

GATHER Turbine Pumps

Non-Pulsation low-noise Process Pumps



GATHER Turbine Pumps

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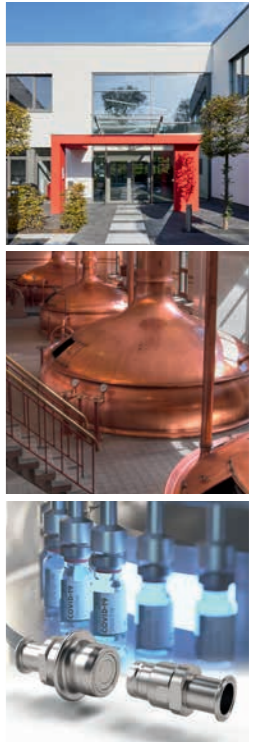
More than 50 years of experience

In-depth knowledge, broadly diversified solutions

GATHER Industrie GmbH is a medium-sized family business based in Wülfrath, North Rhine-Westphalia – with more than 50 years of experience and a focus on quality and innovation.

As a premium manufacturer of magnetically coupled gear pumps, gear flow meters, metering systems and quick connect couplings for pipes and hoses, the company serves numerous industries and customers, e.g. the chemical, pharmaceutical, medical and food industries. With their expert knowledge in handling non-lubricating liquids, GATHER offers solutions which enable the customer to work with process reliability and durability.

From the “idea to series production”, GATHER Industrie develops not only standard products but also completely new technical solutions according to customer requirements. At the same time we succeed in managing the balancing act from single pieces to the production of small and large series for OEM customers.



1965
Foundation

50+
Employees

30+
Countries

The GATHER products



Metering and
process pumps



Gear flow meter



Metering systems



Couplings

GATHER Turbine pump

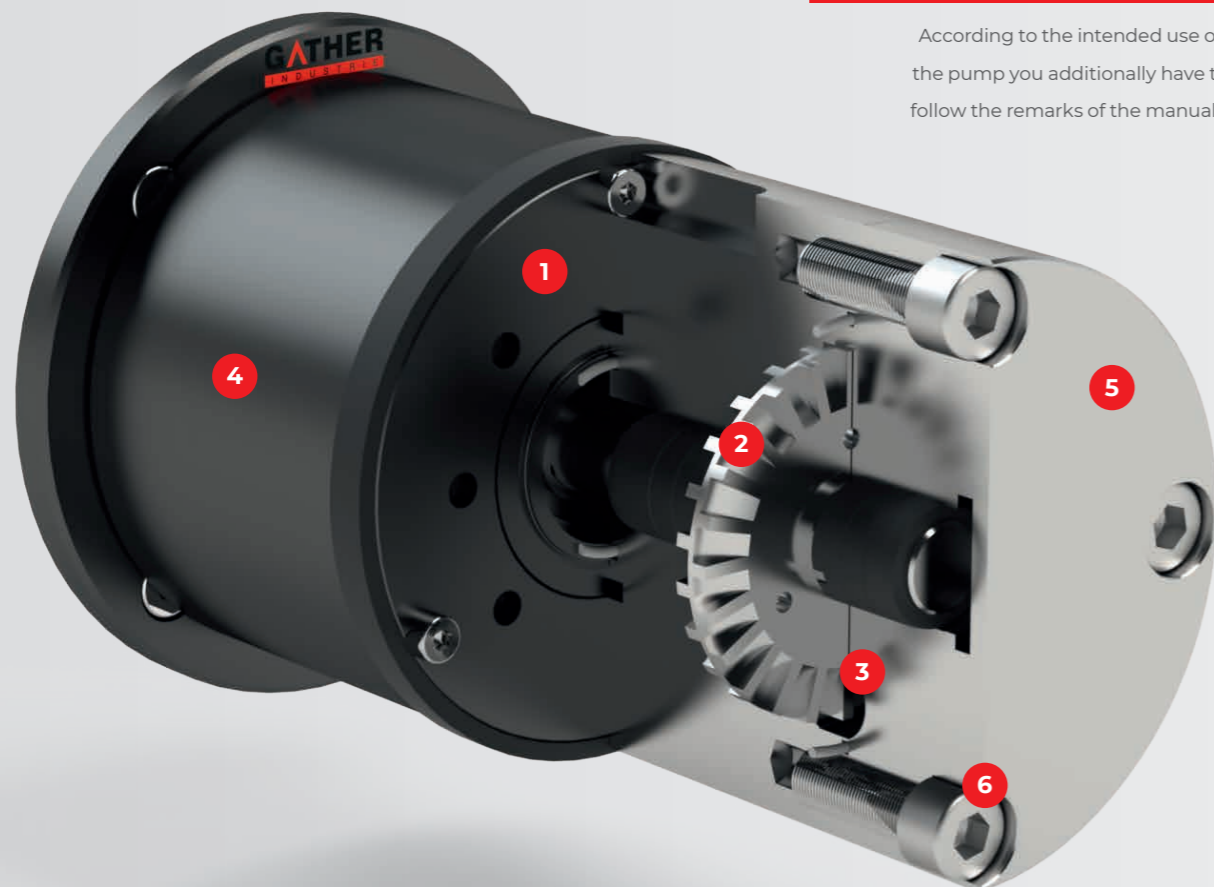
The magnetically coupled Process pump

GATHER Industrie GmbH's magnetically coupled **mini turbine pump** is a modern process pump for the pulsation-free metering, conveying and circulating of water, salt solutions, acids, alkalis and solvents, amongst other things. With four different geometrical variants, flow rates ranging from 20 up to 3,600 l/h can be attained at differential pressures up to 5 bar.

TECHNICAL DATA

Viscosities	0.3 to 100 mm ² /s (cSt)
Temperature range	-200 to +450 °C
Flow rate	20 to 3,600 l/h
Differential pressure	up to 5 bar

According to the intended use of the pump you additionally have to follow the remarks of the manuals.



1. Magnetic coupling – hermetically sealed

2. Pulsation-free delivery & dosing

3. Non-lubricating liquids - GATHER material expertise

4. Cooling magnetic system & slide bearings

5. Robust design and long service-life

6. Low-noise operation

At a glance

1

Magnetic coupling – hermetically sealed

The magnetic coupling ensures contactless torque transmission from the drive to the pump shaft. Unlike mechanical seals, it is not subject to wear and tear and is absolutely maintenance-free. It is hermetically sealed and there is no leakage of the pumped medium. This is a decisive factor, especially with concentrated, aggressive media and those that are hazardous to health. In addition, it allows easy pump head replacement in practice.

2

Pulsation-free delivery & dosing – modular system for a large operating range

Due to the operation of the turbine pump, a pulsation-free, flexibly adjustable flow rate can be attained. The speed-dependent delivery characteristic enables a wide flow rate range with differential pressures up to 5 bar. With four geometric variants, flow rates can be attained within operating ranges between 20 and 3,600 liter per hour.

3

Use of non-lubricating liquids – GATHER material expertise

Operation with non-lubrication liquids is made possible, amongst other things, by using chemically resistant and high-precision manufactured materials. The pump body and shafts are made of stainless steel, Hastelloy® or titanium, the slide bearings e.g. of carbon or plastic. The range of viscosities is between 0,3 mm²/s to 100 mm²/s.

4

Cooling magnetic system & slide bearings by internal circulation

Internal flushing channels and holes convey a small part of the flow from the delivery side through the slide bearings and back to the suction side. This leads to the internal cooling of the magnetic system and the slide bearings. In addition, the necessary sliding film is created on the slide bearings which ensures a durable functionality.

5

Robust design and long service life

The use of the magnetic coupling, the internal cooling system, the pump concept and the high precision of the components result in a very robust design with an extremely long service life. Depending on the application (medium) the pumps operate maintenance-free.

6

Low-noise operation

Due to its construction type, the pump is characterized by low-noise operation. The noise development is almost limited to the engine noise.

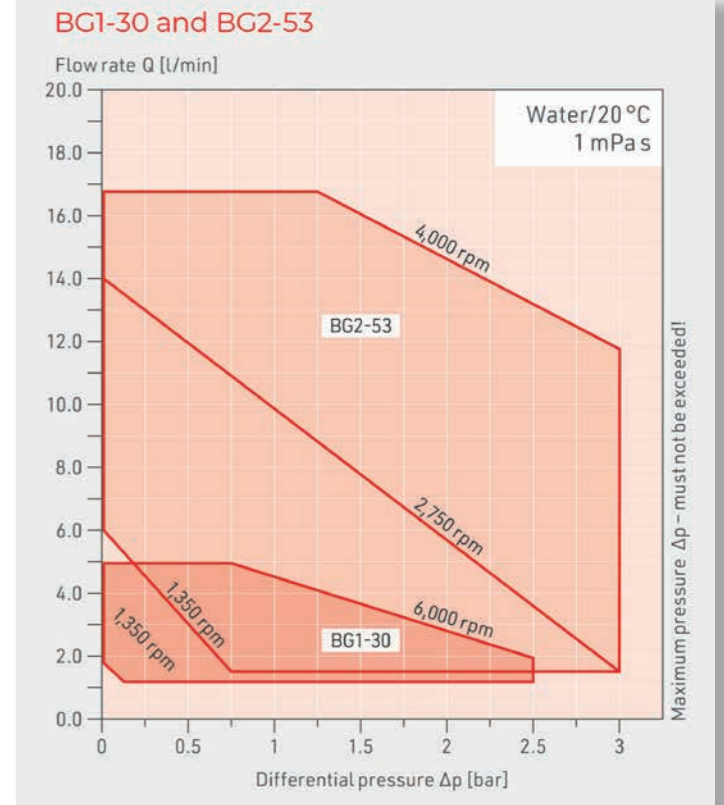
GATHER Turbine pump

Operating data

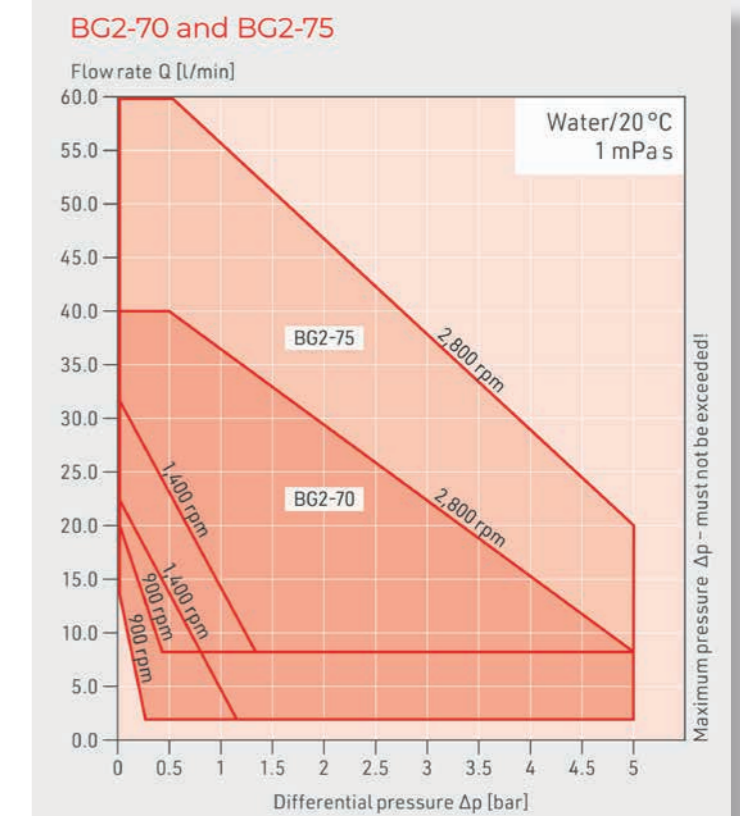
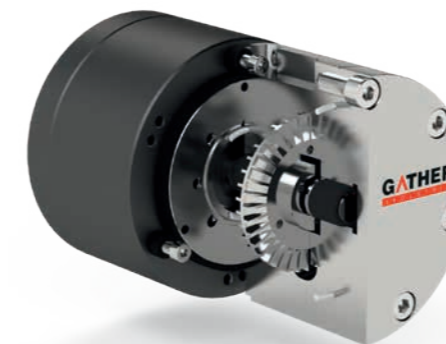
CHARACTERISTIC	PROPERTY
Materials housing & shafts	Stainless steel, Hastelloy®, Titan and special alloys
Liquids	Non-lubricating and lubricating liquids
Viscosities	0.3 to 100 mm ² /s (cSt)
Flow rate / differential pressure	
Series 1	20 bis 300 l/h, up to 2.5 bar
Series 2	60 to 1,000 l/h, up to 3.0 bar 120 to 2,000 l/h, up to 5.0 bar 480 to 3,600 l/h, up to 5.0 bar
Temperature	T = -5 up to +100 °C (as special version -200 up to +450°C)
Cleaning	Cleaning in Place (CIP)
Explosion classes	Zones 1, 2 and 22, temperature classes T1...T6 resp. 100 K below glowing temperature of dust deposits (location 22)

Flow rate characteristics

Series 1 & Series 2



Series 2



- ADVANTAGES**
- + inexpensive
 - + hermetically sealed
 - + multifunctional
 - + safe and quiet
 - + maintenance-free *
 - + pulsation-free

*limited to wear and tear

The delivery rate is adjustable both by metering valve and frequency converter. Its combination of robust, proven journal bearing technology (including efficient cooling/liquid circulation) and the maintenance-free, hermetically sealed magnetic coupling from the GATHER gear pump in a simple turbine pump design creates a low-cost, sturdy, reliable and safe multi-purpose pump. The noise emitted by the GATHER mini turbine pump is virtually confined to the noise of the motor.

GATHER Drive technology

Wide range of drives for all sectors and applications

A wide range of **low-voltage motors** is available for our pumps, suitable for all industries and applications. Our standard motors in the **IP55 version** are equipped with PTC thermistors and are available from stock **at short notice**. They meet all international and national efficiency regulations. But also **customized solutions** according to individual requirements are our business. Our experts will find the right drive for your task as well, including design and control.

Selection of different variants and applications:

- + nominal voltages 3 x 230 V resp. 3 x 230 – 690 V 50/60 Hz
- + frequency converter operation up to 100 Hz (also available as compact drive)
- + pole numbers from 2 to 8 with different speed ranges
- + protection class IP55 (standard), IP56 or IP65 are also available on request
- + certification for UL/CSA, EAC
- + explosion protection for zones 1, 2 and 22 according to the ATEX directive
- + certification for IECEx, EAC EX, CCC, PESO, KOSHA and HAZLOC
- + control gears with control range from 10 to 3,000 rpm also ATEX-compliant for zones 1, 2 and 22
- + all RAL colours available; special coatings according to customer requirements (e.g. for special environmental conditions)
- + stationary heaters; tropical insulation

In addition to three-phase motors, we also have a wide range of different variable-speed DC servo motors (12 V, 24 V and 48 V) as well as special motors according to customer specifications. We would be happy to advise you on the right choice of drive.

Drives and Speed Control

Examples – Series 1



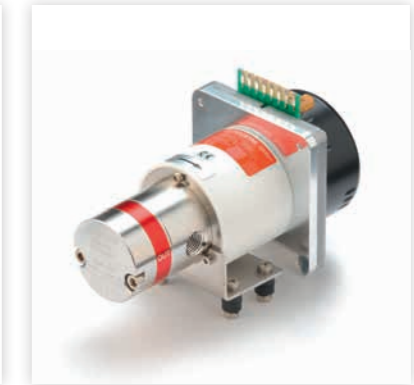
Three-phase motor for ex-proof area

- + three-phase motor (IP 55, flame-proof enclosure) for hazardous areas, controlled via frequency converter
- + n = 200–6,000 rpm, external control capability
- + 1 x 230 V, 50/60 Hz



Laboratory motor

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



DC motor

- + 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

Examples – Series 2



Three-phase drive for hazardous areas

- + constant-speed three-phase motor (IP 55, increased safety) for hazardous areas, constant speed rates available on request
- + n = 2,750 rpm
- + n = 1,350 rpm
- + n = 900 rpm
- + 3 x 230/400 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.

Explosion proof classes

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

Industries & Applications

Use in all sectors of industry – GATHER has the solution!

GATHER products are used in almost all sectors of industry. Wherever precise delivering, measuring, dosing or coupling of fluids matters. Whether lubricating or non-lubricating, whether low-viscosity or viscous, whether pump, flow meter, complete system or coupling.

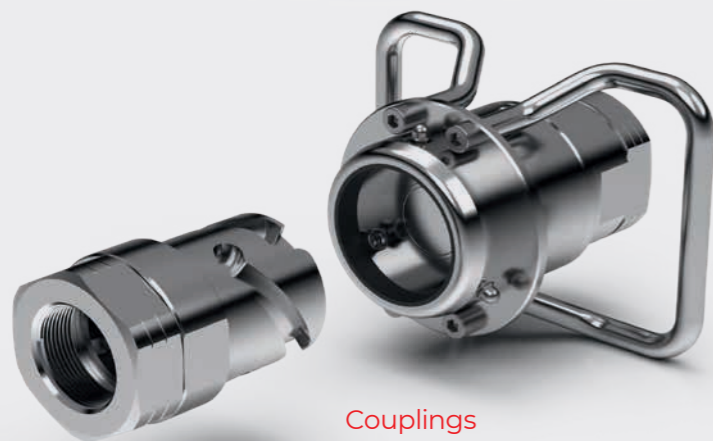
Our engineering is your solution!



Flow meter



Metering systems



Couplings



Metering and process pumps

Liquids for every industry and application



Chemical and Process Engineering

- + Water
- + Saline Solutions
- + Caustic Soda
- + Sulfuric Acid
- + Hydrochloric Acid
- + Formic Acid
- + Nitric Acid
- + Phosphoric Acid
- + Alcohols (Methanol, Ethanol, Toluene, Xylene, etc.)
- + Tetrahydrofuran (THF)
- + Resins
- + Hydrocarbons
- + Barrier fluids for Double-Action Mech. Seals GLRD



Pharmaceutical and Cosmetics Industry

- + Nutrient solutions
- + Dyes
- + Perfumes
- + Hydrogen peroxide/H₂O₂
- + Vinegar essence
- + Enzymes
- + Various alkalis and acids
- + Cell fluids
- + Silicone oil



Medical Technology

- + Water
- + Active ingredients
- + Vaccines
- + Adhesives



Food Industry

- + Vegetable oils
- + Cooking fats
- + Yeast solutions
- + Fish oils
- + Nitric acid
- + Citric acid
- + Caustic sodas
- + Sulfuric acid
- + Tetrahop
- + Isohop
- + Caramel
- + Essences



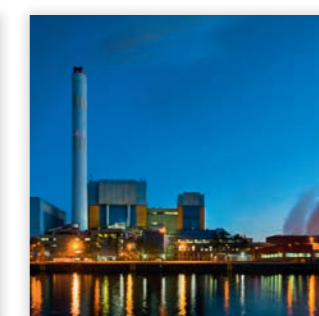
Water Management

- + Caustic Soda
- + Sodium hypochlorite
- + Hydrochloric acid
- + Iron (II) Chloride
- + Iron (III) Chloride



Automotive Industry

- + Paints and varnishes
- + Petrol
- + Diesel
- + Kerosene
- + Additives for fuels
- + Cooling liquids



Steel Industry and Power Plants

- + Ammonia water
- + Urea (Adblue)
- + Cooling liquids
- + Water



Oil Industry

- + Crude oil
- + Petrols
- + Kerosene
- + Diesel
- + Solvent Yellow 124
- + Thermal oil
- + Various additives

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Why GATHER pumps?

With the right design of the pump as well as the selection of materials and seals according to the liquid and application, we offer our customers process-reliable and durable solutions. The pump bodies of the centrifugal and gear pumps and the shafts are made of stainless steel, Hastelloy® or titanium, the sleeve bearings of carbon or plastics such as PEEK or PTFE.

In the case of gear pumps, the gears are made of a nickel-based alloy, PEEK or PTFE (Teflon®) and can be freely combined with each other. The materials used for the gear wheel, slide bearing and shaft all have excellent tribological properties. The use of the magnet coupling, the internal cooling system together with the high precision of all components result in a very robust design with an extremely long service life. Depending on the application (liquid), the pumps operate maintenance-free.

GATHER is not only a component manufacturer, but also a solution provider for design as a complete system according to customer specifications with the corresponding control loop and accessories. Special solutions are our speciality as well. This also includes the use in potentially explosive atmospheres in compliance with the ATEX directives. Our sales engineers and partners have extensive expertise and application knowledge and are your contacts. Either on-site at your premises or at our head office in Wülfrath.