Product Overview 2013

ProMinent® products for chemical fluid handling
ProMaqua® products for water treatment and water disinfection

www.prominent.com

Your application, our solution.
Welcome to ProMinent.



Technical progress is our motivation

For over 50 years our customers have profited from the application-specific experience and the comprehensive know-how of our experts across the globe. Fluid metering technology is ProMinent's particular speciality and is perfectly complemented by ProMaqua's water treatment and water disinfection products. Hence the modular program, which comprises individual products and system solutions, offers every customer at any time and any location a maximum of flexibility and economy.

Absolute customer satisfaction is our aim

High quality and reliable products courtesy of excellent engineering competence represent the foundations, but the individual requirements of each and every customer are equally important to us. We supply numerous industries and meet widely varying process requirements. In addition, personal project care, application-specific consultancy, trouble-free completion and global service provision all come as standard.

Future-proof innovations are our business

Regardless of whether custom one-off or major project – absolute process safety is always key to our research and development. Our components, systems and technologies for environmentally friendly and sustainable metering and water treatment are characterised by maximum efficiency and applicability. We work continuously to optimise our customer's potential cost-savings. Because our position as a global market leader means a continuous commitment not just to excellent products and services, but first and foremost a commitment to think and act responsibly.

You can find individual catalogues for downloading or for online browsing under www.prominent.com/en/product-catalogue.

Or request your personal printed copy or CD directly from us under www.prominent.com/en/catalogue-request.

You can also order your copy by sending a fax to +49 6221 842-617.

You can also install the ProMinent app for iPhones and iPads. You can find the app in the iTunes app store or under www.prominent.com/app.

Content

The all-rounders:
Metering pumps and metering systems

For continuous use always and everywhere
Metering pumps and metering systems

Thanks to our invention of solenoid diaphragm metering technology over 50 years ago and the continuous new development of innovative metering technology, today's customers can choose from a well ordered product range of metering pumps and all their accessories.

Whatever you need for a specific application ProMinent has a suitable product series for every capacity range - which also guarantees maximum safety and economy. Highly durable pumps and energy saving solutions not only save operating costs, they also preserve the environment. Made by experts for professionals.


eta/ 4
1:4
1:2
1:1
2:1
1:8
4:1
1:16
8:1
1:32
16:1
1:64
32:1
64:1
40
50
60
70
80
90
100
30
40
50
60
70
20
10
EXTERN
STOP
TEST

Overview: Low pressure metering pumps

We offer an optimum selection of different sizes, dosing heads, capacities and adjustment and control options. Our metering pumps are characterised by uniform high performance even under the harshest conditions, nearly universal applicability and maximum economy. Equipment features: manual operation, external contact control, partial additional analog control, process timer and BUS interface.

Motorised diaphragm metering pump alpha

The motorised diaphragm metering pump alpha has been developed for simple applications and is the optimum solution for continuous metering in the low capacity range. Highly reliable, robust and powerful.

- Capacity range: 1.0 - 30.6 l/h, 10 - 2 bar

Solenoid diaphragm metering pump Beta® b

Combining versatility with an amazing price-performance ratio, the solenoid diaphragm metering pump Beta® b with integral pulse step-up and step-down convinces in all respects.

- Capacity range: 0.74 - 32 l/h, 25 - 2 bar

Solenoid diaphragm metering pump gamma/ L

The gamma/L offers state of the art technology for the most demanding applications. It can be used as a stand-alone solution or via a BUS interface in complex systems.

- Capacity range: 0.74 - 32 l/h, 16 - 2 bar

Solenoid diaphragm metering pump delta®

The delta® product range represents high-end technology with a globally unique innovation: optoDrive® which is a controlled solenoid drive that permits maximum adaptation to the metering task combined with maximum accuracy.

- Capacity range: 7.5 - 75 l/h, 25 - 2 bar

Precision plunger metering pump mikro delta®

Maximum precision is what characterises the flexible metering pump mikro delta®. The controlled solenoid drive ensures maximum accuracy during the metering process.

- Capacity range: 150 - 1500 ml/h, 60 - 20 bar

Pneumatic metering pump Pneumados b

When there is no available electrical power, the Pneumados b product range is a proven standard solution. It just goes on and on carrying out simple metering tasks reliably and continuously.

- Capacity range: 0.76 - 16.7 l/h, 16 - 2 bar

Flow meter DulcoFlow®

The perfect complement to a metering pump is offered by this new device which can meter any liquid media. Using an ultrasound measurement method, the DulcoFlow® measures the throughput amount of a pulsating liquid.

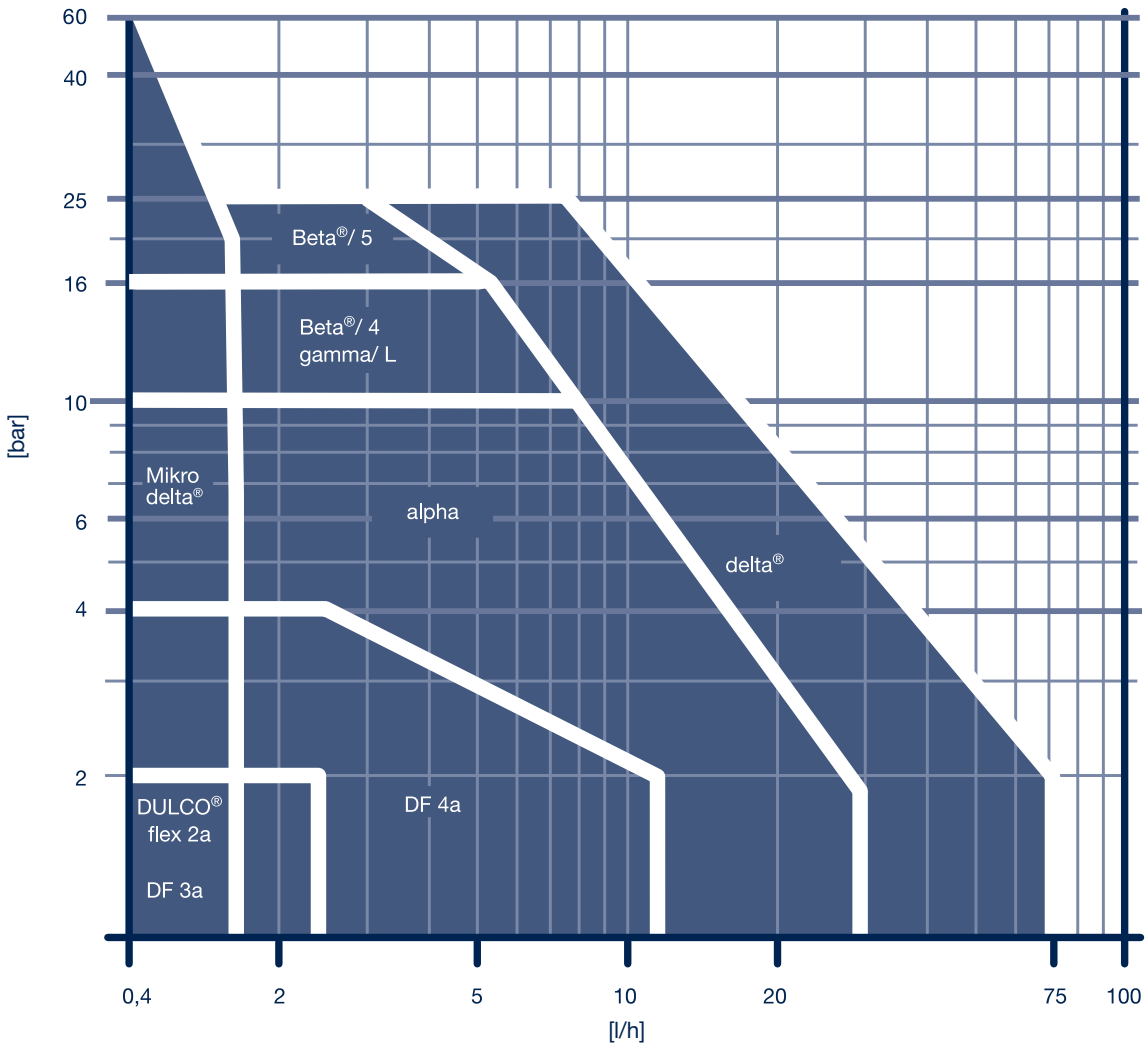
- Measuring range: 0.1 - 50 l/h

Selection guide

For the capacity range 0.15 - 75 l/h at a back pressure of 60 - 2 bar there is a wide range of metering pumps to choose from. Using the selection guide you can find precisely the right pump for your application.

Pump guide

To help you quickly find the right pump for your application, use our online pump guide under www.pump-guide.com. Simply enter the pump capacity, back pressure and frequency – and that's it! A selection of suitable pumps is automatically displayed for you.



Overview: Storage tanks, transfer and hose pumps

For chemical storage and transfer, we not only supply you with standard containers in different designs, we also supply customised containers to match your specifications. The product range is rounded off by transfer pumps and hose pumps, which can moreover be used for metering tasks in many applications with nearly every possible pump capacity.

Chemical feed containers and collecting pans

Chemical feed containers and collecting pans from UV-stable polyethylene or polypropylene are available in various sizes.

- Useful capacity of 35 – 1,000 l

Storage tanks

All storage tanks comply with the internationally applicable manufacturing certification and are suitable for indoor and outdoor use.

- Design according to DVS2205 conforming to EN 10573, upon request with general certification according to WHG section 19

Selection guide

Depending on requirements and volumes, you will find the right container for your needs using the following selection guide.

	Shape	WHG certification	Useful volume
PE chemical feed container	Cylindrical	–	35 – 1,000 l
PE storage container with general WHG certification	Cylindrical	x	500 - 50,000 l/h
PP/PE storage container, made to customer dimensions	Cylindrical or rectangular	–	500 - 50,000 l/h

Eccentric screw pump Spectra

The Spectra was especially designed for transporting polymer solutions.

- Pump capacity up to 12 m^3/h

von Taine® centrifugal pump

The von Taine® centrifugal pump is a solenoid-coupled centrifugal pump for the transport of liquid media.

- Pump capacity up to 22,500 l/h

Duodos compressed air diaphragm pump

Duodos is an air-operated double diaphragm pump without any electrical components.

- Pump capacity up to 6,700 l/h

DULCO®Trans drum pumps

DULCO®Trans enables fast, safe filling, emptying and decanting of liquids from a very wide range of different containers.

- Pump capacity up to 4,800 l/h

DULCO®flex hose pumps

DULCO®flex hose pumps are amongst our most adaptable pumps. They are suitable for an enormously wide pump capacity range from 17 to 15,000 l/h. The small pumps of type DF2 – DF4 were specially designed for metering tasks in swimming pools, whirlpools or spas. The large hose pumps DFA - DFD are ideal for specific tasks at up to the maximum pump capacities and pressures in the laboratory and in industry.

All models follow a simple operating principle and are extremely safe and easy to use.

DULCO®flex DF2a

The DF2a is primarily used in private pools for processes with low feed pressure.

- Capacity range: 0.4 – 2.4 l/h, 1.5 bar

DULCO®flex DF3a

This model was developed in-house for the metering of fragrances, e.g. in saunas.

- Capacity range: 0.4 – 2.4 l/h, 1.5 bar

DULCO®flex DF4a

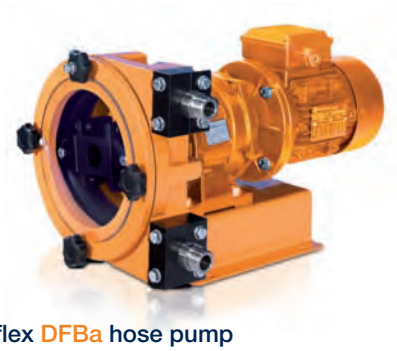
The DULCO®flex DF4a can be used for large metering tasks such as in private and public swimming pools as well as for general chemical metering.

- Capacity range: 1.5 - 12 l/h, 4 - 2 bar

DULCO®flex DFAa hose pump

The hose pump DFAa is designed as a low pressure pump suitable for lab use.

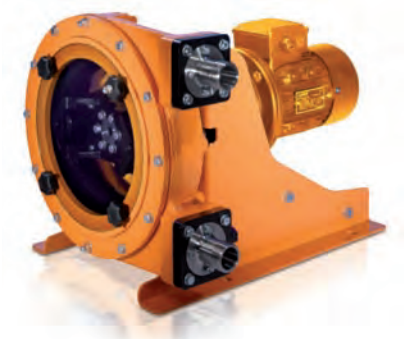
- Capacity range: up to 105 l/h at 2 bar



DULCO®flex DFBa hose pump

The DULCO®flex DFBa copes perfectly with small to medium feed rates in harsh industrial applications.

- Capacity range: up to 430 l/h at 8 bar



DULCO®flex DFCa hose pump

Thanks to its equipping with a ball-bearing mounted rotor this hose pump offers high running smoothness and durability - perfect for heavy industrial use.

- Capacity range: up to 10,100 l/h at 8 bar

DULCO®flex DFDa hose pump

The perfect hose pump for high feed rates and pressures: DULCO®flex DFDa is extremely robust and loadable.

- Capacity range: up to 15,000 l/h at 15 bar

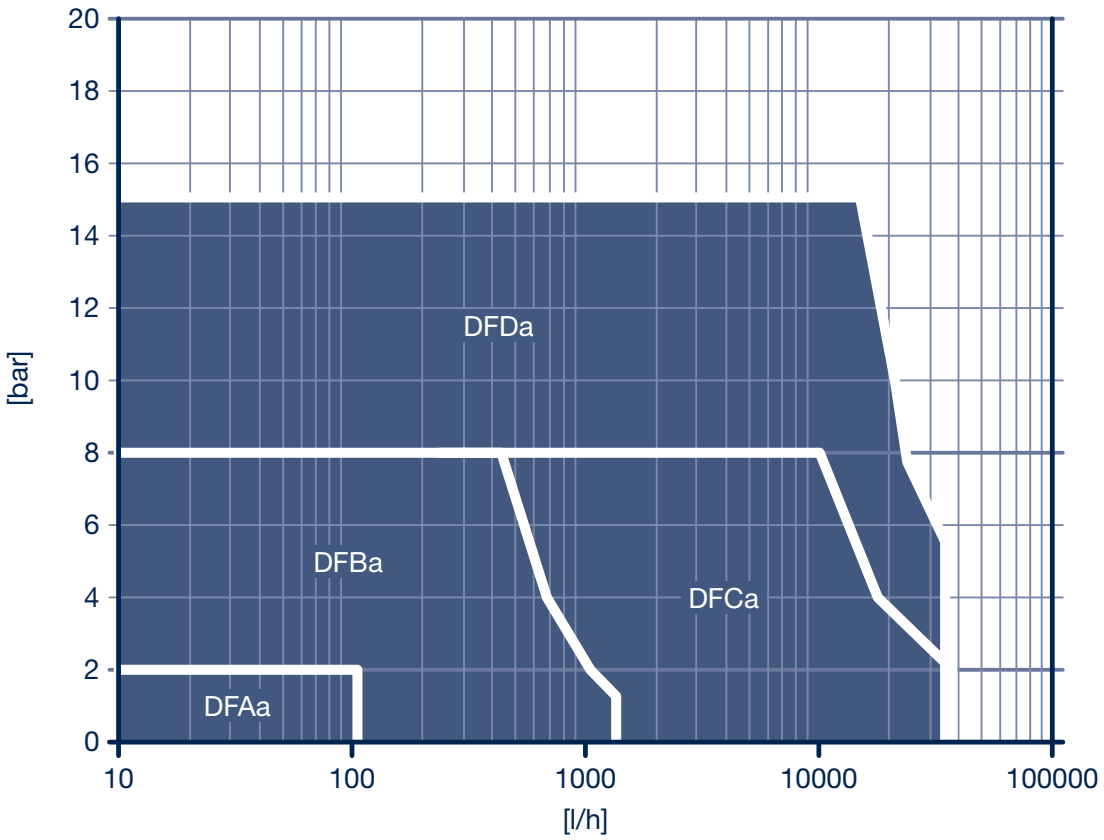
Selection guide

Depending on requirements and volumes, you will find the right transfer or hose pump for your needs using the following selection guide.

You can also use the new online pump guide at www.pump-guide.com for easy and quick pump selection.

Type	Priming	Drive	Capacity range
Eccentric screw pump Spectra	Self-priming	Electrical	up to 12,000 l/h
Centrifugal pump von Taine®	Normally priming (Feed necessary)	Electrical	up to 22,500 l/h
Compressed air diaphragm pump Duodos	Self-priming	Compressed air	up to 6,700 l/h
Drum pump DULCO®Trans	Self-priming	Electrical	up to 4,800 l/h

Type	Priming	Drive	Capacity range
Hose pump DULCO®flex	Self-priming	Electrical	Up to 15,000 l/h, max. 15 bar



Overview: DULCODOS® metering systems

Metering systems DULCODOS®

The standard metering systems DULCODOS® are ready-for-use, ready mounted systems where all components are perfectly matched to each other to ensure trouble-free operation. They are available as metering stations with storage tanks or as panel-mounted metering systems and can be individually configured upon ordering to match your requirements.

DULCODOS® eco

DULCODOS® eco systems are metering stations with storage tanks which are suitable for the storage and metering of liquid chemicals.

- Useful capacity: 35 – 1,000 l

DULCODOS® panel

These panel-mounted modular metering systems are the standard solution for the most common metering tasks encountered with liquid products.

- Capacity of 0.74 – 1,000 l/h

DULCODOS® Hydrazine

This metering system is used to prepare and meter a hydrazine solution, e.g. for preventing corrosion in water and steam systems.

DULCODOS® PPLA

DULCODOS® PPLA metering systems are used in the animal feed industry to apply liquid additives after pelletizing of the feed.

- Suitable for all types of additives such as vitamins, enzymes, etc.

NEW

DULCODOS® Pool DSPa PCC with 2 compact controllers

DULCODOS® Pool was developed for the conditioning of swimming pool water in public and private pools. The competitively priced Pool PCC version with two separate compact controllers and pH and chlorine measurement is new.

- For pH-value adjustment and disinfection

DULCODOS® custom

These metering systems are individually made and are particularly suitable for quite specific applications or specifications.

- If required ATEX compliant (explosion proof) can also be supplied

Overview: Ultromat®

Ultromat® metering systems

Polymer and metering systems for the preparation of liquid or powdered polymers are required for the separation of colloidal solids from liquids. Which is why our waste water treatment experts developed the Ultromat® metering systems that fulfil the highest requirements for this specialised application while at the same time allowing simple installation and operation.

Ultromat® ULFa continuous flow system

These triple chamber continuous flow systems from polypropylene are used for the processing of liquid and powdered polymers.

- Capacity range: 400 - 8,000 l/h

Ultromat® ULPa oscillating system

the Ultromat® ULPa oscillating system processes liquid and powdered polymers.

- Capacity range: 400 - 4,000 l/h

Ultromat® ULDa double-decker system

In this system, the liquid or powdered polymers are processed in 2 storage tanks arranged one above the other.

- Capacity range: 400 - 2,000 l/h

Ultromat® MT manual preparation station

In the manual preparation station powdered polymers can be manually prepared in small amounts when continuous operation is not necessary.

- Capacity range: 120 - 3,800 l/h

Ultromat® ATR continuous flow system with round containers

The continuous flow system Ultromat® with round PP containers is particularly suited to the processing of powdered polymers.

- Capacity range: 400 - 2,000 l/h

POLYMORE inline preparation station

POLYMORE is a preparation station for liquid polymers.

- Capacity range: 120 - 18,000 l/h

PolyRex double-decker system

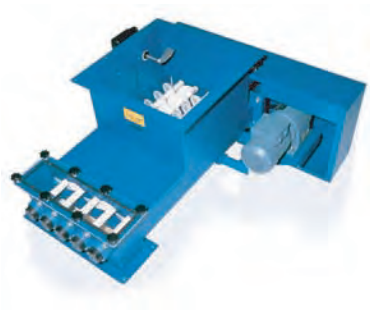
This double-decker system offers high metering precision and a highly reproducible batch composition.

- Capacity range: 240 - 3,820 l/h

Big-Bag emptying and metering stations

The Big-Bag emptiers are effective systems for emptying and metering of free-flowing or non-flowing bulk materials out of bags. The emptying stations are available as standard for single-use and reusable bags and also customised upon request.

- Optional various designs for lifting big-bags
- Available in combination with the multi-worm meterer as a complete system



Multi-worm meterer

The volumetric metering units are particularly suitable for safe silo emptying and highly precise metering of powders and granulates.

- Can be integrated into nearly every process
- Available in combination with the big-bag emptying and metering station as a complete system

DULCODOS® selection guide

The ready mounted DULCODOS® metering systems are available in many different versions dependent on the application. Using the selection guide you can find precisely the right metering station.

Type	Function	Applications	Capacity range
DULCODOS® eco	Storage, metering	General	35 – 1,000 l
DULCODOS® panel	Storage, metering	General	0.74 - 1,000 l/h
DULCODOS® Hydrazine	Preparation, metering	Boiler feedwater	up to 11 l/h
DULCODOS® PPLA	Mixing, metering	Animal feed	–
DULCODOS® Pool	Measuring, control, metering	Private and public swimming pools	–
DULCODOS® Domestic	Proportional metering	Potable Water	0.165 – 165 ml/m³
DULCODOS® custom	Customer-specific	Any	–

Ultromat® selection guide

Ultromat® metering systems for polymer preparation are available for highly specific applications. Using the selection guide you can find precisely the right version for your application.

Type	Application	Polymers	Capacity range
Continuous flow system Ultromat® ULFa	Waste water	Powder + liquid	400 - 8,000 l/h
Oscillating system Ultromat® ULPa	Waste water, paper	Powder + liquid	400 - 4,000 l/h
Double-decker system Ultromat® ULDa	Waste water, paper	Powder + liquid	400 - 2,000 l/h
Continuous flow system with round containers Ultromat® ATR	Waste water	Powder	400 - 2,000 l/h
Manual preparation station Ultromat® MT	Waste water	Powder	120 - 3,800 l/h
POLYMORE	Waste water, paper	Liquid	120 - 18,000 l/h
PolyRex	Waste water, paper	Powder + liquid	240 - 3,820 l/h

You can find detailed information about the mode of operation and technical specifications for metering pumps, storage tanks, transfer and hose pumps plus metering systems from ProMinent on the Internet and in volume 1 of the product catalogue, *Metering pumps, components and metering systems*. Here you can also find information about matching accessories, spare parts and methods of ordering individual products.

Intelligent metering:
Measuring, control and sensor technology

Exact measured values for optimum metering results Measuring, control and sensor technology

Using high-performance measuring and control technology combined with precise sensors our customers can optimize their particular liquid media metering applications. This is where our ground-breaking innovations set new standards for quality and reliability in industrial manufacturing,

The precise interaction between all components such as metering pumps, controllers and sensors guarantees efficiency. Because only an integrated control circuit can guarantee fault-free operation with maximum safety. This increases the quality of customer products, saves energy and conserves resources.


diaLog
11:17:12 21.05.2012
-40%
f-REL
7.63
pH
SET_1 7.00
-40%
1.08
ppm
ClO2
SET_1 1.00
Warning 04
ESC
MENU
OK
i
STOP
START
CAL
ProMinent

Overview: Sensor technology

Only the availability of an online measurement parameter makes it possible to monitor a limit value or set up a closed control circuit. Here our DULCOTEST® product family offers you an extensive, application-specific range of reliable sensors for a huge variety of measuring applications. All sensors deliver precise measured values in real-time and can be flexibly connected via bypass, immersion or installed fittings to the various process interfaces.

Potentiometric DULCOTEST® sensors

From simple applications in water treatment through to industrial process applications under critical conditions, the DULCOTEST® pH and ORP electrodes fulfil all measurement tasks.

- Precise and reliable measurement for efficient processes and maximum process safety

The selection aid for potentiometric pH and ORP sensors starts with the type of measurement medium, extends over the pertinent process conditions and outputs the optimum sensor type for the particular application.

Selection guide DULCOTEST® pH electrodes

Medium	Temperature / pressure	Sensor type	Typical application:
clear, pH 3 - 14	max. 100 °C/3 bar	PHEP-H	Chemical processes
	max. 25 °C/6 bar		
clear, pH 2 - 12	max. 80 °C/no overpressure	PHEN	Chemically contaminated water, low-conductivity water < 50 µS/cm
	max. 60 °C/3 bar	PHES	Swimming pool water, potable water, glass stem
		PHEK	Swimming pools, aquaria, synthetic stem
	max. 80 °C/6 bar	PHEP/PHEPT	Process water
	max. 80 °C/8 bar	PHED	Chemically contaminated water, e.g. Cr^{6}, CN^{-},
solid residues, turbidity	max. 80 °C/6 bar	PHER	Cooling water, waste water
solid residues, not transparent	max. 80 °C/6 bar	PHEX	Suspensions, sludge, emulsions
clear, fluoride containing, pH < 5	max. 50 °C/7 bar	PHEF	exhaust air scrubbers, semiconductor industry, electroplating

During the course of 2013, all pH and ORP glass sensors will be available made from lead-free glass.

Selection guide DULCOTEST® ORP electrodes

Medium	Temperature / pressure	Sensor type	Typical application:
clear, pH 2 - 12	max. 80 °C/no overpressure	RHEN	Chemically contaminated water, low-conductivity water < 50 µS/cm
	max. 60 °C/3 bar	RHES	Swimming pool water, potable water, glass stem
		RHEK	Swimming pools, aquaria, synthetic stem
	max. 80 °C/6 bar	RHEP-Pt	Process water
		PHE-Au	Chemically contaminated water, e.g. CN^-, Ozone treatment
solid residues, turbidity	max. 80 °C/6 bar	RHER	Cooling water, waste water
solid residues, not transparent	max. 80 °C/6 bar	RHEX	Suspensions, sludge, emulsions

DULCOTEST® sensors CDR 1 CAN / CLT 1 CAN

State of the art: The newly developed sensors with CANopen bus for chlorite and chlorine dioxide measurement provide the option of storing sensor data.

- Simple wiring and retrofit expansion options courtesy of the CAN-bus system
- Field bus system without planning and installation costs

Amperometric DULCOTEST® sensors

The amperometric sensors of the DULCOTEST® product range provide selective and precise measured values for diverse disinfectants.

- Sensors in incremental measuring ranges for different chlorine and bromine compounds, chlorine dioxide, chlorite, peracetic acid, hydrogen peroxide and dissolved oxygen
- New: Sensor type BCR1 for the important disinfectant BCDMH for reliable measurements even in contaminated cooling water
- New: Sensors CLB 2 and CLB 3 are economical, easy to maintain compact sensors for online measurement of free chlorine in lightly contaminated water.

Selection guide for amperometric sensors

Measured variable	Applications	Graduated measuring ranges	Connection to DULCOMETER®	Sensor type
Free chlorine	Potable water, swimming pool water	0.01 – 100 mg/l	D1C, DAC	CLE 3-mA-xppm, CLE 3.1-mA-xppm
Free chlorine	Potable water, swimming pool water	0.01 – 100 mg/l	DULCOMARIN® II	CLE-CAN-xppm, CLE 3.1-CAN-xppm
Free chlorine	Potable water, swimming pool water, in-situ Electrolysis (without membrane)	0.02 – 10 mg/l	D1C, DAC	CLO 1-mA-xppm
Free chlorine	Hot water up to 70 °C, (Legionella), in situ electrolysis (without membrane)	0.02 – 2 mg/l	D1C, DAC	CLO 2-mA-xppm
Free chlorine	Potable water, swimming pool water	0.01 – 50 mg/l	DMT	CLE 3-DMT-xppm
Free chlorine	Potable water, swimming pool water	0.05 – 5 mg/l	DULCOMARIN® II	CLE 3-CAN-xppm, CLE 3.1-CAN-xppm
Free chlorine	Potable water, swimming pool water	0.05 – 5 mg/l	COMPACT	CLB 2-µA-5ppm, CLB 3-µA-5ppm
Free chlorine	Cooling, process, waste water, water with higher pH values (stable)	0.01 – 10 mg/l	D1C, DAC	CBR 1-mA-xppm
Total available chlorine	Swimming pool water with chlororganic disinfectants	0.02 – 10 mg/l	D1C, DAC	CGE 2-mA-xppm
Total available chlorine	Swimming pool water with chlororganic disinfectants	0.01 – 10 mg/l	DULCOMARIN® II	CGE 2-CAN-xppm
Total chlorine	Potable, utility, process and cooling water	0.01 – 10 mg/l	D1C, DAC	CTE 1-mA-xppm
Total chlorine	Potable, utility, process and cooling water	0.01 – 10 mg/l	DMT	CTE 1-DMT-xppm
Total chlorine	Potable, utility, process and cooling water	0.01 – 10 mg/l	DULCOMARIN® II	CTE 1-CAN-xppm
Combined chlorine	Swimming pool water	0.02 – 2 mg/l	DAC	CTE 1-mA-2 ppm + CLE 3.1-mA-2 ppm
Combined chlorine	Swimming pool water	0.01 – 10 mg/l	DULCOMARIN® II	CTE 1-CAN-xppm + CLE 3.1-CAN-xppm
Total available bromine	Cooling water, swimming pool water, whirlpool water, bromine with bromorganic disinfectants (e.g. BCDMH)	0.01 – 10 mg/l	D1C, DAC	BRE 1-mA-xppm
Total available bromine	Cooling water, swimming pool water, whirlpool water, bromine with inorganic bromine compounds (e.g. NaBr/HOCl)	0.04 – 10 mg/l	D1C, DAC	BRE 2-mA-xppm
Total available bromine	Cooling water, swimming pool water, whirlpool water with organic or inorganic bromine compounds	0.02 – 10 mg/l	DULCOMARIN® II	BRE 3-CAN-10ppm
Total available bromine	Cooling, waste, swimming pool-whirlpool water, bromine with BCDMH	0.01 – 10 mg/l	D1C, DAC	BCR 1-mA-xppm
Free + bound bromine	Cooling, process, waste water, water with higher pH values (stable)	0.02 – 20 mg/l	D1C, DAC	CBR 1-mA-xppm
Chlorine dioxide	Potable Water	0.01 – 10 mg/l	D1C, DAC	CDE 2-mA-xppm
Chlorine dioxide	Bottle washing system	0.02 – 2 mg/l	D1C, DAC	CDP 1-mA
Chlorine dioxide	Hot water up to 60 °C, cooling water, waste water, irrigation water	0.01 – 10 mg/l	D1C, DAC, DULCOMARIN® II	CDR 1-mA-xppm CDR 1-CAN-xppm
Chlorite	Potable water, washing water	0.02 – 2 mg/l	D1C, DAC, DULCOMARIN® II	CLT 1-mA-xppm CLT 1-CAN-xppm
Ozone	Potable, utility, process and swimming pool water	0.02 – 2 mg/l	D1C, DAC	OZE 3-mA-xppm
Dissolved oxygen	Potable water, surface water	2 – 20 mg/l	D1C, DAC	DO 1-mA-xppm
Dissolved oxygen	Aeration tanks, clarification plants	0.1 – 10 mg/l	D1C, DAC	DO 2-mA-xppm
Peracetic acid	CIP, antiseptic foodstuff filling	1 – 2,000 mg/l	D1C, DAC	PAA 1-mA-xppm
Hydrogen peroxide	Clear water, fast control	1 – 2,000 mg/l	D1Ca	Perox sensor PER OX-H2.10
Hydrogen peroxide	Process water, swimming pool water	0.5 – 2,000 mg/l	D1C, DAC	PER1-mA-xppm

DULCOTEST® sensors for electrolytic conductivity

DULCOTEST® conductivity sensors are available in numerous versions and cover all measurement tasks extending from simple water treatment through to industrial process water measurement.

- 25 different sensor types based both on conductive and inductive measurement principles for various measuring ranges, temperatures, chemical resistances, contamination tolerances and process connections

DULCOTEST® turbidity sensors

Turbidity measuring points belonging to the DULCO® turb C series with TUC 1, TUC 2, TUC 3, TUC 4 versions are compact, on-line turbidity measuring points comprising sensor, flow fitting and gauge. The sensor series offers a very wide measuring range extending from waste water over raw water to very precise fine turbidity measurements in potable water. The device versions fulfil various standards and, if required, can be supplied with an ultrasound cleaning function

Selection guide DULCOTEST® conductivity sensors

Conductivity > 20 mS/cm or residue forming medium or chemically corrosive medium?

yes	no
Inductive conductivity measurement	Conductive conductivity measurement
Chemically corrosive medium Or temperatures > 70 °C Or measured value < 200 µS/cm Or > 1000 mS/cm?	■ Measuring range ■ Temperature ■ Process matching ■ Electrical connection
yes / no	Series LF, LMP, CK
Series ICT 2 Process flow: with stainless steel flange accessory Immersion valves: with accessory IMA - ICT 2	Series ICT 1
	Installation in process flow?
	yes / no
	Type ICT 1 / Type ICT 1-IMA

Overview: Measuring and control technology

Our high quality measuring and control instruments have been specifically developed for particular applications. They are available in different performance classes and can be integrated in every process environment. Select the measuring transducer, regulator or controller that is precisely tailored to your application.

DULCOMETER® measuring transducer/controller DULCOPAC

This measuring transducer primarily has monitoring functions for water and waste water treatment. It measures and controls the measured variables pH, ORP, chlorine, bromine, peracetic acid, hydrogen peroxide and conductivity in aqueous solutions.

- Compact housing for top-hat rail mounting in the control cabinet

DULCOMETER® DSRa

The measuring transducer with control functions is intended for the simultaneous measurement and control of the measured variables pH and ORP. It is the basic controller for applications in swimming pool water treatment.

- Safety function to prevent over-metering

DULCOMETER® measuring transducer/controller DMTa

The new 2-wire measuring transducer is used in water and waste water treatment. It measures the measured variables pH, ORP, temperature, chlorine and conductivity in aqueous solutions.

- With measured value display and in-situ sensor calibration

DULCOMETER® measuring transducer/controller D1Cb/D1Cc

DULCOMETER® D1Cb/D1Cc is the controller for applications in potable water, waste water and cooling water treatment. It can be used for up to 14 different measured variables.

- Sensor monitoring and safety function to prevent incorrect metering
- 22 operating languages in the controller
- 14 measured variables selectable from the menu

DULCOMETER® Compact Controller

The new measuring and control device DULCOMETER® Compact for pH, ORP, chlorine and conductive conductivity is supplied with the standard functions for basic applications in water treatment.

- Compact housing with intuitive operation

NEW

DULCOMETER® Controller diaLog DACa

The new one or two-channel controller platform diaLog DACa was specially developed for the continuous measurement and control of parameters needed in liquid analysis. In the first half of 2013 it is replacing the D1Ca and D2Ca product ranges.

- Integral data logger with SD card
- Two 2-page PID controllers
- Disturbance variable processing (flow)

NEW

DULCOMETER® Controller DULCOMARIN® II

DULCOMARIN® II is a multi-parameter, multi-channel measuring and control system for drinking and swimming pool water treatment. This is used to network together sensors and actuators used in drinking water treatment and swimming pool technology using a bus system. With the new F module, DULCOMARIN® II can control the entire water circuit of a swimming pool, that is the filter backwashing, fresh water supply, heating/solar hot water system, room and pool lighting, attractions, pool covering and gutter cleaning

- Communication over LAN/WLAN using EcoPad,
- (smartphone), OPC and PROFIBUS-DP
- Integral screen plotter combined with data logger
- Control of the entire swimming pool water circuit for up to 16 circuits

DULCOMETER® Cool-Control

The DULCOMETER® Cool Control is a cooling tower control for controlling open cooling circuits. The functions mandatory blow-down and blow-down block are integrated.

- Conductive and inductive measurement methods

Cooling tower / steam generator control ProMinent AQUATRAC® MultiFlex M10

This cooling tower control can simultaneously control up to four cooling circuits or steam generators and moreover fulfils all the necessary cooling circuit functions.

- Supplied with LAN interface with web server for configuration and remote querying as standard

Selection guide

The selection guide for DULCOMETER® measuring and control technology shows you, divided into tables and applications, the correct solution for your application so it is apparent at first glance

Compact single-channel control

Applications	Measured variables	Functions
▪ Waste water treatment ▪ Drinking water treatment ▪ Swimming pool water treatment	▪ pH and ORP (selectable) ▪ Chlorine ▪ Conductive conductivity	▪ Language-independent operation ▪ 1 page control ▪ Metering pump control ▪ 1 analog output (measured value/control variable) ▪ Sensor monitoring of pH ▪ Remote control input (pause)

Single-channel controller D1Cb/D1Cc

Applications	Measured variables	Functions
▪ Waste water treatment ▪ Cooling water treatment ▪ Drinking water treatment ▪ Neutralisation	▪ pH, ORP, conductivity ▪ Chlorine, chlorine dioxide, chlorite, bromine ▪ Ozone, hydrogen peroxide, dissolved oxygen ▪ Peracetic acid, fluoride, temperature, mA in general	▪ Menu-driven operation, multiple languages ▪ 2 page control ▪ Metering pump control ▪ Alarm relay ▪ 2 limit value relays ▪ 1 analog output (measured value/control variable) ▪ Remote control input (pause) ▪ Sensor monitoring ▪ Subsequent addition of functions

Multi-parameter single and two-channel controller diaLog DACa

Applications	Measured variables	Functions
▪ Waste water treatment ▪ Neutralisation ▪ Cooling water treatment ▪ Drinking water treatment ▪ Swimming pool water treatment	▪ pH, ORP ▪ Chlorine, chlorine dioxide, chlorite, bromine ▪ Ozone, hydrogen peroxide, dissolved oxygen ▪ Peracetic acid, fluoride, conductivity (mA) Temperature, mA in general ▪ Free combination of previously named measured variables	▪ Data logger with SD card ▪ Two 2-page PID controllers ▪ External setpoint setting in mA ▪ Control parameter switching using timer or digital input ▪ 4 frequency relays for metering pump control ▪ 1 alarm relay ▪ 2 limit value relays ▪ 2 analog outputs ▪ Interference variable processing ▪ pH compensation of chlorine measurement ▪ 5 digital switching inputs ▪ Menu-driven operation in 15 languages

DULCOMARIN® II multi-channel controller

Applications	Measured variables	Functions
▪ Swimming pool water treatment ▪ Drinking water treatment ▪ General water treatment	▪ pH, ORP, free chlorine, total available chlorine ▪ Combined chlorine, temperature ▪ Via mA: turbidity, fluoride, ammonia, UV	▪ Menu-driven operation in 6 languages ▪ Large colour display ▪ Up to 16 filtration circuits/water systems ▪ Inbuilt data logger/screen plotter ▪ Web server/OPC server over LAN/Ethernet

Cool Control

Applications	Measured variables	Functions
▪ Cooling tower control	▪ Conductivity (inductive and conductive)	▪ Menu-driven operation in 6 languages ▪ Control of 2 biocide pumps and 1 inhibitor ▪ Mandatory salt enrichment ▪ Blow-down interlock

MultiFlex M10

Applications	Measured variables	Functions
▪ Cooling tower control ▪ Steam boiler control	▪ Conductivity, pH, chlorine, bromine	▪ Menu-led operation ▪ Control for up to 4 cooling towers ▪ Control of 2 biocide pumps and 1 inhibitor per cooling tower ▪ Forced blow-down ▪ Blow-down interlock ▪ Integral web server for configuration ▪ Optional modem ▪ Optional operating and configuration software Trakster®

DMTa 2-wire measuring transducer

Applications	Measured variables	Functions
▪ Processes and process technology ▪ Food and beverage industry ▪ The chemicals industry ▪ Pharmaceuticals ▪ Water treatment ▪ Waste water treatment ▪ Power station technology	▪ pH, ORP, chlorine, temperature ▪ Conductivity (conductive)	▪ Menu-driven operation in 6 languages ▪ Sensor monitoring ▪ Auto-ranging for conductivity ▪ Switching between the measured variables pH, ORP, temperature and chlorine

DULCOPAC single-channel transducer/controller

Applications	Measured variables	Functions
▪ Waste water treatment ▪ Drinking water treatment	▪ pH, ORP, chlorine, bromine, peracetic acid, Hydrogen peroxide and conductivity (conductive)	▪ 2 page control ▪ Metering pump control ▪ 2 analog outputs

Overview: Panel-mounted measuring and control stations

Completely assembled online measuring and control units from the DULCOTROL® series are ideally suited for certain measured variables within the areas of potable water, cooling water and waste water. These units are easily configurable using a simple application-orientated ordering system. Hence 1-3 different available measuring points can be selected from 13 different measuring parameters in a multiplicity of combinations. The advantage: As a complete plug&play module they are quickly and easily installed and immediately ready for use.

DULCOTROL® potable water/F&B

This product range is specifically tailored to the stringent requirements of the drinking water and food and beverage industries.

- Also fulfils all the requirements for rinsing, raw and process water treatment

DULCOTROL® cooling water

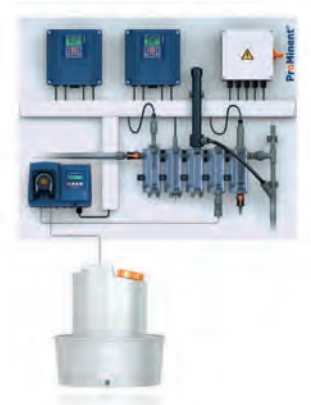
Wherever cooling water is treated, DULCOTROL® cooling water delivers optimally conditioned cooling water, in closed and open cooling circuits.

- For many applications from conditioning through to pH value adjustment in closed cooling circuits and automatic blow-down and biocide metering in open cooling circuits

DULCOTROL® waste water

The DULCOTROL® waste water measuring and control stations deliver optimally clarified waste water in all industry sectors.

- Typical applications are for example pH neutralisation and pH value adjustment, disinfection of clarifier water, waste water detoxification, monitoring of rinsing water.



DULCOTROL® free chlorine – pH independent

If free chlorine must be measured and the prevailing pH values are either unsteady or > 8.0, then the measuring and control station, DULCOTROL® free chlorine - pH independent is the product of choice.

- Lowering and stabilising of the pH value of sample water by metering of a pH buffer solution

Selection guide

The DULCOTROL® selection guide once again gives an overview of the correct solution for the applications mentioned.

DULCOTROL® potable water/F&B	Treatment of potable water, water similar to potable water and treatment of the rinsing, raw and process water in the food and beverage industry	▪ Disinfection ▪ CIP ▪ pH value adjustment ▪ Monitoring
DULCOTROL® cooling water	Treatment of cooling water in open and closed cooling circuits	▪ Blow-down ▪ Disinfection ▪ pH value adjustment ▪ Metering of corrosion inhibitors
DULCOTROL® waste water	Treatment of industrial and municipal waste water	▪ pH neutralisation ▪ Disinfection ▪ Detoxification ▪ Desalination of process water ▪ Control of dissolved oxygen ▪ Monitoring
DULCOTROL® free chlorine - pH independent	All applications with clear, uncontaminated water where there are unstable pH values or pH values of > 8.0	

You can find detailed information about the mode of operation and technical specifications for measuring, control and sensor technology from ProMinent on the Internet and in volume 2 of the product catalogue, *Measuring, control and sensor technology*. Here you can also find information about matching accessories, spare parts and methods of ordering individual products.

All-rounders for all capacity ranges: Motor-driven and process metering pumps

Adapted to extreme requirements Motor-driven and process pumps

Industrial applications of fluid metering technology are many and varied. They are often critical and each industry has its own specific requirements. Independent of whether a reliable pump is required for a routine or complex application, our product range of motor-driven and process metering pumps offers an outstanding selection both in width and quality.

Process and operating safety have top priority in industrial applications, which is why our powerful pumps stand out because of their metering precision, robustness and durability. However, just as impressive is their efficiency, economy and flexibility, clear advantages for our customers across a huge variety of application options.


ProMinent

Overview: Motor-driven metering pumps for all capacity ranges

We offer a wide selection of universal motor-driven diaphragm metering pumps for applications extending from industrial routine processes in the low pressure range through to fluid handling of very large capacities of over 1,000 l/h: For disinfectant metering in drinking water treatment and cooling circuits, from flocculants in waste water treatment and for the metering of additives in the paper industry they represent robust technology and efficient processes.

Motor-driven diaphragm metering pump Vario C

Vario C is a very robust motor-driven metering pump with high process quality for continuous metering as part of straightforward metering tasks.

- Capacity range: 8 - 64 l/h, 10 - 4 bar

Motor-driven diaphragm metering pump Sigma/ 1, S1Ba

Sigma basic types offer a diverse range of drive variants. They are approved for use in Exe and EXde areas with ATEX certification.

- Capacity range: 17 - 120 l/h, 12 - 4 bar

Motor-driven diaphragm metering pump Sigma/ 2, S2Ba

Sigma basic types offer a diverse range of drive variants. They are approved for use in Exe and EXde areas with ATEX certification.

- Capacity range: 50 - 350 l/h, 16 - 4 bar

Motor-driven diaphragm metering pump Sigma/ 3, S3Ba

Sigma basic types offer a diverse range of drive variants. They are approved for use in Exe and EXde areas with ATEX certification.

- Capacity range: 146 - 1,030 l/h, 12 - 4 bar

Sigma motor-driven diaphragm metering pumps

The entire product range impresses thanks to ingenious new features, providing our customers with an overall significant increase in ease of use, safety and efficiency. All Sigma pumps come as standard with a removable operating unit, intelligent metering profiles, a patented multi-layer safety diaphragm and an internal overload cut-off.

NEW

Motor-driven diaphragm metering pump Sigma/ 1, S1Ca

The smallest motor-driven diaphragm metering pump of the Sigma product range for continuous metering and for outside use, it is available in various versions.

- Capacity range: 20 - 117 l/h, 12 - 4 bar

NEW

Motor-driven diaphragm metering pump Sigma/ 2, S2Ca

The middle Sigma pump with patented multi-layer safety diaphragm is used for the medium capacity ranges.

- Capacity range: 61 - 352 l/h, 16 - 4 bar

NEW

Motor-driven diaphragm metering pump Sigma/ 3, S3Ca

The high performance Sigma metering pump is also ideally suited to the capacity range of 1,000 l/h and above and as such completes the Sigma range.

- Capacity range: 182 - 1,040 l/h, 12 - 4 bar

The new highlights:

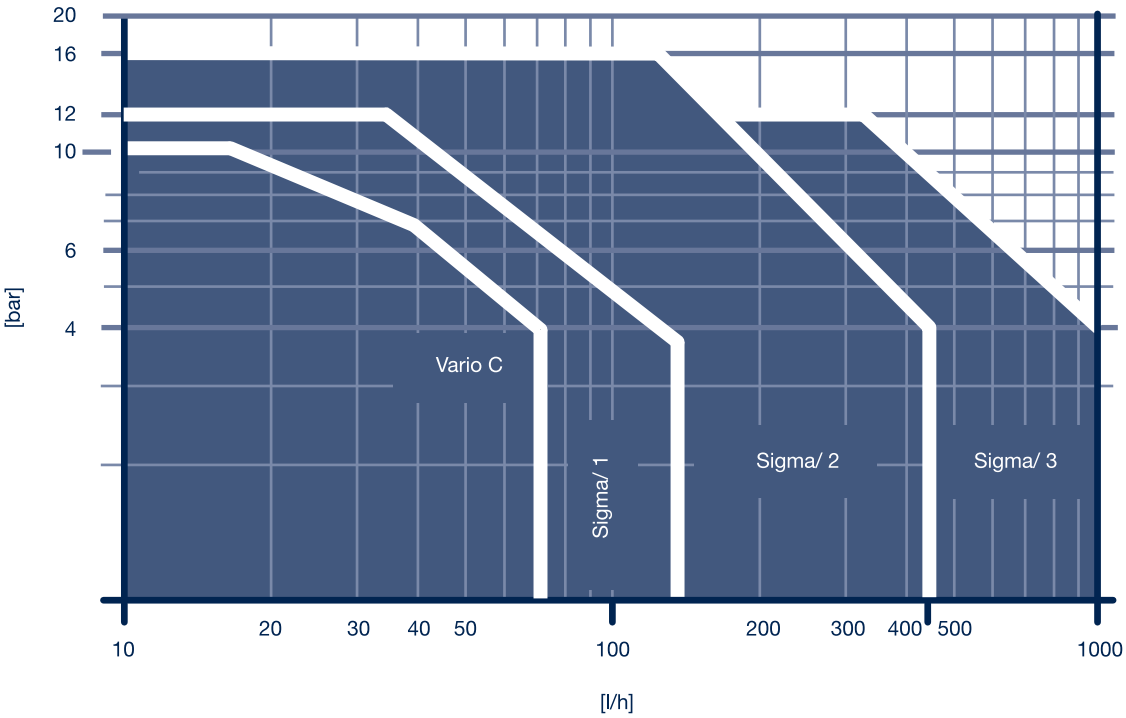
- Removable control unit
- Metering profiles for optimum results
- Automatic overpressure cut-off as pump protection function
- Fitted as standard with multi-layer safety diaphragm

Selection guide Motor driven diaphragm metering pumps

The pre-selection of the correct metering pump in the low pressure range up to approximately 1,000 l/h depends on the application. The selection guide helps you to “filter out” the right model for your needs. All oscillation diaphragm pumps have a leak-free, hermetically sealed metering room and an identical operating structure.

Pump guide

To help you quickly find the right pump for your application, use our online pump guide under www.pump-guide.com. Simply enter the pump capacity, back pressure and frequency – and that’s it! A selection of suitable pumps is automatically displayed for you.



Overview: Process metering pumps for all capacity ranges

The high capacity process metering pumps are especially tailored to high-end applications in the petrochemical, oil and gas industries: for metering of toxic, corrosive and flammable liquids under very high pressures and at extreme temperatures. Advanced technology for demanding applications.

ProMinent diaphragm process metering pump EXtronic®

ProMinent EXtronic® is perfectly suited to the metering of liquid media in operating sites with an explosive gas atmosphere as well as for firedamp-endangered mining operations

- Capacity range: 0.19 - 60 l/h; 25 - 1.5 bar

Hydraulic diaphragm metering pump Hydro

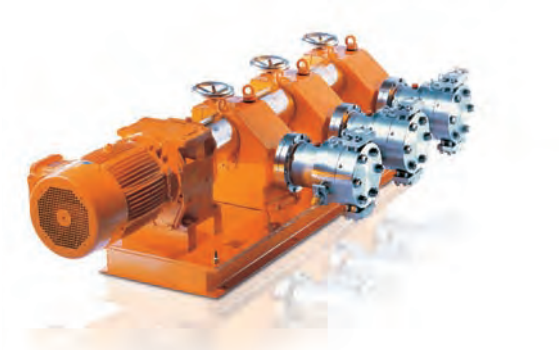
The hydraulic diaphragm process metering pump is available in several versions and is suitable for a multiplicity of applications. Especially newly developed for higher capacity ranges, the Hydro/ 4 completes the product range.

- Capacity range Hydro/ 2: 3 – 72 l/h; 100 – 25 bar
- Capacity range Hydro/ 3: 10 – 180 l/h; 100 – 25 bar
- New: Capacity range Hydro/ 4: 130 – 1,400 l/h; 25 – 7 bar

Valveless metering plunger pump Orlita® DR

Orlita® DR is a valveless metering piston head, which meters by way of a superimposed oscillating and rotating piston movement.

- Capacity range (2 product ranges): 1 – 4,000 l/h; 400 – 4 bar



Hydraulic diaphragm metering pump Orlita® MF

Comprising the function groups step-up gear unit, crank drive and liquid end, the Orlita® MF modular metering pump can be attached to any drive mechanism.

- Capacity range (6 product ranges): 2 l/h – 28 m^3/h at 700 – 9 bar

Hydraulic diaphragm metering pump Orlita® MH

The Orlita® MH metering pump is just as flexible in its use as the MF series, but is designed for maximum pressure.

- Capacity range (6 product ranges): 1 – 773 l/h; pressure up to 900 bar (special version up to 3,000 bar)

Hydraulic diaphragm metering pump Orlita® PS

Orlita® PS is characterised by a particularly high hydraulic efficiency and can be used over a wide temperature range.

- Capacity range (6 product ranges): 1 l/h – 37 m^3/h; 400 – 8 bar

Diaphragm, hydraulic diaphragm, plunger metering pumps Makro TZ

This metering pump series has a modular design and offers an application matched solution for every use.

- Capacity range TZMb (mech. deflected diaphragm pump): 260 - 2,100 l/h; 12 - 4 bar
- Capacity range TZHa (hydr. deflected diaphragm pump): 300 - 1,200 l/h; 16 - 10 bar
- Capacity range TZKa (plunger metering pump): 8 - 1,141 l/h; 320 - 11 bar

Diaphragm, hydraulic diaphragm, plunger metering pumps Makro/ 5

Likewise modularly expandable, with Makro/ 5 there is an additional product range available with diaphragm, hydraulic diaphragm or plunger metering pumps, which is used for higher capacity ranges.

- Capacity range M5Ma (mech. deflected diaphragm pump): 1,540 – 4,000 l/h; 4 bar
- Capacity range M5Ha (hydr. deflected diaphragm pump): 450 - 6,000 l/h; 25 - 6 bar
- Capacity range M5Ka (plunger metering pump): 38 - 6,000 l/h; 320 - 6 bar

Process diaphragm pump, process plunger pump TriPower

Thanks to its exceptionally compact design, the TriPower MF offers a lot of performance for a very small size.

- TriPower P offers optimum safety with an FTFE dual diaphragm system and integrated relief valve. Capacity range 50 m^3/h at up to 1,000 bar
- TriPower MF: Capacity range 4 – 38 m^3/h; 415 – 50 bar

Process metering pump Zentriplex

The process metering pump Zentriplex is an oscillating multi-cylinder process diaphragm pump providing high capacities and high efficiency yet with an extremely small footprint. Unlike the conventional design, the diaphragm dosing heads and hydraulic units are arranged in a star formation around the drive mechanism.

- Compact size, low weight
- Excellent energy efficiency

Selection guide process metering pumps

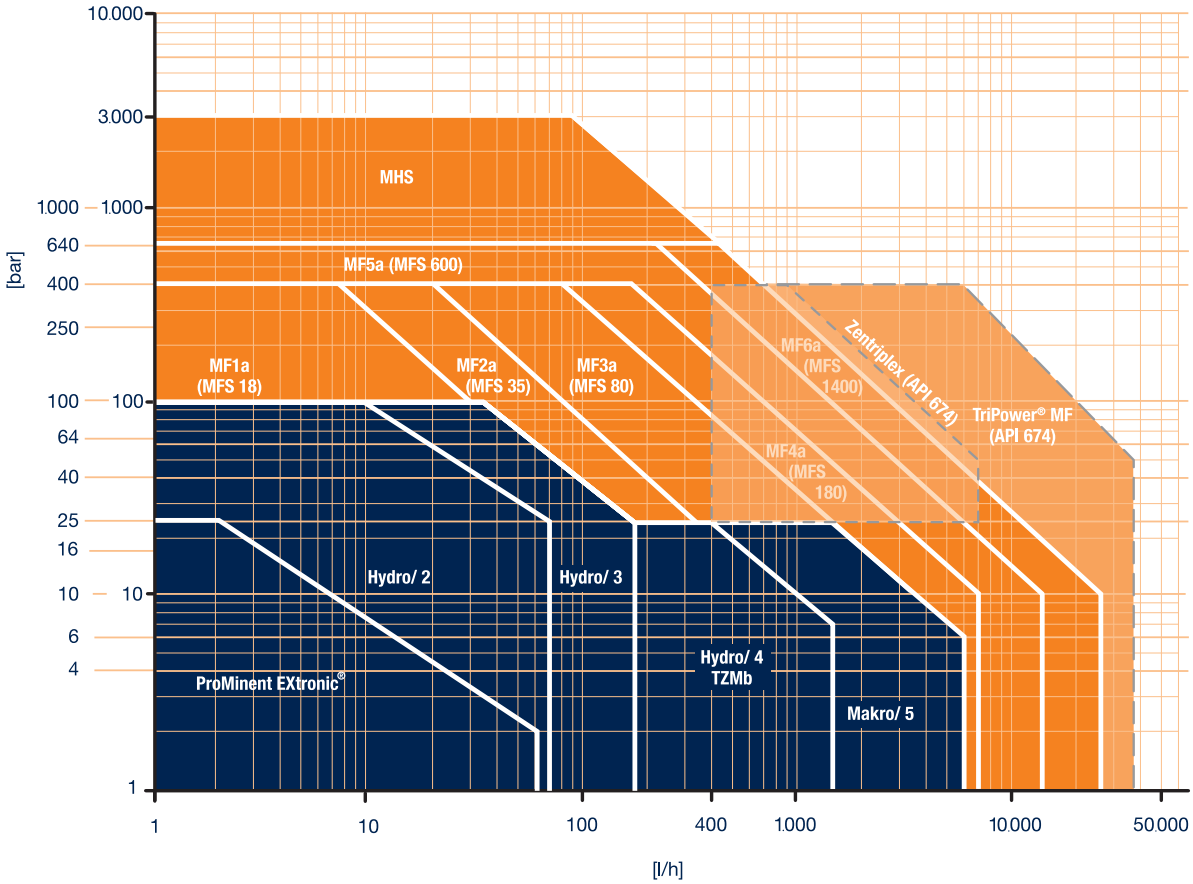
For each type of industrial application ProMinent has several solutions available. The selection guide offers you a useful guidance tool.

You can also use the new online pump guide at www.pump-guide.com for easy and quick pump selection.

You can find detailed information about the mode of operation and technical specifications for motor and process metering pumps from ProMinent on the Internet and in volume 3 of the product catalogue, *Motor-driven and process metering pumps for all capacity ranges*. Here you can also find information about matching accessories, spare parts and methods of ordering individual products.

Pump guide

To help you quickly find the right pump for your application, use our online pump guide under www.pump-guide.com. Simply enter the pump capacity, back pressure and frequency – and that's it! A selection of suitable pumps is automatically displayed for you.

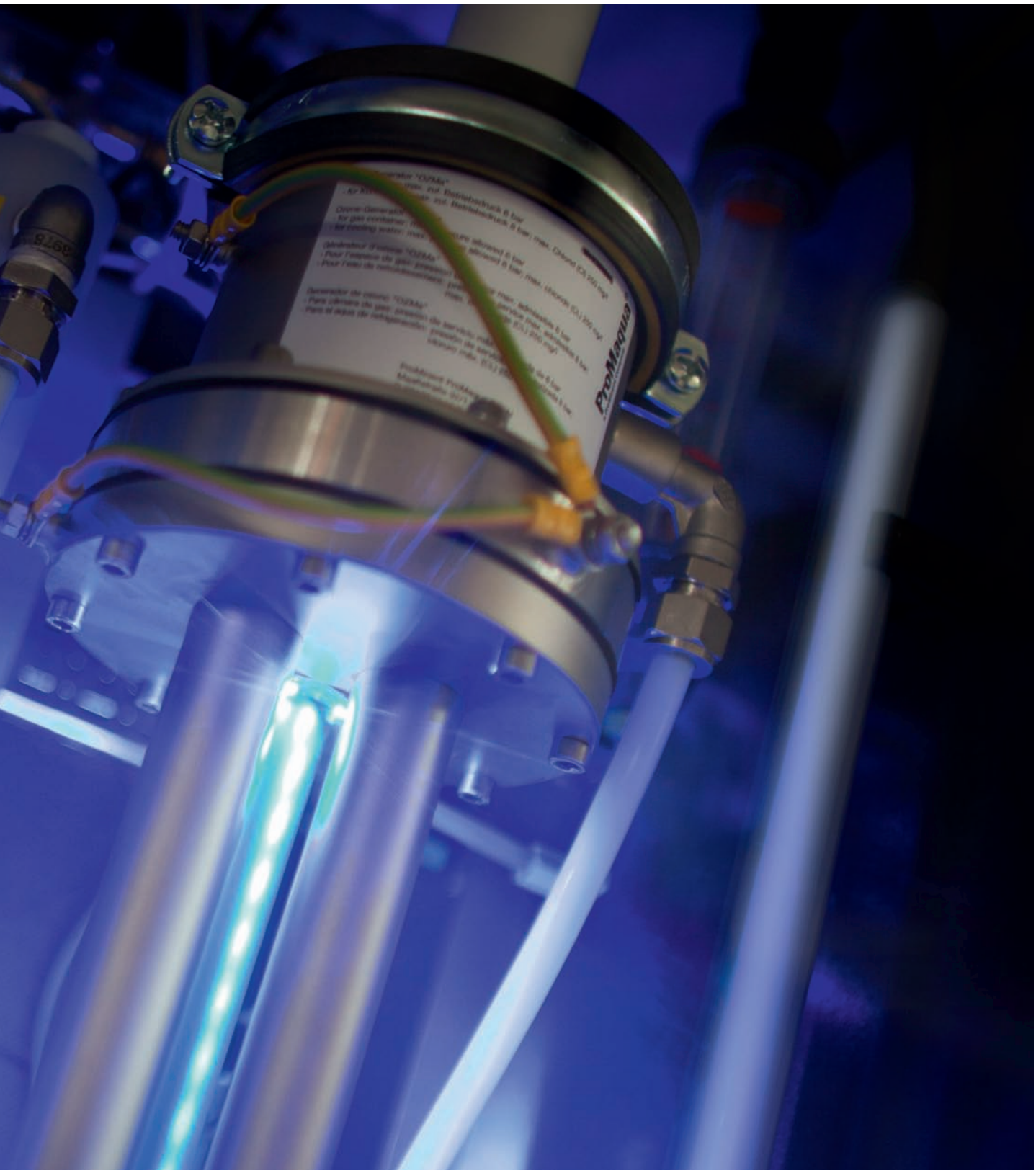


Responsibility for the future: Water treatment and water disinfection

Hygienic pure water at any time Water treatment and water disinfection

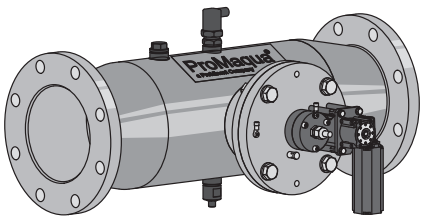
The result of our research and development work on all standard technologies used in the preparation of hygienic pure water is our range of ProMaqua® products and systems. Combined with our many years of practical experience and industry-specific knowledge, the result is application-orientated solutions that are characterised by optimum sustainability, minimum operating costs and maximum efficiency. A clear leap in performance with ProMaqua® Smart Disinfection: Low Impact. Less cost. High efficiency.

Our experts assemble precisely the system our customers need to optimally match the application in question based on a huge range of available products. As a single source supplier our product offering extends from metering pumps for all capacity ranges through to measuring and control technology, membrane filtration systems and established disinfection processes, all in the form of efficient, safe and high tech complete solutions. Of course the offer also includes worldwide technical support.


ProMinent

Overview: UV systems

Where oxidation and disinfection are concerned, a comprehensive product range for all processes is at your disposal. Our Dulcodes UV systems are particularly safe for humans and environmentally-friendly. Completely chemical-free, the UV radiation alone produces microbe and bacteria-free water and there are no harmful disinfectant side products.



NEW

UV systems Dulcodes A

The new Dulcodes A UV system is suitable for the treatment of potable water, swimming pool water and raw water.

- NSF 50, UL certified
- Electronic ballasts ensure maximum energy efficiency and make it possible to match the power to the flow

Dulcodes UV systems M and S

The equipping of the M and S product ranges with Powerline medium pressure lamps permits efficient treatment of large water quantities.

- For breaking down chloramines in swimming pool water or chlorine, chlorine dioxide and ozone in production water at flows of up to 800 m³/h

Dulcodes Z UV system

Dulcodes Z UV systems are DVGW and ÖVGW certified. For safe, state of the art, globally approved potable water disinfection.

- Economical Opti-Flux lamp with 14,000 h service life for irradiation of potable, process and product water at flows of up to 230 m³/h

UV systems Dulcodes W, R and P

Dulcodes W, R and P are proven standard solutions for the disinfection of potable and raw water and for breaking down chloramines in swimming pool water.

- Dulcodes W is suitable for universal use at flows up to 600 m³/h
- Dulcodes R with wiper system for simple and quick cleaning of water where there is a tendency for deposits to form
- Dulcodes P for lower flows up to 4 m³/h

UV systems Dulcodes D and K

Dulcodes D thin-layer systems guarantee a safe disinfection of low-transmission media. Because of their corrosion resistance Dulcodes K systems are ideally suited to salt containing water. Through the use of high power lamps, a higher output range is achieved with a lower number of lamps.

- Dulcodes D: Safe even with fluctuating water quality in the low transmission range
- New Dulcodes K: with increased lamp output for treatment of salt-containing water such as thermal water or seawater

Performance overview UV systems

The following performance overview of the Dulcodes UV systems presents the performance and typical application key points of the standard systems.

Overview: Ozone systems

The main application areas of ozone are the treatment of potable and swimming pool water, water treatment in the beverage and food industry as well as for treating cooling/process water and combating legionella. Inorganic substances such as iron and manganese can be removed without problem, while ozone also has outstanding disinfection properties in respect of bacteria and viruses.

Ozone systems OZONFILT® OZVa

The OZVa model series can be used almost universally. It can use air or oxygen as an operating gas.

- Capacity range (7 types): 5 – 90 g ozone/h

Ozone systems OZONFILT® OZMa

The compact ozone generation systems of the OZONFILT® OZMa product series are characterised by maximum reliability and minimum operating costs.

- Capacity range 70 – 735 g ozone/h
- New: OZONFILT® OZMa 04 – 06 for ozone production using air operation up to 420 g and oxygen operation up to 735 g ozone/h

Ozone systems OZONFILT® Compact OMVa

Ozone systems OZONFILT® Compact OMVa offer turnkey ozone treatment with compact outside dimensions and optimised components for many applications.

- Capacity range (3 types): 3 – 35 g ozone/h

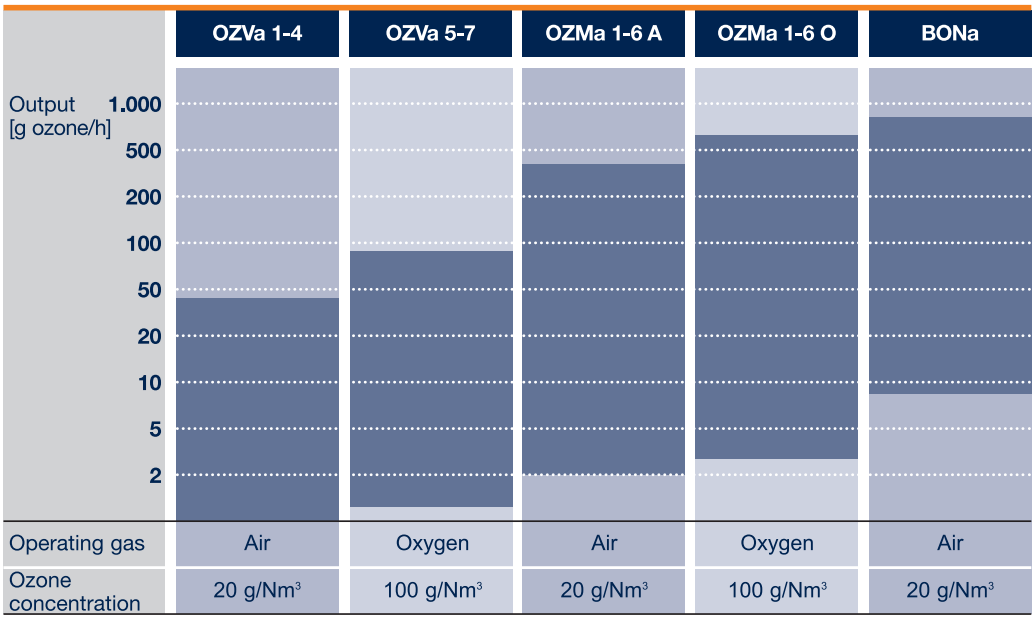
Ozone systems Bono Zon® BONa

BONa – ozone systems work in vacuum mode.

- Capacity range: 80 – 720 g ozone/h

Performance overview: Ozone systems

You can determine which ozone system is most suitable for which operating gas and ozone output from the performance overview.



	OZVa 1-4	OZVa 5-7	OZMa 1-6 A	OZMa 1-6 O	BONa
Operating gas	Air	Oxygen	Air	Oxygen	Air
Ozone concentration	20 g/Nm³	100 g/Nm³	20 g/Nm³	100 g/Nm³	20 g/Nm³

Overview: Chlorine dioxide systems

Due to its depot effect, chlorine dioxide provides long lasting microbiological protection, for example in drinking water supplies. Our chlorine dioxide systems produce this very reactive and highly-effective gas directly at the place of use. To achieve the most economic solution across different output ranges, there is a wide range of products as your disposal.

NEW

Chlorine dioxide systems Bello Zon® CDLb

The system works in safe batch operation. The integral or separate storage module is suitable as a solution for both continuous and intermittent metering tasks.

- Capacity range: 6 – 120 g chlorine dioxide/h
- Optimum with multiple points of injection

Chlorine dioxide systems Bello Zon® CDVc

The connection-ready complete chlorine dioxide systems Bello Zon® CDVc ensure continuous water treatment and are ideal for medium to large water quantities.

- Capacity range: 1 – 2,000 g chlorine dioxide/h and for flows up to 5000 m³/h
- Disinfecting tasks in drinking water treatment and for applications in the food and drinks industry

NEW

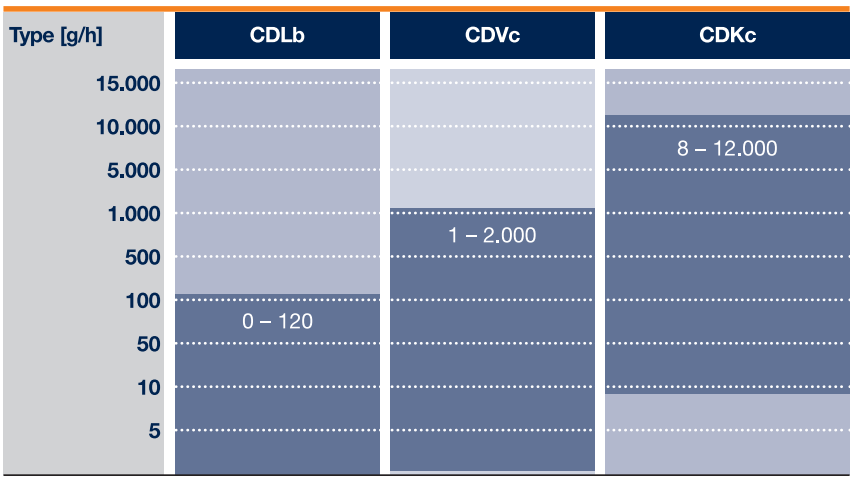
Chlorine dioxide systems Bello Zon® CDKc

The system makes possible highly economic operation through the use of concentrated chemicals. The innovative dilution module for the hydrochloric acid ensures particularly safe operation while simultaneously reducing operating costs through individual adjustment of hydrochloric acid consumption.

- Capacity range: 150 – 12,000 g chlorine dioxide/h and for flows up to several times 10,000 m³/h
- For potable water, process water and cooling circuits

Performance overview: Chlorine dioxide systems

You will find the correct system for every application. However, if your specific application area is not represented, please contact our specialists.



Manufacturing method			
	Chlorite-Acid (depleted) 7,5 % NaCLo2 + 9 % HCl	Chlorite-Acid (depleted) 7,5 % NaCLo2 + 9 % HCl	Chlorite-Acid (concentrated) 24,5 % NaCLo2 + 25-37 % HCl
Application			
Legionella combating	■		
Food and bewerages industry	■	■	
Municipal drinking and waste water treatment	■	■	■
Industry (cooling tower, waste/ process water, etc.	■	■	■

Overview: Electrolysis systems

Technically proven and exceptionally environmentally friendly our electrolysis systems process completely harmless cooking salt to produce chlorine, hydrogen and sodium hydroxide. Directly on site and completely without any transport, storage or handling of chemicals.

Tubular cell electrolysis systems CHLORINSITU® II

Systems of type CHLORINSITU® II are robust systems which are used wherever clearly laid out plant is required and the spilling of some cooking salt into the water to be treated is not a problem.

- Simple technology, compact design

Membrane electrolysis systems CHLORINSITU® III

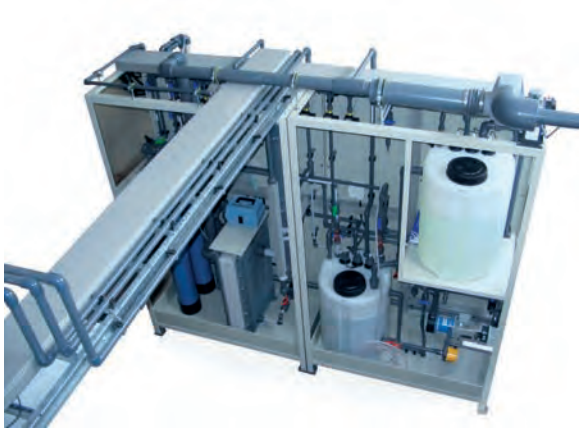
These optimised electrolysis systems are used when a highly pure and low-chlorate sodium-calcium hypochlorite solution is required.

- System control with remote diagnostics by modem
- Storage tank for several points of injection

Membrane electrolysis systems CHLORINSITU® IV

The product range CHLORINSITU® IV compact permits the metering of hypochlorous acid together with simultaneous pH value correction.

- Optional integrated chlorine and pH adjustment



Membrane electrolysis systems CHLORINSITU® IV plus

CHLORINSITU® IV systems produce highly pure chlorine gas and enable the metering of hypochlorous acid and simultaneous pH-value correction.

- Simultaneous production and metering of highly pure hypochlorous acid and sodium-calcium hypochlorite
- The sodium-calcium hypochlorite tank is designed for peak loads

NEW

Membrane electrolysis system CHLORINSITU® III compact

Produces sodium-calcium hypochlorite especially for private swimming pools in hotels or private pools

- Robust, simple technology

Membrane electrolysis system CHLORINSITU® IV compact

The product range CHLORINSITU® IV compact produces highly pure chlorine gas in a vacuum process.

- Chlorination and pH value adjustment in a single system

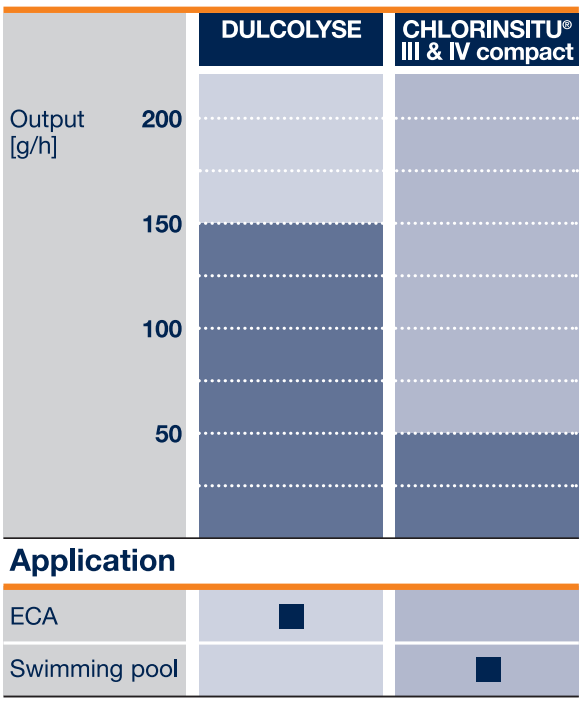
Electrolysis system Dulco®Lyse for the production of ECA water

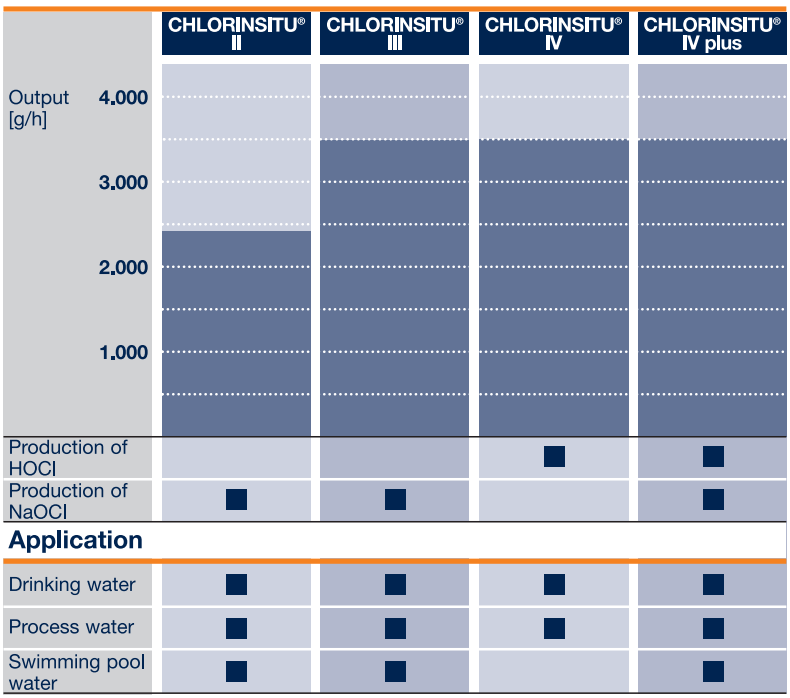
Compact electrolysis systems Dulco®Lyse are used for the efficient production of ECA water with an exceptionally low chloride content. Low chloride means maximum protection against corrosion and maximum economy.

- Extremely low chloride content for maximum protection and freedom from corrosion within the plant
- Environmentally friendly, highly effective disinfection
- Sustainable freedom from germs, without any transport, storage or handling of concentrated chemicals.

Performance overview: Electrolysis systems

We offer different solutions for potable, process and swimming pool water dependent on the output capacity.





Calcium hypochlorite preparation and metering system

ProCal - Calcium hypochlorite preparation and metering system

For disinfection of swimming pool water in smaller pool systems, ProCal is the best economic solution. Production, metering and monitoring of the disinfectant solution are all carried out in one simple to operate system. The calcium hypochlorite is only dissolved as required and when in solution in water is a highly effective disinfectant. The ProCal system is supplied connection-ready and ready mounted.

ProCal - Calcium hypochlorite preparation and Metering system

ProCal is used for simple and economic disinfection of swimming pool water in accordance with DIN/EN 19643-1. It is very simple to operate and ideally suited for small to medium sized pool systems.

- Extremely economical both to buy and in everyday running
- Actuation and control, e.g. with DULCOMETER® D1C / D2C or DULCOMARIN® II

Overview: Membrane filtration systems

Membrane filtration is highly popular in many industries and applications. We therefore offer a wide spectrum of application-orientated variants for ultra and nano filtration as well as reverse osmosis, including the pre- and post-treatment precisely matched to the filtration system.

Ultrafiltration systems Dulcoclean® UF

Dulcoclean® UF and UF eco reliably separate out even the finest particles and suspended matter.

- Very high retention rates for bacteria with removal of 99.999% (calculated for MS2 phages) and 99.999% or 99.99% of viruses.

Dulcosmose® reverse osmosis systems ecoPRO

Dulcosmose® ecoPRO was developed for potable water demineralisation in industrial applications.

- Outstanding price-performance ratio due to high degree of standardisation

Dulcosmose® reverse osmosis systems
TW product range

Dulcosmose® TW systems are universally applicable to potable water demineralisation in multiple industrial applications.

- Maximum flexibility due to customer-specific design

Reverse osmosis systems Dulcosmose®
SW product range

Dulcosmose® SW systems are used for seawater desalination for the supply of drinking water and for industrial applications.

- Use of the latest generation heat recovery systems ensures maximum energy efficiency

Dulcosmose® reverse osmosis systems
BW product range

The economical BW product range was developed in-house for well water demineralisation for drinking water supply and for industrial applications.

- Low operating costs due to efficient operation with low pressure latest generation membranes and outputs of up to 80%

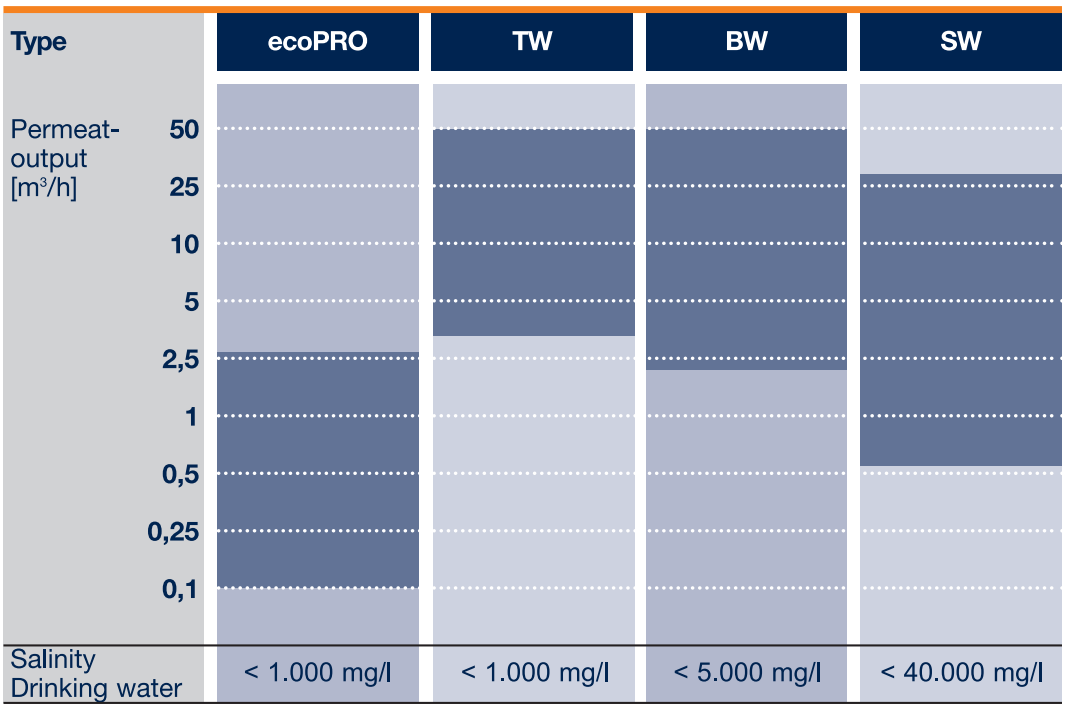
Nano filtration systems Dulcosmose® NF product range

This product line is an economical alternative to softening and partial desalination. It is primarily used in drinking water treatment, but also in many other industrial applications.

- Specific application areas, e.g. softening, partial desalination and elimination of multiple charged anions such as sulphates or phosphates

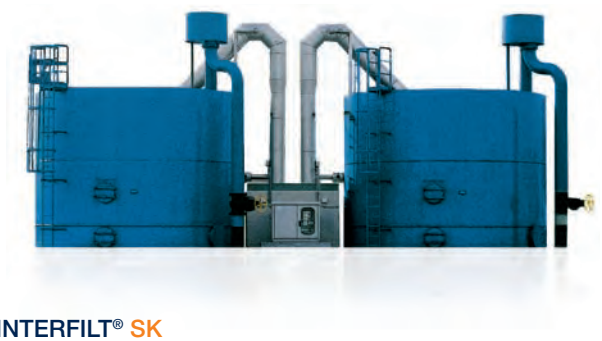
Performance overview: ultrafiltration, nano filtration and reverse osmosis

We sub-divide the performance overview of our products by output ranges and raw water types: ecoPro - the standard system for drinking water treatment, TW: potable water, BW: brackish water, SW: seawater



Overview: Gravity filtration systems

Whether cooling water filtration, treatment of river, operating or potable water or removal of iron from well water, our gravity filtration systems are suitable for nearly all filtration tasks. No energy consumption, no wear parts, no consumables - there is no more economical method of water treatment.



INTERFILT® SK

The gravity filter INTERFILT® SK is an open sand filter system, which carries out countless filtration tasks and is highly impressive thanks to its extremely economical and simple mode of operation.

- Sample applications: Cooling water-partial flow filtration, river water, operating water and drinking water treatment, well water iron removal

You can find more detailed information, technical details and instructions for comprehensive consultancy services from ProMinent on the Internet and in volume 4 of the product catalogue, *Water Treatment and Water Disinfection*. Here you can also find information about matching accessories, spare parts and methods of ordering individual products.

ProMinent: The 2013 range

Order your personal copy of the ProMinent 2013 product catalogue

Your application, our solution.
Our product catalogue is available in four individual volumes so that you can quickly find what you want. So that you can conveniently order your personal individual catalogue volume we offer a number of different ordering options.

Volume 1
Metering pumps, components and metering systems

Volume 3
Motor-driven and process metering pumps for all capacity ranges

Volume 2
Measuring, control and sensor technology

Volume 4
Water treatment and water disinfection

You can find the ProMinent App for iPhone and iPad in the iTunes App Store or under www.prominent.com/app

You can find individual catalogues for downloading or for online browsing under www.prominent.com/en/product-catalogue
Or request your personal printed copy directly from us at www.prominent.com/de/catalogue-request
You can also order your copy by sending a fax to +49 6221 842-617.

Naturally we can also offer you all the information about our product portfolio and its application possibilities as an electronic CD version. Available for order from: www.prominent.com/en/catalouge/request.

ProMinent Dosiertechnik GmbH

info@prominent.com
www.prominent.com