

INGERSOLL-RAND

**SIERRA® 37-300 kW (50-400 HP)**



**INGERSOLL-RAND**  
**AIR SOLUTIONS**

## Delivering Compressed Air Solutions For More Than 125 Years

For more than a century, Ingersoll-Rand air compressors have helped build dams, bridges and tunnels; produce cars, appliances and electrical equipment; and package foods and pharmaceuticals.

As more and more companies chose Ingersoll-Rand air compressors, we answered the call for new technologies and updated designs, ensuring that our customers get the maximum benefits from their compressed air.

## Focused on Our Customers

Ingersoll-Rand strives to deliver value to our customers in everything we do. We stay focused on what you need, remaining true to our goal: to help you achieve the best results possible with your compressed air supply.

By maintaining solid relationships with our customers, our dedicated sales staff and distributor network relay changing requirements to our engineering team. With this information, our engineers make design improvements that ensure that our customers get the quality compressed air they've asked for.

If you want a single source supplier, you can count on Ingersoll-Rand. Whether you need compressed air systems, parts and service, or technical support, we will be there to help your system run at peak efficiency now and in the future.

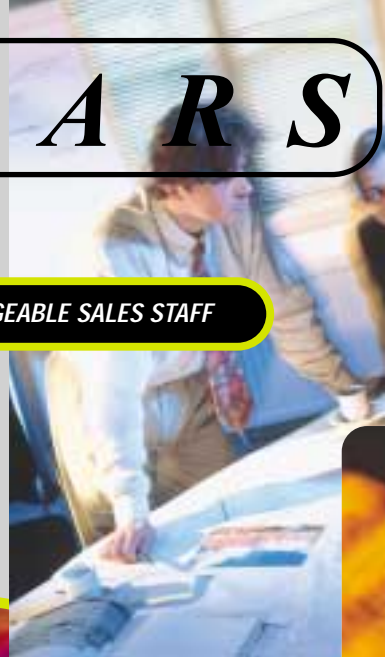
MORE THAN

125

YEARS



KNOWLEDGEABLE SALES STAFF





**TECHNOLOGY LEADERSHIP**



**TECHNICAL ASSISTANCE**



## Ingersoll-Rand: Your Oil-Free Resource

If you need oil-free air, Ingersoll-Rand is here to help. We'll listen to what you need. Then we'll use our decades of leadership in the oil-free market to help you design the best oil-free system for your application.

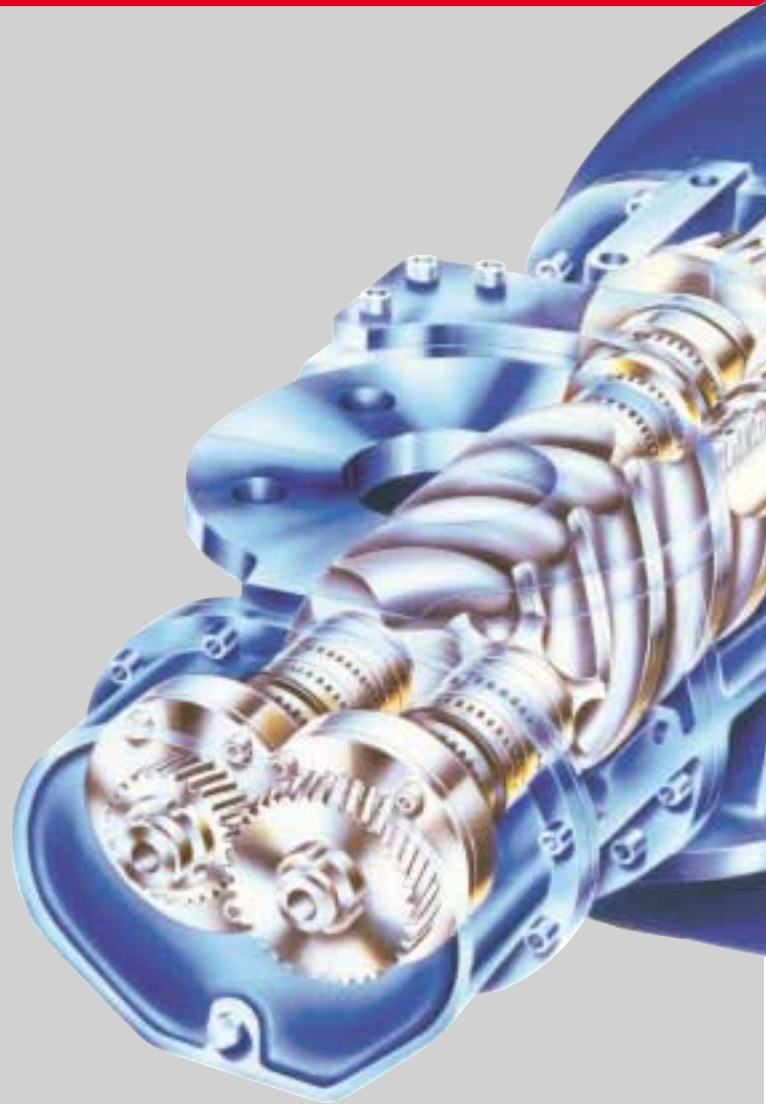
Today, we're the only manufacturer that can supply you with oil-free compressed air in all three technologies: rotary screw, reciprocating and centrifugal. And since each technology has its benefits, we can help you select the one that works best for your application.

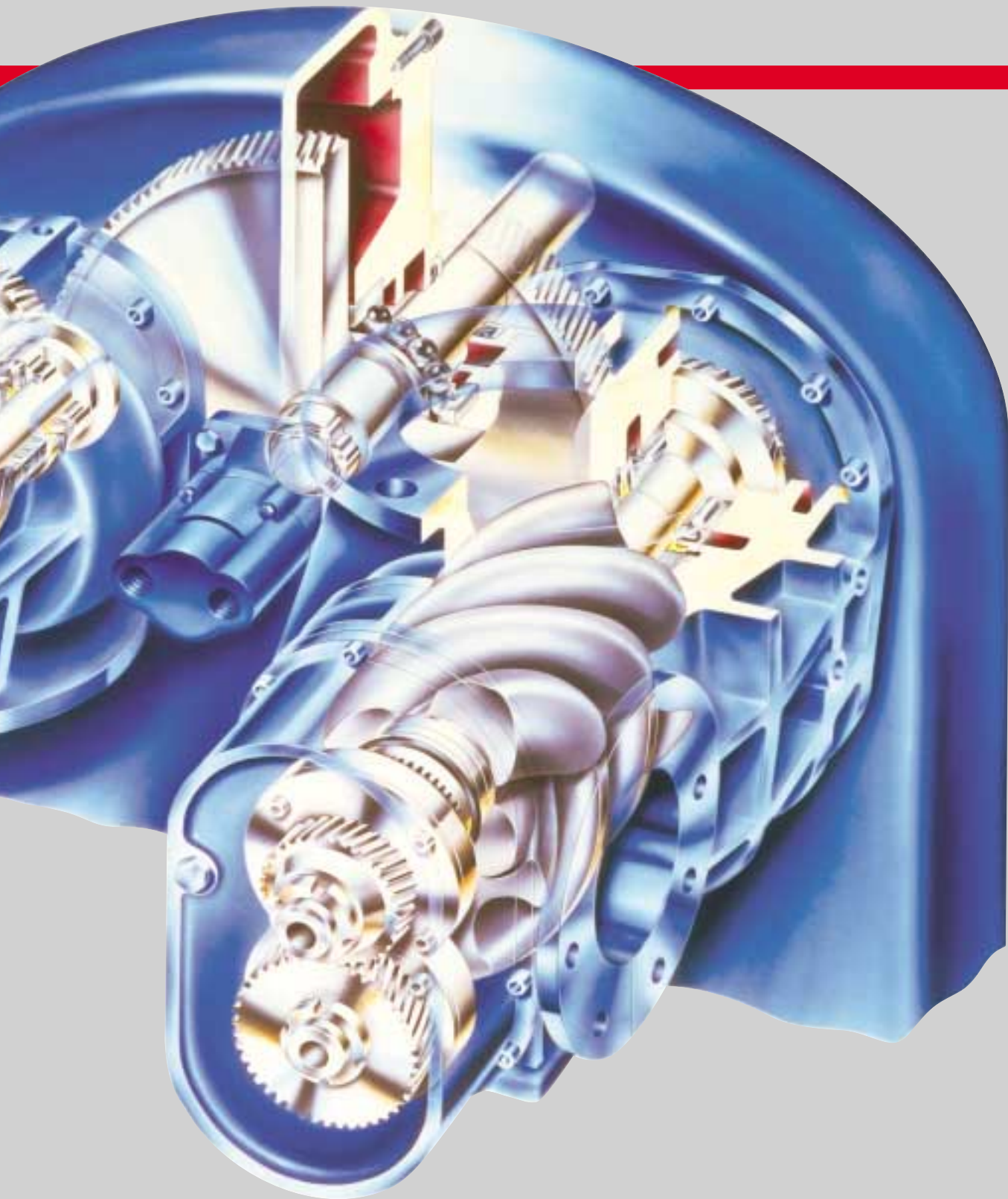
## SIERRA: Superior Technology

The heart of the SIERRA oil-free rotary screw air compressor is our superior two-stage compression module. Our rotors are precision-machined in a twenty-step manufacturing process that ensures unmatched rotor profile accuracy and repeatability. By using the highest quality bearings and precision gearing to maintain exact alignment of the rotors, you are assured of years of reliable, efficient service.

Generously sized, anti-friction bearings easily handle all expected loads to keep the air end running smoothly. In the vital sealing arrangement, the SIERRA uses durable stainless steel for the air seals and a time-proven labyrinth design for the oil seals. This combination protects the rotors from lubrication impurities while keeping the loss of air through leakage to an absolute minimum, ensuring the continuous flow of clean, oil-free compressed air.

The precision gearing incorporated in the compression module drive design optimizes both speed and rotor timing, providing trouble-free performance over a long life. And the improved lip seal on the bull gear drive input shaft eliminates any opportunity for oil leakage into the SIERRA package.







End View of Rotors

Surface preparation creates minute crevices in our rotors that tightly grip the UltraCoat coating. The result is the most durable performance on the market, lowering our customers' energy costs and increasing the life of the airend in their SIERRA compressor.



Rotor Surface

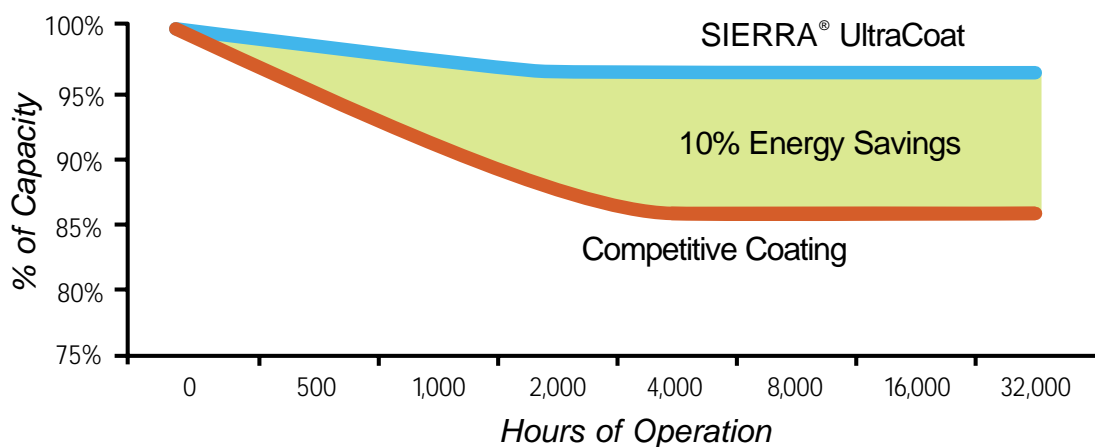
Rotor Coating

## Solving The Need For Better Oil-Free Performance

The challenge: to give our customers an oil-free rotary compressor that operates at peak performance throughout its lifetime. After a great deal of research, Ingersoll-Rand found that inferior rotor coatings wear away over time, leaving the rotors unprotected and susceptible to impurities in the air and to the effects of temperature variation. Eventually, this leads to reduced performance or even compressor failure.

After two years of modification and testing, Ingersoll-Rand chose the coating that consistently outperformed all others in adhesion and durability tests: UltraCoat. Now, we use UltraCoat to protect every SIERRA airend.

To help our customers get the best performance, we didn't limit our improvements to the coating. We selected stainless steel and aluminum for the piping linking the intercooler with the stainless steel second-stage rotors. Condensation created in the cooling process could not corrode these materials, eliminating the possibility of rust formation and carry-through, further lengthening the life of the coating and rotors.



## UltraCoat Protection and Performance

The first step to full UltraCoat protection is the superior surface preparation of our rotors and housings. As the images show, our component surface treatments allow for the tightest possible grip for the coating. In the next step, UltraCoat is applied using robotics for the thinnest, most even coat available. Then the rotors and housings are heat-cured to solidify the bond between the coating and the rotor or housing surface.

## The UltraCoat Advantage

When compared with other coatings, UltraCoat is a clear winner. Our customers get near-100% capacity and lower energy costs over a longer airend life.



SIERRA AIR-COOLED PACKAGE

## The SIERRA Package

To fit the needs of your compressed air system, we offer you the choice of a water-cooled or air-cooled SIERRA design.

### **MAXIMUM COMPRESSOR PERFORMANCE**

With UltraCoat rotor protection and the extensive use of corrosion-resistant materials, the two-stage airend gives you near-100% capacity for its life. You also get ultimate energy efficiency that will start saving you money on the first day.

### **ROTARY SCREW AIREND**

When you buy any SIERRA compressor, you get only superior, state-of-the-art rotary screw technology. No substitutions.

### **NON-CORROSIVE MATERIALS**

Critical components are built from non-corrosive materials to preserve the performance of the airend and protect the quality of your compressed air.

### **46° C AMBIENT**

SIERRA compressors are designed to operate in high-ambient conditions, making them suitable for locations all over the world.

### **EASY SERVICEABILITY**

The SIERRA package is remarkably uncluttered, making servicing easy. All components requiring routine maintenance are readily accessible behind easily removable panels.





SIERRA WATER-COOLED PACKAGE

### **PATENTED MOISTURE SEPARATOR DESIGN**

Designed to eliminate a problem before it starts, our patented moisture separator, with its unique vortex design, removes condensate before it enters the second stage of compression.

### **RUGGED MOTOR DESIGN**

Every SIERRA compressor incorporates a durable high efficiency motor—either an IEC motor for 50 Hz applications or a certified NEMA motor for 60 Hz applications. All SIERRA compressors operate well below the maximum service factor of our motors, ensuring reliability.

### **STAR-DELTA STARTER**

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

### **QUIET OPERATION**

The combination of an inlet sound box and a low sound enclosure design keeps sound levels at a minimum. What's more, SIERRA compressors have efficient pulsation dampeners on each stage of compression, reducing noise even further while ensuring a pulsation-free discharge for smooth air flow.

**Water-cooled: 76 dB(a) Max. Air-cooled: 79 dB(a) Max.**

### **FACTORY-TESTED**

Every SIERRA compressor undergoes state-of-the-art computerized testing to ensure that you get the best possible performance under varying conditions.



## Intellisys Gives You Total Control of Your Compressed Air Delivery

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.

### TOTAL CONTROL AT YOUR FINGERTIPS

With finger-touch control, an Intellisys controller provides quick, comprehensive access to your compressed air system.

### EASY OPERATION

Intellisys is easy to learn and easy to operate.

### ADJUSTABLE OPERATING PARAMETERS

To satisfy your system requirements, you can change your operating parameters quickly and easily.

## SIERRA Options

The SIERRA compressor comes with several options to ensure that you get the right machine for your application. If there are any special options or requirements you need, we'll work with you to find a solution. Just contact your local Ingersoll-Rand distributor.

- Multiple unit sequencer
- Remote communications capability
- Automatic power outage restart option
- Remote starter/no starter
- TEFC motors\*

### TIMESAVING DIAGNOSTICS

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

### COMPREHENSIVE DATA DISPLAY

An easy-to-read, liquid crystal display provides you with critical details of your compressor's operation, allowing you to make fast adjustments when necessary.

### GIVING YOU COMPLETE FLEXIBILITY

With Intellisys, you are always in control. You can change your operating parameters to maintain the best performance level.

- Premium efficiency motors
- Heavy-duty, high-dust inlet filter
- Duplex oil filters
- Stainless steel oil piping
- No aftercooler
- Power phase monitor
- NEMA 4 electrical option
- Outdoor modification
- Low-ambient temperature option
- Site package for portable outdoor applications
- Piping for heat of compression dryer

\*Standard on 37kW-75kW 50 Hz machines.

## 60 Hz SIERRA 50-400 HP Specifications

Free Air Delivery - CFM

Nominal HP	Model L 100 psig	Model H 125 psig	Model HH 150 psig	L (in)	W (in)	H (in)	Weight (lbs)
50	214	179	–	88.5	54	75.4	5111
60	266	229	–	88.5	54	75.4	5364
75	333	288	*268	88.5	54	75.4	5364
100	419	407	*378	88.5	54	75.4	5500
125	585	523	477	106	62.5	**93.3/72.5	**6437/6709
150	690	690	565	106	62.5	**93.3/72.5	**6452/6724
200	911	854	759	106	62.5	**93.3/72.5	**7099/7385
250	1182	1070	905	120	76	**96/80	8820
300	1398	1264	1112	120	76	**96/80	9090
350	1600	1501	1330	120	76	**96/80	9610
400	–	–	1527	120	76	**96/80	9610

## 50 Hz SIERRA 37-300 kW Specifications

Free Air Delivery - M<sup>3</sup>/min.

Nominal kW	Model SL 7.0 BARg	Model SM 8.5 BARg	Model SH 10.0 BARg	L (mm)	W (mm)	H (mm)	Weight (kg)
37	6.0	5.1	–	2248	1372	1914	**2387/2410
45	7.6	6.5	–	2248	1372	1914	**2497/2520
55	9.6	8.6	*7.7	2248	1372	1914	**2577/2600
75	12.5	11.6	*10.7	2248	1372	1914	**2682/2705
90	15.9	13.6	13.0	2692	1588	**2362/1841	**3040/3195
110	19.4	18.0	15.3	2692	1588	**2362/1841	**3095/3250
132	22.8	21.4	18.8	2692	1588	**2362/1841	**3274/3429
150	25.9	24.6	22.1	2692	1588	**2362/1841	**3275/3430
200	35.0	32.6	27.4	3048	1930	**2438/2032	4186
250	45.2	41.5	35.5	3048	1930	**2438/2032	4306
300	–	–	43.3	3048	1930	**2438/2032	4366

FAD (Free Air Delivery) CFM and M<sup>3</sup>/min. are full package performance ratings in accordance with CAGI/Pneurop acceptance test standard PN2CPTC2 or ISO 1217.

\*Available in water-cooled configuration only.

\*\*Specification given with air-cooled value first, then water-cooled.

# More Than Air. Answers.

Online answers: <http://www.air.ingersoll-rand.com>



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Product improvement is a continuing goal at Ingersoll-Rand. Designs and specifications are subject to change without notice or obligation.

**INGERSOLL-RAND®**  
**AIR SOLUTIONS**

## **Air Solutions Group**

ESA Business Centre,  
Ingersoll-Rand European Sales Limited,  
Swan Lane,  
Hindley Green,  
Wigan, WN6 4EZ, UK  
Telephone +44 (0)1942 257171  
Facsimile +44 (0)1942 254162