

# Ingersoll Rand

*Desiccant Air Dryers*



*Innovation*

*Reliability*

*Efficiency*

## Innovative Design is Now Within Reach

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



Our low profile design allows for upright shipping and transportation.



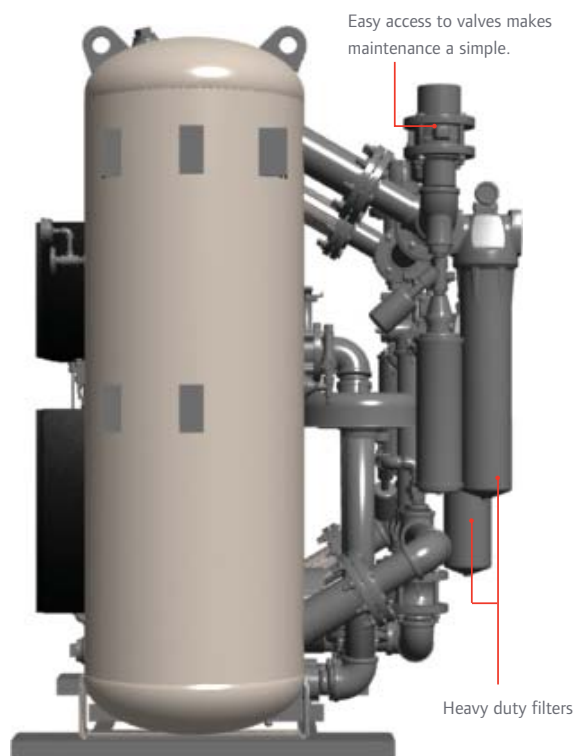
Low profile Design

Traditional Design

### Low Profile for Easy Maintenance

One look tells you that Ingersoll Rand desiccant dryers are like no others. Our low profile design gives you easy access to key maintenance points at operator level for faster servicing and less downtime. The lower silhouette also allows upright shipment and facilitates installation.

With manifolds angled toward the center at operator level, the high performance valves are easily accessed for maintenance. For example, a typical diaphragm valve in a heatless dryer can be rebuilt in less than ten minutes, without removing the valve from the manifold.



### Efficient Desiccant and Dryer to Reduce Energy Costs

Our optional Energy Management System (EMS) reduces purge consumption while maintaining a constant dew point, monitors the dew point and extends the dryer cycle. The solid-state soft starter limits inrush current, making for a smooth start and extending motor life.

The dryers are engineered for low pressure drop through valve selection, tower size and filter design.

On HB models the heater and blower are controlled by outlet regeneration temperature that shuts off to save electrical power once desiccant has been thoroughly regenerated.

Progress is *greener* with Ingersoll Rand

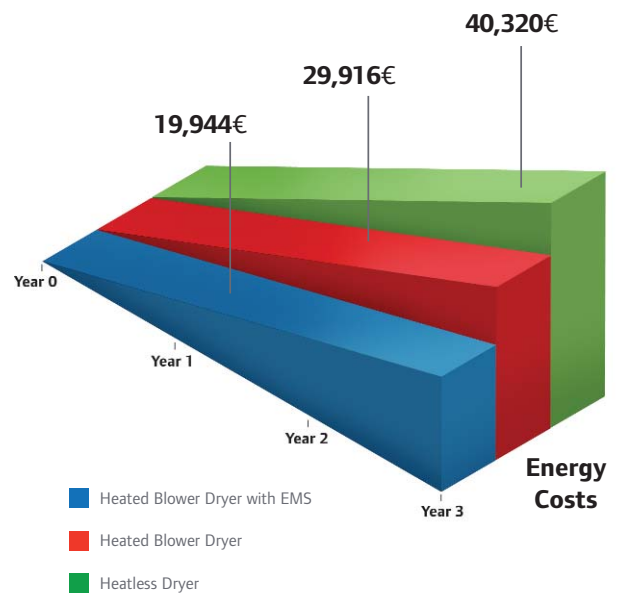
### State-of-the-art Microprocessor Controller

- Maintains dryer performance at optimum levels, constantly monitors functions and provides maintenance alerts, minimizing downtime
- Digital electronic multi-function controller capable of communicating in 17 different languages
- Modbus compatible
- LCD display for easy viewing

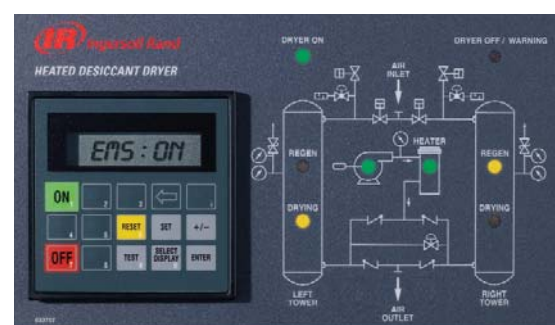
### Heavy Duty Filters For Longevity

- Pre-filters and after-filters protect desiccant and downstream air from oil contamination and particulates to help improve air quality, increasing productivity.

### A Heated Blower Dryer with EMS can save you over 20,000€ in just 3 years!



These calculations are approximations based on the following assumptions: Heatless model D3300IL, Heated model D3200IB, 55 m<sup>3</sup>/min, 1800 CFM, 400 kW Compressor Motor, 0.07€ per kW/hr, 80 hours per week, and 40 weeks per year.



Multilingual Digital Controller

# Selecting the Right Desiccant Dryer

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

## 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 assure only clean, dried air exits the dryer. Every dryer features an IP54 package, providing increased protection of electrical components, controls and displays. **The basic difference between the two dryer technologies is the manner in which moisture is desorbed from the desiccant, also known as regeneration. Heatless dryers use some compressed air to purge the towers of moisture while heated blower dryers utilize externally heated ambient air.** 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.

**HL** Heatless dryers are lower in capital investment, but may be more expensive to operate because it requires a portion of the dried compressed air to be diverted from the air system for desiccant regeneration.



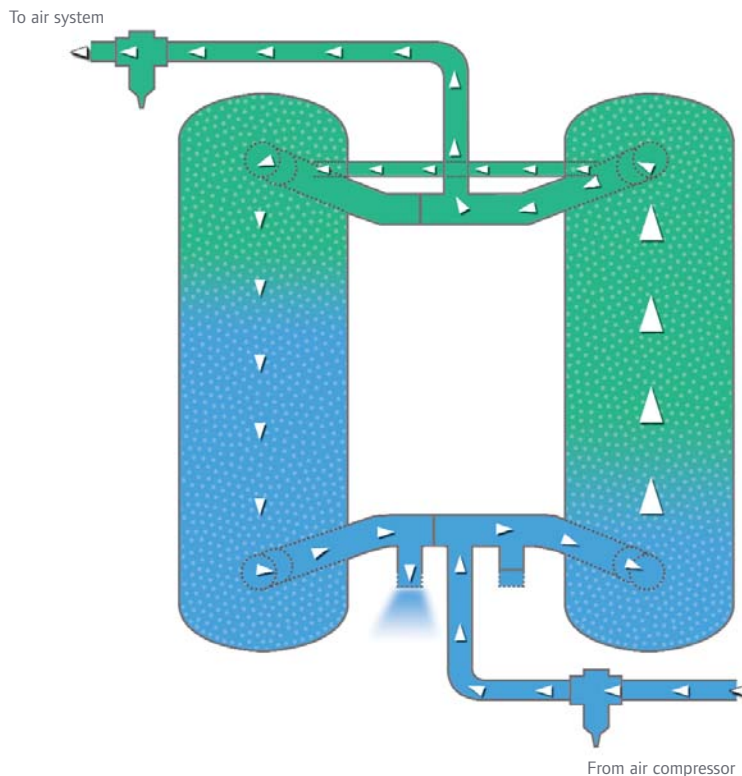
**HB** Heated blower dryers require the highest initial capital investment due to the centrifugal blower, but with no or little diversion of compressed air from the system for regeneration, it offers significantly lower operating costs.



Features & Benefits	Heatless Desiccant Dryer	Heated Blower Desiccant Dryer
Energy Management System	Option	Standard
Compressed Air Used for Regeneration	15%	0%
Controller	Multilingual Digital	Multilingual Digital
Environmental Protection	IP54 (Option for IP65)	IP54 (Option for IP65)
Available Flow Range	(3.4 - 51.0 m <sup>3</sup> /min)	(28.3 nm <sup>3</sup> /min - 226.5 nm <sup>3</sup> /min)
Constant Pressure Dew Point	-40°C (Option for -70°C)	-40°C
Filtration Included	Heavy Duty Pre & Post Filters	Heavy Duty Pre & Post Filters
High Performance Valves	Standard	Standard
Purge Loss	15%	0%
Pressure Rating	10 barg	10 barg
Tower Insulation	not available	Standard
Stainless Steel Pressure Lines	Option	Option
Dryer Bypass	Option	Option
Heatless Back-Up Mode	Standard	Option

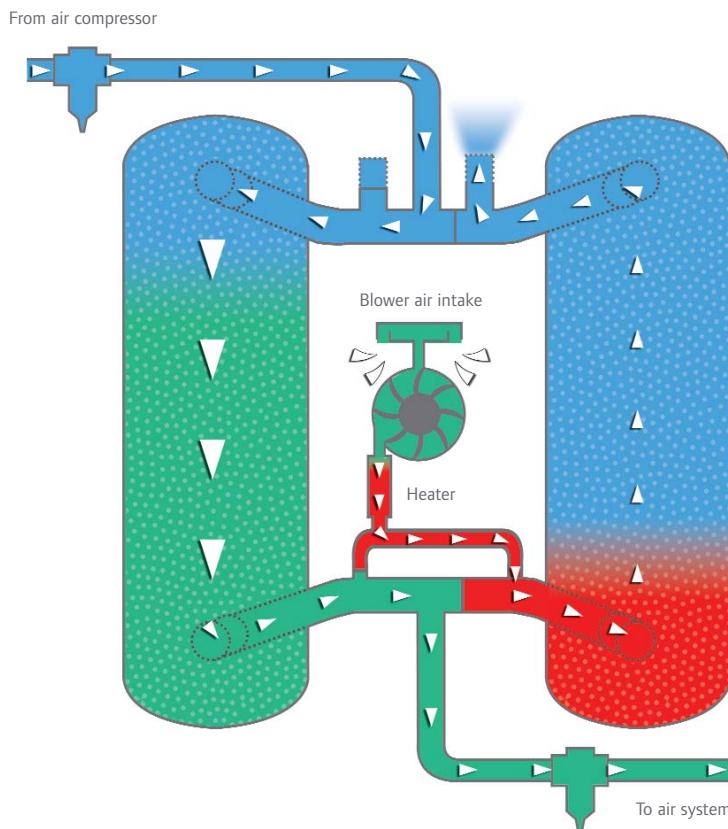
### HL Heatless Desiccant Dryers

Ingersoll Rand heatless desiccant dryers thoroughly capture moisture in the compressed air produced as it is directed through the online desiccant-filled dryer tower of the dryer. As the desiccant in this tower adsorbs water from the air, the desiccant in the dryer's offline tower is purged of moisture and readied for use. This purge occurs when a small amount of compressed air is diverted to the offline tower to push the moisture down and out of the tank desorbing the moisture from the desiccant, also known as regeneration. The water extracted from the desiccant is then safely released as ambient air.



### HB Heated Blower Desiccant Dryers

The HB heated blower models provide the same easy operation and reliability in moisture removal of heatless dryers, with increased energy efficiency in regeneration. The dryers are equipped with dedicated durable centrifugal blowers to provide purge air for regeneration, eliminating the need to divert dry compressed air from the air system as with heatless dryers. Instead, the blower directs ambient air through an external heater and then through the offline tower to regenerate the desiccant. This means more compressed air is available for critical downstream applications.





# Desiccant Dryer Features and Benefits

## **A Multilingual Digital Controller**

The digital controller communicates in several languages while controlling valve switching as well as monitor dryer operations

## **B Environmental Protection**

IP54 rating providing protection against dust and moisture contamination (IP65 option for wash down applications)

## **C Motor Protection/Soft Starter**

Reduces inrush current and stress on the mechanical system

## **D Power Supply**

Dryer operation can be run with 50 Hz, 60 Hz, and pneumatic (HL models only) power supply

## **E Centrifugal Blower (available only on HB models)**

As the heated blower intakes ambient air to eliminate the wasted compressed in heatless regeneration

## **F High Performance Heater (available only on HB models)**

Heats the air used for regeneration to increase moisture removal efficiency

## **G Desiccant**

Reliable high strength non-acidic desiccant provides maximum performance and is easily stored and handled

## **H Mufflers**

Reducing noise level for a worker friendly environment

## **I High Performance Valves**

Extreme seal high temp butterfly valves centrally angled for ease of maintenance

## **J Heavy Duty Pre & Post Filters**

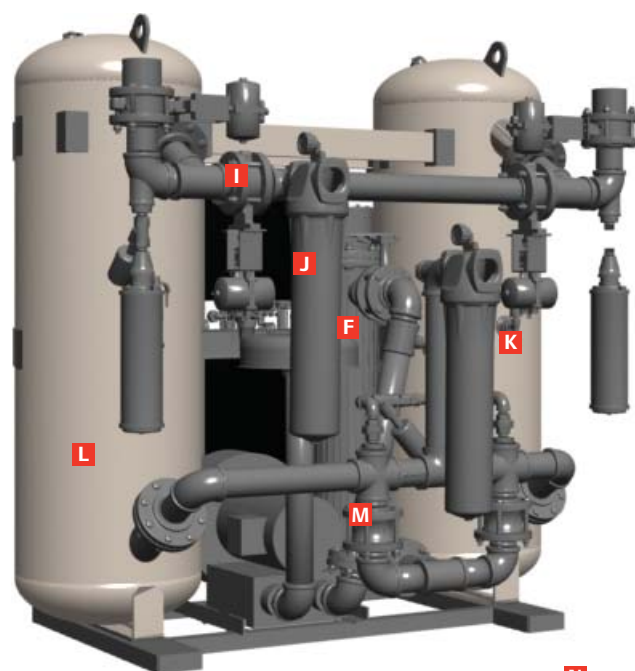
This filtration system prolongs the life of the desiccant as well as purifies the air provided to the customer to \*ISO Class 1. These heavy duty filters are standard with all desiccant dryer to compliment the robustness of our products

## **K Safety Release Valve**

Protects the dryer from over pressurization

## **L Desiccant Towers**

Rated for continuous 10 bar operation, the towers turn off and on as monitored by the digital controller for regeneration regulation



## **M Energy Management System (EMS)**

### **Humidity Sensor**

Reduces purge air consumption by monitoring dryer performance in low demand situations

## **N Cool Sweep Modes (available only on HB models)**

Reduces temperature and humidity spikes automatically

## So, how do you select the right desiccant dryer technology?

That depends on the variables, such as system demand, compressed air capacity, air quality requirements, and applicable life cycle costs, that are unique to your compressed air system.

Desiccant Dryer Specifications									
Model	Capacity SCFM	Capacity nm <sup>3</sup> /min.	Heater kW	Blower hp/(kW)	In/Out Connection in.	Width	Dimensions in./(mm) Depth	Height	Weight lbs./(kg)
D160IL	90	2.8	-	-	1.0 BSP	40.5/(1,029)	30/(762)	63/(1,600)	531(241)
D200IL	120	3.6	-	-	1.0 BSP	40.5/(1,029)	30/(762)	63/(1,600)	563/(256)
D275IL	160	4.7	-	-	1.5 BSP	44.5/(1,130)	32/(813)	66/(1,676)	707/(321)
D350IL	200	6.2	-	-	1.5 BSP	44.5/(1,130)	32/(813)	66/(1,676)	731/(332)
D500IL	300	8.9	-	-	2 BSP	48.5/(1,232)	32/(813)	67/(1,702)	924/(419)
D700IL	400	12.4	-	-	2 BSP	52.5/(1,334)	32/(813)	68/(1,727)	1115/(506)
D900IL	500	15.5	-	-	2 BSP	56.5/(1,435)	34/(864)	82/(2,083)	1564/(710)
D1000IL	600	17.8	-	-	2 BSP	56.5/(1,435)	34/(864)	82/(2,083)	1664/(755)
D1600IL	1,000	28.2	-	-	3 BSP	64/(1,626)	42/(1,067)	88/(2,235)	2237/(1,016)
D2000IL	1,200	33.9	-	-	3 BSP	64/(1,626)	42/(1,067)	88/(2,235)	2424/(1,100)
D2500IL	1,500	42.4	-	-	DN100	78.5/(1,994)	55/(1,397)	81/(2,057)	2974/(1,350)
D3300IL	1,800	55.9	-	-	DN125	84/(2,134)	61/(1,549)	94/(2,388)	3905/(1,773)
D500IB	300	8.9	6	1.5/(1.1)	1.5 BSP	52.5(1,334)	32(813)	68(1,727)	1477(670)
D900IB	500	15.5	12	2/(1.5)	2.0 BSP	56.5(1,435)	34(864)	82(2,023)	2,111(958)
D1400IB	800	24.9	18	5/(3.7)	3.0 BSP	64(1,626)	47(1,194)	86(2,184)	3,198(1,451)
D1800IB	1,000	31.1	24	7.5/(5.6)	3.0 BSP	78.5/(1,994)	48/(1,219)	80/(2,032)	3,767/(1,710)
D2200IB	1,200	37.3	24	7.5/(5.6)	3.0 BSP	78.5/(1,994)	48/(1,219)	80/(2,032)	4,091/(1,857)
D2600IB	1,500	44.5	30	15/(11.2)	3.0 BSP	84/(2,134)	55/(1,397)	92/(2,337)	5,515/(2,504)
D3200IB	1,800	53.4	36	15/(11.2)	DN125	84/(2,134)	60/(1,524)	92/(2,337)	6,113/(2,775)
D3900IB	2,100	65.3	45	15/(11.2)	DN125	84/(2,134)	60/(1,524)	92/(2,337)	6,911/(3,138)
D5300IB	3,000	89.0	60	20/(14.9)	DN150	96/(2,438)	66/(1,676)	98/(2,489)	9,730/(4,417)
D7000IB	4,000	118.6	80	25/(18.7)	DN150	102/(2,591)	76/(1,930)	90/(2,286)	12,167/(5,524)
D9300IB	5,000	155.4	100	30/(22.4)	DN150	138/(3,505)	87/(2,210)	97/(2,464)	13,375/(6,072)
D10600IB	6,000	178.0	125	30/(22.4)	DN150	150/(3,810)	92/(2,337)	103/(2,616)	16,000/(7,264)
D14900IB	8,000	248.6	175	40/(29.8)	DN200	168/(4,267)	98/(2,489)	105/(2,667)	19,900/(9,035)

Referenced to 20°C (68°F) and 1 bar a (14.5 psi a), inlet 35°C (95°F) and 7 bar g (101.5 psi g)

Maximum working pressure is 10 bar g (150 psi g)

Desiccant is factory installed on all models except D5300IB to D14900IB

Dimensions and weights are approximate

**Package care information to  
be inserted regionally.**



Ingersoll Rand Industrial Technologies provides products, services and solutions that enhance our customers' energy efficiency, productivity and operations. Our diverse and innovative products range from complete compressed air systems, tools and pumps to material and fluid handling systems and environmentally friendly microturbines. We also enhance productivity through solutions created by Club Car®, the global leader in golf and utility vehicles for businesses and individuals.

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**Ingersoll Rand Industrial Technologies**

Swan Lane, Hindley Green,  
Wigan WN2 4EZ, UK  
Tel: +44 (0) 1942 257171  
Fax: +44 (0) 1942 254162  
Email: [asgesawebleads@irco.com](mailto:asgesawebleads@irco.com)



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