

BT QSY Series

REV 000B



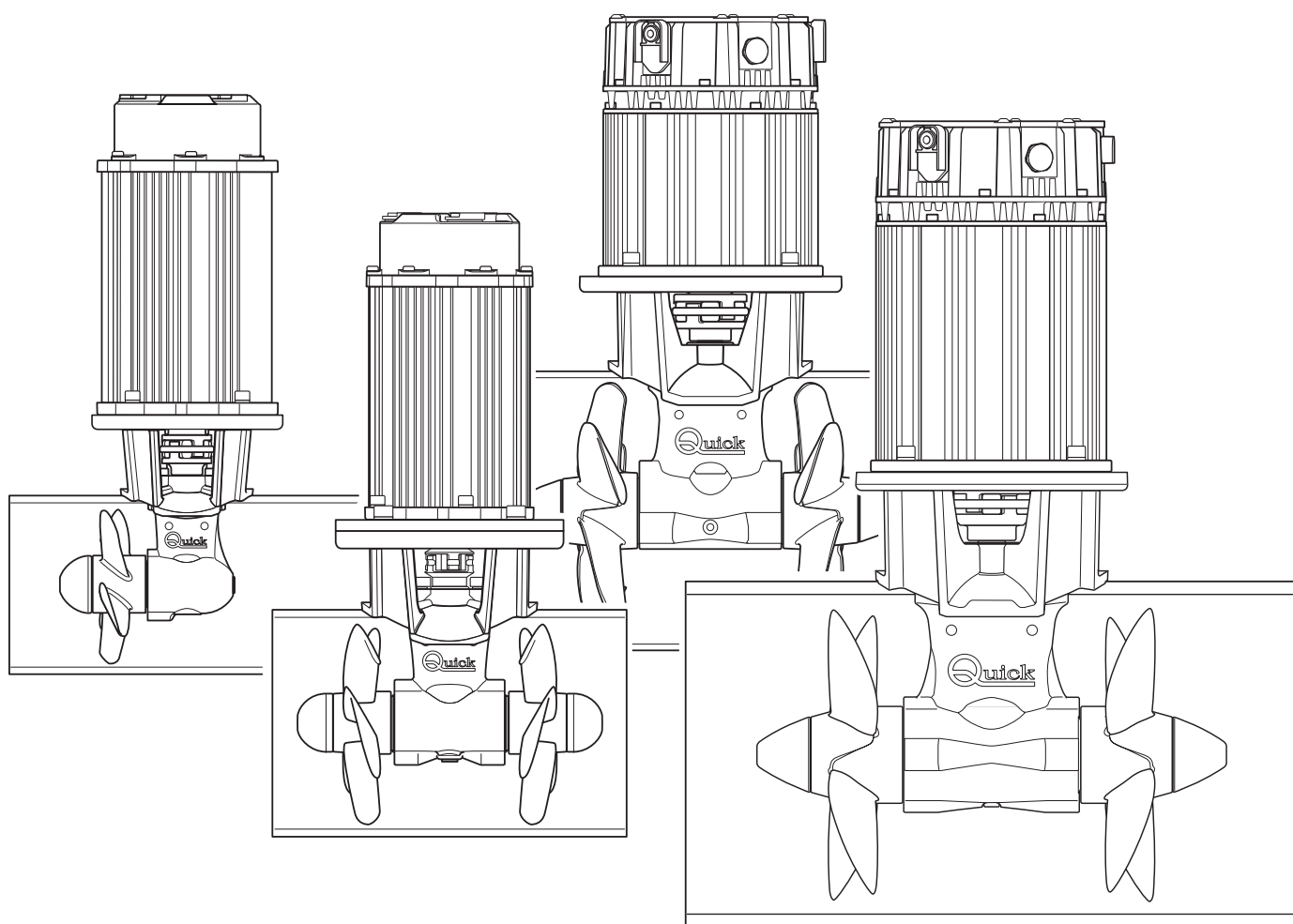
SINGLE AND DOUBLE PROPELLER - SYNCHRONOUS MOTOR

BT QSY 140

BT QSY 185

BT QSY 250

BT QSY 300



***EN - INSTALLATION AND USER'S MANUAL**

*Other languages available by scanning the QR code on the back of this manual or on the label on the product.

Quick[®]
Nautical Equipment

1 - Information about the product	5
1.0 - Technical Data	5
2 - Supply and equipment	6
2.0 - Standard supply and material included in the package	6
2.1 - Tools required for installation	6
2.2 - Compatible Quick® remote control systems not included	6
2.2 - Recommended Quick® accessories not included	6
3 - Introduction	7
3.0 - Important notes	6
3.1 - Precautions	7
3.2- Precautions for the installer	7
3.3 - Installation requirements	7
4 - Installation	8
4.0 - Propellers	8
4.1 - Tunnel	9
4.2 - Thruster	10
4.4 - BT QSY 140/185/250/300 Gearleg and motor support flange	11
4.4.0 - Single & double propeller assembly	11
5 - Cautions & Use	15
5.0 - General BT QSY basic system, AMC connection	12
5.1 - General BT QSY basic system, PCS connection	13
5.2 - General BT QSY basic system, TCD connection	14
5.0 - Important cautions	15
5.1 - Thruster use	15
6 - Maintenance	16
6.0 - Single/double propeller maintenance	16
7 - Product disposal	16
7.0 - Product disposal	16
8 - Spare parts	17
8.0 - BT QSY 140/185	17
8.1 - BT QSY 250/300	18
9 - Dimensions	19



READ THIS INSTRUCTION MANUAL CAREFULLY BEFORE USING THE PRODUCT. IF IN DOUBT, CONTACT YOUR QUICK® DEALER.



QUICK® RESERVES THE RIGHT TO MODIFY THE TECHNICAL CHARACTERISTICS OF THE EQUIPMENT AND THE CONTENTS OF THIS MANUAL WITHOUT PRIOR NOTICE. IN CASE OF DISCORDANCE OR ERRORS IN TRANSLATION BETWEEN THE TRANSLATED VERSION AND THE ORIGINAL TEXT IN THE ITALIAN LANGUAGE, REFERENCE WILL BE MADE TO THE ITALIAN TEXT.

1.0 - Technical Data

MODELS		BT QSY 140-45	BT QSY 185-85	BT QSY 185-85	BT QSY 185-100
Propeller type		Single (technopolymer)	2 Counter rotating (technopolymer)		
Tunnel ø		140 mm (5" 1/2)	185 mm (7" 9/32)	185 mm (7" 9/32)	185 mm (7" 9/32)
Motor power		2.5 kW	4 kW		8 kW
Voltage		12 V	12 V	24 V	24 V
Fuse		175 A CNL DIN	275 A CNL DIN	150 A CNL DIN	175 A CNL DIN
Thrust		45 kgf (99.2 lb)	85 Kgf (187.4 lb)		100 kgf (220.5 lb)
Weight		14.5 kg (31 lb)	16.6 kg (36.6 lb)		16.5 kg (36.6 lb)
Tube thickness limit value		min. 4.5 mm - max 6.5 mm (min. 11/64" - max 1/4")			
Recommended cable cross-section (*) (**)	L < 5 m	50 mm ² (AWG 1)	95 mm ² (AWG 3/0)	35 mmq (AWG 2)	50 mm ² (AWG 1)
	5.1 < L < 10 m	50 mm ² (AWG 1)	95 mm ² (AWG 3/0)	35 mmq (AWG 2)	50 mm ² (AWG 1)
	10.1 < L < 20 m	70 mm ² (AWG 2/0)	95 mm ² (AWG 3/0)	35 mmq (AWG 2)	50 mm ² (AWG 1)

MODELS		BT QSY 250-140	BT QSY 250-200	BT QSY 300-240	BT QSY 300-300
Propeller type		2 Counter rotating (technopolymer)			2 Counter rotating (nibril)
Tunnel ø		250 mm (9" 27/32)	250 mm (9" 27/32)	300 mm (11" 13/16)	300 mm (11" 13/16)
Motor power		8 kW	12 kW	12 kW	16 kW
Voltage		24 V	24 V	48 V	48 V
Fuse		250 A CNL DIN	400 A CNL DIN	200 A CNL DIN	275 A CNL DIN
Thrust		140 kgf (308 lb)	200 kgf (440.9 lb)	240 kgf (529.1 lb)	300 kgf (660 lb)
Weight		34.3 kg (75.6 lb)	39.6 kg (87.3 lb)	56.8 kg (125.2 lb)	62 kg (136.7 lb)
Tube thickness limit value		min. 6.5 mm - max 11 mm (min. 1/4" - max 7/6")			min. 9.5 mm - max 13.5 mm (min. 3/8" - max 17/32")
Recommended cable cross-section (*) (**)	L < 5 m	70 mm ² (AWG 2/0)	2x70 mmq (2xAWG 2/0)	70 mm ² (AWG 2/0)	95 mm ² (AWG 3/0)
	5.1 < L < 10 m	70 mm ² (AWG 2/0)	2x70 mmq (2xAWG 2/0)	70 mm ² (AWG 2/0)	95 mm ² (AWG 3/0)
	10.1 < L < 20 m	70 mm ² (AWG 2/0)	2x70 mmq (2xAWG 2/0)	70 mm ² (AWG 2/0)	95 mm ² (AWG 3/0)

(*) L = positive cable + negative cable

(**) Other solutions are allowed, provided that they are supported by the connecting terminals. Respect minimum cross-section indicated.

2.0 - Standard supply and material included in the package

- Thruster
- Drilling template
- Gasket
- O-ring
- Installation and use manual
- Conditions of warranty
- QSY ON/OFF interface (ON/OFF models only)
- Adapter M12-23 poles (only for 250/300)
- TCD QSY wiring cable (ON/OFF models only)

2.1 - Tools required for installation

- BT QSY140**
- Drill and drill bits Ø 7 mm (9/32")
 - Hollow mill Ø 27 mm (1" 1/16)
 - Male hex.wrenches: 4 mm, 5 mm and 6 mm
 - Fork wrench: 17 mm
- BT QSY185**
- Drill and drill bits Ø 9 mm (3/8")
 - Hollow mill Ø 35 mm (1" 3/8)
 - Male hex.wrenches: 5 mm, 6 mm and 8 mm
 - Fork wrench: 19 mm
- BT QSY250**
- Drill and drill bits Ø 11 mm (7/16")
 - Hollow mill Ø 46 mm (1" 13/16)
 - Male hex.wrenches: 4 mm, 5 mm, 8 mm and 10 mm
 - Fork wrench: 24 mm
- BT QSY300**
- Drill and drill bits Ø 15 mm (19/32")
 - Hollow mill Ø 53 mm (2" 3/32)
 - Male hex.wrenches: 4 mm, 5 mm, 8 mm and 12 mm
 - Fork wrench: 27 mm

2.2 - Compatible Quick® remote control systems not included

- TCD (ON/OFF models)
- PCS (system)
- AMC (system)

2.2 - Recommended Quick® accessories not included

- AMC EX cable
- AMC QSY ADP cable
- PCS QSY ADP cable
- QSY EX cable
- PCS QSY ADP
- TCD SP cable
- TCD EX cable

3.0 - Important notes

BEFORE USING THE PRODUCT, PLEASE READ THIS USER'S MANUAL CAREFULLY. IF IN DOUBT, PLEASE CONSULT YOUR QUICK® DEALER.

This manual features Warning and/or Caution symbols that are important for safety. Please follow the instructions provided.



Warning symbol for dangerous situations.



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

This manual provides boat manufacturers and nautical equipment installers with instructions on how to assemble the specified Quick® product and operate it correctly.

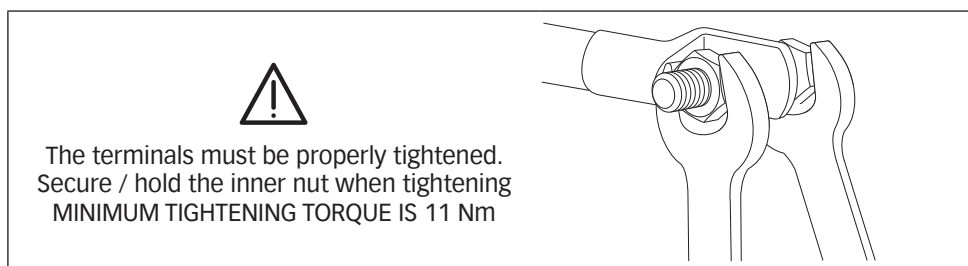


3.1 - Precautions



Quick® Thrusters have been designed and constructed only for nautical use.

- Do not use these products for any other type of operation.
- Quick® shall not be held liable for direct or indirect damage caused by improper use of the product.
- The product is not designed to support loads generated in particular atmospheric conditions (storms).
- Operate the product from a position where it is possible to supervise the work area.
- Always deactivate the product when not being used.
- For improved safety, we recommend installing at least two controls to operate the product in case one is damaged.
- The installer shall bear full responsibility for any problems caused by defective installation of the tunnel.
- This equipment is not intended for use by people (including children) with reduced physical, sensory or mental capabilities.
- Do not install the electric motor near easily inflammable objects.



3.2- Precautions for the installer



CARRY OUT THE INSTALLATION IN GOOD LIGHTING CONDITIONS.

It is advisable to wear suitable clothing and personal protective equipment (PPE).

The product is not suitable for installation in potentially explosive environments and/or atmospheres. Installation and subsequent inspection or repair work must only be carried out by qualified personnel.



CARRY OUT INSTALLATION/MAINTENANCE WORK MAKING SURE THAT THE PRODUCT IS DISCONNECTED FROM THE ELECTRICAL SYSTEM.

Quick® accepts no responsibility for inadequate connection of users to the electrical system and inadequate safety of the electrical system.

3.3 - Installation requirements

We recommend you entrust preparation and positioning of the tunnel in the hull to a skilled professional.

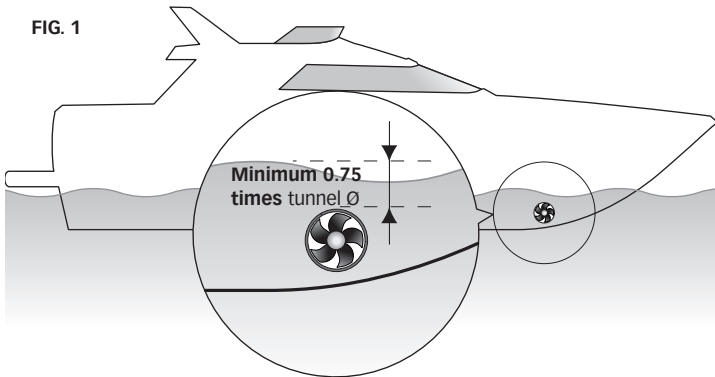
These are generic instructions and do not give details of the preparatory operations for installing the thruster, since this is the competence of the boatyard. The installer shall bear full responsibility for any problems caused by defective installation.

Although all the components and mechanical moving parts are of high quality, the correct installation of the driving unit is an essential basis for the safe and effective use of the boat as well as the driving unit itself.

The installation of such a unit is an operation that requires experience as well as technical skills. It is recommended that the installation be carried out by competent personnel and that the manufacturer or naval architects be consulted to fully assess the scope of the work.

4.0 - Propellers

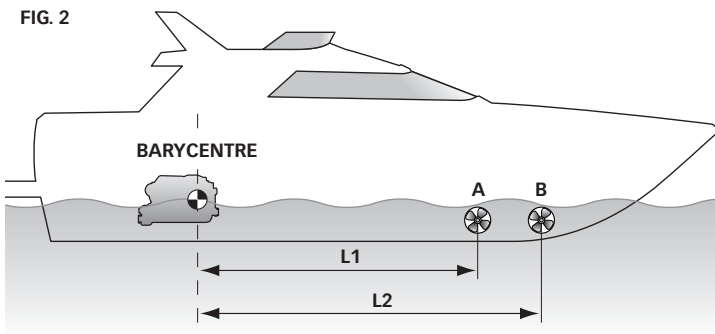
FIG. 1



The position of the tunnel will depend on the interior and exterior shape of the boat's bow.

- **FIG. 1** In order to avoid cavitation in the propeller, the tunnel should be placed as deep as possible. The optimum tunnel position will be at least 0.75 times the diameter of the tunnel from the waterline.

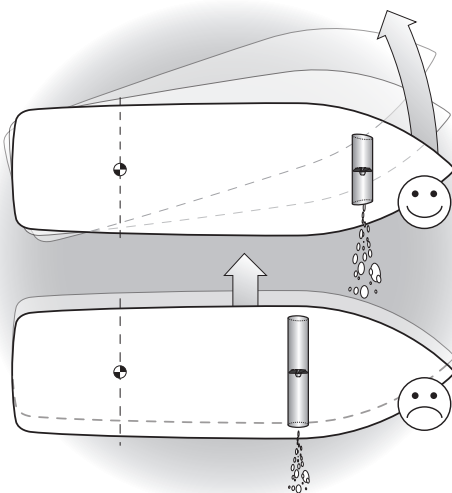
FIG. 2



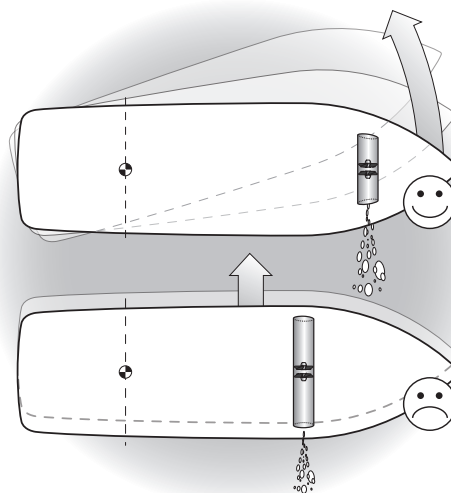
- **FIG. 2** The lever effect in the boat is proportional to the increase of the distance (L1 and L2) between the barycentre and the position of the tunnel A and B.

- **FIG. 3** For greater lever effect prefer position B.

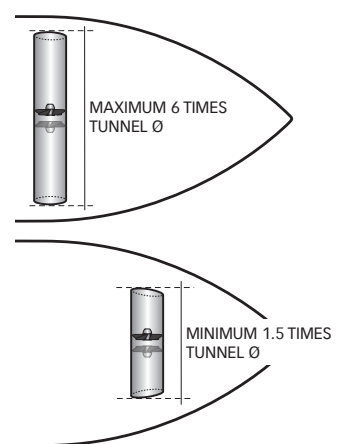
SINGLE PROPELLER



DOUBLE PROPELLER



TUNNEL LENGTH



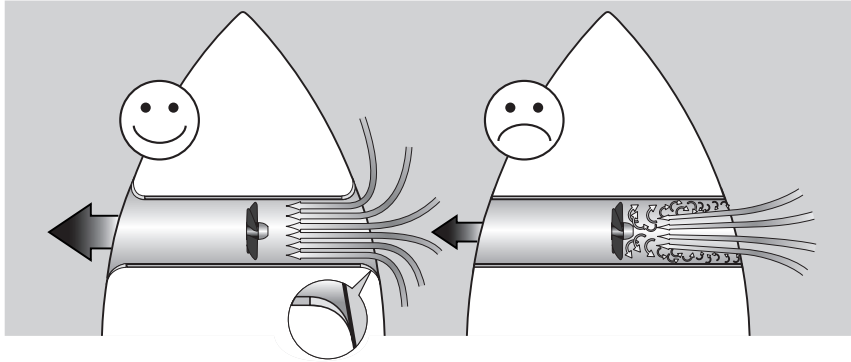
An increase in the length of the tunnel increases the effect of the loss of charge, decreasing the nominal driving force.

- For a proper use of the thruster, we recommend a length equal to 1.5 to 4 times the tunnel diameter. To limit losing charge, a ratio of up to 6 times the diameter can be tolerated.

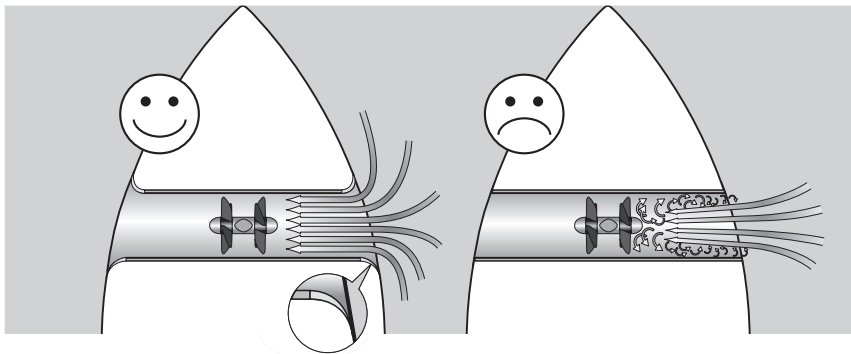


4.1 - Tunnel

- The rounded ends of the tunnel limit the creation of turbulence and cavitation, improving performance of the propeller thrust and reducing noise levels to a minimum.

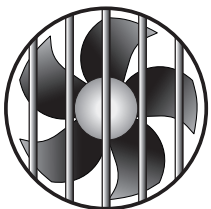
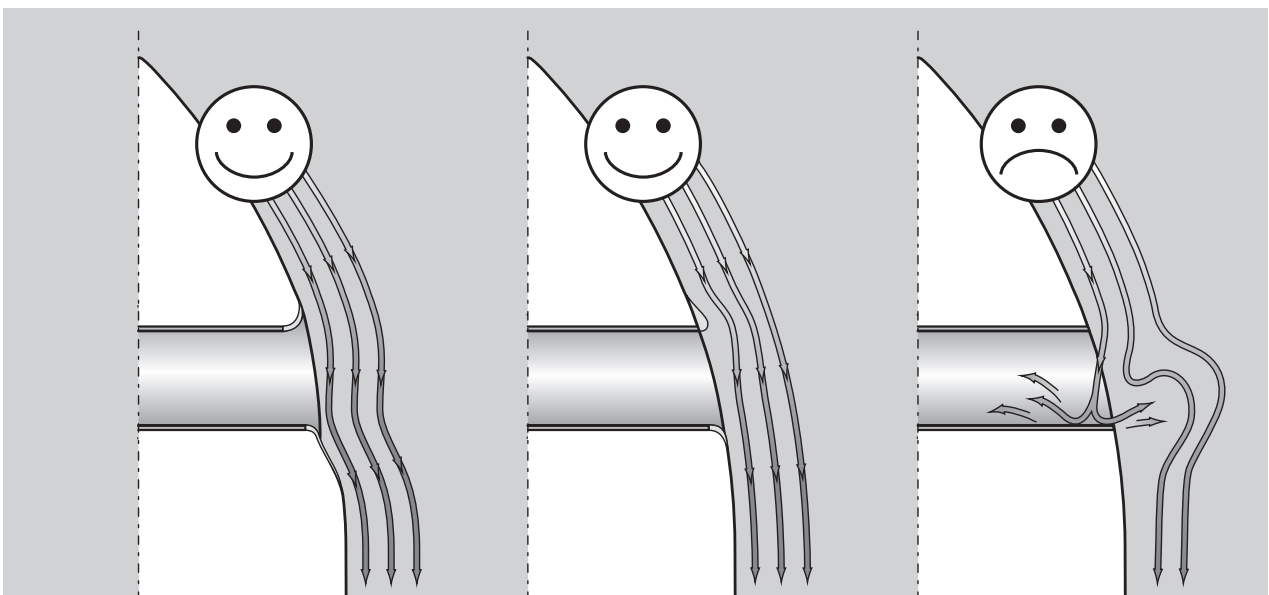


SINGLE PROPELLER



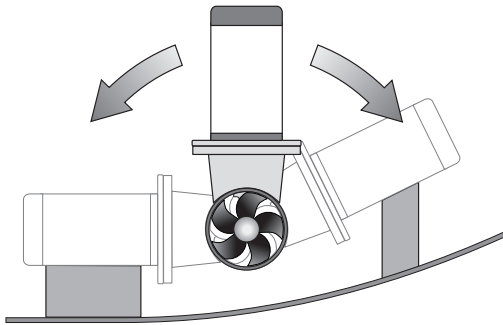
DOUBLE PROPELLER

- 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. The indentation will depend on the shape of the hull. 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 as large a vertical mesh as possible to avoid contrasting the propeller thrust. The vertical mesh prevents the entry of most of the floating objects.

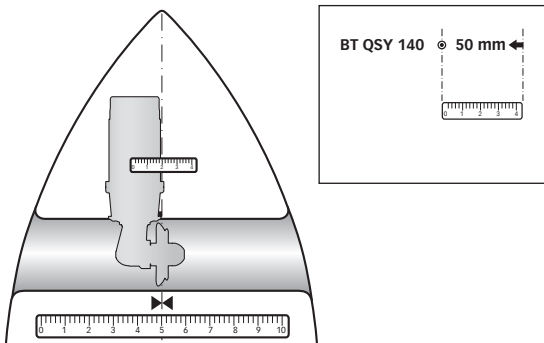
4.2 - Thruster



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

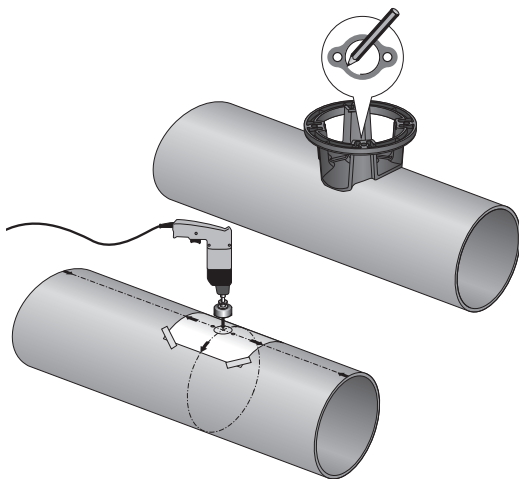
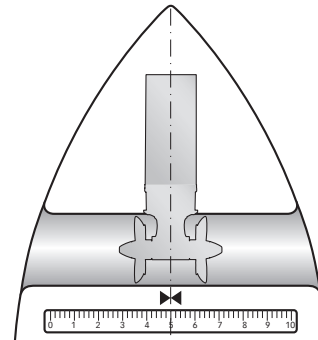
SINGLE PROPELLER

- To position the thruster in the tube, find the half-way point of the tube and move by the value indicated (left or right, see box) in the diagram below so that the propeller is positioned exactly in the middle of the inner length of the tunnel.




DOUBLE PROPELLER

- To position the thruster in the tube, find the half-way point of the tube and move by the value indicated (left or right, see box) in the diagram below so that the propeller is positioned exactly in the middle of the inner length of the tunnel.



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

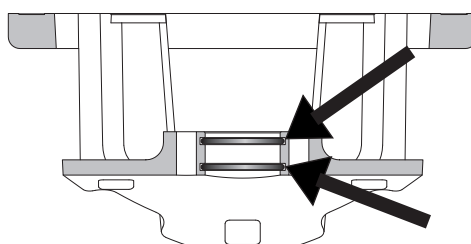
- Fix the drilling template on the reference points, making sure they are aligned with precision at the half-way point of the tube.

 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 with sandpaper.

BTQ SY Ø140/185/250/300

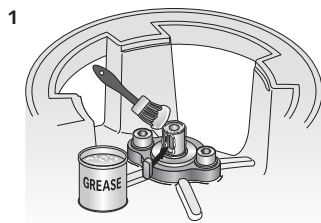
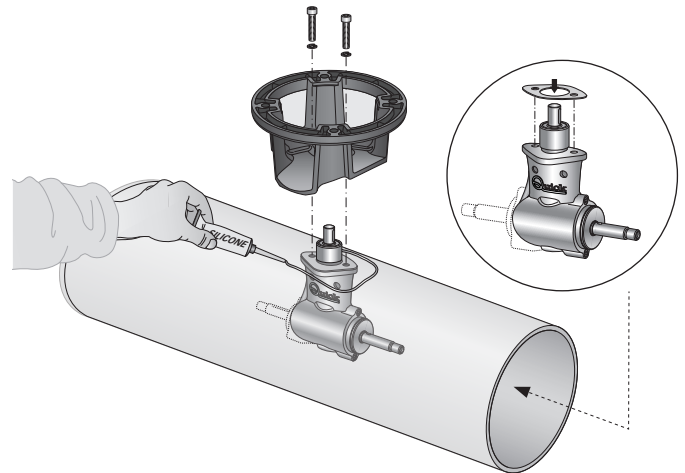
- Insert two O-rings into the special seats inside the flange.



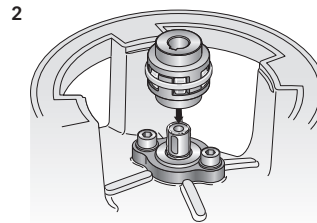


4.4 - BT QSY 140/185/250/300 Gearleg and motor support flange

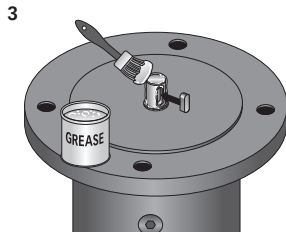
- Fit the gearleg with the special seal gasket.
- For further protection against the entry of water, apply silicone for nautical use around the point of contact between flange and tube.
- Fasten everything with the flange using the special screws and washers.



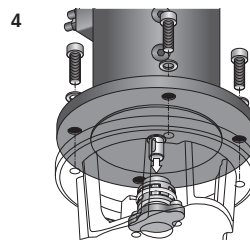
1 • Grease the terminal part of the gearleg shaft; fit the small key into its seat.



2 • Insert the elastic coupling in the terminal part of the gearleg shaft.



3 • Grease the terminal part of the drive shaft; fit the key into its seat.

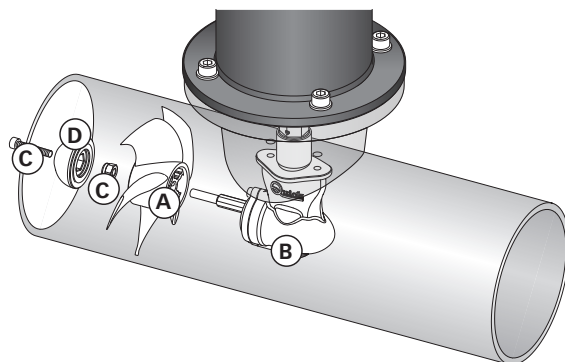


4 • Insert the motor onto the elastic coupling; secure it with the 4 screws and washers supplied.

4.4.0 - Single & double propeller assembly

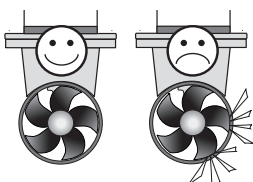
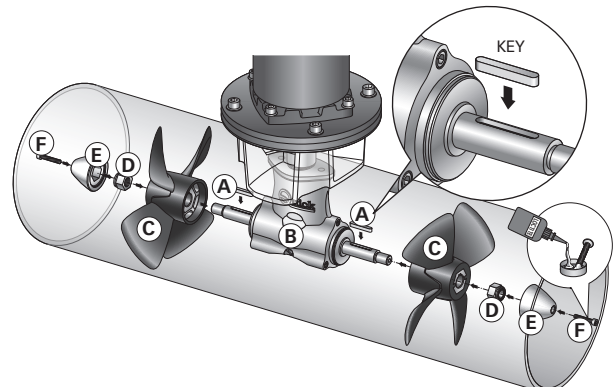
Single propeller assembly

Insert propeller **A** on the shaft of gearleg **B**, secure the propeller with the self-locking nut **C**, insert anode **D** and lock it with the other self-locking nut **C**.



Propeller assembly

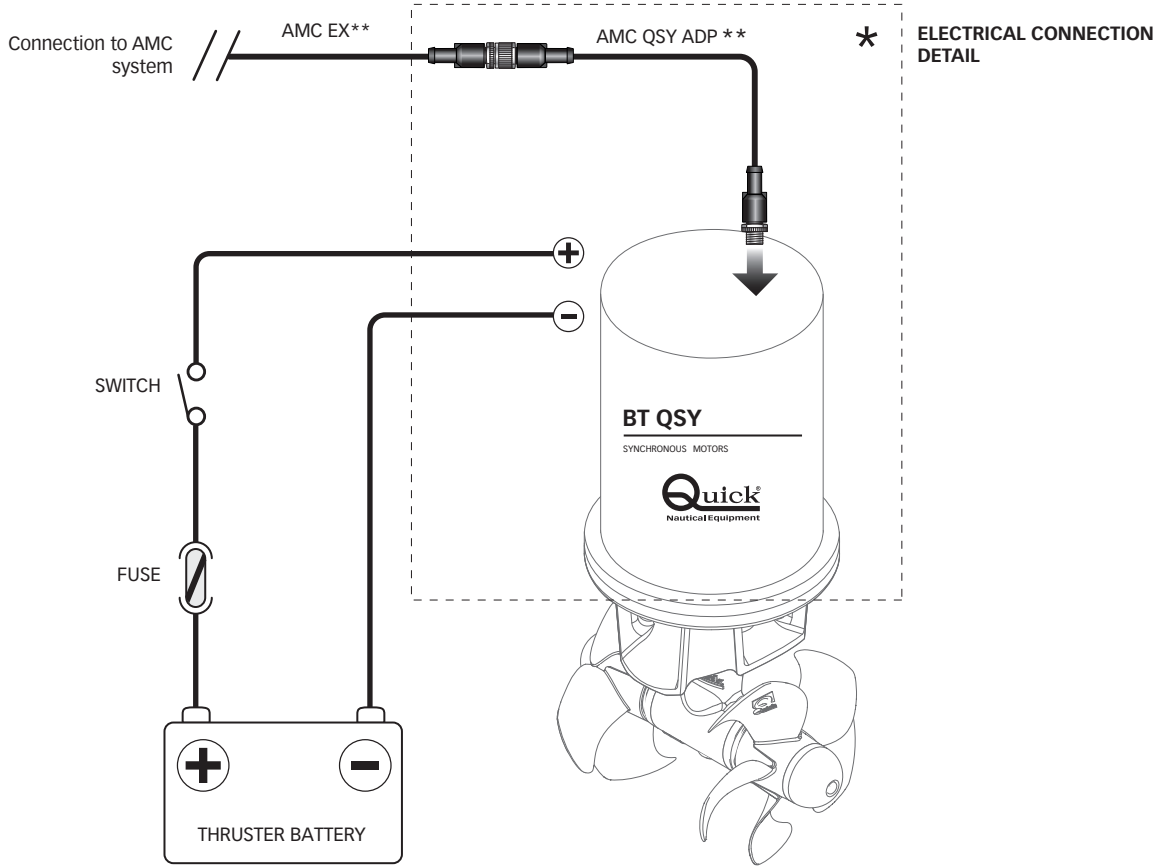
Insert the drive key/pin **A** on gearleg **B**; fit the propeller **C** to the gearleg by engaging it to the drive key/pin **A**; secure the propeller with the self-locking nut **D**. Insert anode **E** on nut **D** and lock it with screw **F** smeared with threadlocker (loctite type).



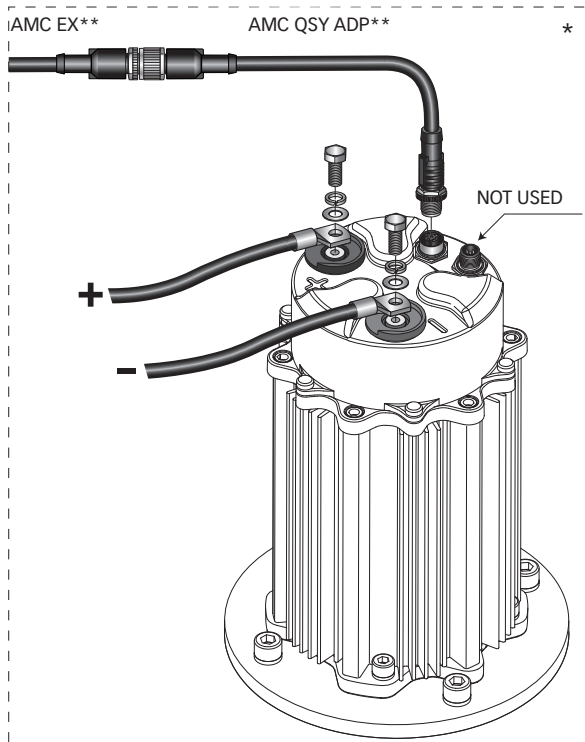
WARNING: on conclusion of assembly, make sure that the propeller is exactly positioned at the central point of the tunnel.



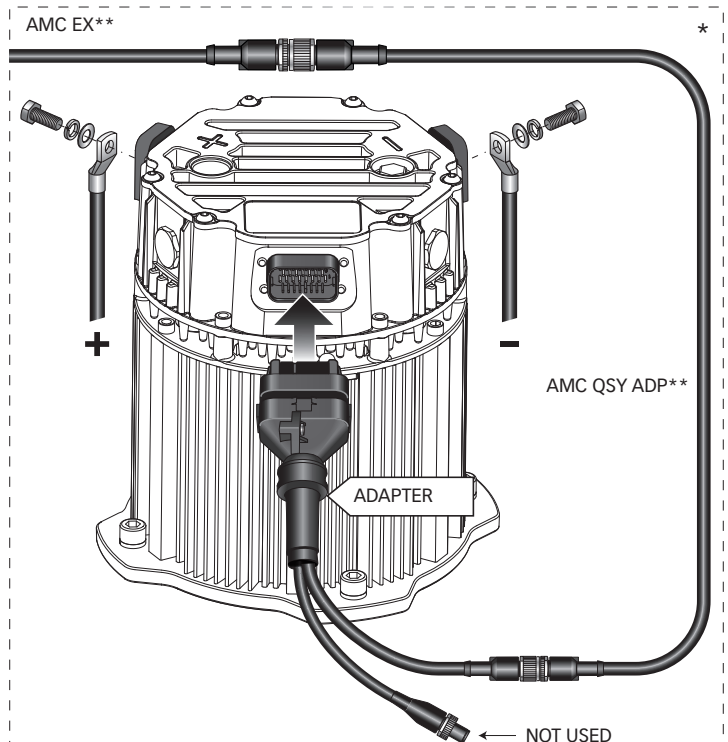
5.0 - General BT QSY basic system, AMC connection



Electrical connection
BT QSY 140 and BT QSY 185



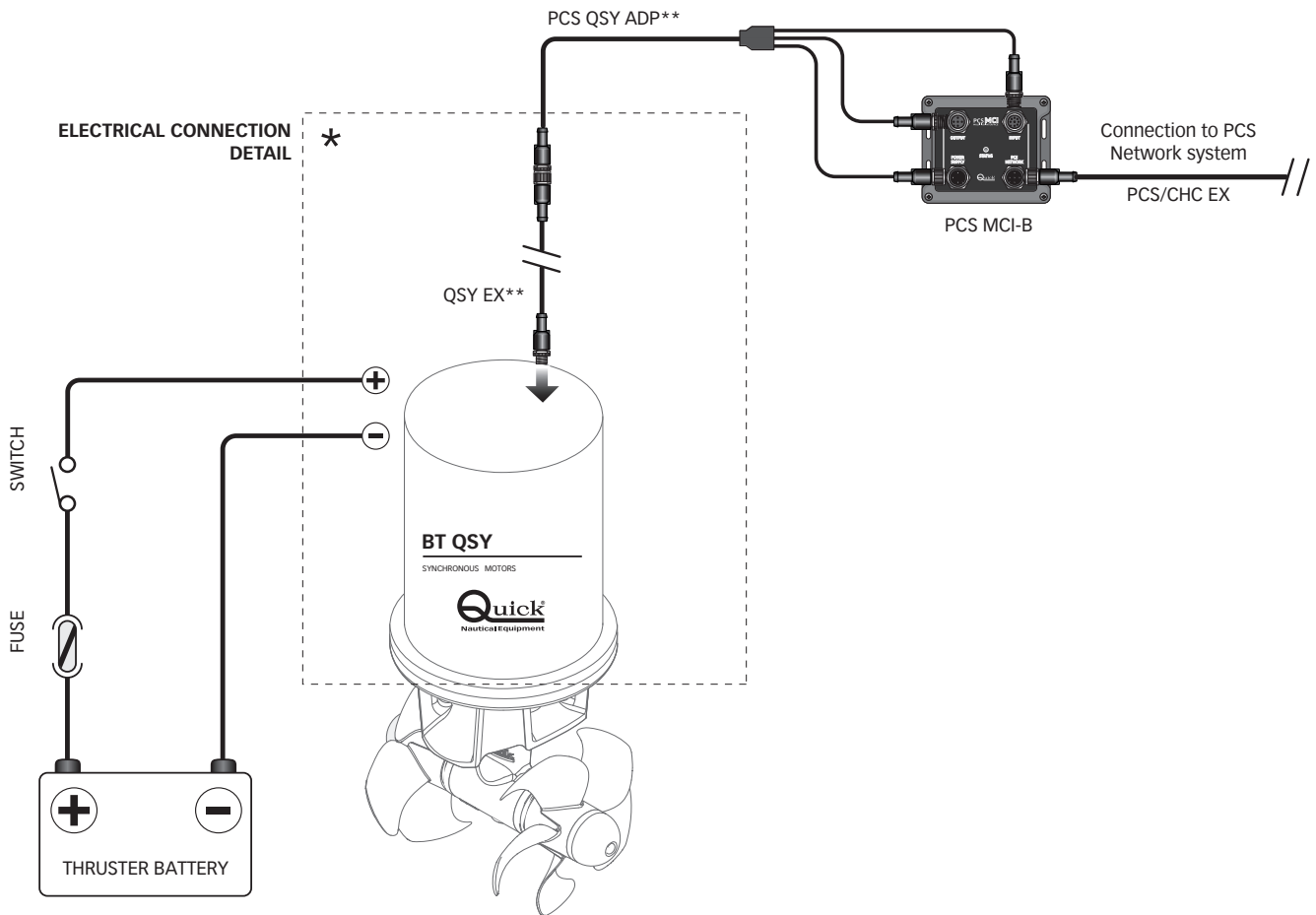
Electrical connection
BT QSY 250 and BT QSY 300



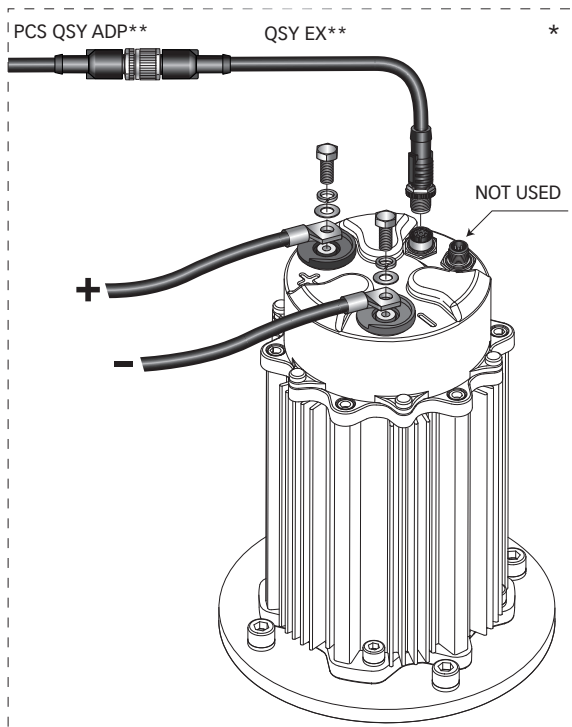
**Not supplied



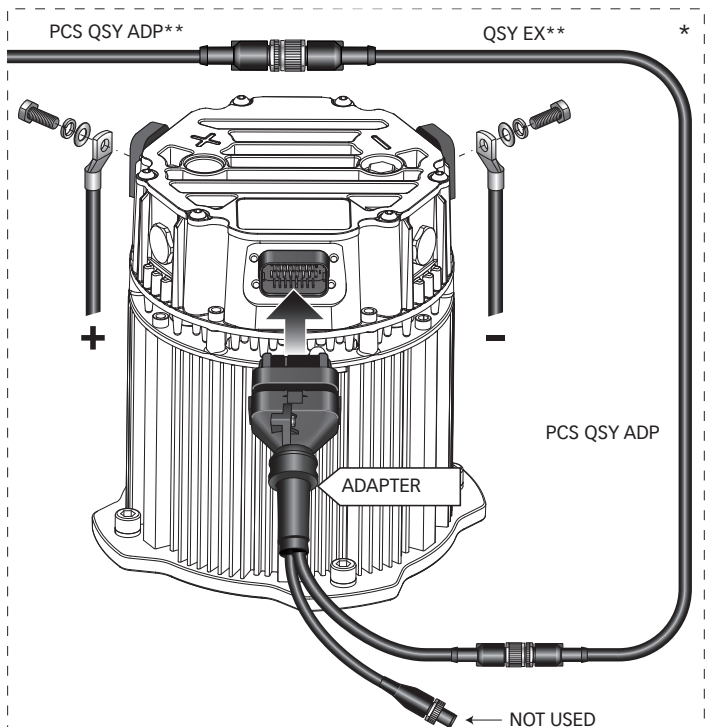
5.1 - General BT QSY basic system, PCS connection



Electrical connection
BT QSY 140 and BT QSY 185



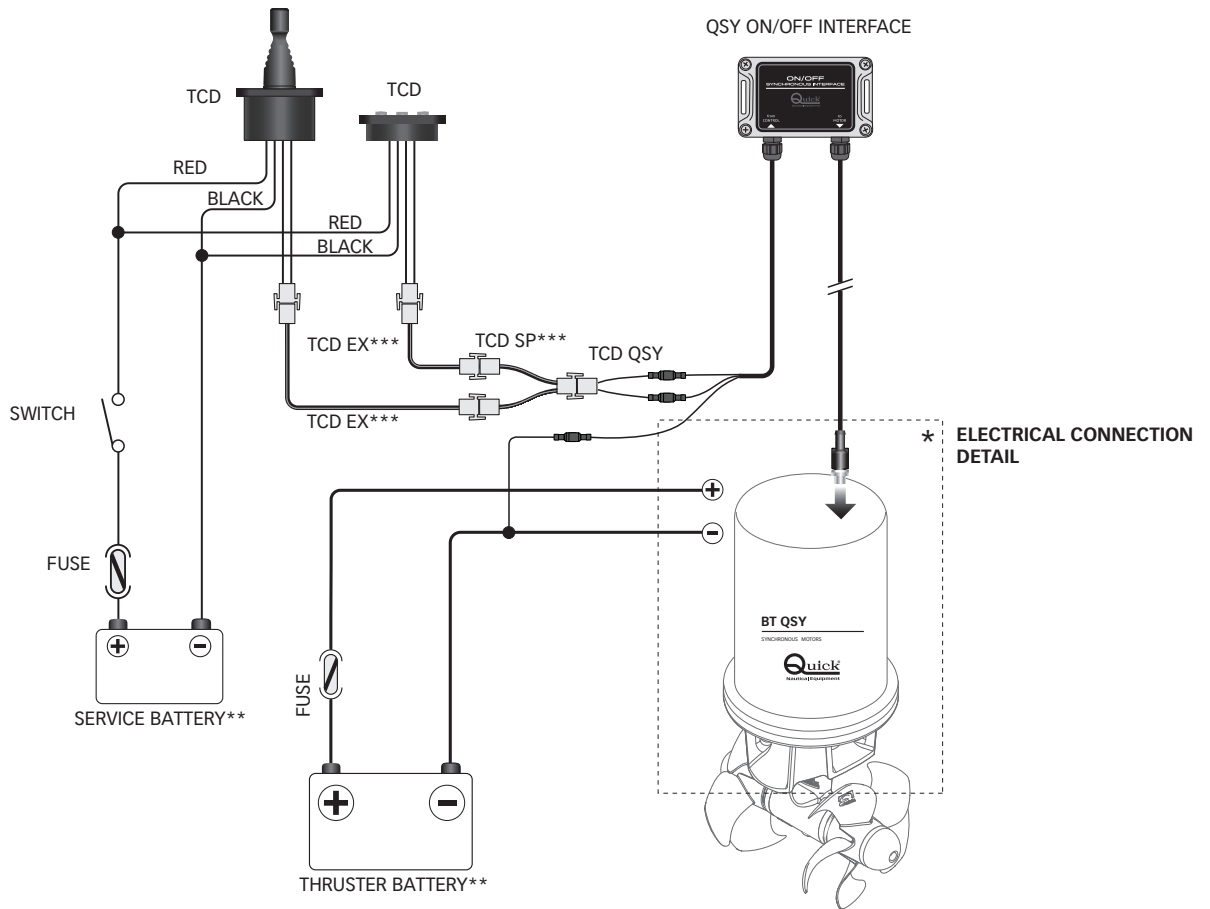
Electrical connection
BT QSY 250 and BT QSY 300



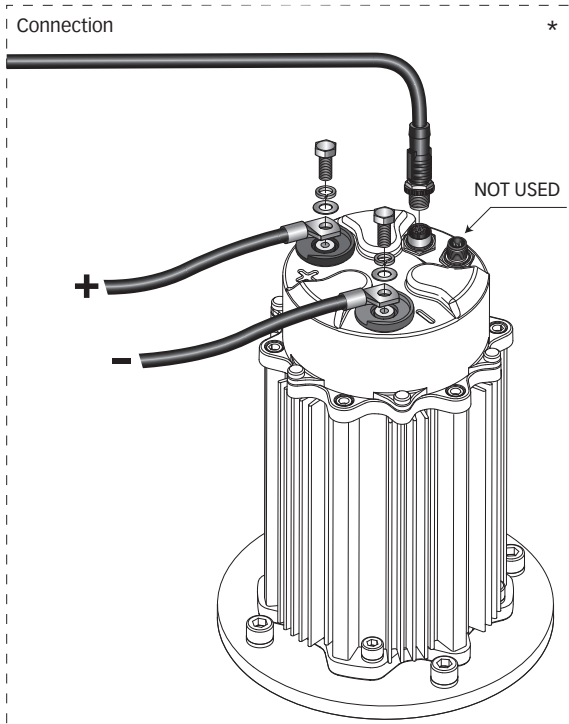
**Not supplied



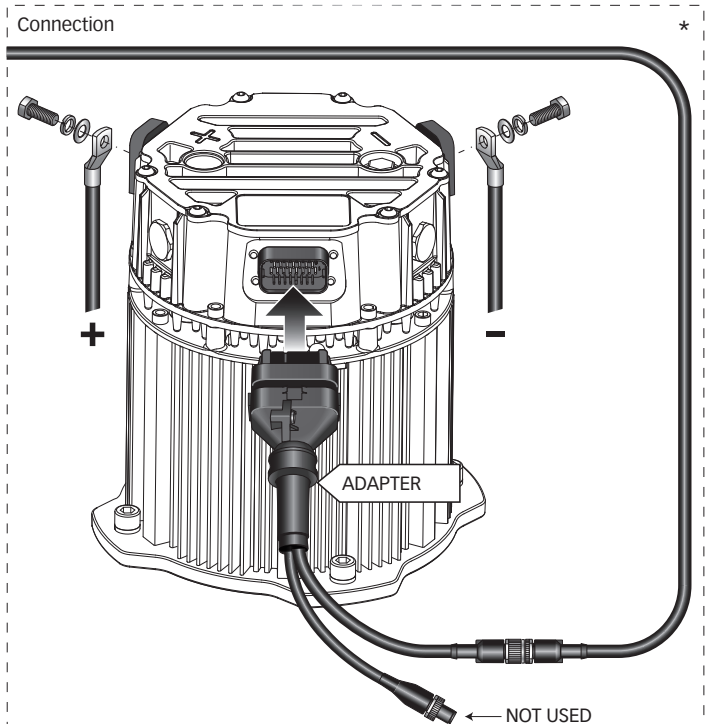
5.2 - General BT QSY basic system, TCD connection



Electrical connection
BT QSY 140 and BT QSY 185



Electrical connection
BT QSY 250 and BT QSY 300



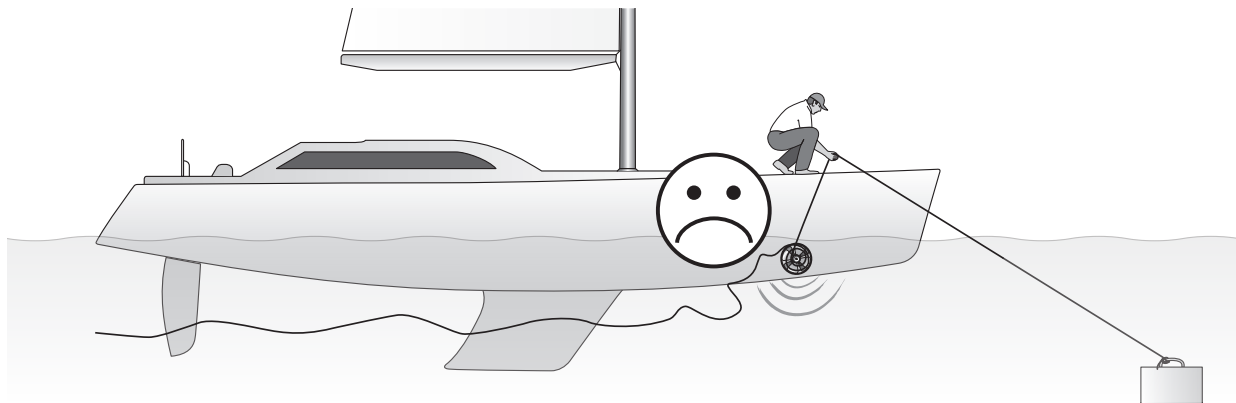
**Common negative for battery groups.
***Not supplied



5.0 - Important cautions

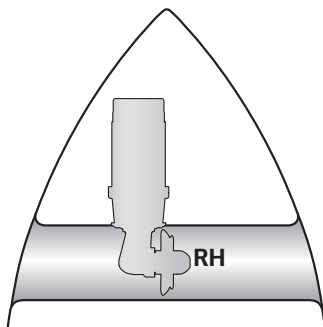


- This thruster is not designed for continuous use. It is equipped with protections which limit its operation at a maximum time span, as reported on the controls' manual. It is strongly forbidden to bypass or modify such protections in order to increase the operating time span, lest voiding the warranty and thus lifting any responsibility from Quick® SPA.
- 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 mooring, it is recommended not to leave in the water any free line, which may be sucked in by the propellers, thus leading them to break.



SINGLE PROPELLER

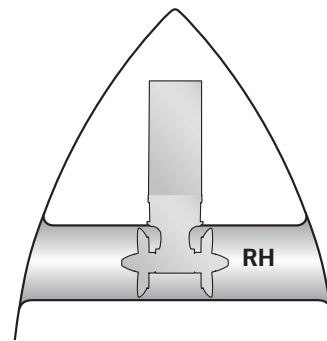
NOTE: the bow thruster must be installed with the propeller to the right of the gearleg (see figure).



If it is necessary to install the bow thruster in the opposite position, the connection of the two cables (blue and grey) of the control cable on the reversing contactor must be reversed.

DOUBLE PROPELLER

NOTE: the bow thruster must be installed with the RH propeller to the right of the gearleg (see figure).



5.1 - Thruster use

Start-up

Start-up happens following activation of the relevant control panel. To use the propeller, refer to the control panel manual.



6.0 - Single/double propeller maintenance

Quick® 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 and obstructions with consequent system inefficiency.



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



DEPENDING ON USE, PERIODICALLY CHECK THE TIGHTNESS OF THE OIL SEALS AND REPLACE THEM IF NECESSARY.

Dismantle once a year, following the points below:

- Clean propeller, tunnel and gearleg.
- Replace the anode (carry out this operation more often if needed).
- Replace the propeller 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.



7 - Product disposal

BT QSY Series

7.0 - Product disposal

As with installation, at the end of this product life, dismantling must be carried out by qualified personnel.

This product is made up of various materials, some can be recycled and others must be suitably disposed of; enquire about the recycling or disposal systems provided for by local regulations for this product category.

Some parts of the product may contain pollutants or hazardous substances that, if dispersed, may be harmful to the environment and human health.



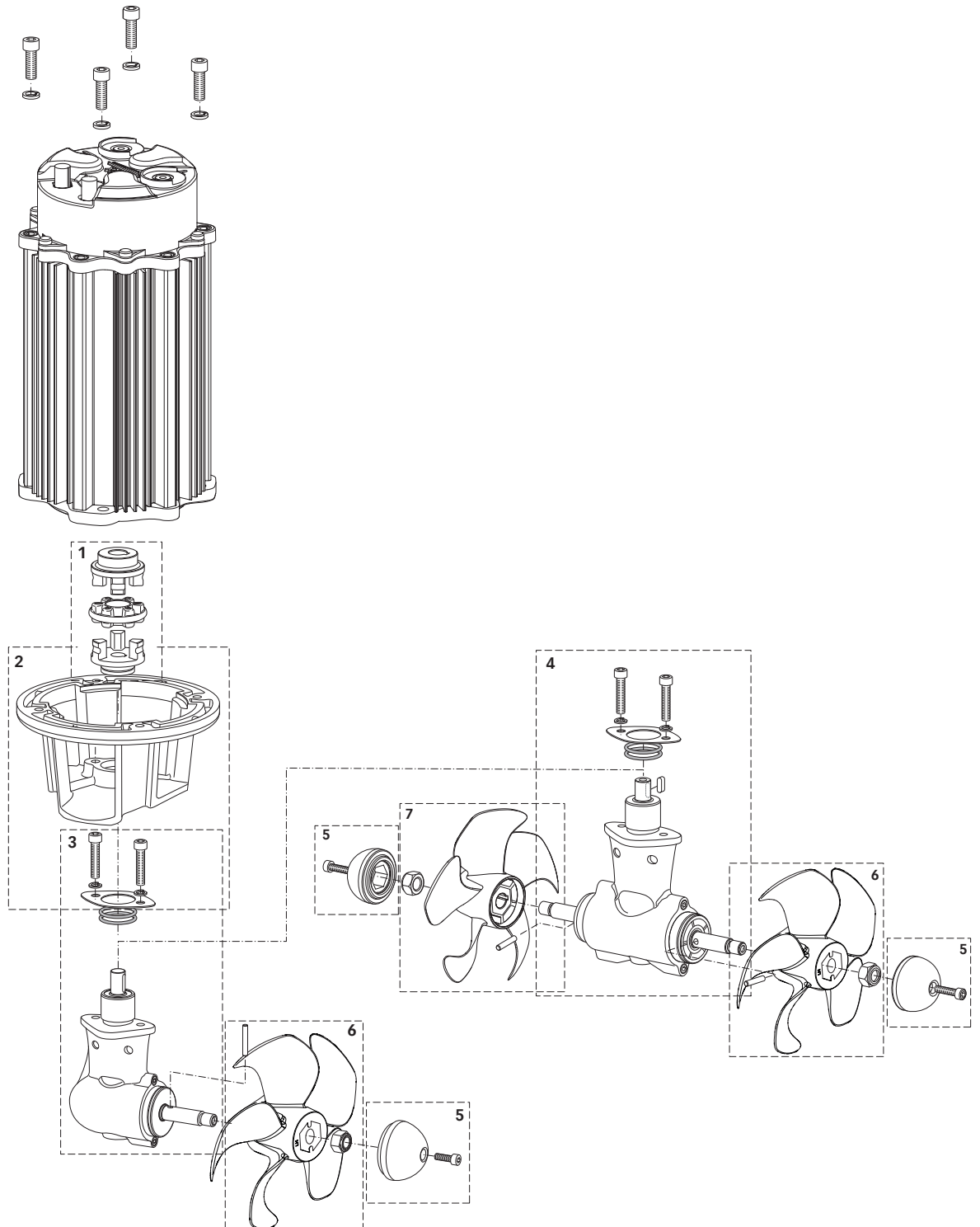
As indicated by the symbol on the side, it is forbidden to dispose of this product as domestic waste. Separate the products for disposal in accordance with the regulations in force in your area or return the product to the seller when purchasing a new equivalent product.

Local regulations may impose severe penalties for the improper disposal of this product.



8.0 - BT QSY 140/185

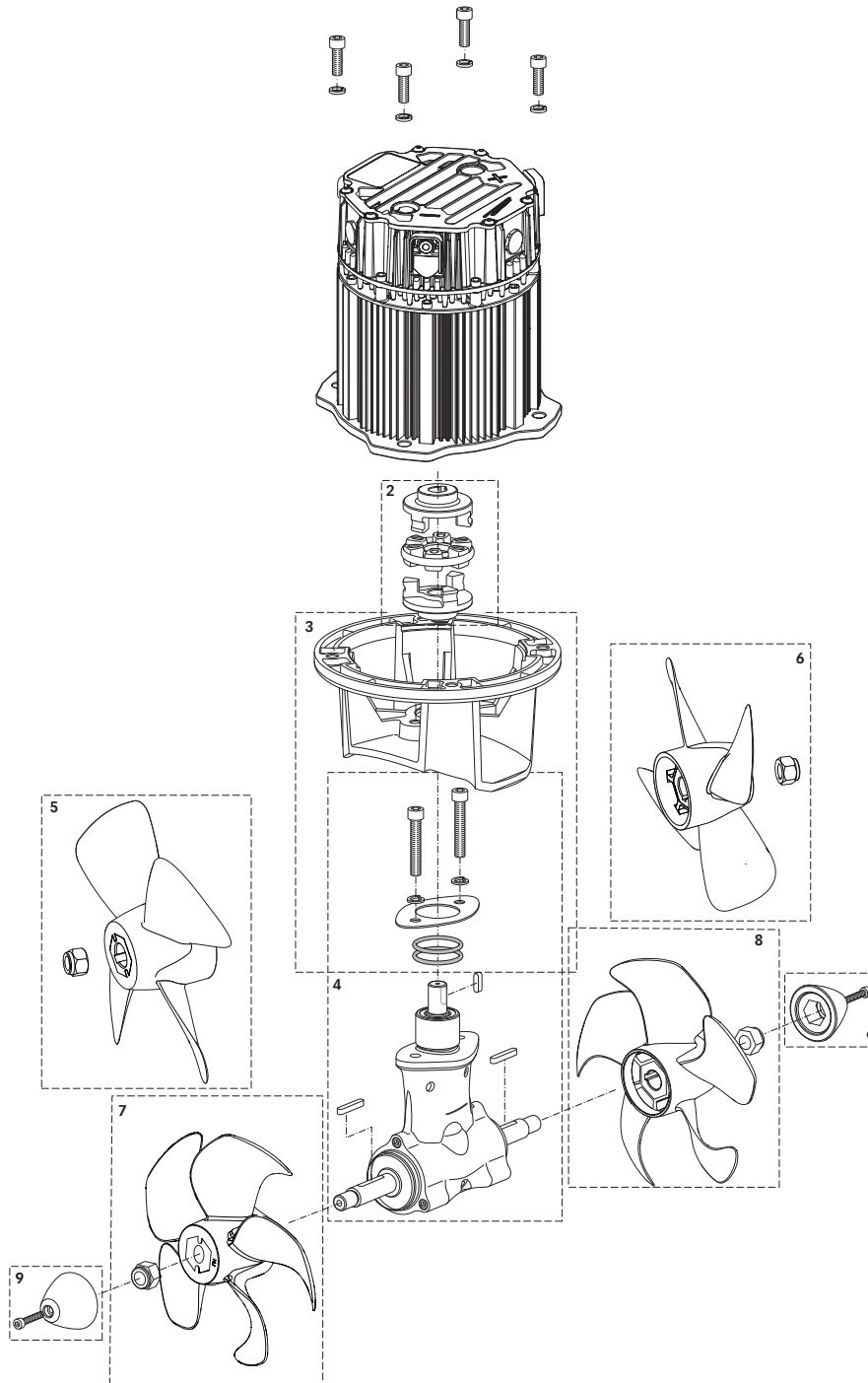
BTQSY 140-45
BTQSY 185-85
BTQSY 185-100



No.	DESCRIPTION	CODES	5A	OSP ANODE KIT FOR PROPELLER BTQ140	FVSGANBTQ14AA00
1A	OSP COUPLING KIT 140 30/40KG S	FVSGG141114SA00	5B	OSP ANODES KIT FOR PROPELLERS BTQ185	FVSGANBTQ18AA00
1B	OSP COUPLING KIT BTQ 185	FVSGG1851414A00	6A	OSP PROPELLER D185 RH QUICK 5 BLADES BLACK	FVSGEL185R05A00
2A	OSP FLANGE KIT FOR PROPELLER BTQ140	FVSGFLBTQ140A00	6B	OSP PROPELLER D140 RH QUICK 5 BLADES BLACK	FVSGEL140R05A00
2B	OSP FLANGE KIT FOR PROPELLER BTQ185	FVSGFLBTQ185A00	7	OSP PROPELLER D185 LH QUICK 5 BLADES BLACK	FVSGEL185L05A00
3A	OSP GEARBOX KIT BTQ140	FVSGGBBT1400A00			
4	OSP GEARBOX KIT BTQ185 DP	FVSGGBBT185DA00			

8.1 - BT QSY 250/300

BTQSY 250-140
 BTQSY 250-200
 BTQSY 300-240
 BTQSY 300-300

**No. DESCRIPTION**

2A OSP COUPLING KIT BTQ 250
 2B OSP COUPLING KIT BTQ 300
 3A OSP FLANGE KIT FOR PROPELLER BTQ250
 3B OSP FLANGE KIT FOR PROPELLER BTQ300
 4A OSP GEARBOX KIT BTQ250
 4B OSP GEARBOX KIT BTQ300

CODES

FVSGG2501919A00
 FVSGG3000048A00
 FVSGFLBTQ250A00
 FVSGFLBTQ300A00
 FVSGGBT2500A00
 FVSGGBT3000A00

5 OSP PROPELLER KIT D300 R NIBRAL

6 OSP PROPELLER KIT D300 L NIBRAL

7 OSP PROPELLER D250 RH QUICK 5 BLADES BLACK

8 OSP PROPELLER D250 LH QUICK 5 BLADES BLACK

9A OSP ANODES KIT FOR PROPELLER BTQ250

9B OSP ANODES KIT FOR PROPELLER BTQ300

FVSGEL300RN0A00

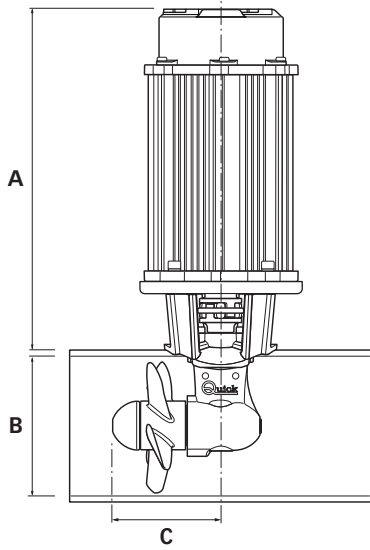
FVSGEL300LN0A00

FVSGEL250R05A00

FVSGEL250L05A00

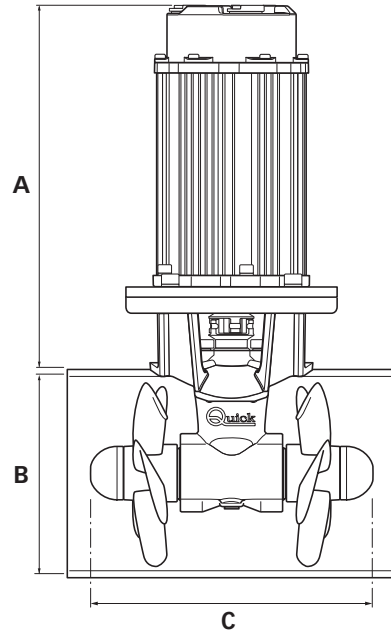
FVSGANBTQ25AA00

FVSGANBTQ30AA00



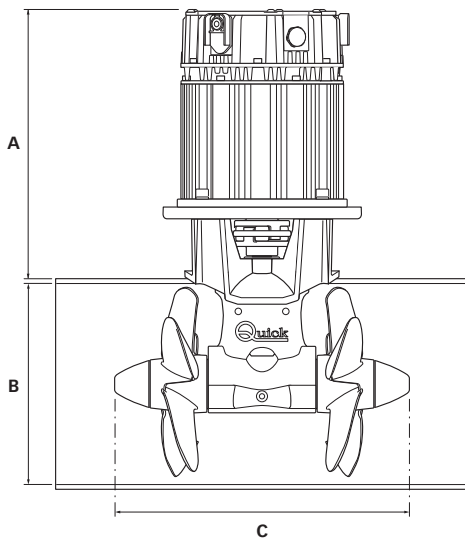
SINGLE PROPELLER

BT QSY140	BT QSY140-45
A	338 (13" 5/16)
B	140 (5" 1/2)
C	107 (4" 1/4)



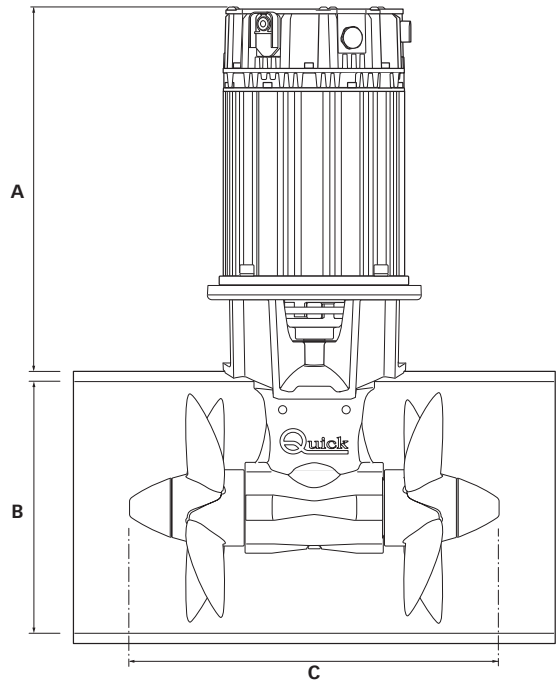
DOUBLE PROPELLER

BT QSY185	BT QSY185-85	BT QSY185-100
A	350 (13" 3/4)	350 (13" 3/4)
B	185 (7" 5/16)	185 (7" 5/16)
C	268 (10" 9/16)	268 (10" 9/16)



DOUBLE PROPELLER

BT QSY250	BT QSY250-140	BT QSY250-200
A	343 (13" 1/2)	373 (14" 11/16)
B	250 (9" 13/16)	250 (9" 13/16)
C	372 (14" 5/8)	372 (14" 5/8)



DOUBLE PROPELLER

BT QSY300	BT QSY300-240	BT QSY300-300
A	373 (14" 11/16)	411 (16" 3/16)
B	300 (11" 13/16)	300 (11" 13/16)
C	434 (17" 1/16)	434 (17" 1/16)

BT QSY Series

REV 000B

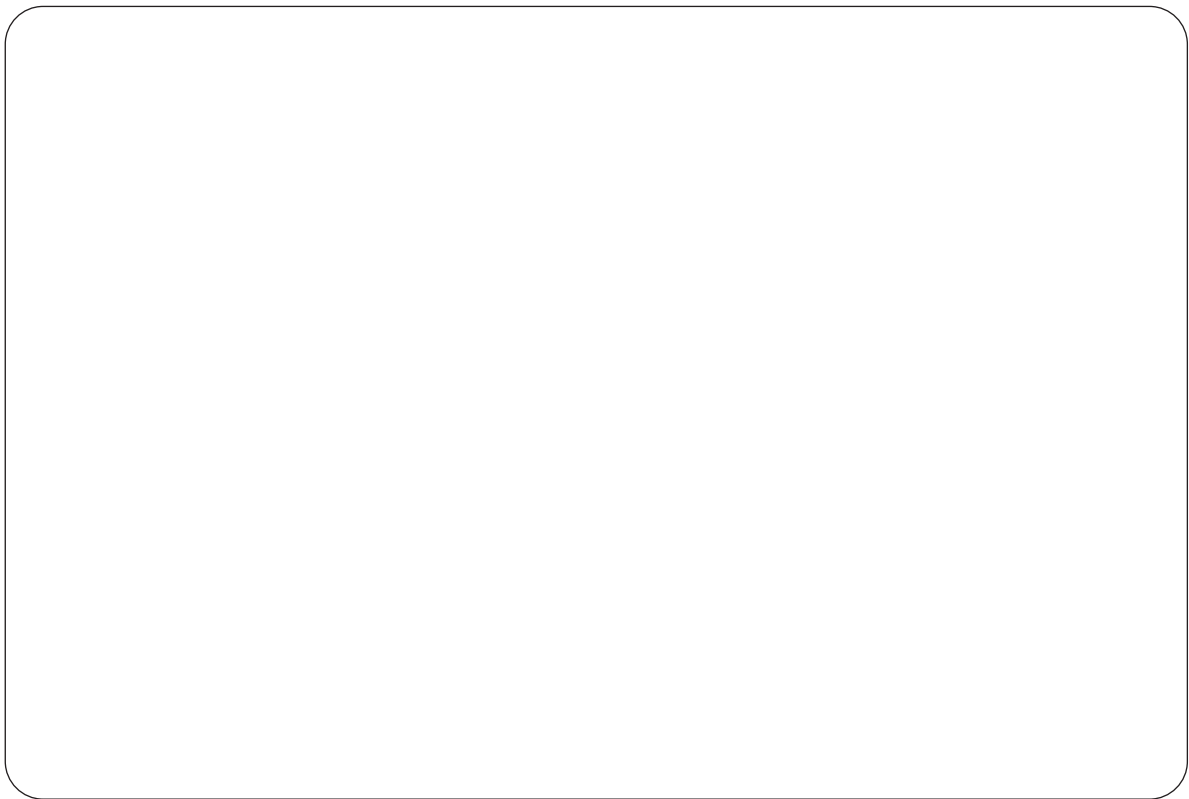


BT QSY 140

BT QSY 185

BT QSY 250

BT QSY 300



Product serial number

