

PUMP & FILTRATION SYSTEMS >



## refinex<sup>®</sup> refitherm<sup>®</sup>

Cast steel gear pumps for refineries  
and petrochemical processes

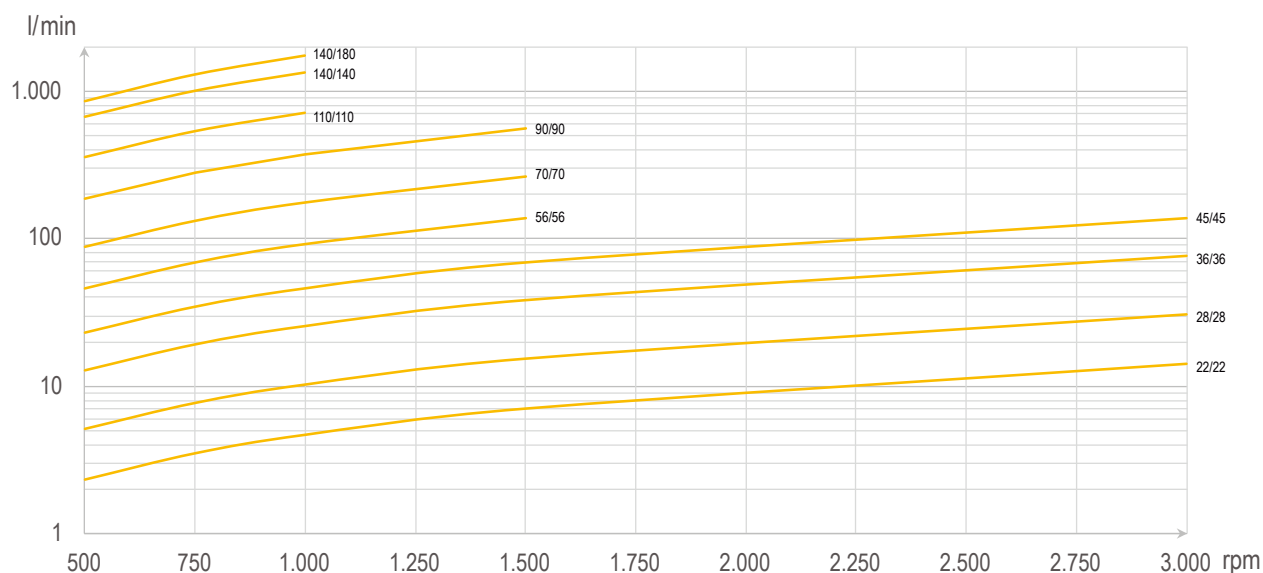


Refinery and industrial plant applications are challenging. High process pressures and high temperatures are commonplace in such environments. Precisely in these environments MAAG gear pumps develop their full potential. Thanks to the extensive range of components and materials of constructions to choose from, MAAG gear pumps can be configured to suit customers specific requirements and therefore, are far superior to standard pumps in terms of performance and reliability.

### Your benefits

- Wide viscosity, temperature, and pressure range
- High efficiencies (due to tolerances and small clearances being modified in line with applications)
- Precise displacement volume
- Self-priming
- Reliability and longevity
- Suitable for API 676

## refinex® refitherm® 22-140 flow rate @ 0 bar ΔP



### Application limits:

<b>Viscosity:</b>	0.3 to 4,000,000 mPas
<b>Temperature:</b>	-30 to 320 °C
<b>Suction pressure:</b>	Vacuum to 100 bar
<b>Discharge pressure:</b>	Vacuum to 300 bar
<b>Flow rate<sup>1)</sup>:</b>	0.5 to 1,750 l/min

### Technical specifications:

**Housing:** ■ Cast steel



**Gear shafts:** ■ Stainless steel  
■ Nitrided steel (spur and helical)  
■ Nitrided steel coated



**Bearing<sup>2)</sup>:** ■ Manganese bronze ■ Nitrided steel coated  
■ Sintered iron ■ Hardened tool steel  
■ Synthetic carbon ■ Bronze – CuAl  
■ Steel with carbon inserts  
■ Nitrided steel



**Shaft seal:** ■ Lip seals and packing  
■ Single or double mechanical seal  
■ External mechanical seal  
■ Sealing medium or heating medium connections available  
■ Magnetic coupling with single or double containment shell



**Connections:** ■ SAE, CETOP, DIN, and ANSI flanges

**Heating:** ■ Electrical heating by cartridges optional for refinex®  
■ Integrated channels for heating / cooling by means of steam or liquids for refitherm®

### A range of typical pumping media

- Emulsions
- Sludges and condensates
- Additives
- Resins
- Cellulose derivatives and pulps
- Silicones
- Adhesives and hot-melt adhesives
- Paints and varnishes
- Waxes and paraffins
- Fertilizers
- Mineral oils and fats
- Fuels
- Petrochemical products

### Certificates<sup>3)</sup>

- ATEX certificate
- 3.1 certificate
- German Air Quality certificate (TA-Luft)
- Performance test certificates

### Options

- Electrical heating
- Heated seals
- Bi-directional operation
- Special modifications for demanding applications

<sup>1)</sup> Higher flow rates upon request.

<sup>2)</sup> Other materials and designs available.

<sup>3)</sup> Other certificates and conformities upon request.

