

Chemical fluid handling, single sourced – with ProMinent

Optimum total solutions for chemical fluid handling

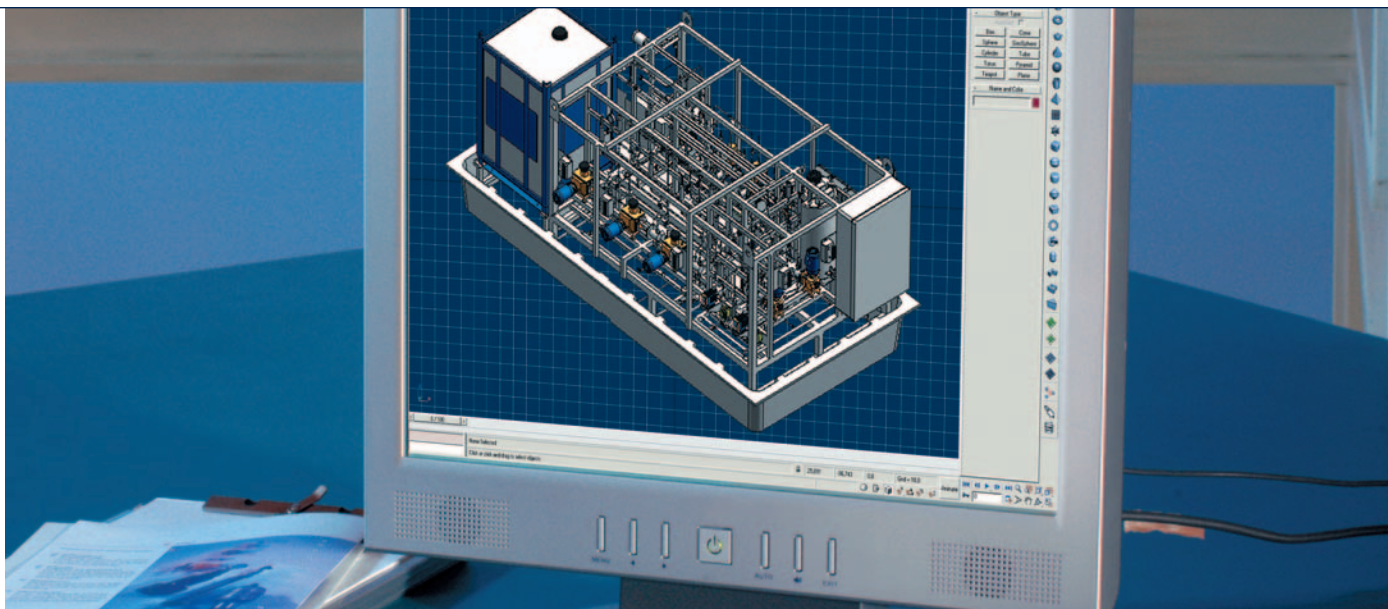
ProMinent®

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Your partner for chemical fluid handling



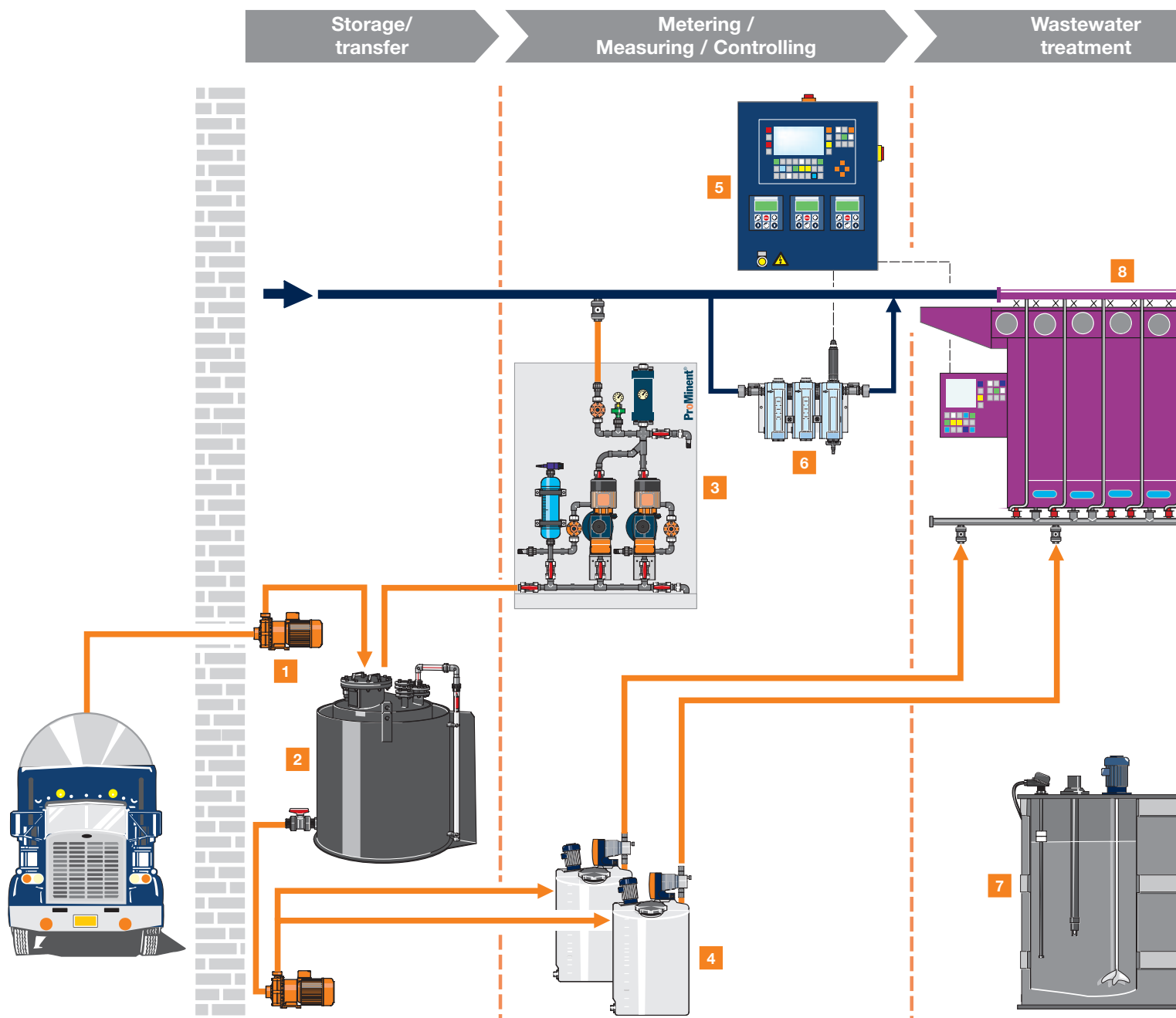
ProMinent offers total solutions for the journey a chemical takes through a company – from its arrival right through to the treatment of wastewater. Our complete solutions are ready for use with no installation required – Plug & Play.

The wide product range including our own measuring and control technology provides an individual and tailor-made configuration of the control loop. Complex high tech is used alongside straightforward, robust solutions – according to what is needed. Our strength lies in decades of experience, individual consultation and a full range of products and services.

- **Comprehensive solutions for all performance ranges and for all chemicals**
- **Complete spectrum of pumps and metering systems**
- **Perfectly interacting sensors and controllers**
- **Comprehensive range of accessories with tanks from own production and transfer pumps**
- **Advice, solution and implementation from a single source**

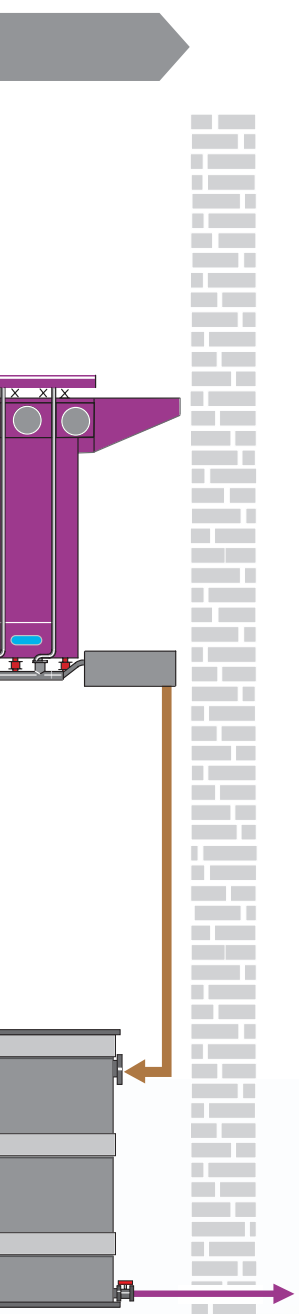


Further details:
www.prominent.com/dosing



- | | | | |
|--|------------------------|---------------------------------------|--------------------------|
| 1 Transfer pumps | 2 Storage tanks | 3 Panel-mounted dosing systems | 4 Dosing stations |
| 5 Measurement and control systems | 6 Sensors | 7 Neutralisation system | 8 Process |

Optimum interaction of all components



ProMinent® solutions store, transfer and meter chemicals – in amounts ranging from 0.1 l/h to 40,000 l/h at pressures of 2 to 3,000 bar. In every industrial environment: whether in a simple control loop or a complex field bus application – solutions from ProMinent are simple and efficient.

Automated systems improve the quality of your processes thanks to reliable metering. This increases the quality of your products, saves chemicals, improves environmental compatibility and lowers the costs of wastewater disposal. You also need fewer operating personnel.

Three criteria determine the design of a chemical fluid handling solution: The chemical being handled, the required level of reproducibility and the system control requirements.

■ **Storage and transfer**

ProMinent® storage and metering tanks make chemicals available wherever they are required. Matching transfer pumps ensure problem-free transference.

■ **Metering/Measuring/Controlling**

ProMinent offers dosing systems with maximum levels of resistance against practically all types and concentrations of chemicals. The accuracy of the metering is determined not just by the pump but also by their interaction with selected accessories. Whether the pump is calibrated once and then meters continuously or whether simple measured variable-dependant metering or integration into a field bus environment is required: thanks to its broad product range ProMinent offers the right pumps, the optimum measurement and control systems and perfectly interacting accessories for all industry requirements.

■ **Wastewater treatment**

pH-correction or specialist detoxification ensures that wastewater can be safely disposed of via the public drainage system.



Further details:
www.prominent.com/dosing

Storage and transfer

Storage tanks

Our range also includes WHG-compliant storage tanks with a high level of resistance to many chemicals. And if spatial conditions dictate particular formats, we can also offer panel welded PE/PP tanks precisely produced to customer specifications with capacities ranging from 0.5 to 25 m³.

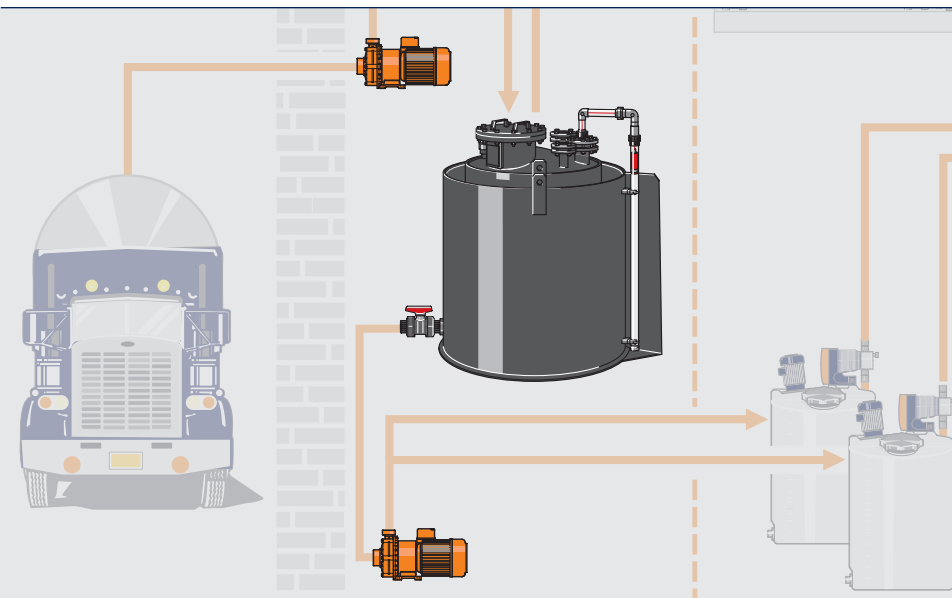


Dosing tanks

Our dosing tanks are made of UV-stable polyethylene or polypropylene with threaded neck openings for metering pumps and stirring equipment. These sturdy tanks offer capacities of 35 to 1,000 l.



Safe storage of chemicals on site



Storage tanks and dosing tanks precisely produced to customer specifications, and matching transfer pumps, guarantee safe decentralised storage and appropriate provision of process chemicals on site.



Transfer pumps

The von Taine® transfer pumps carry up to 23,000 l/h fluid chemical safely from tank to tank with no leakage. ProMinent® Spectra progressive cavity pumps are designed specifically for metering polymer solutions - and are also for use with oil-based solutions. With no electrical components whatsoever, the ProMinent® Duodos is an air-driven dual-diaphragm pump transferring up to 10,000 l/h. The DULCO®Trans barrel pumps are ideal for bottling and decanting fluids.

Further details:

www.prominent.com/tanks

www.prominent.com/transfer_pumps

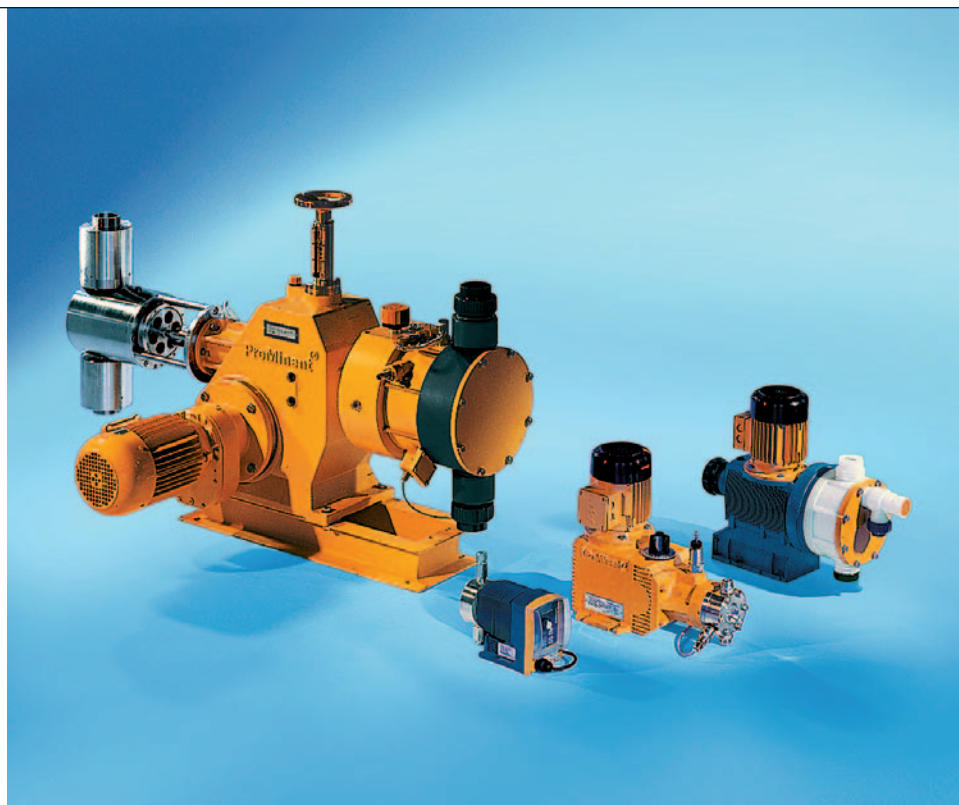


Metering, measurement and control

Metering pumps

Metering chemicals – the core task of a metering pump. And ProMinent offers metering pumps in every performance class and profile. The world market leader in solenoid-driven diaphragm metering pumps is equally convincing when it comes to medium- and high-pressure pumps.

- Solenoid-driven diaphragm pumps: up to 30 l/h
- Motor-driven diaphragm pumps: up to 4,000 l/h
- Hydraulically actuated diaphragm pumps: up to 40,000 l/h
- Plunger pumps: up to 40,000 l/h
- Custom metering pumps



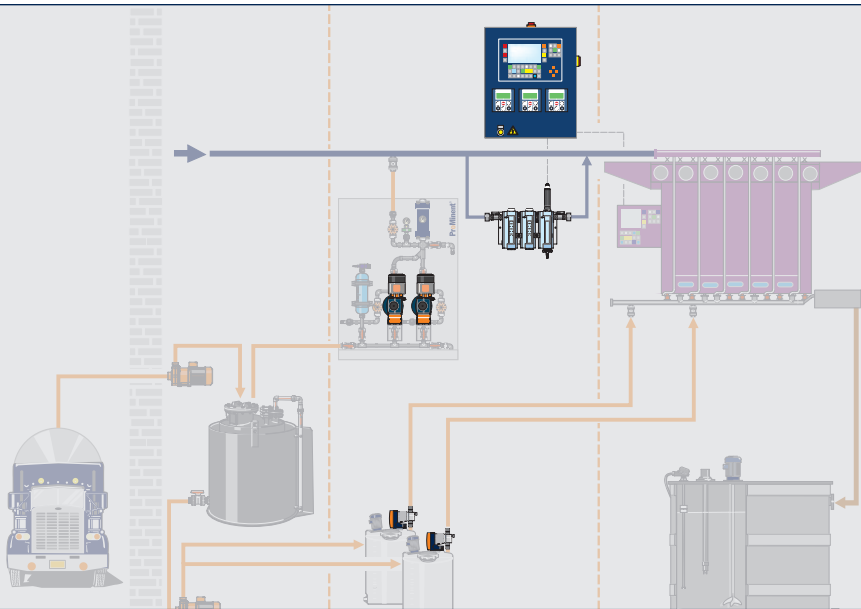
Sensors

The DULCOTEST® sensors deliver exact, reliable and application-adjusted measured values in real time – for the monitoring or control of processes. The sensors can be optimally integrated into the ProMinent control loop together with controllers and metering pumps. Numerous probe housings are available for individual integration into the process.

- | | |
|--------------------|---------------------|
| ■ pH | ■ Ozone |
| ■ Redox/ORP | ■ Dissolved oxygen |
| ■ Conductivity | ■ Hydrogen peroxide |
| ■ Chlorine | ■ Peracetic acid |
| ■ Chlorine dioxide | ■ Fluoride |
| ■ Chlorite | ■ Temperature |
| ■ Bromine | |



The heart of an optimum solution



The precise interplay of metering pump, controller and sensor is a guarantee of optimum metering. Components from ProMinent are perfectly interacting and together they form a perfect control loop.

Measurement and control systems

Our measurement and control instrumentation is adjusted to each specific application: Finely graduated performance classes offer the right technology for every metering task. ProMinent offers full product lines from the simple transformation of measured signals for transmission to a central control unit via user-calibrated instruments with measured variable display, to controllers for complex control tasks. We offer PROFIBUS® DP and CANopen-BUS components to enable integration of the control loop into a bus system.

- 1-channel controller DULCOMETER® D1C
- 2-channel controller DULCOMETER® D2C
- Multi-channel controller DULCOMARIN® II
- Various measurement transducers/transmitters
- Handheld measurement units

Further details:

www.prominent.com/metering_pumps
www.prominent.com/mcs



Complete dosing systems

Standard systems

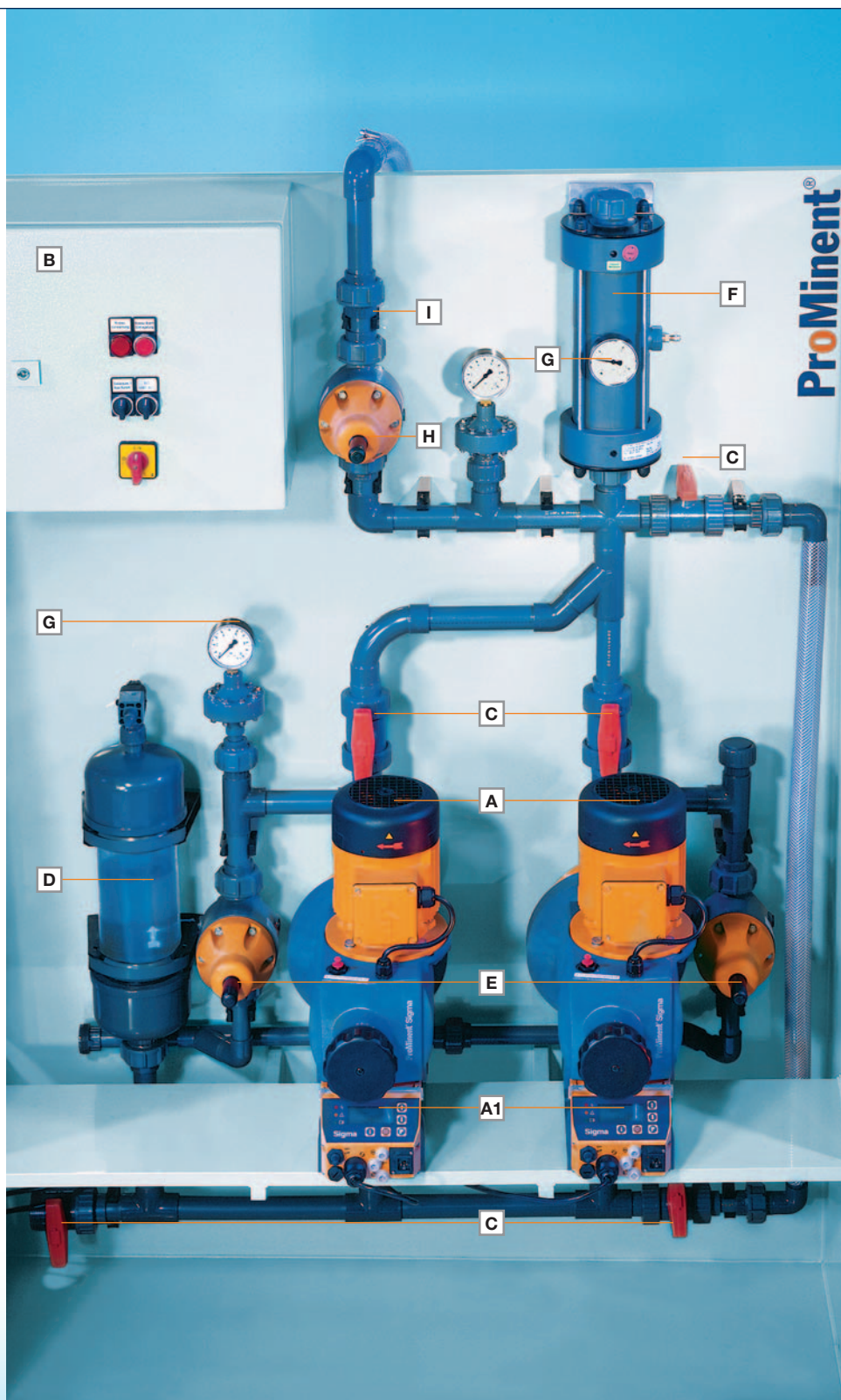
Two hydraulic connection points enable simple installation of the dosing system. The pre-mounted systems include optimally interacting components to ensure problem-free operation. You will thus receive a compact system.

The dosing systems can be individually configured when ordered. The simple selection system makes ordering easy and guarantees the greatest purchasing efficiency.

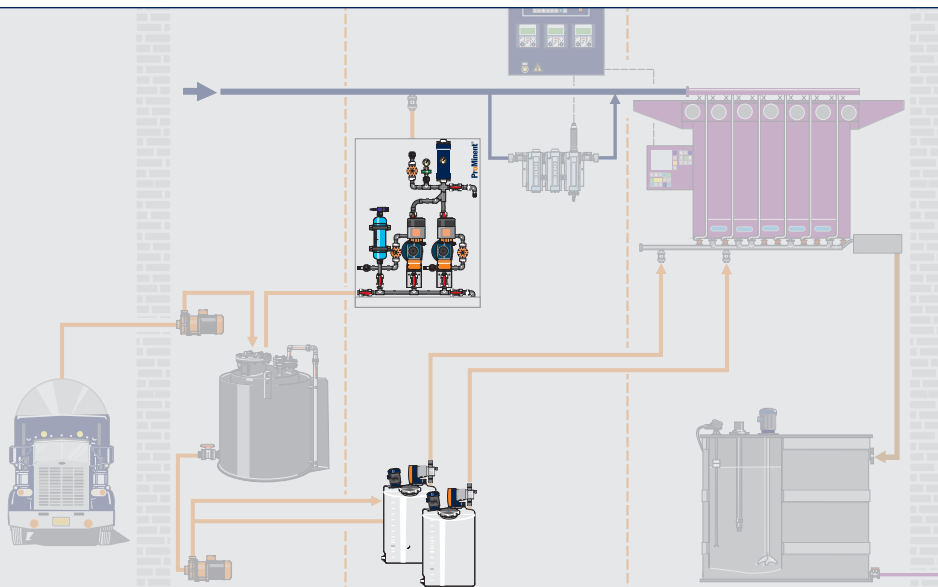
- A** Metering pump
- A1** Actuation and control option
- B** Control cabinet
- C** Stop-valve
- D** Suction air accumulator
- E** Relief valve
- F** Pulsation dampener
- G** Pressure gauge
- H** Back pressure valve
- I** Non-return valve

Application-specific dosing systems

We offer pre-mounted dosing systems for different applications which are conceived and designed to perform precisely in accordance with the requirements of each specific application. For example, for hydrazine or liquid enzyme metering. Or for metering-tasks in swimming pools.



Plug & Play with pre-mounted systems



Metering is getting even easier. The pre-mounted complete solutions from ProMinent for the most important applications are available immediately and ready for use. The sensors, controller and metering pump along with the necessary tanks form a unit which is ready to run with no installation required.

Customer-specific systems

These systems are individually planned, built and delivered according to each customer's specifications. Once again, the customer has no installation to carry out. On request, we will commission the systems on site.



Further details:
www.prominent.com/dosing_systems

Accessories

Hydraulic accessories

A Discharge valves and

B Back pressure valves

The use of discharge and back pressure valves guarantees accurate metering by creating a defined back pressure.

C Foot valves,

D Suction lances and suction assemblies

The accessories make your system ready to operate. They protect the suction line and the valves from coarse contaminants and prevent the lines from running dry if the pump stops.

B Relief valve

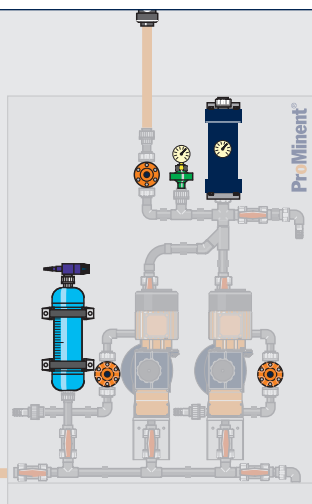
The relief valve protects all system components against damage due to pressure overload.

E Pulsation dampener

The pulsation dampener allows metering pumps to operate smoothly even with long lines. The low pulsation flow causes only minor pressure loss and prevents interfering vibrations.



Added operability and safety



The range of optional accessories is as wide as the range of metering pumps and systems. Only the right accessories can guarantee safe operation in suitable conditions. Pulsation dampeners for low-pulsation metering and for reduction of the flow resistance in long lines are an important part of our product range, as are diaphragm rupture indicators which automatically switch off the pump if the diaphragm is damaged to prevent chemicals from escaping. Every metering solution can be individually optimised and accessorised.



Electrical accessories

- A Flow Control flow monitor**
Flow Control monitors every single stroke of the metering pump and is your guarantee of safe metering.
- B Dos Control flow controller**
Dos Control gives the operator universal control over basic metering pumps; the ability to adjust pumps to specific processes.
- C Float switches, control and signal cables**
These enable problem-free and flexible integration of metering pumps into automatic control loops.



Further details:
www.prominent.com/accessories

Reference: Waterworks in Kronstadt

Chemical metering in waterworks



"We are able to carry out the water treatment at the highest safety level with practically no staff, thanks to the maintenance-free ProMinent® solution."

Grigori Bass, Managing Director SENS O.O.O., St. Petersburg

The waterworks in Kronstadt, with 36,000 m³ potable water capacity, is the smallest of a series of waterworks surrounding the Russian metropolis of St. Petersburg. Since 2003 these waterworks have been converted from disinfection with chlorine gas to the far safer sodium hypochlorite. ProMinent partnered the waterworks during the transition.

Challenge

- Conception and implementation of a total solution for fully-automated drinking water disinfection with sodium hypochlorite
- Redundancy of all system parts for maximum fail-safety
- Design for standard and peak raw water load

Solution

- Conception of a modular chemical fluid handling system, that means storage and transfer of the chemicals, controlled metering including backup-systems, measurement and control systems and automatic process control, process monitoring and graphical process display

- To use ProMinent® tanks, transfer pumps, metering pumps, sensors, controllers and accessories

Customer benefits

- Extremely accurate, safe and redundant disinfection
- Chemicals to be stored only in non-hazardous concentrations
- No operating personnel required because the system operates fully automatically and practically without maintenance
- Problem-free commissioning and minimum coordination effort within the project since all single-sourced



Further details:
www.prominent.com/references

Global service locally



We offer ProMinent® Service even before you become one of our customers. Our pre-sales services ensure that you get the optimum solution for your individual needs:

- **Advice in choosing the products**
- **Application and process optimisation**
- **Project planning**

However, our commitment does not end with delivery. We offer you a comprehensive after-sales service, which lasts for the entire service life of your equipment.

That maximises your productivity and minimises your operating costs:

- **Assembly/installation**
- **Commissioning**
- **Maintenance**
- **Spare parts service**
- **Repair**
- **Troubleshooting**

Thanks to our worldwide presence in over 100 countries, our service is available wherever you need it.



Further details:
www.prominent.com/service

World-wide contact



ProMinent is at home in more than 100 countries of the world. This guarantees world-wide availability of the products and short distances to the customer. All over the world, ProMinent offers identical quality standards for products and services. ProMinent is where you need it: experience and know-how in water treatment and chemical fluid handling are available world-wide.

For detailed information, please visit our website www.prominent.com

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