



MDD

ADSORPTION DRYERS

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Adsorption dryers

Compressed air: a great resource to know

Atmospheric air always contains water vapor and impurities. For the final user it is necessary to get a compressed air supply, free from condensate and contaminating particles, such as oil and dust. If such contaminations should come in direct contact with the final product, the resulting costs would be extremely high and a solution that could have been practical and inexpensive at the design stage would then be very costly.

The aim of Mattei's compressors is to provide **quality compressed air, clean and dry**, i.e. free from any element that might reduce the plant's efficiency and reliability. According to the customer's compressed air use and field of application, these substances can have a different impact on the production process.



MDD 60 - 130

MDD 10 - 50

Once the function of compressed air through the production process has been precisely identified, it is important to accurately and thoroughly select the best possible combination of air treatment accessories, in order to optimize the available resources and reduce waste.

In those cases where dry and clean compressed air is required, like food, pharmaceutical and hospital industries, galvanic systems or applications where a dewpoint down to -40°F or -94°F is required, installation of a **Mattei adsorption dryer** is the perfect choice to obtain the best product quality.



MDD 2110 - 6130

MDD DRYERS

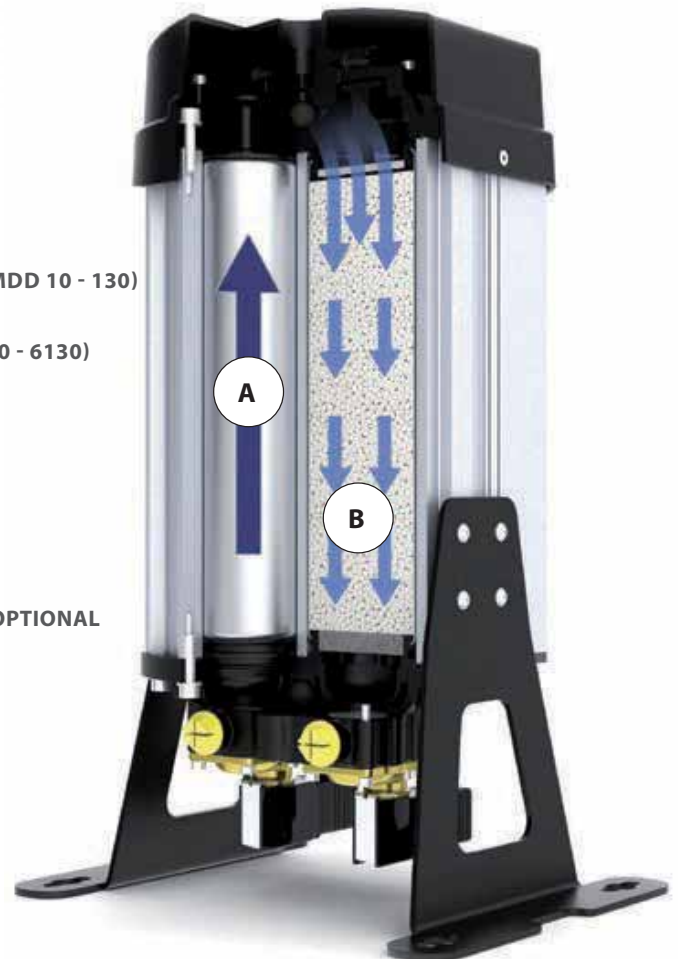
The use of Mattei's dryers removes the condensate from the air, preventing any damage to the compressed air distribution system. Mattei MDD dryers reliably give you:

- more for your money - everything needed for installation is in the box
- moisture and particulate protection of your production process
- lower life cycle costs - low energy costs and simplified maintenance
- built in dew point monitoring (optional)
- space saving - models up to MDD 130 can be easily wall mounted; units fit through standard doorway
- safe and quiet operation
- flows from 3 to 1110 scfm at 100 psig operating pressure
- peace of mind - the most reliable product of its kind

Designed for use in the compressor room, at the point of application or integrated into your original equipment, Mattei MDD dryers are an effective solution to the problems caused by contaminated compressed air.

PRINCIPLES OF OPERATION

Heatless desiccant dryers are the most common due to their simplicity and hence low cost. A heatless twin tower dryer (see figure below) operates by removing moisture through adsorption onto a granular desiccant bed from the feed air (typically at 100 psig) as it flows up through a packed bed of desiccant, column A. Column B (having been previously used in drying the inlet air) is at atmospheric pressure and dry purge air from the outlet of column A is fed through a purge valve, expanded to near atmospheric pressure, and flowed in contra flow direction down through column B to effect the regeneration of its granular desiccant bed. When the desiccant in column A becomes saturated with water vapor (usually determined by a simple timer controller) the feed air is switched back to column B, after it has been pressurized, and the cycle continues.



PATENTED COMBINED FILTER & DESICCANT CARTRIDGES (MDD 10 - 130)

COMBINED DESICCANT & AFTER FILTER COLUMN (MDD 2110 - 6130)

PLC CONTROLLED OPERATION

PERFORMANCE VALIDATED FILTRATION AS STANDARD

ENERGY SAVING DEW POINT CONTROL OPTION

FLOOR OR WALL INSTALLATION (STANDARD ON MDD 10-50, OPTIONAL ON MDD 60-130)

CONSTANT DEW POINT, FLOW AND PRESSURE

RELIABLE HIGH PERFORMANCE VALVES

INNOVATIVE SILENCER DESIGNS FOR QUIET OPERATION

MAXIMUM CORROSION PROTECTION

ADSORPTION DRYERS

MDD

MDD 10 - 130



**UNIQUE PATENTED
CARTRIDGE DESIGN**



**PLC CONTROLS WITH
CLEAR TEXT DISPLAY**



**TOWER GAUGES (MDD
60 AND LARGER)**



**FLOOR OR WALL MOUNT
OPTION**

ENERGY SAVING DEW POINT CONTROL

With this option, a dew point sensor is incorporated into the dryer providing the ultimate in energy and power savings. Outlet dew point is constantly monitored allowing the cycle time to be adjusted depending on the actual moisture load saving valuable purge air on all styles of dryers.

Extended 5 year warranty available on switching valves if dryer is fitted with the energy saving moisture load control option.

Easily field retrofitted.



MDD 2110 - 6130



FLEXIBILITY IS BUILT RIGHT IN

We've designed the Mattei MDD 2110-6130 with simplicity of service in mind. As standard, the columns are high density filled and include a built in 1 micron after filter for reliable downstream air quality.



RELIABLE HIGH PERFORMANCE VALVES

Inlet, outlet and exhaust air are controlled using coaxial flow valves integrated into the upper and lower manifolds. The valves are designed for ease of maintenance and long service life.

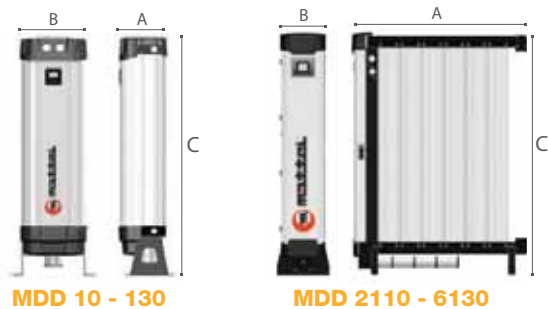
MODEL	CONNECTIONS	RATED FLOW	DIMENSIONS (ins)			WEIGHT	INCLUDES PRE AND AFTER FILTRATION ⁽³⁾	
			A	B-	C		PRE FILTER	AFTER FILTER
MDD 10-F	3/8" ⁽¹⁾	3 scfm ⁽²⁾	8.7	10.4	17.3	19.8	MDFS 0008 M01	integrated
MDD 20-F	3/8" ⁽¹⁾	5	8.7	10.4	17.3	19.8	MDFS 0008 M01	integrated
MDD 30-F	3/8" ⁽¹⁾	10	8.7	10.4	25.6	29.8	MDFS 0015 M01	integrated
MDD 40-F	3/8" ⁽¹⁾	15	13.0	10.4	35.0	40.8	MDFS 0015 M01	integrated
MDD 50-F	1/2" ⁽¹⁾	24	13.0	10.4	46.8	56.2	MDFS 0025 M01	integrated
MDD 60-F	1"	34	11.1	16.8	29.2	88	MDFS 0090 M01	integrated
MDD 70-F	1"	41	11.1	16.8	29.2	88	MDFS 0090 M01	integrated
MDD 80-F	1"	53	11.1	16.8	36.3	119	MDFS 0090 M01	integrated
MDD 90-F	1"	66	11.1	16.8	36.3	119	MDFS 0090 M01	integrated
MDD 100-F	1"	88	11.1	16.8	43.2	141	MDFS 0090 M01	integrated
MDD 110-F	1"	106	11.1	16.8	49.1	167	MDFS 0135 M01	integrated
MDD 120-F	1"	132	11.1	16.8	58.9	200	MDFS 0175 M01	integrated
MDD 130-F	1"	177	11.1	16.8	72.7	247	MDFS 0175 M01	integrated
MDD 2110-F	2"	212	26.77	15.7	50.51	214	MDFS 0450 M01	integrated
MDD 2120-F	2"	276	26.77	15.7	60.35	394	MDFS 0450 M01	integrated
MDD 2130-F	2"	400	26.77	15.7	74.13	575	MDFS 0450 M01	integrated
MDD 3130-F	2"	560	33.42	15.7	74.13	548	MDFS 0700 M01	integrated
MDD 4130-F	2 1/2"	750	40.03	15.7	74.13	729	MDFS 0850 M01	integrated
MDD 6120-F	2 1/2"	828	53.22	15.7	60.35	967	MDFS 0850 M01	integrated
MDD 6130-F	2 1/2"	1110	53.22	15.7	74.13	1376	MDFS 1250 M01	integrated

SPECIFICATIONS	STANDARD	OPTIONAL
Maximum Particle Size (ISO class) ⁽⁴⁾	class 2 (1 micron)	class 1 (0.01 micron)
Maximum Water Content (ISO class) ⁽⁴⁾	class 2 (-40°F pdp)	class 1 (-94°F pdp)
Minimum Operating Pressure	58 psig	-
Maximum Operating Pressure ⁽⁵⁾	dependent on model	-
Recommended Operating Temperature Range	34.7 to 100°F	-
Design Operating Temperature Range	34.7 to 122°F	-
Power Supply Requirements	100 to 240 VAC / 50 or 60 Hz	pneumatic or 24 VDC

PRESSURE CORRECTION FACTORS ⁽⁶⁾														
Inlet Air Pressure	psig	60	75	90	100	115	130	145	160	175	190	205	232	
Correction Factor		0.63	0.75	0.88	1	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.13	

TEMPERATURE & DEW POINT CORRECTION FACTORS ⁽⁶⁾												
Inlet Air Temperature	°F	75	100	104	113	122	pressure dew point			-4	-40	-94
Correction Factor		1	1	0.97	0.88	0.73	correction factor			1.10	1.00	0.70

(1) MDD 010 to MDD 050 have push to connect fittings on the inlet and outlet. All other models have NPT(F) threaded connections. (2) At inlet conditions of 100 psig and 100°F and a -40°F outlet pressure dew point. For all other conditions, refer to the correction factors. (3) Dryer includes a separate M01 grade pre filter (shipped loose) and a built in 1 micron filter. (4) Per ISO 8573.1:2010. (5) With separate M01 grade after filter. (6) Maximum operating pressure as follows: models MDD 10 to 50 are 232 psig (MAWP); models MDD 60 to 130 are 232 psig (MAWP) as standard; models MDD 2110 to 6130 are 145 psig (MAWP) as standard (optional 232 psig); all dryers with pneumatic control option are 145 psig (MAWP). (6) To be used as a rough guide only. All applications should be confirmed by Mattei. (7) Technical specifications subject to change without notice. Direct inquiries to info@matteicomp.com.





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