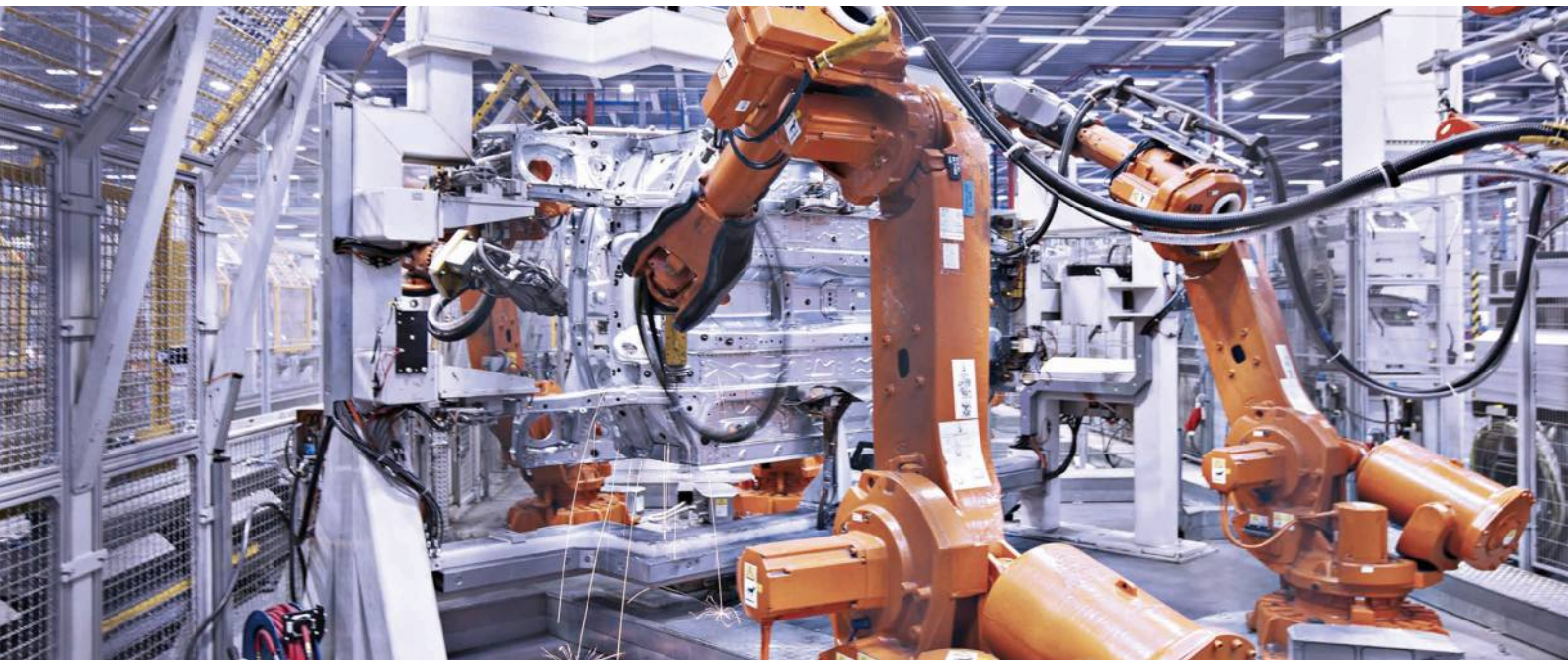


# GSA Air Dryers

## HYDM-N2 series

Refrigerated air dryers (High inlet temp. Cycling)

*Global Standard Air & Gas*

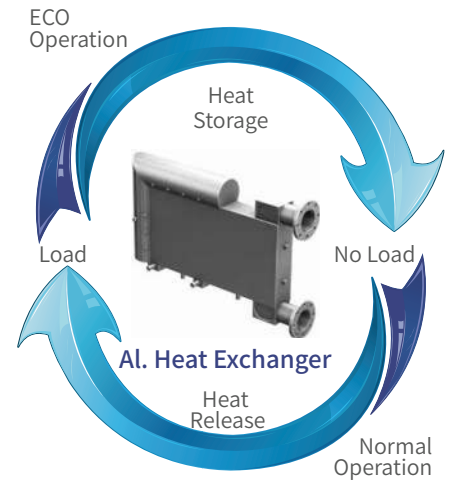


# Refrigerated air dryer, Energy Saver

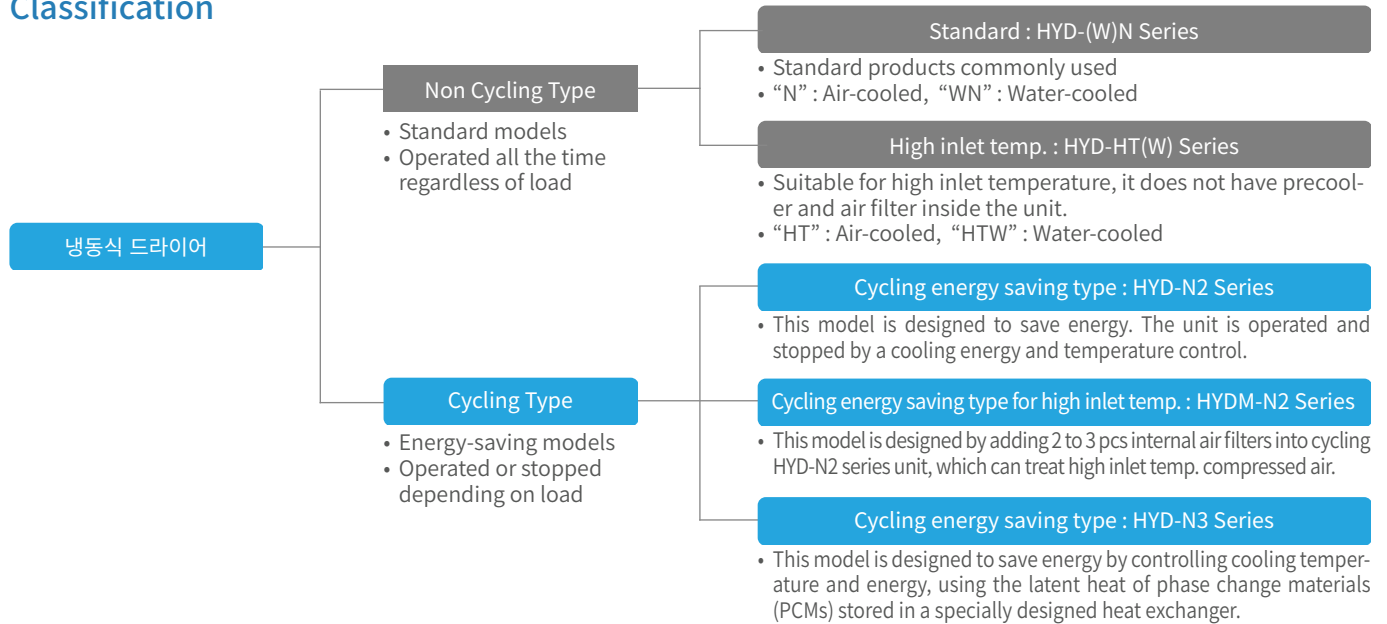
## HYDM-N2 series cycling high inlet temp. air dryer

GSA's HYDM-N2 series refrigerated air dryer is a cycling system designed to save energy in a simple and efficient fashion. It is relatively simple, compact and highly reliable compared to products which use variable-speed drive (VSD) designed to control the RPM of the refrigerant compressor and a brushless DC (BLDC) motor or those with phase change materials (PCM) or thermal mass.

The aluminum heat exchanger of the generation-II, energy-saving refrigerated air dryer plays a role of thermal mass which has great heat transfer performances. Since the product is made with a single material, it has no thermal resistance. Therefore, cooling energy stored in the heat exchanger can be utilized efficiently. It generates the greatest efficiency at the lowest costs when load is low or the compressed air use pattern is intermittent with a long length of time by maximizing the use of cooling energy accumulated in the heat exchanger.



## Classification



## Components

- HYDM-5N2 ~ HYDM-20N2  
5µm particulate Filter ⊕ Refrigerated Dryer ⊕ 1ppm & 0.1ppm oil Removal Filter
- HYDM-30N2 ~ HYDM-100N2  
5µm particulate Filter ⊕ Refrigerated Dryer ⊕ 1ppm Oil Removal Filter

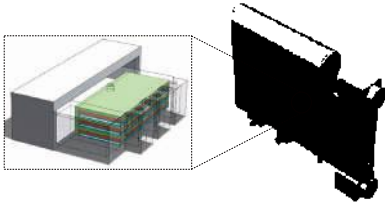
## Features

- Built-in filters can save installation space.
- Easy installation without piping works for air filters.
- Energy saving design. The unit is operated and stopped through dewpoint control.



# Suitable for high inlet temp. Air

## Diverse Innovative Technologies



### High-efficiency and high heat storage ratio Aluminum Heat Exchange

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. Energy can be saved through dew point control using the heat storage function of the heat exchanger.



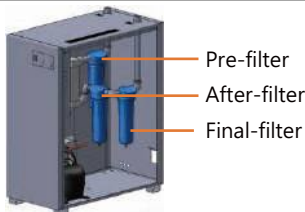
### Simple and smart controller

The simple and functional controller helps users know the exact dew points, the operation condition of the unit and energy saving through ECO lamp. A 4.3" TFT color touch panel controller (option) enables simple and easy management. Easy and convenient unit management is possible by anyone anywhere through the functions of smart control and communication (option).



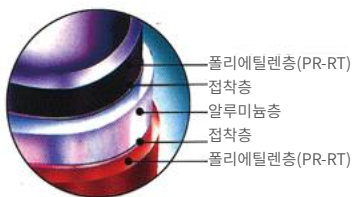
### Highly reliable drain without compressed air loss

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 ensuring greater efficiency and operating performances. Compared to a gravitational drain trap, it reduces performance drop or failure in the drain caused by oil or various contaminants.



### User convenience

A high-inlet-temperature cycling refrigerated air dryers have 2 to 3 air filters inside the unit. So piping works is not necessary for air filters. The compact design ensures easy and convenient installation especially in a small space. With an particulate filter and an oil filter, the unit provides high-quality compressed air.



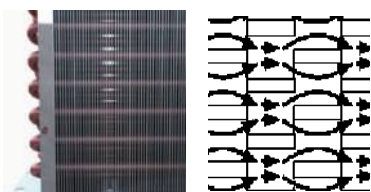
### MEPOL Inner Pipe

The high-inlet temperature cycling dryer is durable and anti-corrosion because of ME-POL internal pipe. It can prevent pipe corrosion and microbial/bacterial formation. With great mechanical strength and pressure resistance, it reduces 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. Its easy machinability makes the compact design possible.



### Minimizing the loss of compressed air with low differential pressure

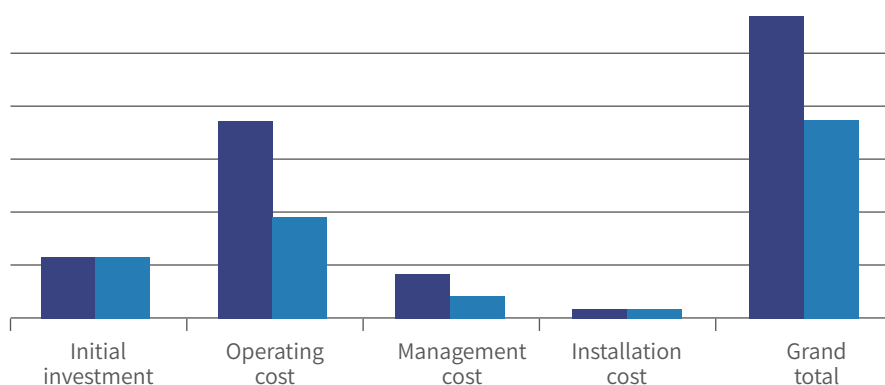
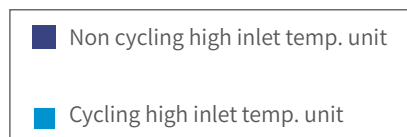
Our heat exchanger minimizes differential pressure with a large heat-transfer area and sufficient cross section for the passage of compressed air. We enhanced heat-exchange efficiency and reduced differential pressure by minimizing resistance, making it possible to operate the compressed air system more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



### Efficiency Maximization with High-efficiency Condenser

For stable performances even under unfavorable circumstances like a tropical area, the grooved cooper tube and corrugated split fin were applied. The condenser is expanded in a complete and uniform. Its fin adhesion is high. It has a high coefficient of heat transfer. Therefore, it guarantees stable operations under diverse environments including tropical area.

## 10 year operating cost



## Technical Specification

### Design Conditions

- Inlet Pressure : 7 barg
- Inlet Temperature : 40 °C (Max. 60 °C)
- Pressure Dew Point : 2 ~ 10 °C
- Ambient Temperature: 32 °C
- Design Pressure : 9.7 barg
- Design Temperature : 60 °C

### Notes

- R-134a and R-22 refrigerant are used for our standard models. The other refrigerant is also available.
- The capacity in the table is based on 60Hz.
- The other power supply is available.
- Units over 9.8 barg is available.
- Models bigger than HYD-1200HT are available.
- The specification can be changed for product improvement without notice.



Model	Connection	Flow Rate	Built-in Filters		Power Consumption	Power Supply	Dimension (mm)			Weight	
			A	Nm <sup>3</sup> /min			µm/ppm/ppm	Size	kW		V / Ph / Hz
HYD M	5N2	PT 15A	0.5	5/1/0.1	15A	0.15	220 / 1 / 60	415	603	938	41
	7N2	PT 15A	0.8	5/1/0.1	15A	0.15		415	603	938	41
	10N2	PT 20A	1	5/1/0.1	20A	0.16		415	603	938	41
	15N2	PT 25A	1.5	5/1/0.1	25A	0.24		427	830	992	50
	20N2	PT 25A	2.6	5/1/0.1	25A	0.28		427	830	992	50
	30N2	PT 25A	3.9	5/1	25A	0.45		455	875	1038	76
	50N2	PT 40A	6.7	5/1	40A	0.70		532	1029	1144	99
	75N2	PT 50A	10.5	5/1	40A	1.05		532	1200	1247	135
	100N2	PT 50A	14.2	5/1	50A	1.15	380 / 3 / 60	580	1300	1393	141

## Correction Factors

Correction factor by Inlet air temperature										
Inlet Air Temperature (°C)	38	40	43	48	52	56	60			
Correction Factor	1.10	1.00	0.88	0.76	0.65	0.57	0.51			
Correction factor by inlet air pressure										
Inlet air pressure (barg)	5	6	7	8	9	10				
Correction Factor	0.89	0.94	1.00	1.04	1.06	1.09				
Correction factor by ambient temperature										
Ambient Temperature (°C)	27	32	37	40	45	50				
Correction Factor	1.05	1.00	0.92	0.82	0.76	0.69				