

# polyrex®

## Pressure increasing pump for the polyolefin industry



Processes in the manufacture of polyolefins require gear pumps which build up pressure for the units after the compounder. Thanks to special gear teeth with low squeezing power, the polyrex® gear pump is the ideal solution for these applications. The high efficiency and long service life will enhance your production plant's capacity. Upgrades with shaft and bearing tempering enable an efficient heat discharge and hence a significant increase in flow rates and improved product quality.

### Your benefits

- Processing of highly diverse polymer melts with wide viscosity range
- Optimized flow channels and full heating
- Gentle treatment of polymer melts thanks to special gear teeth with low crushing power
- High overall efficiency, minimized friction thanks to pioneering gear and bearing technology
- Low pulsation pumping even at high differential pressures
- High durability and service life
- Reduced wear on screw housings and extruders

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### A range of typical pumping media

- Low density polyethylene (LDPE)
- Linear low density polyethylene (LLDPE)
- High density polyethylene (HDPE)
- Polypropylene (PP)
- Ethylene propylene dimonomer (EPDM)
- And others

### Features

Maag provides complete packages individually tailored to the application concerned. Various combinations from ...

- Gear coupling
- Branched gearbox
- Reduction gearbox
- Shaft cooling <sup>2)</sup>
- Bearing cooling <sup>2)</sup>

... satisfy the most stringent process requirements.

### Accessories

- Operating data monitoring (temperature and pressure)
- Shaft and bearing cooling incl. temperature control, especially suitable for retrofitting to existing gear pumps

<sup>1)</sup> Material: application-specific depending on pumping medium and gear pump requirements.

<sup>2)</sup> Shaft and bearing cooling available from pump size 12 upwards.

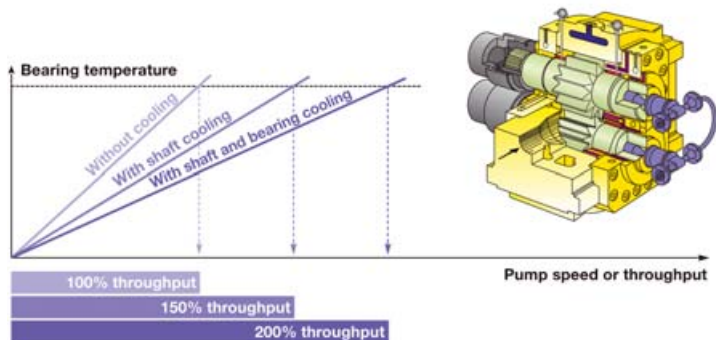
<sup>3)</sup> Larger pump sizes are available upon request. Flange connections in accordance with DIN or ANSI standards.

<sup>4)</sup> Dependent on viscosity and gear pump design. The data are reference values of the polymer processes. Please contact Maag for specific applications.

**The permitted speed and choice of pump size depends on the operating conditions, i.e. on viscosity, suction and delivery side pressures of the gear pump as well as characteristics of the pumping medium.**

### Technical specifications:

<b>Housing, cover:</b>	Stainless steel/carbon steel
<b>Gear shafts<sup>1)</sup>:</b>	<ul style="list-style-type: none"> <li>■ Nitrided steel</li> <li>■ Tool steel</li> </ul>
<b>Bearing<sup>1)</sup>:</b>	Tool steel/special material
<b>Shaft seals:</b>	viscoseal
<b>Pump heating:</b>	With heat transfer medium max. 350°C, max. 40 bar
<b>Installation:</b>	The polyrex® gear pump is flange-mounted to the extruder or mixer by means of an adapter
<b>Viscosity:</b>	To 20,000 Pas
<b>Temperature:</b>	To 350°C
<b>Suction side:</b>	To 70 bar
<b>Delivery side:</b>	Discharge pressure to 320 bar
<b>Optional:</b>	To eliminate friction-related wear between the tooth flanks and also consistent force distribution, both shafts can be driven. A pair of gear couplings sets the play between the flanks to prevent them from touching.



Pump size <sup>3)</sup>	Capacity <sup>4)</sup>	Main dimensions in mm			Weight
	[t/h]	Length	Width	Height	[kg]
3	1-4	660	1,000	1,000	1,500
6	2-8	740	1,300	1,200	2,500
12	6-17	860	1,400	1,300	4,000
18	12-25	910	1,500	1,400	4,500
25	18-36	940	1,500	1,600	5,300
32	22-40	940	1,725	1,600	6,000
41	26-50	1,240	2,200	1,750	16,500
50	32-65	1,450	2,400	1,750	18,000
65	50-90	1,700	3,000	2,300	28,000
100	70-120	1,700	3,200	2,300	30,000