

AIRSYS



METROCOOL

Cooling for Industrial Environments

Cooling capacity: 7.2 - 10.0 kW

www.air-sys.uk



The METROCOOL unit is a reverse cycle heat pump air conditioning split system, with wall mounted indoor fan coil, and externally mounted air-cooled condensing unit. The unit is designed to maintain space temperatures for critical environments, where reliability and robustness within harsh environments are essential in maintaining key infrastructure. Typical applications are within the rail industry, underground transportation, mining, metallurgical, and petrochemical industries. The operating range is -15oC to +50oC, with nominal capacities of 7kW & 10kW in single and three phase versions.

Unit Identification

01	02	03	04	05	06	07	08	09	10	11
METROCOOL	.	7	V1	R410	.	230/1/50	.	ID	.	XXX

01	METROCOOL	Product series name: METROCOOL
02	.	Separator Character ""
03	7	Unit nominal cooling capacity by kW
04	V1	Compressor type and number: V1: equipped with 1 DC inverter rotary compressor
05	R410	Refrigerant: R410= R410a
06	.	Separator Character ""
07	230/1/50	Power source: Voltage/Phase/Frequency 230V/1/50, 415V/3/50
08	.	Separator Character ""
09	ID	ID: Indoor unit OD: Outdoor unit
10	.	Separator Character ""
11	XXX	Code for custom design, 3 alphanumeric code

Engineered features

1 Reliability

The unit design features industrial class components that can operate continuously in severe environments.

2 High temperature resistance

The unit functions properly with ambient temperatures up to 55°C.

3 Corrosion-proof

The unit framework and panels are treated to prevent corrosion, sufficient for a 15 year life cycle for inland installation.

4 Fire-proof

The unit is made using fire-retardant material, including Class O insulation, low smoke cables, etc.

5 Good structure design and easy maintenance

The unit is designed for ease of maintenance. All the main components such as: compressors, fans, motors, filters and controls can be accessed and maintained from the front of the unit. The weight of each access panel is less than 5kg.

6 Control system

The unit contains two distinct control systems:

- Micro-processor: UC2 controller automatically controls and monitors components' operation.
- Manual operation system: Unit ON/OFF switch, fan speed switch for emergency override.

7 Alarm

The unit monitors the status of individual components and generates critical alarms for the complete protection of the unit.

8 Remote control and monitoring (optional)

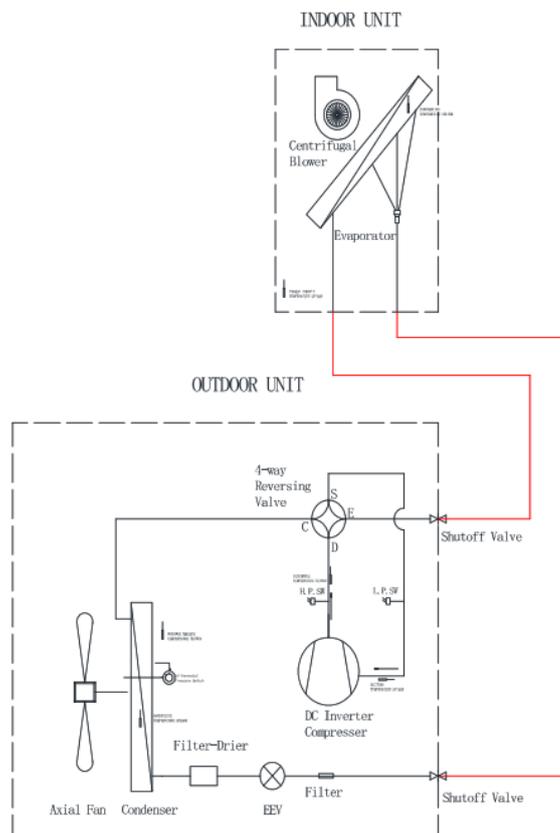
Remote control and monitoring is available as an option, allowing remote monitoring of the unit status and alarms, and providing a routine maintenance overview.

Operating principle

When the operating conditions for mechanical cooling are met, the compressor compresses the refrigerant gas and sends it to the condenser coil. The condenser coil is a heat exchanger, removing heat from the hot compressed gas and allowing it to condense into a liquid.

The liquid refrigerant is then routed to the electronic expansion valve, which acts as a restriction device by forcing the refrigerant to go through a small hole. This causes the pressure to drop, cooling the liquid. The liquid refrigerant is then routed to the evaporator coil. The evaporator coil is also a heat exchanger, absorbing heat from the indoor hot air causing the liquid refrigerant to change back into gas. The refrigerant gas is then routed back to the compressor to complete the cycle.

The refrigerant cycle will continue as long as the compressor is energized, absorbing heat from the indoor environment and discharging to atmosphere via the condensing unit.



Technical Parameters

METROCOOL 220V/1Ph/50Hz

Unit model		METROCOOL.7	METROCOOL.10
Power Supply			
Refrigerant		R410A	
Cooling capacity (1)	kW	7.2	10.0
Power input (1)	kW	2.3	3.2
Current (1)	A	10.5	14.2
Unit max. operating power input	kW	3.3	4.5
Unit max. operating current	A	15	20
Indoor unit			
Fan type		Double inlet centrifugal fan	
Air volume (H)	m ³ /h	1650	1800
Air volume (M)	m ³ /h	1300	1500
Air volume (L)	m ³ /h	1000	1300
Heating capacity	kW	8	11
Width	mm	1295	1295
Depth	mm	280	310
Height	mm	620	800
Weight	kg	54	64
Outdoor unit			
Compressor type		DC inverter rotary	
Fan type		Axial fan with EC	
Qty. of fan	n.	1	1
Width	mm	970	1150
Depth	mm	500	510
Height	mm	830	1030
Weight	kg	110	120
Pipe connection			
Condensing water drainage	mm	16	16
Refrigerant liquid	in	3/8"	3/8"
Refrigerant gas	in	5/8"	5/8"

(1)— Return air dry bulb temperature 27°C, wet bulb temperature 19°C, outdoor dry bulb temperature 35°C, wet bulb temperature 24°C.

Technical Parameters

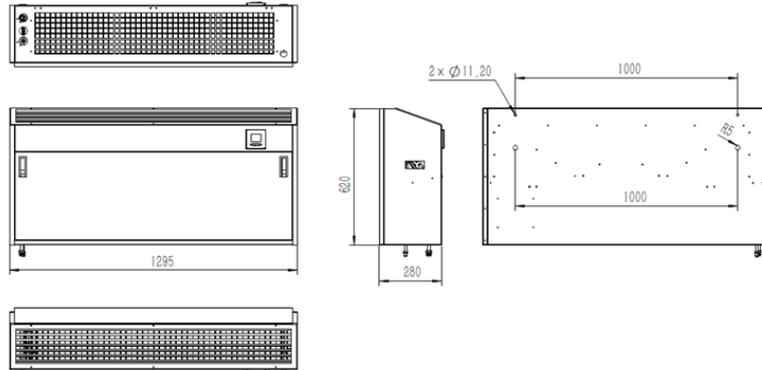
METROCOOL 415V/3Ph/50Hz

Unit model		METROCOOL.7	METROCOOL.10
Power Supply			
Refrigerant		R410A	
Cooling capacity (1)	kW	7.2	10.0
Power input (1)	kW	2.3	3.2
Current (1)	A	3.4	4.7
Unit max. operating power input	kW	3.3	4.5
Unit max. operating current	A	5.0	6.6
Indoor unit			
Fan type		Double inlet centrifugal fan	
Air volume (H)	m ³ /h	1650	1800
Air volume (M)	m ³ /h	1300	1500
Air volume (L)	m ³ /h	1000	1300
Heating capacity	kW	8	11
Width	mm	1295	1295
Depth	mm	280	310
Height	mm	620	800
Weight	kg	54	64
Outdoor unit			
Compressor type		DC inverter rotary	
Fan type		Axial fan with EC	
Qty. of fan	n.	1	1
Width	mm	970	1150
Depth	mm	500	510
Height	mm	830	1030
Weight	kg	110	120
Pipe connection			
Condensing water drainage	mm	16	16
Refrigerant liquid	in	3/8"	3/8"
Refrigerant gas	in	5/8"	3/4"

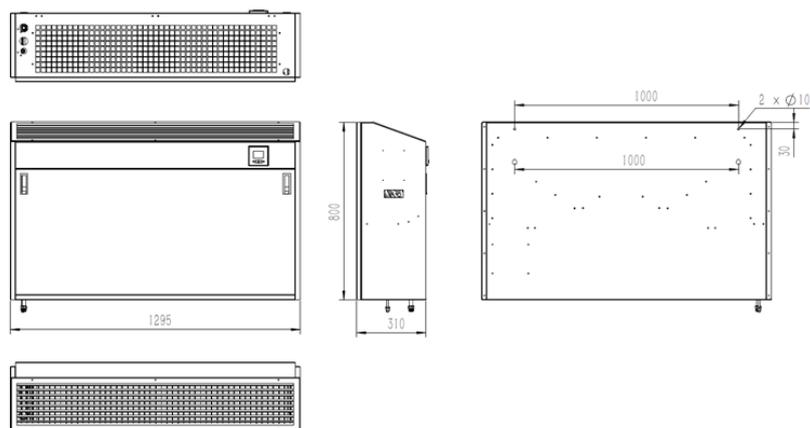
(1)— Return air dry bulb temperature 27°C, wet bulb temperature 19°C, outdoor dry bulb temperature 35°C, wet bulb temperature 24°C.

Unit Dimension Drawing

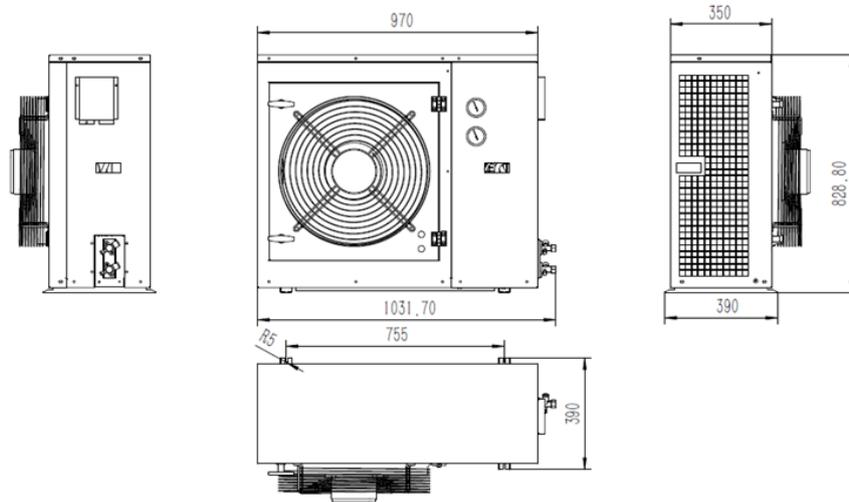
Indoor Metrocool.7



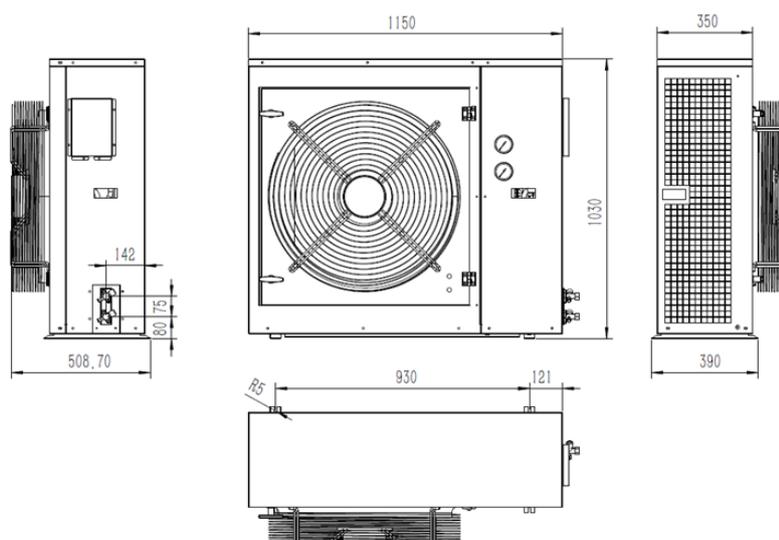
Indoor Metrocool.10



Outdoor Metrocool.7



Outdoor Metrocool.10





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Product design and specification subject to change without prior notice.