



# Oil-Free Rotary Screw Air Compressor Systems

90-160kW



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 system approach to maximize efficiency and performance.

## Take a Systems Approach

Delivering reliable compressed air to your facility goes well beyond the compressor itself. Optimize total cost of ownership (TCO) through a systems approach that employs the best air compression technologies to 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 optimization.



## Let's Get Started Together

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

# Why Choose A World-class Rotary Screw Compressed Air System?

You need a reliable, cost-effective solution that complies with the most stringent air quality standards, features industry-leading energy efficiency and is backed by a global network of experts. That's what you get with our oil-free rotary screw air compressors.

## For Efficiency and Air Flow

Advanced airend and drive component design provide world-class specific power and improved air flow, resulting in reduced energy use.

## For Reliability

Every component in our oil-free compressor system supports maximum reliability for increased productivity, longer equipment life, lower operating costs and higher profitability.

## For Virtually Any Environment

Our oil-free compressors have flexible standard and optional design features that allow operation both indoors and outdoors at extreme ambient temperatures as well as in harsh environments.

## For Lower Cost of Ownership

Intuitive microprocessor controls, easy serviceability and long-life consumables significantly reduce operating, maintenance and service costs over the lifetime of your compressed air system.



### ISO 8573-1 Air Quality Classes

Quality Class	Oil & Oil Vapor mg/m <sup>3</sup>
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.

## Rotary Oil-free Compressors Designed For Your Application



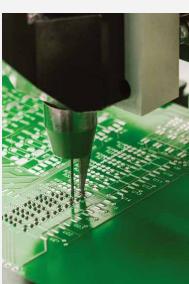
### Food and beverage

Product transportation, storage, packing, filling, capping, cooling, coating, cleaning, fermentation and blow molding



### Pharmaceutics

Tablet production, coating, mixing, fixation, product filling, packaging, bottling and aseptic application



### Electronics

PCB cleaning, pneumatic component transmission and precision machining after production completion



### Chemical industry

Process air, pneumatic valves, control cylinders, gas separation, pneumatic conveying and inert gas protection



### Textile industry

Pneumatic valve, cylinder control, air jet loom, spinning frame, sewing machine and dust gun



### Public utility

Instrument air, pneumatic valves, control cylinders, fuel purge, reserve air, fuel atomization and air engine

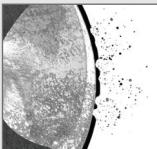


# AIR COMPRESSORS

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

### Typical Problems of Coatings on Oil-Free Rotors

#### Rotor Coatings Wear Off



Contaminants cause coatings to deteriorate, resulting in 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.

### Reliable Rotor Performance and Protection with UltraCoat

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, our advanced rotor and housing protection process that ensures the most durable coating, with unmatched adhesion properties and temperature resistance.

### Lower Energy Cost



Advanced airend, variable speed drive (VSD) technology and package design deliver best-in-class efficiency throughout the speed range.

### Robust Components



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



Air-cooled and water-cooled configurations, extreme ambient temperature options, high dust filtration and outdoor modifications for harsh environments.

### Simple and Serviceable



No special tools are required to perform maintenance, and all components are easily accessible. Our durable consumables and wearables lengthen service intervals.

### Extended High-Temperature Operation



Designed for 46°C (115°F) operation, versus typical compressors at 40°C (104°F) to provide an additional cooling margin for trouble-free operation at higher temperatures and to prevent shutdown as heat exchangers foul.

### Intelligent Uptime



Next-generation customizable XS-255 controllers provide an enhanced userexperience with advanced diagnostics, integrated systems control, real-time remote monitoring and improved connectivity.



# AIR COMPRESSORS

## The Very Best in Efficiency

Our E-Series oil-free rotary screw air compressors offer best-in-class performance with our improved airend and IE5, ultra-premium variable speed motor technology. Combined with a proven package design, the E-Series provides up to 14% more efficiency and 35% more turndown as compared to previous designs, reducing your energy costs significantly. Not only did we maximize efficiency, but we also maximized output flow to provide the highest airflow of any oil-free 200 hP rated compressor on the market.

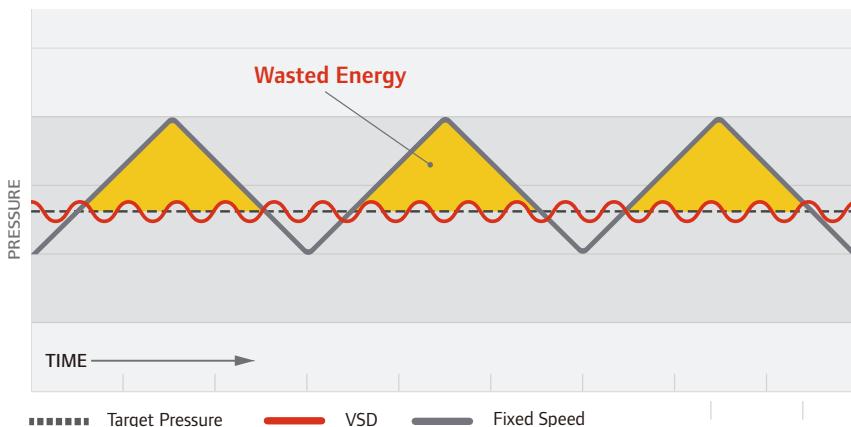
- Variable speed compressors featuring IE5, ultra-premium HRM motors
- Meets Class 0 standards for oil- and silicone-free air
- Smart cooler configurations for air, water or harsh water environments
- Reduced leak paths
- Dual-vented seals and power breather mist eliminator
- Intuitive, advanced controller with IoT connectivity
- Energy recovery system ready



The E-Series features a newly designed airend and reliable components to ensure a low TCO.

### 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!



## Optimize Your Demand

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

### **E-SERIES** Premium Efficiency for Constant or Variable Demand:

Fixed speed and VSD air compressors with enhanced features for improved performance and efficiency





# AIR COMPRESSORS

## Performance

Model	Nominal Capacity m³/min	Nominal Pressure barg	Pressure Range barg	Power kW	Weight kg	Dimensions(L x W x H) mm
Fixed frequency						
E90is-A7.5	17.4	7	4.0-7.5	90	3632	2712 x 1825 x 2200
E90is-A8.5	16.5	8	4.0-8.5	90	3632	2712 x 1825 x 2200
E90is-A10.5	14.6	10	4.0-10.5	90	3632	2712 x 1825 x 2200
E110is-A7.5	21.0	7	4.0-7.5	110	3869	2712 x 1825 x 2200
E110is-A8.5	20.1	8	4.0-8.5	110	3869	2712 x 1825 x 2200
E110is-A10.5	18.2	10	4.0-10.5	110	3869	2712 x 1825 x 2200
E132is-A7.5	24.7	7	4.0-7.5	132	4123	2712 x 1825 x 2200
E132is-A8.5	23.7	8	4.0-8.5	132	4123	2712 x 1825 x 2200
E132is-A10.5	21.8	10	4.0-10.5	132	4123	2712 x 1825 x 2200
E160is-A7.5	28.1	7	4.0-7.5	160	4125	2712 x 1825 x 2200
E160is-A8.5	27.8	8	4.0-8.5	160	4125	2712 x 1825 x 2200
E160is-A10.5	25.9	10	4.0-10.5	160	4125	2712 x 1825 x 2200
E90is-W7.5	17.4	7	4.0-7.5	90	3500	2712 x 1825 x 2200
E90is-W8.5	16.5	8	4.0-8.5	90	3500	2712 x 1825 x 2200
E90is-W10.5	14.6	10	4.0-10.5	90	3500	2712 x 1825 x 2200
E110is-W7.5	21.0	7	4.0-7.5	110	3737	2712 x 1825 x 2200
E110is-W8.5	20.1	8	4.0-8.5	110	3737	2712 x 1825 x 2200
E110is-W10.5	18.2	10	4.0-10.5	110	3737	2712 x 1825 x 2200
E132is-W7.5	24.7	7	4.0-7.5	132	3991	2712 x 1825 x 2200
E132is-W8.5	23.7	8	4.0-8.5	132	3991	2712 x 1825 x 2200
E132is-W10.5	21.8	10	4.0-10.5	132	3991	2712 x 1825 x 2200
E160is-W7.5	28.1	7	4.0-7.5	160	3993	2712 x 1825 x 2200
E160is-W8.5	27.8	8	4.0-8.5	160	3993	2712 x 1825 x 2200
E160is-W10.5	25.9	10	4.0-10.5	160	3993	2712 x 1825 x 2200
E90i-W7.5	17.6	7	4.0-7.5	90	3500	2712 x 1825 x 2200
E90i-W8.5	16.7	8	4.0-8.5	90	3500	2712 x 1825 x 2200
E90i-W10.5	14.9	10	4.0-10.5	90	3500	2712 x 1825 x 2200
E110i-W7.5	21.2	7	4.0-7.5	110	3737	2712 x 1825 x 2200
E110i-W8.5	20.3	8	4.0-8.5	110	3737	2712 x 1825 x 2200
E110i-W10.5	18.4	10	4.0-10.5	110	3737	2712 x 1825 x 2200
E132i-W7.5	24.9	7	4.0-7.5	132	3991	2712 x 1825 x 2200
E132i-W8.5	23.9	8	4.0-8.5	132	3991	2712 x 1825 x 2200
E132i-W10.5	22.0	10	4.0-10.5	132	3991	2712 x 1825 x 2200
E160i-W7.5	28.3	7	4.0-7.5	160	3993	2712 x 1825 x 2200
E160i-W8.5	28.0	8	4.0-8.5	160	3993	2712 x 1825 x 2200
E160i-W10.5	26.1	10	4.0-10.5	160	3993	2712 x 1825 x 2200

Model	Nominal Capacity m³/min	Nominal Pressure barg	Pressure Range barg	Power kW	Weight kg	Dimensions(L x W x H) mm
VSD						
E90ns-A10.7	19.8	10.3	4.0-10.7	90	3224	2712 x 1825 x 2200
E110ns-A10.7	21.0	10.3	4.0-10.7	110	3224	2712 x 1825 x 2200
E132ns-A10.7	26.8	10.3	4.0-10.7	132	3224	2712 x 1825 x 2200
E160ns-A10.7	28.3	10.3	4.0-10.7	160	3224	2712 x 1825 x 2200
E90ns-W10.7	19.8	10.3	4.0-10.7	90	3092	2712 x 1825 x 2200
E110ns-W10.7	21.0	10.3	4.0-10.7	110	3092	2712 x 1825 x 2200
E132ns-W10.7	26.8	10.3	4.0-10.7	132	3092	2712 x 1825 x 2200
E160ns-W10.7	28.3	10.3	4.0-10.7	160	3092	2712 x 1825 x 2200
E90n-W10.7	20.0	10.3	4.0-10.7	90	3092	2712 x 1825 x 2200
E110n-W10.7	21.2	10.3	4.0-10.7	110	3092	2712 x 1825 x 2200
E132n-W10.7	27.0	10.3	4.0-10.7	132	3092	2712 x 1825 x 2200
E160n-W10.7	28.5	10.3	4.0-10.7	160	3092	2712 x 1825 x 2200

# AIR TREATMENT

Moisture and contaminants in compressed air can cause serious equipment operation problems, such as rust, scaling, and pipe clogging, which can lead to product damage or even shutdown. Using our air treatment equipment as an integral component of your compressed air system will help improve productivity, system efficiency and product or process quality.

## Desiccant dryer

When the dew point requirement is very low, it is necessary to choose desiccant dryers to provide high-quality air and prevent possible freezing. Depending on your different needs to reduce initial investment cost or reduce energy cost, you can choose from compression heating, no heating, external heating or blast heating desiccant dryer.

### Features of desiccant dryer

- Reliable -40°C pressure dew point under most operating conditions
- High-strength desiccant and durable valve
- Low pressure-drop design saves energy
- Advanced microprocessor control, easy to use and maximizing the extension of service time



**D-ILRi/IERi heatless / micro-heat regenerative desiccant dryers**

D-ILRi and D-IERi desiccant dryers adopt heatless and micro-heat processes, along with dual drying towers and valve control, for high efficiency compressed air after-treatment and excellent product reliability.



**HCD compression heated desiccant dryer**

HCD series heat-of-compression dryers provide moisture-free air and virtually consume no energy by recovering excess heat generated from the compression process.



**IRDR drum desiccant dryer**

Compared to traditional switching operation, IRDR Drum Desiccant Dryer guarantees the constant provision of dry compressed air. Thanks to its zero gas consumption design, it can achieve high efficiency production, low carbon emission and lower operating cost for the plant.



**D-IBRi blower heated desiccant dryer**

D-IBRi series blower heated desiccant dryer makes the compressed air dry in an efficient manner, which greatly reduces the loss of compressed air and saves energy.

## Refrigerated dryer

Our cost-effective refrigerated dryers provide clean, dry air for most industrial applications. You choose different circulation dryers to reduce energy consumption, or choose non-circulation dryers to reduce initial costs.

### Features of refrigerated dryer

- Dew point as low as 3°C (38°F), in compliance with ISO Grade-4 requirements
- Non-corrosive heat exchanger design to achieve reliable operation
- Intuitive microprocessor control to simplify operation
- Compact design for easy maintenance



**D-INRi series refrigerated dryers**



# OIL-FREE PARTS AND ACCESSORIES

Compressed air systems are a major investment. You expect continuous reliable, clean, dry air at lower operating costs. Choosing our original parts and accessories may ensure that your compressor runs efficiently and increases productivity.



## F-series pipeline filter

Our advanced compressed air filter reduces the pollution in the air flow, which helps protect the finished products, key technologies and valuable equipment.



## No-loss drains

Zero-loss electronic and pneumatic drainage is a reliable, durable and efficient means of removing condensates from the compressed air system.



## Power supply management

Our power supply management solution can reduce your ownership costs, including circuit breakers, fuse protectors and transformers.



## Air storage tank

We offer horizontal and vertical air storage tanks specially designed for external air storage and made of durable steel.



## Filter components

Ingersoll Rand provides high-quality original filter components and elements, eliminating the risk of non-original spare parts through preventive maintenance.



## Pure original parts

We have the original parts you need, which are in large inventory in the major markets around the world.

## Installation solution

Ingersoll Rand is a specialist in compressed air systems, providing you with a full range of products and services from design, installation, integration and commissioning of compressed air systems.



### Project management service

Comprehensive and integrated services, managed by experts, ensure efficient operation.



### SimplAir® pipeline system

Durable alloy aluminum piping and "quick connect" joints for easy installation.



# MAINTENANCE SERVICES

Ensure reliability for the life of your compressed air equipment with our comprehensive maintenance programs. At Ingersoll Rand, we have one goal—to earn the right to be your trusted partner.



## Maintenance Program Advantages

Compressed air is critical to your operation. A proper maintenance strategy is crucial to avoiding unplanned, unbudgeted downtime and production interruptions. By choosing an Ingersoll Rand compressor maintenance agreement, you are investing in your future with a trusted partner.

Depending on your rotary screw compressor system we can customize a service program that best fits your needs. Our suite of CARE compressor maintenance programs range from total risk transfer of your equipment to Ingersoll Rand to more basic programs for parts and services only, providing flexible solutions for the life of your compressed air system.

## Each of Our Maintenance Programs Offer Significant Benefits, Including:

- Genuine OEM parts eliminate exposure to unnecessary equipment wear and tear, reducing downtime
- Rapid response, because as an Ingersoll Rand service program customer, you are our top priority
- Optimized services for your specific operation that are structured to lower electricity consumption
- Early detection and predictability that eliminates surprises and unwanted costs
- Automated shipment or scheduling reminders prevent overlooking or under-maintaining equipment
- Equipment that lasts longer and runs better by replacing the right parts at the right time
- Premium monitoring via the Helix™ Connected Platform to maximize productivity

### IT ALL ADDS UP TO PEACE OF MIND



#### Lower Cost of Ownership

Our service programs provide the most cost-effective solutions based on a customized maintenance strategy.



#### Quality Results

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



#### Increased Uptime

Service 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 ENHANCEMENTS

## **HELIX™ Deep Insights for Dependability**

**Productivity is reduced by air loss caused by ongoing inefficiencies as well emergencies in your facility. Use our Helix Connected Platform to meet long term sustainability goals and our rental services to minimize short term production loss.**

Developed to give you essential visibility into day-to-day operational intelligence that maximizes your uptime and peace of mind, the Helix™ Connected Platform from Ingersoll Rand offers real-time data monitoring for your compressed air system.

Advanced sensor technology inside the compressor sends data on a regular basis to our cloud-based platform. This data gives you a clear view into the functionality and health of your compressor, and is easily accessible around-the-clock from your PC, tablet or smartphone. With a range of connectivity service offerings available, Helix™ monitoring can be tailored to meet your specific operational needs.

- Deep insights for preventive maintenance, efficient repair work, and detailed analysis of equipment performance over time
- Diagnostic reporting that help maintenance teams keep your compressor operating at peak performance and reduce downtime
- Continuous real-time operating data available anytime, anywhere
- Maintenance notifications that help ensure reliability and extend equipment life



# SERVICE AND OPTIMIZATION

Emergencies, maintenance and persistent inefficiencies in your plant can lead to air losses, thus reducing productivity. Our integrated products and services can reduce short-term production losses and achieve long-term sustainable development goals.

## Reduce your operation costs

To optimize your total cost of ownership, you need to look beyond air compressors. Here are some other ways that Ingersoll Rand can help you reduce your energy and equipment costs:



### iR5500 controller

Variable-speed energy conservation system adopts variable speed control technology, and the exhaust volume of compressor can be perfectly combined with the gas consumption volume of user, thus avoiding the rated power loss of air compressor caused by frequent loading and unloading.



### Heat recovery system

Throughout your plant, the heat generated during air compression can be recycled and used for a variety of different purposes.



### Airend re-manufacturing

We can provide professional, fast and reliable re-manufacturing service for your long-operating air compressor or internal airend and other parts, prolong the service life of your compressor, improve the operation efficiency, and reduce the unexpected shutdown caused by the failure of air compressor.

## Performance assessment service



Electronic assessment



Air leakage assessment

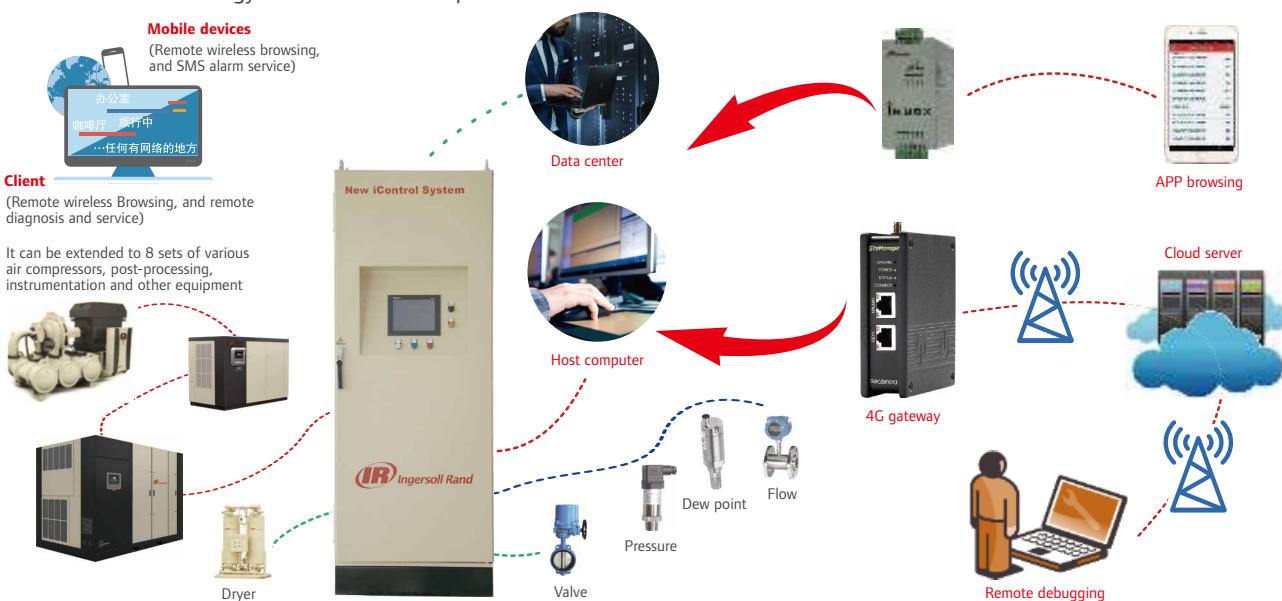


System assessment

By identifying, analyzing and rectifying the problems in your complete compressed air system - our global service team can use big data analytics to uncover root causes, and recommend cost-effective solutions to increase your profits and reduce your total operating costs.

## System automation

System assessments usually identify the wastes resulting from a lack of appropriate controls. Our complete system automation solution can reduce energy costs and stabilizes pressure.





Ingersoll Rand Inc. (NYSE:IR), driven by an entrepreneurial spirit and ownership mindset, is dedicated to Making Life Better for our employees, customers, shareholders, and planet. Customers lean on us for exceptional performance and durability in mission-critical flow creation and industrial solutions. Supported by over 80+ respected brands, our products and services excel in very 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](http://www.IRCO.com).



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