



THE TMS+ SERIES

THERMAL MASS AIR DRYERS



morehouse
AIR DRYERS SINCE 1958

TMS  **4-900**

THERMAL MASS REINVENTED

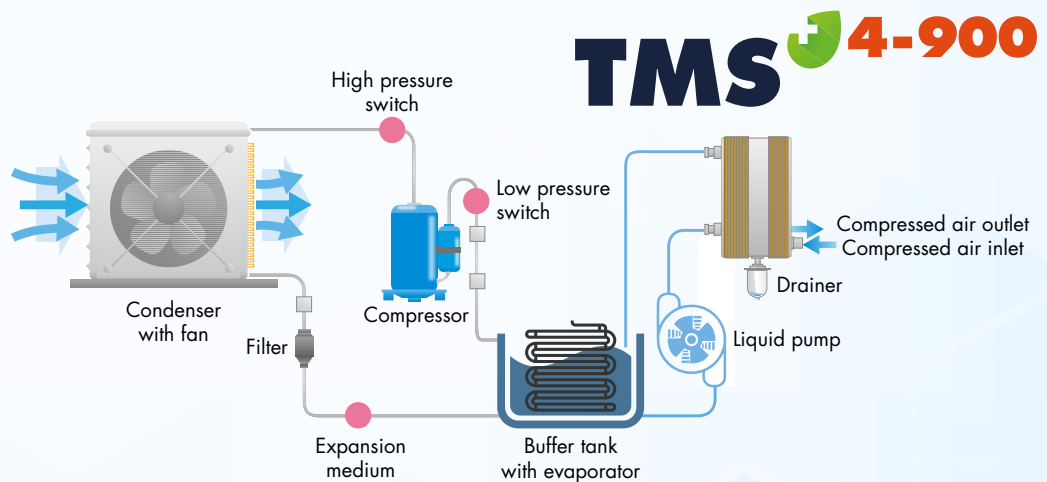
Innovative heat exchanger

The TMS⁺ air dryer is equipped with an innovative all-in-one heat exchanger with integrated water separator that offers many advantages. Its sustainable character is characterised by its design in stainless steel. The design took numerous optimisations into account, such as the large heat transfer of the water-glycol mixture, a guaranteed pressure drop lower than 0.3 bar, a well-engineered water separator without mesh that prevents clogging and contamination and the condensate cannot cause the heat exchanger to freeze. The standard operating pressure is 16 bar for models TMS⁺ 4 - 285 and 10 bar for models TMS⁺ 385 - 900.

Ecological and economical design

The biggest asset of the TMS⁺ air dryer is the well-dimensioned buffer tank with built-in evaporator. This ensures longer switch-off periods of the refrigerant compressor and a very stable pressure dew point under varying loads. Energy consumption is thus greatly reduced.

In the design, the environmentally friendly HFC refrigerant gas R513A was chosen which has a low GWP value and consequently reduces the CO₂ value of the dryer significantly. Also used is biodegradable glycol. Starting with the model TMS⁺ 80, the dryers are also equipped with energy-efficient scroll compressors, resulting in even lower power consumption and noise reduction. To protect the compressors, all TMS⁺ dryers are equipped with high and low pressure switches as standard. On all models, the pressure dew point is digitally displayed and condensate is drained by an electronic no-loss drain. The TMS⁺ dryers are built on robust frames with dimensions optimised for transport.



Quality

Morehouse has been manufacturing compressed air dryers for 65 years and is known for quality and durability. The TMS⁺ dryers are built with European A-brands in our own production facility in Malle. With the purchase of a TMS⁺ dryer the customer buys an operationally safe and highly reliable product that will guarantee years of dry air combined with significantly lower power consumption.

Low-maintenance

TMS⁺ dryers require almost no maintenance. Keeping the condenser free of dust and cleaning the no-loss drain are the only operations that are required. To make maintenance of the drain easier, the TMS⁺ dryers are standard fitted with a service valve at the water separator. By using the refrigerant gas R513A and its associated low GWP value (631), the annual mandatory refrigerant leak detection by a certified refrigeration technician is completely unnecessary on all models up to TMS⁺ 520. An alarm control with visual indication and a free potential contact are provided from the TMS⁺ 80 onwards.

TECHNICAL CHARACTERISTICS

Model	Capacity @ 3°C PDP m³/min	Power Supply V/Ph/Hz	Nominal Power kW	Air Connections*	Dimensions L x W x H cm
TMS+ 4	0.4	230V/1ph/50Hz	0.160	3/4" BSPF	39 x 40 x 67
TMS+ 6	0.6	230V/1ph/50Hz	0.197	3/4" BSPF	39 x 40 x 67
TMS+ 9	0.9	230V/1ph/50Hz	0.190	3/4" BSPF	39 x 40 x 67
TMS+ 12	1.2	230V/1ph/50Hz	0.255	3/4" BSPF	39 x 40 x 67
TMS+ 17	1.7	230V/1ph/50Hz	0.325	3/4" BSPF	39 x 40 x 67
TMS+ 20	2.0	230V/1ph/50Hz	0.660	1 1/2" BSPF	59 x 50 x 79
TMS+ 25	2.5	230V/1ph/50Hz	0.660	1 1/2" BSPF	59 x 50 x 79
TMS+ 30	3.0	230V/1ph/50Hz	0.828	1 1/2" BSPF	59 x 50 x 79
TMS+ 45	4.5	230V/1ph/50Hz	1.086	1 1/2" BSPF	59 x 50 x 79
TMS+ 65	6.5	230V/1ph/50Hz	1.348	1 1/2" BSPF	59 x 50 x 79
TMS+ 80	8.0	400V/3ph/50Hz	1.669	2" BSPF	77 x 77 x 101
TMS+ 105	10.5	400V/3ph/50Hz	1.985	2" BSPF	77 x 77 x 101
TMS+ 145	14.5	400V/3ph/50Hz	2.229	2" BSPF	77 x 77 x 101
TMS+ 180	18.0	400V/3ph/50Hz	2.420	3" BSPF	77 x 117 x 144
TMS+ 205	20.5	400V/3ph/50Hz	3.000	3" BSPF	77 x 117 x 144
TMS+ 250	25.0	400V/3ph/50Hz	3.620	3" BSPF	77 x 117 x 144
TMS+ 285	28.5	400V/3ph/50Hz	4.345	3" BSPF	77 x 117 x 144
TMS+ 385	38.5	400V/3ph/50Hz	6.531	4" BSPF	117 x 117 x 160
TMS+ 450	45.0	400V/3ph/50Hz	6.938	4" BSPF	117 x 117 x 160
TMS+ 520	52.0	400V/3ph/50Hz	7.792	4" BSPF	117 x 117 x 160
TMS+ 650	65.0	400V/3ph/50Hz	11.204	150 mm DIN 2633	117 x 157 x 160
TMS+ 900	90.0	400V/3ph/50Hz	15.209	150 mm DIN 2633	117 x 157 x 160

* Connection drain 1/2" BSPF

REFERENCE CONDITIONS

Inlet compressed air pressure	7 bar g
Inlet compressed air temperature	35°C (100%RH)
Ambient temperature	25°C
Min. pressure dewpoint	3°C

According to ISO 7183

OPERATING LIMITATIONS

Operating pressure	2 tot 16 bar e
Inlet air temperature	0°C tot 55°C
Ambient temperature	0°C tot 43°C
Max. pressure refrigerant R513A	30 bar g

CALCULATION EXAMPLE*

Consumption DX 285	= 3,1kW x 24h/day x 365 days = 27 MWh
Consumption TMS+ 285	= 4,3kW x (80% x 8h + 10% x 16h) x 260 days + 4,3kW x 10% x 24h x 105 days = 10 MWh
Annual savings (EUR)	= 17.128 kWh x 0,30 EUR/kWh = 5.138 EUR
Annual savings (CO2)	= 17.128 kWh x 0,649 kg/kWh = 11 tons

* With 8 hours of working time per day for 260 working days per year

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65 YEARS

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A HISTORY SINCE 1958

