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# Instrument Quality Air, Portable Compressors

**IQ**<sup>TM</sup>  
**SYSTEM**



**INGERSOLL-RAND**  
**AIR COMPRESSORS**



## INDUSTRIAL PROCESS



## Cool, Clean, Dry Compressed Air for Industrial, Process and Instrument Air Applications

Imagine this...a complete instrument air<sup>1</sup> system, all in one package, that provides clean, dry, portable compressed air with no oil/water condensate waste. Too good to be true? Not any longer. Ingersoll-Rand imagined it; and only Ingersoll-Rand made it happen, with the IQ System™ Compressors.

Instrument quality Air<sup>1</sup>, never before available from a standard rotary screw portable air compressor without the addition of bulky, skid-mounted filter/dryer packages, now comes on wheels. Totally self-contained. Completely portable. And that's only the beginning.

The IQ System™ Compressors, ranging in size from 300 to 1300 cfm, and up to 150 psi, offer versatility, performance and features not found in any sophisticated oil-free compressor costing significantly more.

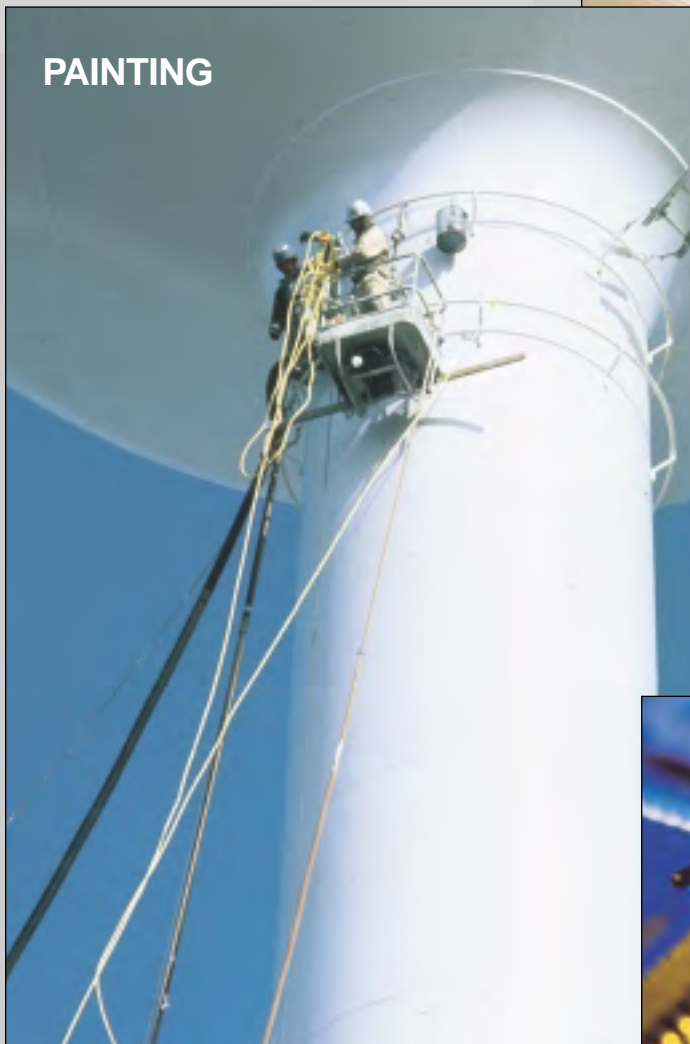
## CONSTRUCTION



An absolute must for every rental fleet, the IQ System™ Compressors can switch from producing instrument quality air to standard rotary screw air and back again with a simple-to-operate valve system.



## PAINTING



## MANUFACTURING

The IQ System™ Compressors can be used for abrasive blasting and painting one day and provide clean, dry air for instrument, process, and manufacturing applications the next day. Always with no worry about environmental regulations for condensate waste disposal.



## HIGH TECH

## Reliability, Redundancy, Results

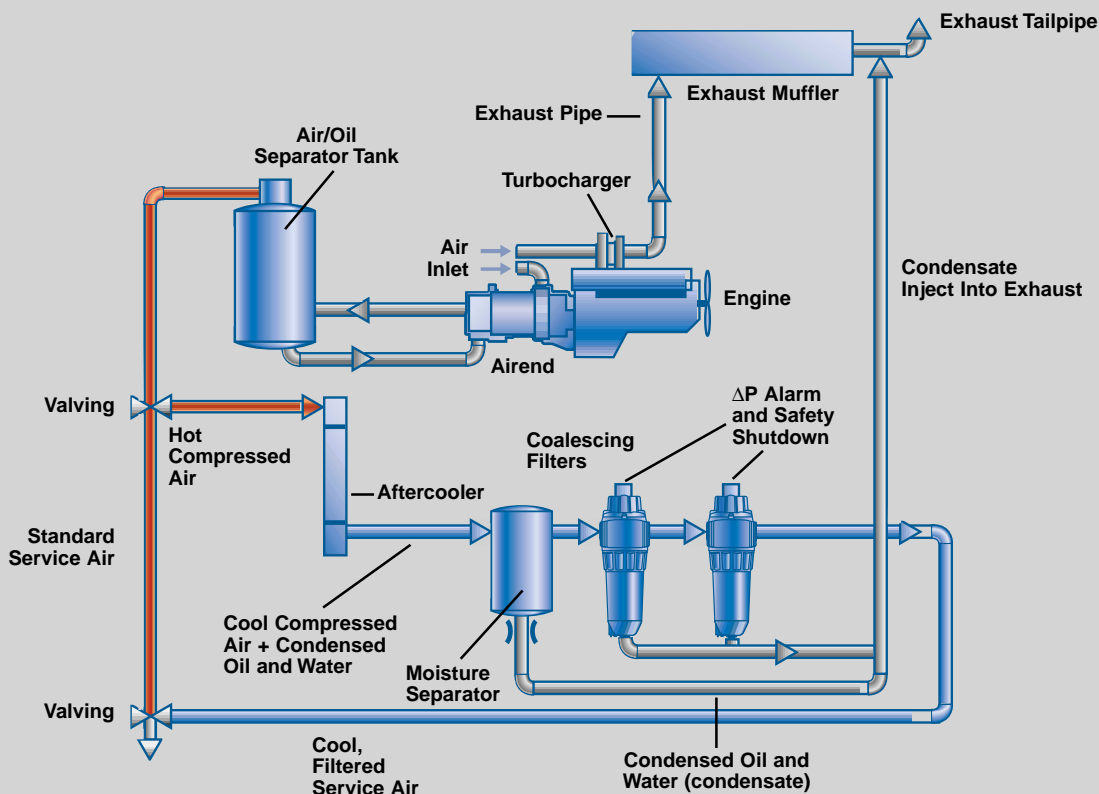
The IQ System™ Compressors solve both the air quality and waste removal problems inherent in standard rotary screw compressors. Ingersoll-Rand's IQ units all feature an on-board aftercooler with a 20°F approach, a coalescing, dual filtration system, and an exclusive, patented zero discharge condensate removal system.

Ingersoll-Rand's dual filter system with built in monitoring and safety shutdown features assures a consistent and reliable source of high quality air. This two-switch, redundant system provides an early warning indicator when filters require maintenance. A pressure differential feature designed into the system

senses buildup in the filters and will automatically shut the unit down to prevent any increase in oil carryover exceeding the operating specifications.

## Condensate Waste Removal

The IQ System™ Compressors feature a patented condensate removal system that injects the oil-water condensate waste into the super hot engine exhaust, where it is instantly flash evaporated. This eliminates all concerns about safely and properly collecting, treating and disposing of the condensate waste. Whether you're producing instrument quality air, or air for general purposes, this feature saves the operator a lot of time and money.





## Instrument Quality Air

The standards for instrument quality air are set forth in the ISA-S7.0.01-1996 Quality Standard for Instrument Air. Take a look at how Ingersoll-Rand's IQ System™ Compressors exceed the ISA standards.

### ISA Requirement

Particulate size in the air stream

Maximum oil content

Dew point

### ISA Standard

Less than 40 microns

Less than 1 part per million

18° F below the minimum temperature to which air is exposed

### IQ System Performance

Less than 0.01 micron

Oil and Water aerosol removal to 0.01 ppm

An additional dryer, or connection to existing plant system dryer, may be needed to meet the dew point requirements for the application

The compressed air produced will greatly exceed the particulate quality of the ambient air. The air produced by the IQ System™ may actually be cleaner than oil-free air produced by dry screw compressors, because the IQ System™ filters to a significantly better level than the standard intake filters of other compressors. Additionally, the approach temperature of the IQ System™ is only 20°F. This eliminates significantly more moisture from the air when compared to the 50-100°F approach temperature of most oil-free compressors.

## Package Design Features

- Rated for continuous-duty operation<sup>2</sup>
- Patented condensate flash system vaporizes **all** condensate for zero discharge
- Integral aftercooler discharges air at **only** 20°F above ambient
- Simple valving allows versatility of running the unit in the IQ mode or standard rotary screw compressed air mode
- Redundant circuit, safety shut-down system with  $\Delta P$  switches assures the proper filtration of air to the application and provides a warning for routine filter maintenance
- Cold weather protection available to -20°F
- Automatic compressor safety shutdowns for:
  - High compressor discharge air temperature
  - Low engine oil pressure
  - High engine coolant temperature
  - Low fuel level
  - IQ System™ restriction monitoring
- Meets EPA sound requirements
  - Sound level of less than 76 dBA at 7 meters



## Control Panel

- Control panel is hinge mounted to provide access to all relays, gauge connections, fuses and harness connection blocks<sup>2</sup>
- Interior of control panel is totally enclosed to provide protection of electrical components & connections, significantly improving reliability
- Electrical schematics and parts lists mounted on the back of the control box<sup>2</sup>
- IQ filter maintenance indicators with shutdown indication light

## **IQ**<sup>TM</sup> **SYSTEM** Dryers

- Optional RD1000/RD1600 heatless regenerative dryers provide dry, clean air.
- -40°F dewpoint
- Particulate removal to 0.01 micron
- Oil vapor removal 0.01 ppm
- Heavy-duty skid construction designed for the rental market
- Operating range 35°F to 120°F with -20°F option available

- Gauge panel includes:
  - Discharge air temperature<sup>2</sup>
  - Discharge air pressure
  - Engine water temperature<sup>2</sup>
  - Engine oil pressure<sup>2</sup>
  - Hourmeter
  - Fuel level<sup>2</sup>
  - Voltmeter<sup>2</sup>
  - Tachometer<sup>2</sup>

- Diagnostic panel includes<sup>2</sup>:
 




	Indicator Light	Shutdown
High air discharge temp.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
High engine temperature	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Low engine oil pressure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Low fuel level	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Alternator not charging	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Low radiator coolant level	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Air filter restricted	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Options

- Cold weather options recommended for sub-zero starting and operation:
  - Aftercooler/filter freeze protection<sup>2</sup> (required for operation below 32°F)
  - Auxiliary unloader control system to reduce engine load during starting<sup>2</sup>
  - AC power 120-volt cold starting kit
- Automatic start-stop controller<sup>2</sup>



## Three Models To Cover Any Application Need

Model	300 	935 	1300 
<b>Engine</b>			
Make	Cummins	Cummins	Cummins
Model	B3.9-C	M11-C	N14-C
(Cylinders) bore x stroke (in)	(4) 4.02 x 4.72	(6) 4.92 x 5.79	(6) 5.5 x 6.0
(Cylinders) bore x stroke (mm)	(4) 102 x 120	(6) 125 x 147	(6) 140 x 152
Displacement (cu in/L)	239.3 / 3.92	661 / 10.8	855 / 14
Speed: rated (rpm)	2500	1800	1800
idle (rpm)	1400	1200	1200
BHP at rated speed	110	335	460
Fuel / Cooling	Diesel / Water	Diesel / Water	Diesel / Water
Electrical Systems (volts)	12	24	24
<b>Compressor - Oil Flooded, Rotary Screw Type</b>			
Free-air delivery (cfm)/(L/sec) <sup>3</sup>	300 / 142	935 / 441	1300 / 613
Rated operating pressure (psig/bar)	125-150 / 8.6-10.3	125-150 / 8.6-10.3	125-150 / 8.6-10.3
Pressure range (psig)	80 to 175	80 to 175	80 to 175
(bar)	5.5 to 12.1	5.5 to 12.1	5.5 to 12.1
Air discharge outlets (Qty)/size (in)	(1) 1.25	(1) 2	(1) 3
Fuel tank capacity (gal/L)	47 / 178	142 / 538	180 / 681
<b>Unit w/ Wagon Wheel Running Gear</b>			
Overall length drawbar up (in/mm)	N/A	157 / 3988	204 / 5182
Overall width (in/mm)	N/A	80 / 2032	88.6 / 2250
Overall height (in/mm)	N/A	92 / 2337	101.5 / 2578
Track width (in/mm)	N/A	65.2 / 1656	70 / 1778
Shipping weight (lb/kg) <sup>4</sup>	N/A	9950 / 4513	15100 / 6849
<b>Unit w/ High Speed Running Gear</b>			
Overall length including drawbar (in/mm)	149 / 3785	204 / 5182	274 / 2959
Overall width (in/mm)	77 / 1956	80 / 2032	88.6 / 2250
Overall height (in/mm)	68.5 / 1740	93.0 / 2362	102 / 2591
Track width (in/mm)	65 / 1651	65.2 / 1656	71 / 1803
Shipping weight (lb/kg) <sup>4</sup>	3780 / 1715	9950 / 4513	16700 / 7575
<b>Unit Less Running Gear</b>			
Overall length (in/mm)	95 / 2413	152 / 3861	200 / 5080
Overall width (in/mm)	53 / 1346	80 / 2022	88.5 / 2248
Overall height (in/mm)	59.5 / 1511	76 / 1930	89.6 / 2276
Shipping weight (lb/kg) <sup>4</sup>	3486 / 1581	8950 / 4059	14200 / 6441

Specifications are subject to change without notice so that improvements can be effected as quickly as possible.

1 Dryer required to achieve proper dewpoint and vapor removal

2 This feature is not available on the 300IQ model. See HP300 brochure (form #2132) for standard control panel and available options.

3 ISO1217±4%

4 Shipping weight includes all fluids *except* fuel.



# More Than Air. Answers.

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

Ingersoll-Rand air compressors are not designed, intended or approved for breathing air. Compressed air should not be used for breathing air applications unless treated in accordance with all applicable codes and regulations.

Nothing contained in this brochure is intended to extend any warranty or representation, expressed or implied, regarding the products described herein. Any such warranties or other terms and conditions of sale shall be in accordance with Ingersoll-Rand's standard terms and conditions of sale for such products which are available upon request.

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

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## **Portable Compressor Division**

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