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# Contact-Cooled Rotary Screw Air Compressors

R-Series 55-75 kW



# A New Level of Reliability, Efficiency and Productivity

Ingersoll Rand R-Series rotary screw air compressors offer the very best of time-proven designs and technologies with new, advanced features to ensure the highest levels of reliability, efficiency and productivity available.



Xe-145M option shown

## Progressive Adaptive Control™ (PAC™) Protection

Continuously monitors key operating parameters and adapts to prevent unexpected downtime.

- Increases uptime by scanning and adjusting operating parameters in response to changes in filter condition
- Ensures peak performance with real-time electronic maintenance indicators
- Optimises energy consumption and reduces noise by adjusting fan speed
- Improves productivity by proactively monitoring and conditioning incoming power

## V-Shield™ Technology

Leak-free design with stainless steel pipes and long-life metal-flex hoses.

- Repeatable leak-free connections using superior elastomeric seals
- Reduces downstream contamination with stainless steel air piping
- Extends compressor life and reduces noise via vibration isolation system and metal-flex hoses

## Xe-Series Controller

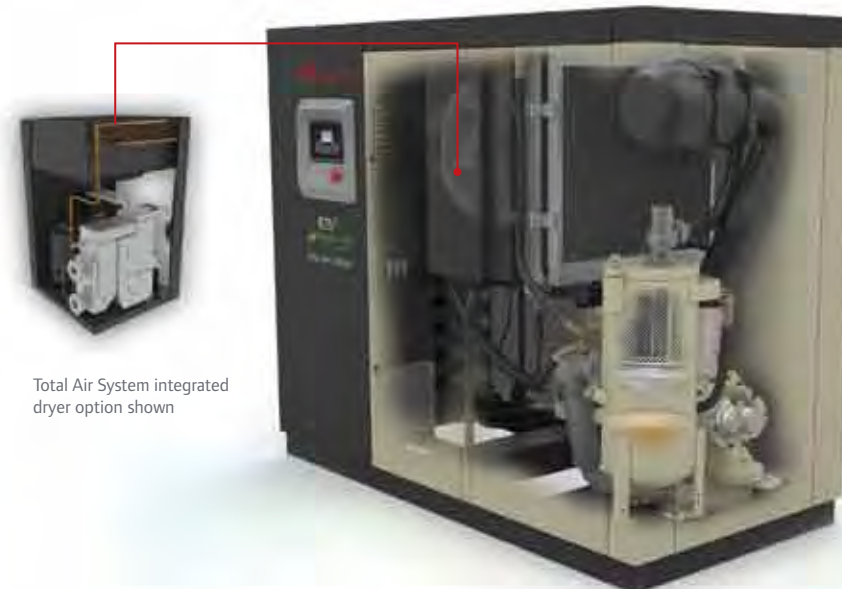
Features an intuitive high resolution colour display with web access.

- Remote access and control using web-enabled communications with a standard web browser
- Achieves system optimisation through built-in performance analysis and trending
- Clear and intuitive compressor controls with high intensity LED indicators and large navigation buttons
- Increases efficiency and stabilizes pressure by sequencing up to 4 Xe-controlled compressors without additional hardware

## Sequential Cooling System

Significantly improves efficiency, serviceability and noise level.

- Reduces thermal stress and extends life using independently-mounted, free-floating heat exchangers
- Reduces the energy required to remove harmful condensate in downstream air by significantly lowering discharge temperatures
- Lowers energy consumption and noise with an energy-efficient centrifugal blower



Total Air System integrated dryer option shown

## Total Air System (TAS)

Clean, dry air in a single package that minimises installation costs and space.

- Protects downstream equipment with:
  - Integrated refrigerated dryer that provides dew point suppression up to 46°C (115°F ambient temperature and 40% relative humidity)
  - Standard high efficiency coalescing filter that delivers ISO Class 1-4-2 quality air
- Increases reliability and efficiency with a lower pressure drop than typical dryers and patented 3-in-1 heat exchanger
- Reduces service time and cost with single-point maintenance and monitoring
- Prevents unplanned shutdowns with PAC™ Protection by adjusting operating parameters in response to changes in filter condition



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of performance and value that best fits your specific needs. At Ingersoll Rand, it's all about value...and choice!

## Nirvana VSD EFFICIENCY

Variable speed with single-stage airend

Fixed speed with single-stage airend

## Total Air System

Optimised dryer, filtration system and compressor in one convenient package.



# Innovative Design, Flexible Choice



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## Time-Proven Reliable Airends



### Robust Airends

Used in compressors worldwide, Ingersoll Rand single-stage airends are both reliable and efficient.

- Precision machined rotors
- Highest quality tapered roller bearings
- Integrated coolant flow to eliminate leak paths

### Energy Recovery System (ERS)

The Ingersoll Rand Energy Recovery System (ERS) provides a cost-effective way to reduce your energy bills and benefit the environment by capturing compressor heat and putting it to work.

- Supplements current water heating system
- Ensures years of trouble-free operation with corrosion resistant material



## n Efficiency for Variable Demand

### Nirvana Variable Speed Drive (VSD) Compressors

Ingersoll Rand VSD compressors feature the highest efficiency Hybrid Permanent Magnet (HPM) motor.

- Unlimited start/stops and shut off to conserve energy
- Rated for continuous duty — 100% load, 24/7, 46°C (115°F)
- Stable, constant pressure control
- Virtually no degradation in specific power at partial load
- Stable power factor over control range



Maintenance-free, bearingless motor design

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

## i 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.

- Class F insulation B temperature rise
- IE3 supreme efficiency class motors
- Compressors can be outfitted for continuous and reliable operation in harsh conditions, even outdoors in rain and dust, from -10°C (14°F) up to 55°C (131°F)
- IP65/NEMA 4 electric panels



Continuous duty high-performance TEFC induction motor

Standard Features					
Category	Description				
<b>Airend</b>	Time-proven design				
<b>PAC™ Protection</b>	Scans and monitors for abnormal conditions				
	Real-time monitoring				
	Blower speed compensation to ambient temperature				
	Automatic coolant temperature control to eliminate moisture build-up		●		
<b>Cooling System</b>	Integrated line reactor in compliance with industrial EMC standards		●		
	Air-cooled sequential cooling system optimised for efficiency & serviceability	●	●		
	Energy-efficient and low noise centrifugal blower	●	●		
	Generous package cooling system rated for 46°C (115°F) ambient	●	●		
	Moisture separator	●	●		
	Electronic no-loss condensate drains	○	●		
<b>V-Shield™ Technology</b>	Stainless steel air piping	●	●		
	Vibration isolation pads and premium metal-flex hoses	●	●		
	Repeatable leak-free connections with superior elastomeric seals	●	●		
<b>Services</b>	Ergonomic swing-out lid on the separator tank	●	●		
	Simple ducting (single air inlet and single air outlet)	●	●		
	12-month full package warranty	●	●		
<b>Auxiliary Systems</b>	Noise attenuation enclosure	●	●		
	Package pre-filtration	●	●		
	Long-life filtration and separation elements	●	●		
	Extended life Ingersoll Rand premium grade coolant	●	●		
	Flow control by variable speed technology		●		
	Flow control by full load/no load regulation system	●			
<b>Motors &amp; Electrical Systems</b>	Control panel protection, IP65/NEMA 4 electrics	●			
	Star-delta reduced voltage starter	●			
	High-efficiency TEFC IP55 motors - Class F insulation with B rise	●			
	Hybrid Permanent Magnet (HPM) motor – EMC-compliant		●		
	Control panel protection, IP65/NEMA 12		●		
	Variable speed drive on main motor & centrifugal blower motor		●		
<b>Optional Features</b>					
<b>Total Air System (TAS)</b>	Single point maintenance and monitoring				
	High efficiency pre-filter	○	○		
	3-in-1 heat exchanger				
	ISO Class 1-4-2 ISO quality air delivered				
<b>Weather Protection</b>	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	○	○		
<b>Environmental</b>	Energy Recovery System (ERS)	○	○		
	Fluid containment system	○	○		
	Food grade coolant and filtration system	○	○		
<b>Power Protection</b>	Power Outage Restart Option (PORO)	○	○		
	Safety switch disconnects	○	○		
	Phase monitor (protection)	○	●		
	Electronic solid state reduced voltage starter	○			
<b>General Options</b>	Flow control by inlet modulation control	○			
	Comprehensive service and coverage plan	○	○		
<b>Xe-Series Controllers</b>		<b>Xe-90M (Standard)</b>		<b>Xe-145M (Optional)</b>	
		Fixed Speed	Nirvana VSD	Fixed Speed	Nirvana VSD
<b>Description</b>		<b>i</b>	<b>n</b>	<b>i</b>	<b>n</b>
Built-in energy savings calculator			●		●
On controller graphing and trending				●	●
Standard Web pages	●			●	●
Remote control via Web pages	●			●	●
Automated reporting				●	●
Web-based graphing and trending				●	●
Email notification of warnings and trips				●	●
Built-in sequencer for up to 4 units	●			●	●
Direct communications with Xi system controls	●			●	●

● Standard Feature ○ Optional Feature "Blank" Not Available †Not available on Total Air System (TAS) model





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**n Ingersoll Rand Nirvana Standard – 50 Hz Performance**

Model	Max. Pressure bar g	Max. Pressure psig	Nominal Power kW	Nominal Power hp	Capacity (FAD)** m <sup>3</sup> /min	Capacity (FAD)** cfm	Dimensions (Length x Width x Height) mm	Weight (Air-cooled) kg
R55n	4.5-10.0	65-145	55	75	3.23-10.53	114-372	2432 x 1265 x 2032	1,420
R75n	4.5-10.0	65-145	75	100	3.23-13.56	114-479	2432 x 1265 x 2032	1,420

**n Ingersoll Rand Nirvana<sup>†</sup> Total Air System (TAS) – 50 Hz Performance**

R55n TAS	4.5-9.5	65-135	55	75	3.23-10.11	114-357	2432 x 1265 x 2032	1,570
R75n TAS	4.5-9.5	65-135	75	100	3.23-12.94	114-457	2432 x 1265 x 2032	1,570

**i Ingersoll Rand Standard – 50 Hz Performance**

Model	Max. Pressure bar g	Max. Pressure psig	Nominal Power kW	Nominal Power hp	Capacity (FAD)* m <sup>3</sup> /min	Capacity (FAD)* cfm	Dimensions (Length x Width x Height) mm	Weight (Air-cooled) kg
R55i	7.5	110	55	75	10.19	360	2432 x 1265 x 2032	1,603
	8.5	125	55	75	9.43	333	2432 x 1265 x 2032	1,603
	10.0	145	55	75	8.58	303	2432 x 1265 x 2032	1,603
	14.0	200	55	75	6.51	230	2432 x 1265 x 2032	1,603
R75i	7.5	110	75	100	13.34	471	2432 x 1265 x 2032	1,718
	8.5	125	75	100	12.77	451	2432 x 1265 x 2032	1,718
	10.0	145	75	100	11.61	410	2432 x 1265 x 2032	1,718
	14.0	200	75	100	8.83	312	2432 x 1265 x 2032	1,718

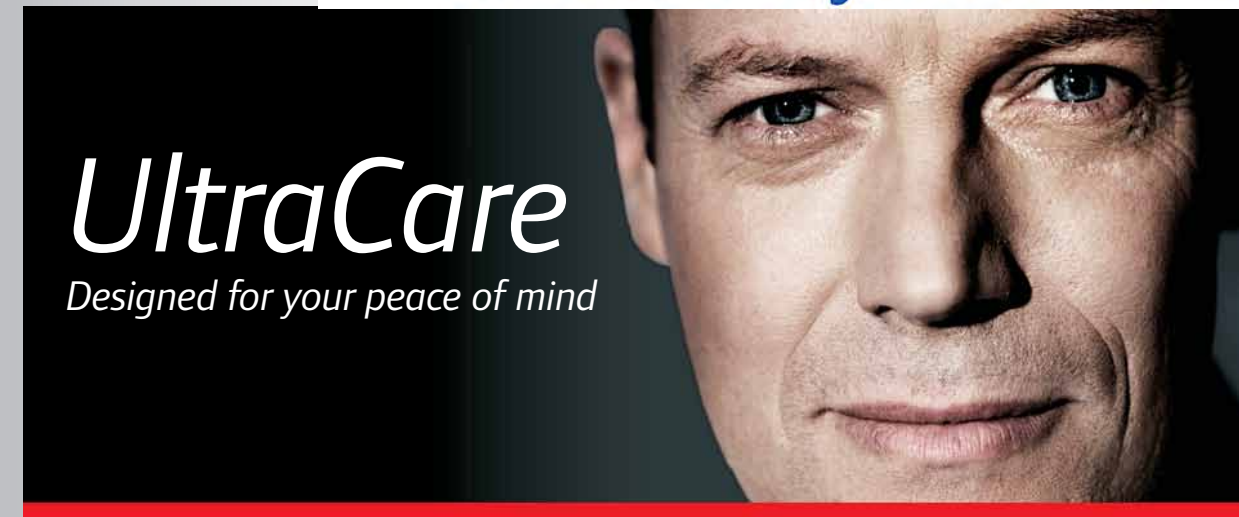
**i Ingersoll Rand<sup>†</sup> Total Air System (TAS) – 50 Hz Performance**

R55i TAS	7.0	103	55	75	10.19	360	2432 x 1265 x 2032	1,753
	8.0	118	55	75	9.43	333	2432 x 1265 x 2032	1,753
	9.5	138	55	75	8.58	303	2432 x 1265 x 2032	1,753
	13.5	193	55	75	6.51	230	2432 x 1265 x 2032	1,603
R75i TAS	7.0	103	75	100	13.34	471	2432 x 1265 x 2032	1,868
	8.0	118	75	100	12.77	451	2432 x 1265 x 2032	1,868
	9.5	138	75	100	11.61	410	2432 x 1265 x 2032	1,868
	13.5	193	75	100	8.83	312	2432 x 1265 x 2032	1,868

\*FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217:2009 Annex C and is measured at 0.5 bar g/10 psig lower than maximum pressure on non-TAS units and at maximum pressure on TAS-equipped units.

\*\*FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217:2009 Annex C and capacity range is measured at 7 bar g/100 psig.

<sup>†</sup>TAS units deliver ISO Class 1-4-2 quality air measured at steady state conditions in accordance with ISO 8573-1:2001 that dictates inlet air to package of 25°C and relative humidity of 60%.

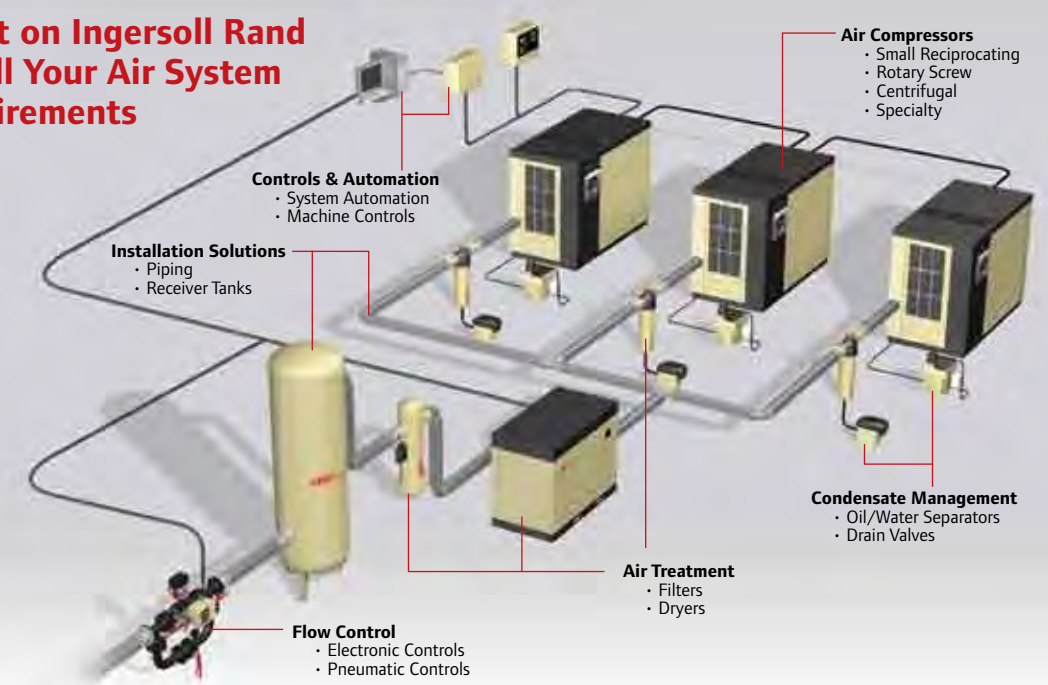


To keep your systems running at maximum efficiency 24 hours a day, 7 days a week, Ingersoll Rand designed UltraCare, a five-year all-in-one maintenance program for rotary compressors and air dryers.

- 5-year warranty
- One price covers all, there are no hidden extras
- Energy savings through efficient operation
- Minimised risk of breakdown
- Fixed costs over five years
- Extendable contract

Visit [www.ingersollrandproducts.com/ultracare](http://www.ingersollrandproducts.com/ultracare) or contact your Ingersoll Rand distributor to learn more.

**Count on Ingersoll Rand for All Your Air System Requirements**





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