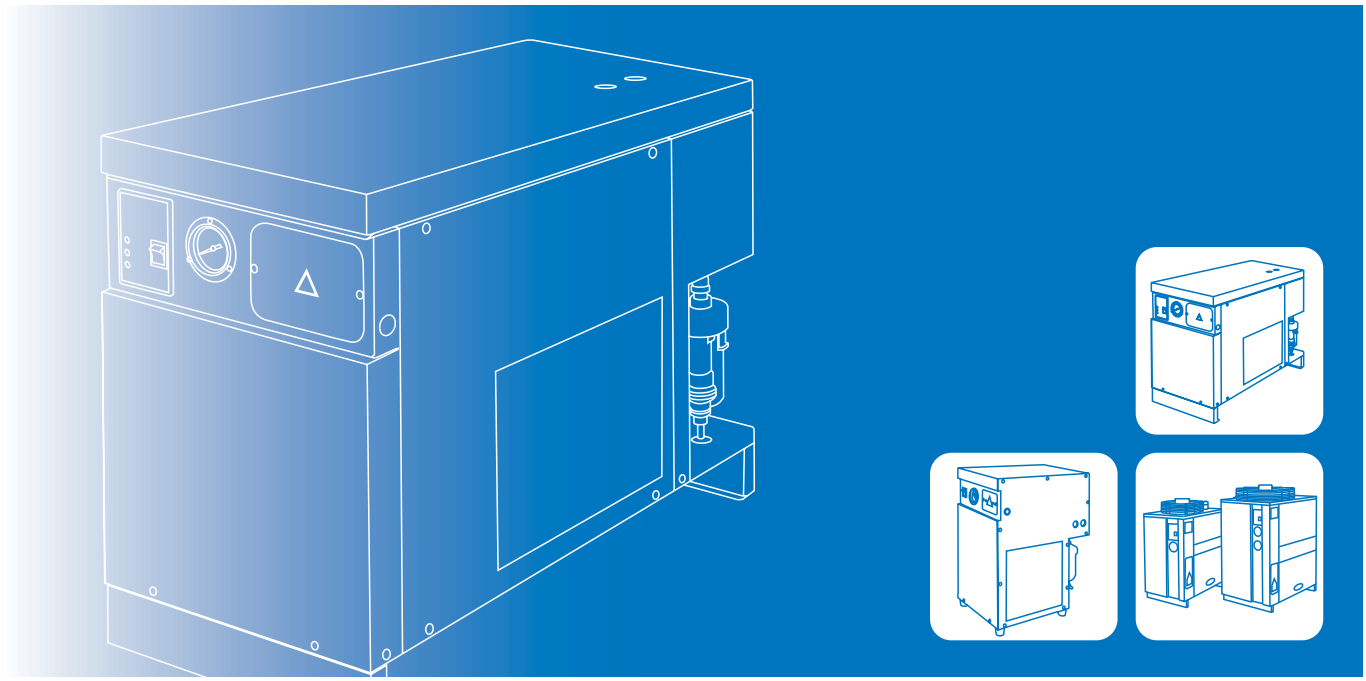
COMPRESSED AIR DRYER



REFRIGERATION

Features

- High thermal performance plate type heat exchangers.
- SUS304, corrosion resistance longer life.
- Eco-friendly HFCs. Reduce energy consumption also mitigating global warming damage.
- 3 in 1 heat exchanger, evaporator and molsture separator, low pressure drop.
- Fully automatic loading control by pressure switch and hot gas by-pass valve.
- External float auto drain, easy maintenance and service.

Specification

Model	MARD-05NP	MARD-08NP	MARD-10NP
Max. capacity (Nm^3/min)	0.8	1.2	1.6
Connection (inch)	Rc1/2	Rc1/2	Rc1
Power supply	220V/1ø/60Hz		
Consumption (kw) ±5%	0.35		0.43
Refrigerant	R134a		
Dimension (mm) L W H	420 320 525		420 380 560
Net weight (kg)	24	25	55

Correction factor

Working pressure (MPa)	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Correction factor (Fp)	0.8	0.88	0.94	1.0	1.04	1.06	1.09
Inlet temperature(°C)	50	55	60	65	70		
Correction factor (Fti)	1.0	0.95	0.85	0.72	0.58		
Ambient temperature (°C)	30	38	40	45	50		
Correction factor (Fta)	1.1	1.0	0.9	0.79	0.63		
Dew point (°C)	3	5	7	10	15		
Correction factor (Ftd)	0.7	0.85	0.91	1.0	1.2		

Design condition

Capacity: @20°C 0.1 MPa (a)
Inlet temperature: 50°C
Working pressure: 0.7 MPa
Dew point: 10°C
Pressure drop: <0.025 MPa
Ambient temperature: 38°C

Operating scope

Inlet temperature: 70°C max.
Ambient temperature: 2~50°C
Operating pressure range: 0.4~1.0 MPa

Remarks

Customize products available.

Formula

= Fp × Fti × Fta × Ftd

MARD series 15~100

REFRIGERATION COMPRESSED AIR DRYER

mindman

Features

- Multi-function controller one touch ON/OFF, additional operating status, and alarm indicator.
- Eco-friendly HFCs. Reduce energy consumption also mitigating global warming damage.
- SUS304, corrosion resistance avoid pollution.
- Fully automatic loading control by pressure switch and hot gas by-pass valve.
- Epoxy treatment for aluminum fin surface. Extended lifetime.
- 2 in 1 compact heat exchanger and evaporator design. Low pressure drop.
- Reverse tube and fin heat exchanger design high efficiency and save space.
- External float auto drain, easy maintenance. With spare manual valve.

Specification

Model	MARD-15NP	MARD-25NP	MARD-40NP	MARD-50NP	MARD-60NP	MARD-75NP	MARD-100NP
Max. capacity (Nm^3/min)	2.8	4.0	5.5	7.0	8.1	10.6	15.0
Connection (inch)	Rc1	Rc1	Rc1 1/2	Rc1 1/2	Rc1 1/2	Rc2	Rc2
Power supply	220V/1ø/60Hz					380V/3ø/60Hz	
Ref. comp. (kw) ±5%	1.12		1.72			3.53	
Refrigerant	R410a		R410a			R410a	
Dimension L W H (mm)	850 430 806		1150 530 856			1150 530 866	
Net weight (kg)	63	74	111	114	118	178	186

Correction factor

Working pressure (MPa)	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Correction factor (Fp)	0.8	0.88	0.94	1.0	1.04	1.06	1.09
Inlet temperature(°C)	50	55	60	65	70		
Correction factor (Fti)	1.0	0.95	0.85	0.72	0.58		
Ambient temperature (°C)	30	38	40	45	50		
Correction factor (Fta)	1.1	1.0	0.9	0.79	0.63		
Dew point (°C)	3	5	7	10	15		
Correction factor (Ftd)	0.7	0.85	0.91	1.0	1.2		

Design condition

Capacity: @20°C 0.1 MPa (a)
Inlet temperature: 50°C
Working pressure: 0.7 MPa
Dew point: 10°C
Pressure drop: <0.025 MPa
Ambient temperature: 38°C

Operating scope

Inlet temperature: 70°C max.
Ambient temperature: 2~50°C
Operating pressure range: 0.4~1.0 MPa

Remarks

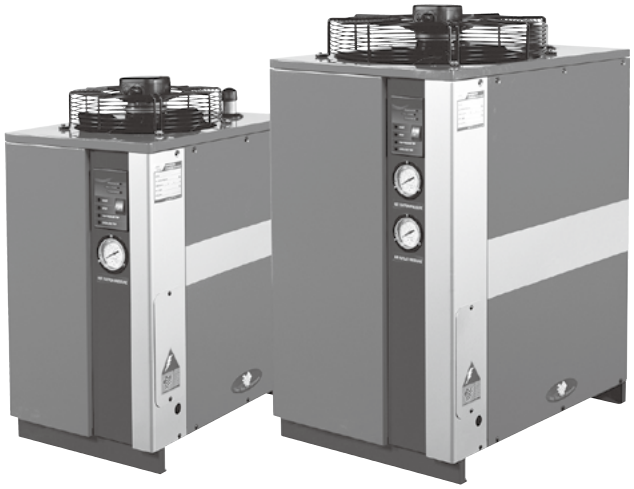
Customize products available.

Formula

= Fp × Fti × Fta × Ftd

M2E series 10~100

REFRIGERATION COMPRESSED AIR DRYER



Features

- The "FAN-UP" plus "TWO-IN-ONE" air-cooled precooler & condenser make better result in ventilation. Compact, state-of-the-art. (Screen mesh for precooler & condenser optional.)
- "TWO-IN-ONE" heat exchanger & evaporator plus multi-stage stainless steel water separator provide 99% water separation and 2~10 P.D.P., meets first compressed air quality class of ISO 8573.1.
- Manual - Electronic auto drain valve with screen mesh keeps you free from daily maintenance.
- Compact SCS mircoprocessor details the operation of dryer.
- Stainless steel air-side piping or high essure models optional.
- 0.02 MPa pressure drop helps energy saving.
- Reheating reversed air flow and sub-cooling design completely increase the cooling capacity by 20%.
- Environmental friendly refrigerant R-134 a partially adopted.

Specification

Model	M2E-10GP	M2E-15GP	M2E-25GP	M2E-40GP	M2E-60GP	M2E-75GP	M2E-100GP
Max. capacity (Nm^3/min)	1.2	2.4	3.6	5.5	8.1	10.6	15
Connection (inch)	Rc3/4"	Rc1"	Rc1"	Rc1-1/2"	Rc1-1/2"	Rc2"	Rc2"
Power supply (50/60Hz)	220V/1ø					220V/3ø	
Ref. comp. (kw)	0.5	0.65	0.95	1.2	1.9	2.6	2.6
Operating current (A)	2.4	3	4.3	5	7.5	3.5	3.5
Full-load current (A)	2.75	3.35	4.9	5.7	8.7	4	4
Refrigerant	R134a			R-22			
Fan motor (W)	60	60	60	180	250	400	400
Dimension L (mm) H	735	775	775	960	960	1050	1050
Dimension L (mm) L	500	600	600	700	700	1020	1020
Dimension L (mm) W	380	380	380	500	500	540	540
Net weight (kg)	40	50	54	83	93	127	173

Design condition

A. Working pressure: 0.7MPa	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Correction factor	0.63	0.75	0.87	1.00	1.06	1.12	1.17
B. Dew point : 10°C	2	5	> 10				
Correction factor	0.65	0.85	1.00				
C. Power source frequency : 60Hz	50	60					
Correction factor	0.83	1.00					
D. Ambient temperature: 38°C	42	40	< 38				
Correction factor	0.90	0.95	1.00				
E. Inlet temperature:60°C	80	70	< 60				
Correction factor	0.88	0.94	1.00				

Operating scope

Inlet temperature: 5~80°C (@60°C).
Ambient temperature: 2~42°C (@38°C).
Working pressure: ≤ 1.0MPa (@0.7MPa).
Dew point: 2~10°C (@10°C).

Remarks

- Design condition @60Hz:
  1. Ref. comp.(kw): @ET10°C, CT54°C.
  2. Operating current (A): @ET5°C,CT45°C.
  3. Full-load current (A): @ET10°C,CT54°C.
- Max. working pressure 1.0 MPa, high pressure available.
  H_1(1.1~2.0MPa) Designate NH_1P. ex: M2E-15NH_1P.
  H_2(2.1~3.0MPa) Designate NH_2P. ex: M2E-15NH_2P.
  H_3(3.1~4.0MPa) Designate NH_3P. ex: M2E-15NH_3P.
  H_4(4.1~5.0MPa) Designate NH_4P. ex: M2E-15NH_4P.
  PS: High pressure inlet temperature @42°C.
- M2E-08G differs from other models in design without explanation.

Formula

- Actual capacity =
  M2E capacity × (A×B×C×D×E)
- Corrected capacity =
  Demanded capacity ÷ (A×B×C×D×E)

Features

1. Control panel
- Logic controller, complete auto function and standard wiring.
- Complete automatic, no adjustment is required.

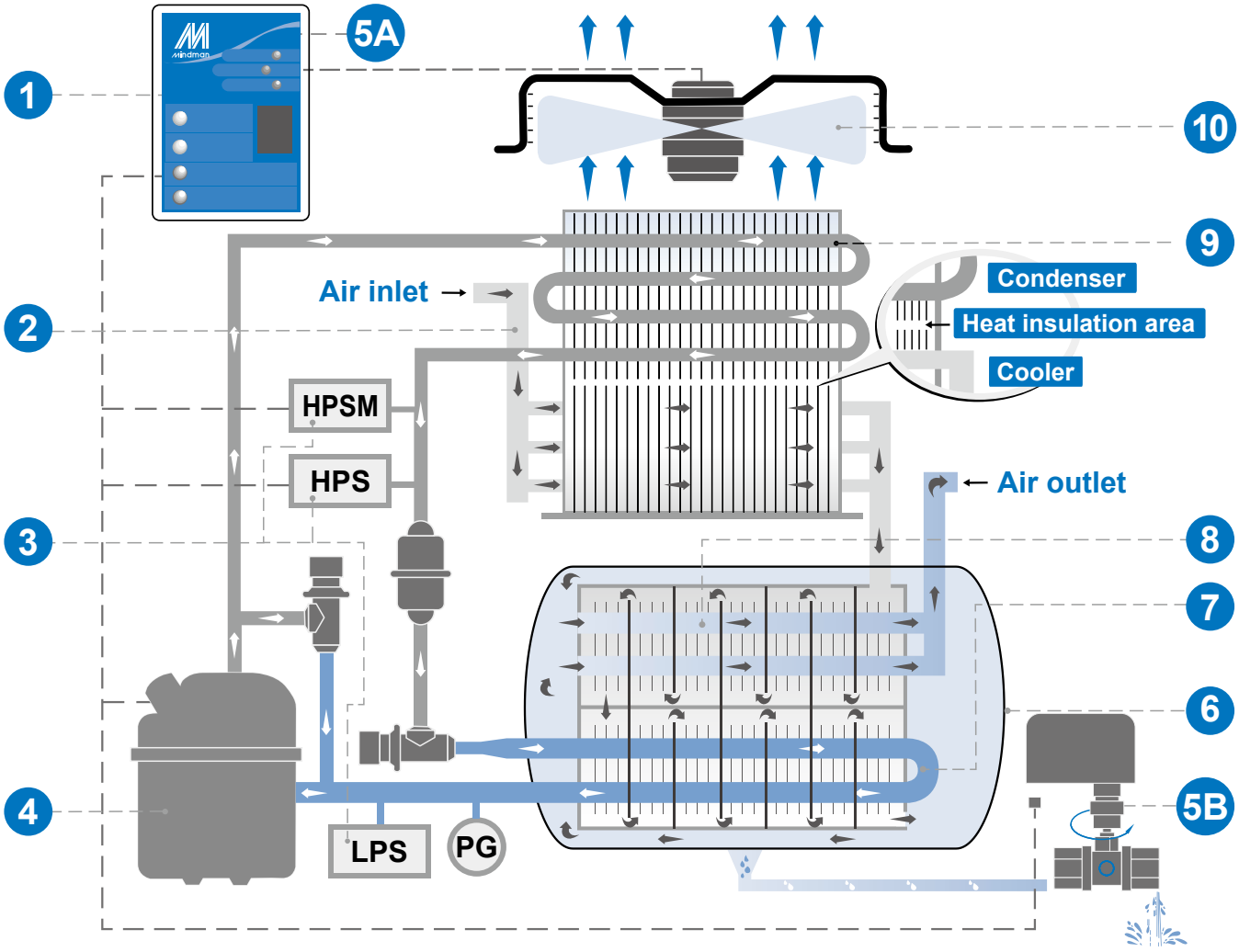
2. Pre-cooler
- Combined with air-to-refrigerant condenser by a heat insulation area. Compact of high technology.
- Excellent inlet air distribution results in high performance and low pressure drop.

3. Pressure control
- Pre-set type pressure switch (HPS&LPS) is used for better stability and fewer malfunctioning.
- Reset type high pressure switch (HPSM) is specially designed for models larger than M2E-75 to prevent compressor from overloading.

4. Refrigeration compressor
- Hermetic, High performance and efficiency.
- CE Certified.
- Class F, IP53.

5. Electronic drainage
- Timer control with manual drain test.
- Anti-blockage by a large ball valve.
- Driven by motor, no more coil burnt down concern.

6. Pressure vessel
- Stainless steel pressure vessel, antirust and life extend.
- Compact TWO-IN-ONE design:Air-to-air heat exchanger combined with evaporator.
- Leak test by high precision instrument, leakage free is guaranteed.
- CNS manufacturing standard;CE, ASME, CSQL standard upon request.



7. Evaporator

- Wave type aluminum fins with diversion plate increases the contact surface of air and refrigerant. The lower by-pass and higher cooling efficiency is easy to achieve.

8. Heat exchanger

- Thread type bronze tubes with aluminum fins and diversion plate plus Reversed-Channel design makes better cooling efficiency, higher outlet air temperature and lower energy consumption.

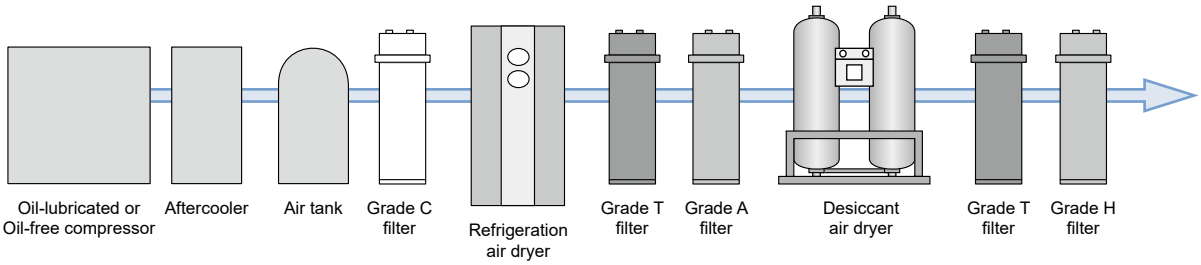
9. Condenser

- Large air intake area and Blow-Up design is greatly helpful for better heat rejection and good ventilation.

10. Fan motor

- Low noise, high speed, large flow and static pressure.
- CE Certified, IP54.

Application



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