



# GEA Screw Compressors

Screw compressors for industrial  
refrigeration and air conditioning

# Top quality based on proven development

Whether it's in the food industry, chemical industry, in offices or in shipping, they all need refrigeration. GEA has the optimal cooling and air conditioning solutions for your requirements. We place particular value on energy efficiency, reliability, cost efficiency and sustainability.

As an international technology leader, GEA focuses on process technology and components for sophisticated production processes. GEA is also extensively and intensively familiar with compressor technology. The top quality of our screw compressors is the product of years of experience in compressor technology. Everything is focused on value and functionality from development in our research labs to the production processes and quality assurance.

With a global sales and service network we can be on site almost anywhere in the world where you need us. Our software tools also support you in selecting the optimal compressor as well as in the search for the right spare parts.



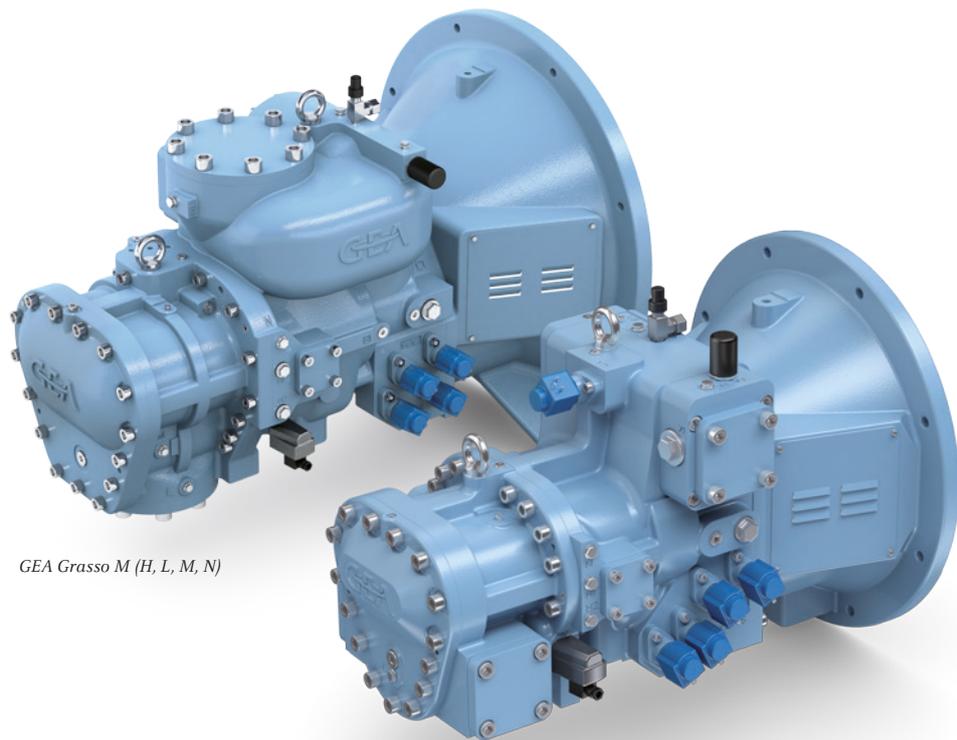
# GEA Grasso M – Boosting efficiency

GEA Grasso M compressors are the first screw compressors with an integrated pressure-activated check valve ensuring low pressure drop. The integration of the suction filter and coupling housing greatly simplify assembly of the package. The outstanding energy-efficiency of these compressors is based on the infinitely adjustable capacity combined with the extended variable Vi-range. The variable speed from 1000 to 4500 rpm (6000 rpm for C, D, E, G) ensures a wide operation range and maximum efficiency in full and part load.

GEA Grasso M comes in eight model sizes and covers a swept volume range from 231 to 870 m<sup>3</sup>/h at 2940 rpm (354 to 1332 m<sup>3</sup>/h at 4500 rpm).

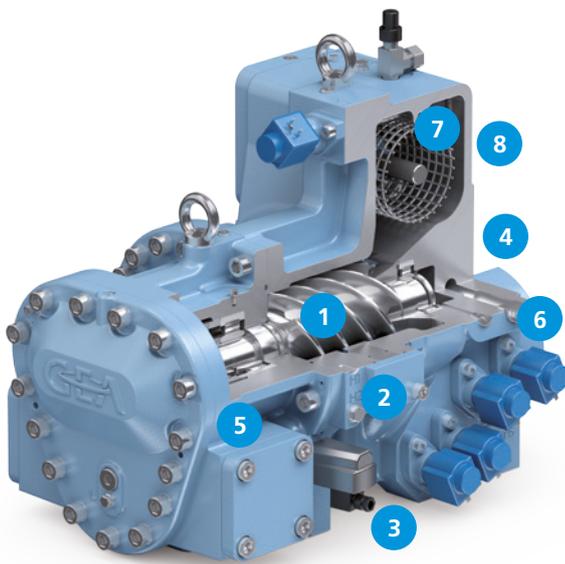
## At a glance

- Outstanding energy-efficiency
- Easy package assembly

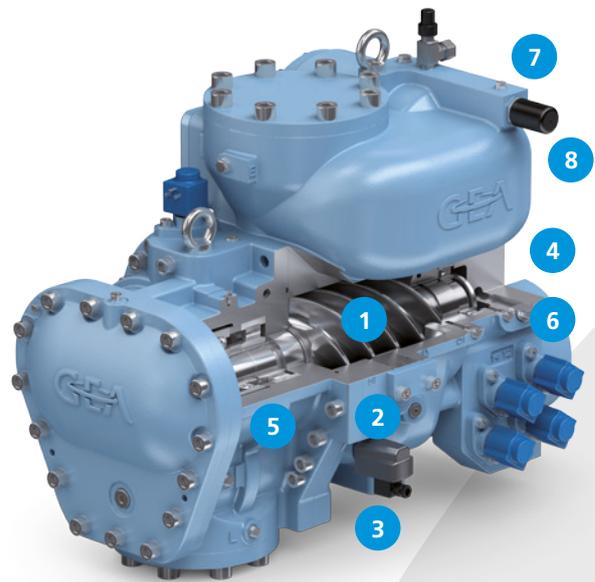


*GEA Grasso M (H, L, M, N)*

*GEA Grasso M (C, D, E, G)*



GEA Grasso M (C, D, E, G)



GEA Grasso M (H, L, M, N)

## UNIQUE FEATURES AND ADVANTAGES:

### 1. High-efficiency rotors

- GEA-designed 5/6 rotor profile
- Compact and stiff design

### 2. Capacity-/Vi-control

- Compact and integrated system
- Stepless capacity control (10–100%)
- Best COP at full and part load

### 3. Slide position indicator

- Hermetically sealed
- Suitable for hazardous areas

### 4. Mechanical shaft seal

- High-performance design and materials
- Easy access for servicing
- Suction-end mounted for extended service lifetime

### 5. Axial bearings

- Easy and quick access from non-drive end
- Field-replaceable
- Unloaded by balance piston, for long lifetime

### 6. One central oil connection

- Optional connection at male or female rotor side
- No oil pump required in most cases
- Adjustable oil injection

### 7. Integrated suction strainer

- Compact design for easy packaging

### 8. Pressure-activated suction check valve

- Minimized pressure drop
- No spring, no valve chattering
- Mirrored design enables reciprocal installation of suction side (only for C, D, E, G)

### Gas pulsation protection

- Reduced gas pulsation and vibration at low part loads

### Flanged coupling casing

- Less expensive packaging
- No alignment on the package required
- Service-friendly coupling

### Integrated oil filter

- Optionally available (only for C, D, E, G)

# GEA Grasso LT – Compact and powerful

The GEA Grasso LT series comes in sixteen sizes and with a swept volume ranging from 805 to 11,467 m<sup>3</sup>/h at 2940 rpm. Owing to the combined sleeve and anti-friction bearing to the rotors, the compressor has an extremely long life cycle and low noise and vibration levels. Connections are also possible for pressure, temperature and vibration sensors. The simple design features a smart integration of the oil management by direct-connected solenoid valves for Vi (internal volume ratio) and for capacity adjustments. Direct accessibility of the solenoid valves and various components allow easy assembly and service work on the package.

## At a glance

- Extremely long product lifetime
- Excellent noise and vibration level in all operating conditions



## UNIQUE FEATURES AND ADVANTAGES:

### 1. Vibration monitoring

- Connections for vibration monitoring system

### 2. Radial bearings

- Journal bearings for high load
- Contact-free operation, no wear

### 3. Axial bearings

- Easy and quick access from non-drive end
- Field-replaceable
- Unloaded by balance piston, for long lifetime

### 4. Gas pulsation protection

- Reduced gas pulsation and vibration at low part loads

### 5. Capacity/Vi slide

- Compact and integrated system
- Stepless capacity control (10–100 %)
- Best COP at full and part load

### 6. Mechanical shaft seal

- High-performance design and materials
- Easy access for servicing
- Suction-end mounted for extended lifetime

### 7. High-efficiency rotors

- GEA-designed 5/6 rotor profile
- Compact and stiff design

### Economizer port

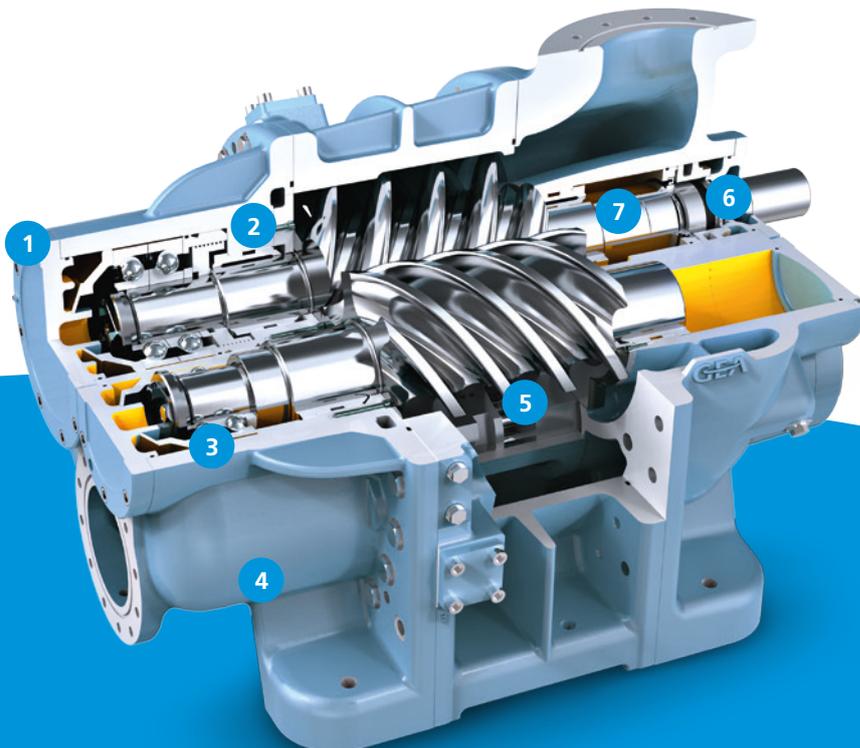
- ECO connections for maximum capacity increase and higher efficiency

### Slide position indicator

- Hermetically sealed
- Suitable for hazardous areas

### Easy service and maintenance

- Compact and service-friendly design
- Easy access to wear parts



# Technical Data

## GEA GRASSO M

Series	Compressor type	Swept volume (m <sup>3</sup> /h)			Max. design. pressure (bar)	Dimensions <sup>1)</sup> (mm)			DN1 <sup>2)</sup> (mm)	DN2 <sup>3)</sup> (mm)	Weight <sup>1)</sup> (kg)
		2940 rpm	3550 rpm	4500 rpm		L	W	H			
GEA Grasso M	C	231	279	354	28	852	660	660	80	65/80	392
	D	265	320	406	28	882	660	660	80	65/80	401
	E	321	388	491	28	898	660	667	80	80	444
	G	372	449	569	28	927	660	667	80	80	451
	H	471	569	721	28 / 52	964	800	820	125	80	581
	L	544	657	833	28 / 52	1000	800	820	125	80	605
	M	708	855	1084	28 / 52	1094	800	856	150	100	772
	N	870	1051	1332	28 / 52	1145	800	820	150	100	800

<sup>1)</sup> with coupling housing   <sup>2)</sup> suction connection   <sup>3)</sup> discharge connection



## GEA GRASSO LT

Series	Compressor type	Swept volume (m <sup>3</sup> /h)		Max. design. pressure (bar)	Dimensions (mm)			DN1 <sup>1)</sup> (mm)	DN2 <sup>2)</sup> (mm)	Weight (kg)
		2940 rpm	3550 rpm		L	W	H			
GEA Grasso LT	P	805	972	28 / 52	817	600	525	150	100	595
	R	1040	1256	28 / 52	965	660	570	175	100	895
	S	1290	1558	28 / 52	1032	660	570	175	100	960
	T	1460	1763	28 / 52	1125	660	570	175	100	1060
	V	1740	2101	28 / 52	1040	750	670	250	150	1186
	W	1990	2403	28 / 52	1145	750	670	250	150	1200
	Y	2390	2886	28 / 52	1161	750	670	250	150	1308
	Z	2748	3318	28 / 52	1315	760	700	250	150	1670
	XA	3250	3924	28 / 52	1425	760	700	250	150	1740
	XB	4150	5011	28 / 52	1410	900	850	300	200	2100
	XC	4900	5917	28 / 52	1480	900	850	300	200	2400
	XD	5800	7003	28 / 52	1560	900	850	300	200	2600
	XE	7110	8585	28 / 52	1625	980	980	400	250	3500
	XF	8560	10,336	28	1725	980	980	400	250	3850
	XG	9807	11,842	28	2180	1100	1140	457	305	4500
	XH	11,467	13,846	28	2300	1100	1140	457	305	4700

<sup>1)</sup> suction connection    <sup>2)</sup> discharge connection



# Performance Data

## GEA GRASSO M

Series	Compressor type	28 bar compressor <sup>1)</sup> (kW)		52 bar compressor <sup>1)</sup> (kW)	
		Cooling capacity <sup>2)</sup> R717   -35/+35 °C	Cooling capacity R717   0/+35 °C	Cooling capacity R744   -50/-5 °C	Heating capacity R717   +35/+80 °C
GEA Grasso M	C	—————	to be announced	—————	—————
	D	—————	to be announced	—————	—————
	E	—————	to be announced	—————	—————
	G	—————	to be announced	—————	—————
	H	115	444	486	1258
	L	133	513	562	1457
	M	174	673	743	2202
	N	215	828	914	2474

<sup>1)</sup> at 2940 rpm with 5 K superheat and 0 K subcooling, stated temperature values: evaporation/condensation

<sup>2)</sup> with economizer

## GEA GRASSO LT

Series	Compressor type	28 bar compressor <sup>1)</sup> (kW)		52 bar compressor <sup>1)</sup> (kW)	
		Cooling capacity <sup>2)</sup> R717   -35/+35 °C	Cooling capacity R717   0/+35 °C	Cooling capacity R744   -50/-5 °C	Heating capacity R717   +35/+80 °C
GEA Grasso LT	P	201	772	851	2679
	R	260	997	1099	3433
	S	328	1261	1418	4318
	T	368	1413	1599	4814
	V	443	1690	1868	5780
	W	506	1932	2135	6631
	Y	614	2344	2591	7990
	Z	714	2713	3040	9188
	XA	844	3209	3595	10,853
	XB	1070	4070	4499	–
	XC	1260	4807	5366	–
	XD	1491	5689	6351	–
	XE	1842	7030	–	–
	XF	2200	8393	–	–
	XG	2520	9615	–	–
	XH	2946	11,244	–	–

<sup>1)</sup> at 2940 rpm with 5 K superheat and 0 K subcooling, stated temperature values: evaporation/condensation

<sup>2)</sup> with economizer



## We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 Index.

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