Ingersoll Rand

# OIL-FLOODED

## New Generation
## R Series Rotary Screw
## Air Compressors

# 45-55KW

1.6-11 $m^3$/min




CARE SERVICES PROGRAM

# A NEW era in compression technology has begun

## The ALL-NEW R-Series from Ingersoll Rand

Well known in the industry for quality and reliability, Ingersoll Rand continuously develops the R-Series to achieve cutting-edge performance and efficiency. And so, a new era in air compression technology has begun. **More sustainable, more powerful, more energy-efficient, and also, exceptionally small.**



## NOT a "next generation" of R-Series. An industry-defining NEW GENERATION!

We are proud to introduce the **ALL-NEW R-Series 45-55kW, single and two-stage, fixed & variable** speed oil-lubricated rotary screw air compressors – featuring brand new, innovative technology, engineered to provide next-level performance and efficiency for customers across a wide variety of industries.

Conceived with passion and positivity from the whole Ingersoll Rand Team. Determined that we should make a difference in the world we live. Not happy with just changing the game, we have reinvented it!

**Pressure range**
5 to 13 bar

**Volume flow**
1.6 - 11 $m^3$/min

**Motor power**
45 and 55 kW

**GERMAN**ENGINEERING
DESIGN & MANUFACTURE

## Did your air demand increase?

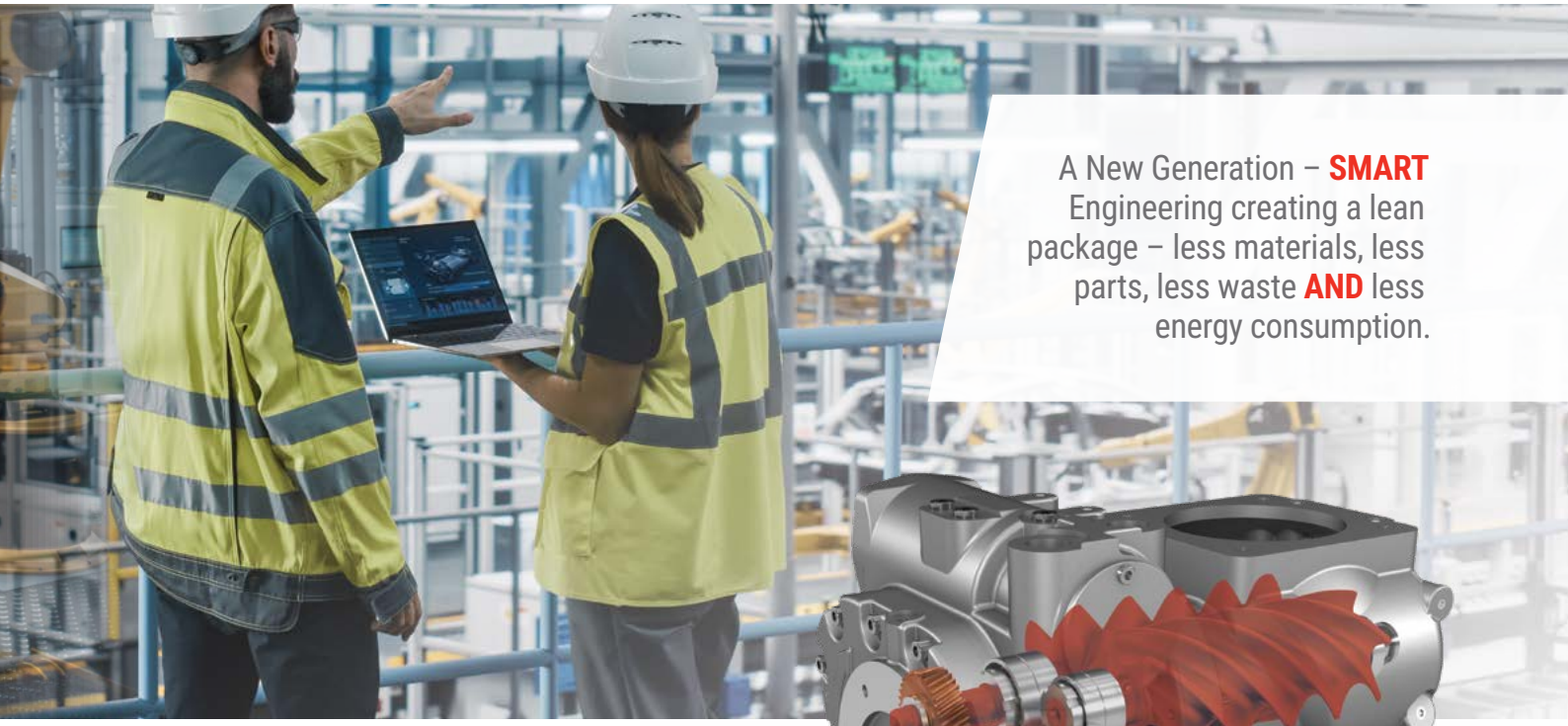
The new R-Series variable speed compressors are easily upgraded from 45kW to 55kW in the field without the need for a new compressor – they can be adjusted to match your real needs in real conditions.

## Optimised energy saving and investment protection

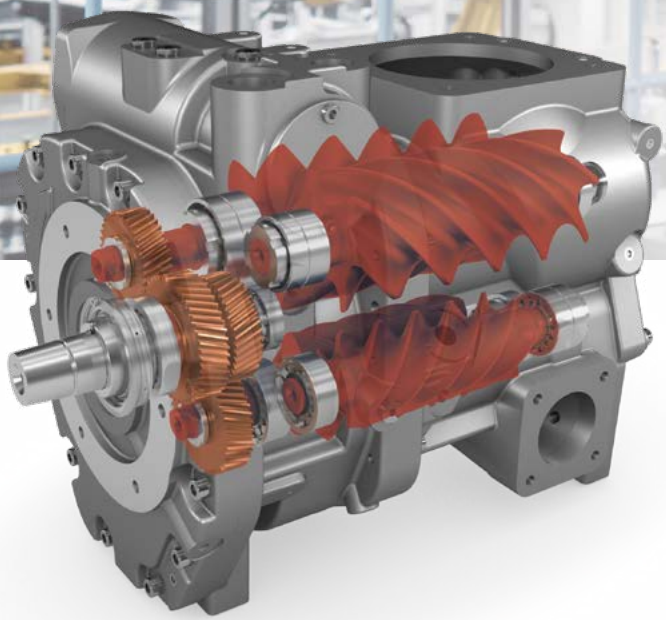
An **advanced control system and integrated sensors** in the package optimise the compressor's operation to the actual working conditions, saving on energy and at the same time protecting your investment against condensate.



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A New Generation – **SMART** Engineering creating a lean package – less materials, less parts, less waste **AND** less energy consumption.



- **SMALLER** Energy costs
- **SMALLER** Maintenance costs
- **SMALLER** Environmental impact
- **SMALLER** Property costs

## Premium efficiency airends – Engineered for excellence

Compressors are more than just a financial investment; they are a key component to ensure that manufacturers, processors and operators receive consistent, high-quality, low-cost air.

The screw compression element is the heart of the compressor, so Ingersoll Rand keeps the design and manufacture in-house, using the latest CNC rotor grinding machinery, coupled with online laser technology. The resulting reliability and performance ensure that operating costs will remain low throughout the compressor's life.

The new highly efficient airend design delivers the highest quality compressed air at a low rotational speed to help minimise the unit's energy consumption and achieve excellent performance.

The semi-integrated airend design with integrated oil filter and oil regulation valve means fewer external components and pipework, taking less physical space, eliminating the risk of leakage and offering simplified maintenance.

We are so sure of our pioneering technology that we include a full 12-year warranty with a CARE Services Program agreement! That's better than anything else on the market today!

CARE SERVICES PROGRAM

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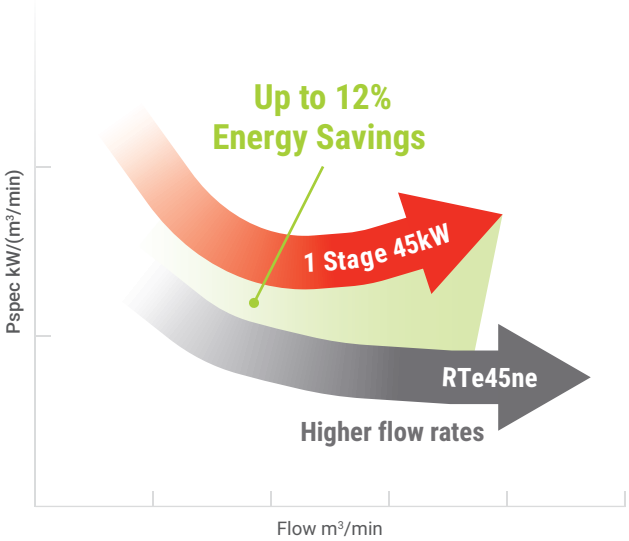
# Best-in-class efficiency & energy savings!

## Two-Stage Technology – the power of 4!

Ingersoll Rand's centre of excellence at its Simmern production site in Germany has designed and engineered a brand new, patented technology that offers best-in-class energy efficiency.

Our application engineering team have developed a premium efficiency two-stage model for fixed and variable speed compressors using the new technology of the compact double stage airend. What's unique about this design is that the airend has one motor and four rotors located in a single, semi-integrated casting. This differs from traditional two-stage compressors, providing a compact package with high energy savings. These machines are the same size as a single-stage machine due to our new airend technology.

## Up to 10% higher flow rate equating to 12% less energy consumption!




Flatter and longer curves for high energy savings across the different speeds – and air demands.

## New generation Two-Stage airend technology

- Very compact & very low weight
- Highest efficiency
- Semi-integrated airends two-stage with integrated oil filter, thermostatic valve and check valve:
  - Fewer hoses and hydraulic pipes = lower costs
  - No leakages
  - Easier maintenance
  - Less spare parts and waste = more sustainable
- Two compression stage = vastly more efficient
- Oil-cooled permanent magnet motors with cooling integrated in the airend casting
- High flexibility by a two-step drive gear configuration, UNIQUE to Ingersoll Rand
  - Constant interstage pressure = better efficiency
  - Extremely compact design
- Designed to implement in the current R-Series, UNIQUE to Ingersoll Rand
- Fixed and variable speed models

## Improved efficiency & flow rate

Ingersoll Rand's innovative NEW GENERATION two-stage airend technology delivers greater efficiency in a low-weight and compact size. Up to 10% higher flow rate equates to 12% less energy consumption. The series comprises best-in-class premium efficiency two-stage oil lubricated compressors across the range of 45 to 55kW. In some cases, payback times can be less than a year, delivering a fantastic return on investment and incredible energy savings to the user.

Two-stage compressors can not only be expensive, but they also take up valuable (and unnecessary) space due to their large footprint. Incorporating all of the benefits of two-stage compression in the same size package as a single-stage unit, Ingersoll Rand has developed in-house, a unique and optimised, ultra-efficient two-stage airend technology.



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- Best-in-class compressed air efficiency
- Sustainable compact design & small footprint
- Innovative airend delivers the best possible performance
- Less pipework & connections minimise leaks and maintenance




## A very compact package

A core benefit of the NEW GENERATION two-stage R-Series is that it delivers much greater efficiency than single-stage compressors, but comes in a German-engineered package that is roughly the same size! Users in a variety of industries benefit from an amazing, space-saving package of just 1.4m$^2$ – that's up to 40% smaller than our existing range, and smaller still than anything else on the market.

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# An industry-defining design concept & environmentally conscious solution!

## Large surface aftercooler

Delivers optimum air and oil circuit cooling by drawing the coolest possible air into the coolers which are offset and cooled independently by separate radial fans and exhaust chambers, ensuring optimum oil temperature and the lowest achievable air discharge temperature. This results in longer component life and lower downstream air treatment running costs.

## High-performance separator filter

Two-stage filtration ensures the highest quality air resulting in lower pressure drops and reduced overall system running costs.

## High-efficiency electric motor

Premium efficiency motors fitted as standard – Permanent Magnet (PM) IE5 for variable speed variants and IE4 class motors for fixed speed variants. With the patented oil-cooled motors we can recover even the small percentage of the motor's lost efficiency by using integrated heat recovery.

INDUSTRY LEADING
**energy efficiency**

## Thermostatically controlled radial fans – inverter regulated

High efficiency, high thrust, very low noise fans fitted on both air and oil coolers. The inverter driven fan avoids creation of condensate, protects the investment and assures optimised efficiency based on real environmental conditions.

## Automatic oil regulation valve

This unique patented valve delivers high efficiency and protection against condensate.

## Viton vitaulic couplings

High-quality solid hose and pipe connections ensure leak-free connections.

## Tried and tested inverter concept

Integrated in the electric cabinet and protected from dust by replaceable inlet filters, it delivers maximum reliability and availability from optimised cooling system and ensures long life.

## Power Drive System

The new R-Series 45-55kW variable speed compressors include power drive system that meets and exceeds the IES2 efficiency standards.

## Xe-Pro Series innovative touch screen compressor controller

The high-resolution touch screen display, is highly user-friendly and self-explanatory. Advanced control system and integrated sensors optimise the compressor to the actual working conditions, saving on energy and protecting your investment against condensate.

Embedded IoT and includes onboard web server and Base Load Select for primary function for up to three secondary units. Both the board and controller have a high level of CS Standard for cyber security. Ecoplant-ready and Helix-inside for total control and monitoring.





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## Use waste heat to heat:

SPACE-HEATING | INDUSTRIAL PROCESS HEAT | HOT WATER | PRE-HEATING FOR STEAM GENERATION

**Upgrading your compressed air system with heat recovery delivers...**

- **Significant 75% energy savings**
- **Lower $CO_2$ emissions**
- **Low investment costs**

## Reduce energy waste

Ingersoll Rand are committed to creating products that have less impact on the planet, providing greener solutions for our partners in all industries, allowing for delivery of environmentally-friendly production processes. Energy-saving solutions including fuel-efficient products that aid in heat recovery, and reduce waste wherever possible.

The new RF and RTe range delivers a breakthrough in compressor technology and provides enhanced efficiency and energy-savings during manufacture, use and disposal to also reduce $CO_2$ waste.

Investing in energy-saving machines shows corporate responsibility and a future-proofing mentality that will help your business tackle the environmental sustainability challenges that industrial companies will face in the future.

A vast amount of the energy can also be saved with variable speed (VS) technology – saving more money by matching output with demand.

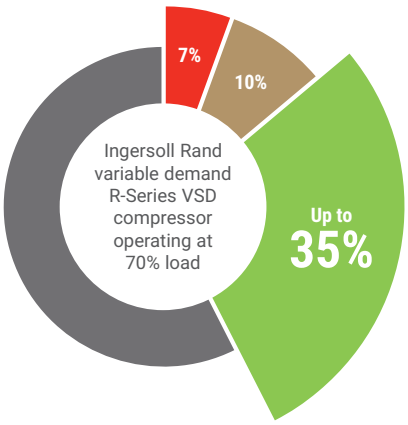
## Integrated or turnkey heat recovery adds up to 75% energy savings

The heat generated during compression is paid for as part of the process, then paid for again during removal by way of cooling fans. Instead it can be used to generate free hot process water or hot water heating systems by utilising a high-efficiency, factory-fitted or turnkey oil-to-water heat exchanger.

## Even greater efficiency with Variable Demand (VSD)

- Variable demand compressors from Ingersoll Rand can efficiently and reliably handle the varying air demand found in most plant air systems
- 35% less energy in idle run compared to conventional two-stage compressors
- The annual cost of ownership can be significantly reduced using regulated speed technology

## Up to 35% Energy Saving




**7%** Maintenance and Service Costs

**10%** Investment

Energy Costs

*Click the link to learn more...*

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# More than just Air Compressors

Designed and manufactured in-house by Ingersoll Rand, our extensive range of air treatment and downstream equipment delivers energy efficiency with low environmental impact and the lowest total cost of ownership.

High quality dry air is guaranteed, with the same quality, performance and efficiency standards we build into our air compressors.

SINGLE SOURCE COMPRESSED AIR SOLUTIONS

*Click the link to learn more...*



## Designed and manufactured by Ingersoll Rand

- Air dryers to improve productivity, system efficiency and product/process quality
- Leak-free, low-pressure drop EPL Piping
- Drain Valves remove contaminants from the system without losing compressed air
- Flow and system controllers for compressed air system optimisation
- Filtration products like high-quality in-line filters and activated carbon towers ensure clean air and improve productivity
- Oil Water Separators remove lubricant from compressed air condensate for an environmentally friendly disposal
- Meeting & exceeding expectations




## Single Source Air Treatment Systems – The Latest Innovation, Air Quality Assured

**The NEW Sub-Freezing Dryer from Ingersoll Rand**

- Revolutionary & UNIQUE design concept sub-freezing dryer
- -20°C sub-zero pressure dew point (PDP) meeting Class 3 requirements according to ISO 8573-1
- Low operating, energy and upfront investment
- The first of its kind – delivers -20°C (-4°F) PDP at 70% lower costs compared to desiccant technologies!



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# Predictive Maintenance

*Click the link to learn more...*

Powered by

ECOPLANT

HELIX™

## Machine intelligence drives greater energy efficiency

System Performance Manager powered by Ecoplant is an AI-driven energy efficiency solution that optimises compressed air systems. It continuously monitors, analyses, and adjusts compressor operations to reduce energy waste, lower $CO_2$ emissions, and cut costs by up to 20%. Integrated with Helix, it ensures:

- Minimised outages & stable pressure
- ISO quality standards compliance
- Proactive issue detection to prevent downtime and enhance reliability
- Optimised energy use and reduced costs

## Helix Compressed Air Service 4.0

The R-Series is equipped with the Helix Connected Platform as standard. Helix is the smart, proactive real-time monitoring service that delivers in-depth and real-time knowledge on the system to compressed air users.

- Advanced remote analysis
- Predictive – evaluates historic data
- Maximises energy efficiency
- Optimises compressor performance
- Reduces downtime
- Works as an open standard
- Free on new compressors – can be retrofitted
- Proactive maintenance

**...exactly why you cannot ignore Helix!**

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# Protect our Investment

## Invest in your future with a Service & Warranty Agreement

Compressed air is critical to your operation. A proper maintenance strategy is crucial to avoiding unplanned, unbudgeted downtime and production interruptions. By choosing a Service agreement including an extended warranty, you protect your investment.

Tailored service and warranty packages are available, tailored to your own specific needs.

We are so sure of our groundbreaking technology that **we include a 12 year warranty on the airends!**

**It all adds up to peace of mind.**

*Click the link to learn more...*

CARE SERVICES PROGRAM

## Lower Cost of Ownership

CARE Services Program and Warranty Agreements provide the most cost-effective solutions based on your customised maintenance strategy.

## Quality Results

Factory trained technicians allows you to focus on your core business, while they take care of your compressor system.

## Increased Uptime

Service & Warranty Agreements 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

CARE Services Program agreements ensures an extended warranty. Depends on duration.



## Ingersoll Rand genuine spare parts

Genuine Ingersoll Rand parts and lubricants ensure that the reliability and efficiency of compressed air plants are maintained at the highest standards. Ingersoll Rand spare parts are distinguished by:

- Long service life, even under the harshest conditions
- Minimum losses contributing to energy savings
- High reliability improves plant uptime
- Products manufactured with the strictest Quality Assurance Systems

Parts CARE™





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Ingersoll Rand's RTe compact compressors with two-stage airend technology **reduces the amount of $CO_2$ produced** during manufacture, use and disposal.

# Technical Data

**RF45i – RTe55ie Fixed Speed**

| Compressor Model | Nominal Pressure | Drive Motor | FAD [1] | Noise Level [2] | Weight | Dimensions L x W x H |
|---|---|---|---|---|---|---|
| | bar g | kW | m³/min | dB(A) | kg | mm |
| RF45i | 7.5 | 45 | 8.5 | 70 | 1035 | 1448 x 968 x 1806 |
| | 10 | 45 | 7.4 | 71 | 1038 | |
| RTe45ie | 7.5 | 45 | 9.3 | 70 | 1075 | |
| | 10 | 45 | 8.3 | 70 | 1075 | |
| | 13 | 45 | 7.4 | 70 | 1075 | |
| RF55i | 7.5 | 55 | 10.1 | 70 | 1070 | |
| | 10 | 55 | 9 | 71 | 1070 | |
| RTe55ie | 7.5 | 55 | 11.1 | 71 | 1110 | |
| | 10 | 55 | 10 | 71 | 1110 | |
| | 13 | 55 | 8.9 | 71 | 1110 | |

**RF45n – RTe55ne Variable Speed**

| Compressor Model | Nominal Pressure | Drive Motor | FAD [1] (m³/min) | | Noise Level at 100% load [2] | Weight | Dimensions L x W x H |
|---|---|---|---|---|---|---|---|
| | bar g | kW | Min | Max | dB(A) | kg | mm |
| RF45n | 5-10 | 45 | 1.6 | 8.9 | 69 | 950 | 1448 x 968 x 1806 |
| RTe45ne | 6-10 | 45 | 2.5 | 9.25 | 69 | 990 | |
| | 6-13 | 45 | 2.5 | 9.1 | 69 | 990 | |
| RF55n | 5-10 | 55 | 1.6 | 10.5 | 70 | 950 | |
| RTe55ne | 6-10 | 55 | 2.5 | 11.07 | 69 | 990 | |
| | 6-13 | 55 | 2.5 | 10.94 | 69 | 990 | |

[1] Data measured and stated in accordance with ISO 1217, Edition 4, Annex C and Annex E and the following conditions: Air Intake Pressure 1 bar A, Air Intake Temperature 20°C, Humidity 0 % (Dry).

[2] Measured in free field conditions in accordance with ISO 2151 and ISO 9614-2, tolerance ± 3 dB(A).

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About Ingersoll Rand Inc.

Ingersoll Rand Inc. (NYSE:IR), driven by an entrepreneurial spirit and ownership mindset, is dedicated to helping make life better for our employees, customers and communities. Customers lean on us for our technology-driven excellence in mission-critical flow creation and industrial solutions across 40+ respected brands where our products and services excel in the most 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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