

be think innovate

GRUNDFOSX





## A global business

With more than 18,500 employees and an annual production of some 16 million pump units a year, Grundfos is one of the world's leading pump manufacturers. Across all continents, 80 companies in 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 more energy-saving and efficient so both users and the environment benefit from the improvements.

Grundfos pumps are equipped with ultramodern electronics, allowing them to regulate the output according to current needs. This ensures convenience for the user, as well as saves a lot of energy.

### Research and development

In order to maintain the leading position, Grundfos constantly focuses 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.

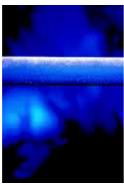
#### **Corporate values**

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

## **Pumps for all purposes**

No matter for which purpose an efficient and energy-saving pump solution is required, Grundfos offers a high-quality solution.











Heating and hotwater service systems

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

Cooling and airconditioning systems

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

Industrial applications

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

Vertical and horizontal, centrifugal pumps and pressure booster systems for liquid transfer and boosting of hot and cold water. Groundwater supply

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











Domestic water supply

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

Wastewater

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

Environmental applications

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

Dosing and disinfection

Dosing pumps, disinfection systems as well as measuring and control for water supply and wastewater treatment systems, swimming pools and industry.

Renewable-energy systems

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



# Product and application overview

Heating and hot-water service	Industrial applications
systems	AMD, AMG, AFG
ALPHA1	BM
ALPHA2 L	BMhp, BMShp
ALPHA3, ALPHA Reader	BMP
ALPHA2 models B, C and D	BMShs, BMST, BMSX
Grundfos COMFORT (PM)	CM, CME, CMV
MAGNA1	CMB PM1, CMB-SP PM1, CMB PM2, CMB-SP PM2 27
MAGNA3	CMB PT, CMB PS
NB, NBG	CMBE
NBE, NBGE	CR Monitor
NK, NKG	CR, CRI, CRN
NKE, NKGE	CRE, CRIE, CRNE
TP	CRT
TPE2, TPE2 D	DP, EF
TPE Series 1000	DW
TPE Series 2000	Hydro MPC
TPE3, TPE3 D	Hydro Multi-B
UP, UPS Series 100	Hydro Multi-E
UPA	Hydro Multi-S
UPS Series 200	Hydro Solo-E
UPS212	Hydro Solo-S
	MTA
Cooling and air-conditioning	MTB
systems	MTR, MTH, SPK
ALPHA1	MTRE, SPKE
CM, CME, CMV	MTS
CR, CRI, CRN	NB, NBG
CRE, CRIE, CRNE	NBE, NBGE
NB, NBG	NK, NKG
NBE, NBGE	NKE, NKGE
NK, NKG	S pumps
NKE, NKGE	SL1/SLV and SE1/SEV
TP	SMD, SMG, SFG
TPE Series 1000	SRG
TPE Series 2000	SRP
TPE2, TPE2 D	

Pressure boosting and liquid	Domestic water supply
transfer	CM, CME, CMV
BM	CMB PM1, CMB-SP PM1, CMB PM2, CMB-SP PM2 27
BMhp, BMShp	CMB PT, CMB PS
BMP	CMBE
BMShs, BMST, BMSX	CR DW
CM, CME, CMV	CR, CRI, CRN
CMB PM1, CMB-SP PM1, CMB PM2, CMB-SP PM2 27	CRE, CRIE, CRNE
CMB PT, CMB PS	Hydro MPC
CMBE	Hydro Multi-B
CR, CRI, CRN	Hydro Multi-E
CR, CRN high pressure	Hydro Multi-S
CRE, CRIE, CRNE	Hydro Solo-E
CRT	Hydro Solo-S
HS	JP
Hydro MPC	JP Booster
Hydro Multi-B	JPC, JPA, JPC
Hydro Multi-E	JPC PT, JPA PT, JPD PT
Hydro Multi-S	MQ
Hydro Solo-E	Rainwater control
Hydro Solo-S	RCME
MQ	RMQ
NB, NBG	SB
NBE, NBGE	SBA
NK, NKG	SP A, SP, SP-G
NKE, NKGE	SQ, SQE
TPE Series 1000	GQ, GQL
Groundwater supply	Wastewater
SP A, SP, SP-G	AMD, AMG, AFG
SQ, SQE	Conlift
SQFlex	DP, EF
odilox	DPK
	DW
	DWK
	KPL, KWM
	LC, LCD
	Liftaway B and C
	Multilift
	Pomona
	PS.G
	PS.R
	S pumps
	SEG
	SL1/SLV and SE1/SEV
	SMD, SMG, SFG
	Sololift2
	SRP
	Unilift, KPC
	Ommit, NFO





Environmental applications	
CR, CRI, CRN	
CRE, CRIE, CRNE	
CRT	
SQE-NE, SP-NE	
Dosing and disinfection	
Conex® DIA, DIS	
Conex® DIA-G, DIS-G	
DDA	
DDC	
DDE	
DDI	
DIP	
DIT-M, DIT-L, DIT-IR	
DME	
DMH	
DMX	
DTS	
Oxiperm	
Oxiperm Pro	
Polydos	
Selcoperm 125-2000	
Selcoperm 5000-45000	
Vaccuperm	
Renewable-energy systems	
MGFlex	
RSI	
Solar modules	
SQFlex	
Fire systems	
Fire DNF. Fire HSFF	

wiolors, controls and accessories	
Accessories for dosing pumps and systems	22
CIM/CIU	49
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PM1, PM2 pressure managers	52
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RPI, RPI+T	50
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VFI	
VEC	

# **Products A-Z**

Accessories for dosing pumps and systems 22	CU 100
AFG	CU 200
ALPHA1	CU 300
ALPHA2 L	CU 301
ALPHA3, ALPHA Reader	CUE
ALPHA2 models B, C and D	DDA
AMD	DDC
AMG	DDE
BM	DDI
BMhp, BMShp	Dedicated Controls
BMP	DIP
BMS hp	DIT-IR
BMS hs	DIT-L
BMST	DIT-M
BMSX	DME
CIM	DMH
CIU	DMX
CIU 273	DP
CM	DPI
CMB, PM1	DPI V.2
CMB, PM2	DPK
CMB-SP PM1	DPS
CMB-SP PM2	DTS
CMB, PS	DW
CMB, PT	DWK
CMBE	EF
CME	Fire DNF
CMV	Fire HSEF
Conex® DIA	Grundfos COMFORT (PM)
Conex® DIA-G	Grundfos GO
Conex <sup>®</sup> DIS	GT-HR
Conex <sup>®</sup> DIS-G	HS
Conlift	Hydro MPC
Control MPC	Hydro Multi-B
Control MPC Series 2000	Hydro Multi-E
CR	Hydro Multi-S
CR DW	Hydro Solo-E
CR high pressure	Hydro Solo-S
CR Monitor	IO50
CRE 28	IO101
CRI	IO102
CRIE	JP
CRN	JP Booster
CRN high pressure	JPC, JPA, JPC
CRNE	JPC PT, JPA PT, JPD PT
CRT	KP Basic
O. C	14 24510



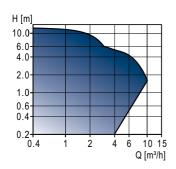


KPL41	SE1
KWM	SEG
LC	Selcoperm 125-2000
LCD	Selcoperm 5000-45000
Liftaway B and C	SEV
LiqTec	SL1
MAGNA1	SLV
MAGNA314	Solar modules
MGFlex	Sololift2
MMS	SP
MP 204	SP A
MQ	SP-G
MS	SP-NE
MTA	SPK
MTB	SPKE
MTH	SQ
MTR	SQE
MTRE	SQE-NE
MTS	SQFlex
Multilift	SMD, SMG, SFG
NB	SRG
NBE	SRP
NBG	TP
NBGE	TPE Series 1000
NK	TPE Series 2000
NKE	TPE2, TPE2 D
NKG	TPE3, TPE3 D
NKGE	Unilift, KPC
Oxiperm	UP
Oxiperm Pro	UPA
PM Rain	UPS series 100
Polydos	UPS Series 200
Pomona	UPS2
PM1	
	Vaccuperm
	VFI
PM Rain	VFS
Pressure tanks	
PS.G	
PS.R	
Rainwater control	
RCME	
RMQ	
RPI	
RPI+T	
RPS	
RSI	
S pumps	
SB	



### **UP, UPS Series 100**

Circulator pumps, canned-rotor type



#### **Technical data**

Flow rate: max. 9.5 m³/h
Head: max. 12 m
Liquid temperature: -25 - +110 °C
Operating pressure: max. 10 bar.

#### **Applications**

- · Heating systems
- Domestic hot-water systems
- · Cooling and air-conditioning systems.

### Features and benefits

- · Maintenance-free
- · Low noise level
- · Low energy consumption
- Wide range.

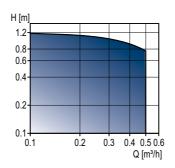
### **Options**

- · 24-hour timer
- Corrosion-resistant stainless-steel pump housing.



### **Grundfos COMFORT (PM)**

Circulator pumps, canned-rotor type



#### **Technical data**

Flow rate: max. 0.5 m³/h
Head: max. 1.2 m
Liquid temperature: 2-95 °C
Operating pressure: max. 10 bar.

#### **Applications**

- Domestic hot-water systems in singleand two-family houses
- Small heating systems
- · Cooling and air-conditioning systems.

### Features and benefits

- · Maintenance-free
- Low noise level
- Low energy consumption down to 2.5 W
- Wide range
- · Integrated dry-running protection
- Pump head fits on almost all competitor pump housings.

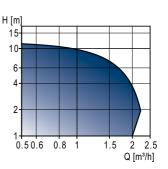
#### **Options**

- 24-hour timer
- Corrosion-resistant stainless-steel pump housing
- Adapting to the user pattern (AUTO<sub>ADAPT</sub> variant)
- 3-speed variant available
- Adjustable thermostat.



### **UPA**

Circulator pumps for pressure boosting in domestic applications



### Technical data

Flow rate: max. 2.2 m³/h
Head: max. 12 m
Liquid temperature: 2-95 °C
Operating pressure: max. 10 bar.

### **Applications**

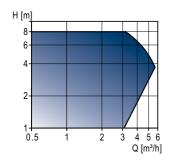
 Pressure boosting of hot and cold drinking water in residential homes.

- Flexibility: suitable for installation in existing systems
- · Comfort: low-noise operation
- User-friendly: plug and play
- · Reliability: renowned Grundfos quality
- Patented integrated flow switch.



### UPS2

Circulator pumps, canned-rotor type



#### **Technical data**

Flow rate: max. 5.8 m³/h
Head: max. 8 m
Liquid temperature: 2-95 °C
Operating pressure: max. 10 bar.

#### **Applications**

- · Heating systems
- Cooling and air-conditioning systems.

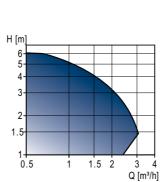
### Features and benefits

- · Low energy consumption
- Maintenance-free
- · Low noise level
- Wide range
- Simple installation
- 3-speed proportional-pressure control
- 3-speed constant-curve control.



### **ALPHA1**

Circulator pumps, canned-rotor type



#### **Technical data**

Flow rate: max. 3 m³/h
Head: max. 6 m
Liquid temperature: 2-110 °C
Operating pressure: max. 10 bar.

### **Applications**

- · Heating systems
- Domestic hot-water systems
- · Cooling and air-conditioning systems.

### Features and benefits

- · Low energy consumption
- Maintenance-free
- · Low noise level
- Wide range
- Display of actual power consumption
- Simple installation (external plug for electrical connection)
- 2-speed proportional-pressure control
- · 2-speed constant-pressure control
- 3-speed constant-curve control.

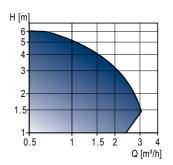
### **Options**

- · Air separator
- · Wetted parts in stainless steel.



### **ALPHA2 L**

Circulator pumps, canned-rotor type



#### **Technical data**

Flow rate: max. 3 m³/h
Head: max. 6 m
Liquid temperature: 2-110 °C
Operating pressure: max. 10 bar.

#### **Applications**

- · Heating systems
- Cooling and air-conditioning systems.

#### Features and benefits

- · Low energy consumption
- Maintenance-free
- Low noise level
- Wide range
- Simple installation (external plug for electrical connection)
- · 2-speed proportional-pressure control
- · 2-speed constant-pressure control
- · 3-speed constant-curve control.

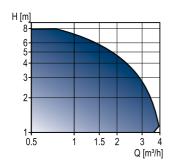
#### **Options**

Wetted parts in stainless steel.



ALPHA3, ALPHA Reader

Circulator pumps, canned-rotor type



#### **Technical data**

Flow rate: max. 3.2 m³/h
Head: max. 6 m
Liquid temperature: 2-110 °C
Operating pressure: max. 10 bar.

#### **Applications**

- · Heating systems
- · Domestic hot-water systems
- · Cooling and air-conditioning systems.

### Features and benefits

- Best Energy Efficiency Index (EEI) value in class
- · Multiple automatic control modes
- Automatic performance adjustment
- Display of actual power consumption
- · Display of actual flow
- Automatic night setback
- Maintenance-free
- Low noise level
- Very simple installation
- · Manual summer mode
- AUTOSummer
- Dry-running protection
- · High-torque start
- Support for balancing radiators in a heating system.

#### **Options**

- · Air separator
- · Wetted parts in stainless steel.



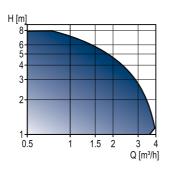
# ALPHA2 models B, C and D

Circulator pumps, canned-rotor type



### **UPS Series 200**

Circulator pumps, canned-rotor type



#### **Technical data**

Flow rate: max. 3.2 m³/h
Head: max. 6 m
Liquid temperature: 2-110 °C
Operating pressure: max. 10 bar.

#### **Applications**

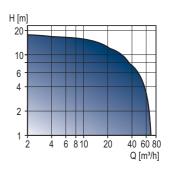
- · Heating systems
- Domestic hot-water systems
- · Cooling and air-conditioning systems.

# Features and benefits

- Best Energy Efficiency Index (EEI) value in class
- · Multiple automatic control modes
- Automatic performance adjustment
- Display of actual power consumption
- Display of actual flow rate
- · Automatic night setback
- Maintenance-free
- · Low noise level
- · Very simple installation
- Manual summer mode
- AUTOSummer
- · Dry-running protection
- · High-torque start.

#### **Options**

- Air separator
- · Wetted parts in stainless steel.



### Technical data

Flow rate: max. 70 m³/h
Head: max. 18 m
Liquid temperature: -10 - +120 °C
Operating pressure: max. 10 bar.

### Applications

- · Heating systems
- · Domestic hot-water systems
- Cooling and air-conditioning systems.

### Features and benefits

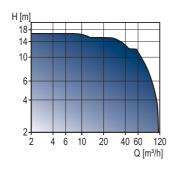
- Maintenance-free
- · Built-in thermal switch
- Low noise level
- Low energy consumption
- Single-phase with built-in protection module
- · Wide range.

- · Protection module
- Relay module with fault signal or operating output
- Bronze pump housing
- · Twin-head versions.



### **MAGNA1**

Circulator pumps, canned-rotor type - electronically controlled



#### **Technical data**

Flow rate: max. 110 m³/h
Head: max. 18 m
Liquid temperature: -10 - +110 °C
Operating pressure: max. 16 bar.

### **Applications**

- · Heating systems
- Domestic hot-water systems
- · Air-conditioning and cooling systems
- · Geothermal and solar systems.

### Features and benefits

- · Proportional-pressure control
- Constant-pressure control
- · Constant-curve, constant-speed duty
- · No external motor protection required.

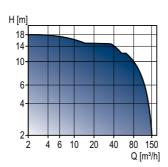
#### **Options**

- · Stainless-steel pump housing
- Twin-head versions.



### **MAGNA3**

Circulator pumps, canned-rotor type - electronically controlled



#### **Technical data**

Flow rate: max. 150 m³/h
Head: max. 18 m
Liquid temperature: -10 - +110 °C
Operating pressure: max. 16 bar.

#### **Applications**

- · Heating systems
- Domestic hot-water systems
- Air-conditioning and cooling systems
- Geothermal and solar systems.

### Features and benefits

- Low energy consumption; all MAGNA3 pumps comply with the EuP 2015 requirements.
- FLOW<sub>ADAPT</sub> control mode, i.e. a combination of the well-known AUTO<sub>ADAPT</sub> mode and a new FLOW<sub>LIMIT</sub> function
- · Operating log
- · Heat energy meter
- · Multipump function
- · Differential-temperature control.

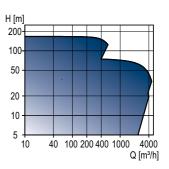
#### **Options**

- · Stainless-steel pump housing
- Twin-head versions
- Wireless remote control by means of Grundfos GO.



### TP

In-line circulator pumps, close-coupled type



#### **Technical data**

Flow rate: max. 4,600 m³/h
Head: max. 170 m
Liquid temperature: -25 - +150 °C
Operating pressure: max. 25 bar.

#### **Applications**

- · Heating systems
- District heating plants
- Local heating plants
- Domestic hot-water systems
- Cooling and air-conditioning systems
- District cooling plants
- Water supply systems.

#### Features and benefits

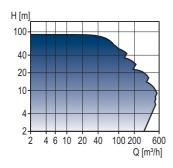
- · Compact design with small footprint
- Wide range
- Standard IE3 motor
- Service-friendly, top pull-up design
- Various types of shaft seals depending on liquid, temperature and pressure.

- · Bronze pump housing
- Bronze impeller
- Stainless-steel impeller
- Twin-head versions
- IE4 motor up to 45 kW.



### **TPE Series 2000**

In-line circulator pumps - electronically controlled



#### **Technical data**

Flow rate: max. 550 m³/h
Head: max. 90 m
Liquid temperature: -25 - +140 °C
Operating pressure: max. 16 bar.

#### **Applications**

- · Heating systems
- · Domestic hot-water systems
- · Cooling and air-conditioning systems.

### Features and benefits

- · Low energy consumption
- Adaptation to existing operating conditions
- Simple installation
- Factory-fitted differential-pressure sensor
- Fitted with motors equivalent to IE3 (IE4 up to 2.2 kW).

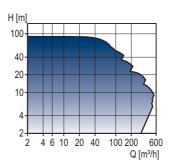
#### **Options**

- Wireless remote control by means of Grundfos GO
- Communication via GENIbus, BACnet MS/TP, LON, Modbus RTU or PROFIBUS DP
- Twin-head versions with built-in alternation/standby function.



### **TPE Series 1000**

In-line circulator pumps - electronically controlled



#### **Technical data**

Flow rate: max. 550 m³/h
Head: max. 90 m
Liquid temperature: -25 - +140 °C
Operating pressure: max. 16 bar.

#### **Applications**

- Heating systems
- District heating plants
- · Local heating plants
- Domestic hot-water systems
- · Cooling and air-conditioning systems
- · District cooling plants
- · Water supply systems.

### Features and benefits

- · Low energy consumption
- Adaptation to existing operating conditions
- · Many control facilities.
- Fitted with motors equivalent to IE3 (IE4 up to 2.2 kW).

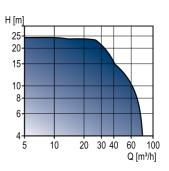
#### **Options**

- Wireless remote control by means of Grundfos GO
- Communication via GENIbus, BACnet MS/TP, LON, Modbus RTU or PROFIBUS DP.
- Twin-head versions with built-in alternation/standby function.



### TPE2, TPE2 D

In-line circulator pumps - electronically controlled



### Technical data

Flow rate: max. 78 m³/h
Head: max. 25 m
Liquid temperature: -25 - +120 °C
Operating pressure: max. 16 bar.

#### **Applications**

- · Heating and cooling systems
- District heating plants
- Domestic hot-water systems.

### Features and benefits

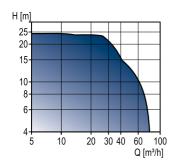
- Low energy consumption
- Simple installation
- Differential-temperature or differentialpressure control with 2 sensors
- · 9 possibilities of setpoint influence
- Limit-exceeded function
- · Fitted with motors equivalent to IE4.

- Wireless remote control by means of Grundfos GO
- Communication via LON, PROFIBUS DP, Modbus RTU/TCP, GSM/GPRS, GRM, BACnet IP/MS/TP or PROFINET IO
- Twin-head versions with built-in alternation/standby/cascade function.



### TPE3, TPE3 D

In-line circulator pumps - electronically controlled



#### **Technical data**

Flow rate: max. 78 m³/h
Head: max. 25 m
Liquid temperature: -25 - +120 °C
Operating pressure: max. 16 bar.

#### **Applications**

- · Heating and cooling systems
- District heating plants
- · Domestic hot-water systems.

### Features and benefits

- · Low energy consumption
- Simple installation
- TFT colour display
- Factory-fitted differential-pressure and temperature sensor
- AUTO<sub>ADAPT</sub>, FLOW<sub>LIMIT</sub>, FLOW<sub>ADAPT</sub>
- Differential-temperature or differentialpressure control with 2 sensors
- Fitted with motor equivalent to IE4.

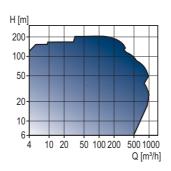
#### **Options**

- Wireless remote control by means of Grundfos GO
- Communication via LON, PROFIBUS DP, Modbus RTU/TCP, GSM/GPRS, GRM, BACnet IP/MS/TP or PROFINET IO
- Twin-head versions with built-in alternation/standby/cascade function.



### NB, NBG

Single-stage standard pumps



#### **Technical data**

Flow rate: max. 1000 m<sup>3</sup>/h
Head: max. 160 m
Liquid temperature: -25 - +140 °C
Operating pressure: max. 25 bar.

#### **Applications**

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

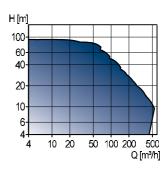
#### Features and benefits

- Standard dimensions according to EN and ISO standards
- · Compact design
- Flexible pump range
- · Standard motor
- EN 12756 shaft seal.



### **NBE, NBGE**

Single-stage standard pumps - electronically controlled



#### **Technical data**

Flow rate: max. 550 m³/h
Head: max. 100 m
Liquid temperature: -25 - +140 °C
Operating pressure: max. 25 bar.

#### **Applications**

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

#### Features and benefits

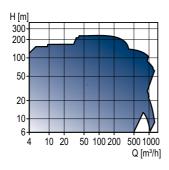
- Standard dimensions according to EN and ISO standards
- Compact design
- Flexible pump range
- Standard motor
- EN 12756 shaft seal.

- Wireless remote control by means of Grundfos GO
- Communication via GENIbus, BACnet MS/TP, LON, Modbus RTU or PROFIBUS DP.



### NK, NKG

Single-stage standard pumps according to EN 733, ISO 2858 and ISO 5199



#### **Technical data**

Flow rate: max. 1,170 m³/h
Head: max. 160 m
Liquid temperature: -25 - +140 °C
Operating pressure: max. 25 bar.

#### **Applications**

- District heating plants
- · Water supply systems
- · Air-conditioning systems
- Cooling system
- · Washdown system
- Firefighting systems
- · Other industrial systems.

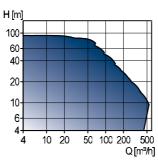
#### Features and benefits

- Standard dimensions according to EN and ISO standards
- Robust design
- Standard motor
- EN 12756 shaft seal.



### NKE, NKGE

Single-stage standard pumps according to EN 733, ISO 2858 and ISO 5199 - electronically controlled



#### **Technical data**

Flow rate: max. 550 m³/h
Head: max. 100 m
Liquid temperature: -25 - +140 °C
Operating pressure: max. 25 bar.

#### **Applications**

- District heating plants
- Water supply systems
- Air-conditioning systems
- Cooling systems
- · Washdown systems
- Other industrial systems.

#### Features and benefits

- Standard dimensions according to EN and ISO standards
- Robust design
- · Standard motor
- EN 12756 shaft seal.

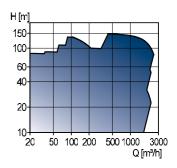
#### **Options**

- Wireless remote control by means of Grundfos GO
- Communication via GENIbus, BACnet MS/TP, LON, Modbus RTU or PROFIBUS DP.



### HS

Horizontal split case pumps



#### **Technical data**

Flow rate: max. 2,500 m³/h
Head: max. 148 m
Liquid temperature: -12 - +100 °C
Operating pressure: max. 16 bar.

#### **Applications**

- · Water supply systems
- Air-conditioning systems
- Cooling systems
- Irrigation systems
- Other industrial systems
- · District heating systems.

#### Features and benefits

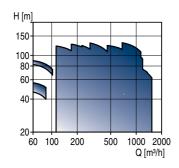
- Robust between-bearing design
- Double suction to reduce axial forces
- Double volute casing to reduce radial load
- Removable bearing housing for easy maintenance
- Many variants available
- Flange dimensions according to EN 1092-2 (DIN 2501).

- Cast-iron housing
- Stuffing box
- Stainless-steel impeller.



### Fire DNF, Fire HSEF

Fire pump sets



#### **Technical data**

With electric motor

Flow rate: 250-4500 gpm Head: max. 182 psi

With diesel engine

Flow rate: 250-4000 gpm Head: max. 212 psi Liquid temperature: 5-40 °C.

#### **Applications**

· Fire pump sets for firefighting systems.

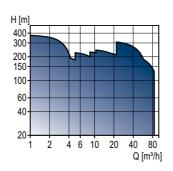
#### Features and benefits

- · With electric motor or diesel engine
- FM-approved and UL-listed
- Simple installation and easy maintenance
- Designed for superior functionality and performance reliability.



### MTR, MTH, SPK

Multistage centrifugal immersible pumps



#### **Technical data**

Flow rate: max. 85 m³/h
Head: max. 238 m
Liquid temperature: -10 - +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.

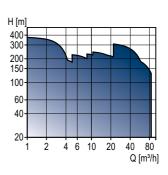
#### Features and benefits

- · Flexible installation length
- Wide range
- Reliability
- Service-friendly
- Simple installation
- Space-saving
- High efficiency.



### MTRE, SPKE

Multistage centrifugal immersible pumps - electronically controlled



#### **Technical data**

Flow rate: max. 85 m³/h
Head: max. 380 m
Liquid temperature: -10 - +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

- · Wide range
- Reliability
- · Service-friendly
- Simple installation
- · Space-saving
- · High efficiency
- · Many control facilities.

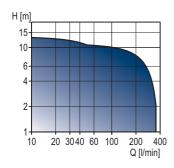
#### **Options**

 Wireless remote control by means of Grundfos GO.



### **MTA**

Single-stage coolant pump



#### **Technical data**

Flow rate: max. 355 l/min Head: max. 13.5 m Liquid temperature: 0-60 °C.

#### **Applications**

- Machine tools
- Filter and conveyor systems.

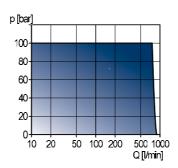
### Features and benefits

- · High-efficiency motor and hydraulic
- Wide range
- Flexible installation length
- Reliability
- No shaft seal
- · Semi-open impeller
- · Easy installation.



### **MTS**

High-pressure pumps for tank top installation



#### **Technical data**

Flow rate: max. 850 l/min Head: max. 120 bar Liquid temperature: 0-80 °C Operating pressure: max. 130 bar.

#### **Applications**

Pumping of coolants in machine tool applications, such as:

- · deep-hole drilling
- grinding
- cutting.

#### Features and benefits

- · High efficiency
- Wear-resistant
- · Compact design
- · Low noise level/pulsation.

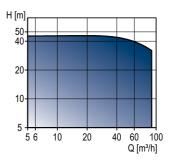
#### **Options**

- Dry installation
- · Mechanical shaft seal
- · Variety of connections.



### **MTB**

Single-stage centrifugal end-suction pumps with semi-open impeller



### **Technical data**

Flow rate: max. 90 m³/h Head: max. 47 m Liquid temperature: -10 - +90 °C Operating pressure: max. 16 bar.

#### **Applications**

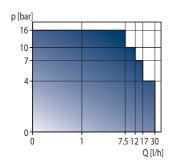
- · Machine centres
- · Coolant systems
- Filtration plants
- Grinding machines
- Parts cleaning systems
- Other industrial applications where semi-open impellers are needed.

- Standard dimension according to EN and ISO standards
- Compact design
- Semi-open impeller/effective solid handling
- Standard IE2 motor.



### **DDA**

Digital diaphragm dosing pumps



#### **Technical data**

Capacity, Q: max. 30 l/h
Pressure, p: max. 16 bar
Turn-down ratio: 1:3000 or 1:1000
Liquid temperature: max. 45 °C.

#### **Applications**

High-end solution

- 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
   Databatic discussions and discussions and discussions are designed.
- · Batch, timer cycle, timer week control
- FlowControl with selective fault diagnosis, pressure monitoring
- Integrated flow measurement and AutoFlowAdapt
- · 0/4-20 mA and 2 relay outputs
- Auto deaeration
- Power supply 100-240 V, 50/60 Hz.

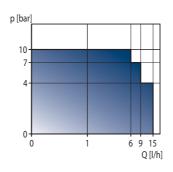
#### **Options**

• E-box for PROFIBUS or Modbus.



### **DDC**

Digital diaphragm dosing pumps



#### **Technical data**

Capacity, Q: max. 15 l/h
Pressure, p: max. 10 bar
Turn-down ratio: 1:1000
Liquid temperature: max. 45 °C.

#### **Applications**

Optimum price-performance ratio.

- Water and wastewater treatment
- · Boiler feed water
- Swimming pool water
- · Cooling tower
- · Chemical industry.

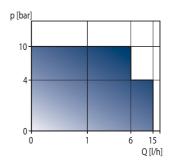
#### Features and benefits

- Internal stroke-speed and frequency control with stepper motor
- Flexible control cube and mounting plate
- · Click wheel and graphical display
- Capacity setting in ml/h, l/h, or gph
- Manual, pulse and 0/4-20 mA control
- 2 relay outputs
- · Smooth dosing of degassing liquids
- · Slow mode
- Power supply 100-240 V, 50/60 Hz.



### **DDE**

Digital diaphragm dosing pumps



#### **Technical data**

Capacity, Q: max. 15 l/h
Pressure, p: max. 10 bar
Turn-down ratio: 1:1000
Liquid temperature: max. 45 °C.

#### **Applications**

Digital Dosing for basic applications.

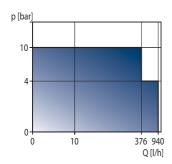
- Water and wastewater treatment
- Swimming pool water
- Cooling tower
- Chemical industry
- Car wash
- · Irrigation.

- Internal stroke-speed and frequency control with stepper motor
- Only two models from 0.006 to 15 l/h
- Smooth continuous dosing
- · Always full stroke length
- · Flexible mounting plate
- Capacity adjustment knob
- Manual control (0.1 100 %)
- Pulse control (1:n)
- · External stop and empty-tank input
- Power supply 100-240 V, 50/60 Hz.



### **DME**

Digital diaphragm dosing pumps



#### **Technical data**

Capacity, Q: max. 940 l/h
Pressure, p: max. 10 bar
Liquid temperature: max. 50 °C.

#### **Applications**

- Water and wastewater treatment
- · Process plants
- · Filtration systems
- · Paper production
- · Food and beverage industry.

#### Features and benefits

- Capacity setting in ml/h or l/h
- Internal stroke-speed and frequency control with brushless DC motor
- Front- or side-fitted control panel with display
- · Control panel lock
- 4-20 mA control
- Pulse-/timer-based batch control
- Anti-cavitation function
- · Easy calibration function
- · Diaphragm leakage sensor.

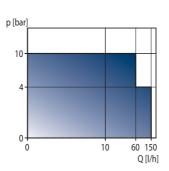
#### **Options**

• Fieldbus communication module.



### DDI

Digital diaphragm dosing pumps



#### **Technical data**

Capacity, Q: max. 150 l/h
Pressure, p: max. 10 bar
Liquid temperature: max. 50 °C.

#### **Applications**

- Water and wastewater treatment
- · Process plants
- Paper production
- · Food and beverage industry.

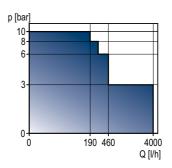
### Features and benefits

- Internal stroke-speed and frequency control with brushless DC-motor Capacity setting in ml/h or l/h
- Smooth dosing through variable speed
- Reliable dosing of viscous liquids
- · Side-fitted control panel
- Manual/pulse control
- 4-20 mA control
- · Easy calibration
- Pioneering system for flow and pressure monitoring in the dosing head (control variant AF)
- PROFIBUS interface (control variant AP).



### **DMX**

Motor-driven diaphragm dosing pumps



#### **Technical data**

Capacity, Q: max. 4000 l/h (pump with two heads: 2 x 4000 l/h)

Pressure, p: max. 10 bar Liquid temperature: max. 50 °C.

#### **Applications**

- Drinking-water treatment
- Wastewater treatment (settlement/ sludge treatment)
- · Pulp and paper industry
- Textile industry
- Industrial water and wastewater treatment
- · Cooling tower.

#### Features and benefits

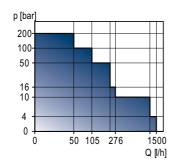
- · Robust design
- · Stroke-length adjustment.

- Frequency converter (PROFIBUS, PROFINET, 4-20 mA control, alarm signals)
- Pulse control (control variant AR)
- Analog control (control variant AR)
- Level input from storage tank (control variant AR)
- With ATEX approval (DMX 226).



### **DMH**

Hydraulic piston diaphragm dosing pump



#### **Technical data**

Capacity, Q: max. 1,500 l/h

(pump with two

heads: 2 x 1500 l/h)

Pressure, p: max. 200 bar Liquid temperature: max. 90 °C.

#### **Applications**

- Oil refinery industry
- · Heavy-duty applications
- Pulp/paper and textile industries
- Cooling tower, power plants
- Industrial water and wastewater treatment.

#### Features and benefits

- · Designed for heavy-duty operation
- Stroke-length adjustment
- Long life due to piston diaphragm technology
- Full PTFE diaphragm.

#### **Options**

- Frequency converter (PROFIBUS, PROFINET, 4-20 mA control, alarm signals)
- · Available with API 675 approval
- Available with ATEX approval
- Servo motor for stroke-length adjustment.



# Accessories for dosing pumps and systems

#### Accessories

- · Installation kits
- Tubing
- · Pump connections
- · Foot valves
- · Suction lines
- · Injection valves
- · Pressure-relief valves
- · Pressure-loading valves
- Multifunction valve
- · Pulsation dampers
- Tanks
- · Agitators and mixers
- Automatic venting valves
- · Diaphragm leakage sensor
- · Dosing monitor
- Flowmeter
- · Water meter
- · Cables and plugs.



# Conex® DIA, DIS

Measurement and control systems for dosing instrumentation

#### **Technical data**

Amplifier parameters:

Conex<sup>®</sup> DIA-1: Cl<sub>2</sub>, ClO<sub>2</sub>, O<sub>3</sub>, PAA,

H<sub>2</sub>O<sub>2</sub>, pH, redox

(ORP).

Conex<sup>®</sup> DIA-2: parameter 1: Cl<sub>2</sub>, ClO<sub>2</sub>,

 $O_3$ ,  $H_2O_2$ .

parameter 2: pH.

Conex® DIA-2Q: parameter 1: Cl<sub>2</sub>, ClO<sub>2</sub>,

O<sub>3</sub>, PAA, H<sub>2</sub>O<sub>2</sub>. parameter 2: pH or redox (ORP).

Conex® DIS-C: conductivity (inductive

or conductive probes).

Conex<sup>®</sup> DIS-PR: pH or redox (ORP). Conex<sup>®</sup> DIS-D: Cl<sub>2</sub>, ClO<sub>2</sub>, O<sub>3</sub>.

#### **Applications**

Instrumentation in disinfection processes:

- · drinking water
- industrial water
- wastewater (only effluent)
- · pool water.

- User-friendly plain-text menu and operator prompting.
- Device calibration feature with plausibility check prevents errors.
- Multilingual menu.
- Self-monitoring feature ensures excellent water quality at all times.
- Compensation for disturbance factors ensures precise measurement which reduces chemical consumption.
- · Available as a preassembled system.



### DIP

Measurement and control systems for dosing instrumentation

#### **Technical data**

Amplifier parameters:

DIP: 1: CI<sub>2</sub>, CIO<sub>2</sub>, O<sub>3</sub>

2: pH

3: redox (ORP).

#### **Applications**

Instrumentation in disinfection processes:

- · drinking water
- · industrial water
- · wastewater (only effluent)
- · pool water.

### Features and benefits

- User-friendly plain-text menu and operator prompting.
- Device calibration feature with plausibility check prevents errors occurring.
- Multilingual menu.
- Self-monitoring feature ensures excellent water quality at all times.
- Compensation for disturbance factors ensures precise measurement which reduces chemical consumption.
- Available as a preassembled system (amplifier and measuring cell) mounted on a plate and ready for connection.



Conex<sup>®</sup> DIA-G, DIS-G

Gas warning systems

#### **Technical data**

Conex<sup>®</sup> DIA-G:

Intelligent, membrane-covered gas sensors with integrated RAM for challenging measuring tasks.

Sensor type, production number, manufacturing date and slope are stored in the memory. Gas warning system for Cl<sub>2</sub>, ClO<sub>2</sub>, O<sub>3</sub> (amperometric and potentiostatic probes) and NH<sub>3</sub>, HCl (potentiostatic probes).

### Conex® DIS-G:

Rugged, low-budget gas sensors for dry rooms. Gas warning system for Cl<sub>2</sub>, ClO<sub>2</sub>, O<sub>3</sub> (amperometric probes).

#### **Applications**

- Gas dosing installations
- Monitoring of gas storage rooms.

#### Features and benefits

Capable of monitoring two different gas storage rooms or two different gases at the same time.

- Simultaneous measurement and display of two measuring parameters
- Optimum safety
- · Very short response time
- Long and maintenance-free sensor service life
- Automatic sensor recognition and auto calibration
- Separate sensor interface for Conex<sup>®</sup> DIA-G for each potentiostatic sensor
- Internal CAN bus for the connection of potentiostatic sensors
- Optional acoustic and visual alarm device.



### DIT-M, DIT-L, DIT-IR

Photometer for water analysis and calibration of measurement systems

#### **Technical data**

Measuring parameters:

- DIT-M: aluminium, bromine, chlorine (free, total, combined), chlorine dioxide, chloride, chlorite, cyanuric acid, iron, fluoride, manganese, ozone, phosphate, pH, acid capacity KS 4.3, hydrogen peroxide
- DIT-L: chlorine, chlorine dioxide, chlorite or ozone as well as the pH value.

#### **Applications**

The compact hand photometers DIT-M and DIT-L are dedicated for routine analysis in water treatment monitoring and for calibration of measurement and control systems.

- Drinking-water treatment
- Swimming pool water treatment
- Industrial water treatment.

#### Features and benefits

- · Compact and ergonomic design
- · High operating convenience
- DIT-M: Multilingual plain-text operator prompting
- DIT-L: Language-neutral user interface
- Interference filters and long-term stable LEDs without moving parts
- Long-term stable reagent tablets.

#### **Options**

 Data transfer to a PC or a printer with the optional DIT-IR infrared interface module.



### **Vaccuperm**

Full-vacuum chlorine gas dosing systems for disinfection

#### **Technical data**

VGB: max. 2 kg/h VGA: max. 10 kg/h VGS: max. 200 kg/h.

#### **Applications**

- Drinking-water treatment (municipal waterworks)
- · Treatment of industrial wastewater
- Water treatment in public swimming pools.

#### Features and benefits

- · Reliable full-vacuum systems
- Approved disinfection method complying with WHO drinking water guidelines
- Systems for direct installation on chlorine gas cylinders or drums or for installation in header lines
- Fully automated systems (wall- or floormounted)
- Precise regulation and dosing of gaseous chlorine
- Simple handling and user-friendly design
- Complete range of accessories available on request: injectors, automatic changeover units, evaporators, liquid traps.



### **Selcoperm 125-2000**

On-site generation of sodium hypochlorite for disinfection

#### **Technical data**

Capacity: 110-1800 g/h Water consumption: 140-170 l per kg of prepared chlorine

Salt consumption: approx. 4 to 4.5 kg

per kg of prepared chlorine

Sodium hypochlorite concentration:

0.6 - 0.7 %

Power consumption: approx. 5.5 - 6.5

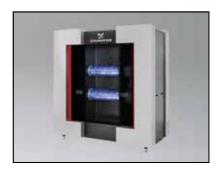
kWh per kg of prepared chlorine.

#### **Applications**

- Water treatment in municipal waterworks and with independent water suppliers
- · Treatment of industrial wastewater
- Treatment of industrial process water and water in cooling towers
- Water treatment in public swimming pools, hotel pools and therapy pools.

#### Features and benefits

- · Turn-key systems
- Only water, common salt and electricity are needed for the Selcoperm electrolysis method
- Fresh disinfectant solution (hypochlorite) is always available
- Simple handling and user-friendly design
- Approved disinfection method complying with WHO drinking water guidelines and many local regulations
- Low maintenance and a long service life due to robust components.



### Selcoperm 5000-45000

On-site generation of sodium hypochlorite for disinfection

#### **Technical data**

Capacity: 5000-45000 g/h Water consumption: 125 l per kg of

prepared chlorine

Salt consumption: Max. 3.5 kg per kg

of prepared chlorine

Sodium hypochlorite concentration:

0.8 %

Power consumption (AC):

Max. 5.4 kWh per kg of prepared chlorine

#### **Applications**

- Water treatment in municipal waterworks and with independent water suppliers
- Treatment of industrial wastewater
- Treatment of industrial process water and water in cooling towers.

- Robust turn-key systems
- Safe and reliable method of producing sodium hypochlorite on site
- Common salt is the base material and nontoxic, easy to store and handle.
- Only water, common salt and electricity are needed for the electrolysis, and operating costs are very low.
- Fresh sodium hypochlorite is always on hand; the disinfectant solution does not dissociate like commercial sodium hypochlorite solutions.
- Low formation of chlorate as a byproduct
- Low maintenance and a long service life due to robust components.



### **Oxiperm**

Chlorine dioxide preparation and dosing systems for disinfection

# Technical data OCD-164

 Hypochloric acid/sodium chlorite method with diluted chemicals:

HCI: 9 % by weight NaClO<sub>2</sub>: 7.5 % by weight Capacity: 30-2000 g/h.

#### OCC-164

 Hypochloric acid/sodium chlorite method with concentrated chemicals:

HCI: 33 % by weight NaClO<sub>2</sub>: 24.5 % by weight up to 10 kg/h.

#### OCG-166

 Chlorine gas/sodium chlorite method: NaClO<sub>2</sub>: 24.5 % by weight

up to 10 kg/h.

 $Cl_2$ : 24.5 % by we

#### **Applications**

· Capacity:

- Water treatment in municipal waterworks, hotels, hospitals, retirement homes, sports facilities
- · Prophylaxis of legionella
- Treatment of industrial process water, washing water and cooling circuit water
- Disinfection in bottle wash systems, rinsers. CIP systems
- Disinfection in dairies (condenser vapour, pasteurization).

#### Features and benefits

- · On-site preparation of chlorine dioxide
- · Ergonomic design
- Optimum process monitoring
- Innovative dosing and calibration technology
- Complete chemical reaction within a minimum of time
- · Low consumption of chemicals.



### **Oxiperm Pro**

Disinfection system

#### **Technical data**

#### OCD-162

Capacity: up to 60 g/h
Concentration of chemicals:
HCl: 9 % by weight
NaClO<sub>2</sub>: 7.5 % by weight.

#### **Applications**

- Water treatment in municipal waterworks, hotels, hospitals, retirement homes, sports facilities, shower facilities
- Combating and prophylaxis of Legionella
- Treatment of industrial process water, washing water and cooling circuit water
- Treatment of brewing water
- Disinfection in bottle wash systems, rinsers. CIP systems
- Disinfection in dairies (condenser vapour, pasteurisation).

#### Features and benefits

- Compact system to be installed in confined spaces.
- Ergonomic design. Operation and maintenance are performed from the front
- On-site preparation of chlorine dioxide.
- · Optional with chlorine dioxide control
- Simple assembly and startup.
   The system can be connected and put into operation with limited interruption of the water supply.
- Complete chemical reaction within a minimum of time.
- Low operating costs and low consumption of chemicals.



### **Polydos**

Preparation systems for dry material and liquid polymers

#### **Technical data**

Standardised and customised installations Preparation capacity: max. 11,000 l/h Viscosity of prepared solution: max. 2,500 mPa s.

#### **Applications**

Preparation of polymers, lime, activated carbon, aluminium sulphate, etc. for water, wastewater and sludge treatment.

- Polydos: One-, two- or three-chamber units for handling, preparation and dosing of dry and liquid polymers and other material.
- Includes dry and liquid material feeding system.
- Fully automatic systems with PLC control.
- Graphic display with multilingual user interface.
- Preparation and ripening chamber with electric agitators (optional for the dosing chamber).
- Ultrasonic sensor for continuous level control
- Water apparatus with shut-off valve, solenoid valve (24 VDC), pressurereducing valve and contact water meter.



### **DTS**

Dosing tank stations

#### **Technical data**

A DTS includes a tank and some installation material, and is prepared for one of the following dosing pumps: DDA, DDC, DDE, DDI 60-10 and DMX up to 50 l/h

Components available for DTS:

- Mounting material for the dosing pumps: DDA, DDC, DDE, DDI 60-10 and DMX up to 50 l/h.
- · Dosing tanks up to 1000 I
- · Electric agitator or hand mixer
- · Collecting tray
- Suction line with flow switch for empty/ pre-empty indication
- · Multifunction valve
- · Injection unit
- Dosing lineDrain valve
- Tank inlet valve.

Dosing tank stations are preassembled from the factory. The dosing pump has to be ordered separately.

### **Applications**

- · Water and wastewater treatment
- · Washing systems
- · Swimming pools
- Process plants
- · Paper production
- · Food and beverage industry.

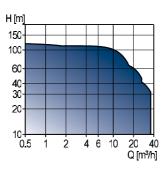
#### Features and benefits

- Flexible systems for a wide range of applications and dosing tasks
- Suitable for a lot of chemical media due to high quality materials
- Minimised installation and commissioning effort.



### CM, CME, CMV

Multistage centrifugal pumps



#### **Technical data**

Flow rate: max. 36 m³/h
Head: max. 130 m
Liquid temperature: -30 - +120 °C
Operating pressure: max. 16 bar.

#### **Applications**

- · Washing and cleaning
- · Water treatment
- · Temperature control
- · Pressure boosting.

### Features and benefits

- · Compact design
- Modular design
- Very low noise level down to 50 dB(A).

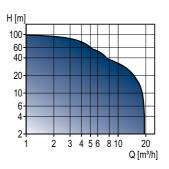
### **Options**

- · Customised products
- Built-in or stand-alone
- · Variable frequency drive.
- Available as a self-priming variant with a suction lift of up to 8 metres.



### **CMBE**

Frequency controlled booster systems



#### **Technical data**

Flow rate: max. 7.6 m³/h
Head: max. 99 m
Liquid temperature: 0-60 °C
Operating pressure: max. 10 bar.

#### **Applications**

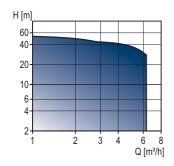
- · Single-family houses
- Two-family houses
- Cluster homes
- Blocks of flats
- Schools
- · Small hotels/guest houses
- · Small office buildings.

- Constant pressure via integrated speed control
- Compact construction
- · Robust, stainless steel
- · Easy installation
- · Dry-running protection
- Low noise level, 55 dB(A)
- Available with inlet pressure switch that meets DIN 1988-500
- · Low energy consumption.



CMB PM1, CMB-SP PM1, CMB PM2, CMB-SP PM2

Pressure manager booster systems



#### **Technical data**

Flow rate: max. 6.5 m³/h
Head: max. 55 m
Liquid temperature: 0-60 °C
Operating pressure: max. 10 bar.

#### **Applications**

- Single- and two-family houses
- Cluster homes
- · Blocks of flats
- Schools
- Small hotels/guest houses
- · Small office buildings.

#### Features and benefits

- · Cast-iron and stainless-steel variants
- Compact
- Easy installation
- Automatic resetting of alarms
- · Dry-running protection
- Anti-cycling (leakage detection)
- Maximum continuous operating time (CMB PM2 only)
- Self-priming down to 8 metres (CMB-SP only).

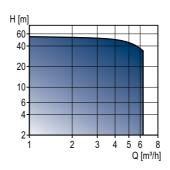
#### **Options**

 Available as a self-priming variant with a suction lift of up to 8 metres.



### CMB PT, CMB PS

Booster systems with CM pumps



#### **Technical data**

Flow rate: max. 6.2 m³/h
Head: max. 47 m
Liquid temperature: 0-60 °C
Operating pressure: max. 10 bar.

#### **Applications**

- · Single- and two-family houses
- Cluster homes
- Blocks of flats
- Schools
- Small hotels/guest houses
- Small office buildings.

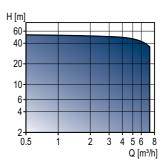
#### Features and benefits

- CM pump
- Pressure tank to minimise the number of pumps starts
- Motor protection (single-phase variants)
- Automatic operation.



### **RCME**

Rainwater harvesting system with buffer tank, CME Booster and feed pump



#### **Technical data**

Flow rate: max. 6 m³/h
Head: max. 50 m
Liquid temperature: 3-40 °C
Operating pressure: max. 10 bar.

### **Applications**

- · Rainwater harvesting
- · Cleaning systems
- Washing machines
- · Toilet flushing
- · Garden irrigation.

- Compact solution
- High reliability
   Gianala in stallation
- Simple installation
- User-friendly control panel.Digital outputs for BMS system.



### Rainwater control

Control and monitoring unit for rainwater harvesting

#### **Technical data**

Supply voltage: 3 x 400 V Enclosure class: IP54 All motor sizes can be connected.

### **Applications**

- · Rainwater harvesting
- · Cleaning systems
- · Washing machines
- · Toilet flushing
- · Garden irrigation.

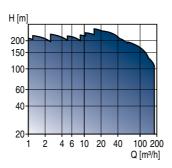
#### Features and benefits

- · Easy installation and startup
- · Simple control
- · Application-optimised software
- · User-friendly control panel
- Fully scalable for pump and tanks
- · Digital outputs for BMS system.



### CR, CRI, CRN

Multistage centrifugal pumps



#### **Technical data**

Flow rate: max. 180 m³/h
Head: max. 330 m
Liquid temperature: -40 - +180 °C
Operating pressure: max. 33 bar.

### **Applications**

- · Washing systems
- · Cooling and air-conditioning systems
- Water supply systems
- Water treatment systems
- · Firefighting systems
- · Industrial plants
- · Boiler feed systems.

#### Features and benefits

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

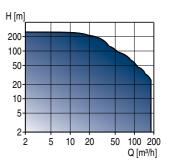
#### **Options**

 Dry-running protection and motor protection via LiqTec.



### CRE, CRIE, CRNE

Multistage centrifugal pumps - electronically controlled



#### **Technical data**

Flow rate: max. 180 m³/h Head: max. 250 m Liquid temperature: -40 - +180 °C Operating pressure: max. 33 bar.

#### **Applications**

- · Washing systems
- Cooling and air-conditioning systems
- Water supply systems
- · Water treatment systems
- · Firefighting systems
- · Industrial plants
- · Boiler feed systems.

#### Features and benefits

- Wide range
- Reliability
- In-line design
- High efficiency
- Service-friendly
- Space-savingMany control facilities.

#### **Options**

 Wireless remote control by means of Grundfos GO.



### **CR Monitor**

Monitoring of pump efficiency, cavitation and performance

#### **Technical data**

Supported pumps: CR, CRI, CRN,

CRN MAGdrive

Motor range: 1.1 - 75 kW IP54. Enclosure class:

Available for pumps with standard MG/ Siemens motors, MG/Siemens motors supplied from a Grundfos CUE frequency converter and MGE motors with integrated frequency converter.

#### **Applications**

- · Pumps in demanding applications where zero downtime is required.
- · Pumps exposed to extreme wear or clogging due to materials in the pumped liquid.
- · Pumps in processes where continuous monitoring and control are essential.

### Features and benefits

- Detects if the pump efficiency is reduced.
- Detects if the pump is about to cavitate.
- Detects if the pump is running outside its normal operating range.
- Enables planning of pump maintenance in order to prevent unplanned downtime.

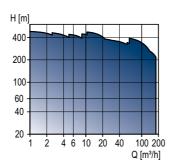
### **Options**

- · 24/7 monitoring of operation and protection of equipment
- Bus communication to SCADA system or Web-link
- · Data collection, monitoring and setting through local PC or via internet.



### CR, CRN high pressure

Multistage centrifugal pumps



#### **Technical data**

Flow rate: max. 180 m<sup>3</sup>/h Head: max. 480 m -30 - +120 °C Liquid temperature: Operating pressure: max. 50 bar.

### **Applications**

- · Washing systems
- · Water treatment systems
- · Industrial plants
- Boiler feed systems.

### Features and benefits

- Reliability
- High pressures
- · Service-friendly
- · Space-saving
- Suitable for slightly aggressive liquids
- Single-pump solution enabling high pressure.

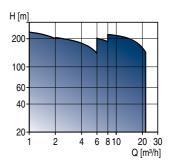
#### **Options**

Dry-running protection and motor protection via LigTec.



### **CRT**

Multistage centrifugal pumps



### **Technical data**

max. 22 m<sup>3</sup>/h Flow rate: Head: max. 250 m -20 - +120 °C Liquid temperature: Operating pressure: max. 25 bar.

#### **Applications**

- · Process-water systems
- Washing in cleaning systems
- Seawater 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.

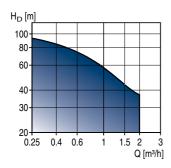
#### **Options**

· Dry-running protection and motor protection via LiqTec.



### CR DW

Ejector pumps



#### **Technical data**

Operating pressure: max. 16 bar Ambient temperature: max. 40 °C Liquid temperature: max. 40 °C.

#### **Applications**

Minor water-supply systems

- irrigation in agriculture and horticulture
- · liquid transfer on farms with own well
- · weekend cottages.

#### Features and benefits

- Four sizes and two material versions.
   One with all wetted parts made of stainless steel.
- Suitable for wells down to 90 m.
- · Service-friendly.
- Pump head and base made of electroplated cast iron.

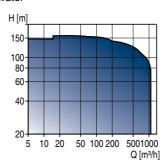
#### **Options**

 Hose kit (for simple change from CPE/ CPES to CR DW).



### **Hydro MPC**

Turnkey booster system with CR(I)(E) pumps for transfer and pressure boosting of water



#### **Technical data**

Flow rate: max. 1,080 m³/h
Head: max. 155 m
Liquid temperature: 0-60 °C
Operating pressure: max. 16 bar.

#### **Applications**

- · Water supply systems
- Irrigation systems
- · Industrial plants
- · Commercial buildings.

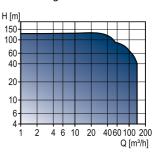
### Features and benefits

- 2-6 pumps in cascade
- · Easy installation and startup
- Large user-friendly displayEnergy-optimised control
- Determined cont
- · Data communication
- · Perfect constant pressure
- · Application-optimised software.



### **Hydro Multi-E**

Turnkey booster system with CRE, CRIE or CME pumps for pressure boosting of water in buildings



#### **Technical data**

Flow rate: max. 140 m³/h Head: max. 133 m Liquid temperature: 0-60 °C Operating pressure: max. 16/10 bar.

#### **Applications**

- · Blocks of flats
- Hotels
- Hospitals
- Schools
- · Office buildings.

#### Features and benefits

- · 2-4 pumps in cascade
- Plug-and-pump solution
- · Easy to control
- Low energy consumption
- Data communication
- Multi-master function
- · Perfect constant pressure.

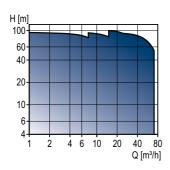
#### **Options**

 Wireless remote control by means of Grundfos GO.



### **Hydro Multi-S**

Fixed-speed booster system with CR, CM or CMV pumps



#### **Technical data**

Flow rate: max. 72 m³/h Head: max. 103 m Liquid temperature: 5-60 °C Operating pressure: max. 16 bar.

### **Applications**

- · Blocks of flats
- Hotels
- Schools

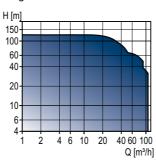
### Features and benefits

- · 2-3 pumps in cascade
- Plug-and-pump solution
- Simple and robust design
- · Easy to service and maintain.



### **Hydro Multi-B**

Turnkey booster system with CM(E) pumps for pressure boosting of water in buildings



#### **Technical data**

Flow rate: max. 108 m³/h Head: max. 125 m Liquid temperature: 0-60 °C Operating pressure: max. 16 bar.

#### **Applications**

- · Blocks of flats
- Hotels
- Hospitals
- Schools
- Office buildings.

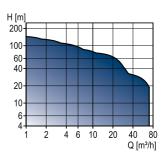
### Features and benefits

- · 2-3 pumps in cascade
- Plug-and-pump solution
- Simple interface for control
- Energy-optimised control
- Data communication
- · Perfect constant pressure
- · Small footprint.



### **Hydro Solo-E**

Turnkey booster system with CRE pumps for pressure boosting of water in buildings



### Technical data

Flow rate: max. 70 m³/h Head: max. 149 m Liquid temperature: 0-70 °C Operating pressure: max. 16 bar.

#### **Applications**

- · Single-family houses
- Cottages
- Farms
- Process water
- Irrigation.

#### Features and benefits

- Plug-and-pump solution
- Easy to control
- Low energy consumption
- Data communication
- Perfect constant pressure.

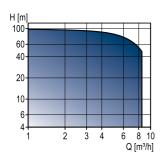
### **Options**

 Wireless remote control by means of Grundfos GO.



### **Hydro Solo-S**

Turnkey booster system with CR pumps for pressure boosting of water in buildings



#### **Technical data**

Flow rate: max. 8.5 m³/h
Head: max. 102 m
Liquid temperature: 0-70 °C
Operating pressure: max. 10 bar.

#### **Applications**

- · Single-family houses
- Cottages
- Farms
- Pressure boosting in systems for process water and irrigation.

#### Features and benefits

- Plug-and-pump solution
- Easy to control
- · Low energy consumption
- Perfect constant pressure.



### **BMP**

Piston pumps for liquid transfer under high pressure

### **Technical data**

Flow rate: max. 10.2 m³/h
Head: max. 1,630 m
Liquid temperature: 3-50 °C
Operating pressure: max. 160 bar.

#### **Applications**

- · Cleaning/washing
- Injecting
- Misting
- Processing
- Desalination of brackish water and seawater.

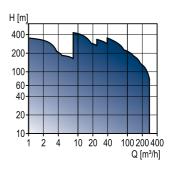
### Features and benefits

- · High efficiency
- · Small, lightweight pump
- Generates insignificant pulsations in the discharge line
- · No preventive maintenance required
- · Long service life
- · Few wear parts
- · Wide speed control range
- Extreme recirculation capability without overheating (up to 90 %)
- Lubricated by the pumped liquid
- · Compact design.



### BM

4", 6", 8" booster modules



#### **Technical data**

Flow rate: max. 265 m³/h
Head: max. 430 m
Liquid temperature: 0-40 °C
Operating pressure: max. 60 bar.

#### **Applications**

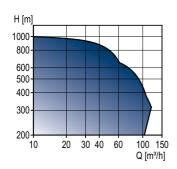
- Reverse osmosis systems
- Water supply systems
- Water treatment systems
- Industrial plants
- · High-rise buildings.

- · High-pressure boosting
- Various material versions
- Low noise level
- Simple installation
- Modular design
- Compact design
- · Leakage-free
- In-line.



**BMShs, BMST, BMSX** 

High-pressure booster systems



#### **Technical data**

Flow rate: max. 120 m³/h
Head: max. 820 m
Liquid temperature: 0-40 °C
Operating pressure: max. 82 bar.

#### **Applications**

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

### Features and benefits

- · High pressure boosting
- High-pressure/high-flow
- Low-energy consumption
- Simple installation
- Compact design
- Modular design
- Leakage-free
- Small footprint
- Low weight
- · VFD self-test at startup
- · Overload protection
- · Low noise level.

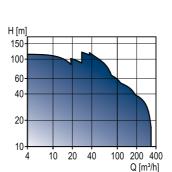
#### **Options**

- · Permanent-magnet high speed
- Asynchronous high-speed motor.



### BMhp, BMShp

High-pressure booster systems



#### **Technical data**

Flow rate: max. 310 m³/h
Head: max. 110 m
Liquid temperature: 0-40 °C
Inlet pressure: max. 80 bar
Operating pressure: max. 82 bar.

#### **Applications**

The BMhp booster module is the optimum solution for these applications:

- · Sealless pumps
- Pumps capable of handling high system pressures
- High heads
- · Quiet operation
- A minimum of maintenance
- · Reverse osmosis systems
- · Water supply systems
- · Water treatment systems
- · Industrial plants.

#### Features and benefits

- High flow
- · High inlet pressure
- Simple installation.

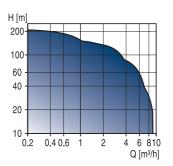
#### **Options**

MGE motor MG motor.



SQ, SQE

3" submersible pumps



### Technical data

Flow rate: max. 9 m³/h Head: max. 237 m Liquid temperature: 0-40 °C Installation depth: max. 150 m.

### **Applications**

- Domestic water supply systems
- Groundwater supply to waterworks
- Irrigation in horticulture and agriculture
- Groundwater lowering
- Industrial applications.

#### Features and benefits

- · Integrated dry-running protection
- Overload protection
- Overtemperature protection
- Over- and undervoltage protection
- Protection against upthrust
- Wear resistance
- Soft start
- · High efficiency.

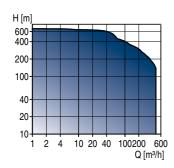
#### **Options**

 SQE can be protected, monitored and controlled by the CU 300 and CU 301.



SP A, SP, SP-G

4", 6", 8", 10", 12" submersible pumps



#### **Technical data**

Flow rate: max. 470 m³/h Head: max. 670 m Liquid temperature: 0-60 °C Installation depth: max. 600 m.

#### **Applications**

- · Groundwater supply to waterworks
- · Irrigation in horticulture and agriculture
- · Groundwater lowering
- · Pressure boosting
- · Industrial applications
- Fountains
- Mining
- · Offshore.

#### Features and benefits

- · High efficiency
- Stainless steel components throughout and replaceable wear parts for long service life
- Sand content up to 150 g/m<sup>3</sup>.

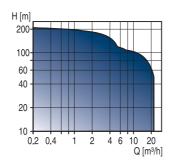
#### **Options**

- A wide range of accessories
- Grundfos Go wireless remote control
- Complete range of zinc anodes for SP
- Complete range of flow sleeves for SP.
- Available in 3 grades of stainless steel, EN 1.4301, EN 1.4401 or EN 1.4539
- · Motor protection via MP 204.



### **SQE-NE, SP-NE**

Remediation and sampling pumps



#### **Technical data**

Flow rate: max. 22 m³/h Head: max. 215 m Liquid temperature: 0-40 °C Installation depth: max. 600 m.

#### **Applications**

- · Pumping contaminated groundwater
- Sampling
- · Remedial pumping.

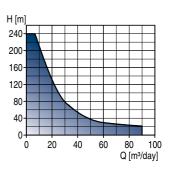
### Features and benefits

- SQE-NE: See SQE
- SP-NE: See SP.



### **SQFlex**

Renewable-energy based water supply systems



Flow rate: max. 90 m³/day
Head: max. 200 m
Liquid temperature: 0-40 °C.
Supply voltage: 30-300 VDC
1 x 90-240 V,

1 x 90-240 \ 50/60 Hz

Installation depth: max. 150 m.

### **Applications**

- Villages, schools, hospitals, singlefamily houses
- · Farms and greenhouses
- Game parks and game farms
- · Conservation areas.

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



### **MGFlex**

Renewable-energy based motors and water supply systems

#### **Technical data**

- Power input (P1) of 40 to 880 W and 60 to 1730 W
- Motor speed of 1000 to 3600 min<sup>-1</sup>.
- · Maximum input current of 4.6 and 8.9 A.
- · 30-300 VDC.
- 1 x 90-240 VAC, 50/60 Hz.
- The MGFlex motor can be mounted on Grundfos CR and MTR (as float pump) pumps.

#### **Applications**

The Grundfos solar surface pump system is designed for renewable energy supply. Powered by a solar panel, the system is especially suitable for supplying water in applications such as:

- Irrigation
- · Watering of livestock
- Pressure boosting
- Floating pump
- Recirculation of swimming-pool water (OEM).

#### Features and benefits

- · Maximum power point tracking (MPPT)
- Overvoltage and undervoltage protection
- Wide voltage range
- Overload protection
- Overtemperature.



### **RSI**

Renewable solar inverter for three-phase pumps

#### **Technical data**

Input voltage: 530-750 VDC 280-450 VDC Output voltage: 380 VAC

220 VAC

Motor sizes from 1.5 kW to 9 kW.

#### **Applications**

RSI is an off-grid solar inverter converting the DC power output from the solar panel to AC power supply for pump operation.

The RSI can be used in both new and existing installations, but the pump and motor should be suitable for use with frequency converters.

The list below shows the Grundfos pump types for which the RSI is designed:

- · CR
- SP.

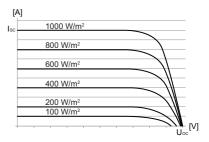
#### Features and benefits

- Maximum power point tracking (MPPT)
- Overvoltage and undervoltage protection
- Overload protection
- Overcurrent protection
- · Overtemperature protection of inverter
- · Operation history memory.



### Solar modules

Solar modules for pumps and systems that rely on a renewable-energy source



#### Technical data

Peak power: 80-250 W Voltage (Ump): 17 VDC.

#### **Applications**

Grundfos solar modules are suitable for the SQFlex, MGFlex and RSI water supply systems based on renewable energy sources.

Each solar module is equipped with plugs and sockets (plugs and cables are accessories for some models) for easy connection of several modules in parallel or series. The solar modules must be mounted on a support structure, tilted at an angle ensuring optimum utilisation of the solar energy.

#### Warranties

Power output:

- 25 years limited warranty of 80 % power output.
- 12 years limited warranty of 90 % power output.

Workmanship: 2 years.



CU 200, CIU 273, IO50, IO101, IO102

Renewable-energy controllers

#### **Technical data**

- 30-300 VDC
- 1 x 90-240 VAC, 50/60 Hz.

#### **Applications**

**SQFlex** 

- CU 200: monitoring and tank level control
- CIU 273: monitoring, tank level control and Grundfos Remote Management
- · SQFlex and MGFlex
- · IO50: on/off control
- IO101: on/off control and generator backup
- IO102: on/off control and wind turbine.

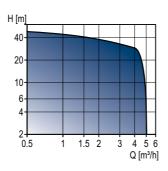
### Features and benefits

- · Easy installation
- · Status indication (CU 200, CIU 273)
- Fault indication (CU 200, CIU 273)
- · Automatic AC to DC switch (IO 101)
- Automatic pump operation (CU 200, CIU 273).



### JP

Self-priming jet pumps and boosters



#### **Technical data**

Flow rate: max. 5 m³/h
Head: max. 55 m
Liquid temperature: 0-40 °C
Suction lift: max. 7 m
Operating pressure: max. 6 bar.

#### **Applications**

- Households
- Gardens
- · Hobby activities
- Agriculture
- Horticulture
- · Small industries.

#### Features and benefits

- · Self-priming
- Stable operation even in case of air pockets in the liquid.

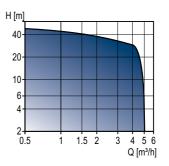
### **Options**

- Available with a pressure manager for automatic start/stop and added protective functions
- Available with a pressure tank to minimise the number of starts
- Available with a pressure switch
- Booster systems for small-scale water supply.



### JP Booster

Self-priming jet pumps and boosters



### Technical data

Flow rate: max. 6.5 m<sup>3</sup>/h
Head: max. 48 m
Liquid temperature: 0-55 °C
Operating pressure: max. 6 bar.

#### **Applications**

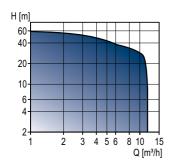
- Households
- Gardens
- · Hobby activities
- Agriculture
- Horticulture
- Small industries.

- Self-priming
- Stable operation even in case of air pockets in the liquid
- · Automatic resetting of alarms
- · Dry-running protection
- · Anti-cycling (leakage detection)
- Maximum continuous operating time (only with PM2).



JPC, JPA, JPC

Self-priming jet pumps and boosters



#### **Technical data**

Flow rate: max. 10.5 m³/h
Head: max. 61 m
Suction lift: max. 8 m
Liquid temperature: 0-35 °C
Operating pressure: max. 7.5 bar.

#### **Applications**

- Gardens
- · Hobby activities
- Agriculture
- Horticulture.

# Features and benefits

- · Self-priming
- Strong suction capacity
- Handle small sandy impurities with ease
- · Built-in thermal protection.

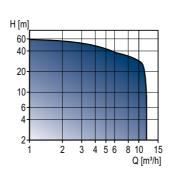
# **Options**

- Available with a pressure manager for automatic start/stop and added protective functions
- Available with a pressure tank to minimise the number of starts
- · Available with a pressure switch.



JPC PT, JPA PT, JPD PT

Self-priming jet pumps and boosters



#### **Technical data**

Flow rate: max. 1000 m³/h Head: max. 160 m Liquid temperature: -25 - +140 °C Operating pressure: max. 25 bar.

#### **Applications**

- Single- or two-family households
- Summer houses and weekend cottages.

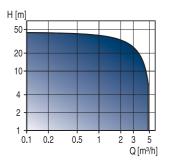
# Features and benefits

- · Self-priming
- Robust design
- · Corrosion-free materials
- · Constant water supply
- Automatic start/stop.



# MQ

Multistage centrifugal self-priming pumps



#### **Technical data**

Flow rate: max. 5 m<sup>3</sup>/h
Head: max. 48 m
Liquid temperature: 0-35 °C
Operating pressure: max. 7.5 bar.

#### **Applications**

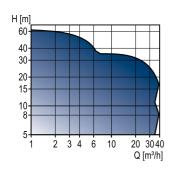
- Single- or two-family houses
- Weekend cottages
- Farms
- Greenhouses.

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



# NS, PF

Centrifugal pumps and compact peripheral centrifugal pumps



#### **Technical data**

Flow rate: max. 38 m³/h Head: max. 60 m Liquid temperature: 0-35 °C Operating pressure: max. 10 bar.

#### **Applications**

- Water supply to domestic and light industrial installations
- Gardening irrigation and sprinkling
- · Drainage and filling of cisterns
- Light industrial uses, such as feeding pressurized boilers (anti-condensation).

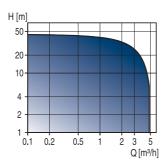
# Features and benefits

- · Simple and compact design
- Robust materials
- Built-in overload protection in all singlephase versions.



# **RMQ**

Units for monitoring and control of rainwater collection and utilisation systems



#### **Technical data**

Flow rate: max. 5 m³/h
Head: max. 48 m
Liquid temperature: 0-35 °C
Operating pressure: max. 7.5 bar.

#### **Applications**

- · Single- or two-family houses
- Weekend cottages
- Farms
- · Gardens and greenhouses.

#### Features and benefits

- Automatic changeover between rainwater tank and integrated mains water tank.
- Manual changeover between rainwater tank and integrated mains water tank.
- Acoustic/visual alarm in case of overflow in integrated mains water tank.

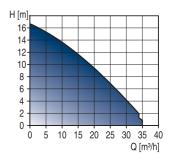
#### **Options**

- · Control of additional booster pump
- Backflow monitoring equipment.



# Unilift, KPC

Submersible drainage and effluent pumps



#### **Technical data**

Flow rate: max. 31 m³/h Head: max. 17 m Liquid temperature: 0-55 °C Installation depth: max. 10 m.

#### **Applications**

- · Drainage of flooded cellars
- Pumping of domestic wastewater
- Groundwater lowering
- Emptying of swimming pools and excavations
- Emptying of drain wells
- Emptying of tanks and reservoirs.

#### Features and benefits

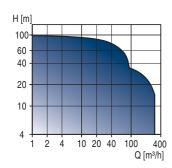
- Simple installation
- Service- and maintenance-free.

- · Unilift CC is suitable for low suction
- Unilift CC has an optional horizontal outlet
- Unilift AP35/50 and AP35B/50B have a vortex impeller
- Unilift AP35B and AP50B have autocoupling and horizontal outlet
- KPC 24/7 is suitable for continuous operation in applications such as fish pounds.



# DW

#### Contractor pumps



#### **Technical data**

Flow rate: max. 83 l/s Head: max. 100 m Liquid temperature: 0-40 °C

#### **Applications**

- Tunnels
- Mines
- Quarries
- · Gravel pits
- Fish ponds
- Building sites.

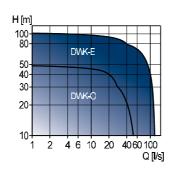
#### Features and benefits

- Corrosion resistant due to use of aluminium and stainless-steel parts
- Extremely hard-wearing due to specially selected materials
- Simple installation
- · Service-friendly
- Protection against abrasive particles
- Plug-and-pump (no special equipment required)
- · Motor protection for longer life.



# **DWK**

#### Heavy-duty dewatering pumps



#### **Technical data**

Flow rate:	max. 120 l/s
Head:	max. 102 m
Liquid temperature:	0-40 °C

#### **Applications**

Dewatering

- Construction sites
- · Excavation sites
- Tunnels
- · Mines.

Draining

- Underground building pits
- · Industrial pits
- · Stormwater pits.

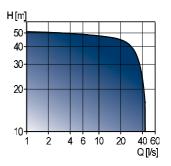
# Features and benefits

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



# **DPK**

#### Submersible drainage pumps



# Technical data

Flow rate: max. 45 l/s Head: max. 51 m Liquid temperature: 0-40 °C

#### **Applications**

Draining

- Underground building pits
- Industrial pits
- · Stormwater pits.

# Features and benefits

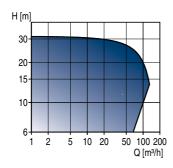
- · High-pressure capabilities
- Flexible installation
- Easy to service and maintain.

- · Different discharge connections
- Auto-coupling system
- Monitoring unit.



# **Pomona**

Portable, self-priming pumps for temporary or permanent installation



#### **Technical data**

Flow rate: max. 36 l/s Head: max. 31 m Liquid temperature: 0-80 °C Operating pressure: max. 6 bar.

# **Applications**

- · Dewatering of construction sites
- Groundwater water level control
- · Irrigation in gardens and parks
- Water supply in horticulture and agriculture
- · Industrial applications.

#### Features and benefits

- · Robust and compact design
- Motor variation (electrical or internal combustion engines)
- · Insensitive to impurities
- · Wear-resistant
- · Handling solid sizes up to 30 mm.

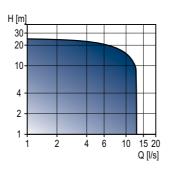
#### **Options**

· Pomona can be supplied as bare-shaft pump as well as with the motor on a trolley, carrying frame or base plate.



# DP, EF

Drainage and effluent pumps



#### **Technical data**

Flow rate: max. 12.8 l/s  $(46 \text{ m}^3/\text{h})$ max. 25 m Head: Liquid temperature: 0-40 °C Discharge diameter: Rp 2 to DN 65.

#### **Applications**

- · Drainage
- Fffluent
- Wastewater
- · Process water.

#### Features and benefits

- Cable plug connection
- Unique clamp connection
- Single-channel and vortex impellers
- Solids passage up to 65 mm
- Unique cartridge shaft seal
- · Modular design
- · Minimum downtime.

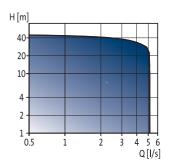
#### **Options**

- · Control and protection systems
- · Motor operation control
- AUTO<sub>ADAPT</sub> functions.



# **SEG**

Grinder pumps



#### **Technical data**

Flow rate: max. 5 l/s Head: max. 47 m 0-40 °C. Liquid temperature:

#### **Applications**

· Pumping of wastewater with toilet waste through pipes of  $\emptyset$  40 and up.

# Features and benefits

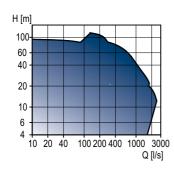
- Service-friendly
- Installation on foot or auto-coupling
- Continuous operation with fully submerged pump
- Built-in motor protection
- SmartTrim
- Improved grinder system
- Totally sealed cable plug.

- · Wide range of accessories
- Monitoring and control of one or several pumps
- AUTO<sub>ADAPT</sub> functions.



# S pumps

Supervortex pumps, single- or multi channel impeller pumps



#### **Technical data**

Flow rate: max. 2,500 l/s
Head: max. 116 m
Liquid temperature: 0-40 °C
Discharge diameter: DN 80-800
Particle size: max. Ø 145.

#### **Applications**

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

#### Features and benefits

- SmartTrim
- Operation with/without cooling jacket
- Submerged or dry installation

  Bifferent to a series at least the series at least
- Different types of impellers
- · Built-in motor protection.

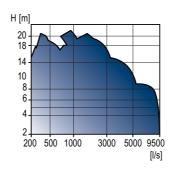
#### **Options**

- · Control and protection systems
- External cooling water
- External seal flush system
- Sensors for monitoring of pump conditions
- Various cast stainless-steel versions available.



# KPL, KWM

Propeller and mixed-flow pumps for column installation



#### Technical data

Flow rate: max. 9,200 l/s Head: max. 25 m
Liquid temperature: 0-40 °C.

#### **Applications**

- Flood and stormwater control
- Large volume drainage/irrigation
- Raw-water intake
- Transfer of liquids in large-scale municipal sewage treatment plants
- · Circulation of large quantities of water.

#### Features and benefits

- Patented Turbulence Optimizer ™ reducing turbulence and increasing efficiency
- World class total efficiency in a compact and lightweight design.
- Self-cleaning hydraulics reducing the risk of jamming and clogging.

# Options

- · Control and protection systems
- Sensors for monitoring of pump conditions.
- Material variants
- Low and high voltage motors up to 10,000 V.



# PS.R

Small pumping stations

# **Technical data**

Diameter: D500/400, D800/

600, D1000/800, D1200/1000, D1700/1400

Depth: 0.5 - 6.0 m Outlet pipe size: DN 40-100 Liquid temperature: max. 40 °C

Pit made of PEHD, pipes and valves made of PE or stainless steel

With or without valve chamber.

#### **Applications**

- Drainage
- Effluent, rainwater and surface water
- Wastewater.

# Features and benefits

- · Modular flexibility
- · Corrosion-free materials
- Increased sump volume prevents pushup
- Easy installation
- · Sturdy design
- · Inlet holes drilled on site
- Design of sump limits sludge and odour problems.

- Pumps
- · Controls and communication
- · Valve chambers
- · Launcher for cleaning pig
- Flowmeter
- Inlet seals
- Drills for inlet seals
- Frost protection
- Ventilation package
- Covers for heavy traffic load.



# PS.G

Large pumping stations



# AMD, AMG, AFG

Mixers and flowmakers



# SMD, SMG, SFG

Mixer and flowmakers

#### **Technical data**

Diameter: D1200, D1400, D1600, D1800,

D2000, D2200, D3000

Depth: 2.0 - 8.0 m

(12 m on request) DN 50 - DN 250

Outlet pipe size: Liquid temperature: max. 40 °C Made of glass-fibre-reinforced plastic (GRP), pipes and valves made of PE or stainless steel.

With or without valve chamber.

#### **Applications**

- · Effluent, rainwater and surface water
- · Wastewater.

# Features and benefits

- · Modular flexibility
- Corrosion-free materials
- · Easy installation
- Sturdy design
- · Design of sump limits sludge and odour problems.

# **Options**

- · Pumps
- Controls and communication
- · Valve chambers
- Service platform
- Baffle plate
- · Screen basket
- · Frost protection
- · Ventilation package
- · Covers for heavy traffic load.

#### **Technical data**

Liquid temperature: 5-40 °C pH value: 4-10 Axial thrust: 160-6632 N Max. dynamic viscosity: 500 mPa s 1060 kg/m<sup>3</sup> Max. density: Max. instal. depth: 20 m Propeller diameter: 180-2600 mm Rotation speed: 22-1410 min<sup>-1</sup>.

#### **Applications**

- · Municipal wastewater treatment systems
- Industrial processes
- Sludge treatment systems
- Agriculture
- · Biogas plant.

# 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.

#### **Technical data**

Thrust: 360-6570 N 0.251 - 1.338 Thrust-to-power ratio: Liquid temperature: 5-40 °C pH value: 4-10 Max. dynamic viscosity: 500 mPa s Max. density: 1060 kg/m<sup>3</sup> Max. instal. depth: 20 m

Propeller diameter: 180-2600 mm Rotation speed: 22-1410 min<sup>-1</sup>.

#### **Applications**

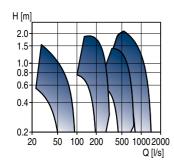
- · Wastewater treatment plants
- Tanks for biological treatment of activated sludge
- Tanks for secondary wastewater treatment
- Mixing
- Biogas tanks
- Stormwater tanks
- Industrial processes
- Sludge treatment systems
- Agriculture.

- High thrust-to-power ratios
- Low energy consumption
- Smooth design, strong axial gear for high hydrodynamic efficiency
- Integrated leak sensor
- Integrated overload and thermal protection
- Flexible installation accessories for a wide range of applications
- Service-friendly products without the need for special tools
- Robust shaft seal system for protection against abrasives
- Self-cleaning hydraulics.



# **SRG**

Submersible recirculation pumps



#### **Technical data**

Flow rate: max. 1,430 l/s (5130 m³/h)

Head: max. 2.1 m

Liquid temperature: 5-40 °C

Discharge diameter: DN 300 500, 800.

#### **Applications**

- Recirculation of activated sludge in wastewater treatment plants
- Pumping of stormwater.

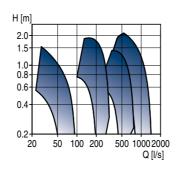
# Features and benefits

- · High-efficiency stainless-steel impeller
- Low energy consumption
- Smooth design, strong axial gear for high hydrodynamic efficiency
- · Integrated leak sensor
- Integrated overload and thermal protection
- Overload protection.



# SRP

Submersible recirculation pumps



#### **Technical data**

Flow rate: max. 1,430 l/s (5130 m<sup>3</sup>/h)

Head: max. 2.1 m

Liquid temperature: 5-40 °C

Discharge diameter: DN 300, 500, 800.

#### **Applications**

- Recirculation of sludge in sewage treatment plants
- Pumping of stormwater.

# Features and benefits

- · High-efficiency stainless-steel impeller
- Totally submerged installations
- Built-in motor protection.

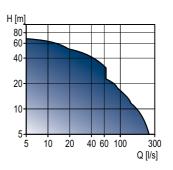
# **Options**

· Control and protection systems.



# SL1/SLV and SE1/SEV

Heavy-duty submersible pumps



#### **Technical data**

Flow rate: max. 280 l/s (1008 m³/h)
Head: max. 71.3 m
Free passage: 50-160 mm
pH range: 0-14
Discharge diameter: DN 65-300.

#### **Applications**

- · Drainage water and surface water
- · Domestic and municipal wastewater
- Industrial wastewater
- · Process and cooling water.

#### Features and benefits

- Service friendly (smartdesign)
- Reliable and energy efficient (Grundfos blueflux<sup>®</sup>)
- Intelligent solution (AUTO<sub>ADAPT</sub>)
- S-tube<sup>®</sup> or SuperVortex impellers.

- Control and protection systems
- Motor control
- Built-in sensors for pump monitoring
- Various cast stainless-steel versions available
- · Ideal for pumping stations.



# **CU 100**

Small pump control units

#### **Technical data**

Supply voltage: 1 x 230, 3 x 230, 3 x 400 V, 50 Hz.

#### **Applications**

The control unit CU 100 is designed for the starting, operation and protection of small pumps.

The control unit is suitable for the following operating currents:

Single-phase: up to 9 A.Three-phase: up to 5 A.

# Features and benefits

- · Control of one pump
- Start/stop by means of a float switch or manual start/stop.
- Several variants for single- and threephase pumps
- Single-phase control units are supplied with capacitors and with or without float switch.
- Three-phase control units are supplied with a float switch
- IP54 cabinet with screwed metric cable entries.



# LC, LCD

Pump controllers with pneumatic signal, float switch or electrodes

#### **Technical data**

Supply voltage: 1 x 230, 3 x 230, 3 x 400 V, 50/60 Hz.

#### **Applications**

- Pumping stations
- · Filling/emptying of tanks.

#### Features and benefits

- Control of one (LC) or two pumps (LCD)
- Automatic alternating operation (LCD)
- Automatic test run preventing shaft seals from seizing up during long periods of inactivity
- · Water hammer protection
- · Starting delay after power failure
- · Stop delays
- Automatic alarm reset (if required)
- · Automatic restart (if required)
- · Liquid level indication
- · High-level alarm
- · Motor overload protection relay
- Protection against motor overheating via input from PTC resistor/thermal switch.

# Optional

- SMS modem with built-in hour and start counter (information on mobile phone)
- Hours counter
- Start counter
- · Signal lamp
- Acoustic signal
- · External mains switch.



# **Dedicated Controls**

Pump controllers

#### **Technical data**

Supply voltage: 1 x 230, 3 x 230, 3 x 400 V, 50/60 Hz.

## Applications

Dedicated Controls are suitable in wastewater applications for emptying wastewater pits (up to six pumps).

- · Pressurised pumping stations
- Network pumping stations
- · Commercial buildings.

# Features and benefits

- Automatic energy optimization
- · Easy installation and configuration
- Configuration wizard
- Electrical overview
- · Advanced data communication
- · Advanced alarm and warning priority
- · Supports several languages
- Daily emptying
- · Mixer control or flush valve
- · User-defined functions
- Anti-blocking
- Start level variation
- Advanced pump alternation with pump groups
- SMS scheduling
- Communication to SCADA, BMS, GRM or cell phone.

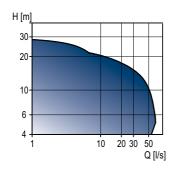
#### **Optional**

 Available as ready-made control panels or as modules for local assembly.



# Multilift

Complete lifting stations with controller



# **Technical data**

Flow rate: max. 60 l/s (216

m<sup>3</sup>/h), 31 l/s recommended

(110 m<sup>3</sup>/h) Head: max. 29 m

Liquid temperature: 0-40 °C
Discharge diameter: DN 80-100.

#### **Applications**

- · Single- and multifamily houses
- Weekend cottages
- Restaurants
- Hotels
- · Sewage systems in the open country
- Percolation systems.

#### Features and benefits

- · Ready for installation
- Flexible pipe connection
- Cable plug connection
- · Single-channel and vortex impellers
- Solids passage up to 100 mm
- · Low risk of clogging
- · Minimum downtime
- Low operating costs
- · Liquidless motor cooling
- · Unique cartridge shaft seal
- · Modular design.



# Sololift2

Domestic lifting stations

# **Applications**

WC-1, WC-3 and CWC-3

 Designed for toilets, CWC-3 for wallhung toilets, for easy integration into the wall.

#### C-3

 Designed for grey wastewater from washing machines or dishwashers.

#### D-2

 Compact design for grey wastewater from washing machines, dishwashers etc.

#### Examples

- · Extra bathrooms
- · Basement installations
- · Low-cost bathrooms in holiday cottages
- Added facilities in hotels and guest houses
- Bathrooms for the elderly or the disabled
- Renovation of offices and other commercial buildings.

#### Features and benefits

- Compact and slim design with smooth line and rounded edges - fits every modern bathroom environment
- · Low noise level
- Flexible discharge pipe adapters for outer pipe diameters of Ø 22, Ø 25, Ø 28, Ø 32, Ø 36 and Ø 40
- · Thermal overload switch
- · Easy service
- Easy connection of extra sanitary appliances.



# Liftaway B and C

Domestic lifting stations

#### **Technical data**

Liftaway B

Inlet dimension: 3 x DN 100 Discharge connection: DN 40 Effective volume: 40 l.

Liftaway C

Inlet dimension: 3 x DN 100

+ 1 x DN 40/50

Discharge connection: DN 40 Effective volume: 13 l.

#### **Applications**

- Collection of drainage and surface water
- Collection and pumping of wastewater from basement and laundry rooms below sewer level
- Collection and pumping of wastewater from washbasins, washing machines and floor drains to sewer level
- Collection and pumping of rainwater.

#### Features and benefits

 To be fitted with pumps from the Unilift KP and AP range.

# Liftaway B

- Telescopic part for easy height adjustment
- · Flexible and easy installation.

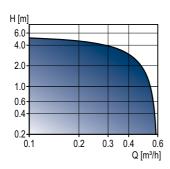
#### Liftaway C

- Functional design and easy to clean
- · Overflow protection device
- Active carbon filter to eliminate odours
- Compact and slim for easy installation under a washbasin or in a closet.



# **Conlift**

Condensate lifting stations



#### **Technical data**

Flow rate: max. 588 l/h
Head: max. 5.7 m
Liquid temperature: max. 50 °C (90 °C for 5 minutes)

pH: min. 2.5 Tank volume: 2.65 I Effective volume: 0.9 I.

#### **Applications**

Conlift is designed for the pumping of condensate from the following:

- · Boilers
- · Air-conditioning systems
- · Cooling and refrigeration systems
- · Air dehumidifiers
- Evaporators.

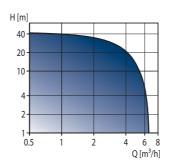
#### Features and benefits

- · Fully sealed against moisture and
- Evaporation
- · Very silent and smooth operation
- · Neutralisation unit with granulate for pH
- Values below 2.5
- · Selectable position of neutralisation unit
- Acoustic high-water alarm device
- · Boiler source off.



# SB

Submersible pumps for rainwater and shallow well applications



#### **Technical data**

Flow rate:  $max. 6.6 \text{ m}^3\text{/h}$ Head: max. 43 mLiquid temperature: 5-40 °C.

#### **Applications**

· Rainwater applications

# Features and benefits

- · Private wells
- · Noiseless operation
- · High reliability
- Dry-running protection
- Motor overload protection.

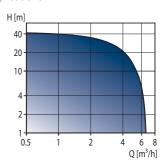
# **Options**

Floating suction strainer model available.



# **SBA**

Submersible fully automatic pump solution for rainwater and shallow wells applications



#### **Technical data**

Flow rate: max. 6.6 m³/h Head: max. 43 m Liquid temperature: 0-40 °C.

#### **Applications**

- Rainwater applications
- Private wells.

# Features and benefits

- Simplicity all-in-one unit
- Easy installation no external control unit
- · Noiseless operation
- High reliability
- Integrated dry-running protection
- Motor overload protection
- · Automatic start/stop
- · Lifting eye.

- Floating suction strainer model available
- · Float switch.



# MS

Stainless-steel 4" and 6" submersible motors

#### **Technical data**

Motor sizes

4": 0.37 - 7.5 kW 6": 5.5 - 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

- Liquid temperature: 0-60 °C
- Overtemperature protection via power cable by means of a built-in Tempcon temperature transmitter.
- Standardised NEMA flange and shaft
  and
- Mechanical shaft seal, ceramic/carbon or SiC/SiC
- Completely encapsulated in stainless steel
- Canned type submersible motor, all surfaces in contact with the liquid are made of stainless steel
- Liquid-cooled and has liquid-lubricated bearings.

# **Options**

- Material variants EN 1.4301 and EN 1.4539.
- · Motor protection by means of MP204
- Variable speed option.



# **MMS**

Stainless-steel 6", 8", 10", 12" rewindable submersible motors

#### **Technical data**

Motor sizes

6": 3.7 - 37 kW 8": 22-110 kW 10": 75-190 kW 12": 147-250 kW.

#### **Applications**

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

# Features and benefits

- · Liquid temperature: 0-50 °C
- · Easily rewound
- · Protection against upthrust
- · High efficiency
- 6" and 8" have standardised NEMA flange and shaft end
- Mechanical shaft seal, ceramic/carbon or SiC/SiC
- · PVC or PE/PA windings.

# **Options**

- Material variants EN 1.4301, EN 1.4401 and EN 1.4539.
- Overtemperature protection via Pt100/ Pt1000.



# LiqTec

Control and monitoring units

#### **Applications**

Monitoring and protection of pumps and processes.

- · 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)
- Robust sensor.



# CUE

Frequency converters for three-phase pumps

#### **Technical data**

- · Mains voltage:
  - 1 x 200-240 V
  - 2 x 200-240 V
  - 3 x 380-500 V
  - 3 x 525-600 V
  - 3 x 575-690 V.

#### **Applications**

Adjustment of the pump performance to the demand. Together with sensors, the CUE offers these control modes:

- · proportional differential pressure
- constant differential pressure
- · constant pressure
- constant pressure with stop function
- constant level
- · constant level with stop function
- · constant flow rate
- · constant temperature.

The CUE can also be controlled by an external signal or via GENIbus.

#### Features and benefits

- Adjustment of the pump performance to the demand, thus saving energy.
- Easy installation, as the CUE is designed for GRUNDFOS pumps.
- Short-circuit-protected output; no motor-protective circuit breaker required.
- Fault indication via display and a relay, if fitted.
- External setpoint influence via three programmable inputs.



MP 204, CU 300, CU 301

Control and monitoring units

#### **Applications**

Monitoring and protection of pump installations.

#### Features and benefits

- Protection against dry running and too high motor temperature
- Constant monitoring of pump energy consumption.

# **Options**

- Connection to large control systems via bus communication
- Connection of sensors enabling control based on sensor signals.
- Wireless remote control by means of Grundfos Go.



# **Control MPC**

Control and monitoring units

#### **Technical data**

- Control of up to six identical pumps in parallel
- Motors from 0.37 75 kW can be connected (on request up to 315 kW)
- · Enclosure class: IP55.

# Applications

- · Heating systems
- · Air-conditioning systems
- Cooling systems
- · Booster systems
- Industrial processes
- Water supply systems.

The Control MPC is designed for these pump types:

- CR(E), CRI(E), CRN(E)
- NB(E), NBG(E)
- NK(E), NKG(E)
- TP
- TPE Series 1000
- TPE Series 2000
- HS
- SP
- MAGNA, UPE Series 2000.

- Easy installation and startup
- · Simple control
- Application-optimised software
- Modular solution with possibility of expansion
- Data communication via Ethernet, LON, PROFIBUS, etc.



# **Control MPC Series 2000**

Control and monitoring units for Series 2000 pumps

#### **Technical data**

- Control of up to six Grundfos MAGNA, UPE, TPE Series 2000 pumps of identical pump type and size.
- Supply voltage: 1 x 100-240 V.
- · All motor sizes can be connected.
- · Enclosure class: IP54.

#### **Applications**

- · Heating systems
- · Air-conditioning systems.

#### **Features**

Optimal adjustment of the performance to the demand by closed-loop control of these parameters:

- · Proportional differential pressure
- · Constant differential pressure
- · Differential pressure (remote)\*
- Flow rate\*
- Temperature\*
- Temperature difference\*.
- \* External sensor required.



# CIM/CIU

Fieldbus communication interfaces

#### **Technical data**

The CIM/CIU interfaces enable the connection of Grundfos electronic products to standard fieldbus networks. CIM can be installed as an add-on module in many E-pumps and CU 323, 352, 354 and 362. For other products, use the CIU box with internal power supply.

#### **Applications**

- · Heating systems
- Cooling systems
- Booster systems
- Industrial processes
- Water supply systemsWastewater pumping systems
- Dosing and disinfection.

The following product ranges are supported:

- MAGNA/UPE series
- CRE, CRNE, CRIE, MTRE, CME, NBE, NKE, TPE Series 1000, 2000, CUE
- Hydro MPC, Control MPC, Multi-E, Multi-B\*
- MP 204\*
- Dedicated Controls\*
- SEG AUTO<sub>ADAPT</sub>\*
- · DDA Dosing\*
- · Demand-driven distribution\*.
- \* Not supported by all CIM, CIU types.

#### **Features**

- Available with GENIbus, BACnet MS/ TP, BACnet IP, LON, Modbus RTU, PROFIBUS DP, COMLI, GSM/GPRS and Ethernet for PROFINET IO and Modbus TCP
- · Modular design
- · Based on standard functional profiles.



# **Grundfos GO**

Remote control app for use with the Grundfos MI 202, MI 204 and MI 301

#### **Technical data**

Grundfos MI 202 and MI 204 for iPod and iPhone.

Grundfos MI 301 for Android.

Pump communication: IR and radio.

#### **Applications**

Wireless communication with Grundfos products for status information and control

The following Grundfos product types are supported:

- MAGNA
- UPE
- · CRE, CRIE, CRNE, CME
- MTRE, SPKE, CRKE
- TPE, TPED
- NBE. NKE
- Hydro Multi-E
- SEG (AUTO<sub>ADAPT</sub>)
- CU 300
- CU 301
- IO 351
- MP 204
- CU3.

- Intuitive user interface with context related help
- Product dashboard for quick overview
- Quick pump setup, monitoring and fault finding
- · Installation report in PDF format
- · Product info from Grundfos CAPS
- · Find replacement pump
- · Product catalogue.



# **DPI V.2**

Differential-pressure sensor for industry (v.2)

#### **Technical data**

Pressure range: 0-6 bar
Temperature range: 0-100 °C
Power supply: 12.5 - 30 VDC
Output signal: 4-20 mA
Operating temperature: -30 - +120 °C.

# **Applications**

- · Water treatment and distribution
- Water utility
- · Water monitoring
- · HVAC systems
- · Chiller systems
- HPC and IT cooling systems
- Micro CHP
- Heat pumps
- · Solar systems: heating and cooling.

# Features and benefits

- · Compact design
- Standard M12 connector
- Pressure and temperature measurement in one sensor (two-inone solution)
- · Compatible with wet, aggressive media
- Accurate, linearised and temperature compensated output signal
- Quick temperature response (direct contact with medium)
- · Cost-effective and robust design
- System solution with Grundfos pumps.



# DPI

Differential-pressure sensor for industry

#### **Technical data**

Pressure range: 0-10 bar
Power supply: 12-30 VDC
Output signal: 4-20 mA
Operating temperature: -10 - +70 °C.

#### **Applications**

- · Water treatment and distribution
- · Water utility
- Water monitoring
- · HVAC systems
- · Chiller systems
- · HPC and IT cooling systems
- · Micro CHP
- Heat pumps
- Solar systems: heating and cooling.

# Features and benefits

- · Compact design
- Compatible with wet, aggressive media
- Accurate, linearised and temperaturecompensated output signal
- · Cost-effective and robust design
- · System solution with Grundfos pumps.

# **Options**

- · Upgrade package for TP1000
- Power supply SI 001 PSU for cable lengths > 30 m.



# RPI, RPI+T

Relative-pressure sensor and temperature sensor, industry

#### **Technical data**

Pressure range: 0-25 bar
Temp. range (RPI+T): 0-100 °C
Power supply: 12.5 - 30 VDC
Output signal: 4-20 mA
Operating temperature: -30 - +120 °C.

# **Applications**

- · Water treatment and distribution
- · Water utility
- · Water monitoring
- HVAC systems
- Chiller systems
- · HPC and IT cooling systems
- Micro CHP
- Heat pumps
- Solar systems: heating and cooling.

- · Compact design
- Standard M12 connector
- RPI+T: pressure and temperature measurement in one sensor (two-inone solution)
- · Compatible with wet, aggressive media
- Accurate, linearised and temperaturecompensated output signal
- RPI+T: quick temperature response (direct contact with medium)
- · Cost-effective and robust design
- System solution with Grundfos pumps.



# **RPS and DPS**

Relative- and differential-pressure sensors, standard (for liquids)

#### **Technical data**

RPS range: 0-10 bar
DPS range: 0-6 bar
Power supply: 5 VDC PELV
RPS output signal: 0.5 - 3.5 V
DPS output signal: 0.5 - 4.5 V
Operating temperature: 0-100 °C
Temperature range: 0-100 °C.

#### **Applications**

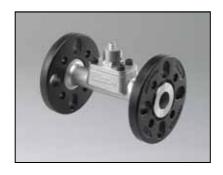
- · Water treatment and distribution
- Water utility
- Water monitoring
- HVAC systems
- Chiller systems
- · HPC and IT cooling systems
- Micro CHP
- Heat pumps
- · Solar systems: heating and cooling.

# Features and benefits

- · Compact design
- Pressure- and temperature-sensor inone (two-in-one solution)
- · Compatible with wet, aggressive media
- Accurate, linearised and temperaturecompensated output signal
- Quick temperature response (direct contact with medium)
- Cost-effective and robust design
- System solution with Grundfos pumps.

#### **Options**

 SI 010 CNV power supply and signal converter for desired output signals of 4-20 mA, 1-5 V and 2-10 V.



# **VFI**

Vortex flow sensor, industry

#### **Technical data**

Flow range: 0.3 - 240 m³/h
Power supply: 12.5 - 30 VDC
Output signal: 0.5 - 3.5 V
Operating temperature: 0-100 °C.

#### **Applications**

- · Water treatment and distribution
- · Water utility
- Water monitoring
- · HVAC systems
- · Chiller systems
- · HPC and IT cooling systems
- · Micro CHP
- Heat pumps
- · Solar systems: heating and cooling.

# Features and benefits

- · Compact design
- · No moving parts
- · Compatible with wet, aggressive media
- Accurate, linearised and temperaturecompensated output signal
- Quick temperature response (direct contact with medium)
- · Cost-effective and robust design
- · System solution with Grundfos pumps.



# **VFS**

Vortex flow sensors for liquids, standard

#### **Technical data**

Flow range: 1-400 l/min
Power supply: 5 V DC PELV
Output signal: 0.5 - 3.5 V
Operating temperature: 0-100 °C
Temperature range: 0-100 °C.

# **Applications**

- · Water treatment and distribution
- · Water utility
- Water monitoring
- HVAC systems
- Chiller systems
- · HPC and IT cooling systems
- · Micro CHP
- Heat pumps
- Solar systems: heating and cooling.

# Features and benefits

- Compact design
- Flow and temperature measurement in one sensor (two-in-one solution)
- No moving parts
- Compatible with wet, aggressive media
- Accurate, linearised and temperaturecompensated output signal
- Quick temperature response (direct contact with medium)
- Cost-effective and robust design
- · System solution with Grundfos pumps.

#### **Options**

 Power supply and signal converter SI 010 CNV for desired output signals of 4-20 mA, 1-5 V and 2-10 V.



# PM1, PM2 pressure managers

For automatic start/stop of pumps

#### **Technical data**

Operating pressure: max. 10 bar Liquid temperature: 0-55 °C.

#### **Applications**

PM 1 and PM 2 pressure managers are designed for automatic start/stop control of Grundfos pumps and other water supply pumps

- · Single-family houses
- · Blocks of flats
- · Summer houses and holiday cottages
- Horticulture and gardening
- Agriculture
- Rainwater applications.

#### Features and benefits

- · User-friendly interface
- · Free position in installation
- Flexible power supply
- Incorporates functions which protect the pump.



# **PM Rain**

For automatic start/stop of pumps in rainwater-harvesting installations

#### **Technical data**

Flow rate: max. 75 l/min Mains pressure, p: max. 200 kPa Ambient temperature: max. 40 °C 0-40 °C Liquid temperature: Voltage: 240 V, 50 Hz Mains inlet: 3/4" BSP (F) 1" (M) Pump inlet: Home only outlet: 3/4" (F) Garden only outlet: 1" (M).

#### **Applications**

Grundfos PM Rain allows you to utilise your harvested rainwater for toilet flushing and laundry applications, with the added benefit of mains water backup. Used in conjunction with a Grundfos pumps (submersible or above ground depending on tank)

- · Single-family houses
- · Summer houses and holiday cottages
- · Horticulture and gardening
- · Rainwater applications.

# Features and benefits

- · WaterMark Approval
- Quick installation no float
- Dual check valve for backflow prevention
- Garden supply from tank only
- · Water source indicator lights
- Switches to mains water in the event of power failure
- Automatic start/stop when demand is sensed.

# Special notice

Only available in the Asian Pacific region.



# **Pressure tanks**

Diaphragm and bladder tanks

#### **Technical data**

Tank size: 8-5000 I
Liquid temperature: max. 90 °C
Operating pressure: max. 16 bar.

#### **Applications**

- · Water supply systems in housing
- Booster systems in housing
- Agriculture
- Horticulture
- · Industrial systems.

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



# **GT-HR**

Diaphragm-type expansion tank

# **Technical data**

Tank size: 8-1000 I Liquid temperature: max. 90 °C Operating pressure: max. 6 bar.

# **Applications**

- Domestic-heating and chilled-water system
- Commercial-building heating and chilled-water systems
- chilled-water systemsIndustrial-heating and chilled-water system.

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