



Contact-Cooled Rotary Screw Air Compressors

R-Series 90-160 kW

Reliability

Efficiency

Productivity



A New Level of Reliability, Efficiency and

R Series 90-160 kW rotary screw air compressors offer the very best of time-proven designs and technologies with new, advanced features that ensure the highest levels of **reliability, efficiency and productivity** available.

Progressive Adaptive Control™ – PAC™ Protection

An integrated, intelligent system that continuously monitors key operating parameters and adapts to prevent unexpected downtime.

- Scans and adjusts operating parameters in response to changes in filtration.
- Ensures peak performance through real-time electronic maintenance indicators.
- Optimises energy consumption and reduces noise level by adapting fan speed based on ambient temperature.
- Increases bearing life by eliminating any chance of water build-up in the coolant.
- Improves productivity by proactively monitoring and conditioning incoming power.

V-Shield™ Technology

A totally integrated, leak-free design using stainless steel pipes and long-life metal-flex hoses.

- Superior elastomeric seals for repeatable leak-free connections.
- Reduced downstream contamination with stainless steel air piping.
- Vibration isolation system and metal-flex hoses extend compressor life and reduce noise.
- Significantly reduced potential leak paths.

Sequential Cooling System

Significantly improves efficiency, serviceability and noise level.

- Low energy consumption and quiet operation with an energy-efficient centrifugal blower.
- Significantly reduces the energy required to remove harmful condensate in downstream air treatment by lowering discharge temperatures to as low as 2.2°C above ambient.
- Integrated moisture separator delivers higher quality air by decreasing harmful condensate carryover, while electronic no-loss drain valves improve efficiency.
- Independently-mounted, free-floating air and coolant heat exchangers extend life by reducing thermal stresses.
- Available for operation in extreme environments up to 55°C.

Intuitive Controller

- Easily adjustable operating parameters, on-board diagnostics, multiple languages.
- Built-in optimisation sequencing for up to four compressors.



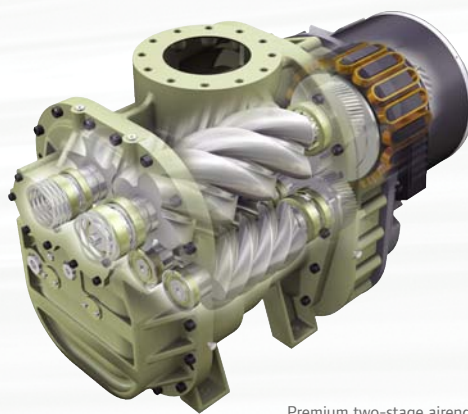
**See Features Chart (page 6)
for availability by model.**

Productivity



Time-Proven Quality Airends

At the heart of our compressors are rugged, roller bearing-equipped airends, engineered for exceptional reliability.




Premium two-stage air end

Trouble-Free Operation

Ingersoll Rand provides many more ways to ensure your operation remains productive while providing the lowest cost of ownership.

- Increased uptime, reduced maintenance and improved performance with our unique two-stage filtration, extended filtration life, superior synthetic Ultra Coolant™ and on-board, time-saving diagnostics.
- High quality air delivered through high efficiency coolant separation, allowing no more than 3 ppm carryover.
- Safe, easy maintenance performed on one side via removable hinged doors, swing out separator lid and easy-slide heat exchangers.
- Minimised installation costs and complexity with single cooling air inlet and outlet, and easy exhaust heat management for lower utility costs.
- Easy-to-use operator interface in 23 languages with electronic controller designed for harsh environments.

R Series Compressors: Innovative Design,

 Ingersoll Rand rotary compressors provide superior operating features, benefits and equipment choices.

Mix and match variable and fixed speed motors with single- and two-stage airends for the exact level of performance and economy your operation and your budget require.



Efficiency for Variable Demand



Maintenance-free, bearingless motor design

Fewer rotating parts — no pulleys, belts or couplings to wear out

Nirvana Variable Speed Drive (VSD) Compressors

Ingersoll Rand VSD compressors maximise the full potential of variable speed technology. Only Ingersoll Rand's Nirvana VSD technology with the Hybrid Permanent Magnet® (HPM®) motor—the highest efficiency motor available—gives you all this:

- Unlimited starts/stops.
- Shuts off rather than run unloaded, conserving energy.
- Rated for continuous duty — 100% load, 24/7, 46°C — to reduce downtime and lost production.
- Stable, constant pressure control.
- Smooth soft-starting — starting amps always below full load.
- Virtually no degradation in specific power at partial load.
- Variable speed blower allows the compressor to run at a constant discharge temperature.
- Automatic coolant temperature control to eliminate moisture build up.

Progress is greener with Ingersoll Rand

Ingersoll Rand offers industry leading products and solutions that enable businesses around the world to reduce energy consumption and costs and decrease harmful environmental emissions. From air compressors that reduce energy consumption to electric-powered golf cars with near-zero emissions, Ingersoll Rand provides the knowledge, experience and solutions to help our clients achieve their sustainability goals.



Efficiency for Constant Demand

Fixed Speed Compressors

Ingersoll Rand R Series fixed speed compressors are the most reliable and energy-efficient solution for processes with constant demand.

- The compressors can be outfitted for continuous and reliable operation in the harshest conditions, even outdoors in rain and dust, from -10°C up to 55°C.
- Clean compressor package design with fewer components that need servicing.
- NEMA 4/IP65 electric panels.
- High-efficiency, quiet centrifugal blower.
- Voltage and frequency fluctuation protection.



Continuous duty TEFC induction motor

Flexible Choice

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Highest Efficiency Airends



Deliver up to 15% more air than a single-stage compressor while consuming the same amount of energy.

Premium Efficiency and Performance: Two-Stage Airends

Ingersoll Rand's premium efficiency compressors deliver reliability through our unique two-stage airends, renowned for trouble-free operation and low energy consumption.

- Efficiency and durability through low compression ratio in each stage.
- Reduced bearing loads.
- Increased airend life.
- Minimal maintenance.
- Coolant curtain reduces energy consumption by injecting atomised oil into the compressed air stream, significantly lowering the energy required for compression.

Time-Proven Reliable Airends

Single-Stage Airends

Used in compressors worldwide, Ingersoll Rand single-stage airends have proven to be the market leader in both reliability and efficiency.



- Precision machined rotors.
- Highest quality tapered roller bearings.
- All coolant flow paths are integral to the cast housing, eliminating potential leak paths.
- Ideal wherever budgets are limited, but the need for performance is not.

The Decision is Yours

The following four optimised, energy-efficient packages deliver the combination of performance and value that best fits your specific needs. At Ingersoll Rand, it's all about value...and choice!

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Nirvana VSD
PREMIUM EFFICIENCY

Variable speed with two-stage airend

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Nirvana VSD
EFFICIENCY

Variable speed with single-stage airend

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Premium
EFFICIENCY

Fixed speed with two-stage airend

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Fixed speed with single-stage airend

R110^{ne}
Nirvana VSD
PREMIUM EFFICIENCY



Applying technology to help our customers achieve their sustainability goals.



Standard Features

Category	Description	Fixed Speed		Nirvana VSD	
		<i>i</i>	<i>ie</i>	<i>n</i>	<i>ne</i>
Airend	Premium two-stage airend		•		•
	Time-proven single-stage airend	•		•	
Controller 	Energy-saving microprocessor controller easy to operate in 23 languages	•	•	•	•
	Programmable start/stop operation and remote connectivity	•	•	•	•
	Built-in optimisation sequencer for up to 4 units	•	•		
	Built-in energy savings calculator			•	•
PAC™ Protection 	Scans and adjusts operating parameters in response to filtration changes	•	•	•	•
	Real-time electronic maintenance indicators and shutdown protection	•	•	•	•
	Blower speed adaptable to ambient temperature			•	•
	Automatic coolant temperature control to eliminate moisture build-up			•	•
	Integrated line reactor in compliance with industrial EMC standards			•	•
Cooling System 	Air-cooled sequential cooling system optimised for efficiency & serviceability	•	•	•	•
	Energy-efficient and low noise centrifugal blower	•	•	•	•
	Generous package cooling system rated for 46°C ambient	•	•	•	•
	Moisture separator	•	•	•	•
	Electronic no-loss condensate drains	○	•	•	•
V-Shield™ Technology 	Stainless steel air piping	•	•	•	•
	Vibration isolation pads and premium metal-flex hoses	•	•	•	•
	Repeatable leak-free connections with superior elastomeric seals	•	•	•	•
Services	Ergonomic swing-out lid on the separator tank	•	•	•	•
	Simple ducting (single air inlet and single air outlet)	•	•	•	•
	12-month full package warranty	•	•	•	•
Auxiliary Systems 	Noise attenuation enclosure	•	•	•	•
	Package pre-filtration	•	•	•	•
	Long-life filtration and separation elements	•	•	•	•
	8,000-hour life Ultra Coolant™	•	•	•	•
	Flow control by variable speed technology			•	•
Motors & Electrical Systems 	Control panel protection, NEMA 4/IP65 electrics	•	•		
	Star-delta reduced voltage starter	•	•		
	High-efficiency TEFC IP55 motors - Class F insulation with B rise	•	•		
	Hybrid Permanent Magnet® (HPM®) motor			•	•
	Control panel protection NEMA 12/IP54			•	•
	Variable speed drive on main motor & centrifugal blower motor			•	•

Optional Features

Weather Protection	Outdoor modification/rain protection	○	○		
	Frost protection to -10°C (14°F)	○	○		
	High ambient protection up to 55°C	○	○		
	Premium high dust filtration	○	○		
	Motor space heater	○	○		
	Water cooling	○	○	○	○
	Sea water and harsh water cooling	○	○	○	○
Environmental 	Energy Recovery System (ERS)	○	○	○	○
	Fluid containment system	○	○	○	○
	Food grade coolant and X-tend filtration system	○	○	○	○
Power Protection 	Power Outage Restart Option (PORO)	○	○	○	○
	Safety switch disconnects	○	○	○	○
	Phase monitor (protection)	○	○	•	•
	Electronic solid state reduced voltage starter	○	○		
General Options	Flow control by inlet modulation control	○	○		
	Comprehensive service and coverage plan	○	○	○	○

 Sustainable Technology • Standard Feature ○ Optional Feature "Blank" Not Available

j Ingersoll Rand Standard – 50 Hz Performance

Model	Max. Pressure		Nominal Power		Capacity (FAD)*		Dimensions (mm)			Weight kg
	bar g	psig	kW	hp	m ³ /min	cfm	Length	Width	Height	
R90i	7.5	110	90	125	16.71	590	2,703	1,466	2,032	2,420
	8.5	125	90	125	15.72	555	2,703	1,466	2,032	2,420
	10.0	145	90	125	14.02	495	2,703	1,466	2,032	2,420
	14.0	200	90	125	10.25	362	2,703	1,466	2,032	2,420
R110i	7.5	110	110	150	20.76	733	2,703	1,466	2,032	2,550
	8.5	125	110	150	19.20	678	2,703	1,466	2,032	2,550
	10.0	145	110	150	17.50	618	2,703	1,466	2,032	2,550
	14.0	200	110	150	13.76	486	2,703	1,466	2,032	2,550
R132i	7.5	110	132	175	25.20	890	2,855	1,836	2,032	2,926
	8.5	125	132	175	23.93	845	2,855	1,836	2,032	2,926
	10	145	132	175	21.10	745	2,855	1,836	2,032	2,926
	14	200	132	175	17.53	619	2,855	1,836	2,032	2,926
R160i	7.5	110	160	215	29.45	1,040	2,855	1,836	2,032	2,926
	8.5	125	160	215	29.02	1,025	2,855	1,836	2,032	2,926
	10	145	160	215	25.77	910	2,855	1,836	2,032	2,926
	14	200	160	215	20.50	724	2,855	1,836	2,032	2,926

ie Ingersoll Rand Premium – 50 Hz Performance

Model	Max. Pressure		Nominal Power		Capacity (FAD)*		Dimensions (mm)			Weight kg
	bar g	psig	kW	hp	m ³ /min	cfm	Length	Width	Height	
R90ie	7.5	110	90	125	18.01	636	2,855	1,836	2,032	2,744
	8.5	125	90	125	17.50	618	2,855	1,836	2,032	2,744
	10.0	145	90	125	15.43	545	2,855	1,836	2,032	2,744
	14.0	200	90	125	13.03	460	2,855	1,836	2,032	2,744
R110ie	7.5	110	110	150	22.09	780	2,855	1,836	2,032	2,744
	8.5	125	110	150	20.39	720	2,855	1,836	2,032	2,744
	10.0	145	110	150	18.89	667	2,855	1,836	2,032	2,744
	14.0	200	110	150	15.40	544	2,855	1,836	2,032	2,744
R132ie	7.5	110	132	175	26.19	925	2,855	1,836	2,032	3,198
	8.5	125	132	175	25.34	895	2,855	1,836	2,032	3,198
	10	145	132	175	22.79	805	2,855	1,836	2,032	3,198
	14	200	132	175	18.35	648	2,855	1,836	2,032	3,198
R160ie	7.5	110	160	215	31.09	1,098	2,855	1,836	2,032	3,198
	8.5	125	160	215	30.30	1,070	2,855	1,836	2,032	3,198
	10	145	160	215	27.21	961	2,855	1,836	2,032	3,198
	14	200	160	215	21.95	775	2,855	1,836	2,032	3,198

n Ingersoll Rand Nirvana Standard – 50 Hz Performance

Model	Max. Pressure		Nominal Power		Capacity (FAD)**		Dimensions (mm)			Weight kg
	bar g	psig	kW	hp	m ³ /min	cfm	Length	Width	Height	
R90n	4.5-10	65-145	90	125	8.47-17.95	299-634	2,703	1,466	2,032	2,060
R110n	4.5-10	65-145	110	150	8.47-21.66	299-765	2,703	1,466	2,032	2,060
R132n	4.5-10	65-145	132	175	8.47-24.44	299-863	2,855	1,836	2,032	2,363
R160n	4.5-10	65-145	160	215	8.47-28.88	299-1,020	2,855	1,836	2,032	2,363

ne Ingersoll Rand Nirvana Premium – 50 Hz Performance

Model	Max. Pressure		Nominal Power		Capacity (FAD)**		Dimensions (mm)			Weight kg
	bar g	psig	kW	hp	m ³ /min	cfm	Length	Width	Height	
R90ne	4.5-10	65-145	90	125	8.86-18.70	313-661	2,855	1,836	2,032	2,495
R110ne	4.5-10	65-145	90	150	8.86-22.96	313-811	2,855	1,836	2,032	2,495
R132ne	4.5-10	65-145	132	175	8.86-27.24	313-962	2,855	1,836	2,032	2,495
R160ne	4.5-10	65-145	160	215	8.86-32.05	313-1,132	2,855	1,836	2,032	2,495

*FAD (Free Air Delivery) is full-package performance including all losses, tested per ISO 1217:2009 Annex C and measured at 0.5 bar g lower than maximum pressure.

**FAD is full-package performance including all losses, tested per ISO 1217: 2009 Annex C and measured at 7 bar g.

Ingersoll Rand Ultra Care



Helping you maintain a healthy business

Ultra Care five year maintenance and performance agreements have been designed to be easy to understand with absolutely no surprises. Find out more about protecting the heart of your business contact your local distributor or Ingersoll Rand Sales office.

**Ingersoll Rand looks after your compressed air system,
so you can look after your business.**



Ingersoll Rand Industrial Technologies provides products, services and solutions that enhance our customers' energy efficiency, productivity and operations. Our diverse and innovative products range from complete compressed air systems, tools and pumps to material and fluid handling systems and environmentally friendly microturbines. We also enhance productivity through solutions created by Club Car®, the global leader in golf and utility vehicles for businesses and individuals.

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