

## GEA Grasso screw compressors

Screw compressors for the industrial refrigeration and air conditioning

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

## First class work based on proven developments

GEA Refrigeration Technologies, part of the global GEA Group, is synonymous with industrial refrigeration technology. We have been in the business of cooling processes and products for decades. The first class 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.

Both our products and our customer service are first class. 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.



# Special highlights

## Energy efficiency

- Stepless capacity control
- Vi control for high efficiency in part and full load
- Patented rotor profile, designed for efficient operation and smooth running
- Economizer operation

## Reliability & safety

- Anti gas pulsation system for safe part load operation and high pressure ratios
- High performance bearings for a long product lifetime
- Hydraulic relief of axial bearings
- Hermetic position indicating for capacity and Vi control

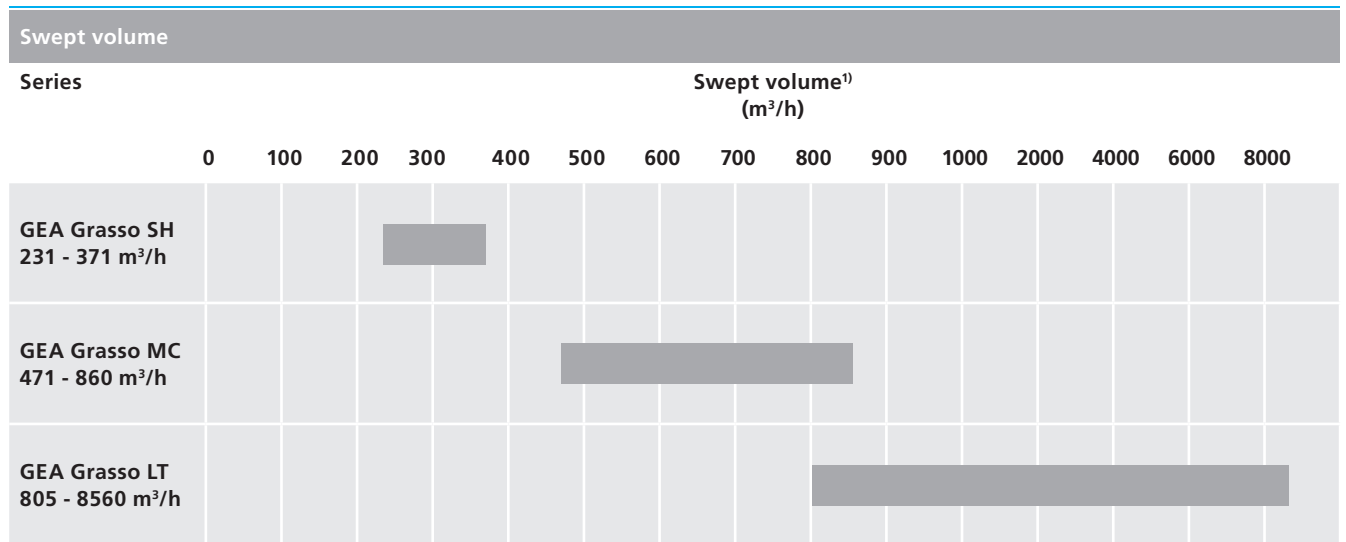
## Easy maintenance

- Easy replacement of axial bearings
- Measuring faces for vibration monitoring

## Options

- Pressure ratings: 28 bar and 52 bar, other design pressure upon request
- Particular design for high pressure compressors: Housing material (e.g. nodular cast iron), customized rotor geometry, reinforced thrust bearing (TRIAX design), high performance shaft seal, stronger driving shaft end, etc.
- Rotor position system
- Explosion proof design upon request
- Approvals according API 619 or ISO 10440 (for GEA Grasso LT series)
- Further approvals upon request

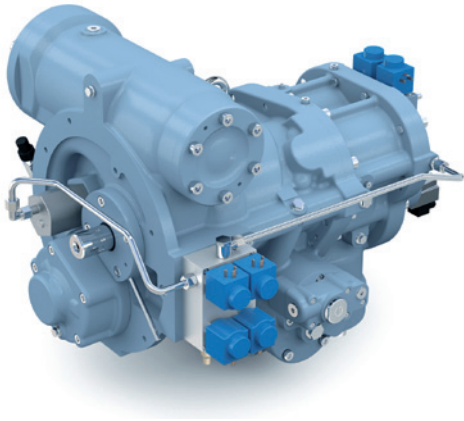
# Product overview



1) at 2940 min<sup>-1</sup>



# GEA Grasso SH



The GEA Grasso SH series comes in four sizes with a swept volume ranging from 231 to 372 m<sup>3</sup>/h. The simple design is owed by the integration of the complete oil management system with only one oil connection and important package elements in the compressor. The screw compressors come equipped with connections for monitoring pressure and temperature, position displays on the control screen, and controlling the integrated solenoid valve assembly for combined Vi and capacity adjustment. The direct assignment of the solenoid valves to Vi and capacity regulation and the connection of pressure and temperature sensors on the compressor ease assembly and service work on the package. The parallel slide system allows for Vi optimization and part load adaption to take place simultaneously and independently of one another. It means that even in part load operations a low-loss work process is possible for the screw compressor.

## Technical data

- Integration of package components
- Integration of oil management system
- Compact design
- Rotors completely equipped with roller bearings
- Capacity and Vi control by parallel slide system
- Suitable for all standard DIN-flange motors

Technical data										
Series	Compressor type <sup>1)</sup>	Swept volume <sup>2)</sup> (m <sup>3</sup> /h)	Swept volume <sup>3)</sup> (cfm)	Max. design pressure (bar)	Dimensions (mm)			DN1 <sup>4)</sup> (mm)	DN2 <sup>5)</sup> (mm)	Weight <sup>6)</sup> (kg)
					L <sup>6)</sup>	W	H			
GEA Grasso SH	C	231	164	28 / 52	888	585	560	80	50	313
	D	265	188	28 / 52	918	585	560	80	50	324
	E	321	228	28 / 52	975	675	670	100	65	460
	G	372	264	28 / 52	1004	675	670	100	65	471

1) regarding swept volume, 2) at 2940 min<sup>-1</sup>, 3) at 3550 min<sup>-1</sup>, 4) suction connection, 5) discharge connection, 6) length and weight depending on motor

Capacity					
Series	Compressor type <sup>1)</sup>	28 bar compressor <sup>2)</sup> (kW)		52 bar compressor <sup>2)</sup> (kW)	
		Cooling capacity <sup>3)</sup> NH <sub>3</sub> -35/+35 °C	Cooling capacity NH <sub>3</sub> 0/+35 °C	Cooling capacity CO <sub>2</sub> -50/-5 °C	Heating capacity NH <sub>3</sub> +35/+80 °C
GEA Grasso SH	C	50	194	226	587
	D	60	230	268	-
	E	72	279	312	839
	G	85	330	369	-

1) regarding swept volume, 2) at 2940 min<sup>-1</sup> with 5 K superheat and 0 K subcooling, stated temperature values: evaporation/condensation, 3) with economizer

# GEA Grasso MC



The GEA Grasso MC series comes in four sizes with a swept volume ranging from 471 to 860 m<sup>3</sup>/h. It has a simple and compact design between the compressor and package. Some package components may come already integrated such as a suction side non-return valve, suction filter, an oil pump along with an oil and hydraulic system with the appropriate solenoid valve assemblies for Vi and capacity adjustment. The control lines for the solenoid valve for Vi and capacity control are connected directly to the compressor. The stepless capacity and Vi control enables high efficiency in part and full load.

## Technical data

- Integration of package components
- Integrated oil distribution system
- Compact design
- Rotors completely equipped with roller bearings
- Stepless capacity and Vi control by parallel slide system

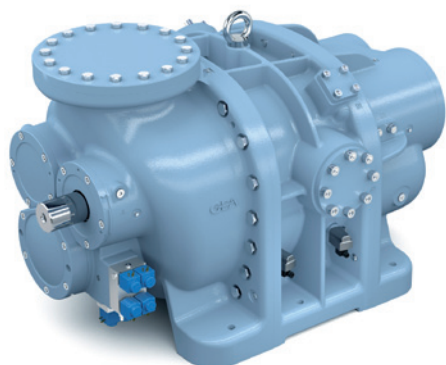
Technical data										
Series	Compressor type <sup>1)</sup>	Swept volume <sup>2)</sup> (m <sup>3</sup> /h)	Swept volume <sup>3)</sup> (cfm)	Max. design pressure (bar)	Dimensions (mm)			DN1 <sup>4)</sup> (mm)	DN2 <sup>5)</sup> (mm)	Weight (kg)
					L	W	H			
GEA Grasso MC	H	471	335	28 / 52	938	425	554	125	80	340
	L	544	387	28 / 52	974	425	554	125	80	365
	M	690	490	28 / 52	1090	480	610	150	100	580
	N	860	611	28 / 52	1135	480	610	150	100	640

1) regarding swept volume, 2) at 2940 min<sup>-1</sup>, 3) at 3550 min<sup>-1</sup>, 4) suction connection, 5) discharge connection

Capacity					
Series	Compressor type <sup>1)</sup>	28 bar compressor <sup>2)</sup> (kW)		52 bar compressor <sup>2)</sup> (kW)	
		Cooling capacity <sup>3)</sup> NH <sub>3</sub> -35/+35 °C	Cooling capacity NH <sub>3</sub> 0/+35 °C	Cooling capacity CO <sub>2</sub> -50/-5 °C	Heating capacity NH <sub>3</sub> +35/+80 °C
GEA Grasso MC	H	112	431	482	1.303
	L	129	498	556	1.285
	M	165	637	712	1.900
	N	206	795	888	-

1) regarding swept volume, 2) at 2940 min<sup>-1</sup> with 5 K superheat and 0 K subcooling, stated temperature values: evaporation/condensation, 3) with economizer

# GEA Grasso LT



The GEA Grasso LT series comes in fourteen sizes and covers a swept volume from 805 to 8560 m<sup>3</sup>/h. Due to the combined sleeve and roller bearing of the rotors, the compressor has an extremely long life span and low noise and vibration levels. All components are designed for long operating life, high availability and easy maintenance. Furthermore, the compressors of the GEA Grasso LT can be provided according to the API 619 standard and ISO 10440, respectively.

## Technical data

- Excellent noise and vibration characteristics in all operating conditions
- Combined sleeve and roller bearing of the rotors
- Extremely long product lifetime
- Stepless capacity and Vi control by tandem slide system

Technical data										
Series	Compressor type <sup>1)</sup>	Swept volume <sup>2)</sup> (m <sup>3</sup> /h)	Swept volume <sup>3)</sup> (cfm)	Max. design pressure <sup>4)</sup> (bar)	Dimensions (mm)			DN1 <sup>5)</sup> (mm)	DN2 <sup>6)</sup> (mm)	Weight (kg)
					L	W	H			
GEA Grasso LT	P	805	572	28 / 52	817	600	525	150	100	595
	R	1040	739	28 / 52	965	660	570	175	100	895
	S	1290	917	28 / 52	1032	660	570	175	100	960
	T	1460	1038	28 / 52	1125	660	570	175	100	1060
	V	1740	1236	28 / 52	1040	750	670	250	150	1186
	W	1990	1418	28 / 52	1145	750	670	250	150	1200
	Y	2390	1703	28 / 52	1161	750	670	250	150	1308
	Z	2748	1953	28 / 52	1315	760	700	250	150	1670
	XA	3250	2309	28 / 52	1425	760	700	250	150	1740
	XB	4150	2949	28 / 52	1410	900	850	300	200	2100
	XC	4900	3486	28 / 52	1480	900	850	300	200	2400
	XD	5800	4122	28 / 52	1560	900	850	300	200	2600
	XE	7110	5095	28	1625	980	980	400	250	3500
	XF	8560	6083	28	1725	980	980	400	250	3850

1) regarding swept volume, 2) at 2940 min<sup>-1</sup>, 3) at 3550 min<sup>-1</sup>, 4) some types 63 bar upon request, 5) suction connection, 6) discharge connection

Capacity					
Series	Compressor type <sup>1)</sup>	28 bar compressor <sup>2)</sup> (kW)		52 bar compressor <sup>2)</sup> (kW)	
		Cooling capacity <sup>3)</sup> NH <sub>3</sub> -35/+35 °C	Cooling capacity NH <sub>3</sub> 0/+35 °C	Cooling capacity CO <sub>2</sub> -50/-5 °C	Heating capacity NH <sub>3</sub> +35/+80 °C
GEA Grasso LT	P	201	772	851	2327
	R	260	997	1100	2972
	S	322	1236	1391	3720
	T	364	1399	1574	-
	V	443	1690	1868	5024
	W	506	1932	2135	5726
	Y	608	2321	2565	-
	Z	700	2670	2951	7821
	XA	827	3157	3524	-
	XB	1060	4030	4454	12265
	XC	1247	4759	5313	-
	XD	1476	5634	6289	-
	XE	1788	6825	7543	-
	XF	2135	8148	-	-

1) regarding swept volume, 2) at 2940 min<sup>-1</sup> with 5 K superheat and 0 K subcooling, stated temperature values: evaporation/condensation, 3) with economizer

*Please visit us at [www.gearefrigeration.com](http://www.gearefrigeration.com),  
if you need further information.*



*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.

## **GEA Refrigeration Technologies**

GEA Refrigeration Germany GmbH

Holzhauser Str. 165, 13509 Berlin, Germany  
Phone: +49 30 435 92 6, Fax: +49 30 435 92 777  
gea-refrigeration.de@gea.com, www.gea.com