



Tauchdruckpumpe
Submersible pressure pump
Pompe submersible à pression

TDP 800

Betriebsanleitung
Operation manual
Manuel d'utilisation

Gültig ab Seriennummer 304215
Valid from serial number 304215
Valable à partir du numéro de série 304215

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Attention:

**The pump must not be operated if the system is closed (closed pressure pipe).
Resulting damages are excluded from the warranty.**

Declaration of conformity

We, the

**ZEHNDER Pumpen GmbH
Zwönitzer Straße 19
08344 Grünhain - Beierfeld,**

herewith declare

that the submersible pressure pump TDP 800

conforms to the following relevant regulations:

- **EC low voltage directive 2014/35/EU**
- **EMC directive 2014/30/EU**
- **Machinery directive 2006/42/EC**

Applied conform standards, particularly

EN 60335-1:2012/A11:2014

EN 60335-2-41:2003/A2:2010

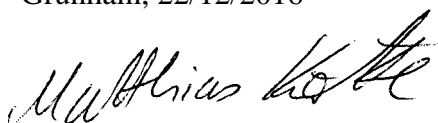
EN 809:1998/AC:2010

EN 55014-1:2006/A2:2011, EN 55014-2:1997/A2:2008

EN 61000-3-2:2014, EN 61000-3-3:2013

EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3/A1:2011, EN 61000-6-4/A1:2011

Grünhain, 22/12/2016



Matthias Kotte
Product development

1. General:

1.1 Introduction

This operating manual is valid for the submersible pressure pump of the type series **TDP**.

If the instructions of the operation manual – especially the safety instructions - are not observed, or in case of unauthorized modifications of the device or the installation of non-original spare parts, the guarantee expires automatically. The manufacturer assumes no liability for damages resulting from such behaviour!

Such as any other electrical device, this product may fail due to absence of mains voltage or a technical failure. If damage could occur, an emergency power supply, a second plant and/or an off-grid alarm device should be provided according to the application. We as manufacturer are at your disposal for consultation also after the purchase. In case of failures or damages, please contact your retailer.

Manufacturer: ZEHNDER Pumpen GmbH
Zwönitzer Straße 19
08344 Grünhain-Beierfeld

Date of manufacture: The date of manufacture of the pump is engraved on the top of the housing.

Manufactured size: **TDP 800**

State of the operation manual: July 2008

1.2 Enquiries and orders:

In case of enquiries or orders, address yourself to your specialist retailer and/or retail seller.

1.3 Technical data:

TYPE:	TDP 800
Pressure pipe connector	G1-3/4“ or G1-1/2“
max. particle size	3 mm
Input power P₁	760 W
Output power P₂	410 W
Power reception	2.9 A
Supply cable	10 m 3 x 1mm²
Floating switch	ja
max. discharge flow	6000 l/h
max. discharge height	30 m

Materials:

Pump housing:	Polypropylene (PP)	Running wheel	Polyamide (PA-GF)
Outer housing:	Polypropylene (PP-GF30)	Floating switch:	Polypropylene (PP)
Bottom filter:	Polyethylene (PE)	Screws:	Stainless steel 1.4301
Motor housing:	Stainless steel 1.4301	Mechanical seal:	Coal/ceramics/NBR/stainless steel
Diffuser:	Polyamide (PA-GF)	Cover:	Polyamide (PA-GF)

The submersible pumps of the type series TDP is applicable up to a liquid temperature of 40 °C.

1.4 Range of application

The pumps of the type series TDP are multistage submersible pressure pumps adapted for slightly polluted water with suspended solids (no stones) up to a particle size of 3 mm, but not for excrement containing sewage! These pumps are adapted for a stationary application in a cistern or a rainwater collecting tank for the watering of a garden e.g. for the operation of an irrigation sprinkler.

Attention:

The pump must not be operated if the system is closed (closed pressure pipe).

1.5 Accessories

The pumps of the type series TDP are delivered with a hose connection piece 1“, as well as a hose connection piece 3/4“ with nut connector G1, to which a hose 1” and/or a hose 3/4“ may be plugged. Furthermore, the pumps are equipped with a floating switch.

2. Safety:

(from: “VDMA sheet 24 292“)

The operation manual at hand provides basic notes which must be taken into account during assembly, operation and maintenance works. Therefore, before assembly and commissioning, this operation manual must be read by the assembler as well as by the responsible personnel/operator at all costs. It always must be available on site of operation of the machine/plant.

The general safety notes listed under the main point safety are not the only notes to be taken into account. Please also observe the specific safety instructions, such as those for private use, listed under other main points.

2.1 Marking of the notes contained in the operation manual

The safety notes contained in this operation manual which can cause danger to persons are specifically marked by the following general danger symbol



Safety sign according to DIN 4844 - W 9,

The following symbol warns against dangers caused by voltage



Safety sign according to DIN 4844 - W 8.

In case of safety notes the non-observance of which can cause danger to the device and its functioning, the word **ATTENTION!** is inserted.

Notes that are directly attached to the device, such as

- Directional arrow
- Characteristics of liquid connections

must be observed and kept in completely readable condition at all costs.

2.2 Personnel development and training

The personnel responsible for operation, maintenance, inspection and assembly must have the corresponding qualifications for those types of work. Area of responsibility, competence and the surveillance of the personnel must be regulated precisely by the operator. If the personnel do not possess the necessary knowledge, they are to be trained and instructed. By order of the operator of the pump, the instruction and training, if necessary, can be carried out by the manufacturer/supplier. Furthermore the operator has to make sure that the personnel have completely understood the content of the operation manual.

2.3 Dangers in case of non-observance of the safety notes

The non-observance of the safety notes can cause dangers to persons as well as to the environment and the machine. If the safety notes are not observed, this can result in the loss of all compensation claims.

In detail, non-observance can for instance result in the following damages as an example:

- Failure of important functions of the machine/plant
- Failure of the prescribed methods for maintenance and repair
- Endangerment of persons through electrical, mechanical and chemical influences
- Endangerment of the environment through leakage of hazardous substances

2.4 Safety-conscious way of working

The safety notes listed in this operation manual, the existent national regulations on accident prevention as well as possible internal working, operating, and safety instructions of the operator must be observed.

2.5 Safety notes for the operator/user

- Hot or cold device components which could cause danger must be secured against contact by the customer.
- Protection against contact with moving parts (e.g. coupling) must not be removed while the machine is operating.
- Leakages (e.g. of the shaft sealing) of hazardous materials to be conveyed (e.g. explosive, toxic, hot) must be discharged in such a way that no danger arises for persons or the environment. The legal requirements must be observed.
- Endangerments through electric power must be eliminated (details concerning this, see e.g. the regulations of the VDE (German Association for Electrical, Electronic and Information Technology) and the local energy suppliers).

2.6 Safety notes concerning maintenance, inspection, and assembly works

The operator must make sure that all maintenance, inspection, and assembly works are carried out by authorised, skilled, and qualified personnel which are adequately informed by having thoroughly studied the operation manual.

Generally, works on the machine are only to be carried out when the pump is turned off. The proceeding prescribed in the operation manual in order to stop the pump must be respected at all costs.

Pumps or pump units conveying media dangerous to health must be decontaminated. Immediately after finalising the works, all safety and protection installations must be reinstalled and/or activated.

Before (re)start, the points listed in the chapter commissioning must be taken into consideration.

2.7 Unauthorised modification and fabrication of spare parts

Retrofitting and modifications of the machine are permitted only after having consulted the manufacturer. Original spare parts and accessories authorised by the manufacturer ensure the safety. The use of other parts can lead to the removal of liability for the resulting damages.

2.8 Unauthorised modes of operation

The operational reliability is only guaranteed, if the level control is used as intended according to chapter 1 – General. The limit values stated in the data sheet must not be exceeded.

3. Description

The pumps of the type series TDP are equipped with a sturdy alternating current motor; the sealing of the pump housing to the motor is executed using a mechanical seal. The current is connected using the 10 m long connecting cable with 230 V-50 Hz alternating current.

Safety regulations

- All used electric devices must comply with the standard IEC 364 / VDE 0100, that means, that the electrical sockets must be equipped with earthing terminals.
- The electrical connection may only be effected by an electrically skilled person! The relevant VDE regulations 0100 must be respected!
- The mains to which the plant is connected must be equipped with a highly sensitive separate earth leakage circuit breaker IA <30 mA. In case of an installation in bath or shower rooms, the respective DIN VDE 0100 part 701 regulations must be respected.
- Please respect the regulations of the EN 12 056-4.
- All electrical devices, such as control, alarm sensor and power socket must be installed on a flood-proof position in dry rooms.
- Attention! Prior to every assembly and disassembly of the pump or other works on the plant, the plant must be disconnected from the mains.
- In case of using an extension cable, it must comply with the included connector cable concerning quality.



- The pump must be connected to a socket with earthing.
- Never carry the pump on the cable, never low it on cable into the water; never pull it on cable out of the water.
- If the power is not supplied obligatory via an earth leakage circuit breaker, a separate earth leakage circuit breaker to the socket is recommended.



- The use of the pump at swimming pools and garden ponds and within their protection zones is only permitted if the plants located there are installed according to DIN VDE 0100/part 702. Ask you professional electrician. It is forbidden to take a bath in the pond during operation of the pump!

4. Installation and commissioning



- Before commissioning of the pump, check it for possible external damages (e.g. transport damages), in order to prevent accidents with electrical power.

The following minimum water levels are necessary for a proper operation of the pump:

TDP 800: 300 mm

If the pump shall be used in a cavity or a shaft the shaft/cavity must have a dimension of 450 x 450 x 450 mm. The suction basket must not be blocked by sludge and/or media containing fibres.

The floating switch mounted to the pump must be able to move freely.

If the water level rises and the floating switch floats, the pump is activated and pumps the water off until the water level is low that the floating switch deactivates the pump. The activation and deactivation height of the floating switch may be varied by displacing the floater cable within the fastening eye.



- In order to prevent damage to the shaft sealing, the pump must not run dry.

Attention:

The pump must not be operated if the system is closed (closed pressure pipe). Resulting damages are excluded from the warranty.

5. Maintenance



- Disconnect the power supply before carrying out any kind of work on the pump!

Maintenance contains an inspection and a cleaning of the pump housing, the running wheels and the individual stages. For this purpose, unscrew the four cross head screws (pos. 400 of the sectional drawing), remove and clean the bottom filter (pos. 390).

Remove and clean the cover (pos. 330 (all in all 4x available)).

Remove the hexagon nut and the flat washer. Now, the individual stages may be removed out of the pump housing.

Information: A stage consists each of 1x running wheel (pos. 360), 1x diffuser (pos. 350) and 1x cover (pos. 330).

The correct mounting position of the individual stages must be respected at all costs.

If necessary, number the parts. Following the cleaning, all parts are remounted in the right order.

ATTENTION In case of worn running wheels (wheel (e.g. due to abrasive media) a wear of the mechanical seal is also possible. The inspection of the mechanical seal and the motor as well as the replacement of the electric connecting cable should be effected by authorised after-sales services or by manufacturing factory only.

For temporary storage and conservation of the pumps, e.g. in winter, it suffices if the plant is stored in a cool, dark, dry, and frost-protected place. In case of a longer shutdown of the pump, the motor shaft must be rotated all 2 months by temporarily activate the pump, in order to prevent a jamming of the mechanical seal.

6. Warranty

As manufacturer, for all pumps of the type series TDP we provide a warranty of 24 months from date of purchase. Your sales receipt passes for verification. During that warranty period, we gratuitously remedy all deficiencies which are attributed to material or fabrication defects by either repairing or replacing the pump (to our choice).

Defects which are attributed to misuse or wear (running wheel and mechanical seal) are excluded from warranty.

Furthermore, the warranty claim expires if works (excepting those under point 5) are effected on the pump. We will assume no responsibility for consequential damages that are caused by a breakdown of the pump.

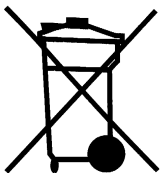
Attention:

The pump must not be operated if the system is closed (closed pressure pipe). Resulting damages are excluded from the warranty.

7. Technical modifications

..... reserved for the purpose of further development.

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Only for EU countries

Do not put the pump into the household waste!

According to the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and transposition into national law, wasted electronic tools must be collected separately and must be recycled in an environmentally compatible manner.

Appendix: Spare parts list TDP 800

➔ In case of ordering spare parts, always specify the type of the pump and the position number! ←

Pos.	Qty.	Designation	Article number
010 to 180	1	Motor unit TDP completely preassembled; Motor housing with winding, Rotor with shaft, bearing plate and bearings Mechanical seal, oil filling condenser and terminal clamp	No art. n°
140	1	O-ring 92x3	150.004
170	1	Condenser	279911
190	1	Handle	900113
200	2	Sealing ring D=7	900100
210	4	Slotted pan head screw for handle	900121
220	1	Connection cable with connector	270015
230	1	Floating switch	270016.G
250	1	Mechanical seal (stationary part)	270921
260	1	Mechanical seal (rotating part)	included in pos. 250
270	1	Retaining ring	800.012
280	1	Outer housing TDP	900108.4
300	1	O-ring 130x2	150.005
310	1	Pump housing TDP	100.009
320	4	Cross head screw	800.002
325	2	PIN-torx screw	800.003
330	4	Cover	100.014
340	1	O-ring 115x2,5	150.006
350	3	Diffuser	100.013
360	3	Running wheel	100.012
370	1	Flat washer	800.006
380	1	Hexagon nut	117341
390	1	Bottom filter	900131.2
400	4	Cross head screw	800.004
410	1	Hose nozzle G1-3/4" with O-ring	100.023
415	1	Hose nozzle G1-1/2" with O-ring	100.024

Appendix: Sectional drawing for spare parts list

