



# Oil-flooded Screw Compressed Air System

185-315 kW



*Reliability · Efficiency · Energy-saving*

SN: Complete-152-2410-EN

# Ingersoll Rand offers the intelligence you need to win

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. Each compressor is designed for reliability and efficiency, with industry-renowned mainframe performance for superior energy efficiency, outstanding reliability and world-class delivered capacity. All supported by unique advantages, including professional design and engineering, a comprehensive suite of support programs and long-life Ingersoll Rand-branded consumables.

New RM series oil-flooded screw air compressors. The intelligence you need to win.

## Global Presence, Local Service



# Efficient Operation & Strong Information

The packaged oil-flooded screw air compressors are designed for overall ease of installation and operation to efficiently and reliably deliver rated airflow. The enclosure helps to manage the ambient and cooling air ventilation system for internal components, and also significantly reduce the noise emitted to the surroundings. The whole unit is designed for installation in a flat and ample space with no any special base and makes no intense vibration during operation.



## High Performance

### Maximized efficiency with advanced airend

In the development of the new RM series, we have used a very advanced new airend to deliver better performance. Enhancements have been made to the new airend for 16% higher efficiency and a further decrease in operating cost, including optimized rotor profile which increases the air volume by 14% from the previous models. The lower specific power means reduced equipment investment cost and energy consumption, and a lower total cost.



- **Innovative airend design** provides higher efficiency and ideal air volume
- **Reliable O ring accessories** are designed for high temperature up to 46°C, and with a rugged structure and lower failure risk

### Ingersoll Rand Master Motor Advantages Underpinned by Integrated Drive

Ingersoll Rand integral gear drive system is specially designed to operate with no loss or no slip difference. The conservatively selected gears are mounted on the airend and motor shaft for speed optimization, and these helical gears are smooth running to make the airend rotate at a selected speed all the time for consistent performance and efficiency. The design has been improved in terms of reliability and robustness and fully validated in the 25-year-long use.



# Airend – Heart of Every Air Compressor



Air compressor use accounts for a significant part of your energy costs. Our design team of skilled engineers and experts used advanced computer modeling techniques to optimize the airend to be with 15% higher efficiency, excellent airflow, lower operating noise, longer service life and higher reliability well known in the industry to improve your company's bottom line.

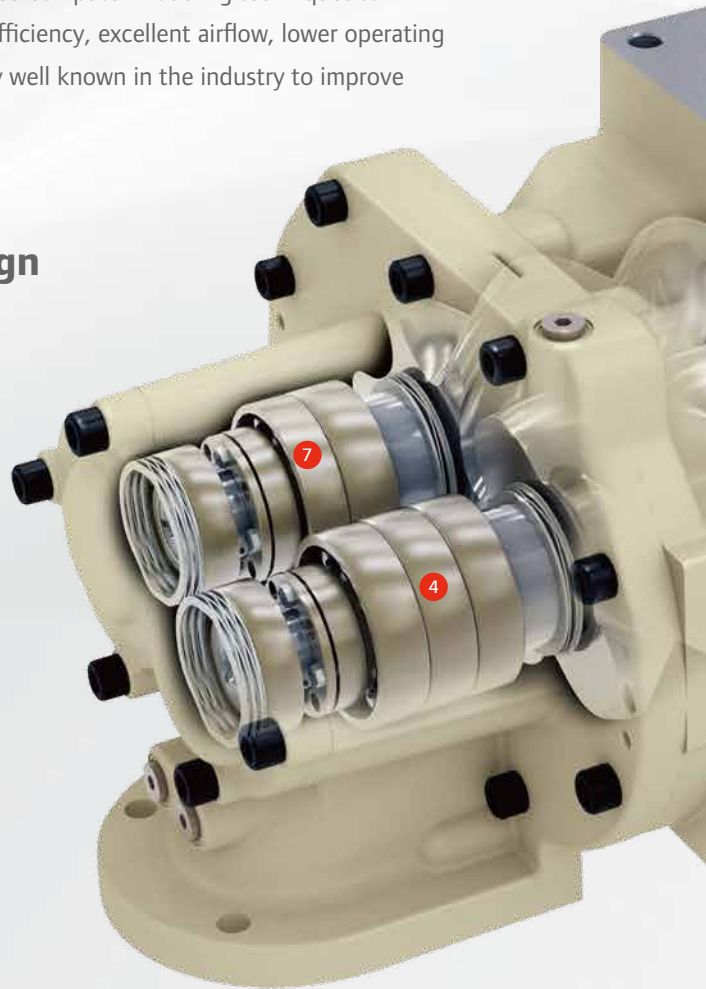
## Long-lasting Reliable Operation Design

- 1 Deliberate arrangement of lubrication points effectively and exactly conveys the lubricant to the required position, thus increasing reliability and reducing energy consumption.
- 2 Advanced gear design enables more efficient and reliable transfer of drive energy.

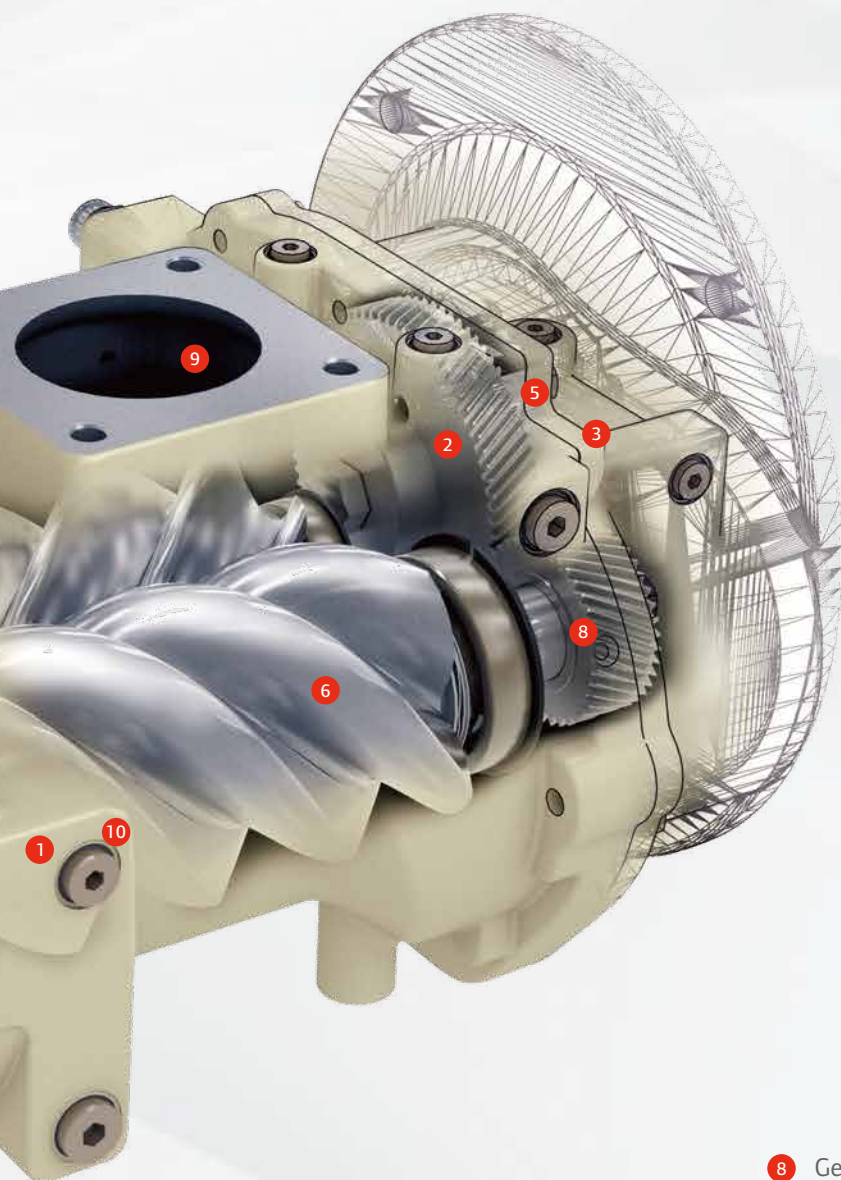
### Integrated Gearbox

- 3 Integrated gearbox reduces windage loss and drive system length for better performance, higher efficiency and easier maintenance.

- 4 Enhanced bearing helps to reduce resistance, and improve energy management for higher reliability and better performance.



- 5 Maintenance-free sealed drive system requires no routine maintenance, and is protected against dust and moisture.



## Excellent Energy Efficiency

### Advanced Rotor Profile

- 6 Optimized screw rotor profile increases energy efficiency by 15% and air capacity by 19%, and also reduces energy cost.

- 7 Low-friction bearing helps to increase energy efficiency.

- 8 Gear lubrication is optimized to subtly inject lubricant to engaging position of the gear, which increases operating reliability and reduces energy consumption.

- 9 Streamlined inlet and outlet flow passage reduces pressure drop.

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



## Saving More Energy

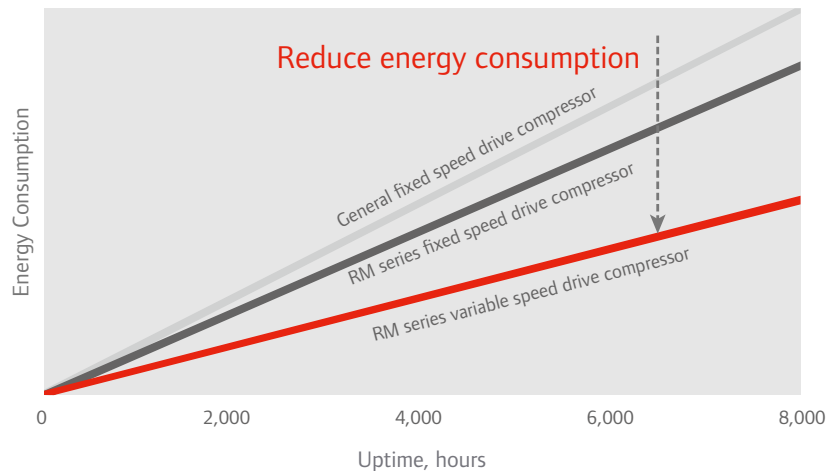
### VSD Technology

More energy is saved by using Ingersoll Rand's advanced VSD technology and intelligent tuning method of air fluctuation at user's end. It has been proved to be up to **15%-20%** electricity cost saving for you.\*

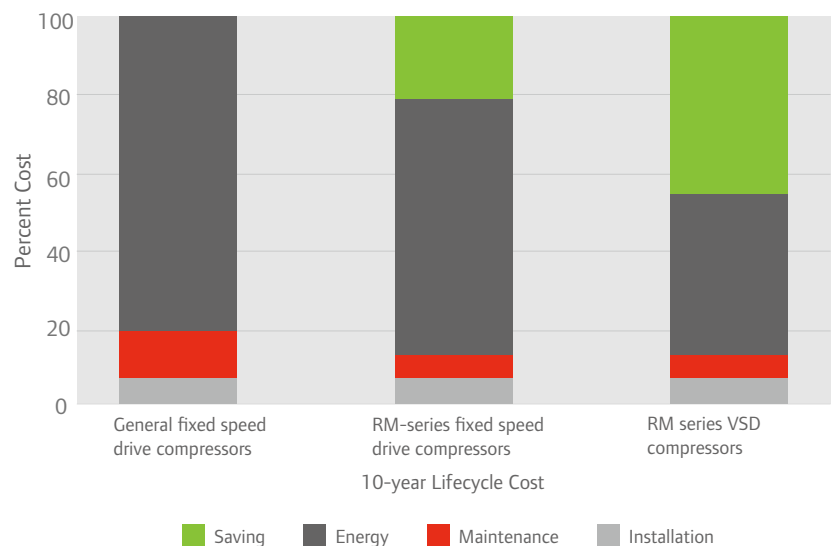
\* Please dial Ingersoll Rand service hotline 4008202128 for electricity cost saving of different models.

Before leaving the factory, all Ingersoll Rand compressors have been filled with Ultra G coolant, a long-lasting premium synthetic lubricant with its effective cooling time being twice of other rotor lubricants, which reduces maintenance and lifecycle cost. The coolant can be effective for 8,000 hours in typical applications, and provides excellent wear & corrosion protection for better performance in presence of air and moisture.

**Ingersoll Rand coolant has an extremely long service life and can significantly increase uptime**



### Greatly reduce total cost



Operate at 79% load for 4,000 hours per year; 0.05\$/kWh

### Ease of Maintenance

- **Convenient top exhaust device** makes ventilation easier, and eliminates or recovers waste heat
- **Air-cooled and water-cooled units** meet your specific requirements for compressed air system
- **Easily accessible components** are located behind removable panels for easy maintenance.

# State of the Art

## Intelligent Control



**RM185-220i:** the intuitive KT controller keeps you informed of the operating status of the compressed air system, on site or remotely

**RM275-315i/n, RM185-220n:** the next generation Luminance series controllers with powerful control and remote management function are used to ensure smooth operation and greatly improve operation & management efficiency of your compressors.

A high-quality compressor may provide necessary operating parameters while supplying air. Thus, every RM series compressor is equipped with an intelligent controller, which can monitor key operation points and adjust system parameters, thus increasing uptime and reducing energy consumption. Wherever you are, you can learn the operating status of the air compressor in a real-time manner, and promptly take required actions.

## Luminance Controller Features



### More User-friendly Interface

- High-resolution touch screen
- 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

- Fully isolated design with stronger anti-interference capability and used in a variety of operating ambient 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 for significant improvement of computing speed and communication capability, and significantly reduction in data collection and operation interface delay

## What is Helix™?

Ingersoll Rand Helix™ aims to maximize the uptime and easily enable the owner's real-time compressed air system data management. The advanced sensor technology integrated in the compressor regularly sends data to our cloud platform, which can be accessed by you from PC, tablet PC or smartphone to learn machine operating condition at any time. We provide layered services for you to choose the required data monitoring and analysis level based on your specific operation demand.



### 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 status monitoring

Higher productivity & mechanical efficiency



### Lower malfunction risk

Minimized unscheduled downtime



### Quick contact with product experts

Better professional insights

## RM Standard Unit Performance

Model	Max. pressure barg - 50HZ	Rated power kW	Air volume (FAD)*m³/min	Dimensions(L x W x H) mm	Weight kg
RM185i_A7.5	7.5	185	37.0	4076 X 1930 X 2102	4805
RM185i_A8.5	8.5	185	35.7	4076 X 1930 X 2102	4805
RM185i_A10	10.0	185	32.4	4076 X 1930 X 2102	4805
RM185i_W7.5	7.5	185	37.0	4076 X 1930 X 2102	4725
RM185i_W8.5	8.5	185	35.7	4076 X 1930 X 2102	4725
RM185i_W10	10.0	185	32.4	4076 X 1930 X 2102	4725
RM220i_A7.5	7.5	225	45.6	4000 X 1930 X 2016	5324
RM220i_A8.5	8.5	225	43.2	4000 X 1930 X 2016	5324
RM220i_A10	10.0	225	38.8	4000 X 1930 X 2016	5324
RM220i_W7.5	7.5	225	45.6	3517 X 1930 X 2017	4893
RM220i_W8.5	8.5	225	43.2	3517 X 1930 X 2017	4893
RM220i_W10	10.0	225	38.8	3517 X 1930 X 2017	4893
RM275i_A7.5	7.5	275	56.5	3850 X 2150 X 2240	5810
RM275i_A8.5	8.5	275	53.0	3850 X 2150 X 2240	5810
RM275i_A10	10.0	275	48.0	3850 X 2150 X 2240	5810
RM275i_W7.5	7.5	275	56.5	3140 X 2150 X 2005	4738
RM275i_W8.5	8.5	275	53.0	3140 X 2150 X 2005	4738
RM275i_W10	10.0	275	48.0	3140 X 2150 X 2005	4738
RM315i_A7.5	7.5	315	64.0	3850 X 2150 X 2240	6390
RM315i_A8.5	8.5	315	60.8	3850 X 2150 X 2240	6390
RM315i_A10	10.0	315	55.0	3850 X 2150 X 2240	6390
RM315i_W7.5	7.5	315	64.0	3140 X 2150 X 2005	5328
RM315i_W8.5	8.5	315	60.8	3140 X 2150 X 2005	5328
RM315i_W10	10.0	315	55.0	3140 X 2150 X 2005	5328
RM185n_A	7-10	185	37.0	4076 X 1930 X 2102	4998
RM185n_W	7-10	185	37.0	4076 X 1930 X 2102	4900
RM220n_A	7-10	225	46.0	4000 X 1930 X 2016	5995
RM220n_W	7-10	225	46.0	3517 X 1930 X 2017	5564
RM275n_A	7-10	275	56.5	3850 X 2150 X 2240	6360
RM275n_W	7-10	275	56.5	3140 X 2150 X 2005	5268
RM315n_A	7-10	315	64.0	3850 X 2150 X 2240	6950
RM315n_W	7-10	315	64.0	3140 X 2150 X 2005	5858



## RM185-315 Compressor Features

Standard Configuration		Fixed speed <i>i</i>				Variable speed <i>n</i>			
Category	Description	RM185i	RM220i	RM275i	RM315i	RM185n	RM220n	RM275n	RM315n
Master motor	IP 23 motor	●	●	●	●	●	\	●	●
	IP 55 motor	○	○	○	○	○	●	○	○
	46°C high temperature design	●	●	●	●	●	●	●	●
	Class F insulation, Grade B temperature rise	●	●	●	●	●	●	●	●
Controller	Complete compressor diagnosis, including alarm history	●	●	●	●	●	●	●	●
	Automatic maintenance instructions	●	●	●	●	●	●	●	●
	Load / unload pneumatic regulation system	●	●	●	●	●	●	●	●
	Energy-saving controller	●	●	●	●	●	●	●	●
	Remote monitoring via Ethernet connection	▲	▲	●	●	●	●	●	●
	Remote monitoring via IoT	●	●	●	●	●	●	●	●
	Auto start/stop of shutdown timer	●	●	●	●	●	●	●	●
	Remote load/unload	●	●	●	●	●	●	●	●
	Power off and restart (PORO)*	○	○	○	○	○	○	○	○
	Joint control multiple compressors **	▲	▲	●	●	●	●	●	●
	Star delta starter	●	●	●	●	\	\	\	\
	VSD start	\	\	\	\	●	●	●	●
Power supply	Motor heater (low voltage)	○	○	○	○	○	○	○	○
	Motor heater (high voltage)***	\	●	●	●	\	\	\	\
	Master motor heat protection	●	○	●	●	●	●	●	●
	Soft starter	○	○	○	○	\	\	\	\
	Phase order protection	○	○	○	○	\	\	\	\
	Reversal protection	●	●	●	●	●	●	●	●
	Ultra G coolant	●	●	●	●	●	●	●	●
Lubricant	Ultra coolant	○	○	○	○	○	○	○	○
	Food grade coolant	○	○	○	○	○	○	○	○
	Noise-reducing housing	●	●	●	●	●	●	●	●
Environment -friendliness	Control box IP54 housing	●	●	●	●	\	\	\	\
	Design in conformity with ISO 14000 mandatory requirements	●	●	●	●	●	●	●	●
Auxiliary system	Cooling fan for air-cooled VSD unit	\	\	\	\	●	●	\	\
	Water separator & drain	○	●	●	●	○	●	●	●
	High dust air filter	○	○	○	○	○	○	○	○
	Seawater cooler	○	○	○	○	○	○	○	○
Convenience	Steel pedestal, without foundation	●	●	●	●	●	●	●	●
Services	Standard factory warranty (12/18)	●	●	●	●	●	●	●	●
	CARE Maintenance & Service Programs	○	○	○	○	○	○	○	○
Documents	Performance Test Report	○	○	○	○	○	○	○	○
	Onsite Witness Test	○	○	○	○	○	○	○	○

● Standard   ○ Optional   \ Not applicable

\*Standard PORO software, non-standard buzzer.

\*\*Joint control of a series of 4 compressors of the same model, as standard after software upgrade.

\*\*\*Heater is standard for high-voltage motor; contact Ingersoll Rand Sales for installation of a control system for the unit.

▲Please consult Ingersoll Rand Sales for special configuration.

# Air Treatment

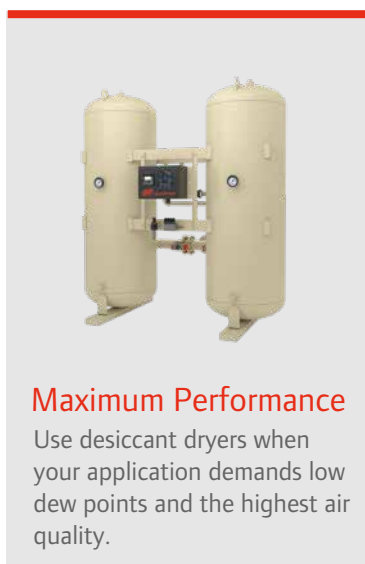
Moisture and contamination in compressed air cause significant problems in equipment operation, like rust, scale and clogged orifices resulting in product damage or costly shutdowns. Making our air treatment equipment an integral component of your compressed air system will improve productivity, system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

## Refrigerated Dryers

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

### Refrigerated Dryer Features

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



## Desiccant Dryers

At very low dew points, to obtain high quality air and to prevent possible freezing, desiccant dryers must be selected. Depending on whether you require lower initial capital costs, or lower energy use, choose from heatless, externally heated or heat blower desiccant models.

### Desiccant Dryer Features

- Delivers reliable -40°C 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

# Service Contract



## PackageCARE™

PackageCARE: from 1st day when the agreement becomes effective, all operating risks transfer from you to us to free you from any concerns. You will enjoy 100% operating risk transfer for any machine model and life.



## PlannedCARE™

PlannedCARE: all-round genuine spare parts and maintenance services. You will enjoy preventative diagnosis, current state analysis & trend judgment; 10 years' airend warranty (for new oil-flooded screw air compressor)



## PartsCARE™

PartsCARE: genuine spare parts for daily maintenance. You will enjoy regular shipment of spare parts and daily maintenance reminder, 5 years' airend warranty (for new oil-flooded screw air compressor)

### 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 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.

## Maintenance & Service Kit

Replacement / maintenance period: 2,000/4,000/8,000 hours

**The kit includes all parts & components required for maintenance or service at a time**

**Reliability:** constant air quality guarantee with genuine spare parts

**Scheduling:** regular maintenance & care as planned to decrease failure probability and increase operating stability

**Efficiency:** one chart No. replacing a number of spare parts lists to increase procurement & management efficiency

**Comprehensiveness:** all parts and components required for maintenance or service at a time are included for shorter lead time than individual parts

**Economy:** visual service cost budget and superiority in price to purchase of individual parts



**One-stop service with genuine quality guarantee**



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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**800 820 2128**

**400 820 2128**