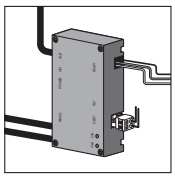
QS series

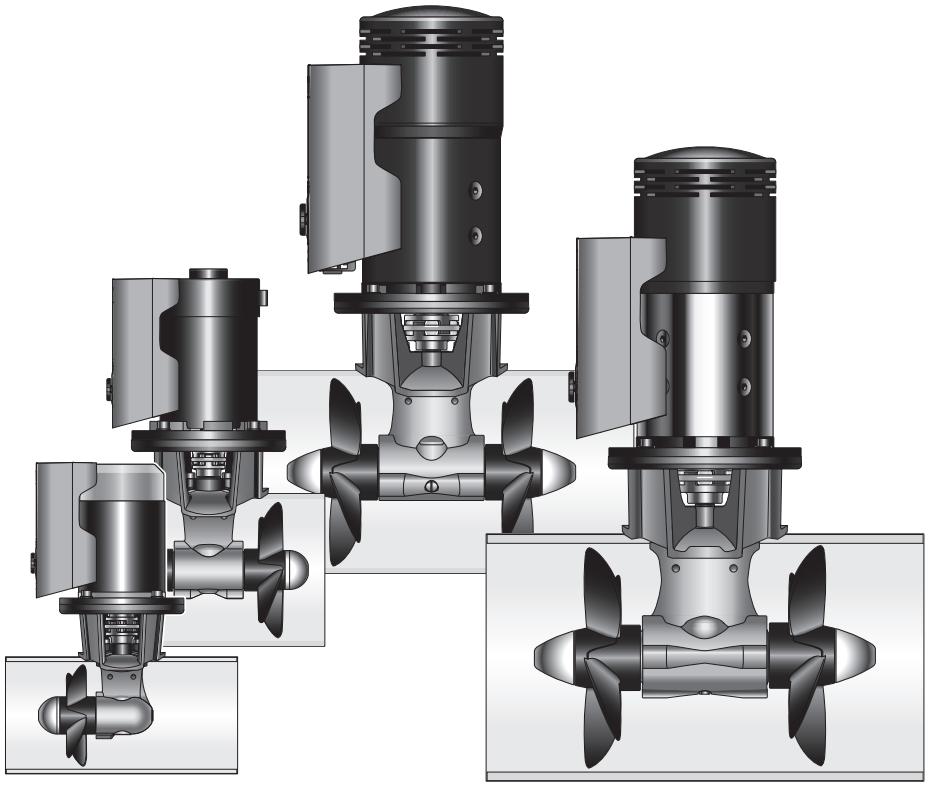
REV 000A CE

SINGLE AND DOUBLE PROPELLER

QS 40-125
QS 50-140
QS 60-185
QS 80-185
QS 100-185
QS 130-250
QS 160-250
QS 220-250
QS 250-300
QS 300-300



QS GTW
INTERFACE



BOW THRUSTERS

USER MANUAL | **EN** | page 3

QS® SEAMASTER

INDEX

1 - Information about the product

BEFORE USING THE THRUSTER, CAREFULLY READ THIS USER MANUAL.
IF IN DOUBT, CONTACT YOUR NEAREST QS SEAMASTER® DEALER.

☞ QS SEAMASTER® RESERVES THE RIGHT TO INTRODUCE CHANGES TO THE EQUIPMENT AND THE CONTENTS OF THIS MANUAL WITHOUT PRIOR NOTICE. IN CASE OF DISCREPANCIES OR ERRORS BETWEEN THE TRANSLATED TEXT AND THE ORIGINAL ITALIAN TEXT, PLEASE REFER TO THE ITALIAN TEXT.

1.0 - Technical data

MODELS		QS4012512	QS5014012	QS6018512	QS6018524
Propeller type		Single			
Tunnel Ø		125 mm (5" 33/64)	140 mm (5" 33/64)	185 mm (7" 18/64)	185 mm (7" 18/64)
Motor Power		2,2 kW	2,2 kW	3,0 kW	3,0 kW
Voltage		12 V	12 V	12 V	24 V
Fuse		325A CNL DIN	225A CNL DIN	250A CNL DIN	150A CNL DIN
Thrust		40 kgf (88.2 lb)	50 kgf (110.2 lb)	60 kgf (132.3 lb)	60 kgf (132.3 lb)
Weight		10,9 kg (24.0 lb)	12,2 kg (26.8 lb)	16,7 kg (36.8 lb)	16,9 kg (37.2 lb)
Thickness limit values of the tubes		min. 3 mm - max 7 mm (min. 1/8" - max 9/32")	min. 4,5 mm - max 6,5 mm (min. 11/64" - max 1/4")		
Recommended cable section (*) (**)	**L < 5 m**	70 mm^2 (AWG 2/0)	50 mm^2 (AWG 1)	50 mm^2 (AWG 1)	35 mm^2 (AWG 2)
	5,1 < L < 10 m	2 x 50 mm^2 (2 x AWG 1)	70 mm^2 (AWG 2/0)	70 mm^2 (AWG 2/0)	50 mm^2 (AWG 1)
	10,1 < L < 20 m	2 x 70 mm^2 (2 x AWG 2/0)	95 mm^2 (AWG 3/0)	95 mm^2 (AWG 3/0)	70 mm^2 (AWG 2/0)

MODELS		QS8018512	QS8018524	QS10018512	QS10018524
Propeller type		2 counter rotating			
Tunnel Ø		185 mm (7" 18/64)	185 mm (7" 18/64)	185 mm (7" 18/64)	185 mm (7" 18/64)
Motor Power		4,3 kW	4,3 kW	6,3 kW	6,3 kW
Voltage		12 V	24 V	12 V	24 V
Fuse		400A CNL DIN	275A CNL DIN	400A CNL DIN	275A CNL DIN
Thrust		80 kgf (176.4 lb)	80 kgf (176.4 lb)	105 kgf (231.5 lb)	105 kgf (231.5 lb)
Weight		17,9 kg (39.4 lb)	20,5 kg (45.1 lb)	27,5 kg (60.2 lb)	25,1 kg (55.3 lb)
Thickness limit values of the tubes		min. 4,5 mm - max 6,5 mm (min. 11/64" - max 1/4")			
Recommended cable section (*) (**)	**L < 5 m**	2 x 50 mm^2 (2 x AWG 1)	70 mm^2 (AWG 2/0)	2 x 70 mm^2 (2 x AWG 2/0)	70 mm^2 (AWG 2/0)
	5,1 < L < 10 m	2 x 70 mm^2 (2 x AWG 2/0)	2 x 50 mm^2 (2 x AWG 1)	2 x 95 mm^2 (2 x AWG 3/0)	2 x 50 mm^2 (2 x AWG 1)
	10,1 < L < 20 m	2 x 95 mm^2 (2 x AWG 3/0)	2 x 70 mm^2 (2 x AWG 2/0)	2 x 120 mm^2 (2 x AWG 4/0)	2 x 70 mm^2 (2 x AWG 2/0)

(*) L = positive cable + negative cable
(**) Different solutions are allowed, provided they are supported by the connection terminals.Comply with the minimum area clearance recommended)

MODELS		QS13025012	QS13025024	QS16025024	QS22025024
Propeller type		2 counter rotating			
Tunnel Ø		250 mm (9" 27/32)	250 mm (9" 27/32)	250 mm (9" 27/32)	250 mm (9" 27/32)
Motor Power		6,5 KW	8 KW	8.3 KW	10 kW
Voltage		12 V	24 V	24 V	24 V
Fuse		500A CNL DIN	275A CNL DIN	275A CNL DIN	500A CNL DIN
Thrust		130 kgf (286.6 lb)	130 kgf (286.6 lb)	160 kgf (352.7 lb)	220 kgf (485 lb)
Weight		35,5 kg (78.2 lb)	34kg (75 lb)	34,5 kg (76 lb)	49,1 kg (108.2 lb)
Thickness limit values of the tubes		min. 6,5 mm - max 11 mm (min. 1/4" - max 7/16")			
Recommended cable section (*) (**)	**L < 5 m**	2 x 70 mm^2 (2 x AWG 2/0)	70 mm^2 (AWG 2/0)	70 mm^2 (AWG 2/0)	2 x 50 mm^2 (2 x AWG 1)
	5,1 < L < 10 m	2 x 95 mm^2 (2 x AWG 3/0)	2 x 50 mm^2 (2 x AWG 1)	2 x 50 mm^2 (2 x AWG 1)	2 x 70 mm^2 (2 x AWG 2/0)
	10,1 < L < 20 m	2 x 120 mm^2 (2 x AWG 4/0)	2 x 70 mm^2 (2 x AWG 2/0)	2 x 70 mm^2 (2 x AWG 2/0)	2 x 95 mm^2 (2 x AWG 3/0)

MODELS		QS2503024	QS30030048
Propeller type		2 counter rotating	2 counter rotating
Tunnel Ø		300 mm (11" 13/16)	300 mm (11" 13/16)
Motor Power		12 kW	15 kW
Voltage		24 V	48 V
Fuse		500A CNL DIN	500A CNL DIN
Thrust		250 kgf (551.1 lb)	300 kgf (661 lb)
Weight		55,2 kg (121.7 lb)	58,2 kg (128.3 lb)
Thickness limit values of the tubes		min. 9,5 mm - max 13,5 mm (min. 3/8" - max 17/32")	
Recommended cable section (*) (**)	**L < 5 m**	95 mm^2 (AWG 3/0)	95 mm^2 (AWG 3/0)
	5,1 < L < 10 m	2 x 95 mm^2 (2 x AWG 3/0)	2 x 70 mm^2 (AWG 2/0)
	10,1 < L < 20 m	2 x 120 mm^2 (2 x AWG 4/0)	2 x 95 mm^2 (2 x AWG 3/0)

(*) L = positive cable + negative cable
(**) Different solutions are allowed, provided they are supported by the connection terminals.Comply with the minimum area clearance recommended)

2 - Supplied parts

2.0 - Package contents

- Thruster
- Drilling template
- Gasket
- O-ring (for assembly)
- Installation and user manual
- Conditions of warranty

2.1 - Needed tools for installation

QSØ125 • Drill and drill bits Ø 7 mm (9/32") • Hole saw Ø 25 mm (1")
• 4 mm, 5 mm, 6 mm hex keys • 10 mm wrench

QSØ140 • Drill and drill bits Ø 7 mm (9/32") • Hole saw Ø 27 mm (1" 1/16)
• 4 mm, 5 mm, 6 mm hex keys • 17 mm wrench

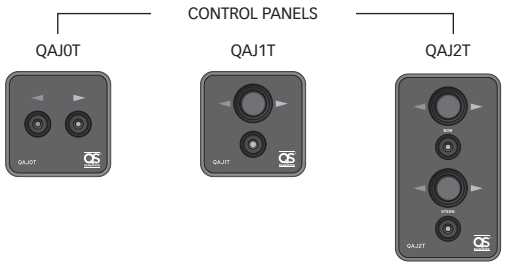
QSØ185 • Drill and drill bits Ø 9 mm (3/8") • Hole saw Ø 35 mm (1" 3/8)
• 5 mm, 6 mm, 8 mm hex keys • 19 mm wrench

QSØ250 • Drill and drill bits Ø 11 mm (7/16") • Hole saw Ø 46 mm (1" 13/16)
• 4 mm, 5 mm, 8 mm,10 mm hex keys • 24 mm wrench

QSØ300 • Drill and drill bits Ø 15 mm (19/32") • Hole saw Ø 53 mm (2" 3/32)
• 4 mm, 5 mm, 8 mm, 12 mm hex keys • 27 mm wrench

2.2 - "QS SEAMASTER" Recommended accessories (Not supplied)

- Push button remote control QAJ0T
- Single joystick remote control QAJ1T
- Double joystick remote control QAJ2T



3 - Introduction

BEFORE USING THE THRUSTER READ THESE INSTRUCTIONS CAREFULLY.
IF IN DOUBT, CONTACT YOUR NEAREST "QS SEAMASTER®" DEALER.

3.0 Important notes

This manual contains Warning and/or Caution symbols that are important for safety.
Comply with the recommendations provided herein.

Warning symbol concerning hazardous situations.

Caution symbol to avoid direct or indirect damage to the product.

This document contains the instructions that are necessary for boat manufacturers and marine equipment installers to assemble and commission **the Thruster.**

3 - Introduction

QS series EN

3.1 Precautions for the installer

PROCEEDING WITH THE INSTALLATION IN GOOD LIGHT CONDITIONS.

We recommend using an appropriate personal protective equipment.

QS SEAMASTER® thrusters are not suitable for installation in potentially explosive environments and/or atmospheres.

Assembly and subsequent checks or repairs must be carried out only by qualified personnel.

THE PRODUCT MUST BE DISCONNECTED FROM THE ELECTRICAL SYSTEM BEFORE INSTALLING OR PROVIDING MAINTENANCE.

QS SEAMASTER takes no responsibility regarding the inadequate connection of the users to the electrical system and to the safety of the same.

3.2 - Installation requirements

It is strongly recommended to entrust a professional with the preparation and positioning of the tunnel in the hull. These instructions are generic and do not show by any means the details of the operations of preparing the thruster, which falls under the competence of the shipyard. In case of problems caused by a defective installation, the installer will be held responsible.

Despite all components and moving mechanical parts are of high quality, the correct installation of the propulsion unit is fundamental for a safe and efficient use of the boat, as well as of the propulsion unit itself.
Please note that the installation of such unit is an operation requiring experience and technical competence. It is recommended to entrust the installation to competent staff and to consult the manufacturer or naval architects to fully evaluate the entity of the work.

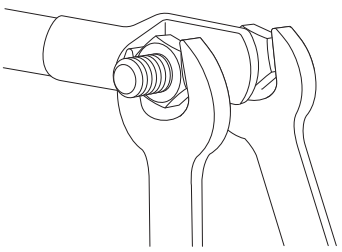
4 - Safety

QS series

4.0 - Warnings

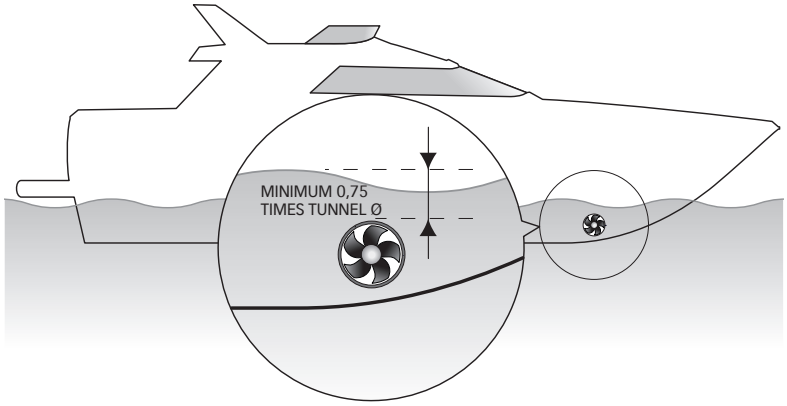
- QS SEAMASTER® Thrusters have been designed and constructed only for nautical use.
- Do not use these appliances for other uses.
- QS SEAMASTER® shall accept no responsibility for direct or indirect damages caused by improper use of the appliance or an improper installation.
- The Thruster is not designed to maintain loads generated in particular atmospheric conditions (storms).
- We recommend that you entrust the preparation and the positioning of the tunnel on the hull to a skilled professional.
  These are generic instructions and do not give details of the preparatory operations for installing the tunnel, which falls under the competence of the boatyard. The installer shall bear full responsibility for any problems caused by defective installation of the tunnel.
- Do not install the electric motor near easily inflammable objects.

Terminals must be
properly tightened.
Secure/hold inner nut
when tightening
THE MINIMUM TIGHTENING TORQUE IS 11 Nm

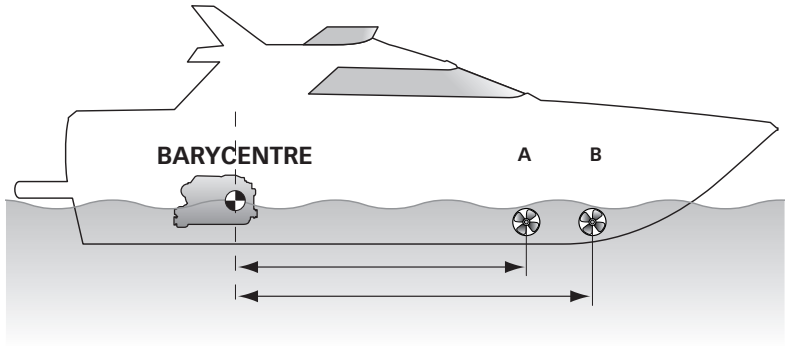


5.0 - Installation requirements

The Tunnel



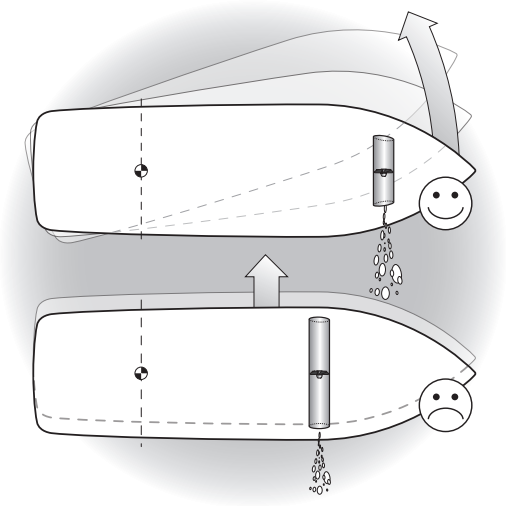
• The position of the tunnel will depend on the interior and exterior shape of the boats bow.
• Optimal positioning of the tunnel will be in the bow and as low as possible and at a distance from the waterline which should be at least 0,75 times the tunnel diameter.



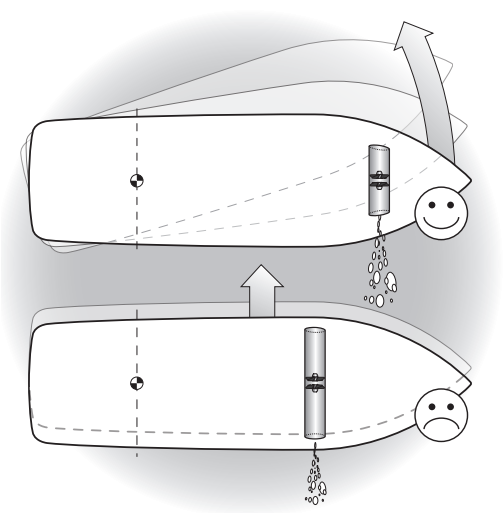
• To avoid cavitation in the propeller, the tunnel must be positioned as low as possible in the hull.
• The lever effect in the boat is proportional to the increase of the distance (L1 and L2) between the barycentre and the position of the tunnel A and B.

For greater lever effect prefer position B to position A.

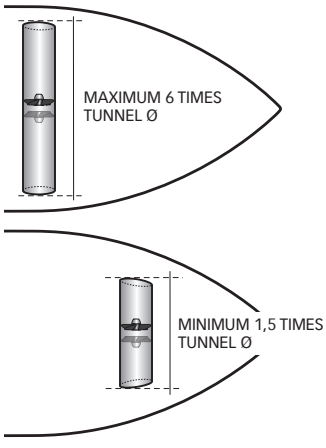
SINGLE PROPELLER



DOUBLE PROPELLER



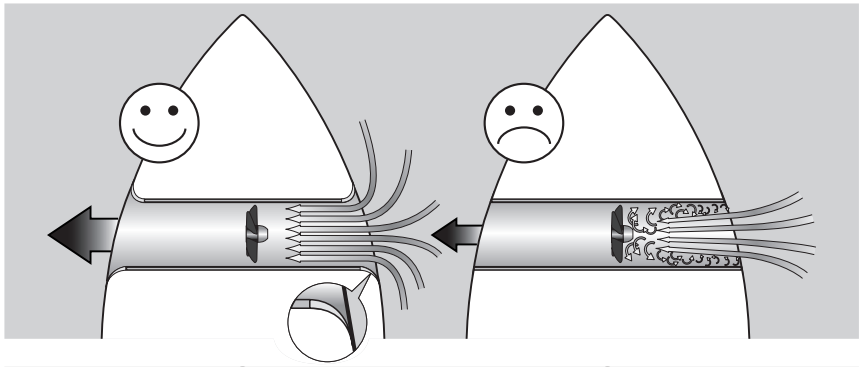
TUNNEL LENGTH



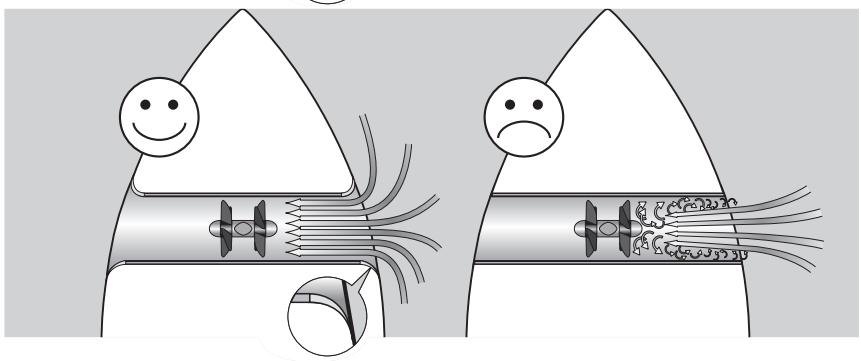
• An increase in the length of the tunnel increases the effect of the loss of charge, decreasing the nominal driving force.
• For a correct use of the thruster we suggest a maximum length of 3-4 times the tunnel diameter and a minimum length of 1,5 times the tunnel diameter. To limit efficiency loss it is acceptable a length that is six times the tunnel diameter.

5.1 - Tunnel - Single and double propeller

• The rounded ends of the tunnel limit the creation of turbulences and cavitations, improving performance of the propeller thrust and reducing noise levels to a minimum.

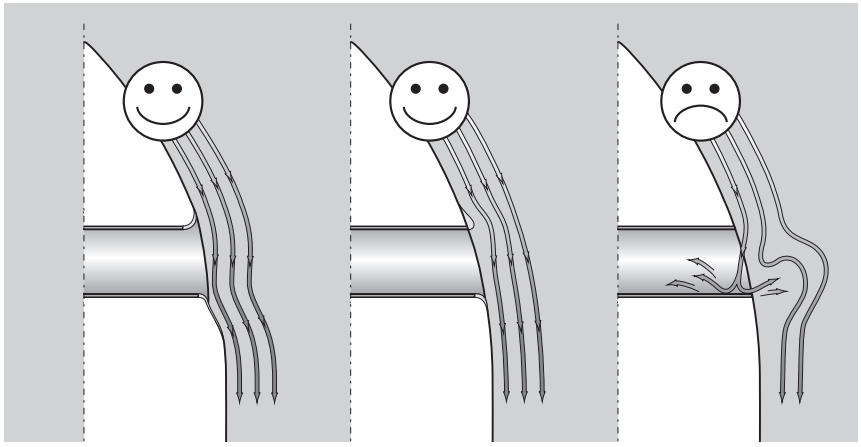


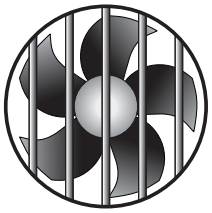
SINGLE PROPELLER



DOUBLE PROPELLER

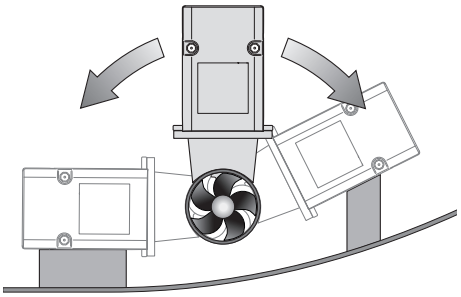
• The force produced by the flow of the water when the boat is moving produces resistance on the rear face of the tunnel, which is an area exposed frontally to the water flow.
To limit this phenomenon, prepare an indentation in the rear part of the tunnel. Otherwise, create a deflector on the front part of the tunnel.





• If the tunnel is near the waterline, it is advisable to fit a grating at the end of the tube.
The grating must have vertical and as large as possible meshes to avoid contrasting the propeller thrust. The vertical meshes prevent the entry of most of the floating objects.

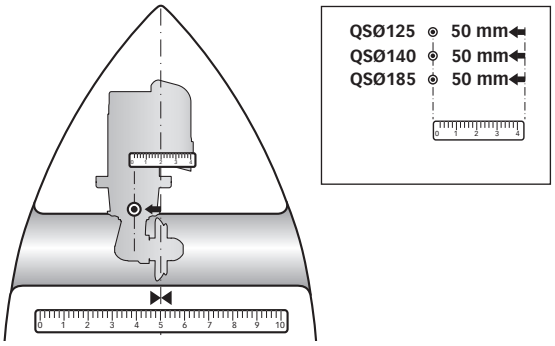
5.2 - The Thruster - Single and double propeller



• The thruster can be installed at any angle within 90° from vertical.
• If the electric motor is positioned at an angle of more than 30° from vertical, a special support must be constructed (saddle).

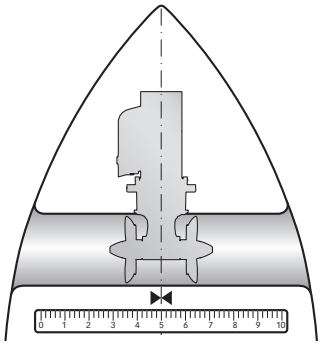
SINGLE PROPELLER

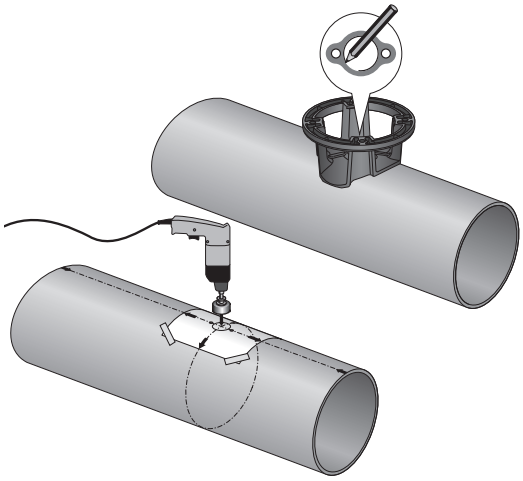
• To position the thruster in the tunnel, find the half-way point and move as much as the value shows in the table below so that the propeller is positioned exactly half way along the internal length of the tunnel.



DOUBLE PROPELLER

• To position the thruster in the tube, find the half-way point so that the flange is positioned exactly half way along the internal length of the tunnel.





• Use the flange to mark the centre of the holes on the tube.

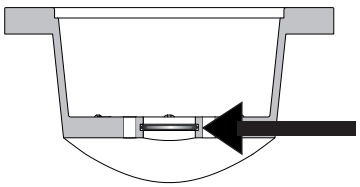
• Fix the drilling template on the reference points, making sure they are aligned with precision at the half-way point of the tube.

N.B. All holes must be exactly aligned with the half-way point of the tunnel, since tolerance between propeller and tunnel is minimal.

• Take care that there are no resin residues in the contact area between flange and tube; this could cause misalignment. Any resin residues and any other hindrance to correct contact must be removed by sandpaper.

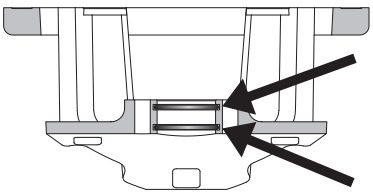
QS Ø125

• Insert one o-ring into the specific location inside the flange.



QS Ø140/185/250/300

• Insert two o-rings into the specific location inside the flange.

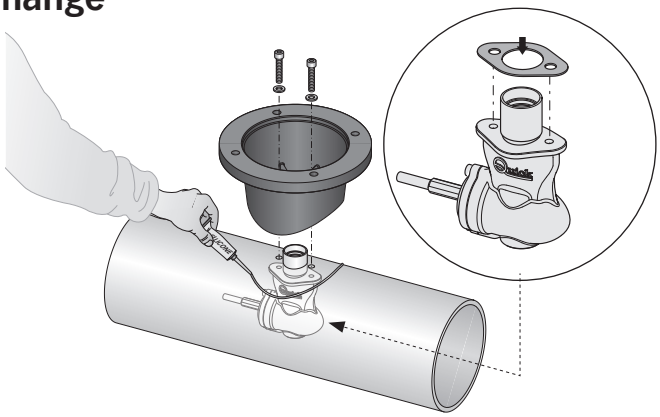


5.3.1 - QS Ø125 Gearleg and motor support flange

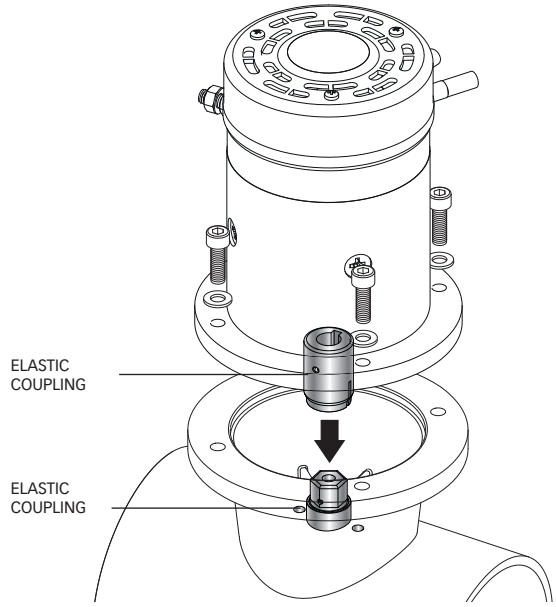
• Proceed with fitting the gearleg with the special seal gasket.

• For further protection against the entry of water, apply silicone for nautical use around the point of contact between flange and tube.

• Fasten everything to the flange using the special screws and washers.

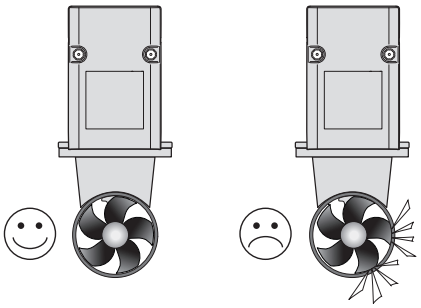


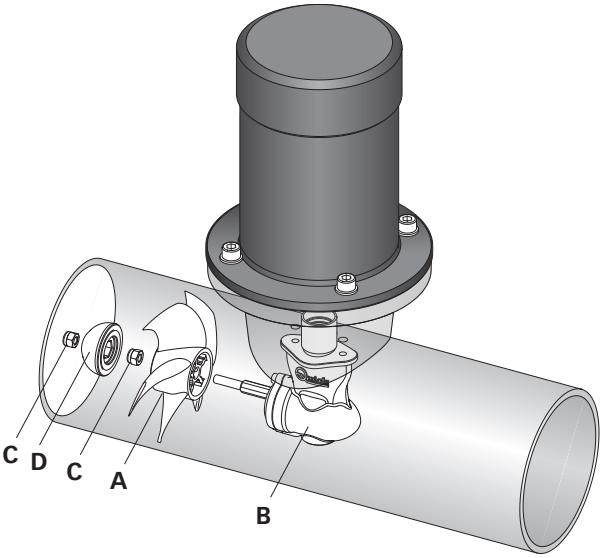
• Assemble the motor on the flange by joining the two elastic coupling halves.
Fasten it with the provided 4 screws and washers.



5.3.2 - QS Ø125 Propeller fitting

• Insert the propeller A in the gearleg shaft B, fix the propeller with the self-locking nut C, insert anode D and lock it with the other self-locking nut C.





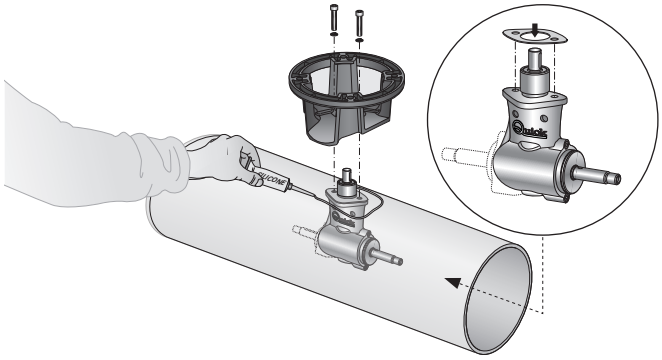
WARNING: on conclusion of assembly, make sure that the propeller is exactly positioned at the central point of the tunnel.

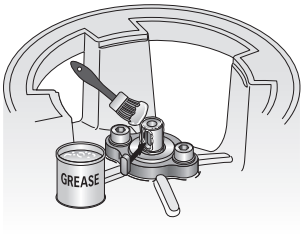
5.4.1 - QS Ø140/185/250/300 Gearleg and motor support flange

• Proceed with fitting the gearleg with the special seal gasket.

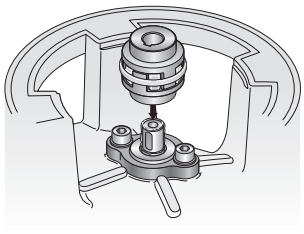
• For further protection against the entry of water, apply silicone for nautical use around the point of contact between flange and tube.

• Fasten everything to the flange using the special screws and washers.

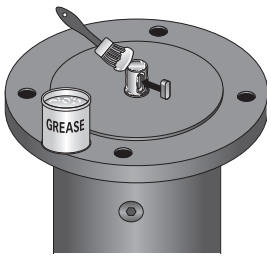




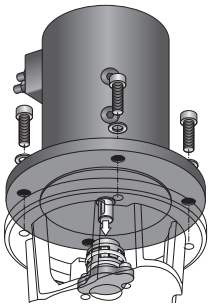
• Grease the terminal part of the gearleg shaft; insert the small key into its seat.



• Insert the elastic joint in the terminal part of the gearleg shaft.

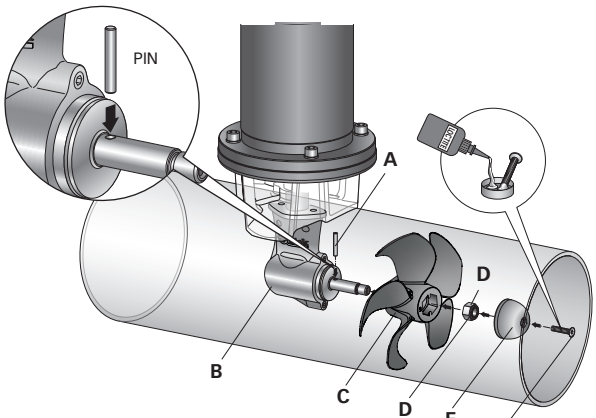


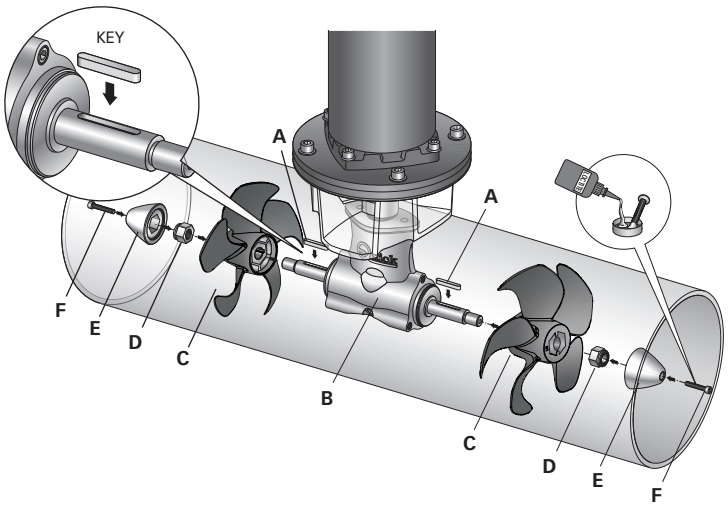
• Grease the terminal part of the gearleg shaft; insert the small key into its seat.

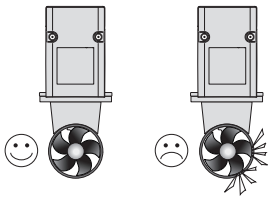


• Insert the motor onto the elastic joint; fasten it with the 4 provided screws and washers.

5.4.2 - QS Ø140/185/250/300 Single and double propeller fitting







WARNING: on conclusion of assembly, make sure that the propeller is exactly positioned at the central point of the tunnel.

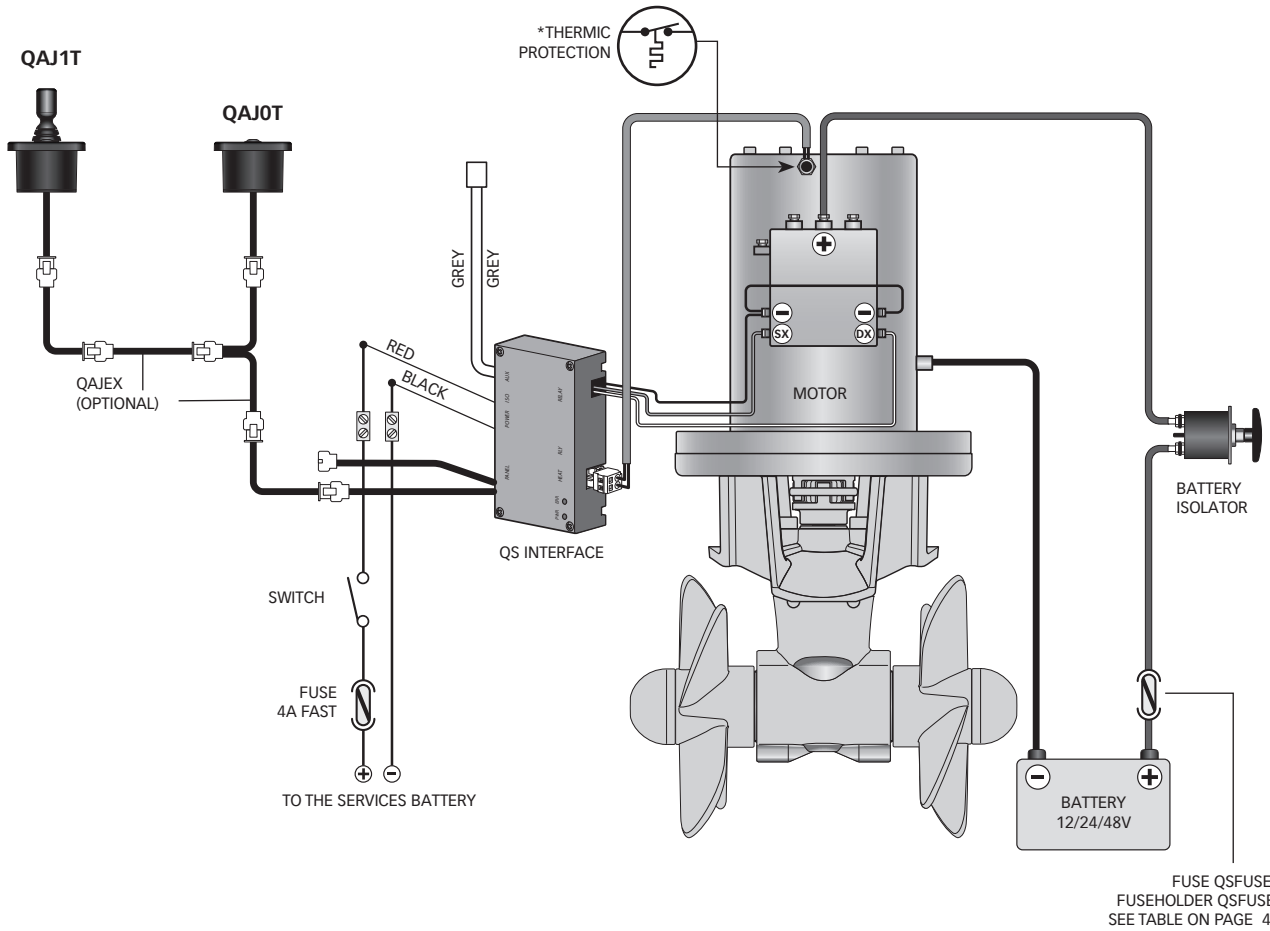
Propeller/propellers fitting
Insert the drive pin or key A into the hole on the gearleg shaft B; assemble the propeller C to the gearleg interlocking it with the drive pin or key A; fix the propeller with the self-braking nut D.
The anode E must be locked with the screw F soaked with building adhesive (such as Loctite).

MODEL WITH PIN: QS Ø125-140-185 **MODEL WITH KEY**: QS Ø250-300

6.0 - QS Basic System

Example of connection with battery isolator

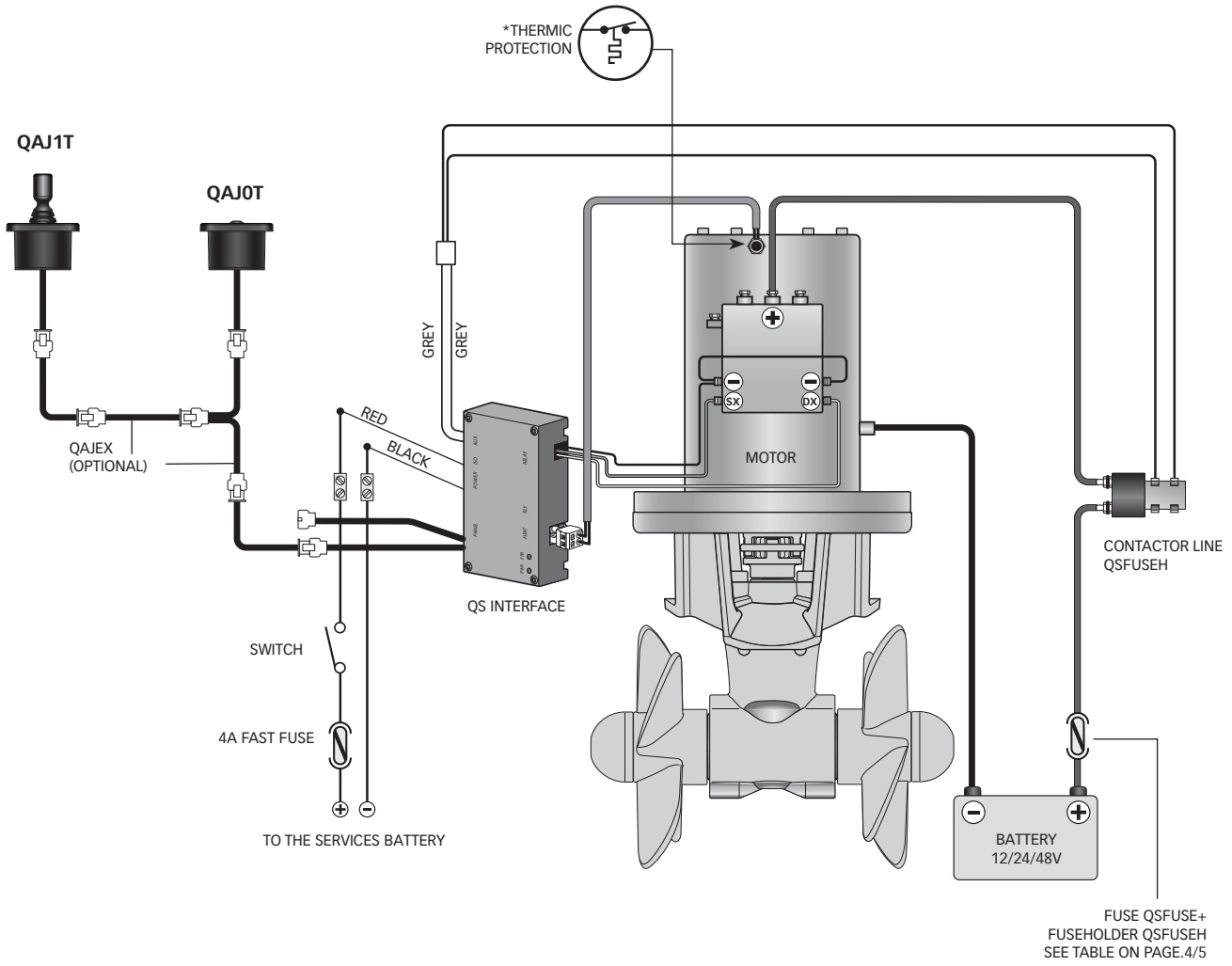
* **WARNING**: in case of overtemperature, the thermal protection on the motor will open and interrupt the negative contact on the solenoid unit. Wait as long as the system starts again.



6 - Connection diagram

Example of connection with contactor line

* **WARNING:** in case of overtemperature, the thermal protection on the motor will open and interrupt the negative contact on the solenoid unit. Wait as long as the system starts again.



Control panel

To install the control panel, consult the "QAJ1T - QAJ2T - QAJ0T" instruction manuals.

7.0 - Warnings

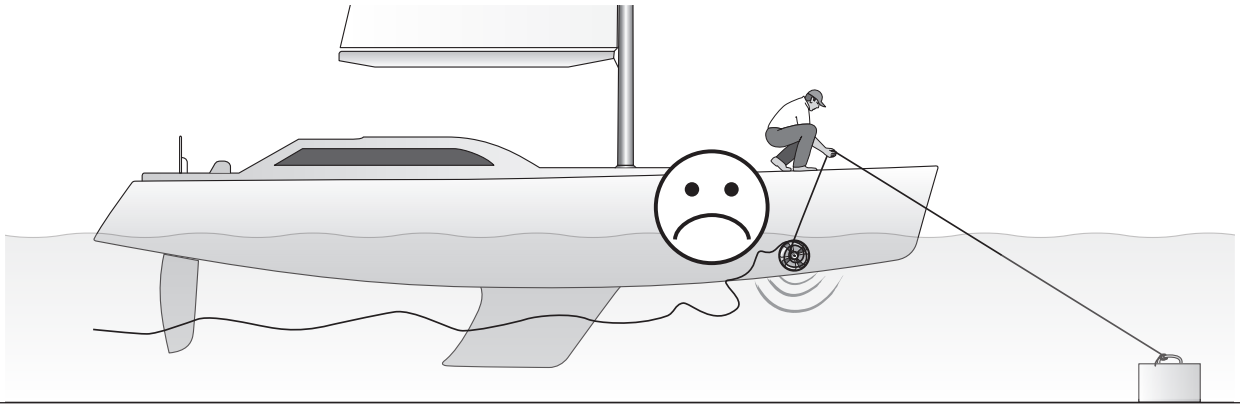
⚠ • This thruster is not designed for a continuous use. It is equipped with protections which limit its operation at a maximum time span, as reported on the controls' manual.
It is strongly forbidden to bypass or modify such protections in order to increase the operating time span, under pain of voiding the warranty and thus lifting any responsibility from QS SEAMASTER.

• Make sure no swimmers or floating objects are in the vicinity before switching on the thruster.

• There must not be flammable materials in the peak or in the area where the Thruster motor is.

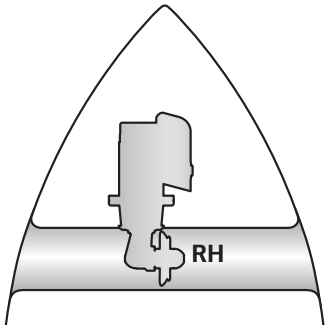
• Do not operate the bow thruster out of the water for more than 10 seconds.

• During docking, it is recommended not to leave in the water any free rope, which may be sucked in by the propellers, thus leading them to break.



SINGLE PROPELLER

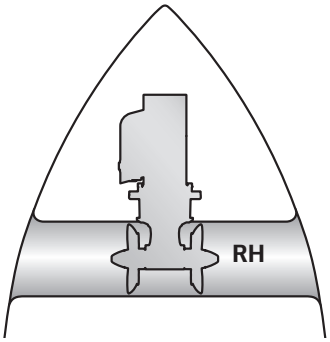
NOTE: the bow thruster must be installed with the **RH** propeller on the right-hand side of the gearleg (see figure).



In case the bow thruster needs to be installed on the opposite position, the connection of the two wires (blue and grey) to the control cable on the reversing contactor unit must be inverted.

DOUBLE PROPELLER

NOTE: the bow thruster must be installed with the **RH** propeller on the right-hand side of the gearleg (see figure).



8.0 - Use of bow thruster

Start-up
Start-up happens following activation of a QAJ panel.
To use the thruster refer to the manual of the QAJ control.

9 - Maintenance

QS series EN

9.0 - Single/Double propeller maintenance

QS Seamaster® thrusters are made in materials that are resistant to the sea environment: In any case, it is indispensable to periodically remove deposits that form on the outer surfaces to avoid corrosions, interruptions and consequent system inefficiency.

WARNING: make sure that the power supply to the electric motor is not switched on when maintenance operations are carried out.

ACCORDING TO THE USE WE RECOMMEND CHECKING PERIODICALLY THE OIL SEALS AND IF NECESSARY REPLACING THEM.

Dismantle once a year, following the points below:
- Clean propellers, tunnel and gearleg.
- Replace the anodes (carry out this operation more often if needed).
- Replace the propellers if damaged or worn out.
- Check the tightness of all screws.
- Ensure that there is no water seepage inside.
- Check that all electrical connections are well tightened and oxide-less.
- Check that the batteries are in good conditions.
- Remove the graphite residues resulting from the normal motor brushes use.

WARNING: do not paint the anodes, the sealings and the gearleg's shafts where the propellers are lodged.

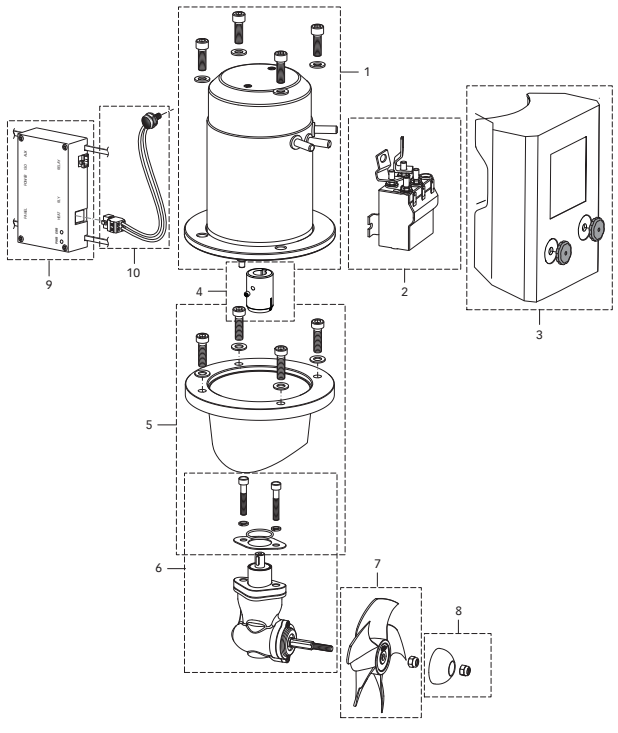
9.1 - Disposal of the product

During the installation, also at the end of product lifetime, the disassembly and scrapping operations must be performed by qualified personnel. This product is made up of different types of material, some of which can be recycled while others must be disposed of. Seek information on the recycling and disposal systems envisaged by the local regulations in your area for this product category. Some parts of the product may contain polluting or hazardous substances which, if disposed of into the environment, constitute serious environmental and health risks.

As indicated by the symbol, it is forbidden to throw this product in the household wastes. Recycling according to the methods envisaged by current legislation in your area, or return the product to the retailer when purchasing an equivalent product.
Local legislation may include the application of serious fines in the event of improper disposal of this product.

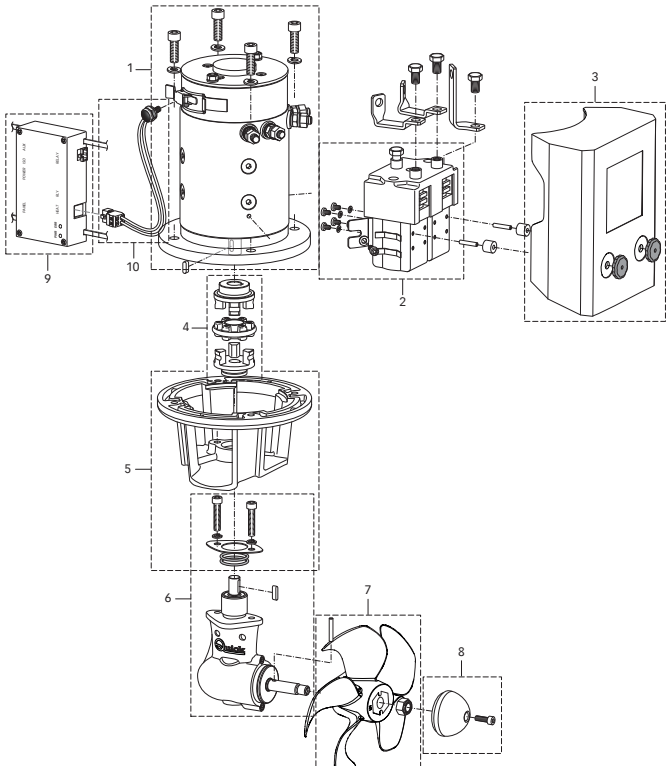
10 - Spare parts

QS series



Single propeller QS4012512

NR.	DESCRIPTION
1	OSP MOT 2200W 12V QSØ125-140+T
2	OSP KIT REVERSING CONTACTOR UNIT 150A 12V
3	OSP KIT CARTER 'A' QS
4	OSP KIT ELASTIC COUPLING QS Ø125 PL ESAG
5	OSP KIT FLANGE QS Ø125
6	OSP KIT Ø125 GEARLEG
7	OSP KIT Ø125 PROPELLER QS
8	OSP KIT QS Ø125 ANODE
9	OSP KIT GTW QS
10	OSP KIT QS THERMAL PROTECTION

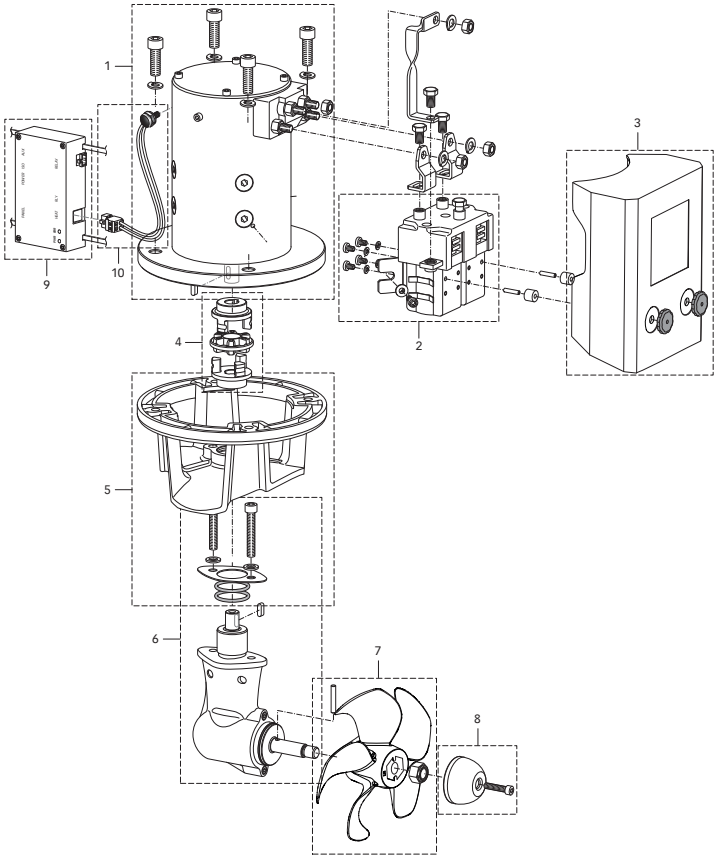


Single propeller QS5014012

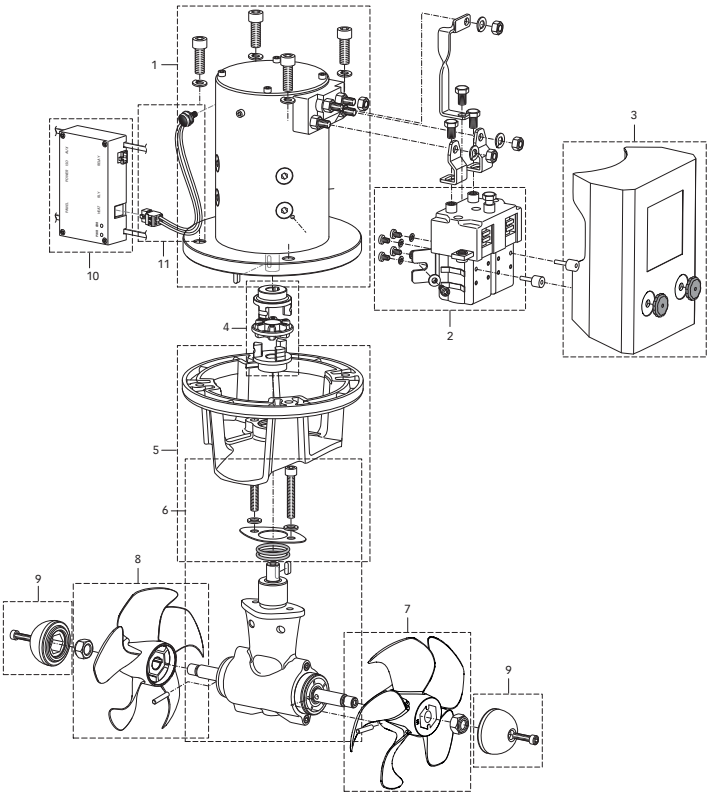
NR.	DESCRIPTION
1	OSP MOTOR 2200W 12V QS 125-140+T
2	OSP KIT REVERSING CONTACTOR UNIT 150A 12V
3	OSP KIT CARTER 'A' QS
4	OSP KIT JOINT Ø140 S
5	OSP KIT FLANGE Ø140
6	OSP KIT GEARLEG Ø140
7	OSP KIT PROPELLER Ø140 QS
8	OSP KIT ANODE Ø140
9	OSP KIT GTW QS
10	OSP KIT THERMAL PROTECTION QS

Single propeller QS6018512
Single propeller QS6018524

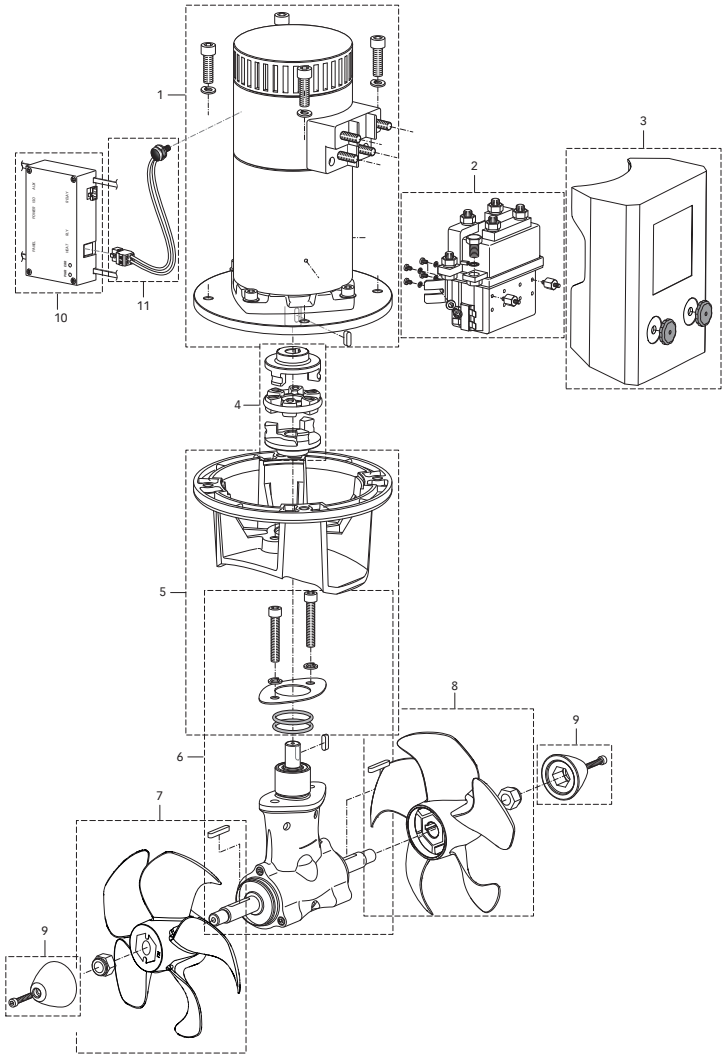
NR.	DESCRIPTION
1A	OSP MOTOR 3000W 12V 185+T
1B	OSP MOTOR 3000W 24V 185+T
2A	OSP KIT REVERSING CONTACTOR UNIT 150A 12V
2B	OSP KIT REVERSING CONTACTOR UNIT 150A 24V
3A	OSP KIT CARTER 'A'
4	OSP KIT JOINT Ø185
5	OSP KIT FLANGE Ø185
6	OSP KIT Ø185 GEARLEG
7	OSP KIT PROPELLER Ø185 RH QS
8	OSP KIT ANODES FOR PROPELLER Ø185
9	OSP KIT GTW QS
10	OSP KIT THERMAL PROTECTION



Double propeller QS8018512
Double propeller QS8018524
Double propeller QS10018512
Double propeller QS10018524

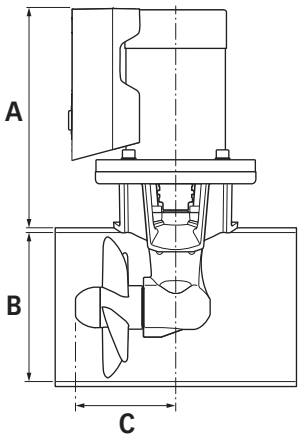


NR.	DESCRIPTION
1A	OSP MOTOR 4300W QS 12V 185+T
1B	OSP MOTOR 4300W QS 24V 185+T
1C	OSP MOTOR 6300W QS 12V 185+T
1D	OSP MOTOR 6300W QS 24V 185+T
2A	OSP KIT REVERSING CONTACTOR UNIT 350A 12V
2B	OSP KIT REVERSING CONTACTOR UNIT 350A 24V
3	OSP KIT CARTER 'A' QS
3	OSP KIT CARTER 'B' QS
4	OSP KIT JOINT Ø185
5	OSP KIT FLANGE Ø185
6	OSP KIT Ø185 DP GEARLEG QS
7	OSP KIT PROPELLER Ø185 RH QS
8	OSP KIT PROPELLER Ø185 LH QS
9	OSP KIT ANODES FOR PROPELLER Ø185
10	OSP KIT GTW QS
11	OSP KIT THERMAL PROTECTION QS

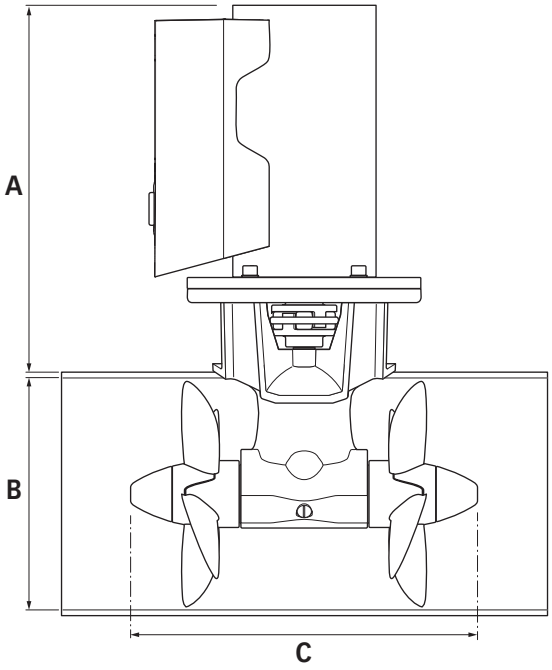


Double propeller QS13025012
Double propeller QS13025024
Double propeller QS22025024
Double propeller QS25030024
Double propeller QS30030048

NR.	DESCRIPTION
1A	OSP MOTOR QS 6500W 12V 250+T
1B	OSP MOTOR QS 8000W 24V 250 +T
1C	OSP MOTOR QS 8300W 24V 250 +T
1D	OSP MOTOR QS 10KW 24V 250 +T
1E	OSP MOTOR QS 12KW 24V 300 +T
1F	OSP MOTOR QS 15KW 48V 300 +T
2A	OSP KIT REVERSING CONTACTOR UNIT 350A12V
2B	OSP KIT REVERSING CONTACTOR UNIT 350A 24V
3	OSP KIT CARTER 'B' FOR PROPELLER QS
4A	OSP KIT JOINT Ø250
4B	OSP KIT JOINT Ø300
5A	OSP KIT FLANGE QS Ø250
5B	OSP KIT FLANGE QS Ø300
6A	OSP KIT Ø250 GEARLEG
6B	OSP KIT Ø300 GEARLEG
7A	OSP KIT PROPELLER Ø250 R QS
7B	OSP KIT PROPELLER Ø300 R QS
7C	OSP KIT PROPELLER Ø300 R QS
8A	OSP KIT PROPELLER Ø250 L QS
8B	OSP KIT PROPELLER Ø300 L QS
8C	OSP KIT PROPELLER Ø300 L QS
9A	OSP KIT ANODES FOR PROPELLER Ø250 QS
9B	OSP KIT ANODES FOR PROPELLER Ø300 QS
9C	OSP KIT ANODES FOR PROPELLER Ø300 QS
10	OSP KIT GTW QS
11	OSP KIT THERMAL PROTECTION QS



SINGLE PROPELLER



DOUBLE PROPELLER

SINGLE PROPELLER

QS125	QS4012512
A	261 (10" 9/32)
B	125 (4")
C	84 (3 5/16)

QS140	QS5014012
A	267 (10" 33/64)
B	140 (5 1/2)
C	108 (4 1/4)

QS185	QS6018512	QS6016524
A	292 (11" 1/2)	278 (10" 15/16)
B	185 (7" 9/32)	185 (7" 9/32)
C	116 (4" 9/16)	116 (4" 9/16)

DOUBLE PROPELLER

QS185 DP	QS8018512	QS8018524	QS10018512	QS10018524
A	329 (12")	278 (10 15/16")	410 (16" 9/64)	374 (14" 23/32)
B	185 (7" 9/32)	185 (7" 9/32)	185 (7" 9/32)	185 (7" 9/32)
C	267 (10" 33/64)	267 (10" 33/64)	267 (10" 33/64)	267 (10" 33/64)

QS250	QS13025012	QS13025024	QS16025024	QS22025024
A	390 (15" 23/64)	394 (15" 33/64)	397 (15" 5/8)	475 (18" 45/64)
B	250 (9" 27/32)	250 (9" 27/32)	250 (9" 27/32)	250 (9" 27/32)
C	373 (14" 11/16)	373 (14" 11/16)	373 (14" 11/16)	373 (14" 11/16)

QS300	QS2503024	QS30030048
A	482 (18" 31/32)	520 (20 15/32)
B	300 (11 11/16)	300 (11 11/16)
C	434 (17" 3/32)	434 (17" 3/32)

QS series

REV 000A CE

INSTALLATION AND USE MANUAL

QS 40-125
QS 50-140
QS 60-185
QS 100-185
QS 130-250
QS 160-250
QS 220-250
QS 250-300
QS 300-300

Product code and serial number

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