



DOSING PUMPS, MEASUREMENT & CONTROL AND DISINFECTION SYSTEMS

Universal products for industrial, municipal
and building services applications

be
think
innovate

The full range from one single source

Grundfos offers a comprehensive range of dosing pumps and systems, disinfection solutions, accessories, measurement and controls.

The Grundfos dosing and disinfection product range covers everything from disinfection of drinking water to water treatment in highly sensitive industrial processes. With one of the most extensive product ranges in the market, we are a natural partner for products and solutions within the municipal, industrial and building services industries.

Grundfos also offers innovative solutions in water supply and waste water disposal, chemical and process engineering, food and beverage industry and heating and cooling technology. You can always rely on Grundfos as a competent partner for all applications.

Dosing pump advantages

Grundfos offers a wide range of dosing pumps. Our innovative drive concepts cover a large performance range with only a few models, and our dosing pumps offer many advantages such as smooth continuous dosing and universal connections to existing process control systems. Digital Dosing™, an optimized dosing head design and 100% stroke length enable you to smoothly dose off-gassing liquids. With optional integrated flow intelligence features, malfunctions in your dosing process will be detected and displayed, and our AutoFlowAdapt feature ensures automatic compensation and recalibration during the dosing process.

Digital Dosing™ – accuracy through superior technology

Traditional dosing pumps regulate the dosed quantity by adjusting stroke length and/or frequency. However, reducing the stroke length adversely affects dosing accuracy. In cases where the dosing pump cannot operate at 100% stroke length, valves will suffer from reduced performance leading to inefficient dosing. Digital Dosing™ offers obvious advantages against solenoid pumps: using a stepper motor, the volume dosed is altered by the discharge stroke speed while continuously utilizing 100% of the stroke length, leading to optimum dosing accuracy and better handling of off-gassing liquids.



Dosing systems and pump accessories

Dosing is precision work and one of the main tasks in chemical and process engineering as well as in water treatment. Dosing systems are easy to install and deliver cost-efficiency and process optimization, accurately dosing liquids such as coagulants or neutralizing agents. Grundfos also offers a wide range of accessories to suit your application.

Disinfection

Grundfos offers a variety of chemical disinfection systems to ensure appropriate disinfection for your applications. For sustainable disinfection, our Oxiperm system offers a wide range of possibilities for the production and dosing of chlorine dioxide.

Measurement and control

Grundfos offers measurement and control equipment for chlorine, chlorine dioxide, pH, peracetic acid and other process parameters as preassembled compact backboard mounted systems. And to complete our measurement and control product range, the Grundfos portfolio includes hand photometers for calibrating and water sampling.



Digital dosing pumps

SMART Digital diaphragm dosing pumps up to 52.8 gph (200 l/h)

Covering flow rates up to 52.8 gph (200 l/h), and output pressure ratings up to 232 psi (16 bar), the SMART Digital range delivers reliable, safe, and cost-effective dosing in any application across a wide selection of businesses including water treatment, with industry-leading user friendliness and flexibility. And the advanced monitoring and self-analyzing features offered by several control variants provide intelligent process control that looks beyond the pump and keeps an eye on the entire system for you.

A complete package with two pump sizes

The SMART Digital range includes the original SMART Digital DDA, DDC, and DDE pumps which cover flows up to 8 gph (30 l/h), and the SMART Digital XL DDA and DDE pumps which cover flows up to 52.8 gph (200 l/h). All pumps can be supplied with a wide selection of accessories such as injection valves, foot valves, pressure relief valves, back pressure valves, signal cables, and tanks that make it even easier to customize the pumps to fit your application.

Service and maintenance friendly

SMART Digital pumps have very long service and maintenance intervals, significantly lowering pump life-cycle cost and contributing to disruption-free, reliable dosing performance. And when service is needed, our tailor-made service kits ensure optimal service that keeps pumps running in top condition for years.

DDA: high-end solution for complex and demanding applications

- AutoFlowAdapt: automatically adapts measured flow to attain target flow
- Auto-deaeration during pump standby
- Flexible Fieldbus control
- Turn-down ratio 3000:1 with constant 100% stroke length

DDC: optimal price-performance ratio

- Two SlowMode steps (25% and 50%), calibration mode, service display
- External stop, dual-level tank control, 2 relay outputs

DDE: a cost-effective Digital Dosing™ solution

- Control options: manual control 0.1-100 %, pulse in % of stroke volume, and analog control (DDE XL)
- External stop, empty tank control



General-purpose high-performance dosing pumps

DME: digital diaphragm dosing pumps up to 248.3 gph (940 l/h)

Dosing is precision work, and Digital Dosing™ represents state-of-the-art technology. Grundfos DME Digital Dosing™ pumps combine perfect precision with user-friendliness, covering large dosing quantities up to 248.3 gph (940 l/h).

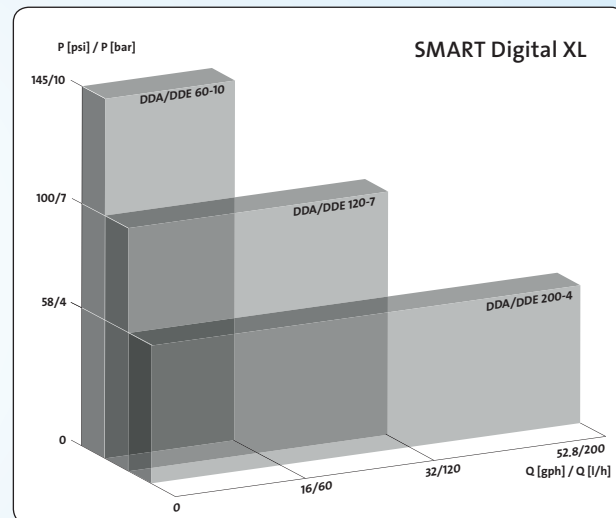
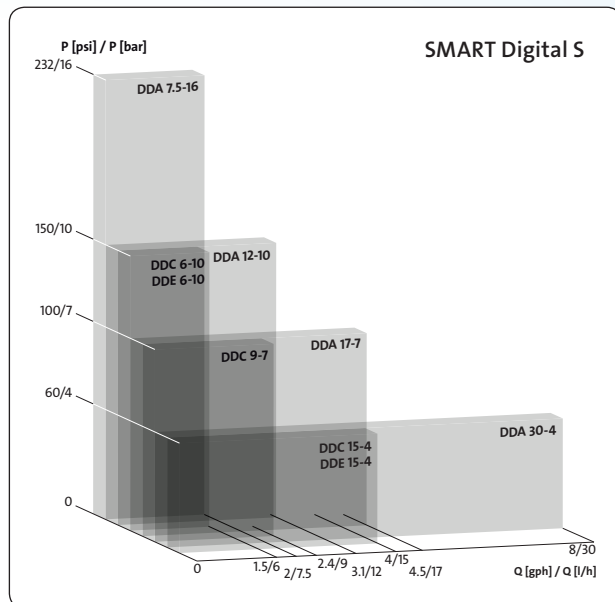
DME: precise and easy setting

- Two pump variants: 99 gph (375 l/h) at 145 psi (10 bar), or 248.3 gph (940 l/h) at 58 psi (4 bar)
- Turn-down ratio 800:1 with constant 100% stroke length
- Adjustable slow mode for dosing high viscosity liquids (up to 3000 mPas)



DME

Flow rates and pressure, SMART Digital



Application areas

Chemical treatment and conditioning of water

- Disinfection and pH adjustment
- Drinking water, process water and wastewater
- Food and beverage, Clean-In-Place
- Ultrafiltration and reverse osmosis
- Pulp and paper, boiler feed water
- Swimming pool water, cooling towers
- Coagulation, flocculation, precipitation
- Chemical industry, car wash, irrigation

Mechanical diaphragm dosing pumps

DMX: mechanical diaphragm dosing pumps up to 166 gph

The Grundfos DMX range has proven its worth in dosing applications worldwide. With their robust diaphragm-based design and high-quality motors, DMX pumps require minimum maintenance and are the best choice for many dosing applications. The DMX range is highly versatile: it covers a wide flow range and offers a variety of dosing head sizes, materials and accessories.

DMX: robust design for minimum maintenance

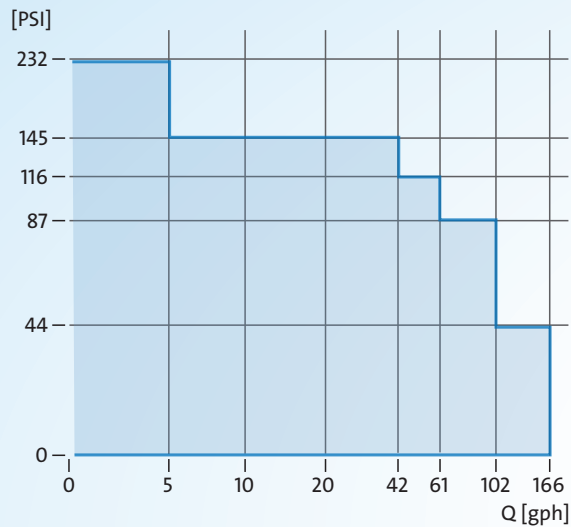
- Capacity from 0.13 gph to 2 x 166 gph and up to 145 psi
- Double-head versions increase flexibility or dosing flow rate
- Available with EX classified or ATEX-certified motors

Application areas

Disinfection, coagulation, flocculation, precipitation, etc. in:

- Drinking water treatment
- Waste water treatment
- Pulp and paper industry
- Textile industry
- Cleaning water treatment
- Food & Beverage industry, dairies
- Cooling tower water treatment
- Low-pressure boiler feed water treatment

Flow rates and pressure, DMX



DMX 226

DMX 221

Hydraulic piston diaphragm dosing pumps

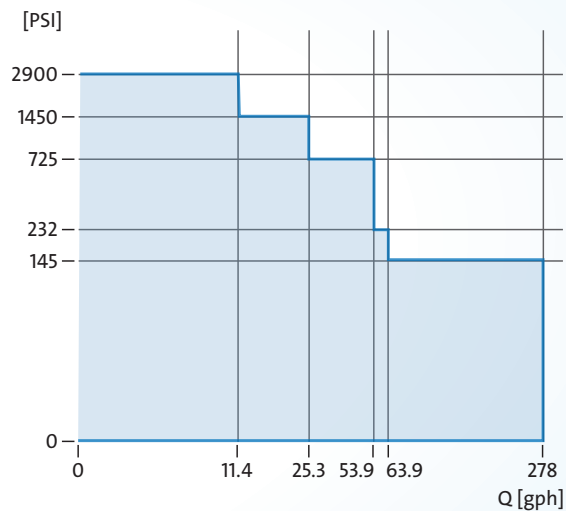
DMH: hydraulic piston diaphragm dosing pumps up to 2 x 278 gph and up to 2900 psi

The Grundfos DMH range is a series of extremely strong, robust pumps for applications requiring reliable dosing and high-pressure capability, such as process engineering. The range is highly versatile: it covers a wide flow range and offers a variety of dosing head sizes, materials and accessories.

DMH: long lifetime in high-pressure applications

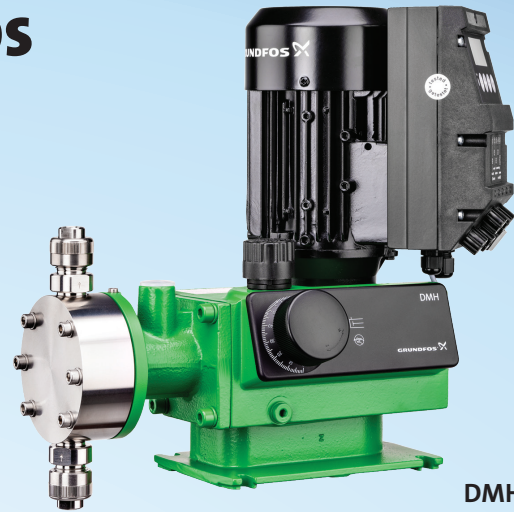
- Capacity from 0.050 gph to 2 x 278 gph and up to 2900 psi; available in double-head versions
- Integrated pressure relief valve and active diaphragm protection system (AMS)
- Available with EX classified or ATEX-certified motors and API 675 certificate

Flow rates and pressure, DMH



Application areas

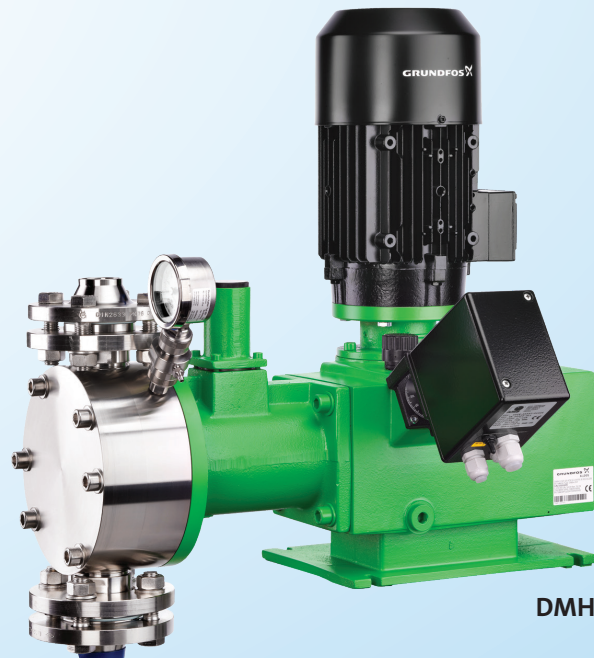
- Power plants
- High pressure boiler feed water treatment
- Petrochemical industry, refinery
- Treatment of process water
- Drinking water treatment
- EX zones / dosing of flammable liquids



DMH 251



DMH 255



DMH 257

Dosing pump accessories

Grundfos offers a comprehensive range of accessories covering every requirement when dosing with Grundfos pumps. The range includes:

- Dosing tanks
- Foot valves & suction lances
- Multifunction valves
- Pressure loading valves
- Pressure relief valves
- Injection units
- Hoses
- Connectors
- Cables & plugs
- Hand mixers & electric mixers
- Pulsation dampeners
- Adaptors



Multifunction valve



Suction lance



Mixer



Tank



Pulsation dampeners



Grundfos standard duplex dosing skid with HOA control panel

Dosing tank and skid systems

DTS: cost-effective dosing stations

The cost-effective dosing tank stations for storing and dosing liquid chemicals can be configured and flexibly applied to perform various dosing tasks. Made from high-quality materials, DTS units can be employed universally and are easy to install.

Application areas

- Dosing of biocides and inhibitors in cooling water
- Dosing of alkalis and acids for pH control
- Dosing of coagulants (such as ferric (II/III) chloride) for waste water treatment
- Dosing of hypochlorite, dosing of cleaning agents and disinfectants (CIP, cleaning machines)

Complete dosing skids tailored to your application

The complete chemical feed systems are designed to make dosing technology available as a complete package with all necessary pipework, valves and dosing pumps. We can deliver standardized packaged systems or build custom systems to your specifications.

Flexibility by design

- Various dimensions, connection locations and installation options
- Choice of materials and accessories in the system envelope
- Filters, electrical controls, containment systems and optional measurement and control instruments



DTS



Oxiperm Pro

ASHRAE 188 compliant Oxiperm® chlorine dioxide systems

Chlorine dioxide – effective against legionella and biofilm

Chlorine dioxide is an extremely long-lasting and effective disinfectant. Even relatively small quantities of chlorine dioxide display high disinfecting properties against all critical and chlorine-resistant germs, almost regardless of pH value. Chlorine dioxide can be used to successfully reduce the formation of biofilm in water pipes, which removes the life source for harmful germs such as legionella.

The compact Oxiperm® Pro OCD-162 system has been developed for applications in building services. This disinfection system is specifically designed for fighting legionella in drinking water installations.

Oxiperm®: compact, effective and cost-effective disinfection

- Compact system to be installed on confined spaces
- On-site preparation of chlorine dioxide
- Complete chemical reaction within a minimum of time
- Low operating costs and low consumption of chemicals

Application areas

- Fighting legionella in hotels, hospitals, retirement communities, fountains, swimming pools and sports facilities
- Municipal waterworks
- Independent water suppliers
- Industrial process water like brewing water, bottle washing and CIP systems
- Cooling towers

Measuring and control solutions

Measuring amplifiers: extremely user-friendly

Monitoring of typical water quality parameters as well as precise control of disinfectant addition or pH adjustment is essential for many water treatment processes. Grundfos offers the DID for full integration with digital communication and data logging.

Preassembled compact measuring systems

DID is a preassembled measurement stations. The DID is available with Cl_2 , ClO_2 , O_3 , pH, redox, H_2O_2 and PAA measurements. The controller is multilingual and offers precise measurement. The pre-assembled package is easy to install. The plain text interface makes set-up fast and easy with as little user input as possible for a reliable end result.

DID – fully digital pre-assembled compact measuring station

The new Grundfos by S::CAN DID systems are the perfect combination of S::CAN'S state-of-the-art digital sensor technology and Grundfos experience in PID controlling of dosing and disinfection processes. DID systems are designed to perfectly match Grundfos dosing pumps, gas dosing systems and systems for the generation and dosing of chlorine dioxide and hypochlorite.

DID systems are available as compact systems with bypass flow cell or as kits for applications with tank-immersed sensors. The DID is extremely easy to set up due to the pre-assembled and pre-calibrated configurations. Installation is easy due to the Fieldbus-based communication with both controller and sensors.

DID systems feature the following:

- Automatic setting of water flow and detection of missing water flow in systems with flow cell
- Probe carrier included in systems for tank installation
- 25 ft cable included in systems for tank installation
- Probe guard included in systems for tank installation
- Temperature compensation included for all sensors
- Designed for extra-long maintenance intervals (0.5 to 1 year)
- Pre-calibrated sensors (pH, ORP, conductivity)
- One sensor variant per parameter for all applications and measuring ranges (pH, ORP, conductivity sensors)
- Diaphragm-covered amperometric sensor principle (free and total chlorine, ClO_2 , H_2O_2 and PAA)
- Lowered pH dependency for free-chlorine sensors

DIT hand photometer: professional analysis tool

Total reliability and precision are always needed to control ambient air and water quality for chemical water treatment. Our portable, optoelectronic DIT measuring device offers very high measuring accuracy and reproducibility for up to 14 parameters including chlorine (free, combined, total), chlorine dioxide and pH.

Application areas

- Drinking water treatment: pH control for dosing acids and alkalis, monitoring & control of residual chlorine
- Industrial process water and waste water treatment (effluent disinfection): pH control for dosing acids and alkalis and control of chlorine, chlorine dioxide or ozone
- Food and beverages: disinfection in filling tanks and CIP applications.
- Swimming pool water treatment: pH control for dosing acids and alkalis, monitoring & control of residual chlorine



DID



DIT

Sustainable water treatment projects

Your powerful partner

From planning to reliable delivery, installation and start-up, our team combines technical engineering expertise with intercultural competencies and many years of experience.

We are your one-stop partner for water treatment solutions that require complex engineering and in-depth process know-how. Our portfolio includes the entire spectrum of disinfection technologies and chemical treatment of water. Our reliable, proven methods in research, development and production ensure outstanding solutions.

We can assist you with both smaller custom solutions and the planning of complex water treatment systems, converting our state of the art dosing & disinfection products into uniquely tailored systems that match your requirements.

Disinfection technologies

- Electrochlorination
- Chlorine gas
- Chlorine dioxide

Chemical treatment

- Flocculation
- Coagulation
- pH correction

Applications

- Drinking water
- Wastewater
- Process water
- Cooling water
- Boiler feed water