

1.Main technical indicators and parameters

YQ-035MZ Desiccant air dryer							
1.Standard working conditions							
Medium		Compressed air					
Flow rate*		3.5 m³/min					
Working pressure		0.7MPa					
Inlet oil content		≤0.1ppm					
Inlet temp.		≤38℃					
Ambient temp.		≤38℃					
*Related to 1bar abs and 20 °C according to ISO 7183.							
In order to correctly select the type of desiccant air dryer, it is necessary to obtain the max. inlet flow rate, the mini inlet pressure, max. inlet temperature and max. inlet pressure dew point, to select the correction factor from the table corresponding to the type and to calculate the minimum processing flow rate required by the desiccant air dryer.							
Min. process flow = max. inlet flow / （CFP x CFT x CFD）							
Inlet pressure correction factor （CFP）							
MPa	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFP	0.63	0.75	0.88	1.00	1.13	1.25	1.38
Inlet temperature correction factor （CFT）							
℃	25	30	35	38	40	45	50
CFT	1	1	1	1	0.90	0.68	0.53
Inlet pressure dew point correction factor(CFD)							
℃		10			38		
CFD		1.0			0.67		
2. Working condition range							
Working pressure		0.4-1.0MPa					
Max. inlet temperature		50℃					
Max. ambient temperature		45℃					
3. Performance indicators							
Outlet pressure dew point		-20~-40℃					
Pressure drop		≤0.021MPa					
4. Machine characteristics							
Length×Width×Height		631×400×1790mm (Error ± 10%,EST.)					
Weight		146kg (Error ± 10%,EST.)					
Air inlet/outlet connection		Rp1-1/2 Screw connection					
Access interface standard		GB/T 7306.1-2000					
Regeneration mode		Heatless regeneration					
Installation condition		Indoor, allow no foundation, ensure the ground level					
5. Electrical characteristics							
Power supply		1 phase /220V/50Hz					
Overall power		0.12					

Control method	Automatic circulation
Cycle time	10min
6. Machine main parts characteristics	
Adsorption tower	1. This device does not belong to the category of pressure vessels, so it does not need to undergo relevant monitoring procedures for pressure vessels. 2. Internally equipped with an efficient diffusion device, it can effectively promote sufficient contact between compressed air and adsorbent, ensuring the optimal adsorption effect.
Aluminum alloy cavity	1. The aluminum alloy chamber is made of high-quality aviation grade aluminum material, which has excellent strength and corrosion resistance. It can effectively resist various harsh environments and ensure long-term use without rusting. 2. Its durability is extremely high, with an expected lifespan of up to 30 years, providing long-lasting and stable support for your application.
Absorbent	1. A self-developed and customized high-efficiency adsorbent specifically designed for the post-treatment industry. Having excellent adsorption performance, it can quickly and effectively remove target substances, ensuring excellent treatment efficiency 2. Long service life, able to operate stably for a long time, reducing replacement frequency and cost.
Controller	A self-developed high-performance integrated controller that integrates various commonly used functions, such as RS485 communication, operation output, alarm output, remote start stop, and dew point display. It is easy to operate, stable to operate, and can meet the diverse needs of users.

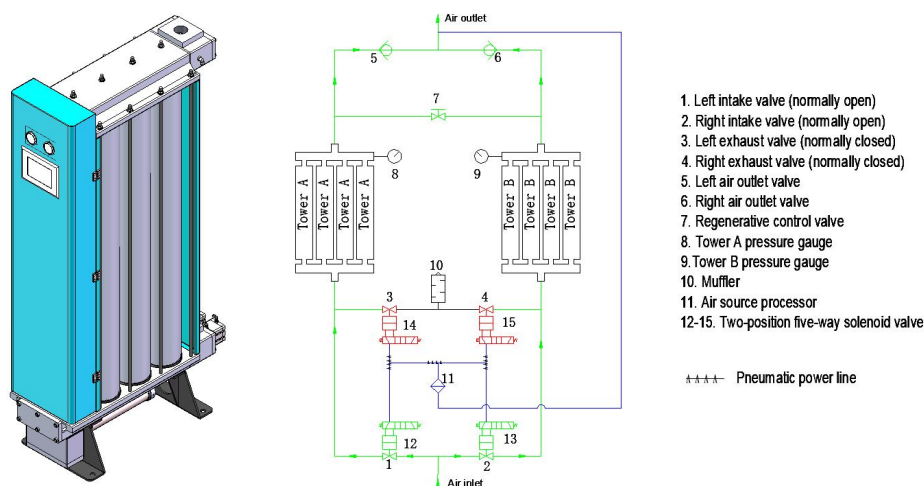
2.Control system

Function name	Function description	Standard/option
Remote start	Dry contact	Standard
Remote stop	Dry contact	Standard
Remote interlocking start-	Dry contact	Standard
Positive/reverse valve	Dry contact	Standard
Operating signal	Dry contact	Standard
Trouble signal	Dry contact	Standard
Telecommunication	RS485	Standard
Inlet temperature	Passageway	Standard
Dew point temperature	Passageway	Standard
Temperature overrun	Warning indication	Standard

3.Introduction

3.1 Product briefing

When compressed air systems require a low pressure dew point, desiccant dryers are the ideal choice on the market today. The so-called modular are adsorption towers with multiple tower A modular and tower B modular combined. The desiccant air dryer is a type of modular dryer that does not require external heating for regeneration, realized energy-saving and efficient drying effects. This design not only ensures the quality of compressed air, but also reduces operating costs, making it an ideal drying equipment for compressed air systems. (The picture below does not represent this model)



3.2 Working Principle

Desiccant air dryer is to use the adsorbent to dehydrate the water vapor in compressed air with selective adsorption characteristics to achieve the purpose of lowering the dew point of air. On the other hand, the adsorbent's adsorption capacity will be greatly weakened at low pressure. Utilizing this characteristic, the desiccant is regenerated at reduced pressure, and the twin-tower cycle achieves the ability of continuous air supply.

3.3 Work Flow

- Tower A adsorption.

Compressed air inlet → Left inlet valve 1 → Tower A → Left outlet valve 5 → Compressed air outlet

- Tower B regeneration

Tower A → Regeneration regulating valve 7 → Tower B → Right exhaust valve 4 → Muffler 10

- Tower B stamping to homogeneous pressure

Tower A → Regeneration regulator valve 7 → Tower B

The twin tower processes are switched and the cycle alternates.

3.4 Product main features

- Four guarantees, better and more stable adsorption effect.

- ① Multiple adsorption cylinder design makes the airflow distribution more uniform.
- ② Blizzard filling technology to avoid tunneling effect of the adsorbent.
- ③ Patented end cover to re-diffuse the airflow.

④ High-quality alumina with high efficiency adsorption performance.

●Pressure vessel inspection not required.

The inner diameter of adsorption cylinder is less than 150mm, non-pressure vessel, no need to carry out pressure vessel supervision and inspection, This design not only simplifies the process, but also saves users additional costs and valuable time, making usage more convenient and efficient.

●Mold core replacement technology, easy and convenient maintenance

Unique mold core design, unified standard operation, stable performance, long life, easy maintenance, short downtime, saving time and manpower.

●Close filling, not easy to be pulverized.

The adsorbent adopts advanced snowstorm filling technology, ensuring seamless connection between adsorbent particles, significantly improving filling density, and achieving efficient utilization of space. At the same time, this technology also enhances the stability of the adsorbent, making the product durable and less prone to powdering after long-term use, thereby maintaining long-lasting adsorption performance.

●Aluminum alloy material to ensure air quality.

The chamber and adsorption cylinder are made of selected aviation grade aluminum materials, which not only prevent corrosion and rust, ensuring pure and pollution-free air, but also have lightweight, sturdy and durable materials, effectively improving the product's service life. The selection of this material not only ensures air quality, but also gives the product excellent durability and reliability.

●All-in-one controller, feature-rich.

PLC controller and 7-inch colorful touch screen, reliable performance, full-featured, convenient operation, beautiful shape. Whether it's the convenience of communication, the stability of operation, or the timeliness of alarms, this controller has demonstrated excellent performance. Its design not only improves work efficiency, but also reduces maintenance costs, bringing users a more relaxed and convenient user experience.

Due to the continuous updating of technology, we reserve the right to make changes and upgrades to our products without prior notice, so please refer to the final product when ordering.

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