

GSA Air Dryers

HYD-HTN series

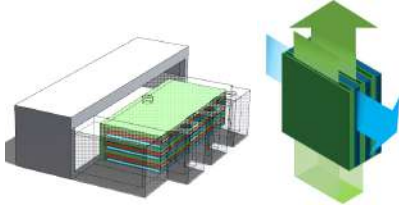
Refrigerated air dryers (High Temperature Non-cycling)

Global Standard Air & Gas



Why Refrigerated Air Dryer?

GSA's Refrigerated Air Dryer

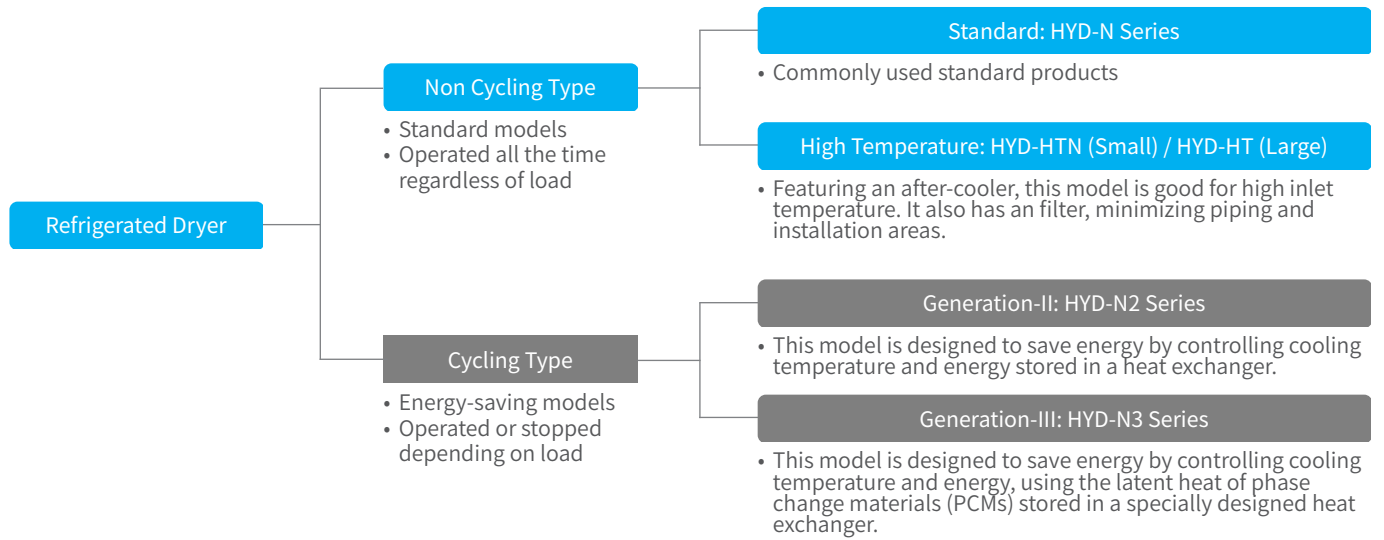


With a high-efficiency aluminum heat exchanger, GSA refrigerated air dryer offers great dehumidifying performances and stable dew points with a larger heat-transfer area and greater efficiency than other types of heat exchangers.

GSA's aluminum heat exchanger is divided into three different parts: i) air-air heat exchanger, ii) air-refrigerant heat exchanger, iii) larger separator with demister for removing moisture from the compressed air cooled in the second heat exchanger.

The first section of the heat exchanger reduces electrical energy with decreasing load of the refrigerant compressor by exchanging the heat of the hot inlet air and cold compressed air cooled down to the dew point in the second section of the heat exchanger. The cold compressed air cooled down to the dew point meets hot inlet air from the air compressor and increases the outlet temperature of the compressed air. As a result, it can prevent pipes from sweating. The larger separator with demister enhances dehumidifying performances by removing condensate efficiently from the humid compressed air cooled down in the second section of the heat exchanger.

Classification



Components

- HYD-5HTN - HYD-20HTN
40µm Filter → After-cooler → 5µm Filter → Refrigerated Dryer → 1ppm Oil Removal Filter
- HYD-30HTN ~ HYD-100HTN
After-cooler → 5µm Filter → Refrigerated Dryer → 1ppm Oil Removal Filter
- HYD-150HT or higher
A refrigerated dryer with condensate and refrigerant circuit specialized for high temperature (* filter and after-cooler NOT included)

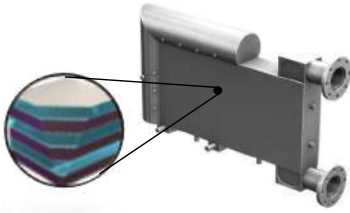
Features

- Saves a space with a small installation area, featuring an after-cooler and a filter
- Easy installation without piping works for an after-cooler and a filter
- Saves energy by controlling an after-cooler by inlet temperature



Refrigerated Air Dryer Suitable for High-temperature Conditions

Diverse Innovative Technologies



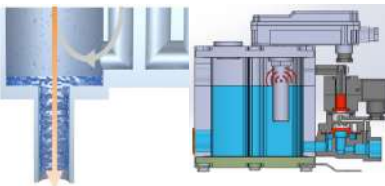
High-efficiency Aluminum Heat Exchanger

With a high-efficiency aluminum heat exchanger, GSA refrigerated air dryer offers stable dew points with a larger heat-transfer area and greater efficiency than other types of heat exchangers such as shell & tube and plate ones. Made with the same material, the GSA air dryer has no thermal resistance and is free from heat exchanger freeze-up or corrosion.



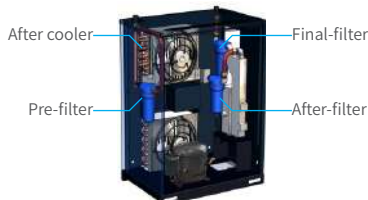
Smart and Simple Controller

The simple and functional controller helps users read the exact dew points. It is able to check if an after-cooler functions properly with power supply. In addition, it automatically controls an after-cooler by temperature, reducing unnecessary power consumption. A 4.3" TFT color touch panel controller enables simple and easy management, featuring digital dew point display, refrigerant pressure transmitter-based smart control, diverse temperature information, reverse phase check and mobile communication features (option) such as WIFI and BT.



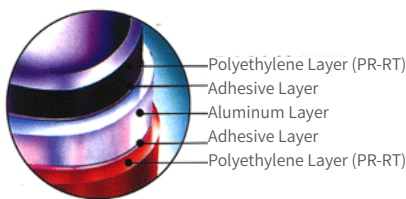
Highly Reliable Drain without Compressed Air Loss

With a demister and a large separator inside the heat exchanger, it offers great condensate isolation efficiency. The isolated condensate is discharged through a magnetic float or level sensor-based electronic drain, ensuring great efficiency and operating performances. Therefore, it reduces performance drop or failure in the drain caused by oil or various contaminants.



User Convenience

A high-temperature refrigerated air dryer features an after-cooler and a filter. It does not need any separate piping works for an after-cooler/filter installation. In addition, the compact design ensures easy and convenient installation even in a small space. With a particle filter and an oil filter, in addition, this system provides high-quality compressed air without an additional equipment.



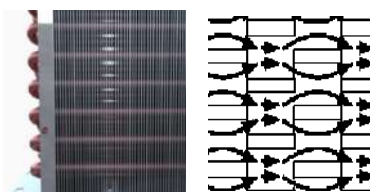
MEPOL Inner Pipe

The high-temperature dryer is durable and anti-corrosion, featuring a cooler, a filter, a dryer and MEPOL pipe. Therefore, it can prevent pipe corrosion and microbial/bacterial formation. With great mechanical strength and pressure resistance, it reduced a risk of rupture caused by shock or fluid. With anti-scale properties, furthermore, it keeps the flow constant and reduces a possibility of differential pressure. The compact design also minimizes a design area.



Minimizing the loss of compressed air with low differential pressure

We minimized differential pressure with a large heat-transfer area and sufficient cross section for the passage of compressed air. We enhanced heat-exchange efficiency and reduced differential pressure by minimizing resistance, making it possible to operate the compressed air system more efficiently at lower costs.



Efficiency Maximization with High-efficiency Condenser

For stable performances even under unfavorable circumstances such as high temperature, grooved copper tube and corrugated split fin were applied. Since they are expanded in a complete and uniform tube expansion, fin adhesion is high, applying condensate with a high coefficient of heat transfer. Therefore, it guarantees stable operations under diverse environments including hot temperature.

Technical Specification

Design Conditions

- Inlet Pressure: 7 barg
- Inlet Temperature: Max. 80 °C(HT : Max. 60 °C)
- Pressure Dew Point (PDP): 2 ~ 10 °C
- Ambient (Cooling water) Temperature: 32 °C
- Design Temperature: 9.7 barg
- Ambient Temperature: 70 °C

References

- The numbers in parentheses denote the specifications of water-cooled products.
- 150HT(W) or higher models does not have a filter and an after-cooler.
- 800HT or higher models are basically condenser-removable. Their specifications do not include condenser dimensions and weight.
- All models use either R-134a or R-22 refrigerant. Other models adopting different types of refrigerants are also available.
- The flow rate is based on 60Hz. Other electrical specifications are also available.
- A unit with 9.7barg or higher operating pressure is custom-made.
- Large models bigger than those stated in the specifications are also customizable. The specifications are subject to changes without notice for product improvement.



Model	Connection	Flow Rate	Filter		Power Consumption	Power Supply	Dimensions (mm)			Weight	
	A	Nm³/min	µm/µm/ppm	Size	kW	V / Ph / Hz	A	B	C	kg	
H Y D	5HTNS	PT 15A	0.7	40/5/1	15A	0.32	220 / 1 / 50, 60	427	644	810	61
	7HTNS	PT 15A	1	40/5/1	15A	0.33		427	644	810	61
	10HTNS	PT 20A	1.4	40/5/1	20A	0.34		427	644	810	63
	15HTNS	PT 25A	1.9	40/5/1	25A	0.5		453	703	1138	79
	20HTNS	PT 25A	2.7	40/5/1	25A	0.53		453	703	1138	79
	30HTNS	PT 25A	3.9	5/1	25A	0.9		455	875	1262	85
	50HTNS	PT 40A	6.7	5/1	40A	1.41		502	1002	1577	167
	75HTNS	PT 50A	10.5	5/1	40A	2.07		503	1148	1652	232
	100HTNS	PT 50A	14.2	5/1	50A	2.41	559	1289	1737	260	
	150HT(W)	PT 65A	21	N/A	N/A	4.18(3.78)	380 / 3 / 50,60	550	1200	1447	220
	200HT(W)	FLG. 80A	30			4.6(4.2)		700	1200	1580	260
	250HT(W)	FLG. 100A	39			5.5(5.1)		800	1500	1580	340
	300HT(W)	FLG. 100A	47			5.9(5.5)		800	1500	1580	360
	400HT(W)	FLG. 100A	56			9.7(8.9)	900	1800	1915	680	
500HT(W)	FLG. 150A	66	12.7(11.9)			440 / 3 / 50, 60	1200	1800	1825	980	
600HT(W)	FLG. 150A	85	14.2(13.4)				1200	2100	1825	1200	
800HT(W)	FLG. 200A	120	25.45(23.2)				1500	1900	2150	1250	
900HT(W)	FLG. 200A	140	30.15(27.9)				1500	1900	2150	1320	
1200HT(W)	FLG. 200A	180	40(37)			2000	1900	2150	1450		

Correction Factors

Correction Factor by Inlet Air Temperature (HTNS Series)											
Inlet Air Temperature (°C)	55	60	65	70	75	80					
Correction Factor	1.1	1	0.84	0.73	0.63	0.55					
Correction Factor by Inlet Air Temperature (HT Series)											
Inlet Air Temperature (°C)	40	45	48	52	56	60					
Correction Factor	1.1	1	0.88	0.76	0.65	0.55					
Correction Factor by Inlet Air Pressure											
Inlet Air Pressure (barg)	5	6	7	8	9	10					
Correction Factor	0.89	0.94	1	1.04	1.06	1.09					
Correction Factor by Ambient Temperature (Air-cooled types)											
Ambient Temperature (°C)	27	32	37	40	45	50					
Correction Factor	1.05	1	0.92	0.82	0.76	0.69					

