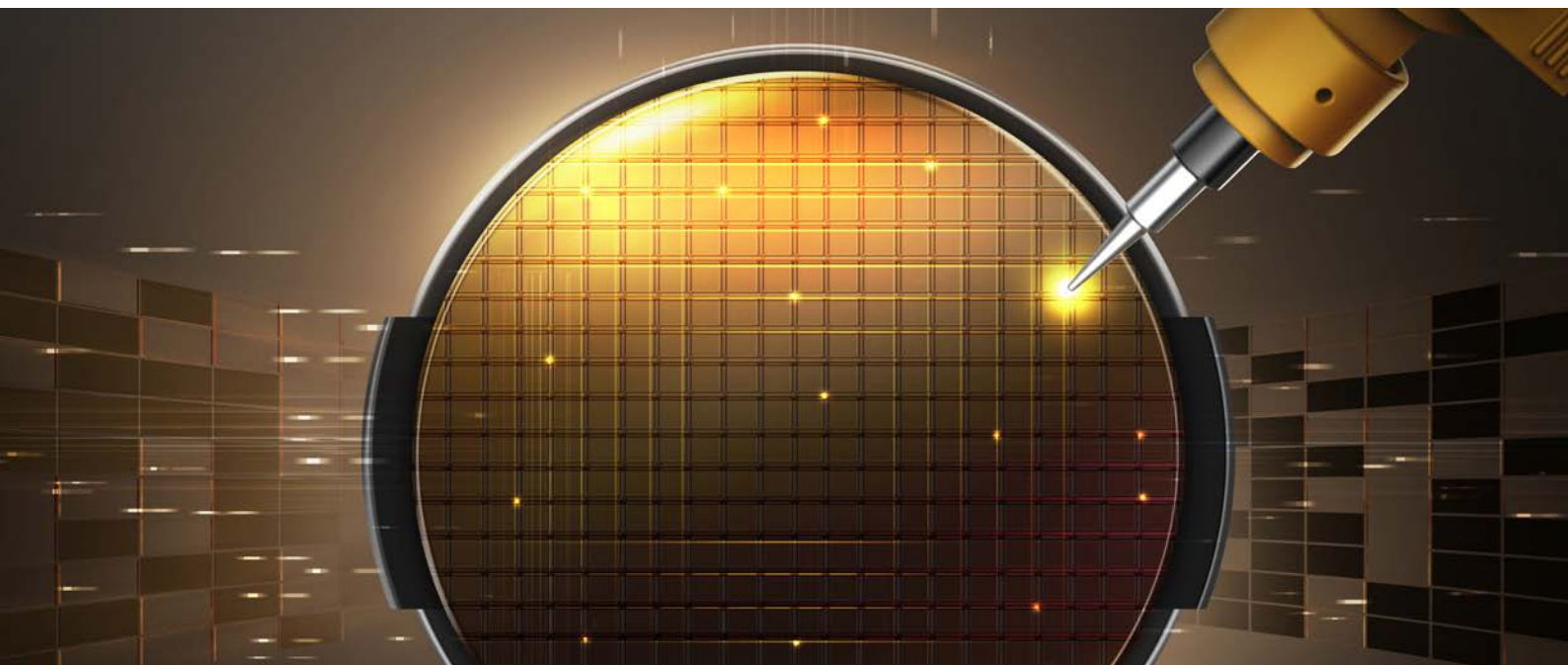


GSA Air Dryers

PEH series

Heated desiccant air dryers

Global Standard Air & Gas



Why Desiccant Air Dryer?

Why Desiccant Air Dryer?

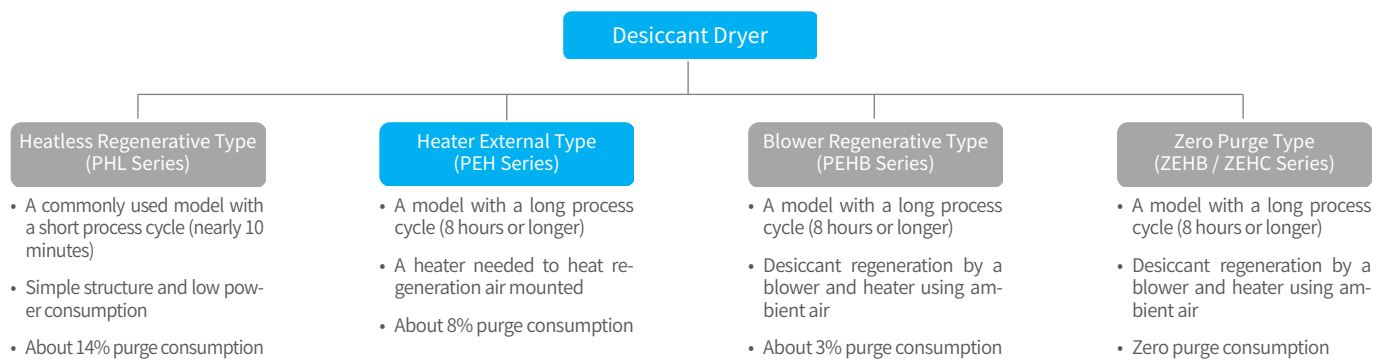
A refrigerated air dryer chills and dehumidifies compressed air, using a refrigerant. To prevent condensate generated while cooling compressed air from being frozen or a heat exchanger from being frozen-burst, dew points are usually kept at 0°C or higher. For moisture-sensitive processes, therefore, a desiccant air dryer is essential.

In general, a desiccant air dryer offers -40°C or lower temperature of dew points. It is used in various fields such as food & beverage, pharmaceuticals, petrochemicals, electronics & semiconductor and medicine. In these industries, even a small amount of water might result in process discontinuance system or product defect. Therefore, a highly reliable desiccant air dryer is a must-have system.

GSA's desiccant air dryer is able to provide even super-dry compressed air (-100°C or below) according to user needs. We have enhanced customer satisfaction through the design of diverse desiccant air dryer systems.



Classification

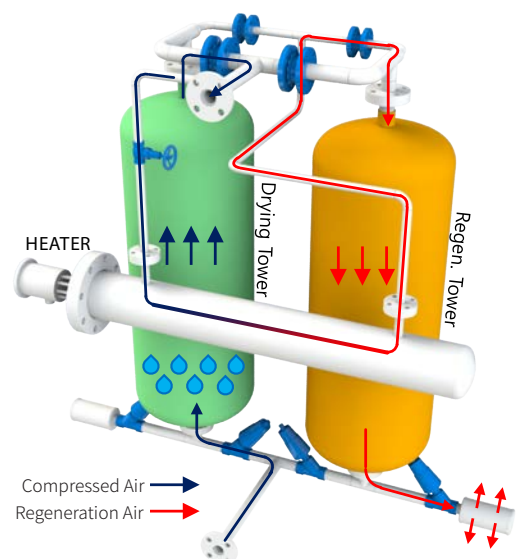


Operating Mechanism

Compressed air with high moisture flows into the drying tower. While it moves from the bottom to the top of the tower, moisture is adsorbed by the charged desiccant, producing dry compressed air. While the air is being dried in the drying tower, other towers perform in regeneration process to remove adsorbed moisture. During the regeneration process, dry compressed air from the drying tower is partially used. The dry compressed air at the outlet is heated by an electric heater, and moisture adsorbed by the desiccant in the regeneration tower is desorbed and discharged through a muffler at the bottom. When the heating process is completed, the heater is turned off and cooling process proceeds. The cooling process is a process to enhance adsorbing performances by cooling down the heated desiccant. Once the cooling process is completed, the desiccant regeneration process from the regeneration tower is also finished. The purge valve from the regeneration tower is closed. Then, re-press process pressurizing regeneration tower starts. Once the dynamic pressure process is done, two towers are switched. In the drying tower, then, the regeneration process is executed. The drying tower performs regeneration process, and the tower that the regeneration process is completed performs drying process.

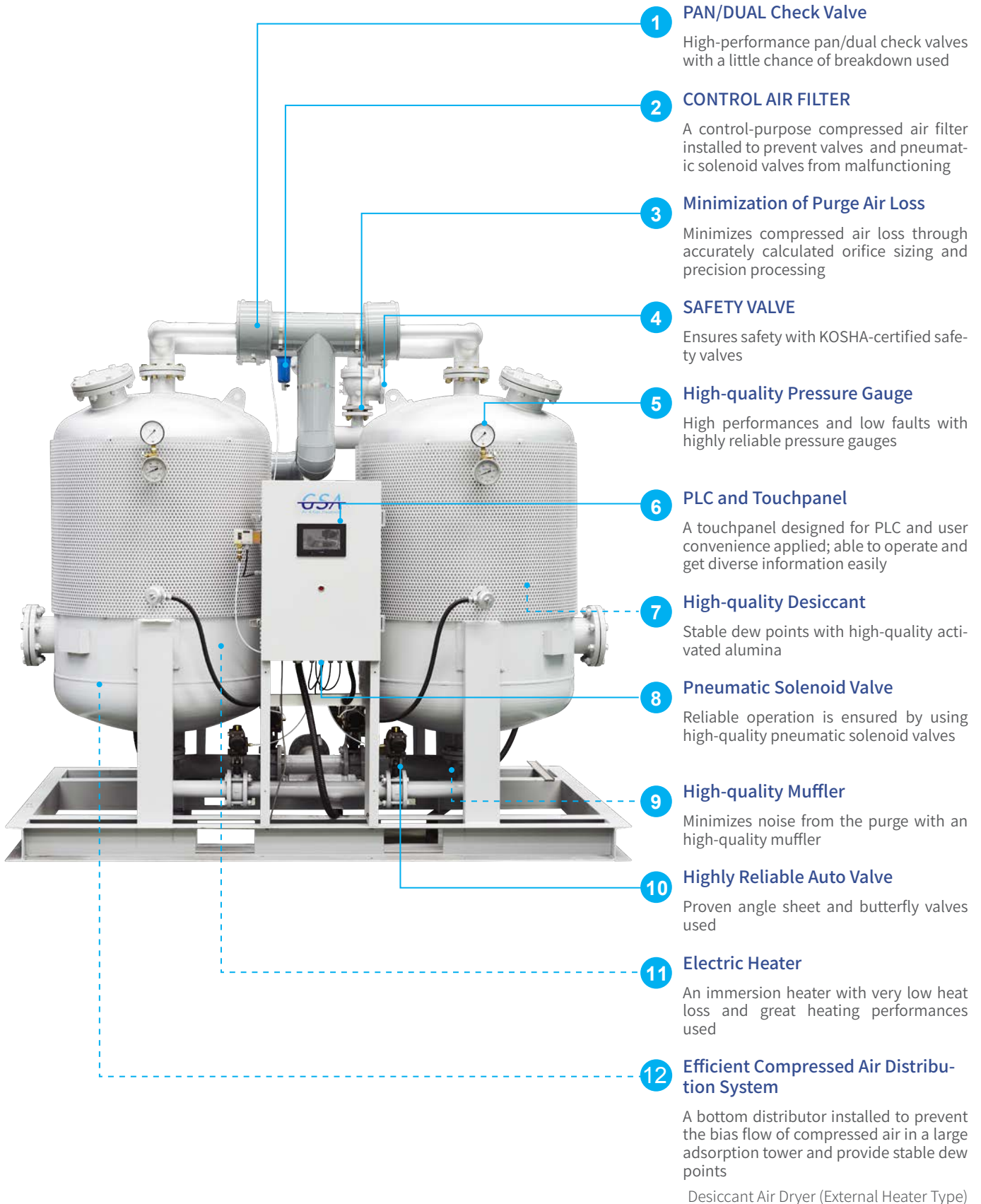
A series of above processes are automatically repeated according to specific time and sequence, producing dry air consecutively. In terms of an operating cycle, it is basically operated for 8 hours. Drying process is performed by two towers (4 hours each). Specifically, it is heated for 2 hours and 30 minutes and cooled for 1 hour and 27 minutes with 3-minute re-press.

PEH Desiccant Air Dryer Series



Desiccant Air Dryer for Stable Dew Points

Desiccant Air Dryer with Diverse Features



- 1 PAN/DUAL Check Valve**
High-performance pan/dual check valves with a little chance of breakdown used
- 2 CONTROL AIR FILTER**
A control-purpose compressed air filter installed to prevent valves and pneumatic solenoid valves from malfunctioning
- 3 Minimization of Purge Air Loss**
Minimizes compressed air loss through accurately calculated orifice sizing and precision processing
- 4 SAFETY VALVE**
Ensures safety with KOSHA-certified safety valves
- 5 High-quality Pressure Gauge**
High performances and low faults with highly reliable pressure gauges
- 6 PLC and Touchpanel**
A touchpanel designed for PLC and user convenience applied; able to operate and get diverse information easily
- 7 High-quality Desiccant**
Stable dew points with high-quality activated alumina
- 8 Pneumatic Solenoid Valve**
Reliable operation is ensured by using high-quality pneumatic solenoid valves
- 9 High-quality Muffler**
Minimizes noise from the purge with an high-quality muffler
- 10 Highly Reliable Auto Valve**
Proven angle sheet and butterfly valves used
- 11 Electric Heater**
An immersion heater with very low heat loss and great heating performances used
- 12 Efficient Compressed Air Distribution System**
A bottom distributor installed to prevent the bias flow of compressed air in a large adsorption tower and provide stable dew points

Desiccant Air Dryer (External Heater Type)

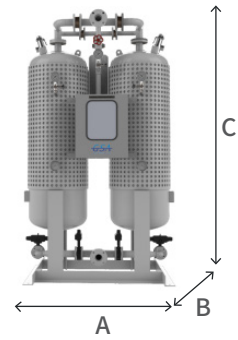
Technical Specification

Design Conditions

- Inlet Pressure : 7 barg
- Inlet Temperature: 38 °C
- Dew Points : -40 °C @ ATM
- Design Temperature : 250 °C
- Design Pressure : 9.7 barg
- Differential Pressure : 0.2 bar
- Inlet air conditions :ISO 8573.1:2010 Class 4.4.1

References

- Those with - 40°C or below dew points are also customizable.
- ASME specifications in addition to KS are also customizable.
- A unit with 9.7barg or higher operating pressure is custom-made.
- Special-purpose models in addition to the proposed specifications are also customizable.
- Large models bigger than those stated in the specifications above are also customizable.
- The specifications are subject to changes without notice for product improvement.



Model	Connection	Flow rate	Heater	Power supply	Dimension (mm)			Amount of adsorbent ^{*Note 1}	Weight ^{*Note 2}	
					A	B	C			
P E H	100	FLG. 25A	150	3	380 / 3 / 60	870	870	1930	90	300
	150	FLG. 40A	250	3.4		970	900	1890	110	350
	200	FLG. 40A	370	4		970	900	1990	170	700
	285	FLG. 40A	495	4.5		1150	1000	2240	210	750
	350	FLG. 50A	660	7.5		1150	1000	2540	280	900
	430	FLG. 50A	870	9		1150	1000	2570	390	1000
	560	FLG. 65A	1050	10		1250	1100	2670	460	1300
	720	FLG. 65A	1380	12		1450	1100	2705	520	1500
	900	FLG. 80A	1680	15		1450	1100	2710	700	1800
	1100	FLG. 80A	1950	18		1600	1400	2750	860	2200
	1350	FLG. 80A	2280	20.4		1700	1400	2850	1000	2600
	1550	FLG. 100A	2950	28.5		1900	1400	2950	1050	3000
	2100	FLG. 100A	3700	33		2400	1400	2990	1560	4200
	2500	FLG. 125A	4550	36		2500	1600	3250	2000	4800
	3000	FLG. 150A	5400	44		2500	1600	3250	2100	5200
	4100	FLG. 150A	6600	56		3000	2000	3250	2900	6000
	4500	FLG. 150A	7500	62		3000	2000	3250	3200	6300
	5400	FLG. 150A	8500	70		3200	2000	3300	3780	6800
6000	FLG. 200A	10500	85	3900	2300	3430	4200	7500		
7000	FLG. 200A	12000	100	4600	2130	3150	4900	9000		
9000	FLG. 250A	15000	110	5000	2500	3150	6400	10000		

*Note 1: Desiccant Amount of 2 Towers

*Note 2: Total weight

Correction Factors

Correction Factor by Inlet Air Temperature										
Inlet Air Temperature (°C)	25	30	38	45	50					
Correction Factor	1.12	1.05	1.00	0.7	0.55					
Correction Factor by Inlet Air Pressure										
Inlet Air Pressure (barg)	4	5	6	7	8	9				
Correction Factor	0.6	0.72	0.87	1.00	1.1	1.15				

