

Heatless Desiccant Air Dryers

WM Series



WM Series Heatless Desiccant Air Dryers

Time-Tested Reliability

Since 1961, Deltech has delivered products engineered to efficiently remove contaminants from compressed air systems across multiple applications. Moving forward our designs have advanced, employing the latest in filtration and dehydration technology. Today, Deltech prides itself on being a leader in the compressed air industry known for scope of product offering and superior performance capabilities.

Durability and Performance



Deltech's WM Series dryers deliver an engineered drying system known for the rugged durability of the components. Select materials with proven performance and long life expectancies are integrated into a protective NEMA 1 rated enclosure. Wall-mountable, these heatless dryers offer users the choice of -40°F or -100°F (-40°C or 73°C) pressure dew point performance. The clean, quiet, aesthetically pleasing compact design of the WM Series is well received at laboratories, hospitals and a host of other applications.

Choose your Cycle

- -40°F (-40°C) dew point: choose the 10 minute cycle mode (factory setting)
- -100°F (73°C) dew point: choose the 4 minute cycle mode

Compact Design

- Energy saving heat of adsorption is retained to reduce operating costs
- Controlled repressurization rate prevents desiccant deterioration
- Heavy-duty purge muffler delivers quiet operation
- Removable stainless steel support screens won't corrode
- Upper & lower stainless steel air diffusers protect valves & prevent channeling
- Premium quality activated alumina for dry air and long life

Easy to View Controls

- Power On Light
- On/off toggle switch
- Left Tower pressure gauge
- Right Tower pressure gauge
- 6 foot grounded 115 vac cord set included

Protect your Investment

Quality DF Series filtration is the first line of defense to ensure that lubricant is not introduced into any desiccant dryer.

- Grade C prefilter: remove the lubricant and protect the desiccant
- Grade Y afterfilter: ensure that any fine desiccant dust is captured to prevent it from migrating downstream.

Easy Installation

- Shipped with full charge of desiccant
- Completely assembled, piped and wired
- Simple set up: mount cabinet, pipe air-in, pipe air-out* and plug in the power cord

*Recommend installing a DF Series Grade C prefilter and a Grade Y afterfilter.



WM Series Specifications

How It Works

See Figure 1. Compressed air enters the dryer and is directed to Tower 1 by valve (A) and then to the dryer outlet through shuttle valve (B). A portion of the dried air is throttled to near atmospheric pressure by means of orifice (C). This extremely dry, low pressure air flows through and regenerates the desiccant in Tower 2 and is exhausted through purge/repressurization valve (D) and exhaust muffler (E) to atmosphere. After a set time, the automatic solid state timer closes purge/repressurization valve (D) allowing Tower 2 to repressurize slowly. At the end of 5 minutes (when operating on a 10 minute cycle, 2 minutes on a 4 minute cycle), valve (A) shifts and purge/repressurization valve (D) re-opens. See Figure 2. The main air flow is now dried by Tower 2 while Tower 1 is being regenerated.

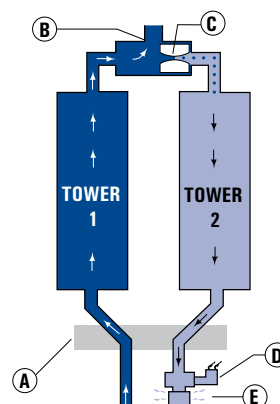


Figure 1

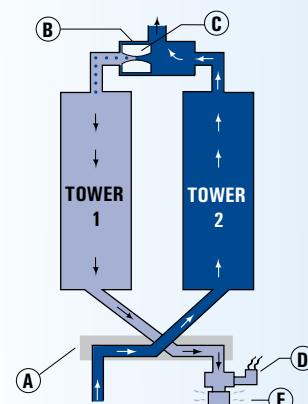


Figure 2

WM Series Product Specifications

Model	H		Dimensions W		D		In/Out Connections	Weight	
	in	mm	in	mm	in	mm		lbs	kg
WM-7	30.5	774.7	17.5	444.5	6.7	170.2	1/2"	55	25
WM-13	30.5	774.7	17.5	444.5	6.7	170.2	1/2"	60	27
WM-20	30.5	774.7	17.5	444.5	6.7	170.2	1/2"	71	32
WM-25	30.5	774.7	24.4	619.8	8.6	218.4	1/2"	93	42
WM-30	30.5	774.7	24.4	619.8	8.6	218.4	1/2"	93	42
WM-35	30.5	774.7	24.4	619.8	8.6	218.4	1/2"	99	45
WM-50	43.4	1,102.4	24.4	619.8	8.6	218.4	1/2"	132	60

Capacity Correction Factors

- To determine maximum inlet flow at inlet pressures other than 100 psig (7 kg/cm²), multiply inlet flow from Table 1 by multiplier A from Table 2 that corresponds to system pressure at inlet of dryer.
- To determine purge flow at inlet pressures other than 100 psig (7 kg/cm²), multiply purge flow at 100 psig (7 kg/cm²), from Table 1 by multiplier B from Table 2 that corresponds to system pressure at inlet of dryer.
- To determine outlet flow capacity, subtract purge flow from inlet flow.

Table 1 - Inlet & Purge flows @ 100 psig

Model	Inlet Flow Rating ¹ scfm (nm ³ /h)				Purge Flow ² scfm (nm ³ /h)			
	40°F	-40°C	-100°F	-73°C	Average	Maximum		
WM-7	7.3	12	5.6	9.5	1.5	2.5	2.0	3.4
WM-13	13	22	10	17	2.7	4.6	3.7	6.3
WM-20	20	34	16	27	4.2	7.1	5.5	9.3
WM-25	25	42	20	34	5.1	8.7	6.8	12
WM-30	30	51	24	41	6.2	11	8.2	14
WM-35	35	59	28	48	7.2	12	9.6	16
WM-50	50	85	40	68	10.2	17	13.6	23

1 Inlet flows are established in accordance with CAGI (Compressed Air and Gas Institute) standard ADF-200, Dual Stage Regenerative Desiccant Compressed Air Dryers - Methods for Testing and Rating. Conditions for rating dryers are: inlet pressure - 100 psig (7 kg/cm²); inlet temperature - saturated at 100°F (38°C).

2 Average Purge Flow is the total amount of air used to purge and repressurize off-stream towers averaged over the cycle time. Maximum Purge Flow is the flow rate through the off-stream tower during that portion of the cycle the purge/repressurization valve is open.

Table 2 - Inlet Pressure

Inlet	psig	50	70	90	100	110	120	130	150
Pressure	kg/cm ²	3.5	4.9	6.3	7.0	7.7	8.4	9.1	10.5
Multiplier A		0.31	0.54	0.83	1.00	1.09	1.17	1.26	1.44
Multiplier B		0.55	0.73	0.91	1.00	1.09	1.17	1.26	1.44

The Deltech Commitment

Deltech sets the standard of excellence in technology for today's growing industries.

We build relationships by commitment to understanding the processes and requirements of our customers. As a result, the compressed air solutions we develop enable users of Deltech products to meet their objectives of improved productivity and optimized efficiency. We will continue to dedicate our research and development resources in providing new and innovative air treatment products inspired by our valued customers.



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