



DATA CENTRE SOLUTIONS



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ABOUT MAMMOTH

Since 1935, Mammoth has been producing and installing air conditioning units with the most innovative technologies. Our solutions are found in some of the world's most important buildings for its unparalleled flexibility and efficiency. When performance and energy efficiency are important factors to a project, our products are often chosen as the final solution.

Established in Minneapolis, USA - 1935

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Energy Saving & Innovation

Mammoth produces air conditioning equipment that leverages energy saving and innovative technologies. Our products include, but not limited to, geothermal & water source heat pumps, air & water cooled commercial air conditioning units, fan coils, AHU, VAV box, screw chillers, and energy recovery units.

Customization & Energy Saving is Our Standard

Mammoth has been recognized as a leader in providing custom designed Total Energy Solution HVAC Systems. Our solutions can fit any design applications from WSHP systems to geothermal systems, from hybrid systems to various energy saving systems. Based on the needs of our customers, our recommendations help our customers assess the economic benefits of Mammoth solutions over alternative systems.

Outstanding Achievement

Mammoth has also brought its innovative design concepts to the industry. We have printed numerous technical design manuals and books to facilitate engineers in the design of Renewable Energy HVAC Systems. Together with industry associations and the commercial section of the US Embassy and Consulate General Offices, we have frequently conducted technical seminars in major cities in China and abroad. We have supplied our solutions to projects that amount to almost 10 million sq. m., and have been continuously recognized as the leader in Renewable Energy products in China.

MAMMOTH CLOUD SERIES



Midular Framework Design, applying to multiple scenarios.

CLOUD - AIR

CRAC Unit

INTRODUCTION

CLOUD-AIR series CRAC unit mainly provide high-precision temperature and humidity control for small-to-large data rooms and feature high efficiency, energy conservation, high adaptability, safety and reliability, modular design, intelligent management, compact structure, exquisite process and space saving, fully meeting the cooling requirements of modern data rooms.

It is applied in central computer room, data center and computer room, communication equipment room, network room, medical equipment room, industrial control room and precision processing equipment, close-control processing /storage environment, UPS and battery room in various fields.





PRODUCT FEATURES

- This series of products includes air-cooled type, water-cooled type, chilled water type, and the cooling capacity covers 7~200kW, meeting different load requirements of various places.
- Microcomputer intelligent control ensures the optimal operation of the system, graded design of refrigeration system, and intelligent adjustment of cooling capacity.
- High-efficiency scroll compressor, featuring low vibration, low noise and high reliability, and R410A environment-friendly refrigerant is used.
- The 7-inch super-large touch screen dynamically displays the real-time running state of the unit, and the graph image shows the changes of temperature and humidity parameters.
- CAN network technology, with group control of 32 units, perfect automatic alarm and diagnosis function for all-round protection of air conditioning units.
- Standard configuration involves PTC electric heating and wet film humidification, which is safe, reliable, energy-saving and efficient.
- EC centrifugal fan is installed to realize continuous adjustment of air volume, flexible matching of heat load, on-demand supply, and green and energy saving.
- High-precision electronic expansion valve, which can accurately control the superheat, evaporation pressure and evaporating capacity of refrigerant, and keep high cooling capacity output.
- Support \$ 15% wide power grid adaptation, with optional redundant power distribution, lightning protection and rope/point flooding sensor functions.
- The condensing fan of outdoor unit, featuring a small occupying area, has stepless speed regulation function which can automatically adjust the running speed.

TECHNICAL PARAMETERS

A. Air Cooled Direct Expansion Series

Performance Parameter

Parameters	Model	MM008AQP	MM014AQP
Airflow	m ³ /h	2200	3200
Cooling capacity	kW	7.5	12.5
Sensible cooling capacity	kW	6.75	11.25
Electric heating	kW	3	3
Humidification capacity	kg/h	3	3
Full Load Amperage (FLA)	A	14.6	19
Indoor unit dimensions (W × L × H)	mm	510×388×1800	600×508×1900
Indoor unit weight	kg	108	140
Outdoor Unit Parameters			
	Model	MW10NBSO	MW20NBSO
Matching Quantity		1	1
Overall Dimensions (W × L × H)	mm	700×352×820	700×352×1198
Weight	kg	43	62

- Indoor return air condition: Dry-bulb temperature 24 °C, wet-bulb temperature 17 °C; Air-cooled outdoor condition: Dry-bulb temperature 35 °C.
- Power supply: 380 V, 3N, 50 Hz.
- Fixed-speed, small-capacity units are standardly equipped with infrared humidification. For fixed-speed small-capacity units, left-side piping outlet is the default configuration.
- If the required data is not listed in the table, please contact Mammoth Distributor.

Performance Parameter

Parameters	Model	MM030A	MM045A	MM060A	MM090A	MM120A
Indoor condition 1: Dry-bulb 35 °C / Wet-bulb 21.5 °C; Outdoor condition: Dry-bulb 35 °C						
Cooling Capacity	kW	32.4	45.2	62.7	90.4	125.1
Sensible Cooling Capacity	kW	32.4	45.2	62.7	90.4	125.1
Indoor condition 2: Dry-bulb 24 °C / Wet-bulb 17 °C; Outdoor condition: Dry-bulb 35 °C						
Cooling Capacity	kW	25.1	40.5	50.5	80.6	100.9
Sensible Cooling Capacity	kW	24.2	36.9	45.8	73.4	91.8
Airflow	m ³ /h	9000	11000	13000	22000	26000
Electric Heating Capacity	kW	6	9	9	9	9
Humidification Capacity	kg/h	6	6	10	10	10
Full Load Current (FLA)	A	31.5	47.8	56.3	77.9	95
Weight	kg	340	350	360	615	635
Overall Dimensions (W × D × H)	mm	1100×1000×2000	1100×1000×2000	1100×1000×2000	2200×1000×2000	2200×1000×2000
Flat-Type Outdoor Unit Technical Parameters						
Model		MW50NV	MW70NV	MW90NV	MW70NV	MW90NV
Matching Quantity	Unit(s)	1	1	1	2	2
Number of Fans	Piece(s)	1	1	1	2	2
Outdoor Unit Dimensions (W × L × H)	mm	1080×1080×1745	1080×1080×1745	1080×1080×1874	1080×1080×1745	1080×1080×1874

- Water-cooled condition: Inlet / outlet water temperature 30 / 35 °C.
- Power supply: 380 V, 3N, 50 Hz.
- Optional: Evaporative (wet media) humidifier.
- Due to continuous product improvement and upgrading, specifications are subject to change without prior notice. Please confirm details before placing an order.

B. Chilled Water Series

Indoor Unit Model		MM040C	MM060C	MM100C	MM120C	MM180C	MM200C
Main Power Supply		3N+PE-380V 50Hz					
National standard condition: Return air condition: Dry-bulb 24 °C / RH 50%; Chilled water inlet / outlet temperature: 7 °C / 12 °C.							
Cooling Systems	Cooling Capacity (kW)	43.7	59.7	97.8	114.8	171.3	203.3
	Sensible Cooling Capacity (kW)	34.2	49.2	77.8	93.8	137.4	156.8
	Water Flow Rate (m ³ /h)	7.6	10.7	17.4	21	31.2	36.6
	Water Pressure Drop (kPa)	100	95.5	110.3	110.5	117.9	122.3
High-temperature condition 1: Return air condition: Dry-bulb 30 °C / RH 40%; Chilled water inlet / outlet temperature: 12 °C / 18 °C.							
Cooling Systems	Cooling Capacity (kW)	38.6	53.7	87.5	103.4	153.4	179.8
	Sensible Cooling Capacity (kW)	36.8	53.5	84.5	102.4	149.5	169.9
	Water Flow Rate (m ³ /h)	5.7	8.1	13	15.9	23.3	27.2
	Water Pressure Drop (kPa)	55.3	55.2	62.5	64	66.3	69.0
High-temperature condition 2: Return air condition: Dry-bulb 30 °C / RH 40%; Chilled water inlet / outlet temperature: 15 °C / 21 °C.							
Cooling Systems	Cooling Capacity (kW)	29.9	42.1	67.5	80.8	119.3	138.5
	Sensible Cooling Capacity (kW)	29.4	42.1	67.5	80.8	119.3	138.5
	Water Flow Rate (m ³ /h)	4.4	6.4	10.2	12.6	18.2	21.2
	Water Pressure Drop (kPa)	34	35.6	40	40.9	42.2	43
High-temperature condition 3: Return air condition DB 35°C / RH 30%, water inlet/outlet temperature 18°C / 24°C							
Cooling Systems	Cooling capacity (kW)	34.8	49.7	79.1	95.3	139.9	161.2
	Sensible cooling capacity (kW)	34.8	49.7	79.1	95.3	139.9	161.2
	Water flow rate (m ³ /h)	5.1	7.5	11.8	14.6	21.2	24.5
	Water pressure drop (kPa)	45	47.2	51.5	54	54.8	55.6
Fan							
Fan	Airflow (m ³ /h)	8000	13000	19000	25000	35000	37500
Specification	Quantity (1 unit)	1	1	2	2	3	3
Electric heating performance parameters							
Heating capacity - kW		6	6	9	9	12	12
Humidifier performance parameters							
Humidification capacity - kg/h		6	6	10	10	12	12
Air filter							
Filtration grade / Filter class		G4					
Connection pipe size specifications							
Chilled water pipe connection specifications		DN32 male	DN40 male	DN40 male	DN50 male	DN65 flange	DN80 flange
Humidifier water inlet pipe (internal thread)		G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"
Unit drain pipe OD-mm (barbed fitting + hose clamp)		19	19	19	19	19	19
Unit dimensions							
Unit length - mm		900	900	1800	1800	2700	2700
Unit depth - mm		1000	1000	1000	1000	1000	1000
Unit height - mm		1980	1980	1980	1980	1980	1980
Unit weight							
Net (static) weight - kg		300	330	600	620	905	920
Full-load current and power							
Unit full-load current - A		14.7	14.7	24.8	24.8	34.9	34.9
Unit full-load power - kW		9.5	9.5	16	16	22.5	22.5

NOTE:

- The air outlet static pressure of the above indoor units is 100 Pa; models with static pressure up to 200 Pa can be customized.
- If the required data is not listed in the table, please contact the Shenling ICT Business Division.



MAMMOTH CLOUD SERIES



Highly matching rack depth,
flexible installation, zero cooling loss

CLOUD - MIRAGE

In-Row precision air conditioner



MULTIPLE ENERGY SAVING OPERATING MODES

LINK-THUNDER series In-Row precision air conditioner is a temperature control product mainly developed for medium and high density data centers. It has the advantages of high efficiency, energy saving, safety and reliability, intelligent management, compact structure, exquisite workmanship, super-high sensible heat ratio and nearby cooling, capable of fully meeting the cooling requirements of medium and high density data rooms.

It is applied in modular data room, container data center, high-heat density data room and etc.

TECHNICAL CHARACTERISTICS

- Full inverter, high sensible heat ratio, avoiding loss caused by repeated humidification and dehumidification.
- R410A environment-friendly refrigerant is used, and cooling capacity is intelligently adjusted.
- 7-inch super-large touch screen displays temperature and humidity curve, with complete alarm protection and self-diagnosis function.
- CAN bus networking technology, with group control of 32 units.
- PTC electric heating, which is safe and reliable.
- EC fan is installed, which has the characteristics of stepless speed regulation, large air volume, small air resistance, fan-wall air supply, etc.
- High-precision electronic expansion valve, which can accurately control the superheat, evaporation pressure, and dynamically adapt to the demand of cooling output.
- Support + 15% wide power grid adaptation, with optional redundant power distribution, lightning protection and rope/point flooding sensor, fluorine pump and other functions.
- The condensing fan of outdoor unit has stepless speed regulation function, which can automatically adjust the running speed.
- Wet film humidification, featuring almost zero power, green and energy-saving, which reduces PUE.
- The water of In-Row series of heat pipe does not enter the data center, which is safe and reliable.
- It is equipped with liquid level switch to prevent fluorine pump evacuation.

TECHNICAL PARAMETERS

(1). Direct Expansion Series

Parameters	Model	MM25RA	MM35RA	MM40RA	MM50RA	MM60RA
Airflow	m ³ /h	5000	7000	8500	10500	12000
Indoor condition 1: DB 37°C / WB 21°C ; Outdoor condition: DB 35°C						
Cooling Capacity	KW	26.8	36.8	42.5	52.5	62.6
Sensible Cooling Capacity	kW	26.5	36.5	42.5	52.5	62.6
Indoor condition 2: DB 35°C / WB 21.5°C ; Outdoor condition: DB 35°C						
Cooling capacity	kW	25	35	40.6	50.2	60.1
Sensible cooling capacity	kW	24.8	34.8	39.1	48.2	57.7
Electric heating capacity	kW	3	4	6	6	6
Humidification capacity	kg/h	1.5	1.5	3	3	3
Maximum load current	A	28.2	33.2	40	42.5	47.9
Unit net weight	kg	213	262	297	301	304
Overall dimensions (W × D × H)	mm	300×1200×2000	300×1200×2000	600×1200×2000	600×1200×2000	600×1200×2000
Centralized outdoor unit specifications						
Model		MW40NV	MW50NV	MW60NV	MW70NV	MW90NV
Number of fans	unit(s)	1	1	1	1	1
Unit net weight	kg	175	186	192	210	218
Outdoor unit dimensions (W × L × H)	mm	1080×1080×1745	1080×1080×1745	1080×1080×1745	1080×1080×1745	1080×1080×1874
Flat-type outdoor unit specifications						
Model		MW40NP	MW50NP	MW60NP	MW70NP	MW80NP
Number of fans	unit(s)	1	1	2	2	2
Unit net weight	kg	167	179	219	228	306
Outdoor unit dimensions (W × L × H)	mm	1650×1100×1150	1650×1100×1150	2010×1100×1150	2010×1100×1150	2700×1100×1150

- Water-cooled condition: Inlet / outlet water temperature 30 / 35°C.
- Optional configurations: The outdoor unit can be equipped with a water spray cooling energy-saving module and a refrigerant pump (fluorine pump) energy-saving module.
- Power supply: 380V, 3N, 50Hz.
- Note: Due to product improvement and upgrades, specifications are subject to change without prior notice. Please confirm all parameters before placing an order.

(2). Chilled Water Series

Parameters	Model	MM30RC	MM80RC
Air flow	m ³ /h	5000	8500
Working condition 1: indoor working condition: DB37°C /RH24%, inlet/outlet water at 10°C /15°C;			
Cooling capacity	kW	32.9	61.4
Sensible cooling capacity	kW	32.9	61.4
Water flow	m ³ /h	5.6	10.5
Water pressure drop	kPa	78	84.9
Working condition 2: indoor working condition: DB35°C /RH30%, inlet/outlet water at 12°C /18°C;			
Cooling capacity	kW	26.4	47.8
Sensible cooling capacity	kW	26.4	47.8
Water flow	m ³ /h	3.7	6.8
Water pressure drop	kPa	57.4	45
Working condition 3: indoor working condition: DB37°C /RH24%, inlet/outlet water at 15°C /21°C;			
Cooling capacity	kW	25	45.4
Sensible cooling capacity	kW	25	45.4
Water flow	m ³ /h	3.6	6.5
Water pressure drop	kPa	53.7	40.2
Electric heating capacity	kW	3	6
Humidifying capacity	kg/h	1.5	3
Max. load current	FLA	20.4	22.7
Power supply	/	AC 220V/50Hz	AC 380V/50Hz, 3N
Dimension (W*D*H)	mm	300*1200*2000	600* 1200*2000
Weight	kg	170	335

MAMMOTH CLOUD SERIES



Close to heat source, more efficient
heat dissipation.

CLOUD - ORBIT

Rack mounted precision air conditioner



PRODUCT DESCRIPTION

CLOUD-ORBIT Rack-mounted precision air conditioner is mainly used for nearby cooling of the rack server and other communication devices to embed the air conditioner into the rack. It is highly efficient, energy-saving, safe and reliable, fully meeting the cooling requirements of the rack with intelligent management, compact structure and exquisite workmanship.

It is applied to micro data center, edge computing station, base station communication room, modular data room, high heat density data room and etc.

TECHNICAL CHARACTERISTICS

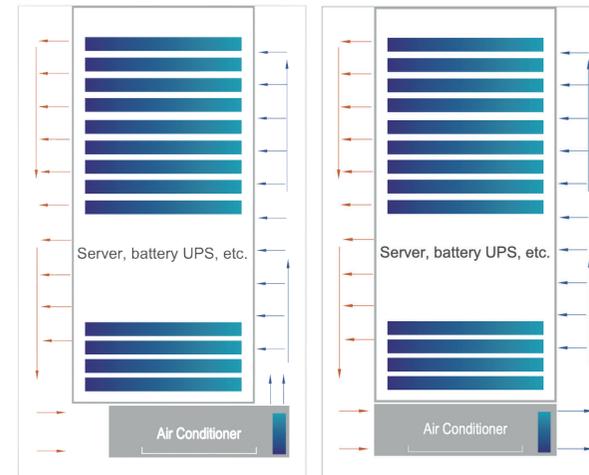
- EC fan, DC inverter compressor, intelligent control system, CFD optimization design is adopted for heat exchanger and air duct, which is efficient and energy-saving.
- Save space, design for 5U(4kW), 8U(8kW) and etc., convenient for installation and maintenance.
- High reliability, 365 days x 24 hours uninterrupted operation design, design life up to 10 years, all accessories are strictly tested and inspected.
- Complete automatic protection and alarm, fault self-diagnosis and comprehensive parameter detection and adjustment.
- Provide free communication protocol, and provide the dry point and RS485 intelligent communication interface to realize remote monitoring at the same time, as well as functions of backup operation, patrol, cascade and competition prevention and other group control.
- Flexible configuration, as per the air supply mode, it can be divided into top air discharge model (compatible with side air supply model) or front air supply model, which can meet various installation requirements.

TECHNICAL PARAMETERS

Parameter		Model	MR04A	MR08A	MR04A (5G)	MR08A (5G)
Air flow		m³/h	800	1600	900	1800
Indoor working condition 1: DB37°C/RH24%, outdoor working condition: DB35°C						
Cooling capacity		kW	4.2	8.1	4.2	8.1
Sensible cooling capacity		kW	4.2	8.1	4.2	8.1
Indoor working condition 2: DB35°C/RH30%, outdoor working condition: DB35°C						
Cooling capacity		kW	3.7	6.5	3.7	6.5
Sensible cooling capacity		kW	3.7	6.5	3.7	6.5
Electric heating capacity		kW	0.5	1	0.5	1
Max. load current		A	9.3	15.7	9.4	16.2
Dimension (W*D*H)	Indoor unit	mm	440*760*217	440*760*350	440*400*396	440*400*620
	Outdoor unit		830*325*540	960*396*700	830*325*540	960*396*700
Weight	Indoor unit	kg	26	36	26	36
	Outdoor unit		30.5	43.5	30.5	43.5

NOTE: Due to the needs of product improvement and upgrading, the parameters can be changed without prior notice. Please contact with Mammoth Rep before ordering.

AIR SUPPLY METHOD

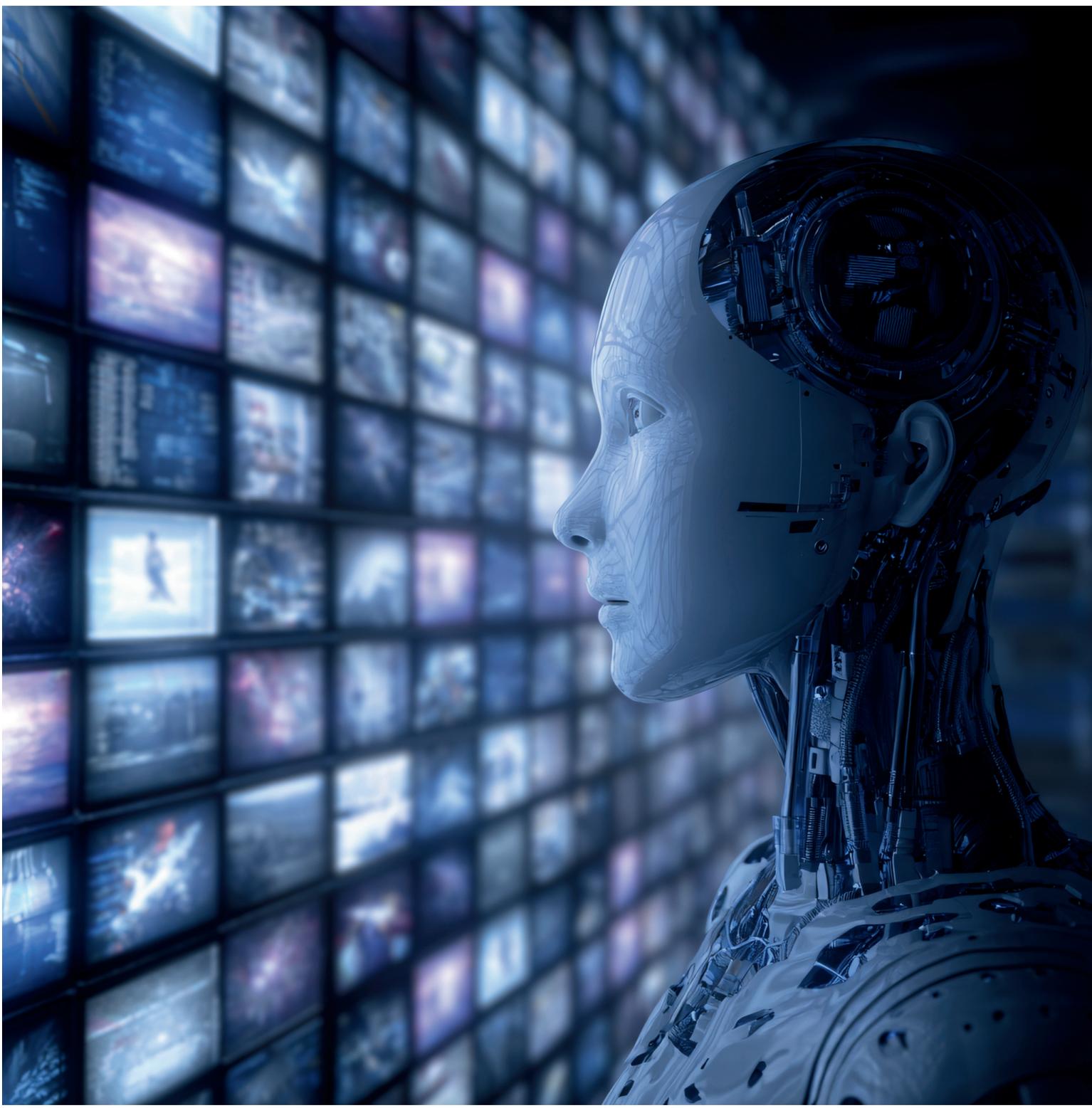


Model 1: Top Air Discharge Model Or Side Air Supply Model

Model 2: Ordinary Front Air Supply Model

NOTE

The side air outlet can be used for multi-connected racks, and one model is compatible with the air top discharge and side air outlet, so customers can stock up the units, which are compatible for single rack and multi-connected rack applications.



Mammoth®

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