



EcoDry

Blower Purge Desiccant Dryers



ENGINEERING YOUR SUCCESS.

Parker EcoDry EDB Series Blower Purge Desiccant Air Dryers



Parker EcoDry EDB and Blower Purge Desiccant Air Dryers use the adsorption method to remove moisture from compressed air. Nominal pressure dew point reach -40°C (-70°C as option) by directing the flow of saturated compressed air over a bed of desiccant.

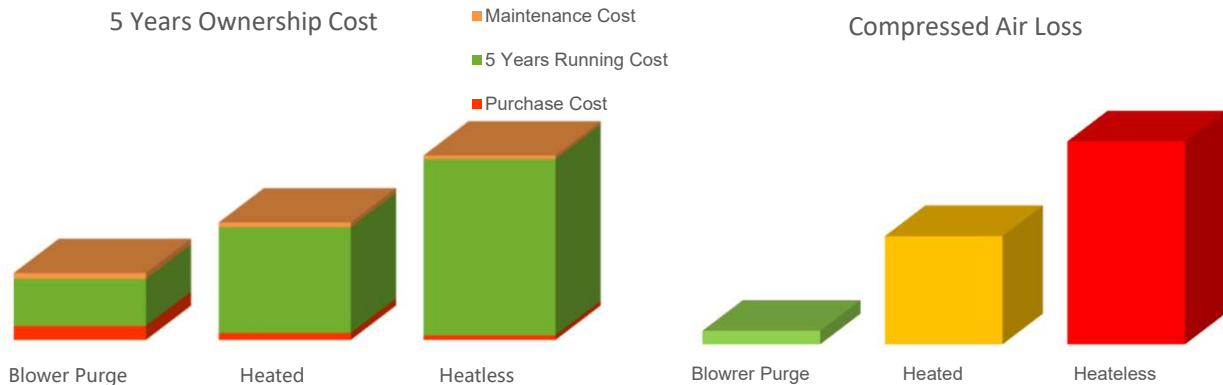
Parker EcoDry EDB dryers contain 2% purge air type and zero purge air type. 2% purge air type dryers combine heat with either a small portion of the dry compressed air or with forced ambient air for regeneration. Zero purge air type dryers only use ambient air for regeneration. The heated, low pressure air flows gently through the regenerating bed, stripping the moisture that accumulated on the surface and inner pores of the desiccant during the drying cycle and exhausting it to the atmosphere.

EDB Blower Purge Desiccant Air Dryers Features

- Suitable for various industries and applications
- Stable dew point, the two towers when switching without dew point deviation
- Air consumption is low, the average air consumption is 2%, or even zero
- Low energy consumption, total cost of ownership is lower than heatless or heated dryer
- Reliable and simplified maintenance
- Can be detected, the preservation and transmission of the data operation

Dryer Selection

Dryers should not be selected upon costs alone, but on energy efficiency, delivered air quality, their suitability for the industry & application in which they are to operate, reliability and total cost of ownership.



Equipment



Control Valves

- Stainless Steel Body
- Stainless Steel Internals
- PTFE Seal
- Resistant to desiccant dust and able to be maintained without removal from dryer



High Performance Lug Style Butterfly Valve

- Position indicator for ease of locating valve position
- Non Lubricated, Fail Safe
- Valves remains in current position when there is a loss of power
- Carbon steel body / stainless steel internals
- -29°C to 260°C rated RPTFE Seal



Energy Efficient, Robust Blower

- Unique structure design
- Higher flow volume in the same back pressure condition
- Low running noise
- Easy maintenance
- Energy-saving design, low energy consumption,



High-quality Desiccant

- Pressure dew point of -40°C as standard (-70°C as option)
- Activated Alumina (PDP-40°C)
- Activated Alumina, Molecular Sieve (PDP-70°C)
- Low attrition rate & high adsorption rate
- Long service life

EDB Blower Purge Desiccant Air Dryers Advantages

- Blower Silencer
 - Control Air Filter
 - Long Life and Low Watt Density Heater
 - Independent Control Air Unit
 - Indoor Tower Insulation
 - Separate Tower Fill/Drain Ports
 - Power Saver Exhaust Termination (early regeneration)
 - Pressure Equalization
 - Stainless Steel Diffuser Screens
 - Standby Mode
 - Structural Steel Base
 - High Performance Butterfly Valves
 - Heatless Fallback mode
 - RS485 connection
 - IIoT connection*
- *Optional Equipment



Energy Saving Technologies(EST)



EST energy management system can automatically adjust energy use to actual moisture load. Moisture loading is affected by inlet temperature, pressure, relative humidity, and flow. These conditions vary throughout the day and rarely combine in such a manner as to produce maximum moisture loads. An inlet temperature reduction of just 7°C will reduce the moisture load by almost 50%. Desiccant dryers are normally sized for “worst case” operation with the cycle fixed sized to accommodate maximum moisture loads. Because the fixed cycle does not compensate for fluctuating loads, dryers not equipped with EST waste energy by regenerating more often than necessary.

EST eliminates this unnecessary use of energy by delaying regeneration until the total design moisture load is achieved. The system monitors actual moisture loading and limits the number of purge cycles accordingly.

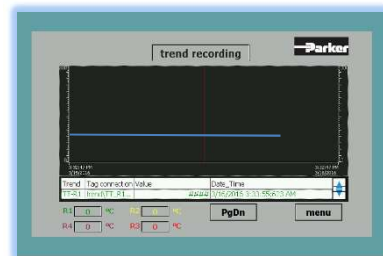
Control and Monitoring

Multi Operation Modes

- Fixed Cycle mode
- Variable Cycle mode
- Heatless fallback mode

Trend Data Logging System

- Fully trend data recording
- A complement of data acquisition functions including measurement of temperature, pressure and dew point
- Up to 4 weeks using internal memory
- Build in Modbus allows data to be accessed remotely



Complete Air Treatment

Without proper filtration, desiccant air dryers will not work. Desiccant dryers are designed to adsorb vapor from compressed air; they are not designed for liquid. When liquid, especially oil, is allowed to enter the desiccant chamber, it coats the desiccant material preventing any further adsorption. Oil coated desiccant can not be regenerated, and must be replaced.

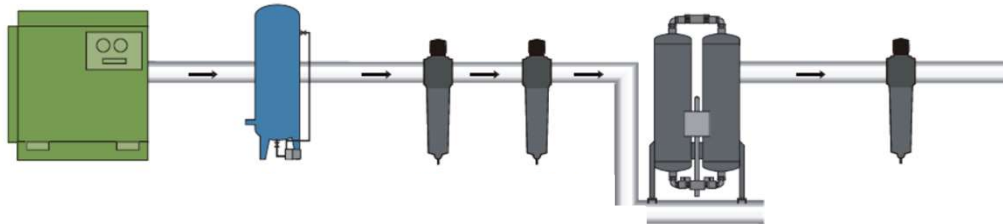
The coalescing pre-filter is installed at the dryer inlet. It protects the dryer by removing liquids and reducing the contamination level of the compressed air to .01 PPM by weight.

To protect downstream equipment from desiccant dust a particulate after-filter is installed at the dryer discharge. The after-filter element is designed to remove solid particulates from compressed air.



Compressor Room (Source)
Air Preparation Equipment:

Point-Of-Use
Air Preparation Equipment:



Parker provides complete compressed air treatment solutions to suit every industry, application & budget.



Scope of application

Installation location	Internal installation in non aggressive atmospheres;
Max. ambient humidity	25% rel. hum. at 40° C 37% rel. hum. at 35° C 50% rel. hum. at 30° C 70% rel. hum. at 25° C 90% rel. hum. at 20° C
Max. ambient temperature	50° C
Min. ambient temperature	1.5° C;
Installation location Operating pressure	4 to 10 barg
Flow medium	Compressed air

Approvals for pressure equipment

SELO (China Stamp), ASME VIII, DOSH, MOM

Quality assurance

Development / manufacture DIN EN ISO 9001, DIN EN ISO 14001

Air purity class as per ISO 8573-1:2010

Moisture (gaseous) Class 3 (PDP -20° C), class 2 (PDP -40° C); upon request Air purity class 1 (PDP -70° C)

Electrical connection

Standard mains voltage	380~440 V, 50/60 Hz, 3ph
Protection class	IP54

Correction Factors

Minimum Inlet Pressure	bar g	4.5	5	6	7	8	9	10
	psi g	58	73	87	100	116	131	145
CFT		0.63	0.77	0.89	1	1.14	1.28	1.4
Maximum Inlet Temperature	° C	30	35	38	40	45	50	
	° F	86	95	100	104	113	122	
CFT		1.5	1.16	1	0.88	0.68	0.53	

Example Calculations

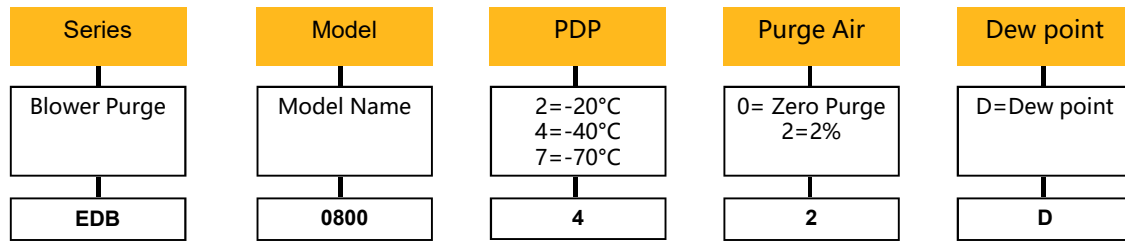
EDB5000 corrected for 8 bar + 45° C

Corrected Capacity = (Rated Capacity) x (Pressure Correction) x (Temperature Correction)

= (142 Nm³/min) x (1.14) x (.68)

= 110 Nm³/min

Dryer Coding Examples



Technical Data

2% Purge Air

Model	Flow Rate Nm ³ /min@ 7 bar g	Equivalent Power kW	Connect	Height mm	Width mm	Depth mm	Weight KG
EDB800	23	10	DN65	2350	2200	1280	2040
EDB1000	28	12	DN80	2700	2000	1450	2590
EDB1200	34	16	DN80	3000	2000	1450	2865
EDB1500	42	21	DN80	3000	2650	1600	3750
EDB2000	57	25	DN100	3000	3150	2000	4480
EDB2600	74	31	DN100	3100	3600	2100	5550
EDB3000	85	38	DN100	3100	3810	2050	6895
EDB4000	113	48	DN150	3100	4700	2500	8585
EDB5000	142	58	DN150	3100	4350	2750	9815
EDB6000	170	65	DN150	3100	4350	3150	12045
EDB7500	212	77	DN200	3650	4850	2750	13090

m³ relating to 1 bar(a) and 20 °C; relating to the suction performance of the compressor, compression at 7 bar and 38 °C dryer inlet temperature, at 38 °C ambient temperature, 60 % relative humidity.

Zero Purge Air

Model	Flow Rate Nm ³ /min@ 7 bar g	Equivalent Power kW	Connect	Height mm	Width mm	Depth mm	Weight KG
EDB800	16	12	DN65	2350	2200	1500	2250
EDB1000	20	14	DN80	2700	2200	1550	2850
EDB1200	24	18	DN80	3000	2200	1550	3150
EDB1500	30	23	DN80	3000	2500	1600	4200
EDB2000	40	26	DN100	3000	3410	2000	4950
EDB2600	52	34	DN100	3100	3600	2250	6150
EDB3000	60	40	DN100	3100	3810	2250	7590
EDB4000	80	49	DN150	3100	4700	2500	9455
EDB5000	100	58	DN150	3100	4350	2900	10800
EDB6000	119	66	DN150	3100	4350	3500	13250
EDB7500	148	78	DN200	3650	5150	3400	14400
EDB12000	238	150	DN250	3550	7500	3600	21300

m³ relating to 1 bar(a) and 20 °C; relating to the suction performance of the compressor, compression at 7 bar and 38 °C dryer inlet temperature, at 38 °C ambient temperature, 60 % relative humidity.

Equivalent Power is related with the controller, ambient temperature and dryer working load.

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