

ENGINEERED SYSTEMS AND SERVICES FOR OIL & GAS INDUSTRY

ACHIEVE PROJECT EXCELLENCE WITH THE SAFEST CUSTOM AIR & GAS EXPERTS TEAM



Engineered Systems and Services www.ingersollrand.com/air-compressor-systems

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Engineered Systems and Services

www.ingersollrand.com/air-compressor-systems





Welcome to Engineered Systems and Services (ESS)

Ingersoll Rand's Engineered Systems and Services (ESS) is dedicated business line to providing market-leading, **custom-engineered solutions**.

Formed from a merger of five renowned business units - Ingersoll Rand Air & Gas Solutions, Ingersoll Rand Engineering Project Solutions, and K. LUND Offshore, Reavell, Bellis & Morcom, Mako and Blutek S.R.L. - Ingersoll Rand Engineered Systems and Services (ESS) leverages extensive experience to serve Engineering, Procurement, and Construction (EPCs) contractors and other firms in need of specialized engineering Services.

With a portfolio that includes state-of-the-art **air and gas compressors, dryers, nitrogen generators, and gas recovery Systems**, Ingersoll Rand Engineered Systems and Services (ESS) is committed to pioneering innovation and maintaining the highest standards of engineering excellence. We pride ourselves on managing intricate projects across the globe, employing cutting-edge technology to drive the success of our customers.









A Constantly Changing Market

The oil and gas industry, a market in constant flux, is being shaped by environmental concerns, geopolitical factors, and growing costs. It is undergoing a significant shift due to the impact of climate change and increasing concern about global warming.

As the demand for energy generation facilities, offshore drilling, liquefied natural gas (LNG) terminals, waste-to-energy projects, and other oil and gas exploitation methods surges, the capacity to adapt is becoming increasingly important.

YOUR TRUSTED PARTNER IN OIL & GAS

Ingersoll Rand Engineered Systems and Services (ESS) has both the expertise and the capacity to ensure the success of our customers' projects. We offer an extensive selection of high-quality, safe, and low-maintenance air and gas compressors, air dryers, nitrogen generators, and flare gas recovery systems tailored to meet the needs of any application.

With a proven track record of providing equipment for hundreds of oil and gas projects to EPC contractors and end-users around the world, we stand ready to help you achieve operational excellence with efficiency and safety.



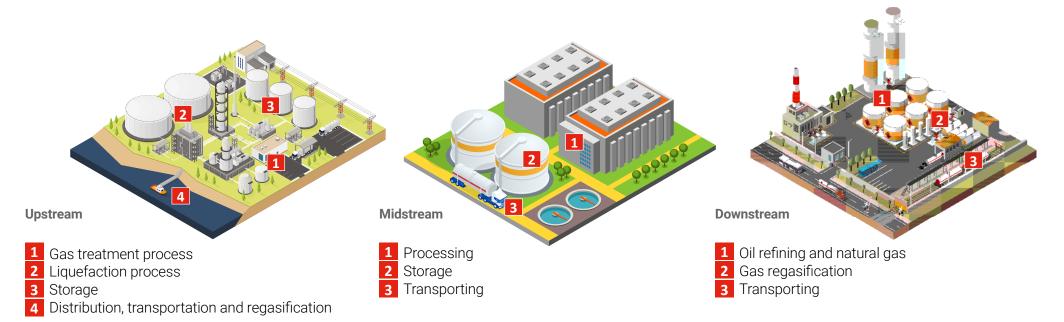






Ingersoll Rand Support Your Oil & Gas Challenges

From exploration, drilling and transportation to nitrogen generation, purging and blanketing, as well as the powering of pneumatic equipment, our engineered-to-order air and gas solutions are available to all oil and gas plants across numerous applications.



KEY APPLICATIONS FOR OIL & GAS • Instrument Air & Plant Air Plant Air Emergency compressor Flare Gas Recovery Dew Point Control Natural Gas Gathering Carbon Capture Utilization • Gas to Liquid (GTL) Enhanced Oil Recovery (EOR) LNG Liquefaction NGL Fractionation Boosting & Storage (CCUS) Boil-off gas Fuel gas boosting Blanketing Ventilation Purging





Applications & Products

Our engineered-to-order air and gas solutions are available to all power generation plants across numerous applications. We have the expertise to customize our products to your specific application needs.



TYPICAL COMPRESSED AIR AND GAS APPLICATIONS CAN ALSO INCLUDE			
Production Processes	Gas Applications	Air Applications	Nitrogen Applications
Olefins	Ethylene	Main Process	Reduction of fire and explosion risk, as well as unwanted oxidation
Aromatics	Propylene	Utility	Conveying within piping systems
Fertiliser	Butylene	Decoking	Keeping pipelines clear
Methanol	Syngas	Conveying	Tank ventilation
Olefins Aromatics	Refrigeration	Flare Assist	Purging of controls panels
	Hydrogen	Main Process	Flare gas inerting
	Flare Gases		Dry gas sealing
			Tank blanketing

	PRODUCTS		
Screw Air Compressors	Liquid Ring Compressors	Lubricated High Pressure Air Compressors	Nitrogen Boosters
Centrifugal Air Compressors	Screw Gas Compressors	Oil-Free Reciprocating Air Compressor	PSA Nitrogen Generators
Centrifugal Gas Compressors	Gas-ends	Refrigerant Compresssed Air Dryer	Membrane Nitrogen Generators
Breathing Air Compressors	Reciprocating Gas Compressors	Adsorption Air Dryer	
Large Reciprocating Boosters	Blowers	Hybrid Air Dryer	FIND OUT MORE DETAILS ABOUT OUR PRODUCTS CLICK ON THE INTERACTIVE TABLE









Compressed Air, Gas And Nitrogen Generation In The Oil & Gas Industry



Exploration

Compressed air and gas as well as nitrogen generation are essential for exploration, seismic studies, production, drilling, and treatment processes, requiring a constant supply. Onshore, compressed air systems are vital for crude oil recovery and preparation for transport. Offshore platforms rely on compressed air and gas for tasks such as sandblasting, cleaning, painting, and pipeline maintenance.



Well Testing

Well testing is a highly intensive, demanding offshore application that requires compressed air to power its equipment. Nitrogen can be used to maintain reservoir pressure and support the safe purging of equipment, providing a non-reactive environment that prevents combustion.













Transportation

Air compressors help to move the raw materials from the source at which they were extracted to the refineries and facilities where they are processed. Gas compressors also play a vital role in the transportation phase of the oil and gas industry by pressurizing and propelling the extracted hydrocarbons through pipelines over long distances. In the transportation phase, nitrogen may be used for pipeline purging and testing, ensuring the integrity of the pipeline by removing contaminants and preventing corrosion.



Processing & Refining

From catalyst regeneration, purification, sulfur removal and flare gas recovery to process heating and hydrogen recovery, it is essential to ensure optimal results!



Natural Gas Compression

Natural gas compression is an integral part of its production process, and compressed air is used to increase the pressure of the gas to enable it to be moved through pipelines and other transportation networks. In this phase, natural gas compressors are integral during the natural gas compression phase, serving to increase the pressure of the natural gas for various reasons. Nitrogen is sometimes injected into natural gas wells to enhance recovery.



Distribution

Compressed air also plays a role in the distribution of the end products, such as gasoline, jet fuel, fuel oil and kerosene, to power and energy generation facilities and to the end consumer. Gas compressors maintain the necessary pressure within the distribution pipelines, facilitating the steady flow of oil and gas from processing plants to various end points. In distribution, nitrogen is used for tank blanketing to protect the product from moisture and contaminants.



Other Uses of Compressed Air and Gas

Compressed air and gas also have some other uses within these different stages of the production process, including nitrogen generation, instrument and service air, decocking air, air separation, instrumentation and calibrating test equipment, tank blanketing, purging, and fastening. All of these elements of the production process require clean, oil-free, high-quality compressed air and gas to ensure their efficiency and productivity







Our Engineered Air and Gas Solutions Benefits



Maximum Safety:

Our air systems meet the stringent safety and availability requirements of the oil & gas industry. Our engineering packages are designed to meet these rigorous industry standards.



Superior Best Air Quality:

We are committed to providing superior air quality for your oil & gas plant. The certified class zero air coming from our compressors and dryers will meet your air quality requirements.





Compliance with Global Standards:

Our engineered air and gas packages are designed to meet the air and gas quality standards of the oil and gas industry, such as API Compliance and ISO Certification.



Full Project Management Support:

Our dedicated team of expert engineers, who provide full project management support from the design phase, through construction and commissioning, to aftermarket service support.



Market Expertise:

Our custom-designed compressors have evolved over decades into a vast portfolio of EPC contractors and engineering companies.



Low Maintenance & Reduced Costs:

Our packages are designed with sufficient instruments to plan maintenance and reduce downtime. The goal is to save you time and money by providing worry-free operation of your equipment with simple maintenance.



Engineered To Your Specific Needs:

All the machine packages and solutions that we provide can be tailored to the most demanding technical specifications of your oil and gas application.



Premium Efficiency:

The shape and design of our Ingersoll Rand compressors minimise aerodynamic losses and optimise air flow through the compressor.



Service Support:

Ingersoll Rand offers a comprehensive line of maintenance packages and programs. We provide a range of support services, replacement parts, and support products.







REQUEST A QUOTE

Screw Air Compressors

Our lubricated and oil-free rotary screw compressors incorporate the very latest technological advances. Designed to operate in the most extreme temperatures, they are able to run between -47° to 55°C. Benefiting from a compact design and an optimized footprint, they are easy to use and ready for plug-and-play operation.

Technical Data & Benefits

TECHNICAL DATA*	OIL FLOODED	OIL FREE
Flow Rate (m³/h)	Up to 4.200	Up to 5.000
Operation Pressure (barg)	8 ~ 15	8 ~ 10
Power (kW)	2 ~ 400	37 ~ 700

^{*} This data can be modified based on customer needs













Learn More







Centrifugal Air Compressors

Ingersoll Rand manufactures a complete line of fully packaged centrifugal compressors in a wide range of capacities and power ranges. The revolutionary MSG® and TURBO-AIR® centrifugal compressors offer advanced, state-of-the-art source of oil-free gas and air for oil & gas industry.

Technical Data & Benefits

TECHNICAL DATA*		
Flow Rate (m³/h)	2549 to 230000	
Operation Pressure (barg) up to 82		
Power (kW)	up to 16400 (22000 hp)	

^{*} This data can be modified based on customer needs





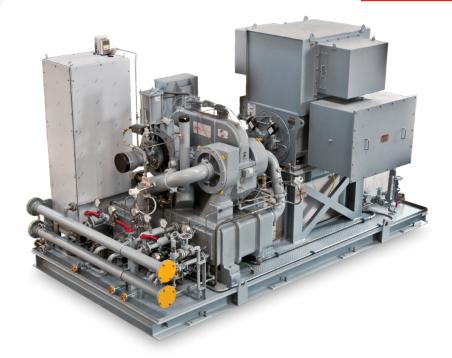






Learn More











Centrifugal Gas Compressors

Centrifugal gas compressors are crucial in oil & gas industry. Ingersoll Rand's portfolio of centrifugal gas compressors includes a broad spectrum of custom-engineered and pre-engineered products. Talk to an Ingersoll Rand expert to help you find the perfect centrifugal gas compressor.

TECHNICAL DATA*		
Flow Rate (m³/h) 3400 to 170000		
Operation Pressure (barg) up to 82 bar		
Power (kW) up to 16400 (22000 hp		

^{*} This data can be modified based on customer needs



















Breathing Air Compressor

Mako Breathing Air Compressors offer several different compressor models to meet your specific breathing air system need. They can be built to meet your demanding compressor needs Include our rugged Horizontal Breathing Air compressor packages, high-capacity Water-Cooled packages and our Mobile Breathing Air solutions.

Technical Data & Benefits

TECHNICAL DATA*		
Motor Type	NEMA design ODP 1.15 SF electric motor	
Control System Fully automatic		
Design	Compact, ergonomic	
Cooling	Water-cooled and air-cooled options	
Safety Features	Anti-vibration mounts, auto-drain with muffler/reservoir system	























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Large Reciprocating Boosters

Ingersoll Rand offers an extensive range of Large Reciprocating Compressors that are tailor made to exacting specifications for many process applications. Count on us to engineer specialized custom-built packages for your large reciprocating compressor needs.

TECHNICAL DATA*		
Flow Rate (m³/h) 170 to 2600 CFM		
Operation Pressure (barg)	2 - 414	
Power (kW)	45 to 300	

^{*} This data can be modified based on customer needs























Liquid Ring Compressors

Our piston compressor systems' highest-in-class reliability & flexibility make them an ideal equipment for very wide range of applications where a steady supply of compressed air or gas is needed. Our lubricated high pressure air compressors are the perfect partner for your compressed air and gas systems.

Technical Data & Benefits

TECHNICAL DATA*		
Flow Rate (m³/h)	50 - 39000	
Operation Pressure (barg)	up to 14	
Power (kW)	up to 1000	

^{*} This data can be modified based on customer needs









Learn More







Screw Gas Compressors

Ingersoll Rand's oil-injected rotary screw gas compressors are an ideal solution for those seeking additional options for specific project needs. We are able to serve a vast range of applications in the Oil & Gas.

TECHNICAL DATA*		
Flow Rate (m³/h)	235-9440	
Operation Pressure (barg)	Up to 34	
Power (kW)	15-600	

^{*} This data can be modified based on customer needs





















Gas-ends

Ingersoll Rand rotary screw natural gas compressors can be provided in one-stage and two-stage options. They are very cost-effective for handling high volumes of gas in field gathering, vapor recovery, and a wide range of other applications and delivering gas at high pressures.

SINGLE STAGE ROTARY SCREW GAS ENDS

TWO STAGE ROTARY SCREW GAS ENDS











Learn More











Reciprocating Gas Compressors

Our multi-stage reciprocating piston compressors are engineered for bespoke applications that require the highest capacities and special features. These configured compressors offer a wide pressure, capacity, and speed range

TECHNICAL DATA*	AIR COOLED	WATER COOLED
Flow Rate (m³/h)	170 - 2600	170 - 2600
Operation Pressure (barg)	2 - 414	2 - 414
Power (kW)	45 - 300	45 - 300

^{*} This data can be modified based on customer needs

















Blowers

We specialize in creating comprehensive blower packages tailored to meet our clients' specific needs. Our designs also integrate a suite of auxiliary equipment like pre-coolers, dryers, filters, receiver tanks, and both closed-loop cooling and chilled water Systems.

Technical Data & Benefits

TECHNICAL DATA*		
Flow Rate (m³/h)	up to 15000	
Operation Pressure (barg)	up to 2.5	
Power (kW) up to 1000		

^{*} This data can be modified based on customer needs

















Engineered Systems and Services

www.ingersollrand.com/air-compressor-systems

Lubricated High Pressure Air Compressors

Our piston compressor systems' highest-in-class reliability & flexibility make them an ideal equipment for very wide range of applications where a steady supply of compressed air or gas is needed. Our lubricated high pressure air compressors are the perfect partner for your compressed air and gas systems.

AIR COOLED				
Product range	52XX 53XX		54XX	Configured
Pressure range (barg)	10 - 40	40 - 85	85 - 414	2 - 414
Power range (kW)	4 - 75	5.5 - 45	7.5 - 75	45 - 300
Capacity (m³/hr)	27 - 313	25 - 155	24 - 170	170 - 2600

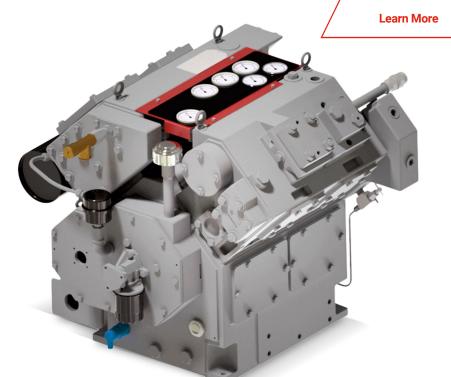
WATER COOLED				
Product range	52XX 53XX 54XX		Configured	
Pressure range (barg)	10 - 40	40 - 85	85 - 414	2 - 414
Power range (kW)	2.2 - 15	7 - 18.5	2.2 - 18.5	45 - 300
Capacity (m³/hr)	2.85 - 65	28 - 47	8.5 - 43.8	27 - 313

















Oil-Free Reciprocating Air Compressor

Ingersoll Rand offers a comprehensive range of high-performance reciprocating air compressors, meticulously designed to deliver unparalleled efficiency and reliability. The VH and WH series are engineered to meet the rigorous demands of diverse industries, including manufacturing, food and beverage, and pharmaceuticals. These compressors are renowned for their robust construction, compact design, and low total cost of ownership (TCO). Featuring advanced technologies such as shaftless motors and dynamic balancing, the VH and WH series ensure smooth operation and minimal downtime, making them the optimal choice for businesses seeking dependable and cost-effective compressed air solutions.

Technical Data & Benefits

	VH Series	WH Series
Motor Type	Shaftless	Shaftless
Capacity Control	0-50-100%	0-50-100%
Service Intervals	8.000 hours	8.000 hours
Design	Plug-and-play, dynamically balanced	Plug-and-play, dynamically balanced
Cooling	Air-cooled	Air-cooled









Learn More









Refrigerant Air Dryers

Ingersoll Rand is a leading provider of innovative compressed air dryer solutions designed to deliver exceptional performance and reliability. Our compressed air dryers help to improve equipment life, enhance system efficiency, and prevent product defects

Technical Data & Benefits

TECHNICAL DATA*		
Flow Rate (m³/h)	4,9 m³/hr - 5028 m³/hr	
Dew point (PDP)	0-3	

^{*} This data can be modified based on customer needs

























REQUEST A QUOTE

Adsorption Air Dryers

With a robust and reliable design, desiccant dryers have been extensively tested and validated in real-world applications, ensuring consistent performance and minimizing downtime, which is critical for industries where production cannot be interrupted.

TECHNICAL DATA*		
Flow Rate (m³/h)	As per requirement	
Dew point (PDP) (°C)	-20 def.C (heated) / -70 deg.C (heatless)	
Power (kW)	Up to 200	

^{*} This data can be modified based on customer needs



















PSA Nitrogen Generators

PSA (Pressure Swing Adsorption) is a reliable technology for separating air into its components offering consistent and efficient performance. With maximum efficiency, optimizing energy consumption and reducing operating costs. Advanced control systems of nitrogen generator and its efficient adsorption processes contribute to their minimal environmental impact.

Technical Data & Benefits

TECHNICAL DATA*		
N2 Flow Capacity (Nm3/hr)	Max. 400 (module)	
N2 Purity	99 - 99,99%	

^{*} This data can be modified based on customer needs







HIGH RELIABILITY









PERATE IN HARSH ENVIRONMENTS

Learn More











Membrane Nitrogen Generators

Ingersoll Rand's nitrogen membrane generators offer on-site nitrogen production using advanced membrane technology. These generators are reliable, compact, and low maintenance, making them a great choice for businesses needing nitrogen. The membrane generator's long lifespan offers a great return on investment.

TECHNICAL DATA*		
N2 Flow Capacity (Nm3/hr)	Max. 1.000 (module)	
N2 Purity	99,50%	

^{*} This data can be modified based on customer needs























Customer Stories

Revolutionizing the Ethylene Industry: API 672 Decoking and Oxidation Centrifugal Air Compressors Power the World's Largest Integration Project

- EPC Contractor: Joint Venture Between Two Global EPC Contractors
- End-User: Gas Chemical Complex for Ethylene Integration Project
- **Product Scope:** Four API 672 NX12000XL (Two Stages) Power: 2.5 MW; Plus Two API 672 TA-3000 (Three Stages) Power: 700 kW
- Application: Decoking Air & Oxidation Air
- Location: Russian Federation

Customer Benefits

- Outdoor Installation with Minimum Ambient Temperature of −39°C (Compressor Materials Were Qualified for MDTM of −39°C with Impact Test)
- Heat Tracing and Thermal Insulation of Complete Package
- Compliance with API 672, API 660, and API 614 Standards, and High Engineering Customer Requirements; Additional Compliance with Requirements from API 617 Standard
- Combined Performance and Mechanical Running Test
- Complete "Plug and Play" Package Solution with Extended Scope of Supply, Including Air Intake Filter with Electrical Heater, Intercooler Bundles, TEMA C Oil Coolers, UCP with ASC, and MMS



Complete 'Plug & Play' API 672 NX12000 Centrifugal Air Compressor for Air Separation Units for Refinery Project in Oman

- EPC Contractor: Middle East EPC Contractor
- End-User: Joint Venture of Two Oil & Gas Players in the Middle East
- Product Scope: Two API 672 NX12000 Units (Three Stages)
- Power: 1.6 MW Each
- Application: Main Air Compressors for Air Separation Plant
- Location: Oman

Customer Benefits

- Compliance with API 672 and 614 Standards and Stringent Engineering Customer Requirements
- Intercoolers Integrated within the Compressor Casing, with Removable Bundles Designed According to ASME VIII Div. 1 Standard
- A Complete "Plug and Play" Package Solution with an Extended Scope of Supply, Including a Pulse Jet Air Intake Filter, TEMA R External Aftercooler, and Noise Enclosure









Customer Stories

Engineered Air Compressors Plug & Play Solution for LNG terminal

- EPC Contractor: International General Contractor
- End-User Customer: Global Energy Group
- Product Scope: Two Oil-flooded Rotary Screw Compressors, Two Heatless Desiccant Dryers, and Air Receivers. The Entire Supply is Installed on a Common Skid, including the Piping, Control, and Electrical Installation
- **Application:** Supply of Instrument Air
- Location: Spain

Customer Benefits

- A Low Footprint (9 m x 2.4 m) and Plug-and-Play Solution. The Customer only needs to provide a Single Power feed to Produce Compressed Air
- Simplified Package Control, including one Common box for Signal Collection and Communication
- Complete Support throughout the Entire Project Phase, providing an Exhaustive Documentation Package and Quality Procedures

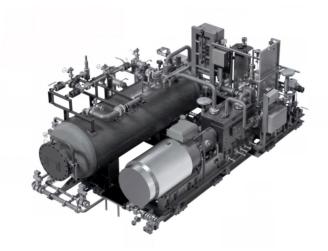
Custom Liquid Ring Compressors Achieve Breakthrough in Norwegian Flare Gas Recovery: Ahead of Schedule, Under Budget, and Eco-Friendly Results

- End-User Customer: A Leading Engineering Company providing Integrated Solutions, Products, and Services to the Global Energy Industry
- **Product Scope:** Compressors, including Electric Motors, Separators, and Auxiliary Systems
- Application: Flare Gas Recovery

Customer Benefits

- Installed and Commissioned Ahead of Schedule
- Project Delivered Under Budget
- Ninety-nine Percent Reduction in Flaring
- Reduced CO₂ and NO₃ emissions
- Increased Gas Production
- Reduced Costs











REQUEST A QUOTE

Customer Stories

Reliable Engineered Air Compressors and Advanced Membrane Nitrogen Solutions for Efficient Oil Transport

- EPC Contractor: A leading Engineering Company Committed to Becoming a world-class player in the energy transition
- End-User Customer: A Transportation-focused Oil Producer
- Product Scope: Three Nitrogen Generation Packages, Each Comprising: Two oil-free screw compressors, Two Desiccant Dryers, Two Membrane Nitrogen Generators, Inlet Filters, Heater, Purity Control Valve and Oxygen Analyzer
- Application: Nitrogen Generation for Purging and Blanketing
- Location: Uganda & Tanzania

Customer Benefits

- One-Stop Solution: A dedicated Project Team Ensures Seamless Order Execution and Comprehensive Project Documentation.
- Package Design: Each Package is a Fully Integrated, Plug-and-Play Solution with Full Redundancy for All Components.
- Compact Footprint: The Complete System is Housed Within a Common Skid, Optimizing Space.
- Minimized Plant Interfaces: Simplified Integration with the Rest of the Plant, featuring:
 - A single I&C Interconnection Point with the DCS (Master PLC)
 - A common Collector for Drain Management
 - An N₂ Discharge Flange









A Dedicated Project Management Team for Your Peace of Mind

Our project management team has the know-how to assist you thanks to managing and implementing hundreds of power generation projects with other leading EPC (Engineering, Procurement and Construction) and engineering companies.

Our expert engineers and project managers **deliver on-time technical & quality documentation.** We know how to help our clients proceed smoothly throughout the entire process.





SUPPORT DURING THE WHOLE PROJECT



HIGHLY ENGINEERED TO TECH-NICAL REQUIREMENTS



ALL DOCUMENTATION: P&ID, GENERAL ARRANGEMENT, SECTIONAL DRAWINGS AND 3D MODELLING



HUNES I Y
AND TRANSPARENCY

INGERSOLL RAND ENGINEERED SYSTEMS AND SERVICES SUPPORTS YOU THROUGHOUT THE YOUR PROJECT LIFECYCLE

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













Advanced Aftermarket Services & Parts

We work to increase profitability by minimizing downtime with minimal maintenance requirements and maximized equipment lifetime.

We offer comprehensive portfolio of custom maintenance Services programs that include:



PRE-COMMISSIONING & COMMISSIONING



Assembly Supervision



Comissioning



Site Training

VT-



Preventive Maintenance



Field Services

Audits



Redesigns & Upgrades

Breakdown

& Repair

SERVICES AGREEMENTS SCOPE



Warranty Programs

Services

IIoT Ecoplant Field



Genuine Spare



Customer Trainings







Inventory & Equipment









How to contact us



Request a Quote





