



Dewatering of construction sites with Grundfos SP pumps

Designed for a long working life underground

Safe, efficient and profitable dewatering operations at construction sites are totally dependent on a high degree of reliability in the removal of water, and on keeping the water at specified levels.

As a standard Grundfos offer a complete range of submersible SP dewatering pumps made entirely of high-grade stainless steel inside and outside and is designed for a long working life underground. Stainless steel provides maximum resistance to corrosion and erosion, and, on top of this, it ensures that pump performance and efficiency are kept at a constant, high level.

High efficiency curves in a data booklet pay no energy bills. What counts is that operation costs are kept at a minimum during the entire life of the pumping installation. Poor quality materials mean corrosion and erosion, and a gradual drop in performance from day one. Therefore, initial savings on a pump or pumping system may well turn out to be costly in the long run.

- › 100% high-grade stainless steel inside and outside
- › State-of-the-art hydraulics for low operation cost
- › Highly efficient motors, designed for heavy-duty jobs
- › Resistant to wear caused by sand, grit and other abrasives
- › Pumps and motors resistant to aggressive water
- › Dry-running protection
- › Remote monitoring and control via a CU 3 control unit for constant system optimisation
- › CU 3 control unit provides efficient motor protection



Grundfos SP – technical data

Pump and motor

Grundfos offers a complete range of submersible pumps with flow rates of 0 to 475 m³/h and high efficiency around 80%.

As a standard, the pumps are made of all stainless steel, DIN W.-Nr. 1.4301 (AISI 304), offering high wear resistance and minimum risk of corrosion when pumping ordinary cold water with insignificant chloride content. A complete range in upgraded stainless steel, DIN W.-Nr. 1.4401 (AISI 316) and DIN W.-Nr. 1.4539 (AISI 904 L) is available for more aggressive liquids. On request, all rubber parts are available in Vitonfi for slightly contaminated water, for instance oil-containing water.

MS and MMS motors

MS and MMS motors offer a complete range of high-efficiency canned submersible motors up to 30 kW (40 hp), and a complete range of high-efficiency rewindable motors up to 250 kW. All motors are available with optional motor temperature measurement facilities for connection to the CU 3 control unit. Likewise, all motors are available in a warm water version and with SiC/SiC mechanical shaft seals.

CU 3 control unit

CU 3 is an electronic motor protection device for monitoring and protection of motors, cables and cable joints up to and including 400 A at 50 and 60 Hz. The CU 3 control unit ensures that all crucial data are being constantly monitored. This enables preventive maintenance so that unscheduled stops and costly breakdowns can be avoided.

Dewatering function

In order to ensure efficient and reliable dewatering, the CU 3 unit features a special dewatering function for automatic operation.

The CU 3 monitors the following parameters:

- Insulation resistance before start-up
- Motor temperature
- Motor current consumption and phase asymmetry
- Voltage supply and phase sequence

The CU 3 offers protection against:

- Dry-running
- Overload
- Operation against a closed valve or blocked discharge pipe
- Insufficient water circulation past the motor
- Too high temperature of the pumped liquid
- Deposits on the motor
- Over or under voltage
- (Note: no nuisance tripping as the CU 3 only cuts out in case of high temperature)
- Phase asymmetry
- Motor overheating or burnout

Optional extras for the CU 3

The R100, infrared remote control enables surveillance of operational data, e.g. voltage, running hours, power input, power consumption, and fault indications in case of defective operations.

SM 100

The sensor module, SM 100, can be used for receiving data from external sensors for measurement of flow, pressure, water table, etc.

G100 for online monitoring

The gateway G100 offers efficient data logging and communication with management system (SCADA) on an ongoing basis.

References:

- **MT Group, Great Belt Link Eastern railway tunnel, Denmark**
- **Per Aarsleff A/S, Oeresund Bridge, Denmark/Sweden**
- **Grund- Pfahl- und Sonderbau GmbH, Himberg, Vienna, Austria**
- **Smet GWT, Port of Antwerp, Belgium**
- **Grupo Somague, Lisnave Shipyard, Portugal**