Heatless and Heated Blower Desiccant Air Dryers

5-14,900 m^3/hr

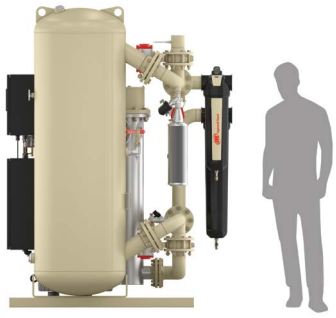


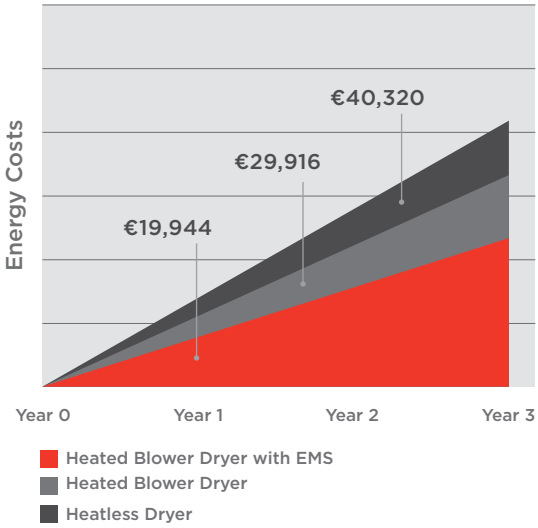
Innovative Design is Now Within Reach

Ingersoll Rand® heatless and heated blower desiccant dryers—engineered for easy access, maximum efficiency and long life—are delivered in a state-of-the-art low-profile package, making installation and operation a snap.

Low Profile for Easy Maintenance

Our low-profile design provides easy access to key maintenance points. In a heatless dryer, for example, the manifolds are angled towards the center at operator level. The diaphragm valve can be rebuilt in less than 10 minutes without removing it from the manifold. The lower silhouette also allows upright shipment and facilitates simpler installation.



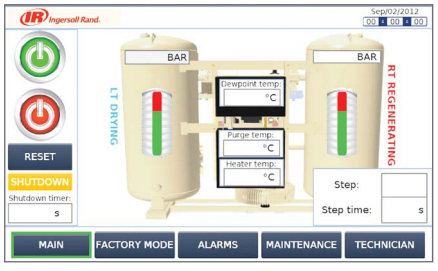


Designed for Lower Energy Costs

- State-of-the-art Energy Management System (EMS) maximises energy efficiency while maintaining a constant dew point
- Energy efficient heated blower design
- Heater and blower shut off to save energy once desiccant regeneration is completed
- Solid state relays provide precise heater control, reduced heating times and extended heater life
- Solid state soft starters limit inrush current to ensure smooth start and longer blower motor life

Advanced Controller Maintains Optimum Performance

- Constantly monitors functions minimsing downtime
- Matches dryer control to load/unload state of compressor
- Modbus compatible
- LCD display for easy viewing



Built for Longevity

- Standard heavy-duty after-filters extend desiccant life

Desiccant Dryer Features and Benefits

A **Microprocessor Controller**
Controls valve switching to correctly direct air flow and operation of blowers and heaters. Protects the dryer by continuously monitoring operating parameters.

B **Environmental Protection**
IP54 rating provides protection against dust and moisture contamination (IP65 option for wash down applications).

C **Motor Protection/Soft Starter (heated blower only)**
Reduces inrush current and stress on the mechanical system.

D **Power Supply**
Dryers operate at 50 Hz (all models) or 60 Hz (optional). Pneumatic options also available on heatless models.

E **Centrifugal Blower (heated blower only)**
High performance centrifugal blower enables the use of ambient air for regeneration, eliminating air loss.

F **High Performance Heater (heated blower only)**
Heats the air used for regeneration to increase the efficiency of moisture removal.

G **Desiccant**
Reliable high strength non-acidic desiccant provides maximum performance and is easily stored and handled.

H **Silencing Muffler**
Reduce the exhausted air noise level to ensure a worker-friendly environment.

I **High Performance Valves**
High performance butterfly valves with self-energized sealing provide quick response and long life. The valves are centrally angled for easy access.

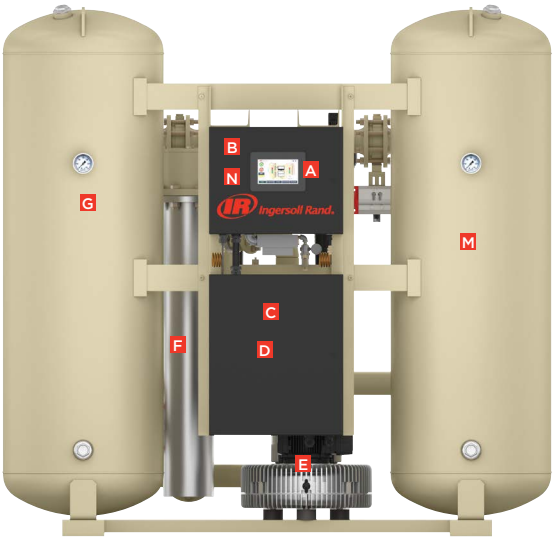
J **Pre-Filters**
High efficiency removing oil aerosol content down to .01 mg/m^3 @ 21°C, protecting and extending the life of the desiccant.

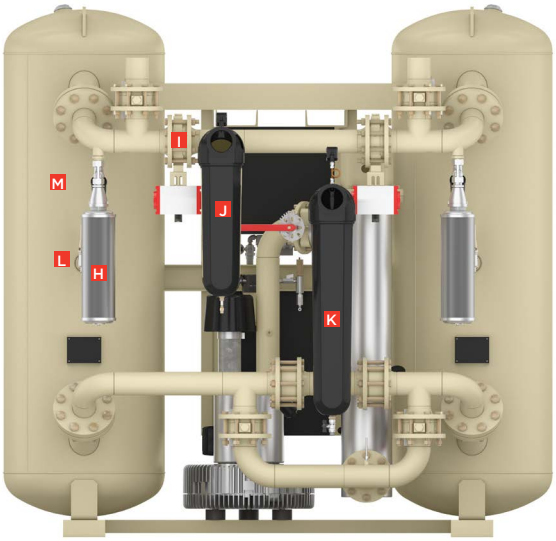
K **After-Filters**
Heavy duty filters that remove particles down to 1 micron ensuring high air quality downstream to the customer.

L **Safety Relief Valve**
Protects the dryer from over pressurization in case of fire.

M **Desiccant Towers**
The towers are rated for continuous 10 bar g operation. The digital controller turns the towers off and on for regeneration regulation.

N **Humidity Sensor**
The sensor is part of the EMS package that allows continuous monitoring of the dew point.





Selecting the Right Desiccant Dryer

It's all about choices. Whether it's lower operating costs or a lower capital investment, Ingersoll Rand has a desiccant dryer that fits your needs.

What Differentiates Ingersoll Rand Desiccant Dryers

Ingersoll Rand desiccant dryers are designed to virtually eliminate costly production interruptions due to moisture. All of our dryers use twin desiccant towers and strategically positioned valves for drying compressed air.

Switching valves are normally open, while purge valves are normally closed to allow air flow through the dryer in case of power loss. Strategically placed filters that remove oil and contaminants ensure only clean, dried air exits the dryer. Every dryer features an IP54 package, providing increased protection of electrical components, controls and displays. Both heatless and heated blower dryers have several standard features to ensure high quality operation as well as options to customize dryers to fit the needs of your air system.

How Desiccant Dryers Work

Highly adsorbent desiccant removes moisture from compressed air as it passes through the online dryer tower. The difference between our two technologies is how moisture is desorbed from the desiccant (regeneration)*.

Heatless Modular Dryers
Heatless design with a compact footprint



Heatless Twin Tower Dryers
Lower initial investment, higher energy use



Heated Blower Dryers
Higher capital investment, lower cost of ownership



Features and Options	Heatless Desiccant Dryer	Heated Blower Desiccant Dryer
Energy Management System (EMS)	Option	Standard
Compressed Air Used for Regeneration	15%	0%
Controller	Digital Microprocessor	7" High-Performance Display
Environmental Protection	IP54 (Option for IP65)	IP54 (Option for IP65)
Available Flow Range	2.8 m^3/min - 55.9 m^3/min	8.9 m^3/min - 248.6 m^3/min
Constant Pressure Dew Point	-40°C or -70°C	-40°C

*See diagrams on page

Heatless Desiccant Dryers

Drying

From the air compressor, the air enters the dryer through a pre-filter that removes contaminates to protect the desiccant. The air is directed through the drying tower. The desiccant removes moisture from the air through adsorption. Dry air passes through an after-filter removing any contaminate particles before entering into the air system. A small amount of the compressed air (15%) is redirected to the regenerating tower.

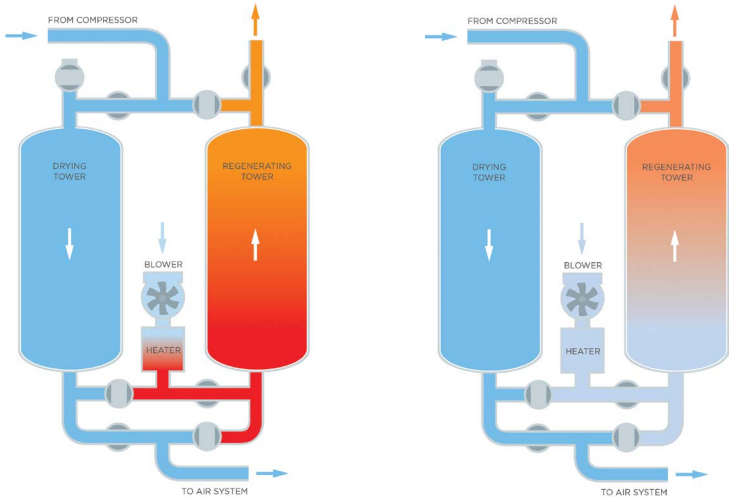
Regeneration

Dry air flows in the reverse direction through the regenerating tower, removing trapped moisture from the desiccant. Moist air exits the dryer through an exhaust port equipped with a silencing muffler to reduce noise.

Heated Blower Desiccant Dryers

Drying

Moist air enters the dryer from the air compressor through a pre-filter that removes contaminates and protects the desiccant. The air is directed through the drying tower, and the adsorbent material removes the moisture from the air. The dry air passes through an after-filter removing any contaminate particles before entering into the air system. The adsorption process ends when the dew point reaches the target.

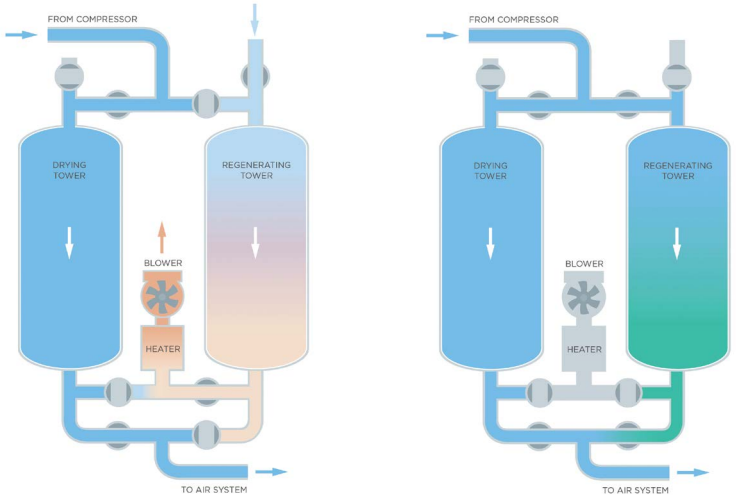


Regeneration

While the drying process takes place in one tower, the other tower regenerates the adsorbent material. Ambient air enters through the blower intake. Air temperature is elevated as air moves across the heater and then directed to the regenerating tower. Hot air flows in from bottom to top through the regenerating tower, removing the adsorbed moisture from the desiccant. Moist air exits the dryer through an exhaust port equipped with a silencing muffler to reduce noise.

Cooling down

At the end of regeneration, the heater shuts off and the blower cools down the heater, positively influencing the temperature in the regeneration tower. The blower impeller then rotates in the opposite direction to further cool the regeneration tower and brings the adsorbent material to a lower temperature for the new cycle.



Parallel flow

Finally, the two towers deliver air simultaneously to provide an ideal outlet temperature for optimal operating conditions. The cycle is then reversed -- the tower that previously regenerated now absorbs the humidity and vice versa.

The Choice is Yours

Heated blower desiccant dryers have a higher initial cost than heatless models, but can significantly lower your energy costs.

Modular Heatless Desiccant Dryer Specifications

Model	Flow -40°C PDP m³/h	Flow -70°C PDP m³/h	In/Out Connections BSP	Dimensions (Length x Width x Height) mm	Weight kg
DA5IM	5	-	3/8"	238 x 212 x 423	11
DA15IM	15	-	3/8"	238 x 212 x 823	18
DA25IM	25	-	3/8"	238 x 212 x 1073	27
DA40IM	40	32	3/4"	475 x 405 x 968	44
DA55IM	55	44	3/4"	475 x 405 x 1118	50
DA70IM	70	56	3/4"	475 x 405 x 1318	60
DA100IM	100	80	1"	475 x 405 x 1673	73
DA150IM	150	120	1"	475 x 405 x 1873	90
DA200IM	200	160	1 1/2"	536 x 495 x 1705	177
DA250IM	250	200	1 1/2"	536 x 495 x 1905	180
DA300IM	300	240	1 1/2"	536 x 495 x 1905	188

Heatless Desiccant Dryer Specifications

Model	Flow -40°C PDP m³/h	Flow -70°C PDP m³/h	In/Out Connections BSP	Dimensions (Length x Width x Height) mm	Weight kg
D160ILA	160	128	1"	1029 x 762 x 1600	241
D200ILA	200	160	1"	1029 x 762 x 1600	256
D275ILA	275	220	1 1/2"	1130 x 813 x 1676	321
D350ILA	350	280	1 1/2"	1130 x 813 x 1676	332
D500ILA	500	400	2"	1232 x 813 x 1702	419
D700ILA	700	560	2"	1334 x 813 x 1727	506
D900ILA	900	720	2"	1435 x 864 x 2083	710
D1000ILA	1000	800	2"	1435 x 864 x 2083	755
D1600ILA	1600	1280	3"	1626 x 1067 x 2235	1016
D2000ILA	2000	1600	3"	1626 x 1067 x 2235	1100
D2500ILA	2500	2000	DN100	1994 x 1397 x 2057	1350
D3300ILA	3300	2640	DN125	2134 x 1549 x 2388	1773
D4600ILA	4600	3680	DN125	2349x2132x1649	2300
D5600ILA	5600	4480	DN150	2535x2438x1791	2950
D6800ILA	6800	5440	DN150	2535x2438x1791	3360
D8500ILA	8500	6800	DN150	2344x2677x1945	4400

Heated Blower Desiccant Dryer Specifications

Model	Flow -40°C PDP m³/h	Average Power Consumption kW	In/Out Connections	Dimensions (Length x Width x Height) mm	Weight kg
D500IBA	500	5	2" BSP	1336 x 974 x 1755	630
D900IBA	900	10	2" BSP	1477 x 1178 x 2186	1050
D1100IBA	1100	10	3" BSP	1718 x 1502 x 2188	1258
D1400IBA	1400	16	3" BSP	1718 x 1502 x 2188	1520
D1800IBA	1800	20	3" BSP	2080 x 1588 x 2016	1780
D2200IBA	2220	23	3" BSP	2080 x 1610 x 2016	1871
D2600IBA	2600	27	3" BSP	2622 x 1964 x 2357	2504
D3200IBA	3200	31	DN100 PN16	2622 x 1750 x 2357	2775
D3900IBA	3900	40	DN100 PN16	2622 x 1659 x 2357	3380
D4500IBA	4500	40	DN150 PN16	3054 x 1949 x 2541	4077
D5300IBA	5300	54	DN150 PN16	3054 x 1949 x 2541	4870
D7000IBA	7000	77	DN150 PN16	3407 x 2120 x 2350	6335
D9300IBA	9300	91	DN150 PN16	3779 x 2312 x 2462	8110
D10600IBA	10600	113	DN150 PN16	4112 x 2355 x 2770	10711
D14900IBA	14900	161	DN200 PN16	4464 x 2498 x 2884	14720

YOUR TRUSTED PARTNER IN COMPRESSED AIR

Staying ahead of your competition with advanced compressed air systems and services that boost productivity, lower operating expenses and extend equipment life is critical to your success.

No matter the industry or application, you can count on Ingersoll Rand as a trusted partner for oil-flooded compressed air technologies and services. By focusing on you and your business, we provide collaborative solutions that make you successful, offering a total systems approach to maximise efficiency and performance.

Take a Systems Approach

Delivering reliable compressed air to your facility goes well beyond the compressor itself. Optimise total cost of ownership (TCO) through a systems approach that employs the best air compression technologies to deliver reliability for life—from design to decommissioning.

Your business will benefit from Ingersoll Rand's partnership through our extensive experience and global expertise to ensure reliability, lower maintenance costs, ease of serviceability and system optimisation.



Let's Get Started Together

Throughout the entire lifecycle, our systems approach helps you achieve the lowest operating cost.

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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