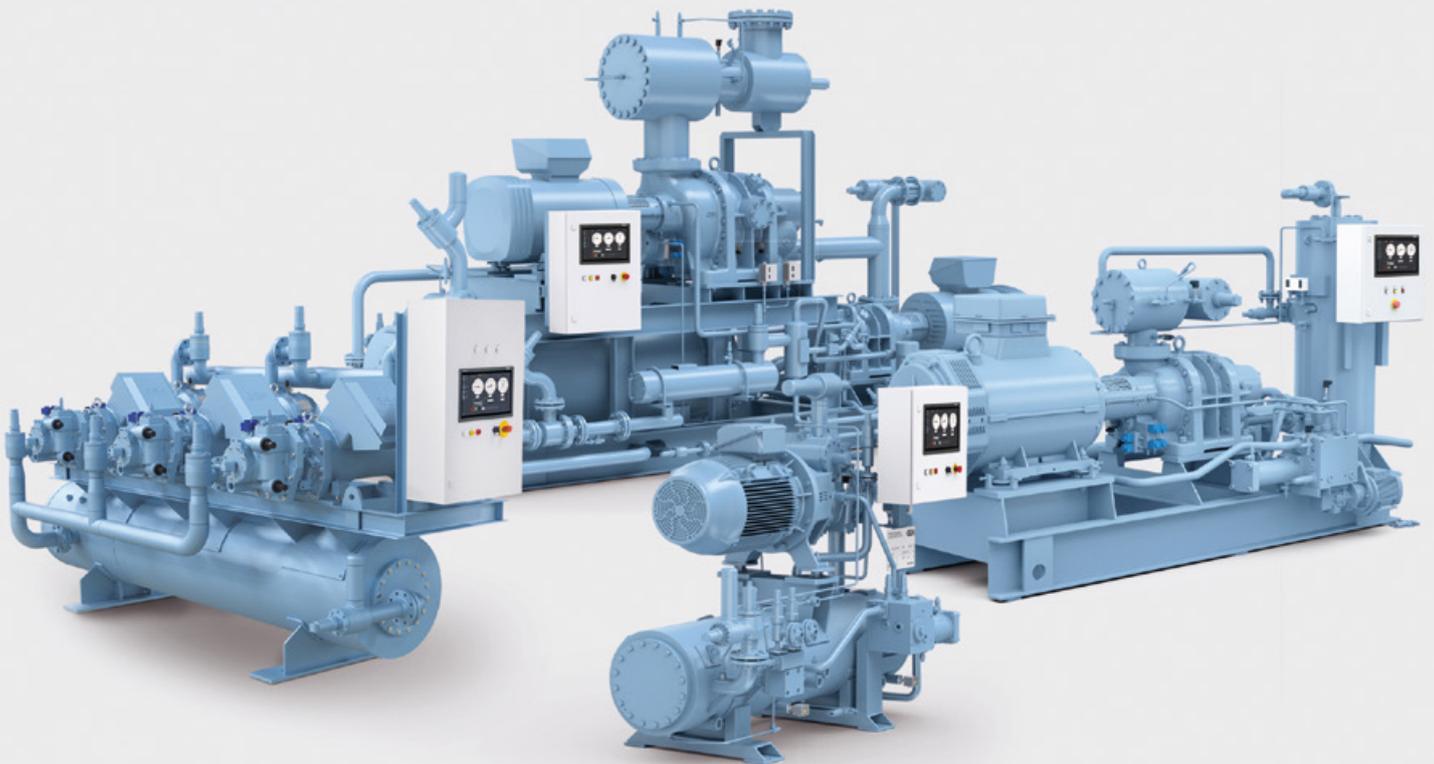


GEA SCREW PACKAGES

Plug & play compressor units for
industrial cooling and heating



FUTURE-PROOF DESIGN FOR YOUR REFRIGERATION & HEATING SYSTEMS

Whether in the food, beverage or chemical industry, in offices or laboratories, in logistics or in leisure facilities: Refrigeration and heating are always in demand. GEA offers high-quality screw compressor systems for your individual requirements.

Industry-leading screw compressor systems

As one of the largest suppliers of process technology, GEA offers state-of-the-art equipment for a wide range of industries. Years of experience in compressor technology have made GEA a leading manufacturer with a broad portfolio characterized by intelligent design and premium components for maximum quality, efficiency and reliability.

While our screw compressors are suitable for all common refrigerants, GEA focuses on the natural refrigerants ammonia (NH₃) and CO₂. Due to its high volumetric efficiency and zero global warming potential, NH₃ is a particularly future-proof choice in line with the F-gas regulation.

Our processes also focus on value, functionality and sustainability – from R & D, design, engineering and quality control to sales, after sales and service. GEA's worldwide network supports you almost everywhere. Use our powerful software tool to configure and compare screw compressor packages and select the ideal solution for you.

GEA screw packages key characteristics

- **Broad portfolio:** Choose your solution to fit your needs, for high- or low-temperature applications, with single-stage, two-stage or dual-stage packages.
- **Sustainable and future-proof equipment:** Our experience and focus on natural refrigerants help you to build a cost-effective and sustainable facility for years of excellent operation.
- **Energy efficiency:** State-of-the-art components ensure industry-leading efficiency and drastically reduce energy costs.
- **Reliability and longevity:** A sophisticated safety concept, project-specific configurations of bearings and oil supply and minimized weld seams make GEA packages safe, reliable and durable.
- **Economical service:** Reduce your total cost of ownership with low-maintenance and easy-to-service machines.



OPTIMUM SOLUTIONS FOR EVERY APPLICATION

GEA screw compressors have been established in many industries around the world for decades, serving all applications requiring cooling and heating.



Food and beverages

A strict temperature control is crucial in the food, dairy and beverage industry to ensure top quality and maintain official standards. GEA's screw compressor packages are designed to offer compact solutions to safely and efficiently maintain the cold chain. A lot of processes require heating, too, where traditionally boilers are used. Heat recovery options and specific heat pump packages can replace fossil fueled systems and reduce operating costs Co₂ emissions.

- **Every third chicken nugget is made with GEA:** The food industry relies on GEA screw packages for poultry, pork, beef or fish, but also for fruit and vegetables as well as ready meals – both in the production process and in cold storage.
- **Around every third process line for instant coffee has been installed by GEA:** Freeze-drying or spray-drying is an important step in the production of premium instant coffee, familiar even to consumers.
- **Approx. every second liter of beer is brewed with the aid of GEA solutions:** Lager beers and many other popular beer styles require cold storage and other cooled facilities for successful production.

Cooling and heating of buildings and other facilities

Almost every type of modern facility needs systems to ensure a comfortable air temperature and healthy working and living conditions. GEA packages not only offer reliable and precise cooling, they also include sophisticated safety devices practically excluding the risk of gas emissions.

The trend towards and need of electrified heating with heat pumps perfectly suits GEA equipment, too. Screw compressor packages are able to perform a large temperature lift and provide high supply temperatures for a wide capacity range.



Leisure activity installations

From ice rinks to indoor skiing halls, GEA screw compressor technology is found in many leisure facilities around the world. 24/7 availability and operation at a very specific and precise temperature level are key requirements. GEA has established itself as a trusted technology provider for efficient and reliable refrigeration solutions for projects of that kind and is constantly expanding its customer base.



Marine applications

The growing competition, especially in the cruise industry, and the increasing environmental protection urgently require innovative, efficient, economical and sustainable solutions. The GEA screw connections for maritime applications fulfill the specific demands.

- **Every second container ship in the world sails with GEA equipment on board:** A long-term partner to the marine sector, GEA provides equipment for merchant and leisure operations as well as for the fishing industry.



Chemical and pharmaceutical industry

Both the pharmaceutical and chemical industries place high demands on refrigeration and process heat appliances, where availability, redundancy and reliability are the main criteria. Our screw compressor packages meet these standards with a wide range of options, flexible configurations and highly specialized components that provide solutions to the most demanding customer requirements.

- **Every fourth liter of human blood is handled by GEA equipment:** Refrigeration is a fundamental requirement in many processes in the pharma industry.
- **More than a third of all polymer producers are using GEA technology:** Leading chemical companies rely on our screw compressor technologies.

Scope of supply

GEA screw packages come as plug & play units – pre-mounted and wired on a common base frame, including all the following components:

- Screw compressor (open type) with separate driveline (electric motor and coupling)
- Alternativ semi-hermetic screw compressor with integrated motor and coupling
- Oil separator with three sophisticated separation stages, completed with level indication, heater and draining valve
- Oil cooler or refrigerant injection connection
- Complete oil circuit with oil filtering, oil pump if necessary, automatic oil pressure and temperature control and draining and ventilation valves
- Stop, check and service valves at all relevant spots
- Set of pressure and temperature sensors
- Safety devices including a sophisticated 5-step safety chain against excess pressure
- GEA Omni control panel



Options

We value flexibility to provide you with an optimum solution for your individual requirements. Choose from a wide array of options, including particularly:

- Motor customization: Choose a specific voltage, efficiency and protection class – or provide a motor of your own choice.
- Economizer port: Improve the efficiency through intercooling and implement an economizer.
- Variable speed drive: Increase peak-load capacities and improve (part-load) efficiency through a frequency controlled variable speed drive operation.
- Oil cooling: Choose liquid or refrigeration cooled coolers or a refrigerant injection system – whatever works best for your conditions on site.
- Heat recovery: Utilize available heating capacity from the oil cooler up to supply temperatures of 75°C.
- Dual oil filters and dual safety valves: Increase the availability of the plant without downtime when servicing filters and safety valves.
- Power panel: Complement your control with a complete starter panel.
- ATEX design: Chose explosion-proof components for installations in chemical applications or in other hazardous environments.
- Certifications: All common approvals available.

Product overview

Series	Motor speed	Cooling/heating capacity (kW)
GEA Grasso M ¹⁾ single-stage	at 4,500 rpm 219–879 kw	0.5 – 1.0
GEA Grasso SP1 ¹⁾ single-stage	at 3,600 rpm 638–9,311 kw	1.0 – 9.0
GEA Grasso SP1 ¹⁾ horizontal single-stage	at 3,600 rpm 638–2,667 kw	1.0 – 2.5
GEA Grasso SP1 HP ²⁾ single-stage, heating	at 3,600 rpm 648–>10,000 kw	1.0 – 10.0
GEA Grasso SP1 HP ³⁾ single-stage R744	at 3,600 rpm 273–4,188 kw	1.0 – 4.0
GEA Grasso SP2 ⁴⁾ two-stage	at 3,600 rpm 118–2,100 kw	1.0 – 2.0
GEA Grasso SPduo ¹⁾ parallel-stage	at 3,600 rpm 344–3,882 kw	1.0 – 3.8
GEA Grasso X ¹⁾ multi-stage	at 6,000 rpm 395–1,900 kw	1.0 – 2.0

Swept volume in 1,000 m³/h

¹⁾R717, –10/+35 °C ²⁾R717, +30/+75 °C ³⁾R744, –50/+5 °C ⁴⁾R717, –40/+35 °C

GEA Grasso X – New semi-hermetic dimensions

The new GEA Grasso X semi-hermetic screw compressor package series is designed for cooling applications and flexible capacity demands. Available as a single compressor package and optionally with two, three or four compressors parallel it provides a large capacity range from 395 to 1,900 kW (R717 | -10/+35 °C | 6,000 rpm), plus flexibility, availability, and redundancy. Together with the wide variable speed range up to 6,000 rpm, the X package can be operated in all (part) loads at practically no efficiency loss.

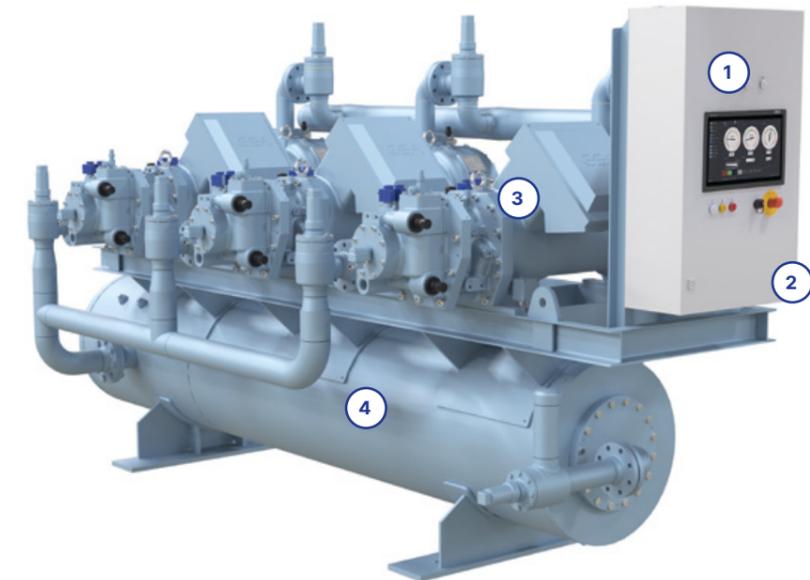
Based on the GEA CompaX 350 and 400 semi-hermetic compressor models, without shaft seals, the package is a safe and reliable solution for the use of ammonia that ensures efficiency in accordance with Eco-Design guideline and climate-friendliness in compliance with F-gas regulation. The ultra-compact footprint, another key parameter during the design of the package, facilitates the refurbishment of machine rooms or, for example, the integration on ships.

A future-proof, efficient and safe solution at minimum footprint, maintenance effort and total costs.

At a glance

- Flexibility, availability, redundancy
- Wide capacity and speed range for high efficiencies in all loads
- Minimum footprint and maintenance

Unique features and advantages:



1. GEA Omni control panel

- High-definition 15.6" display (1,366 × 768 pixel)
- Remote access via GEA OmniLink
- Full data history via GEA OmniHistorian
- Configurable Modbus TCP Ethernet communication

2. Semi-hermetic screw compressor

- Highly efficient, compact design
- High integration level
- No shaft seal, no leakages
- Wide speed range up to 6,000 rpm

3. Capacity and Vi control

- Infinite capacity and Vi control for efficient operation in full and part load
- Capacity control via frequency inverter and/or capacity slide
- Optimized economizer operation (option) for larger pressure differences

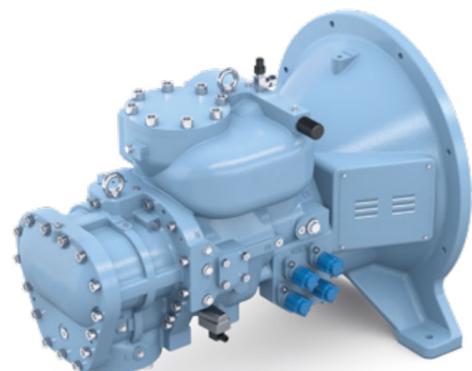
4. 3-stage oil separator

- Maximum 5 ppm oil carry-over
- Reduced operating costs
- Low oil charge

Design

- Lowest footprint
- Reduced maintenance
- Safe and reliable

GEA Grasso M series packages – Total cost of ownership redefined



In a small to medium capacity range, the new state-of-the-art series GEA Grasso M is your top choice. Remarkably compact and economical, the GEA screw compressor package is engineered according to our principle of maximum energy efficiency and reliability. A new component design and high-end package configuration has enabled us to reduce the footprint to a minimum while significantly improving reliability and product life.

The series offers 8 different models and ranges from 140 to 569 kW (R717 I -10/+35°C | 2,950 rpm). New high-speed motors and the optional frequency converter with a speed range of 1,000 – 4,500 rpm not only improve the part-load efficiency significantly but also increase the capacity up to 879 kW.

All this adds up to lower investment, energy and maintenance costs. Choose GEA Grasso M packages for the lowest TCO in the industry.

At a glance

- Reduced Total Cost of Ownership (TCO)
- Maximum efficiency (5% better than its predecessor)
- Minimized footprint (up to 70% lower than common units)

Unique features and advantages:



1. GEA Omni control panel

- High-definition 15.6" display (1,366 × 768 pixel)
- Remote access via GEA OmniLink
- Full data history via GEA OmniHistorian
- Configurable Modbus TCP Ethernet communication
- Other common communication protocols supported
- Smarter sequencer for efficient plant network management

2. New screw compressor design

- Highly efficient, compact design
- Significantly improved rotor profile for industry-leading EER (Energy Efficiency Ratio)
- Extended and variable Vi (internal volume ratio) for better part load efficiency
- Variable speed from 1,000 to 4,500 rpm
- Integrated suction filter with gas-operated non-return valve for excellent part load efficiency with every flow rate

3. Capacity and Vi control

- Infinite capacity and Vi control for efficient operation in full and part load
- Capacity control via frequency inverter and/or capacity slide
- Optimized economizer operation (option) for larger pressure differences

4. High-performance motors

- Optional high-speed motor for increased capacity and part load efficiency
- Flanged motor for more reliability with minimum vibration and noise emission

5. 3-stage oil separator

- Maximum 5 ppm oil carry-over
- Reduced operating costs
- Low oil charge

6. Oil Management Center (OMC)

- Oil management functions integrated in a compact block providing a central working area
- Reduced leakage risk
- Closable filter for easy service

Easy servicing

- Easy access to service parts
- Service-friendly working height

GEA Grasso SP1 – Efficient, reliable, versatile

The single-stage series GEA Grasso SP1 is designed for medium to the largest capacity requirements and, thanks to the flexible set-up, for highly individual needs. Available are 16 models from 229 kW to 7,722 kW refrigeration capacity (R717 | -10/+35 °C | 2,950 rpm).

With components fitted on a stable base frame, the packages operate at low noise and vibration levels and allow easy and comfortable access and service – a crucial advantage particularly for large capacities and large-sized components. The design also allows a multitude of options so that clients can customize the package to their individual needs, making the GEA Grasso SP1 series particularly attractive for its versatility.

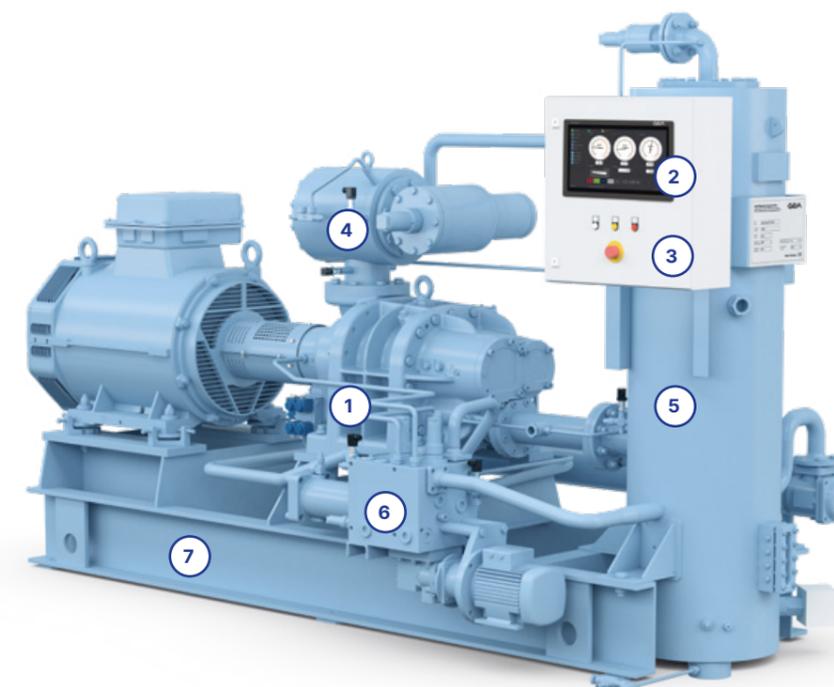
Compact variant SP1 horizontal

The first 9 models (529 to 2,212 kW) of the SP1 range are also available in a more compact horizontal oil separator design (driveline mounted on top). This version, GEA Grasso SP1 horizontal, is more standardized and offers a 15 to 20% footprint reduction compared with its vertical counterpart. Ideal for R717 standard applications where machine room space is limited.

At a glance

- Widest temperature and application range
- Refrigeration capacities over 9 MW (with 3,600 rpm)
- Versatile design from standards to high customization

Unique features and advantages:



1. Efficient screw compressor

- Highly efficient, compact design
- GEA-specified rotor profile for industry-leading COP
- Sleeve bearings: infinite lifetime and inherently quiet
- Axial bearings: easy to replace, easy access from non-drive end

2. GEA Omni control panel

- High definition 15.6" display (1,366 × 768 pixel)
- Remote access via GEA OmniLink
- Full data history via GEA OmniHistorian
- Configurable Modbus TCP Ethernet communication
- Other common communication protocols supported
- Smart sequencer for efficient plant network management

3. Capacity and Vi control

- Capacity control via frequency inverter and/or capacity slide
- Infinite capacity and Vi (internal volume ratio) control for efficient operation in full and part load
- Optimized economizer operation (option) for larger pressure differences

4. Suction filter combination (SFC)

- Gas-operated check valve for better COP
- No chatter at low flow rate
- Low pressure loss, reduced leakage risk

5. 3-stage oil separator

- Low oil charge
- Maximum 5 ppm oil carry-over
- Reduced operating costs

6. Oil Management Center (OMC)

- Oil management functions integrated in a compact block providing a central working area
- Reduced leakage risk
- Closable filter for easy service

7. Sturdy base frame

- Low noise and vibration level for extended component lifetime
- Service-friendly working height
- Low center of gravity

GEA Grasso SP1 HP – Efficient NH₃ heating or CO₂ cooling

Specifically designed for NH₃ heat pumps or subcritical CO₂ cooling applications, the high-pressure series meets the growing demand and necessity for natural refrigerants and heating applications. The GEA Grasso SP1 HP ("high-pressure") design is based on the successful, classic SP1 line. Specific design elements and features relevant for operations with CO₂ or NH₃ heating at higher pressure levels make our product a most efficient and reliable choice for any such applications.

New GEA Grasso L XHP screw

The SP1 HP series now includes the brand-new GEA Grasso L XHP screw compressor. This unique line has been developed specifically for large heating capacity demands at high supply temperatures. The outcome is an extremely efficient and robust 70 bar screw compressor (complete package designed at 63 bar) for condensing temperatures up to +95 °C. The first model with a swept volume of 2748 m³/h (at 2,940 rpm) provides 8,885 kW heating capacity (evaporation +30/condensing +90 °C with 10 K subcooling), two more sizes follow soon.

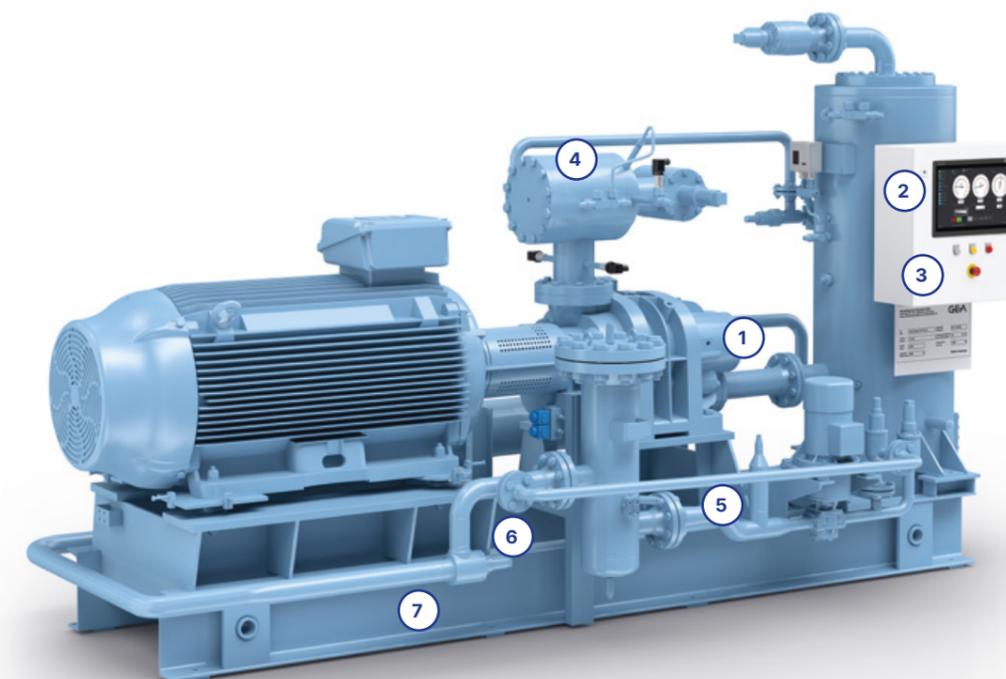
The SP1 HP range continues covering the existing 52 bar screw compressors, 20 sizes for NH₃ heating and 17 sizes for CO₂ cooling applications.

Since the mid-2000s GEA screw compressors and packages have been used for countless CO₂ refrigeration and NH₃ heat pump projects. Plentiful experience that helped with transforming previously customized units into a new standard high-pressure model range.

At a glance

- Specific high-pressure design based on plenty of experience and the well-proven GEA Grasso SP1 package
- NH₃ heat pumps up to a supply temperatures of +85 °C, and with the new L XHP screw to +95 °C
- Subcritical CO₂ cooling with optional defrosting mode

Unique features and advantages:



1. Efficient screw compressor

- Highly efficient, compact, specific 52 bar design
- GEA-specified rotor profile for industry-leading COP
- Sleeve bearings: infinite lifetime and inherently quiet
- Axial bearings: easy to replace, easy access from non-drive end
- Brand-new specific heat pump compressor L XHP for temperatures up to +95 °C

2. GEA Omni control panel

- High definition 15.6" display (1,366 × 768 pixel)
- Remote access via GEA OmniLink
- Full data history via GEA OmniHistorian
- Configurable Modbus TCP Ethernet communication
- Other common communication protocols supported
- Smart sequencer for efficient plant network management

3. Capacity and Vi control

- Capacity control via frequency inverter and/or capacity slide (min. position 30%)
- Capacity and Vi (internal volume ratio, limited availability for variable execution) control for efficient operation in full and part load

4. Suction filter combination

- Mounted at GEA Grasso LT compressor types (GEA Grasso M types equipped with internal filter)
- Gas-operated check valve for better COP
- No chatter at low flow rate
- Low pressure loss

5. 3-stage oil separator

- Low oil charge
- Oil carry-over depending on the application
- Reduced operating costs

6. Oil management

- Ingenious oil circuit configuration based on the project-specific conditions
- OMC technology available for 40 bar applications (max. oil flow 340 l/min)

7. Sturdy base frame

- Low noise and vibration level for extended component lifetime
- Service-friendly working height
- Low center of gravity

GEA Grasso SP2 – The high performer

Designed for low evaporation temperatures and high temperature increases and high differential pressures, two-stage screw compressor packages GEA Grasso SP2 each include two separate drivelines in serial arrangement: a low-pressure plus high-pressure compression stage facilitating a most efficient and flexible operation.

The separate drivelines offer significant redundancy and flexibility advantages over compound solutions: individual speed regulation ensures maximum efficiency also in varying operating conditions and load requirements. Additional flexibility and availability are provided by the possibility to switch off the low-pressure compression stage – for example when servicing the booster side or when running an A/C cooling mode only.

All GEA Grasso SP2 packages can be configured with open flash or DX intercooling, including additional, individual side load capacities.

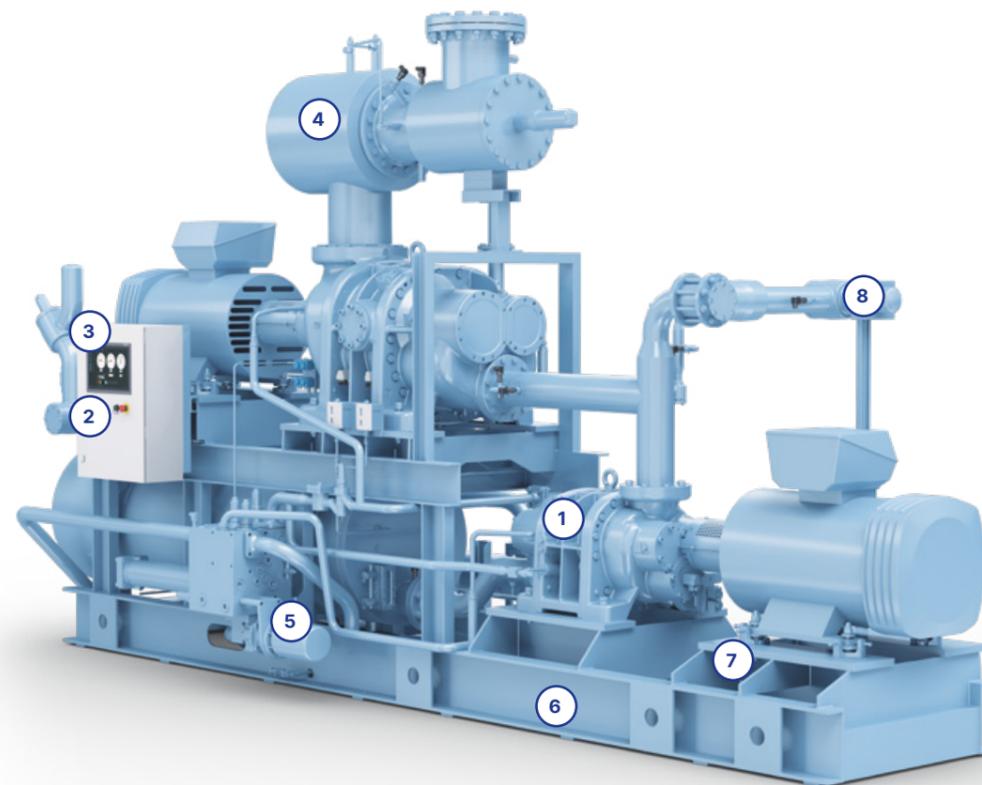
Three models are available with a swept volume of 1990, 2390 and 2748 m³/h (at 2,940 rpm).

A GEA Grasso SP2 package is the most efficient and flexible solution for high differential pressure operation. At the same time the package, based on a common base frame, oil circuit and common control, comes in one piece allowing easy handling and operation. Thanks to the smart GEA design it requires not only less space than two separate single-stage package, but it is also more compact than typical two-stage compound solutions.

At a glance

- Optimized for low temperatures and high differential pressure operations
- Flexible and individual operation of low-stage and high-stage compressors as well as intermediate load connection
- Common base frame, oil circuit and control for easy operation and minimized footprint

Unique features and advantages:



1. Efficient screw compressors

- Highly efficient, compact design
- Proprietary rotor profile for industry-leading COP
- Sleeve bearings: infinite lifetime and inherently quiet
- Axial bearings: easy to replace, easy access from non-drive end

2. Capacity and Vi control

- Capacity control via frequency inverter and/or capacity slide
- Infinite capacity and Vi (internal volume ratio) control for efficient operation in full and part load

3. GEA Omni control panel

- High-definition 15.6" display (1,366 × 768 pixel)
- Remote access via GEA OmniLink
- Full data history via GEA OmniHistorian
- Configurable Modbus TCP Ethernet communication
- Other common communication protocols supported
- Smart sequencer for efficient plant network management

4. Suction filter combination

- Gas-operated check valve for better COP
- No chatter at low flow rate
- Low pressure loss

5. 3-stage oil separator

- Low oil charge
- Maximum 5 ppm oil carry-over
- Reduced operating costs

6. Oil Management Center (OMC)

- Oil management functions integrated in a compact block providing a central working area
- Reduced leakage risk
- Closable filter for easy service

7. Common base frame

- Low noise and vibration level
- Service-friendly working height
- Low center of gravity
- Reduced package footprint and maintenance costs in comparison with single-stage packages

8. Intermediate connections

- Increased efficiency with intercooling options
- Additional intermediate load possible
- Additional connection for single high-stage cooling mode (option) when the booster stage is switched off

GEA Grasso SPduo – Best efficiency with all loads

The packages in the GEA Grasso SPduo series feature two parallel-mounted screw compressors drivelines. This solution is especially suited for part-load efficiency, flexible (part-load) operation and all applications where demands for machine availability and redundancy are most important.

Both screw compressors in the unit can be operated independently or simultaneously at full loads to achieve top-level loads. Configure one or both drivelines with a variable speed drive motor and frequency converter to achieve part-loads down to 12% without significant efficiency losses!

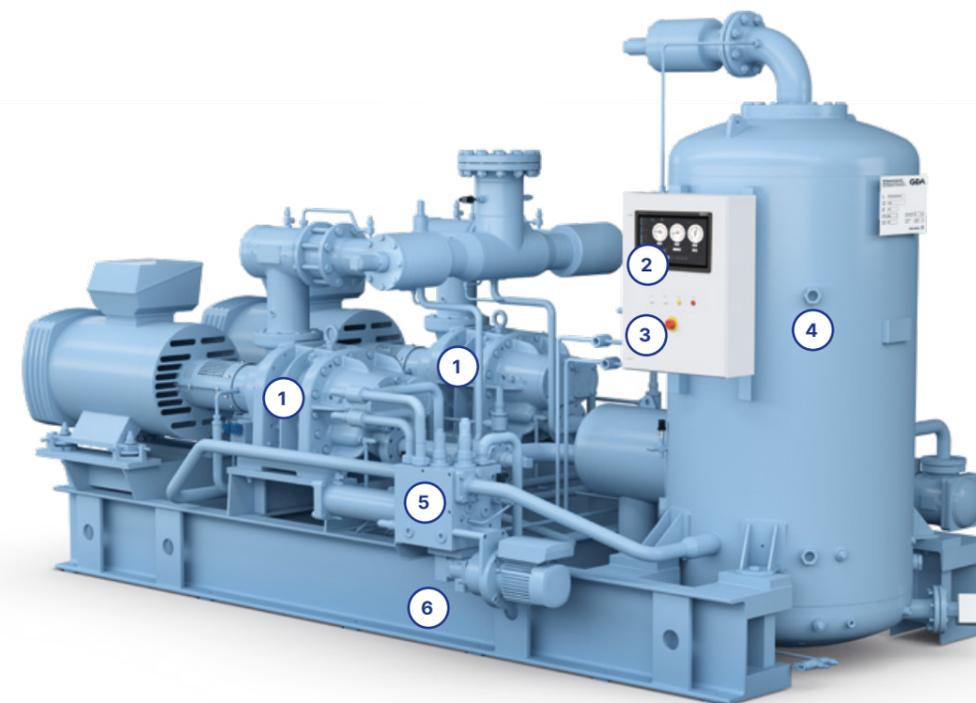
The SPduo series consist of 15 models with a capacity range from 279 to 3,220 kW (R717 | -10/+35 °C | 2,950 rpm).

Compared to two separate single-stage packages, the GEA Grasso SPduo series does not provide the same, fullest redundancy but returns a lower TCO thanks to reduced investment and service expenses. Thanks to the common base frame, oil circuit and control, SPduo packages come in one piece and are easy to handle and operate.

At a glance

- Optimized for highest efficiency in all load conditions
- Maximum machine availability, flexibility and redundancy – parallel or independent single compressor operation possible
- Common base frame, oil circuit and control for easy operation and minimized footprint

Unique features and advantages:



1. Efficient screw compressors

- Highly efficient, compact design
- Proprietary rotor profile for industry-leading COP
- Sleeve bearings: infinite lifetime and inherently quiet
- Axial bearings: easy to replace, easy access from non-drive end

2. GEA Omni control panel

- High-definition 15.6" display (1,366 × 768 pixel)
- Remote access via GEA OmniLink
- Full data history via GEA OmniHistorian
- Configurable Modbus TCP Ethernet communication
- Other common communication protocols supported
- Smart sequencer for efficient plant network management

3. Capacity and Vi control

- Infinite capacity and Vi (internal volume ratio) control for efficient operation in full and part load
- Capacity control via frequency inverter and/or capacity slide
- Optimized economizer operation (option) for larger pressure differences

4. 3-stage oil separator

- Low oil charge
- Maximum 5 ppm oil carry-over
- Reduced operating costs

5. Oil Management Center (OMC)

- Oil management functions integrated in a compact block providing a central working area
- Reduced leakage risk
- Closable filter for easy service

6. Common base frame

- Reduced package footprint and maintenance costs in comparison with single-stage packages
- Low noise and vibration level
- Service-friendly working height
- Low center of gravity

TECHNICAL DATA

GEA GRASSO X

Model	Motor speed (rpm)	Cooling capacity (kW)			Dimensions (mm)			Weight (kg) without motor
		R717 -10/+35°C	R717 -20/+25°C	R717 +10/+50°C	L	W	H	
GEA Grasso X E1	6,000	395	270	780	2,500	1,150	1,850	1,950
GEA Grasso X G1	6,000	475	325	945	2,500	1,150	1,850	1,975
GEA Grasso X E2	6,000	790	540	1,560	2,800	1,700	1,950	3,200
GEA Grasso X G2	6,000	950	650	1,890	2,800	1,800	1,950	3,975
GEA Grasso X E3	6,000	1,185	810	2,340	4,400	1,700	2,400	4,900
GEA Grasso X G3	6,000	1,425	975	2,835	4,400	1,800	2,400	5,800
GEA Grasso X E4	6,000	1,580	1,080	–	4,900	1,700	2,400	6,300
GEA Grasso X G4	6,000	1,900	1,300	–	4,900	1,800	2,400	6,600



TECHNICAL DATA

GEA GRASSO M

Model	Motor speed (rpm)	Cooling capacity (kW)			Dimensions* (mm)			Weight* (kg) without motor
		R717 -10/+35°C	R717 -40/-10°C	R290 -10/+35°C	L	W	H	
GEA Grasso M-C	4,500	219	68	181	2,200	1,225	1,950	1,350
GEA Grasso M-D	4,500	262	81	217	2,200	1,225	1,950	1,450
GEA Grasso M-E	4,500	313	96	259	2,200	1,225	1,975	1,550
GEA Grasso M-G	4,500	372	111	308	2,300	1,225	1,975	1,650
GEA Grasso M-H	4,500	471	147	389	2,550	1,225	1,950	1,725
GEA Grasso M-L	4,500	544	169	449	2,550	1,225	1,950	1,800
GEA Grasso M-M	4,500	715	222	590	2,600	1,225	2,025	1,875
GEA Grasso M-N	4,500	879	274	725	2,950	1,325	2,175	2,125

*Dimensions and weights are based on standard exemplary applications. Values can differ depending on the specific operating conditions.

TECHNICAL DATA

GEA GRASSO SP1

Model	Motor speed (rpm)	Cooling capacity ¹⁾ (kW)			Dimensions* (mm)			Weight* (kg) without motor
		R717 -10/+35°C	R717 -40/-10°C	R290 -10/+35°C	L	W	H	
GEA Grasso SP1-P	3,600	646	197	507	3,200	1,400	2,050	2,500
GEA Grasso SP1-R	3,600	835	255	655	3,500	1,400	2,050	2,750
	4,500	1,064	318	835				
GEA Grasso SP1-S	3,600	1,056	322	829	3,500	1,400	2,050	2,750
	4,500	1,320	403	1,036				
GEA Grasso SP1-T	3,600	1,183	361	929	3,550	1,450	2,100	2,900
	4,500	1,479	451	1,161				
GEA Grasso SP1-V	3,600	1,388	428	1,091	4,050	1,800	2,100	3,400
GEA Grasso SP1-W	3,600	1,619	499	1,273	4,050	1,800	2,100	3,400
GEA Grasso SP1-Y	3,600	1,964	606	1,549	4,100	1,800	2,150	3,500
GEA Grasso SP1-Z	3,600	2,282	703	1,795	4,450	1,800	2,190	4,000
GEA Grasso SP1-XA	3,600	2,699	832	2,122	4,450	1,800	2,190	4,100
GEA Grasso SP1-XB	3,600	3,415	1,028	2,685	5,550	1,820	2,775	7,500
GEA Grasso SP1-XC	3,600	4,029	1,242	3,168	5,650	1,820	2,975	7,900
GEA Grasso SP1-XD	3,600	4,768	1,470	3,749	6,050	1,820	2,975	8,900
GEA Grasso SP1-XE	3,600	5,891	1,816	4,633	7,700	1,820	3,150	10,400
GEA Grasso SP1-XF	3,600	7,034	2,168	5,531	7,700	1,820	3,150	11,400
GEA Grasso SP1-XG	3,600	8,058	2,502	6,337	8,100	1,820	3,250	12,750
GEA Grasso SP1-XH	3,600	9,423	2,926	7,410	9,100	2,020	3,450	14,750

¹⁾ The variant GEA Grasso SP1 horizontal provides identical performance data but slightly reduced length and width.

*Dimensions and weights are based on standard exemplary applications. Values can differ depending on the specific operating conditions.

TECHNICAL DATA

GEA GRASSO SP1 HP (R717)

Heat pump application with NH₃

Swept volume size* Model	Motor speed (rpm)	Heating capacity (kW)		Cooling capacity (kW)		Dimensions** (mm)			Weight** (kg) without motor
		R717		R717		L	W	H	
		+30/+75°C 10 k subcool.	-10/+60°C 10 k subcool.	+30/+75°C 10 k subcool.	-10/+60°C 10 k subcool.				
GEA Grasso SP1 HP-C	3,600	634	240	489	143	3,050	1,400	2,000	2,075
GEA Grasso SP1 HP-D	3,600	752	276	581	170	3,050	1,400	2,000	2,075
GEA Grasso SP1 HP-E	3,600	943	332	731	207	3,050	1,400	2,000	2,075
GEA Grasso SP1 HP-G	3,600	1,117	386	874	248	3,250	1,400	2,000	2,100
GEA Grasso SP1 HP-H	3,600	1,455	491	1,145	314	3,650	1,400	2,000	2,300
GEA Grasso SP1 HP-L	3,600	1,680	565	1,322	362	3,750	1,450	2,010	2,500
GEA Grasso SP1 HP-M	3,300	2,071	674	1,646	436	3,900	1,450	2,010	2,750
GEA Grasso SP1 HP-N	3,300	2,542	828	2,024	534	3,900	1,450	2,090	2,800
GEA Grasso SP1 HP-P	3,300	2,373	786	1,883	518	3,200	1,400	2,050	2,500
GEA Grasso SP1 HP-R	3,300	3,031	1,016	2,409	669	3,500	1,400	2,050	2,750
GEA Grasso SP1 HP-S	3,300	3,764	1,276	2,987	846	3,500	1,400	2,050	2,750
GEA Grasso SP1 HP-T	3,300	4,252	1,425	3,379	948	3,550	1,450	2,100	2,900
GEA Grasso SP1 HP-V	3,300	4,988	1,659	4,009	1,116	4,050	1,800	2,100	3,400
GEA Grasso SP1 HP-W	3,300	5,776	1,922	4,677	1,302	4,050	1,800	2,100	3,400
GEA Grasso SP1 HP-HW	3,600	6,315	2,340	5,050	1,390	5,400	1,850	2,650	4,500
GEA Grasso SP1 HP-Y	3,300	6,947	2,325	5,612	1,579	4,100	1,800	2,150	3,500
GEA Grasso SP1 HP-HY	3,600	7,645	2,830	6,125	1,690	5,500	1,850	2,725	5,000
GEA Grasso SP1 HP-Z	3,300	7,970	2,692	6,462	1,835	4,450	1,800	2,190	4,000
GEA Grasso SP1 HP-HZ	3,600	8,870	3,275	7,120	1,965	6,000	1,850	2,775	5,500
GEA Grasso SP1 HP-XA	3,300	9,454	3,184	7,642	2,170	4,450	1,800	2,190	4,100
GEA Grasso SP1 HP-XB	3,300	-	4,063	-	2,743	5,550	1,820	2,775	7,500
GEA Grasso SP1 HP-XC	3,300	-	4,783	-	3,239	5,650	1,820	2,975	7,900
GEA Grasso SP1 HP-XD	3,300	-	5,642	-	3,833	6,050	1,820	2,975	8,900

* Depending on the project specific conditions the compressor frame size can differ from the swept volume size (heavy-duty operation with shortened rotors).

**Dimensions and weights are based on standard exemplary applications. Values can differ depending on the specific operating conditions.

TECHNICAL DATA

GEA GRASSO SP1 HP (R744)

Swept volume size* Model	Motor speed (rpm)	Cooling capacity Freezing mode (kW)		Cooling capacity Defrosting mode (kW)		Dimensions** (mm)			Weight** (kg) without motor
		R744		R744		L	W	H	
		-50/-5°C	-50/+10°C	-40/+10°C	-50/+10°C				
GEA Grasso SP1 HP-C	3,600	399	270	302	205	3,050	1,400	2,000	2,075
GEA Grasso SP1 HP-D	3,600	474	321	359	243	3,050	1,400	2,000	2,075
GEA Grasso SP1 HP-E	3,600	582	390	451	303	3,050	1,400	2,000	2,075
GEA Grasso SP1 HP-G	3,600	682	448	529	348	3,250	1,400	2,000	2,100
GEA Grasso SP1 HP-H	3,600	922	618	716	481	3,650	1,400	2,000	2,300
GEA Grasso SP1 HP-L	3,600	1,065	714	827	555	3,750	1,450	2,010	2,500
GEA Grasso SP1 HP-M	3,600	1,240	829	999	678	3,900	1,450	2,010	2,750
GEA Grasso SP1 HP-N	3,300	1,525	1,032	1,229	834	3,900	1,450	2,090	2,800
GEA Grasso SP1 HP-P	3,300	1,363	921	1,115	733	3,200	1,400	2,050	2,500
GEA Grasso SP1 HP-R	3,300	1,761	1,190	1,427	966	3,500	1,400	2,050	2,750
GEA Grasso SP1 HP-S	3,300	2,228	1,505	1,769	1,198	3,500	1,400	2,050	2,750
GEA Grasso SP1 HP-T	3,300	2,521	1,704	2,002	1,356	3,550	1,450	2,100	2,900
GEA Grasso SP1 HP-V	3,300	2,963	1,983	2,353	1,593	4,050	1,800	2,100	3,400
GEA Grasso SP1 HP-W	3,300	3,457	2,313	2,745	1,859	4,050	1,800	2,100	3,400
GEA Grasso SP1 HP-Y	3,300	4,153	2,806	3,297	2,233	4,100	1,800	2,150	3,500
GEA Grasso SP1 HP-Z	3,300	-	3,260	-	-	4,450	1,800	2,190	4,000
GEA Grasso SP1 HP-XA	3,300	-	-	-	-	4,450	1,800	2,190	4,100
GEA Grasso SP1 HP-XB	-	-	-	-	-	-	-	-	-
GEA Grasso SP1 HP-XC	-	-	-	-	-	-	-	-	-
GEA Grasso SP1 HP-XD	-	-	-	-	-	-	-	-	-

* Depending on the project specific conditions the compressor frame size can differ from the swept volume size (heavy-duty operation with shortened rotors).

**Dimensions and weights are based on standard exemplary applications. Values can differ depending on the specific operating conditions.

TECHNICAL DATA

GEA GRASSO SP2

Model	Motor speed (rpm)	Cooling capacity ¹⁾ (kW)		Dimensions* (mm)			Weight* (kg) without motor
		R717 -40/+35°C	R717 -40/+35°C	L	W	H	
GEA Grasso SP2-H	3,600 4,500	118 148	69 87	3,600	1,500	2,000	3,000
GEA Grasso SP2-L	3,600 4,500	134 170	79 99	3,600	1,500	2,000	3,200
GEA Grasso SP2-M	3,600 4,500	175 221	103 130	4,050	1,500	2,450	3,800
GEA Grasso SP2-N	3,600 4,500	215 271	126 159	4,050	1,500	2,450	4,000
GEA Grasso SP2-P	3,600	198	116	4,050	1,600	2,350	4,300
GEA Grasso SP2-R	3,600 4,500	252 322	149 189	4,700	1,600	2,350	4,600
GEA Grasso SP2-S	3,600 4,500	319 399	188 235	4,700	1,700	2,400	6,000
GEA Grasso SP2-T	3,600 4,500	359 449	211 264	5,800	1,700	2,400	6,500
GEA Grasso SP2-V	3,600	429	256	5,800	1,700	2,670	7,000
GEA Grasso SP2-W	3,600	503	300	5,900	1,800	2,800	7,500
GEA Grasso SP2-Y	3,600	599	357	5,900	2,000	2,800	8,000
GEA Grasso SP2-Z	3,600	699	417	6,100	2,000	2,800	8,500
GEA Grasso SP2-XA	3,600	832	496	6,400	2,000	2,800	9,600
GEA Grasso SP2-XB	3,600	1,068	651	6,850	2,100	3,350	13,200
GEA Grasso SP2-XC	3,600	1,226	731	6,900	2,100	3,350	13,700
GEA Grasso SP2-XD	3,600	1,448	863	6,900	2,100	3,350	14,600
GEA Grasso SP2-XE	3,600	1,786	1,065	7,000	2,400	3,500	15,000
GEA Grasso SP2-XF	3,600	2,125	1,267	7,100	2,400	3,500	16,500

¹⁾With open flash intercooler

*Dimensions and weights are based on standard exemplary applications. Values can differ depending on the specific operating conditions.

TECHNICAL DATA

GEA GRASSO SPDUO

Model	Motor speed (rpm)	Cooling capacity (kW)			Dimensions* (mm)			Weight* (kg) without motor
		R717 -10/+35°C	R717 -40/-10°C	R290 -10/+35°C	L	W	H	
GEA Grasso SPduo-C	3,600 4,500	344 438	108 136	286 362	3,600	1,500	2,280	2,250
GEA Grasso SPduo-D	3,600 4,500	412 524	128 162	342 434	3,600	1,500	2,350	2,250
GEA Grasso SPduo-E	3,600 4,500	494 626	152 192	410 518	3,600	1,600	2,360	2,400
GEA Grasso SPduo-G	3,600 4,500	586 744	176 222	486 616	3,600	1,950	2,430	2,550
GEA Grasso SPduo-H	3,600 4,500	748 942	232 294	616 778	3,850	2,250	2,500	2,900
GEA Grasso SPduo-L	3,600 4,500	864 1,088	268 338	712 898	3,850	2,250	2,500	3,100
GEA Grasso SPduo-M	3,600 4,500	1,136 1,430	352 444	936 1,180	3,750	2,350	2,580	4,100
GEA Grasso SPduo-N	3,600 4,500	1,396 1,758	440 548	1,152 1,450	3,750	2,350	2,590	4,300
GEA Grasso SPduo-P	3,600	1,292	394	1,014	3,750	2,370	2,500	4,600
GEA Grasso SPduo-R	3,600 4,500	1,670 2,128	510 636	1,310 1,670	3,750	2,370	2,500	5,050
GEA Grasso SPduo-S	3,600 4,500	2,112 2,640	644 806	1,658 2,072	3,950	2,370	2,600	5,150
GEA Grasso SPduo-T	3,600 4,500	2,366 2,958	722 902	1,858 2,322	3,950	2,370	2,600	5,300
GEA Grasso SPduo-V	3,600	2,776	856	2,182	4,550	2,750	2,600	6,550
GEA Grasso SPduo-W	3,600	3,238	998	2,546	4,550	2,750	2,600	6,800
GEA Grasso SPduo-Y	3,600	3,928	1,212	3,098	4,550	2,750	2,600	7,250

*Dimensions and weights are based on standard exemplary applications. Values can differ depending on the specific operating conditions.

