

# Precision AC - Micool DX air cool series



Outdoor ambient temperature range:  
-20°C~45°C ( -34°C~45°C, Customized)

Indoor ambient temperature range:  
0°C~45°C



Top delivery  
Front intake



50kW



Universal  
outdoor unit

## Specification (R410A, Top delivery/front intake)

Indoor unit			MAU050T2N1S3
Outdoor unit			MAO431N (x2)
Power supply (Indoor unit)			380V~, 3Ph, 50Hz
Power supply (Outdoor unit)			380V~, 3Ph, 50Hz
Cooling	Total capacity	kW	51.1
	Sensible capacity	kW	45.99
	EER	W/W	2.7
Direction of air supply			Top delivery
Air side heat exchanger	Type		Finned tube
	Air volume	m <sup>3</sup> /h	13500
Elect. heater input		kW	9
Humidification capacity		kg/h	10
Rated input		kW	36
Rated current		A	65
Refrigerant type			R410A
Refrigerant factory charging			9.0(x2)
Throttle type			Thermostatic expansion valve
Refrigerant pipe	Size (Liquid/gas)	mm	Φ16 (x2)/Φ22 (x2)
Drainage pipe (Outdoor unit)		mm	Φ19
Indoor unit	Compressor Quantity		2
	Compressor Type		Scroll
	Fan motor Quantity		2
	Fan motor Type		AC motor
	Sound pressure level	dB(A)	71
	Dimension (WxHxD)	mm	1,790x1,971x870
Packing (WxHxD)	mm	1,910x2,155x985	
Net/gross weight	mm	670/820	
Outdoor unit	Fan motor Quantity		1(x2)
	Fan motor Type		AC motor
	Sound pressure level	dB(A)	65
	Dimension (WxHxD)	mm	1,470x1,050x988(Outdoor unit1) 1,470x988x690(Outdoor unit2)
	Packing (WxHxD)	mm	1,700x1,190x940
Net/gross weight	mm	105/210	
Controller			Wired controller (Integrated in indoor unit)
BMS protocol			GDY or Modbus (option)
Operating temperature range			20 to 40 °C(Indoor unit) -20 to 45 °C(Outdoor unit)

Notes:

1. The nominal cooling capacity is based on the following conditions: Indoor temperature: 24°CDB, 17°CWB; Outdoor temperature: 35°CDB.
2. If the refrigerant pipe length is less than 40m and more than 20m, the long-pipe accessories is necessary.
3. Specifications are subject to change without prior notice for product improvement.



COMMERCIAL AIR CONDITIONERS

# Precision AC 50Hz

# Product lineups

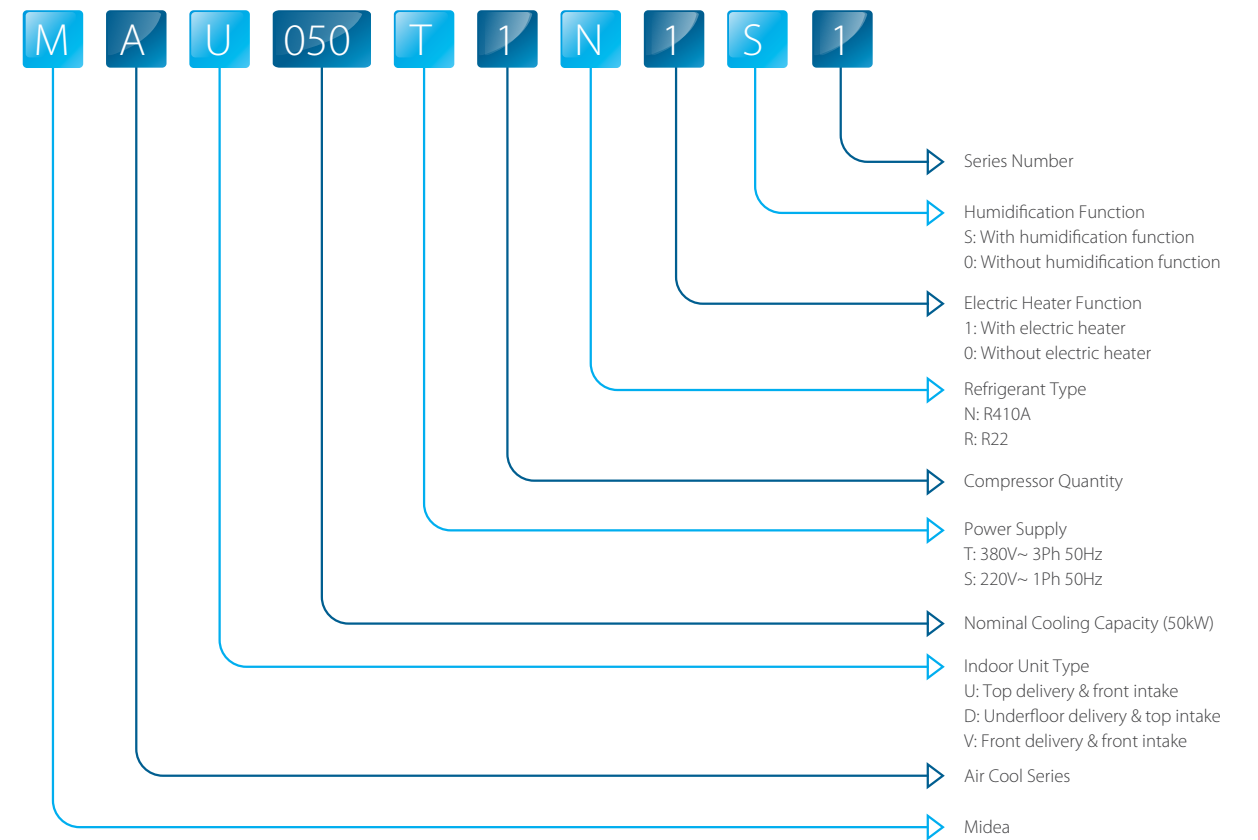


	MDP series (410A)	Front delivery (Up) Front intake (Down)	<p>5.5kW      7.5kW      12.5kW</p>
Precision AC	Micool DX air cool series (R410A)	Top delivery Front intake	<p>50kW</p>
		Universal outdoor unit	

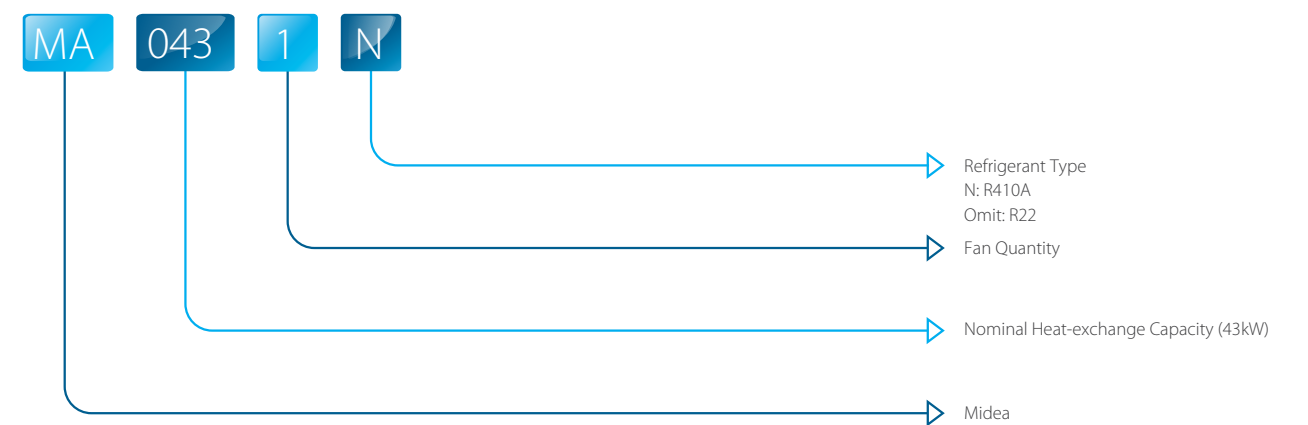
# Nomenclature

## Precision AC

Indoor unit:



Outdoor unit:

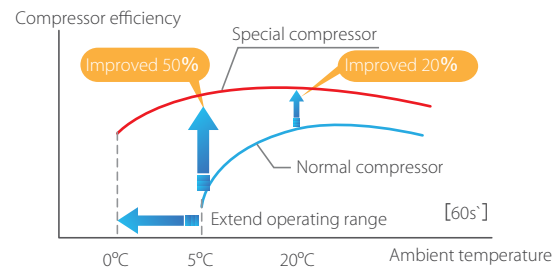


# Precision AC

## IDC rooms solutions

Computer equipment in IDC rooms generate heat. This equipment is also very sensitive to the heat, humidity and dust. Maintaining these conditions is critical to ensuring the equipment's functional reliability. The Midea Micool and MDP Precision Control series: Precisely controls Temperature and humidity whilst providing high levels of particle filtration. High tolerance conditions are constantly maintained which can also be monitored remotely.

## Reliable scroll compressor



- Incorporates, copeland high efficiency scroll Compressor.
  - Built-in thermal multi-protectors that prevent motor overheating.
  - Better liquid handling. Axial and radial compliance in compressor allow the scroll members to separate in the presence of liquid refrigerant to provide protection against liquid-refrigerant damage.
  - No complex internal suction and discharge valves for quieter operation and higher reliability.
- Notes: Scroll compressor is only available for Micool air cool series A/C.

## High Efficient Evaporator, Energy Saving Dehumidify



- Adopts a V – shaped Evaporator: Enlarged heat exchange surface.
- Internally grooved copper pipe: Enhances heat exchange capability.
- Electromagnetic valve: Dehumidification with limited temperature fluctuation.

## Immersed electrode humidifier

- High reliability – Carel Humidifier.
- Adopts “Advantage Control” technology: Ensures the system accurately controls the Relative Humidity by means of the Smart Logic programmers.
- Automatic self-cleaning cylinder.
- Easy access (opening) cylinder. Quick “Click – On” closing and quality gasket ensures water is sealed between the cylinder and components.



## High Efficiency indoor & outdoor motors



- Indoor motor:
- Fan Speed can be adjusted by adjusting the tension of the belt roller.
  - The Running speed can be automatically adjusted thus ensuring optimal “Supply Air” Volume at variable static pressures.

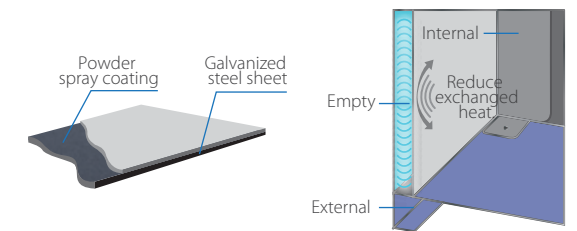
- Outdoor motor:
- Well-known brand, Ziehl-Abegg.
  - The frequency converter adjusts fan speed automatically as required by the operating parameters.
  - Metal impeller, anti-corrosion design, made of die-cast aluminium.



Outdoor fan motor & Frequency converter

## Double wall casing design, improved heat insulation

- Heat Insulated, nitrogen treated and powder coated casing prevents condensate build up.
- Fire Resistant.



## Easy maintenance

- Simply open the door for maintenance and repairs.
- Easy access to main components (Located in Indoor unit).
- Rotalock type connection (Compressor). No welding required when replacing compressor.



## Accurate microprocessor control technology

### Humidity control module

The high quality “Carel” Humidity controller Module provides precise control to the steam Cylinder, ensuring that the exact humidity requirement is met.

### One way electric valve

Switches off when reducing humidity. Portion of Evaporator functionality is eliminated. Air Moisture removal speed is increased.

### Temperature & humidity sensor

High sensitivity sensor can accurately detect the temperature and humidity of the condition and send the signal to the main control module.

### Pressure sensor

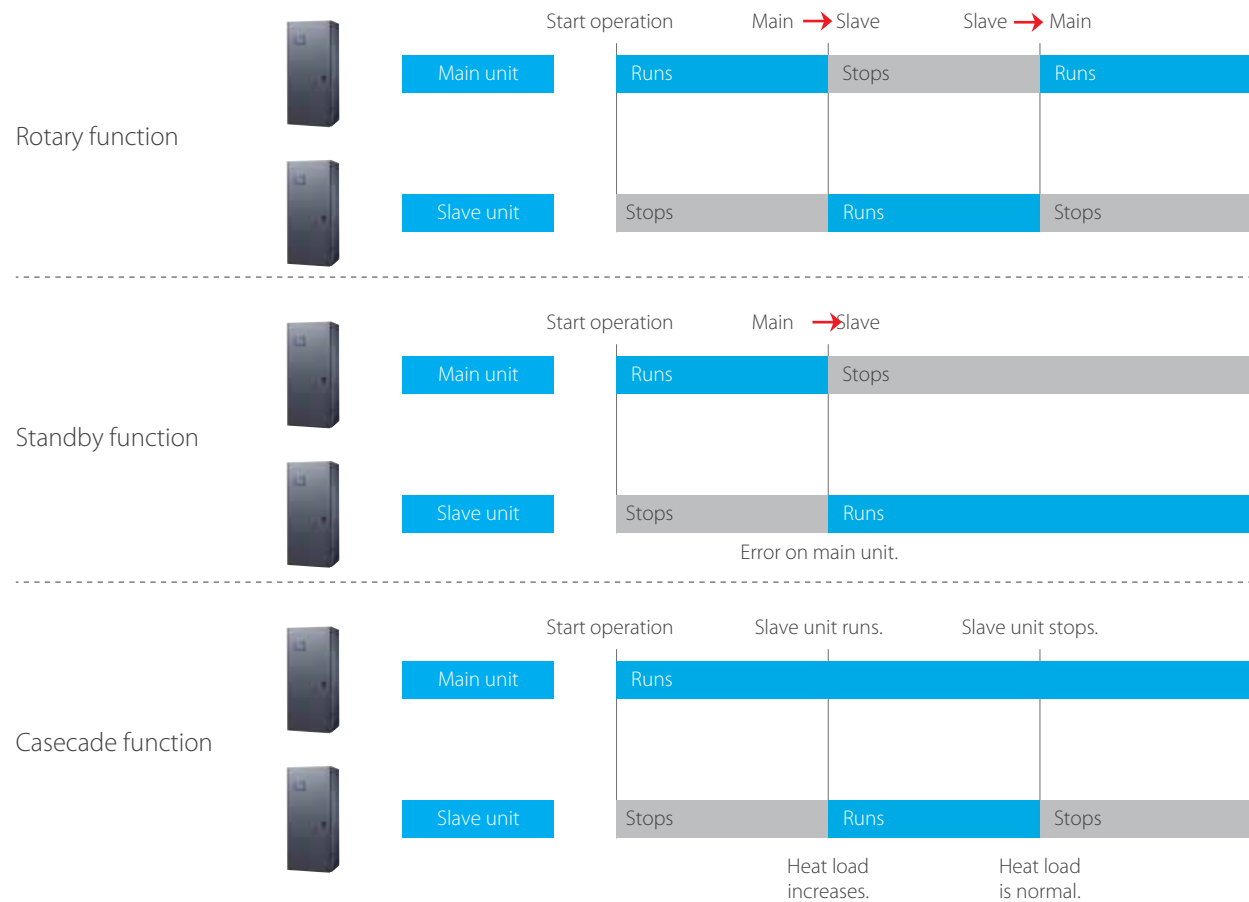
High quality sensor can accurately detect the pressure of the refrigerant system, and send the signal to the main control module.

### Multiple protections

- High and low pressure protection.
- Discharge temperature protection.
- Lack of phase protection.
- Phase sequence protection.
- Water leakage protection.

## Multiple function control system

- Running parameters is displayed on the control Panel, when in "Operation Mode".
- A maximum of 100 Error codes are recorded.
- Rotary Function, Stand-By function, Cascade Function and Conflict management ensures stable operation.



## Plenum Box (Optional) Top Delivery Models

- Optional Air Plenum Box.
- Easy adjust Air direction grill – by hand.



## Air Filter Standard

- Air filter, grade G2, is the standard for MDP series products.
- Air filter, grade G4, is the standard for Micool DX air cool series products.
- Dirty Filter – Error Message.



# MDP series

Indoor ambient temperature range:  
0°C~40°C

Outdoor ambient temperature range:  
-15°C~48°C



## Specifications (R410A)

Indoor unit			MAV006S1N2S	MAV008T1N2S	MAV013T1N2S	MAV018T1N2S
Outdoor unit			MA0071N	MA0101N	MA0162N	MA0212N
Power supply (Indoor unit)			220V~, 1Ph, 50Hz	380V~, 3Ph, 50Hz	380V~, 3Ph, 50Hz	380V~, 3Ph, 50Hz
Power supply (Outdoor unit)			220V~, 1Ph, 50Hz	220V~, 1Ph, 50Hz	220V~, 1Ph, 50Hz	220V~, 1Ph, 50Hz
Cooling	Total capacity	kW	5.5	7.45	12.5	17
	Sensible capacity	kW	4.95	6.75	11.25	15.3
	EER	W/W	2.91	2.9	3	2.9
Direction of air supply			Front delivery, front intake	Front delivery, front intake	Front delivery, front intake	Front delivery, front intake
Air side heat exchanger	Type		Finned tube	Finned tube	Finned tube	Finned tube
	Air volume	m <sup>3</sup> /h	1550	2050	2950	4500
Elect. heater input	kW	3.5	3.5	4	4	
Humidification capacity	kg/h	2.5	2.5	2.5	2.5	
Rated input	kW	5.6	6.7	9.4	11.2	
Rated current	A	27	18	23	26	
Refrigerant type		R410A	R410A	R410A	R410A	
Refrigerant factory charging	Kg	1.8	2.8	3.5	4.35	
Throttle type			Thermostatic expansion valve	Thermostatic expansion valve	Thermostatic expansion valve	Thermostatic expansion valve
Refrigerant pipe	Size (Liquid/gas)	mm	Φ6/Φ12.7	Φ6/Φ16	Φ9.52/Φ19	Φ9.52/Φ19
Drainage pipe (Outdoor unit)		mm	Φ16.5	Φ16.5	Φ16.5	Φ16.5
Indoor unit	Compressor Quantity		1	1	1	1
	Compressor Type		Rotary	Rotary	Scroll	Scroll
	Fan motor Quantity		1	1	1	1
	Fan motor Type		AC motor	AC motor	AC motor	AC motor
	Sound pressure level	dB(A)	59	60	64	64
	Dimension (W×H×D)	mm	700×1,880×425	700×1,880×425	760×1,880×515	800×1,880×670
Packing (W×H×D)	mm	810×2,030×530	810×2,030×530	880×2,030×620	920×2,030×775	
Net/gross weight	mm	105/117	107/119	140/151	190/208	
Outdoor unit	Fan motor Quantity		1	1	2	2
	Fan motor Type		AC motor	AC motor	AC motor	AC motor
	Sound pressure level	dB(A)	47	52	57	62
	Dimension (W×H×D)	mm	842×695×324	945×810×395	904×1,332×414	1,120×1,558×528
	Packing (W×H×D)	mm	956×770×420	1,050×900×490	1,030×1,456×435	1,270×1,720×565
Net/gross weight	mm	30/33	40/43	65/76	89/106	
Controller			Wired controller (Integrated in indoor unit)	Wired controller (Integrated in indoor unit)	Wired controller (Integrated in indoor unit)	Wired controller (Integrated in indoor unit)
BMS protocol			GDY or Modbus (option)	GDY or Modbus (option)	GDY or Modbus (option)	GDY or Modbus (option)
Operating temperature range			20 to 40 °C (Indoor unit) -15 to 48 °C (Outdoor unit)			

Notes:

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