GEA CHILLERS

Leading the way in standard and
custom-engineered chilling solutions

GEA Engineering for a better world.

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GEA

GEA CHILLING SOLUTIONS — FOR A WORLD OF APPLICATIONS

GEA North America's chiller offerings provide a wide array of high-performance options for leading food, beverage and dairy processors as well as global companies in the oil & gas, power, chemical, petrochemical and pharmaceutical spaces.

BluAstrum, BluGenium, Galaxy and custom-engineered skid-mounted units combine to offer an all-star lineup of GEA chilling systems.

With 28 standard chillers from which to choose, complemented by an almost limitless range of tailor-made solutions, GEA applies decades of experience and proven technologies to meet each customer's precise requirements.

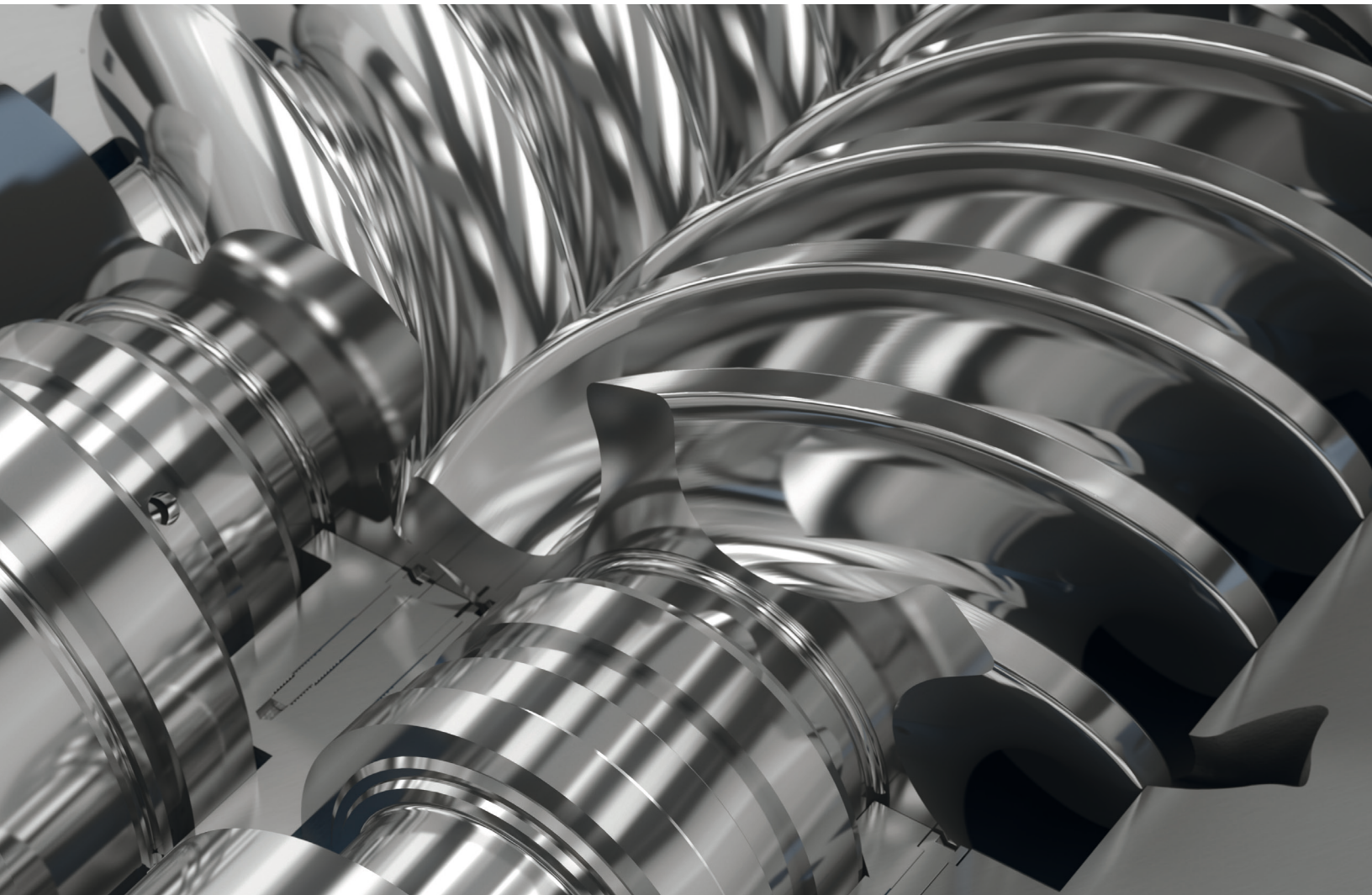
Standard on all GEA chillers is the GEA Omni control panel. Omni features a high-definition, multi-touch screen and delivers the ease of use and technical wow factor that industry professionals have come to expect from GEA. We at GEA have the privilege to serve a vast customer base across a multitude of industries. We welcome the opportunity to work with you as well — to understand your needs and to provide the ideal chilling solution for your application.

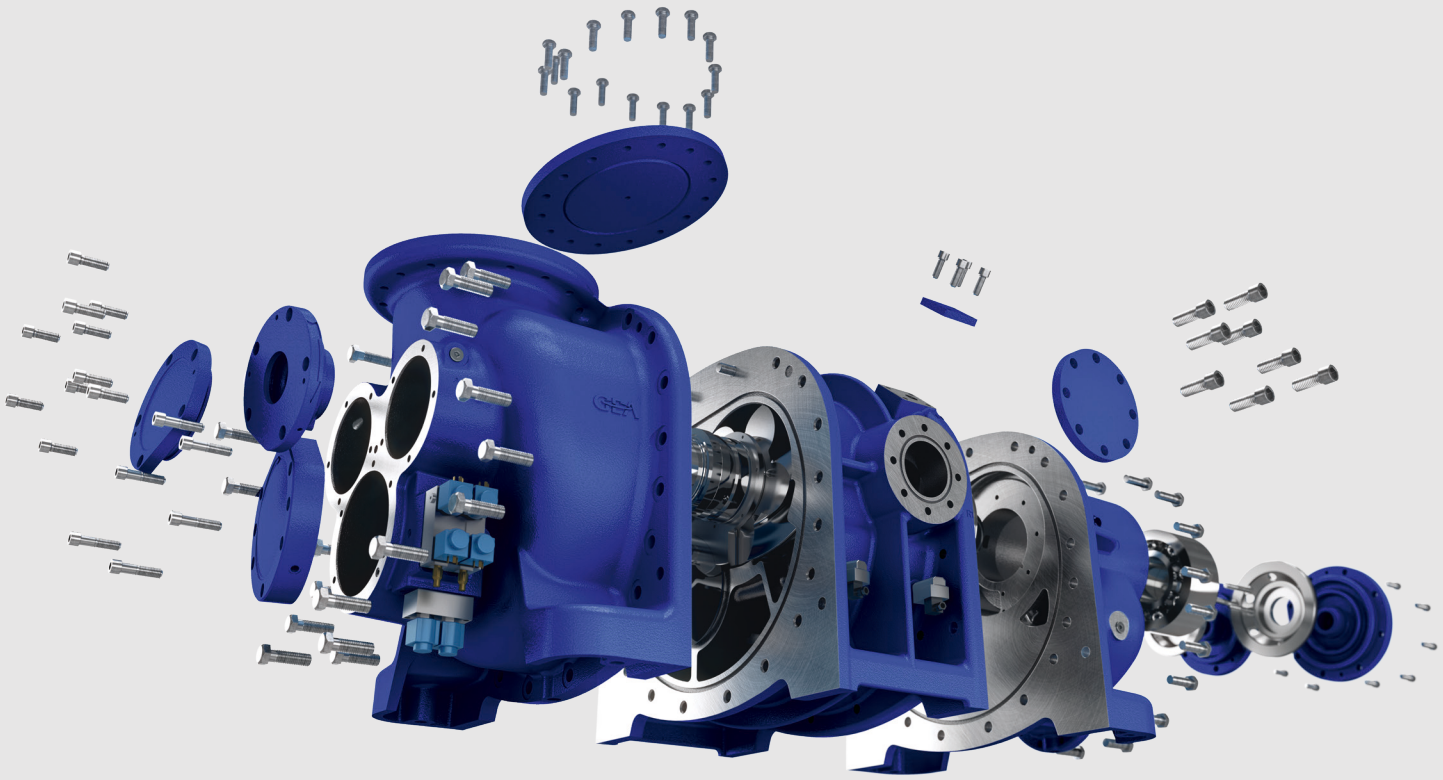
THE HEART OF THE SYSTEM – GEA COMPRESSORS

Reflecting more than 160 years of technological leadership and innovation, GEA's compressors are a preferred choice of leading producers, contractors, municipalities and institutions across the globe.

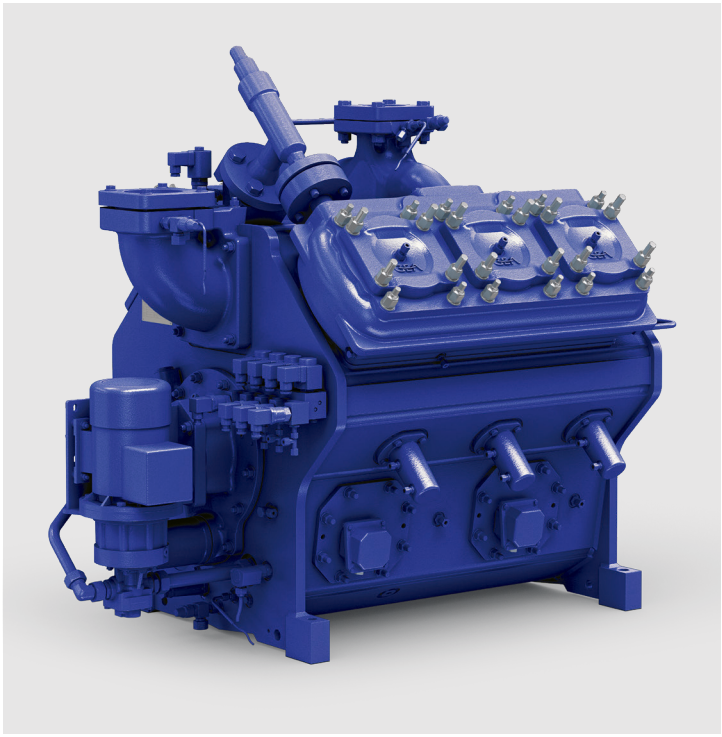
GEA offers a large and extensive compressor portfolio. Utilizing natural refrigerants and well suited for myriad applications, GEA's proven screw and piston compressors are designed to deliver what customers value most — energy efficiency, reliability, safety and ease of maintenance.

GEA's BluAstrum and Galaxy chiller series utilizes GEA screw compressors, whereas piston compressors drive the BluGenium series. By offering a wide range of model capacities for each compressor type, customers are able to select the optimal GEA chiller for their application.





GEA's robust lineup of screw compressors drive GEA BluAstrum chillers with a chilled process fluid outlet temperature range of approximately -20° to 64 °F / - 29° to 18 °C



GEA's BluGenium chillers utilize GEA piston compressors with a chilled process fluid outlet temperature range of approximately -20° to +64°F / -29° to +18°C

GEA BLUASTRUM — ULTRA-LOW CHARGE, HIGH EFFICIENCY

GEA Omni control panel
- High definition 15.6” color display (1,366 × 768 pixel)
- Remote access via GEA OmniLink
- Full data history via GEA OmniHistorian
- Configurable Ethernet communication
- Optional multiple chiller sequencing

Power panel with infinitely variable capacity
- Capacity control via frequency inverter
- Variable speed range of 1,000 – 4,500 rpm for superior part-load efficiency and turn down
- Single-point power connection (460V)

Highly efficient screw compressor
- GEA designed rotor profile for industry-leading EER
- Variable internal volume ratio (Vi) for better part-load efficiency
- Industrial bearings with long service life and inherently quiet operation
- Proven, rebuildable compressor design
- Extended product life of all moving parts due to inverter operation

Water-cooled condenser
- Fully welded plate heat exchanger
- Utilizes water or glycol
- Low design approach temperatures

Combined evaporator-liquid separator
- Fully welded plate heat exchanger
- Integrated liquid separator for liquid- free suction gas
- Low approach temperatures for reduced energy costs
- Suitable for all common secondary fluids
- Flooded design, safe drain operation
- Simple connections with detachable ASME flanged connections on the fluid side

Featuring a sleek design and requiring minimal maintenance, the GEA BluAstrum ammonia chiller delivers reliable performance and operational advantages.

Having received high accolades from customers in Europe and other global markets, the GEA BluAstrum chiller now makes its way to North America.

Key features and benefits

- Minimal maintenance requirements
- Extremely compact equipment size
- Cooling capacity nominal 100–700 TR
- Chilled process fluid outlet temperature range approximately -20° to 64 °F
- Ultra-low refrigerant charge
- Nine standard model sizes
- Screw compressor w/variable speed control & variable Vi
- GEA Omni control panel
- Environmentally friendly refrigerant will not be phased out
- Designed for indoor, low-noise operation

Compact and low maintenance

Narrow widths of approximately 55" (depending on model) and the resulting small footprint allow for simple transport, as well as ease of relocation and installation in space-restricted machine rooms.

A key aspect of the BluAstrum is its low maintenance requirements. This benefit is the result of the latest industrial screw compressor technology and design features such as the elimination of an oil pump and the flanged motor-compressor connection on BluAstrum models 400 – 1500. Units are safe and reliable with all-welded construction of both piping and heat exchangers.

Optional GEA BluAstrum remote version is provided (with or without a pilot receiver) that can be connected to an external condenser (air-cooled or evaporative) supplied by the customer.

Technical Data

GEA BluAstrum - Maximum sizes and capabilities

		Water +55°F/+45°F			20% Propylene Glycol +30°F/+20°F						
Model No.	**Compressor Model No.**	**Capacity** (TR)	**Motor Size** (HP)*	**Line kW/TR** (water)	**Capacity** (TR)	**Motor Size** (HP)*	**Line kW/TR** (30% EG)	**R-717 Charge** (lbs.)	**Length** (inches)	**Width** (inches)	**Height** (inches)
400	60GMX	134	125	0.63	78	125	1.09	139	216	55	104
500	85GMX	188	150	0.62	109	150	1.07	136	216	55	104
800	110GMX	237	200	0.63	136	200	1.08	145	228	55	104
900	125GMX	272	250	0.62	156	250	1.07	137	228	55	104
1000	160GMX	348	300	0.63	200	300	1.07	140	228	55	104
1500	195GMX	438	350	0.62	256	350	1.04	269	150	122	108
1800	230GLX	515	450	0.64	306	400	1.02	270	215	122	110
2200	290GLX	623	600	0.65	374	500	1.03	270	215	122	110
2500	340GLX	692	600	0.66	415	600	1.03	270	215	122	110

Notes: Contact your GEA sales representative for access to RTSelect and a software demonstration.
**Motor HP may change for actual design conditions. Assumes 85°F inlet / 95°F outlet cooling water.*

GEA BLUGENIUM — ULTRA-LOW CHARGE, HIGH EFFICIENCY

GEA Omni control panel
- High-definition, 15.6” color display (1,366 × 768 pixel)
- Remote access via GEA OmniLink
- Full data history via GEA OmniHistorian
- Configurable Ethernet communication
- Optional multiple-chiller sequencing

Power panel with infinitely variable capacity
- Capacity control via frequency inverter
- Variable speed range of 500 – 1,500 rpm for superior part-load efficiency and turn down
- Single-point power connection (460V)

Highly efficient piston compressor
- GEA-designed welded casing with cast iron heads
- Minimum oil carryover eliminates the need for an oil separator
- Industrial bearings with long service life and inherently quiet operation
- Optimized for low-discharge temps
- Extended product life of all moving parts due to inverter operation

Water-cooled condenser
- Fully welded plate heat exchanger
- Utilizes water or glycol
- Low design approach temperatures

Combined evaporator-liquid separator
- Fully welded plate heat exchanger
- Integrated liquid separator for liquid-free suction gas
- Low approach temperatures for reduced energy costs
- Suitable for all common secondary fluids
- Flooded design, safe drain operation
- Simple connections with detachable ASME flanged connections on the fluid side

Industry-leading warranty
- Two year parts; one year labor

Featuring a sleek design and requiring minimal maintenance, the GEA BluGenium ammonia chiller delivers reliable performance and operational advantages.

Having received high accolades from customers in Europe and other global markets, the GEA BluGenium chiller now makes its way to North America.

Key features and benefits

- Minimal maintenance requirements
- Extremely compact equipment size
- Cooling capacity nominal 100 – 600 TR
- Chilled process fluid outlet temperature range approximately -20° to +64°F
- Ultra-low refrigerant charge
- Seven standard model sizes
- Piston compressor w/variable speed control
- GEA Omni control panel
- Environmentally friendly refrigerant will not be phased out
- Designed for indoor, low-noise operation

Compact and low maintenance

Narrow widths of approximately 55" (depending on model) and the resulting small footprints allow for simple transport, as well as ease of relocation and installation in space-restricted machine rooms.

A key aspect of the BluGenium is its low maintenance requirements. This benefit is the result of the latest industrial piston compressor technology and design features such as the elimination of an oil separator. Units are safe and reliable with all-welded construction of both piping and heat exchangers.

Optional GEA BluGenium remote version is provided (with or without a pilot receiver) that can be connected to an external condenser (air-cooled or evaporative) supplied by the customer.

Technical Data

GEA BluGenium - Maximum sizes and capabilities

		Water +55°F/+45°F			20% Propylene Glycol +30°F/+20°F						
Model No.	**Compressor Model No.**	**Capacity** (TR)	**Motor Size** (HP)*	**Line kW/TR**	**Capacity** (TR)	**Motor Size** (HP)*	**Line kW/TR**	**R-717 Charge** (lbs.)	**Length** (inches)	**Width** (inches)	**Height** (inches)
BG300	V300	93	75	0.57	49	75	1.00	107	181	54	89
BG450	V450	139	125	0.56	74	100	0.96	148	197	54	89
BG600	V600	237	150	0.56	98	150	0.96	192	220	54	89
BG700	V700	257	200	0.56	156	200	0.95	192	220	54	91
BG1100	V1100	384	300	0.56	209	300	0.94	244	236	54	98
BG1400	V1400	501	400	0.58	276	350	0.95	269	307	54	97
BG1800	V1800	608	500	0.60	340	450	0.96	270	343	66	97

Notes: Contact your GEA sales representative for access to RTSelect and a software demonstration.
**Motor HP may change for actual design conditions. Assumes 85°F inlet / 95°F outlet cooling water.*

GEA GALAXY — VERSATILITY FOR A WIDE RANGE OF OPERATING CONDITIONS

Offered in 12 models, this high-performance ammonia chiller series integrates plate-and-frame heat exchangers, allowing for a low refrigerant charge within the chiller.

GEA is recognized around the world as a leader and innovator in the industrial refrigeration industry. The GEA Galaxy Series high-efficiency chiller packages are designed for smooth installation, ease of service and reliable operation.

Low refrigerant charge
Using plate-and-frame heat exchangers allows for a low refrigerant charge chiller. In addition, rather than pumping large amounts of ammonia, various heat transfer fluids are used to keep ammonia in the engine room and away from processing and storage areas.

Reduced installation costs
With the GEA Galaxy Series chiller there is less ammonia field piping required. This simplified piping requirement and time-saving electrical connections keep installation costs significantly lower.

GEA Omni control panel
All GEA Galaxy Series ammonia chillers feature the GEA Omni control panel. Designed based on feedback from industrial refrigeration engineers and technicians, GEA Omni control panel is lauded for its intuitive interface and abundance of advanced features.

Plate-and-frame heat exchangers
Plate-and-frame heat exchangers offer big performance in a small package. Type 316 stainless steel is the standard heat transfer material. Titanium is also available for heat transfer fluids with high-chloride content. Gasket material — Neoprene, NBR, EPDM, Viton — is selected to match the application. These laser-welded, plate-and-frame heat exchangers offer maintenance and service benefits unavailable with other types of heat exchangers.

Technical Data
GEA Galaxy - Range and nominal sizes

		Glycol + 20°F		Water +42°F	
Model No.	**Compressor Model No.**	**Capacity** (TR)	**Motor Size** (HP)*	**Capacity** (TR)	**Motor Size** (HP)*
G110	110GMX	100	150	165	200
G125	125GMX	120	200	190	200
G160	160GMX	155	250	245	250
G195	195GMX	190	300	305	300
G230	230GLX	235	350	380	350
G290	290GLX	295	400	470	450
G340	340GLX	335	450	525	500
G400	400GLX	405	600	640	600
G475	475GLX	460	600	730	700
G565	565GLX	550	700	875	800
G675	675GLX	635	800	1,010	900
G800	800GLX	750	1,000	1,190	1,000

Notes: Capacities based on cooling water at 85°F. Approach assumed as 2.5°F for both evaporator and condenser with 10°F range on tubeside fluid. Suction pressure drop of 0.5 psi and discharge pressure drop of 1.0 psi. 0°F suction superheat; 0°F liquid subcooling on condenser. Non-economized, 3,550 rpm fixed speed, fixed optimum Vi.

CUSTOM-ENGINEERED CHILLING SYSTEMS — TAILOR MADE TO MEET YOUR MOST DEMANDING REQUIREMENTS

GEA North America's process refrigeration and gas compression solutions include sophisticated chilling systems specially designed to meet the specifications of complex, process-critical applications.

Complex, process-critical applications

- Water/glycol and heat transfer fluid (HTF) chilling at chemical & petrochemical plants and refineries
- Gas turbine inlet air chilling at LNG plants and power generation plants
- HTF and low-temperature chilling at pharmaceutical facilities
- Process gas chilling at offshore production, storage and offloading facilities
- Vent gas condensing and separation for environmental systems
- Nitrogen, air and process gas chilling at industrial gas sites
- Chilling and dew point control at natural gas processing plants

At the heart of GEA custom-engineered chilling systems is a GEA-designed and -manufactured, oil-injected, rotary, twin-screw compressor. GEA's series of screw compressors comprise 24 models ranging from 231 – 8,150 CFM.

With tens of thousands of compressor installations worldwide, leading companies around the globe rely on GEA's engineering expertise and reliable products for use in their critical applications. It is a privilege to be entrusted with our customers' capital investments and to play a role in contributing to their success.

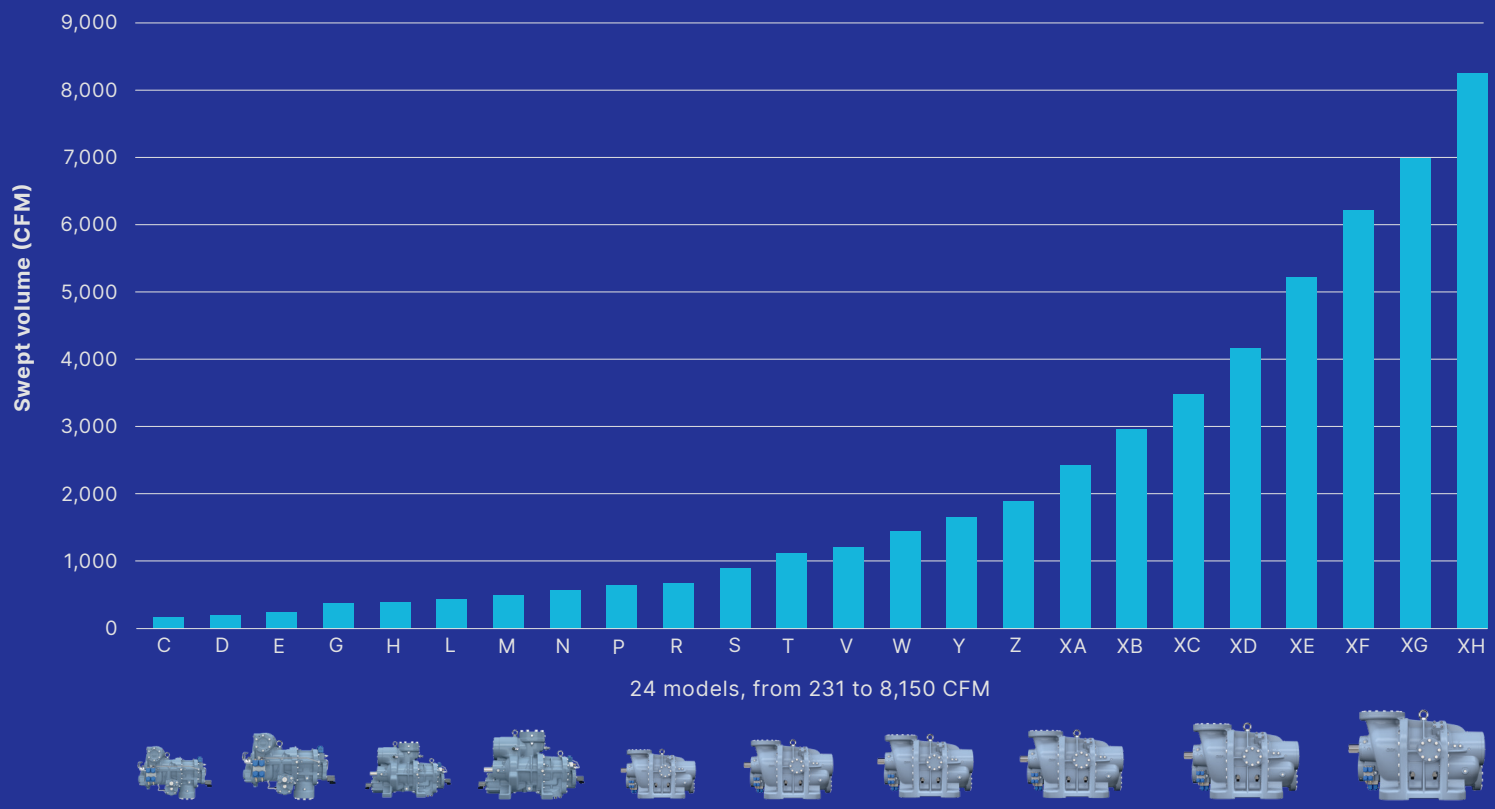
GEA XH screw compressor, swept volume 8,150 CFM

GEA HTF chilling system

GEA glycol chiller

GEA glycol chilling system

GEA screw compressor range



GEA SERVICE – FOR YOUR CONTINUED SUCCESS

Reduce the life cycle cost of your plant and equipment.

To ensure highly responsive and professional service, our team of GEA technicians and service support staff team up with experienced and qualified refrigeration contractors throughout North America to support customers over their equipment's full life cycle.

Getting you started
As a supportive and committed partner for life, we plan and build around individual needs, sharing process knowledge, training employees and supporting operators to get our customers up and running and ensure smooth, seamless ongoing service.

Keeping it running
To ensure our customers benefit from continuous production processes for minimal unexpected downtime, we provide fast support, efficient maintenance and top-quality spare parts, whenever and wherever needed.

Constantly improving
We safeguard our customers' investments by constantly looking ahead through modernizing or upgrading of equipment and optimizing of processes to meet changing needs and new market demands. We are always working to increase production efficiency and ensure peak performance.

Together with you
Commitment to our customers and their business means investing in their objectives, their risks and their future success. We work in ever-closer collaboration, providing ongoing system audits and on-site support through innovative new service models in order to generate improved performance.


GEA

GEA Systems North America LLC
GEA Heating & Refrigeration Technologies
3475 Board Road
York, PA 17406

+1 717 767 6411
sales.unitedstates@gea.com
sales.canada@gea.com