RM Series Oil-Flooded Rotary Screw Compressors

RM200-250 low pressure

The Intelligence You Need To Move Your Business Forward

Ingersoll Rand works to keep you ahead of your competition with advanced compressed air systems that boost productivity, lower operating expenses and extend equipment life. These innovations are designed into every Next Generation RM-Series oil-flooded rotary screw air compressor—industry-leading airend enhancements for superior efficiency, world-class delivered capacity and exceptional reliability. All supported by unique advantages, including expert design and engineering, a comprehensive suite of support programs and life-long Ingersoll Rand-branded consumables.

Next Generation RM-Series compressors. The intelligence you need—to win.

Customize products for your application

Ingersoll Rand offers a wide range of products with reliable quality, always suitable for your industry and application. We will evaluate and customize system solutions to reduce the overall cost of ownership of your compressed air system and maximize your operational productivity.

Efficient

- The new generation of airend and transmission systems designed specifically for low pressure provide excellent specific power and flow, reducing energy consumption
- Larger gas pipeline, smaller pressure drop
- The air-cooled unit is equipped with dual centrifugal fans, which have high efficiency, low noise, and large air volume

Reliable

- Designed for higher ambient temperatures, able to adapt to harsher working conditions
- Large margin main motor ensures long-term stable operation
- Large margin cooling system, water-cooled stainless steel cooler
- Integrated water separator reduces post-treatment load and extends equipment lifespan
- Large size oil separator cylinder and oil separator core, more complete oil and gas separation, low fuel consumption

Productivity

- On site, it can be connected to pipelines on the same side, occupying a small space
- Intuitive microprocessor control design
- Large reserved space for internal maintenance, convenient for daily maintenance
- Factory filled with Ingersoll Rand Premium Coolant; an advanced full synthetic lubricant, durable consumables, reducing costs

Thermal power industry

Main applications:

- Pneumatic ash removal system
- Pneumatic conveying of limestone powder in power plant calcium injection desulfurization

Gas source usage:

- The ash removal system and limestone powder system in desulfurization generally use one gas source
- The gas source of the pneumatic conveying system is often separated from other gas sources in the power plant, such as instrument gas. (Ensure stable system operation)

Cement industry

- The quarry stores and mixes raw materials, and compressed air blows the limestone/clay/cement slurry mixture to help it mix thoroughly and evenly
- Bulk cement special vehicles (including trains, cars), ship pneumatic conveying cement pneumatic unloading

Low pressure oil-flooded rotary screw air compressors, with their advantages of high efficiency, stability, energy saving, and reliability, have been widely used in various industries including powder and particle crushing, grinding, and material conveying processes, including but not limited to manufacturing, construction engineering, medical equipment, food processing, as well as petrochemical, mining, environmental engineering, etc. With the continuous advancement of technology and the sustained growth of market demand, its application fields will further expand.

Optimized Internal Structure Design

❶ Efficient/Reliable

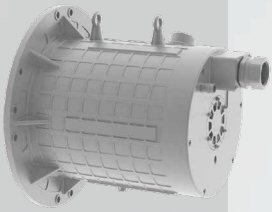
Newly designed high-efficiency low pressure airend, optimized profile design, providing first-class gas volume and efficiency, sturdy and reliable, and capable of long-term stable operation.

❷ Efficient/Reliable

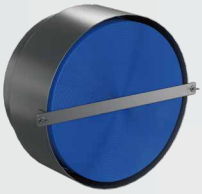
Low voltage fixed speed drive: premium IEC60034-30 IE3 motor enables IP55 protection grade.

High voltage fixed speed drive: configure GB30254 standard national second level energy-efficient motor.

Variable speed drive: highly efficient oil-cooled IE5 & IP66 PM motor enables Class H insulation with B rise.



❸ Easy to maintain/productivity advantage



Large margin nano coated air filter provides high-quality filtration performance while maintaining larger airflow, effectively reducing inlet air pressure and improving efficiency of the unit, and reducing maintenance work and cost.

7 Intelligence

Luminance controller enables real-time system parameter monitoring. The standard IoT function keeps you informed of compressor status and alarms to exempt you from losses due to unexpected sudden shutdown.

6 Efficient/Easy to maintain

Large margin cooler, meeting the cooling needs of low pressure and large air volume under harsh working conditions, reserving maintenance space for easy maintenance.

5 Reliable

The oil separation system, a three-stage separation system with cylindrical baffles, delivers oil in the air at a concentration of less than 3 parts per million, which can extend its service life and improve air quality.

4 Efficient/Reliable

The IP54 dustproof and waterproof fog shell of the electrical control box prevents pollution and saves high maintenance costs.

Large margin frequency converter ensures stable and efficient control of unit operation.

The Airend —the Heart of Every Compressor

Air compressor usage accounts for a significant part of your business's energy costs. Our engineers and design experts used advanced computer modeling techniques to create a superior airend that improves efficiency.

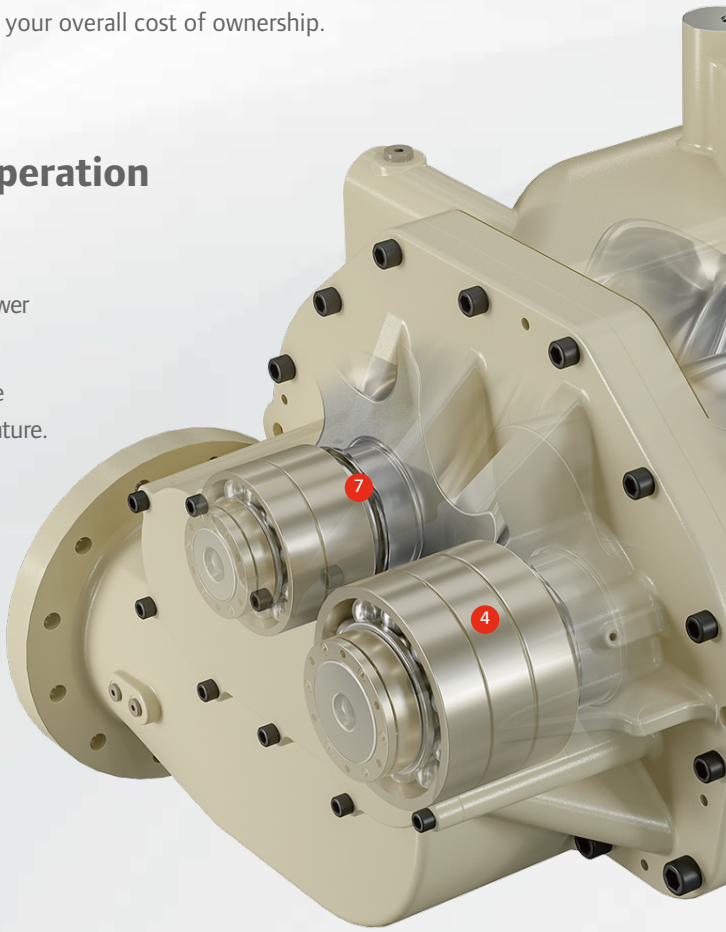
In addition, the airend has world-class airflow capacity, quieter operation and a longer, more reliable life, which can further reduce your overall cost of ownership.

Designed for long life and reliable operation

1. Strategically positioned lubrication points efficiently deliver oil exactly where it's needed, improving reliability and lowering power consumption.

   Increase the fuel injection port of the main engine, optimize the lubrication of the main engine, and reduce the exhaust temperature.

2. Advanced gear design transmits drive power more efficiently and reliably.

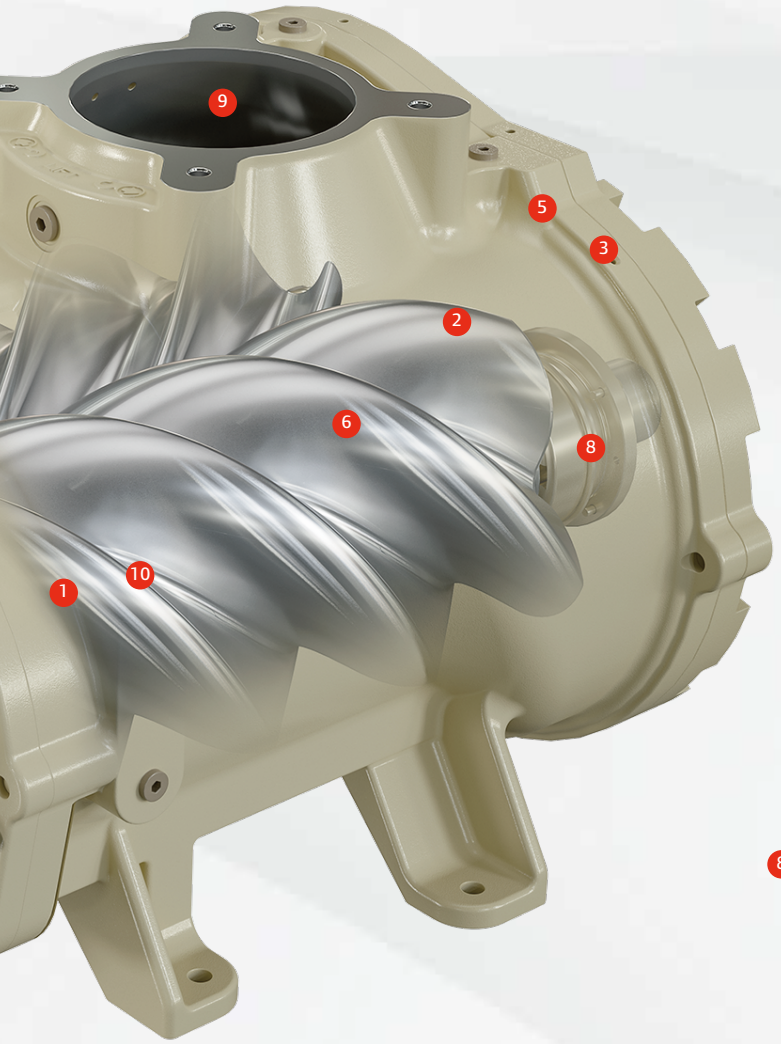


INTEGRAL GEARBOX

3. Integral gearbox reduces windage losses and drivetrain length for more efficient performance and easier serviceability.

4. Enhanced bearing arrangement reduces resistance and improves power management for maximum reliability and performance.

5. Maintenance-free, sealed drive system requires no regular service and protects against damaging dirt and moisture.



World-class energy efficiency

ADVANCED ROTOR PROFILE

6 The optimized screw rotor profile can improve energy efficiency, significantly increase exhaust volume, and reduce energy costs.

7 Lower friction bearing arrangements improve energy efficiency.

8 Optimised gear lubrication increases reliability and reduces power consumption through strategically injecting oil into gear mesh.

9 The streamlined inlet and outlet channels reduce pressure drop. Enlarge the exhaust port of the main engine, reduce the pressure drop of the main engine, and improve the efficiency of the unit.

10 Optimised oil-injection process lowers temperature and increases efficiency during compression.

More energy-efficient

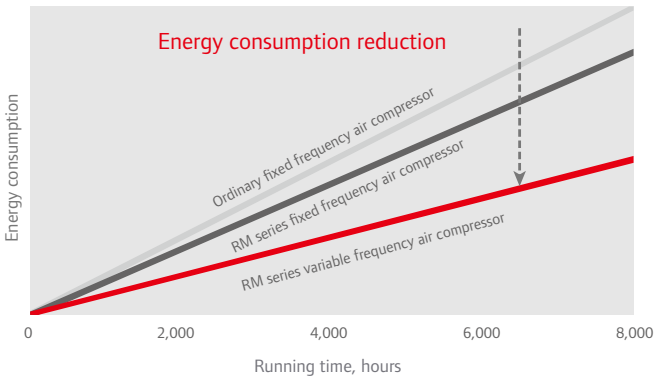
Variable frequency technology

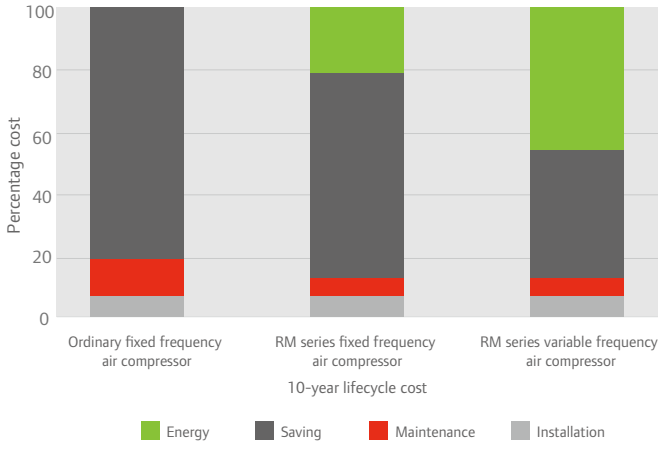
By adopting advanced frequency conversion technology and intelligently adjusting the gas fluctuations of user terminals, more energy savings can be achieved. Practice has proven that using Ingersoll Rand transformers

frequency technology can save you 15% -20% of electricity costs.

* For specific energy-saving costs of different models, please contact Ingersoll Rand service hotline 4008202128

Significantly reduce overall costs





Running at a load of 79%; Running for 4000 hours per year; 0.05$/kWh

Energy saving examples

Taking the demand for 60m ³/min, 5Barg, and water-cooled equipment as an example, according to the energy efficiency level classification table of GB19153-2019 for general use oil injected rotary air compressors, if we choose units with standard ratings of 7Barg and 5Barg respectively, the energy consumption difference will be huge for air compressors with national level two energy efficiency.

Exhaust volume m³/min	Cooling method (Wind/Water Cooling)	Energy efficiency rating	Rated pressure Bar(g)	Specific power kW/(m³/min)	Total power consumption kW
60	Water-cooling	National Level 2	7.0	5.8	348
			5.0	4.7	282

Choosing a 5bar (g) low-pressure micro oil screw machine that is more suitable for the working conditions will reduce energy consumption by nearly 19% compared to choosing a 7bar (g) low-pressure micro oil screw machine at normal pressure! According to the annual operation of the equipment for 6000 hours and the local electricity price of 0.7 CNY, a single device can save over 270000 CNY in costs per year!

Note: For specific energy-saving effects, please consult your local Ingersoll Rand sales consultant.

Technologically superior

Intelligent control

RM200-250i/n low-pressure oil-less screw air compressor: with powerful control and remote management capability, new generation Luminance controller of Ingersoll Rand guarantees steady operation and also greatly improves operating and management efficiency of your unit.

A high-quality compressor can provide necessary operating parameters while supplying gas. Therefore, each RM series compressor is equipped with an intelligent controller that can monitor key operating points and adjust system parameters to extend normal operating time and reduce energy consumption. No matter where you are, you can keep track of the operation status of the air compressor in real time and take necessary measures in a timely manner.

Luminance Controller Features

More User-friendly Interface

- High resolution touch screen display
- More intuitive key parameter & information display

Easier Upgrade

- Modular design for easier iterative upgrade of software functions and continuous improvement of user experience

More Advanced Algorithm

- Advanced controller algorithm for smaller pressure fluctuation and lower energy consumption

Steadier Performance

- Adopting a fully isolated design with stronger anti-interference ability to adapt to various environmental conditions

More Efficient Management

- Built-in Internet connection for efficient remote management of operating status and maintenance schedule of the unit

Stronger Core

- Multi core processor, significantly improving computing speed and communication capabilities, eliminating data acquisition and interface latency

What is Helix™ Smart Connected Cloud?

Helix™ from Ingersoll Rand Zhilian Cloud aims to maximize the normal operation time and enable homeowners to achieve real-time data management of compressed air systems with peace of mind. The advanced sensor technology inside the compressor regularly sends data to our cloud platform, which can be accessed from your personal computer, tablet, or smartphone to keep you informed of the machine's operation at any time. We provide layered service content, and you can choose the level of data monitoring and analysis according to your specific operational needs.

Shorter Scheduled Downtime
Better performance of the unit

Visual Maintenance Plan
A panoramic view of maintenance plans under control

Timely Maintenance
Longer service life of the unit

Online unit status monitoring
Improve productivity and mechanical efficiency

Lower Malfunction Risk
Minimized unscheduled downtime

Quick Contact With Product Experts
Better professional insights

Performance parameters of RM200-250 power frequency standard unit

Model	Pressure range barg - 50HZ	Rated power kW	Capacity* (FAD) m^3/min	Dimensions (L x W x H) mm	Weight** kg
RM200i_A5.5	5.5	200	50.4	3800 X 2150 X 2320	6220
RM200i_W5.5	5.5	200	50.4	3800 X 2150 X 2320	5800
RM250i_A5.5	5.5	250	61.0	3800 X 2150 X 2320	6265
RM250i_W5.5	5.5	250	61.0	3800 X 2150 X 2320	5845

Performance parameters of RM200-250 frequency conversion standard unit

Model	Pressure range barg - 50HZ	Rated power kW	Capacity* (FAD) m^3/min	Dimensions (L x W x H) mm	Weight** kg
RM200n_A5.5	4.5-5.5	200	51.0	3100 X 2150 X 2320	5018
RM200n_W5.5	4.5-5.5	200	51.0	3100 X 2150 X 2320	4598
RM250n_A5.5	4.5-5.5	250	61.5	3100 X 2150 X 2320	5018
RM250n_W5.5	4.5-5.5	250	61.5	3100 X 2150 X 2320	4598

*The displacement is measured according to the testing standard in Appendix C of ISO1217:2009

**Weight deviation for reference only

RM200-250 i/n configuration options

Standard configuration		Fixed speed *i*		Variable speed *n*	
Category	Description	RM200i	RM250i	RM200n	RM250n
Main motor	Low voltage power frequency IP 55 motor	●	●	\	\
	High voltage power frequency IP 23 motor	●	●	\	\
	Oil cooled permanent magnet variable frequency IP 66 motor	\	\	●	●
	High voltage power frequency IP 55 motor	○	○	\	\
	High temperature design at 46 °C	●	●	●	●
	B-class temperature rise, fixed frequency F-class/Variable frequency H-class insulation	●	●	●	●
Controller	Complete compressor diagnosis including alarm history	●	●	●	●
	Automatic maintenance instructions	●	●	●	●
	Loading/Unloading pneumatic control system	●	●	●	●
	Energy saving controller	●	●	●	●
	Ethernet connection for remote monitoring	●	●	●	●
	Internet of Things (IoT) remote monitoring	●	●	●	●
	Automatic start/Stop shutdown timer	●	●	●	●
	Remote loading/Unloading	●	●	●	●
	Power off restart option (PORO)*	○	○	○	○
	Multi compressor joint control**	●	●	●	●
Power supply	Star triangle starter	●	●	\	\
	Variable frequency startup	\	\	●	●
	Motor heater (low voltage)	○	○	○	○
	Motor heater (high voltage)	●	●	\	\
	Main motor thermal protection	●	●	●	●
	Soft starter	○	○	\	\
	Phase sequence protection	○	○	\	\
	Reverse protection	●	●	●	●
Lubricating oil	Ultra G	●	●	●	●
	Ultra coolant	○	○	○	○
	Food grade coolant	○	○	○	○
Environment protection	Low noise enclosure	●	●	●	●
	Control box IP54 shell	●	●	●	●
	Design that meets the mandatory requirements of ISO 14000	●	●	●	●
Auxiliary system	Variable frequency cooling fan for air-cooled models	\	\	●	●
	Water separator and drain valve	●	●	●	●
	High dust air filter (including whole machine pre filtration)	○	○	○	○
	Seawater cooler	○	○	○	○
Ease of Installation	Steel frame, no foundation required	●	●	●	●
Service	Factory standard warranty (12/18)	●	●	●	●
	CARE maintenance plan	○	○	○	○
Documentation	Performance test report	○	○	○	○
	On site witness testing	○	○	○	○

● Standard configuration ○ Optional configuration \ Not applicable

*PORO software comes standard, but the buzzer is non-standard.

**It can achieve automatic control of 4 controllers of the same series, and will become standard configuration after software updates.

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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