

Sewage submersible pumps

Fields of application

The submersible pumps of various designs are suitable for handling effluent or sewage in municipal and industrial pumping stations as well as in surface water drainage applications.

The smaller types are also used very successfully as portable units to deal with emergency situations.

In areas subject to explosion risk or for pumps which are connected to the drainage system, for example areas with vehicles, i.e. car parks, garages or tank farms, the explosion protected **po-we** type must be used.

Single channel pumps are recommended for:

- effluent which contains fibrous matter
- effluent which contains solids
- mixed water
- raw effluent
- raw sludge
- rainwater

Vortex impeller pumps are recommended for:

- effluent which contains fibrous matter prone to matting
- effluent which contains solids
- abrasive effluent
- effluent which contains trapped air or gas
- mixed water
- raw effluent
- raw sludge
- surface water
- rainwater

Technical data

Pump

Vertical, single-stage, submersible, pump case with horizontal discharge, single channel or vortex impeller with short shaft extension. This provides a longer service life for the ball bearings and the shaft seals.

Bearings

Common shaft for pump and motor, deep groove and angular contact ball bearings, grease-packed.

Seal

Silicon carbide mechanical seal independent of sense of rotation, oil chamber and artificial carbon mechanical seal or duplex rotary shaft seal as secondary seal, safe to run dry.

Motor

Submersible, enclosure IP68, activation through special purpose plug or control unit, protected by winding thermostats, **po-we** types tested by PTB (German tech. inspection authority), type of protection EEx d IIB T4.

Materials

Pump and motor case as well as single channel impeller in GG grey cast iron (vortex impeller in spheroidal graphite iron GGG*), corrosion protected shaft (no contact with pumped liquid), flexible rubber sheathed cable.

Installation

Install pump vertically with guide rail system or pump base. Flange coupling according to DIN, coupling size B or hose tail bend up to 3" possible.

Scope of Supply

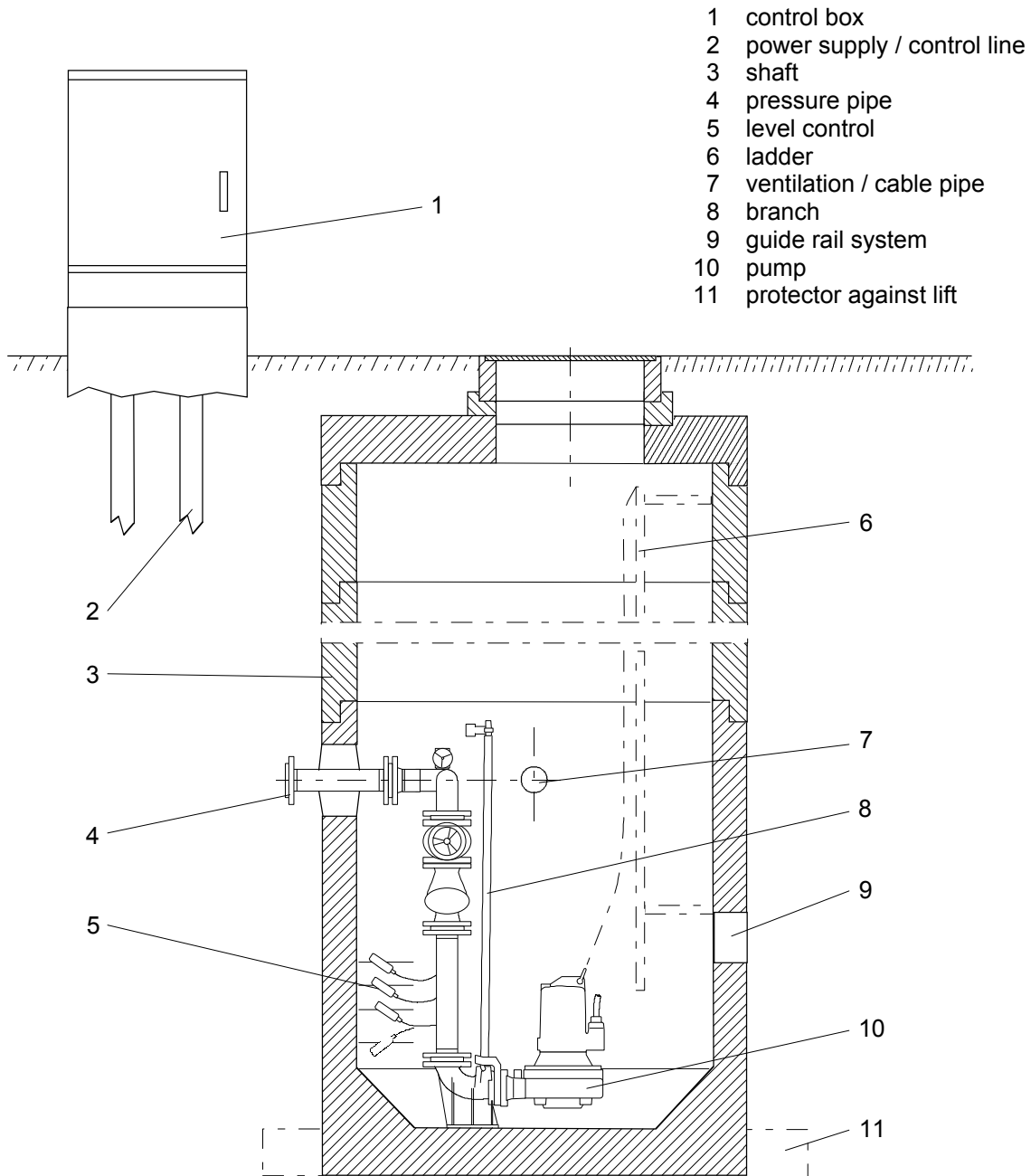
Pump with 10 m cable without plug, without pump base:

- a) as **po-ws** sewage pump
- b) as **po-we** pump with explosion protection



Subject to alterations

Installation example - pumping station with guide rail system



- 1 control box
- 2 power supply / control line
- 3 shaft
- 4 pressure pipe
- 5 level control
- 6 ladder
- 7 ventilation / cable pipe
- 8 branch
- 9 guide rail system
- 10 pump
- 11 protector against lift

Minimal delivery rate for $v = 0.7$ m/s flow velocity

	DN 50		DN 65		DN 80		DN 100		DN 125		DN 150		DN 200	
	Di mm	Q m ³ /h	Di mm	Q m ³ /h	Di mm	Q m ³ /h	Di mm	Q m ³ /h	Di mm	Q m ³ /h	Di mm	Q m ³ /h	Di mm	Q m ³ /h
GG-pipe PN 16					80	12.7	100	19.8	126	31.2	151	45.1	202	80.8
PVC-pipe PN 10	57	6.4	68	9.1	81	13.1	99	19.6	127	31.7	145	44.4	203	81.9
PEHD-pipe PN 10	51	5.2	61	7.4	74	10.7	90	16.0	114	25.9	131	33.9	184	76.0

PN = nominal pressure; DN = nominal diameter; Di = internal diameter
GG = grey cast iron

Subject to alterations