

Why choose ICL?

The ICL is a proven compression solution suitable for upstream, midstream and downstream clean gas applications in the Oil and Gas industry and is available in a power range up to 15 MW.

The ICL features zero emissions, high efficiency and reliability, a much broader operating range than conventional solutions, fast start/stop capabilities, low maintenance requirements and low operating cost.

100 years of experience and innovation



6MW ICL Units fully tested and validated

The ICL Solution

- Reliability
- Availability
- Flexibility
- Low operating cost
- Zero emissions and low noise
- Compact and lightweight configuration

GE Oil & Gas boasts extensive experience in all aspects of the Oil & Gas industry and deep knowledge of the needs of its customers. The ICL represents an addition to our portfolio of products which is designed to address specific compression needs in all segments of the oil & gas industry.

Global Services for Installation, Support & Maintenance

- Full installation services
- Expert maintenance
- Remote monitoring & diagnostics
- Contractual Service Agreements

A highly skilled staff of local engineers and technicians provides on-site technical support for installation, commission, overhaul, repair, and maintenance. This team is supported by our headquarter experts, service shops, technical assistants and project managers.

For product information:

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GE  
Oil & Gas



a product of  
ecomagination<sup>SM</sup>



ICL  
Integrated Compressor Line

ecomagination<sup>SM</sup> is GE's commitment to address the need for cleaner, more efficient sources of energy, reduced emissions and abundant sources of clean water. To be certified in the ecomagination initiative, a product must significantly and measurably improve customers' environmental and operating performance. To ensure that certification is distributed with the highest degree of integrity, GE works with a 3<sup>rd</sup> party to provide independent,

quantitative environmental analysis and verification of GE's product claims. The ICL is part of GE's portfolio of more than 60 energy efficient and environmentally advantageous products and services; it was awarded ecomagination certification after completing a rigorous environmental and operational evaluation.



GE imagination at work



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ICL: a seal-less, oil-free, integrated moto-compressor

The ICL is a fully integrated compression system, incorporating a high speed electric motor drive and a centrifugal compressor in a single sealed casing.

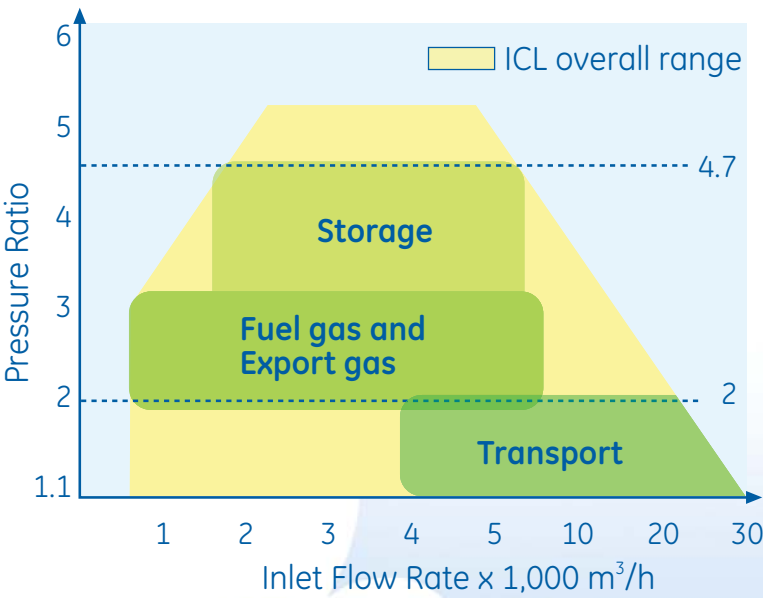
The product line covers applications across the entire Oil and Gas industry and is available in a power range of up to 15 MW. The lack of a combustion engine, the use of oil-free active magnetic bearings and the completely sealed case means zero emissions and exceptional reliability and availability.

Product range:

- Power up to 15 MW (20,000 hp)
- Pressure rating up to 1,500#
- Flow up to 30,000 am<sup>3</sup>/h (17,500 acfm)

The future is now:

- Compact design / Small footprint
- Broad operating range
- High reliability and availability
- Low maintenance
- Zero emissions
- Low noise



ICL: for economy, performance and environment

The ICL is the result of over 20 years of development and 100 years of experience and know-how in the Oil and Gas industry.

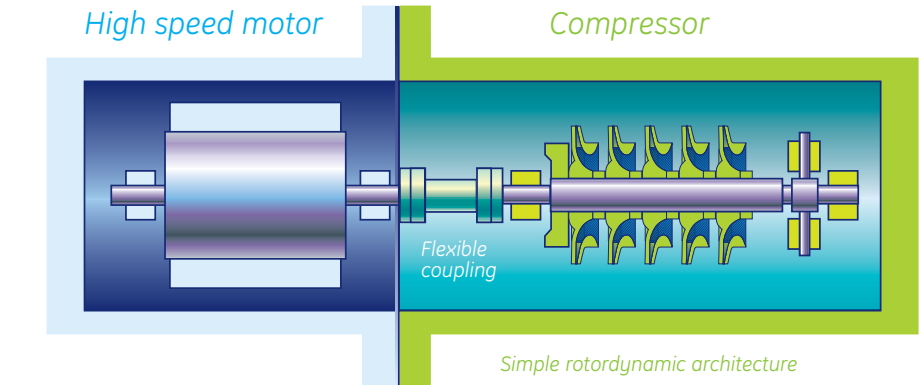
Superior Design

- Centrifugal compressor
- Active Magnetic Bearings (AMB)
- High speed motor
- Variable speed control
- Multi-stage in-line or back-to-back
- Ideal for automated plants
- Easy installation

Superior Operation

- Up to 230 bar (3,300 PSI)
- Up to 15 MW (20,000 hp)
- Broad operating range
- High efficiency
- Unlimited fast starts and stops
- Suitable for remote operation

Clean, efficient and convenient, the ICL is the ideal compression system when a small footprint and low noise level are important. Its operating range of 35-105% of nominal speed is much greater than the typical 70-105% of conventional systems, and its efficiency remains high and stable over the entire range.



Minimized Maintenance

- No wear parts
- No gearbox
- No lube oil
- No seal systems

Thanks to the ABM that eliminate parts contact and wear, as well as the absence of lube oil systems and dry end seals, the ICL maintenance requirements are significantly reduced. As a result, the ICL boasts higher reliability and a lifetime maintenance cost 40% lower than that of a conventional compressor and drive.

Zero Emissions

- Machine can be kept pressurized: no venting on shutdown
- No bearing lube oil
- No seal leakage

The ICL is a clean approach to compression. There is no seal leakage from the completely closed case and depressurization is not required on shutdown. In addition, the AMBs do not require lubrication, so there are no leaks and no oil to dispose of.

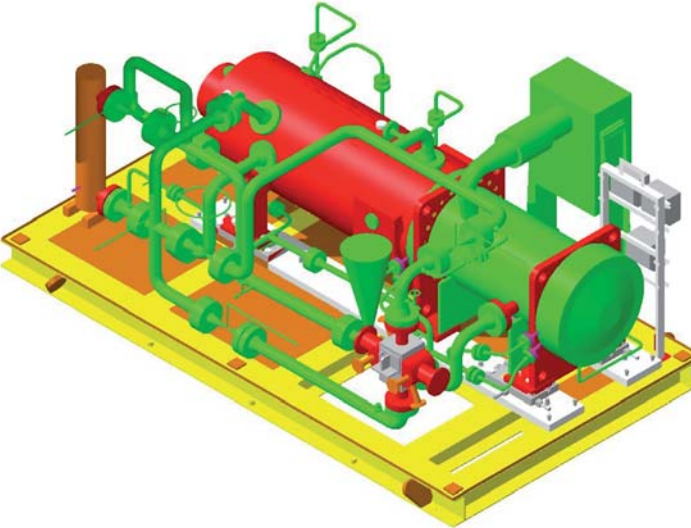
ICL: combines three fully proven state-of-the-art technologies

GE is a technology-based company and the ICL reflects this heritage. The ICL is a product of many years of investment in innovative and highly reliable technology used in the

aircraft, power generation, oil & gas and other industries that have made GE a recognized leader in industrial machinery.

Centrifugal Compressor

GE Oil & Gas has been a well-known leader in compressor technology for over 100 years and our designs have achieved many milestones in the evolution of the production, transportation and processing sectors of the oil & gas industry. The ICL combines our renown centrifugal compressor technology with an electric motor driver in a single, completely sealed casing that provides an efficient, easily installed and environmentally friendly compression solution for oil & gas applications up to 15 MW.



Electric Motor & Drive

The ICL is powered by Convertteam high speed motor and drive technology. The pressurized high speed motor is a high efficiency induction motor with a laminated squirrel cage rotor. This design has been proven by more than 1.5 million hours of successful operation over a period of fifteen years. The Convertteam drive is the same proven hardware for low and high speed motor and is able to drive the motor up to 300 Hz. More than 300 drives are running around the world.

Active Magnetic Bearings

With AMB technology, the rotor is levitated by a precision control system that accurately regulates the rotor spacing, avoiding any contact of parts and eliminating the need for lubricant. AMB eliminates friction and the leak-prone lube oil systems of conventional bearings. The AMB system keeps the rotor levitated during starts, normal operation, and stops including emergency shutdowns, and is backed-up with ball bearings which allow the machine to stop without damage.

