Ingersoll Rand

Oil-Free Rotary Screw Air Compressor Systems

185-355 kW

ISO 8573 Class 0 Oil-Free Air

Your Trusted Partner in Compressed Air

Staying ahead of your competition with advanced compressed air systems and services that boost productivity, lower operating expenses and extend equipment life is critical to your success.

No matter the industry or application, you can count on Ingersoll Rand as a trusted partner for oil-free compressed air technologies and services. By focusing on you and your business, we provide collaborative solutions that make you successful, offering a total systems approach to maximise efficiency and performance.

Take a Systems Approach

Delivering reliable oil-free compressed air to your facility goes well beyond the compressor itself. Optimise total cost of ownership (TCO) through a systems approach that employs the best air compression technologies that deliver reliability for life—from design to decommissioning.

Your business will benefit from Ingersoll Rand's partnership through our extensive experience and global expertise to ensure reliability, lower maintenance costs, ease of serviceability and system optimisation.

Let's Get Started Together
Ingersoll Rand Contracting Services Video

Let's Get Started Together

Throughout the entire lifecycle, our systems approach helps you achieve the lowest operating cost.

When High Air Purity is a High Priority

There's a lot riding on the quality of your air. The presence of particles, condensation, oil and oil vapor in a compressed air system can lead to downtime, product spoilage and recall, damage to your brand reputation, or worse, harmed consumers and product liability.

For lower cost of ownership

Higher initial costs for oil-free systems are more than offset by lower operational and maintenance costs over a system's life to maintain the highest air quality

For reliability

A robust product and system design delivers top quality air, protecting sensitive downstream equipment, lowering maintenance and extending equipment life

For productivity

The use of an oil-free Class 0 certified compressor guarantees contamination-free air, eliminating the risk of product spoilage and waste

For serviceability

Our oil-free equipment is designed specifically to make maintenance easy by providing clear access to consumable components

Class 0

ISO 8573 Oil-Free Air

ISO 8573-1 Air Quality Classes

Quality Class	Oil & Oil Vapor mg/m³
0	< 0.01
1	0.01
2	0.1
3	1
4	5

Class 0 is the most stringent air class defined by ISO 8573, part 1. Our oil-free compressors are certified Class 0 for no oil content by TUV to ensure your air quality exceeds specifications.

Oil-Free Compressors for Your Application

Why You Need Class 0 Air
Contamination Risk in the Food & Beverage Industry

Ingersoll Rand offers a wide portfolio of reliable oil-free products that will adapt to your industry and application. We will assess and propose the best oil-free solution to increase the productivity of your installation, **providing zero risk of contamination of your final product.**

Food & Beverage

Product transportation, storage packaging, filling, capping cooling, spraying, cleaning, fermentation, aeration, PET blow molding

Pharmaceutical

Tablet production, coating, mixing, holding, product filling, packaging, bottling, aseptic applications

Electronics

PCB cleaning after production, pneumatic component transfer, sensitive values operation

Chemical

Process air, pneumatic valves, control cylinders, gas separation, pneumatic conveying, destratification, air blanketing, service air

Textile

Pneumatic valves, cylinder control, jet looms, spinning frames, sewing machines, blow guns

Utilities

Instrument air, pneumatic valves, control cylinders, fuel purging, service air, fuel atomisation, air motors

Download Our Whitepaper
Maintaining Quality Compressed Air in the Pharma Industry

AIR COMPRESSORS

Air compressor use accounts for a significant part of your energy costs. Designed using advanced computer modeling techniques, our team of skilled engineers have created rotary screw compressors that not only maximise efficiency and airflow, but also operate reliably to improve your company's bottom line.

315 kW FIXED SPEED OIL-FREE COMPRESSOR

A Lifetime of Efficient Operation

Beginning at installation, and throughout their entire lifecycle, our oil-free compressors optimise your total cost of ownership by reducing energy consumption

Launch The Video
See an Overview of Our Oil-Free Capabilities

What Makes Our 100% Oil-Free Rotary Screw Compressors Unique?

World-Class Efficiency

Our new state-of-the-art modular airend design features an optimized rotor profile that delivers significantly improved efficiency and best-in-class airflow. A high-efficiency induction motor featuring ample sized cooling and low pressure drops is used in conjunction with Ingersoll Rand's oil-free fixed and variable speed compressors, providing the optimum combination of high airflow with the lowest energy consumption.

Robust Components

Proven, trouble-free airends with patented UltraCoat™ technology, enhanced bearing arrangements, a rugged motor design, V-Shield™ leak-free PTFE stainless steel braided hoses and O-Ring face seals, integrated oil lubrication and hydraulically actuated inlet valves provide reliability for life.

Flexible Design Options

Our compressors offer air-cooled and water-cooled configurations, extreme ambient temperature options, high dust filtration and outdoor modifications for harsh environments to best match your application.

Simple and Serviceable

Our oil-free compressor package design is simple and spacious – no special tools are required to perform maintenance, and all components are easily accessible. Our durable consumables and wearables lengthen service intervals.

Higher Rated Cooling Capacity

Our compressor systems are designed for 46°C (115°F) operation, versus other designs at 40°C (104°F). This provides an additional cooling margin for trouble-free operation at higher temperatures, prevents shutdown as heat exchangers foul, and protects against corrosion in water-cooled models for more efficient operation.

Oil-Free Rotary Screw Air Compressors, 185-355 kW

With industry leading specific power*, Ingersoll Rand's oil-free screw compressor package components provide the optimum combination of high airflow with the lowest energy consumption. With an efficient package design and robust components, you are guaranteed 100% oil-free, Class 0 compressed air without sacrificing the reliability you've come to trust.

Choose our fixed speed, oil-free compressors for constant demand, or variable speed (VSD) for best-in-class efficiency with fluctuating demand.

355 kW Variable Speed Oil-Free Compressor

The Variable Speed Advantage

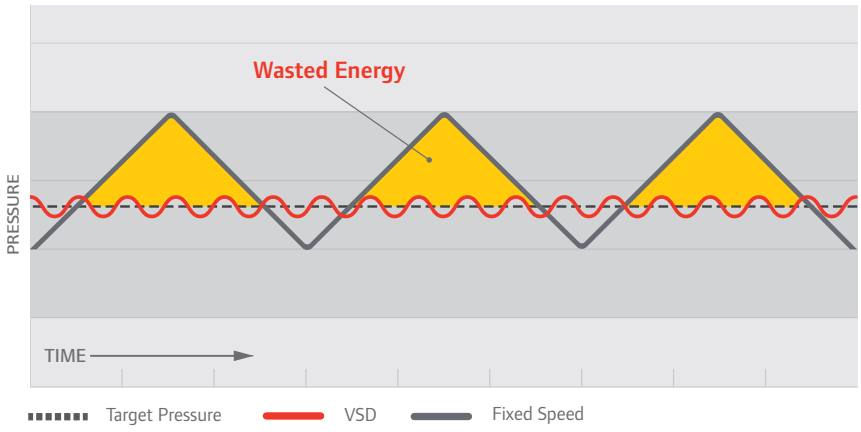
We fully integrate matched variable speed drives with the appropriate motors to maximise efficiency and reliability. The high-performance induction motor provides wide turndown and the ability to turn off immediately at minimum speed, so there's no need to continue running unloaded. VSD air compressors maximise energy savings while delivering reliable, clean air.

Achieve up to

35% Savings

over traditional fixed speed

Fixed speed compressors usually require a larger control band, while VSD compressors operate much closer to the target pressure. Every 1 bar (14.5 psi) over required pressure costs an additional 7% in power!



Xe-145M Series Compressor Controller

Advanced Compressor Control

Xe-Series controllers deliver increased control and functionality through an intuitive user interface and provide remote access with any common, current web browser. Variable speed models can sequence up to four compressors without additional hardware to increase efficiency and stabilise pressure.

* in accordance with ISO 1217 : 2009 Annex C at rated discharge pressure

How We Build Reliability into Every Component

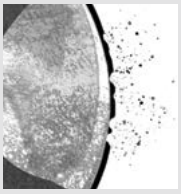
Rotor Performance—The Key to Reliable Compressor Operation

Compressor rotors take a beating. Over time, their surfaces can deteriorate, making rotors increasingly susceptible to compressed air impurities and temperature fluctuation.

Ingersoll Rand eliminates this problem with UltraCoat, an advanced rotor and housing protection process that ensures the most durable coating, with unmatched adhesion properties and temperature resistance.

Typical Problems of Coatings on Oil-Free Rotors

Rotor Coatings Wear Off



Contaminants cause coatings to deteriorate, leaving microcavities on the rotor surface.

Exposing Steel Rotors

Once the coating wears off, carbon steel rotors used in competitor's products will corrode.

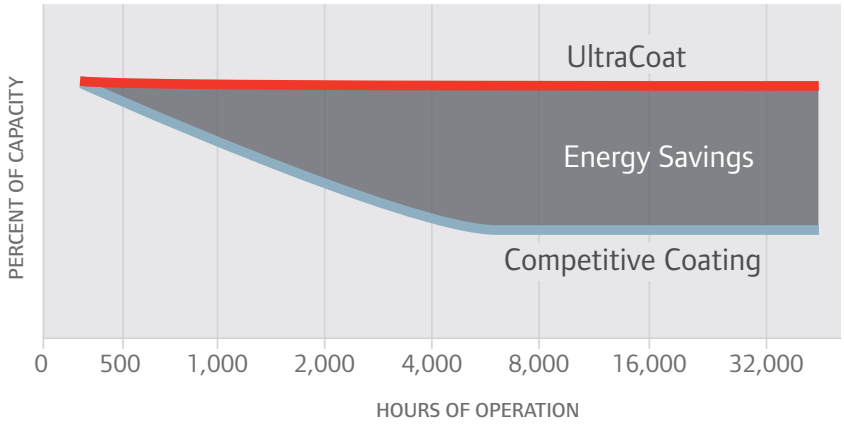
Resulting in Damage

Rust and pitting will develop, leading to damaged rotors, inefficient operation and possible compressor failure.

UltraCoat—Energy Savings and Longer Life

Ultracoat is comprised of a patented MoS_2 (molybdenum disulfide) blend that forms a virtually unstoppable chemical and mechanical bond with the rotor's surface.

This long-lasting formula continuously delivers the precision and lubricity required for tight tolerance performance in the compressor's rotary screw. In conjunction with a best-in-class second-stage stainless steel rotor, UltraCoat delivers greater reliability in performance and air quality, rotor longevity, increased uptime, and reduced energy costs.



View Products
See our entire portfolio of oil-free compressors

Innovative Design, Flexible Choices

Our compressor systems provide flexible equipment choices, as well as advanced solutions that ensure reliable flow—even in extreme operating environments. That's what you expect from Ingersoll Rand. That's what you get from our oil-free rotary screw compressors.

Optimise Your Demand

Mix and match motors and airends to achieve the exact level of performance and economy your operation and budget require.

i **Efficiency for Constant Demand:** Fixed speed compressors featuring the reliable and efficient TEFC induction motor

n **Efficiency for Variable Demand:** VSD compressors with the highest efficiency motor available

ie **Premium Efficiency for Constant Demand:** Fixed speed compressors with the continuous duty TEFC induction motor and enhanced features for improved performance and efficiency

ne **Premium Efficiency for Variable Demand:** VSD compressors with enhanced features for improved performance and efficiency

Built to Work in Virtually Any Environment

Extreme Environment Options	*i*	*ie*	*n*	*ne*
▶ Outdoor modification/rain protection	•	•		
▶ Low ambient temperature protection to -23°C	•	•		
▶ High ambient rating up to 55°C	•	•		
▶ Premium high dust filtration	•	•		
▶ Harsh water cooling system (water-cooled only)	•		•	
▶ Seawater cooling system (water-cooled only)	•		•	

Oil-free Compressors – 50 Hz Performance			
Model	**Nominal power kW**	**Max pressure barg**	**Capacity (FAD) m^3/min**
E200i-E355i	200-355	7.5-10.5	31.8-52.9
E200ie-E355ie	200-355	7.5-10.5	32.3-53.4
E200n-E355n	200-355	4.0-10.7	11.4-50.9
E200ne-E355ne	200-355	4.0-10.7	11.9-51.3
Oil-free Compressors – 60 Hz Performance			
Model	**Nominal power hp**	**Max pressure psig**	**Capacity (FAD) cfm**
E185i-E355i	250-450	110-155	1,000-1,845
E185ie-E355ie	250-450	110-155	1,018-1,859
E200n-E355n	250-450	60-155	401-1,796
E200ne-E355ne	250-450	60-155	419-1,812

AIR TREATMENT

Moisture and contamination in compressed air cause significant problems in equipment operation, such as rust, scale and clogged orifices that result in product damage or costly shutdowns. Making our air treatment equipment an integral component of your compressed air system will improve productivity, system efficiency and product or process quality.

HOC Dryers: Maximum Performance, Minimal Energy Use

HOC dryers recover the heat that is a natural by-product of the compression process to provide moisture-free air, while consuming virtually no energy.

Desiccant Dryers

Choose desiccant dryers when very low dew points are necessary for high-quality air and to prevent potential freeze-up. Depending on whether you require lower initial capital costs, or lower energy use, choose from heat-of-compression (HOC), heatless, externally heated or heated blower desiccant models.

Desiccant Dryer Features

- **Delivers reliable -40°C (-40°F) pressure dew point** in most operating conditions
- **High-strength desiccant** and durable valves
- **Low pressure drop design** saves energy
- **Advanced microprocessor control** is easy to use and maximises uptime

View Products
Find the Right Dryer for Your Application

Refrigerated Dryers

Our cost-effective refrigerated dryers provide clean, dry air for most industrial applications. Choose efficient cycling dryers to maximise energy savings or non-cycling dryers for a lower initial cost.

Refrigerated Dryer Features

- **Dew points as low as 3°C (38°F),** meeting ISO Class 4 requirements
- **Corrosion-free heat exchanger design** for reliable operation
- **Intuitive microprocessor control** for easy operation
- **Compact design** for easy serviceability

Cost-Effective Operation

Choose refrigerated dryers for lower capital, operating and maintenance costs for many industrial applications.

OIL-FREE PARTS AND ACCESSORIES

A compressed air system is a significant investment. You expect consistently reliable, clean, dry air at the lowest possible operating cost. Choose our genuine parts and accessories to ensure that your compressor is running efficiently and productively.

F-Series In-Line Filters

Our advanced compressed air filters reduce contamination in your air stream to help protect finished goods, critical processes and valuable equipment.

Heavy-Duty No-Loss Drains

No-loss electronic and pneumatic drains are the most reliable, durable and energy-efficient way to remove condensate from air compressors and system components.

Power Management

Lower your cost of ownership with our power management solutions, including disconnects, fuses and transformers.

Compressed Air Receiver Tanks

Our air receiver tanks are available in horizontal and vertical orientations, are designed for extra air storage and made with steel for long-lasting durability.

Filters

Ingersoll Rand provides the highest-quality OEM filters for preventative maintenance that eliminate the risk of using will-fit parts.

OEM Replacement Parts

We have the exact genuine OEM parts you need with extensive inventories maintained in strategic locations around the world.

Don't Settle for Knock-Offs
Learn about the True Value of Genuine OEM Parts

Installation Solutions

We offer a complete range of products and services in compressed air system installation, integration and commissioning. Regardless of the size and scope of the job, Ingersoll Rand has the capability to manage your project from start to finish.

Project Management Services

Fully integrated services managed by experts that ensure efficient operation

SimplAir® Piping Systems

Durable aluminum piping and "quick-connect" fittings enable easy installation

View OEM Parts
See our Portfolio of Oil-Free Accessories

MAINTENANCE

Ensure reliability for the life of your compressed air equipment with our CARE service programs. With CARE, we have one goal —to earn the right to be be your trusted partner.

PackageCARE™
We Protect You

Total Protection, Eliminate the Risk

PackageCARE™ represents the greatest value for asset management by transferring operational risk to Ingersoll Rand. We are responsible for scheduled maintenance, as well as using predictive and analytical tools to help prevent unexpected interruptions in your production.

Preventative and Predictive
PackageCARE™ is proactive. Other companies only replace parts after they have failed.

No Proration
We are committed to keeping equipment operational at no additional cost.

Trustworthy Pricing
Competitive agreements increase in price for parts and service labor at the will of the supplier.

Risk Transfer
Extended warranties on competitive agreements typically cover defects in materials and workmanship, specifically excluding wear and tear, corrosion, etc. PackageCARE™ covers it all.

No Fine Print
The fine print on many agreements with extended warranties allows companies the opportunity to deny claims. Additionally, certain aspects of a repair are not covered, such as consumables or travel. With PackageCARE™, there's no fine print.

No Paperwork Hassles
Extended warranties require you to maintain certain records or submit information to the supplier, otherwise coverage can be denied.

No Surprises
Most extended warranty contract language states they can terminate for convenience. With PackageCARE™, we cannot walk away.

Flexibility
PackageCARE™ has more flexibility than an agreement with extended warranty. You can add older equipment, dryers and filters or include a rental compressor.

Find the Best CARE Plan for You
Answer 7 Questions to Find Out!

IT ALL ADDS UP TO PEACE OF MIND

Lower Cost of Ownership
CARE service programs provide the most cost-effective solutions based on your customised maintenance strategy.

Quality Results
Ingersoll Rand factory-trained service technicians are backed by more than 145 years of industry experience.

Increased Uptime
Our CARE programs help decrease unplanned downtime and costly production interruptions.

Efficient Energy Use
Peak system efficiency is achieved through properly performed maintenance and inspection.

Peace of Mind
Our world-class services will help you achieve the results you need, while you focus on what's important to your business.

Productivity is reduced by air loss caused by emergencies, maintenance and ongoing inefficiencies in your facility. Use our comprehensive products and services to minimise short term production losses and meet longer term sustainability goals.

Lower Your Operating Costs

To optimise your total cost of ownership, you need to look beyond just the air compressor. Here are some additional ways that Ingersoll Rand can help you reduce energy and equipment costs:

IR5300 Controller

Control up to three oil-free compressors (one VSD, two fixed speed) to optimise energy use

Energy Recovery Systems

Reuse heat generated during the air compression process for a variety of uses throughout your plant.

iControl

Maximise productivity with iControl, that provides a centralised control system for your entire air compressor room.

Airend Remanufacture

Based in China, our rotary airend program will maximise your compressor lifecycle while consuming less. It saves money, promotes reuse and eliminates unscheduled interruptions.

PERFORMANCE SERVICES

Electronic Assessment

Air Leak Assessment

System Assessment

Whether you need to manage costs, increase reliability or plan for future growth, our portfolio of assessment tools will provide you with detailed diagnostics that give you the proper insights to help lower total cost of ownership.

- Track System Performance
- Increase System Efficiency
- Improve Production and Reduce Waste
- Eliminate the Guesswork

Lower Your TCO
Learn More about Performance Services

System Automation

System assessments often identify waste caused by lack of adequate controls. Our suite of system automation solutions lower energy costs and stabilise pressure.

IntelliFlow In-line Controller

Visualisation (VX)

X-Series System Controls

Ingersoll Rand

About Ingersoll Rand Inc.

Ingersoll Rand Inc. (NYSE:IR), driven by an entrepreneurial spirit and ownership mindset, is dedicated to helping make life better for our employees, customers and communities. Customers lean on us for our technology-driven excellence in mission-critical flow creation and industrial solutions across 40+ respected brands where our products and services excel in the most complex and harsh conditions. Our employees develop customers for life through their daily commitment to expertise, productivity and efficiency. For more information, visit www.IRCO.com.

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