



PNEUMATIC PRODUCTS

The LHA Series Heatles Desiccant Air Dryer will protect your process and pneumatically operated equipment from the potentially harmful effects of moisture that is present in typical compressed air systems. LHA Series Dryers will produce pressure dew points of -40°F (-40°C) or -100°F (-73°C) thereby protecting air systems that are exposed to below freezing temperatures.

The LHA Series Dryers incorporate a time proven design, with superior features and reliability, in a compact and easy to install package. Standard features include:

Simple Heatles Design

- ◆ Non-lubricated, soft seated control valves provide maximum reliability and reduced maintenance.
- ◆ Engineered desiccant towers minimize purge air consumption and increase desiccant bed life.
- ◆ Heavy duty purge exhaust muffler for quiet operation.

Reliable Solid State Timer

- ◆ Standard 10 minute cycle increases desiccant and switching valve life over units operating on shorter cycles.
- ◆ Fully repressurizes the regenerating tower before going on-stream to prevent bed movement and loss of pressure downstream.
- ◆ Field adjustable for 4 minute cycle if -100°F (-73°C) pressure dew point is required

Integral Support Screens and Air Diffusers (Top and Bottom of Vessels)

- ◆ Stainless Steel construction for long, corrosion free life.
- ◆ Easily removed to perform maintenance.
- ◆ Prevents desiccant channeling resulting in extended bed life.



Easy to Read Control Panel

- ◆ Power on light
- ◆ On-off switch
- ◆ Tower pressure gauges

Pre and After Filter Kit

- ◆ Model 35SU1-G8 coalescing prefilter with integral drain valve protects the desiccant bed against contamination from liquid water or lubricant.
- ◆ Model 35AF1-G8 particulate afterfilter, rated at 1 micron, removes desiccant dust fines to protect downstream components.
- ◆ Pre-engineered piping kit for ease of field mounting.

Moisture Indicator Kit includes

- ◆ Moisture indicator to provide visual verification of dryer performance.
- ◆ Piping kit for ease of field installation.

Sheetmetal Wall Mounted Enclosure

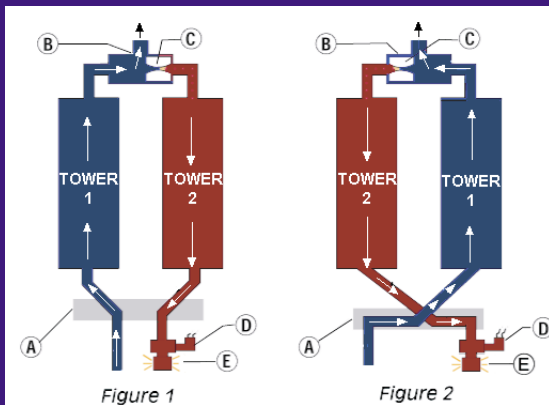
- ◆ All dryer components are completely assembled, piped, and wired. (All filters and moisture indicator are field installed.)
- ◆ All models include a 6' (1.8 m) cord set.



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OPERATION (See Figures 1 and 2)

- Compressed air enters the dryer and is directed to Tower 1 by valve (A) and then to the dryer outlet through shuttle valve (B). A portion of the dried air is throttled to near atmospheric pressure by means of orifice (C). This extremely dry, low pressure air flows through and regenerates the desiccant in Tower 2 and is exhausted through purge/repressurization valve (D) and exhaust muffler (E) to atmosphere.
- After a set time, the automatic solid state timer closes purge/repressurization valve (D) allowing Tower 2 to repressurize slowly.
- At the end of 5 minutes (when operating on a 10 minute cycle, 2 minutes on a 4 minute cycle), valve (A) shifts and purge/repressurization valve (D) re-opens.
- See Figure 2. The main air flow is now dried by Tower 2 while Tower 1 is being regenerated.



Dimensions, Connections, Weight					
Model	Dimensions			In/Out Connections NPT or BSP	Weight lb [kg]
	Height in [mm]	Width in [mm]	Depth in [mm]		
LHA-5	31½ [775]	31 [787]	6 11/16 [170]	½"	97 [44]
LHA-10	31½ [775]	31 [787]	6 11/16 [170]	½"	134 [61]
LHA-15	31½ [775]	31 [787]	6 11/16 [170]	½"	151 [68]
LHA-20	31½ [775]	37 [940]	8 9/16 [217]	½"	186 [85]
LHA-25	31½ [775]	37 [940]	8 9/16 [217]	½"	211 [96]

ENGINEERING DATA

1. Flow Capacities

- Maximum inlet flow capacities at various pressures:
To determine maximum inlet flow at inlet pressures other than 100 psig (7 bar), multiply inlet flow from Table 1 by multiplier A from Table 2 that corresponds to system pressure at inlet of dryer.
 - Purge flow at various capacities: To determine purge flow at inlet pressures other than 100 psig (7 bar), multiply purge flow at 100 psig, (7 bar), from Table 1 by multiplier B from Table 2 that corresponds to system pressure at inlet of dryer.
 - Outlet flow capacities: To determine outlet flow capacity, subtract purge flow from inlet flow.
- #### 2. Operating conditions
- Electrical:
Power: Choice of 120/110 VAC 1ph 60/50 Hz, 240/220 VAC, 1ph 60/50 Hz, 12 VDC
Enclosure: NEMA 1, IP 23 standard; others available.
 - Minimum working pressure: 50 psig (3.4 bar).
Contact factory for lower pressures.
 - Maximum working pressure: 150 psig (10.3 bar).
 - Pressure drop: under 3 psi (0.21 bar).
 - Maximum inlet air or ambient temperature: 120°F (49°C).

TABLE 1 Inlet and purge flows @ 100 psig (7 bar)

Model	Cycle Time	Inlet Flow scfm [m³/min]	Purge Flow ²	
			Average Purge Flow scfm [m³/min]	Maximum Purge Flow scfm [m³/min]
LHA-5	10	5 [0.14]	1.0 [0.03]	1.1 [0.03]
LHA-10	MINUTE	10 [0.29]	2.0 [0.06]	2.2 [0.06]
LHA-15	-40°F	15 [0.43]	3.0 [0.09]	3.3 [0.09]
LHA-20	(-40°C)	20 [0.57]	4.0 [0.11]	4.4 [0.13]
LHA-25	PDP	25 [0.72]	5.0 [0.14]	5.5 [0.16]
LHA-5	4	4.3 [0.12]	0.8 [0.02]	1.1 [0.03]
LHA-10	MINUTE	8.5 [0.24]	1.7 [0.05]	2.2 [0.06]
LHA-15	-100°F	13 [0.37]	2.6 [0.07]	3.3 [0.09]
LHA-20	(-73°C)	17 [0.49]	3.4 [0.10]	4.4 [0.13]
LHA-25	PDP	21 [0.60]	4.4 [0.13]	5.5 [0.16]

1. Inlet flows are established in accordance with CAGI (Compressed Air and Gas Institute) standard ADF-200, Dual Stage Regenerative Desiccant Compressed Air Dryers - Methods for Testing and Rating. Conditions for rating dryers are: inlet pressure - 100 psig (7 bar); inlet temperature - saturated at 100°F (38°C).

2. Average Purge Flow is the total amount of air used to purge and repressurize off-stream towers averaged over the cycle time.

Maximum Purge Flow is the flow rate through the off-stream tower during that portion of the cycle the purge/repressurization valve is open.

Table 2 Correction Factors

Inlet Pressure	psig bar	50	70	90	100	110	120	130	150
		3.5	4.9	6.3	7.0	7.7	8.4	9.1	10.5
Multiplier A		0.31	0.54	0.83	1.00	1.09	1.17	1.26	1.44
Multiplier B		0.55	0.73	0.91	1.00	1.09	1.17	1.26	1.44

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