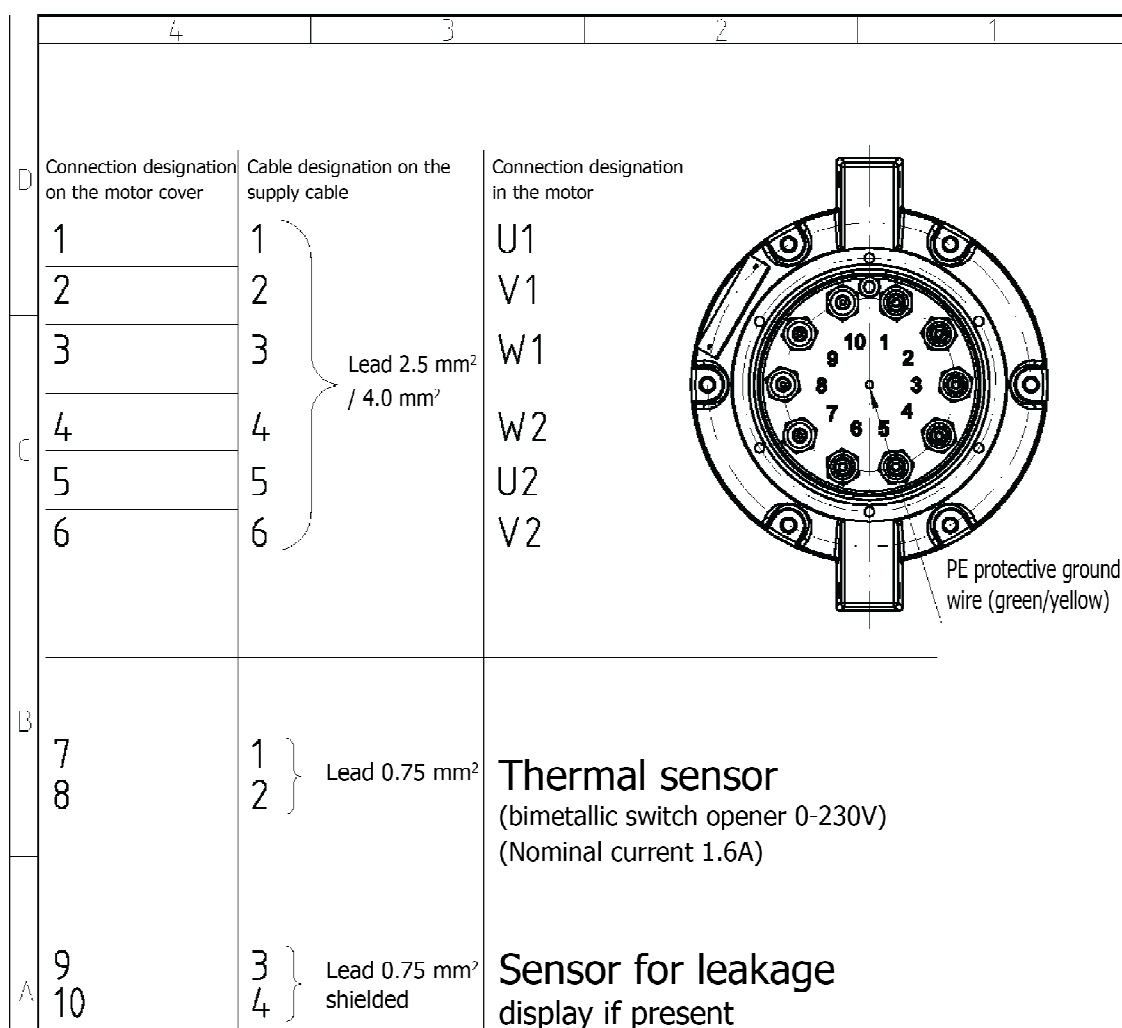


10.6 Wiring diagram for TMP type 2 M1501 and leakage display



For TMR II mod. 07 4.0 kW - 22 kW!

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-	-	-	-	Programme number		Scale	Dimensions without tolerances in acc. with DIN ISO 2768 – medium	
-	-	-	-	—				
-	-	-	-	Order number		Material	Parts no.	
-	-	-	-					
-	-	-	-	Edited by: 08.02.2008		Name	Description	
-	-	-	-	Checked by:		Kossebau	Wiring diagram for TMR II mod. 07	
-	-	-	-	Standard			4-22kW with leakage display	
-	-	-	-	Stallkamp				
-	-	-	-	Erich Stallkamp LSIA GmbH		Group	-	Type
-	-	-	-	Postfach 1260, 49408 Bielefeld		Drawing no.	25-0095	Sheet
-	-	-	-	Tel. 052443/1035 Fax 3178				Sh.
Stat.	Amendments	Date	Name	IT no. 25-0095.dwg				

11 ELECTRICAL CONNECTION OF TMP TYPE 2 M1501

11.1 Electrical connection and protection of the electrical motor

The electrical connection may only be carried out by a certified electrician. The VDE regulations (German Association for Electrical, Electronic & Information Technologies) must be observed. Compare the existing voltage with the specifications on the motor's manufacturer's plate and select the appropriate circuit.

The device is watertight according to IP68. The manual switch box is splash-proof according to IP40. The plastic chassis of the automatic delta-wye start-up is splash-proof according to IP65.

The technical connection conditions of the local energy authorities must be observed during connection.

A motor protection device is a prerequisite.

The device must be properly connected to the mains supply (pay attention to serviceable protective conductors) and check whether the feed cable is properly protected. The respective power consumption of the motor in amperes is shown on the motor's type plate. See "Point 7. **Power data and dimensions** of TMP"

ATTENTION!

The switch box must be protected from moistures at all times!

11.2 Direction test

The impeller turns clockwise when viewed from the pump inlet (from below).

The direction can be tested by turning the device on and off again rapidly.



If the direction is incorrect, swap any two of the phases L1, L2 and L3 of the feeder in the switch box!

The electrical installation may only be carried out by a certified electrician.

(in accordance with the VDE regulation or national regulations)

IMPORTANT!!

The electrical cable must **never** be subjected to tensile loads, as this can cause damage to the unit or cause it to leak.

Ensure that the electrical cable is always taut and does not droop during operation.

When winching up the device, the electrical cable must also be pulled up as it could otherwise be damaged.

12 MAINTENANCE OF TMP TYPE 2 M1501

The specified maintenance and inspection work must be performed regularly. These tasks may only be carried out by trained, qualified and authorised personnel. The operator of the device is obligated to have the manufacturer himself or a service approved by the manufacturer perform maintenance work according to the regulations of the manufacturer, including the necessary changing of oil and the repair and replacement of wearing parts. The operator is thus obligated to maintain a maintenance and revision list, which facilitates monitoring of the mandatory inspection and maintenance work (see Point 16 Maintenance and revision list).

12.1 Maintenance intervals

The device must be inspected for damage before every commissioning. In particular the impeller and the cable must be proven to be free of damage. In addition, the secure positioning of all screws and other fastening devices must be verified.

12.1.1 Recommendation: Every 3 months

12.1.1.1 Check the power consumption at the ammeter

Power consumption is constant during normal operation. Occasional current fluctuations are caused by the consistency of the medium being pumped/agitated. If a constantly increased power consumption is measured, a smaller impeller is required (see Point 8.5. Pump impeller or contact our sales representative).

12.1.2 Recommendation: Every 6 months in continuous operation

12.1.2.1 Check the shaft seal

The shaft seal is a wearing part and must be replaced at the latest every 4,500 operating hours when the device is in continuous operation. The shaft seal is available as a complete sub-assembly. Please contact our sales representative.

12.1.3 Recommendation: Every 6 months

12.1.3.1 Check the insulation resistance

Every 4,500 operating hours or at least once annually we recommend measuring the insulation resistance of the motor winding in the scope of maintenance work. If the insulation resistance is not attained, moisture can enter the motor. The device must not be recommissioned. Please contact our sales representative.

12.1.3.2 Check the functioning of the monitoring device

Every 4,500 operating hours or at least once annually we recommend checking the monitoring device in the scope of maintenance work. For these functional checks the device must be cooled down to ambient temperature. The electrical power cords of the monitoring devices must be disconnected in the switch box. Firstly, the temperature protection should be checked with a continuity measurement. If a leakage detector is installed, it should be tested with an ohmmeter. If you identify any defects, please contact our sales representative.

12.1.4 Recommendation: Every 12 months

12.1.4.1 Check the oil filling in the oil chamber

The oil filling in the oil chamber must be checked once annually. If oil is missing or contaminated with water or other media, the device must be taken out of operation immediately. In this case, the oil must be changed immediately and the front shaft seals must be exchanged. (See Point "12.2 Changing the shaft seal on the TMP type 2 M1501 BG 132/160".)

12.1.4.2 Check the tightening torque of all screw connections

Every 9,000 operating hours or at least once annually we recommend checking the secure positioning of the screw connections in the scope of maintenance work. The tightening torques for stainless steel screws in Nm for different thread sizes are shown below:

(M8 = 18 Nm, M10 = 33 Nm, M12 = 57 Nm, M16 = 135 Nm, M20 = 150 Nm)

12.1.4.3 Visual inspection and cleaning of the connection cable and lifting gear

Every 9,000 operating hours or at least once annually we recommend checking the connection cable, shackles and lifting gear for damage and soiling in the scope of maintenance work. Deposits, blockages and adhering fibrous materials must be removed. In addition, the insulation on the connection cable must be inspected for damage, such as scratches, tears, blistering or crushed areas. Damaged components must be exchanged immediately. Please contact our sales representative.

12.2 Changing the shaft seal on the TMP type 2 M1501 BG 132/160

The following installation instructions refer to drawing numbers: 28-0127 and 28-0130

Before carrying out installation work on the pump, the power supply or voltage in the feed cable to the submersible motor pump's switch box must be disconnected.

Raise the pump out of the pit and clean it.

Disassembly:

1. Remove brass plug ½" no. 26 and copper filling ring ½" no. 27 (release oil).
2. Pull off protection cap no. 120 and untighten nut no. 119 (we recommend inserting a piece of wood between the impeller and the lid of the feeder in order to block the impeller when untightening the nut);
3. Disassemble the lid of the pump feeder no. 121;
4. Pull the impeller no. 117 off downwards;
5. Remove the fitting key no. 113;
6. Remove spacer discs no. 114, 115 or 116, if present;
7. Remove the spacer disc no. 19 and O-ring no. 22;
8. Untighten and remove packing sleeve no. 18 using a hook spanner.
9. Remove sleeve for motor shaft no. 23.

Installation:

1. Glue packing sleeve no. 18 including shaft seal rings at thread using Curil and assemble.
2. Carefully slide in sleeve for motor shaft no. 23 and O-ring no. 22.
3. Slide on the distancers no. 19.
4. Replace spacer discs no. 114, 115 or 116, if present.
5. Insert the fitting key no. 113.
6. Slide on the impeller no. 117.
7. Assemble the lid of the pump feeder no. 121.
8. Check that the gap between the impeller no. 117 and the lid of the pump feeder no. 121 is 1-2 mm; if necessary, additionally mount or remove the distancers no. 114, 115 or 116 as of point 3.
9. Slide on the disk no. 118.
11. Screw on a new lock nut no. 119.
12. Put on protective cap no. 120.
13. Fill in oil (Wibohyd EHF 46), BG 132 = 0.4 l; BG 160 = 0.4 l.
14. Mount new brass plug ½" no. 26 and new copper filling ring ½" no. 27.
15. Carry out functional test.

12.3 Changing the pump impeller on the TMP type 2 M1501

If power consumption is too high when operating the pump, a smaller impeller must be installed.

Disassembly: see 12.2: Disassembly, Point 2 to 4

Installation: see 12.2: Installation, Point 6 to 12

Then perform a functional test!