim ladder with four steps. Stainless steel (AISI 316).
With black synthetic grips.

Heavy duty stainless steel construction with a L-angle bracket for extra support that goes across the edge of a deck. This luxury ladder extends 1120 mm below the deck when it is unfolded.

- The handrails help you to climb on board easily
- The steps are covered with black synthetic grips to give extra safety with bare feet

Type	Steps	L (extended)	L (retracted)	Width (c to c)*	Tube Ø	Weight (kg)	Max. load (kg)
SLT4DA	4	1600	480	380	19/25/32/38	8,5	300

* c to c means distance between tube centers



SLF3A SLF4A

Folding ladder, transom mounted

Stainless steel (AISI 316). Available with three or four steps.
With synthetic black grips.

Type	Steps	L (extended)	L (retracted)	Width (c to c)*	Tube Ø	Weight (kg)	Max. load (kg)
SLF3A	3	625	330	228	22	1,9	175
SLF4A	4	905	445	228	22	2,4	175

* c to c means distance between tube centers

SLFM3A SLFM4A

Folding ladder with teak steps

Stainless steel (AISI 316). Available with three or four steps in teak.

Type	Steps	L (extended)	L (retracted)	Width (c to c)*	Tube Ø	Weight (kg)	Max. load (kg)
SLFM3A	3	568	295	165	22	1,5	250
SLFM4A	4	755	470	165	22	1,9	250

* c to c means distance between tube centers

Dimensions in (mm)

Deck equipment

Handrail (AISI 316)

PIJP

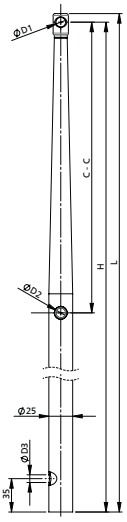
STEUN..

Stainless steel (AISI 316) handrail

Rail pipe and rail fittings available in Ø 20 mm and 25 mm. Pipe is available per metre. Fittings must be ordered separately, please see price list.

Type	Tube Ø	Wall thickness	Max. pipe length
PIJP	20	1,5	6000
PIJP25	25	1,5	6000

Type	Tube Ø	Support
STEUN20V	20	Front
STEUN20A	20	Rear
STEUN20M	20	Middle
STEUN25V	25	Front
STEUN25A	25	Rear
STEUN25M	25	Middle

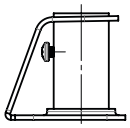


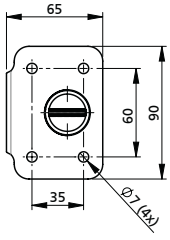
STANCH..

Stainless steel (AISI 316) stanchions

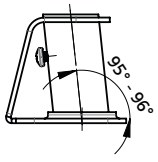
Tapered with two wire holes. Max. railing wire 9,5 mm.

Type	Length	Height	C - C	D1	D2	D3	Hole spacing
STANCH61	619	610	305	10,1	10,1	8	2 wire holes at 305 / 610
STANCH75	759	750	360	10,1	10,1	8	2 wire holes at 360 / 750





STANCHPR



STANCHPS

Stainless steel (AISI 316) stanchion sockets

Specifications
- Diameter: 25 mm
- 90° straight or with 6° angle

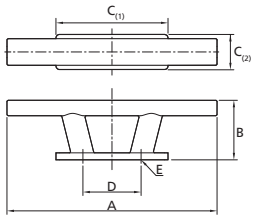
Type	Description
STANCHPR	Straight
STANCHPS	Angled

Dimensions in (mm)

Deck equipment

Cleats and bollards

TAURUS..



Cleats type TAURUS

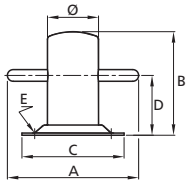
All models (except TAURUS06 and 07) are tapped on the underside so that no fastenings are visible. Made of high-gloss polished stainless steel (AISI 316).

Type	SWL*	A	B	C	D	E
TAURUS01	575 kgf	140	50	89,5 x 30	47	2 x M8
TAURUS02	900 kgf	195	60	120,5 x 35	69	2 x M10
TAURUS03	1310 kgf	255	75	150 x 40	83	2 x M12
TAURUS04	2470 kgf	300	85	160 x 50	83	2 x M16
TAURUS05	2470 kgf	300	85	200 x 85	83	2 x M16
TAURUS06**	2620 kgf	300	85	200 x 85	130 x 55	4 x Ø12,5
TAURUS07***	3600 kgf	250	70	250 x 40	105	3 x Ø12,5

* SWL = Safe working load
** Four holes in a rectangle as dimensioned by D. Holes are 90° countersunk.
*** Three holes in line with 105 mm in between. Holes are 90° countersunk.

ACHIL...

ACHIL...Z



Bollards type ACHIL

Made of high-gloss polished stainless steel (AISI 316).

Bollards type ACHILZ are for direct welding to the deck. Dimensions are similar to ACHIL.

Type	SWL*	A	B	Ø	C	D	E
ACHIL080	620 kgf	120	90	40	80 x 65	52	4 x Ø6,5
ACHIL090	620 kgf	130	95	50	92 x 92	52	4 x Ø6,5
ACHIL110	1150 kgf	160	120	60	122 x 97	70	4 x Ø6,5
ACHIL130	1150 kgf	180	142	70	140 x 118	82	4 x Ø8,5
ACHIL150	1800 kgf	200	172	80	153 x 122	100	4 x Ø10,5
ACHIL160	2620 kgf	255	195	90	165 x 135	120	4 x Ø12,7
ACHIL080Z	620 kgf	120	80	40	-	42	-
ACHIL090Z	620 kgf	130	90	50	-	47	-
ACHIL110Z	1150 kgf	160	110	60	-	60	-
ACHIL130Z	1150 kgf	180	130	70	-	70	-
ACHIL150Z	1800 kgf	200	150	80	-	78	-
ACHIL160Z	2620 kgf	255	160	90	-	82	-

Type	Description
ACHIL090B	Bollard type Achilles 90, with bolt mounting

Bollard type ACHIL090B for small craft is fastened by means of two M8 bolts. Dimensions are similar to ACHIL090.

* SWL = Safe working load

Expand your horizon

With one of our inflatable products. Take our powerful Heartbeat Stand Up Paddling board series for example. These boards combine modern graphics with a distinguished black PVC backdrop. Double layered PVC wrapped around a high density drop-stitched core to be precise. And because we are Yellow V, we add just that bit extra. Curious what that bit is? Visit us on yellowv.com or find us on social media!

Yellow V Next level leisure

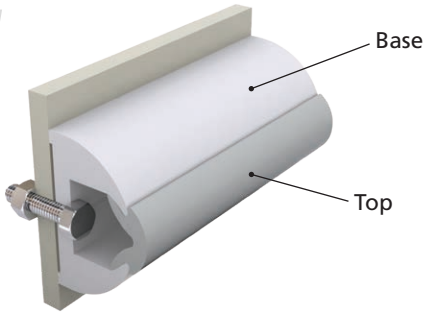
YellowV.com /YellowV_inflatables/ /YellowV.inflatables/

Deck equipment

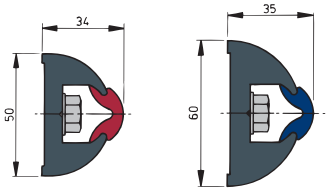
Rubbing strakes

Configure rubbing strakes that really suit your style and vessel. Choose the desired base profile, select you favorite top profile and cap it off with one of our stylish end caps. Personalising your boat has never been this easy!

HARO



HARO5034 HARO6035



Base profile

Type	Colour	Dimension	Length (metres)
HARO5034	Dark grey	50 x 34	20
HARO5034L	Dark grey	50 x 34	30
HARO50W	White	50 x 34	20
HARO50WL	White	50 x 34	30
HARO6035	Dark grey	60 x 35	20
HARO6035L	Dark grey	60 x 35	30
HARO60W	White	60 x 35	20
HARO60WL	White	60 x 35	30

Top profile PVC

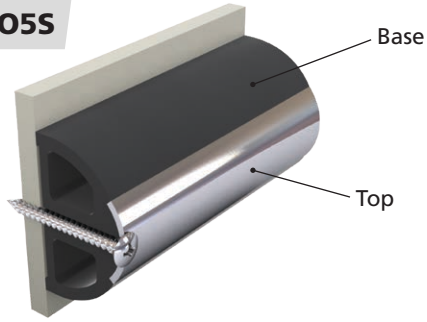
Type	Colour	Length (metres)
STRIPB	Cobalt blue	20
STRIPBL	Cobalt blue	30
STRIPD	Dark grey	20
STRIPDL	Dark grey	30

Type	Colour	Length (metres)
STRIPG	Light grey	20
STRIPGL	Light grey	30
STRIPR	Wine red	20
STRIPRL	Wine red	30

End caps PVC

Type	Description
EHARO50B	Set end pieces black for rubbing strake type HARO50
EHARO50W	Set end pieces white for rubbing strake type HARO50
EHARO60B	Set end pieces black for rubbing strake type HARO60
EHARO60W	Set end pieces white for rubbing strake type HARO60

HARO5S



HARO5S

Base profile

Type	Colour	Dimension	Length (metres)
HARO5S	Dark grey	50 x 34	20
HARO5SL	Dark grey	50 x 34	30
HARO5SW	White	50 x 34	20
HARO5SWL	White	50 x 34	30

Top profile stainless steel

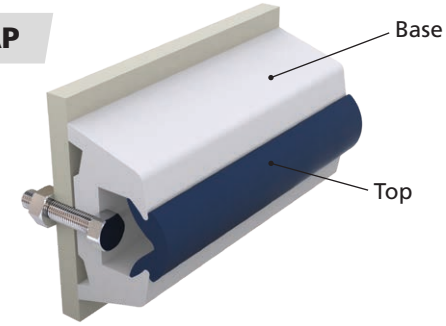
Type	Description
HARO20S	Stainless steel inlay, 10 x 2 mtr. lengths
HARO30S	Stainless steel inlay, 15 x 2 mtr. lengths

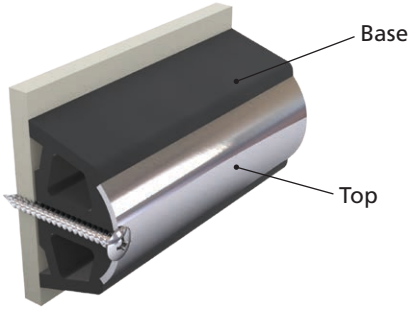
End caps stainless steel

Type	Description
HAROSE	Set of two stainless steel end pieces for rubbing strake type HARO5S

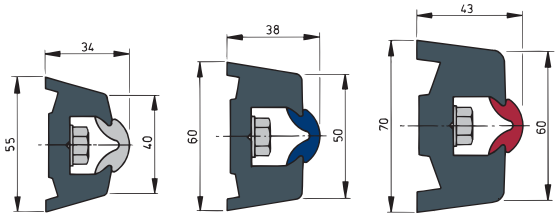
Deck equipment

TRAP

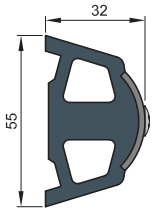




TRAP5534 TRAP6038 TRAP7043



TRAP5S



Base profile

Type	Colour	Dimension	Length (metres)
TRAP5534	Dark grey	55 x 34	20
TRAP5534L	Dark grey	55 x 34	30
TRAP55W	White	55 x 34	20
TRAP55WL	White	55 x 34	30
TRAP6038	Dark grey	60 x 38	20
TRAP6038L	Dark grey	60 x 38	30
TRAP60W	White	60 x 38	20
TRAP60WL	White	60 x 38	30
TRAP7043	Dark grey	70 x 43	20
TRAP7043L	Dark grey	70 x 43	30
TRAP70W	White	70 x 43	20
TRAP70WL	White	70 x 43	30

Base profile

Type	Colour	Dimension	Length (metres)
TRAP5S	Dark grey	55 x 34	20
TRAP5SL	Dark grey	55 x 34	30
TRAP5SW	White	55 x 34	20
TRAP5SWL	White	55 x 34	30

Top profile PVC

Type	Colour	Length (metres)
STRIPB	Cobalt blue	20
STRIPBL	Cobalt blue	30
STRIPD	Dark grey	20
STRIPDL	Dark grey	30

Type	Colour	Length (metres)
STRIPG	Light grey	20
STRIPGL	Light grey	30
STRIPR	Wine red	20
STRIPRL	Wine red	30

Top profile stainless steel

Type	Description
TRAP20S	Stainless steel inlay, 10 x 2 mtr. lengths
TRAP30S	Stainless steel inlay, 15 x 2 mtr. lengths

End caps PVC

Type	Description
ETRAP55B	Set end pieces black for rubbing strake type TRAP55
ETRAP55W	Set end pieces white for rubbing strake type TRAP55
ETRAP60B	Set end pieces black for rubbing strake type TRAP60
ETRAP60W	Set end pieces white for rubbing strake type TRAP60
ETRAP70B	Set end pieces black for rubbing strake type TRAP70
ETRAP70W	Set end pieces white for rubbing strake type TRAP70

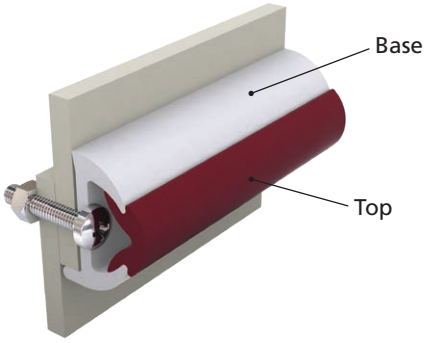
End caps stainless steel

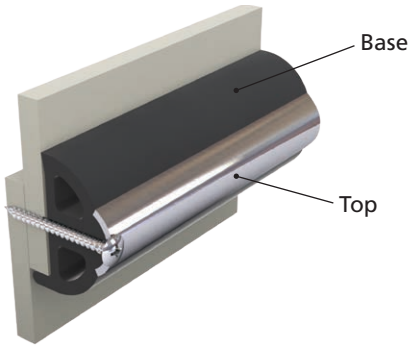
Type	Description
TRAPSE	Set of two stainless steel end pieces for rubbing strake type TRAP5S

Deck equipment

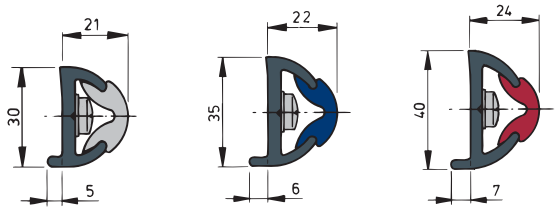
Rubbing strake, ideal for GRP boats

POLY

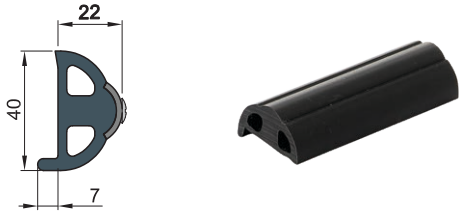




POLY3026 POLY3528 POLY4031



POLY4S



Base profile

Type	Colour	Dimension	Length (metres)
POLY3026	Dark grey	30 x 26	20
POLY3026L	Dark grey	30 x 26	30
POLY30W	White	30 x 26	20
POLY30WL	White	30 x 26	30
POLY3528	Dark grey	35 x 28	20
POLY3528L	Dark grey	35 x 28	30
POLY35W	White	35 x 28	20
POLY35WL	White	35 x 28	30
POLY4031	Dark grey	40 x 31	20
POLY4031L	Dark grey	40 x 31	30
POLY40W	White	40 x 31	20
POLY40WL	White	40 x 31	30

Base profile

Type	Colour	Dimension	Length (metres)
POLY4S	Dark grey	40 x 31	20
POLY4SL	Dark grey	40 x 31	30
POLY4SW	White	40 x 31	20
POLY4SWL	White	40 x 31	30

Top profile stainless steel

Type	Description
POLY20S	Stainless steel inlay, 10 x 2 mtr. lengths
POLY30S	Stainless steel inlay, 15 x 2 mtr. lengths

Top profile PVC

Type	Colour	Length (metres)
STRIPB	Cobalt blue	20
STRIPBL	Cobalt blue	30
STRIPD	Dark grey	20
STRIPDL	Dark grey	30

Type	Colour	Length (metres)
STRIPG	Light grey	20
STRIPGL	Light grey	30
STRIPR	Wine red	20
STRIPRL	Wine red	30

End caps PVC

Type	Description
EPOLY40B	Set end pieces black for rubbing strake type POLY40
EPOLY40W	Set end pieces white for rubbing strake type POLY40
EPOLY30B	Set end pieces black for rubbing strake type POLY30
EPOLY30W	Set end pieces white for rubbing strake type POLY30
EPOLY35B	Set end pieces black for rubbing strake type POLY35
EPOLY35W	Set end pieces white for rubbing strake type POLY35

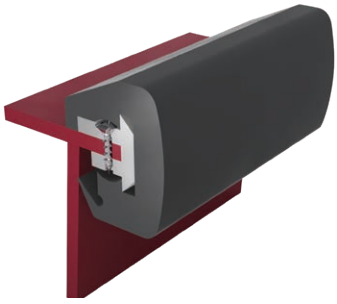
End caps stainless steel

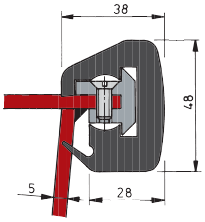
Type	Description
POLYSE	Set of two stainless steel end pieces for rubbing strake type POLY4S

Deck equipment

Rubbing strake for steel boats

STE4838

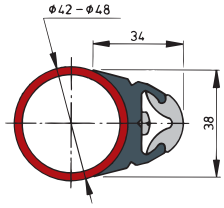




Base profile

Type	Colour	Dimension	Length (metres)
STE4838	Dark grey	48 x 38	20
STE4838L	Dark grey	48 x 38	30

ROND4248



Base profile

Type	Colour	Dimension	Length (metres)
ROND4248	Dark grey	Round 4248	20
ROND4248L	Dark grey	Round 4248	30

Top profile PVC

Type	Colour	Length (metres)	Type	Colour	Length (metres)
STRIPB	Cobalt blue	20	**STRIPG**	Light grey	20
STRIPBL	Cobalt blue	30	**STRIPGL**	Light grey	30
STRIPD	Dark grey	20	**STRIPR**	Wine red	20
STRIPDL	Dark grey	30	**STRIPRL**	Wine red	30

Deck equipment

Searchlights

Z5032LED

Z7032LED

Searchlight type Z

Searchlight complete with LED insert, 10W - 10-32VDC, cabin controlled.

Type	Ø	Watt - VDC
Z5032LED	150	10-32
Z7032LED	180	10-32

LAMP50LED

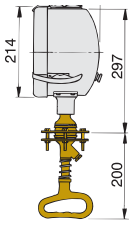
LAMP80LED

LED units

For searchlight type Z5032LED and Z7032LED

Type	Description
LAMP50LED	Spare LED insert 10-32VDC two spots for searchlight D 150 mm
LAMP80LED	Spare LED insert 10-32VDC four spots for searchlight D 180 mm

ZN215



Powder coated search light type ZN

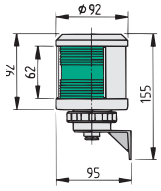
Bulbs should be ordered seperately.

Type	Ø	Bulb	Voltage (DC)	Watts	Range
ZN215	214	HAL21512	12	100 W	362 m
ZN215	214	HAL21524	24	250 W	664 m

Deck equipment

Navigation lights type 35

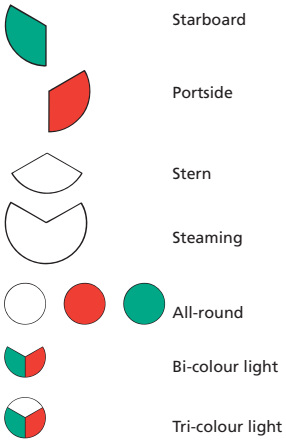
Black or white housing. Meets I.M.O. Specifications (international regulations for prevention of collisions at sea, colreg '72). For boats of less than 20 metres in length.



Available in this range:
Side mounting, base mounting or hoistable. Light images as shown on the right.

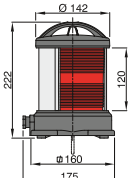
Type	Description
SB35ZWIT	Starboard light (side mounting), with white coloured housing (excl. bulb)
BB35ZWIT	Portside light (side mounting), with white coloured housing (excl. bulb)
TW35ZWIT	Steaming light (side mounting), with white coloured housing (excl. bulb)
HW35ZWIT	Stern light (side mounting), with white coloured housing (excl. bulb)
TKL35VWIT	Bicolour light (base mounting), with white coloured housing (excl. bulb)
DKL35VWIT	Tricolour light (base mounting), with white coloured housing (excl. bulb)
RW35VWIT	All round, white (base mounting), with white coloured housing (excl. bulb)
RR35VWIT	All round, red (base mounting), with white coloured housing (excl. bulb)
RG35VWIT	All round, green (base mounting), with white coloured housing (excl. bulb)
RW35HWIT	All round, white (hoistable), with white coloured housing (excl. bulb)
RR35HWIT	All round, red (hoistable), with white coloured housing (excl. bulb)
RGR35HWIT	All round, green (hoistable), with white coloured housing (excl. bulb)

Type	Description
SB35Z	Starboard light (side mounting), with black coloured housing (excl. bulb)
BB35Z	Portside light (side mounting), with black coloured housing (excl. bulb)
TW35Z	Steaming light (side mounting), with black coloured housing (excl. bulb)
HW35Z	Stern light (side mounting), with black coloured housing (excl. bulb)
TKL35V	Bicolour light (base mounting), with black coloured housing (excl. bulb)
DKL35V	Tricolour light (base mounting), with black coloured housing (excl. bulb)
RW35V	All round, white (base mounting), with black coloured housing (excl. bulb)
RR35V	All round, red (base mounting), with black coloured housing (excl. bulb)
RG35V	All round, green (base mounting), with black coloured housing (excl. bulb)
RW35H	All round, white (hoistable), with black coloured housing (excl. bulb)
RR35H	All round, red (hoistable), with black coloured housing (excl. bulb)
RGR35H	All round, green (hoistable), with black coloured housing (excl. bulb)



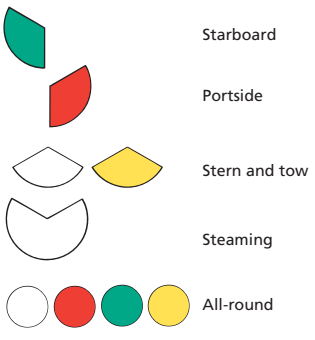
Navigation lights type 55N

Black housing. Model 55N not only meets the above mentioned I.M.O. specifications, but also those of the European standard EN 14744, which will become applicable in future. For the all round lights, a set is available that allows them to be hoisted as well. For boats of less than 50 metres in length.



Available in this range:
Base mounting or hoistable. Light images as shown on the right.

Type	Description
SB55VN	Starboard light (base mounting), with black coloured housing (excl. bulb)
BB55VN	Portside light (base mounting), with black coloured housing (excl. bulb)
TW55VN	Steaming light (base mounting), with black coloured housing (excl. bulb)
HW55VN	Stern light (base mounting), with black coloured housing (excl. bulb)
HGL55VN	Towing light, yellow (base mounting), with black coloured housing (excl. bulb)
RW55VN	All round, white (base mounting), with black coloured housing (excl. bulb)
RR55VN	All round, red (base mounting), with black coloured housing (excl. bulb)
RGL55VN	All round, yellow (base mounting), with black coloured housing (excl. bulb)
RGR55VN	All round, green (base mounting), with black coloured housing (excl. bulb)
SETH55	Set to make navigation lights type 55 hoistable

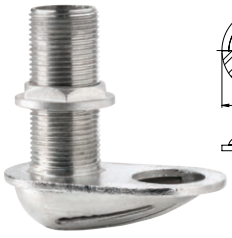


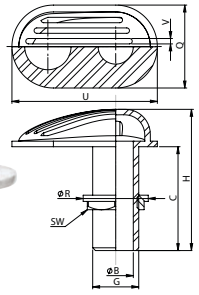
Marine fittings

V-Quipment marine fittings are designed for reliablity and made of high grade materials. Failure of submerged fittings can cause major problems, therefore we advise the use of stainless steel (AISI 316) or bronze fittings (ISO CuPb5Sn5Zn5) for applications in which the fittings are in continuous contact with salt water.

Stainless steel (AISI 316) Marine fittings

Water scoop



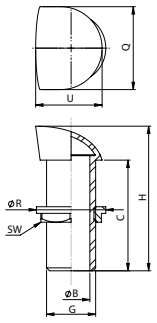


QJ05M.-NN

Type	Thread (G)*	ØB	H	C	Q	ØR	SW	U	V	Weight (kg)
QJ05MC-NN	⅜"	11	90	66	44	26	22	81	2	0,2
QJ05MD-NN	½"	12	88	65	44	32	25	81	2	0,3
QJ05ME-NN	¾"	19	107	82	56	41	32	104	3	0,4
QJ05MF-NN	1"	26	105	76	60	47	38	106	3.2	0,5
QJ05MG-NN	1¼"	33	103	78	64	57	49	116	3.5	0,6
QJ05MH-NN	1½"	39	108	82	70	72	53	133	3.5	0,7
QJ05MI-NN	2"	51	122	91	86	83	68	152	3.6	1

*According to ISO 228/1-G..B

Air vent



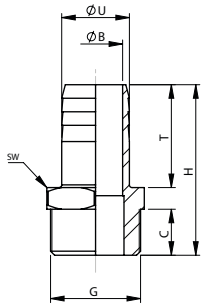
QH05M.-NN

Polished surface, without flame arrester gauze.

Type	Thread (G)*	ØB	H	C	Q	ØR	SW	U	Weight (kg)
QH05MD-NN	½"	16	83	65	38	32	25	38	0,1
QH05ME-NN	¾"	21	86	65	43	41	32	41	0,2
QH05MF-NN	1"	27	98	75	50	47	38	58	0,3
QH05MG-NN	1¼"	36	108	79	57	57	49	65	0,4
QH05MH-NN	1½"	42	114	82	64	72	53	75	0,5
QH05MI-NN	2"	53	134	89	81	83	68	97	1

*According to ISO 228/1-G..B

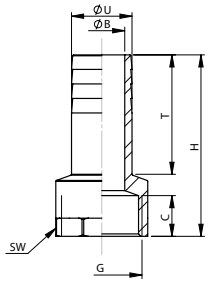
Hose connector with male thread



QA05M.-..

Type	Thread (G)	ØU	ØB	H	C	T	Weight (kg)
QA05MC-15	⅜"	15	11	50,2	14,5	28	0,03
QA05MD-12	½"	12	7	64	19	36	0,04
QA05MD-15	½"	15	11	54	14,5	31	0,04
QA05MD-20	½"	20	14	58	15	32	0,06
QA05ME-20	¾"	20	15,5	60	17	35,5	0,07
QA05ME-25	¾"	25	20	63	17	37	0,09
QA05MF-25	1"	25	20,5	67	19	39,5	0,12
QA05MF-30	1"	30	25	70	19	43	0,14
QA05MG-32	1¼"	32	27	76	21	45	0,17
QA05MG-35	1¼"	35	29,5	76	20,5	45	0,20
QA05MG-38	1¼"	38	32	78	21,5	48	0,20
QA05MH-38	1½"	38	33,5	81,5	22	48	0,25
QA05MH-45	1½"	45	39	86	22	52,5	0,25
QA05MI-50	2"	50	44	98,6	26	59,5	0,41

Hose connector with female thread



QA05F.-..

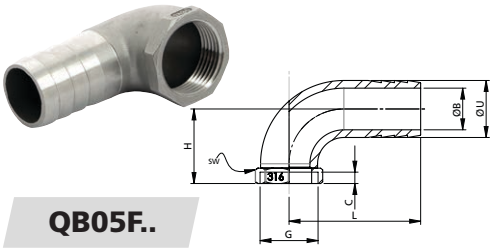
Type	Thread (G)*	ØU	ØB	H	C	T	Weight (kg)
QA05FC-15	⅜"	15	10	41	11,5	26,5	0,04
QA05FD-15	½"	15	10	48	15,5	27	0,06
QA05FD-20	½"	20	15	48	15,5	30	0,06
QA05FE-20	¾"	20	14	56	16	34	0,09
QA05FF-25	1"	25	18,5	63	19	37,5	0,14
QA05FG-35	1¼"	35	28	69	21	42	0,3
QA05FG-40	1¼"	40	34	69	21	42	0,3
QA05FH-45	1½"	45	38	76	21,5	50	0,4
QA05FI-50	2"	50	42	90,5	24	59,5	0,5

*According to ISO 228/1-G..

Dimensions in (mm)

Marine fittings

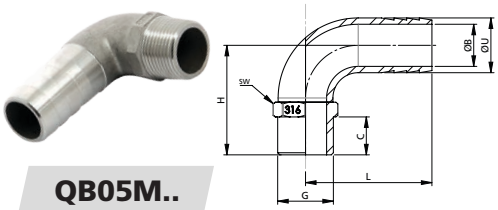
Hose connector 90° bend with female thread



QB05F..

Type	Thread (G)	C	ØU	ØB	L	H	SW	Weight (kg)
QB05FD-19	½"	11	19	15	48	21	27	0,09
QB05FE-25	¾"	11	25	19	57	26	32	0,15
QB05FF-30	1"	13	30	24	65	30	35	0,24
QB05FH-39	1½"	16	39	33	84	43	55	0,37
QB05FH-50	1½"	16	50	43	84	43	55	0,54

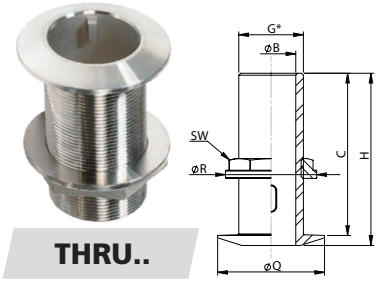
Hose connector 90° bend with male thread



QB05M..

Type	Thread (G)	C	ØU	ØB	L	H	SW	Weight (kg)
QB05MD-20	½"	15	20	15	54	39	23	0,11
QB05ME-25	¾"	17	25	19	66	46	29	0,19
QB05MF-30	1"	18	30	24	73	51	35	0,27
QB05MG-38	1¼"	21	38	31	82	57	44	0,38

Thru-hull - Chamfered



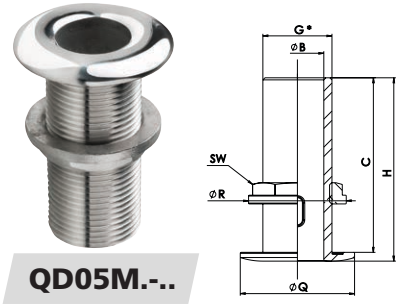
THRU..

Machined surface

Type	Thread (G)*	ØB	H	C	ØQ	ØR	SW	Weight (kg)
THRU1/2S	½"	15	60	52	46	34	27	0,15
THRU3/4S	¾"	20	72	63	51	47	36	0,25
THRU1S	1"	26	79	71	54	54	42	0,35
THRU11/4S	1¼"	33	86	77	70	68	53	0,60
THRU11/2S	1½"	39	97	88	70	72	60	0,65
THRU2S	2"	52	109	101	88	88	74	0,90

*According to ISO 228/1-G..B

Thru-hull - Rounded



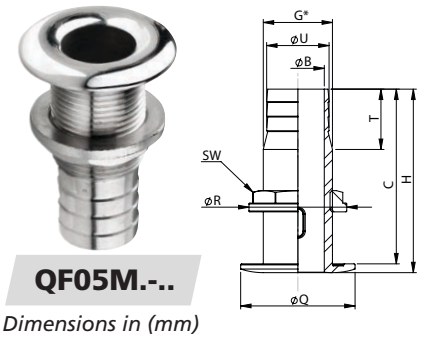
QD05M.-..

Polished surface

Type	Thread (G)*	ØB	H	C	ØQ	ØR	SW	Weight (kg)
QD05MC-NN	⅜"	11	57	53	35	26	22	0,08
QD05MD-NN	½"	15	63	59	39	32	25	0,10
QD05ME-NN	¾"	20	75	70	49	41	32	0,22
QD05MF-NN	1"	25	79	73	55	47	38	0,26
QD05MG-NN	1¼"	35	84	79	63	57	49	0,35
QD05MH-NN	1½"	40	84	79	71	72	53	0,50
QD05MI-NN	2"	52	101	97	85	83	68	0,75

*According to ISO 228/1-G..B

Thru-hull - Rounded with hose connection



QF05M.-..

Polished surface

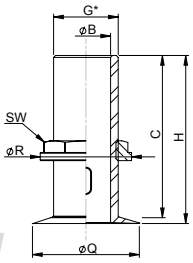
Type	Thread (G)*	ØB	H	C	ØQ	ØR	SW	T	ØU	Weight (kg)
QF05MC-14	⅜"	11	59	55	35	26	22	20	14	0,08
QF05MD-18	½"	15	65	60	39	32	25	24	18	0,11
QF05ME-23	¾"	20	75	71	49	41	32	24	23	0,18
QF05MF-29	1"	25	79	73	54	47	38	30	29	0,24
QF05MG-38	1¼"	35	85	80	63	57	49	30	38	0,30
QF05MH-44	1½"	40	87	81	71	72	53	30	44	0,44
QF05MI-55	2"	52	100	95	85	83	68	40	55	0,65

*According to ISO 228/1-G..B

Dimensions in (mm)

Marine fittings

Thru-hull - Flush



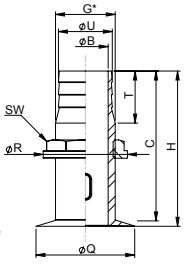
QE05M.-..

Polished surface

Type	Thread (G)*	ØB	H	C	ØQ	ØR	SW	Weight (kg)
QE05MC-NN	3/8"	11	54	51	32	26	22	0,07
QE05MD-NN	½"	15	62	58	37	32	25	0,10
QE05ME-NN	¾"	20	72	66	48	41	32	0,20
QE05MF-NN	1"	26	76	70	55	47	38	0,25
QE05MG-NN	1¼"	34	79	73	64	57	49	0,35
QE05MH-NN	1½"	38	81	76	70	72	53	0,50
QE05MI-NN	2"	50	89	84	81	83	68	0,75

*According to ISO 228/1-G..B

Thru-hull - Flush with hose connection



QG05M.-..

Polished surface

Type	Thread (G)*	ØB	H	C	ØQ	ØR	SW	T	ØU	Weight (kg)
QG05MC-15	3/8"	11	54	51	33	26	22	23	15	0,07
QG05MD-18	½"	15	62	58	37	32	25	24	18	0,08
QG05ME-22	¾"	20	71	65	48	41	32	27	22	0,16
QG05MF-29	1"	26	76	70	56	47	38	28	29	0,25
QG05MG-38	1¼"	34	79	73	64	57	49	30	38	0,30
QG05MH-43	1½"	38	82	76	69	72	53	35	43	0,45
QG05MI-55	2"	50	89	84	81	83	68	40	55	0,70

Ball valves

BV..

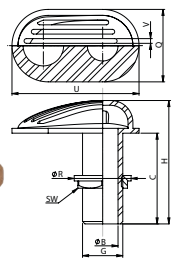
In a number of countries it is a legal requirement that the toilet or holding tank outlet can be locked to prevent the accidental discharge of black water in port. These stainless steel (AISI 316) ball valves can be padlocked if required. The padlock itself is not supplied. Suitable for diesel oil, gasoline, water and sea water.

Type	Thread (G)*	Thread length	Bore	Normal Press (bar)	Working temp (° C)	Dimensions hxbxd	Weight (kg)
BV1/2	½"	14	Full Bore	69	-20 - +160	130x65x35	0,27
BV3/4	¾"	16	Full Bore	69	-20 - +160	150x80x40	0,4
BV1	1"	19	Full Bore	69	-20 - +160	160x85x50	0,7
BV11/4	1¼"	19	Full Bore	69	-20 - +160	195x110x60	1,1
BV11/2	1½"	20	Full Bore	69	-20 - +160	230x125x70	1,4
BV2	2"	22	49 mm	69	-20 - +160	260x140x80	2

*According to ISO 228/1-G..

Bronze Marine fittings (ISO CuPb5Sn5Zn5)

Water scoop



WCAPB..

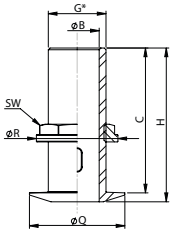
Type	Thread (G)*	ØB	H	C	Q	ØR	SW	U	V	Weight (kg)
WCAPB1/2	½"	15	96	73	50	38	25	91	4	0,34
WCAPB3/4	¾"	19	102	78	58	48	32	103	4	0,50
WCAPB1	1"	25	109	83	61	53	39	106	4	0,61
WCAPB11/4	1¼"	35	117	90	65	64	50	118	4	0,75
WCAPB11/2	1½"	38	129	100	70	70	55	131	4	0,95

*According to ISO 228/1-G..B

Dimensions in (mm)

Marine fittings

Thru-hull - Chamfered

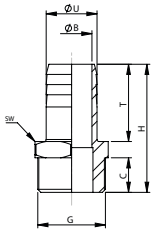


THRUB..

Type	Thread (G)*	ØB	H	C	ØQ	ØR	SW	Weight (kg)
THRUB1/2	½"	15	64	59	39	38	25	0,15
THRUB3/4	¾"	19	70	65	48	48	32	0,23
THRUB1	1"	25	89	83	56	54	39	0,40
THRUB11/4	1¼"	34	82	76	65	64	49	0,45
THRUB11/2	1½"	39	100	93	72	70	55	0,63

*According to ISO 228/1-G..B

Hose connector with male thread



HPB..

Type	Thread (G)	ØU	ØB	H	C	SW	T	Weight (kg)
HPB1/2	½"	13	10	51	13	23	30	0,06
HPB3/4	¾"	20	15	53	14	28	32	0,08
HPB1	1"	25	20	62	15	36	38	0,17
HPB11/4	1¼"	31	26	67	16	45	42	0,25
HPB11/2	1½"	37	32	72	18	52	45	0,30

*According to ISO 228/1-G..B

Manifolds

MAN.G..

V-Quipment fluid manifolds enable a number of pipes to be connected to a single thru-hull fitting. These manifolds are made of seawater resistant bronze (ISO CuZn35Al1). They may also be connected to an underwater skin fitting with ball valve for raw water intake. It is not recommended to connect multiple engines or generating sets to one raw water intake.

Type	Main connections (M/F) (G)*	Connections (F) (G)*
MAN2G1/2	¾"	2 x ½"
MAN3G1/2	¾"	3 x ½"
MAN2G3/4	1"	2 x ¾"
MAN3G3/4	1"	3 x ¾"

Ball valves

BVB..

Ball valve, bronze body CuSn5Zn5Pb5/CC491K

Type	Thread (G)* Female	Bore	Working Press (bar)	Working temp. (°C)	Dimensions hxbxd	Weight (kg)
BVB1/2	½"	Full Bore	32	-10 - +120	120x60x40	0,28
BVB3/4	¾"	Full Bore	32	-10 - +120	140x70x40	0,38
BVB1	1"	Full Bore	32	-10 - +120	150x80x50	0,60
BVB11/4	1¼"	Full Bore	32	-10 - +120	175x98x60	0,95
BVB11/2	1½"	Full Bore	32	-10 - +120	180x110x75	1,30

*According to ISO 228/1-G..

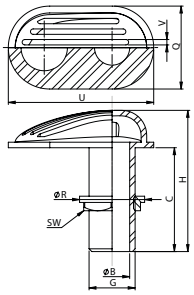
Dimensions in (mm)

Marine fittings

Brass Marine fittings

For continuous immersion in salt water, we advise against the use of brass fittings.

Water scoop**

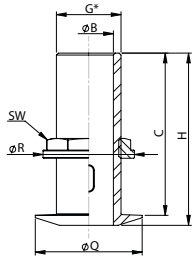


WCAP..

Type	Thread (G)*	ØB	H	C	Q	ØR	SW	U	V	Weight (kg)
WCAP1/2	½"	15	96	72	49	38	26	91	3	0,3
WCAP3/4	¾"	19	103	77	58	48	32	105	3	0,5
WCAP1	1"	26	104	76	61	55	38	108	3	0,6
WCAP11/4	1¼"	26	104	78	61	55	38	108	3	0,7
WCAP11/2	1½"	39	113	82	72	72	56	134	3	0,9
WCAP2	2"	51	126	91	89	88	68	156	3	1,5
WCAP21/2	2½"	65	155	112	113	113	92	198	5	2,4
WCAP3	3"	77	134	134	129	120	105	238	5	3,9

*According to ISO 228/1-G..B
** For continuous immersion in salt water, we advise against the use of brass fittings.

Thru-hull - Chamfered**



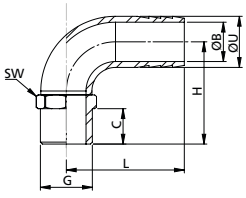
DOORB..

Machined surface

Type	Thread (G)*	ØB	H	C	ØQ	ØR	SW	Weight (kg)
DOORB3/8	⅜"	11	58	53	34	36	22	0,20
DOORB1/2	½"	15	64	58	40	39	25	0,25
DOORB3/4	¾"	19	72	66	49	49	32	0,25
DOORB1	1"	25	77	70	56	56	40	0,35
DOORB11/4	1¼"	34	83	76	65	66	50	0,45
DOORB11/2	1½"	39	84	78	72	72	56	0,60
DOORB2	2"	50	102	94	84	84	68	0,90
DOORB21/2	2½"	65	132	123	110	111	91	1,70
DOORB3	3"	76	150	140	127	124	105	2,50

*According to ISO 228/1-G..B
** For continuous immersion in salt water, we advise against the use of brass fittings.

Hose connector angled**



HPM..B

Type	Thread (G)	ØU	ØB	H	C	SW	L	Weight (kg)
HPM1/2B	½"	13	8	37	15	25	48	0,08
HPM3/4B	¾"	19	12	47	16	30	50	0,15
HPM1B	1"	25	19	58	20	37	58	0,26
HPM11/4B	1¼"	32	24	67	20	50	70	0,45
HPM11/2B	1½"	38	29	70	21	55	77	0,57

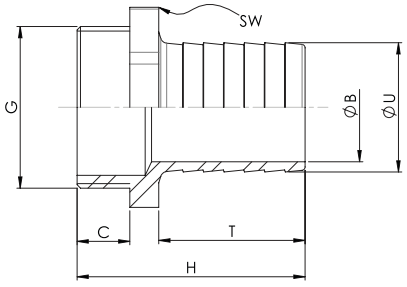
** For continuous immersion in salt water, we advise against the use of brass fittings.

Dimensions in (mm)

Marine fittings

Hose connector**

SLP..

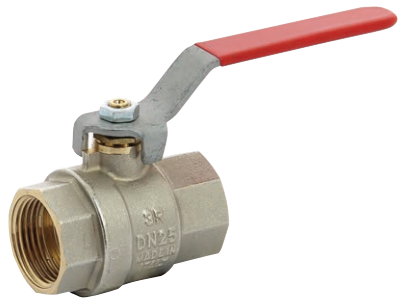


Type	Thread (G)*	ØU	ØB	H	C	SW	T	Weight (kg)
SLP1/408	¼"	8	5	39	9	16	25	0,02
SLP1/416	¼"	16	9	44	9	16	30	0,03
SLP3/810	⅜"	10	7	46	10	19	30	0,03
SLP3/815	⅜"	15	11	46	10	19	30	0,03
SLP1/213	½"	13	9	48	12	22	30	0,04
SLP1/216	½"	16	12	48	12	22	30	0,04
SLP1/219	½"	19	15	50	12	22	32	0,05
SLP3/416	¾"	16	12	49	12	30	30	0,06
SLP3/419	¾"	19	14	51	12	30	32	0,08
SLP3/425	¾"	25	20	57	12	30	38	0,09
SLP125	1"	25	20	59	13	36	38	0,12
SLP132	1"	32	27	62	13	36	42	0,14
SLP11/432	1¼"	32	27	64	14	44	42	0,18
SLP11/438	1¼"	38	32	67	14	45	45	0,20
SLP11/238	1½"	38	32	67	16	52	43	0,23
SLP11/245	1½"	45	39	73	16	52	48	0,27
SLP251	2"	50	44	75	16	65	50	0,36
SLP21/260	2½"	60	53	82	18	79	52	0,57
SLP376	3"	76	69	96	20	93	64	0,84

*According to ISO 228/1-G..B
** For continuous immersion in salt water, we advise against the use of brass fittings.

Ball valves**

Nickel plated brass, suitable for water and diesel oil.



KRAAN..

Type	Thread (G)* Female	Bore	Working Press (bar)	Working temp (° C)	Dimensions hxbxd	Weight (kg)
KRAAN1/4	¼"	Full Bore	50	-20 - +170	105x50x24	0,11
KRAAN3/8	⅜"	Full Bore	50	-20 - +170	105x50x24	0,14
KRAAN1/2	½"	Full Bore	50	-20 - +170	118x58x32	0,17
KRAAN3/4	¾"	Full Bore	30	-20 - +170	118x64x39	0,26
KRAAN1	1"	Full Bore	40	-20 - +170	154x86x48	0,40
KRAAN11/4	1¼"	Full Bore	40	-20 - +170	154x86x58	0,60
KRAAN11/2	1½"	Full Bore	32	-20 - +170	190x100x69	0,90
KRAAN2	2"	Full Bore	32	-20 - +170	200x120x84	1,45
KRAAN21/2	2½"	Full Bore	25	-20 - +170	270x145x102	3,00
KRAAN3	3"	Full Bore	16	-20 - +170	290x170x115	4,15

*According to ISO 228/1-G..
** For continuous immersion in salt water, we advise against the use of brass fittings.

Ball valves 3-way**

Nickel plated brass, suitable for water and diesel oil.

KRA..L

Type	Thread (G)* Female	Bore	Working Press (bar)	Working temp (° C)	Dimensions hxbxd	Weight (kg)
KRA1/2L	½"	Full Bore	40	-10 - +100	80x160x70	0,65
KRA3/4L	¾"	Full Bore	40	-10 - +100	100x205x85	1,5
KRA1L	1"	Full Bore	40	-10 - +100	100x210x90	2,15
KRA11/4L	1¼"	Full Bore	40	-10 - +100	310x150x150	3,85
KRA11/2L	1½"	Full Bore	40	-10 - +100	310x150x120	5,9

*According to ISO 228/1-G..
** For continuous immersion in salt water, we advise against the use of brass fittings.

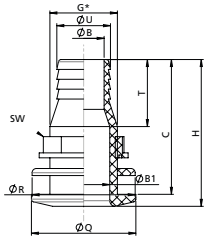
Dimensions in (mm)

Marine fittings

Delrin (synthetic) fittings

Thru-hull - Chamfered

DOORN..



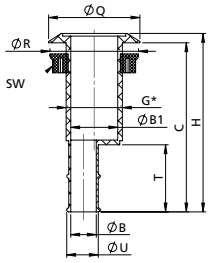
Type	Thread (G)*	ØB	ØB1	H	C	ØQ	ØR	SW	T	ØU	Weight (kg)
DOORN5/8	½"	10	16	76	71	42	41	24	29	16	0,020
DOORN3/4	¾"	12	18	81	75	50	49	32	32	19	0,032
DOORN1	1"	20	26	94	87	61	60	39	40	25	0,044
DOORN11/4	1¼"	24	32	98	91	68	67	48	44	32	0,070
DOORN11/2	1½"	29	37	104	96	74	73	54	47	38	0,088

Thru-hull - Chamfered

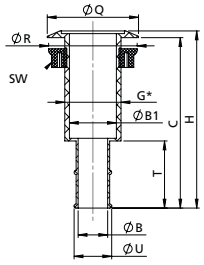
THRH..

Type	Model A / B	Thread (G)*	ØB	ØB1	H	C	ØQ	ØR	SW	T	ØU	Weight (kg)
THRH16	B	¾"	8,5	20	73,5	70,5	50	39,5	34	29	16	0,028
THRH19	B	¾"	11,5	20	73,5	70,5	50	-	34	29	19	0,028
THRH25	A	1¼"	19	35	133	126	68	66	57	50	25	0,082
THRH28	B	1¼"	22	35	133	126	68	66	57	50	28	0,090
THRH32	A	1¼"	25	35	133	126	68	66	57	50	32	0,082
THRH38	A	1½"	32	38	127	121	68	66	56	46	38	0,112

Model 'A'



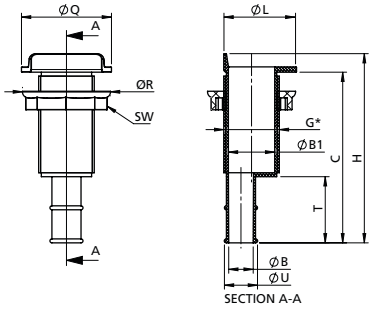
Model 'B'



Thru-hull with L-flange (for optimal drainage)

THRH..L

Type	Thread (G)*	ØB	ØB1	H	C	ØQ	L	ØR	SW	T	ØU	Weight (kg)
THRH16L	¾"	8,5	20	85	72	50	37	-	34	29	16	0,028
THRH19L	¾"	11	20	85	73	50	38	39,5	34	29	19	0,030
THRH25L	1¼"	18,5	35	142	129	68	55	66	57	50	25	0,080
THRH28L	1½"	22	35	142	129	68	55	66	56	50	28	0,116
THRH32L	1¼"	25	35	142	129	68	55	66	57	50	32	0,082
THRH38L	1½"	31,5	38	137	123	68	56	64	53	46	38	0,104



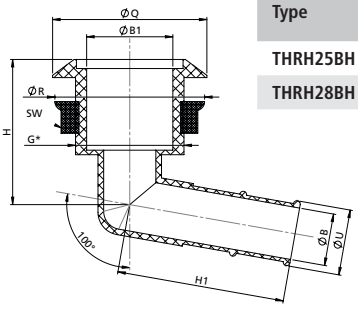
Dimensions in (mm)

Marine fittings

Thru-hull - Chamfered

100˚ angled

THRH..BH

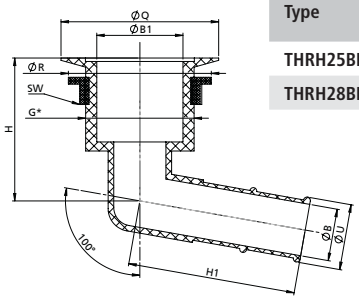


Type	Thread (G)*	ØU	ØB	ØB1	H	H1	ØQ	ØR	SW	Weight (kg)
THRH25BH	1½"	25	20	38	64	74	68	66	56	0,094
THRH28BH	1½"	28	20	38	64	74	68	66	56	0,094

Thru-hull - Flush

100˚ angled

THRH..BL



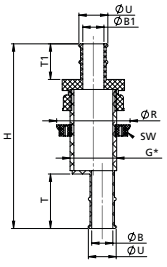
Type	Thread (G)*	ØU	ØB	ØB1	H	H1	ØQ	ØR	SW	Weight (kg)
THRH25BL	1½"	25	20	38	63	74	69,5	63	53	0,090
THRH28BL	1½"	28	20	38	63	74	69,5	63	53	0,090

Bulkhead connectors

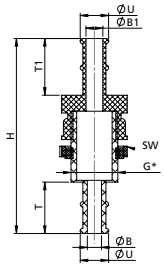
BULKH..

Type	Model A / B	Thread (G)*	ØU	ØB	ØB1	H	ØQ	ØR	SW	T	T1	Weight (kg)
BULKH16	B	¾"	16	8	9,5	110	50	-	34	29	32	0,040
BULKH19	A	¾"	19	11	13	113	50	40	34	29	32	0,040
BULKH25	A	1¼"	25	19	19	166	68	66	57	49	32	0,108
BULKH28	B	1¼"	28	22	22	175	68	66	57	49	32	0,114
BULKH32	A	1¼"	32	25	25	166	68	68	57	49	32	0,116
BULKH38	A	1½"	38	31	32	162	68	63	53	46	32	0,144

Model 'A'

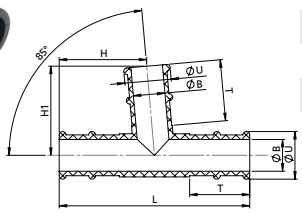


Model 'B'



T-Piece

TPC..



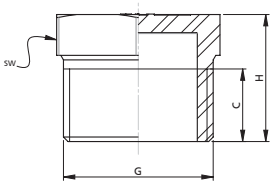
Synthetic equal T-piece. Suitable for temperatures up to +83 °C.

Type	ØU	ØB	H	H1	L	T	Weight (kg)
TPC16	16	10,5	39	40	84	26	0,016
TPC19	19	14	39	40	84	26	0,016
TPC25	25	17	54	52	99	32	0,034
TPC28	28	21	54	52	99	32	0,032

Dimensions in (mm)

Marine fittings

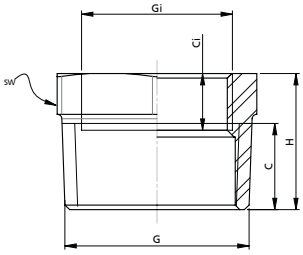
End plug AISI 316 male



Type	Thread (G)	C	H	SW	Weight (kg)
QS050203	3/8"	13	18,5	18	0,020
QS050204	½"	14,5	20,5	23	0,028
QS050205	¾"	17	25	28	0,052
QS050206	1"	18	27	36	0,09
QS050207	1¼"	22	31	44	0,122
QS050208	1½"	22	31	50	0,162
QS050209	2"	25	34	63	0,244

QS05020.

Bushing hex AISI 316 male - female

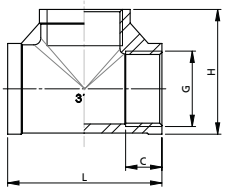


Type	Thread (G)	C	H	Thread (Gi)*	Ci	SW	Weight (kg)
QS050603	3/8"	15	21	¼"	8	19	0,02
QS050604	½"	16	23	3/8"	9	22	0,026
QS050605	¾"	18	26	½"	10	28	0,050
QS050606	1"	18,5	27	¾"	11	35	0,075
QS050607	1¼"	20,5	30	1"	13	44	0,115
QS050608	1½"	22	31	1¼"	14	50	0,120
QS050609	2"	25	34	1½"	13	63	0,20

* According to ISO 228/1-G..

QS05060.

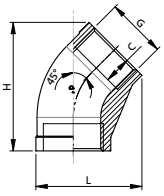
T-Piece AISI 316 female



Type	Thread (G)*	C	L	H	Weight (kg)
QS050303	3/8"	10	42	31	0,05
QS050304	½"	11,5	50	40,7	0,105
QS050305	¾"	12,5	61	46	0,155
QS050306	1"	16	70	54	0,249
QS050307	1¼"	15	80	65	0,294
QS050308	1½"	18	95	69	0,492
QS050309	2"	18,5	108	81	0,677

QS05030.

Elbow 45° AISI 316 female



Type	Thread (G)*	C	L	H	Weight (kg)
QS050703	3/8"	10	24		0,039
QS050704	½"	12	38	44	0,07
QS050705	¾"	12	29	54	0,108
QS050706	1"	13	32		0,173
QS050707	1¼"	15	36	70	0,261
QS050708	1½"	17	40		0,336

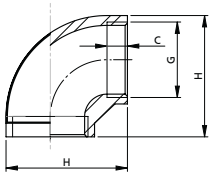
* According to ISO 228/1-G..

QS05070.

Dimensions in (mm)

Marine fittings

Elbow 90° AISI 316 female

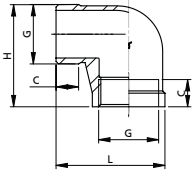


QS05040.

Type	Thread (G)*	C	H	Weight (kg)
QS050403	3/8"	10	42	0,043
QS050404	1/2"	10	38	0,06
QS050405	3/4"	12	45	0,11
QS050406	1"	13	68	0,18
QS050407	1 1/4"	15	65	0,22
QS050408	1 1/2"	17	71	0,30
QS050409	2"	17,5	88	0,47

* According to ISO 228/1-G..

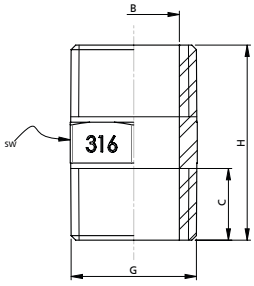
Elbow 90° AISI 316 male - female



QS05010.

Type	Thread (G)	C	L	H	Weight (kg)
QS050103	3/8"	12	32	22	0,04
QS050104	1/2"	13	48	38	0,05
QS050105	3/4"	13	38	32	0,09
QS050106	1"	18	73	56	0,194
QS050107	1 1/4"	20	84	61	0,284
QS050108	1 1/2"	15	60	52	0,31
QS050109	2"	24	89	108	0,670

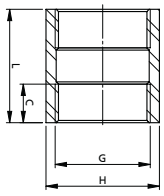
Nipple AISI 316 male



QS05050.

Type	Thread (G)	C	H	B	SW	Weight (kg)
QS050503	3/8"	12	30	11	18	0,028
QS050504	1/2"	15	38	15,5	22	0,044
QS050505	3/4"	17	41	20	27	0,070
QS050506	1"	19	46	26	36	0,108
QS050507	1 1/4"	20	49	35	44	0,134
QS050508	1 1/2"	21	49	41	50	0,158
QS050509	2"	25	64	51	63	0,340

Socket AISI 316 female



QS05080.

Type	Thread (G)*	C	L	H	Weight (kg)
QS050803	3/8"	12	30	21	0,03
QS050804	1/2"	16	35	27	0,07
QS050805	3/4"	17	35	32	0,07
QS050806	1"	15	44	41	0,14
QS050807	1 1/4"	15	45	48	0,14
QS050808	1 1/2"	18	54	56	0,27
QS050809	2"	18	63	68	0,39

* According to ISO 228/1-G..

Dimensions in (mm)

Fittings

Stainless steel (AISI 316) breather nipples

The breathing capacity fulfils the CE requirements. Provided with an easily cleaned stainless steel (AISI 316) gauze, which functions as a flame arrester.

Type	Shape	Hose Ø	Cut-out Ø	Max. wall thickness
AB16S	Straight	16	39,5	N/A
AB16B	Angled	16	39,5	30
AB19S	Straight	19	54	N/A
AB19SL	Straight	19	54	N/A
AB19B	Angled	19	54	31
AB25B	Angled	25	54	31
AB38B	Angled	38	76	42

AB16S

AB19S

AB19SL

AB16B

AB19B

AB25B

AB38B

Air vent nipples for tanks

Suitable for Ø 16 mm internal diameter hose. In stainless steel (AISI 316). Straight or 90° angled. Provided with a gauze, which functions as a flame arrester.

Type	Shape	Material	Hose Ø	Cut-out Ø	Wall thickness
ST04HS	Angled	AISI 316	16	20	0 - 10
ST04S	Straight	AISI 316	16	20	0 - 10
ST05HS	Angled	AISI 316	16	40	10 - 30
ST05S	Straight	AISI 316	16	40	10 - 30

ST04HS

ST04S

ST05HS

ST05S

Dimensions in (mm)

Fittings

CAP..38S

CAP..51S

Stainless steel (AISI 316) deck entries

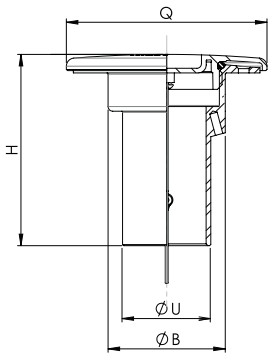
Stainless steel (AISI 316). With high-gloss polished watertight cover.
Cover inscriptions:

- Water
- Unleaded gasoline
- Diesel fuel
- 'Pump-out' icon (WC)

These stainless steel (AISI 316) deck entries are also available with a winch handle socket (item codes ending with a 'W').

CAPWC38S

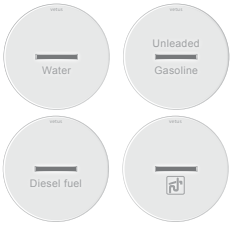
CAP...W



Type	Cap (Q) Ø (mm)	Type	Liquid	Hose (U) Ø (mm)	Cut-out (B) Ø (mm)	Length (H) (mm)
CAPW38S	86,5	Slotted	Water	38	51	82,5
CAPW38W	86,5	Winch	Water	38	51	82,5
CAPG38S	86,5	Slotted	Unleaded Gasoline	38	51	82,5
CAPG38W	86,5	Winch	Unleaded Gasoline	38	51	82,5
CAPF38S	86,5	Slotted	Diesel fuel	38	51	82,5
CAPF38W	86,5	Winch	Diesel fuel	38	51	82,5
CAPWC38S*	86,5	Slotted	WC (pump out)	38	51	126,5
CAPWC38W*	86,5	Winch	WC (pump out)	38	51	126,5
CAPF51S	92,5	Slotted	Diesel fuel	51	57	82,5
CAPF51W	92,5	Winch	Diesel fuel	51	57	82,5

* Fullfills the requirements of ISO 8099:2001

KEY1



Deck entry key

Key for slotted deck entries. Also suitable for deck entries with an octagonal recess.

Chromium plated brass deck entries

FCAPDF38

FCAPDF50

Type	Cap Ø (mm)	Type	Liquid	Hose Ø (mm)	Cut-out Ø (mm)	Length (mm)
FCAPDF38	85	Ring	Diesel fuel	38	57	75
FCAPDF50	85	Ring	Diesel fuel	50	57	75
CAPWC38*	88	Pop-out	Waste (pump out)	38	50	115
FCAPWATER	85	Ring	Water	38	57	75

* Fullfills the requirements of ISO 8099:2001

CAPWC38

FCAPWATER

Fittings

Stainless steel hose clamps (HCS)

HCS

For hose diameters between:
8 mm and 170 mm.

W4 materials:
Screw
• AISI 304
Band + housing
• AISI 304

Type	Description	Band width	Max. torque (Nm)	Max. pressure (Bar)
HCS08	D 8-16 mm	9	3	45
HCS12	D 12-22 mm	9	3	45
HCS16	D 16-27 mm	12	4.6	45
HCS20	D 20-32 mm	12	5.6	45
HCS25	D 25-40 mm	12	5.6	40
HCS32	D 32-50 mm	12	6.5	35
HCS40	D 40-60 mm	12	6.5	30

HCHD

Type	Description	Band width	Max. torque (Nm)	Max. pressure (Bar)
HCS50	D 50-70 mm	12	7	25
HCS60	D 60-80 mm	12	7	20
HCS75	D 70-90 mm	12	7	17
HCS90	D 90-110 mm	12	7	12
HCS110	D 110-130 mm	12	7	8
HCS130	D 130-150 mm	12	7	6
HCS150	D 150-170 mm	12	7	4

HCHDS

Heavy duty hose clamps (HCHD)

For hose diameters between: 34 mm and 330 mm.

W2 materials:
Band + bridge
• AISI 430
Bolt
• QST 36-3 Mild steel silver white zinc plated

Type	Description	Band width	Max. torque (Nm)	Max. pressure (Bar)
HCHD034	D 34-37 mm	20	13	40
HCHD037	D 37-40 mm	20	13	40
HCHD040	D 40-43 mm	20	13	40
HCHD043	D 43-47 mm	20	16	36
HCHD047	D 47-51 mm	20	16	36
HCHD051	D 51-55 mm	20	16	36
HCHD055	D 55-59 mm	20	16	36
HCHD059	D 59-63 mm	20	16	36
HCHD063	D 63-68 mm	20	16	36
HCHD068	D 68-73 mm	25	30	28
HCHD073	D 73-79 mm	25	30	28
HCHD079	D 79-85 mm	25	30	28
HCHD085	D 85-91 mm	25	30	20
HCHD091	D 91-97 mm	25	30	20

Type	Description	Band width	Max. torque (Nm)	Max. pressure (Bar)
HCHD097	D 97-104 mm	25	30	20
HCHD104	D 104-112 mm	25	30	12
HCHD112	D 112-121 mm	25	30	12
HCHD121	D 121-130 mm	25	30	12
HCHD130	D 130-140 mm	28	45	9
HCHD140	D 140-150 mm	28	45	9
HCHD150	D 150-162 mm	28	45	9
HCHD162	D 162-174 mm	28	45	6
HCHD174	D 174-187 mm	28	45	6
HCHD187	D 187-200 mm	28	45	6
HCHD200	D 200-213 mm	28	45	3
HCHD213	D 213-226 mm	28	45	3
HCHD260	D 265-278 mm	30	NA	NA
HCHD300	D 317-330 mm	30	NA	NA

Stainless steel heavy duty hose clamps (HCHDS)

For hose diameters between: 34 mm and 330 mm.

W4 materials:
Band + bridge
• AISI 304
Bolt
• AISI 302

Type	Description	Band width	Max. torque (Nm)	Max. pressure (Bar)
HCHDS034	D 34-37 mm	20	12	35
HCHDS037	D 37-40 mm	20	12	35
HCHDS040	D 40-43 mm	20	12	35
HCHDS043	D 43-47 mm	20	12	35
HCHDS047	D 47-51 mm	20	16	30
HCHDS051	D 51-55 mm	20	16	30
HCHDS055	D 55-59 mm	20	16	30
HCHDS059	D 59-63 mm	20	16	30
HCHDS063	D 63-68 mm	20	16	30
HCHDS068	D 68-73 mm	25	30	20
HCHDS073	D 73-79 mm	25	30	20
HCHDS079	D 79-85 mm	25	30	20
HCHDS085	D 85-91 mm	25	30	15
HCHDS091	D 91-97 mm	25	30	15

Type	Description	Band width	Max. torque (Nm)	Max. pressure (Bar)
HCHDS097	D 97-104 mm	25	30	15
HCHDS104	D 104-112 mm	25	30	10
HCHDS112	D 112-121 mm	25	30	10
HCHDS121	D 121-130 mm	25	30	10
HCHDS130	D 130-140 mm	28	45	6
HCHDS140	D 140-150 mm	28	45	6
HCHDS150	D 150-162 mm	28	45	6
HCHDS162	D 162-174 mm	28	45	3
HCHDS174	D 174-187 mm	28	45	3
HCHDS187	D 187-200 mm	28	45	3
HCHDS200	D 200-213 mm	28	45	3
HCHDS213	D 213-226 mm	28	45	3
HCHDS260	D 265-278 mm	30	NA	NA
HCHDS300	D 317-330 mm	30	NA	NA

Dimensions in (mm)

Pumps

BLPM020

Manual membrane pump

A high quality membrane pump suitable for pumping/ transferring bilge water, seawater or diesel.
- Synthetic housing, metallic parts of stainless steel (AISI 316)
- Easy to remove clamping ring for maintenance and or head rotation
- Horizontal or vertical mounting
- Self-priming

Suitable for boats up to 12 m (ISO 15083).
For all suitable hoses please visit our website or page 430 of the catalogue.

Type	Suction lift (m)	Discharge head (m)	Capacity L/stroke	Hose connection	Advised hose type
BLPM020	3	4	0,44	Ø32	DWHOSE32B

BLP..

Bilge pumps

Submersible bilge pumps (IP67). Detachable strainer acts as screw-down base. Durable snap connection for easy cleaning. Double seals for long lifetime. Internal components are made from stainless steel (AISI 316).
Comes with 1.2 metre cable. For all suitable hoses please visit our website or page 430 of the catalogue.

Type	Voltage (DC)	Current A @ 13,6 V	Capacity litre/min	Max. head (m)	Dimensions Ø x H	Hose connection Ø	Advised hose type
BLP12500	12	3	40	4	90 x 120	19	DWHOSE19B
BLP121000	12	3	50	4	90 x 120	28,5	DWHOSE28B
BLP122000	12	6	110	4	120 x 150	28,5	DWHOSE28B
BLP123000	12	9	160	5	130 x 180	32	DWHOSE32B

Type	Voltage (DC)	Current A @ 27,1 V	Capacity litre/min	Max. head (m)	Dimensions Ø x H	Hose connection Ø	Advised hose type
BLP24500	24	1,5	40	4	90 x 120	19	DWHOSE19B
BLP242000	24	3	111	4	120 x 150	28,5	DWHOSE28B
BLP243000	24	4,5	147	5	130 x 180	32	DWHOSE32B

BLSWITCH

Level switch

This switch activates the pump when the bilge water level reaches 50 mm.
- Made from high quality synthetic material
- Suitable for 12 and 24 VDC
- Suitable for fresh and salt water
- Comes with 1 metre cable

Type	Voltage (DC)	Max. current (A)	Total width	Total length	Cable length (m)
BLSWITCH	12 / 24	15	70	117	1

BLPS..

Stirrup type pumps

Sturdy single action plunger pump suitable for fresh water, seawater or other fluids normally present in the bilge.
- Material: durable synthetic (PP)
- Temperature resistant to max. 60° Celsius
- Ergonomically shaped handle
- Self priming
- Hose length: 980 mm

Type	Hose connection Ø	Stroke length	Capacity L/stroke
BLPS05	28	315	0,5
BLPS08	28	460	0,8

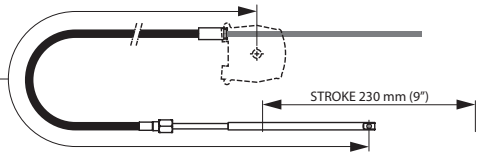
Dimensions in (mm)

Outboard

Cable steering

The cable length refers to total length of the inner cable. The outer jacket of the cable is about 75 cm (30") shorter. When selecting the right cable, always round up to the next size.

Cable length:



LCSKIT..

Light series cable steering kit

Cable steering kit including: Helm, straight bezel, cable and spent core tube. The helm is equipped as standard with a friction brake. Fitted with a Ø ¾" (19 mm) shaft, tapered 1:12.

Available with cable length:
7 to 16 ft (213 to 488 cm), in steps of 1 ft.

- Wheel turns: 2,6
- Max. wheel Ø: 406 mm
- Min. bend radius 302 mm

For craft up to 5 m.

Type	Max. engine output	Cable length
LCSKIT7	55 HP (40 kw)	7 ft (213.5 cm)
LCSKIT8	55 HP (40 kw)	8 ft (244 cm)
LCSKIT9	55 HP (40 kw)	9 ft (274.5 cm)
LCSKIT10	55 HP (40 kw)	10 ft (305 cm)
LCSKIT11	55 HP (40 kw)	11 ft (335.5 cm)

Type	Max. engine output	Cable length
LCSKIT12	55 HP (40 kw)	12 ft (366 cm)
LCSKIT13	55 HP (40 kw)	13 ft (396.5 cm)
LCSKIT14	55 HP (40 kw)	14 ft (427 cm)
LCSKIT15	55 HP (40 kw)	15 ft (457.5 cm)
LCSKIT16	55 HP (40 kw)	16 ft (488 cm)

HZFKIT..

Zero feedback cable steering kit

Zero torque high performance cable steering kit including: Zero feedback helm, straight bezel, high performance cable and spent core tube. Smooth and durable operation due to planetary gear design. Unique design eliminates any torque coming from the steering cable, creating an effortless ride. A 20° Bezel kit can be ordered separately if required.
Fitted with a Ø ¾" (19 mm) shaft, tapered 1:12.

A.B.Y.C., N.M.M.A., I.M.C.I. and CE approved.

Available with cable length:
8 to 20 ft (244 to 610 cm), in steps of 1 ft.

- Wheel turns: 3,8
- Max. wheel Ø: 406 mm
- Min. bend radius 200 mm

For craft up to 7 m.

Type	Max. engine output	Cable length
HZFKIT8	125 HP (90 kw)	8 ft (244 cm)
HZFKIT9	125 HP (90 kw)	9 ft (274.5 cm)
HZFKIT10	125 HP (90 kw)	10 ft (305 cm)
HZFKIT11	125 HP (90 kw)	11 ft (335.5 cm)
HZFKIT12	125 HP (90 kw)	12 ft (366 cm)
HZFKIT13	125 HP (90 kw)	13 ft (396.5 cm)
HZFKIT14	125 HP (90 kw)	14 ft (427 cm)

Type	Max. engine output	Cable length
HZFKIT15	125 HP (90 kw)	15 ft (457.5 cm)
HZFKIT16	125 HP (90 kw)	16 ft (488 cm)
HZFKIT17	125 HP (90 kw)	17 ft (518.5 cm)
HZFKIT18	125 HP (90 kw)	18 ft (549 cm)
HZFKIT19	125 HP (90 kw)	19 ft (579.5 cm)
HZFKIT20	125 HP (90 kw)	20 ft (610 cm)

Dimensions in (mm)

Outboard

Cable steering options

HB20

Bezel kit

To tilt the helm at a 20˚ angle for optimum steering position.
20˚ Bezel kit for zero feedback cable steering helm.
Weight 0,3 kg.

Type	Description
HB20	High performance series 20˚ bezel kit

SQBALL

Quick release balljoint

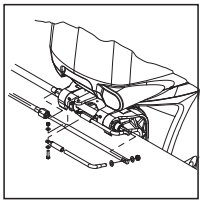
Quick release balljoint for steering cables. For L and H series.
Weight 0,3 kg.

Type	Description
SQBALL	H and L series, steering cable quick release balljoint

Cable steering mounting sets

To complete the steering system to your requirements, please select one of the mounting sets below.

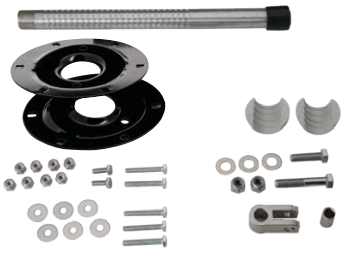
SLINK



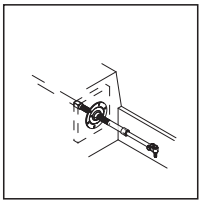
Universal link arm

When outboard motor acts as cable mount.
For L and H series.

Type	Description
SLINK	Steering cable universal link arm



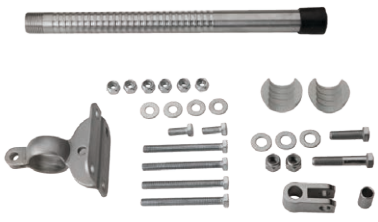
SSPLASH



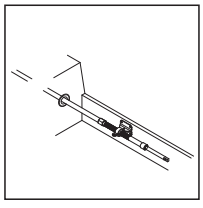
Splashwell mount

Splashwell cable support mount for L and H series.

Type	Flange Ø	Weight (kg)
SSPLASH	125	0,75



STRANS



Transom mount

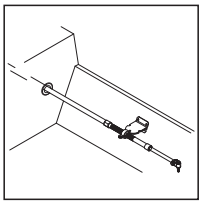
Transom support mount (short) for L and H series.

Type	Length* (mm)	Angle	Weight (kg)
STRANS	51	90˚	0,7

*Cable core to transom

Dimensions in (mm)

Outboard



STRANL

Transom mount

Transom support mount (long) for L and H series.

Type	Length* (mm)	Angle	Weight (kg)
STRANL	102	67°	0,8

*Cable core to transom

Steering cable only

Available for light series and high performance series.
Length between 5 and 20 feet (153 to 610 cm), in steps of 1 ft.
Max. bend radius: 200 mm.

LCAB..

For light series: LCAB (max. 55 HP / 40 kw)

Type	Cable length
LCAB5	5 ft (152.5 cm)
LCAB6	6 ft (183 cm)
LCAB7	7 ft (213.5 cm)
LCAB8	8 ft (244 cm)
LCAB9	9 ft (274.5 cm)
LCAB10	10 ft (305 cm)
LCAB11	11 ft (335.5 cm)
LCAB12	12 ft (366 cm)

Type	Cable length
LCAB13	13 ft (396.5 cm)
LCAB14	14 ft (427 cm)
LCAB15	15 ft (457.5 cm)
LCAB16	16 ft (488 cm)
LCAB17	17 ft (518.5 cm)
LCAB18	18 ft (549 cm)
LCAB19	19 ft (579.5 cm)
LCAB20	20 ft (610 cm)

HCAB..

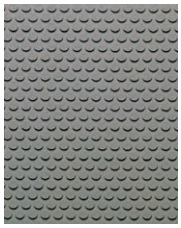
For zero feedback series: HCAB (max. 125 HP / 90 kw)

Type	Cable length
HCAB5	5 ft (152.5 cm)
HCAB6	6 ft (183 cm)
HCAB7	7 ft (213.5 cm)
HCAB8	8 ft (244 cm)
HCAB9	9 ft (274.5 cm)
HCAB10	10 ft (305 cm)
HCAB11	11 ft (335.5 cm)
HCAB12	12 ft (366 cm)

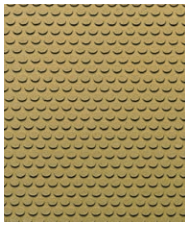
Type	Cable length
HCAB13	13 ft (396.5 cm)
HCAB14	14 ft (427 cm)
HCAB15	15 ft (457.5 cm)
HCAB16	16 ft (488 cm)
HCAB17	17 ft (518.5 cm)
HCAB18	18 ft (549 cm)
HCAB19	19 ft (579.5 cm)
HCAB20	20 ft (610 cm)

Materials

Non-slip deck covering



ANTI..HAP



ANTI..SAF

Deck covering, made of rubber, cork and synthetic. This material has incredibly high non-slip properties under all circumstances. It is highly resistant against sunlight, seawater and oil. Suitable for all types of decks (steel, glassfibre, wood, aluminium and concrete).

Available colours:
- Happy Elephant (grey)
- Safari (light brown)

Type	Dimension (mm)	Thickness (mm)
ANTI12HAP	900 x 1200	3
ANTI24HAP	900 x 2400	3
ANTI12SAF	900 x 1200	3
ANTI24SAF	900 x 2400	3

Type	
NOSKIDSBI	non-skid deck birch teak look self adhesive (3M) EVA Foam
NOSKIDSBL	non-skid deck black teak look self adhesive (3M) EVA Foam
NOSKIDSTE	non-skid deck natural teak look self adhesive (3M) EVA Foam

VETUS Fix

BOATFIX1

This glue has been specially developed to bond VETUS non-slip deck covering. However, it is also very suitable for bonding P.V.C.- and polyester foil to leather and wood. Excellent adhesion is obtained as well on laminated synthetics such as Formica, hard P.V.C. and ABS.

A can of 1 litre VETUS FIX is sufficient to glue 2 to 3 m².

Type	Description
BOATFIX1	Boatfix adhesive 1 ltr

interior materials

Poly-wood

SH..WSH

SH..WH

SH..WXSH

This material is ideal for the fabrication of all sorts of components on board. It is completely resistant against sunlight and water and is tough and durable. It is easy to work with using common woodworking machinery and tools. The product is made of solid synthetic and is not laminated. Poly-wood cannot rot, splinter, crack open or show discolouration and is therefore particularly suitable for outdoor use in all weather conditions.

Available colour:
- White

Type	Dimension (mm)	Thickness (mm)
SH06WXSH	1210 x 600	6
SH12WXSH	1210 x 600	12
SH18WXSH	1210 x 600	18
SH06WSH	1220 x 800	6
SH12WSH	1220 x 800	12
SH18WSH	1220 x 800	18
SH06WH	1220 x 2440	6
SH12WH	1220 x 2440	12
SH18WH	1220 x 2440	18

Each sheet is protected by a synthetic masking. We recommend that you remove the masking when the job is done; not before.

Interior materials

Plug and sockets

SC

WDC2P

Watertight plug and socket

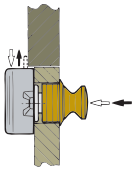
Watertight plugs and sockets are available in two versions: For cable with a cross sectional area up of to 0,75 mm² (AWG18) max. 3 Amp. or a larger model for cables of up to 2,5 mm² (AWG12) max. 5 Amp. A rubber gasket and a synthetic cover are standard supply.

Material:
- Chrome plated brass

Type	Description
SC29	Watertight plug and socket with 2 pins, chromium plated brass
SC33	Watertight plug and socket with 3 pins, chromium plated brass
SC44	Watertight plug and socket with 4 pins, chromium plated brass
SC29L	Watertight plug and socket with 2 pins, large model, chromium plated brass
SC33L	Watertight plug and socket with 3 pins, large model, chromium plated brass
SC44L	Watertight plug and socket with 4 pins, large model, chromium plated brass
WDC2P	Watertight deck connector, 2 pins

Locks

LOCKDRC



LOCKDRM

Push-button lock

Made of synthetic with chromium or brass finish push-button.

Dimensions:
- 78 x 45 x 20 mm
- Panel thickness from 18 up to 20 mm

Type	Description
LOCKDRC	Synthetic lock with chromium plated push-button
LOCKDRM	Synthetic lock with brass plated push-button

Stays

UITSTEL..

Stainless steel (AISI 316) hatch adjusters

Stainless steel (AISI 316). With brackets and knob.

Type	Min. length (mm)	Max. length (mm)
UITSTELPH	202	368
UITSTELFE	261	485

Locks and stays

Gas struts

There are many applications on board where the assistance of a gas strut will reduce the effort required. For example, heavy deck hatches or locker doors. V-Quipment gas struts are specifically designed for marine use. All external parts are made of stainless steel (AISI 316) or synthetic materials and the special seals guarantee long service life. When fitted vertically, make sure that the piston rod is pointing downward.

These gas-filled cylinders are supplied complete with fixings.
In order to calculate the maximum admissible weight which can be supported, the following data is required:
F = Force of the gas strut in N/m (see table)
G = Weight of the object to be lifted in N
W = Width of the object to be lifted in mm

GASSP..

The calculation goes as follows:

Force in N/m = $\frac{G \times \frac{1}{2}W}{1000}$

Example:
The weight (G) of a hatch is 11 kg (≈110 N). The width (W) of the hatch is 600 mm. This means that:

$\frac{110 \times 300}{1000}$ = 33 N/m is needed to hold the hatch open.

In the table we find that GASSP44 delivers 28.8 N/m, which means that an additional 4,3 N/m will have to be applied by the user.

In the case of two gas struts GASSP38, 18,9 x 2 = 37,8 N/m is delivered by the struts. In this case the user will have to push the hatch down with a force of 4,8 N/m.

Type	Force in N	Stroke S in mm	Force (F) in N/m	Length L in mm	Length L+S in mm
GASSP25	180	74	13,3	180	254
GASSP30	135	85	11,5	220	305
GASSP38	135	140	18,9	240	380
GASSP44	180	160	28,8	280	440
GASSP51	270	205	55,3	305	510

Accessories

Marine binoculars

These binoculars are specially designed for marine applications and the materials are carefully selected for their resistance to wind and weather. The lens coatings are specifically chosen for use on the water, where bright light, glare and UV radiation should be taken into account.

Robust, lightweight binoculars

The durable, lightweight housing and the relatively compact size make the BINO1 the ideal binoculars to have at hand at all times. The BK7 prisms and multi-coated lenses deliver very sharp images and the housing is fitted with a non-slip grip.

- BK7 prisms
- Magnification: 7x; Lens diameter 50 mm
- Water repellent
- Fixed focus and central variable focus
- Flexible eyecups for use with (sun) glasses
- Non-slip grip
- Robust housing
- Includes bag and strap and caps

BINO1

High-quality, waterproof binoculars

The BAK4 prisms create the sharpest and clearest images possible in a binocular in this price range. All lenses are multi-coated for long lasting protection. The superior prisms combined with large lens diameters make these binoculars very suitable for use in difficult conditions such as twilight or bad weather. The binoculars have a robust soft touch casing and ergonomic design making them easy and stable to hold.

- Superior quality prisms (BAK4) for the brightest images
- Magnification: 7x; Lens diameter 50 mm
- Waterproof and fog-free (filled with nitrogen)
- Fixed focus and central variable focus
- Flexible eyecups for use with (sun) glasses
- Ergonomic design and non-slip grip
- Includes bag and floatation strap and caps

BINO2

BK7 and BAK4 refer to the type of glass used for the prisms. The prisms bend the light image inside the binoculars. BK7 is borosilicate and BAK4 barium crown glass. The type of glass affects the sharpness and clarity of the image, BAK4 produces the best images with negligible distortion, whilst BK7 can result in a very slightly distorted image.

Aluminium and zinc anodes

Protection by means of anodes is a "must" for all metal parts under water. Therefore anodes are required for wooden, fibre glass and aluminium hulls. The material of V-Quipment zinc anodes is of the highest possible standard, the U.S. mil.-A-18001 K. specifications. Anodes which do not meet these specifications have little or no effect.

V-Quipment aluminium anodes consist of an aluminium-indium-zinc alloy Mil - A - 24779 (SH). All V-Quipment anodes are streamlined and mounted either with studs which can be welded to a steel hull, or with through-hull bolts for fibreglass and wooden boats. **We supply these studs and bolts separately.**

Type of anode material

Type	Type of alloy according to
Zinc	MIL-A-18001K
Aluminium	MIL-A-24779 (sh)

For vessels, which mostly cruise on inland (fresh) waters, we recommend aluminium anodes since aluminium has a greater difference of potential with other metals than zinc. This is very important, as fresh water provides a higher electrical resistance than salt water. For sailing on salt water or brackish water, we recommend the use of zinc anodes. Aluminium anodes also function well in salt water, but are sacrificed at a much faster rate. We do not recommend the use of magnesium anodes, as the difference of potential with other metals is too great which could cause damage to the hull paint, especially when sailing in brackish or salt waters.

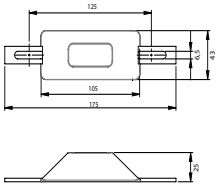
Use the table below to select the right anode suitable for the type of water in which the boat is generally used.

	Hull material				
Water type	**Wood**	**GRP**	**Aluminium**	**Steel**	**Sterndrive/ outboard**
Fresh	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Brackish	Zinc/ Aluminium	Zinc/ Aluminium	Zinc/ Aluminium	Zinc/ Aluminium	Aluminium
Salt	Zinc/ Aluminium	Zinc/ Aluminium	Zinc/ Aluminium	Zinc/ Aluminium	Aluminium

An annual inspection of the anode is needed, it should be replaced when the anode has been 50% sacrified.

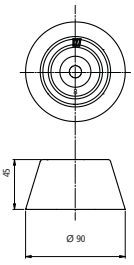
Bolt-on Series

ZINK02C



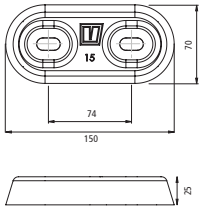
ALU08C

ZINK8C



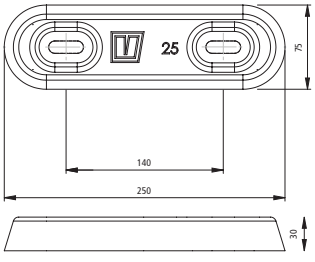
ALU15C

ZINK15C



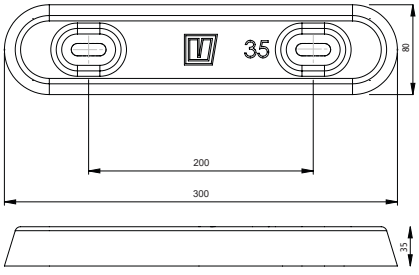
ALU25C

ZINK25C



ALU35C

ZINK35C



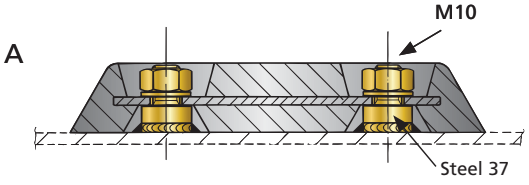
Aluminium and zinc anodes

Type	Description	Type of contour	Protects M² Adequate paint / worn out paint / unpainted	Length mm	Width mm	Height mm	Nett Weight (kg)
Zinc series							
ZINK02C	Tunnel anode for bow 23 kg, MIL-A-18001K		-	100	41	25	0,47
ZINK8C	Hull anode, zinc MIL-A-18001K	Circular	12 / 6 / 3,5	90	90	45	1,1
ZINK15C	Hull anode, zinc MIL-A-18001K	Rectangular	14 / 7 / 3,5	150	70	25	1,1
ZINK25C	Hull anode, zinc MIL-A-18001K	Rectangular	24 / 12 / 6,5	250	75	30	2,5
ZINK35C	Hull anode, zinc MIL-A-18001K	Rectangular	40 / 20 / 10,5	350	80	35	4,7
Alu series							
ALU08C	Hull anode, aluminium MIL-A-24779 (sh)	Rectangular	12 / 6 / 3,5	90	90	45	0,47
ALU15C	Hull anode, aluminium MIL-A-24779 (sh)	Rectangular	14 / 7 / 3,5	150	70	25	0,49
ALU25C	Hull anode, aluminium MIL-A-24779 (sh)	Rectangular	24 / 12 / 6,5	250	75	30	1,1
ALU35C	Hull anode, aluminium MIL-A-24779 (sh)	Rectangular	40 / 20 / 10,5	350	80	35	2,1
ZKITS	Anode connection kit for steel hulls						
ZKITP	Anode connection kit for G.R.P. hulls						

When ordering, please always specify the material of the hull. All metal parts must have a direct contact with the anode. Therefore the bolts supplied for e.g. fibreglass hulls must have a wire-connection, so that contact can be made with the metal parts. (See drawing B). On fibreglass and wooden boats only the **metal** parts must be protected.
For anodes type 8 you need **one** (1) connection kit and for types 15, 15S, 25, 25S and 35 you need **two** (2) of these.
All V-Quipment anodes have a protective layer of paint at the mounting side to prevent damage to the paint work of your boat.

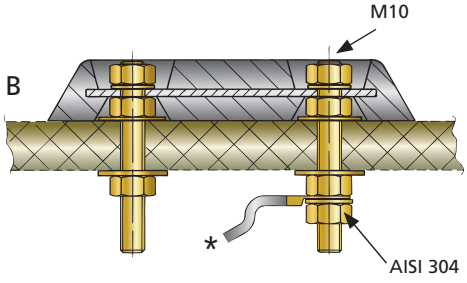
A How to install anodes on steel hulls

Anodes that are installed by means of studs are much easier to replace than anodes that are welded directly to the ship's hull. When ordering studs for a steel hull, please select the ZKITS bolt-on set.



B How to install anodes on fibreglass and wooden hulls

For installing anodes on fibreglass and wooden hulls, please use our ZKITP bolt-on set. This ensures proper fixation and allows the anodes to be easily replaced when they are worn out.



* Copper wire to connect parts to be protected.

Anodes - weld-on - zinc and aluminium

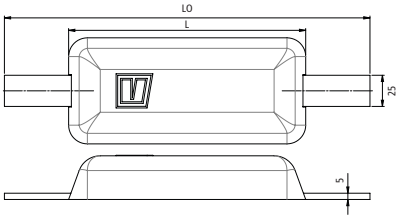
Weld-on Series

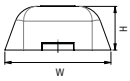
WOA0..A

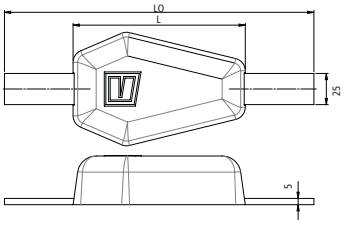
WOA0..Z

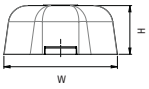
WOA01.A

WOA01.Z









Type	Description	Type of contour	Length overall (LO=) (mm)	Length (L=) (mm)	Width (W=) (mm)	Height (H=) (mm)	Steel strap (mm)	Nett Weight (kg)	Gross weight (kg)
WOA000Z	Weld- on hull anode, zinc	Rectangular	198	113	60	17	198x25x3	0.57	0.68
WOA000A	Weld- on hull anode, aluminium	Rectangular	198	113	60	17	198x25x3	0.25	0.36
WOA001Z	Weld- on hull anode, zinc	Rectangular	198	113	62	25	198x25x5	0.88	1.07
WOA001A	Weld- on hull anode, aluminium	Rectangular	198	113	62	25	198x25x5	0.36	0.55
WOA002Z	Weld- on hull anode, zinc	Retangular	298	200	70	22	298x25x5	1.56	1.85
WOA002A	Weld- on hull anode, aluminium	Rectangular	298	200	70	22	298x25x5	0.76	1.05
WOA003Z	Weld- on hull anode, zinc	Rectangular	293	209	65	29	293x25x5	1.99	2.27
WOA003A	Weld- on hull anode, aluminium	Rectangular	293	209	65	29	293x25x5	0.82	1.10
WOA004Z	Weld- on hull anode, zinc	Rectangular	293	190	85	35	293x25x5	2.72	3.00
WOA004A	Weld- on hull anode, aluminium	Rectangular	293	190	85	35	293x25x5	1.17	1.45
WOA010Z	Weld- on hull anode, zinc	Drop	230	118	78	25	230x25x5	0.78	1.00
WOA010A	Weld- on hull anode, aluminium	Drop	230	118	78	25	230x25x5	0.33	0.55
WOA011Z	Weld- on hull anode, zinc	Drop	248	138	92	35	248x25x5	1.56	1.80
WOA011A	Weld- on hull anode, aluminium	Drop	248	138	92	35	248x25x5	0.71	0.95
WOA012Z	Weld- on hull anode, zinc	Drop	248	160	100	42	248x25x5	2.46	2.70
WOA012A	Weld- on hull anode, aluminium	Drop	248	160	100	42	248x25x5	1.01	1.25

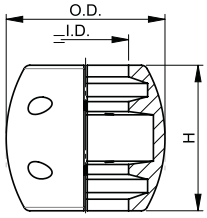
Shaft anodes in zinc

Shaft Series

ZINKAS..C

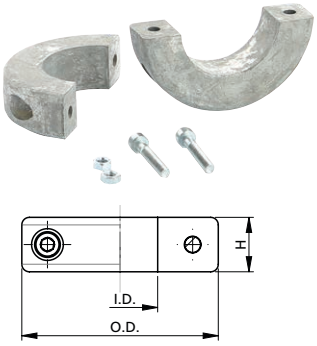
Type	Description	I.D. (Shaft) (mm)	O.D. (mm)	H (mm)	Number of bolts	Nett Weight (kg)
ZINKAS25C	Zinc shaft anode	25	56	56	2	0,51
ZINKAS30C	Zinc shaft anode	30	56	56	2	0,46
ZINKAS35C	Zinc shaft anode	35	64	66	4	0,62
ZINKAS40C	Zinc shaft anode	40	80	77	4	1,10
ZINKAS45C	Zinc shaft anode	45	80	77	4	0,92
ZINKAS50C	Zinc shaft anode	50	93	88	4	1,20
ZINKAS60C	Zinc shaft anode	60	100	100	4	1,87

Shaft anodes in zinc



Type	Description	I.D. (Shaft) inches	O.D. (mm)	H (mm)	Number of bolts	Nett Weight (kg)
ZASA1C	Zinc shaft anode	1"	54	55	2	0,40
ZASA1 1/4C	Zinc shaft anode	1.25"	61	60	2	0,53
ZASA1 1/2C	Zinc shaft anode	1.5"	70	66	4	0,74
ZASA1 3/4C	Zinc shaft anode	1.75"	80	70	4	1,07
ZASA2C	Zinc shaft anode	2"	90	74	4	1,40

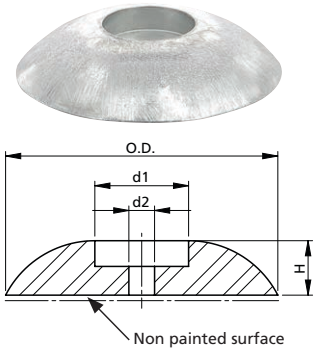
ZASA..C



Type	Description	I.D. (Shaft) (mm)	O.D. (mm)	H (mm)	Nett Weight (kg)
SAR25Z	Zinc shaft anode model "Ring"	25	65	18	0,31
SAR30Z	Zinc shaft anode model "Ring"	30	65	18	0,28
SAR35Z	Zinc shaft anode model "Ring"	35	65	18	0,25
SAR40Z	Zinc shaft anode model "Ring"	40	80	20	0,47
SAR45Z	Zinc shaft anode model "Ring"	45	80	20	0,44
SAR50Z	Zinc shaft anode model "Ring"	50	89	25	0,71

SAR..Z

Rudder mounting Series

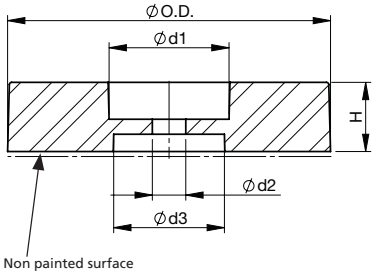


Type	Description	O.D. (mm)	d1 (mm)	d2 (mm)	H (mm)	Nett Weight (kg)
RAD50Z	Zinc rudder anode model "Disc"	50	20	6,5	11	0,083
RAD70Z	Zinc rudder anode model "Disc"	70	22	8,5	13	0,23
RAD90Z	Zinc rudder anode model "Disc"	90	31	8,5	18	0,45
RAD110Z	Zinc rudder anode model "Disc"	110	30	11	18	0,7
RAD140Z	Zinc rudder anode model "Disc"	140	35	12	30	1,5

RAD..Z

Aluminium and zinc anodes

Stern Series



Type	Description	O.D. Ø (mm)	H (mm)	d1	d2	d3	Nett Weight (kg)
STAD001Z	Stern anode model "Disc"	140	30	52	14,5	48	2,7
STAD002Z	Stern anode model "Disc"	140	35	55	14,5	48	3,0
STAD003Z	Stern anode model "Disc"	125	38	50	14,5	48	2,7
STAD004Z	Stern anode model "Disc"	135	47	M50x3	14,5	32	3,7

STAD001Z

STAD002Z

STAD003Z

STAD004Z

Aluminium and zinc anodes

Shaft anodes, for installation directly to the propeller shaft

The V-Quipment shaft anodes are designed to create a perfect fit on the shaft. Even if the anode is eroded, it can't fall off. Shaft anodes are not recommended on high speed vessels. They create turbulence in the water flow around the propeller and as they erode, can cause imbalance in the propeller shaft. These problems do not occur when using the V-Quipment propeller nut with integrated zinc anode.

Zinc anode set for VETUS propeller shafts

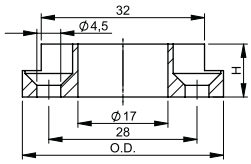
SN..SET

Type	Description	O.D. Ø (mm)	H (mm)	Nett Weight (kg)	Replacement anode only
SN25SET	Complete zinc anode set for Ø 25 mm shaft nut	32	38	0,128	SN25B
SN30SET	Complete zinc anode set for Ø 30 mm shaft nut	44	52	0,332	SN30B
SN35SET	Complete zinc anode set for Ø 35 mm shaft nut	44	52	0,290	SN35B
SN40SET	Complete zinc anode set for Ø 40 mm shaft nut	49,5	64	0,504	SN40B
SN45SET	Complete zinc anode set for Ø 45 mm shaft nut	59	74	0,750	SN45B
SN50SET	Complete zinc anode set for Ø 50 mm shaft nut	72	84	0,944	SN50B
SN60SET	Complete zinc anode set for Ø 60 mm shaft nut	85	138	3,8	SN60B

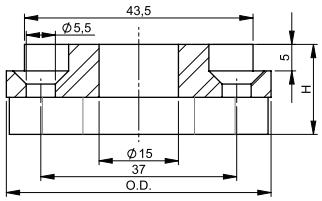
SN..B

Zinc anodes for VETUS bow thrusters

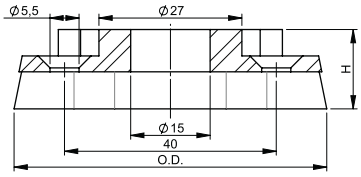
SET0148



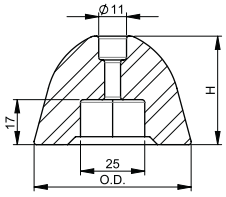
SET0149



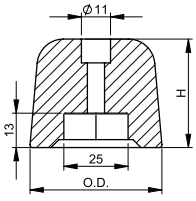
SET0150



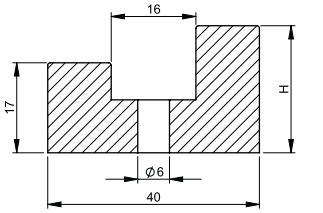
SET0151



SET0152



SET0153



Type	Description	O.D. Ø (mm)	H (mm)	Nett Weight (kg)
SET0148	Zinc anode for bow thruster 25 kgf, BOWA030	38	10	0,042
SET0149	Zinc anode for bow thruster 35, 45, 55 kgf, BOWA036, 042, 057, BOWB042, 057	50	17	0,144
SET0150	Zinc anode for bow thruster 60, 75, 80, 95 kgf, BOWA065, 076, 090, BOWB065, 076, 090	60	15	0,152
SET0151	Zinc anode for bow thruster 125, 130, 160 kgf, BOWA110	59	41	0,422
SET0152	Zinc anode for bow thruster 220, 230, 285, 300, 310 kgf	49	41	0,372
SET0153	Zinc anode for bow thruster 23, 50, 80 kgf	-	24	0,075

Hoses and lubricants

Overview of hoses

VETUS marine hoses are of a high quality and meet all the requirement of the current legislation for use on board. We have a very large range of hoses for all boat systems. Our hoses are highly flexible and extremely resistant to a variety of internal and external influences.

DWHOSEB

Water hose type DWHOSEB

Temperature resistant between -5 and + 65°C

This hose is made of transparent PVC with spiral inlay and is suitable for transportation of fresh water on board, both suction and pressure.

For available sizes see page 432.

FUHOSEA FHA115

Fuel hose type FUHOSEA

For transportation of petrol and diesel fuels

This hose is made from CR rubber with a NBR rubber liner. It can be used for fuel transport or fuel tank ventilation. Particularly suitable for use with petrol because of the low permeability. Type FUHOSEA meets the CE standard: ISO 7840 marine fuel A1

Type FHA115

Especially suitable for use with petrol because of its low permeability of 15 grams/m²/ 24 hour. The lining is translucent nylon for fuel and permeation resistance to 100°C. These fuel hoses have been successfully subjected to a fire test for 2,5 minutes. Suitable for diesel fuel, bio diesel (up to B100), petrol fuel, oil and ethanol. Meets the highest CE standard: ISO 7840 marine fuel A1-15 and ISO 10088, CE, ABYC, CARB, EPA, SAE J 1527 A1-15, NMMA Type Accepted (2618936 and 2618937), USCG A1.

For available sizes see page 432.

WWHOSE..B

Waste water hose

Type WWHOSE..B

For transportation of grey waste water

This type of hose is made of white PVC with a steel spiral inlay. It is recommended for the transportation of grey waste water (not toilet waste).

SAHOSE

Impermeable sanitary no-smell hoses type SAHOSE

An absolute must for toilets

These hoses are made of SBR rubber with inlays of woven synthetic fabric and steel spiral. Recommended especially for transportation of biological waste from (marine) toilets (black water).

For available sizes see page 433.

BLHOSE

Ventilation hose

Type BLHOSE

For shell and extraction ventilators

Type BLHOSE is made of a woven fiberglass fabric, impregnated with PVC. Temperature resistant between -20° and +100°C.

VHOSE

Hose type VHOSE

Very flexible suction/pressure hose

This hose can connect the MOFI air vent to the extraction ventilator type 178. Available for Ø 152 or 178 mm hose connectors.

For available sizes see page 433.

Overview of hoses

Hose for fluids in closed heating / cooling systems type CCHOSE

Excellent for fluids in air conditioning and central heating

Type CCHOSE is made of EPDM rubber with inlay of woven reinforcement fabric. Suitable for fluids in closed heating and/or cooling systems. When used with air conditioning units, an insulating sleeve (made of a combination of polythene and rubber with a closed cell structure) is required. Temperature resistant between +3° and 80°C.

For available sizes see page 433.

CCHOSE

Cooling water hose type MWHOSE

For all cooling fluids

Type MWHOSE is made of EPDM rubber with synthetic fabric and spiralled steel reinforcement. Suitable for cooling water, both suction and pressure (max. 2,5 bar), salt and fresh water. Temperature resistant between -30° and +120°C.

For available sizes see page 433.

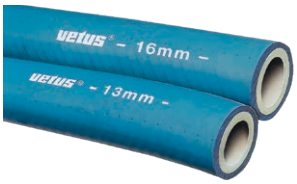
MWHOSE

Hose type HWHOSE

Ideal for use with calorifier and hot water systems

Type HWHOSE is made of EPDM rubber with an inlay of woven synthetic fabric. Suitable for fresh water and is temperature resistant between -30° and +160°C.

For available sizes see page 433.



HWHOSE

Silicone hose type SIHOSE

Extremely high temperature resistant

Type SIHOSE is made of high grade silicone rubber with woven synthetic and an encapsulated steel spiral with an external smooth gloss finish. This flexible hose is highly resistant to ageing and suitable for a wide range of applications (exhaust, cooling and waste water hose). Temperature range of -54 to 177°C (intermittently up to 250°C).

Type SIHOSE meets all the requirements of the ISO13363 type Class B and SAE J 2006 R1 standards.

For available sizes see page 434.

SIHOSE

Fuel filling hose type FFHOSE

Extremely flexible!

This type of hose, made of NBR rubber with spiralled steel inlay, is suitable for petrol and diesel fuels. Type FFHOSE meets requirements of SAE J 1527 and the standard ISO 7840 marine fuel A2 and is resistant to temperatures of -30° and up to 100°C.

For available sizes see page 434.

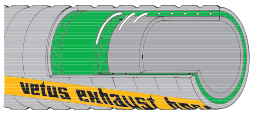
FFHOSE

Overview of hoses

Rubber exhaust hose type SLANG

Flexible and strong, saving valuable installation time

VETUS exhaust hose type SLANG is the most flexible hose because of the increased spiral reinforcement and the extremely supple rubber. The completely smooth internal surface of the hose will reduce back pressure in the engine. Exhaust hoses with an internal diameter up to Ø 152 mm have a bending radius of 1,5 x the diameter. Exhaust hoses with an internal diameter of more than Ø 152 mm have a bending radius of twice the diameter. Temperature resistant between -30° + 100°C with brief temperatures of 115°C.



Type SLANG is approved by Lloyds Register and meets the requirements of the SAE J2006 R2 standard.

For available sizes see page 434.

An engine with a water injection exhaust elbow with an external diameter of 57 mm (21/4") may be connected to 60 mm VETUS exhaust hose. In this case VETUS waterlocks, mufflers, goosenecks and transom connections with a size of Ø 60 mm can be used as well.

HCS and HCHDS (heavy duty) clamps are made of stainless steel. For more information about hose clamps see page 416.

DWHOSE..B

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit	Roll length (m)
DWHOSE10B	10	16	0,16	7	20		HCS12	30
DWHOSE12B	12	18	0,18	7	25		HCS12	30
DWHOSE16B	16	22	0,24	6	35		HCS16 HCS20	30
DWHOSE19B	19	26	0,32	5	50		HCS16 HCS20 HCS25	30
DWHOSE25B	25	33	0,53	5	60		HCS25 HCS32	30
DWHOSE28B	28	36	0,57	4,5	66	HCHD(S)034	HCS25 HCS32	30
DWHOSE30B	30	38	0,60	4,5	70	HCHD(S)037	HCS25 HCS32	30
DWHOSE32B	32	40	0,56	4,5	75	HCHD(S)037 HCHD(S)040	HCS32 HCS40	30
DWHOSE35B	35	44	0,73	4	80	HCHD(S)043	HCS32 HCS40	30
DWHOSE38B	38	47	0,80	4	90	HCHD(S)043 HCHD(S)047	HCS32 HCS40	30
DWHOSE40B	40	49	0,87	3	95	HCHD(S)047	HCS32 HCS40	10
DWHOSE45B	45	55	1,10	3	105	HCHD(S)051 HCHD(S)055	HCS40 HCS50	10
DWHOSE50B	50	60	1,20	3	125	HCHD(S)059	HCS50	10

FUHOSEA - FHA115..A

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit	Roll length (m)
FUHOSE05A	5	11	0,13	10	22		HCS08 HCS12	30
FUHOSE06A	6	13	0,16	10	25		HCS08 HCS12	30
FUHOSE08A	8	16	0,24	10	30		HCS12	30
FUHOSE10A	10	18	0,28	10	35		HCS12 HCS16	30
FUHOSE13A	13	22	0,39	10	50		HCS16 HCS20	30
FUHOSE16A	16	25	0,45	10	60		HCS16 HCS20	30
FUHOSE19A	19	28	0,52	10	80		HCS20 HCS25	30
FUHOSE25A	25	35	0,73	10	110	HCHD(S)034	HCS25 HCS32	30
FHA11506A	6	15,6	0,22	17,2	13		HCS8	76
FHA11508A	8	16,7	0,24	17,2	22		HCS12	76
FHA11510A	10	18,4	0,30	17,2	22		HCS12	76
FHA11513A	13	22,6	0,38	12,1	35		HCS16	76

Overview of hoses

WWHOSE..B

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit		HCS clamp to suit		Roll length (m)
WWHOSE16B	16	22	0,23	6	35			HCS16	HCS20	30
WWHOSE19B	19	26	0,32	5	50			HCS16	HCS20	30
WWHOSE25B	25	33	0,53	5	60			HCS25	HCS32	30
WWHOSE38B	38	47	0,80	4	90	HCHD(S)043	HCHD(S)047	HCS32	HCS40	30
WWHOSE45B	45	55	1,10	3	105	HCHD(S)051	HCHD(S)055	HCS40	HCS50	10

SAHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit			Roll length (m)
SAHOSE16	16	26	0,45	3	50		HCS16	HCS20	HCS25	20
SAHOSE19	19	29	0,55	3	65		HCS20	HCS25		20
SAHOSE25	25	36	0,72	3	75	HCHD(S)034	HCS25	HCS32		20
SAHOSE38	38	48	1,15	3	100	HCHD(S)047	HCS32	HCS40		20

BLHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	Roll length (m)
BLHOSE310A	79	85	0,2	-	47	10
BLHOSE410A	102	108	0,2	-	61	10

VHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Bending radius mm
VHOSE152	152	158	0,94	150
VHOSE178	180	186	1,09	180

CCHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	Roll length (m)
CCHOSE16	16	30	0,54	1.5	112	20
CCHOSE25	25	39	0,76	1.5	175	20

MWHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit		HCS clamp to suit		Roll length (m)
MWHOSE19	19	28	0,39	2.5	29			HCS20	HCS25	20
MWHOSE25	25	34	0,51	2.5	38			HCS25	HCS32	20
MWHOSE32	32	41	0,71	2.5	48	HCHD(S)040		HCS32	HCS40	20
MWHOSE38	38	47	0,88	2.5	57	HCHD(S)043	HCHD(S)047	HCS32	HCS40	20
MWHOSE51	51	60	1,15	2.5	77	HCHD(S)059		HCS50		20

HWHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCS clamp to suit			Roll length (m)
HWHOSE13	13	23	0,36	8	95	HCS16	HCS20		10
HWHOSE16	16	26	0,40	8	110	HCS16	HCS20	HCS25	10

Hoses and lubricants

Overview of hoses

SIHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit	Roll length (m)
SIHOSE25	25	35	0,60	5.0	62	HCHD034	HSC25	20
SIHOSE32	32	41	0,73	4.5	80	HCHD040	HSC32	20
SIHOSE38	38	47	0,85	4.0	95	HCHD043	HSC40	20
SIHOSE51	51	61	1,31	4.0	150	HCHD059	HSC50	20
SIHOSE63	63	74	1,60	3.5	190	HCHD073	HSC60	20
SIHOSE76	76	87	2,06	3.5	225	HCHD085	HSC75	20
SIHOSE102	102	113	2,70	2.0	360	HCHD0112	HSC110	20

FFHOSE

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit	Roll length (m)
FFHOSE38	38	50	1,1	4	76	HCHD(S)047	HCS40	20
FFHOSE51	51	63	1,5	4	102	HCHD(S)059 HCHD(S)063	HCS50 HCS60	20

SLANG

Type	Internal Ø mm	External Ø mm	Weight kg/m	Max. pressure bar	Bending radius mm	HCHD(S) clamp to suit	HCS clamp to suit	Roll length (m)
SLANG30	30	38	0,55	4	45	HCHD(S)037	HCS25 HCS32	20
SLANG40	40	48	0,79	4	60	HCHD(S)047	HCS32 HCS40	20
SLANG45	45	53	0,88	4	68	HCHD(S)051	HCS40 HCS50	20
SLANG50	51	59	1,0	4	77	HCHD(S)059	HCS40 HCS50	20
SLANG57	57	65	1,1	3.3	86	HCHD(S)063	HCS50 HCS60	20
SLANG60	60	68	1,2	3.3	90	HCHD(S)063 HCHD(S)068	HCS50 HCS60	20
SLANG65	65	73	1,3	3.3	98	HCHD(S)068 HCHD(S)073	HCS60	20
SLANG75	76	84	1,4	3.3	114	HCHD(S)085	HCS75	20
SLANG90	90	98	1,9	2	135	HCHD(S)097	HCS90	20
SLANG100	102	110	2,3	2	153	HCHD(S)104	HCS90 HCS110	20
SLANG110	110	119	2,8	2	165	HCHD(S)112	HCS110	20
SLANG125	127	137	3,3	2	191	HCHD(S)130	HCS130	20
SLANG150	152	163	4,4	2	228	HCHD(S)162	HCS150	20
SLANG200	203	218	6,8	2	406	HCHD(S)213	HHCS200	12
SLANG250	254	270	8,5	2	508	HCHD(S)260	HHCS250	12
SLANG300	305	323	10,8	2	606	HCHD(S)300	HHCS300	12

Lubricants

VETUS has a wide range of high quality lubricants for marine diesel engines, gearboxes, hydraulic steering, power hydraulic systems and bow thrusters. A special line for 2-stroke and 4-stroke outboards and for sterndrives is also available. Multipurpose lubricants complete this impressive range of lubricants for all marine applications!

Marine diesel engine mineral oil

Suitable for most marine diesel engines and generator sets, with or without turbo charging.

Specifications
API CI-4/SL

VMD15

Type	Specification	
VMD151	1 L	15W-40
VMD154	4 L	15W-40
VMD1520	20 L	15W-40

Marine diesel engine synthetic oil

Specially developed for high output, modern marine diesel engines and generator sets.

Specifications
API CI-4

VMD10

Type	Specification	
VMD101	1 L	10W-40
VMD104	4 L	10W-40

Hypoid gear oil for drive legs

Suitable for bow thrusters and outboard engine drive legs that require GL-5 grade oil.

Specifications
API GL-5

VBT

Type	Specification	
VBT05	500 ml	80W-90

Transmission oil

Suitable for all marine transmissions where automatic transmission fluid (ATF) Dextron IID or Suffix A is specified.

Specifications
DEXRON II-D

VTF1

Type	Specification
VTF1	1 L

Hydraulic steering oil

Very thin, hydraulic steering oil for optimal functioning in all temperatures.

Specifications
DIN 51524

VHS1

Type	Specification	
VHS1	1 L	22 CST

Hydraulic oil

For power hydraulic systems. This product has particularly high EP and corrosion resistant properties.

Specifications
DIN 51524-2 HLP

VHT

Type	Specification	
VHT1	1 L	ISO VG 46
VHT4	4 L	ISO VG 46
VHT20	20 L	ISO VG 46

Lubricants

2-Stroke outboard engine oil

Suitable for 2-stroke outboard engines.

VTS

Specifications
NMMA (BIA) TC-W3

Type	Specification
VTS1	1 L

4-Stroke outboard engine oil

Recommended for the lubrication of high speed 4-stroke outboard engines under heavy duty load.

VFS

Specifications
NMMA FC-W

Type	Specification	
VFS251	1L	25W-40
VFS101	1L	10W-30

Teflon Spray

A widely applicable lubricant for cleaning, lubricating and protection against dirt and moisture.

VTEFS

Type	Specification
VTEFS	400 ml

Shipping Grease

A lithium soap thickened grease with excellent water-displacing qualities even in salt water.

Specifications
N.L.G.I. Klasse 2, DIN 51 502, KP 2 K-30

VSG

Type	Specification
VSG	600 gr

Stern drive oil

Specially developed for transmissions used in watersports such as outboard drive legs and sterndrive. Outstanding moisture resistance, excellent protection against rust and corrosion.

Specifications
API: GL-4/5 SAE 75W-90

VSD

Type	Specification	
VSD7505	500 ml	75W-90

Organic Coolant -38˚C

A modern organic coolant for all types of engines made of cast iron, steel or aluminium. Available in 1 litre (VOC1) and 4 litres (VOC4).

VOC

Type	Specification
VOC1	1 L
VOC4	4 L

Sump-pump

This pump is for emptying the engine sump or gearbox. Comes complete with tubing.

CARTERP

Type	Specification
CARTERP	Manual sump-pump, brass, incl. tubing

Spare parts

VETUS products are manufactured to the highest quality standards. Using only genuine VETUS spare parts protects your investment and maintains the unique warranty conditions. Our dealer network is committed to deliver the right part any time and place you need it.

The VETUS Parts Finder; easy access to spare parts codes

This tool gives easy access to spare part codes for VETUS engines and equipment, both current and older models. So when looking for parts, always check our parts finder to avoid mistakes before ordering. Please keep in mind that not all the parts shown are still available or in stock. Your local dealer can inform you about availability.

Why VETUS parts?
- Genuine parts maintain the unique VETUS warranty conditions
- Huge stocks and fast delivery
- Available through our extensive dealer network
- Original spare parts have proven quality

The button of the Parts Finder is shown on every product page on the website!

VETUS Diesel Engine Spare Parts

All engine spare parts are manufactured to the same quality standards as the original engine and subject to strict testing procedures. Thanks to short lines of communication with our partners and advanced testing facilities, we can offer high quality and the most extensive warranty conditions in the market.

VETUS Diesel service kit

Regular engine maintenance and daily checks will help to avoid unpleasant surprises whilst out on the water! To make your life easier, a VETUS Diesel Service kit is available for nearly every type VETUS marine diesel engine. Please have your type number available when you order your kit with your dealer to make sure you order the right service kit. This number can be found on the sticker on your engine.

The following items are included in the spare parts kit
- Oil filter
- Fuel filter
- V-belt
- Impeller
- Gasket

VETUS Service network

As the owner of a VETUS engine/product we hope you can enjoy your time on the water without any problems. Regular service and maintenance is, of course, very important, nevertheless even the most reliable products can sometimes develop a problem. With the VETUS worldwide service network we are able to help you with your unexpected issues. We can help you as quickly as needed. Most spare parts are in stock in our central warehouses, from O-rings to alternators and from oil filters to heat exchangers, for both current and discontinued VETUS engines and products alike.

SERVICE & SUPPORT

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SMART
GYRO

Our love for boating comes alive in our products. We push the limits of technology so boaters can enjoy a life without limits. Smartgyro stabilizers eliminate boat roll to make life's richest moments more comfortable, safe and satisfying.

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