



cinox® therminox®

Corrosion-resistant gear pumps
for chemical processes



cinox® therminox® 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)

Options

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

Certificates³⁾

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

Application limits:

Viscosity:	0.3 to 4,000,000 mPas
Temperature:	-30 to 320 °C
Suction pressure:	Vacuum up to 65 bar
Discharge pressure:	Vacuum up to 200 bar
Flow rate¹⁾:	0.1 to 2,400 l/min

1) Higher flow rates upon request.

2) Other materials and designs available.

3) Other certificates and conformities upon request.

Technical specifications:

Housing:	<ul style="list-style-type: none"> ▪ Stainless steel ▪ Hastelloy
Gear shafts:	<ul style="list-style-type: none"> ▪ Stainless steel ▪ Ferralium ▪ Hastelloy ▪ Ceramic ▪ Peek on request
Bearing²⁾:	<ul style="list-style-type: none"> ▪ Synthetic carbon ▪ Stainless steel with carbon inserts ▪ Hardened tool steel ▪ Ceramics ▪ NiAg ▪ Bronze-CuAl
Shaft seal:	<ul style="list-style-type: none"> ▪ 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:	<ul style="list-style-type: none"> ▪ Electrical heating by cartridges optional for cinox[®] ▪ Integrated channels for heating/cooling by means of steam or liquids for therminox[®]

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

The limitation of use is subject to the operating conditions.

