



Desiccant Air Drying Technologies

WM Series



WM Series - Heatless Desiccant Air Dryers

5 thru 25 scfm

Wall-mountable WM Series heatless dryers offer users the choice of -40°F or -100°F pressure dew point performance as standard. The clean, quiet aesthetically pleasing and compact design of the WM Series is well received at laboratories, hospitals and a host of other applications.

Durability and Performance

WM Series dryers deliver an engineered drying system known for the rugged durability of the components. Select materials with proven performance, repeatability and long life expectancies are integrated into a protective NEMA 1 rated enclosure.

WM Series Dryers Deliver:

Control-

- -40°F dew points...choose the 10 minute cycle mode (factory setting)
- -100°F dew points...choose the 4 minute cycle mode
- Power On Light
- On/off toggle switch
- Left Tower pressure gauge
- Right Tower pressure gauge
- 6 foot grounded 115 vac cord set included

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 and lower stainless steel air diffusers protect valves and prevent channeling
- Premium quality activated alumina for dry air and long life

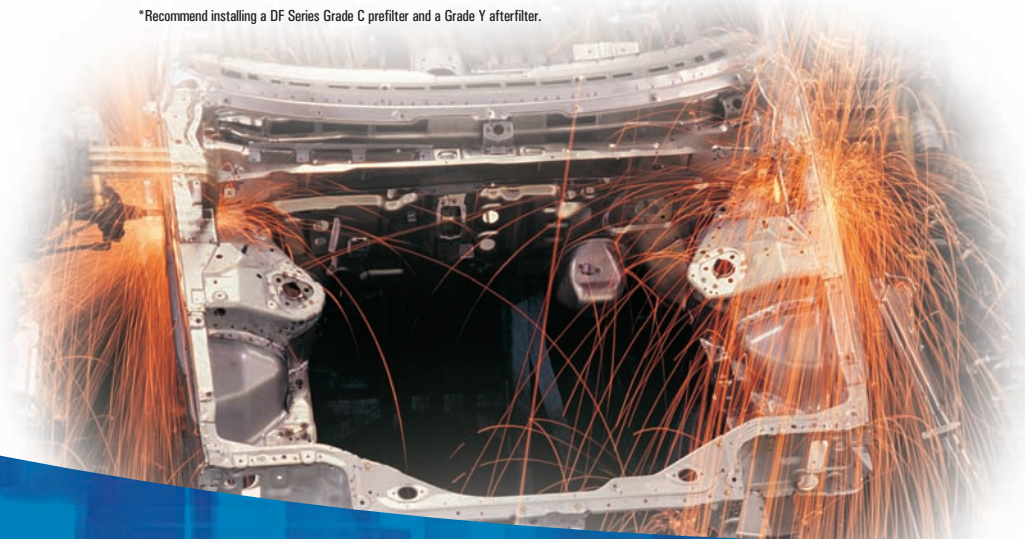
Easy installation-

- Shipped with full charge of desiccant
- Completely assembled, piped and wired
- Simple set up
 - 1) Mount cabinet
 - 2) Pipe air-in, pipe air-out*
 - 3) Plug in the power cord

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



Model WM25 shown with optional DF Series Grade C prefilter, Grade Y afterfilter and Pressure Monitors.



How the WM Series 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.

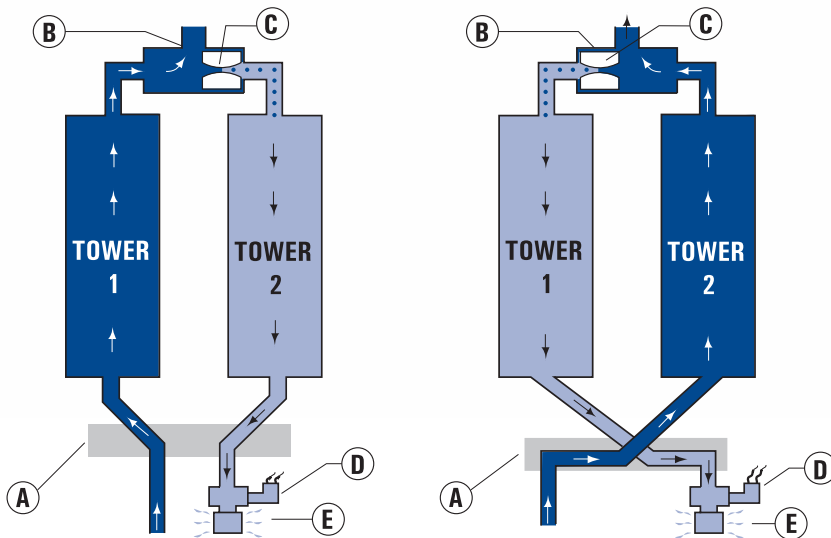


Figure 1

Figure 2

Protect your Investment:

Quality DF Series filtration is the first line of defense to ensure that lubricant is not introduced into any desiccant dryer. During the drying process, water vapor is adsorbed onto the surface area of the desiccant. It is released into the ambient as a vapor during the regeneration process.

Lubricant must be removed from the inlet air stream to the dryer for proper operation. Failure to properly remove the lubricant allows it to coat the desiccant beads and prevents the adsorption of water vapor. Dew point performance deteriorates if the ability to dry the air decreases.

Installing DF Series prefilters and afterfilters will protect your investment. Use a Grade C prefilter to remove the lubricant and protect the desiccant. In the piping that exits the dryer, install a Grade Y afterfilter to ensure that any fine desiccant dust is captured to prevent it from migrating downstream.

Energy Saving Pressure Monitor

- Optional on all models
- Three modes determine element change: time, differential pressure, and element performance

Simple Maintenance

- 1/8" turn, self-locking bayonet head to bowl connection (up through 1" connection sizes)
- Audible warning by escaping air if housing is not depressurized before disassembly
- Ribbed bowls allow use of C-spanner
- Color-coded elements for easy identification

Modular Housings Save Space and Time

- Large flow paths reduce pressure drop
- Chromated and epoxy powder painted (interior and exterior) add durability and corrosion resistance
- Can be mounted for left or right entry
- High-quality aluminum, zinc and steel materials

Automatic Drains

- Reliable discharge of condensate
- Pilot operated, pneumatically actuated, particulate-resistant mechanism

DF Series filter



Features & Specifications

WM Series Product Specifications

Model	Inlet Flow		Purge Flow Average		Maximum	H	Dimensions		Connections Inlet / Outlet	Approximate Shipping Weight	
	10 min, -40°F scfm	4 min, -100°F scfm	10 min, -40°F scfm	4 min, -100°F scfm			W	D		inches & NPT	lbs.
WM-5	5	4.3	1.0	0.8	1.1	30 ¹ / ₂	22 ⁷ / ₈	6 ¹ / ₈	¹ / ₂	82	37
WM-10	10	8.5	2.0	1.7	2.2	30 ¹ / ₂	22 ⁷ / ₈	6 ¹ / ₈	¹ / ₂	119	54
WM-15	15	13	3.0	2.6	3.3	30 ¹ / ₂	22 ⁷ / ₈	6 ¹ / ₈	¹ / ₂	136	62
WM-20	20	17	4.0	3.4	4.4	30 ¹ / ₂	31 ¹ / ₈	8 ⁷ / ₈	¹ / ₂	171	78
WM-25	25	21	5.0	4.4	5.5	30 ¹ / ₂	31 ¹ / ₈	8 ⁷ / ₈	¹ / ₂	196	89

Inlet Flow Design Standards: 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 kgf/cm²); inlet temperature - saturated at 100°F (38°C).

Sizing Procedures

- 1) **Maximum inlet flow capacities at various pressures:** Multiply Product Specifications table inlet flow value by the multiplier A factor from Table 1 that corresponds to system pressure at dryer inlet.
- 2) **Purge flow at various capacities:** Multiply Product Specifications table purge flow value by the multiplier B factor from Table 1 that corresponds to system pressure at inlet of dryer.
- 3) **Outlet flow capacities:** Subtract calculated purge flow from calculated inlet flow.

Operating Conditions

WM Models	Maximum Inlet Air Pressure	Minimum Inlet Air Pressure	Maximum Inlet Air Temp.	Minimum Inlet Air Temp.	Maximum Ambient Temp.	Minimum Ambient Temp.
5 - 25	150 psig	50 psig	120°F	40°F	120°F	40°F

Voltage: Choice of 120/110 VAC 1Ph 60/50Hz, 240/220 VAC 1Ph 60/50Hz, 12 VDC 16' (1.8m) cord set standard

Table 1

Minimum Inlet Pressure	psig	50	70	90	100	110	120	130	150
	kgf/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	1.117	1.26	1.44
Multiplier B		0.55	0.73	0.91	1.00	1.09	1.117	1.26	1.44



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