GSA
Global Standard Air KOREA

Desiccant Air Dryer - Heatless type

Top-Quality / Eco-Friendly

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Why Desiccant Air Dryer? - Heatless Type

Compressed air dryers reduce the quantity of water vapor, liquid water, hydrocarbon, and hydrocarbon vapor in compressed air. Moisture in compressed air is harmful. Water damages a compressed air system several ways.

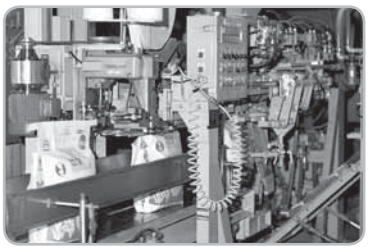
Erosion
Water mist erodes piping, valves and other system components.

Corrosion
Mist condenses and combines with salts and acids within the system forming highly corrosive solutions.

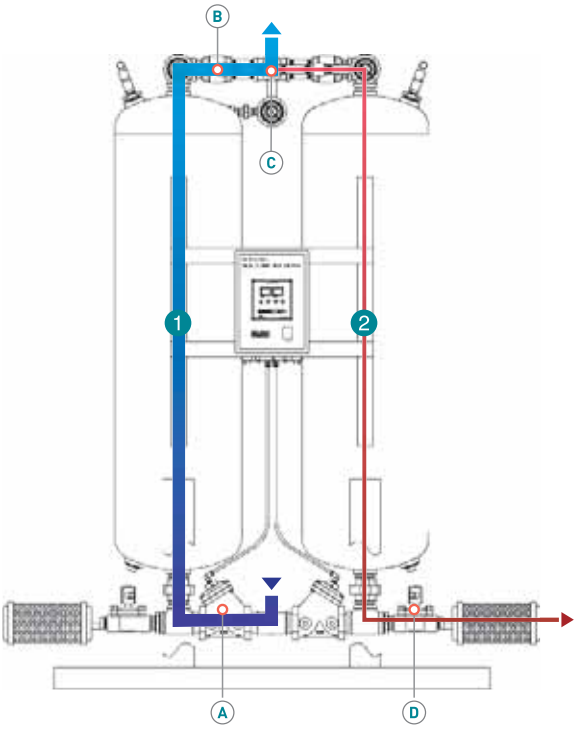
Microbial Contamination
Moisture supplies a growth medium for bacteria and mold, which produce acidic waste and can be a health threat.

Freezing
Water can freeze in compressed air lines shutting down the system.

The result is lower productivity, increased maintenance, and higher operating costs. You can minimize the damage wet compressed air can inflict on your system by drying it. Compressed air is dried to protect the system's piping and process equipment. Dry air also protects against lost product. Most pneumatic equipment has a recommended operating pressure, dryness level, and a maximum operating temperature. Set your compressed air's systems dryness level to exceed the requirements of the equipment it powers.
A regenerative desiccant dryer typically delivers a dew point of between –40 °F(–40°C) and –100°F (–73 °C).



Desiccant Air Dryer operation



Moist and filtered compressed air enters the dryer and is directed to Tower 1 by inlet valve (A) and then to the dryer outlet through check 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 valve (D) and exhaust muffler to atmosphere. After a set time, the control solenoid valve closes purge valve (D) allowing Tower 2 to repressurize slowly. After the purification process, the purge valve (D) is opened and purge air is discharged.

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Why GSA Desiccant Air Dryer - Heatless type?

1. **Safety Valve**
   - It automatically releases the compressed air from the vessels when the pressure exceeds preset limit.
2. **Activated Alumina Gel**
   - It adsorbs and removes the moisture in compressed air.
3. **Control Box**
   - You can set overall operation of the unit and it display the operating information.
4. **Muffler**
   - It reduces the noise level when purging the compressed air.
5. **Check Valve**
   - It prevents the compressed air from flowing backward.
6. **Orifice & Purge Control Valve**
   - It controls the flow rate of compressed air for regeneration.
7. **Purge Valve**
   - It controls the flow of regenerated air.
8. **Inlet Valve**
   - It controls the inlet of compressed air by controlling the flow of compressed air.

Safety Valve
It is durable because its structure is simple. Besides, it is strong against strain and leakage because its disc and seat are machined precisely.

Activated Alumina Gel
We use a world top quality activated alumina gel. It is strong for water-contact and its contact surface is big. It is suitable for adsorbent media because it is neither broken easily nor produce much powder as it is strong against friction and mechanical impact.

Control Box
It is easy to control the dryer and to change the time of drying and regeneration because we use PCB. Therefore, we can apply the unit in various conditions. Reset is convenient.

Muffler
We use a world top quality muffler. It can reduce 85% of noise of purge air.

Orifice
We applied a close tolerance machined orifice in order to control the compressed air volume for regeneration precisely which reduces purge loss as a result.

Inlet Valve
Aquamatic valve is applied for controlling the direction of compressed air effectively.

Control Air Filter
It gets rid of fine dust in compressed air before pneumatic valve which can reduce its failure rate and prolong the life time as a result.

Control valve
We use a world top quality control valve. It saves energy and control the valve effectively by converting the electric signal of control box to pneumatic signal.

Upgrade your compressed air treatment system with GSA's aftercoolers, refrigerated air dryers, adsorption dryers, drains, filters, chillers and PSA system.

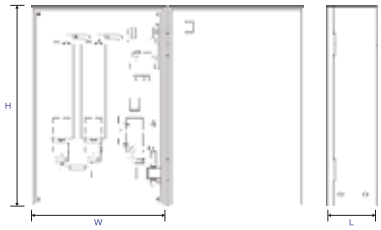
Technical Specifications

	Model (Heatless)	Flow Capacity			Max. Operating Temperature	Max. Operating Pressure	Pressure Differential at full load	Connection	Dimension (W × L × H)	Weight	
		m³/min	m³/hr	cfm	°C	Bar	Bar	inch	mm	Desiccant	Total weight
SHL	5	0.15	9	5	40	9.7	0.3	3/8" PT	500 × 225 × 745	2.3	
SHL	10	0.28	17	10				3/8" PT	500 × 225 × 745	3.2	
SHL	15	0.42	25	15				3/8" PT	500 × 225 × 745	6.8	
SHL	20	0.57	34	20				3/8" PT	500 × 225 × 745	11	
PHL	25	0.72	43	25				1/2" PT	840 × 305 × 1,000	13	
PHL	35	1.00	60	35				3/4" PT	840 × 305 × 1,235	18	
PHL	50	1.42	85	50				3/4" PT	840 × 305 × 1,570	25	
PHL	75	2.13	128	75				3/4" PT	1,150 × 435 × 1,595	38	
PHL	100	2.83	170	100				1" PT	1,150 × 435 × 1,770	50	
PHL	125	3.55	213	125				1" PT	1,150 × 435 × 1,770	57	
PHL	150	4.25	255	150				1" PT	1,150 × 435 × 1,770	63	
PHL	175	4.95	297	175				1 1/2" PT	1,150 × 485 × 1,795	75	
PHL	200	5.67	340	200				1 1/2" PT	1,150 × 485 × 1,795	87	
PHL	250	7.08	425	250				1 1/2" PT	1,270 × 550 × 1,770	124	
PHL	350	11.00	660	388				1 1/2" PT	1,270 × 585 × 1,880	174	
PHL	500	14.17	850	500				2" PT	1,400 × 680 × 2,100	248	
PHL	660	18.42	1,105	650				2" PT	1,400 × 770 × 2,255	322	
PHL	800	22.67	1,360	800				3" FLG	2,100 × 920 × 2,500	397	
PHL	1000	28.33	1,700	1,000				3" FLG	2,100 × 920 × 2,500	496	
PHL	1200	34.00	2,040	1,200				3" FLG	2,100 × 920 × 2,500	595	
PHL	1400	39.67	2,380	1,400				3" FLG	2,590 × 1,050 × 2,650	694	
PHL	1600	45.33	2,720	1,600				4" FLG	2,590 × 1,050 × 2,800	798	
PHL	1800	51.00	3,060	1,800				4" FLG	2,590 × 1,050 × 2,800	862	
PHL	2000	56.67	3,400	2,000				4" FLG	2,590 × 1,050 × 2,800	998	
PHL	2250	63.75	3,825	2,250				4" FLG	2,590 × 1,205 × 2,800	1,123	
PHL	2500	70.83	4,250	2,500				4" FLG	2,590 × 1,205 × 2,800	1,248	
PHL	2750	77.92	4,675	2,750				4" FLG	2,590 × 1,205 × 2,490	1,361	
PHL	3000	85.00	5,100	3,000				6" FLG	2,590 × 1,205 × 2,975	1,497	
PHL	3500	99.17	5,950	3,500				6" FLG	3,000 × 1,360 × 3,215	1,747	
PHL	4000	113.33	6,800	4,000				6" FLG	3,100 × 1,360 × 3,215	1,996	

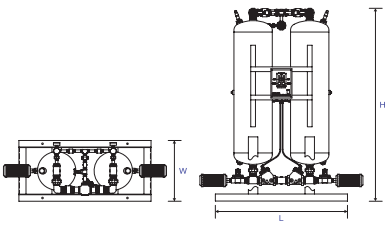
*Notes
> 220V 1Phase 60Hz is standard.
> Standard dew-point is -40°C and -70°C is available.
> Upon request for customer-engineered products.

The specifications can be changed without notice to improve the quality.

SHL



PHL



Conversion Factors

Inlet temperature	°C	27	32	**38**	43	49	
Factor	f_1	1.14	1.12	**1.00**	0.75	0.65	
Inlet pressure	kg/cm²	2.0	3.5	5.0	**7.0**	8.0	9.0
Factor	f_2	0.40	0.55	0.76	**1.00**	1.16	1.24

Example

Volume flow (v)	m³/hr	500		Factor		V	500		575	PHL - 350
Inlet temperature (f_1)	°C	43	=	0.75	=	$f_1 \times f_2$	=	0.75×1.16	=	
Inlet pressure (f_2)	bar	8	=	1.16						

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