

ECLIPSE
Desiccant Air Dryers



ZPB

Heatless Regeneration

90-5,000 scfm

ZPB Heatless Regenerative Desiccant Compressed Air Dryers

Before compressed air is used in production, finishing or sensitive research or manufacturing processes, it must be treated to remove moisture and contaminants. Without proper treatment, air may damage equipment and tools, reduce productivity and adversely affect the quality of finished goods.

Eclipse™ desiccant dryers from ZEKS effectively and reliably dry compressed air to extremely low moisture levels for use in applications where the presence of even minimal moisture cannot be tolerated or where environmental conditions demand it.

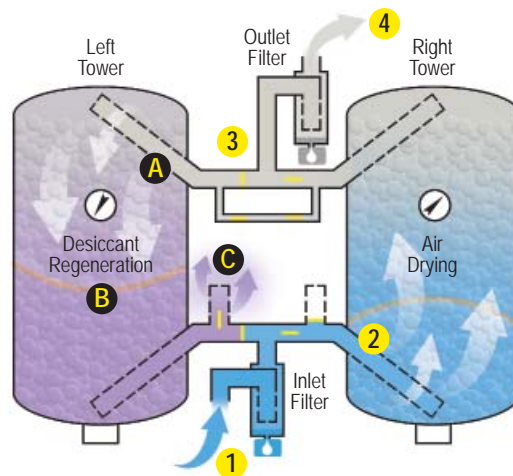
ECLIPSE™
Desiccant Air Dryers

Eclipse™ ZPB dryers remove moisture and contaminants from compressed air to make it useable where extremely high quality air is required. Compressed air flows alternately through twin towers that each contain desiccant media, providing continuous dry air downstream.

ZPB dryers in standard configuration deliver compressed air with a very low -40°F (Class 2) pressure dew point. An optional -80°F or -100°F (Class 1) dew point capability is available for applications requiring particularly dry air. Every ZPB dryer is built using time-proven components to ensure uninterrupted uptime of critical processes. With a wide array of optional features, ZPB dryers can be configured to suit any industrial environment.

ZPB Dryer Operation

Air Drying and Desiccant Regeneration are completed simultaneously in a timed process that alternates between the Left Tower and Right Tower.



Air Drying

- 1 Moisture-laden compressed air flows through Inlet Filter where bulk liquid and contaminants are removed.
- 2 Flow Valves direct air into online (drying) tower. Moisture is removed by adsorption as air flows upward through desiccant media.
- 3 Valves direct air through Outlet Header, then into Outlet Filter where residual particulates are removed.
- 4 High quality dry air flows to downstream processes.

Desiccant Regeneration

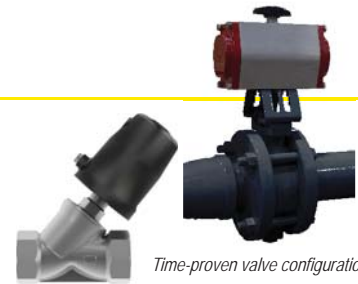
- A Valves direct a small portion of the dry compressed air into offline (regenerating) tower. (Alt. Source - Downstream Purge)
- B The air expands to atmospheric pressure as it flows downward, stripping accumulated moisture from desiccant media.
- C Moisture is purged from the dryer.

The process then repeats with opposite Tower assignments.

Eclipse™ dryers include features that optimize performance, reliability, and accessibility for service.

- **High Performance Switching Valves** - Time-proven reliability.
 - 90-600 SCFM - Stainless steel valves have 5-year service interval.
 - 800-5,000 SCFM - High performance butterfly valves have 3-year service interval.
- **Downstream Purge** - Purge air flow from downstream source saves energy and increases air compressor life.
- **Enhanced Digital Controller** - Included with the NEMA 4 option, displays system status, alarms and maintenance alerts; Precise control of valve sequence; Modbus-ready; RS-485 communications.
- **Accessible Control Solenoids** - Solenoid valves are mounted externally; Push-To-Test functionality facilitates troubleshooting.
- **Optional Filter Packages** - Pre- and after-filters available in several configurations. Bypasses also available for ease of dryer service.
- **Low Profile Design** - Permits installation in low clearance areas; Serviceable parts are positioned within reach reducing service time and enhancing safety.

ZEKS Distributors are trained to assist selection of the Eclipse™ model that will satisfy all application requirements and provide the most favorable energy use profile and long-term reliability.



Time-proven valve configurations.



Graphical display included with NEMA 4 option.



Factory-installed filtration available.



Eclipse™ manifold positioning facilitates maintenance and improves worker safety compared to competitive designs.



600ZPB shown in standard NEMA 1 configuration with optional inlet and outlet filters installed.



1800ZPB shown in optional NEMA 4 configuration.

Specifications

MODEL	FLOW CAPACITY SCFM*		AIR CONNECTION IN/OUT	DIMENSIONS** INCHES			SHIPPING WEIGHT** LBS
	-40°F PDP	-100°F PDP		WIDTH	DEPTH	HEIGHT	
90ZPB	90	72	1.0" FPT	40.5	30.0	63.0	531
120ZPB	120	96	1.0" FPT	40.5	30.0	63.0	563
160ZPB	160	128	1.5" FPT	44.5	32.0	66.0	707
200ZPB	200	160	1.5" FPT	44.5	32.0	66.0	731
250ZPB	250	200	1.5" FPT	48.5	32.0	67.0	869
300ZPB	300	240	2.0" FPT	48.5	32.0	67.0	924
400ZPB	400	320	2.0" FPT	52.5	32.0	68.0	1,115
500ZPB	500	400	2.0" FPT	56.5	33.0	82.0	1,564
600ZPB	600	480	2.0" FPT	56.5	33.0	82.0	1,664
800ZPB	800	640	3.0" FPT	64.0	42.0	88.0	2,017
1000ZPB	1,000	800	3.0" FPT	64.0	42.0	88.0	2,237
1200ZPB	1,200	960	3.0" FPT	64.0	42.0	88.0	2,424
1500ZPB	1,500	1,200	4.0" FLG	78.5	55.0	81.0	2,974
1800ZPB	1,800	1,440	4.0" FLG	84.0	61.0	92.0	3,905
2100ZPB	2,100	1,680	4.0" FLG	84.0	61.0	92.0	4,279
2700ZPB	2,700	2,160	4.0" FLG	84.0	61.0	92.0	4,926
3300ZPB	3,300	2,640	6.0" FLG	96.0	66.0	100.0	6,737 †
4000ZPB	4,000	3,200	6.0" FLG	96.0	66.0	100.0	7,206 †
5000ZPB	5,000	4,000	6.0" FLG	102.0	72.0	92.0	8,932 †

Performance data obtained as per ISO 7183, Table 2, Option A2.

* Pressure Dew Point (PDP) at 100 psig, 100°F inlet air, 100°F ambient air.

Pressure vessels are designed and constructed in accordance with ASME requirements.

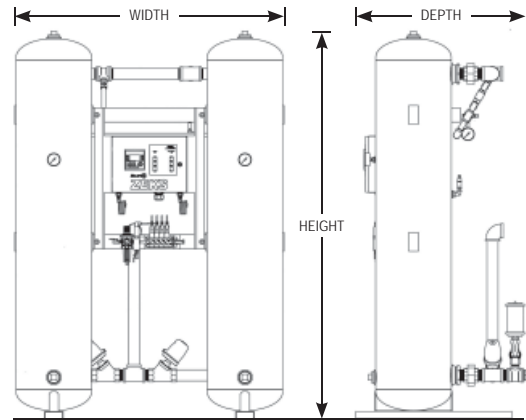
Maximum Working Pressure is 150 psig.

Minimum Working Pressure is 75 psig.

Desiccant is factory-installed on models 90-2700 ZPB.

† Desiccant shipped loose with dryer for field installation on models 3300-5000 ZPB.

ZPB dryers are wired for 115V-1Ph-60Hz electrical power.



** Dimensions and weights shown are for base models only. Optional equipment may alter dryer dimensions and weights. Dimensions and weights are approximate.

Standard Features:

- NEMA 1 Electrical Enclosure
- High Performance Switching Valves:
 - 90-600 SCFM - Stainless steel angle seat valves
 - 800-5,000 SCFM - High performance butterfly valves
- Stainless Steel Purge Valves - Position Indicator
- -40°F Dew Point Air Quality
- Solid State Timer
- Downstream Purge
- Illuminated Status Indication
- Blue Moisture Indicator
- Sound Attenuating Mufflers
- Tower Pressure Gauges
- Pressure Relief Valves
- Prominent Purge Pressure Gauge
- High Strength Activated Alumina Desiccant
- ASME Coded Towers
- Removable Stainless Steel Diffuser Screens
- Accessible Fill and Drain Ports

Optional Features:

- NEMA 4 Electrical Configuration:
 - Digital controller with backlit LCD
 - Graphical interface
 - External communication - Modbus/RS-485 port
 - Maintenance reminders
 - User-adjustable baud rate
 - DynOptic™ Schematic: Dryer ON; Tower status; Alarm annunciation
 - Remote alarm contact
- -80°F and -100°F Dew Point Air Quality
- Moisture Load Control (MLC)
- Fail-To-Shift alarm
- Dew Point Display (Requires NEMA 4 and MLC)
- High Humidity Alarm
- Filter Packages:
 - 90-1500ZPB - Filters pre-installed on dryer
 - 1800-5000ZPB - Filters shipped separately for field installation
- Pneumatic Controls
- Stainless Steel Control Air Tubing
- Custom Engineered Options



Refer to ZEKs Product Warranty Policies And Procedures (Based on annual 5-day per week, 3-shift operation.)



ZEKS Eclipse™ Desiccant Air Dryers are not designed, intended or approved for breathing air applications.

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