

1.Main technical indicators and parameters

EQM-035 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			631×400×1640mm (Error ± 10%,EST.)				
Weight			142kg (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			0.03				

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

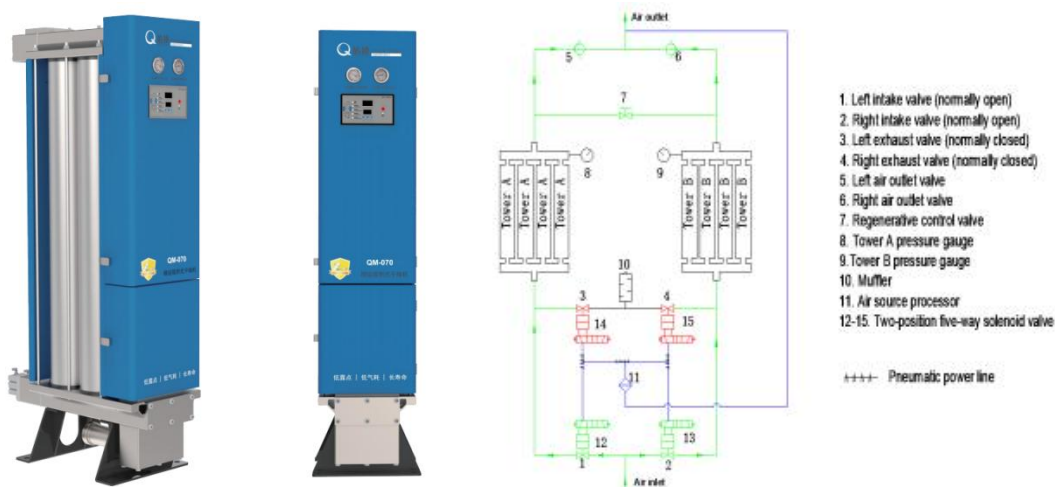
Function name	Function description	Standard/option
Remote interlocking start-	Dry contact	Standard
Operating signal	Dry contact	Standard
Trouble signal	Dry contact	Standard
Telecommunication	RS485	Standard
Positive/reverse valve	Program control	Standard
Dew point temperature	Passageway	Standard
High dew point	Warning indication	Standard
The controller cannot be configured with other functions.		

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.(The picture below does not represent this model)



3.2 Working Principle

Desiccant air dryer is to use the adsorbent (silica gel, alumina or molecular sieve, etc.) 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, saving cost and time for users.

●Close filling, not easy to be pulverized.

The adsorbent adopts blizzard filling technology to maximize the filling density of the adsorbent, which is not easy to be pulverized.

- Aluminum alloy material to ensure air quality.

The cavity and the adsorption cylinder are made of aviation grade aluminum material, which is not corrosion-proof, ensuring the air quality, and has light weight, high strength and long life.

- All-in-one controller, feature-rich.

High-performance all-in-one controller, reducing electrical fittings and wiring, comes standard with a variety of commonly used functions, such as RS485 communication, run output, alarm output, remote start/stop, dew point display, and so on.

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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