

MTD-US SERIES HIGH CAPACITY TURBO DRYER



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Water in the pneumatic system can be problematic. While the air is compressed the moisture inside the air is also densified and this remaining water damages the system components in time. For that reason, compressed air treatments have been used for a very long time.

Mikropor brings an innovative approach to compressed air drying systems by producing Mikropor Turbo Dryer (MTD-US) units. It is tremendously effective to use this unit in the high- capacity drying process which is in the range of 5000 scfm - 15000 scfm. The large capacity drying system is often problematic and very expensive due to the lack of available space in the equipment room. Mikropor solved these problems with its new compact design of MTD-US series. In



MTD-US series all components are placed in one unit. Even in a very large capacity compressed air system 37,4°F dew point achieved. In addition, with used thermal mass technology drying process can be done with energy-saving even in the fluctuating compressed air usage.

Working Principle

Wet compressed air enters the 3 in 1 aluminum heat exchangers. In the beginning, the wet compressed air, is precooled by coming counter-current dried air in the air-to-air part of the heat exchanger. Then it comes across with the thermal mass to decrease the dew point up to 37,4°F with the bottom of the heat exchanger condensate water droplets are collected and drained. Heated thermal mass gets colder with cold refrigerant gas and send to the heat exchanger again. This circulation continued to sustain dry compressed air in the system.

Standard Features

- 7" Touch Screen (MTD-US 12500 15000)
 - 4,3" Touch Screen (MTD-US 5000 10000)
- Standard Modbus RS485 Communication
- High Strength Aluminium Design 3in 1 Heat Exchanger
- High Efficiency Scroll (MTD-US 5000 10000) and Screw (MTD-US 12500 - 15000) Refrigerant Compressor
- Stable Dew Point with Thermal Mass Technology
- Standard Dew Point Sensor at All MTD Models
- Stainless Steel Cooling Components Mass-Refrigerant Evaporator, Pump
- Compact Design
- 150 psig Maximum Working Pressure
- Water Cooled Condenser





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Optional Features

- Air-Cooled Condenser
- WebServer Feature

Wet Compressed Air

• IP Communication with pCoWEB

Air Circuit

BACNET, SNMP, MODBUS TCP/IP Communication

Dry Compressed Air





MTD-US Unit – Water Condenser



MTD-US Unit – Air Cooled

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MTD-US Series - Technical Specifications

	Capacity	Pressure	_	Compressed Air	Cooling Water Connection Size	Drain	B () .	Water Cooled Dimensions*					
Model	(scfm)	Drop (psig)	Power	Connection Size	(For Water Cooled	Connection Size	Refrigerant	Len	gth	Wio	dth	Heig	ght
					Units)			mm	inch	mm	inch	mm	inch
MTD-US 5000	5000	<1	460V/3Ph/60Hz	8" Flange	11/2" NPT	1" NPT	R410a	1362	54	2340	92	2341	92
MTD-US 6000	6000	<1	460V/3Ph/60Hz	8" Flange	11/2" NPT	1" NPT	R410a	1569	62	3438	135	2225	88
MTD-US 7500	7500	<1	460V/3Ph/60Hz	10" Flange	11/2" NPT	1" NPT	R410a	1579	62	3438	135	2335	92
MTD-US 10000	10000	<1	460V/3Ph/60Hz	12" Flange	2" Flange	1" NPT	R410a	1578	62	3441	135	2362	93
MTD-US 12500	12500	<1	460V/3Ph/60Hz	12" Flange	2" Flange	1" NPT	R407c	3292	130	2067	81	2375	94
MTD-US 15000	15000	<1	460V/3Ph/60Hz	14" Flange	2 1/2" Flange	1" NPT	R407c	3292	130	2067	81	2397	94

Nominal Working Pressure	100 psig	Maximum Inlet Temperature	140°F
Maximum Working Pressure	150 psig	Minimum Inlet Temperature	41°F
Minimum Working Pressure	60 psig	Nominal Ambient Temperature	100°F
Nominal Inlet Temperature	100°F	Maximum Ambient Temperature	120°F
		Minimum Ambient Temperature	41°F

*All models have air cooled option.

MTD-US Series - Correction Factors

Inlet Temp. (°F)	F1	Ambient Temp. (°F)	F2	Pressure (psig)	F3
85	1,2	60	1,12	50	0,75
90	1,14	80	1,08	60	0,77
95	1,08	90	1,06	75	0,85
100	1	100	1	100	1
110	0,75	105	0,96	115	1,06
120	0,6	110	0,90	125	1,1
130	0,5	115	0,8	150	1,16
140	0,45	120	0,65	-	-

To determine the correct model, the compressor flow rate should be divided by the related F1, F2, and F3 values.

Example for Choosing the Correct Dryer

If an air compressor delivers 8240 scfm at 75 psig, the dryer inlet temperature is 110°F and ambient temperature is 110°F. Please choose your dryer model as follows;

8240 / 0,85 / 0,75 / 0,9 = 14361 scfm. The correct dryer model for this application could be MTD-US 15000 Model.



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