



F - SERIES PUMPS


Discover our latest Innovation



maag
pump & filtration
systems



automatik scheer
strand
pelletizers



gala automatik
underwater
pelletizers



reduction
pulverizing
systems

PUMP BENEFITS

LOW SHEAR

EASY MAINTENANCE AND REPLACEMENT OF INTERNAL PARTS

RELIABILITY AND LONG LIFE

PRECISE DISPLACEMENT VOLUME

LOW NPSHr

ENERGY EFFICIENT

CORROSION RESISTANCE

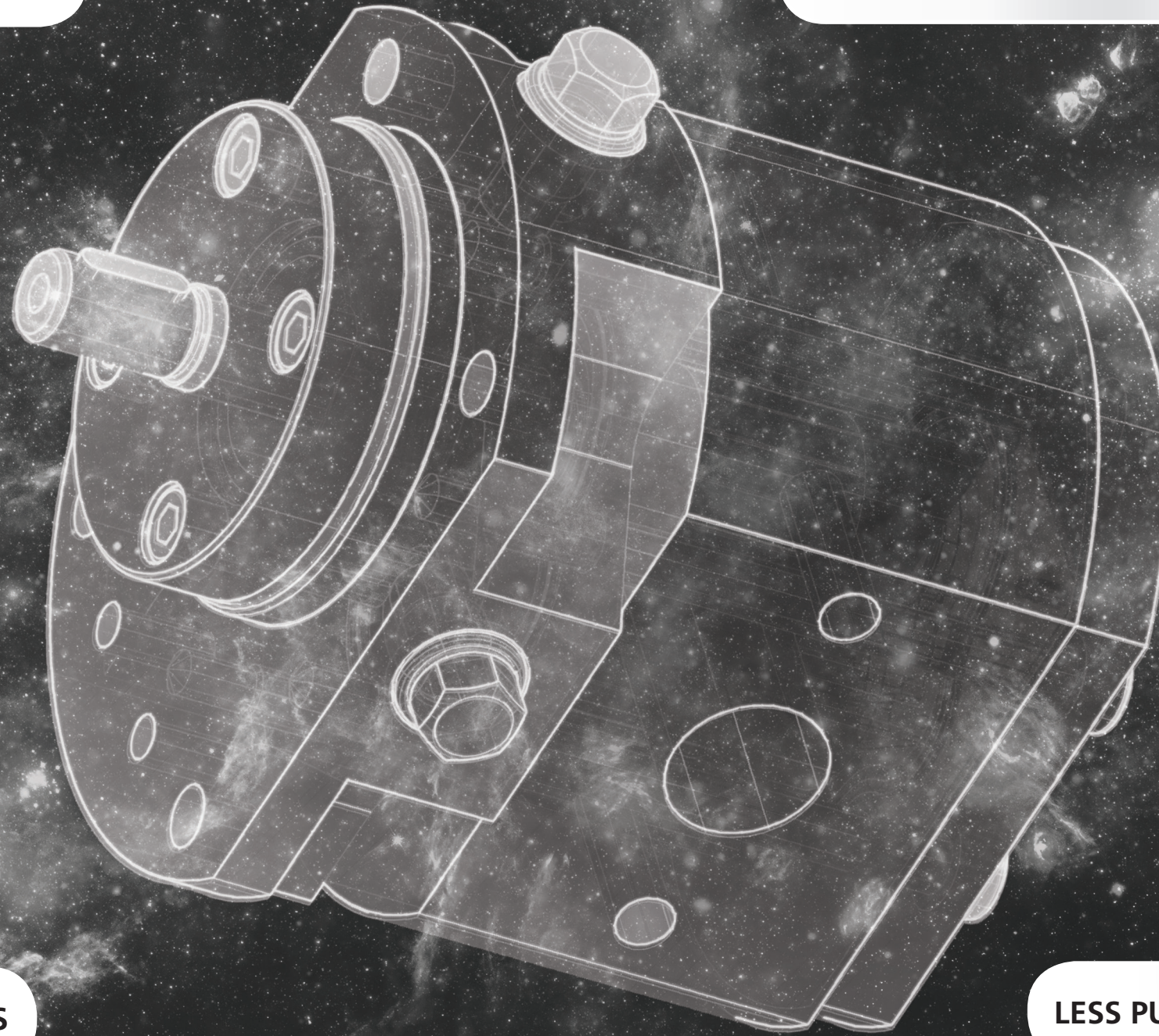
DOSING ACCURACY

EXTENSIVE PORTFOLIO OF SEALS

LESS PULSATION DURING PUMPING PHASE

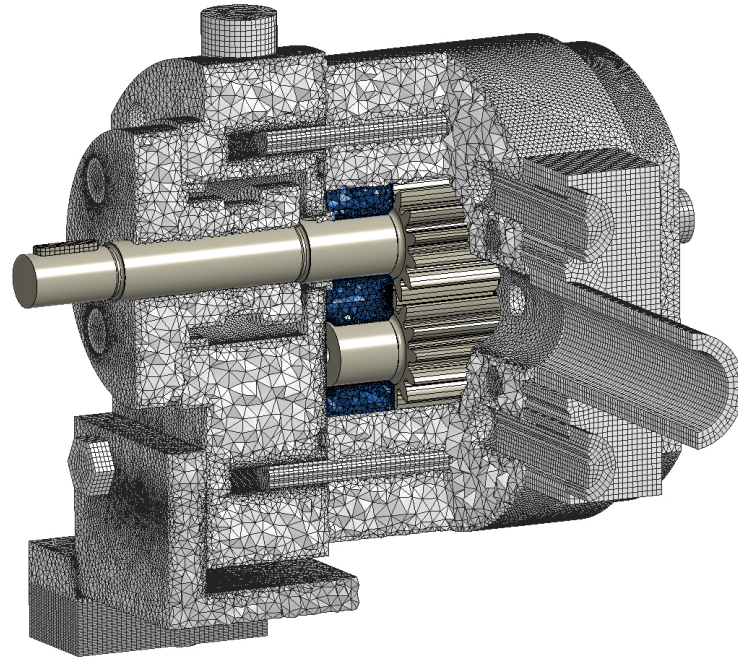
IN-HOUSE MANUFACTURING OF ALL CORE COMPONENTS

WIDER RANGE OF TEMPERATURE, PRESSURE AND VISCOSITY



F - SERIES

External gear pumps



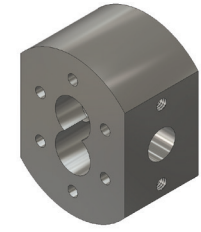
Maag external gear pumps are corrosion-resistant and electrically heatable conveying units, especially, designated for the small throughputs; they satisfy the stringent quality requirements of today's chemical processing industry and their three-piece configuration facilitates maintenance and replacement of internal parts, such as gears and bearings. Thanks to the extensive range of components and materials available, Maag gear pumps can be configured to suit customers specific requirements and are, therefore, far superior to standard pumps in terms of performance and reliability. For the applications involving highly pure, corrosive, viscous or very hot media, Maag pump systems offer the solutions to meet every pumping requirement.

Application limits:

Viscosity:	0.1 to 500 000 mPas
Temperature:	-30 to 320 °C
Suction pressure:	from Vacuum up to 50 bar
Discharge pressure:	from Vacuum up to 150 bar
Flow rate:	DX 0.05 to 12 l/min FX 1.2 to 139 l/min

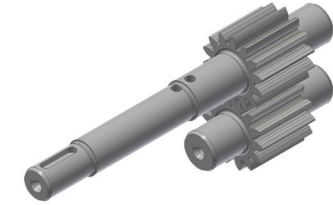
Housing:

- Stainless steel
- Hastelloy
- Plastics



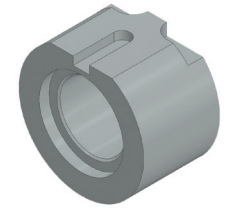
Gear shafts:

- Stainless steel
- Ferralium
- Hastelloy
- Ceramic SSiC
- Peek
- Titanium
- Zirconium Oxide ZrO2
- Technopolymer



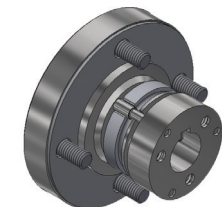
Bearing:

- Zirconium Oxide ZrO2
- Synthetic carbon
- Ceramic SSiC
- Nitrided steel TiCN - coated
- Tegodyn NiAg
- Bronze - CuAl
- Stainless steel with carbon insert



Shaft seal:

- Single or double mechanical seal
- Single or double mechanical balanced seal
- Interlock or heater connections available
- Heated seals
- Magnetic coupling with single or double containment shell



Heating:

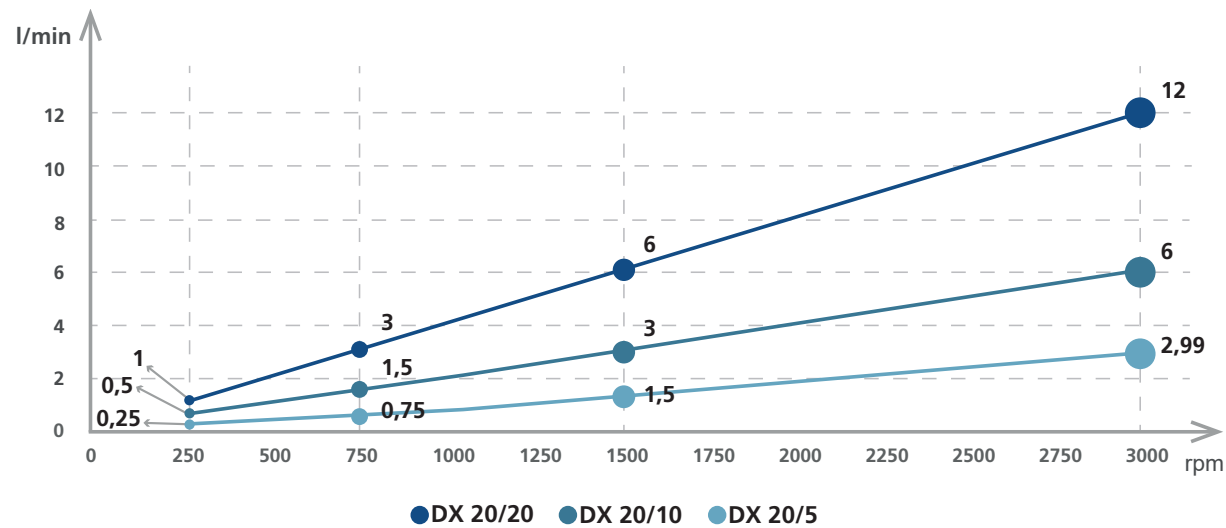
- Electrical heating by cartridges on request

Options:

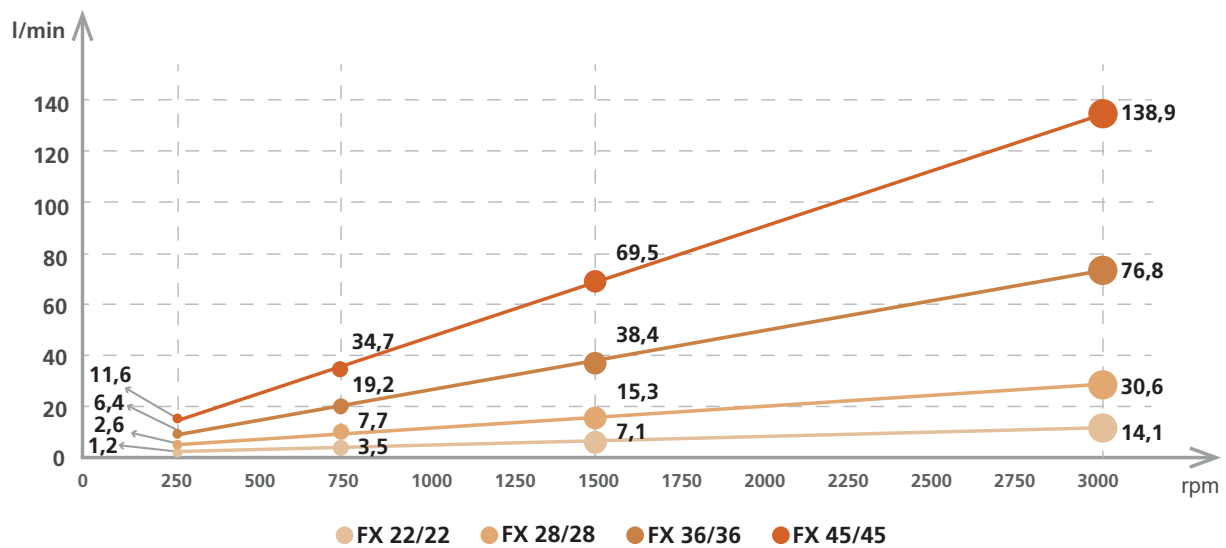
- Bi-directional operation
- Special modifications for demanding applications
- Customizable

F-SERIES PERFORMANCE

Performance DX

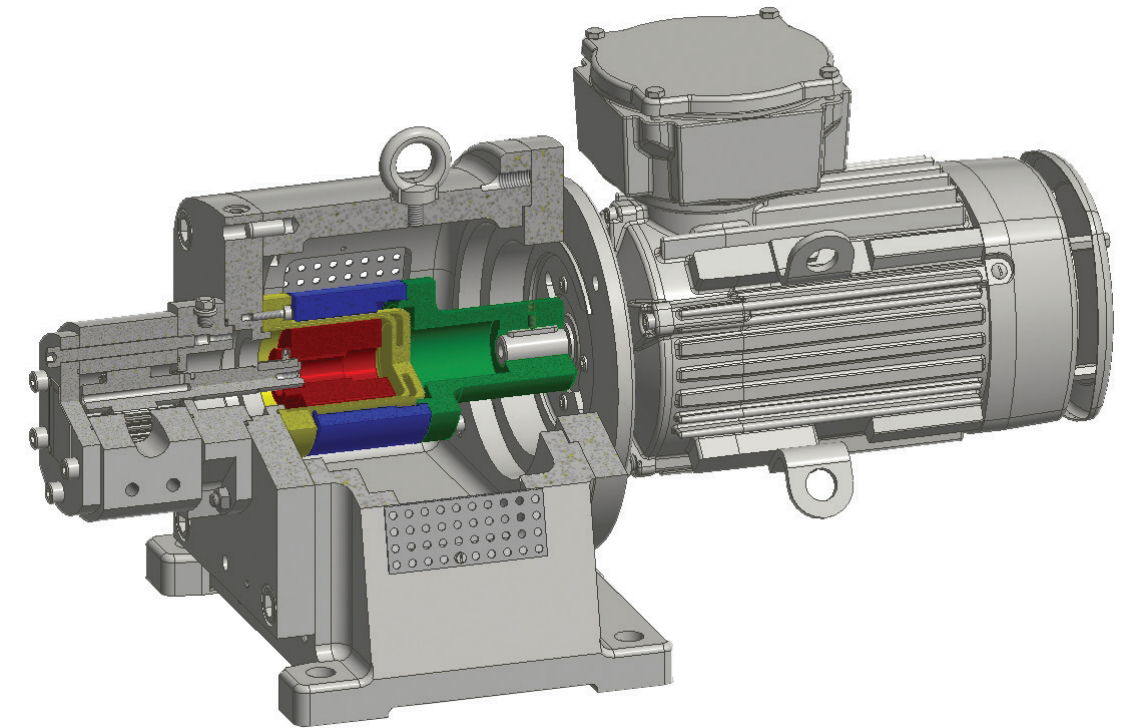


Performance FX



MAG DRIVE

MAGNETIC COUPLING FOR CHEMICAL AND INDUSTRIAL PROCESSES

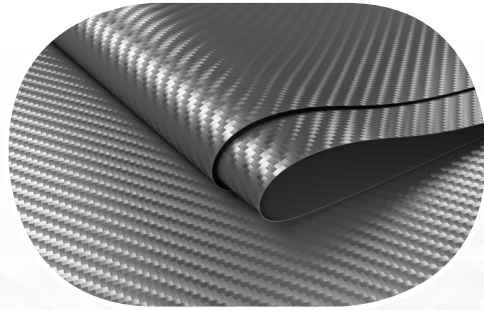


Magnetic drives are hermetically sealed, thereby, guaranteeing that environmentally hazardous, poisonous and toxic substances are pumped safely. The product chamber in the gear pump is completely separated from the environment by a containment shell. The torque is transferred from motor shaft to pump shaft without any contact by means of heavy-duty permanent magnets. This design makes the magnetic couplings extremely safe and maintenance-free.

Your benefits

- High suction pressures (standard to 25 bar, in special designs up to 100 bar)
- Hermetically sealed design
- Optimized safety and leak free
- Long service life
- Maintenance-free

APPLICATIONS



CARBON FIBRES

Maag pumps typically serve as a Dope feed/transfer pump in processing the carbon fibres. Considering the Polyacrylonitrile (PAN) in DMAc Solution, with about 20% of PAN in 80% solvent like DMAc (Dimethylacetamide) or DMSO (Dimethylsulfoxide), also consisting other components and small amounts of water, the mixture has to be pumped through a tiny injector into a chamber where the solvent evaporates and a solid fibre is left. For this purpose, Maag pumps are designed to convey and dose the solution with the high efficiency.



SPANDEX

For this application, Maag pumps are used as a Spinning or Dosing pumps. Spandex or elastane is a synthetic stretchy chemical fibre known for its exceptional elasticity. It exhibits properties similar to rubber, but is more solid and significantly more durable. Possessing viscosity of up to 1,000,000 mPas, the entire process requires a short dwelling time and is carried out under nitrogen (N₂) because the medium reacts to oxygen. Maag pumps with their special inlet and seal design fulfils the necessary requirements of all stages.



GUM BASE

Processing of Gum bases (Elastomers, Resins, Waxes, Fats, Emulsifiers, Fillers and Antioxidants) involves several stages such as melting of the gum base, mixing other ingredients and rolling of finished gum. Here, Maag pumps typically serve, as Transfer pumps or as Booster pumps in each stage.



VINYL ALCOHOL

The production of Ethylene vinyl alcohol copolymer (EVOH) is a two-step process of polymerization and saponification. Ethylene and vinyl acetate are polymerized using an initiator/activator complex. Maag pumps serve as a transfer pumps for all stages in the process.



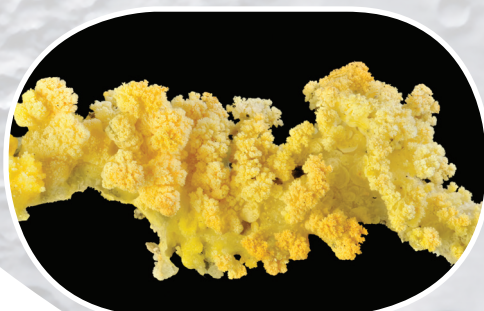
HOT MELT

For Hot melt adhesives used primarily for packaging, textiles, labels, tapes, pressure sensitive applications and other disposable products like stamps, Maag provides Metering/Transfer/Loading pumps or Booster pumps. For instance, in front of a spray nozzle.



LUBRICATION

Maag offers customized solutions with special bearings, special sealing designs for applications such as Grease lubrication, lubrication by liquid oil or atomized oil (oil mist), or even pressurized pure oil lubrication to meet adverse requirements in terms of pressure, viscosity and temperature.



MOLTEN SULFUR

Its production is ever increasing in refineries, natural gas plants, sulphuric acid plants, chemical production such as rubber additives or even in food products. It is also rapidly reaching new industries. Hence, safe handling of molten sulfur and the associated hydrogen sulfide emissions is becoming critical. Maag pumps usually aid as a High Temperature transfer pumps for such precarious applications.



AUTOMOTIVE

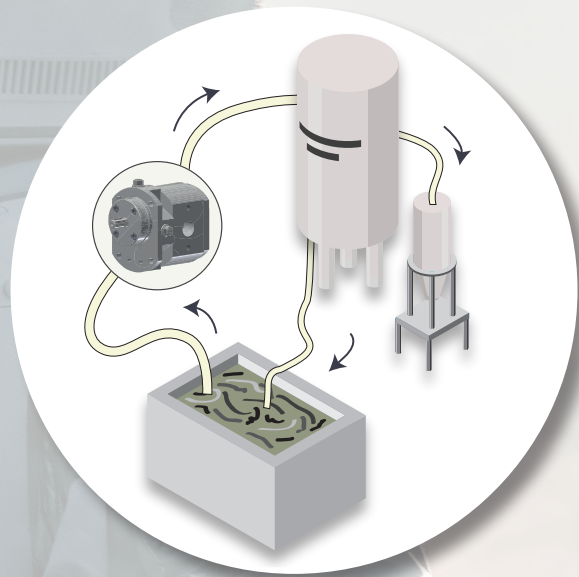
Maag has a dedicated pump portfolio for the lubrication of the turbines and systems which require suitable pumps to reach high pressures in wide range of temperature environment.

APPLICATION AT SITE

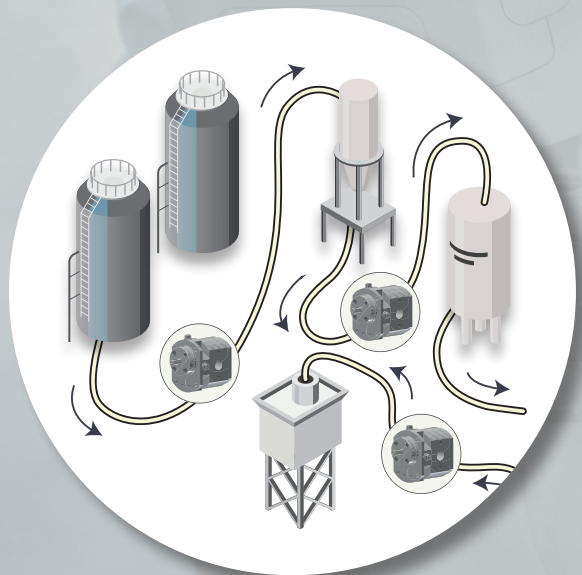
OUR PROMISE TO YOU



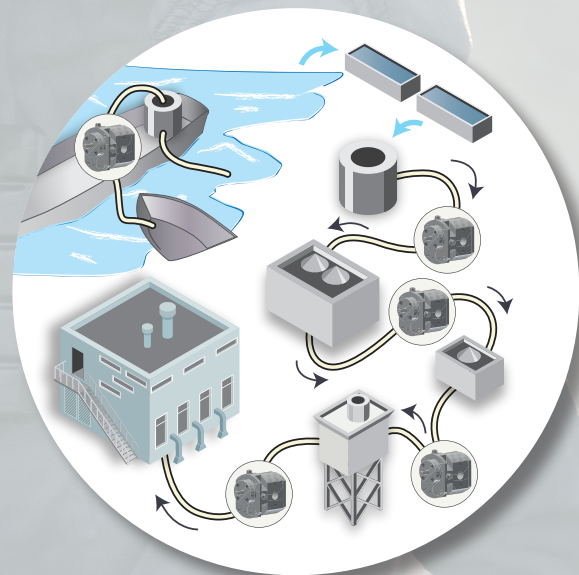
Unloading from truck to storage silos for various product range



Extraction from the container baths to the purifiers



Loading the storage silos from different phases of production



Unloading from the marine tankers to the process areas



Technology:

Maag is known worldwide as a pioneer and technology leader in the development and manufacturing of gear pump systems and solutions. Maag has always focused on the keeping its technology up-to-date and tailor it to meet the needs of individual customers.

We promise to go beyond your expectations in this regards, yet again with this F-series.



Innovation:

The result of our values and aspiration for customer satisfaction, made our new F-series come alive. We are confident that the new optimized design, materials used, opens new doors in the application ranges.

We promise that this innovation takes the flexibility and maintenance to the next level and ease the efforts put in by the customer in a pump's lifetime.



Quality:

Our customer satisfaction has been our top-most priority. Hence, we dedicate a major part of our resources in maintaining and enhancing the quality time-to-time.

We promise the same or even better standards of quality with this new F-series.

YOUR GLOBAL PARTNER

Benefits for the customer

Maag external gear pumps are reliable in Chemical, Petrochemical and Lubrication (Pharma and food) industries:

- A specific flexible and special pump design ensures a constant product flow with constant filling rate. This leads to a smaller pump size and price advantages.
- We focus on designing pumps and solutions with the highest price-to-performance ratio, in the most demanding applications.
- Our broader range of alternatives provides a higher life span for the pump and high performance on each application.
- The entire in-house manufacturing, reflects on the high quality of each component of our pump.
- Our extensive network of subsidiaries around the globe provides dedicated service activities with a team of experts and engineers.



For detailed information
please find our datasheets
and brochures on
www.maag.com/en/brochures