

Flexible Solutions for Air Quality



Doosan Infracore
Portable Power



Doosan Portable Power understands the importance of clean air

Clean air is essential to the safety and efficiency of countless compressed air applications. Without it such harmful contaminants as oil, dust, dirt and water can attack your system and lead to downtime, instrument damage and even product liability.

Your best defense against these contaminants is Doosan Portable Power. We offer the clean air systems — compressors, aftercoolers and dryers — that enable you to precisely meet ISO standards for your industry. Our modular approach lets you and your Doosan Portable Power dealer develop a customized clean-air solution.



Sandblasting and Construction

Doosan Portable Power offers the compressed air solutions that keep contaminants out of your system — and prevent damage to your end-product as well.



Pharmaceutical and Food

The highly regulated pharmaceutical industry requires compressed air quality to be built into the manufacturing process. For food and beverage manufacturers, our compressors reduce contamination risk through high-temperature compression.



Oil and Gas, Chemical and Electronics

High air quality is critical in these industries. Wet and oily compressed air can lead to product spoilage, downtime and cost liability.



General Manufacturing

Whether manufacturing cleaning solutions, base stock pharmaceuticals or anything in between, compressed air must be of the highest purity to minimize risk of production interruption or higher costs.



Instrument Regulations

High-tech air jet looms require super-clean, dry, compressed air, which is why textile manufacturers and other industries have long trusted Doosan Infracore Portable Power for quality air.



Snowmaking

When your business depends on a steady supply of quality compressed air, Doosan Infracore Portable Power provides the equipment that virtually eliminates oil and other contaminants.

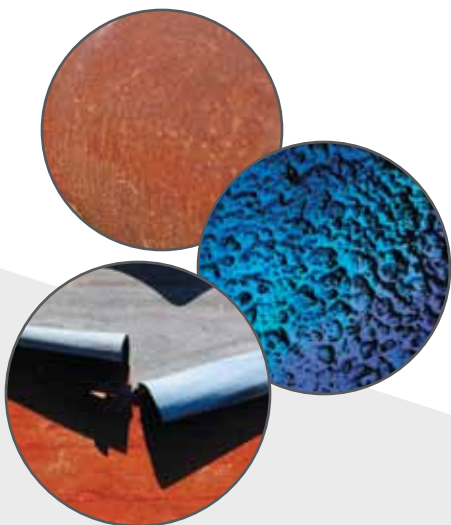
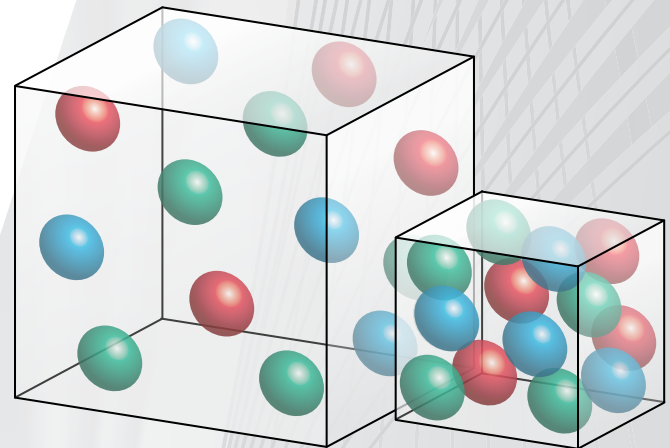
The consequences of contaminated air

Dirt, moisture and oil are unavoidable in the air around us. When that air goes into a compressor, so do the contaminants — and that's when trouble can start.

ISO 8573-1:2001 Air Quality Classes

QUALITY CLASS	SOLIDS			WATER		OIL AND OIL VAPOR
	Quality Class	Max Number of Particles Per m ³			Pressure Dew Point	
	0.1 – 0.5 micron	0.5 – 1 micron	1 – 5 micron	°F	°C	
0	As specified by the end-user or manufacturer, and more stringent than Class 1					
1	100	1	0	-100	-70	0.01
2	100000	1000	10	-40	-40	0.1
3	—	10000	500	-4	-20	1
4	—	—	1000	37.4	3	5
5	—	—	20000	44.6	7	—
6	—	—	—	50	10	—

Look at it this way. The large box shows the typical amount of contaminants in ambient air; the smaller box shows the same contaminants compressed to 125 psig. Imagine that high concentration of contaminants banging through your compressed air system, and it won't be hard to predict the results: premature wear and tear, rust and corrosion in your tools, damaged instruments, spoiled paint surfaces and more. That's why clean, dry air is crucial to your productivity.



Each contaminant has its own special set of problems

Moisture

- Rust and corrosion in the air system piping
- Inadequate air tool lubrication
- Loss of productivity
- Damage to labeling, packaging and the finished product

Dirt, dust and other particulates

- Premature wear
- Scored surfaces
- Clogged orifices
- Ruined finishes and instruments

Oil, unburned hydrocarbons and compressor coolant

- Batch spoilage
- Poor quality of finished product
- Unwanted color / odor in finished product
- Messy, hazardous work environment

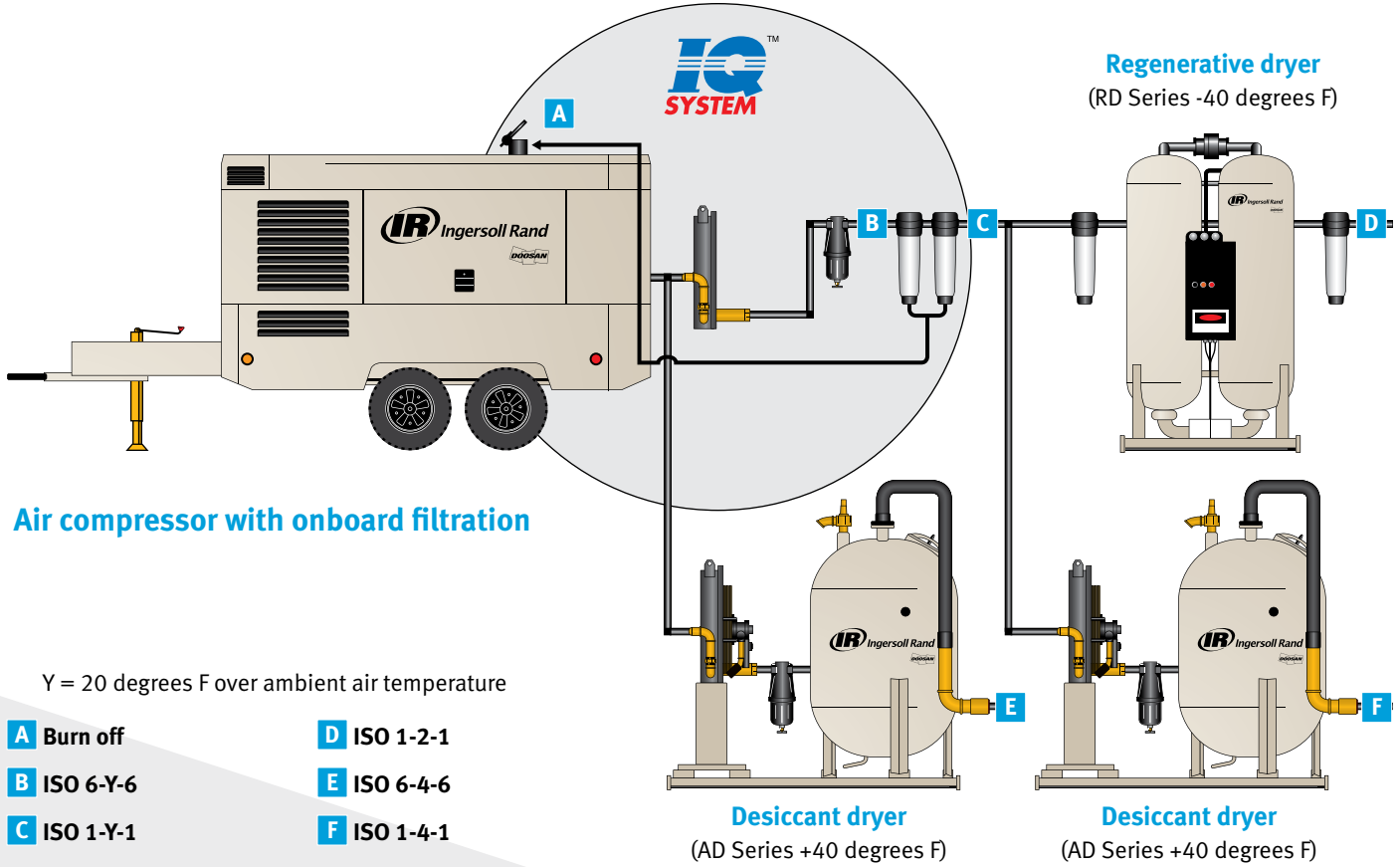
The bottom line: Dirty air wreaks havoc on your equipment and your end-products alike

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Protecting your system from bad air



ISO CLASS	COMPRESSOR	AFTERCOOLER	DRYER
1-4-1	375 IQ	AD85	—
6-4-6	375	—	A85
6-Y-6	915	AD165	—
1-4-1	915 IQ	—	AD165
1-2-1	1600 IQ	—	RD1600
6-4-6	1600	—	AD165

The Doosan Portable Power product lineup for clean, dry air

The IQ System®

Imagine a complete instrument air system that provides clean, portable compressed air with no condensate waste. That's a perfect description of our IQ System® compressors.

IQ System® compressors provide instrument-quality air without the addition of bulky, skid-mounted filter packages. These self-contained, portable compressors range in size from 300 to 1,300 cfm and offer up to 150 psi — along with features not found in more expensive oil-free compressors.

These compressors feature a lockable valve system that lets you switch instantly from instrument-quality air to standard rotary screw air. In addition, they can be used for abrasive blasting and painting one day and provide clean, instrument quality air the next.

IQ System features

- Rated for continuous-duty operation
- Condensate flash system vaporizes all condensate for zero discharge
- Integral aftercooler discharges air at only 20 degrees F above ambient
- Simple, lockable valving allows versatility of running the unit in instrument-quality or standard rotary screw modes
- Redundant circuit safety shutdown system with pressure differential switches assures the proper air filtrations and indicate need for routine filter maintenance
- Particulate size < 0.01 micron; oil/water aerosol < 0.01 ppm

A clean step above the rotary screw

IQ System® compressors solve both the air quality and waste removal problems typical of standard rotary screw compressors. All of our IQ System® units feature an onboard aftercooler with 20 degree F approach, a coalescing dual filtration system and an exclusive, zero-discharge condensate removal system.

Our dual filter system includes built-in monitoring and safety shutdown features to assure a consistent, reliable source of high-quality air. An early warning indicator informs the operator when filters need maintenance, while a pressure differential feature senses buildup in the filters and will shut down the unit to prevent harmful levels of oil carryover.

Our patented condensate removal system injects the oil/water condensate waste into the super-hot engine exhaust, where it is flash-evaporated. This eliminates any concern about collecting, treating and disposing of condensate waste. So whether you're producing instrument-quality air or air for general purposes, this feature will save you time and money.

Please note: A pressure drop of 4 to 8 psi is common depending on flow, operating pressure and ambient conditions.



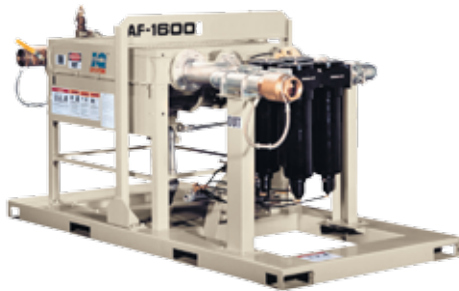
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Reducing water, reducing damage

Using an aftercooler and water separator can remove significant amounts of water from the air. Generally speaking, every 20 degree F drop in temperature condenses one half the water vapor in saturated air. The compressed air leaving the aftercooler and water separator, however, is still at 100% relative humidity. All Doosan Portable Power designs use highly efficient aftercoolers that provide an approach temperature (or CTD) of 20 degrees F. When the air leaving the unit is only 20 degrees F higher than the ambient temperature, you can remove significant amounts of moisture without using a dryer.

The AF-1600 combines an aftercooler, water separator and two large high-efficiency coalescing filters to offer cooler, drier, cleaner air. This unit comes on a heavy-duty skid base and features forklift slots or lifting bail capability for easy moving.



Removing moisture

A dryer helps maintain a constant relative humidity, ensuring reliable, consistent performance in your air system. Doosan Portable Power offers a wide range of products designed to remove particulates, oil, water and everything else that can damage your system. With these compressors, your tools will operate more efficiently, your maintenance costs will decrease and you'll experience less downtime.

The right dryers for drier air

Doosan Portable Power offers the RD Series of desiccant dryers and AD Series of deliquescent dryers to provide the dry air you need.



RD Series design features

- Mounted coalescing/particulate prefilter removes liquid moisture and oil down to 0.001 ppmw and particulate down to 0.01 ppmw
- Fully automatic control and fail-safe system provides uninterrupted performance and safety
- Adjustable purge rate can be selected for varying seasonal and process requirements
- Construction-grade packaging with fork pockets and lifting eyes enables easy handling
- Mounted particulate after-filter removes desiccant dust from drying process
- Particulate filter removes particulates as small as 1 micron with 99.99% efficiency

AD Series design features

- Aftercooler provides 20 degree F approach temperature and utilizes air-driven motor that consumes 55 to 130 cfm
- Dryer vessels feature internal epoxy coating for long life
- Heavy-duty skid construction with forklift channels and lifting eyes provide mobility
- Steps and platform make it easy to load deliquescent material
- Safety relief valve provides over-pressure protection for system and personnel
- Two sight-glasses allow easy inspection of deliquescent levels
- Moisture Magnet™ II is a long-lasting, premium drying tablet ideal for single-tower dryers (sold separately)
- Dew point suppression
- 20 degrees F below ambient conditions provides extra drying capability



	MODEL	HP375WJD	HP750WCU	HP915WCU	HP1600WCU
Rotary Screw Compressors	Free Air Delivery – cfm (m ³ /min)	375 (10.6)	750 (21.2)	915 (25.9)	1600 (45.3)
	Rated Operating Pressure – psi (bar)	150 (10.3)	150 (10.3)	150 (10.3)	150 (10.3)
	Pressure Range – psi (bar)	80 – 175 (5.5 – 12.1)	80 – 175 (5.5 – 12.1)	80 – 175 (5.5 – 12.1)	80 – 175 (5.5 – 12.1)
	Air Discharge Outlet Size NPT – in (mm)	1.25 (31.8)	2 (50.8)	2 (50.8)	3 (76.2)
	Air Discharge Outlet Quantity	1	1	1	1 (2 with IQ System unit)
Engine	Make/Model	John Deere/4045H	Cummins/QSC8.3	Cummins/QSL-9	Cummins/QSX15
	Emissions Tier Level	Tier 3	Tier 3	Tier 3	Tier 3
	Number of Cylinders	4	6	6	6
	Displacement – cu in (L)	276 (4.5)	506 (8.3)	543 (8.9)	915 (15)
	Rated Speed – rpm	2200	2000	1800	1800
	Idle Speed – rpm	1500	1200	1200	1200
	Bhp @ Rated Speed – bhp (kW)	125 (93)	280 (209)	300 (224)	560 (418)
Electrical – volts	24	24	24	24	
Dimensions With Running Gear	Length – in (mm)	158.5 (4026)	195.1 (4956)	215 (5461)	290.5 (7379)
	Width – in (mm)	78.1 (1985)	87 (2210)	79 (2007)	90 (2286)
	Height – in (mm); Add 5" (127 mm) for lift bail	68 (1726)	85.4 (2169)	87.9 (2233)	100 (2540)
	Track Width – in (mm)	66.2 (1681)	76.8 (1951)	68.5 (1740)	71 (1803)
	Shipping Weight – No Fuel – lb (kg)	4173 (1892)	8400 (3800)	9480 (4300)	16800 (7620)
	Working Weight – With Fuel – lb (kg)	4593 (2083)	9250 (4200)	10250 (4649)	18490 (8387)

	AFTERCOOLERS	A85	A165	A165 WITH SKID	AF1600IQ
Aftercoolers	Fan Drive	Air motor	Air motor	Air motor	Air motor
	Speed – rpm	1750	1750	1750	1750
	Consumption – scfm (m ³ /hr)	55 (94)	130 (221)	130 (221)	130 (221)
	Fan Input Drive – psi (kg/cm ²)	60 (4.2)	60 (4.2)	60 (4.2)	60 (4.2)
	Capacity – cfm	Up to 850	Up to 1600	Up to 1600	Up to 1600
	Max Ambient Temp – °F (°C)	125 (52)	125 (52)	125 (52)	125 (52)
	Min Ambient Temp – °F (°C)	35 (2)	35 (2)	35 (2)	35 (2)
	Aftercooler Approach – °F (°C)	20 (11)	20 (11)	20 (11)	20 (11)
	Weight – lb (kg)	440 (199)	660 (299)	790 (358)	1500 (680)
	Length – in (mm)	50 (1270)	59 (1499)	62 (1575)	96 (2438)
Width – in (mm)	32 (813)	36.75 (934)	36.75 (934)	48 (1219)	
Height – in (mm)	38 (965)	41.52 (1054)	44.75 (1137)	48 (1219)	

	DRYERS	AD85	AD165	D165	RD1600
Aftercooler	Fan Drive	Air motor	Air motor	–	–
	Speed – rpm	1750	1750	–	–
	Consumption – scfm (m ³ /hr)	55 (94)	130 (221)	–	25 (42.5)
	Fan Input Drive – psi (kg/cm ²)	60 (4.2)	60 (4.2)	–	–
System	Max Working Pressure – psi (kg/cm ²)	200 (14.1)	200 (14.1)	200 (14.1)	150 (10.5)
	Dew Point Suppression Temp – °F (°C)	20 (12.5)	20 (12.5)	20 (12.5)	-40 (-40)
	Inlet/Outlet Connection	2" NPT	3" NPT	3" NPT	3" NPT/3" ANSI
	Max Capacity @ 90 psi – scfm (kg/cm ²)	525 (892)	1050 (1784)	1050 (1784)	1141 (1939)
	Max Capacity @ 100 psi – scfm (kg/cm ²)	600 (1019)	1150 (1954)	1150 (1954)	1250 (2124)
Deliquescent Dryer (Sold Separately)	Max Capacity @ 125 psi – scfm (kg/cm ²)	700 (1189)	1400 (2379)	1400 (2379)	1522 (2586)
	Max Capacity @ 150 psi – scfm (kg/cm ²)	850 (1444)	1650 (2803)	1650 (2803)	1795 (3050)
Dimensions	Deliquescent Dryer Required	Moisture Magnet II	Moisture Magnet II	Moisture Magnet II	Alumina
	Deliquescent Dryer Weight – lb (kg)	650 (295)	1800 (816)	1800 (816)	1356 (615)
	Approximate Use Per Year* – lb (kg)	494 (224)	953 (432)	953 (432)	350 (159)
	Length – in (mm)	88 (2235)	110 (2794)	55 (1397)	50 (1270)
	Width – in (mm)	52 (1321)	63 (1600)	63 (1600)	70 (1778)
	Height – in (mm)	68 (1727)	97 (2464)	97 (2464)	97.5 (2476)
Dimensions	Shipping Weight – No Fuel – lb (kg)	1425 (646)	3200 (1455)	2150 (977)	2100 (953)
	Working Weight – With Fuel – lb (kg)	2075 (941)	5000 (2273)	3950 (1796)	3456 (1568)

* Assumed 100 psi, 80° F inlet temperature, 40 hours per week, 50 weeks per year.
Specifications are subject to change without notice so that improvements can be introduced as quickly as possible.



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Experience Doosan Portable Power and our industry-leading support and service. Whatever the job, we have the solution. From our comprehensive range of Ingersoll Rand branded air compressors, lighting systems and generators to our rugged and reliable light compaction equipment, we have a solution to fit your needs. Running a successful business takes more than powerful equipment. That's why Portable Power partners with an experienced global dealer network to stand beside you every step of the way. Doosan Portable Power — more than 100 years of providing excellence.

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