

GE Oil & Gas

High-speed solutions

World-class HSR compressors and the worldwide service capabilities to support them



High-speed reciprocating compressors

Reciprocating compressors move gas by volumetrically compressing it to higher pressures. They convert the rotational motion of the crankshaft into reciprocating motion – a back-and-forth pumping action that moves the gas. Valves outside the compression chamber allow flow in and out based on pressure differentials.

GE Oil & Gas HSRs

With a global installed fleet of over 15,000 units ranging from 60 to 7,200 hp, our field-proven portfolio delivers maximum flexibility and minimal cost in all types of gas compression applications. Modular designs allow frames and cylinders to be easily reconfigured, while integrated packaging reduces your installation and construction costs. Field-replaceable cylinder liners and a variety of capacity-control devices provide greater flexibility for changing operating conditions. Small footprint and balanced-opposed designs minimize vibration while heavy, ribbed frames distribute reciprocating stresses evenly for greater strength and longer life – operating 24 hours a day, seven days a week.

Technology

GE Oil & Gas offers a full line of API 11P high-speed reciprocating compressors, providing our customers with economic, flexible and reliable solutions to meet their gas compression needs.

Our HSR products range from 60 HP (45 kW) to 7,200 HP (5,370 kW), with a variety of piston rod load capacities and frame stroke combinations. Over 15,000 of our compressors can be found around the globe, working in fuel-gas boosting, gas gathering, gas lift, CNG fueling, pipeline, and storage/withdrawal applications – operating 24 hours a day, seven days a week.

Economical

GE Oil & Gas compressors are integrated into a package by a global network of authorized packagers. The compressor is matched with a driver, coolers, controls, and piping typically on a single skid. This allows the complete compressor package to be easily moved to a new location. This concept lowers your installation, site construction, and re-application costs.

Our compressors are designed to be directly connected to a variety of reciprocating natural gas engines (720 to 1,800 rpm) and electric motors (750 to 1,800 rpm). A variety of compressor frame strokes allow the compressor to be perfectly matched to the optimum driver.

Flexible

It is the nature of natural gas production that pressures and flows often change. Therefore, greater productivity can be attained if the compressor is easily adaptable to the new operating conditions.

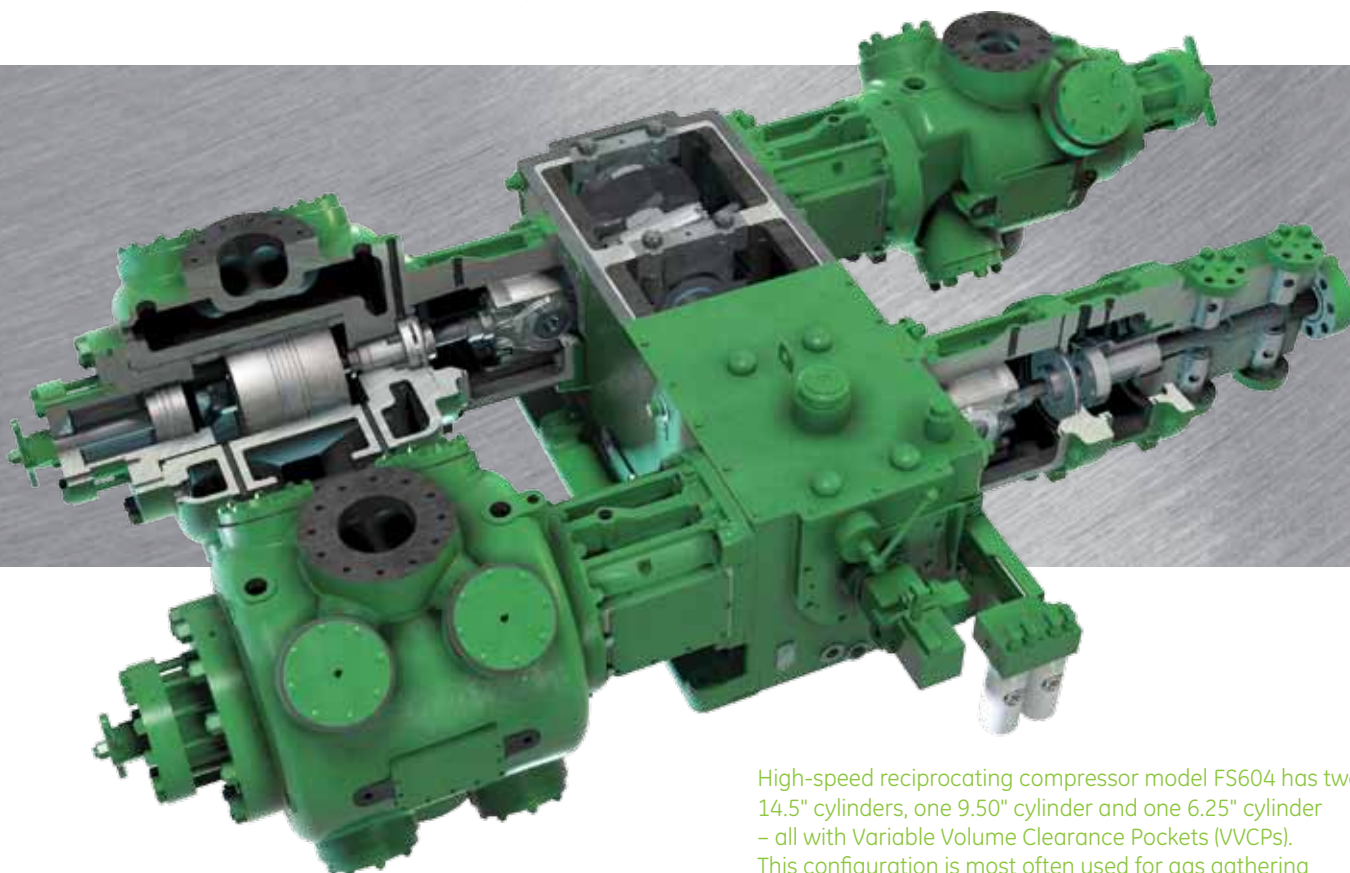
Many GE Oil & Gas high-speed reciprocating compressors feature field-replaceable cylinder liners that allow the cylinder bore to be increased or decreased as operating conditions change. When the cylinder must be changed, several cylinders have identical flange connections, allowing the same piping and bottles to be used. In either case, there is no need to modify the on-skid piping and accessories, further lowering modification costs. If the cylinder bore is ever damaged, it is less expensive and less time consuming to replace a liner than a complete cylinder.

A variety of capacity-control devices are also available, including our standard variable-volume clearance pockets, featuring generous clearance volumes. These provide greater flexibility for changing operating conditions.

The modular design of our high-speed reciprocating compressors allows frames and cylinders to be easily reconfigured, offering maximum flexibility with minimal cost.

Reliable

GE Oil & Gas API 11P high-speed reciprocating compressors are balanced opposed to minimize vibration by equalizing the opposing reciprocating forces on the crankshaft. Heavy, ribbed frames distribute reciprocating stresses evenly for greater strength and longer life. Many compressor cylinders are water jacketed to lower operating temperatures, provide thermal stability, and improve valve life.



High-speed reciprocating compressor model FS604 has two 14.5" cylinders, one 9.50" cylinder and one 6.25" cylinder – all with Variable Volume Clearance Pockets (VVCs). This configuration is most often used for gas gathering applications where it provides superior flexibility with options for changing the number of stages and liner bores.

Selection

HSR sizing software greatly simplifies the selection process – with minimal input data, the user can select a compressor for any application.

The single program covers all current GE Oil & Gas high-speed reciprocating compressor products as well as legacy brands.

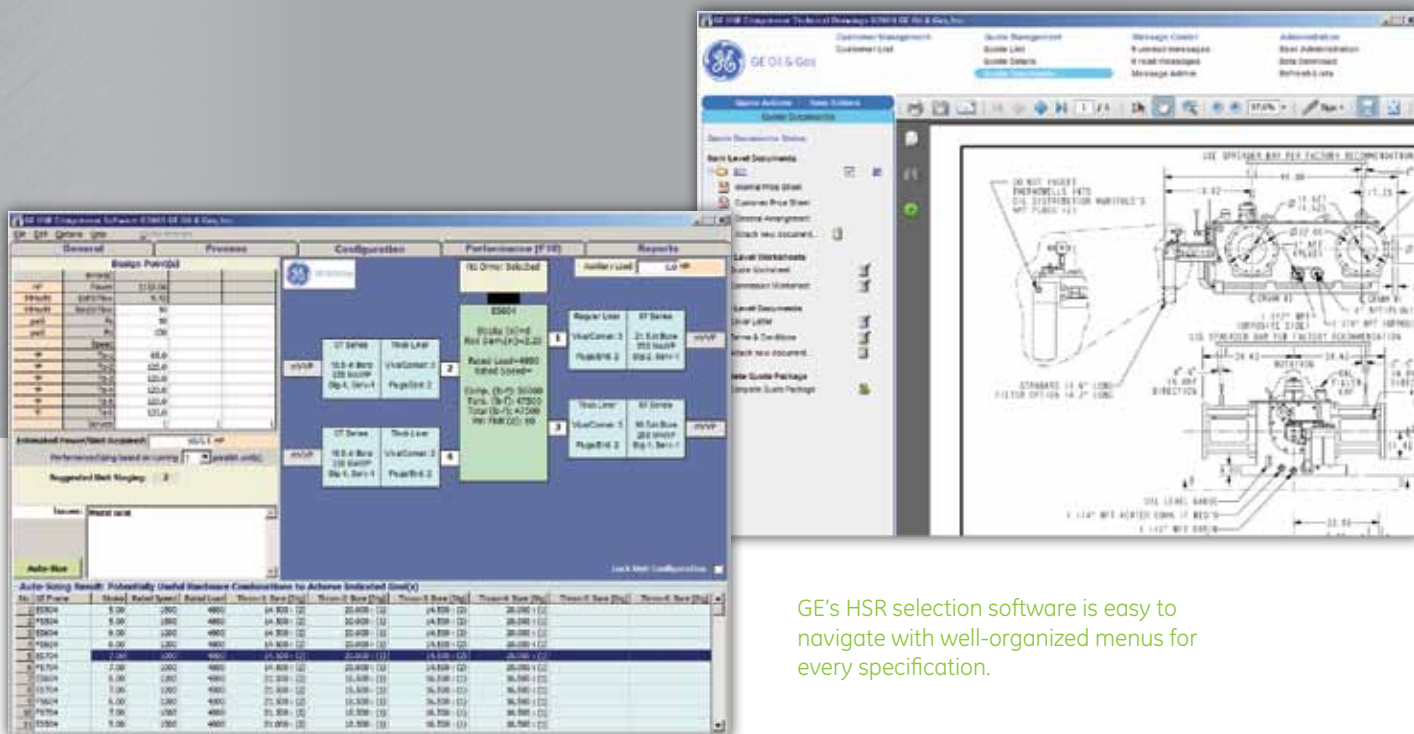
Cylinder pressure ranges by application

Cylinder pressure ranges	Barg	psig
Natural gas re-injection	448	6,500
CNG fueling	414	6,000
Gas gathering	152	2,200
Pipeline	124	1,800
Fuel storage	248	3,600

Benefits include:

- Easy to navigate with well-organized menus for every specification
- Provides liquid drop-out estimation for more accurate sizing
- Autosize feature shows various configurations that meet your service conditions
- Dynamic performance review immediately shows the effect of variable inputs over the machine's entire operating range
- Automatically generates accurate quotes within minutes complete with general arrangement drawings

The only thing easier than using one
is choosing one



GE's HSR selection software is easy to navigate with well-organized menus for every specification.

Support

Our Field Service Engineers are highly trained, fully certified to international standards, and knowledgeable about the unique demands of your application. Our experts can be quickly mobilized to deliver the highest quality service whenever you need it, any-where in the world. They draw from the same technology and knowledge base as the people who designed your compressor – so their technical fluency cannot be beat.

Repairs & reconditioning

GE's extensive engineering capabilities and advanced diagnostic resources are complemented by dedicated service trucks and the fully equipped facilities of our associate companies to keep your HSR compressors operating to their full potential – even long into their service life.

We can completely rebuild worn parts, refabricate components and overhaul the complete package, including frame and cylinders. Our OEM expertise can extend compressor service life for much longer than you might expect.

Spare parts

The best way to keep your compressor performing to its full potential is with OEM parts designed specifically for the job. With decades of engineering, manufacturing and in-field experience in material wear and customer demand patterns, our parts inventory system is designed to reflect and respond to the real needs in modern operating conditions. So, whether you have a current GE Oil & Gas model or one of our legacy brands, we'll have the parts you need – when you need them.

Portable diagnostics

With advanced yet compact data collection, miniaturization and digital signal processing technologies, our Field Service Engineers have the most comprehensive on-machine analysis capabilities in the industry. Our portable diagnostics systems are much less intrusive than on-board systems – in fact, they actually reduce the number of on-board sensors required. We can perform a full range of comparative and trend analyses and diagnostics at your site to improve the performance, mechanical condition and reliability of your HSR compressors.

In-field monitoring by a GE Oil & Gas specialist enables immediate action to increase the efficiency and operating performance of your HSR compressor.



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GE imagination at work