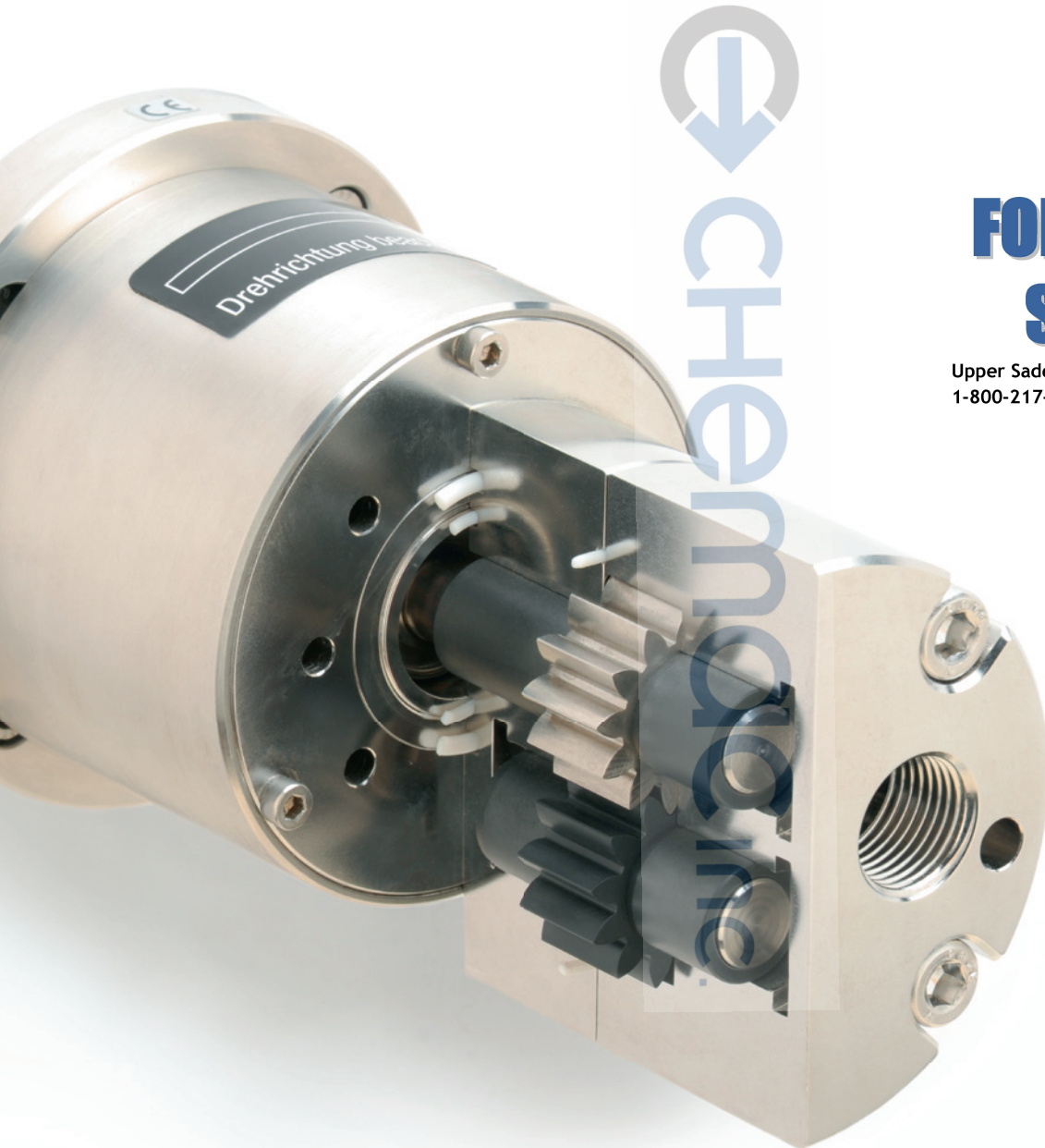


Dosing and Process Pump

The Non-Pulsation Magnetic Drive Gear Pump



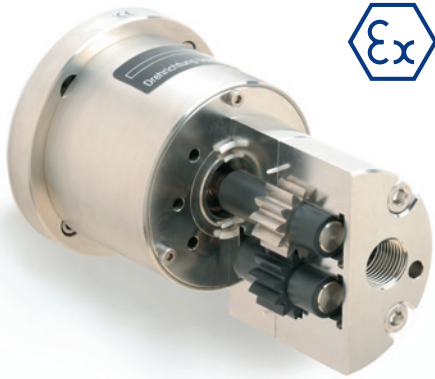
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The GATHER Products

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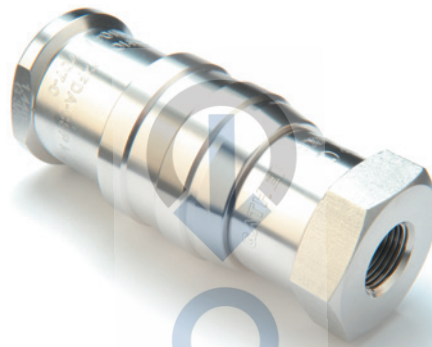
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Gear Pump and Wankel Pump

GATHER magnetic drive gear pumps are designed for dosing as well as process pump operations.

They are complemented by the Wankel (rotary piston) pump ensuring excellent conveying and pressurizing performance. The distinctive mark of these hermetically sealed pumps is long service life and non-pulsation dosing, especially of non-lubricating liquid such as water, salt solutions and solvents but also of acid and caustic solutions.



Quick-Disconnect Couplings

The safe, robust and quickly disconnectable hose-tube joining method for almost all liquid and gaseous media. With double or single shutoff function or unrestricted medium passage in sizes ranging between DN 4 and DN 125.

The original Hansen couplings and the flat-face, non-leakage couplings of GATHER's own DBG series are especially versatile.



Filters and Valves

For dosing performance enhancement and gear pump protection GATHER offers tailored accessories:

High-grade overflow valves and filters of stainless steel and Hastelloy as well as simple non-return valves.

Contents

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Magnetic Drive Gear Pumps	4	DRIP Industrial Dosing Pump	6
		Pumping Characteristics	7
		Drives and Speed Control	8
		Special Designs	9
		Dosing Technology	10

The Magnetic Drive GATHER Gear Pump

Magnetic drive gear pumps of GATHER Industrie are made of stainless steel, Hastelloy or Titanium and are highly versatile as dosing pumps, process pumps or for laboratory services. Distinctive mark of this hermetically sealed pump is long service life and non-pulsation dosing, especially of non-lubricating liquid such as water, salt solutions and solvents but also of acid and caustic solutions.

As low-maintenance process pumps they can be optimally integrated into existing equipment whereas highly precise and reproducible pumping results are attained when they are used as dosing pumps.

Incorporating the magnet drive and innovative materials GATHER Industrie has steadily developed these pumps that were originally employed for laboratory uses into unsurpassed acid or caustic solution pumps for pilot plant service (Miniplant) and process technology applications.

Pressure vessel code requirements are of course satisfied as the ATEX regulations are applicable to hazardous areas.



Available standard materials

- Stainless steel
- Hastelloy
- Titanium
- PTFE (Teflon®)
- PEEK (carbon fiber reinforced)
- Carbon (pure and impregnated)
- Nickel alloy (W88)
- Cobalt alloy (Ultimet®)

Advantages at a glance

- Long life and maintenance-free*
- Non-pulsation pumping of non-lubricating liquid
- Hermetically sealed
- CIP capability (e. g. using water)
- Easily integrated into processes

* aside from wear

NEW

- Plain bearings of PPP (Parmax®)
- Antifriction bearings of zirconium oxide

Magnetic Drive Gear Pumps

Non-Pulsation Pumping of Non-Lubricating Liquid Media



General

With its magnetic drive gear pump GATHER plays an important part in the pumping and dosing technology sector. This is of course based on highest manufacturing precision, a multitude of available material combinations as well as the non-pulsation pumping capability of the gear pump. Variable-speed pump drives are available meeting all conceivable application demands.

NEW

Temperature range
from -200 °C to +450 °C

- Differential pressure up to 15 bar
- System pressure from vacuum to 325 bar
- CIP & SIP capability
- Viscosities from 0.1 up to 2,000 mPa s (for specials up to 10,000 mPa s)



Notes on Safety

Due to the gear pump's magnetic drive the entire pump can be of hermetically sealed design so that - selecting the appropriate type of material - a maximum amount of safety is achieved in applications where hazardous media are to be handled. In case of overloads, the magnetic drive causes the pump to disconnect.

The drives meet VDE regulations and can be furnished with any desired explosion-protection type of enclosure.



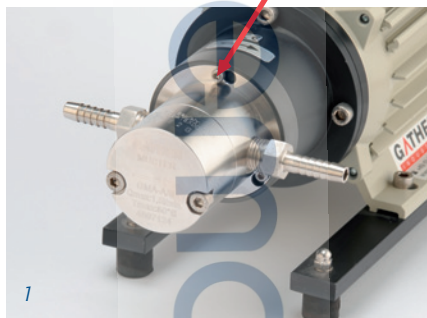
Effortless Pump Head Replacement

Pump Head Replacement

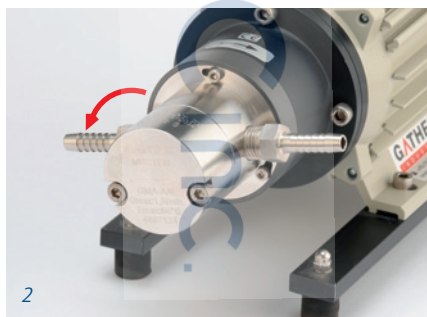
Replacing the pump head for maintenance or replacement purposes is very easy:

1. Loosen the three screws on the pump carrier (bracket)
2. Turn the pump head
3. Pull off the pump head

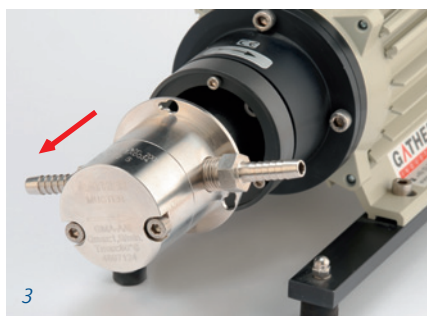
To re-attach the pump head proceed in reverse order!



Loosen screws



Turn pump head



Remove pump head

Attention

Be careful with the strong samarium-cobalt magnets!
Please observe our mounting instructions!

DRIP Industrial Dosing Pump

The Smallest of Product Series 1



Advantages

- Long life
- Robust
- Low maintenance



Technical Data

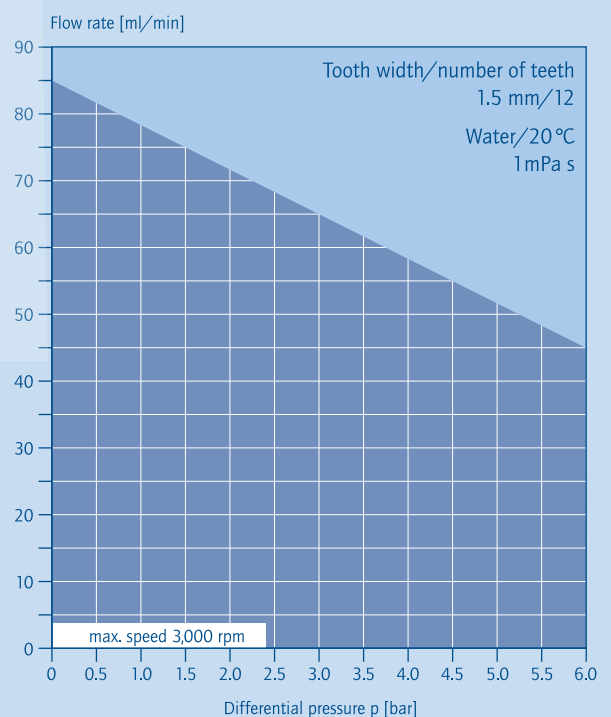
Flow rate	Q = 0.02–5.00 l/h = 0.33–83.33 ml/min
Temperature range	T = -60 to +300 °C
Differential pressure	Δp = up to 6.0 bar
Viscosity	η = 0.3 to 1,000 mPa s

Materials

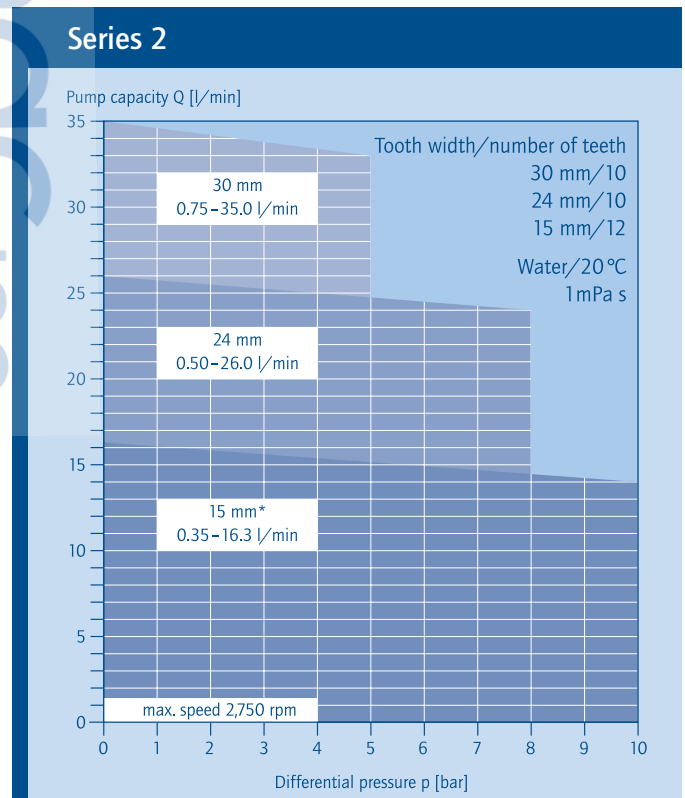
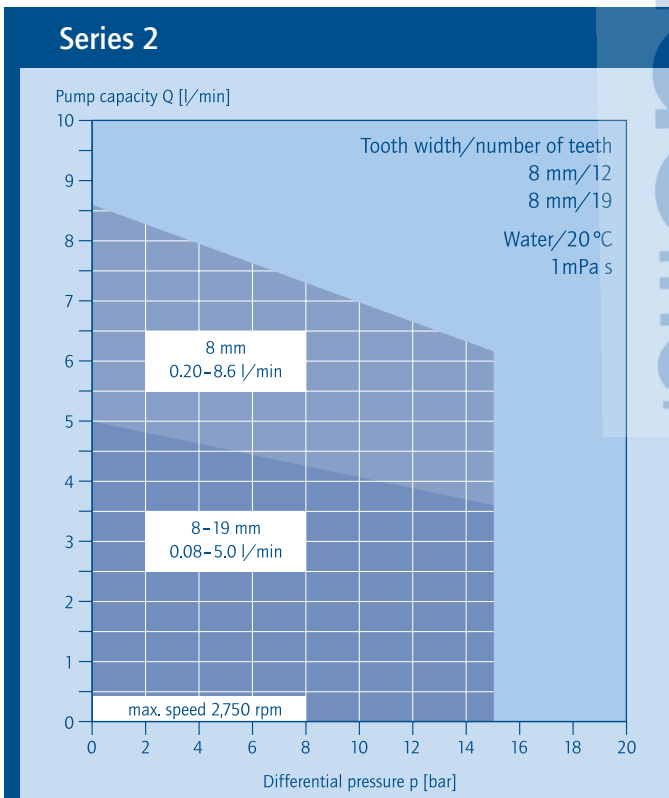
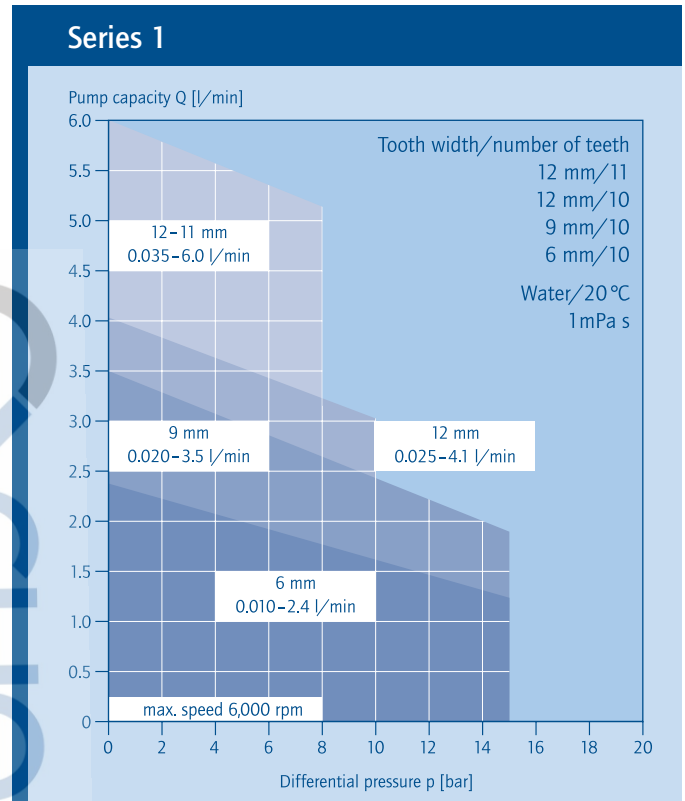
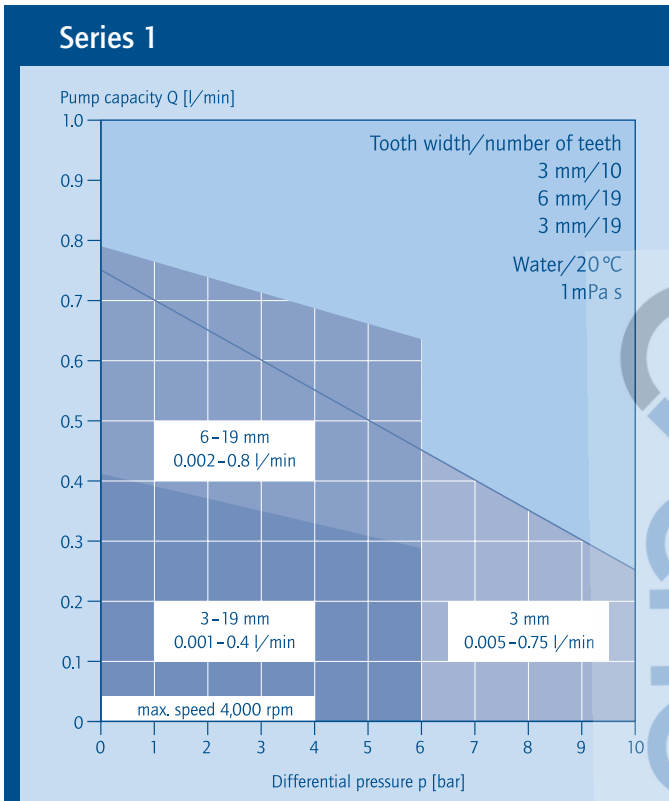
Pump body	Stainless steel (1.4404, 1.4571) Hastelloy (2.4819/C-276) Titanium (3.7035/Grade 2)
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ATEX certificate can be obtained
Pump head compatible with all drive units of series 1
with X-magnet system

Pumping Characteristics



Pumping Characteristics

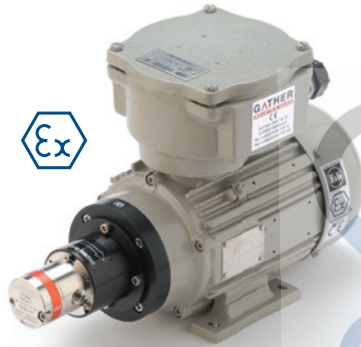


* up to 15 bar in individual cases

Drives and Speed Control

Examples – Series 1

Three-phase motor (IP 55, flame-proof enclosure) for hazardous areas, degree of protection EEx de IIC T4, controlled via frequency converter, n = 200–6,000 rpm, external control capability, 1 x 230 V, 50/60 Hz



Three-phase motor for ex-proof areas



Three-phase drive for hazardous areas



Speed control for laboratory service, n = 200–5,000 rpm, 4-digit indication, external control capability (RS232 etc.)

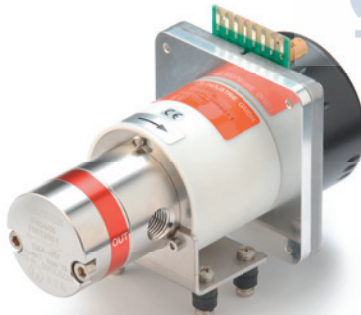


Laboratory motor



Three-phase servo motor for industrial and laboratory applications

Brushless DC motor (IP 00) of compact design, ideal for integration into miniature units, n = 350–3,500 rpm, external control capability, 0–10 V, supply voltage 24 V, favorable price/performance ratio



DC motor

Examples – Series 2

Constant-speed three-phase motor (IP 55, increased safety) for hazardous areas, degree of protection EEx e II T3, constant speed rates available on request, n = 2,750 rpm, n = 1,350 rpm, n = 900 rpm, 3 x 230/400 V, 50 Hz

Three-phase motor (IP55) for industrial applications and laboratory service, controlled via built-on frequency converter, n = 10–3,000 rpm, external control capability, 1 x 230 V, 50 Hz

Aside from the above described drives, we offer mechanical positioning gears, helical geared motors, servomotors and other special-design motors tailored to individual pump application needs.

Danger Classes

ATEX: zones 1, 2 and 22, Ex II 2G C (T1...T6)
Temperature classes T1...T6 or 100 K below the glowing temperature of dust (zone 22).

Application in High-Temperature or Sterile Areas (SIP)

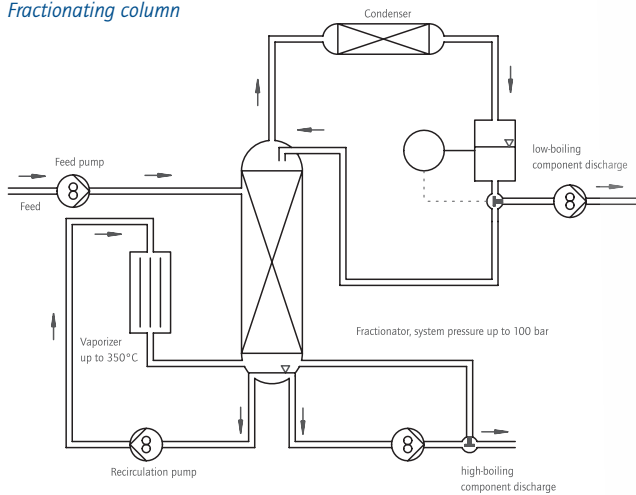
The design and materials used for this pump type in particular in the magnet pot and seals area enables the stainless steel pump to operate at system pressures of up to 300 bar and +300 °C. Heat transfer to the drive unit is inhibited through the use of special connecting elements. GATHER gear pumps can be cleaned in mounted condition, i. e. have CIP capability. Supplementing the unit by a steam bypass (see photo) enables the pump to be sterilized in built-in condition (SIP capability).



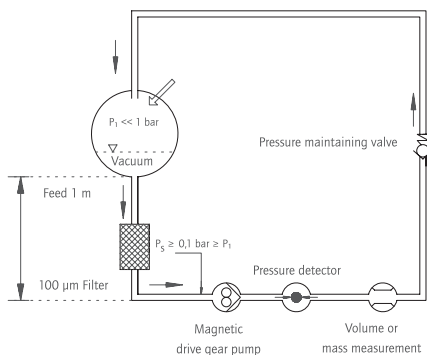
Pump with SIP capability

Recommended Application Examples

Fractionating column



Recirculation under vacuum



Heat-traced pump

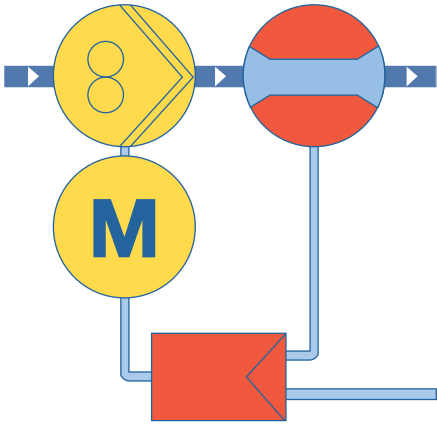
Heat tracing system specification

- Heater connections G1/4
- Body stainless steel 1.4571
- Heating shell pressure up to 20 bar
- Heating/cooling medium: Brine, steam, thermal oil etc.
- Heating temperature up to +400 °C

Heat Tracing for Pump Head of Series 1 and 2

Via this heat tracing system, the heating medium is passed through the interior of the pump head and thus causes the head to be uniformly heated. The tracing system can be easily mounted onto the pump head.

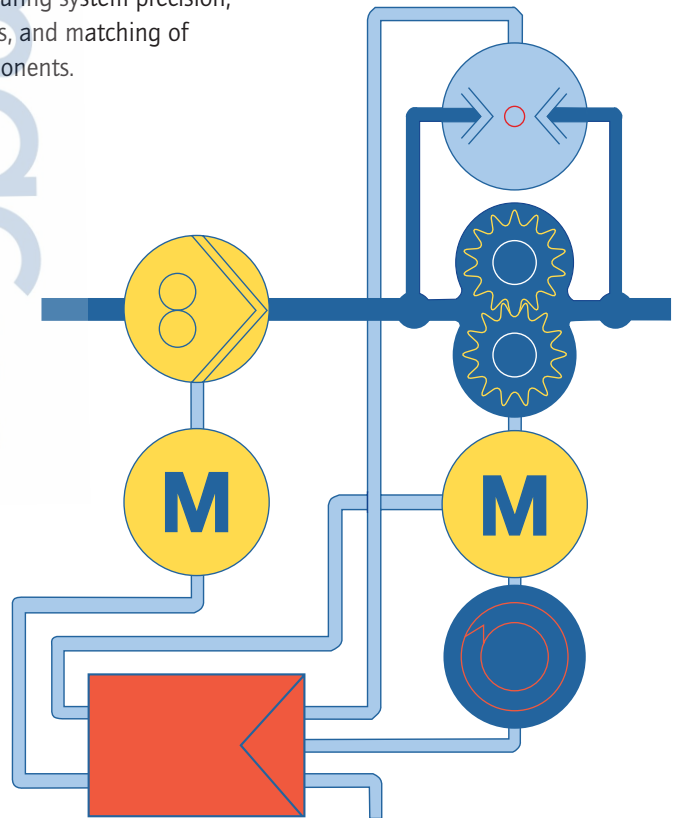
Dosing Technology



D410

To achieve maximum metering accuracy we recommend that the pump be operated in a control loop. The control variable acting on the metering gear pump may be the flow rate or, for example, a temperature, pressure, pH value or another process variable. The metering accuracy of the system is greatly influenced by the measuring system precision, overall system dynamics, and matching of individual system components.

We supply complete control loops with functional guarantee to customer specifications.





Examples of Measuring Systems

- Active gearwheel meter
- Coriolis
- Balance
- Magnetically inductive(MID)
- Gearwheel or oval wheel meter
- ph measurement
- Pressure measurement
- Temperature measurement

Media from A to Z

Acetic acid
 Acetone
 Ammonia
 Benzine
 Caustic solution
 Caustic potash solution
 Cell cultures
 Chlorobenzene
 Chloroform
 Chromic acid
 Color jet ink
 Citric acid
 Diesel fuel
 Distilled water
 Ethanol
 Ethylbenzene
 Fatty acid
 Formaldehyde
 Formic acid

Glue
 Hexane
 Hydrazine
 Hydrochloric acid
 Hydrogen carbons
 Hydrogen cyanide
 Hydrogen fluoride
 Hydrogen peroxide
 Iron (II, III) chloride solution
 Isocyanate
 Kerosine
 Solvents
 Methanol
 Methyl chloride
 Methylene chloride
 Mercury
 Nitric acid
 Nutrient solution
 Oleum

Paint material
 Paraffin
 Phosgene
 Phosphoric acid
 Propanol
 Protein solution
 Refrigerants
 Resins
 Saline solution
 Silicone oil
 Sodium sulfate
 Stearic acid
 Sulfuric acid
 Tetrahob (Concentrated yeast)
 Toluene
 Trichlorethylene
 Varnish
 Water, fully demineralized water
 Xylene

GATHER

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Personal engineering consultation
inhouse and in the field

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