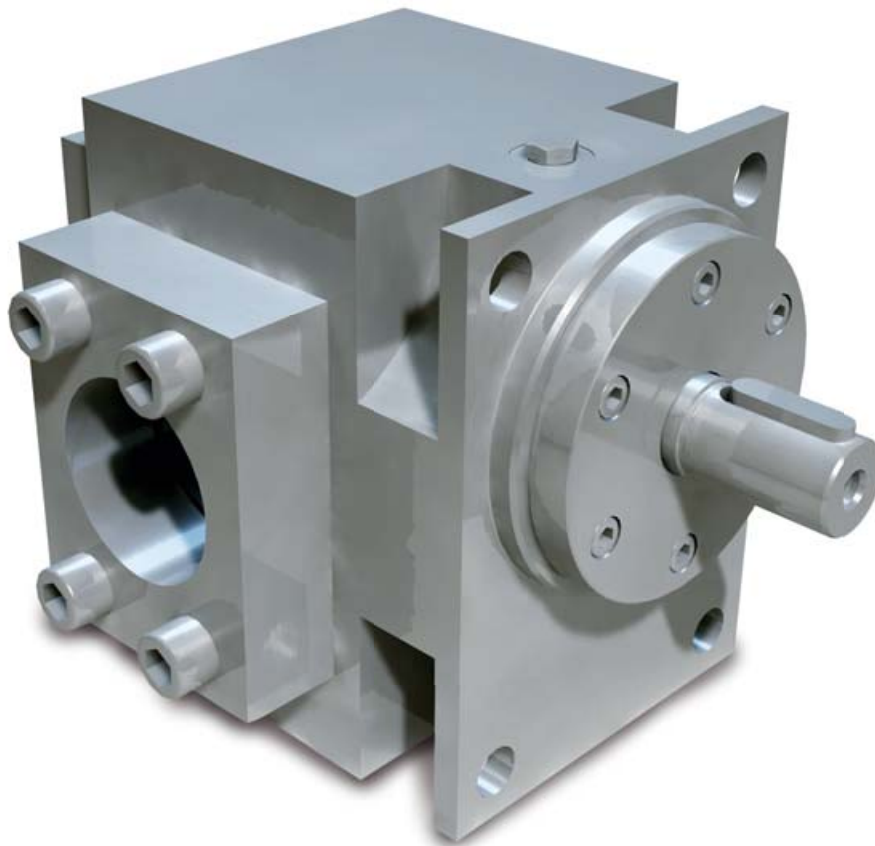


# cinox<sup>®</sup> therminox<sup>®</sup>

Corrosion-resistant gear pumps for chemical processes



cinox<sup>®</sup> therminox<sup>®</sup> gear pumps are corrosion-resistant and heatable stainless steel conveying units that satisfy the stringent quality requirements of today's chemical processing industry. Thanks to the extensive range of components and materials of construction 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. Whether the applications involve highly pure, corrosive, viscous or very hot media, Maag pump systems holds the solution to meet every pumping challenge.

## Your benefits

- Wide viscosity, temperature and pressure range
- High efficiencies due to tolerances being modified in line with applications
- Precise displacement volume
- Self-priming
- Corrosion-resistance
- Reliability and longevity
- Safety

# cinox® therminox®

Stainless steel gear pumps for chemical processes

## A range of typical pumping media

- Organic and inorganic chemicals
- Solvents
- Acids and alkalis
- Emulsions
- Sludges and condensates
- Prepolymers, oligomers, and monomers (PAN)
- Additives
- Resins
- Cellulose derivatives and pulps
- Silicones
- Waxes and paraffins
- Cosmetic products
- Pharmaceutical products
- Foodstuff extracts and flavourings
- Gum base
- Vegetable and animal oils and fats
- Molten Sulfur

## Accessories

- Stands, motor flanges and base plates
- Product connecting flanges
- Couplings
- Motors and gear reducers
- Frequency converters
- Shaft seal systems (with buffer tanks)

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

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

## Application limits:

<b>Viscosity:</b>	0.3 to 4,000,000 mPas
<b>Temperature:</b>	-30 to 320 °C
<b>Suction pressure:</b>	Vacuum up to 65 bar
<b>Discharge pressure:</b>	Vacuum up to 200 bar
<b>Flow rate<sup>1)</sup>:</b>	0.1 to 2,400 l/min

<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.

## Technical specifications:

**Housing:** ■ Stainless steel  
■ Hastelloy

**Gear shafts:** ■ Stainless steel  
■ Ferralium  
■ Hastelloy  
■ Ceramic  
■ Peek on request

**Bearing<sup>2)</sup>:** ■ Synthetic carbon  
■ Stainless steel with carbon inserts  
■ Hardened tool steel  
■ Ceramics  
■ NiAg  
■ Bronze-CuAl

**Shaft seal:** ■ Single or double mechanical seal  
■ External mechanical seal  
■ Interlock or heater connections available  
■ Seal ring from a range of materials  
■ Magnetic coupling with single or double containment shell

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

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

## Options

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

## Theoretical pumping capacities in l/min at 0 bar Δp:

Size	at 500 rpm	at 750 rpm	at 1,000 rpm	at 1,500 rpm	at 3,000 rpm
<b>22/6</b>	0.64	0.96	1.28	1.92	3.84
<b>22/13</b>	1.39	2.09	2.78	4.17	8.34
<b>22/22</b>	2.35	3.53	4.70	7.05	14.10
<b>28/28</b>	5.10	7.65	10.20	15.30	30.60
<b>36/36</b>	12.80	19.20	25.60	38.40	76.80
<b>45/45</b>	23.15	34.73	46.30	69.45	139.00
<b>56/56</b>	46.30	69.45	92.60	138.90	–
<b>70/70</b>	88.00	132.00	176.00	264.00	–
<b>90/90</b>	186.00	278.00	371.00	557.00	–
<b>110/110</b>	358.00	537.00	716.00	–	–
<b>140/140</b>	671.00	1,007.00	1,342.00	–	–
<b>180/180</b>	1,606.00	2,408.00	–	–	–

The limitation of use is subject to the operating conditions.