

**Externally Heated
Blower Purge
Compressed Air Dryers**

GXB



PSB INDUSTRIES INC.
General Air Division
ISO 9001:2000 CERTIFIED



The GXB Dryer is an ideal system for drying large volumes of instrument or process air.

GXB dryers utilize atmospheric air for adsorbent reactivation. The open loop regeneration circuit consists of a blower equipped with an inlet filter/silencer, an external electric heater and individual purge exhaust valves and mufflers.

Principle of Operation

During adsorption (drying) the wet process air flows upward through the on-line desiccant bed reducing the moisture content to a -40°F dew point or better. The off-line desiccant bed requires reactivation. A regenerative blower is utilized to drive atmospheric air through the external electric heater where it is heated. As the hot purge air flows downward through the desiccant bed moisture is released and carried to the atmosphere. Shutting of the electric heater and continuing to circulate atmospheric air from the blower cools the desiccant bed. A portion of dry outlet air is then directed through the bed to complete cooling.

Controls and Indicators – The GXB Dryer operation is controlled by a programmable logic controller. The front of the control panel is fitted with indicating lights for Power On, On Line and Regenerating Tower Status, Blower On, Heater On and Dryer Malfunction. Other indicators are available depending on installed options.

Switching Valves – GXB dryers with 2” and smaller piping utilize non-lubricated valves specifically designed for compressed air service. Employing a straight through low pressure drop design these valves are simple, reliable and offer ease of maintenance when required. On dryers with 3” and larger piping, high performance butterfly valves provide low pressure drop and proven performance.



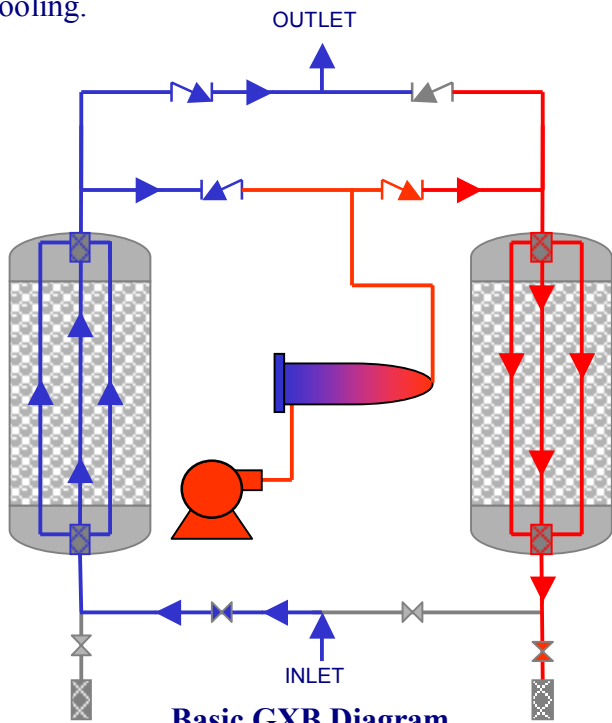
Regenerative Blower – Designed for high quality and reliability in a smaller, lighter blower, these direct drive units consume less power than competitive models. With only one moving part and self lubricating bearings these units are virtually maintenance free.



Cycle Demand Energy Saver – Optional on all GXB dryers. A sample of air from the on-line bed is continuously analyzed for moisture content. If the humidity level is below the set point at the end of the adsorption cycle the bed will remain on-line until the humidity rises at which time the cycle would resume and switchover would occur.

Cycle Fail – Optional on all GXB dryers. Pressure switches monitor the status of each tower. If a cyclic malfunction is detected while in the heated mode of operation the dryer sequence is halted and an alarm is signaled. If in the heatless mode of operation the dryer sequence continues and an alarm is signaled.

High Humidity – Optional on all GXB dryers. A sample of air at the dryer outlet is continuously analyzed. If the humidity of the sample exceeds the humistat set point an alarm is signaled.



Basic GXB Diagram

Heated/Heatless Mode of Operation - GXB heat regenerative dryers are equipped with a heatless backup mode of operation. In the unlikely event of a heater or blower malfunction, the dryer can be switched to operate in heatless mode until repairs can be made.



External Electric Heater – Utilizing a low watt density design and high quality incoloy elements, the external heater is resistant to high temperature and corrosion providing for long service life. The external configuration allows for even heat and flow distribution through the desiccant bed and easy access for maintenance if required.

REGENERATIVE DRYERS MUST HAVE CLEAN, OIL-FREE AIR.

Factory Mounted Filter and Bypass Piping – A properly sized coalescing pre-filter with automatic drain is recommended to protect desiccant from water and/or oil contamination. An after-filter is recommended to protect downstream equipment and components from desiccant dust. Factory mounting of these components will reduce installation costs and ensure performance and system integrity.



GXB with Dual Pre-Filter

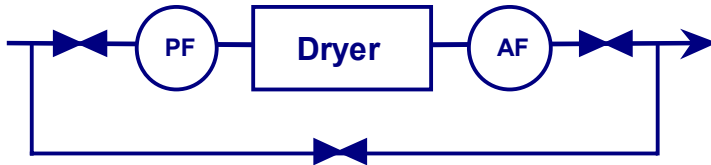
Basic Package

Mounted Pre-filter, After-filter and Piping*



System Bypass Package

Mounted Pre-filter, After-filter and Piping with 3 Valve Bypass.*



Other Filter Options Available:

- Shipped loose for customer installation
- Dual pre-filter and/or dual after-filter

***Includes:**

- ΔP indicator installed on pre-filter
- Automatic condensate drain on pre-filter
- ΔP indicator installed on after-filter



GXB Series

Standard Equipment

- Control power on switch and light
- Heater and blower on light
- Activated alumina desiccant
- Desiccant drain and fill ports
- Stainless steel desiccant screens
- Control air filter
- 460V/3PH/60HZ supply power
- 115V control circuit
- NEMA 4 control enclosure
- -40°F pressure dew point
- Tower mounted pressure and temperature gauges

- Controlled repressurization
- ASME code pressure vessels
- Enamel exterior finish
- Tower lifting lugs
- Safety relief valves
- Single external heater w/ adjustable temperature control
- Depressurization exhaust mufflers
- Aluminum jacketed tower, heater and hot piping
- Blower motor thermal overload protection
- Blower inlet filter

Optional Equipment

- Color change moisture indicator
- Digital dew point readout
- Cycle Demand – Energy Saver
- Cycle Fail indicator with alarm and remote contacts
- High Humidity indicator with alarm and remote contacts

GXB SPECIFICATIONS and DIMENSIONS

Model	Inlet Capacity SCFM*	Dimensions with Basic Filter Package** (inches)			Heater Size (KW)	Blower HP	In/Out Connection (inches)	Desiccant per tower lbs.	Approx. weight lbs.
		L	W	H					
GXB-100	100	54	42	78	3.0	0.125	1	Contact Factory	Contact Factory
GXB-200	200	54	42	78	4.6	0.5	1 ½		
GXB-300	300	66	48	86	6.0	0.5	1 ½		
GXB-400	400	96	48	86	7.5	1.0	2		
GXB-500	500	96	48	91	9.0	1.0	2		
GXB-600	600	96	48	91	12.5	1.0	2		
GXB-800	800	96	48	96	16.0	2.5	2		
GXB-1000	1000	108	54	102	18.0	5.0	3		
GXB-1200	1200	108	54	102	25.0	5.0	3		
GXB-1500	1500	144	72	102	30.0	7.5	4		
GXB-2000	2000	156	84	112	38.0	7.5	4		
GXB-2600	2600	204	84	112	50.0	7.5	4		
GXB-3000	3000	204	84	112	50.0	10.0	6		
GXB-4000	4000	204	96	112	75.0	15.0	6		
GXB-5000	5000	204	96	112	80.0	20.0	6		
GXB-6000	6000	204	96	112	100.0	25.0	6		

*SCFM capacity rated at inlet condition of 100 psig, 100°F and 100% RH to a -40°F outlet PDP nominal.

**Dimensions and specifications subject to change.

Operating Conditions:	Maximum	Minimum
Pressure:	150 psig	60 psig
Inlet Air Temperature:	120°F	40°F
Ambient Air Temperature:	120°F	40°F



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