

BTH Series

REV 002A



September, 2025

HYDRAULIC THRUSTERS

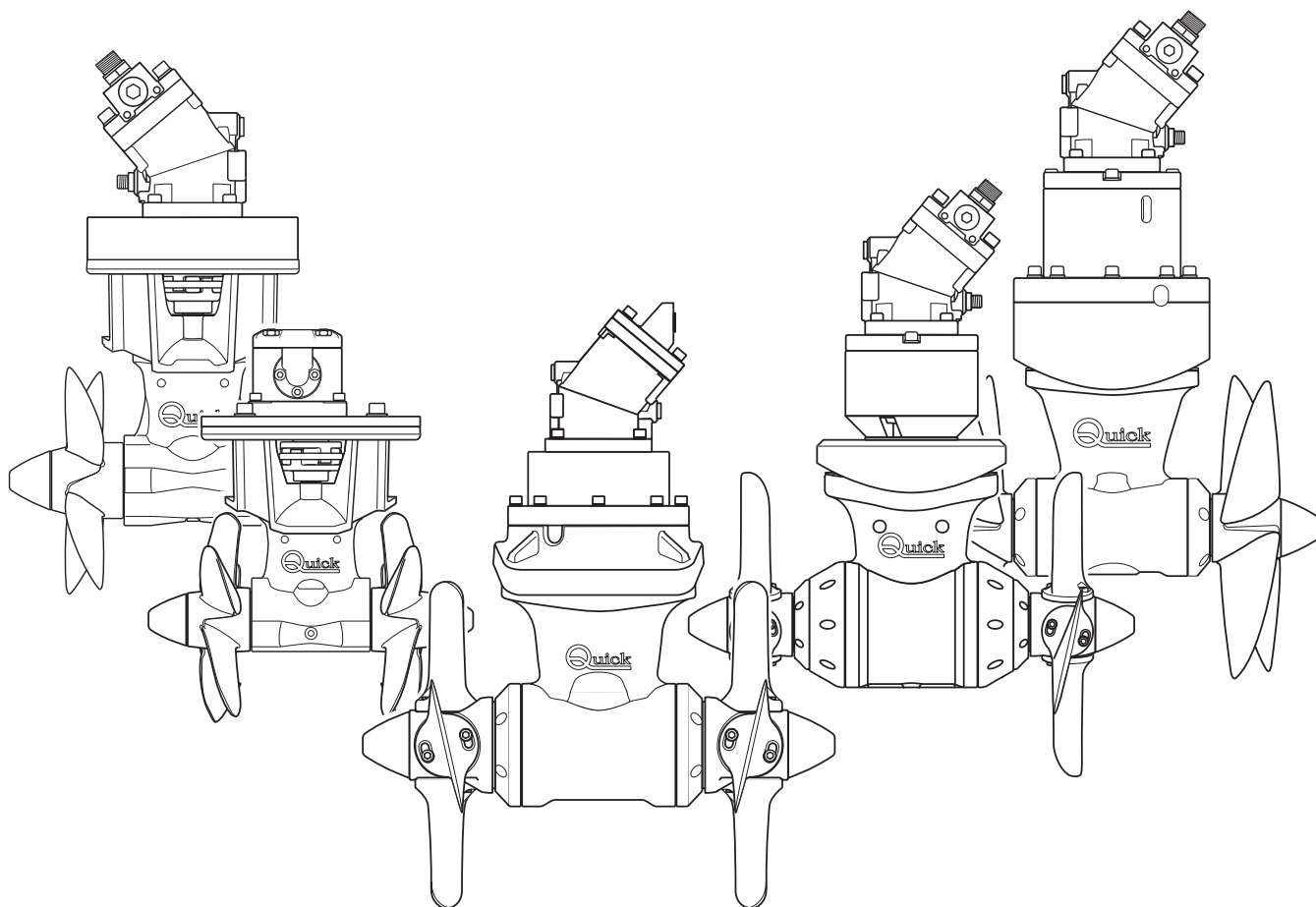
BTH 18585 - 185105

BTH 250150 - 250220

BTH 300240 - 300300 - 300400HD

BTH 386420 - 386455 - 386455HD - 386550HD - 386580 HD

BTH 5131000



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

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

IT *Altre lingue disponibili scansionando il codice QR presente sul retro del seguente manuale o sull'etichetta alloggiata sul prodotto.

ES *Otros idiomas disponibles escaneando el código QR en la parte posterior de este manual o en la etiqueta del producto.

FR *Autres langues disponibles en scannant le code QR au dos de ce manuel ou sur l'étiquette du produit.

DE *Andere Sprachen sind durch Scannen des QR-Codes auf der Rückseite dieser Betriebsanleitung oder auf dem Aufkleber am Produkt verfügbar.

PT *Outros idiomas disponíveis, digitalizando o código QR no verso deste manual ou no rótulo do produto.

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Thank you for choosing a **Quick Spa** nautical accessory.
Quick Spa is an international leader in the production and marketing of nautical accessories. The Italian plant designs, engineers and manufactures all the products in the Quick range.

BTH SERIES HYDRAULIC THRUSTERS

Marine accessory designed to assist with docking manoeuvres when approaching the quay. The BTH series comprises a range of thrusters powered by a hydraulic motor, either gear-type or piston-type, designed for higher-performance thrusters. Components in contact with water are made of suitable materials, such as the gearbox, manufactured in aluminium-bronze alloy. The anode is made of aluminium and the output shaft of stainless steel. The thrusters may be made of either plastic or aluminium-bronze alloy, depending on the model.

2 - Important information

BTH Series

This manual provides boatyards and nautical equipment installers with instructions on how to assemble the specified BTH Quick® and operate it correctly.
READ THIS INSTRUCTION MANUAL CAREFULLY BEFORE USING THE PRODUCT.
IF IN DOUBT, CONTACT YOUR QUICK® DEALER.
Keep the manual in a safe place for future reference. If lost, it can be downloaded from the company website www.quickitaly.com
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.

2.0 - Abbreviations and symbols

ABBREVIATIONS

BT = Bow Thruster
EX = Example
P. = Page

SYMBOLS

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

	Warning symbol for dangerous situations.
	Warning symbol for feet and/or hand crushing hazard (yellow triangle)
	Danger symbol for crushing hands by gears (red circle)
	Danger symbol for crushing hands by chain (red triangle)
	Caution symbol to prevent direct or indirect damage to the product.
	Caution symbol to prevent direct or indirect damage to the installer/end user.

3.0 - General 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.

3.1 - Precautions for the installer and PPE



CARRY OUT THE INSTALLATION IN GOOD LIGHTING CONDITIONS.
It is advisable to wear suitable clothing and personal protective equipment (PPE).

All personal protective equipment must comply with the relevant national legislation and must be checked, maintained and used in accordance with the manufacturer's instructions.

PPE for the installer and the routine maintenance technician		
Identification pictogram	Description	Notes
	HELMET	Use of safety helmet to prevent damage caused by suspended loads during work and impact to structures.
	SAFETY GLOVES	Use of protective gloves to prevent cuts, perforations or punctures during work operations.
	SAFETY SHOES	Use of safety shoes to prevent damage caused by falling materials from above during stabilizer installation operations.
	SAFETY CLOTHING	Use of suitable protective clothing to prevent entanglement with moving and transported parts.

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/hydraulic system and its inadequate safety.

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.

4.0 - Technical Data

MODELS	BTH 185-85	BTH 185-105
No. of Propellers	2 Counter rotating	
Tunnel Ø	185 mm (7" 9/32)	
Motor type	Reversible gear type	
Displacement	4.5 cc (0.3 in3)	6.4 cc (0.4 in3)
Door flanges (A and B) (1)	G 1/2"	G 1/2"
Drainage hole (C) (1)	G 1/4"	
Tunnel thickness limit values	min. 4.5 mm - max 6.5 mm (min. 11/64" - max 1/4")	
Weight	8.8 kg (19.4 lb)	8.9 kg (19.6 lb)
ADJUSTMENT VALUES (Recommended by Quick®)		
Flow rate	17 l/min	28 l/min
Pressure	250 bar	190 bar
Hydraulic power input	6.4 kW	8 kW
Thrust	85 kgf (187.4 lbf)	105 kgf (231.5 lbf)

MODELS	BTH 250-150	BTH250-220
No. of Propellers	2 Counter rotating	
Tunnel Ø	250 mm (7" 9/32)	
Motor type	Reversible gear type	
Displacement	9.6 cc (0.6 in3)	14.1 cc (0.9 in3)
Door flanges (A and B) (1)	G 3/4"	
Drainage hole (C) (1)	G 1/4"	
Tunnel thickness limit values	min. 6.5 mm - max 11 mm (min. 1/4" - max 7/16")	
Weight	17.1 kg (37.7 lb)	17.3 kg (38.1 lb)
ADJUSTMENT VALUES (Recommended by Quick®)		
Flow rate	25.5 l/min	41.5 l/min
Pressure	240 bar	180 bar
Hydraulic power input	9.2 kW	11.2 kW
Thrust	150 kgf (187.4 lbf)	220 kgf (231.5 lbf)

MODELS	BTH 300-240	BTH 300-300	BTH 300-400HD
No. of Propellers	2 Counter rotating		2 Counter rotating (NIBRAL)
Tunnel Ø	300 mm (11" 13/16)		
Motor type	Reversible gear type		Pistons
Displacement	17.9 cc (1.1 in³)	22 cc (1.3 in³)	32 cc (1.9 in³)
Door flanges (A and B) (1)	G 3/4"		
Drainage hole (C) (1)	G 1/4"	G 3/8"	
Tunnel thickness limit values	min. 9.5 mm - max 13.5 mm (min. 3/8" - max 17/32")		
Weight	24.2 kg (53.3 lb)	27.6 kg (60.8 lb)	40.8 kg (90.0 lb)
ADJUSTMENT VALUES (Recommended by Quick®)			
Flow rate	42.5 l/min	60.0 l/min	100.0 l/min
Pressure	220 bar	225 bar	230 bar
Hydraulic power input	15.5 kW	20.0 kW	24.0 kW
Thrust	240 kgf (529.1 lbf)	300 kgf (661.4 lbf)	400 Kgf (881.8 lbf)

MODELS	BTH 386-455HD	BTH 386-550HD	BTH 386-580HD
No. of Propellers	2 Counter rotating (NIBRAL)	2 Counter rotating	2 Counter rotating (NIBRAL)
Tunnel Ø	386 mm (15" 13/64)		
Motor type	Pistons		
Displacement	41 cc (2.5 in3)	55 cc (3.1 in3)	
Door flanges (A and B) (1)	G 3/4"	G 1"	G 1"
Drainage hole (C) (1)	G 3/8"	G 1/2"	
Tunnel thickness limit values	min. 8 mm - max 15 mm (min. 5/16" - max 19/32")		
Weight	85.0 kg (187.4 lb)	75.0 kg (165.3 lb)	90.0 kg (198.4 lb)
ADJUSTMENT VALUES (Recommended by Quick®)			
Flow rate	90.0 l/min		110.0 l/min
Pressure	250 bar		
Hydraulic power input	34.0 kW	41.0 kW	
Thrust	455 kgf (1003.1 lbf)	550 kgf (1212.5 lbf)	580 kgf (1278.7 lbf)

MODELS	BTH 386-420	BTH 386-455	BTH 513-1000
No. of Propellers	2 Counter rotating	2 Counter rotating (NIBRAL)	2 Counter rotating (NIBRAL)
Tunnel Ø	386 mm (15" 13/64)		513 mm (1130 lb)
Motor type	Pistons		
Displacement	41 cc (2.5 in ³)		90 cc (5.5 in ³)
Door flanges (A and B) (1)	G 3/4"		G 1"
Drainage hole (C) (1)	G 3/8"		G 1/2"
Tunnel thickness limit values	min. 8 mm - max 15 mm (min. 5/16" - max 19/32")		min. 12 mm - max 22 mm (min. 5/16" - max 33/64")
Weight	60.0 kg (132.3 lb)	70.0 kg (154.3 lb)	182.0 kg (401.2 lb)
ADJUSTMENT VALUES (Recommended by Quick®)			
Flow rate	90.0 l/min		140.0 l/min
Pressure	250 bar		
Hydraulic power input	34.0 kW		60 kW
Thrust	420 kgf (529.1 lbf)	455 kgf (661.4 lbf)	1000 kgf (881.8 lbf)

4.1 - Tightening torques

TIGHTENING TORQUE	Nm
M6	6.5
M8	16
M10	31
M12	55
M14	87
M16	135

Indicative values for stainless steel screws, consider tightening by assessing the material of the surface to which it will be fixed.

4.2 - Standard supply and material included in the package

- Hydraulic thruster
- Drilling template
- Installation and use manual
- Conditions of warranty

4.3 - Recommended Quick® accessories not included

- Controls for TCD 2022 • TCD 2042 • TCD 2044 • TCD 2062 thrusters
- Proportional controls for PCS TJ1 • PCS TJ2 thrusters
- Monitor for PCS DTW system
- Control for thrusters with proportional system AJ1 Thruster Command Proportional controls for PAJ 1T AMC
- PAJ 2T AMC thrusters
- Central unit for AMC system

5.0 - General instructions and precautions

Consider the weight for lifting the BTH, refer to section 4 “product information”, sub-section “technical data” in this manual.

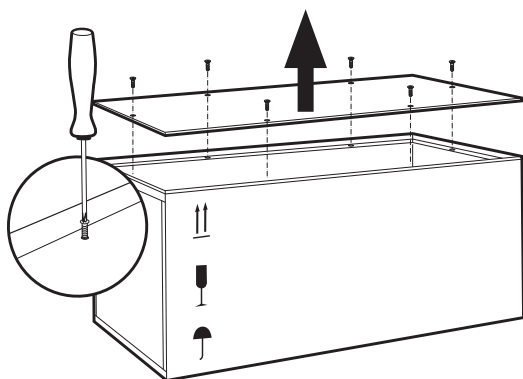


The handling and transport of the BTH must be carried out by skilled personnel, capable of fastening loads correctly and in compliance with local regulations regarding work safety.

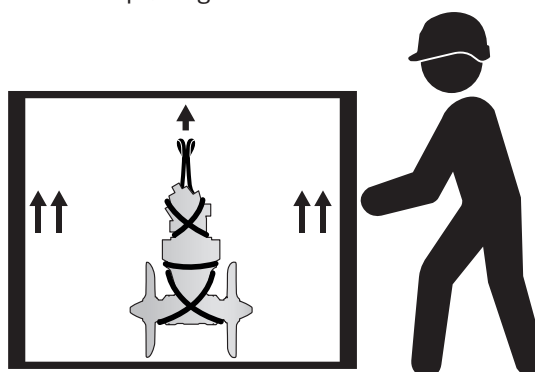
- Lift the BTH with a mechanical aid, especially when handling the motor.
- Care must be taken when removing the BTH from packaging or when lifting it, taking care NOT to cause damage to the equipment or impact with the ground.

5.1 - Removing the crate and lifting the BTH Series

A. Remove the top panel of the crate.



B. Lift the BTH from the crate with the mechanical aid using straps/slings to be tied to the BTH.



The images are purely indicative and may not fully reflect the product characteristics.

6.0 - Tools required for installation

BTH 185	• Drill and drill bits Ø 9 mm (3/8") • Hollow mill Ø 32 mm (1" 1/4) • Male hex.wrenches: 5 mm, 6 mm, 8 mm and 10 mm • Fork or polygonal wrench: 19 mm
BTH 250	• 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 10mm • Fork or polygonal wrench: 24 mm
BTH 300	• Drill and drill bits Ø 15 mm (19/32") • B00 Hollow mill Ø 53 mm (2" 3/32) • C00 Hollow mill Ø 70 mm (2" 3/4) • Male hex.wrenches: 4 mm, 5 mm, 8 mm and 12 mm • Fork wrench: 27 mm
BTH 386	• B00 Drill and drill bits Ø 18 mm (19/32") • C00 Drill and drill bits Ø 16 mm (5/8") • B00 Hollow mill Ø 82 mm (3" 7/32) • C00 Hollow mill Ø 120 mm (4" 23/32) • Male hex.wrenches: 5 mm, 8 mm and 14 mm • Fork wrench: 27 mm
BTH 513	• Drill and drill bits Ø 18 mm (45/64") • Hollow mill Ø 140 mm (5" 33/64) • Male hex.wrenches: 5 mm, 8 mm and 14 mm • Fork or polygonal wrench: 32 mm

6.1 - Installation requirements

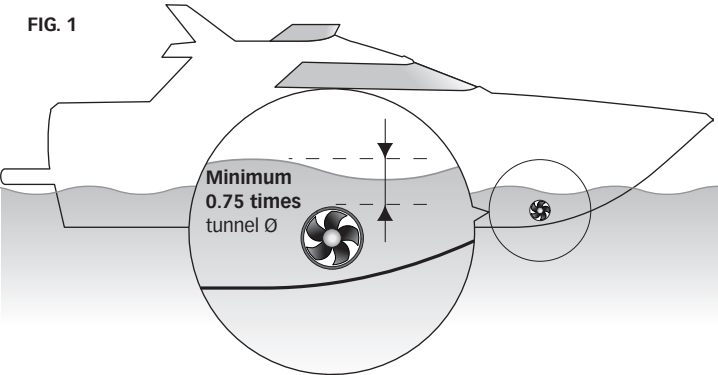
We recommend you entrust preparation and positioning of the tunnel in the hull to a skilled professional.

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.

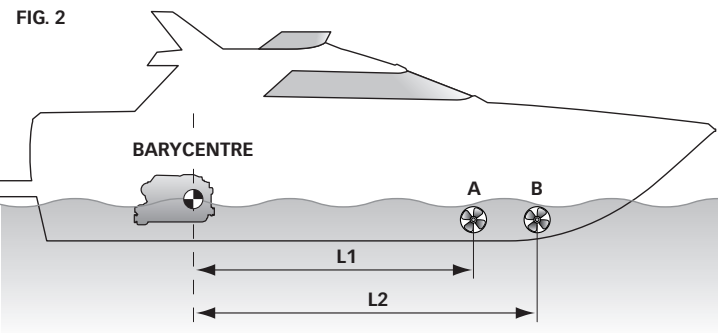
The installation of such a unit is an operation that requires experience as well as technical skills. It is recommended that the installation be carried out by competent personnel and that the manufacturer or naval architects be consulted to fully assess the scope of the work.

6.2 - Propellers



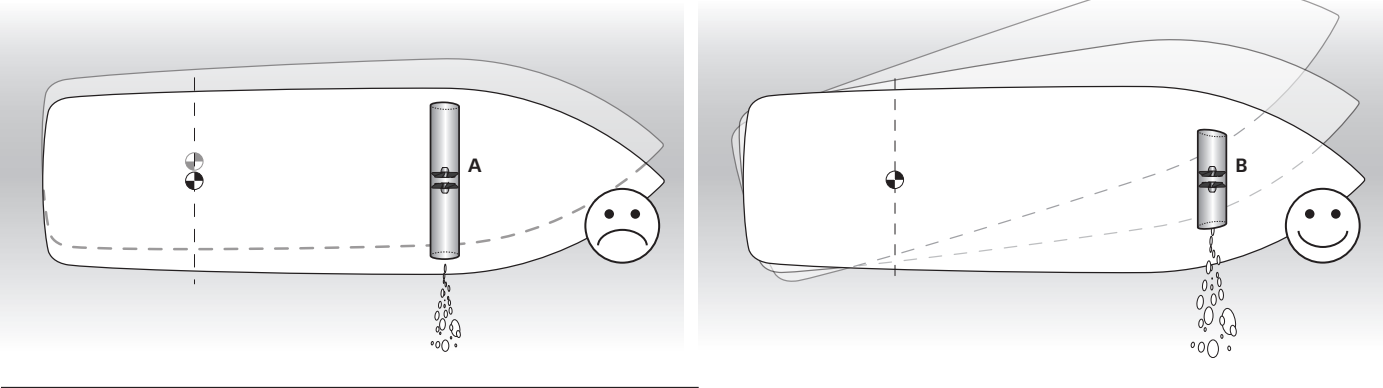
The position of the tunnel will depend on the interior and exterior shape of the boat's bow.

- **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.



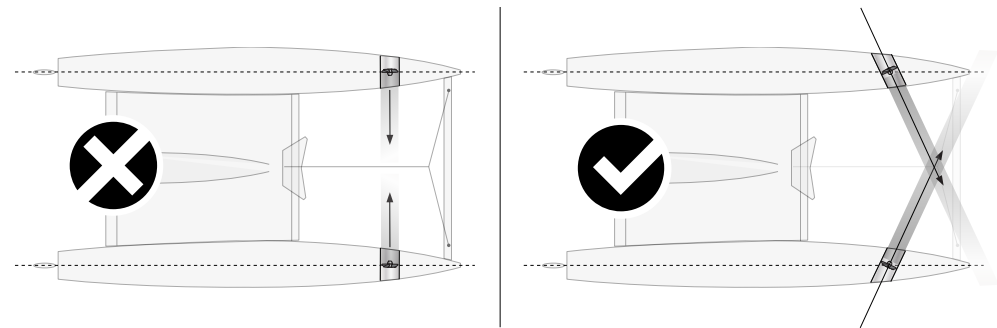
- **FIG. 2** The lever effect in the boat is proportional to the increase of the distance (L1 and L2) between the barycentre and the position of the tunnel A and B.

FIG.3



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

6.3 - Propeller installation on catamarans



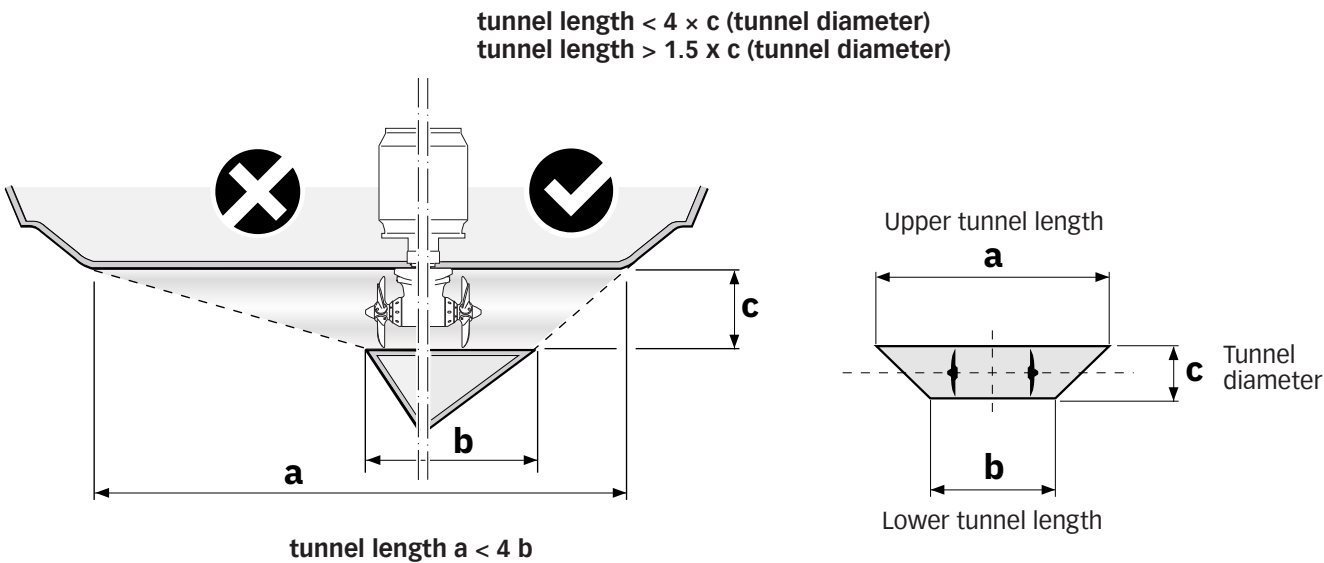
- When installing propellers on a catamaran, the tunnel axes must not be aligned or directly opposed. The installation angle may vary depending on the catamaran size and model.
- The angle should be kept to a minimum to ensure greater Thruster efficiency.

6.4 - Tunnel Length

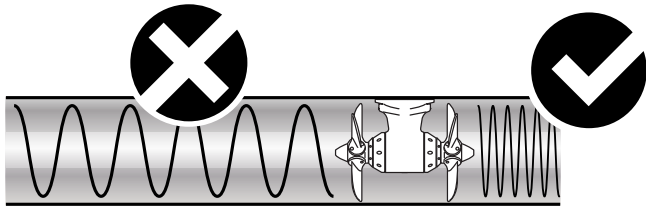
The correct tunnel length depends on various factors, including hull type, operational characteristics and environmental conditions.

NOTE: Installing a tunnel that is excessively long may lead to flexing or deformation over time and may require additional structural support. Consult a qualified naval engineer.

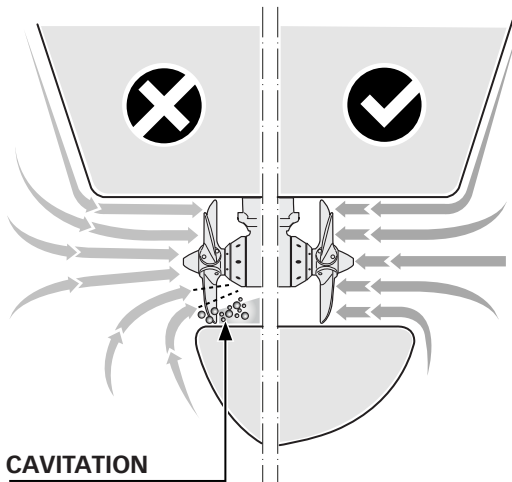
- 1. For a proper use of the thruster, we recommend a length equal to 1.5 to 4 times the tunnel diameter. To limit losing charge, a ratio of up to 6 times the diameter can be tolerated. Refer to the diagram below for proper tunnel dimensioning.



- 2. The length of the tunnel upper section (a) must be less than 4 times the length of the lower section (b) to ensure Thruster performance.
- 3. An increase in the length of the tunnel increases the effect of the loss of charge, decreasing the nominal driving force.



- 4. If the tunnel is too short (typically only in the lower section), cavitation may occur due to insufficient “straightening” of the water flow before it reaches the propeller. Cavitation reduces performance and increases operational noise.



6.5 - Tunnel installation

NOTE: Following are general guidelines only and do not cover the specific details of fibreglass work.

Any issues arising from incorrect tunnel installation are the sole responsibility of the installer. Contact a professional boatbuilder for hull modifications.

- 1. Identify the installation location on the vessel, taking into account the guidelines previously outlined in this manual and the dimensions applicable to the thruster model being installed. Mark the centre of the tunnel on both sides of the hull. Drill a horizontal hole at the marked positions (FIG. 1).
- 2. Mark the circular opening of the tunnel (tunnel external diameter) and cut the hole accordingly (FIG. 2).
- 3. Insert the tunnel and trace its outline to ensure proper fitting onto the hull (FIG. 3).
- 4. Trim the ends of the tunnel to the required shape and lightly sand the surface. Clean the area using acetone or a similar solvent before applying fibreglass (FIG. 4).

FIG. 1

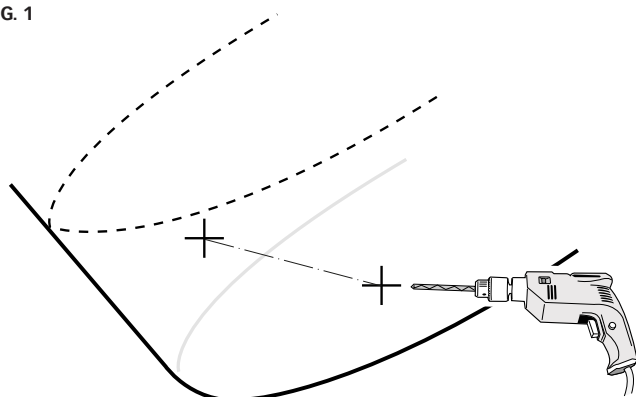


FIG. 2

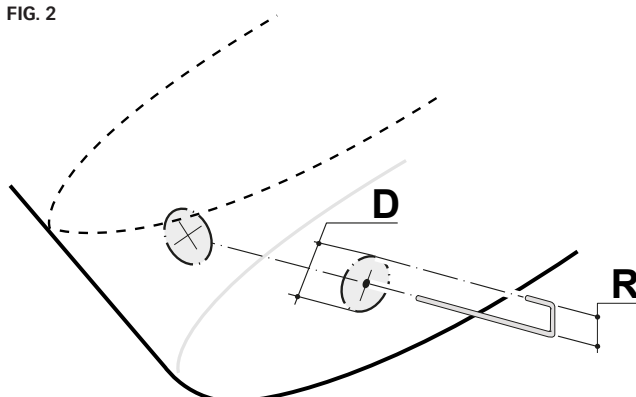


FIG. 3

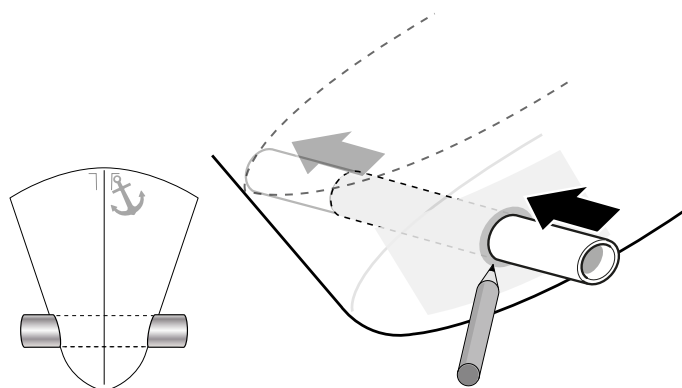
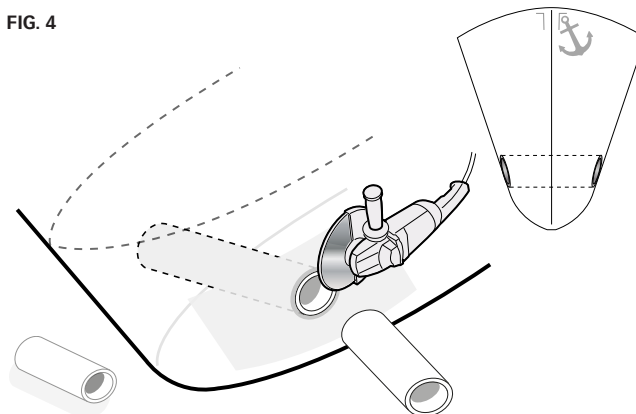
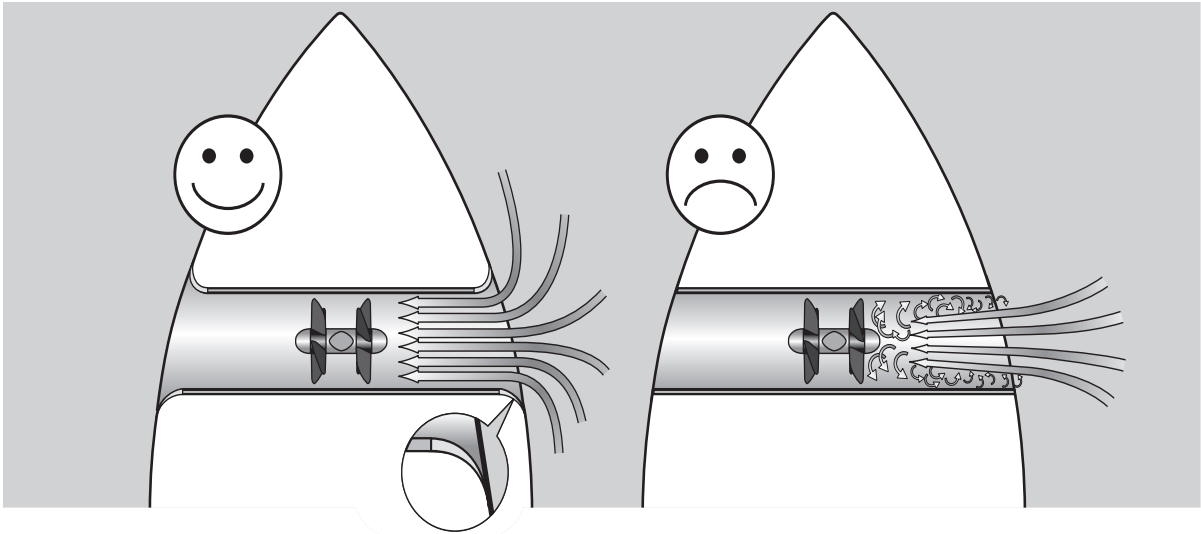


FIG. 4

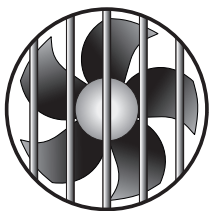
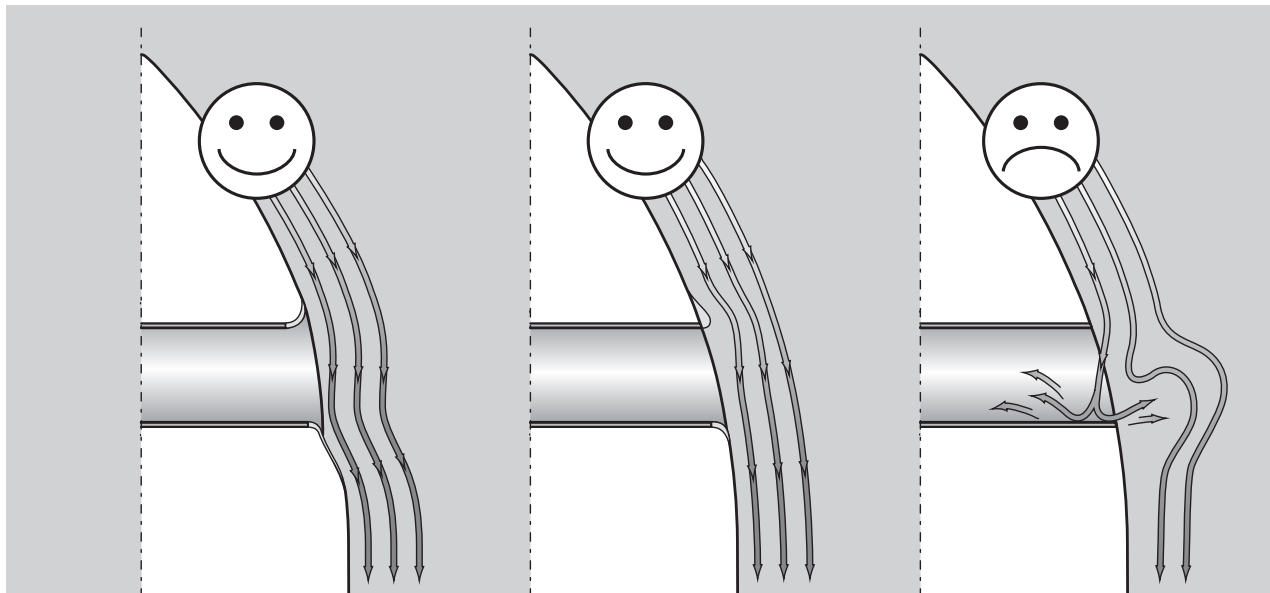


6.6 - Tunnel

- 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.



- 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.

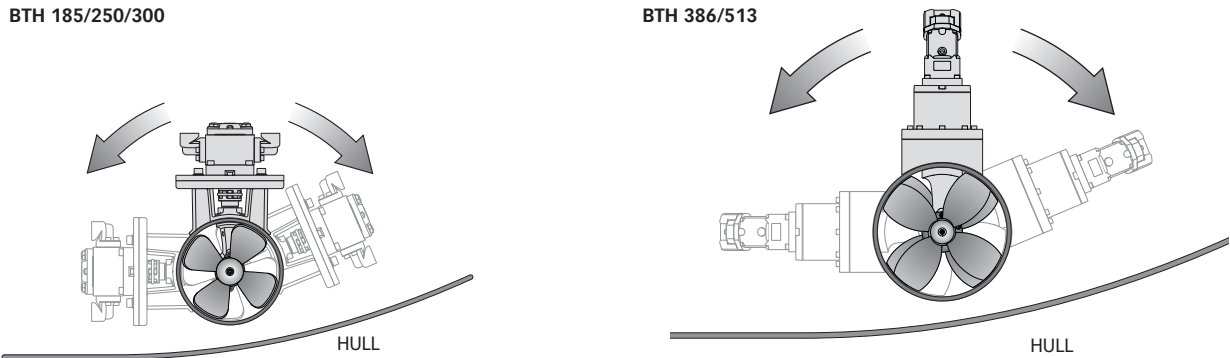


- If the tunnel is near the waterline, it is advisable to fit a grating at the end of the tube. The grating must have as large a vertical mesh as possible to avoid contrasting the propeller thrust. The vertical mesh prevents the entry of most of the floating objects.

6.7 - Thruster

- **FIG. 1** The thruster can be installed at any angle within 90° from the vertical. The hydraulic motor does not require supports or stands.

FIG.1



- **FIG. 2** To position the thruster in the tube, find the half-way point.
- **FIG. 3** Use the flange to mark the centre of the holes on the tube.

FIG. 2

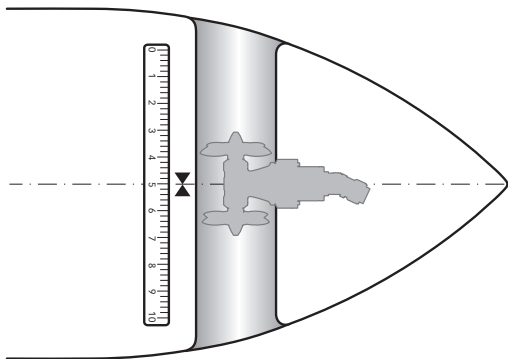
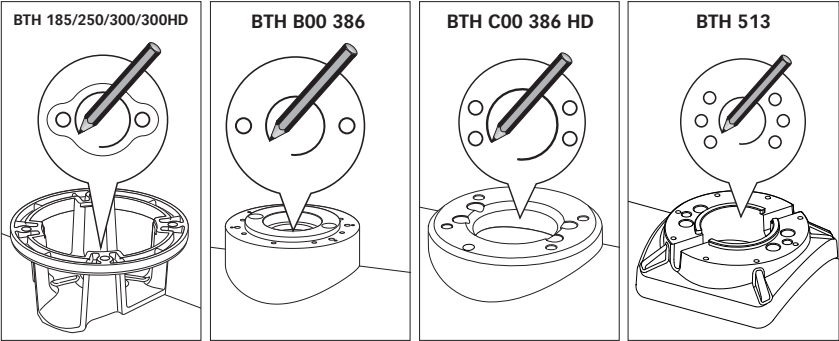


FIG. 3



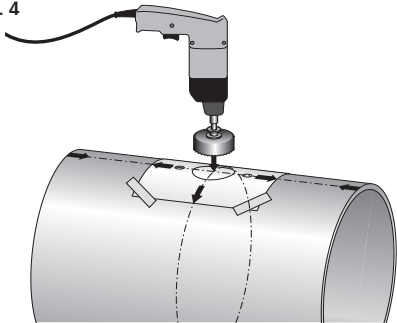
- **FIG. 4** Fix the drilling template on the reference points, making sure they are aligned with precision at the half-way point of the tube.



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.

FIG. 4



- **FIG. 5A / FIG. 5B**
Insert two O-rings into the special seats inside the flange.

FIG. 5A

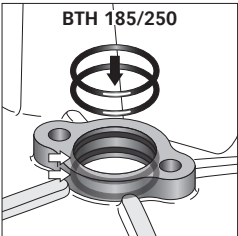
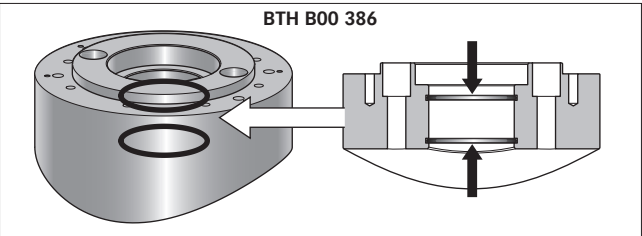


FIG. 5B



6.8 - BTH 185/250/300/300HD Gearleg and motor support flange

- **FIG. 1** 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.

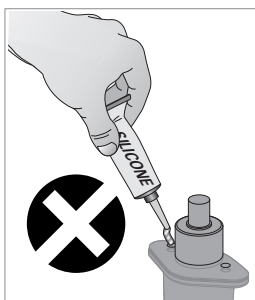


FIG.2


**DO NOT APPLY
SEALANT IN HOLES**

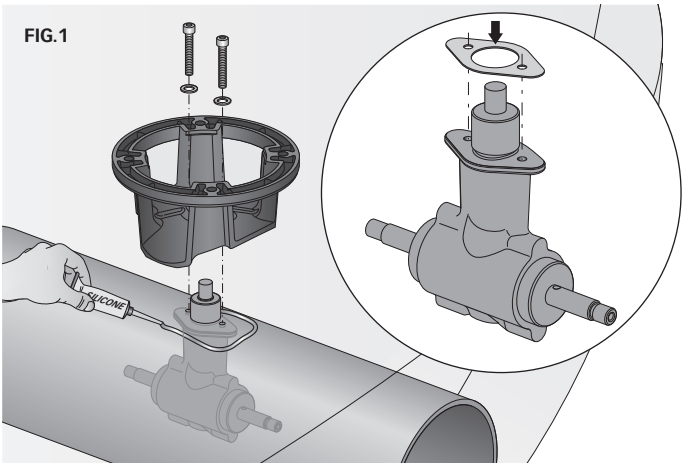
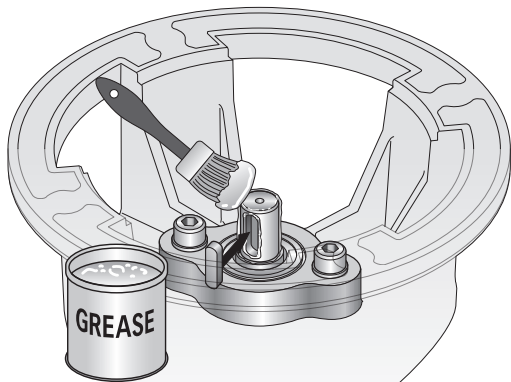


FIG.3

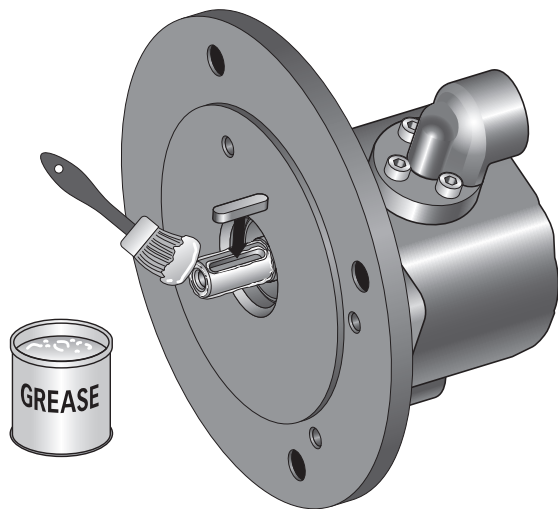


- **FIG. 2** Grease the terminal part of the gearleg shaft; fit the small key into its seat.

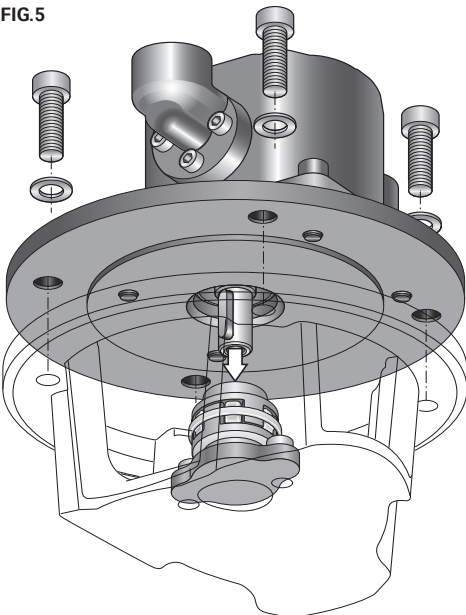
FIG.4

- **FIG. 3** Insert the elastic coupling in the terminal part of the gearleg shaft.

FIG.5



- **FIG. 4** Grease the terminal part of the drive shaft; fit the key into its seat.



- **FIG. 5** Insert the motor onto the elastic coupling; secure it with the 4 screws and washers supplied.

6.9 - BTH 386 Gearleg and motor support flange



DO NOT APPLY SEALANT IN HOLES

- **FIG. 1** 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 the flange using the special screws and washers: 2 screws for gearbox B00 - 4 screws for gearbox C00 HD.
- **FIG. 2** Grease the terminal part of the gearleg shaft; fit the small key into its seat.

FIG.1

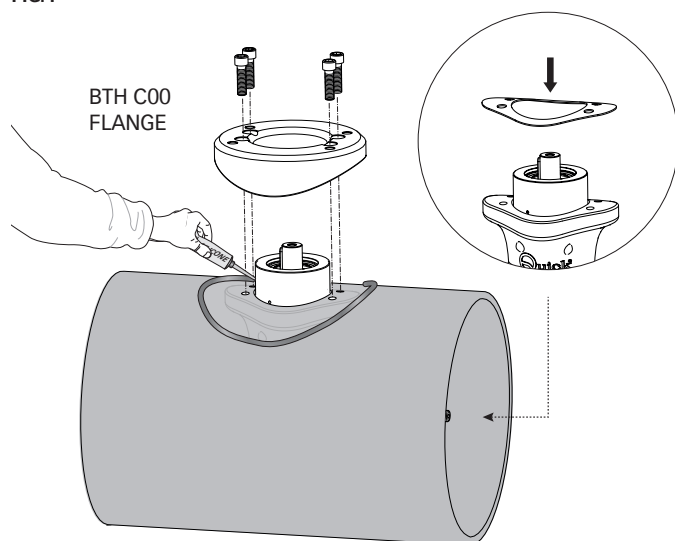
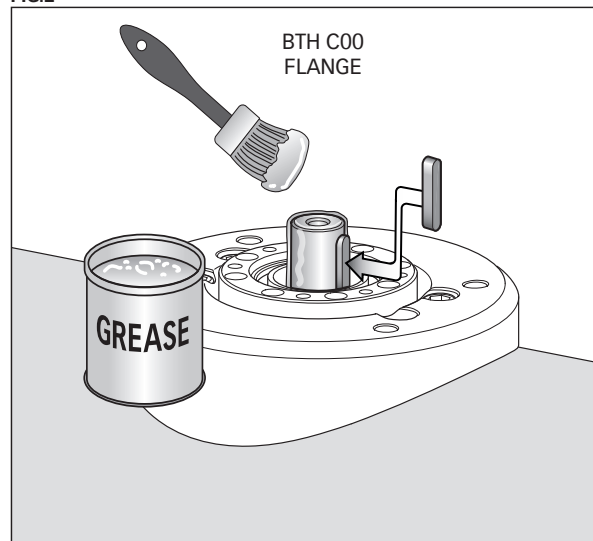


FIG.2



6.10 - BTH 513 Gearleg and motor support flange



DO NOT APPLY SEALANT IN HOLES

FIG.1

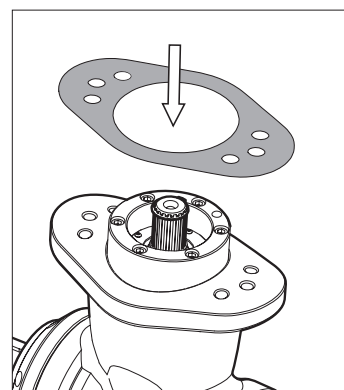


FIG.2

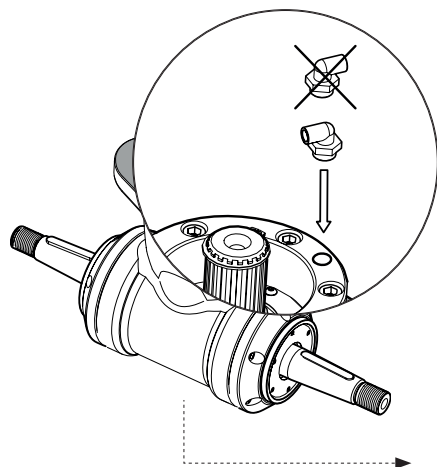
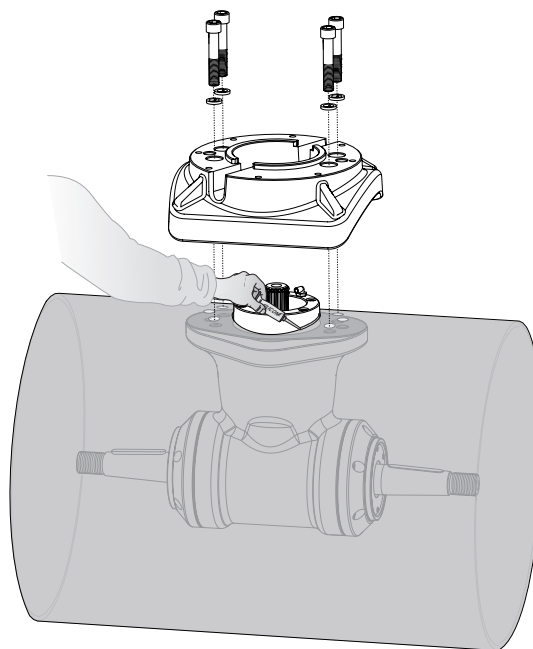


FIG.3

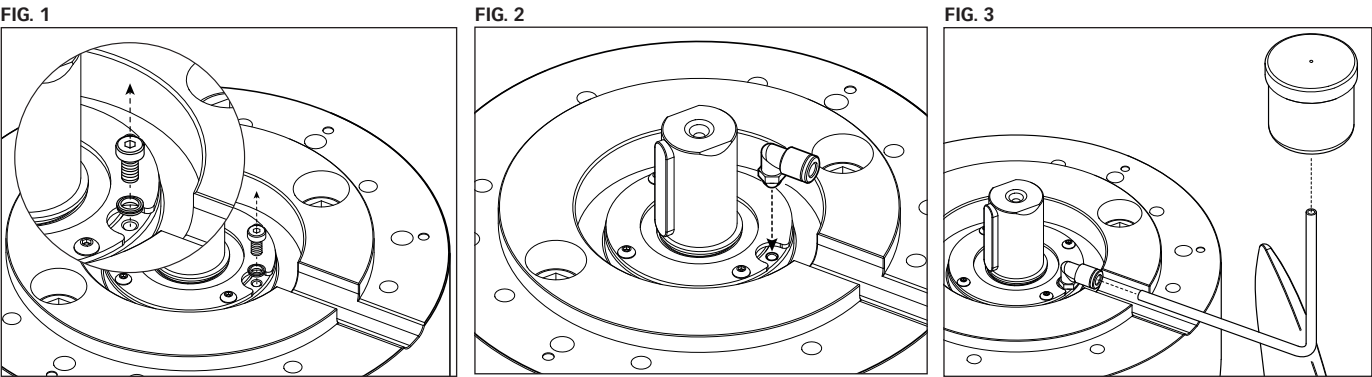


- **FIG. 1** Fit the gearbox with the special seal gasket.
- **FIG. 2** Remove the cap on the gearbox and insert the fitting to later connect the oil tank. Screw in and position the head of the fitting towards the inside to facilitate assembly with the flange.
- **FIG. 3** Fit the gearleg. For further protection against the entry of water, apply silicone for nautical use around the point of contact between flange and tube. Fasten the flange using the special screws.

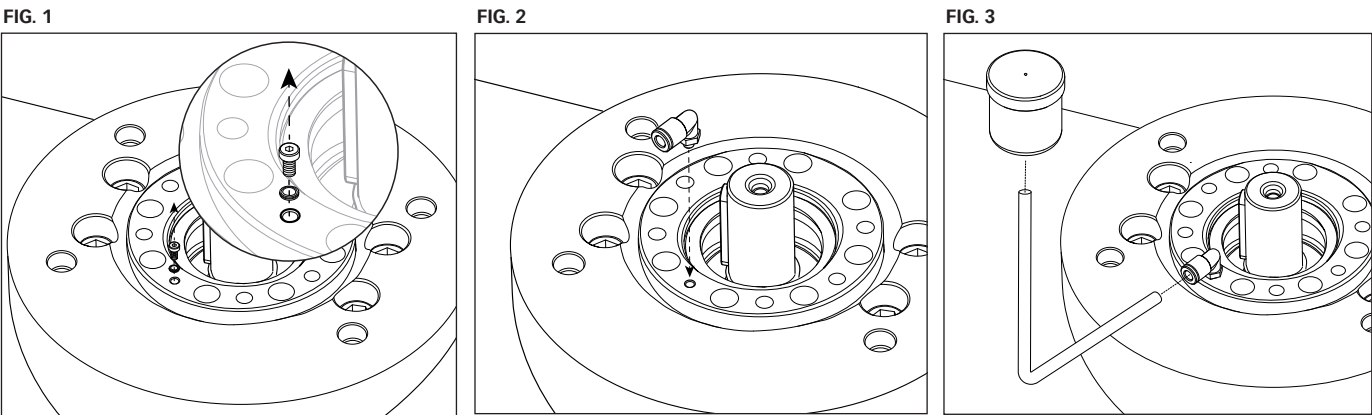
6.11 - BTH 386 Rilsan hose and oil tank

- FIG. 1 Remove screw and gasket
- FIG. 2 Tighten the fitting provided
- FIG. 3 Insert the Rilsan hose onto the fitting and the tank

BTH 386 B00

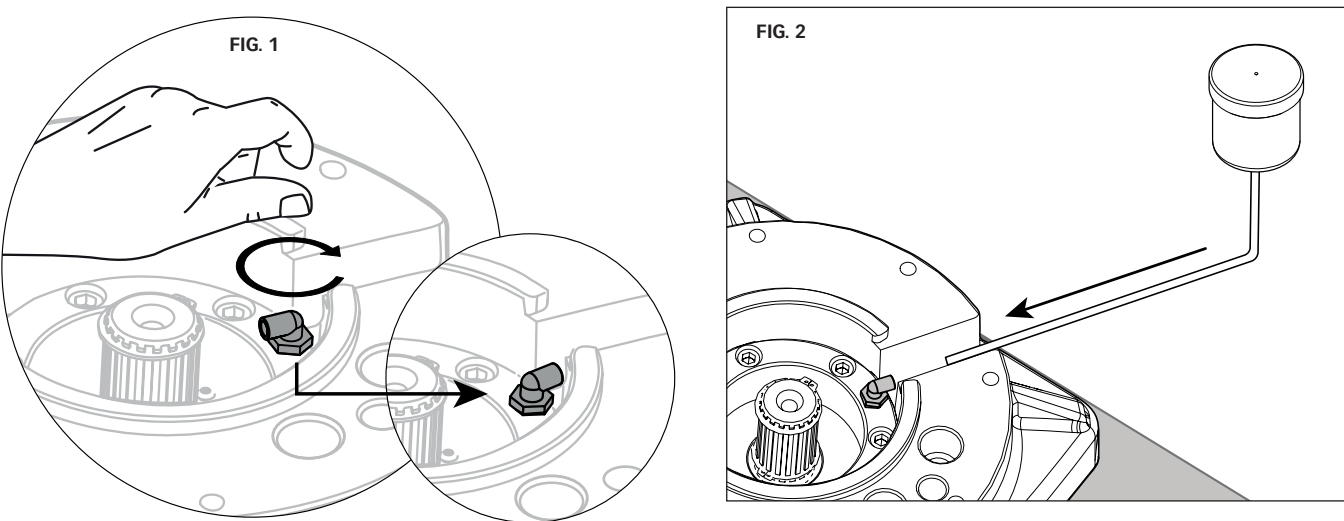


BTH 386HD C00



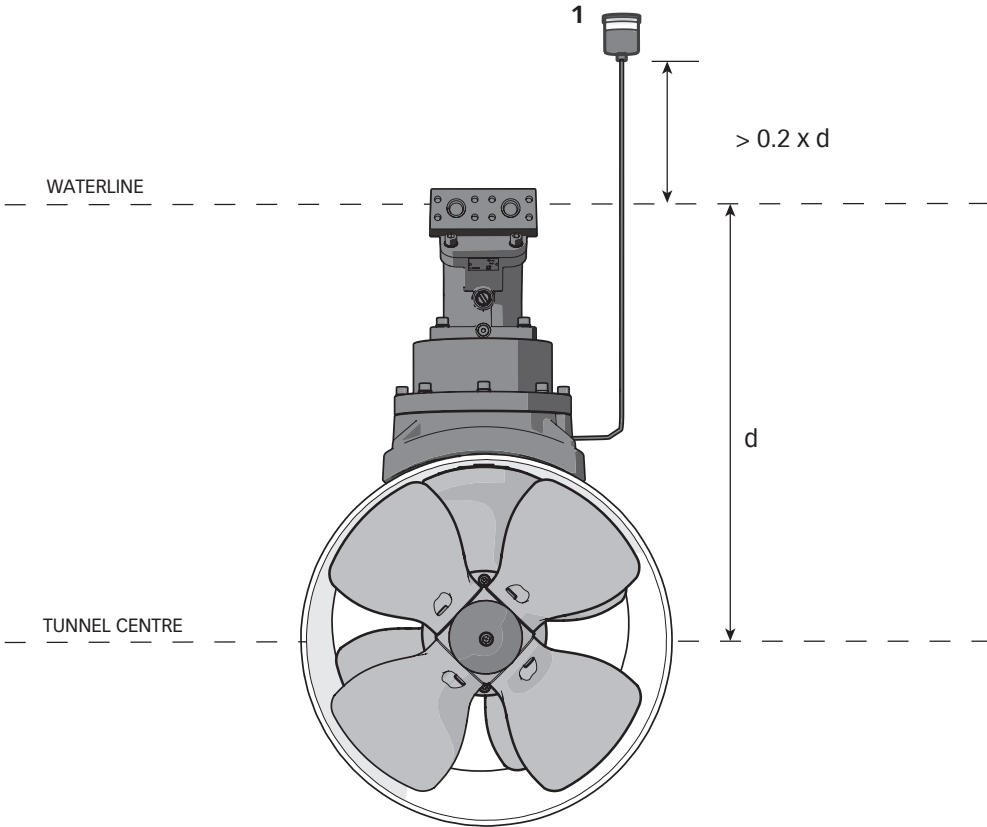
6.12 - BTH 513 Rilsan hose and oil tank

- FIG. 1 After fastening the flange, turn the fitting clockwise and align it with the flange recess.
- FIG. 2 Insert the Rilsan hose with oil tank into the fitting.

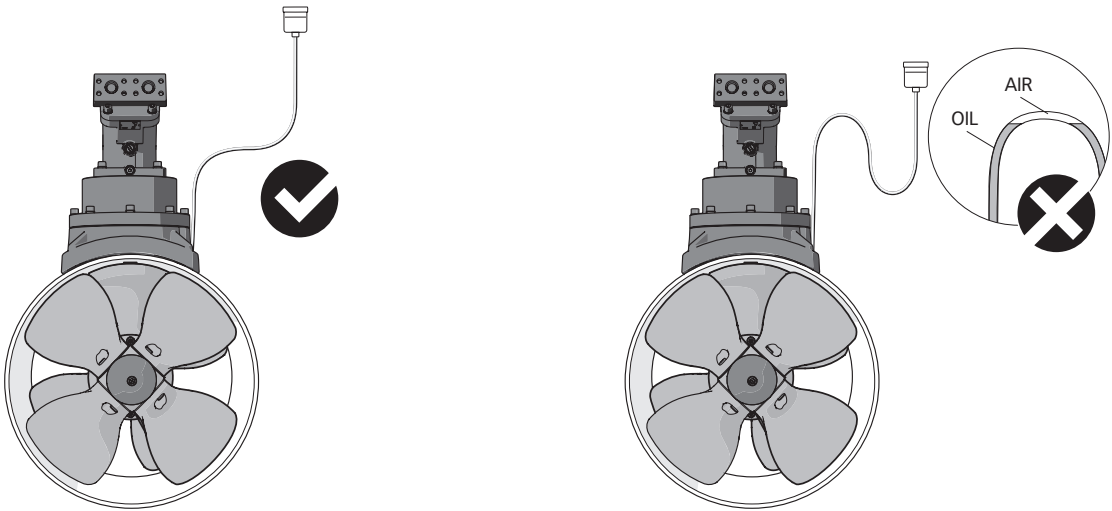


6.13 - Positioning of fitting and oil tank

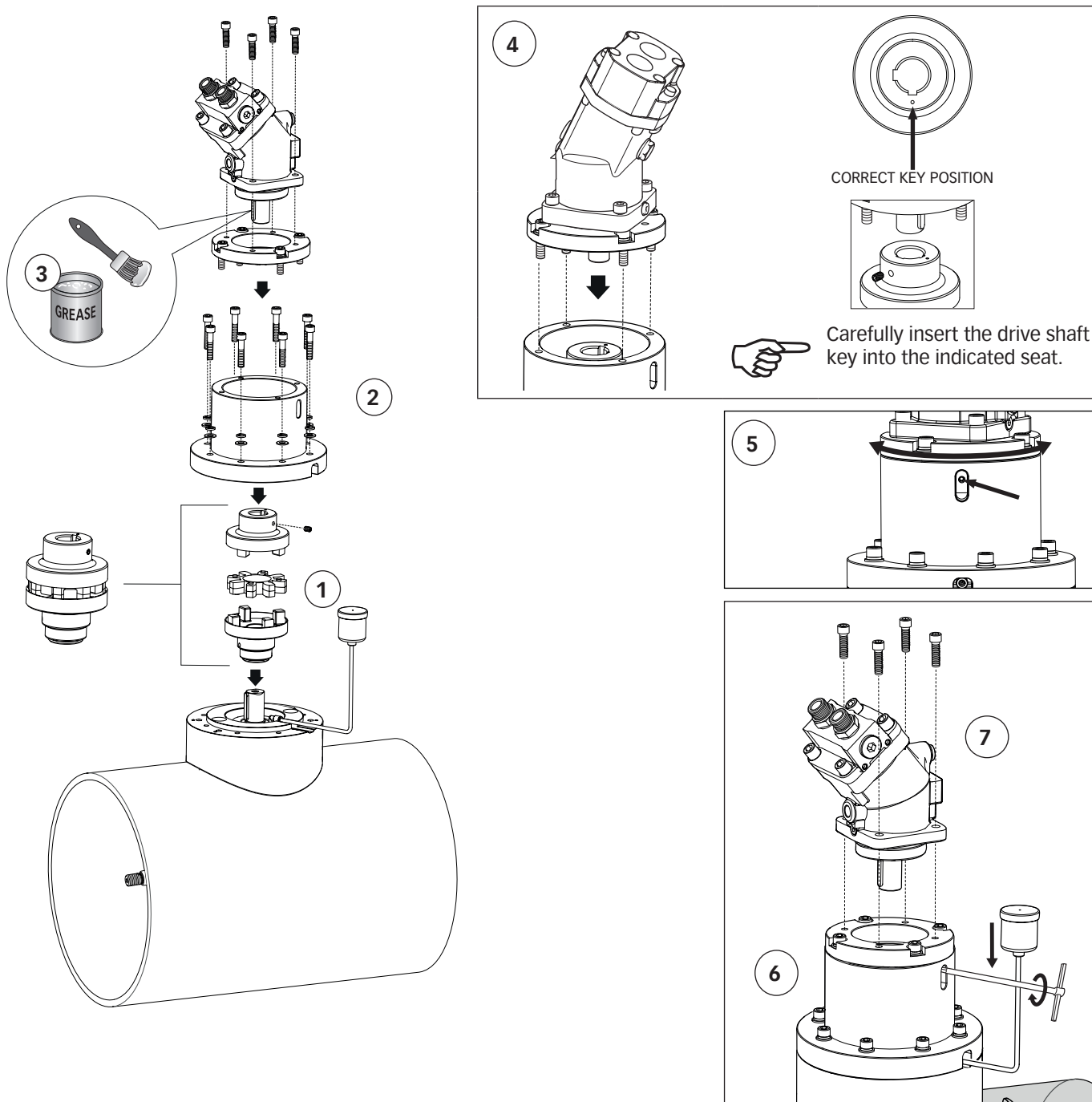
- Install the oil tank (1) above the waterline by at least 20% of the distance between the waterline and the centre of the tunnel (distance d). This is to ensure sufficient oil overpressure.
- Fill the oil tank with gear oil type GL-5.



 **POSITION THE TUBE CORRECTLY IN ORDER TO AVOID A "SIPHON" EFFECT. THE TANK MUST ALWAYS BE IN A VERTICAL POSITION.**

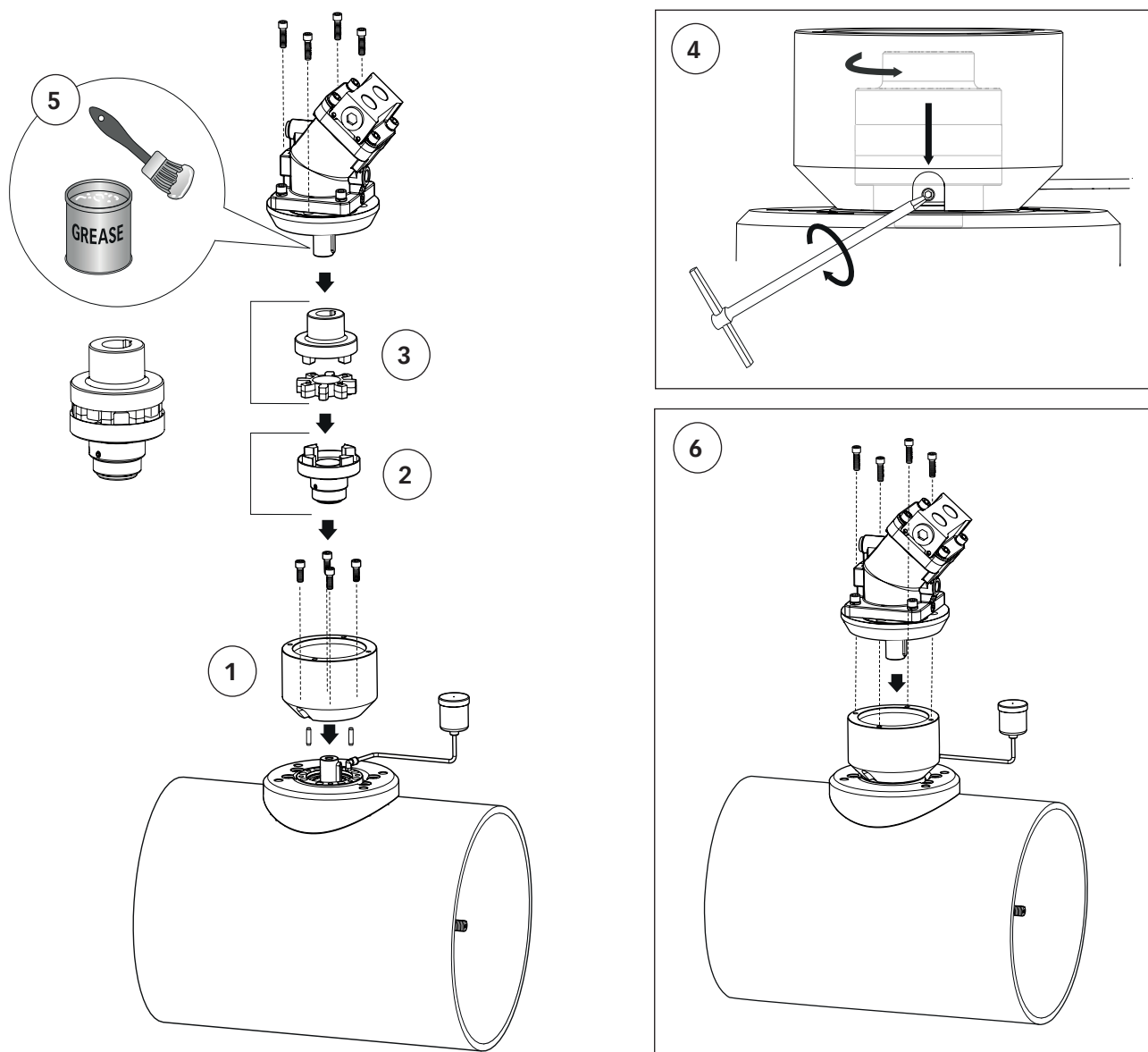


6.14 - BTH 386 motor/coupling assembly

**Procedure:**

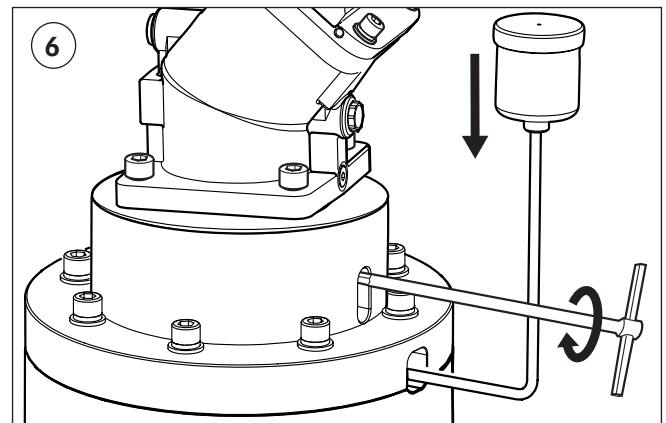
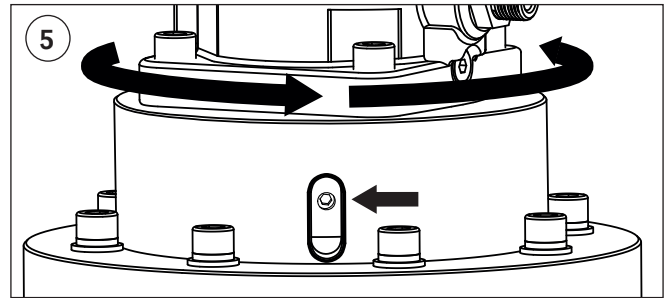
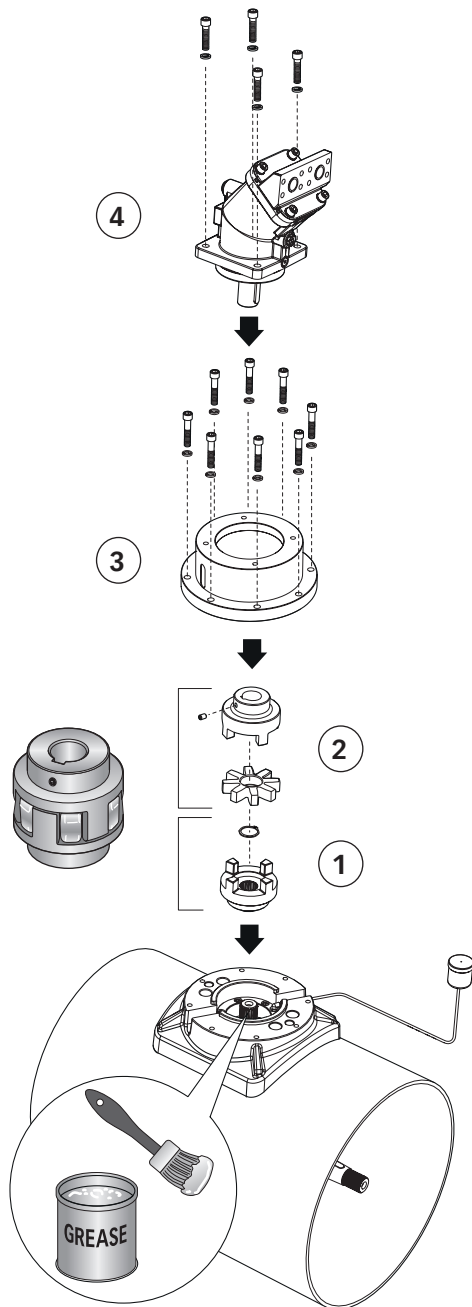
- 1.Insert the elastic coupling in the terminal part of the gearleg shaft.
- 2.Secure the motor flange with the supplied screws.
- 3.Grease the terminal part of the drive shaft
- 4.Place the motor on the elastic coupling.
- 5.Rotate the motor to align the coupling screw.
- 6.Tighten the screw of the coupling, holding it towards the gearbox.
- 7.Turn the motor to the desired position and secure it with the screws.

6.15 - BTH 386HD motor/coupling assembly

**Procedure:**

1. Secure the motor flange with the supplied screws and pins.
2. Insert the lower coupling half in the terminal part of the gearleg shaft.
3. Insert the cushion drive damper and the upper coupling half onto the lower one.
4. Turn the coupling half to align the grub screw with the hole on the flange and tighten the grub screw of the coupling half.
5. Grease the terminal part of the drive shaft and insert the motor on the gearbox.
6. Secure the motor with the screws supplied with the flange.

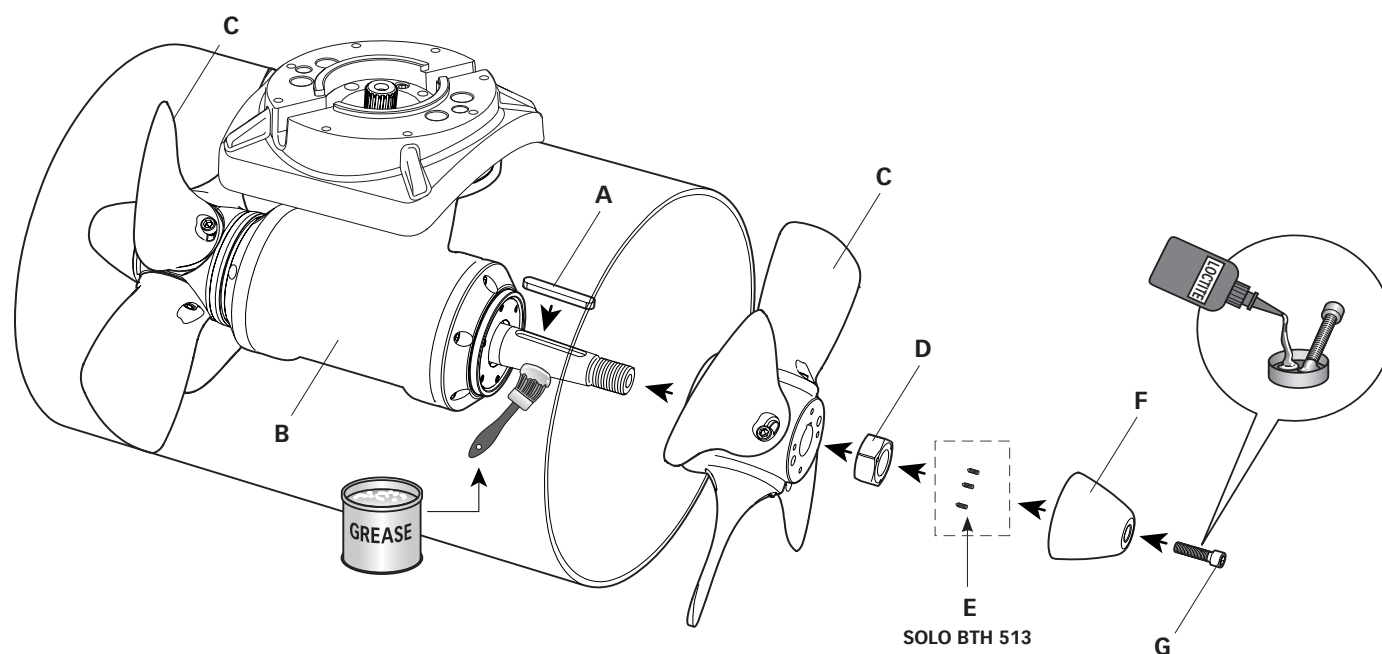
6.16 - BTH 513 motor/coupling assembly

**Procedure:**

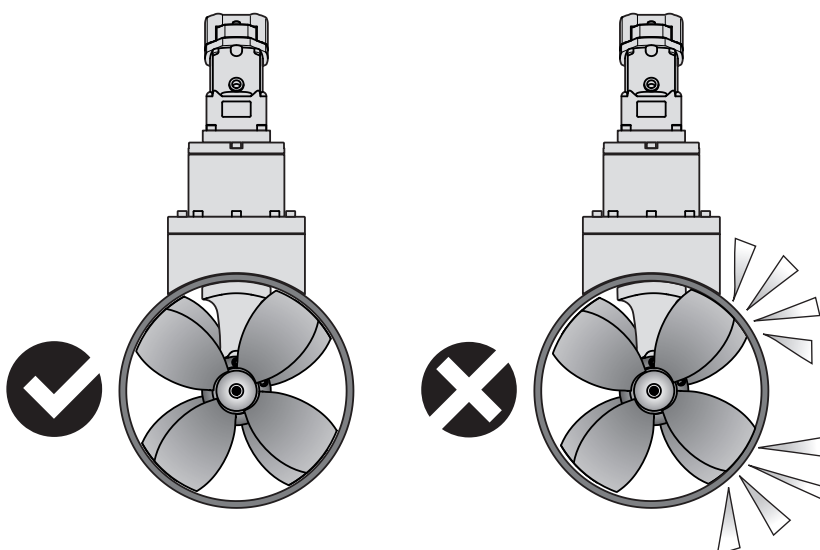
1. Grease the end of the gearbox, insert the lower coupling half and secure it with the snap ring.
2. Fit the cushion drive damper and the upper coupling half to the gearbox.
3. Secure the motor flange with the supplied screws and washers.
4. Place the motor on the elastic coupling.
5. Rotate the motor to align the coupling screw.
6. Tighten the screw of the coupling, holding it towards the gearbox. Turn the motor to the desired position and secure with the screws.

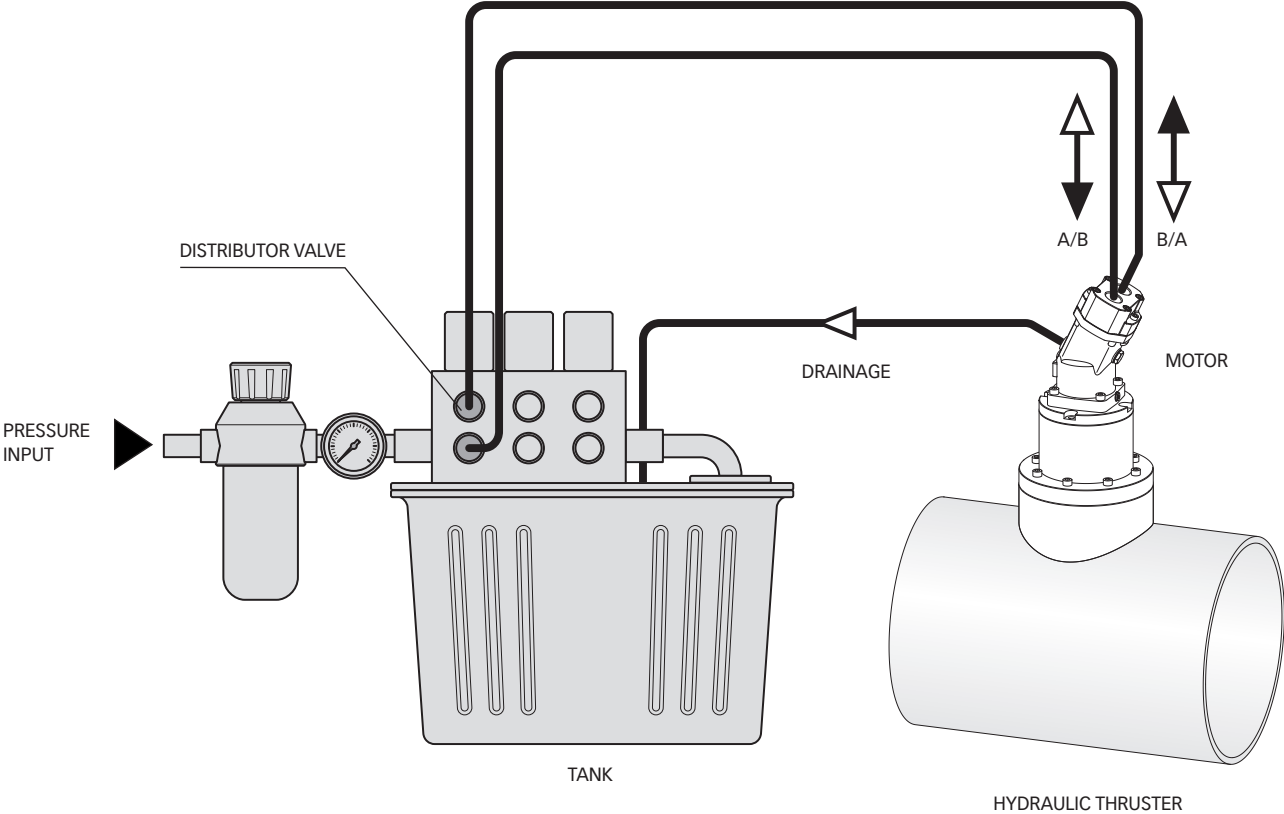
6.17 - Propeller assembly

Insert the drive keys **A** into the seats in the shafts of the gearleg **B**, assemble the propellers **C** onto the gearbox by engaging them to the drive keys **A**, secure the propellers with the self-locking nuts **D**, (and grub screws **E**, only for BTH 513). Secure the anodes **F** with screws **G** previously smeared with structural adhesive (such as Loctite).



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





- The initial contamination level of the fluid used to fill the system should not exceed class 18/15 (ref. ISO 4406). This level should be maintained by adequate filtration, which is ensured by the system filter, according to the table.

Pressure	<140 bar	140÷210 bar	>210 bar
Class NAS 1638	10	9	8
Class ISO 4406	19/16	18/15	17/14
Ratio $\beta_x = 75$	25-40 μm	12-15 μm	6-12 μm

- The system must have a filter to keep the oil free of impurities.
- It is advisable to install an exchanger or to use a well-dimensioned oil tank so that the maximum oil temperature remains within the range recommended for the hydraulic fluid used.
- We recommend the use of specific mineral oil-based fluids for hydraulic circuits, with good anti-wear and anti-foam characteristics, with fast deaeration, antioxidant, anti-corrosion, with lubricating properties and able to meet the requirements of DIN 51525 and VDMA 24317, with kinematic viscosity between 10cSt and 100cSt.
- Service temperatures must be between -10°C and +80°C.
- The entire hydraulic system is the responsibility of the installer who, according to the specifications described and the service requirements, must protect the motor from potential damage resulting from the system.
- The motor must not be used with pressures higher than those indicated.
- Higher values may irreparably compromise the integrity of the motor.
- Carefully follow Quick's instructions to obtain maximum efficiency from your product; with different settings, do not exceed the maximum pressure values indicated in the table.
- Under no circumstances should the maximum pressure in the drainage branch exceed 6 bar.
- The installation of a pressure relief valve (set to a value 10% - 15% higher than the maximum service pressure in the control valve) is recommended to protect the system from damage due to mechanical blockage of the system.
- It is recommended to install an electronic or hydraulic system that delays motor motion reversal in order to protect the gearbox from breaking down.

9.0 - Precautions for safety and use of the BTH Series



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, as these actions will void the warranty, thus lifting any responsibility from Quick®.



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



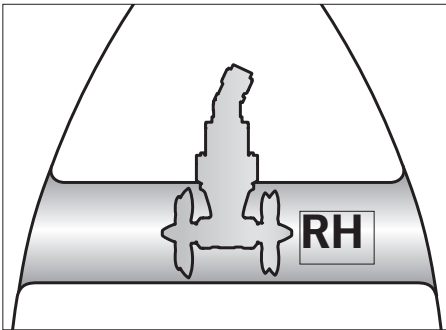
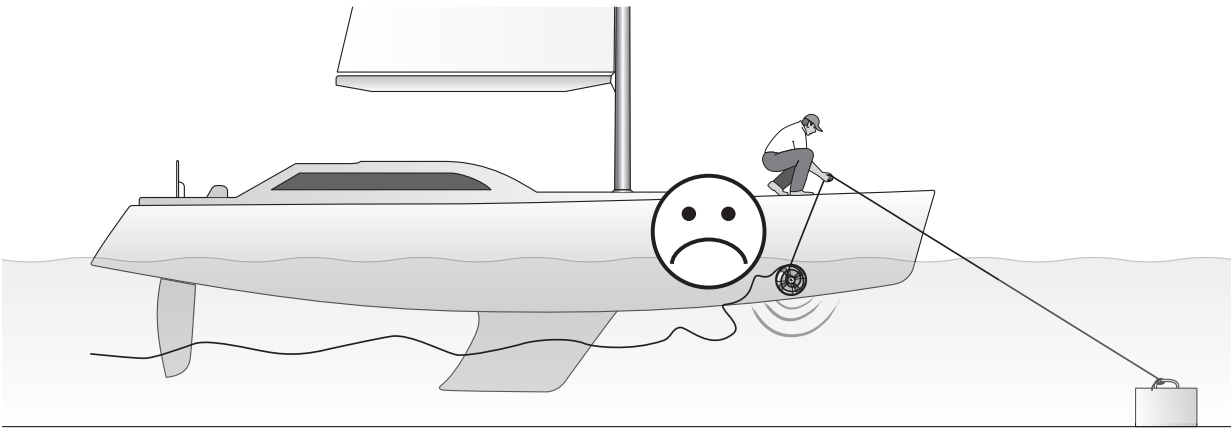
There must not be flammable materials in the peak or in the area where the thruster motor is.



Do not operate the 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.



NOTE: the thruster must be installed with the **RH** propeller on the right-hand side of the gearleg.

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 with consequent system inefficiency.

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



- Make sure that the power supply to the hydraulic motor is not switched on when maintenance operations are carried out.
- Do not paint the anodes, the sealings and the gearleg's shaft where the propellers are lodged.

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 hydraulic connections are well tightened and oxide-free.

REMOVING THE GEARBOX FLANGE 386

- **FIG. A** Disassemble the various motor components (1 to 9).
- **FIG. B** To help separating the gearbox flange (10) from the tunnel, use 4 screws M12x100.

FIG. A

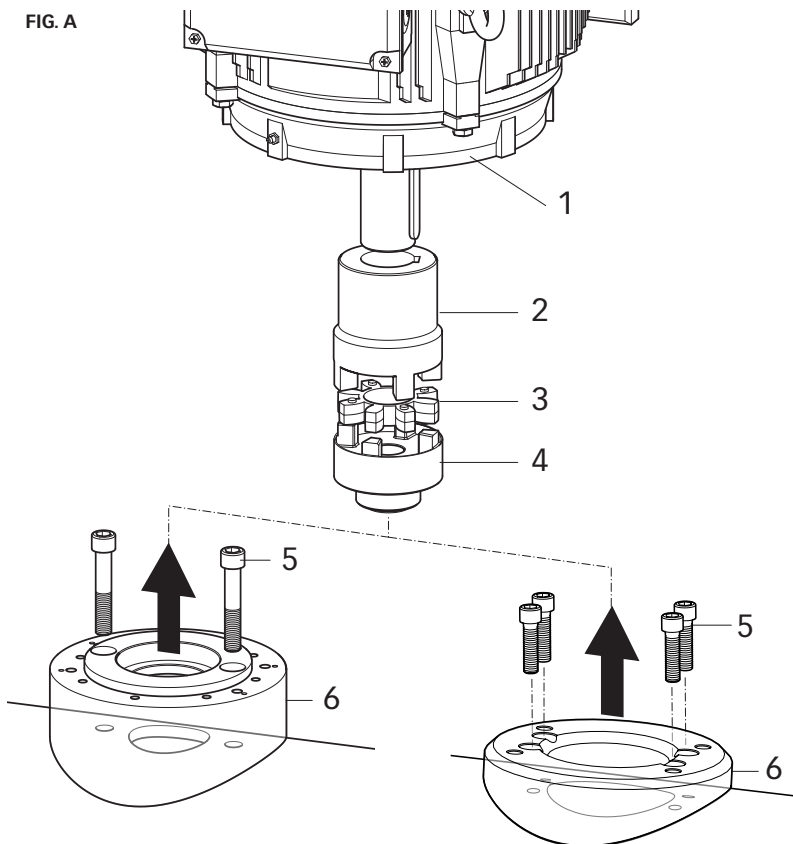
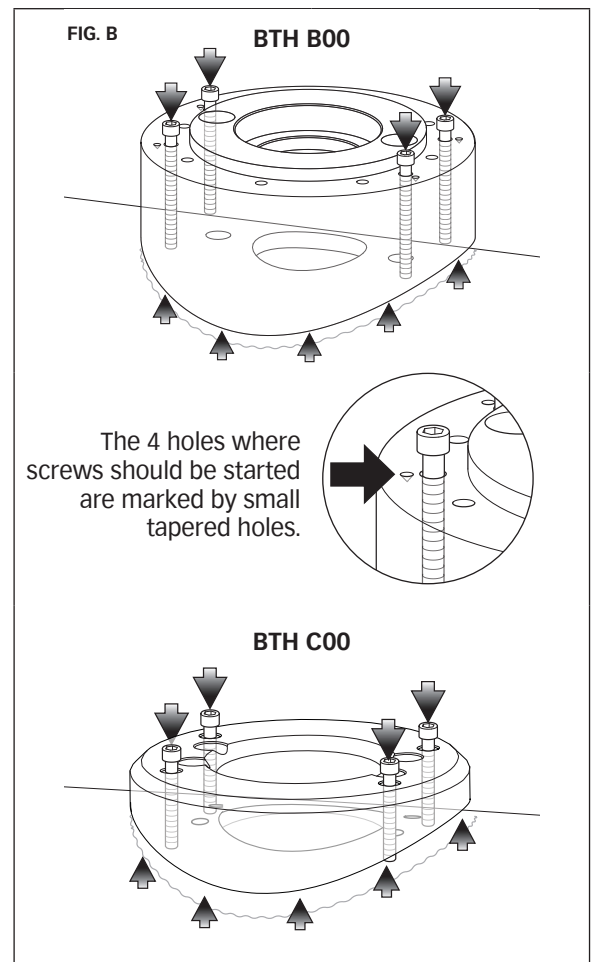
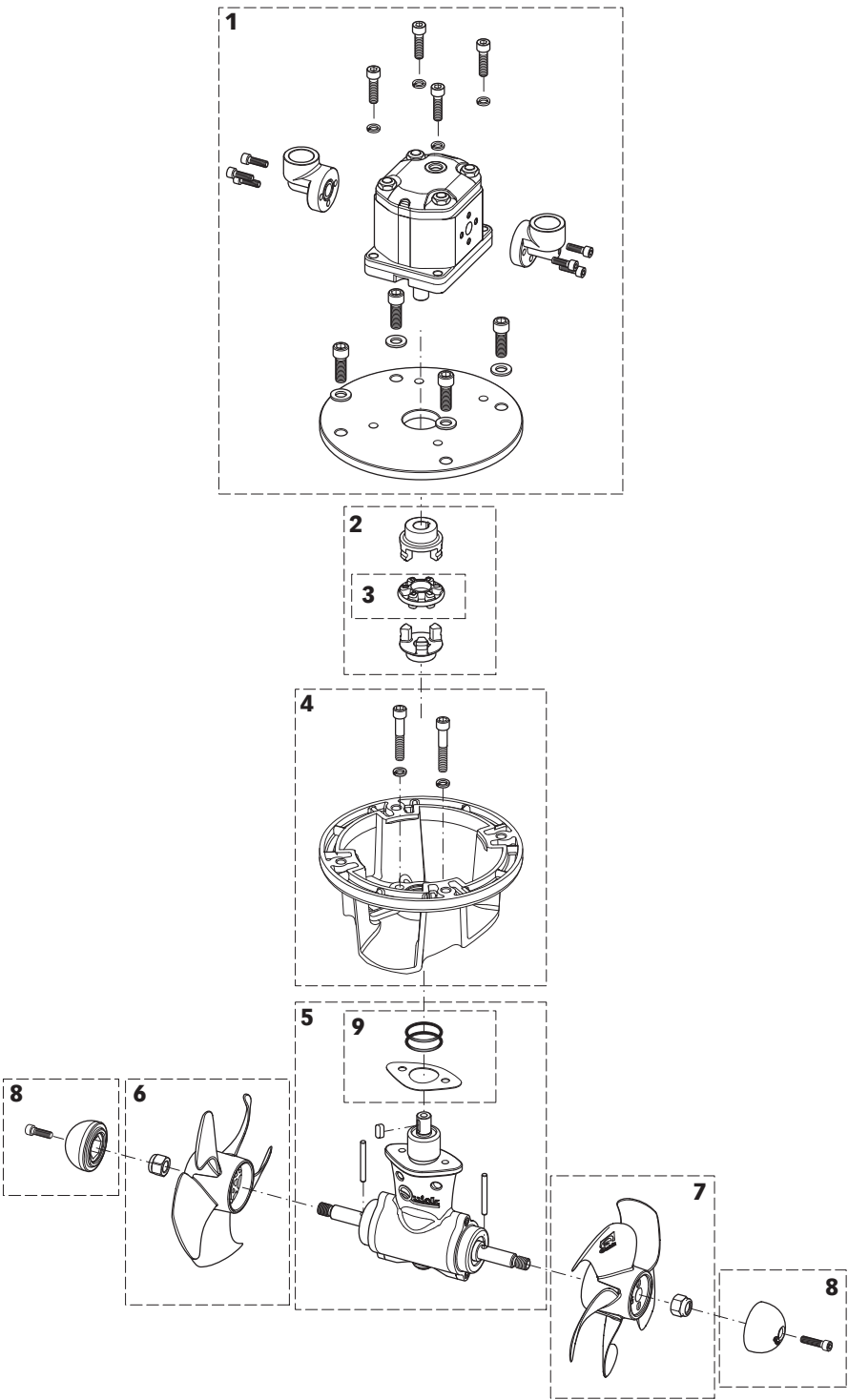


FIG. B



11.0 - BTH 185

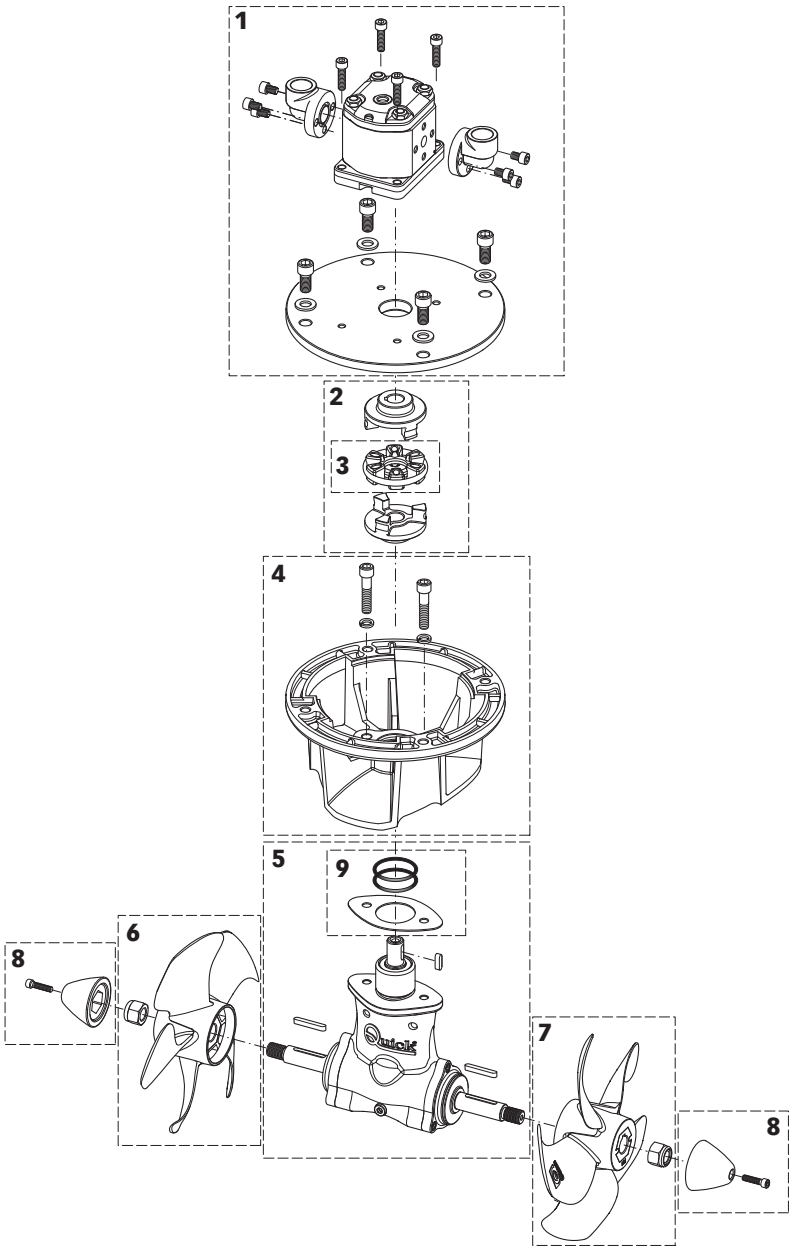
BTH 185-85 6.4 kW
BTH 185-105 8 kW



No.	DESCRIPTION	CODES		
1A	OSP GEAR MOTOR 4.5CC GR2 B5/90	FVEMFEL045B5090	4	OSP PROPELLER FLANGE KIT BTQ 185
1B	OSP GEAR MOTOR 6.4CC GR2 B5/90	FVEMFEL064B5090	5	OSP GEARBOX KIT BTQ185 DP
2	OSP COUPLING KIT BTQ 185 HYDRO	FVSGG1851514H00	6	OSP PROPELLER KIT D185 LH
3	OSP CUSH DRIVE DAMPER KIT D43 BT 140-185	FVSGGPVP4300A00	7	OSP PROPELLER KIT D185 RH
			8	OSP PROPELLER ANODE KIT BTQ185 ALL
			9	OSP GASKETS KIT BTQ185
				FVSGFLBTQ185A00
				FVSGGBT185DA00
				FVSGEL185L00A00
				FVSGEL185R00A00
				FVSGANBTQ18AA00
				FVSGGRNBT185A00

11.1 - BTH 250

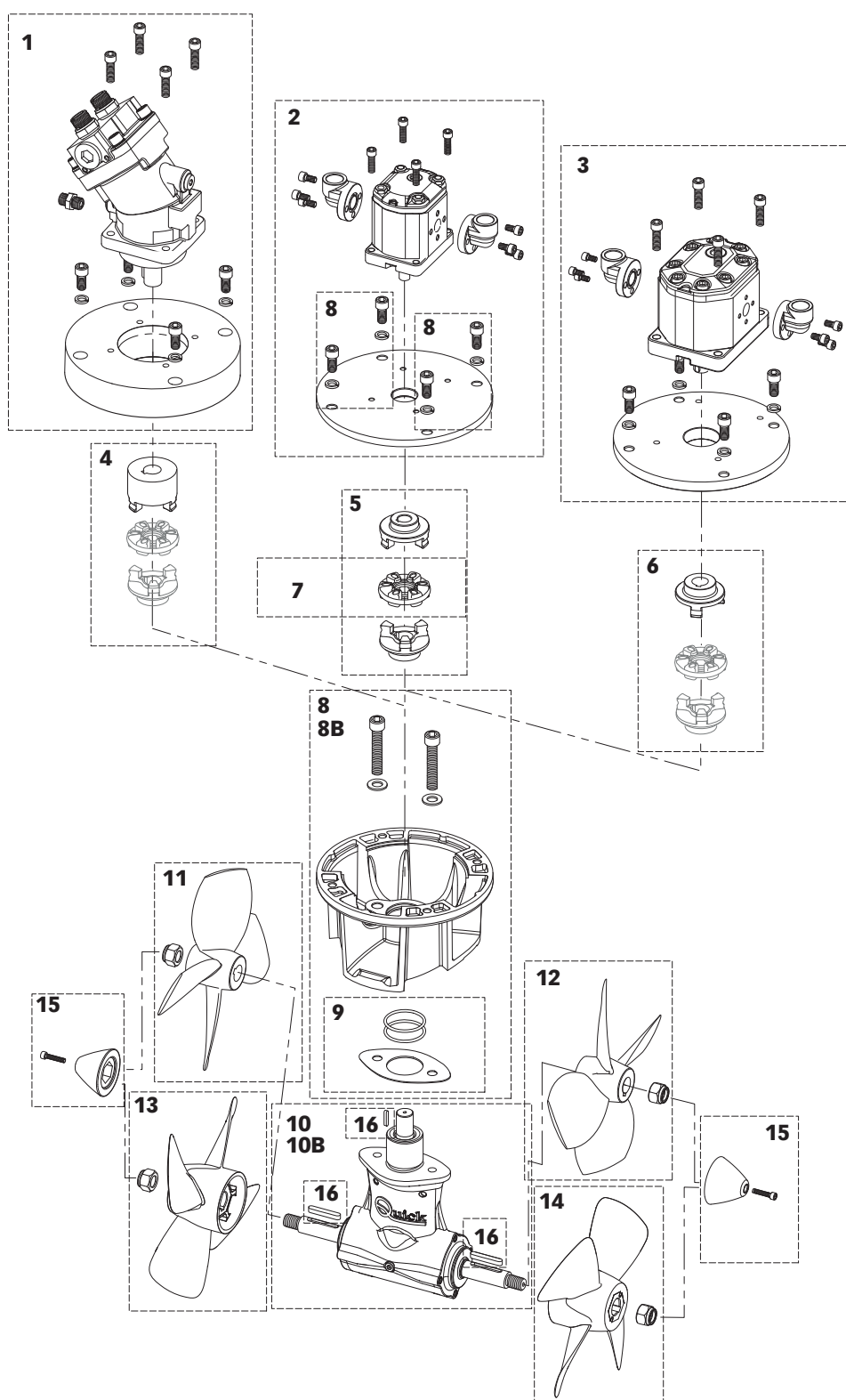
BTH 250-150 9.2kW
BTH 250-220 11.2kW



No.	DESCRIPTION	CODES		
1A	OSP GEAR MOTOR 9.6CC GR2 B5/100	FVEMFEL096B5100	4	OSP PROPELLER FLANGE KIT BT 250 FVSGGBBT2500A00
1B	OSP GEAR MOTOR 14.1CC GR2 B5/100	FVEMFEL141B5100	5	OSP GEARBOX KIT BT 250 FVSGGBBT2500A00
2	OSP COUPLING KIT BTQ 250 GEAR MOTOR	FVSGG250NGR0A00	6	OSP PROPELLER KIT D250 LH FVSGEL250L00A00
3	OSP CUSH DRIVE DAMPER KIT D70 BT 250-300	FVSGGPVP7000A00	7	OSP PROPELLER KIT D250 RH FVSGEL250R00A00
			8	OSP ANODES FOR PROPELLER KIT - BT 250 ALL FVSGANBTQ25AA00
			9	OSP GASKETS KIT BTQ250 FVSGGRNBT250A00

11.2 - BTH 300/300 HD

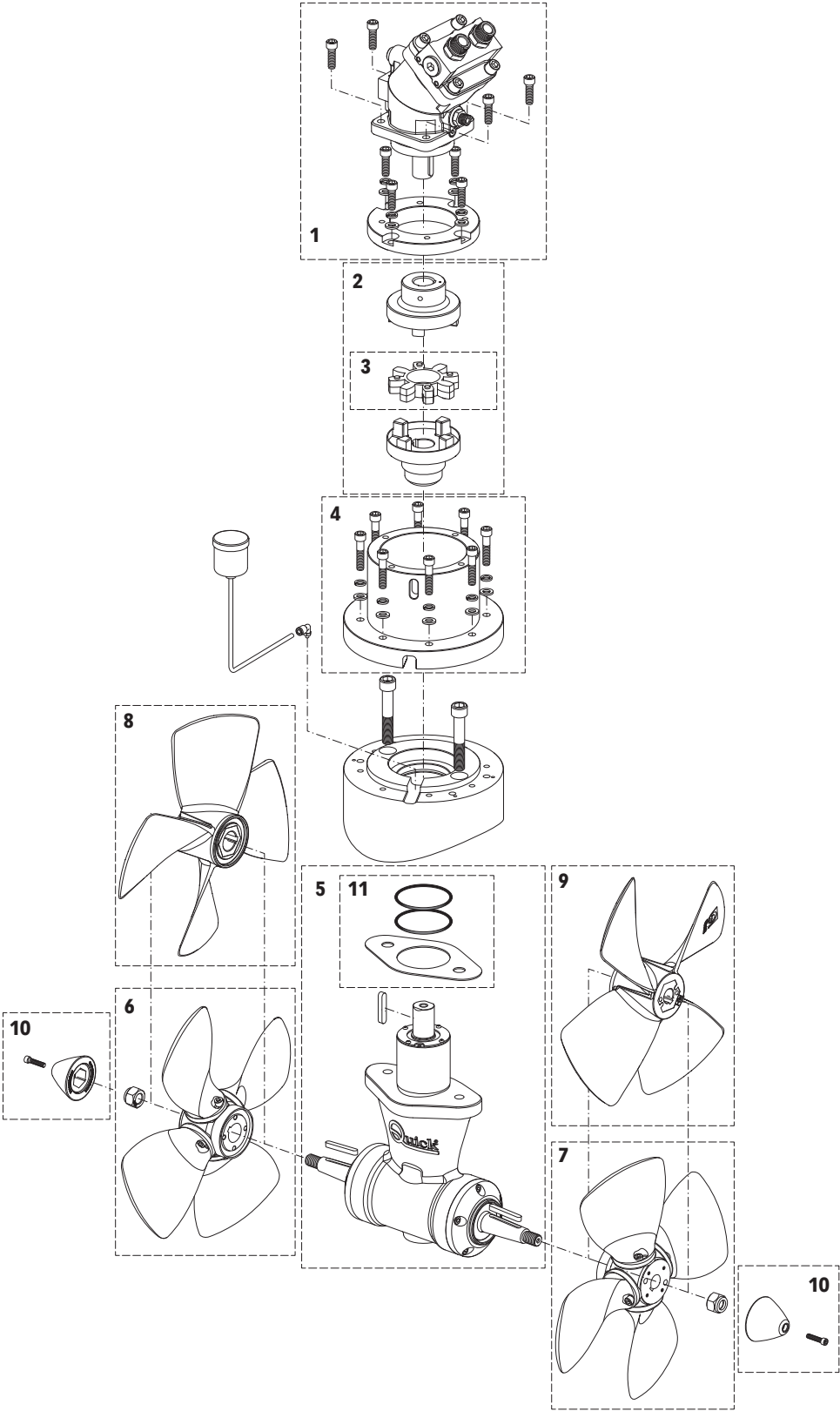
BTH 300-240 15,5kW
BTH 300-300 20,0kW
BTH 300-400 24,0kW
BTH 300-400HD 24,0kW



No.	DESCRIPTION	CODES			
1	OSP PISTON MOTOR 32CC BIDIRECT	FVEMFEL30PB5100	9	OSP GASKETS KIT BTQ 300	FVSGGRNBT300A00
2	OSP GEAR MOTOR 17.9CC GR2 B5/100	FVEMFEL179B5100	10	OSP GEARBOX KIT BT 300	FVSGGBBT3000A00
3	OSP GEAR MOTOR 22CC GR3 B5/100	FVEMFEL220B5100	10B	OSP ANODES FOR PROPELLER KIT - BT 300HD ALL	FVSGGBBT3000C00
4	OSP COUPLING KIT BTH 300 HYDRO PISTONS	FVSGG300PST0A00	11	OSP PROPELLER KIT D300 LH NIBRAL	FVSGEL300N00A00
5	OSP COUPLING KIT BTH 300 HYDRO 300-240	FVSGG300NGR0A00	12	OSP PROPELLER KIT D300 RH NIBRAL	FVSGEL300RN0A00
6	OSP COUPLING KIT BTH 300 HYDRO 300-300	FVSGG300NRG2A00	13	OSP PROPELLER KIT D300 LH NYLON	FVSGEL300L00A00
7	OSP CUSH DRIVE DAMPER KIT D70 BT 250-300	FVSGGPVP7000A00	14	OSP PROPELLER KIT D300 RH NYLON	FVSGEL300R00A00
8	OSP PROPELLER FLANGE KIT BT 300	FVSGFLBTQ300A00	15	OSP ANODES FOR PROPELLER KIT - BT 300 ALL	FVSGANBTQ30AA00
8B	OSP PROPELLER FLANGE KIT BT 300 HD	FVSGFLBTH340C00	16	OSP GEARBOX KEYS KIT BTQ 300	FVSSHBTQ3000A00

11.3 - BTH 386

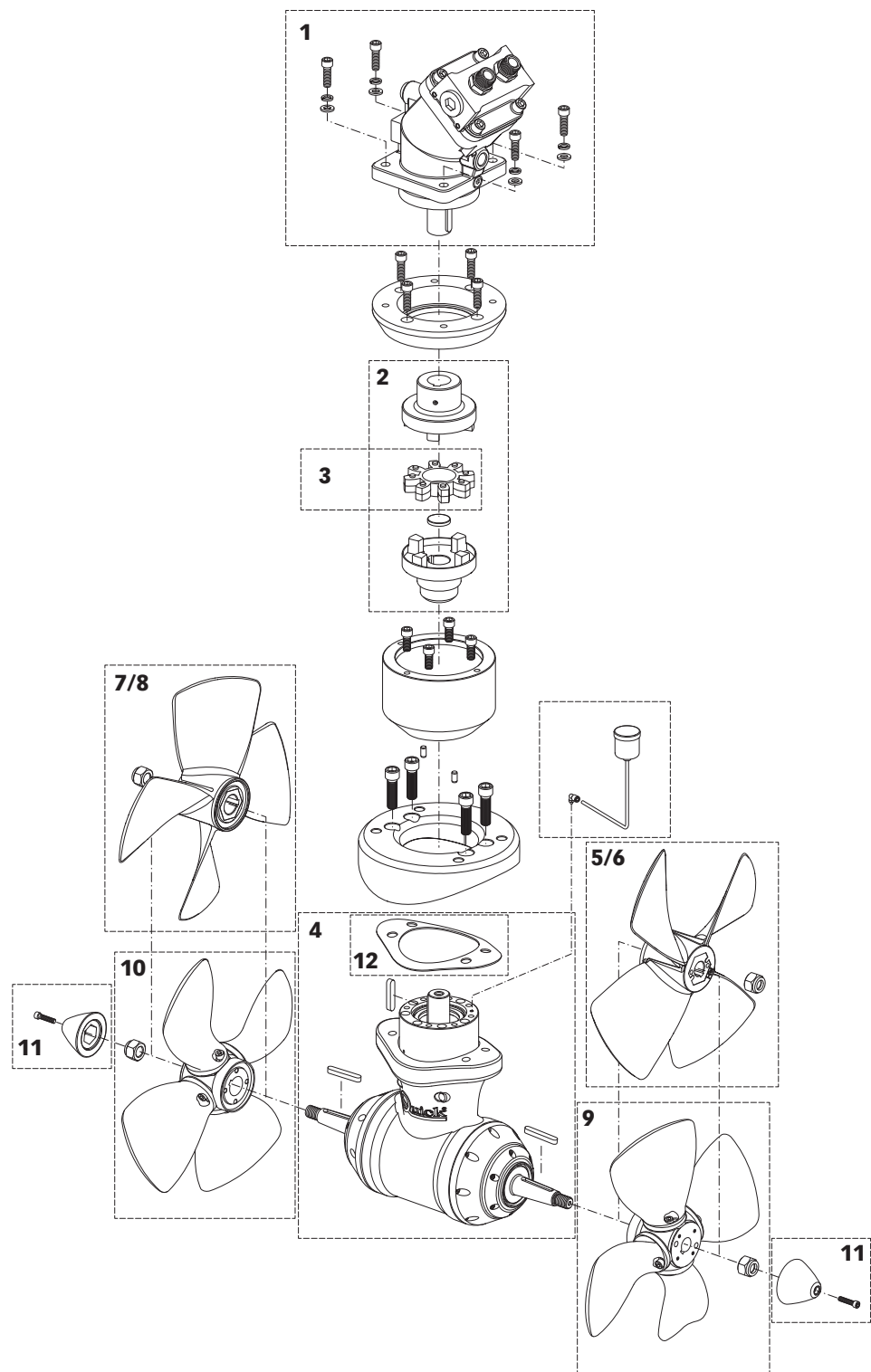
BTH 386-420 34,0KW
BTH 386-455 34,0KW



No.	DESCRIPTION	CODES		
1	OSP MOTOR PISTONI 41CC BIDIREZ	FVEMFEL41P386A0	6	OSP KIT ELICA D386L P480 COMPLETA FVSGEL386L30A00
2	OSP KIT GIUNTO BTQ 386 HYDRO	FVSGG3863235H00	7	OSP KIT ELICA D386R P480 COMPLETA FVSGEL386R30A00
3	OSP KIT PARASTRAPPI (NERO) B00	FVSGGPVP109BA00	8	OSP KIT ELICA D386L NYLON COMPLETA FVSGEL386L3PA00
4	OSP KIT FLANGIA ELICA BTH386 41CC B00	FVSGFLBTH386B00	9	OSP KIT ELICA D386R NYLON COMPLETA FVSGEL386R3PA00
5	OSP KIT RIDUTTORE BTQ386 B00	FVSGGBBT3860B00	10	OSP KIT ANODI ELICA BT 386 ALL FVSGANBTQ38AA00
			11	OSP KIT GUARNIZIONI BTQ 386 FVSGGRNBT386A00

11.4 - BTH 386 HD

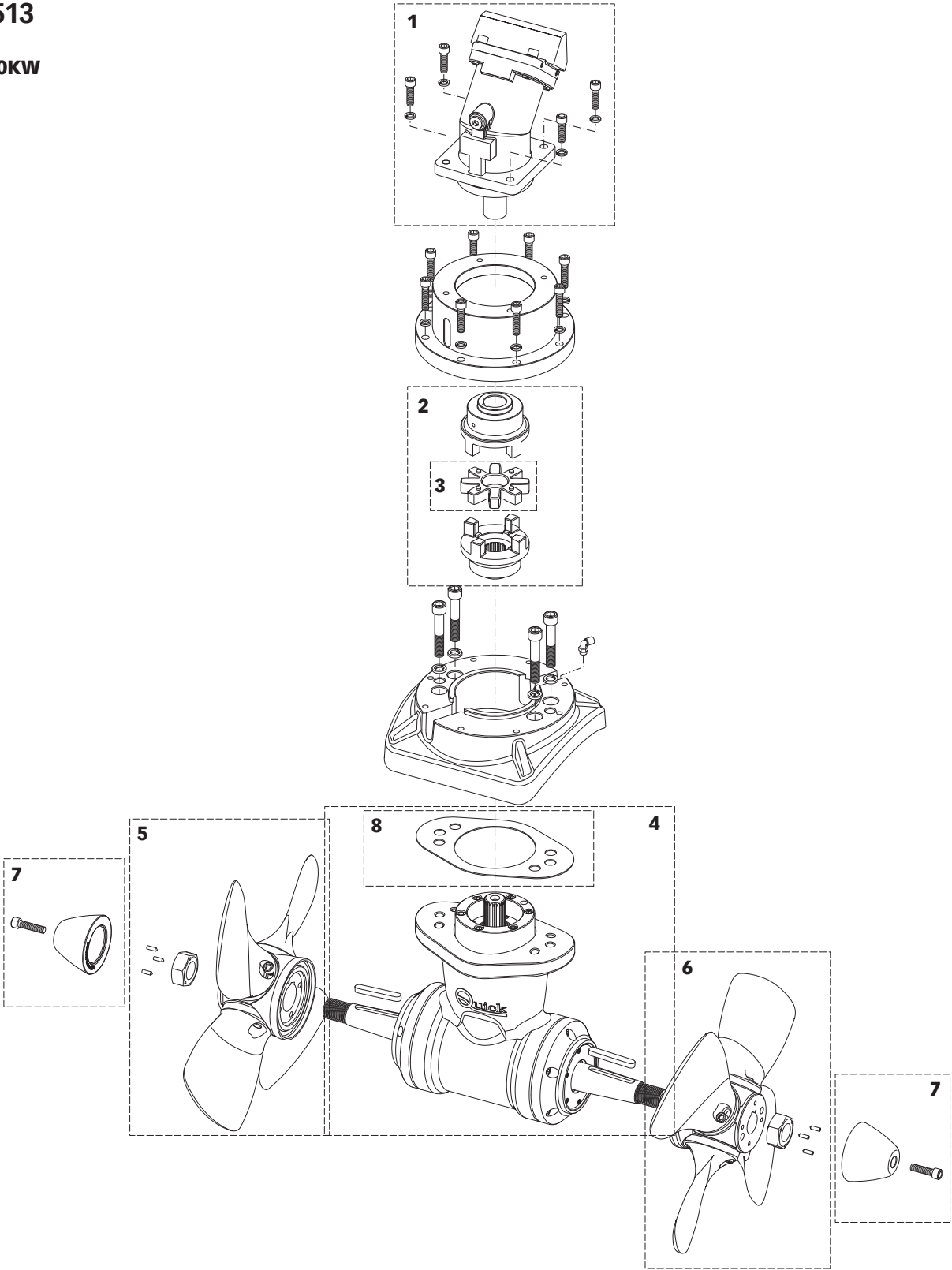
BTH 386-455HD 34,0KW
BTH 386-550HD 41,0KW
BTH 386-580HD 41,0KW



No.	DESCRIPTION	CODES		
1A	OSP PISTON MOTOR 41CC BIDIRECT	FVEMFEL41P386A0	6	OSP PROPELLER KIT D386L P600 COMPLETE FVSGEL386L40A00
1B	OSP PISTON MOTOR 55CC BIDIRECT	FVEMFEL55P386A0	7	OSP PROPELLER KIT D386R P480 COMPLETE FVSGEL386R30A00
2A	OSP COUPLING KIT BTQ 386-455 HYDRO	FVSGG3863235H00	8	OSP PROPELLER KIT D386R P600 COMPLETE FVSGEL386R40A00
2B	OSP COUPLING KIT BTQ 386-580 HYDRO	FVSGG3863255H00	9	OSP PROPELLER KIT D386L NYLON COMPLETE FVSGEL386L3PA00
3	OSP CUSH DRIVE DAMPER KIT D109 BT 386 HD	FVSGGPVP1090A00	10	OSP PROPELLER KIT D386R NYLON COMPLETE FVSGEL386R3PA00
4	OSP GEARBOX KIT BT 386 HD	FVSGGBBT3862A00	11	OSP ANODES FOR PROPELLER KIT - BT 300 ALL FVSGANBTQ30AA00
5	OSP PROPELLER KIT D386L P480 COMPLETE	FVSGEL386L30A00	12	OSP GASKETS KIT BT 386 R2 FVSGGRBT3862A00

11.5 - BTH 513

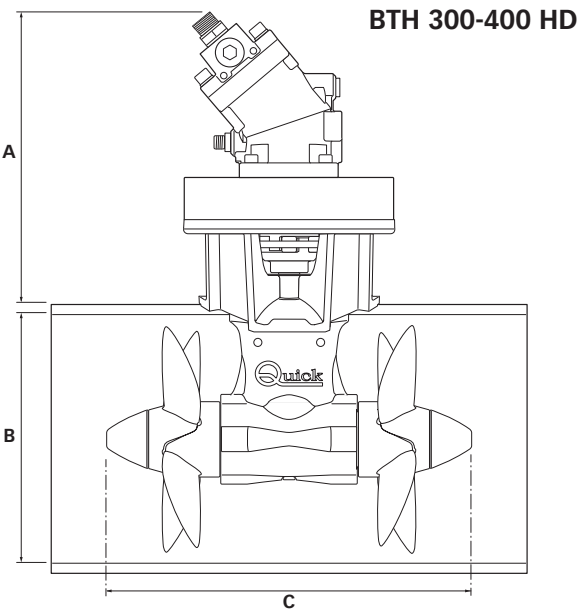
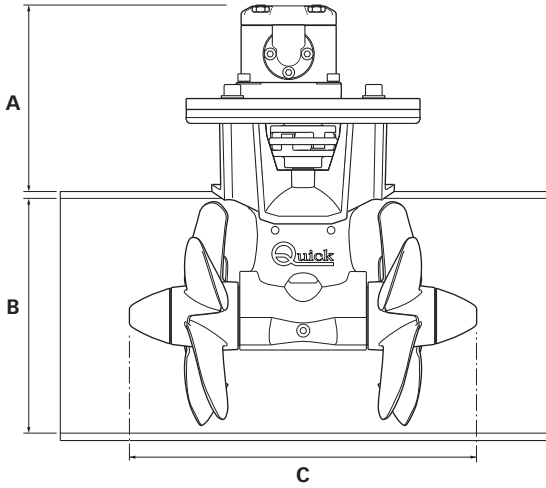
BTH 513-1000 60KW



N°.	DESCRIZIONE	CODICI	5	OSP PROPELLER KIT D513R P480	FVSGEL513R30A00
1	OSP PISTON MOTOR 90CC BIDIRECT	FVEMFEL90P513A0	6	OSP PROPELLER KIT D513L P480	FVSGEL513L30A00
2	OSP COUPLING KIT BTQ 513 HYDRO	FVSGG5131000H00	7	OSP ANODES FOR PROPELLER KIT - BT 513 ALL	FVSGANBTQ51AA00
3	OSP CUSH DRIVE DAMPER KIT D120 BT 513	FVSGGPVP1200A00	8	OSP GASKET KIT BTQ513	FVSGGRNBT513A00
4	OSP GEARBOX KIT BT 513	FVSGGBBT513A00			

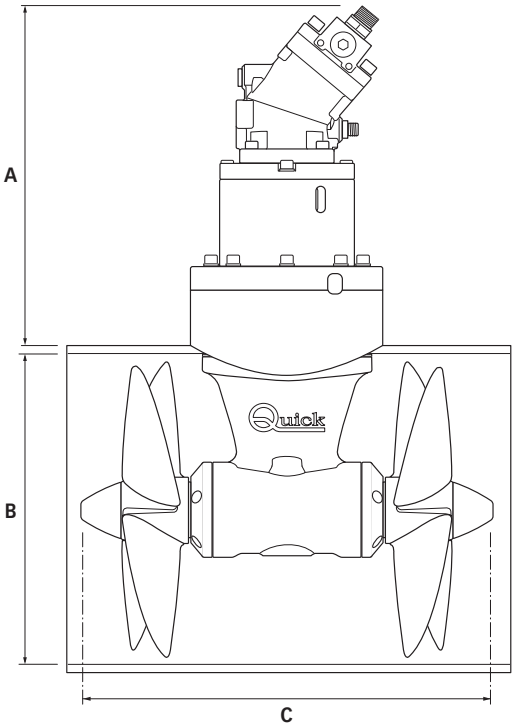
12 - Dimensions

BTH 185-85 BTH 250-220
BTH 185-105 BTH 300-240
BTH 250-150 BTH 300-300

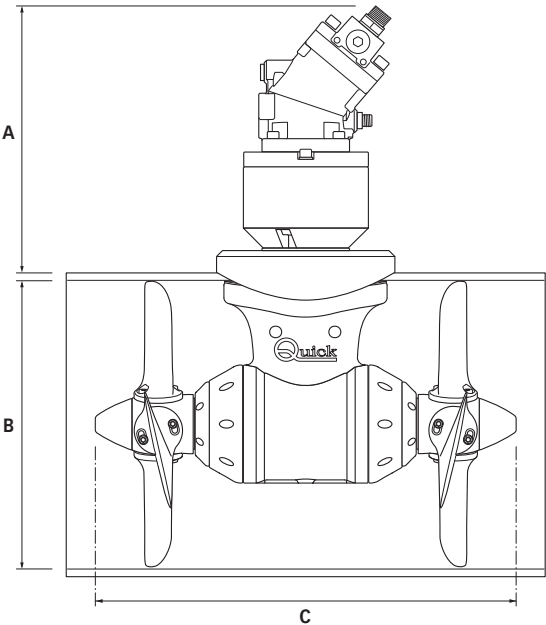


	BTH 185-85	BTH185-105	BTH 250-150	BTH 250-220	BTH 300-240	BTH 300-300	BTH 300-400 HD
A	173,5	176	691 (27 13/64)	209	228	246	345
B	185	185	250 (98 27/64)	250	300	300	300
C	268 (105 33/64)	268 (105 33/64)	373 (14 11/16)	371	434	434	434

BTH 386-420
BTH 386-455

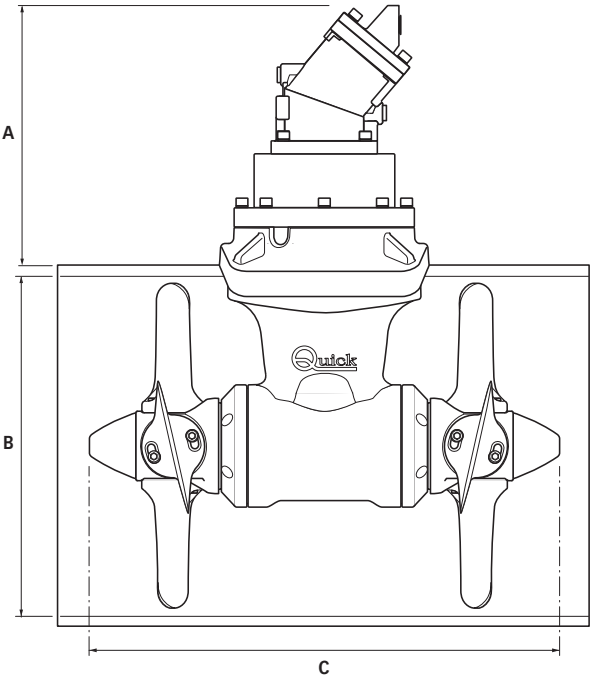


BTH 386-455 HD
BTH 386-550 HD
BTH 386-580 HD



	BTH 386-420	BTH 386-455	BTH 386-455 HD	BTH 386-550 HD	BTH 386-580 HD
A	445	426	445	358	399
B	386	386	386	386	386
C	508	508	566	566	566

BTH 513-1000



BTH 513-1000	
A	405
B	513
C	738

Your contribution to protecting the environment



The crossed out bin symbol indicates that the product must be delivered for proper disposal. The user is responsible for erasing any personal data from the electronic equipment to be disposed. Proper separate collection helps to avoid possible negative effects on the environment and health and promotes the recycling of the materials of the equipment.

Disposal of packaging

The purpose of the packaging is to protect the goods from transport damage. The packaging materials used are recyclable, as they are selected in an environmentally friendly and easy-to-dispose manner.

The packaging may be retained for possible shipment to the authorized technical service department in the event of damage or equipment failure.

The individual components of the packaging may be collected separately in accordance with separate collection criteria.

Returning packages to the material collection circuit saves raw materials on one hand and reduces the volume of waste on the other.

Product disposal

Electrical and electronic equipment often contains useful materials. They also contain substances, compounds and components that were necessary for the operation and safety of the equipment. Improper disposal could be harmful to health and the environment.

The product consists of metal and plastic materials which, when separated, can often contain useful materials. Improper disposal could be harmful to health and the environment.

The user is therefore advised to separate the materials prior to disposal in order to ensure correct delivery of the materials including for possible reuse. In any case, follow the applicable delivery regulations of the country in which the product is used.

For EU countries

Disposal of waste electrical and electronic equipment (WEEE), in compliance with Directive 2012/19/EU and implementation of its transposition into national law.

For non-EU countries

Dispose of the equipment in accordance with the applicable waste electrical and electronic equipment regulations.

BTH Series

HYDRAULIC THRUSTERS

REV 002A



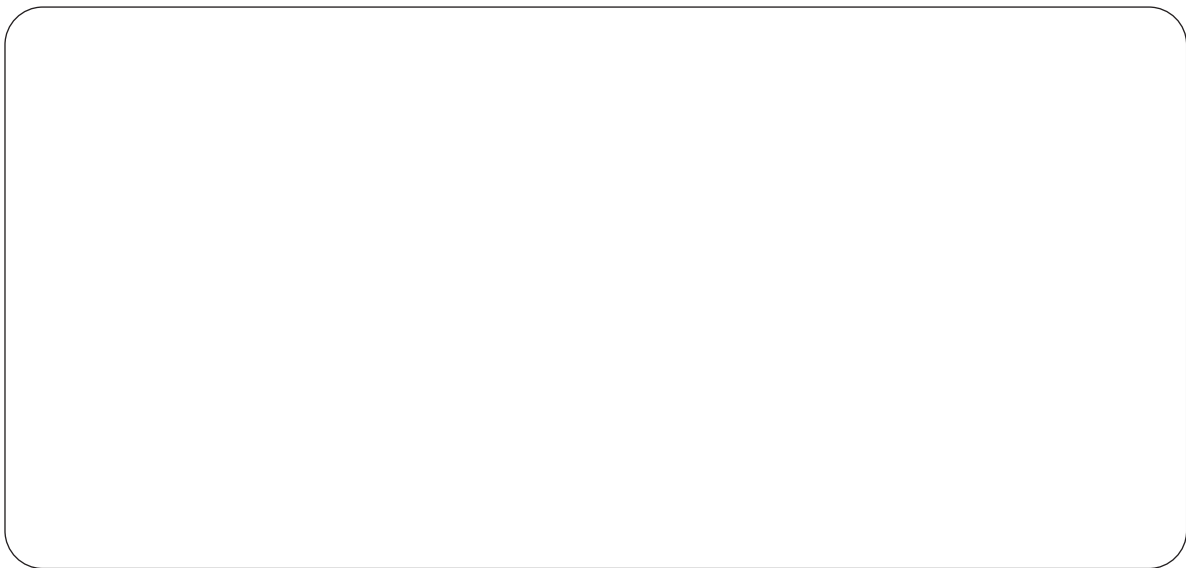
BTH 18585 - 185105

BTH 250150 - 250220

BTH 300240 - 300300 - 300400HD

BTH 386420 - 386455 - 386455HD - 386550HD - 386580 HD

BTH 5131000



Product serial number



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