THERMAL PRODUCTS Inc.

MTS SERIES

REFRIGERATED DRYERS

20 through 2000 SCFM

mattei®
BEST SOLUTIONS IN COMPRESSED AIR

Thermal Products, Inc. / **Phone:** (518) 877-0231 / **Email:** sales@thermalproducts.com / **Website:** www.thermalproducts.com

MTS CYCLING REFRIGERATED DRYERS

Simple. Reliable. Efficient.

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 Thermal Storage Technology in the MTS 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 MTS 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 MTS 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 MTS 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 MTS takes advantage of the opportunity and automatically lowers its power consumption to match the decreased thermal demand.

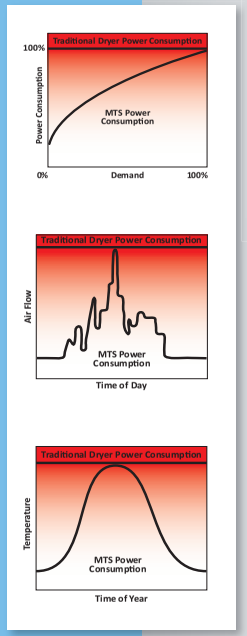

Figure 1: The MTS dryer uses less energy

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 MTS 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.

Get your money's worth.
GET A MATTEI.

YOU GET WHAT YOU PAY FOR

The advanced Mattei MTS cycling refrigeration air dryer combines the advantages of a direct thermal exchange with advanced Thermal Storage Technology. It's two dryers in one. By combining these two powerful energy saving technologies the MTS 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 energy saving condensate drains that automatically adjust to demand - the MTS cycling dryer saves energy and eliminates seasonal adjustments. It is the ultimate solution to remove moisture from your compressed air system.

Get your money's worth. Get a MATTEI.

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

HOW IT WORKS

The beauty of the MTS is its simplicity. It requires no hot gas bypass valve, recirculating pump or inverter. Just a simple, reliable and efficient design backed by a two 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.

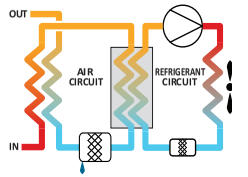

Figure 3: Simple, reliable performance

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CONTROLS THAT MATCH POWER CONSUMPTION TO DEMAND

ENERGY SAVING DESIGN
Uses up to 80% less energy than a traditional dryer

HIGH AMBIENT DEW POINT SETTING
Provides additional energy savings during warm weather

ZERO AIR LOSS CONDENSATE DRAINS
Saves energy by eliminating condensate drain air losses

USER FRIENDLY DIGITAL CONTROLS
LED interface comes standard on every model

QUICK & EASY START-UP
No pre-start up cooling, programming or calibration required

AUTOMATIC OPERATION
Controls automatically turn on and off as needed

BUILT FOR THE HEAT
Reliable operation through the hottest days of summer

BUILT FOR THE COLD
Advanced design protects against winter freeze ups

BUILT TO LAST
Compressor runs cooler and less often for a longer life

BUILT FOR INDUSTRY
Top-mounted condenser protects against dusty conditions

HANDLES THE PRESSURE
232 psig is standard with a 740 psig high pressure option

EASY TO MAINTAIN
Simple refrigeration circuit needs no hot gas bypass

EASY INSTALLATION
A 6 ft power cord included on all 115V dryers

PROGRAMMABLE SERVICE WARNING
Keeps preventative maintenance on schedule

WIDE AIR PATHS
Never worry about plugging up the heat exchanger

WIDE CONDENSATE PATHS
Never worry about plugging up the drain

NO SEASONAL ADJUSTMENTS
Controls self-adjust with the seasons.

GUARANTEED RELIABILITY
Extensively factory tested for quality assurance

APPROVED FOR REBATES
Many utilities provide rebates for cycling dryers

CONSISTENT COOLING
Thermal Storage Technology handles rapid changes in heat load

CONSISTENT SEPARATION
Stainless demister maintains efficiency at any flow

CONSISTENT DEW POINT
Assured by the advanced design

ENVIRONMENTALLY FRIENDLY
R134a refrigerant and non-toxic silica thermal mass

c UL US LISTED

ADVANCED SYSTEM CONTROLLERS

Advanced microprocessor based control and protection system which controls dryer operation and adapts to the specific heat load demands. The Mattei MTS dryers feature easy to use advanced electronic controls and digital LED displays on every model with standard features like automatic on/off operation and automatic self calibration.

Figure 4: MATTEI MTS Controller

MTS SERIES CONTROLLER FEATURES

Model		MTS 0020 to 0250	MTS 0325 to 2000
Type		electronic	microprocessor
User Interface		5 button digital interface	6 button digital interface
Display		digital LED display	digital LED display
Digital Readouts	Outlet air dew point	yes (non numerical)	yes (in °F or °C)
	Inlet air temperature	-	yes (in °F or °C)
	Alarm codes	yes (4 alarms)	yes (14 alarms)
	Alarm history	-	yes (up to 50 alarms)
LED Indicators	Energy saving mode indicator	yes	yes
	Programmable service interval indicator	yes	yes
Control Features	Programmable user alarm	yes	yes
	User programmable operating parameters	yes	yes
	Two dew point settings	yes	yes
	Remote on/off capability	yes	yes
	Condensate drain control & test function	yes	yes
	Volt free general alarm contacts	-	yes
	RS485 serial outlet (connects to modbus supervisor)	-	optional

Figure 5: Features of the MTS controller

Figure 6: Intelligent Condensate Drain

Energy Saving Condensate Drains

The MTS 0250 to 2000 models feature an intelligent electronic zero air loss drain that automatically adjusts as condensate flow increases and decreases with ambient and operating conditions. Unlike typical condensate drains, these drains need no calibration at start up or from season to season saving you time and valuable compressed air. Because of this energy saving feature, these drains are eligible for rebates in many parts of the country.

The MTS 0020 to 0200 models feature a timed solenoid drain. The drain is integrated into the control panel allowing for specific adjustment of the open and close times.

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MTS SERIES TECHNICAL FEATURES

Model	Inlet & Outlet (1)	Rated Flow (2)		Absorbed Power (3)	Dimensions (inches)			Weight (net)	Voltage AC				
	NPT/FLG	scfm	Nm^3/h	kW	width	depth	height	lbs	115/1	230/1	230/3	460/3	575/3 (4)
MTS 0020	½"	20	34	0.26	20.9	15.3	20.1	80	●				
MTS 0030	½"	30	51	0.26	20.9	15.3	20.1	86	●	○			
MTS 0050	½"	50	85	0.36	20.9	15.3	20.1	91	●	○			
MTS 0075	½"	75	127	0.50	25.6	18.1	29.5	143	●	○			
MTS 0100	¾"	100	170	0.64	25.6	18.1	29.5	148	●	●			
MTS 0125	1"	125	212	0.97	25.6	18.5	29.5	176	●	●			
MTS 0150	1"	150	255	0.92	30.7	18.5	33.5	209	●	●			
MTS 0175	1"	175	297	1.11	30.7	18.5	33.5	227	●	●			
MTS 0200	1 ½"	200	340	1.30	30.7	34.0	37.0	368		●	●	●	○
MTS 0250	1 ½"	250	425	1.32	30.7	34.0	37.0	388		●	●	●	○
MTS 0325	1 ½"	325	552	2.07	30.7	34.0	37.0	416		●	○	●	○
MTS 0425	2"	425	722	2.82	34.0	45.1	43.3	582			●	●	○
MTS 0520	2"	520	883	3.28	34.0	45.1	43.3	646			○	●	○
MTS 0600	2 ½"	600	1019	3.49	34.0	57.0	43.3	833			○	●	○
MTS 0700	2 ½"	700	1189	3.64	34.0	57.0	43.3	866			○	●	○
MTS 0800	2 ½"	800	1359	4.28	34.0	57.0	43.3	880			○	●	○
MTS 1000	3"	1000	1699	5.09	37.9	68.6	61.7	1598			○	●	○
MTS 1220	4" (1)	1220	2073	6.48	37.9	77.3	61.7	1907			○	●	○
MTS 1600	4" (1)	1600	2718	8.55	34.1	98.2	81.7	2513			○	●	○
MTS 2000	4" (1)	2000	3400	10.75	34.1	98.2	81.7	3064			○	●	○

Specifications	MTS 0020 to 0325	MTS 0425 to 1220	MTS 1600 to 2000
Design operating pressure range	0 to 232 psig	0 to 232 psig	0 to 232 psig
Design inlet air temperature range	41 to 158°F	41 to 158°F	41 to 149°F
Design ambient temperature range	41 to 115°F	41 to 115°F	41 to 110°F
Condenser cooling options	air only	air (standard) or water (optional)	air (standard) or water (optional)
Refrigerant type	R134a	R134a	R134a

pressure & dew point correction factors (5)

inlet air pressure (psig)	50	75	100	120	150	232	pressure dew point (°F)	38	40	45	50
correction factor	0.77	0.90	1	1.07	1.12	1.23	correction factor	1	1.05	1.21	1.36

temperature correction factors (5)

inlet air temperature (°F)	90	100	110	120	130	158	ambient temperature (°F)	90	100	110	115
correction factor	1.23	1	0.81	0.68	0.61	0.44	correction factor	1.07	1	0.93	0.88

(1) ½" to 3" connections are NPT threaded. 4" connections are flanged.
(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, and pressure drop not to exceed 5 psid. For all other conditions refer to the correction factors above. For performance at other conditions, contact Mattei.
(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 Mattei.
(4) Includes 460 Volt to 575 Volt transformer internally mounted and wired on MTS 0200, 0250 and 0425 to 2000.
(5) To be used as a rough guide only. All applications should be confirmed by Mattei.
● Standard ○ Available on request

mattei®
BEST SOLUTIONS IN COMPRESSED AIR

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

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