Gather supplies complete

solutions ready for operation

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PULSATION-FREE



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Company Profile



The Company

Since 1965, Gather Industrie GmbH has been known for the excellent guality of its products and its objective, competent customer and consulting service that assists clients in finding optimum solutions. Our flexible organization makes sure that offers are prepared and orders processed within the shortest possible time. All our customers' requests, be they technical or commercial, are promptly satisfied.



Production and Quality Made in Germany

Our CNC machines have been modernized to the latest developments in technology so that we can meet modern requirements for high precision, short production times and great flexibility. All components are manufactured by our company. Thanks to the use of 3D measuring technology, we can guarantee 100% high-standard quality control of all components we manufacture (Total Quality Management, TQM).

International Applications

Gather pumps are used in the chemical and pharmaceutical industries as well as in medical engineering, food technology and plant construction. Since 2000, Gather gear pumps have been manufactured in Mettmann to the highest quality standards. They are sold in Europe, USA and Asia. We guarantee competent service by qualified engineers.



Gear Pumps

Gather Industrie develops, manufactures and sells small gear pumps that are capable of pumping and metering hot caustic solutions, acids and solvents pulsating-free. The pumps are suitable for pumping applications at system pressures of up to 325 bar and temperatures of up to +350°C or for inline sterilization (SIP). Moreover, they are CIP-capable (CIP = Cleaning in Place) and are supplied complete with appropriate drive units to facilitate their integration into a process. Contact: +49 (0) 21 04 / 77 07-23



Development Center and Measuring Technology

At our Development Center experienced Gather engineers develop overall concepts and plan and support their implementation, production and start-up.

Contact: +49 (0) 21 04 / 77 07-24

Gather 3D measuring technology – a practiceoriented approach to measuring problems: Our quality assurance engineers assist you in selecting the most suitable measuring machine for your needs and demonstrate the 3D measuring technology in practice.

Contact: +49 (0) 21 04 / 77 07-63

Products

Dry Break Couplings

Dry Break couplings of near-hermetic construction meet the requirements of the most common applications and almost all liquids and gases including water vapor. Where no leakage is required to protect operating personnel and the environment or avoid product loss, the Gather DGB coupling series offers alternative designs that are free of spillage, sterilizable and capable of being released under pressure. Contact: +49 (0) 21 04 / 77 07-13



Magnetic Drive

PULSATION-FREE TRANSFER OF NON-LUBRICATING LIQUIDS

General

With its magnetic drive gear pump Gather offers an important product for transfer and metering applications. Utmost manufacturing precision, a variety of materials as well as non-pulsating gear pump operating characteristics are indispensable product design prerequisites. Variable-speed drives are available to satisfy all application needs.

Safety

The magnetic coupling of the gear pump enables a hermetically sealing of the pump. In combination with the appropriate materials maximum safety can be warranted when hazardous liquids are to be handled. In the event of overloads of the pump the magnetic coupling decouples. The drives conform to VDE specifications and are available with any protection system and with any explosion proof protection.

Gear Pumps

Design

The Gather magnetic drive gear pump offers capacities between 0.02 l/h and 2,000 l/h and is available in 2 series and 13 gear sizes. The pump can be tailored to customer requirements and thus enable the handling of nearly all media including non-lubricating liquids with temperatures from -60°C to +350°C. The pump is hermetically sealed and can also be operated under vacuum. Depending on the liquid handled the differential pressure is 15 bar maximum. For a viscosity between **0.1** and **2,000 mPa s** the entire speed range is available: 10 - 6,000 rpm. A pumping test will be required for viscosities between 2,000 and 10,000 mPa s. Main advantage of the gear pump is the guaranteed pulsation-free media stream.





- Liquid temperature from -60°C to +350°C
- Differential pressure
 up to 15 bar
- System pressure from vacuum up to 325 bar
- CIP & SIP capability

Standard materials available for the pumps

- Stainless steel
 Hastelloy
 Titanium
- Teflon
- Peek
- Carbon
- Nickel alloys
- Special materials available on request



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Advantages

- Pulsation-free transfer of non-lubricating liquids (especially hot acids, caustic solutions and solvents)
- Magnetic drive, hermetically sealed
- No shaft seal, thus low maintenance requirements
- CIP-capable (for aqueous liquids)
- Can be easily integrated into processes

DRIP-DosieRIndustriePumpe



Performance

Capacity:

 $Q = 0.02 - 5.00 \, \text{l/h}$

= 0,33 – 83,33 ml/min Design temperature: T = -60 up to +300 °C Differential pressure: $\Delta p = up$ to 6,0 bar η = 0,3 up to 1.000 mPa s Viscosity:

Materials

Housing:

Stainless steel (1.4404, 1.4571) Hastelloy (2.4819 / C-276) Titanium (3.7035 / Grade 2)







ATEX certificate available

Pumphead is compatible to all drive units of series 1 with X magnet system

Performance Curves



Drives and Speed Controls

Examples Series 1



Three-phase motor (IP 55, flame-proof enclosure) for Ex-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

Examples Series 2



Constant-speed three-phase motor (IP 55, increased safety) for Ex-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, $3 \times 230/400$ V, 50 Hz



Speed control unit for laboratory applications, n = 200 – 5,000 rpm, 4-digit display, controllable (RS232), (for details see page 11)



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



Three-phase motor(IP 55) for industrial applications and laboratory service, controlled via frequency converter, n = 10 - 3,0000 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.

ATEX, explosion-proof areas 1, 2, 22 Ex II 2G C (T1...T6)

Heating jacket for GATHER pumphead series 1&2

The heating jacket guarantees that the pumphead is heated uniformly by a forced internal flow. The heating jacket can be easily mounted onto the pumphead.

Technical Data

- Heating connections IG 1/4
- Stainless steel casing 1.4571
- Pressure in heating shell up to 20 bar
- Heating/cooling fluid: Brine, steam, thermal oil etc.
- Heating temperature up to +400°C



Examples of Recommended Applications

Separating Column



Special Designs

High-temperature gear pump and SIP gear pump

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



Recirculation under vacuum

Metering Technology

D410 To achieve maximum metering accuracy we recommend the pump to be integrated into a control loop. The actuator of the metering gear pump can be a flow measuring system or, for example, a temperature, pressure, pH value signal or other process variables. The metering accuracy of the system is greatly influenced by measuring system precision, overall system dynamics and matching of individual system components.

Examples of Measuring Systems

- Active gearwheel meter
- Coriolis
- Scale
- Magnetically inductive (MID)
- Gearwheel meter
- ph measuring system
- Pressure measurement
- Temperature measurement and many more

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



Liquids from A-Z

Acetic acid Acetone Ammonia Caustic potash solution Caustic solution Cell cultures Chlorbenzene Chloroform Chloromethane Chromic acid Citric acid Color jet ink Destilled water Diesel fuel Ethanol Ethylbenzene Fatty acid Formaldehyde Formic acid

Gasoline Glue Hexane Hydrazine Hydrochloric acid Hydrogen carbons Hydrogen cyanide Hydrogen fluoride Hydrogen peroxide Iron (II, III) chloride solution Isocyanate Kerosene Mercury Methanol Nitric acid Nutrient solution Oleum Paint materia Paraffin

Phosgene Phosphoric acid Propanol Protein solution Refrigerants Resins Saline solution Silicone oil Sodium sulfate Solvents Stearic acid Sulfuric acid Tetrahob Toluene Trichloroethylene Varnish Water **Xylene**

Motor Control Unit LAB22-ST

Speed control unit installed in a grounded IP 20 enclosure with a 4-digit speed display. Motor protection against overheating (with control light) by means of PTC thermistor control.



Additional functions

- Fault (motor overheating) and status control
- Presetting options: unit restarts automatically when power supply is switched on or has to be started locally by the operator
- Semi-automatic tank filling
- The unit automatically identifies the number of poles of the drive

CHEMOCINC. The source for quality

ALLROUND Metering Pump

Speed variation

- Manual: On the control unit via potentiometer with a 3-digit display (graduation: in thousandths of the maximum speed of the drive unit)
- Inputs: 0-10 V; 0-20 mA; 4-20 mA; RS 232; START/STOP contact
- Outputs: 0-10 V; 0-20 mA; 4-20 mA; RS 232

All interfaces are designed in conformity with the "Safe Separation" directives of VDE 0106 + 0551. The control unit is suitable for drive systems (Type LAB22) up to 0.75 kW. The system can be operated with an earth leakage circuit breaker

(rated leakage current \geq 30mA).

Speeds (depending on drive unit)

- N = 200-5,000 rpm-Pump series 1
- N = 150-2,750 rpm-Pump series 1&2