LS-series Low-pressure Oil-Free Screw Air Compressor Systems

LS200-355kW

Your Trusted Partner in Compressed Air

Ingersoll Rand's cutting-edge compressed air systems significantly promote the development of your business by increasing productivity, reducing operating cost and extending the service life of equipment.

Ingersoll Rand is a trusted partner for oil-free compressed air technology and service, regardless of industries or applications. By focusing on you and your business, we provide collaborative solutions for your success, while offering a holistic and systematic approach to maximize efficiency and performance.

Adopting a systematic approach

Ingersoll Rand doesn't just provide compressed air for your facility. We optimize total cost of ownership (TCO) through a systematic approach and employ more cutting-edge air compression technologies to provide reliability throughout the life cycle from design to equipment renewal.

Our extensive experience and global expertise will enable your business to benefit from working with Ingersoll Rand, such as ensuring reliability, reducing maintenance costs, simplifying repairs and optimizing systems.

Let's move on hand in hand

Our system solutions may help you minimize the operating costs throughout the life cycle.

Highlighting high-quality air

Air quality plays a decisive role in many cases. The presence of solids, condensates, oils and oil vapors in compressed air systems can cause downtime, product damage, product recalls and even damage to brand reputations, or worse, to consumer interests and product credibility.

Reduce life-cycle costs

Oil-free systems have higher initial costs, but lower life-cycle operating and maintenance costs optimize total cost of ownership while maintaining high air quality.

Improve reliability

Reliable product and system designs can provide quality air, protect sensitive downstream gas installations, reduce maintenance and extend equipment life.

Improve productivity

Using a certified oil-free Grade-0 compressor can ensure zero air pollution and eliminate the risk of product damage and waste.

Improve maintainability

Taking the convenience of maintenance as the starting point of design, improve the convenience of on-site consumables replacement.

ISO 8573 Class 0 Oil-Free Air

ISO 8573-1 Air quality grade

Quality vapor grade	Oil and oil mg/m3
0	< 0.01
1	0.01
2	0.1
3	1
4	5

Oil-free Grade-0 is the most stringent air grade as defined in Part 1 of ISO 8573. Our oil-free compressors are of TüV certified Grade-0 and contain no oils, thus ensuring air quality beyond specification requirements.

Application of oil-free compressors

Ingersoll Rand offers a wide range of reliable oil-free products that will meet the needs of different industries and applications. We will assess and recommend more suitable oil-free solutions to improve the productivity of equipment, **thus providing the ideal product with zero pollution risk.**

Pharmaceutics & food

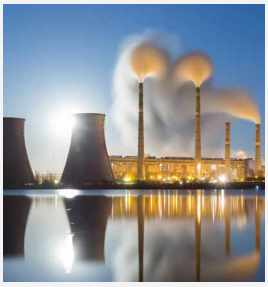
- Fermentation process in pharmaceutical industry
- Beer fermentation process
- Amino acid fermentation process (monosodium glutamate, glutamic acid, lysine, etc.)

Petrochemical

- Powder material conveying system in petrochemical industry, for refining chemicals, polyester, PVC resin, polypropylene, etc.

Cement & Construction

- Raw material, clinker conveying process system, e.g.: glass raw materials, refractory materials for cement kiln, ceramic, etc.
- Conveying of tires, carbon black, cables, plastics, etc.



Energy industry

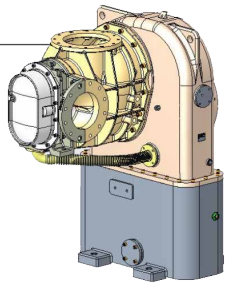
- Ash conveying system in power plant, for conveying of desulfurizer (mainly limestone), fly ash, etc.
- Powder material conveying in metallurgy industry
- Aluminum oxide, non-ferrous smelting, etc.

Air compressor

Energy-efficient

Energy consumption accounts for a large part of the total cost of air compressor. Our team of experienced engineers uses advanced computer modeling techniques to design and develop compressors with greater flow, enabling reliable operation and helping you increase profits.

What factors make our oil-free screw compressor stand out?



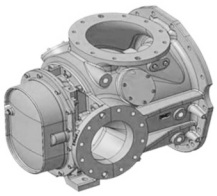
High-performance design

Larger capacity

Our proven airends and unique * design modules, combined with fully cooled and efficient motors, enable high air flow levels with better market performance for both fixed and variable speed drives.

Better cooling capacity

Our compressor system is specifically designed to operate at 46° C, which is superior to most designs that are only suitable at 40° C.



The optimized design of the internal structure of the machine enables the air flow to achieve hot-cold partition. Multiple cooling components have patented design and excellent cooling capacity, which ensure trouble-free operation of the unit at higher temperatures and improve operation efficiency.

At the same time, the water-jacked airend provides greater pressure (3.25-3.5Bar) and improves the volume regulation of the variable frequency compressor scope.

High reliability

Robust and durable parts

Using unique UltraCoat technologies, time-tested reliable airends, optimized bearing design, robust motor design, stainless steel hot-end pipelines, venturi pipes designed with special technique *, and exhaust noise reduction structures designed with special technique *, jointly achieving the reliability throughout the life cycle.

Reliable and rigorous design

V-Shield™ leak-free PTFE stainless steel braided pipes and O-ring end-face seals, self-distributable cooling waterway without valve, floating high-temperature pipeline connection designed with special technique *, and hydraulic inlet valve designed with special technique * enable the whole machine to have excellent sealing effect and significantly reduce the risk of leakage.

More convenient maintenance

The unit has a smart design, many parts are equipped with lifting rings, the air intake filter and water collector are design with special technique *, and all components can be easily accessed, loaded and unloaded, and maintained.

The universal design of the same series with various models greatly reduces the difficulty of maintenance.

Consumables and wearing parts are very durable, extending the maintenance interval.

Flexible design options

Our compressors offer food-grade coolants, high dust filtration & hard water coolers and other options adapted to harsh environments, which can meet your multiple application needs.

*: With patents pending

LS-series low-pressure oil-free screw air compressor 200-355kW

Ingersoll Rand LS200-355kW low-pressure oil-free screw air compressor has inherent product advantages and excellent air flow up to 12% higher than similar products in the market. High-performance design with 6 special techniques * and reliable and durable components ensure uninterrupted output of oil-free compressed air, and the reliability and easy maintenance are also worthy of your trust.

In the case of constant gas demand, you may choose our fixed-speed oil-free compressors; and in the case of fluctuating gas demand, you may choose variable speed drive (VSD) to meet the gas demand in a more energy-saving way.

LS200-355kW unparalleled design

Better performance

Larger air output, superior to air flow and pipeline system analysis model of all other competitors

High-performance IP55 motor (low voltage)

Complete series of fixed / variable speed drives

Lower installation & maintenance cost

Single-point power connection

Long-life consumables

New designed door handle & lock feature

Pre-filled 8,000-hour fully synthetic coolant

High reliability

UltraCoat bonded with mechanical surface

V-Shield™ technology

Silicon-free sealing elements

Options adapted to different applications

High-efficiency integrated water after-cooling options

No-loss drains

High dust filtration

Advanced compressor control

The Luminance-series of intelligent controllers feature an intuitive user interface and enhanced control, functionality, and remote access with commonly used Web browsers. Sequential control of four compressors can be achieved without the need for additional hardware, thus resulting in improved efficiency and stable pressure.

The built-in Internet of Things (IoT) function connects to HELIX™ platform for real- time monitoring and protection of the unit, thus achieving peak productivity.

Special design

6 unique techniques *, reflecting Ingersoll Rand's strong design capability, helping the unit achieve excellent performance and ideal efficiency, more convenient maintenance and low-speed vibration for better performance.

*: With patents pending

Air compressor

24 Stable operation

How do we achieve reliability for each component?

Rotor performance - key to the reliable operation of compressor

The compressor rotor bears operating pressure. Over time, their coating surfaces may wear away, making rotors increasingly vulnerable to impurities in compressed air and temperature fluctuations.

Ingersoll Rand solves this problem with UltraCoat™. UltraCoat™ is an advanced rotor and housing protection process with excellent adhesion and high-temperature resistance, providing you with extremely durable coatings.

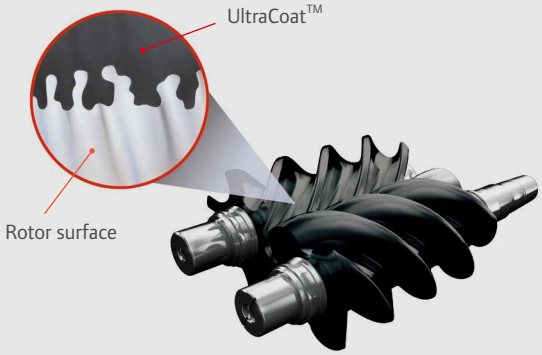
Typical problems of oil-free rotor coatings

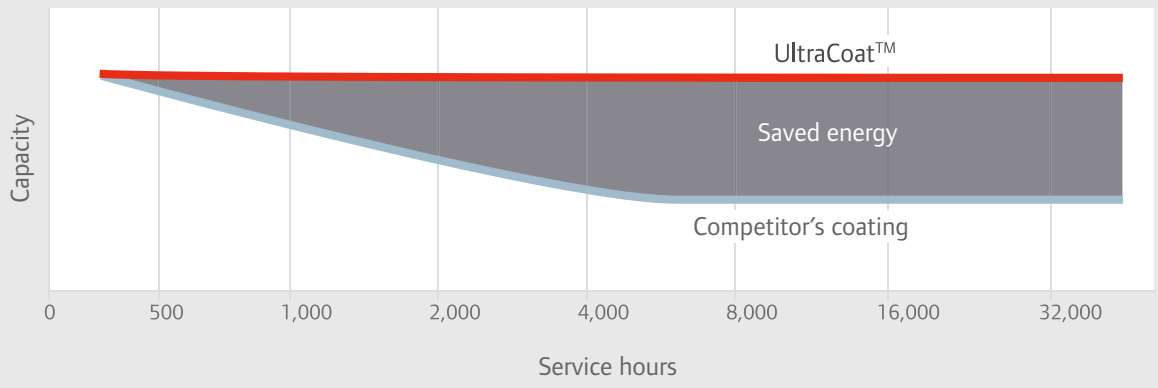
Rotor coating wear	Steel rotor corrosion	Damage caused
		
The contaminants cause the coating to wear away, leaving many micro-cavities on the surface of the rotor.	**For competitors' products, once the coating is worn and peeled off, the carbon steel rotors used will be corroded.**	**The rotor will have rust and pitting, damaging the rotor, reducing operating efficiency and possibly even causing compressor failure.**

UltraCoat™ — Save energy and prolong service life

Ultracoat™ is made from specially designed MoS_2 (Molybdenum disulfide) blends that create a stronger chemical and mechanical adhesive force on the rotor surface.

This special design provides the precision and lubricity required for the endurance of compressor screw rotor for a long time.





Optimize your requirements

The optimal collocation of motor and airend accurately meets the performance required by your operation and budget.

i **Fixed-speed model:** fixed-speed compressor and reliable and efficient induction motor (IE3)

n **Variable-speed model:** variable-speed compressor and efficient double-speed motor (IE3)

It can work in almost any environments

Optional scheme	i	n
▶ PORO power off and restart	●	●
▶ Motor phase monitor	●	
▶ Soft start	●	
▶ Food-grade coolant option	●	●
▶ High dust filtration	●	●
▶ Cooler option suitable for hard water	●	●
▶ After-cooling option (only for water-cooled unit)	●	●
▶ No-loss drains	●	●

i – fixed-speed

Model	Rated pressure barg	Rated power kW	Gas displacement (FAD) m^3/min	Dimensions (L x W x H) mm	Weight kg
LS200i_W2.75 G03	2.75	200	56.6		6320
LS200i_W3.0 G04	3.0	200	49.6		6320
LS200i_W3.25 G04	3.25	200	49.1		6320
LS250i_W2.75 G01	2.75	250	68.6		6760
LS250i_W3.0 G03	3.0	250	56.3		6760
LS250i_W3.0 G02	3.0	250	62		6760
LS250i_W3.25 G02	3.25	250	61.5		6760
LS250i_W3.5 G04	3.5	250	48.8		6760
LS250i_W3.5 G03	3.5	250	55.5		6760
LS315i_W3.0 G01	3.0	315	68.3		6760
LS315i_W3.0 G05	3.0	315	75.3		6760
LS315i_W3.0 G06	3.0	315	82.3	4100 X 2150 X 2470	6760
LS315i_W3.25 G05	3.25	315	74.8		6760
LS315i_W3.5 G02	3.5	315	61.2		6760
LS315i_W3.5 G01	3.5	315	67.5		6760
LS355i_W3.5 G05	3.5	355	74.6		6990
LS355i_W3.5 G07	3.5	355	78.5		6990
LS200i_A2.75 G03	2.75	200	56.6		6480
LS200i_A3.0 G04	3.0	200	49.6		6480
LS250i_A2.75 G01	2.75	250	68.6		6920
LS250i_A3.0 G04	3.0	250	56.3		6920
LS250i_A3.0 G02	3.0	250	62		6920
LS315i_A3.0 G01	3.0	315	68.3		6920
LS315i_A3.0 G05	3.0	315	75.3		6920
LS315i_A3.0 G06	3.0	315	82.3		6920

n – variable –speed

Model	Rated pressure barg	Rated power kW	Gas displacement (FAD) m^3/min	Dimensions (L x W x H) mm	Weight kg
LS200n_W2.75	2.5-2.75	200	61.1		6650
LS200n_W3.5	2.5-3.5	200	61.1		6650
LS250n_W3.0	2.5-3.0	250	69.2		6660
LS250n_W3.5	2.5-3.5	250	69.2		6660
LS315n_W3.0	2.5-3.0	315	82.9	4100 X 2150 X 2470	6860
LS315n_W3.5	2.5-3.5	315	79.6		6860
LS355n_W3.5	2.5-3.5	355	79.6		6990
LS200n_A2.75	2.5-2.75	200	61.1		6810
LS250n_A3.0	2.5-3.0	250	69.2		6820
LS315n_A3.0	2.5-3.0	315	82.9		7020

* Overall dimensions and air outlet position of a water-cooled unit with after-cooling option may be different from that of the standard model

Air compressor

Cooperation extension

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 ecient 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 service

Our CARE service program may ensure reliability throughout the life cycle of your compressed air equipment. CARE has only one goal, i.e., to become your trusted partner.

PackageCARE™
We Protect You

Comprehensive protection and eliminating risks

PackageCARE™ provides highly cost-effective asset management value by transferring operational risk to Ingersoll Rand. We are responsible for regular maintenance and employ prediction and analysis tools to help you prevent unexpected production disruptions.

Preventive and predictive

PackageCARE™ is proactive and forward-looking. Other companies replace parts only when they fail.

No Extra Cost

We are committed to the stable operation of the equipment without any extra charges.

Reliable pricing

During the contract period, parts and labor prices are not affected by human and environmental factors, without the risk of price increases.

Risk transfer

Ordinary extended warranty agreements usually cover material and workmanship defects, while specifically excluding wear and tear, corrosion, etc. PackageCARE ™ covers all.

No small prints

Most extended warranty agreements have small prints that give the company the opportunity to reject claims. In addition, certain aspects of maintenance are not included, such as consumables or travel. PackageCARE ™ has no such small prints.

No paperwork required

During the contract period, no additional purchase orders or other approval processes will be required, and we will provide one-stop service.

No accident

Most extended warranty agreements require attribution of liability, while our PackageCARE ™ does not shy away from responsibility.

Flexibility

PackageCARE ™ is more flexible than extended warranty agreements. You can add an older equipment, dryer and filter, or include a rented compressor.

ALL THIS MAKES YOU FEEL AT EASE.

Lower TCO

CARE service programs provide the most cost-effective solutions based on your customized maintenance strategy.

Quality Results

Ingersoll Rand factory-trained service technicians are backed by more than 160 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.

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

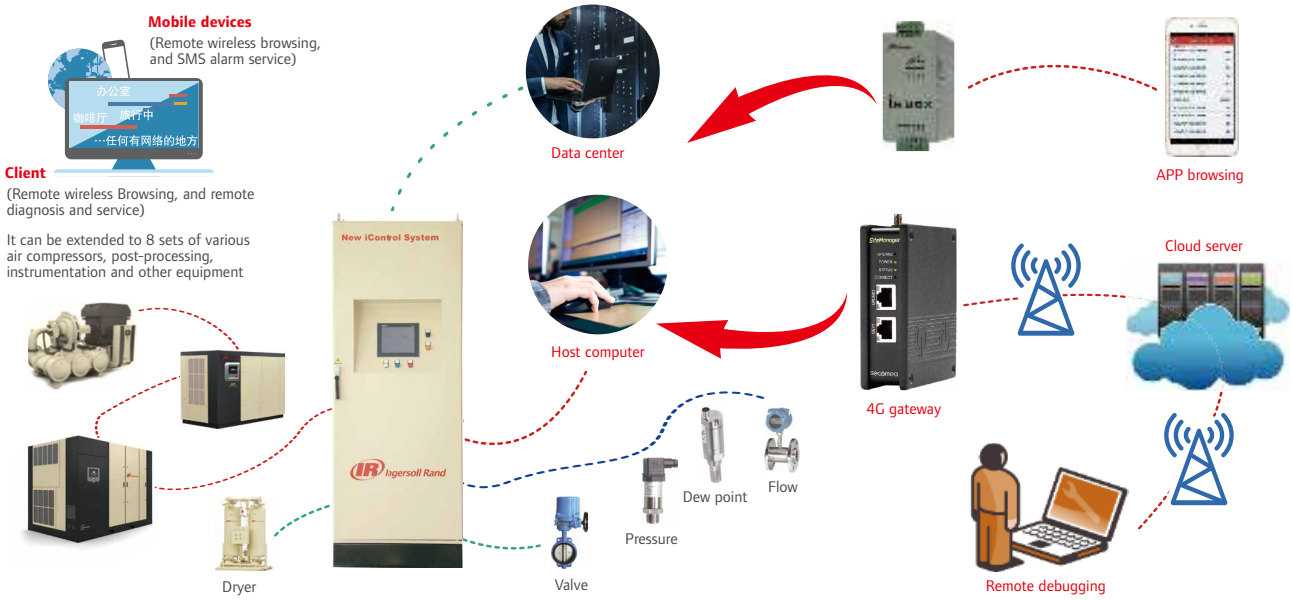
Air leakage assessment

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.

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