## **Operating Instructions Schottel 70BM**

# Best.Nr. 4.9060

- complete ball bearing (stainless steel)
- helical, hardened steel bevel gears
- watertight through shaft seal



A Schottel drive, developed by the company is a modern and particularly powerful drive version

especially for working vessels must have a very high maneuverability, such as Harbor tugs, ferries and special vessels. The mounted under the ship bottom in a performance-enhancing nozzle propeller is swiveled to the side and the produced water stream is used as directly as rowing.

Our steerable thrusters do not have a conical Schottel profile, but the Wärtsila Lips HR profile.

This S-striking profile, together with the special propeller, has an approx. 20% higher efficiency compared to the Schottel profile.

This profile is mostly used in offshore vessels Offshore vessels like drilling platforms, accommodation platforms, anchor handling vessels, supply and multipurpose vessels

The drive is made of glass fiber reinforced plastic.

#### Safety instructions

- the installation of the drive in the hull must be waterproof
- · disconnect the power supply during all work on the drive
- Never attempt to stop the spinning propeller with your hand or fingers or other objects
- Protect the drive from shocks
- No jerky steering movements at full engine power.

The drive unit is recommended only for advanced modelers.

The drive is not a toy. Recommended operating and dealing with young people under 16 years under adult supervision.

#### mounting

For the installation / removal the drive must be partially disassembled:

After removal of the upper snap ring, the upper bevel gear is to pulled off. The ball bearing can remain in the drive. The control pinion is not to remove. Drag out the lower drive part. Pull it against the mounting flange.

Assemble in reverse order.

Fill the grooves in the drive shaft before assembling with water resistant grease. Use our specially developed special grease for plastic-metal pairings, order no. 4.5190.

Otherwise, the drive is maintenance-free. Bevel gears and ball bearings require later no lubrication.

The Schottel drive must be mounted on a flat surface in the boat hull.

If you use a thin hull saw off the ring from the attached drawing out from 2-3,0mm waterproof glued plywood. Paint it, for example with Epoxy or Polyester and glue it at the appropriate point in the hull.

The propeller can be pulled from the shaft after removing the cap and the snap ring.

When using two drives in a model one should drive left the others rotate clockwise. Therefore replace the assembled lefthanded propeller against the included dextrorotatory.

#### operating instructions

The drive can run slightly in new condition. After a running time of 15-20 min. In the water everything should have run in. If necessary, the lower bearing cap can be screwed in or unscrewed with the shaft bearing. Insert suitable metal pins into the side holes as far as the stop and twist slightly the bearing cap.

Carry out all control movements gently, never give jerky ripples at full engine power. The control servo is heavily loaded and receives increased current. The servo is therefore connected via a power supply module, e.g. UBEC-HV Order-No. 4.8001-3 or a servo direct current supply Order no. 4.59290 from a separate battery.

### Installation and control

Use our mounting frame 4.7079 for installation.

It guarantees the parallel installation of Schottel, motor and rotation servo.

Our specially developed software is designed for a 360 ° operation without additional electronics for 2 Schottel drives with toothed belt drive.

A 180 ° servo 7947GR and a belt pulley 4.RT25606 are needed, as well as a belt pulley with toothed belt according to the speed of your motor.

The software is intended for Graupner mc-20 HoTT or mc-32 HoTT and can be downloaded from our homepage.

#### spare parts:

4.3303 hardened steel, helical bevel gears

4.5190 special grease for metal-plastic pairings

- additional spare parts on request
- 4.9071 Propeller 1 pair left and right rotating

4.9079 mounting frame

Tooth belts, belt pulley at bauer-modelle.com > category drive units, special- and shaft drives > tooth belts, belt pulley

