



Whatever your projects are, the Ingersoll Rand Engineered Solutions team can add value



Lean on an experienced provider of efficient and safe custom engineered to order solutions.

Solutions





Welcome to Ingersoll Rand Engineered Solutions

Ingersoll Rand Engineered Solutions is a business line of Ingersoll Rand focused on delivering the most reliable engineered to order solutions in the market.

Our world is constantly changing with new technological advancements, growing customer expectations and ever stricter environmental regulations making the demands of modern engineering projects increasingly rigorous.

Simultaneously, challenges such as price fluctuations, supply chain disruptions and qualified workforce shortages are making it difficult to find a trustworthy provider able to offer real support throughout a project's lifecycle.

Ingersoll Rand Engineered Solutions is fully committed to tackle these challenges and guiding its partners through the quickly evolving and increasingly demanding landscape of today's engineering by offering customized solutions defined by innovation and the highest quality of workmanship.

Our products include compressors and vacuum pumps for both air and gas with different technologies and loading arms. They enable mission-critical processes in oil & gas, power generation, environmental, chemical & petrochemical, mining, pulp & paper, general industry and many other key sectors.

Managing the most complex projects around the world with cutting-edge technology, we are always focused on making our customers successful.



Locations



1. Nash



2. Garo



3. Transvac



4. Emco Wheaton



5. Hibon



6. Runtech



7. Roots



8. Robuschi



9. Wittig



10. Elmo Rietschle

Our strategic brands are the driving force behind Ingersoll Rand Engineered Solutions, shaping the future of mission-critical processes worldwide.

Our strategic brands are the driving force behind **Ingersoll Rand Engineered Solutions**, shaping the future of mission-critical processes worldwide. As a powerful umbrella brand, we give customers the unique advantage of sourcing all their pressure, vacuum, and fluid transfer needs from one trusted partner. **Ingersoll Rand Engineered Solutions** unites ten iconic brands – **Nash, Garo, Transvac, Emco Wheaton, Hibon, Wittig, Runtech, Roots, Robuschi and Elmo Rietschle** – representing over 300 years of innovation, reliability, and proven performance.

Together, these brands deliver cutting-edge, energy-efficient technologies designed to meet the world's toughest challenges, from clean energy and sustainability to demanding industrial processes. Our unique multi-brand approach ensures customers benefit from an extensive, complementary portfolio of products and services, supported by unrivaled engineering expertise, global reach, and end-to-end lifecycle support.



Nash is the inventor and marketleading manufacturer of highly engineered liquid ring vacuum and compressor systems that stand out through high reliability and low total cost of ownership.



Garo has been a manufacturer of liquid ring compressors since 1947. They are the heart of customdesigned gas compression systems for the oil & gas, petrochemical and chemical industries.



Transvac is a specialist manufacturer of highperformance ejectors and vacuum solutions for demanding industrial applications. With decades of experience, Transvac designs and supplies liquid, gas, and steam ejector systems that deliver reliable operation with no moving parts. These systems are widely used for power generation, gas compression, vapor recovery, and process evacuation.



Emco Wheaton combines expertise and knowledge, with an innovative attitude and unmatched skills to produce worldleading fluid transfer equipment.



Hibon has a longstanding history of over a hundred years, during which it has provided a wide range of solutions. These solutions encompass process positive displacement blowers and vacuum packages, ensuring the safe and efficient transfer of gases, including hazardous or harmful mixtures, as well as steam recovery, to meet the specific needs of various industries.



The Wittig Industrial Systems provide engineered solutions for vacuum and pressure. Wittig rotary vane compressors and vacuum pumps are outstanding performers in terms of reliability and economy of operation for any application and in any industry.



Runtech Systems is a global leader in providing engineered vacuum systems and optimization solutions, particularly for the pulp & paper industry. Known for its innovative turbo vacuum blower technology, Runtech helps customers significantly reduce energy consumption, optimize dewatering, and improve overall process efficiency. With a strong focus on sustainability, Runtech's systems are designed to lower operating costs and minimize environmental impact, making them the preferred choice for forward-thinking production facilities.



The Roots brothers of Connersville, Indiana invented the straight lobe rotary blower in 1854. Now in 2024 this history continues for the Roots type rotary and centrifugal Turbo Compressor product lines handling air and nonair gases for both pressure and vacuum applications.



Robuschi is known globally for its highquality rotary lobe blowers, screw compressors. Robuschi serves diverse industries worldwide, delivering customized solutions to meet evolving industrial needs. The company also offers specified product customization and application engineering services.



Custommade solutions for vacuum applications that fit with customers' needs across a wide range of industries. We are committed to delivering complete systems and turnkey solutions based on each customer's choice of technologies.

Mission



Our Mission

At **Ingersoll Rand Engineered Solutions**, our mission is to design, develop, and deliver reliable, innovative engineering solutions that empower our customers to succeed while supporting sustainable and efficient industrial operations. Working closely with our strategic brands, we provide tailor-made systems that meet unique flow requirements and offer full lifecycle support, ensuring safe, high-quality solutions that give our customers peace of mind and a competitive edge.



Our vision

To be **the global leader in engineered-to-order solutions**, shaping the future of industry by combining decades of proven experience with cutting-edge technology and sustainable practices. From initial concept to final installation, we aim to deliver innovative, safe, and high-performance solutions that drive project success, support environmental responsibility, and build a lasting legacy of trust and excellence worldwide.

Vision

Industries and Applications

We provide our engineered to order solutions for many key industries and industrial applications.

Solutions

INDUSTRY	Liquid Ring Vacuum Pumps	Liquid Ring Compressors	Dry Vacuum	Land Loading Systems	Marine Loading Systems	Blowers Systems	Rotary Vane Compressors	Vacuum & Blower Solution	Small Rotary Blowers	Larg Rotary Blowers	Large Rotary Gas Compressors	Dry Rotary Vacuum Pumps	Air Injected Dry Rotary Vacuum Pumps	Water-Sealed Rotary Vacuum Pumps	Large Rotary High Vacuum Boosters	Ejector Systems
Oil & Gas	•	•	•	•	•	•	•	•	•	•	•	•				•
Chemical & Petrochemical	•	•	•	•	•	•	•	•	•	•	•	•	•			•
Clean Energy					•						•		•		•	•
Pharmaceutical	•	•	•	•		•		•								•
Pulp & Paper	•					•			•					•		•
Power Generation	•	•	•			•	•		•				•			•
Enviromental/ Wastewater Treatment	•	•				•	•	•	•	•	•					•
Food & Beverage	•	•		•	•			•	•							•
General Manufacturing	•					•	•		•						•	•
Mining and Construction	•			•		•	•		•					•		•
Cement & Lime Industry								•								
Marine							•	•								
Brick & Tile Industry								•								
Plastics	•							•								
Metals (Steel)	•										•				•	
Transport/Vehicle (Vacuum Truck)	•								•	•		•	•			

Nash: Efficient and Reliable Engineered Systems

When it comes to vacuum and compressor technology, each industry and each application have their own specific requirements. Nash, as the inventor of the liquid ring pump technology, offers **unparalleled expertise with regard to designing and manufacturing efficient and reliable engineered systems to meet your unique process needs.**

Each engineered system comes packaged, factory tested and ready for operation. It can be easily integrated with the existing processes and automation systems, which minimizes installation and operating costs.

Nash has the experience and expertise to deliver an engineered system that is designed to meet the rigors of even the most demanding applications.

Reliability



Customer specific two-stage system with 2BQ and 2BK liquid ring compressors



Highly efficient
operation



Unrivalled
reliability



Low total cost
of ownership



Easy
maintenance

Garó: World-class Compressor Systems

Garó solutions offer a **complete system design** and are built around the **efficiency of Garó's liquid ring compressors**.

Garó compressor systems **comply with local norms and environmental regulations while reducing costs and minimizing downtime**. Customers around the world rely on Garó's customized packages for a **safe and reliable operation**. Our key market strengths and advantages include:

- We are a technology leader in flare gas recovery systems (FGRS), vapor recovery units (VRU), vinyl chloride monomer (VCM) recovery and chlorine compression systems.
- We have extensive experience in designing and engineering gas compression packages.
- Our solutions fully comply with API 681, NACE and other standards, as well as with customer requirements.
- We bring all the benefits of liquid ring technology in one engineered to order solution.



Vapor Recovery Package



Safe and reliable
operation



International and
local regulations
and requirements



Easy return
on investment



Minimizing
downtime

Transvac: Custom Engineered Ejector systems

Transvac has a legacy of over 50 years, providing an extensive range of award-winning ejector solutions for the global process industries.

These custom-engineered ejectors – also known as educors, jet pumps and surface jet pumps – are constructed in specialist materials with no moving parts, offering fully packaged solutions complete with instrumentation and ancillaries to meet the most demanding project specifications for gas compression, vacuum generation and flare gas recovery.

Designed to ensure the safe and efficient transfer of gases and liquids, including hazardous, corrosive and high-temperature media, Transvac ejectors are a truly green technology delivering zero emissions across a wide range of industries.

KNOWLEDGE



Safe handling of neutral, aggressive, and hazardous gases



ATEX Zone 1 & 2 compliant designs



Zero moving parts extend operational lifespan



Rigorous quality control - ISO 9001 certified



Super Ejector by Transvac

Emco Wheaton: Safe and Efficient Loading Arms

Emco Wheaton has been the trusted market leader in supplying complex fluid transfer systems for over a century. Manufactured in Kirchhain (Germany), our loading systems are engineered to **safely and efficiently transfer a wide range of liquid and gas products**.

The Emco Wheaton all-inclusive product portfolio comprises both **truck and rail loading systems and marine loading arms**.

Emco Wheaton offers a **comprehensive range of loading arms, entire loading systems and accessories** that are engineered to efficiently load and unload a variety of liquid and gas products onto and from a wide variety of containers, trucks, railcars, barges and ships up to big LNG tankers.

Emco Wheaton designs and manufactures a wide range of **highly engineered marine loading arms** including high-pressure and cryogenic applications.



Maximum safety



Efficiency

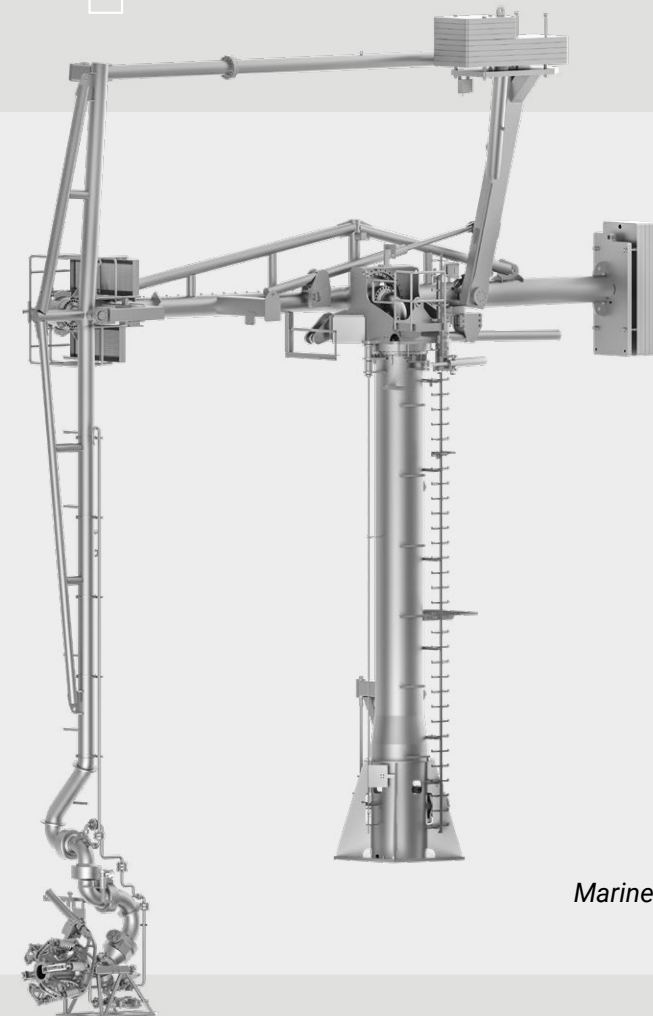


The ultimate quality



Minimal maintenance

Experience



Marine Loading Arm

Robuschi: From Process Insight to Turn-Key Performance

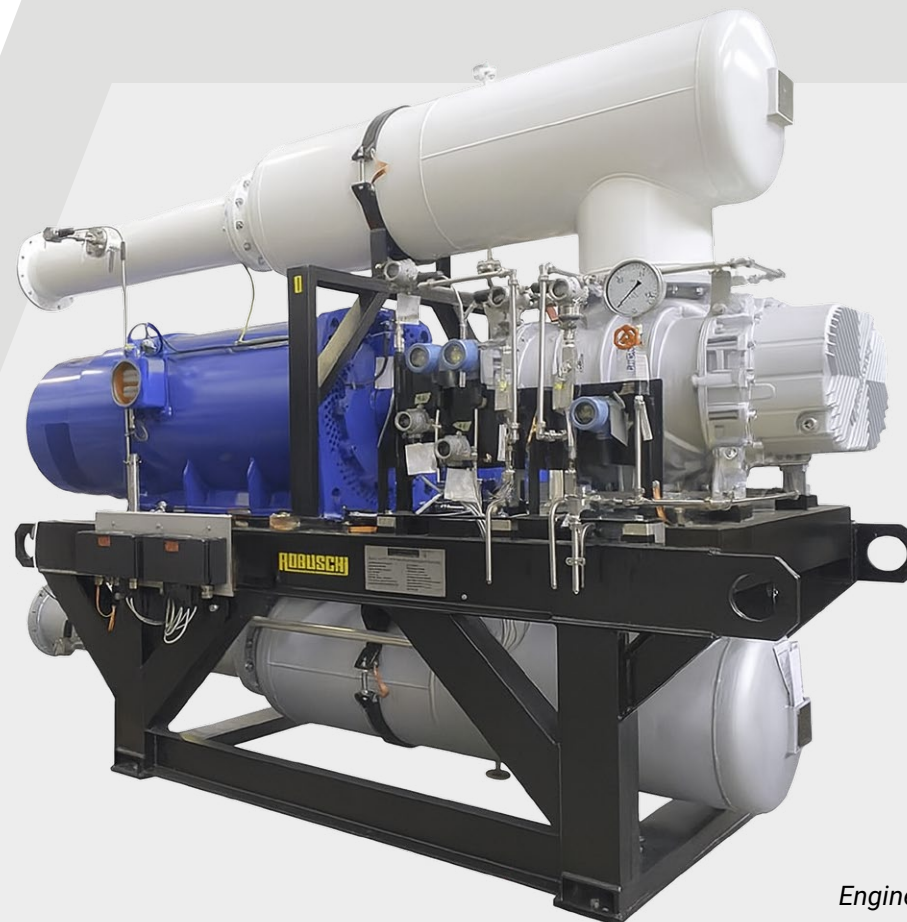
At Robuschi, we take an **application-oriented approach**: we first understand your process in detail, then deliver the solution that best meets your specific requirements.

The result is a **high-performance, tailor-made system** you can rely on. Our **high-specification process gas blower units** are custom-engineered for process-critical applications. We design and build **skid-mounted packages** that provide outstanding **reliability, cost-efficiency, and durability** across a wide range of demanding environments.

These packages can safely handle **gas mixtures where contamination is a concern** and can be supplied complete with **drives, control and management systems, instrumentation, and ancillary processing equipment**—all ready for easy installation and smooth commissioning.

With Robuschi, you gain a partner who transforms your process needs into **reliable, efficient, and future-ready engineered systems**.

Sustainability



Lobe Blower
Engineered System



Application-
Oriented
Design



Reliability &
Safety



Custom-
Engineered
Packages



Cost-Efficient
Operation

Wittig: Pioneering Excellence: World Leader in Advanced Compressor Solutions

For decades, Wittig Industrial Systems has stood as a revered global provider of cutting-edge compressor solutions, specializing in:

- **Rotary vane compressors for air or gas, certified with ATEX compliance;**
- **Comprehensive compressed air treatment solutions;**
- **High-quality vacuum pumps and vacuum pumping units.**

Wittig design and manufacture gas compressors specifically designed for the challenges of the biogas market, as well as other demanding applications such as carbon capture and storage (CCUS), and BOG (boil-off gas) compression until 18 bar abs.

Pioneering



ATEX Rotary Vane
Compressor System



Economic
Operations



Global
Presence



Proven
Reliability
and Performance

Elmo Rietschle: Industrial Vacuum Pumps, Blowers & Low Pressure Compressors

Elmo Rietschle offers the widest range of vacuum pumps, blowers and low pressure compressors technologies. Delivering outstanding choice of both oil lubricated and dry running solutions. Many industries see us as the first choice for all industrial vacuum or pressure applications because of our high quality products and expert know-how.

Technologies & Benefits

- Side Channel Blowers
- Rotary Vane Vacuum Pumps and Compressors
- Claw Vacuum Pumps and Compressors
- Screw Vacuum Pumps
- Radial Vacuum Pumps
- Industrial Vacuum Systems
- Liquid Ring Vacuum Pumps and Compressors
- Rotary Lobe Vacuum Pumps and Boosters
- Low Noise Level
- Precision German Designed
- Variable Speed Drives Available



Robust
and Economical



Application
Specific
Option



Easy
to Operate
& Maintain



High
Efficiency &
Long Up Time



X-VLU Dry
Bottling System

Hibon: Premium Engineered to Order Blower Systems

Hibon offers a comprehensive range of solutions, including rotary **lobe blowers (positive displacement blowers)** and **vacuum packages**.

Our process solutions cover a vast spectrum of applications, from chemical and petrochemical processes to energy, nuclear, and gas industries. **Our solutions are robust, high-performance, and unaffected by gas contaminants or moisture.** They can also be designed to include a wide range of special materials and seals to match your specific requirements. Additionally, our blowers are certified for ATEX compliance, making them suitable for hazardous or explosive environments.

Our range of blowers and vacuum pumps are ideal for handling gases like hydrogen, nitrogen, and syngas for applications requiring gas compression or mechanical vapor recompression. Every ETO application is unique, and Hibon's approach is entirely tailored to meet your specific needs. We understand that ETO projects often require customized solutions based on their unique requirements. Our expertise in ETO manufacturing allows us to thoroughly analyze specifications, applications, and end-user requirements, ensuring that we deliver high-performance solutions that align with your project goals.

Whether it's pressure drop calculations, torsion and critical bending calculations, or consultation on safety issues, our ETO team has the **knowledge and experience** to make your project a **success gas handling or gas recovery**.

Premium



Rotary Lobe Blower Package for
EPR Nuclear Application



Lifetime
reliability



Material
Traceability



Technical
Expertise



ATEX
Compliant

Roots: Setting the Standard since 1854

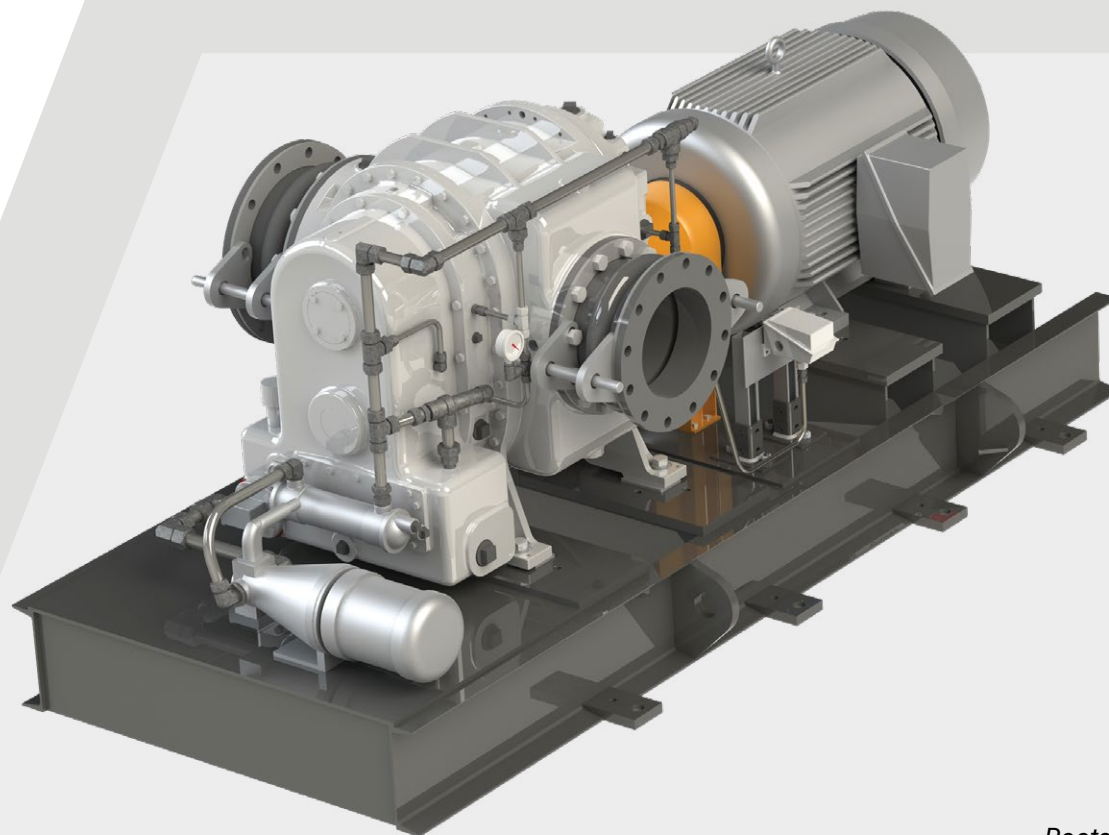
Roots has a storied history of over 170 years as a **pioneering force in blower and compressor technology**, recognized for inventing the original Roots blower.

Serving various **industries like steel, refining, food processing, and water treatment**, Roots is renowned for its dependable and **high-quality products** that are integral to industrial processes.

Today, Roots produces robust, heavy-duty bi-lobe or tri-lobe designs and centrifugal blower that deliver reliable performance with **innovative Whispair™ technology for low noise, low pulsation compression**.

As the oldest blower manufacturer in the United States, Roots prides itself on its expert knowledge, customer focus, and exceptional service. Choosing Roots equates to embracing a legacy of **excellence and benefiting from top-tier performance and support**.

Technology



Roots PD
Blower System



Proven
reliability



High
Efficiency



Network of
service experts



Broad product
offering

Runtech Systems: Advanced Vacuum & Process Optimization for Paper Mills

Runtech Systems specializes in delivering engineered solutions that enhance the efficiency and sustainability of paper, board, and tissue manufacturing processes. With a legacy rooted in over 30 years of expertise, we offer a comprehensive range of technologies designed to optimize vacuum systems, dewatering, cleanliness, and runnability. Each engineered system is meticulously designed, factory-tested, and ready for seamless integration into existing operations, ensuring minimal installation time and reduced operational costs.

Key advantages of Runtech Systems include:

- **Innovative Vacuum Solutions**
- **Comprehensive Process Optimization**
- **Sustainability Focus**
- **Global Expertise**



Economical
to own and
operate



High
Efficiency



Improved
runnability &
operator safety



Proven
papermaking
knowhow & support

Sustainability



Our RunEco systems, featuring variable speed and variable capacity EP Turbo Blowers, are energy efficient, operate without water, and offer significant heat recovery potential. Optimal energy savings are achieved by applying vacuum precisely where necessary, facilitated by real-time, accurate water flow measurements.

Engineering

Proven Experience – Practice Makes Perfect

The more than 300 years of combined experience of our strategic brands help us to fully understand all the needs of complex engineering projects and deal with even the most demanding technical requirements. We are integrating the rich experiences, backgrounds and views of our brands into the culture of the Ingersoll Rand Engineered Solutions umbrella.

Over the years of our brands' existence, we have been developing solutions that still define the systems which we helped to build. **We are a leading expert in the execution of big engineering projects.** With our renowned brands, we have supplied customized flow solutions to many **global leading EPC contractors, OEMs and end-users worldwide.** We have helped private investors including Fortune 500 companies to design, develop and successfully deploy thousands of engineering investments that are fueling their business growth.



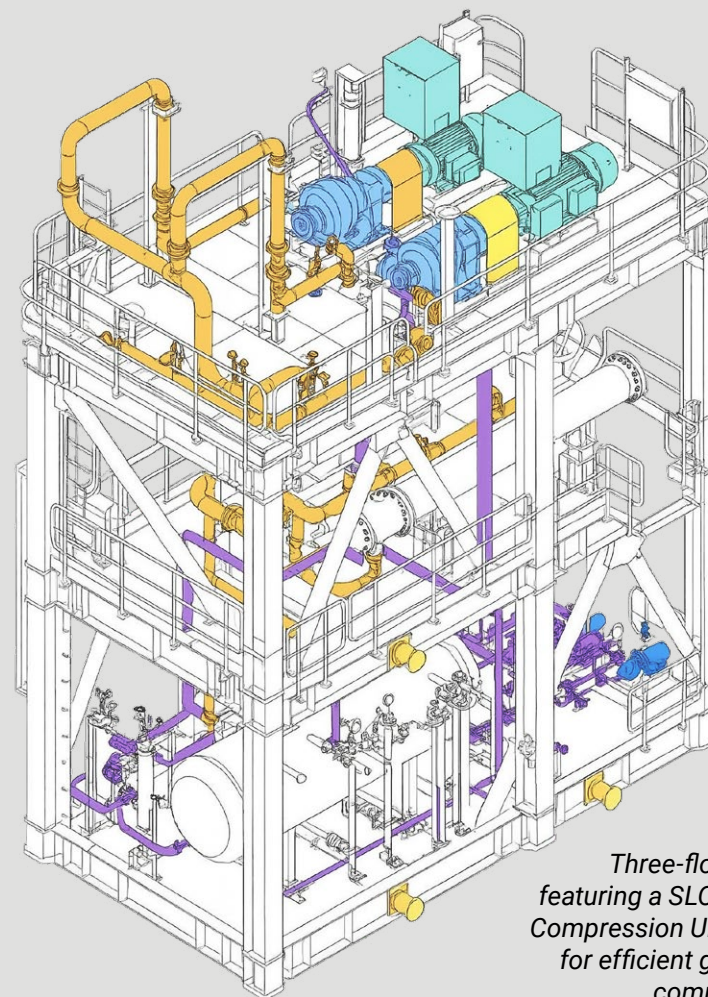
Customized Solutions – From Concept to Factory Floor

At Ingersoll Rand Engineered Solutions we know that each of our customers have their unique necessities.

We are able to take care of your project during each and every of its stages, **from the initial concept design, through the pre-feed, feed, detailed design and procurement phase to construction, commissioning and aftermarket support.**

All the machine packages and solutions that we provide can be **tailored to the most demanding technical specifications** of your application. Ingersoll Rand Engineered Solutions systems are designed to **operate in harsh environments and face the most extreme environmental conditions.**

Additionally, a wide variety of options can be customized to **meet international and local quality requirements.** Our solutions can comply with the **API, ISO, ATEX, iECEx, ASME, ANSI and DIN standards**, among others.



Three-floor skid package featuring a SLOP Gas Recovery Compression Unit – engineered for efficient gas recovery and compact installation.

Customized

Project Management – The Exceptional Support That You Need



Thanks to our **impressive experience and track record of thousands of completed installations** we know how to help our clients proceed smoothly through the entire process. We are a seasoned team of experts and **we provide full project management support from conceptual design to construction, commissioning and aftermarket support.**

Our expert engineers and project managers **deliver on time and work to exceed technical support expectations.** And they do that during all project phases including **technical & quality management with complete documentation support.**

Ingersoll Rand Engineered Solutions supports you throughout the project lifecycle



Concept Study → **Feed**

Estimations and possible process reevaluations to help consultancy company to choose the right technology



EPC (Engineering, Procurement and Construction) and OEM

Design phase, Specifications & Product Customization



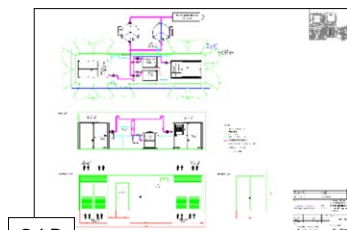
Order → **Installation, Commissioning & Start up**

Project Management, Documentation, Quality Assurance

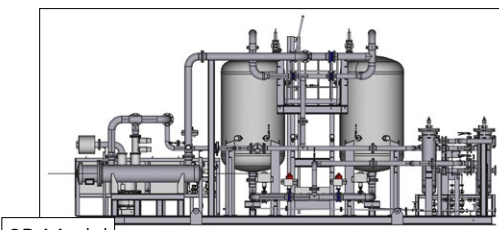


Aftermarket Services & Maintenance Programs

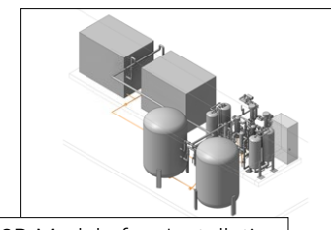
Global Presence & Local Support



GAD



3D Model



3D Model of an Installation

Service

Advanced Service

At Ingersoll Rand Engineered Solutions our aftermarket support ensures your process runs as **safely, efficiently and successfully** as possible, **safeguarding your investment and giving you peace of mind**. We work to **increase profitability by minimizing downtime with minimal maintenance requirements and maximized equipment lifetime**.

We have a global network of strategically located manufacturing facilities, sales offices and authorized service centers. This allows us to **think globally and act locally**, providing service and support to our customers wherever and whenever they need it. We offer a **comprehensive portfolio of maintenance service packages and programs** that include:



Inventory checks and equipment audits



Pre-commissioning activities



Commissioning and start-up



Site trainings



Genuine spare parts



Preventive and corrective maintenance



Performance and reliability upgrades, post-upgrades of the customer's machines

We take customer service very seriously and we **have been developing our aftermarket capabilities year on year**. Our customers rely on us day after day to keep their systems running **safely, cost-efficiently and with optimum performance**.





Ingersoll Rand®

FIND
OUT
MORE

