

## PUMP & FILTRATION SYSTEMS >

# refinex<sup>®</sup> refitherm<sup>®</sup> Cast steel gear pumps for refinery

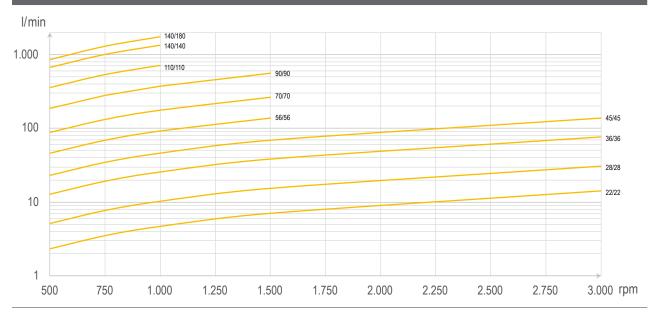


Refinery and industrial plant applications are challenging. High process pressures and high temperatures are commonplace in such environments. Precisely in these environments MAAG gear pumps develop their full potential. Thanks to the extensive range of components and materials of constructions to choose 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<sup>®</sup> refitherm<sup>®</sup> 22-140 flow rate @ 0 bar $\Delta P$



Application li	imite
Viscosity:	0.3 to 4,000,000 mPas
Temperature:	-30 to 320 °C
Suction pressu	re: Vacuum to 65 bar
Discharge pres	ssure: Vacuum to 300 bar
Flow rate <sup>1)</sup> :	0.5 to 1,750 l/min
Technical spe	cifications:
Housing:	Cast steel
Gear shafts:	Stainless steel
	<ul> <li>Nitrided steel (spur and helical)</li> </ul>
	<ul> <li>Nitrided steel coated</li> </ul>
Bearing <sup>2)</sup> :	Manganese bronze
5	<ul> <li>Sintered iron</li> </ul>
	Synthetic carbon
	<ul> <li>Steel with carbon inserts</li> </ul>
	<ul> <li>Nitrided steel</li> </ul>
	<ul> <li>Nitrided steel coated</li> </ul>
	<ul> <li>Hardened tool steel</li> </ul>
	Bronze – CuAl
Shaft seal:	Lip seals and packing
	<ul> <li>Single or double mechanical seal</li> </ul>
	<ul> <li>External mechanical seal</li> </ul>
	<ul> <li>Sealing medium or heating medium connections available</li> </ul>
	<ul> <li>Magnetic coupling with single or double containment shell</li> </ul>
Connections:	<ul> <li>SAE, CETOP, DIN, and ANSI flanges</li> </ul>
Heating:	<ul> <li>Electrical heating by catridges optional for refinex<sup>®</sup></li> <li>Integrated channels for heating / cooling by means of steam or liquids for refitherm<sup>®</sup></li> </ul>

#### 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)
- TR-CU (EAC) 010 012
- 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.



