

**GEA VSeries™**  
**Piston Compressors & Compressor Packages**

Models VMX / VLX  
171 to 938 CFM



In touch with your markets and processes

## Cooling and freezing evolved from excellence

GEA is a leading manufacturer of piston and screw compressors and packages for industrial refrigeration. Since starting its operations, GEA has updated its extensive range of high quality, reliable, and modern compressors. Our products can be applied in almost every industrial refrigeration process.

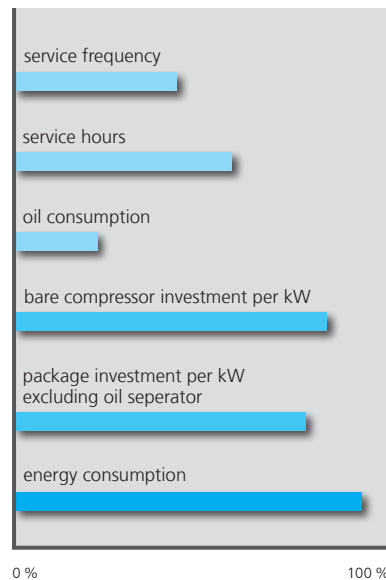
### Sustainability

To get the maximum out of the GEA VSeries™ compressor design, we focus on natural refrigerants like NH<sub>3</sub>. Our customers can be sure that environmentally friendly NH<sub>3</sub> is not subject to the global warming and ozone layer discussions. And when it comes down to efficiency, ammonia is definitely number one.

More than 100 years of design experience has been combined with state-of-the-art research and technology. The result is not only the most efficient and reliable piston compressor on the market, but also a compressor with extended and flexible service intervals compared to previous standards. As a result of this intensive design, the GEA VSeries achieves the highest possible reliability. GEA VSeries sets a new standard for the future.



Reduced costs compared to existing models



Total cost of ownership savings up to 12 percent





Lowest total cost of ownership

## The GEA advantage

GEA continues to invest in piston technology as proven in the latest compressor design. During the development of the GEA VSeries, GEA continually put itself in the position of the end user. Time and again, each component was assessed for the most important elements that contribute to a low total cost of ownership.

### Energy

Piston compressor technology is synonymous with highly efficient operation resulting in lower power consumption. This is the result of minimum internal leakages, automatic head pressure adjustment, and increased efficiency at lower speeds especially in combination with a frequency inverter. The new GEA VSeries contributes to further reduction of power consumption under all circumstances.

### Minimum maintenance

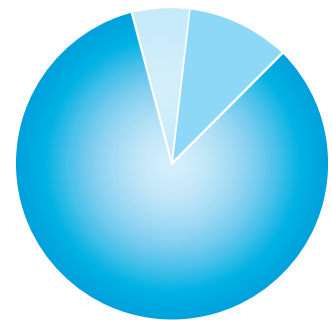
The selection of the highest quality parts and construction methods enables GEA to significantly reduce the downtime and maintenance frequency for its VSeries when compared with the traditional compressor maintenance guidelines. In addition, we believe that maintenance should only be performed when necessary. This is in contradiction with the fixed maintenance schedules in general use today for refrigeration compressors. That is why each GEA VSeries compressor is factory fitted with a GEA Grasso Maintenance Monitor (GMM), which indicates the right time for maintenance, based on actual operation.

### Unconditional reliability

GEA believes its customers should be able to focus 100 percent on their business. That is why we place so much emphasis on reliable and trustworthy systems. With the maintenance carried out in accordance with the intervals indicated by the GEA GMM, you can be sure of problem-free operation throughout the entire lifespan of the machine.

### Lower investment

The optimized components of this new compressor series, as well as the chosen running speed, result in a lower price per energy unit of cooling power. Due to the very low oil carryover of the complete range of the GEA VSeries, packaging of these compressors with an oil separator is optional.



Total cost of ownership  
 ● Energy  
 ● Investment  
 ● Maintenance

## A legacy of leadership

GEA's long history of innovation and industry leadership is reflected in the design of the GEA VSeries' welded compressor crankcase housing. The revolutionary design of the steel-welded compressor housing, in combination with the temperature-isolated cylinder heads, maximizes the thermodynamic advantages of the new GEA VSeries compressor. Together with the best proven parts, the result is the most efficient compressor GEA has ever made.

## GEA VSeries at a glance

### 1. Safety first

Counter-pressure, independent overflow valve(s) between suction and discharge chamber to secure a safe operation.

### 2. Optimized suction gas entry

Oversized suction-gas chamber and optimized filtering and distribution result in low pressure drop and increased resistance against liquid hammer.

### 3. Flexible and extended maintenance

The GEA GMM calculates and indicates upcoming maintenance intervals by means of measuring actual running conditions.

### 4. Optimized temperature separation

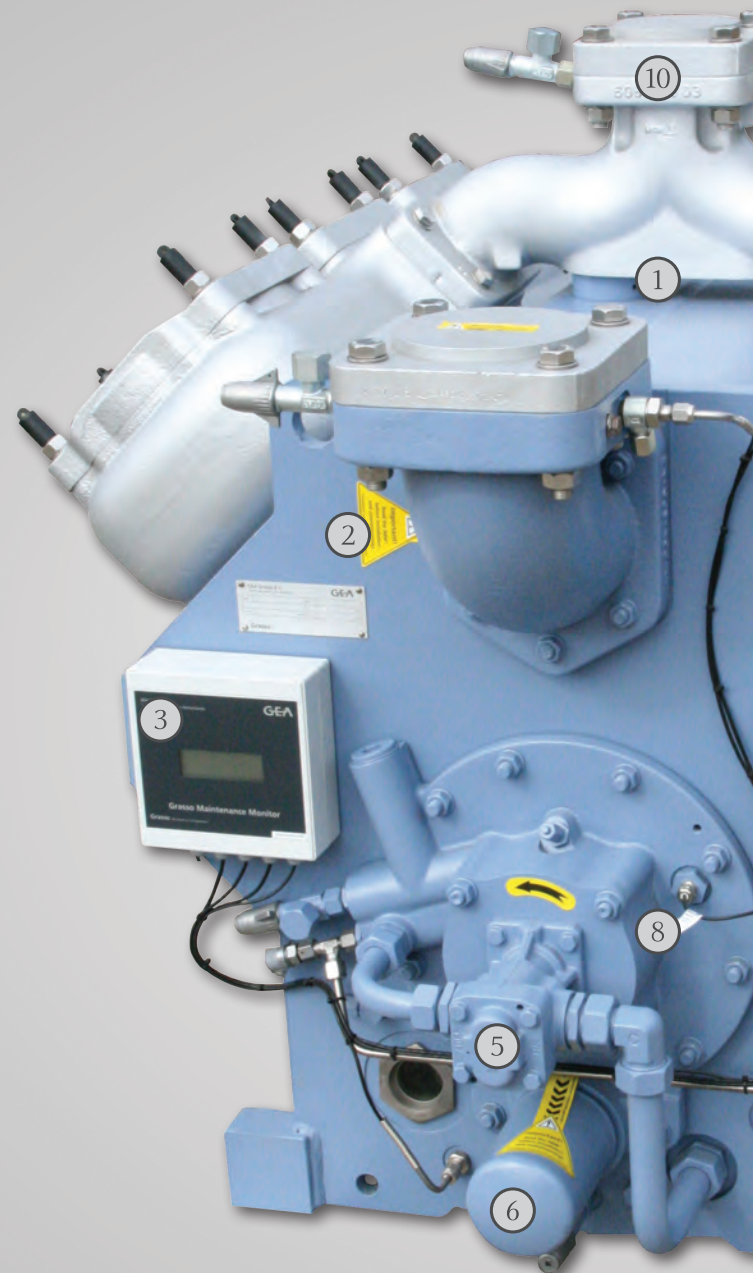
The cold-suction chamber is clearly separated from the hot discharge area by means of an isolating gasket and an air gap. Less internal heating of the suction gas results in lower discharge temperatures and more flexibility in part load operation.

### 5. Oil pump

Different sizes tuned to compressor model.

### 6. Oil filter

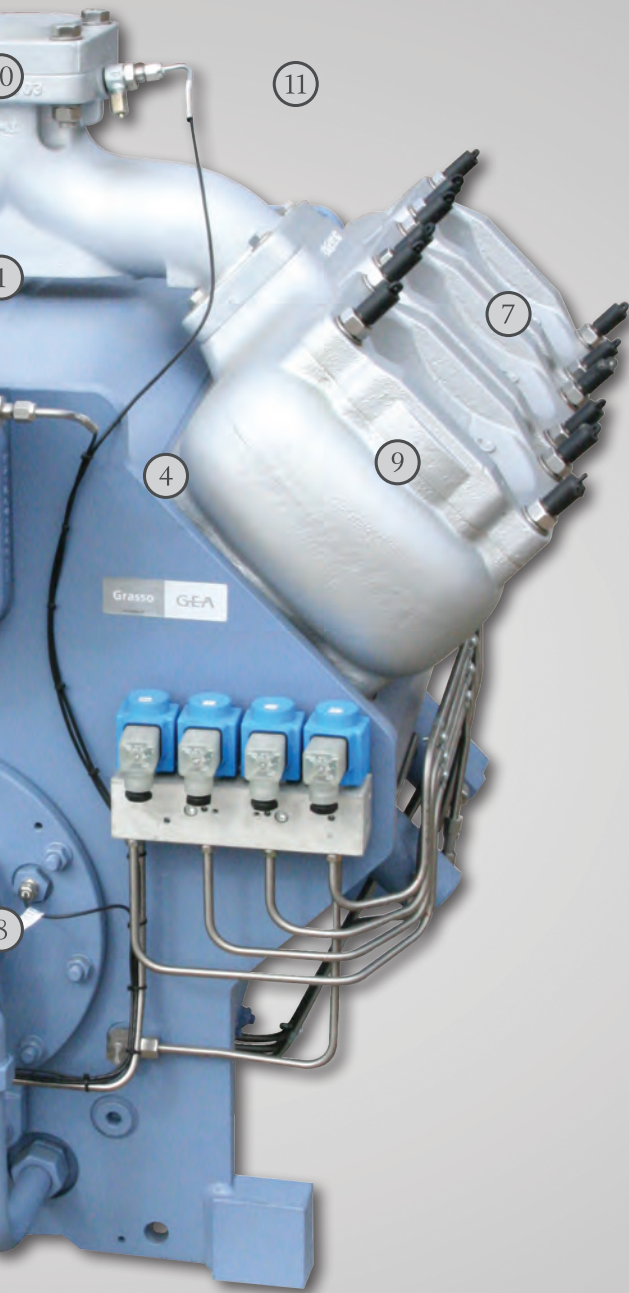
- Large capacity screw-on oil filter to cover long service intervals.
- Externally accessible.





## Unmatched performance

The optimized shape and size of the compressor crankcase makes it possible to achieve the highest energy efficiency, while minimizing maintenance and maximizing reliability. The unique combination of an integrated, generously sized suction chamber and cast iron, externally positioned cylinder heads creates distinct internal temperature separation between the suction side and discharge side of the compressor. The result is less internal superheat, better oil temperature stability, and a higher volumetric efficiency.



### 7. Maximum lifetime

- Composite material for suction and discharge valves.
- Free-flow discharge valve configuration with gas damping chambers.
- High-volume and low-gas velocity suction chamber.

### 8. Reliability and ease of maintenance

- Axial roller bearing construction to withstand high crankcase pressures for maximum lifetime at high loads.
- Increased main bearing diameter for stable low-speed inverter drive running.
- Large-capacity externally mounted oil filter for long service intervals.
- Full oil pump flow over shaft seal for maximum cooling/lifetime extension.

### 9. O-ring sealing for maximum tightness

- Easy disassembly and assembly.
- More than 60 percent less fixing bolts contribute to reduced service times.

### 10. Minimized oil carryover to refrigeration system

The oversized common suction chamber, the position of the cylinder liners, as well as the increased distance between oil sump and crankshaft (and lower internal temperatures) result in an extremely low oil carryover. The necessity of using an oil separator is subject to application and, in some cases, may be omitted.

### 11. Low noise level

The modular set up of the steel-welded housing in combination with the rigid cast iron cylinder heads guarantee the lowest possible noise emission.

## The right compressor from a complete product range

The GEA VSeries is a thoughtfully crafted product line where the capacity steps between models are in steps of two cylinders. Two different bore and stroke ratios are integrated in the series to cover the required swept volume range, without capacity overlap, making it easier to select the needed GEA VSeries compressor model.

### Single stage

The single-stage series, comprising seven models, starts with a four-cylinder, small bore x stroke for accurate capacity control and ends with a ten-cylinder, big bore x stroke to cover a swept volume of 938 CFM. The modular construction and the intermediate plate for the larger compressors guarantee smooth, vibration-free running and low-noise emission.

### Two stage

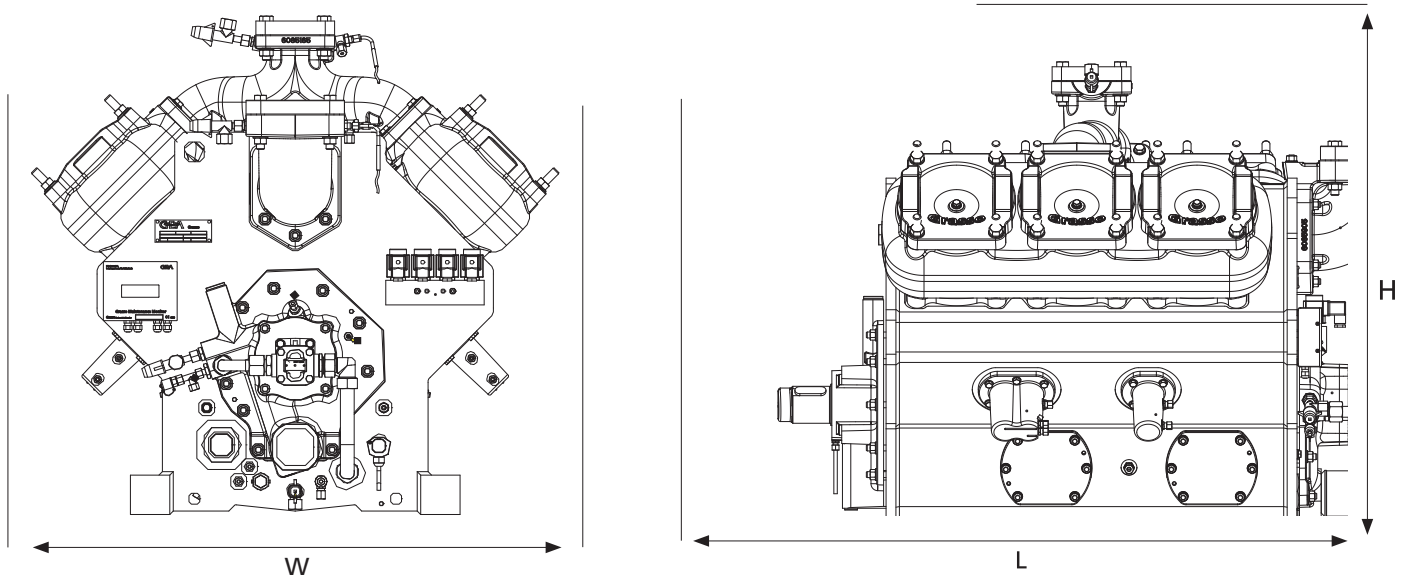
Two-stage or “compound” models benefit from the same characteristics as the single-stage models. Internally, they are adapted to separate suction chambers for low and intermediate pressure and on the outside the two connections are added for the intermediate side. The range comprises seven models each with only one LP/HP cylinder ratio in order to simplify selection. For the two-stage compressors, several highly efficient and patented intermediate cooling systems are available.

*Two-stage models are not currently available as a standard offering.  
Please contact your local GEA sales professional for a quotation.*



*GEA VSeries compressor models range from four to ten cylinders.*

# GEA VSeries bare compressor models and specifications

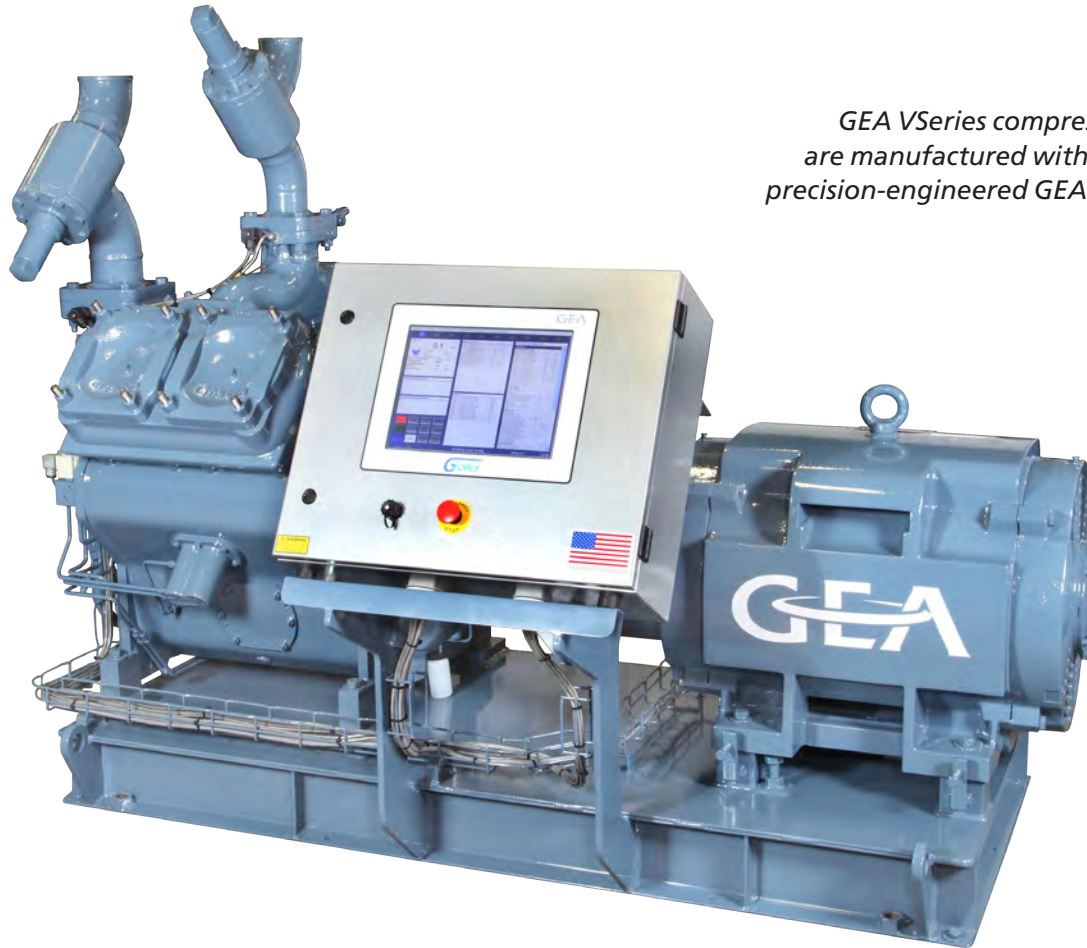


Single-Stage Models	Swept Volume		Number of Cylinders	Bore		Stroke		Max. Speed (rpm)	Dimensions (inch)*			Dimensions (mm)*			Weight	
	(cfm)	(m³/h)		(inch)	(mm)	(inch)	(mm)		L	W	H	L	W	H	lbs	kg
40VMX	171	290	4	4 5/16	110	3 5/16	85	1500	34 3/4	36 3/4	36 5/16	882	933	922	1268	575
60VMX	256	435	6	4 5/16	110	3 5/16	85	1500	42 3/8	36 3/4	36 5/16	1076	933	922	1656	751
80VMX	342	580	8	4 5/16	110	3 5/16	85	1500	53 1/16	36 3/4	36 5/16	1363	933	922	2298	1042
100VLX	375	637	4	6 1/4	160	4 5/16	110	1200	40 3/4	42 3/8	39 15/16	1035	1076	1013	1751	794
150VLX	562	955	6	6 1/4	160	4 5/16	110	1200	50 3/8	42 3/8	39 15/16	1279	1076	1013	2324	1054
200VLX	750	1274	8	6 1/4	160	4 5/16	110	1200	64 9/16	42 3/8	40 7/16	1639	1076	1027	3296	1495
250VLX	938	1592	10	6 1/4	160	4 5/16	110	1200	73 3/8	42 3/8	40 7/16	1863	1076	1027	3803	1725

Two-Stage Models	Swept Volume (low stage)		Number of Cylinders LP + HP	Bore		Stroke		Max. Speed (rpm)	Dimensions (inch)*			Dimensions (mm)*			Weight	
	(cfm)	(m³/h)		(inch)	(mm)	(inch)	(mm)		L	W	H	L	W	H	lbs	kg
40VMXT	128	217	3 + 1	4 5/16	110	3 5/16	85	1500	36 3/16	36 3/4	36 5/16	918	933	922	1372	622
60VMXT	171	290	4 + 2	4 5/16	110	3 5/16	85	1500	43 13/16	36 3/4	36 5/16	1112	933	922	1775	805
80VMXT	256	435	6 + 2	4 5/16	110	3 5/16	85	1500	55 1/16	36 3/4	36 5/16	1399	933	922	2414	1095
100VLXT	282	478	3 + 1	6 1/4	160	4 5/16	110	1200	42 5/16	42 3/8	39 15/16	1075	1076	1013	1846	837
150VLXT	375	637	4 + 2	6 1/4	160	4 5/16	110	1200	51 15/16	42 3/8	39 15/16	1319	1076	1013	2428	1101
200VLXT	562	955	6 + 2	6 1/4	160	4 5/16	110	1200	65 7/16	42 3/8	40 7/16	1661	1076	1027	3380	1533
250VLXT	750	1114	7 + 3	6 1/4	160	4 5/16	110	1200	75	42 3/8	40 7/16	1905	1076	1027	3898	1768

\*A single-stage compressor is depicted at top of page.

*GEA VSeries compressor packages are manufactured with high-quality, precision-engineered GEA components.*



## **GEA VSeries packages**

All GEA VSeries compressor packages are assembled in York, PA, using quality GEA compressors. Standard packages consist of a mounted, 1,200 rpm, direct drive motor complete with a torsional rigid steel coupling and coupling guard. Due to the extremely low oil carryover of the GEA VSeries compressor, most applications do not require an oil separator. Also, the extremely efficient separation between the suction side and the discharge side allows for a much cooler running compressor. Therefore, most applications will not require oil cooling or head cover cooling.

### **Key benefits**

- Small footprint (oil separator typically not required)
- Oil cooling typically not required
- Industry-leading GEA Omni™ control panel available with package selection
- GEA's Xceptional package warranty includes two year parts and one year labor

### **Package options include:**

- Mounted suction / discharge stop valves
- Package control via GEA Omni control panel or basic gauge and switch panel
- Inverter duty motor complete with grounding ring and insulated non-drive end bearing for variable speed applications
- Shipped-loose oil separator (if necessary)
- Air-cooled or water-cooled oil cooler (if necessary)
- Shipped-loose motor starter



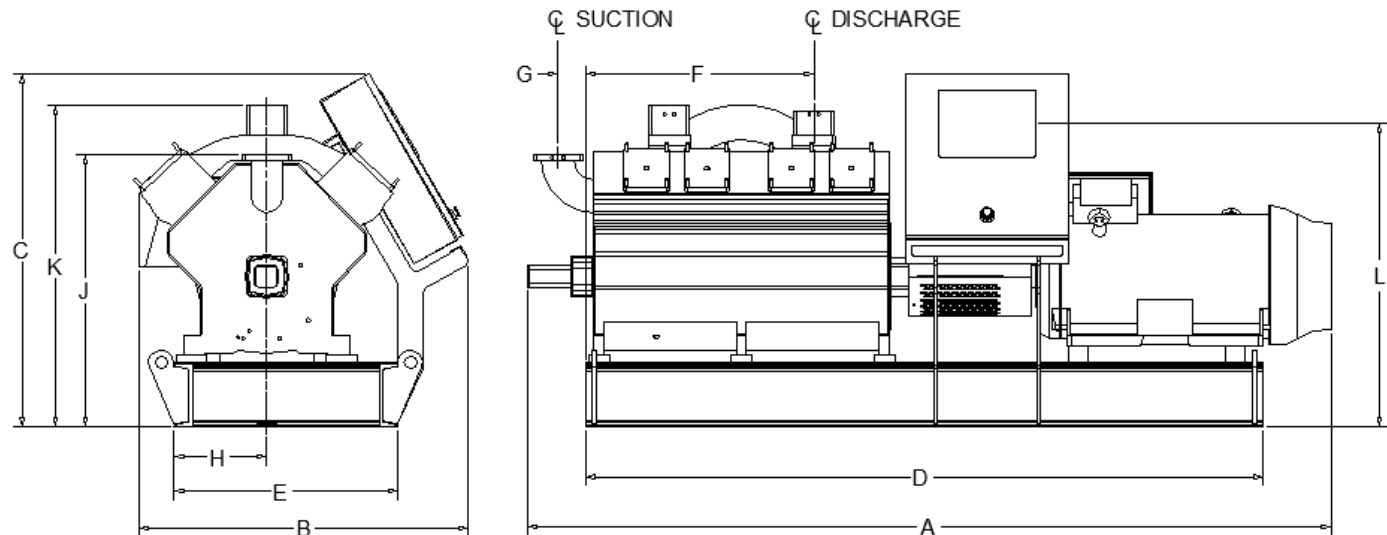
## GEA VSeries compressor package models and specifications

MODEL NO.	CAPACITY		POWER		SPEED RPM	DISCHARGE		PACKAGE WEIGHT		SUCTION CONNECTION		DISCHARGE CONNECTION	
	(Tons)	(kW)	BHP	(kW)		cfm	m <sup>3</sup> /h	lbs	kg	Inch	DN	Inch	DN
40VMXB	10.9	38.3	13.1	9.8	1160	39.9	67.8	2351	1066	2 1/2	65	2	50
40VMX	30.4	107	42	31.3	1160	28.8	49	2823	1280	2 1/2	65	2	50
60VMXB	16.4	57.6	18.7	13.9	1160	59.9	101.9	2952	1339	3	80	2 1/2	65
60VMX	45.7	160.9	62	46.2	1160	43.3	73.6	3484	1580	3	80	2 1/2	65
80VMXB	21.9	76.9	24.2	18.1	1160	81.1	342.1	3818	1732	4	100	3	80
80VMX	61	214.6	82	61.1	1160	58	98.5	4624	2097	4	100	3	80
100VLXB	30.9	108.8	31.6	23.5	1160	108.7	184.6	3495	1585	4	100	3	80
100VLX	90	316.5	115.3	86	1160	83.6	142	4342	1969	4	100	3	80
150VLXB	46.8	164.6	46	34.3	1160	164.1	278.8	4558	2067	5	125	4	100
150VLX	136	478.4	172.1	128.3	1160	126	214.1	5768	2616	5	125	4	100
200VLXB	62.3	219.2	60.5	45.1	1160	217.5	369.5	6371	2890	6	150	4	100
200VLX	181.2	637.3	228.8	170.6	1160	167.5	284.7	7112	3226	6	150	4	100
250VLXB	78.1	274.7	74.5	55.6	1160	274.7	466.8	7204	3268	6	150	5	125
250VLX	226.8	797.8	284.5	212.2	1160	210.6	357.7	7912	3589	6	150	5	125

All values are for R-717.

High-stage ratings are at 10°F Evaporative Temperature and 95°F Condensing Temperature.

Booster ratings are at -40°F Evaporative Temperature and 10°F Condensing Temperature.

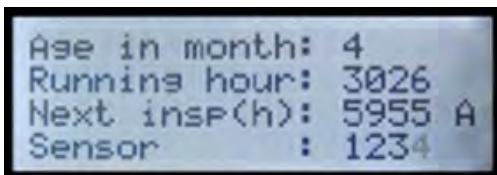


MODEL NO.	FRAME SIZE	APPROXIMATE DIMENSIONS Inches/Millimeters										
		A	B	C	D	E	F	G	H	J	K	L
40VMX	286T, 324T, 326T, 364/5T	75/1905	49/1245	46/1168	60/1524	33/838	11/280	3/76	15/381	34/864	41/1041	38/965
	404/5T	80/2032	49/1245	46/1245	64/1625	33/838	11/280	3/76	15/381	34/864	41/1041	38/965
60VMX	326T	79/2007	49/1245	46/1168	66/1676	33/838	15/381	3/76	15/381	34/864	41/1041	38/965
	364/5T, 404/5T	88/2235	49/1245	46/1168	71/1803	33/838	15/381	3/76	15/381	34/864	41/1041	38/965
	444/5T	93/2362	50/1270	46/1168	76/1930	33/838	15/381	3/76	15/381	34/864	41/1041	38/965
80VMX	364/5T, 404/5T	99/2515	49/1245	46/1168	83/2108	33/838	30/762	3/76	15/381	34/864	41/1041	38/965
	444/5T	105/2667	50/1270	46/1168	87/2210	33/838	30/762	3/76	15/381	34/864	41/1041	38/965
100VLX	404/5T	88/2235	49/1245	46/1168	69/1753	33/838	13/330	4/102	15/381	39/991	45/1143	38/965
	444/5T	94/2388	50/1270	46/1168	74/1880	33/838	13/330	4/102	15/381	39/991	45/1143	38/965
	447/9T	105/2667	51/1295	46/1168	83/2108	33/838	13/330	4/102	15/381	39/991	45/1143	38/965
150VLX	404/5T, 444/5T	103/2617	50/1270	50/1270	84/2134	33/838	18/457	4/102	15/381	42/1067	48/1220	42/1067
	447/9T	115/2921	52/1320	50/1270	92/2337	33/838	18/457	4/102	15/381	42/1067	48/1220	42/1067
200VLX	444/5T	117/2972	50/1270	52/1321	97/2464	33/838	36/914	4/102	15/381	42/1067	49/1245	42/1067
	447/9T	128/3252	52/1321	52/1321	106/2692	33/838	36/914	4/102	15/381	42/1067	49/1245	42/1067
250VLX	444/5T	127/3226	50/1270	52/1321	107/2718	33/838	46/1168	4/102	15/381	42/1067	49/1245	42/1067
	447/9T	138/3505	52/1321	52/1321	115/2921	33/838	46/1168	4/102	15/381	42/1067	49/1245	42/1067
	586/7T	144/3658	54/1372	54/1372	121/3073	33/838	46/1168	4/012	15/381	42/1067	49/1245	42/1067

Graphic and dimension above are for reference only. Use only certified drawings for erection.

All dimensions are based on a fixed-speed, 1,200 rpm motor.

Dimension A, B & D are based on largest motor frame size in the corresponding row.



The GEA GMM provides on time indication of upcoming maintenance intervals.

## GEA Grasso Maintenance Monitor

All GEA VSeries compressors are equipped with the GEA Grasso Maintenance Monitor (GMM) mounted on the compressor body.

The GEA GMM is a compact, microprocessor-based, stand-alone unit monitoring online the relevant data to determine “on time” maintenance intervals. The monitor automatically generates a message for any upcoming A-, B-, or C-level

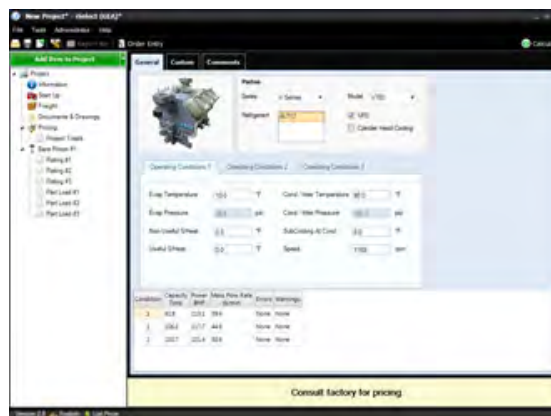
service. This message can be read directly from the built-in display, by a remote PC, or thru an email message sent from the monitor to any responsible person(s). When a GEA VSeries package is supplied with a GEA Omni control panel, the GEA GMM web page can be displayed through the control panel.

On-time maintenance balances the lifetime of wearing components and the expected reliability, so the end user benefits from longer service intervals without jeopardizing performance. With this new approach, the traditional fixed service intervals will slowly be taken over by the new system. Together with the new GEA VSeries compressors, the GEA GMM contributes to the reduction of the total cost of ownership.

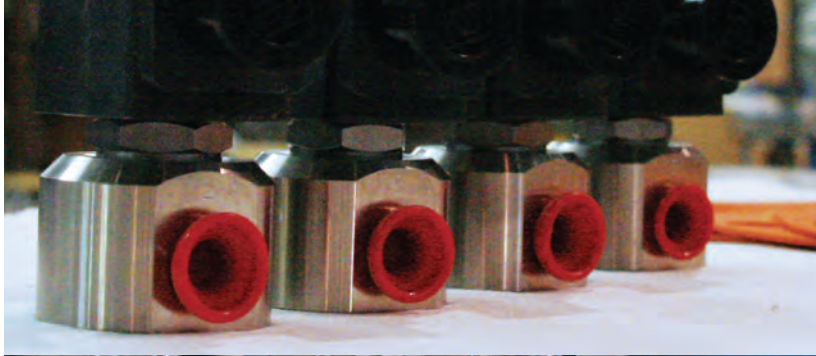
## GEA RTSelect - product selection made easy

All bare GEA VSeries compressors and standard GEA VSeries compressor packages are available for selection using GEA’s RTSelect software. Standard package drawings are also available through this selection tool.

If you do not currently have an RTSelect license, please visit [www.gearefrigeration.com/us-en](http://www.gearefrigeration.com/us-en) to download this software and request one.







## Product support — GEA peace of mind

### Service

GEA has several service branches located in the United States with trained technicians and product specialists ready to support your GEA equipment.

### Parts

Laboratory tests and field experience have proven that the use of genuine GEA parts maximizes compressor performance and reliability, while minimizing the total cost of ownership. GEA stocks all necessary GEA VSeries parts, which are available for quick shipment.

### Training

GEA recognizes the importance of customer support and start-up certification and product training is offered at various locations.







*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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