

Ingersoll Rand

90 – 160 kW

Contact-cooled rotary screw air compressor



More than air, a commitment

For more than 100 years, Ingersoll Rand has inspired progress by driving innovation through revolutionary technology and talented people. It's a legacy of creating new standards for how the world gets work done. We're the technology leader in compressed air not only because we develop class-leading products, but also because we stand behind our customers in all aspects of what we do. No matter what your product, process, or location, Ingersoll Rand has the expertise, the technology, and the unmatched service to meet your needs.



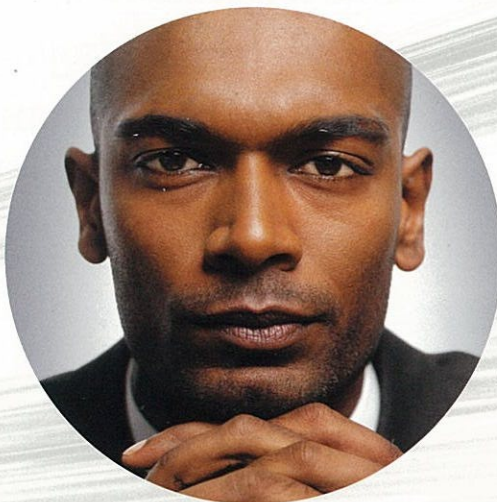
“In Research and Development, our aim is not new technology for technology's sake. Our focus is coming up with ways to increase our customers' profitability. It's about progress.**”**



“If you asked anyone in Engineering what's important, he or she would say it's continuous improvement upon what we offer our customers. We've proven our equipment is robust, but we always find ways to make it even better.**”**



“To me, when I service our equipment, I try to put myself in the customer’s shoes. I know their productivity is on the line and they’re looking to me to keep them up and running.”



“I don’t just sell air compressors. I build relationships with my customers and try to help them make more money by applying the science of compressed air.”



“Any manufacturer can catch mistakes. Our approach to quality assurance is making sure we’re building repeatable, reliable processes into our manufacturing.”

Buy once, not twice

A compressed air system represents a significant investment for any operation. So, you want to be sure what you're buying delivers the best value, performance, and longevity for your money. You don't want to have to replace a system prematurely down the road.

46°C (115°F) ambient, continuous-duty rated

Our contact-cooled, rotary screw compressors run great when it's hot, and great when it's not — making them perfectly suitable for virtually any location around the world. Experience shows that even in many temperate climates, air compressor installations are frequently influenced by other heat sources. Our fully specified high-temperature rating ensures greater tolerance of environmental influences, fewer overheat events, and nuisance shutdowns. They also demand less maintenance than traditionally specified packages.

Superior package cooling system

The sickle-shaped blade design reduces drag while piercing the air as it spins, thus delivering significant noise reduction and increased efficiency without sacrificing static pressure.

Star-delta starter

This advanced starter gives our compressors a controlled, cushioned start — eliminating current surges and extending component life for increased system reliability.

Simple installation

The package design allows for easy three-point hook up. Just connect the power, and discharge air and the condensate drain, as applicable, and you're up and running. It's that simple.



Ingersoll Rand contact-cooled, rotary screw compressors are proven, ruggedly reliable units that perform to the highest standards regardless of industry, application, or environment. Easy to install and continuous-duty rated for long-term performance, with our compressors you get what you pay for, and more.



Durable, high-efficiency airends

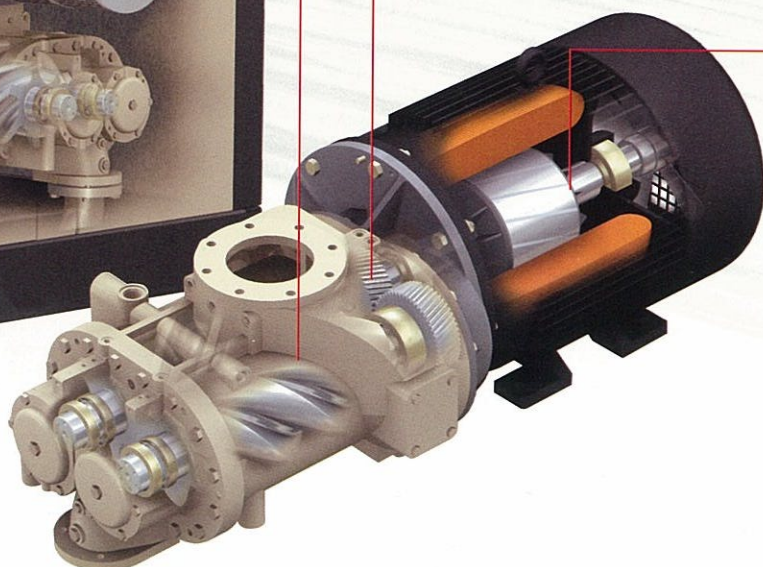
Refined over many years of continuous improvement and used in tens of thousands of Ingersoll Rand compressors worldwide, our time-proven airend provides trouble-free operation, minimal maintenance, and consistently high performance. By avoiding the use of close clearances to achieve the rated performance, we ensure that our machines deliver leading performance year after year.

Integral gear design

At the heart of an Ingersoll Rand unit is our dependable integral gear drive arrangement. This simple and reliable drive system features smooth-running helical gears that compensate thrust for optimized performance. By eliminating couplings and stub shafts with additional bearings or power sapping belts, the Ingersoll Rand drive arrangement assures trouble-free, efficient operation, plus longer life.

Totally enclosed, fan-cooled (TEFC) motors

The main and fan motors are constructed with a rugged cast-iron frame and other durable components, and is specified to operate continuously in high ambient temperatures (46° C) and with load capacity in reserve. The TEFC motor enclosure delivers outstanding protection against the elements frequently encountered in industrial applications, preventing internal dirt buildup and ensuring long life and reliability.



Intelligent controller

Intuitive, language-less control

Our onboard controller provides an easy-to-understand graphical user interface; an LCD display provides critical operational details, enabling fast adjustments if necessary.

Selectable software and adjustable operating parameters

You can easily and quickly change your operating parameters in order to satisfy air system requirements.

Built-in sequencer*

Up to three similarly equipped compressors can be sequenced — the lead machine automatically rotates among the compressors based on accumulated hours, so maintenance schedules are equalized.

Time-saving diagnostics

The controller provides fast diagnosis of system demand and displays a warning and/or stops the compressor if it exceeds operating parameters. This keeps troubleshooting expenses and downtime to a minimum.

Real-time clock and programmable operation*

You can program specific times of the day for your system to operate — configured with the onboard, real-time clock.

Power Outage Restart Option (PORO)*

With PORO, the slightest blip in your power supply allows your compressor to restart immediately upon return of power, so your compressed air processes don't miss a beat.



Remote connectivity*

A common protocol Ethernet connection provides remote access to all controls, alarms, and readouts. Set up your remote connection to alert you when there is a problem.

Maintenance controller

Our intelligent onboard controller lets you know when it's time for maintenance, eliminating potential errors in scheduling.

*Feature may be included as standard or offered as an option depending upon location. Contact your Ingersoll Rand representative to determine your application needs.

Environmentally friendly system design

CO₂ reduction

With increasing concern for CO₂ emissions, Ingersoll Rand is your partner for keeping our planet and your profits safe. Our system audits and energy-conscious compressors are the best bet for a greener planet.

Less harmful waste

ISO 14000 has challenged us to be better designers. Our newest compressor design has reduced the number of parts and size of waste products. Additionally, the condensate discharged from our compressors is biodegradable.

Conscientious manufacturing

We looked at our manufacturing processes to make sure we were the best stewards of our precious world. This, combined with our leak-free piping, eliminates the possibility of oil outside the package. We also build our compressors such that they won't harm the environment upon disposal of at the end of their useful lives.

Noise elimination

The new Ingersoll Rand 90 – 160 kW design improves sound quality and eliminates the frequencies that are annoying to the human ear. In a world that keeps getting louder, Ingersoll Rand compressors help soften the drone.

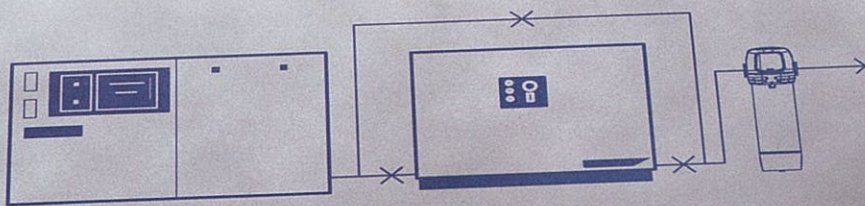
Heat and energy recovery

Much of the energy used to create compressed air generates wasted heat. Ingersoll Rand offers a way to capture that heat and recycle it within the plant.



Engineering the right system for your application

System Design 1
Small system or single compressor

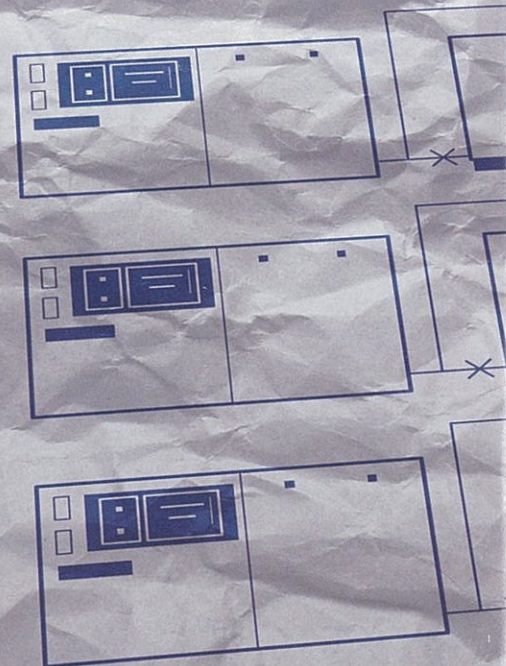


Compressor with integrated air treatment and bypass

When do I use integrated dryers with my system?

Compressors with integrated dryers make sense for smaller systems (typically 75 kW and below) and point-of-use applications where a single compressor often carries the load of the entire system. In those cases, the compressor's discharge pressure is the system pressure and, as such, control issues do not arise.

System Design 2
Larger, centralized system

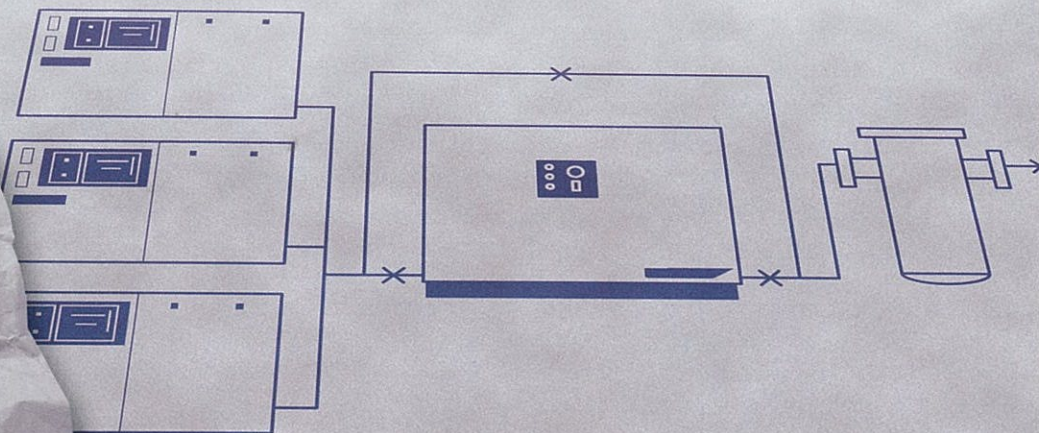


Multiple compressors with compressed air trains

Avoid problems of compressed air trains

As systems grow, multiple compressors with connected or integrated air treatment can have negative effects on optimization and pressure stability. Multiple dryers and filters — in what are known as “compressed air trains” — cause significant system losses and make control optimization impossible.

System Design 3 Larger, centralized and OPTIMIZED system



Multiple compressors with
optimized air treatment

Proper design of larger centralized systems

Eliminating integral compressed air trains allows for system design optimization. There are a number of benefits associated with a centralized air system with fewer dryers, such as:

- Dryers can be sized to optimize the system
- Lower energy losses through lower pressure drop with lower loads
- Better dew point control
- Compressor controls manage a single air treatment system
- Energy savings and minimized CO₂ emissions through reduced compressor pressure setting
- Stabilized pressure

They can also cause:

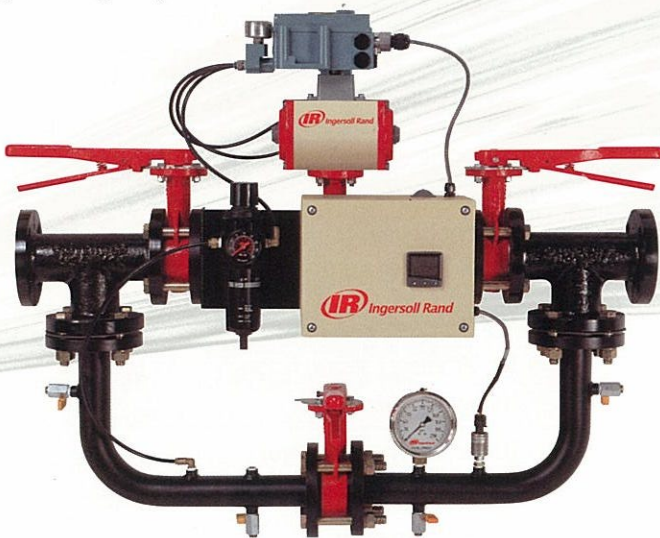
- Higher energy losses due to pressure drops
- Dew point variability
- Increased maintenance due to frequent compressor cycling from variable pressure drops across each train
- Artificially higher supply pressure required to account for variable pressure drop and control issues
- Reduced effective pressure control band due to need to respond to the highest pressure drop in the train

Optimized controls

If you have a multiple-compressor installation, then you probably know that maintaining optimum system pressure along the entire line can be challenging, inefficient, and costly. Our advanced air system controllers — when coupled with our extensive system audit services — enable you to optimize air system efficiency, deliver consistent flow and pressure, and extend the life of system components. Ultimately, you'll stabilize your pressure and reduce energy costs.

Intelliflow™ Air System Pressure Controller

Intelliflow provides precise air pressure control of production processes by separating supply-side air from demand-side air. As a result, supply-side air is not affected by incidents on the demand side. Intelliflow can lower demand pressure precisely — saving lost energy costs and better ensuring consistent product quality.



Intellisys® Energy Optimizer

Whether you need eight hours of continuous-duty compressed air or an intermittent supply over a 24-hour period, Intellisys puts you in complete control.

Enhanced reliability

Control up to eight compressors from any manufacturer, and continuously monitor air system quality.

Energy savings

Overcome the problems associated with compressed air trains and reduce the control pressure band.

Increased productivity

Automate compressor control and optimize compressor scheduling to meet varying plant demand.

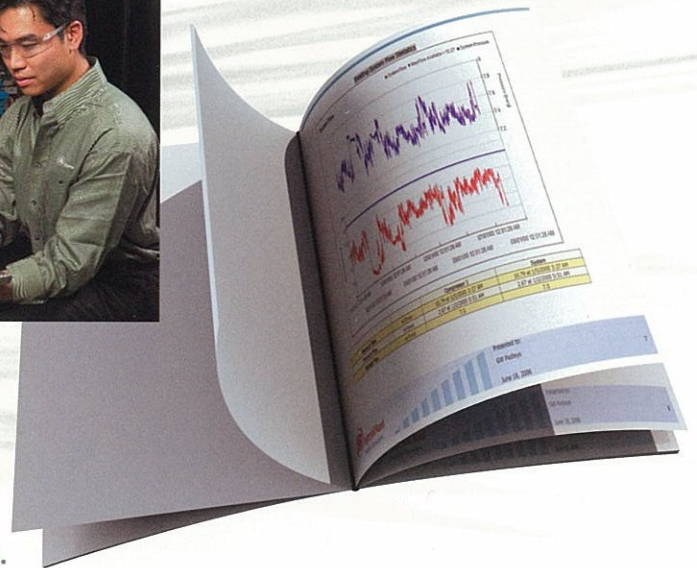
Intellisurvey

Fixing a troublesome system without first diagnosing the true problem is a hit or miss proposition based on guesswork. This can lead to production stoppages, extended downtime, and even product spoilage. Ingersoll Rand eliminates the guesswork by providing proven

air system auditing services that not only ensure air system efficiency, but reduce operating costs to improve bottom lines.



Using an innovative tool — known as Intellisurvey — we non-intrusively monitor a compressed air system to determine the root causes of symptoms.



With Intellisurvey, our experts analyze the many components of an air system, as well as flow, pressure, supply utilization, and power costs, to determine an optimized system that generates improvements in repeatability, efficiency, and plant productivity.

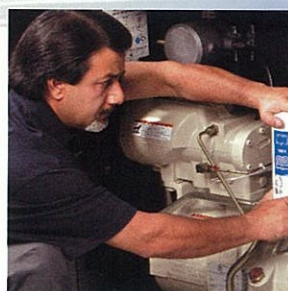
Global reach, local service

No matter where your facility is located,

Ingersoll Rand is committed to serving you 24-hours a day, seven days a week. Our worldwide network of certified, factory-trained technicians and engineers are a phone call away. They are ready to support you with innovative and cost-effective service solutions that will keep you running at peak performance.

AirCare Advantage

We understand that uptime is critical to your operation. That's why we offer AirCare Advantage — a responsive, flexible contract maintenance program custom-designed to provide factory-authorized scheduled maintenance that ensures increased system reliability. AirCare Advantage helps eliminate unscheduled downtime and relieves you of costly investments in monitoring equipment and ongoing training. The program also provides a thorough knowledge of compressor technology.





Count on Ingersoll Rand for all your aftermarket needs



Air quality

- Filtration
- Dryers
- Point-of-use air treatment
- Air sampling test kits
- Dew point meters



Environmental

- Condensate management
- Lubricants
- Water filtration



Installation

- SimplAir piping system
- Fusible disconnects
- Intelliflow system pressure control
- Drains



Maintenance

- Hard parts
- Consumables
- PM contracts



Power management

- Variable speed drives
- Line reactors
- Safety switches



Energy efficiency

- System air pressure controllers
- Automated air system controls
- No-loss drains
- System audits

Specifications

50 Hz Performance										
Model	Rated Pressure		Nominal Power		Capacity		Mass		Water-cooled	
	bar	psig	kW	hp	m ³ /min	cfm	Air-cooled kg	lb	kg	lb
R90IU	7.5	109	90	121	16.7	590	2802	6,176	2822	6,220
R90IU	8.5	123	90	121	15.3	540	2802	6,176	2822	6,220
R90IU	10	145	90	121	14.0	495	2802	6,176	2822	6,220
R110IU	7.5	109	110	148	20.0	706	2802	6,176	2822	6,220
R110IU	8.5	123	110	148	19.2	678	2802	6,176	2822	6,220
R110IU	10	145	110	148	17.5	618	2802	6,176	2822	6,220
R132IU	7.5	109	132	177	23.5	830	3170	6,987	3170	6,987
R132IU	8.5	123	132	177	22.3	788	3170	6,987	3170	6,987
R132IU	10	145	132	177	21.0	742	3170	6,987	3170	6,987
R160IU	7.5	109	160	215	28.5	1,006	3230	7,119	3015	6,645
R160IU	8.5	123	160	215	26.0	918	3230	7,119	3015	6,645
R160IU	10	145	160	215	25.0	883	3230	7,119	3015	6,645

60 Hz Performance										
Model	Rated Pressure		Nominal Power		Capacity		Air-cooled		Mass	Water-cooled
	psig	bar	hp	kW	cfm	m³/min	lb	kg	lb	kg
R90IU	100	6.9	125	93	647	18.3	6,176	2802	6,220	2822
R90IU	125	8.6	125	93	563	15.9	6,176	2802	6,220	2822
R90IU	140	9.7	125	93	511	14.5	6,176	2802	6,220	2822
R110IU	100	6.9	150	112	783	22.2	5,841	2650	5,885	2670
R110IU	125	8.6	150	112	690	19.5	5,841	2650	5,885	2670
R110IU	140	9.7	150	112	618	17.5	5,841	2650	5,885	2670
R150IU	100	6.9	200	149	1,004	28.4	7,119	3230	3,015	6645
R150IU	125	8.6	200	149	875	24.8	7,119	3230	3,015	6645
R150IU	140	9.7	200	149	837	23.7	7,119	3230	3,015	6645

Dimensions	mm	in
Length	2600	102.5
Width	1661	65.5
Height	2330	92

*S/O indicates feature could be standard or offered as an option depending upon location.
Contact your Ingersoll Rand representative for more information.

Category	Description	90 — 160 kW
Controller	Power Outage Restart Option (PORO)	Optional
	Programmable time-of-day operation	S/O*
	High-resolution graphical interface	Standard ◀
	Selectable units of measurement display	Standard ◀
	Automatic maintenance indication	Standard ◀
	Remote connectivity to building management system	S/O*
	Inlet modulation control	Optional
	Built-in optimization sequencer	S/O*
Environmental	Heat recovery system	Optional
	Noise elimination enclosure	Standard ◀
	Designed to help meet ISO 14000 obligations	Standard ◀
	Ductable intake and discharge	Standard ◀
Coolant	8,000-hr Ultra Coolant™	Standard ◀
	HF-1 food grade coolant	Optional
	Xtend filtration system	Optional
Main Motor	High efficiency TEFC / IP54	Standard ◀
	High ambient rated (46° C / 115° F)	Standard ◀
	Space heaters	Optional
	Class F insulation B rise	Standard ◀
Power	Star-delta reduced voltage starter	Standard ◀
	Solid state reduced voltage starter	Optional
	Built-in transformer for control power	Standard ◀
	Phase monitor	Optional
Auxiliary Systems	Automatic electronic condensate drains	Standard ◀
	High-efficiency package cooling system rated for 46° C (115° F)	Standard ◀
	Premium protection inlet filter	Optional
	Air-cooled aftercooler and coolant cooler	Standard ◀
	Water-cooled aftercooler and coolant cooler	Optional
	Coastal application with sea water coolers	Optional
	Leak-free piping and fittings	Standard ◀
Airend	High efficiency 4- to 6-rotor design	Standard ◀
	Duplex tapered roller bearings	Standard ◀
	Flanged discharge connection	Standard ◀
Enclosure	Outdoor modification	Optional
	Frost protection to -10° C	Optional
Services	12-month full package factory warranty	Standard ◀
	First service parts and coolant kit	Standard ◀
	AirCare Advantage Customer Care Program	Optional
	Total Care Comprehensive Uptime Program	Optional
System Support	Oil / water separator	Optional
	No-loss condensate drains	Optional
	Safety switch disconnects	Optional

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