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# ECO MAST

Refrigeration dryer

**DTM** Technology



### ECO DRYER

With the ECO range, you can save energy on the one hand according to the air flow, and on the other hand according to climatic conditions.

#### What is thermal mass?

Thermal mass allows cold to be stored and then made available according to demand. In this way, compressor performance and therefore cold production is optimized.

#### ECO refrigeration air dryers

The ECO range covers flows from 30 to 1020 m<sup>3</sup>/hr, for a maximum pressure of 16 bar. These are thermal mass refrigeration dryers that use DTM (Dual Transfer Mode) technology.

#### DTM technology

There are 2 modes of transferring cold between the compressed air and the refrigerant:  
 The direct mode: thermal exchange uses conduction via the metallic structure of the exchanger  
 The indirect mode: thermal exchange is carried out via an intermediary agent.  
 It completes the rest of the structures of the exchanger and possess a large capacity for accumulating cold.

#### DTM technology providing a host of additional benefits

**Robustness:** DTM technology eliminates fragile, pressure-operated valves  
**Economy:** DTM technology only uses minimum power  
**Safety:** DTM technology guarantees the total integrity of the compressed air circuit from any risk of contamination by the cooling agent. This ensures that air quality meets the highest standards.  
**Performance:** DTM technology guarantees you get exactly the dew point you set.

**ECO dryer** has several unique features compared with the other products on the market:  
 Reduced consumption due to an air-to-air heat exchanger in all models in the range above the ECO-10. The dry, cold air from the drier is used to pre-cool the hot, wet air inlet.  
 Mechanical separation guaranteed in all operating modes by a condensate separator developed from 10 years experience.  
 High quality, anti-corrosion construction that is easy to maintain and very strong.  
 Electronic regulation with a user-friendly, clear, digital display panel.

#### ENERGY SAVINGS WITH THE ECO DRYERS

With a traditional direct expansion dryer, the refrigeration compressor is always working, whatever it's work load. With the ECO dryer, the refrigeration compressor only produces the cold required for the compressed air to be handled; consequently, depending on the working conditions, the refrigeration compressor is off and the required cold is provided by the thermal mass. With ECO dryer, energy savings can be achieved according to both the air flow rate and the prevailing climatic conditions.

Although many plants operate an 8-hour day, the dryer is often left plugged in. This means that there is a very great difference in power consumption between thermal mass and direct expansion.







STANDARD REFRIGERANT TYPE  
ECO-08~10 R134a , ECO-15~150 R407c

MODEL	Nm <sup>3</sup> /min		Weight kg	Connection In / Out	Dimension(mm.)			Power Input V
	50Hz	60Hz			W	L	H	
ECO- 08 C	0.7	0.8	63	3/4"PT	470	470	850	1ph/230V
ECO- 10 C	1.0	1.1	75					
ECO- 15 C	1.5	1.7	98					
ECO- 20 C	2.4	2.7	130	1"PT	580	545	1000	
ECO- 30 C	3.8	4.3	168					
ECO- 40 C	4.8	5.4	200	1-1/2"PT	740	620	1250	
ECO- 50 C	6.3	7.1	230					
ECO- 60 C	7.8	8.7	145					
ECO- 75 C	10.5	11.8	260	2"PT	745	765	1300	
ECO- 100 C	13.5	15.1	360					
ECO- 125 C	16.5	18.5	385					
				2-1/2"PT	745	1080	1500	

Correction factor	Dryer maximum air flow = Dryer air flow x K1 x K2 x K3 x K4								
Ambient temperature °C	25	28	30	35	40	45	50	55	
Factor ( K1 )	1.12	1.08	1.00	0.94	0.90	0.87	0.78	0.72	
Air inlet temperature °C	45	50	55	60	65	70	75	80	
Factor ( K2 )	1.12	10.80	1.00	0.92	0.84	0.72	0.70	0.68	
Working pressure Kg/cm <sup>2</sup>	4	5	6	7	8	9	10	13	
Factor ( K3 )	0.80	0.90	0.94	1.00	1.04	1.07	1.10	1.13	
Pressure dew point °C	2	3	4	5	6	7	8	10	
Factor ( K4 )	0.96	1.00	1.04	1.06	1.08	1.10	1.14	1.16	

- 1, ECO Series Air Inlet Temperature 80°C (Max.)
- 2, Dew Point Temperature 2~10°C
- 3, Ambient Temperature 43°C Max.
- 4, ECO series designed for the Energy Savings
- 5, Air In -Out Pressure Drop < 3 Psig
- 6, With after - cooler
- 7, 3 Years Warranty for Compressor And Evaporator.





Air Dryer - MATORSA Series



Air Dryer - Water column type COX300



Desiccant Air Dryer System



Air Dryer - CDT & CDA Series



Compressed Air Filter



Desiccant Air Dryer



Water Cooler

# YOUR SOLUTION

STANDARD REFRIGERANT TYPE  
ECO-03~10 R134a , ECO-15~150 R407c

MODEL		Nm <sup>3</sup> /min		Weight kg	Connection In / Out	Dimension(mm.)			Power Input V
		50Hz	60Hz			W	L	H	
ECO-	03 S	0.4	0.4	35	1/2"PT	430	410	500	1ph / 230V
ECO-	08 S	0.7	0.8	52	3/4"PT	470	470	600	
ECO-	10 S	1.0	1.1	60					
ECO-	15 S	1.5	1.7	85	1"PT	580	545	700	
ECO-	20 S	2.4	2.7	90	1-1/2"PT	740	620	930	
ECO-	30 S	3.8	4.3	178					
ECO-	40 S	4.8	5.4	180					
ECO-	50 S	6.3	7.1	215	2"PT	745	765	985	
ECO-	60 S	7.8	8.7	220					
ECO-	75 S	10.5	11.8	226	2-1/2"PT	745	1080	1205	
ECO-	100 S	13.5	15.1	345					
ECO-	125 S	16.5	18.5	351					

Correction factor	Dryer maximum air flow = Dryer air flow x K1 x K2 x K3 x K4								
Ambient temperature °C	25	28	30	35	40	45	50	55	
Factor ( K1 )	1.12	1.08	1.00	0.94	0.90	0.87	0.78	0.72	
Air inlet temperature °C	35	40	45	50	55	60	63	65	
Factor ( K2 )	1.12	1.08	1.00	0.92	0.84	0.72	0.70	0.68	
Working pressure Kg/cm <sup>2</sup>	4	5	6	7	8	9	10	13	
Factor ( K3 )	0.80	0.90	0.94	1.00	1.04	1.07	1.10	1.13	
Pressure dew point °C	2	3	4	5	6	7	8	10	
Factor ( K4 )	0.98	1.00	1.04	1.08	1.08	1.10	1.14	1.16	

- 1, ECO Series Air Inlet Temperature 55°C (Max.)
- 2, Dew Point Temperature 2~10°C
- 3, Ambient Temperature 43°C Max.
- 4, ECO series designed for the Energy Savings
- 5, Air In-Out Pressure Drop <3 Psig
- 6, 3 Years Warranty for Compressor And Evaporator.

