



REFRIGERATED AIR DRYERS



PLC. Controllers

MASTER COOL



- State of Art Design
- With Pre-cooling System
- Heavy Duty
- Suitable for High Temperature
- High quality Efficiency
- All branded Components
- 50 cfm. – 3000 cfm. Range

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The results in loss of efficiency and material, and increase downtime. Moisture is usually the single major cause of unnecessary costs to compressed air systems. The cost of drying air is must lower than the damage caused by moisture. Thus, clean, dry compressed air is essential for effective working of any pneumatic systems. The only positive means of removing moisture from compressed air, i.e. completely drying air, is to install an air dryer. Compressed air can be dried by to methods



New



Housing : self extinguishing ABS
Front protection : IP 65
Power supply : 230vac 50Hz
Power absorption : 3VA max
Display : red LED.
Input : NTC probes
Relay output : up to 3 relay 20(8)Amp,16(5)Amp,8(3)Amp ; 250Vac
Data storing : EPROM memory
Operating temperature : 0-60°C
Storage temperature : -25-60°C
Relative humidity : 20-85% (non Condensing)
Accuracy : better than 1% of F.S.

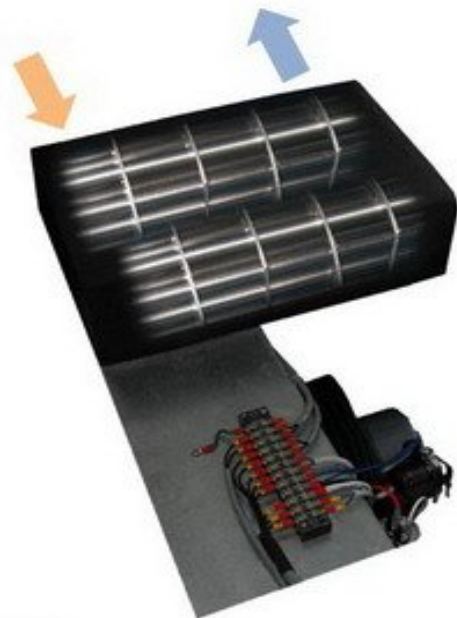
The probes with NTC thermistor are designed for applications where high accuracy and short response time is important. The probe passes several tests, this is why we guarantee a very high reliability. The temperature range is -40 - 110°C (-40 - 230°F).

Pneumatic section

The moist compressed air (dirt, oil and water vapor) enters into the Air/Air Heat Exchanger where it is pre cooled by the outgoing air and thereby conserving energy.

The compressed air next passes through the evaporator, which is of tube in tube construction. It is cooled up to +3°C by the Refrigerant. At this sub-cooled temperature, the moisture present in the air is condensed and removed by the De-mister.

The cool saturated air passes through the Air to Air Heat Exchanger where it pre cools incoming air and it gets heated up. Thus this system provides clean dry air at the Outlet. Efficient Filter and Automatic Drain Valve carry out the removal of moisture at every stage. The Heat Exchangers are designed in such a way that they are self-cleaning to maintain the constant heat transfer rate.

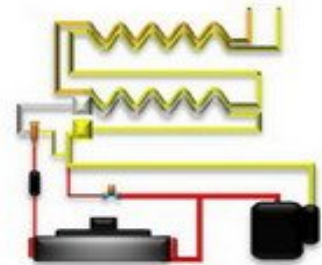


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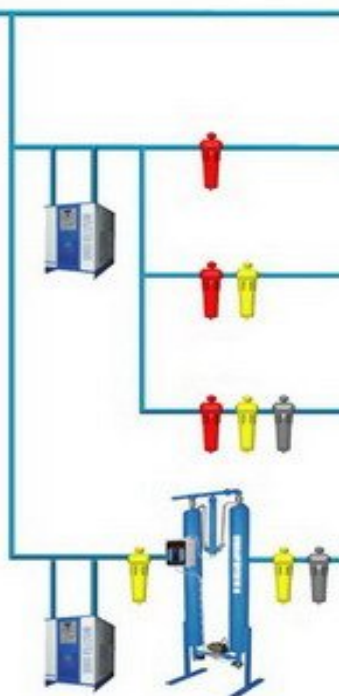
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Refrigeration section (Freon)

The Evaporator is of tube in tube construction. The heat removed from the system is dissipated to the atmosphere/water by the condenser. The high pressure refrigerant flows into the expansion valves where it changes into liquid phase at low pressure. The boiling of liquid refrigerant takes place in Evaporator and cold dry air leaves from the Evaporator. Thus cold air leaves from the Evaporator. The low pressure, low temperature refrigerant passes into the compressor and the cycle repeats. The Refrigeration Dryer senses the Refrigerant suction pressure and accordingly varies the flow of Hot Gas Bypass inside the system and maintains constant Dew point at various heat loads.



ISO 8573-1:2001 Standards



Cleaning casting machines.
Solder machines and parts.

Precision industries, electronics
and pneumatic tools.

Equipment static coating
pneumatic bearing.

Food and beverage, Processing and
air-source for breathing air
packaging, paint spray or print,
pneumatic meter

Foodstuff industries drug
industries, string and drying
chemical dispensing devices,
fermentation industries,
computer room

Quality classes	Solid Particle maximum number of particles per m ²			Max pressure Dew point PPM.vol at 7 Kg/cm ²	Max oil content including oil vapour mg/m ³
	0.1-0.5 micron	0.5-1 micron	1.0-5 micron		
1	100	1	0	-70 (0.3)	0.01
2	100000	100	10	-40 (16)	0.1
3	-	10000	500	-20 (128)	1
4	-	-	1000	+3 (940)	5
5	-	-	20000	+7 (1240)	-
6	-	-	-	+10 (1500)	-



Specification

Model	Connect inch	Air flow		Voltage volt	Dimension
		m ³ /min	cfm		
DTM 103*	3/4"	1.4	50	1-230-50	500 x 600 x 600
DTM 153*	3/4"	1.8	64	1-230-50	500 x 600 x 600
DTM 203*	1"	2.9	102	1-230-50	500 x 600 x 650
DTM 303*	1"	4.4	155	1-230-50	500 x 600 x 650
DTM 403*	1"	5.6	198	1-230-50	550 x 800 x 770
DTM 503*	1 1/2"	7.3	258	1-230-50	550 x 800 x 770
DTM 603*	1 1/2"	9.1	321	1-230-50	550 x 800 x 770
DTM 753*	2"	11.4	403	1-230-50	600 x 950 x 950
DTM 1003*	2 1/2"	15.6	551	1-230-50	600 x 950 x 950
DTM 1253*	2 1/2"	18.6	657	1-230-50	600 x 950 x 950
DTM 1503	3"	22.1	781	3-400-50	800 x 1200 x 1200
DTM 1803	3"	27.3	965	3-400-50	800 x 1200 x 1200
DTM 2203	3"	30.7	1085	3-400-50	800 x 1200 x 1200
DTM 2703	3"	40.7	1438	3-400-50	800 x 1200 x 1200
DTM 3403	4"	47.3	1672	3-400-50	800 x 1200 x 1700
DTM 4003	4"	53.5	1891	3-400-50	800 x 1200 x 1700
DTM 5003	4"	62.2	2198	3-400-50	800 x 1200 x 1700



Data refer to the following

Normal condition : Ambient temperature of 35°C, with inlet air at 7 bar and 3°C pressure dew point (-22°C atmospheric pressure dew point)

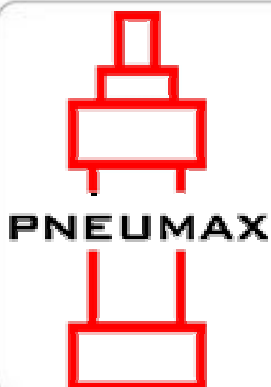
Max working condition* : Ambient temperature 45°C inlet air temp 80°C and inlet air pressure 13 bar

Correction factor for ambient temperature change							
Ambient temperature °C	30	32	35	38	40	42	45
Factor(F1)	1.11	1.06	1.00	0.96	0.92	0.88	0.84

Correction factor for air inlet temperature change									
Air inlet temperature °C	40	45	50	55	60	65	70	75	80
Factor(F2)	1.09	1.00	0.93	0.90	0.87	0.84	0.8	0.76	0.7

Correction factor for pressure change									
Working pressure kg/cm ²	4	5	6	7	8	9	10	11	13
Factor(F3)	0.70	0.82	0.92	1.0	1.03	1.06	1.09	1.12	1.16

***Dryers maximum air flow = Dryers air flow x F1 x F2 x F3 ***



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