

be  
think  
innovate

GRUNDFOS 

**be think innovate** *is our promise to add value to our costumers and partners. **be think innovate** is our promise to ensure reliable operations. **be think innovate** is our promise to contribute to global sustainability.*



## A global business

With over 17,000 employees and production of more than 16 million pump units a year, Grundfos is one of the world's leading pump manufacturers. More than 80 companies in over 55 countries help to bring pumps to every corner of the world – from supplying drinking water to Antarctic expeditions, irrigation of Dutch tulips, groundwater monitoring beneath waste heaps in Germany, to air-conditioning in Egyptian hotels.

### Efficient, sustainable products

Grundfos is constantly striving to make its products more user-friendly and reliable – and also energy-saving and efficient, so that both users and the environment benefit from their improvements. Grundfos pumps are equipped with ultramodern electronics, allowing them to regulate their output according to current needs. This not only ensures convenience for the user, but also saves a great deal of energy.

### Research and development

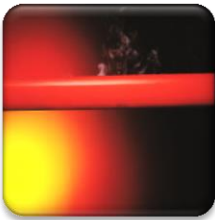
In order to maintain its leading position, Grundfos constantly places a great deal of emphasis on customer oriented research and development. Customers are consulted when new products are developed or when established products are improved.



Research and development make use of the latest technology within the pump industry, collaborating with universities and higher education institutions in search of new and better solutions for the design and function of the products.

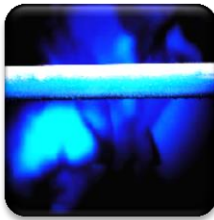
### Corporate values

The Grundfos Group is based on values such as sustainability, openness, trustworthiness, responsibility, and also on partnership with clients, suppliers and the whole of society around us, with a focus on humanity that concerns our own employees as well as the many million who benefit from water that is procured, utilised and removed as wastewater with the help of Grundfos pumps.



**Heating and hot water service systems**

Circulator pumps for circulation of hot water in central and district systems and circulation in domestic hot water service systems.



**Cooling and air-conditioning systems**

Circulator pumps for circulation of cold water and other liquids in cooling and air-conditioning systems.



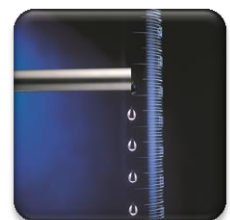
**Pressure boosting and liquid transfer**

Vertical and horizontal centrifugal pumps and pressure boosting systems for liquid transfer and boosting hot and cold water.



**Industrial applications**

A wide range of pumps for the transfer of water, cooling lubricants and other liquids in industrial and process systems.



**Dosing**

Dosing pumps for wastewater treatment systems, swimming pools and industry.



**Domestic water supply**

Submersible pumps, jet pumps, multistage centrifugal pumps and compact systems for water supply in homes, gardens and hobby applications.



**Environmental applications**

Purpose-built submersible pumps for remedial pumping of contaminated groundwater and for sampling for water quality analyses.



**Groundwater supply**

Submersible and dry installed pumps for groundwater supply, irrigation and groundwater lowering.



**Renewable-energy systems**

Renewable-energy based water supply systems suitable for remote locations not connected to the electricity supply grid.



**Sewage and wastewater**

Drainage, effluent and sewage pumps, for a wide range of applications in building services as well as transfer of raw sewage in municipal sewage systems.



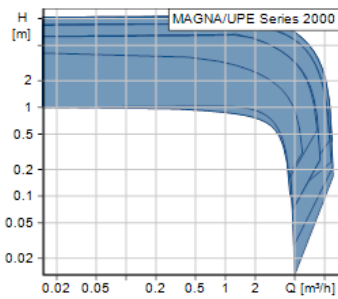
Page	Product name	Heating	Cooling	Pressure Boosting / Liquid Transfer	Industrial Application
6	Grundfos MAGNA, UPE Series 2000	●	●		
6	Grundfos UP, UP(S)-N Series 100	●	●		
6	Grundfos UPS Series 200	●	●		
7	TP	●	●	●	●
7	TPE Series 1000	●	●		●
7	TPE Series 2000	●	●		●
8	HS	●	●	●	●
8	NB, NBG(E)	●	●	●	●
8	NK, NKG(E)	●	●	●	●
9	CM, CME		●	●	●
9	SPK, CHK, MTH, CRK, MTR, MTA				●
9	CR, CRI, CRN		●	●	●
10	CRE, CRIE, CRNE		●	●	●
10	CR, CRN high pressure		●	●	●
10	CRT			●	●
11	Hydro MPC			●	
11	Hydro Multi-B E(S)			●	
11	BM, BMB			●	●
12	BME, BMET			●	●
12	Smart Digital Sets - DDA, DDC, DDE		●		●
12	DMH		●		●
13	DMX		●		●
13	Oxiperm Pro				
13	Selcoperm				
14	Euro-HYGIA				●
14	MAXA, MAXANA				●
14	SIPLA				●
15	NOVALobe				●
15	SQ, SQE				
15	SQFlex				
16	SP-A, SP, SP-G				●
16	MS Motor			●	●
16	MMS Motors				●
17	MP 1				
17	SQE-N, SP-NE				
17	MQ				
18	KP, AP, AP35B, AP50B – stainless steel				
18	DPK				
18	DWK				
19	SL1, SLV				
19	S Range				
19	KPL, KWM				
20	SRP				
20	AMD, AMG, AFG				
20	Diffusers				
21	Control MPC	●	●	●	●
21	CUE	●	●	●	●
21	CU 3, CU 300, CU 301				
21	R100	●	●	●	●
22	MP 204	●	●	●	●
22	LiqTec	●	●	●	●
22	Tanks				





### GRUNDFOS MAGNA, UPE Series 2000

Circulator pumps, canned rotor type – electronically controlled



#### Technical Data

Flow (Q) max.	12 m <sup>3</sup> /h
Head (H) max.	10.5 m
Liquid temperature	2 °C to 95 °C
Operating pressure max.	10 bar

#### Applications

- Circulation of hot water in
- Heating systems in blocks of flats, schools, hospitals, hotels, industry etc.

#### Features and benefits

- Low noise level
- Low energy consumption, Energy labelling: Class A
- Wide range
- Automatic performance adjustment
- Simple installation (no extra equipment or fittings required)
- Safe selection.

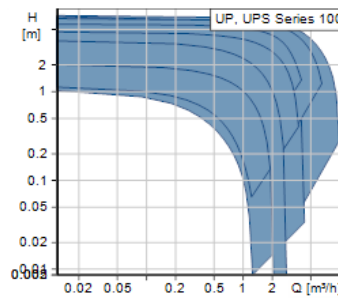
#### Options

- Stainless steel pump housing
- Twin-head versions
- Wireless remote control, R100
- Communication via GENibus or LON



### GRUNDFOS UP, UP(S)-N Series 100

Circulator pumps, canned-rotor type



#### Technical Data

Flow (Q) max.	10 m <sup>3</sup> /h
Head (H) max.	7 m
Liquid temperature	-25 °C to 110 °C
Operating pressure max.	10 bar

#### Applications

- Circulation of hot or cold water in
- Domestic hot water recirculation
  - Heating systems
  - Domestic hot water systems
  - Cooling and air-conditioning systems

#### Features and benefits

- Maintenance-free
- Low-noise
- Low-energy
- Wide range
- Corrosion-resistant stainless steel, brass pump housing

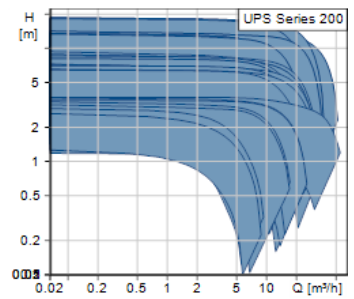
#### Options

- 24-hour timer



### GRUNDFOS UPS Series 200

Circulator pumps, canned-rotor type



#### Technical Data

Flow (Q) max.	54 m <sup>3</sup> /h
Head (H) max.	18.5 m
Liquid temperature	-10 °C to 120 °C
Operating pressure max.	10 bar

#### Applications

- Circulation of hot or cold water in
- Heating systems
  - Domestic hot water systems
  - Cooling and air-conditioning systems

#### Features and benefits

- Maintenance-free
- Built-in thermal switch
- Low-noise
- Low-energy
- Energy labelling up to class B
- Single-phase with built-in protection module
- Wide range

#### Options

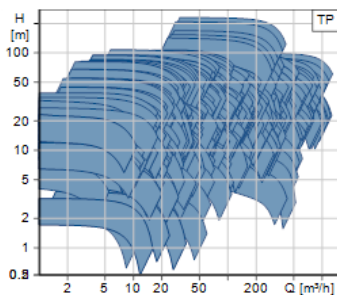
- Protection module
- Relay module with fault signal or operating output
- Bronze pump housing
- Twin-head versions
- Communication via GENibus or LON





**TP**

Single-stage in-line pumps



**Technical Data**

Flow (Q) max.	1270 m <sup>3</sup> /h
Head (H) max.	225 m
Liquid temperature	150 °C
Operating pressure max.	25 bar

**Applications**

- Circulation of hot or cold water in
- Heating systems
  - District heating plants
  - Local heating plants
  - Domestic hot water systems
  - Cooling and air-conditioning systems

**Features and benefits**

- Compact design
- Wide range
- Standard IE3/IE2 motor
- Service-friendly
- Various types of shaft seals depending on liquid, temperature and pressure

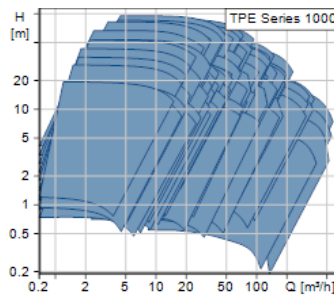
**Options**

- Bronze pump housing
- Bronze impeller
- Stainless steel impeller
- Twin-head versions



**TPE Series 1000**

Single-stage in-line pumps with MGE motor



**Technical Data**

Flow (Q) max.	576 m <sup>3</sup> /h
Head (H) max.	95.5 m
Liquid temperature	-25°C to 120°C
Operating pressure max.	16 bar

**Applications**

- The pumps are suitable for liquid transfer in
- District heating plants
  - Cooling and air-conditioning systems
  - Industrial plants

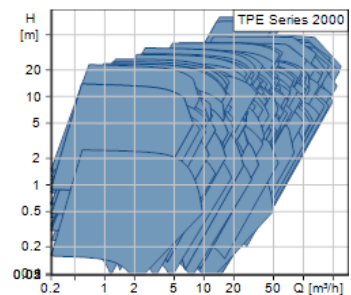
**Features and benefits**

- Low-energy
- Adaptation to existing operating conditions
- Simple installation
- Many control facilities
- Wireless remote control, R100
- Communication via GENIbus, BACnet MS/TP, LON, Modbus RTU or Profibus DP



**TPE Series 2000**

Single-stage in-line pumps with MGE motor



**Technical Data**

Flow (Q) max.	235 m <sup>3</sup> /h
Head (H) max.	42 m
Liquid temperature	-25°C to 120°C
Operating pressure max.	16 bar

**Applications**

- Circulation of hot or cold water in
- Heating systems
  - Domestic hot water systems
  - Cooling and air-conditioning systems

**Features and benefits**

- Low-energy
- Adaptation to existing operating conditions
- Simple installation

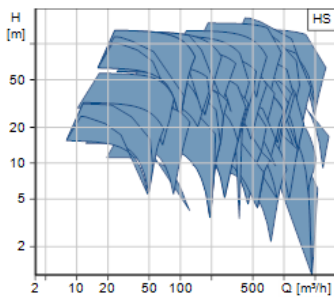
**Options**

- Parallel operation
- Wireless remote control, R100
- Communication via GENIbus or LON
- Twin-head versions



## HS

Horizontal split case pumps



### Technical Data

Flow (Q) max.	3060 m <sup>3</sup> /h
Head (H) max.	183 m
Liquid temperature	100°C
Operating pressure max.	16 bar

### Applications

The pumps are suitable for liquid transfer in

- District heating plants
- Heating systems for blocks of flats
- Air-conditioning systems
- Cooling systems
- Washdown systems
- Other industrial systems

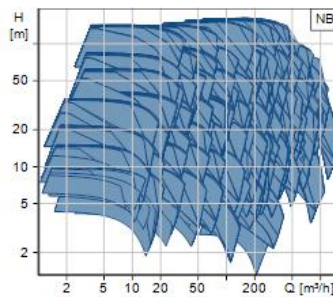
### Features and benefits

- Standard dimensions according to EN / ISO standards
- Compact design
- Flexible pump range
- Standard motor
- Adaptable to any application and performance
- EN 12 756 shaft seal



## NB, NBG(E)

End-suction close-coupled pumps according to EN 733 / ISO 2858



### Technical Data

Flow (Q) max.	1310 m <sup>3</sup> /h
Head (H) max.	157 m
Liquid temperature	120°C
Operating pressure max.	16 bar

### Applications

The pumps are suitable for liquid transfer in

- District heating plants
- Heating systems for blocks of flats
- Air-conditioning systems
- Cooling systems
- Washdown systems
- Other industrial systems

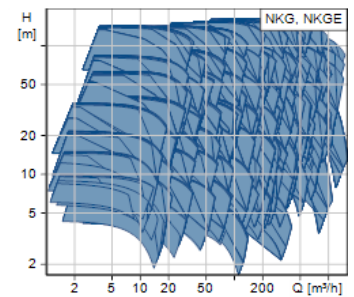
### Features and benefits

- Standard dimensions according to EN / ISO standards
- Compact design
- Flexible pump range
- Standard motor
- Adaptable to any application and performance
- EN 12 756 shaft seal



## NK, NKG(E)

End-suction long-coupled pumps according to EN 733 / ISO 2858



### Technical Data

Flow (Q) max.	1480 m <sup>3</sup> /h
Head (H) max.	160 m
Liquid temperature	120°C
Operating pressure max.	16 bar

### Applications

The pumps are suitable for liquid transfer in

- District heating plants
- Water supply systems
- Air-conditioning systems
- Cooling plants
- Industry
- Fire fighting systems
- Environment engineering

### Features and benefits

- Standard dimensions according to EN standard
- Wide range
- Robust design
- Heavy-duty
- Flexible motor range

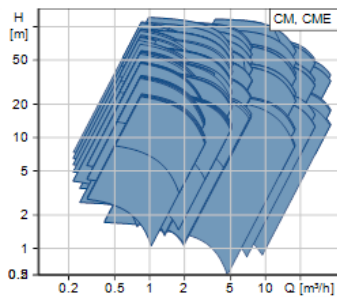
### Options

- Various types of shaft seal depending on liquid, temperature and pressure
- Cast iron or bronze impeller



**CM, CME**

Compact horizontal end-suction pumps



**Technical Data**

Flow (Q) max.	35 m <sup>3</sup> /h
Head (H) max.	120 m
Liquid temperature	-20°C to 120°C
Operating pressure max.	16 bar

**Applications**

- Washing & cleaning
- Water treatment
- Temperature control
- Pressure boosting

**Features and benefits**

- Reliability - Peace of mind
- Compactness - Fits in everywhere
- Flexibility - Customise to the needs
- Noiseless - Out of mind

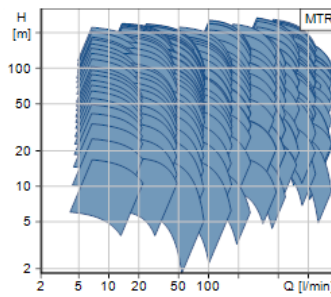
**Options**

- Cast iron - AISI 304( W.no 1.4301) - AISI316 (W.no 1.4401)
- All versions with integrated frequency converter CME or stand alone CM +CUE
- Connections : NPT- RP-ANSI-JIS- DIN- Vitaulic- Clamps



**SPK, CHK, MTH, CRK, MTR, MTA**

Multistage centrifugal immersible pumps



**Technical Data**

Flow (Q) max.	104 m <sup>3</sup> /h
Head (H) max.	267 m
Liquid temperature	-20°C to 90°C
Operating pressure max.	25 bar

**Applications**

- Machine tools
- Components washing machines
- Chiller units
- Industrial washing machines
- Filter and conveyor systems
- Temperature control
- Boiler feed
- General pressure boosting

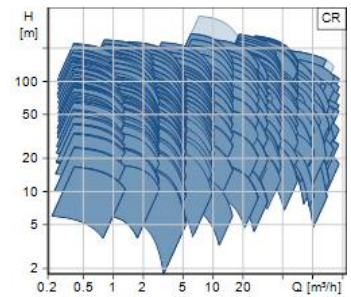
**Features and benefits**

- Flexible installation length
- Wide range
- Reliability
- Service-friendly
- Simple installation



**CR, CRI, CRN**

Vertical multistage centrifugal pumps



**Technical Data**

Flow (Q) max.	184 m <sup>3</sup> /h
Head (H) max.	267 m
Liquid temperature	-30°C to 120°C
Operating pressure max.	30 bar

**Applications**

The pumps are suitable for liquid transfer in

- Washing systems
- Cooling and air-conditioning systems
- Water supply systems
- Water treatment systems
- Fire fighting systems
- Industrial plants
- Boiler feeding systems

**Features and benefits**

- Reliability
- High efficiency
- Service-friendly
- Space-saving
- Suitable for slightly aggressive liquids

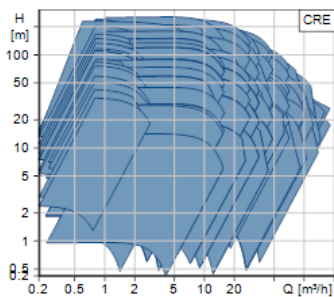
**Options**

- Dry-running protection and motor protection via LiqTec



### CRE, CRIE, CRNE

Vertical multistage pumps with MGE motor



#### Technical Data

Flow (Q) max.	183 m <sup>3</sup> /h
Head (H) max.	271 m
Liquid temperature	120 °C
Operating pressure max.	24 bar

#### Applications

The pumps are suitable for liquid transfer in

- Washing systems
- Cooling and air-conditioning systems
- Water supply systems
- Water treatment systems
- Fire fighting systems
- Industrial plants
- Boiler feeding systems

#### Features and benefits

- Wide range
- Reliability
- In-line design
- High efficiency
- Service-friendly
- Space-saving
- Many control facilities

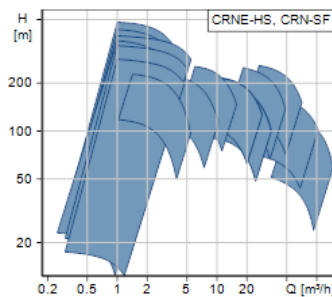
#### Options

- Wireless remote control, R100



### CR, CRN High Pressure

Vertical multistage centrifugal pumps



#### Technical Data

Flow (Q) max.	146 m <sup>3</sup> /h
Head (H) max.	482 m
Liquid temperature	-30°C to 120°C
Operating pressure max.	50 bar

#### Applications

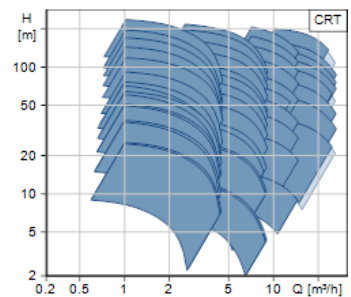
The pumps are suitable for liquid transfer in

- Washing systems
- Water treatment systems
- Industrial plants
- Boiler feeding systems



### CRT

Vertical multistage centrifugal pumps



#### Technical Data

Flow (Q) max.	26.5 m <sup>3</sup> /h
Head (H) max.	236 m
Liquid temperature	-25°C to 120°C
Operating pressure max.	25 bar

#### Applications

The pumps are suitable for liquid transfer in

- Process water systems
- Washing in cleaning systems
- Sea water systems
- Pumping of acids and alkalis
- Ultra filtration systems
- Reverse osmosis systems
- Swimming baths

#### Features and benefits

- High corrosion resistance
- Reliability
- High efficiency
- Service-friendly
- Space-saving

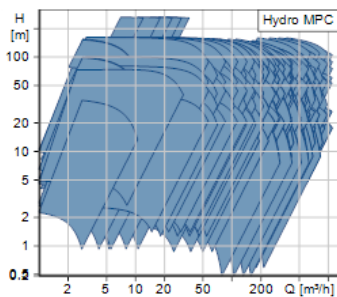
#### Options

- Dry-running protection and motor protection via LiqTec



## Hydro MPC

Turnkey booster systems



### Technical Data

Flow (Q) max.	1100 m <sup>3</sup> /h
Head (H) max.	162 m
Liquid temperature	5°C to 70°C
Operating pressure max.	16 bar

### Applications

Hydro MPC are suitable for pressure boosting in

- Water supply
- Heating
- Air-Condition
- Water treatment

### Features and benefits

- Constant pressure
- Simple installation
- Low energy
- Application optimised software

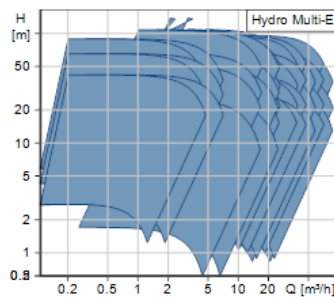
### Options

- External Communication



## Hydro Multi-B E(S)

Turnkey booster systems



### Technical Data

Flow (Q) max.	78 m <sup>3</sup> /h
Head (H) max.	113 m
Liquid temperature	0°C to 60°C
Operating pressure max.	16 bar

### Applications

- Offices
- Schools
- Hotels
- Apartment blocks
- Shopping centres

### Features and benefits

- Constant pressure
- Simple installation
- Low-energy
- Wide range
- Small footprint
- Reliable

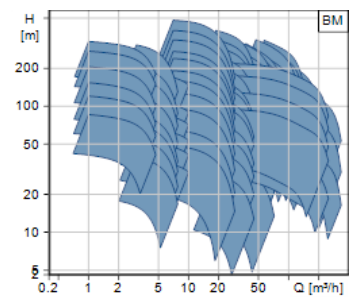
### Options

- External communication, Control 2000



## BM, BMB

4", 6", 8" booster modules



### Technical Data

Flow (Q) max.	327 m <sup>3</sup> /h
Head (H) max.	390 m
Liquid temperature	40°C
Operating pressure max.	70 bar

### Applications

The booster modules are suitable for pressure boosting in

- Reverse osmosis systems
- Water supply systems
- Water treatment systems
- Industrial plants

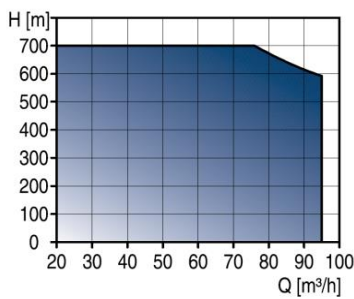
### Features and benefits

- Various material versions
- Low-noise
- Simple installation
- Modular design
- Compact design
- Leakage-free



## BME, BMET

Booster module with external motor



### Technical Data

Flow (Q) max.	95 m³/h
Head (H) max.	700 m
Liquid temperature	40°C
Operating pressure max.	70 bar

### Applications

The booster systems are suitable for pressure boosting in

- Reverse osmosis systems
- Water supply systems
- Water treatment systems
- Industrial plants

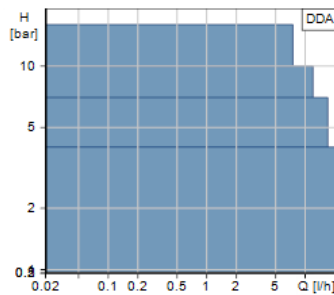
### Features and benefits

- High-pressure/high-flow
- Low-energy
- Simple installation
- Compact design



## SMART Digital Sets DDA, DDC, DDE

Diaphragm dosing pump with internal stepper motor drive



### Technical Data

Flow (Q) max.	30 l/h
Liquid temperature	-10°C to 45°C
Operating pressure max.	16 bar

### Applications

- Water and wastewater treatment
- Process water
- Food and beverage industry
- Ultrafiltration and reverse osmosis
- Pulp and paper industry

### Features and benefits

- Internal stroke-speed and frequency control
- Manual, pulse and 0/4-20 mA control
- Batch, timer cycle, timer week control
- FlowControl with selective fault diagnosis, pressure monitoring
- Integrated flow measurement and AutoFlowAdapt
- 0/4-20mA and 2 relay outputs
- Auto deaeration
- Power supply 100-240 V, 50/60 Hz.

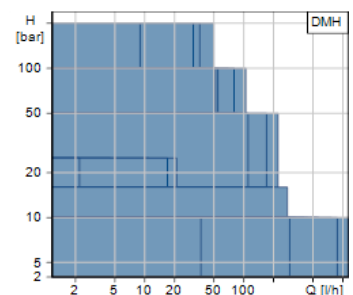
### Options

- E-box for Profibus DP network.



## DMH

Hydraulically driven diaphragm dosing pumps with external motor



### Technical Data

Flow (Q) max.	2000 l/h
Liquid temperature	50°C
Operating pressure max.	200 bar

### Applications

- Drinking water treatment
- Wastewater treatment (settlement/sludge treatment)
- Pulp/paper and textile industries

### Features and benefits

- Robust design
- Stroke length adjustment
- Control options:
  - Pulse input
  - Analogue input
  - Level input from storage tank

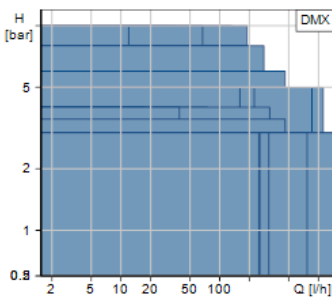
### Options

- Available with API 675 approval
- Available with ATEX approval



## DMX

Diaphragm dosing pumps with external motor



### Technical Data

Flow (Q) max.	2000 l/h
Liquid temperature	50°C
Operating pressure max.	10 bar

### Applications

- Drinking water treatment
- Wastewater treatment (settlement/sludge treatment)
- Pulp/paper and textile industries

### Features and benefits

- Robust design
- Stroke length adjustment
- Control options:
  - Pulse input
  - Analogue input
  - Level input from storage tank



## Oxiperm

Chlorine dioxide generating and dosing system

### Technical Data

Dilute acid - chlorite generation:

Oxiperm OCD-162      5-60 g/h

Oxiperm OCD-164      30-2000 g/h

Concentrated acid - chlorite generation:

Oxiperm OCC-164      150 g/h - 10 kg/h

Chlorite - chlorine generation:

Oxiperm OCG-166      0.75 - 10 kg/h

### Applications

- Disinfection in
- Water and wastewater treatment systems
  - Utility water
  - Water conditioning
  - Food and beverage processes
  - Plant processes

### Features and benefits

- Safe and reliable generation of chlorine dioxide through proven methods of superior disinfection
- Easy to use controls and operations
- High efficiency generation of chlorine dioxide with a minimum of by-products
- Low chemical consumption
- Batch and continuous feed generators
- Fieldbus and alarm communication
- Generation using dilute or concentrated precursor chemicals



## Selcoperm

Onsite sodium hypochlorite generators

### Technical Data

Selcoperm electrolytic Cl<sub>2</sub> generator  
125 g/h up to 2000 g/h

### Applications

- Disinfection in
- Water and wastewater treatment systems
  - Groundwater supply
  - Utility water
  - Water conditioning
  - Food and beverage processes
  - Plant processes

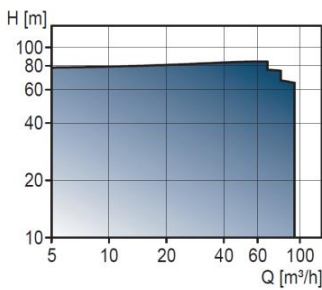
### Features and benefits

- Safe and reliable generation of stable sodium hypochlorite solutions on location to minimize risks and costs
- Generation of sodium hypochlorite with salt and electricity, reducing plant operation costs
- Integrated generation system that reduces hydrogen gas exposure
- Interlocked safety devices and control systems for easy operation
- No explosion proof environments required for installation
- Durable, long-lasting equipment requiring a minimum of service



### Euro-HYGIA

Single-stage end-suction sanitary pumps



#### Technical Data

Flow (Q) max.	95 m <sup>3</sup> /h (250 m <sup>3</sup> /h on request)
Head (H) max.	85 m
Liquid temperature	95°C (up to 150°C on request)
Operating pressure max.	16 bar

#### Applications

- Liquid transfer in breweries and dairies
- Mixing in soft drink applications
- Food processing plants
- Pure water systems (WFI)
- Process pumping in pharmaceutical industry
- CIP (Cleaning-In-Place) systems.

#### Features and benefits

- Unique hygienic design (QHD, EHEDG and 3A standards)
- CIP and SIP capable (DIN EN 12462)
- Customised solutions
- Materials: AISI 316L (DIN EN 1.4404/1.4435)
- Gentle media handling.

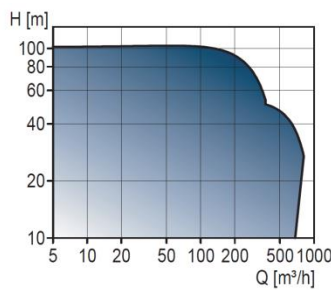
#### Options

- Wireless remote control, R100



### MAXA, MAXANA

End-suction process pumps



#### Technical Data

Flow (Q) max.	800 m <sup>3</sup> /h
Head (H) max.	97 m
Liquid temperature	95°C (up to 150°C on request)
Operating pressure max.	10 bar

#### Applications

- Gentle pumping of mash and wort for beer filtration (hot side)
- Liquid transfer in dairies
- Water treatment plants
- Chemical and environmental handling systems
- Liquids with high content of solid particles.

#### Features and benefits

- Optimised hydraulics
- Gentle product handling
- Materials: AISI 316 (DIN EN 1.4404)
- Service and repair friendly.

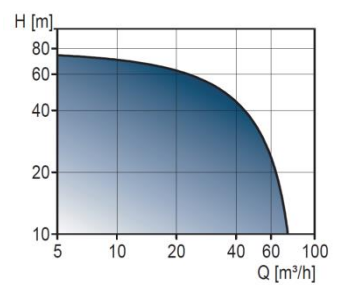
#### Options

- Electronically speed controlled versions
- ATEX-certified pumps
- Electro-polished versions
- Double mechanical shaft seals (tandem/back-to-back)



### SIPLA

Compact horizontal end-suction pumps



#### Technical Data

Flow (Q) max.	55 m <sup>3</sup> /h
Head (H) max.	78 m
Liquid temperature	95°C
Operating pressure max.	10 bar

#### Applications

- CIP return pumping
- Transfer of glycerine
- Transfer of yeast
- Transfer of whey

#### Features and benefits

- Meets the 3A hygienic standard
- High air-content handling
- Efficient priming.

#### Options

- Electronically speed controlled versions
- ATEX-certified pumps
- Fully cleanable versions





## NOVAlobe

Sanitary rotary lobe pumps

Pump model	Displacement litres/rev	Max. diff. pressure (bar)
NOVAlobe 10/0.06	0.06	16
NOVAlobe 20/0.12	0.12	16
NOVAlobe 30/0.33	0.33	16
NOVAlobe 40/0.65	0.65	16
NOVAlobe 50/1.29	1.29	16

### Technical Data

Differential pressure	up to 16 bar
Displacement	0.06 to 1.29 l/rev
Liquid temperature	95°C
Max. viscosity	1,000,000 cP

### Applications

- Dairy industry
- Food processing plants
- Soft drink applications
- Confectionary and sugar
- Pharma/personal care
- Brewery industry

### Features and benefits

- Interchangeable rotor and shaft seal designs
- Various connection types
- Large shaft diameter and compact design for high differential pressure
- Standard surface finish of  $R_a \leq 0.8 \mu\text{m}$  for easy cleanability
- EHEDG-certified cleanability with full drainability in vertical installation

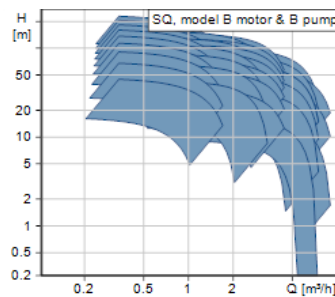
### Options

- Customised shaft seal solution
- Pressure relief valve
- Thermal jacket
- Aseptic front cover



## SQ, SQE

3" Submersible pumps



### Technical Data

Flow (Q) max.	9 m <sup>3</sup> /h
Head (H) max.	230 m
Liquid temperature	0°C to 40°C
Installation depth	max. 150 m

### Applications

- The pumps are suitable for
- Domestic water supply systems
  - Groundwater supply to waterworks
  - Irrigation in horticulture and agriculture
  - Groundwater lowering
  - Industrial applications

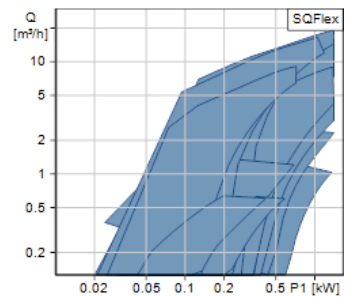
### Features and benefits

- Integrated dry-running protection
- Soft start
- Over- and undervoltage protection
- High efficiency



## SQFlex

Renewable-energy based water supply system



### Technical Data

Flow (Q) max.	90 m <sup>3</sup> /day
Head (H) max.	120 m
Liquid temperature	0°C to 40°C
Voltage supply	30-300 VDC or 1x90-240 V 50 / 60 Hz
Installation depth	max. 150 m

### Applications

- The SQFlex systems are suitable for remote locations, such as
- Villages, schools, hospitals, single-family houses
  - Farms and irrigation of greenhouses
  - Game parks and game farms
  - Conservation areas

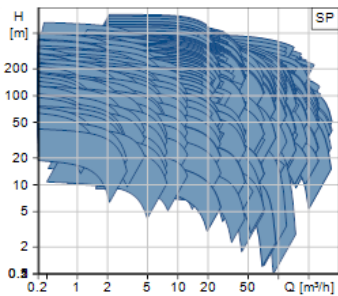
### Features and benefits

- Energy supply: Solar modules, wind turbine, generator or batteries
- Simple installation
- Reliable water supply
- Virtually no maintenance
- Expansion possibilities
- Cost-efficient pumping
- Dry-running protection



### SP, SP A, SP-G

4", 6", 8" 10" Submersible pumps



#### Technical Data

Flow (Q) max.	417 m <sup>3</sup> /h
Head (H) max.	800 m
Liquid temperature	60°C
Installation depth	max. 600 m

#### Applications

- The pumps are suitable for
  - Groundwater supply to waterworks
  - Irrigation in horticulture and agriculture
  - Groundwater lowering
  - Pressure boosting
  - Industrial applications

#### Features and benefits

- High efficiency
- Long service life as all components are stainless steel
- Motor protection via CU 3

#### Options

- Data can be monitored and controlled via CU 3/R100



### MS Motor

Stainless steel 4" and 6" submersible motors

#### Motor sizes

- 4" motor 0.25 to 7.5 kW
- 6" motor 5.5 to 30 kW

#### Applications

The Grundfos MS submersible motors can be fitted on all Grundfos SP A, SP pumps and can be used in the high-pressure booster modules, type BM and BMB.

#### Features and benefits

- Overprotection by means of a built-in Tempcon temperature transmitter
- Standardized NEMA head and shaft end
- Completely encapsulated in stainless steel
- Liquid cooled and has liquid lubricated bearings

#### Options

- Material variants available



### MMS Motor

Stainless steel 6", 8", and 10" rewindable submersible motors

#### Motor sizes

- 6" motor 3.7 to 37 kW
- 8" motor 22 to 110 kW
- 10" motor 92 to 190 kW

#### Applications

The Grundfos MMS submersible motors can be fitted on all Grundfos SP and SP-G pumps.

#### Features and benefits

- Wide range of rewindable motors
- Easily rewinded
- Protection against upthrust
- High efficiency
- 6" and 8" have standardized NEMA head and shaft end
- Mechanical shaft seal ceramic/carbon or SiC/SiC
- PVC or PE/PA windings

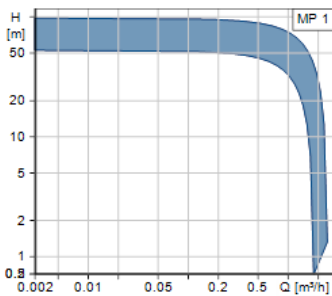
#### Options

- Material variants available
- Overtemperature protection via Pt100



**MP 1**

Environmental pump



**Technical Data**

Flow (Q) max. 2.45 m<sup>3</sup>/h  
 Head (H) max. 98 m  
 Liquid temperature 0°C to 35°C

**Applications**

The pumps are suitable for

- Sampling

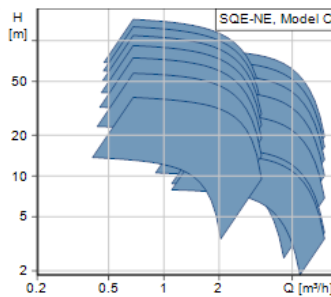
**Features and benefits**

- Compact design
- Fit into 50mm boreholes



**SQE-NE, SP-NE**

Submersible pumps for environmental use with variable speed motor



**Technical Data**

Flow (Q) max. 7.5 m<sup>3</sup>/h  
 Head (H) max. 144 m  
 Liquid temperature 0°C to 35°C  
 Installation depth max. 600 m

**Applications**

The pumps are suitable for

- Pumping up contaminated groundwater
- Sampling
- Remedial pumping

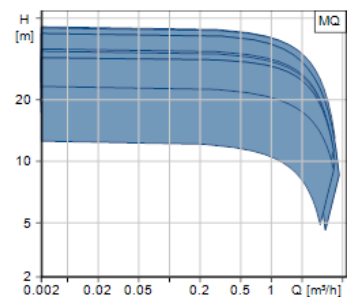
**Features and benefits**

- Integrated dry-running protection
- Soft start
- Over- and undervoltage protection
- High efficiency



**MQ**

Self-priming multistage centrifugal pumps



**Technical Data**

Flow (Q) max. 4.5 m<sup>3</sup>/h  
 Head (H) max. 45 m  
 Liquid temperature 0°C to 35°C  
 Operating pressure max. 7.5 bar

**Applications**

The pumps are suitable for liquid transfer in

- Single- or two-family houses
- Weekend cottages
- Farms
- Greenhouses

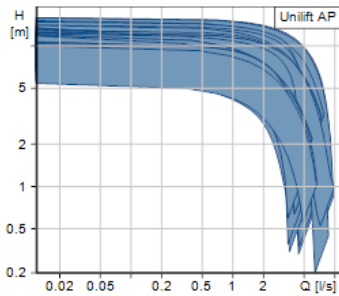
**Features and benefits**

- All-in-one pressure booster unit
- Easy to install
- Easy to operate
- Self-priming
- Dry-running protection with automatic reset
- Low-noise
- Maintenance-free



**KP, AP, AP35B, AP50B  
– stainless steel**

Drainage, effluent and domestic sewage pumps



**Technical Data**

Flow (Q) max.	9 l/s
Head (H) max.	15 m
Liquid temperature	55°C
Particle size	max. ø50 mm

**Applications**

- The pumps are suitable for
- Drainage of flooded cellars
  - Pumping of household wastewater
  - Groundwater lowering
  - Emptying of swimming-pools and excavations
  - Drainage of drain wells
  - Emptying of tanks and reservoirs

**Features and benefits**

- Simple installation
- Service- and maintenance-free

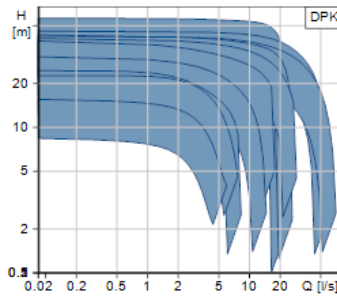
**Options**

- AP35 has vortex impeller
- AP50B has vortex impeller
- AP50B has auto-coupling and horizontal outlet



**DPK**

Drainage pumps



**Technical Data**

Flow (Q) max.	70 l/s
Head (H) max.	56 m
Liquid temperature	0°C to 40°C

**Applications**

- The pumps are suitable for draining of
- Underground building
  - Industrial pits
  - Storm water pits

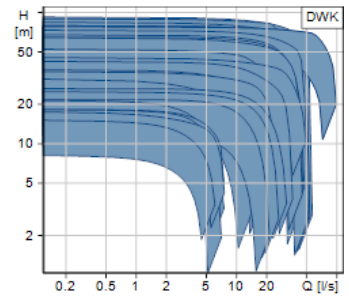
**Features and benefits**

- High-pressure capabilities
- Installation flexibility
- Easy to service and maintain



**DWK**

Dewatering pump



**Technical Data**

Flow (Q) max.	98 l/s
Head (H) max.	91 m
Liquid temperature	0°C to 40°C

**Applications**

- The pumps are suitable for draining of
- Construction sites
  - Excavation sites
  - Tunnels
  - Underground building
  - Industrial pits
  - Storm water pits

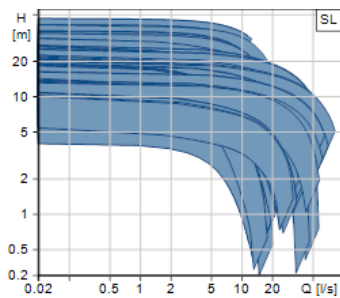
**Features and benefits**

- Durability
- Ductile/high-chrome impeller
- Easy to operate
- High efficiency
- Compact design
- High-pressure capabilities



## SL1 / SLV

Sewage pumps



### Technical Data

Flow (Q) max.	80 l/s
Head (H) max.	45 m
Liquid temperature	40°C

### Applications

The SL pump is designed for the transfer of

- Drainage and surface water
- Domestic, municipal and industrial wastewater
- Process water

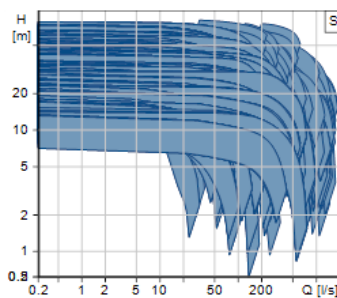
### Features and benefits

- High motor efficiency.
- Intelligent adaptive controls
- Integrated analogue sensors
- Lifting handle designed for optimum point-of-balance and correct lifting.
- Patented SmartSeal auto-coupling gasket provides a completely leak-proof connection.
- Double mechanical shaft seal
- Short rotor shaft
- Choice of SuperVortex or S-tube impeller.
- Replaceable wear ring



## S Range

Sewage pumps



### Technical Data

Flow (Q) max.	1470 l/s
Head (H) max.	2 m
Liquid temperature	-5°C to 40 °C
Column pipe diameter	DN300, DN500, and DN800

### Applications

The pumps are suitable for

- Transfer of wastewater
- Transfer of raw water
- Pumping of sludge-containing water
- Pumping of industrial effluent

### Features and benefits

- Wide range
- SmartTrim
- Operation with/without cooling jacket
- Submerged or dry installation
- Different types of impellers
- Built-in motor protection
- Stainless steel versions



## KPL / KWM

Axial and mixed flow pumps

### Technical Data

Flow (Q) max.	11,700 l/s
Head (H) max.	40 m

### Applications

The pumps are suitable for

- Flood and storm water control
- Large-volume drainage and irrigation
- Raw-water intake
- Circulation of large quantities of water
- Water-level control in coastal and low-lying areas
- Filling and emptying of dry docks and harbour installations
- Filling or emptying of reservoirs
- Treated sewage
- Cooling-water intake in power stations
- Process and discharge water
- Other low- to medium-head/high-flow applications

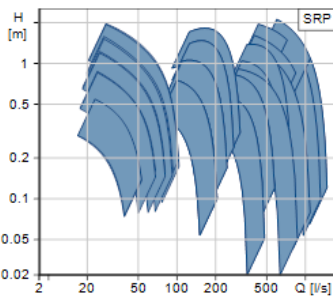
### Features and benefits

- Quality products
- Robust, reliable and cost-effective
- Available in cast iron or stainless steel
- Aluminium bronze or stainless steel propeller
- High-voltage models, up to 10 kV
- Pump and motor size up to 1 MW



## SRP

Submersible recirculation pumps



### Technical Data

Flow (Q) max.	1880 l/s
Head (H) max.	80 m
Liquid temperature	40°C
Discharge diameter	DN 80 to DN 500
Particle size	max. $\phi$ 145 mm

### Applications

- The pumps are suitable for
- Re-circulation of sludge within sewage treatment plants
  - Storm water pumping

### Features and benefits

- High efficiency stainless steel propeller
- Totally submerged installations
- Built-in motor protection

### Options

- Control and protection systems



## AMD, AMG, AFG

Mixers and flowmakers

### Technical Data

The mixers and flowmakers are equipped with propellers made of stainless steel or composite material with a diameter between 180 mm and 2300 mm and a rotation speed between 22 min<sup>-1</sup> and 1400 min<sup>-1</sup>.

### Features and benefits

- Wide range of flexible installation accessories
- Easy to maintain and service without use of special tools
- Electronic leak sensor in gearbox/shaft seal housing
- Shaft seal protected against abrasive materials
- Self-cleaning stainless steel or polyamide propellers



## Diffuser

Aeration system

### Applications

- Process tanks at municipal or industrial wastewater treatment plant
- SBR or MBR systems
- Stabilisation and equalisation tanks
- Aerobic digestion
- Grit and grease removal
- Flotation

### Features and benefits

- Complete systems designed specifically to meet process oxygen demands
- Possibility for high diffuser density to give maximum oxygen transfer efficiency
- Custom-made solutions available as fixed or retractable systems
  - Retractable system – for easy maintenance
  - Fixed system – cost-effective in large systems
- Different materials are used for membranes, pipes and supports, according to system operating conditions
- Pre-assembled air distribution systems with one-bolt connections minimise construction time on site
- Mechanically-connected air distribution piping with sliding allows for expansion and contraction due to temperature variations
- Fully adjustable piping supports in stainless steel for flexibility in installation
- Automatic or manual purge systems reduce friction losses in air distribution piping
- Broad range of fine, medium or coarse bubble diffusers in both disc and tubular designs
- Pre-assembled diffuser units minimise installation time and eliminate incorrect assembly on site
- Flexible membranes ensure uniform air distribution over the entire surface across a wide range of air flow rates.



## Control MPC

Pump controller

### Technical Data

Grundfos Control MPC is a control cabinet with a CU 352 controller that permits monitoring and control of up to six identical pumps connected in parallel.

Control MPC supports communication with monitoring equipment or other external units via a number of different fieldbus protocols:

- Ethernet (VNC server is standard in Control MPC)
- PROFIBUS via CIM modules
- LON via CIM modules
- Modbus via CIM modules
- GSM and GPRS via CIUMmodules
- PLC via IO 351B modules

### Features and benefits

- Efficient cascade control
- Larger color screen
- Setpoint influence
- Individual pump control
- Alternative setpoints
- Clock program
- Proportional pressure regulation
- Alternation
- Standby pumps
- Pump test run
- Pilot pumps
- Stop at low flow function
- Soft pressure build-up function (minimises risk of water hammer)
- Emergency run
- Flow estimation
- Dry running protection
- Log function



## CUE

Frequency converter

### Applications

The CUE provides a series of predefined functions which make the converters easy to use in almost all application areas.

Predefined control modes available such as

- Constant pressure
- Proportional pressure
- Constant level
- Constant flow

CUE offers the following inputs and output:

- RS-485 GENIBus
- an analog 0-10 V input for external setpoint
- an analog 0/4-20 mA input for sensor
- four digital inputs for various functions, for instance external start/stop
- two signal relays (C/NO/NC)

### Features and benefits

- Speed control of pumps up to 250 kW
- Simple set-up
- Predefined control modes
- Predefined range of sensors
- Predefined pump family data
- Shares interface with control equipment
- Additional functions available
- Automatic setting of direction of rotation
- 16 steps to get a system up and running

### Options

- Input/output add-on board
- Provides additional input:
  - one 0/4-20 mA analog input for an additional sensor
  - one 0-20 mA analog output
  - two inputs for Pt100/Pt1000 temperature sensors, for instance for bearing monitoring.



## CU 3, CU 300, CU 301

Control and monitoring unit

### Applications

- Monitoring and protection of pumps installations

### Features and benefits

- Protection against dry running and too high motor temperature
- Constant monitoring of pump energy consumption
- Reading out of operating data via R100

### Options

- Connection to large control systems via bus-communication
- Connection of sensors enabling control based on sensor signal

## R 100

Wireless remote control

### Application

- All pumps and electronics designed for wireless communications

### Features and benefits

- Simple and quick installation and configuration
- of the pump controls
- Read out of various operating and fault signals
- Troubleshooting
- Print out of status information



## MP 204

Control and monitoring unit

### Technical Data

Approvals on nameplate	UL, IEC, EN, CE
Ambient temperature	-20°C to 60°C
Rated current	3 to 120 A
Mains frequency	60Hz
Rated voltage	1/3 x 100-480V
Enclosure class (IEC 34-5)	20

### Applications

- Monitoring and protection of pump installations

### Features and benefits

- Protection against dry running
- Protection against too high motor temperature
- Protection against overload
- Protection against overvoltage and undervoltage,
- Protection against current and phase imbalance
- Constant monitoring of power consumption



## LiqTec

Control and monitoring unit

### Technical Data

Approvals on nameplate	CU, CUL
Ambient temperature max.	55°C
Liquid temperature max.	120°C
Operating pressure max.	40 bar
Mains frequency	60Hz
Rated voltage	80-130V
Enclosure class (IEC 34-5)	IP X0

### Applications

- Monitoring and protection of pumps and processes

### Features and benefits

- Protection against dry running
- Protection against liquid temperatures exceeding 130°C ±5°C
- Protection against too high motor temperatures
- Manual or automatic restarting possible from a remote PC
- Simple installation - plug and play technology
- If the sensor, sensor cable, electronic unit or power supply fails, the pump stops immediately



## Tanks

Diaphragm and bladder tanks

### Technical Data

Tank size	8-3000 l
Liquid temperature	max. 99°C
Operating pressure max.	16 bar

### Applications

The diaphragm and bladder tanks are used in

- Water supply systems in housing
- Pressure boosting systems in housing
- Agriculture
- Horticulture
- Industrial systems

### Features and benefits

- Optimal water supply
- Reduced number of pump starts
- Ideal for drinking water





GRUNDFOS Pumps (Philippines), Inc.  
5548 Osmeña Highway, Brgy. San Isidro  
PH-1234 Makati City  
Tel: +63 2 465 3000  
Fax: +63 2 812 8854  
[www.grundfos.ph](http://www.grundfos.ph)