

# Air Dryers and Filters

## Geotech Regenerative Desiccant Air Dryers

Geotech offers heatless regenerative air dryers for use with air compressors when clean, dry air is required to operate pneumatically powered industrial and environmental equipment such as pumps, valves and other controls. Our dryers can be used with fractional horsepower compressors as well as the larger compressors required for environmental remediation system applications.

### FEATURES

- Very dry outlet air to  $-100^{\circ}\text{F}$  ( $-73^{\circ}\text{C}$ ) dew point
- Flow capacities of .1 SCFM (.0028<sup>3</sup>/min.) to 50 SCFM (m<sup>3</sup>/min.)
- Compact and lightweight design requires less space
- Solid-state timer with built-in memory for accurate cycling and energy savings
- Install at point-of-use or use with fractional horsepower air compressors
- Precision orifices to control purge
- Non-plugging and non-corroding purge mufflers
- Standard NEMA 4 Electricals
- Designed for the 21st Century and based on field-proven Pressure Swing Adsorption (PSA) technology.

### APPLICATIONS

- Ozone Generators
- Environmental Chambers
- Pneumatic Automation Systems
- Dental Air Compressors
- FTIR Spectrometers
- Laboratory Analyzers
- Dry Nitrogen Replacement
- Gas Chromatographs
- Air Operated Pumps



GTHDD Series  
Air Dryers



GTRDD Series  
Air Dryers

### HEATLESS DESICCANT DRYER GENERAL PRINCIPLE

The GTHDD and GTRDD Series Air Dryers use the pressure swing adsorption method of drying compressed air. This requires two identical towers containing beds of hygroscopic desiccant.

Incoming wet air enters the dryer through a shuttle valve where it is directed to the bottom of the tower containing dry desiccant. The desiccant in this tower removes 99.7+% of the water vapor from the air when operated at catalog conditions. The dried air leaving the top of the tower is directed to the outlet through a second shuttle valve. In this outlet shuttle valve a built-in orifice allows a portion of the dried air to flow into the other tower being regenerated. The orifice reduces the high pressure air down close to atmospheric pressure which lowers the dew point of the dried air even further.

The tower being regenerated/purged of moisture is connected to an energized solenoid valve for a controlled period of time. The electrical signal to the solenoid is monitored by an LED light on the solid state timer. After the desiccant is regenerated, the timer de-energizes the solenoid valve. Air continues to flow through the orifice, repressurizing the regenerated tower to line pressure. The middle light on the timer indicates the repressurization function.

Next, the timer opens the valve on the tower containing the wet desiccant. This shifts the shuttle valves, and the tower with the wet desiccant is regenerated while the other tower continues to dry the air.

**CALL GEOTECH TODAY (800) 833-7958**

**Geotech Environmental Equipment, Inc.**

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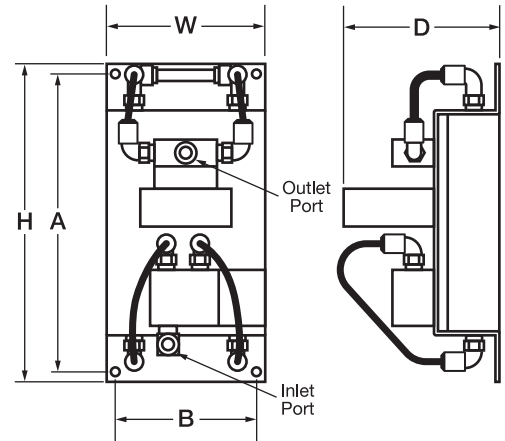
email: sales@geotechenv.com website: www.geotechenv.com

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## Geotech Regenerative Desiccant Air Dryers

### GTHDD SERIES SPECIFICATIONS

MODEL	0.4	0.8	1.1	1.6	2.4	3.2
<b>Flows at 100 PSIG:</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>
Inlet Flow	0.40 (.0113)	0.80 (.0227)	1.10 (.031)	1.60 (.0453)	2.40 (.068)	3.20 (.0906)
Purge Flow	0.10 (.003)	0.20 (.0057)	0.27 (.0076)	0.40 (.0113)	0.60 (.017)	0.80 (.0227)
Outlet Flow	0.30 (.0085)	0.60 (.017)	0.83 (.0235)	1.20 (.034)	1.80 (.051)	2.40 (.0680)
<b>Connections (NPT):</b>						
Inlet Port	1/8"	1/8"	1/8"	1/8"	1/4"	1/4"
Outlet Port	1/8"	1/8"	1/8"	1/8"	1/4"	1/4"
<b>Dimensions:</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>
H	7 (17.8)	10.3 (26.2)	8.8 (22.3)	10.1 (25.6)	9.5 (24.1)	11.4 (29)
W	3.5 (8.9)	3.5 (8.9)	4 (10.2)	4 (10.2)	5 (12.7)	5 (12.7)
D	3.3 (8.4)	3.3 (8.4)	3.5 (8.9)	3.5 (8.9)	3.8 (9.6)	3.8 (9.6)
A	6.6 (16.8)	9.9 (25.1)	8.4 (21.3)	9.7 (24.6)	9 (22.9)	11 (27.9)
B	3.1 (7.8)	3.1 (7.8)	3.6 (9.1)	3.6 (9.1)	4.5 (11.4)	4.5 (11.4)
<b>Weight: Pounds (Kg)</b>	1.4 (.63)	1.5 (.68)	1.6 (.73)	1.9 (.86)	2.2 (1)	3.1 (1.4)



#### All Models:

Voltages Available	115/1/50/60, 220/1/50/60, 12 or 24 volt DC
Maximum Temperature	120°F (49°C) ambient
Maximum Pressure	120 PSIG (8 bar)
Outlet Dew Point	Std. -40°F (-40°C) pressure dew point with 100°F (38°C) saturated inlet Opt. -100°F (-73°C) atmospheric dew point

#### Recommended Filtration On Inlet:

Lubricated Compressor	5.0 micron filter and 0.01 micron filter w/auto drain
Non-lubricated Compressor	5.0 micron filter w/auto drain

### GTRDD SERIES SPECIFICATIONS

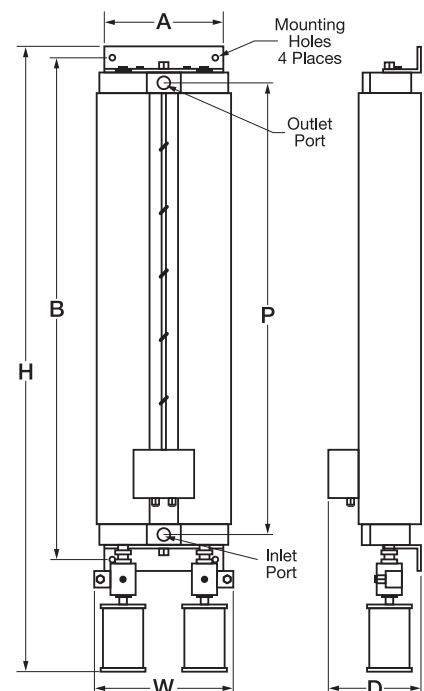
MODEL	3	6	9	12	16	25	35	50
<b>Flows at 100 PSIG:</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>	<b>SCFM (m<sup>3</sup>/m)</b>
Inlet Flow	3.0 (.085)	6.0 (.1699)	9.0 (.2549)	12.0 (.3398)	16.0 (.4531)	25.0 (.708)	35.0 (.9912)	50.0 (1.416)
Purge Flow	0.8 (.0227)	1.6 (.0453)	2.4 (.068)	3.2 (.0906)	3.4 (.0963)	5.4 (.1529)	7.8 (.2209)	10.8 (.3059)
Outlet Flow	2.2 (.0623)	4.4 (.1246)	6.6 (.1869)	8.8 (.2492)	12.6 (.3568)	19.6 (.5551)	27.2 (.7703)	39.2 (1.110)
<b>Connections (NPT):</b>								
Inlet Port	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Outlet Port	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
<b>Dimensions:</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>	<b>In. (cm)</b>
H	13.6 (34.5)	18.2 (46.2)	17.3 (43.9)	20.1 (51)	33 (83.8)	41.9 (106.4)	39.3 (99.8)	46.3 (117.6)
W	7.4 (18.8)	7.4 (18.8)	7.4 (18.8)	7.4 (18.8)	9.5 (24.1)	9.5 (24.1)	10 (25.4)	10 (25.4)
D	5.2 (13.2)	5.2 (13.2)	5.2 (13.2)	5.2 (13.2)	6.5 (16.5)	6.5 (16.5)	7 (17.8)	7 (17.8)
P	9.3 (23.6)	13 (33)	12.1 (30.7)	14.9 (37.8)	20.7 (52.6)	29.5 (74.9)	26.5 (67.3)	33.5 (85.1)
A	5.8 (14.7)	5.8 (14.7)	5.8 (14.7)	5.8 (14.7)	7 (17.8)	7 (17.8)	9 (22.9)	9 (22.9)
B	2.8 (7.1)	2.8 (7.1)	2.8 (7.1)	2.8 (7.1)	23.6 (59.9)	31.3 (79.5)	31.3 (79.5)	37 (94)
<b>Weight: Pounds (Kg)</b>	8 (3.63)	9 (4.08)	10 (4.54)	11 (4.99)	29 (13.15)	34 (15.42)	59 (26.76)	65 (29.48)

Note: GTRDD 16-50 dryers (shown) have brackets top and bottom. GTRDD 3-12 dryers have single 4-hole brackets.

#### All Models:

Voltages Available	115/1/50/60, 230/1/50/60
Maximum Temperature	120°F (49°C) ambient
Maximum Pressure	150 PSIG (10 bar)
Outlet Dew Point	-40°F (-40°C) pressure dew point with 100°F (38°C) saturated inlet

**Recommended Filtration On Inlet:** 5.0 micron particulate filter and 0.01 micron coalescing filter w/auto drains



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