

GEA 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 has the optimal cooling and air conditioning solutions for your requirements. We place particular value on energy efficiency, reliability, cost efficiency and sustainability.

Top quality based on proven developments

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.



Special highlights

Energy efficient

- Infinitely variable capacity and Vi (internal volume ratio) control
- GEA specified 5/6 rotor profile

Reliable and safe

- Patented vibration protection system, preventing pulsations in part load at high pressure ratios
- High performance bearings and hydraulic axial force compensation for long product lifetime
- Standardized non-wear and hermetically sealed capacity slide position indicator

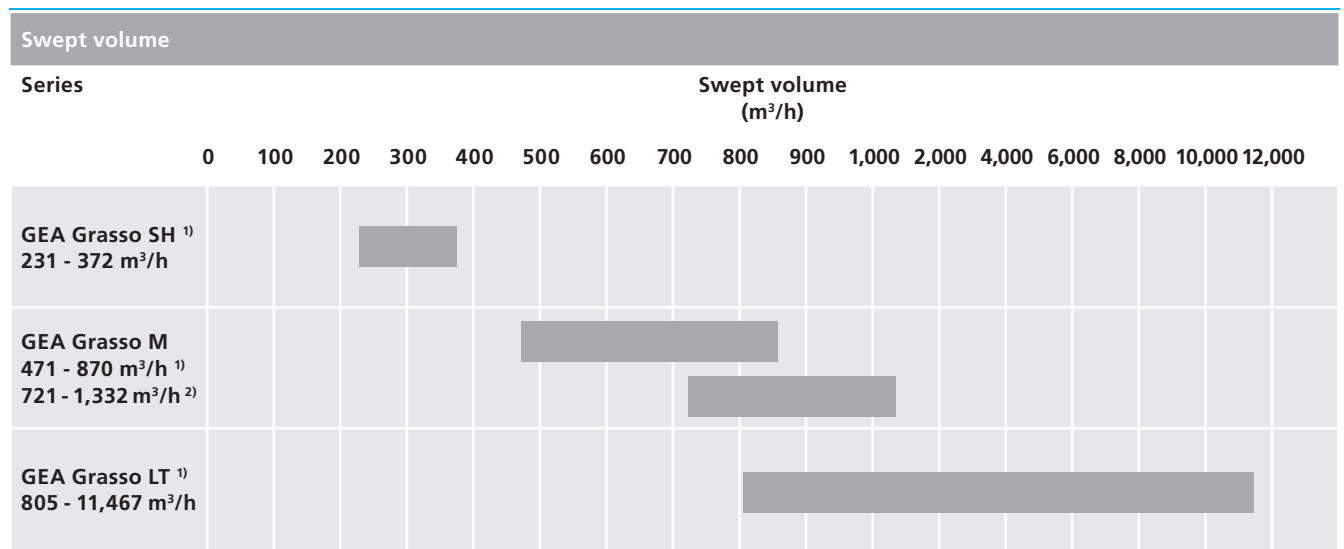
Easy to maintain

- Easy replacement of thrust bearings and shaft seals, with no dismantling of coupling and motor required

Options

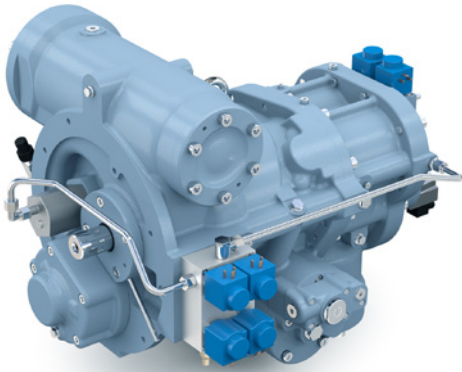
- Pressure ratings: 28 bar and 52 bar, other design pressure upon request
- Particular design for high pressure compressors: Housing material (e.g. nodular cast iron), customized rotor geometry, reinforced thrust bearing (TRIAX design), high performance shaft seal, stronger driving shaft end, etc.
-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

Product overview



1) at 2,940 rpm, 2) at 4,500 rpm

GEA Grasso SH



The GEA Grasso SH series comes in four sizes and covers swept volumes ranging from 231 to 372 m³/h. The simple design results from integration of the entire oil management system with only one oil connection. Connections are also possible for pressure and temperature sensors as well as slide position indicators and solenoid valve blocks for Vi (internal volume ratio) and for capacity adjustment. Direct assignment of the solenoid valves and various connection options allow easy assembly and service work on the package. The parallel slide system enables infinitely variable capacity and Vi adjustment.

Technical features

- Integration of package components
- Integration of oil management system
- Compact design
- Suitability for standard DIN-flange motors
- Rotors fully bedded on roller bearings
- Capacity and Vi control by parallel slide system

Technical data

Series	Compressor type ¹⁾	Swept volume ²⁾ (m ³ /h)	Swept volume ³⁾ (cfm)	Max. design pressure (bar)	Dimensions ⁴⁾ (mm)			DN1 ⁵⁾ (mm)	DN2 ⁶⁾ (mm)	Weight ⁴⁾ (kg)
					L	W	H			
GEA Grasso SH	C	231	164	28 / 52	939	585	560	80	50	313
	D	265	188	28 / 52	968	585	560	80	50	324
	E	321	228	28 / 52	1004	675	670	100	65	461
	G	372	264	28 / 52	1033	675	670	100	65	472

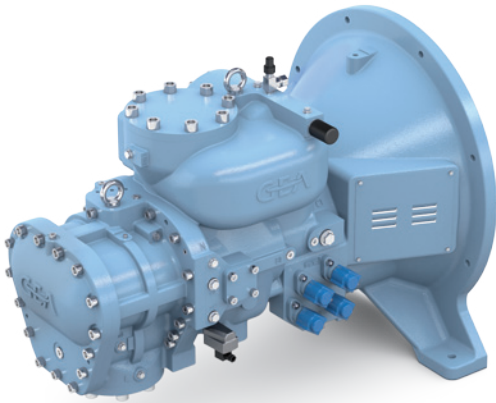
1) regarding swept volume, 2) at 2940 rpm, 3) at 3550 rpm, 4) with coupling housing, 5) suction connection, 6) discharge connection

Capacity

Series	Compressor type ¹⁾	28 bar compressor ²⁾ (kW)		52 bar compressor ²⁾ (kW)	
		Cooling capacity ³⁾ NH ₃ -35/+35 °C	Cooling capacity NH ₃ 0/+35 °C	Cooling capacity CO ₂ -50/-5 °C	Heating capacity NH ₃ +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 rpm with 5 K superheat and 0 K subcooling, stated temperature values: evaporation/condensation, 3) with economizer

GEA Grasso M



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 ease 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 1,000 to 4,500 rpm via frequency inverter especially ensures maximum efficiency in full and part load. GEA Grasso M comes in four model sizes and covers a swept volume range from 471 to 870 m³/h at 2,940 rpm (721 to 1,332 m³/h at 4,500 rpm).

Technical features

- Integrated suction filter
- Extended variable Vi-range
- Variable speed range from 1,000 to 4,500 rpm
- Infinitely variable capacity control and Vi adjustment by tandem slide system

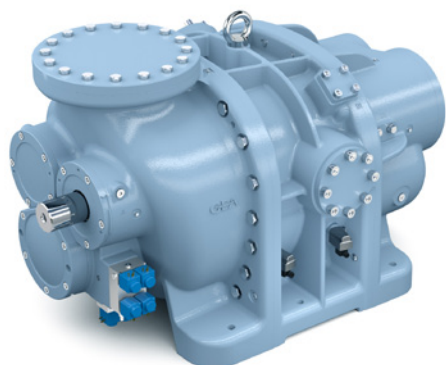
Technical data											
Series	Compressor type ¹⁾	Swept volume			Max. design pressure (bar)	Dimensions ⁴⁾ (mm)			DN1 ⁵⁾ (mm)	DN2 ⁶⁾ (mm)	Weight ⁴⁾ (kg)
		2,940 rpm (m ³ /h)	4,500 rpm (m ³ /h)	3,550 rpm (cfm)		L	W	H			
GEA Grasso M	H	471	721	335	28	934	800	831	125	80	601
	L	544	833	387	28	1000	800	831	125	80	629
	M	708	1084	503	28	1094	800	857	150	100	792
	N	870	1332	618	28	1145	800	857	150	100	843

1) regarding swept volume, 2) at 2940 rpm, 3) at 3550 rpm, 4) with coupling housing, 5) suction connection, 6) discharge connection

Capacity				
Series	Compressor type ¹⁾	Motor speed (rpm)	28 bar compressor (kW)	
			Cooling capacity ³⁾ NH ₃ -35/+35 °C	Cooling capacity NH ₃ 0/+35 °C
GEA Grasso M	H	2940	115	444
		4500	176	679
	L	2940	133	513
		4500	203	784
	M	2940	174	673
		4500	267	1031
	N	2940	215	828
		4500	328	1268

1) regarding swept volume, 2) 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 sixteen sizes and with a swept volume ranging from 805 to 11,467 m³/h. Owing to the combined sleeve and anti-friction bearing in the rotors, the compressor has an extremely long life cycle and low noise and vibration levels.

Technical features

- Excellent noise and vibration characteristics in all operating conditions
- Extremely long product lifetime
- Rotors with antifriction and sleeve bearings for maximum loads
- Infinitely capacity and Vi adjustment by slide system

Technical data

Series	Compressor type ¹⁾	Swept volume ²⁾ (m ³ /h)	Swept volume ³⁾ (cfm)	Max. design pressure ⁴⁾ (bar)	Dimensions (mm)			DN1 ⁵⁾ (mm)	DN2 ⁶⁾ (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 / 52	1625	980	980	400	250	3500
	XF	8560	6083	28	1725	980	980	400	250	3850
	XG	9807	6970	28	2180	1100	1140	457	305	4500
	XH	11467	8150	28	2300	1100	1140	457	305	4700

1) regarding swept volume, 2) at 2940 rpm, 3) at 3550 rpm, 4) some types 63 bar upon request, 5) suction connection, 6) discharge connection

Capacity					
Series	Compressor type ¹⁾	28 bar compressor ²⁾ (kW)		52 bar compressor ²⁾ (kW)	
		Cooling capacity ³⁾ NH ₃ -35/+35 °C	Cooling capacity NH ₃ 0/+35 °C	Cooling capacity CO ₂ -50/-5 °C	Heating capacity NH ₃ +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	10853
	XB	1070	4070	4499	-
	XC	1260	4807	5366	-
	XD	1491	5689	6351	-
	XE	1842	7030	-	-
	XF	2200	8393	-	-
	XG	2520	9615	-	-
	XH	2946	11244	-	-

1) regarding swept volume, 2) at 2940 rpm with 5 K superheat and 0 K subcooling, stated temperature values: evaporation/condensation, 3) 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.

GEA Refrigeration Germany GmbH

Holzhauser Str. 165, 13509 Berlin, Germany
Phone: +49 30 435 92 600, Fax: +49 30 435 92 777
info@gea.com, gea.com