



MDS SERIES

REFRIGERATED DRYERS

20 through 2000 SCFM



MDS CYCLING REFR

Simple. Reliable.

SIMPLY SUPERIOR

Refrigeration dryers must be sized to handle the worst case operating conditions they may encounter - the highest possible flow at the highest possible inlet temperature on the hottest day of the year. The power consumption needed to operate at these worst case conditions is far greater than otherwise needed. Traditional dryers operate at maximum power all the time even though the actual demand on the dryer is normally much less.

The advanced Dry Storage Technology in the MDS cycling dryer allows it to automatically reduce its power consumption to meet the actual demand saving you up to 80% over a traditional dryer. As a result, the MDS energy saving cycling dryer and its energy saving zero air loss drain are eligible for rebates in many parts of the country.

Dryer demand is a function of both air flow and ambient temperature. Unless both these variables are at their maximums at the same time, there is energy savings to be had. The MDS takes advantage of this by significantly reducing power consumption to match demand.

In most applications the air flow varies significantly throughout the day reaching peak demand only for a very short time and often can be close to zero overnight or during breaks. The MDS matches its power consumption to the air flow demand providing optimal energy savings.

Ambient temperatures can vary significantly during the day and from season to season throughout the year. Most of the time the ambient temperature is well below mid-day summer highs. The MDS takes advantage of the opportunity and automatically lowers its power consumption to match the decreased thermal demand.

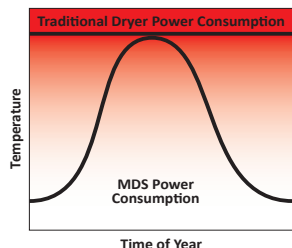
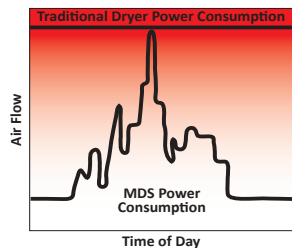
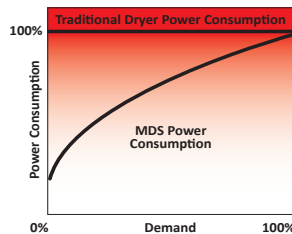


Figure 1: The MDS dryer uses less energy

CLEAN DRY COMPRESSED AIR

Clean and dry compressed air is essential in every efficient and profitable manufacturing and process operation worldwide. Our vast experience includes food, beverage, chemical, laboratory, medical and natural gas applications.

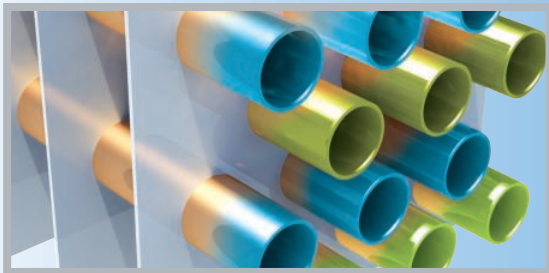
Mattei understand your needs and carries the MDS range of high-performance, energy-saving compressed air and gas purification products to provide clean and dry compressed air and gases at an affordable price with unrivaled reliability.

REFRIGERATED DRYERS

Simple. Efficient.



Simple microprocessor based control and protection system which controls dryer operation and adapts to the specific heat load demands. The Mattei MDS features easy to use advanced controls that include digital dew point temperature display, menu driven programming and icons for drain and compressor operation.



Unique MDS dry thermal mass utilizes both direct and indirect heat transfer to provide maximum energy savings while not compromising the ability to react to dynamic changes in compressed air load.

Get your money's worth.
GET A MATTEI.

YOU GET WHAT YOU PAY FOR

The advanced Mattei MDS cycling refrigeration air dryer combines the advantages of a direct thermal exchange with advanced Dry Storage Technology. It's two dryers in one. By combining these two powerful energy saving technologies the MDS provides you with the lowest power consumption available in the market today. This cutting edge, patented concept not only reduces your energy bill, it also offers steady dew point performance and reliable operation to ensure you have continuous, worry free, clean and dry compressed air.

With unique digital controls that automatically manage energy consumption. and reliable timed drains that automatically eject entrained liquid condensate - the MDS cycling dryer saves energy and maximized reliability. It is the ultimate solution to remove moisture from your compressed air system.



Figure 2: The MDS uses quality components designed for industrial use

HOW IT WORKS

The beauty of the MDS is its simplicity. It requires no hot gas bypass valve, recirculating pump or inverter. Just a simple, reliable and efficient design backed by a one year warranty. This focus on simple reliability combined with technological advances like the patented dual transfer heat exchanger has resulted in a bullet proof design and maximum energy savings.

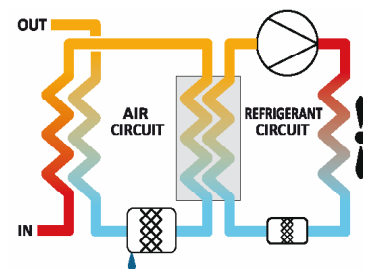


Figure 3: Simple, reliable performance

MDS SERIES TECHNICAL FEATURES

MODEL	INLET & OUTLET ⁽¹⁾	RATED FLOW ⁽²⁾		ABSORBED POWER ⁽³⁾	DIMENSIONS (INS)			APPROX WEIGHT	POWER SUPPLY (V/Ph/60Hz) ⁽⁴⁾				
		NPT/FLG	scfm		Nm ³ /h	kW	L		W	H	lbs	115/1	230/1
MDS20	½"	20	32	0.23	17	16	22	82	●				
MDS30	¾"	30	48	0.24	18	18	26	106	●				
MDS45	¾"	45	72	0.25	18	18	26	112	●				
MDS65	1"	65	104	0.47	23	21	30	196	●				
MDS90	1"	90	144	0.49	23	21	30	200	●				
MDS110	1"	110	177	0.51	23	21	30	205	●				
MDS130	1½"	130	209	0.97	29	24	36	290	●				
MDS165	1½"	165	265	1.02	29	24	36	302	●				
MDS200	2"	200	321	1.29	29	30	39	385		●	●	○	
MDS265	2"	265	425	1.41	29	30	39	385		●	●	○	
MDS325	2"	325	522	1.47	29	30	39	396		●	●	○	
MDS400	2"	400	642	1.52	29	30	39	407		●	●	○	
MDS500	2½"	500	803	2.60	29	42	47	553			●	○	
MDS650	3"	650	1043	3.46	29	61	59	803			●	○	
MDS850	3"	850	1364	3.60	29	61	59	814			●	○	
MDS1050*	3"	1050	1685	5.00	49	49	65	1600			●	○	
MDS1300*	3"	1300	2087	5.15	49	49	65	1800			●	○	
MDS1600*	4" Flg	1600	2568	6.92	49	67	71	2500			●	○	
MDS2000*	4" Flg	2000	3210	7.20	49	67	71	3100			●	○	

specifications	
design operating pressure range	0 to 232 psig
maximum inlet temperature	158°F
maximum ambient temperature	110°F

pressure correction factors ⁽⁶⁾													
inlet air pressure (psig)	58	72	87	100	115	130	145	160	175	190	204	218	232
correction factor	0.75	0.84	0.92	1.00	1.06	1.08	1.11	1.15	1.18	1.19	1.21	1.23	1.26

inlet temperature correction factors ⁽⁶⁾															
inlet air temperature (°F)	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155
correction factor	1.29	1.21	1.11	1.00	0.93	0.80	0.72	0.65	0.57	0.53	0.50	0.46	0.43	0.41	0.38

ambient temperature correction factors ⁽⁶⁾											
ambient temperature (°F)	70		80		90		100	105		110	
correction factor	1.18		1.16		1.07		1.00	0.96		0.89	

- (1) ½" to 3" are NPT threaded connections, 4" are supplied with ANSI flanged connections.
 - (2) In compliance with CAGI (ADF 100) / NFPA (class H): inlet temperature: 100°F, ambient temperature: 100°F, inlet pressure: 100 psig, pressure dew point: 33°F to 39°F. for all other conditions refer to the correction factors above or contact the factory.
 - (3) Nominal absorbed power at rated operating conditions using 115/1/60 or 460/3/60 power supply (as applicable). for absorbed power at other voltages or conditions, contact the factory.
 - (4) Specify voltage requirements when ordering.
 - (5) Includes 460 Volt to 575 Volt transformer (internally mounted, most models).
 - (6) For correction factors other than those shown above, contact the factory for sizing assistance.
- * Models MDS20 - 0110 contain R134A refrigerant; models MDS130 - 2000 contain R407C except for MDS200, 0265, 0325 and 0400 in 460V which are R134A.



COMPANY
WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001 : 2001 =



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