

BOOSTER



CHEM



EXTRU



PURO



POLY



Gear pumps

Company profile



WITTE PUMPS & TECHNOLOGY

Company Portrait

WITTE Pumps and Technology GmbH was founded in 1984. Our headquarters is located in Uetersen, Germany near Hamburg. The aim of the company is to maximize customer's process reliability by providing tailor made gear pump solutions. Customers for high-quality WITTE precision gear pumps come from the plastics, chemical, cosmetic and food industries. Today, WITTE Pumps and Technology not only produces special solutions for industry but also offers a standard range of pumps. The latest technical innovations are incorporated into our standard model range, thus ensuring a very high level of technology. In addition to providing services and spare parts for our own pumps, WITTE also provides comprehensive service packages for gear pumps produced by other manufacturers. WITTE Pumps and Technology is renowned for its innovative drive, which makes it one of the world-leaders in this market.

The WITTE Philosophy

Through our worldwide presence, WITTE strives to maintain an extraordinarily high standard of customer service. Flexibility in solving technical problems and in handling projects are of the utmost significance. The extremely high level of technology and quality of our pumps ensures the trouble-free operation of processing plants. WITTE also boosts the motivation of its employees and cultivates their working environment. Responsible employees are an important part of the company. The health and safety of its employees is very close to WITTE's heart.

WITTE's Quality Policy

Our quality policy is supported by ISO 9001. The quality policy at WITTE consists of the following goals:

- Increasing the satisfaction of our customers.
- Meeting or exceeding the customer's specifications and expectations for quality, pricing and delivery
- WITTE does our utmost to further the continual improvement of products and process development.

POLYMER DISCHARGE PUMPS – POLY



BOOSTER PUMPS – BOOSTER



CHEMICAL PUMPS – CHEM



EXTRUSION PUMPS – EXTRU



FOODINDUSTRY PUMPS – PURO



MINIPUMPS – CHEM MINI



SPECIAL PUMPS



METERING SYSTEMS



SPARE PARTS



WITTE PUMPS & TECHNOLOGY

Supply precision gear pumps that conform to the most stringent industrial requirements.

WITTE's comprehensive experience in dimensioning gear pumps to match the most diverse challenges of the Chemical, Plastics and Foodstuffs industries ensures optimized pumps and fulfill the highest of quality requirements. State of the art production processes and stringent quality assurance using 3D coordinate-measuring-instruments form the backbone of the WITTE range of gear pumps.

BOOSTER



Gear pumps for the polymerisation process, to boost the pressure of medium to high viscosity media. This hydraulically heated pump, for use with pre-polymers and polymers, excels through its gentle handling.

It transports pre-polymers and polymers, e.g. PS, PET, PVC, PC, PMMA any many more, very gently. The heating can be provided by heat transfer oil or steam.

CHEM



Gear pumps, for the transportation and metering of medium viscosity products, like pre-polymers, monomers and other chemicals. Decades of experience in construction and an optimum selection of materials, make these types of pump suitable for even the most demanding tasks and are convincing in their reliability in both vacuum and high pressure applications. For transporting poisonous, highly flammable media or media which crystallize under atmosphere.

WITTE also offers this type of pump with a magnetic drive, where the medium is hermetically sealed in the pump. System pressures of up to 500 bar are possible with the CHEM MAGNET. This series is also suitable for the foodstuffs industry, e.g. for transporting butter, margarine, vegetable oils and fudges.

Technical Features

Housing:	Heat resistant carbon steel, e.g. 1.6582 (4340), stainless steel e.g. 1.4313 (E415), optional: coating
Gears:	Tool steel, nitrited steel, optional: special steel, surface coating, helical gearing, herringbone gearing (for extremely low-pulsation conveyance)
Friction Bearings:	Tool steel, Al-bronze, NiAg (nickel-silver), optional: special materials, surface coating
Shaft Seals:	Viscoseal, stuffing box, (Vacuum viscoseal)
Heating Systems:	Heat transfer oil, steam
Pump Size:	From 22/13 to 280/280. (2,78 cm ³ /rev to 12.000 cm ³ /rev)

Operating Parameters*

Viscosity:	Up to max. 40.000 Pas
Temperature:	Up to max. 350 °C (662 °F)
Suction Pressure:	Vacuum up to max. 120 bar (1740 psig)
Differential Pressure:	Up to max. 250 bar (3.626 psig)

Technical Features

Housing:	Stainless steels, carbon steels, tantalum, titanium, Hastelloy [®] , ceramics
Gears:	All processable ceramics and metals, optional: surface coating, spur gearing
Friction Bearings:	Carbon, NiAg (nickel-silver), silicon carbide, zirconium oxide, tool steel, Al-bronze, special materials, optional: surface coating
Shaft Seals:	Single mechanical seal (ED), single mechanical seal with buffer fluid (AD), double mechanical seal with buffer fluid (DD), magnetic coupling, stuffing box, viscoseal and combinations
Heating Systems:	Steam, water, heat transfer oil, electrical
Pump Size:	From 22/6 to 280/280, (1,28 cm ³ /rev to 12.000 cm ³ /rev)

intermediate sizes with narrower gearwheels for high-pressure applications are available as standard, e.g. 140/90 (693 cm³/rev)

Operating Parameters*

Viscosity:	0,0005 to 1.000 Pas
Temperature:	Up to 300 °C (580 °F), higher temperatures upon request
Suction Pressure:	Vacuum to max. 15 bar (215 psig), higher with magnetic drive
Differential Pressure:	Up to 120 bar (1.740 psig)

*The values listed are maximum values and must not coincide under certain circumstances.

EXTRU



Gear pump for the extrusion and pressure boosting of medium to high viscosity media. These hydraulically or electrically heated pumps are used in processes with high suction pressures, in which an increase in pressure is desirable, because of the loss of pressure in follow-on filters and melting pipes.

Suitable for polymers like PS, PET, PVC, PC, PMMA etc. The WITTE EXTRU gear pump is also suitable for foodstuff applications e.g. liquorice or chewing gum.

Technical Features

Housing:	Heat resistant carbon steel, e.g. 1.6582 (4340), stainless steel e.g. 1.4313 (E415), optional: coating
Gears:	Tool steel, nitrided steel, optional: special steel, surface coating, helical gearing, herringbone gearing (for extremely low-pulsation conveyance)
Friction Bearings:	Tool steel, Al-bronze, NiAg (nickel-silver), optional: special materials, surface coating
Shaft Seals:	Viscoseal, stuffing box
Heating Systems:	Electrically
Pump Size:	From 22/13 to 280/280 (2,78 cm ³ /rev to 12.000 cm ³ /rev).

intermediate sizes with narrower gearwheels for high-pressure applications are available as standard, e.g. 140/90 (693 cm³/rev).

Operating Parameters*

Viscosity:	Up to 40.000 Pas
Temperature:	Up to 400 °C (752 °F)
Suction Pressure:	Up to max. 120 bar (1.740 psig)
Differential Pressure:	Up to max. 250 bar (3.626 psig)

POLY



High-pressure gear pump for the discharge of medium to high viscosity media from a reactor. The extra large inlet opening provides an even flow of product to the gearwheels even under vacuum or extremely low NPSH conditions and low rates.

Offered with either a round inlet port, by means of which the suction flange of the pump is directly connected to the outlet flange of the reactor or as a low NPSH version, where the pump is connected between the pump and reactor flanges, in order to achieve an even larger and shorter inlet port. Typical applications are the transportation of PET, PS, PC, ABS, etc.

Technical Features

Housing:	Nitrided steel, tool steel, optional: special steel, surface coating, helical gearing, herringbone gearing
Gears:	Nitrided steel, tool steel, special steel, helical gearing, herringbone gearing
Friction Bearings:	Tool steel, Al-bronze, NiAg (nickel-silver), optional: special materials surface coating
Shaft Seals:	Viscoseal, stuffing box, combination of viscoseal and stuffing box, double mechanical seal
Heating Systems:	Heat transfer oil, steam
Pump Size:	From 22/22 to 360/360 (4,7 cm ³ /rev to 25.000 cm ³ /rev)

Intermediate sizes, with wider gear wheels for lower differential pressure, are available as standard, e.g. 152/254 (3.170 cm³/rev).

Operating Parameters*

Viscosity:	Up to 40.000 Pas
Temperature:	Up to 350 °C (662 °F)
Suction Pressure:	Vacuum to max. 15 bar (218 psig)
Differential Pressure:	Up to max. 250 bar (3.626 psig)

*The values listed are maximum values and must not coincide under certain circumstances.

CHEM MINI



The CHEM MINI gear pump is particularly suitable for precision metering tasks of low to medium viscosity media.

The application range goes from classic transfer and metering tasks in the chemical and pharmaceutical industries up to the conveyance of monomers, oligomers and prepolymers during the production of polymers.

Typical areas of application for this type of pump are to be found in the chemical, cosmetic, food, and petrochemical.

The CHEM MINI takes fine metering tasks with high precision. Currently the smallest available pump has a specific volume of 0,2 cm³/rev. Smaller pumps are possible upon request.

PURO



Stainless steel precision gear pump for conveying and metering of fluids with medium to low viscosity. Through decades of experience in design and selection of optimal materials, this type of pump suitable for even the toughest of tasks and impresses with its reliability and metering accuracy in the vacuum as well as high-pressure applications.

Typical areas of application for this type of pump are to be found in the cosmetic and food industries e.g. for conveying butter, margarine or vegetable oils. Pumps of this type can be supplied with or without heating (hydraulic or electric). For better cleaning the pump has different flushing connections. An industry leading special design of this pump helps to minimize dead spots.

Technical Features

Housing:	®Stainless steels, tantalum, titanium, Hastelloy®
Gears:	All processable ceramics and metals, e.g. 1.4571 (316Ti), Ferralium®, Ferro Titanit®, Hastelloy®, optional: surface coating
Friction Bearings:	Carbon, NiAg (nickel-silver), silicon carbide, zirconium oxide, tool steel, Al-bronze, special materials, optional: surface coating
Shaft Seals:	magnetic coupling, viscoseal
Heating System:	Steam, water, heat transfer oil, electrical
Pump Size:	From 9/5,5 to 14/28 (0,2 cm ³ /rev to 2,95 cm ³ /rev)

Special materials and different designs can be offered on request.

Technical Features

Housing:	stainless steel, tantalum, titanium, Hastelloy®
Gears:	DIN 1.4112 (440B) standard, optional: Ferralium®, Hastelloy®, Ferro Titanit®, DIN 1.4571 (316Ti) and other available
Friction Bearings:	NiAg (nickel-silver), zirconium oxide, silicon carbide, other materials on request
Shaft Seals:	Single mechanical seal, magnetic coupling mechanical seals of other suppliers are available as an option (with FDA approval)
Heating System:	hydraulic or electric
Pump Size:	From 22/13 to 180/180 (2,78 cm ³ /rev to 3.200 cm ³ /rev).

Special materials and different designs can be offered on request.

Operating Parameters*

Viscosity:	0,0005 to 1.000 Pas (cP)
Temperature:	Up to 300 °C (580 °F), higher temperatures upon request
Suction Pressure:	Vacuum to max. 15 bar (218 psig), higher with magnetic drive
Differential Pressure:	Up to 120 bar (1.740 psig)

Operating Parameters*

Viscosity:	Up to 500 Pas (cP)
Temperature:	Up to 200 °C (392 °F)
Suction Pressure:	Vacuum to max. 15 bar (218 psig)
Differential Pressure:	Up to max. 120 bar (1.740 psig)

Spare parts, repairs and optimisation

Spare parts



WITTE spare parts are available world-wide. Extensive storage facilities in Europe, USA and China guarantee the quickest possible delivery of spare parts. WITTE also supplies spare parts for other brands of gear pumps. The range of sizes varies between 22/6 and 280/280 (and for larger pumps upon request). Send your gear pump to WITTE for refurbishment or repair. Your pump is in the very best hands, with our highly qualified service

engineers. We will provide an attractive offer for the repair, based on a precise itemisation and analysis of the damage. It goes without saying that the stringent quality criteria which apply to our pumps also apply to our spare parts.

You can profit from our comprehensive specialist knowledge in the field of gear pumps not only through repair work. In addition to repair work, we can also help you to optimize your existing gear pump. Our experts will gladly discuss the options open for optimising your pump, starting with the WITTE viscoseal technology, which has proven itself over two decades, up to small but extremely effective detailed solutions on the pump itself. Simply give us a call and we will make you a non-binding offer. Either we personally or one of our countless local representatives, will be pleased to discuss your problems in person.

Special Pumps

In addition to our standard pumps, we offer a wide range of special pumps, e.g. made of ceramic, tantalum, titanium or immersion pumps. Many of these pumps are custom built to suit the application in question and its specific operating parameters. WITTE for example produced one such pump, made completely of ceramic, for transporting a highly corrosive medium at a temperature of 550° C.



Metering Systems



The WITTE metering system (WDS) enable precise volumetric metering of low to high viscosity media with gear pumps, even at high temperatures and pressures. Two series connected gear pumps, one measuring and one pressure boosting pump are precisely controlled by a PLC control system, such that a precision of better than 0.1% is achieved, depending upon the medium.

WITTE WORLDWIDE



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