

# GEA Screw Compressors


Screw compressors for industrial  
refrigeration and air conditioning


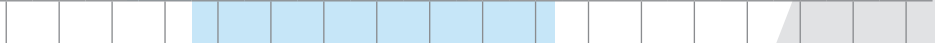
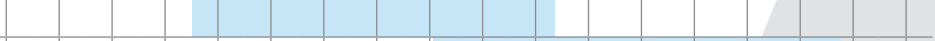

# Top quality based on proven development

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.



| Series        |                                | Swept volume (m³/h)  |
|---------------|--------------------------------|--|
|               |                                | 0 100 200 300 400 500 600 700 800 900 1000 2000 4000 6000 8000 10,000 12,000 14,000  |
| GEA Grasso M  | at 2940 rpm<br>231–870 m³/h    |  |
|               | at 4500 rpm<br>354–1332 m³/h   |  |
| GEA Grasso LT | at 2940 rpm<br>805–11,467 m³/h |  |
|               | at 3550 rpm<br>972–13,846 m³/h |  |

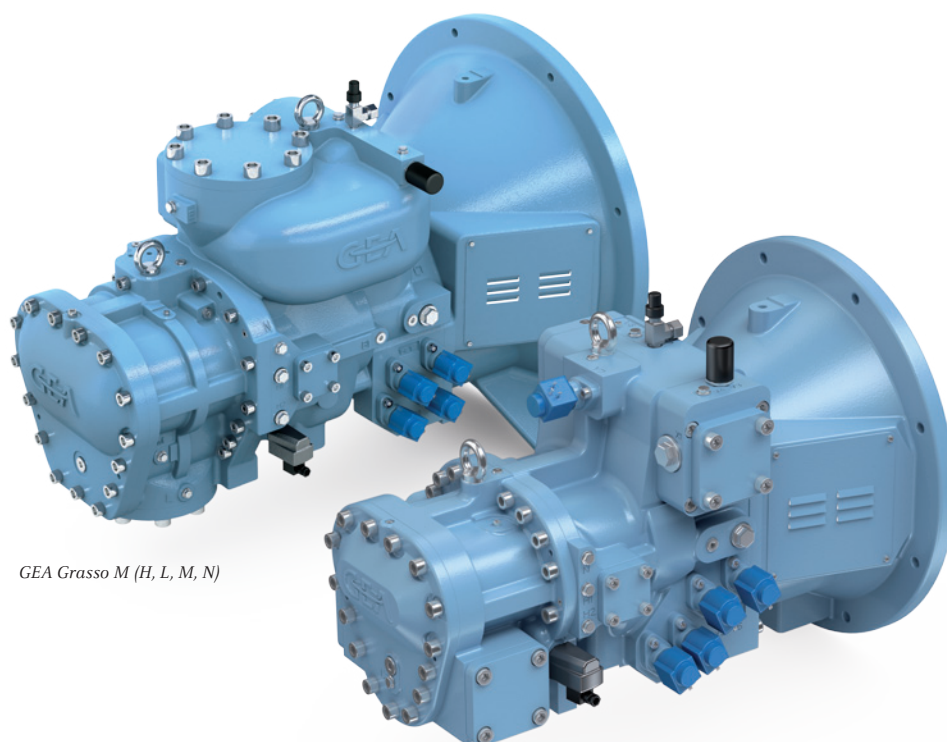
# GEA Grasso M – Boosting efficiency

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).

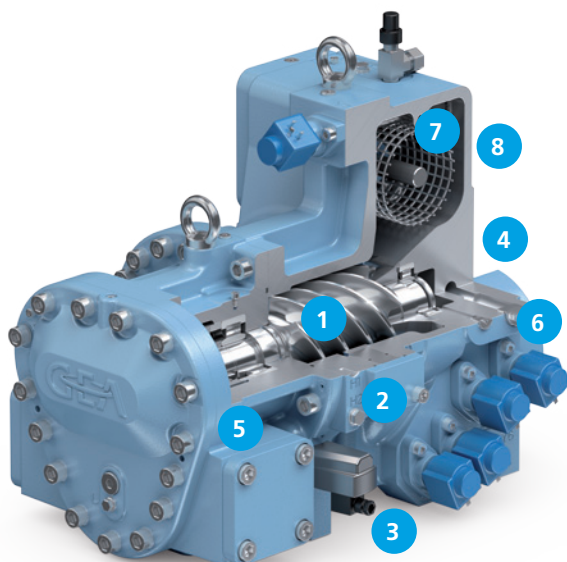
## At a glance

- Outstanding energy-efficiency
- Easy package assembly

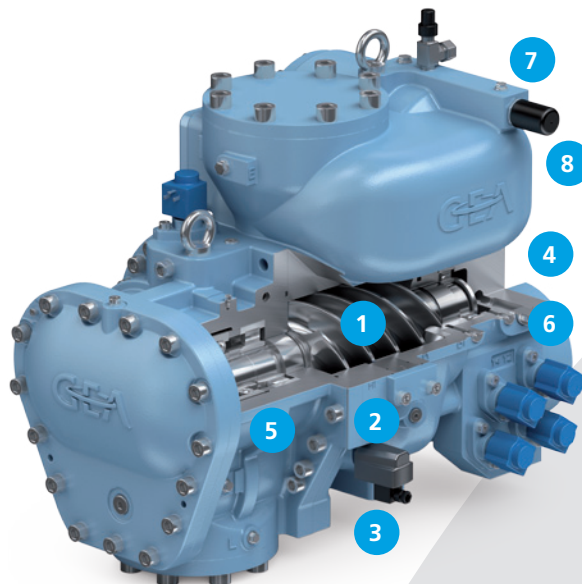


GEA Grasso M (H, L, M, N)

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 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

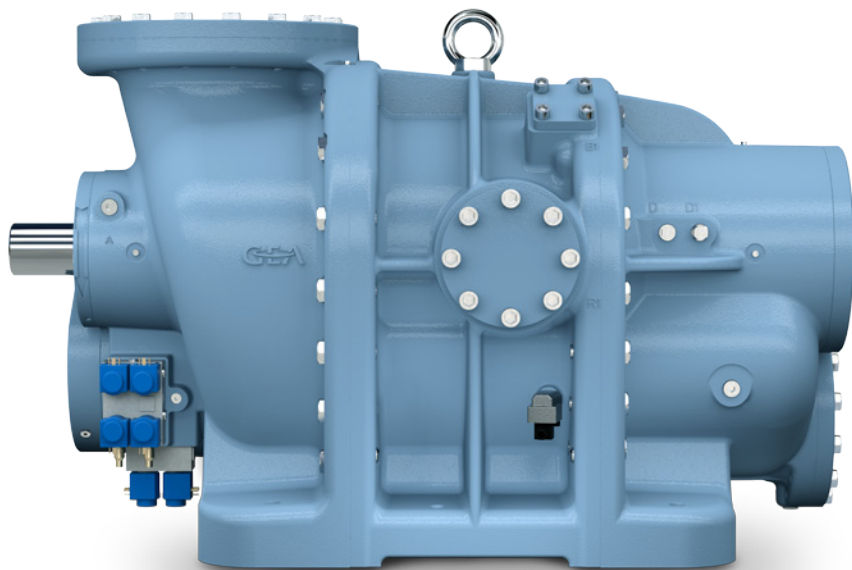
- Optionally available (only for C, D, E, G)

# 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

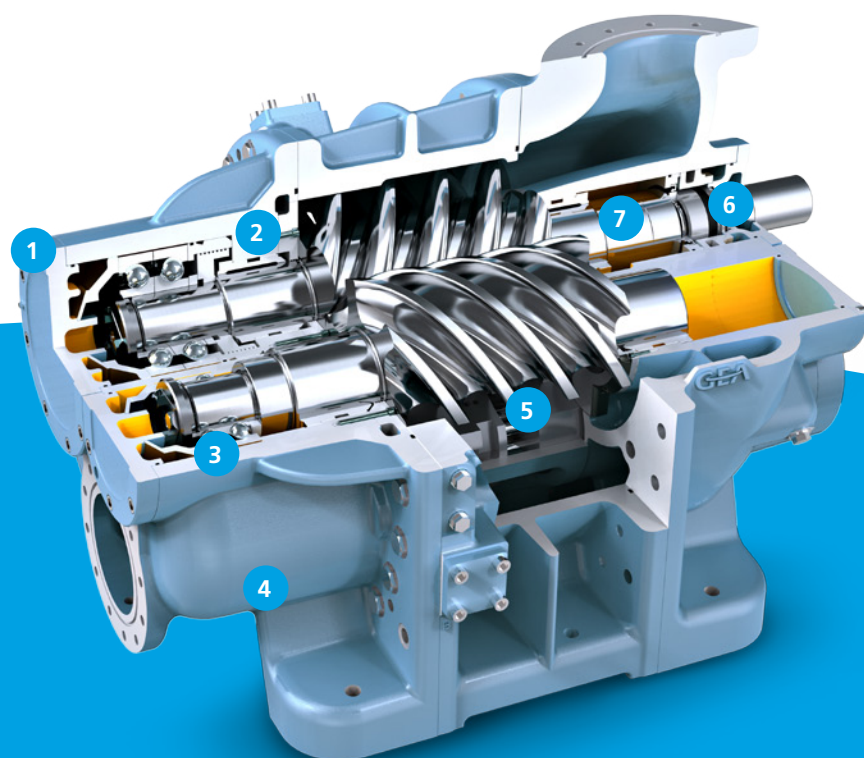
- ECO connections for maximum capacity increase and higher efficiency

### 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 (m³/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><br>(kW)             |                                     | 52 bar compressor <sup>1)</sup><br>(kW) |                                       |
|--------------|-----------------|---|-------------------------------------|---|---------------------------------------|
|              |                 | Cooling capacity <sup>2)</sup><br>R717   -35/+35 °C | Cooling capacity<br>R717   0/+35 °C | Cooling capacity<br>R744   -50/-5 °C    | Heating capacity<br>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><br>(kW)             |                                     | 52 bar compressor <sup>1)</sup><br>(kW) |                                       |
|---------------|-----------------|---|-------------------------------------|---|---------------------------------------|
|               |                 | Cooling capacity <sup>2)</sup><br>R717   -35/+35 °C | Cooling capacity<br>R717   0/+35 °C | Cooling capacity<br>R744   -50/-5 °C    | Heating capacity<br>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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