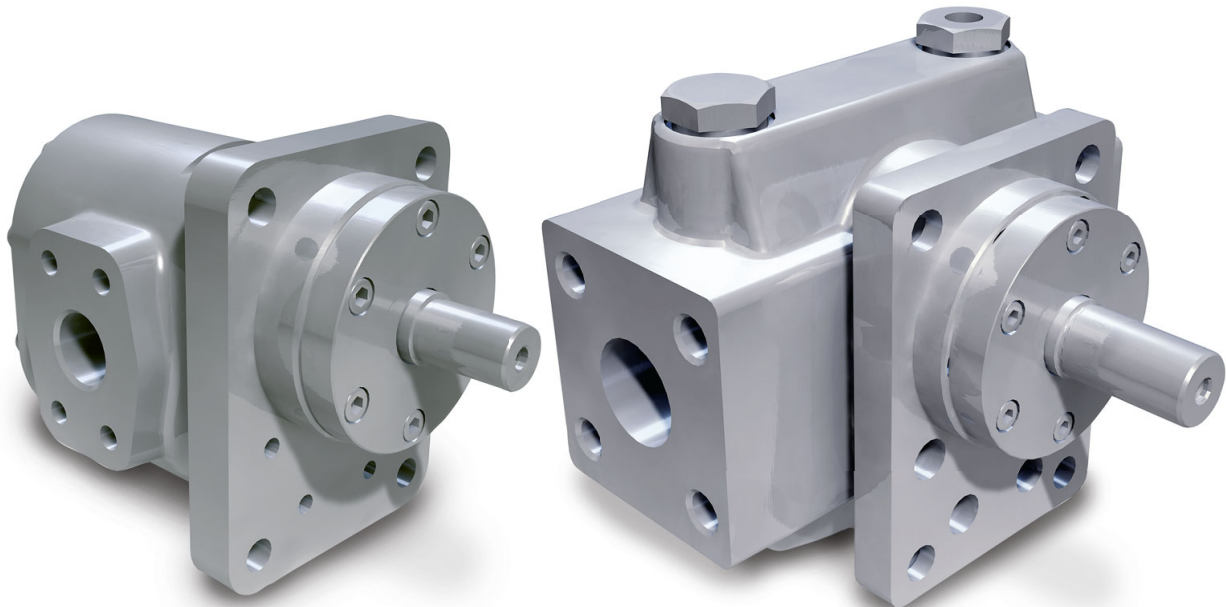


# refinex<sup>®</sup> refitherm<sup>®</sup>

Heatable gear pumps for industrial processes



Chemical, refinery, and industrial plant applications are challenging. High process pressures, high temperatures, and viscous media are commonplace in such environments. Precisely the environment in which maag pump systems' tried and established 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 are therefore 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

# refinex® refitherm®

Heatable gear pumps for industrial processes

## A range of typical pumping media

- Emulsions
- Sludges and condensates
- Additives
- Resins
- Cellulose derivatives and pulps
- Polyurethanes (polyol und isocyanate)
- Silicones
- Adhesives and hot-melt adhesives
- Paints and varnishes
- Waxes and paraffins
- Gum base
- Fertilizers
- Mineral oils and fats
- Fuels
- Petrochemical products

## 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 65 bar
<b>Discharge pressure:</b>	Vacuum to 350 bar
<b>Flow rate<sup>2)</sup>:</b>	0.5 to 1,750 l/min

## Options

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

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

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

## Technical specifications:

<b>Housing:</b>	Cast steel
<b>Gear shafts:</b>	<ul style="list-style-type: none"> <li>■ Stainless steel</li> <li>■ Nitrided steel (spur and helical)</li> <li>■ Nitrided steel coated</li> </ul>
<b>Bearing<sup>1)</sup>:</b>	<ul style="list-style-type: none"> <li>■ Steel/bronze</li> <li>■ Sintered iron</li> <li>■ Synthetic carbon</li> <li>■ Steel with carbon inserts</li> <li>■ Nitrided steel</li> <li>■ Nitrided steel coated</li> <li>■ Hardened tool steel</li> <li>■ Bronze – CuAl</li> </ul>
<b>Shaft seal:</b>	<ul style="list-style-type: none"> <li>■ Lip seals and packing</li> <li>■ Single or double mechanical seal</li> <li>■ External mechanical seal</li> <li>■ Interlock or heater connections available</li> <li>■ Magnetic coupling with single or double containment shell</li> </ul>
<b>Connections:</b>	SAE, CETOP, DIN, and ANSI flanges
<b>Heating:</b>	<ul style="list-style-type: none"> <li>■ Electrical heating by cartridges optional for refinex®</li> <li>■ Integrated channels for heating / cooling by means of steam or liquids (refitherm®)</li> </ul>

## Theoretical pumping capacities:

Model	Pump size	Theoretical pumping capacities in l/min at 0 bar Δp				
		at 500 rpm	at 750 rpm	at 1,000 rpm	at 1,500 rpm	at 3,000 rpm
RX	22/22	2.35	3.53	4.70	7.05	14.10
RX	28/28	5.10	7.65	10.20	15.30	30.60
RX/RT	36/36	12.80	19.20	25.60	38.40	76.80
RX/RT	45/45	23.15	34.73	46.30	69.45	139.00
RX/RT	56/56	46.30	69.45	92.60	138.90	–
RX/RT	70/70	88.00	132.00	176.00	264.00	–
RX/RT	90/90	186.00	278.00	371.00	557.00	–
RX/RT	110/110	358.00	537.00	716.00	–	–
RX/RT	140/140	671.00	1,007.00	1,342.00	–	–
RX	140/180	863.00	1,294.00	1,725.00	–	–

The limitation of use depends on the operating conditions. Please contact maag pump systems for specific applications.

<sup>1)</sup> Other materials and designs available.

<sup>2)</sup> Higher flow rates upon request.

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