



# iDRY<sup>®</sup> HBD

## Heated Blower-Purge Desiccant Dryers



### + Features and Benefits

**HIGHEST QUALITY COMPONENTS:**  
the use of only the best materials and components available guarantees reliability and ensures a sound, long term investment

**COMPLETE PACKAGE SOLUTION:**  
dryers are designed as a complete solution to suit your application needs instead of the more common bit-by-bit approach

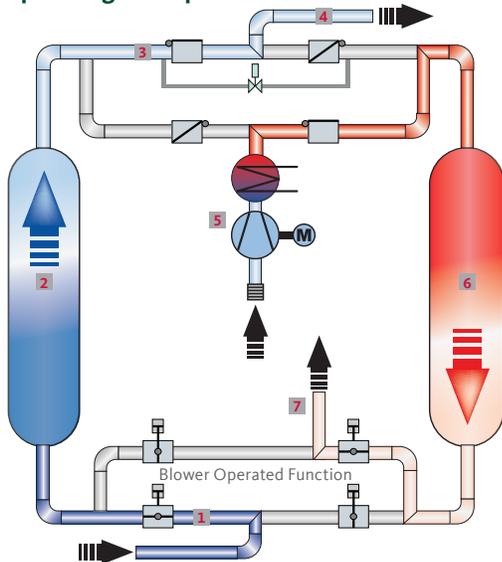
**WORLDWIDE APPROVALS:**  
whether produced in the U.S., Europe or Asia they are built to meet the market specific requirements



**INNOVATIVE DESIGNS:**  
three basic designs are highly configurable into a wide array of variants optimized for the customer's application

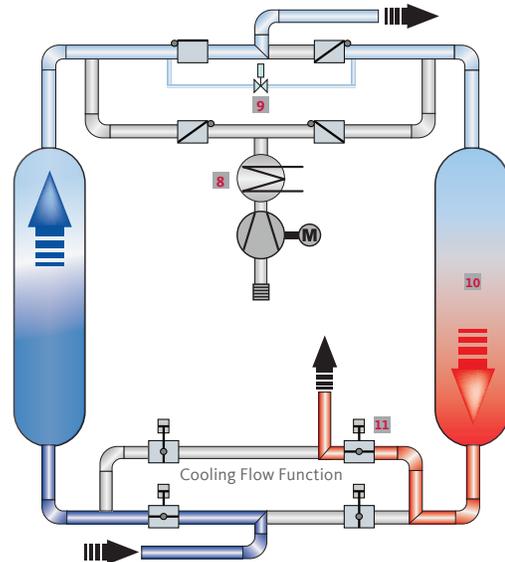
**ENERGY OPTIMIZED SOLUTIONS:**  
dryer technologies ranging from demand controlled zero purge to heat of compression and combination dryer designs

### + Operating Principle



#### Adsorption Phase

Saturated compressed air enters the dryer through a required coalescing pre-filter (not pictured) and flows through the open inlet valve [1]. Air flows upward through the tower where the desiccant extracts and retains water vapor [2], thereby lowering the dew point, before exiting the top of the tower. The dry air passes through the outlet check valve [3] and passes through the particulate post-filter (not pictured) before exiting the dryer to the air distribution system [4]. The blower intakes ambient air through an in-line heater [5] and exits into the regeneration tower under atmospheric pressure.



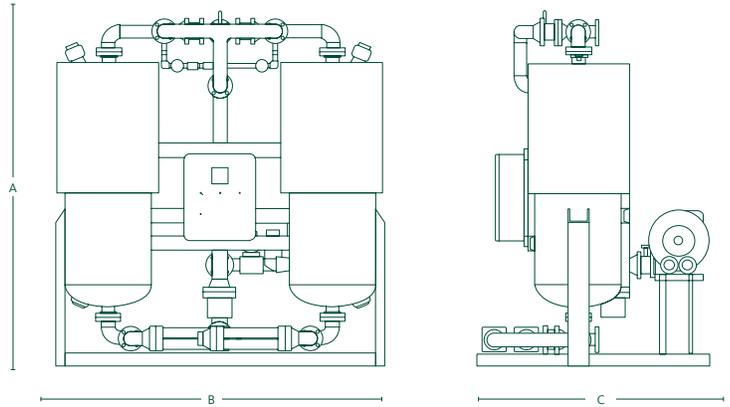
#### Regeneration Phase

The heated, dry air flows through the tower [6], evaporating water from the moisture laden desiccant, before exiting near the bottom of the tower. This moist purge air passes through the purge exhaust valve and is vented to open atmosphere [7] through the muffler. After a set amount of time, the heater turns off [8], and the blower is cooling the heater down to a pre-set temperature. After temperature is reached, the purge valve opens [9] and additional desiccant bed cooling takes place [10] for a pre-set amount of time, and the exhaust valve closes [11] and the vessel is re-pressurized. The air flow through the dryer will then reverse, turning the drying tower into the regenerating tower.

# iDRY® HBD Heated Blower-Purge Desiccant Dryers

with PLC controller and optional insulation

Standard pressure dew point	-40 °F
Optional pressure dew point	-100 °F (on request)
Approx. purge air consumption	1-3% at 100 psig / -40 °F
Min. / Max. operating pressure	60 / 150 psig
Optional operating pressure	250 psig
Min. / Max. air inlet temperature	40 °F / 130 °F
Min. / Max. ambient temperature	40 °F / 120 °F
Electrical power supply	460 Vac / 3 Ph / 60 Hz



iDRY® HBD	iDHBD 260	iDHBD 355	iDHBD 460	iDHBD 575	iDHBD 720
Connection size (NPT)	1½"	1½"	2"	2"	2½"
Flow Rate (scfm)	260	355	460	575	720
Dimension data					
A (inches)	72	72	90	92	92
B (inches)	50	54	54	58	62
C (inches)	33	36	36	36	39
Weight (lbs)	475	490	700	850	1000
Fill per column (lbs)	180	245	320	400	500

iDRY® HBD	iDHBD 1010	iDHBD 1300	iDHBD 1725	iDHBD 2350	iDHBD 3250	iDHBD 4050
Connection size (NPT)	3" Flange	3" Flange	4" Flange	4" Flange	6" Flange	6" Flange
Flow Rate (scfm)	1010	1300	1725	2350	3250	4050
Dimension data						
A (inches)	96	96	108	112	120	120
B (inches)	90	96	96	104	120	144
C (inches)	64	70	70	84	72	77
Weight (lbs)	4800	5500	6400	8200	12000	13000
Fill per column (lbs)	700	900	1200	1650	2250	2800

## Correction Factor

Operating Pressure (psig)	60	70	80	90	100	110	120	130	140	150
Correction Factor	.65	.73	.82	.91	1.00	1.09	1.18	1.27	1.35	1.44

Inlet Air Temperature °F	90	95	100	110	115	120
Correction Factor	1.15	1.06	1.00	.82	.60	.51

Subject to technical errors, changes, omissions and/or corrections without prior notice.