MAXA HEATING & COOLING

MARV 2.0
2026

Full DC Inverter VRF system



Version 26.01

MARV: The history

In 1998, MAXA introduced its first VRF (Variable Refrigerant Flow) system to the market, marking the beginning of a path of technological development in the air conditioning sector.

From the very first generations, the evolution of the range has focused on energy efficiency, reliability and application flexibility. From the first R22 units, capable of managing up to six indoor units and operating at outdoor temperatures down to -5 °C, the technology has progressively evolved towards modular systems with Inverter technology, new refrigerant management solutions and the possibility of connecting up to 64 indoor units, expanding system configuration options and its operating range.

In 2005, with the launch of the first Mini MARV, VRF technology was extended to smaller commercial applications and the residential sector.

Subsequent generations introduced new design solutions aimed at improving energy efficiency, heating performance, system management and installation flexibility.

Today, MARV 2.0 brings together more than twenty-five years of MAXA experience in VRF technology. Designed for residential, commercial and tertiary-sector applications, the system combines high performance, Inverter technology and advanced system control and management functions, offering a flexible solution for different design requirements.



1998

The first MARV system with automatic intelligent adaptation and precision control is introduced, developed to modulate system operation according to system requirements and promote efficient energy use.



2005

The MARV system with R410A is launched, achieving efficiency values of up to EER 3.5 W/W.
During the same period, the Mini MARV range is also introduced, extending VRF technology to the residential sector and offering installation flexibility and heat pump performance suitable for different application requirements.



2008

MARV3 is launched, a new evolution of the range characterized by reduced dimensions and an extended range of available capacities. Performance reaches COP values of up to 4.3 W/W, while the heating operating range is extended down to an outdoor temperature of -15 °C, expanding the system's application possibilities even in particularly severe winter conditions.



2014

MARV4 is launched, completely redesigned in its main components: a new fan, new blade profile, high-efficiency Inverter compressors and a brushless DC fan motor. Performance reaches EER values of up to 4.29 W/W and COP values of up to 4.39 W/W. The 3-pipe system is also introduced, allowing simultaneous heating and cooling operation and increasing the system's application flexibility.



2016

The MARV5 series is launched, featuring a wide range of outdoor units equipped with high static pressure fans and high-efficiency Inverter compressors. The new platform increases design flexibility, allowing total piping lengths of up to 1,000 m and height differences of up to 110 m, meeting the system requirements of even large buildings.



2018

The MARV6 series is launched, developed to meet the new design and performance requirements of VRF systems. The range delivers higher COP values compared with the previous generation and, in versions with two compressors, both compressors are controlled by Inverter technology, enabling more precise capacity modulation according to the required load.



2020

MARV7i introduces a new range of variable refrigerant flow outdoor units, with cooling capacities of up to 76.7 kW from a single outdoor unit. This feature makes it possible to design high-capacity systems while reducing the need to combine multiple outdoor units, with benefits in terms of footprint and installation flexibility.



2026

MARV 2.0 represents the new generation of MAXA VRF technology, developed on the basis of more than twenty-five years of experience in the evolution of the range. High performance, energy efficiency, design flexibility and advanced control functions characterize a platform designed to meet the requirements of residential, commercial and tertiary-sector buildings.

MARV2.0:

Efficiency that adapts. Power that evolves. Flexibility for every project.

The new range of VRF inverter outdoor units with front and vertical air discharge offers high performance, installation flexibility and advanced control functions for a wide range of applications.

Operational continuity and integrated system management

The system integrates dedicated functions to ensure operational continuity. In the event of a fault or power failure affecting one unit, the control logic automatically isolates the affected unit, allowing all other available units to continue operating without interruption.
This feature makes the system ideal for applications such as hotels, offices and commercial buildings, where multiple indoor units are connected to the same system. Even if a problem occurs in a single area, the other areas continue to operate normally, ensuring comfort and continuity of service throughout the building.



Fast and automated configuration

In large systems, where the number of indoor units can be high, address management can become complex and time-consuming. To simplify every stage, the system integrates an automatic addressing function that intelligently assigns the parameters to each unit.
The result is faster installation and commissioning, simplifying configuration and reducing the risk of errors during the commissioning process.

Intelligent control and advanced diagnostics

The system uses Service Marv, an advanced service tool designed to provide simple and immediate access to all operating parameters. This technology makes it possible to view the system operating status in real time and access the error history, facilitating fast and targeted service operations.
In addition, remote monitoring functions allow the system to be managed and analysed remotely, while the “black box” function records data on an SD card, enabling in-depth and continuous analysis of performance over time.







Outdoor units	RM & R	AM & A	AV
Gas	GAS R32	GAS R410A	GAS R410A
❄ Cooling	12,1÷90 kW	12÷33,5 kW	40÷200 kW
☼ Heating	14÷100 kW	14÷37,5 kW	45÷224 kW

Wide operating range in cooling and heating

Thanks to its wide operating range, the system is designed to operate under different climatic conditions, in both cooling and heating modes. The operating limits of the range allow it to be used even at particularly high or low outdoor temperatures, expanding application possibilities throughout the different seasons.



New corrugated fin design for enhanced performance

The system features an innovative corrugated fin design developed to optimize heat exchange and improve overall efficiency. This design evolution makes it possible to increase the number of fins within the heat exchanger, increasing the surface area available for heat exchange.
The result is optimized operating performance, more efficient operation and a longer heat exchanger service life, ensuring reliable and consistent performance over time.

Smart Defrosting for Efficient Management

Under certain climatic conditions, frost accumulation on the outdoor unit can significantly reduce system performance. To help maintain operating efficiency, the system integrates an intelligent defrost mode designed to operate only when actually required.
Thanks to advanced control logic, the system identifies the optimal time to activate defrosting, avoiding unnecessary cycles and helping to optimize energy consumption according to operating conditions. The result is optimized operation and a high level of indoor comfort for users, even under the most demanding environmental conditions.








Indoor Units	P	C4C	C4S	LP	HP	C
Type	Wall-mounted unit	Compact 4-way cassette	Standard 4-way cassette	Ducted units Low static pressure	Ducted units High static pressure	Console
Gas	GAS R32 GAS R410A	GAS R32 GAS R410A	GAS R32 GAS R410A	GAS R32 GAS R410A	GAS R32 GAS R410A	GAS R410A
❄ Cooling	1,7÷7,1 kW	7,1÷11,2 kW	1,5÷5,6 kW	1,7÷4,5 kW	5,6÷28,0 kW	2,2÷5,0 kW
☼ Heating	2,0÷8,0 kW	8÷12,5 kW	2,0÷6,3 kW	1,9÷5,0 kW	6,3÷31,5 kW	2,5÷5,6 kW

MARV2.0 - RM & R

Range of VRF inverter outdoor units with front air discharge and R32 refrigerant

12~90 kW

GAS R32



R32 REFRIGERANT 675 GWP

WI-FI OPTIONAL

MODULAR CONNECTION OF UP TO 2 UNITS (from 224R to 450R)

COIL ANTICORROSION TREATMENT

FULL INVERTER SYSTEM

WIDE OPERATING RANGE

High efficiency and advanced technology

The outdoor unit uses larger-diameter fans, from 544 to 700 mm, designed to increase airflow at the same rotational speed. This results in improved energy efficiency when operating at lower speeds and greater operating capacity when maximum power is required.
Completing the system, the DC Inverter motor enables precise adjustment of the rotational speed according to operating conditions, contributing to efficient system management.

Automatic dust cleaning for consistently high performance

Keep your system operating efficiently with the innovative integrated cleaning function. This technology reverses the rotation of the outdoor fan, effectively removing dust accumulated on the surfaces.
This process reduces airflow resistance and preserves heat exchange efficiency over time, ensuring consistent performance, lower energy consumption and a longer system service life.

Smart compact design, and high installation flexibility

The compact design is conceived to simplify every stage, from transport to installation. The reduced dimensions and low weight facilitate handling and installation operations.
The modular design and front airflow ensure high installation flexibility, making the system ideal even for confined spaces or complex architectural settings. The minimal footprint allows available space to be optimized while reducing visual impact.

Advanced low-noise operation and noise control

The units are designed with an advanced noise control system. Low Noise mode offers several selectable levels, significantly reducing sound levels to very low values, ideal for noise-sensitive environments.
For even greater comfort, the Auto Night Quiet Mode function automatically adjusts noise levels during night-time operation, adapting to requirements and helping to create a quieter environment when noise is most noticeable.
Completing the system is a newly designed axial fan with an advanced aerodynamic profile, which optimizes airflow while reducing turbulence and noise. The result is quieter and more efficient operation, helping to minimize noise during operation.

Total capacity kW	Model	Recommended combinations					Cooling capacity kW	Heating capacity kW	Max. number of indoor units (recommended) *	Indoor / outdoor unit capacity ratio
		224R	280R	335R	400R	450R				
50	MARV2.0 504R	●	●				50,4	56,5	36 (16)	50-150%
56	MARV2.0 560R		●●				56	63	40 (18)	
61	MARV2.0 615R		●	●			61,5	69	44 (20)	
67	MARV2.0 670R			●●			67	75	48 (26)	
73	MARV2.0 735R			●	●		73,5	82,5	52 (32)	
80	MARV2.0 800R				●●		80	90	56 (32)	
85	MARV2.0 850R				●	●	85	95	60 (32)	
90	MARV2.0 900R					●●	90	100	64 (32)	

* When the number of connected units does not exceed the recommended value, the "maximum allowable piping length" is greater. Refer to the technical manual.

			121RM	140RM	160RM	121R	140R	160R
Cooling	Cooling capacity	HP	4	5	6	4	5	6
		kW	12,1	14	15,5	12,1	14	15,5
		kBtu/h	41,3	47,8	52,9	41,3	47,8	52,9
	Power input	kW	3,30	4,24	4,70	3,30	4,24	4,70
	E.E.R. / S.E.E.R.	W/W	3,67 / 8.20	3,30 / 7,90	3,30 / 7,90	3,67 / 8,20	3,30 / 7,90	3,30 / 7,90
	Prated,c (average)	kW	12,1	14,0	15,5	12,1	14,0	15,5
Heating	Heating capacity (max./nom.)	kW	14,2/12,1	16/14	18/15,5	14,2/12,1	16/14	18/15,5
		kBtu/h	48/41,5	54,5/48	61,5/53	48/41,5	54,5/48	61,5/53
	Power input (max./nom.)	kW	3,6/2,63	4,1/3,18	4,8/3,52	3,6/2,63	4,1/3,18	4,8/3,52
	C.O.P. (max./nom.)	W/W	3,94/4,60	3,9/4,40	3,75/4,40	3,94/4,60	3,9/4,40	3,75/4,40
	S.C.O.P.		5,00	4,65	4,60	5,00	4,65	4,60
	Prated,h (average)	kW	12,1	14,0	15,5	12,1	14,0	15,5
Seasonal energy efficiency	Cooling efficiency ηs,c	%	325	313	313	325	313	313
	Heating efficiency ηs,h	%	197	183	181	197	183	181
Electrical data	Power supply	V~, Ph, Hz	230, 1, 50			400, 3, 50		
	Maximum absorbed current	A	27,5	29,5	29,5	13,2	13,2	13,2
Compressor	Type		Rotary					
	Number		1					
Refrigerant	Type		R32					
	Refrigerant quantity	kg	2					
	Maximum distance from the 1st Y-joint to the farthest indoor unit	m	40					
	Max. piping length from OU	m	80					
	Maximum height difference with OU above and IU below	m	50					
	Maximum height difference with IU above and OU below	m	40					
	Max. height difference between IUs	m	15					
	Gas connections (1)	mm - inch	15,88 - 5/8					
	Liquid connections	mm - inch	9,53 - 3/8					
Connectable indoor units	Recommended / max. number of indoor units		6 / 10	7 / 12	8 / 13	6 / 10	7 / 12	8 / 13
	Indoor / outdoor unit capacity ratio		50-150%					
Fans	Number		1					
	Nominal air flow rate	m^3/min	80					
Operating limits	Outdoor temperature in cooling min/max	°C	-10~52					
	Outdoor temperature in heating min/max	°C	-25~26					
Sound data	Sound pressure level	dB(A)	52	53	54	52	53	54
Dimensional data	Net outdoor unit dimensions (HxWxD)	mm	840×1100×390					
	Net weight of outdoor unit	kg	95					

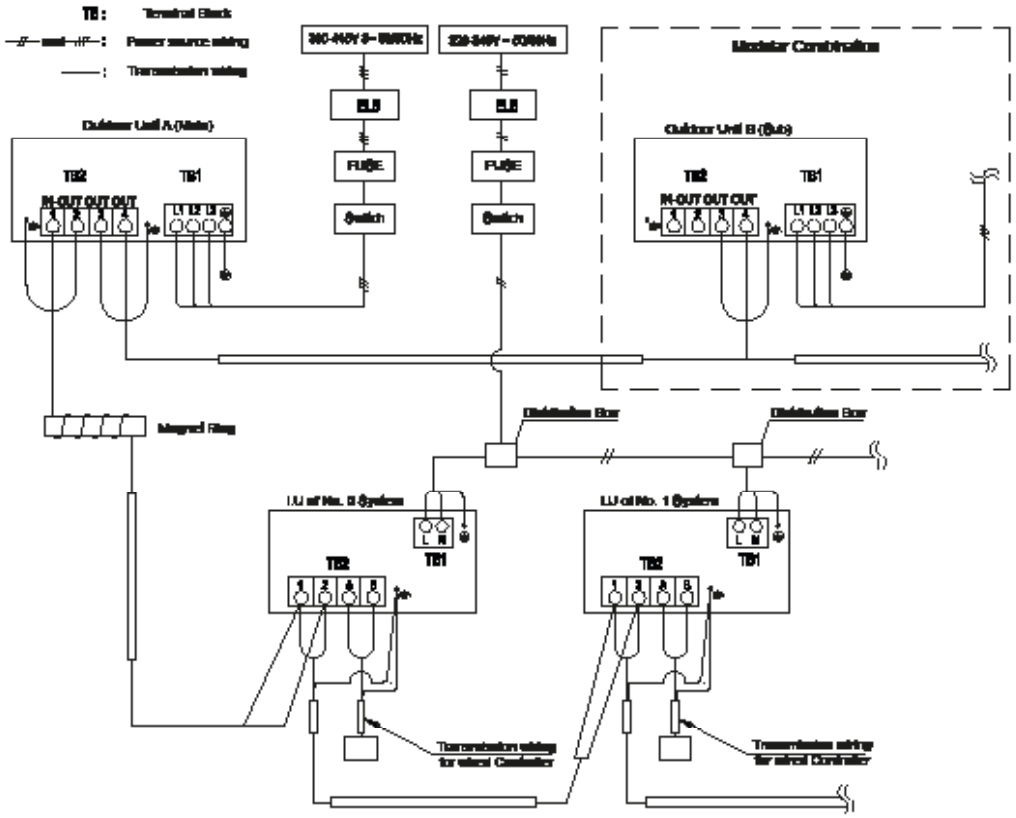
Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below. Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB.
Sound pressure is tested in accordance with Appendix B of EN14511 and measured 1 metre from the unit service panel and 1.5 metres above floor level. The above parameters are measured in an anechoic chamber without sound reflections; therefore, the impact of reflected noise must be taken into account in the actual installation. The appearance of the outdoor units may be subject to change without prior notice.
In cooling mode with an outdoor temperature of 48~52°C and in heating mode with an outdoor temperature of 23~26°C, operation may not be continuous.

			224R	280R	335R	400R	450R
Cooling	Cooling capacity	HP	8	10	12	14	16
		kW	22,4	28	33,5	40	45
		kBtu/h	76,4	95,5	114,3	136,5	153,5
	Power input	kW	5,89	7,57	9,31	11,43	13,24
	E.E.R. / S.E.E.R.	W/W	3,8 / 7,97	3,7 / 8,57	3,6 / 8,53	3,5 / 7,57	3,4 / 7,43
	Prated,c (average)	kW	22,4	28,0	33,5	40,0	45,0
Heating	Heating capacity (max./nom.)	kW	25/22,4	31,5/28	37,5/33,5	45/40	50/45
		kBtu/h	85,3/76,4	107,5/95,5	127,9/114,3	153,5/136,5	170,6/153,5
	Power input (max./nom.)	kW	5,32/4,57	7/5,96	9,15/7,70	10,98/9,30	12,2/10,71
	C.O.P. (max./nom.)	W/W	4,70/4,90	4,50/4,70	4,10/4,35	4,10/4,30	4,10/4,20
	S.C.O.P.		5,5	4,8	4,89	4,75	4,85
	Prated,h (average)	kW	25,0	33,5	37,5	45,0	50,0
Seasonal energy efficiency	Cooling efficiency ηs,c	%	316	340	338	300	294
	Heating efficiency ηs,h	%	217	189	193	187	191
Electrical data	Power supply	V~, Ph, Hz	400, 3, 50				
	Maximum absorbed current	A	17,3	20,5	25,9	31,1	31,5
Compressor	Type		Scroll				
	Number		1				
Refrigerant	Type		R32				
	Refrigerant quantity	kg	4	4,5	5,7	6	6
	Maximum distance from the 1st Y-joint to the farthest indoor unit	m	90				
	Max. piping length from OU	m	150				
	Maximum height difference with OU above and IU below	m	50				
	Maximum height difference with IU above and OU below	m	40				
	Max. height difference between IUs	m	40				
	Gas connections (1)	mm - inch	22,2 - 7/8	22,2 - 7/8	25,4 - 1	25,4 - 1	28,6 - 1 1/8
	Liquid connections	mm - inch	9,53 - 3/8	9,53 - 3/8	12,7 - 1/2	12,7 - 1/2	12,7 - 1/2
Connectable indoor units	Recommended / max. number of indoor units		8 / 17	10 / 21	10 / 26	16 / 31	16 / 34
	Indoor / outdoor unit capacity ratio		50-150%				
Fans	Number		2				
	Nominal air flow rate	m^3/min	212	212	212	287	287
Operating limits	Outdoor temperature in cooling min./max.	°C	-10~55				
	Outdoor temperature in heating min./max.	°C	-24~23				
Sound data	Sound pressure level (cooling/heating)	dB(A)	54/57	55/58	55/58	61/62	62/65
Dimensional data	Net outdoor unit dimensions (HxWxD)	mm	1650×1250×440				
	Net weight of outdoor unit	kg	191	192	193	215	216

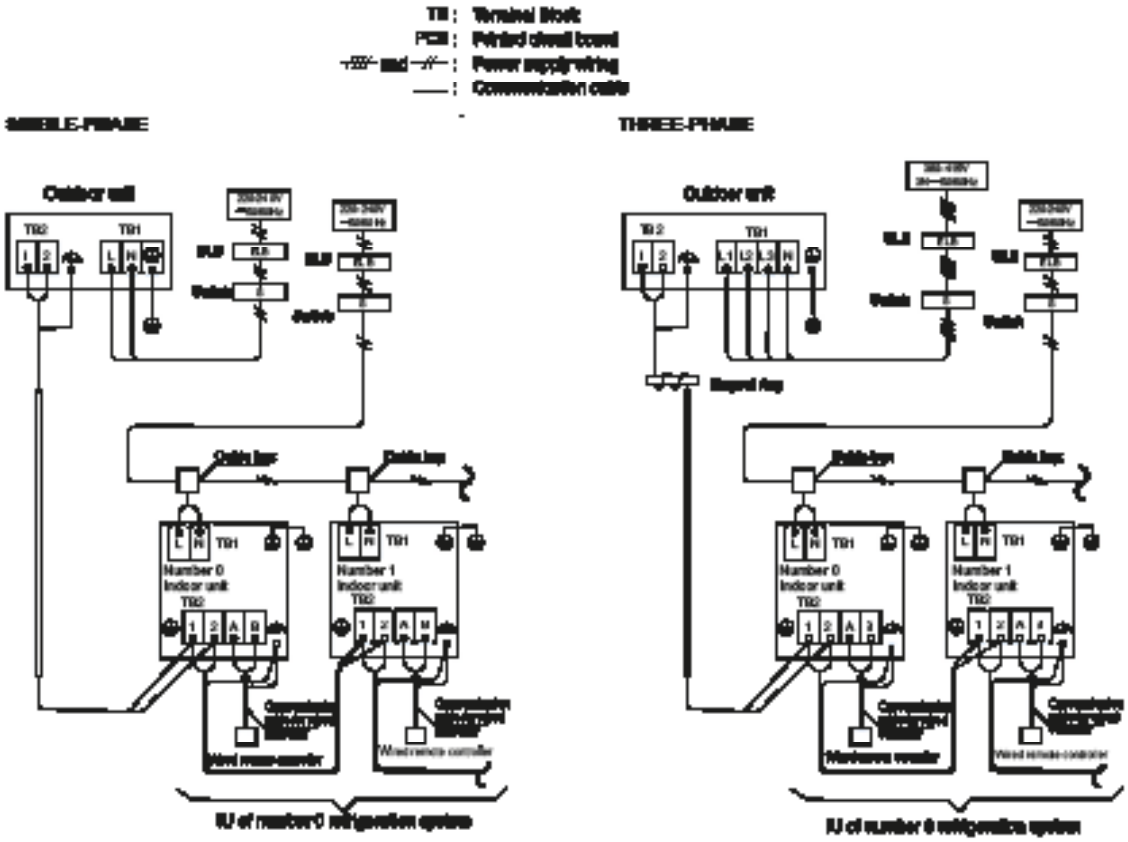
Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below. Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB.
Sound pressure is tested in accordance with Appendix B of EN14511 and measured 1 metre from the unit service panel and 1.5 metres above floor level. The above parameters are measured in an anechoic chamber without sound reflections; therefore, the impact of reflected noise must be taken into account in the actual installation. The appearance of the outdoor units may be subject to change without prior notice.
In cooling mode with an outdoor temperature of 48~52°C and in heating mode with an outdoor temperature of 23~26°C, operation may not be continuous.

Electrical connections of outdoor and indoor units

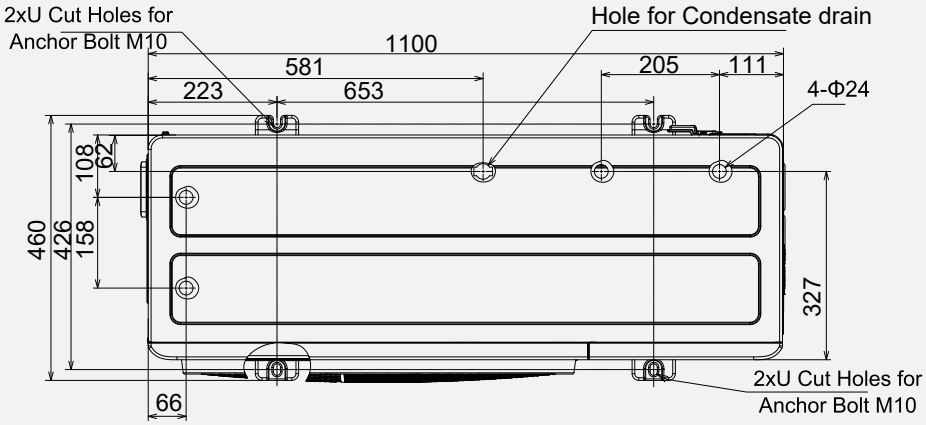
Modular three-phase unit - MARV2.0 - R

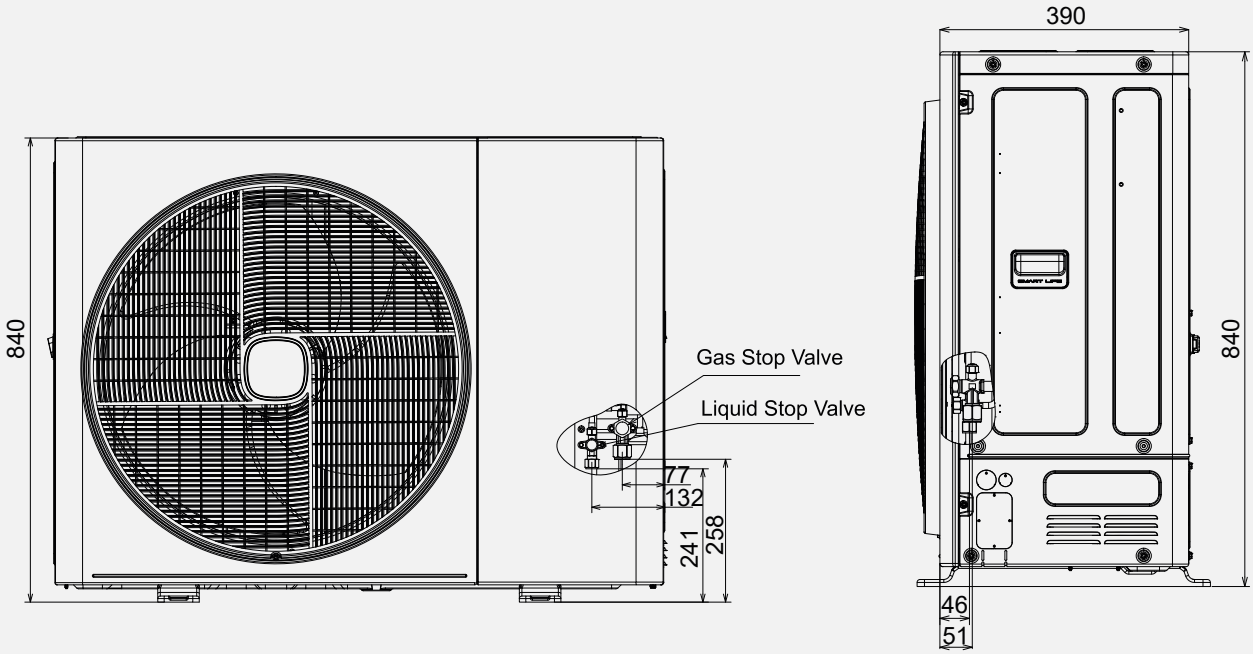


Single-phase and three-phase units MARV2.0 - RM



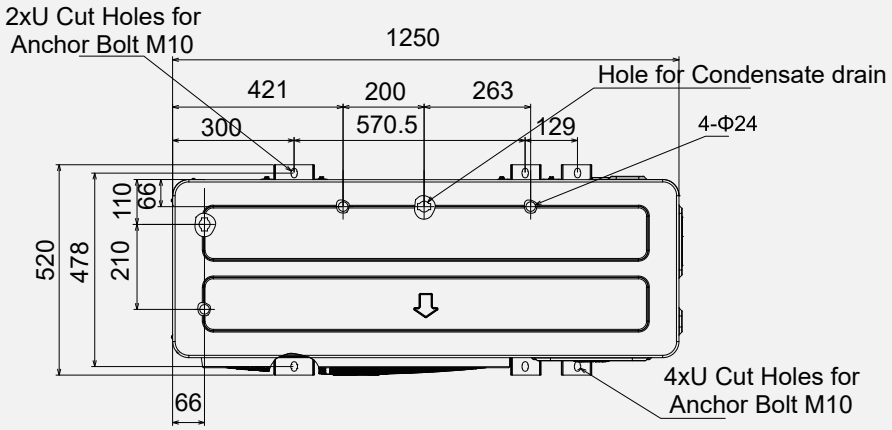
Dimensional Drawings - 121RM ~160R

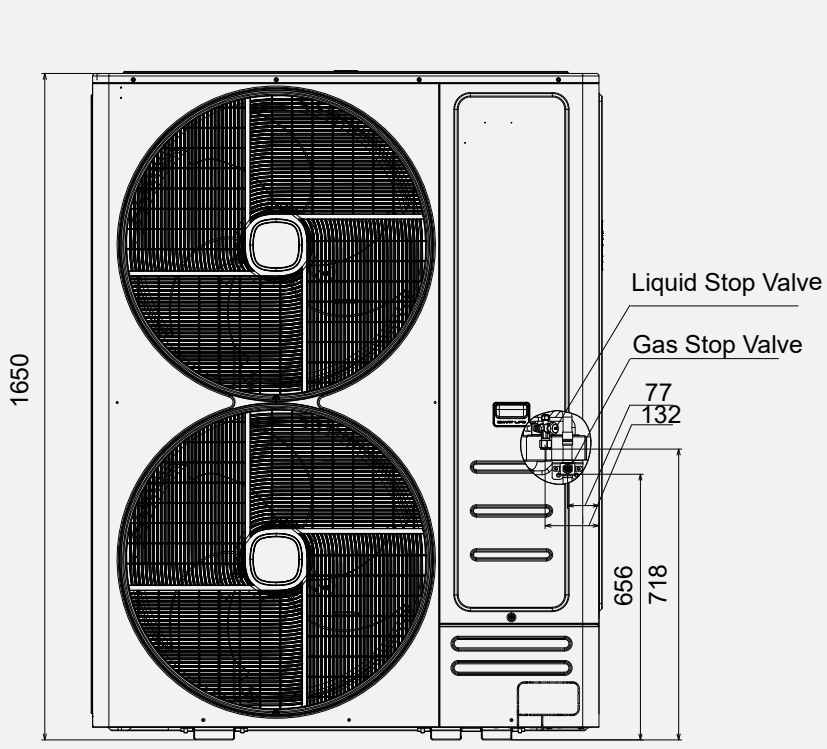


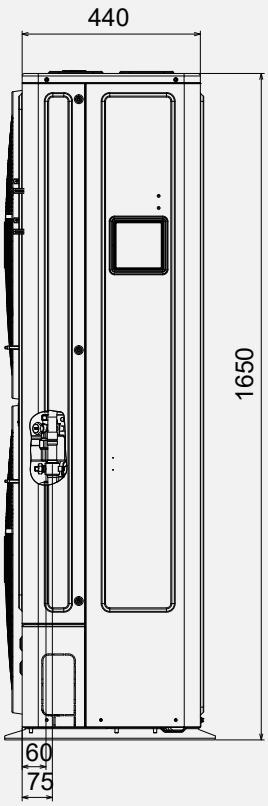


Dimensions in mm

Dimensional Drawings - 224R ~450R







Dimensions in mm

MARV2.0 - AM & A

Range of VRF inverter outdoor units with front air discharge and R410A refrigerant

12~33.5kW

GAS R410A



R410A REFRIGERANT

WI-FI OPTIONAL

COIL ANTICORROSION TREATMENT

FULL INVERTER SYSTEM

WIDE OPERATING RANGE

Advanced protection against corrosion

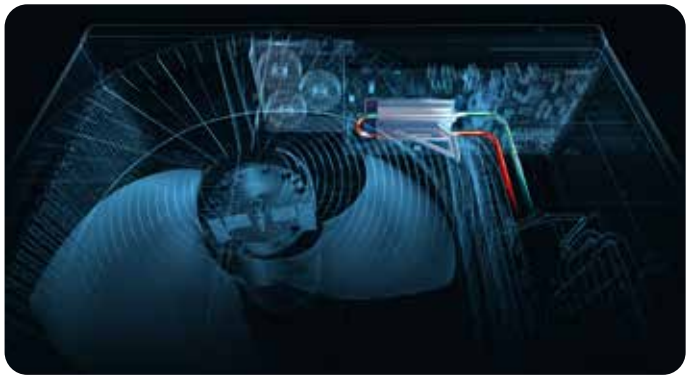
The outdoor units feature an anti-corrosion treatment on the heat exchanger coil. The heat exchanger fins are coated with an epoxy resin designed to provide enhanced protection against corrosive agents such as salt spray and acidic or alkaline substances, helping to preserve the heat exchanger's characteristics over time.

Twin Rotary Inverter compressor: tailored power and efficiency

The range is equipped with a DC Twin Rotary Inverter compressor designed to operate over a wide frequency range. Inverter technology allows compressor operation to be modulated according to the actual requirements of the system, adapting the delivered capacity to the required load.
The ability to operate even at low frequencies helps limit on/off cycles under low-load conditions, promoting stable and modulated operation. This control strategy optimizes power consumption according to the load and reduces the stress associated with frequent start-ups, contributing to long-term system reliability.

Protected electronics, enhanced reliability

The system integrates innovative gas cooling technology for the electronic boards, designed with 360° coverage to ensure even more effective heat dissipation. This solution ensures stable and reliable performance even under particularly demanding environmental conditions.
Thanks to its higher thermal conductivity, the temperature inside the electrical compartment is significantly reduced compared with conventional air-cooling systems, helping to extend component life and ensure continuous operation over time.



Tailored noise control

The system offers advanced noise management, allowing sound emissions to be reduced at different levels according to specific requirements. Thanks to the Low Noise function, different operating modes can be selected and activated manually, automatically during night-time periods or via remote control.
Noise Control mode also uses a large-diameter fan designed to minimize noise during operation. The night-time silent function, adjustable to several levels, provides a significant reduction in noise, helping to keep sound emissions low, particularly during night-time operation.

Smart Demand: energy under control, comfort guaranteed

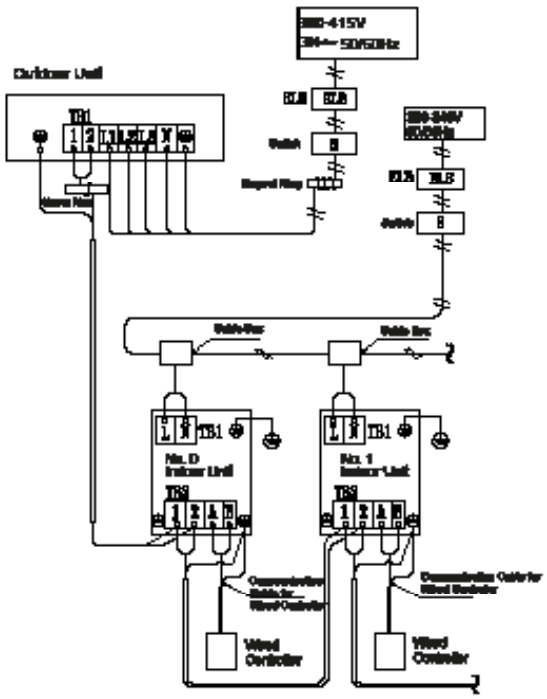
Smart Demand mode allows the delivered capacity and power input to be modulated according to the power limits available in the system. The system automatically modulates capacity and power input, adapting to the available power limits, particularly during peak demand periods. Thanks to several selectable control levels, performance can be precisely managed while limiting the maximum operating current. The compressor reduces its operating frequency, maintaining an optimal balance between energy efficiency and indoor comfort.

			121AM	140AM	160AM	121A	140A	160A	224A	280A	335A
Cooling	Cooling capacity	HP	4	5	6	4	5	6	8	10	12
		kW	12,1	14	15,5	12,1	14	15,5	22,4	28	33,5
		kBtu/h	41,3	47,8	52,9	41,3	47,8	52,9	76,4	95,5	114,3
	Power input	kW	3,32	4,24	4,84	2,79	3,43	4,18	6,22	8,12	13,4
	E.E.R.	W/W	3,65	3,3	3,2	4,33	4,08	3,71	3,6	3,45	2,50
	S.E.E.R. - Energy Class	W/W	8,11	7,91	7,8	8,20	8,10	8,00	7	7,8	7,55
	Prated,c (average)	kW	12,1	14,0	15,5	12,1	14,0	15,5	22,4	28,0	33,5
Heating	Heating capacity (max./nom.)	kW	14/12,1	16/14	17/15,5	14	16	18	25	31,5	37,5
		kBtu/h	47,8/41,3	54,6/47,8	58/52,9	48	54,5	61,5	85,3	107,5	128
	Power input (max./nom.)	kW	3,74/2,85	4,23/3,26	4,6/3,69	3,08	3,71	4,47	5,81	7,59	10,08
	C.O.P. (max./nom.)	W/W	3,74/4,25	3,78/4,30	3,7/4,20	4,55	4,31	4,03	4,30	4,15	3,72
	S.C.O.P.		4,7	4,7	4,65	4,85	4,70	4,55	4,50	4,50	4,30
	Prated,h (average)	kW	12,1	14,0	15,5	14,0	16,0	18,0	25,0	31,5	37,5
Electrical data	Power supply	V~, Ph, Hz	230, 1, 50			400, 3, 50					
	Maximum absorbed current	A	27	29	32	16,5	16,5	17,6	22	26	26
Seasonal energy efficiency	Cooling efficiency ηs,c	%	321,4	313,5	308,9	325	321	317	277	309	299
	Heating efficiency ηs,h	%	185,1	185	182,9	191	185	179	177	177	169
Compressor	Type		Rotary								
	Number		1								
Refrigerant	Type		R410A								
	Refrigerant quantity	kg	2	3	3	3,8	3,8	4,1	5,5	6,5	6,5
	Maximum distance from the 1st Y-joint to the farthest indoor unit	m	30			40					
	Max. piping length from OU	m	60	70	70	100			150		
	Max. height difference with OU above IU	m	30			50					
	Max. height difference with IU above OU	m	30			40					
	Max. height difference between IUs	m	15								
	Maximum total piping length	m	150						300		
	Gas connections (1)	mm - inch	15,88 - 5/8						22,2 - 7/8	25,4 - 1	
	Liquid connections	mm - inch	9,53 - 3/8						12,7 - 1/2		
Connectable indoor units	Recommended / max. number of indoor units		7	9	10	8 / 9	8 / 11	8 / 12	13 / 15	13 / 18	13 / 19
	Indoor / outdoor unit capacity ratio		50-150%						30-150%		
Fans	Number		1	1	1	2	2	2	2	2	2
	Nominal air flow rate	m^3/min	75	75	75	120	120	127	150	163	163
Operating limits	Outdoor temperature in cooling min/max	°C	-5~59			-5~48					
	Outdoor temperature in heating min/max	°C	-20~23			-20.5~15.5					
Sound data	Sound pressure level (cooling / heating / silent)	dB(A)	54/55	54/55	54/56	52/55	52/55	53/56	55/58/47	56/59/48	56/59/48
Dimensional data	Net outdoor unit dimensions (HxWxD)	mm	770x980x360			1380x950x370			1650x1100x390		
	Net weight of outdoor unit	kg	64	71	71	112	113	114	145	157	158

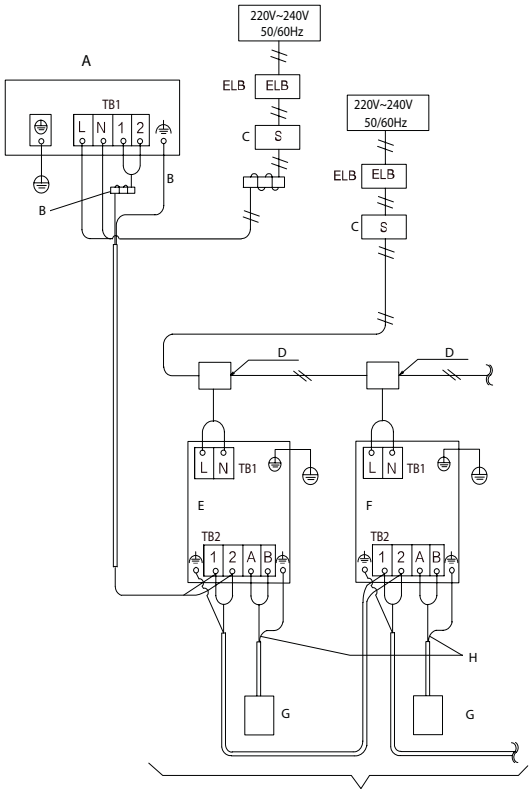
Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below. Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB.
Sound pressure is tested in accordance with Appendix B of EN14511 and measured 1 metre from the unit service panel and 1.5 metres above floor level. The above parameters are measured in an anechoic chamber without sound reflections; therefore, the impact of reflected noise must be taken into account in the actual installation. The appearance of the outdoor units may be subject to change without prior notice.
In cooling mode with an outdoor temperature of 48~52°C and in heating mode with an outdoor temperature of 23~26°C, operation may not be continuous.

Electrical connections of outdoor and indoor units

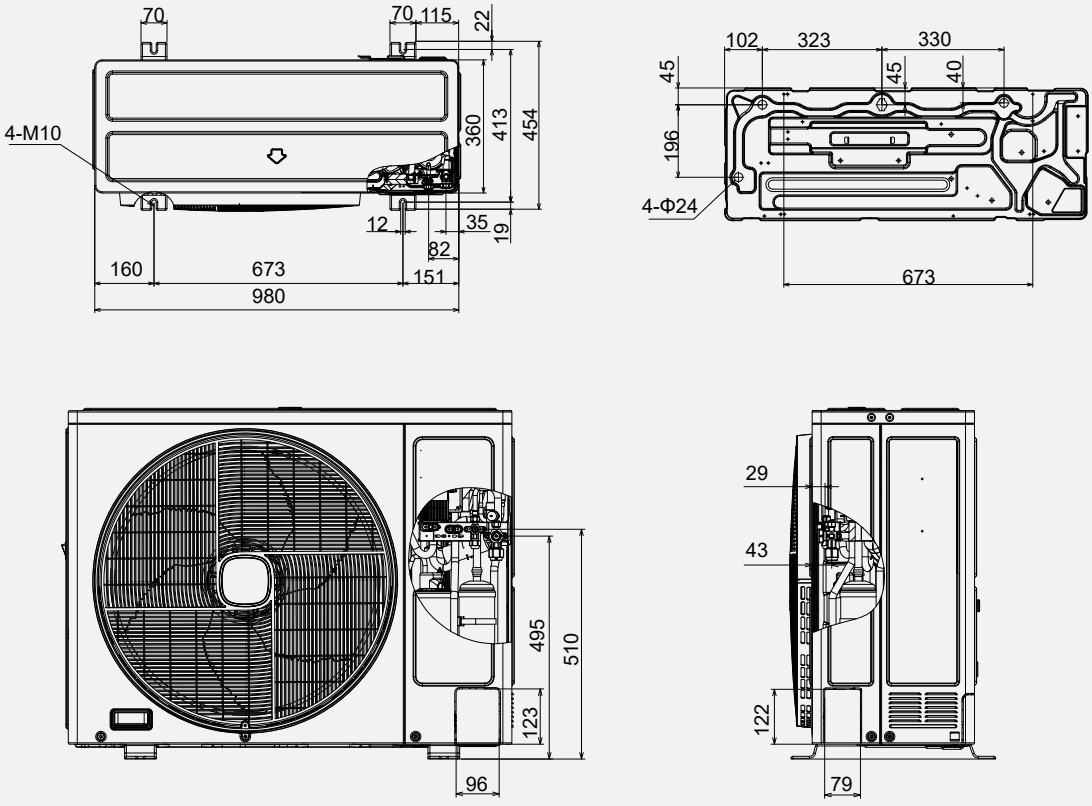
Three-phase unit - MARV2.0 - A



Single-phase unit - MARV2.0 - A



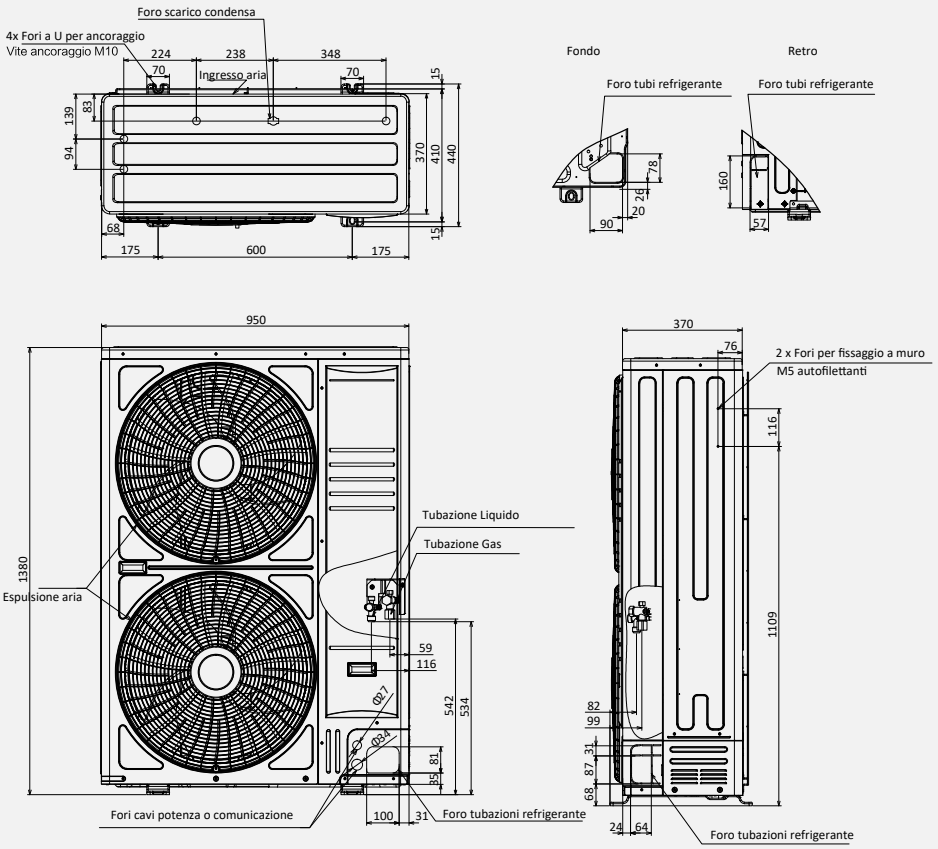
Dimensional Drawings - 121AM~160AM



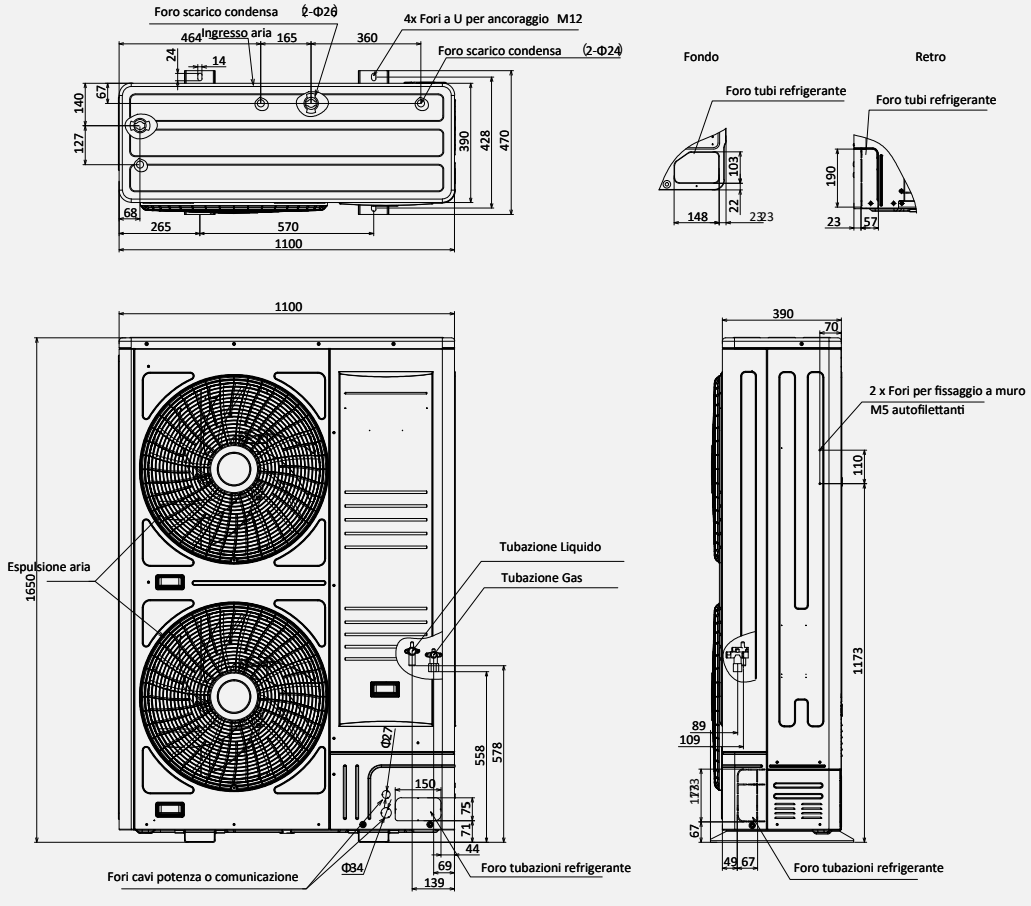
Dimensions in mm

Dimensional Drawings - 121A~335A

121A~160A



224A~335A



Dimensions in mm

MARV2.0 - AV

Range of VRF inverter outdoor units with vertical air discharge and R410A refrigerant

40~200kW

GAS R410A



R410A REFRIGERANT

WI-FI OPTIONAL

MODULAR CONNECTION OF UP TO 4 UNITS

COIL ANTICORROSION TREATMENT

FULL INVERTER SYSTEM

WIDE OPERATING RANGE

EVI SCROLL

Oil separation and return

The system integrates an advanced two-stage oil separation process to ensure proper oil return and stable compressor operation.
The first separation stage takes place directly inside the high-pressure compressor, drastically reducing the amount of oil carried into the refrigerant circuit. The second stage uses a high-efficiency centrifugal separator with an efficiency of over 99%, ensuring optimal oil recovery.
The oil return technology with capillary tube and integrated filter maintains the correct balance between compressors and modules, improving the stability of the entire system.

Cooled electrical control box

The electrical control box cooling technology continuously monitors the internal temperature, maintaining it at an optimal level.
Unlike conventional air-cooling systems, this solution improves heat dissipation and reduces the internal temperature of the electrical control box by up to 20%, increasing the reliability and operational stability of the entire system.
The cooling system integrates a high-precision temperature sensor capable of accurately controlling the temperature inside the electrical control box to ensure consistent performance over time.

Vapor injection compressor

The new generation of patented scroll compressors with vapor injection technology ensures optimized performance and energy efficiency.
With a capacity increase of up to 25% compared with conventional scroll compressors at the same power consumption, the system ensures higher efficiency, reliability and comfort under all operating conditions.



Intelligent automatic restart

The units feature an intelligent automatic restart function designed to ensure operational continuity and safety.

In the event of a sudden power failure, the system can automatically restore the previous settings when power is restored.
For greater flexibility, different restart modes are available and can be configured according to user and system requirements.

Two-stage subcooling

Two-stage subcooling technology, with a subcooling temperature of up to 27 °C, helps increase the system's cooling capacity.
With a subcooling temperature of up to 27°C, the refrigerant is cooled below its normal condensing temperature, increasing the system's cooling capacity and efficiency.
The result is a higher-performing, more stable and efficient system even under high-load conditions.

			400AV	450AV	500AV
Cooling	Cooling capacity	HP	14	16	18
		kW	40	45	50
		kBtu/h	136,5	153,5	170,6
	Power input	kW	12,5	15,05	14,20
	E.E.R.	W/W	3,20	2,99	3,55
	S.E.E.R. - Energy Class	W/W	7,30	7,16	7,10
	Prated,c (average)	kW	40,0	45,0	50,0
Heating	Heating capacity (max./nom.)	kW	45/40	50/45	56/50
		kBtu/h	153,5/136,5	170,6/153,5	191/171,9
	Power input (max./nom.)	kW	11,6/9,7	14/11,2	14,8/11,1
	C.O.P. (max./nom.)	W/W	3,88/4,14	3,58/4,02	3,78/4,55
	S.C.O.P. (2)		4,60	4,49	4,78
	Prated,h (average)	kW	40,0	45,0	50,4
Seasonal energy efficiency	Cooling efficiency ηs,c	%	288,9	283,5	280,9
	Heating efficiency ηs,h	%	181	177	188
Electrical data	Power supply	V~, Ph, Hz	400, 3, 50		
	Maximum absorbed current	A	33,6	38,80	44,20
Compressor	Type		Scroll compressor with vapor injection		
	Number		1		
Refrigerant	Type		R410A		
	Refrigerant quantity	kg	7,6	7,6	9,4
	Maximum actual piping length	m	220		
	Maximum equivalent piping length	m	260		
	Maximum distance from the 1st Y-joint to the farthest indoor unit	m	40 (90) *		
	Maximum height difference with OU above and IU below	m	110		
	Maximum height difference with IU above and OU below	m	110		
	Gas connections (1)	mm - inch	25,40 - 1	28,6 - 1 1/8	
	Liquid connections	mm - inch	12,7 - 1/2		15,88 - 5/8
Connectable indoor units	Recommended / max. number of indoor units		16 /28	16 / 32	16 / 36
	Indoor / outdoor unit capacity ratio		50-130% (30-200%) **		
Fans	Number		1	1	1
	Nominal air flow rate	m^3/min	275	292	258
Operating limits	Outdoor temperature in cooling min/max	°C	-15~55		
	Outdoor temperature in heating min/max	°C	-30~30		
Sound data	Sound pressure level	dB(A)	59	60	61
Dimensional data	Net outdoor unit dimensions (HxWxD)	mm	1800×940×825		
	Net weight of outdoor unit	kg	245		267

1. The nominal cooling and heating capacities were tested under the following conditions:
Cooling conditions: indoor entering air temperature: 27°C DB / 19°C WB; outdoor entering air temperature: 35°C DB; piping length: 7.5 m, piping height difference: 0 m.
Heating conditions: indoor entering air temperature: 20°C DB; outdoor entering air temperature: 7°C DB / 6°C WB; piping length: 7.5 m, piping height difference: 0 m.
2. The noise levels indicated above are measured in an anechoic chamber (without sound reflections); therefore, during installation, the effect of sound reflections in the surrounding environment must be taken into account. Measurement point: 1 m from the surface of the service panel and 1.5 m above floor level.
* If the number of connected indoor units is ≤ the recommended number of indoor units.
** When the connection ratio is below 50% or above 130%, please consult our local technical support team.



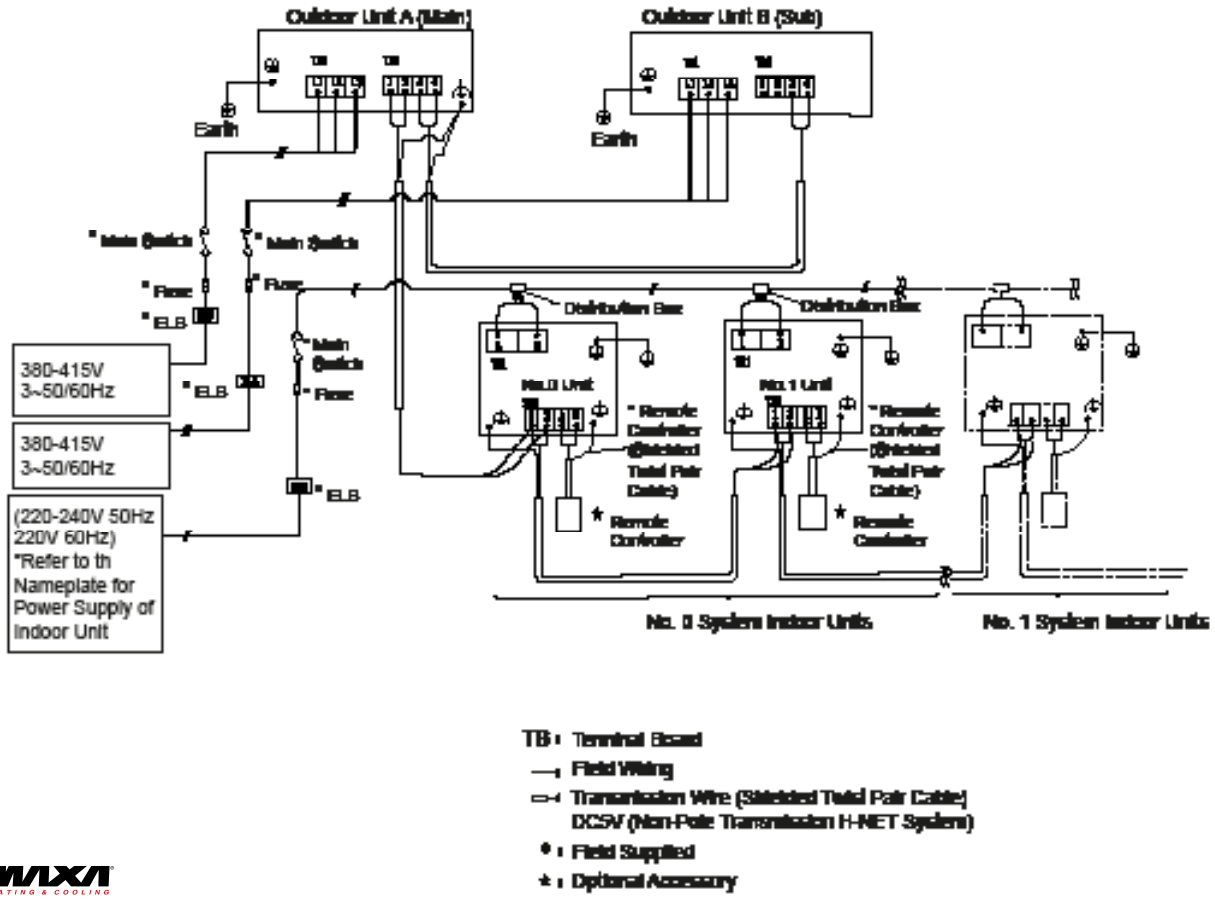


Total capacity kW	Model	Recommended combinations			Cooling capacity kW	Heating capacity kW	Max. number of indoor units (recommended) *	Indoor / outdoor unit capacity ratio
		400AV	450AV	500AV				
80	MARV2.0 800	●●			80	90	56(32)	
85	MARV2.0 850	●	●		85	95	60(32)	
90	MARV2.0 900		●●		90	100	64(32)	30-150%
95	MARV2.0 950		●	●	95	106	68(32)	
100	MARV2.0 1000			●●	100	112	72(38)	
120	MARV2.0 1200	●●●			120	135	84(38)	
125	MARV2.0 1250	●●	●		125	140	88(38)	
130	MARV2.0 1300	●	●●		130	145	93(38)	
135	MARV2.0 1350	●	●	●	135	151	97(38)	
140	MARV2.0 1400		●●	●	140	156	101(38)	
145	MARV2.0 1450		●	●●	145	162	105(38)	
150	MARV2.0 1500			●●●	150	168	109(38)	
160	MARV2.0 1600	●●●●			160	180	113(38)	30-130%
165	MARV2.0 1650	●●●	●		165	185	117(38)	
170	MARV2.0 1700	●●	●●		170	190	121(38)	
175	MARV2.0 1750	●	●●●		175	195	125(38)	
180	MARV2.0 1800	●	●●	●	180	201	128(38)	
185	MARV2.0 1850		●●●	●	185	206	128(38)	
190	MARV2.0 1900		●●	●●	190	212	128(38)	
195	MARV2.0 1950		●	●●●	195	218	128(38)	
200	MARV2.0 2000			●●●●	200	224	128(38)	

When the number of connected units does not exceed the recommended value, the "maximum allowable piping length" is greater. Refer to the technical manual.

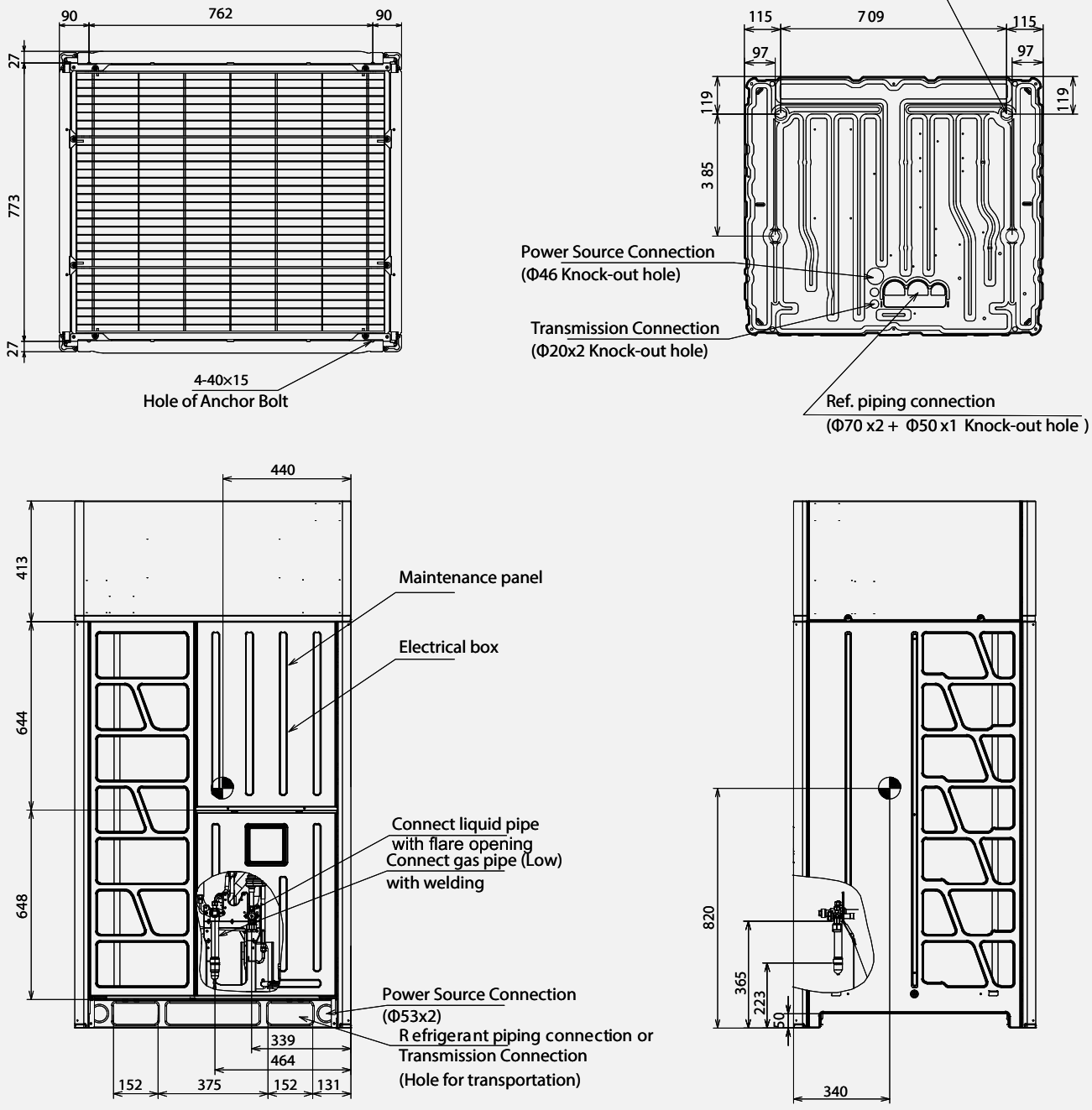
Electrical connections of outdoor and indoor units

Modular three-phase unit - MARV2.0 - AV



TB : Terminal Board
— : Field Wiring
: Transmission Wire (Shielded Twisted Pair Cable)
DCSV (Non-Polar Transmission H-NET System)
● : Field Supplied
★ : Optional Accessory

Dimensional Drawings - AV



Dimensions in mm

Indoor unit range

kW		1,7	2,2	2,8	3,6	4,5	5,0	5,6	7,0	9,2	11,2	16,8	22,4	28,0
kBtu/h		5	7	9	12	15	17	19	24	30	38	53	76	96
 GAS R32 GAS R410A	**P** Wall-mounted unit	●		●	●	●			●					
 GAS R32 GAS R410A	**C4C** Compact 4-way cassette	●		●	●	●		●						
 GAS R32 GAS R410A	**C4S** Standard 4-way cassette								●	●	●			
 GAS R32 GAS R410A	**LP** Low static pressure ducted units	●		●	●	●								
 GAS R32 GAS R410A	**HP** High static pressure ducted units							●		●		●	●	●
 GAS R410A	**C** Console		●	●	●		●							

Indoor unit accessories and functions

Type	Condensate pump (inter-nal)	Filter	Air purifier	Remote temperature sensor	Condensate float switch	Window contact	Fresh air kit	Sleep
4-way cassette	■	■	×	■	■	■	■	■
Mini 4-way cassette	■	■	×	■	■	■	■	■
Console	×	■	×	×	×	×	■	■
Slim ducted unit	■	■	×	■	■	■	■	■
High static pressure ducted unit 56HP~160HP	□	■	×	■	■	■	■	■
High static pressure ducted unit 224HP~280HP	□	×	×	■	■	■	×	■
Wall-mounted unit	×	■	■	■	×	■	×	■

■ Standard

□ Optional

× Incompatible

Type	Quiet	ECO	Independent louvers	Breeze Mode	Self Cleaning	Auto Fan Speed	Dynamic ESP adjustment	Supply air temperature limit
4-way cassette	■	■	■	■	■	■	×	■
Mini 4-way cassette	■	■	■	■	■	■	×	■
Console	■	■	×	×	×	×	×	×
Slim ducted unit	■	■	×	×	■	■	×	■
High static pressure ducted unit 56HP~160HP	■	■	×	×	■	■	■	■
High static pressure ducted unit 224HP~280HP	■	■	×	×	■	■	■	■
Wall-mounted unit	■	■	×	×	■	■	×	×

■ Standard

□ Optional

× Incompatible

MARV2.0 - P

Wall-mounted unit

1,7~7,1kW

Wall-mounted indoor unit for MAXA VRF systems, compatible with R32 and R410A refrigerant systems, available with cooling capacities from 1.7 kW to 7.1 kW and heating capacities from 2.0 kW to 8.0 kW.



The structure consists of a robust internal frame made of **galvanized steel** and a high-strength plastic outer casing with a white finish and compact design, developed to blend seamlessly into residential, commercial and tertiary environments.

The high-efficiency **heat exchanger** features copper piping and aluminium finned coils with a large heat exchange surface, ensuring optimal performance in both cooling and heating modes.

Refrigerant flow is regulated by a high-precision electronic expansion valve with PID control and up to 2,000 modulation steps, managed directly by the integrated electronics to ensure a rapid response to thermal load variations and greater room temperature stability.
The low-noise **DC Inverter fan**, combined with dedicated anti-vibration systems applied to the main refrigeration components, significantly reduces noise emissions and improves acoustic comfort in the room.

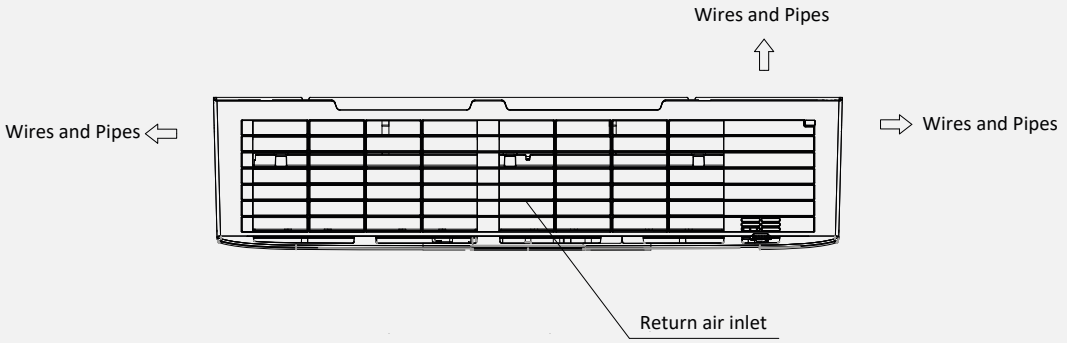
Compared with conventional AC motors, **DC Inverter technology** reduces noise levels by up to 5 dB(A), while also ensuring higher energy efficiency and more precise airflow modulation.

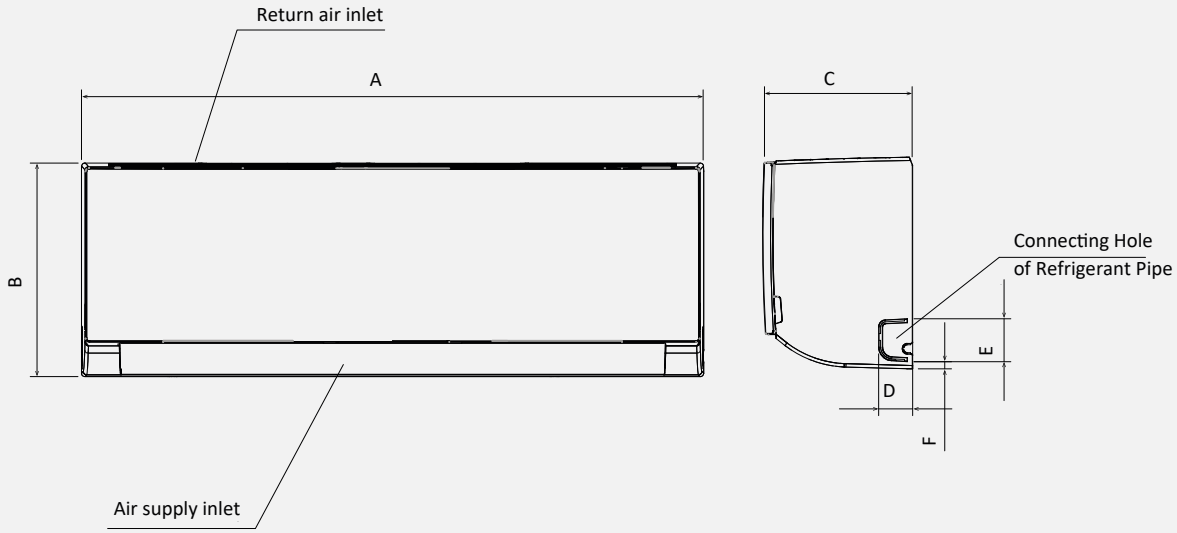
The unit offers up to **6 selectable fan speeds**, allowing operation to be adapted to different comfort requirements and the operating conditions of the conditioned environment.

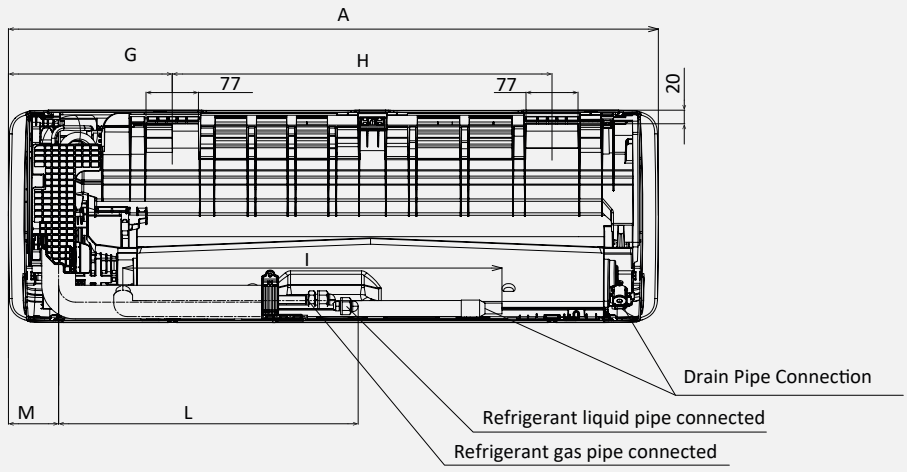
			17P	28P	36P	45P	71P
Btu/h (cooling)			5800	9600	12300	15400	24200
Power supply			AC 1Φ, 220V~240V/50Hz/60Hz				
Cooling capacity (nom.)		kW	1,7	2,8	3,6	4,5	7,1
Heating capacity (nom.)		kW	2,0	3,3	4,0	5,0	8,0
Power input (cooling)		W	20,0	20,0	30,0	20,0	50,0
Power input (heating)		W	20,0	20,0	30,0	30,0	70,0
Sound pressure level		dB(A)	33/32/32/ 30/30/28	36/35/33/ 32/30/28	38/35/33/ 32/30/28	38/37/36/ 32/31/29	45/42/41/ 38/35/31
Air flow rate		m3/min	8.7/8.3/8.2/ 7.5/7.2/7.0	9.8/9.2/8.7/ 8.2/7.5/7.0	10.3/9.2/8.7/ 8.2/7.5/7.0	11.5/11.0/10.3/ 9.0/8.7/8.0	20.0/18.0/17.0/ 15.0/13.3/11.7
Refrigerant		-	R32/R410A				
Refrigerant piping (flare connections)	Gas pipe	mm (")	Φ9.53	Φ9.53	Φ9.53	Φ12.7	Φ15.88
	Liquid pipe	mm (")	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.53
Condensate drain (outside diameter)		mm	22				
Dimensional data	External dimensions (HxWxD)	mm	270×815×203	270×815×203	270×815×203	315×915×230	315×1085×230
	Net weight	kg	9,5	9,5	9,5	13	14,4
	Gross weight	kg	13,4	13,4	13,4	17,8	19,4
Colour		-	White				
R32 sensor (optional)			RD-32				
Infrared remote controller (standard)		-	IRC 01				
Wired controller (optional)		-	WHC 16				

Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below.
Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB.
Sound pressure level is tested according to Appendix B of EN14511, measured 1.5 m below the unit.
The above parameters are measured in an anechoic chamber without reflected sound; therefore, the impact of reflected noise must be taken into account in the actual installation.
The appearance of the indoor units may be subject to change without prior notice.
Standard/maximum installation height: 2.7/3.5m.

Dimensional Drawings - P







Model	Nominal dimensions										
	A	B	C	D	E	F	G	H	I	L	M
17P	815	270	203	51	64	11	163	523	590	390	86
28P	815	270	203	51	64	11	163	523	590	390	86
36P	815	270	203	51	64	11	163	523	590	390	86
45P	915	315	203	51	64	11	195	561	560	396	64
71P	1085	315	230	50	64	11	255	561	600	464	60

Dimensions in mm

MARV2.0 - C4S

Standard 4-way cassette

7,1~11,2kW

4-way cassette indoor unit for MAXA VRF systems, designed to ensure uniform air distribution and provide high installation flexibility. The standard version features a height of just 238 mm.



The **ultra-slim decorative panel**, featuring a modern and elegant design, protrudes just 10 mm from the ceiling, ensuring discreet integration into residential, commercial and tertiary environments.

Depending on the installed size, the units ensure effective air distribution even in rooms with ceiling heights of up to 4.2 m, maintaining **high levels of comfort** throughout the conditioned space.

The **Soft Breeze function** uses a series of micro-perforations integrated into the decorative panel to distribute air more uniformly and gently, significantly reducing the perception of direct airflow on occupants.

The four motorized louvers can be independently adjusted to 7 different positions, with an adjustment range from 0° to 64°, allowing air distribution to be adapted to the characteristics of the room and the comfort requirements of occupants.

The units are designed for connection to an outdoor air intake system using a dedicated optional kit, allowing integration with systems designed for fresh air renewal.

To adapt unit operation to the actual use of the room, the units can be equipped with a Motion Sensor presence sensor, capable of:

- automatically switch the unit on or off according to the presence of people in the room;
- detect the position of occupants and optimize the airflow direction to avoid direct airflow;
- monitor the number of people present and automatically adapt unit operation to the actual load conditions of the room.

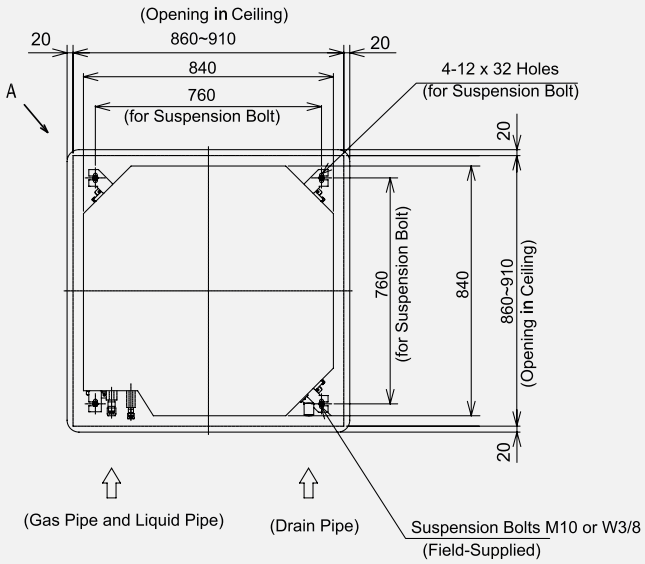
These functions improve perceived comfort and help modulate unit operation according to the actual use of the room.

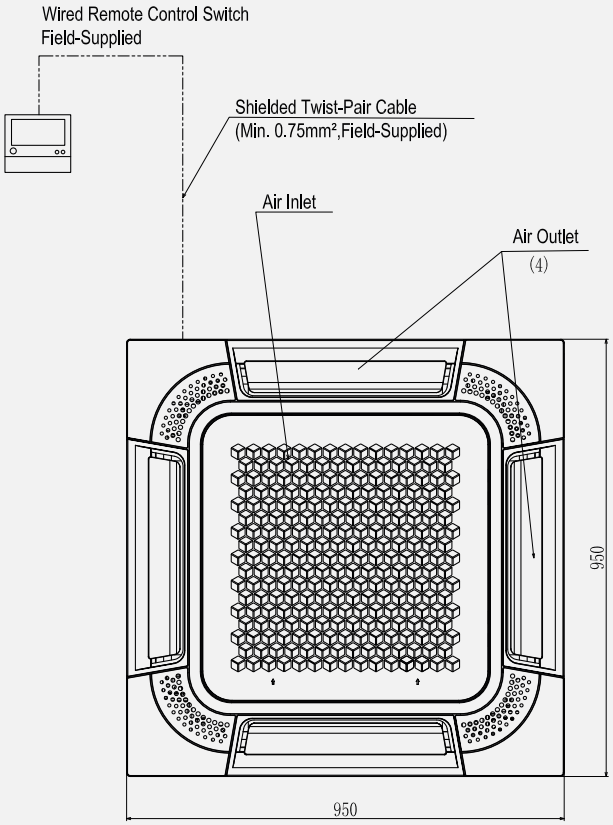
			71C4S	90C4S	112C4S
Btu/h (cooling)			24200	30700	38200
Power supply			AC 1Φ, 220V~240V/50Hz/60Hz		
Cooling capacity (nom.)		kW	7,1	9,0	11,2
Heating capacity (nom.)		kW	8,0	10,0	12,5
Power input (nom.)		W	60	70	80
Sound pressure level		dB(A)	36/33/32/31/29/28	37/36/35/33/31/30	42/40/38/36/34/33
Air flow rate		m3/min	27.0/21.1/19.1/ 18.0/15.8/14.7	25.0/22.3/20.3/ 18.3/16.9/15.3	31.0/29.5/28.7/ 26.0/23.5/20.5
Refrigerant		-	R32/R410A		
Refrigerant piping (flare connections)	Gas pipe	mm (")	Φ15.9 (5/8)	Φ15.9 (5/8)	Φ15.9 (5/8)
	Liquid pipe	mm (")	Φ9.5 (3/8)	Φ9.5 (3/8)	Φ9.5 (3/8)
Condensate drain (outside diameter)		mm	Φ32	Φ32	Φ32
Max. condensate pump lift (supplied as standard)		mm	850		
Dimensional data	External dimensions (HxWxD)	mm	238×840×840	238×840×840	288×840×840
	Net weight	kg	21	23	26
	Gross weight	kg	25	27	31
Panel (order separately)	Model	-	MPE-C4S		
	Colour	-	Neutral White		
	Dimensions (HxWxD)	mm	47×950×950	47×950×950	47×950×950
	Net weight	kg	5,7	5,7	5,7
	Gross weight	kg	8,0	8,0	8,0
R32 sensor			(standard)		
Infrared remote controller (optional)		-	IRC 01		
Wireless receiver (optional)		-	RW 90		
Wired controller (optional)		-	WHC 16		

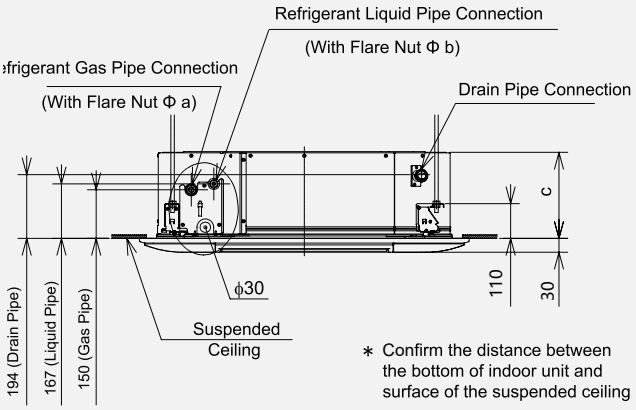
Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below.
Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB.
Sound pressure level is tested according to Appendix B of EN14511, measured 1.5 m below the unit.
The above parameters are measured in an anechoic chamber without reflected sound; therefore, the impact of reflected noise must be taken into account in the actual installation.
The appearance of the indoor units may be subject to change without prior notice.
Standard/maximum installation height: 2.7/3.5m (09~24), 3.2/4.2m (27~54).

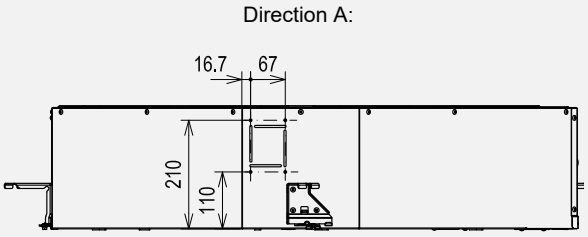
Dimensional Drawings - C4S

unit:mm









Model	Nominal dimensions		
	A	B	C
71C4S	15,88	9,53	260
90C4S	15,88	9,53	260
112C4S	15,88	9,53	310

Dimensions in mm

MARV2.0 - C4C

Compact 4-way cassette

7,1~11,2kW



4-way cassette indoor unit for MAXA VRF systems, compatible with R32 and R410A refrigerant systems, designed to ensure uniform air distribution and maximum installation flexibility.
The compact version features a reduced height of just 215 mm.

The **ultra-slim decorative panel**, featuring a modern and elegant design, protrudes just 10 mm from the ceiling, ensuring discreet integration into residential, commercial and tertiary environments.

Depending on the installed size, the units ensure effective air distribution even in rooms with ceiling heights of up to 4.2 m, maintaining **high levels of comfort** throughout the conditioned space.

The **Soft Breeze function** uses a series of micro-perforations integrated into the decorative panel to distribute air more uniformly and gently, significantly reducing the perception of direct airflow on occupants.

The four motorized louvers can be independently adjusted to 7 different positions, with an adjustment range from 0° to 64°, allowing air distribution to be adapted to the characteristics of the room and the comfort requirements of occupants.

The units are designed for connection to an outdoor air intake system using a dedicated optional kit, allowing integration with systems designed for fresh air renewal.

To further improve comfort and energy efficiency, the units can be equipped with a Motion Sensor presence sensor, capable of:

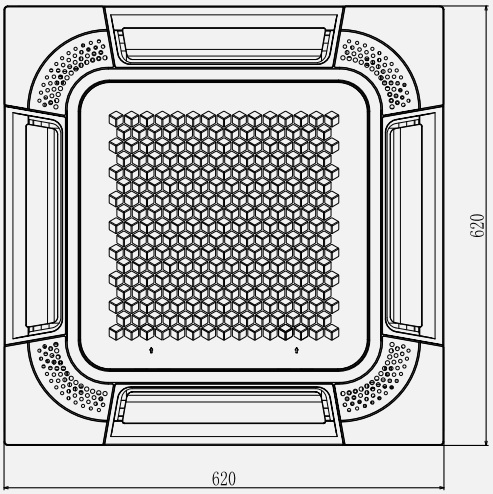
- automatically switch the unit on or off according to the presence of people in the room;
- detect the position of occupants and optimize the airflow direction to avoid direct airflow;
- monitor the number of people present and automatically adapt unit operation to the actual load conditions of the room.

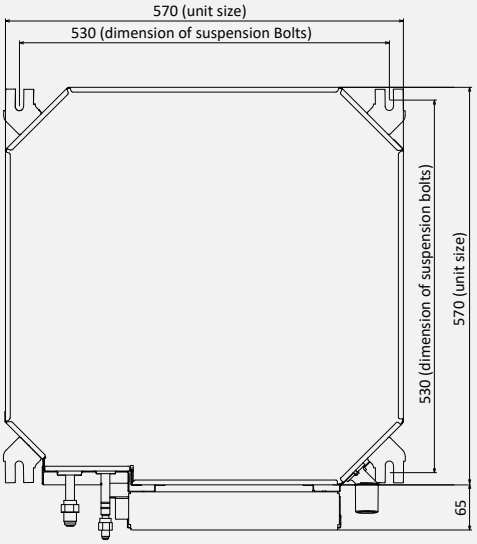
These functions improve perceived comfort and help reduce energy consumption.

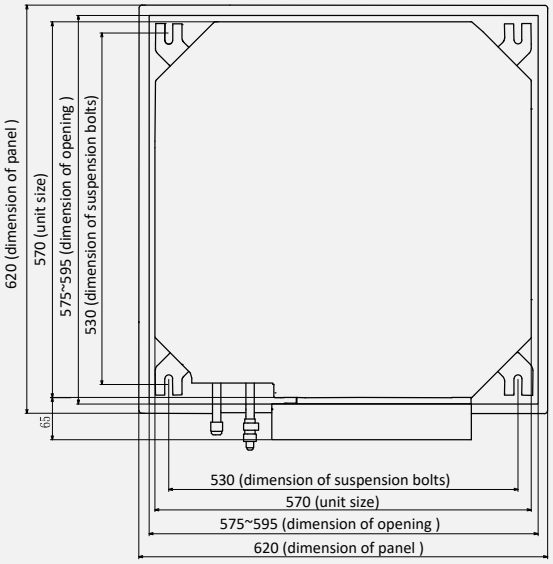
			15C4C	28C4C	36C4C	45C4C	56C4C
Btu/h (cooling)			5100	9600	12300	15400	19100
Power supply			AC 1Φ, 220V~240V/50Hz/60Hz				
Cooling capacity (nom.)		kW	1,5	2,8	3,6	4,5	5,6
Heating capacity (nom.)		kW	2,0	3,3	4,2	5,0	6,3
Power input (nom.)		W	14	14	16	22	40
Sound pressure level		dB(A)	30/29/28/26	32/30/28/26	34/32/29/26	38/36/31/28	45/42/38/34
Air flow rate		m3/min	7.2/6.5/6.2/5.6	7.8/7.2/6.5/5.8	7.8/7.2/6.5/5.8	9.3/8.7/7.1/6.7	12.5/10.8/9.3/8.0
Refrigerant		-	R32/R410A				
Refrigerant piping (flare connections)	Gas pipe	mm (")	Φ12.7	Φ12.7	Φ12.7	Φ12.7	Φ12.7
	Liquid pipe	mm (")	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35
Condensate drain (outside diameter)		mm	Φ32mm	Φ32mm	Φ32mm	Φ32mm	Φ32mm
Max. condensate pump lift (supplied as standard)		mm	850				
Dimensional data	External dimensions (HxWxD)	mm	215×570×570	215×570×570	215×570×570	215×570×570	215×570×570
	Net weight	kg	14,5	14,8	14,8	15,8	15,8
	Gross weight	kg	17,3	17,6	17,6	18,6	18,6
Panel (order separately)	Model	-	MPE-C4C				
	Colour	-	Neutral White				
	Dimensions (HxWxD)	mm	37×620×620	37×620×620	37×620×620	37×620×620	37×620×620
	Net weight	kg	2,7	2,7	2,7	2,7	2,7
	Gross weight	kg	4,0	4,0	4,0	4,0	4,0
R32 sensor			(standard)				
Infrared remote controller (optional)		-	IRC 01				
Wireless receiver (optional)		-	RW 60				
Wired controller (optional)		-	WHC 16				

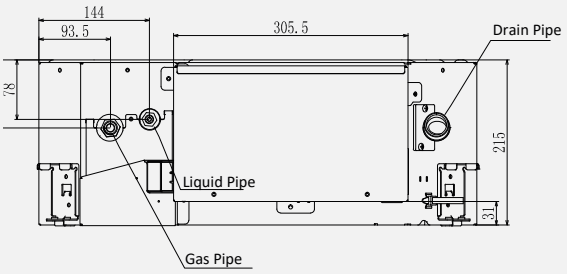
Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below.
Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB.
Sound pressure level is tested according to Appendix B of EN14511, measured 1.5 m below the unit.
The above parameters are measured in an anechoic chamber without reflected sound; therefore, the impact of reflected noise must be taken into account in the actual installation.
The appearance of the indoor units may be subject to change without prior notice.
Standard/maximum installation height: 2.7/3.5m

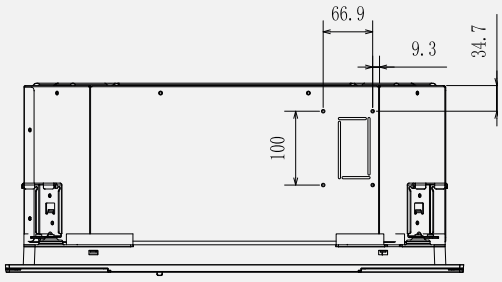
Dimensional Drawings - C4C

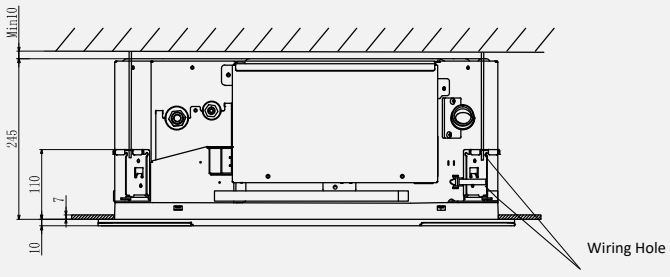


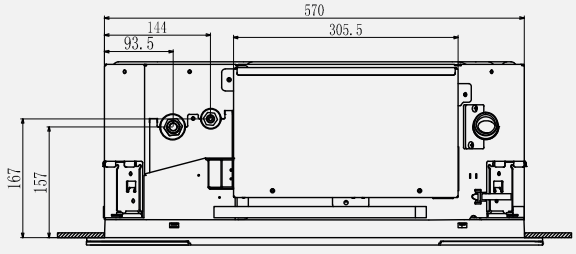












Dimensions in mm

MARV2.0 - C

Console

2,2~5,0kW

GAS R410A



Console indoor unit for MAXA VRF systems, designed for floor or wall installation and particularly suitable for residential, commercial and tertiary applications where effective air distribution is required even in the presence of architectural constraints.

The outer casing, featuring modern and compact lines, integrates a front LED display for viewing the main operating information. Its elegant design allows easy integration into any application environment.

The console features **dual air discharge**, upper and lower, improving air distribution and allowing the set temperature to be reached more quickly.

In cooling mode, air is distributed simultaneously through the upper and lower outlets to achieve a uniform room temperature more quickly. As the cooling load decreases, the unit automatically closes the lower louver, keeping only the upper air outlet active to optimize comfort and energy consumption.

In heating mode, the combined operation of the two air outlets ensures rapid heat distribution throughout the room. Once the required comfort conditions have been reached, the system automatically closes the upper louver, giving priority to the lower air outlet to counteract the natural stratification of warm air and improve comfort in the occupied zone.

The **refrigerant connections and condensate drain** can be routed in several directions, simplifying installation and adapting to different system configurations.

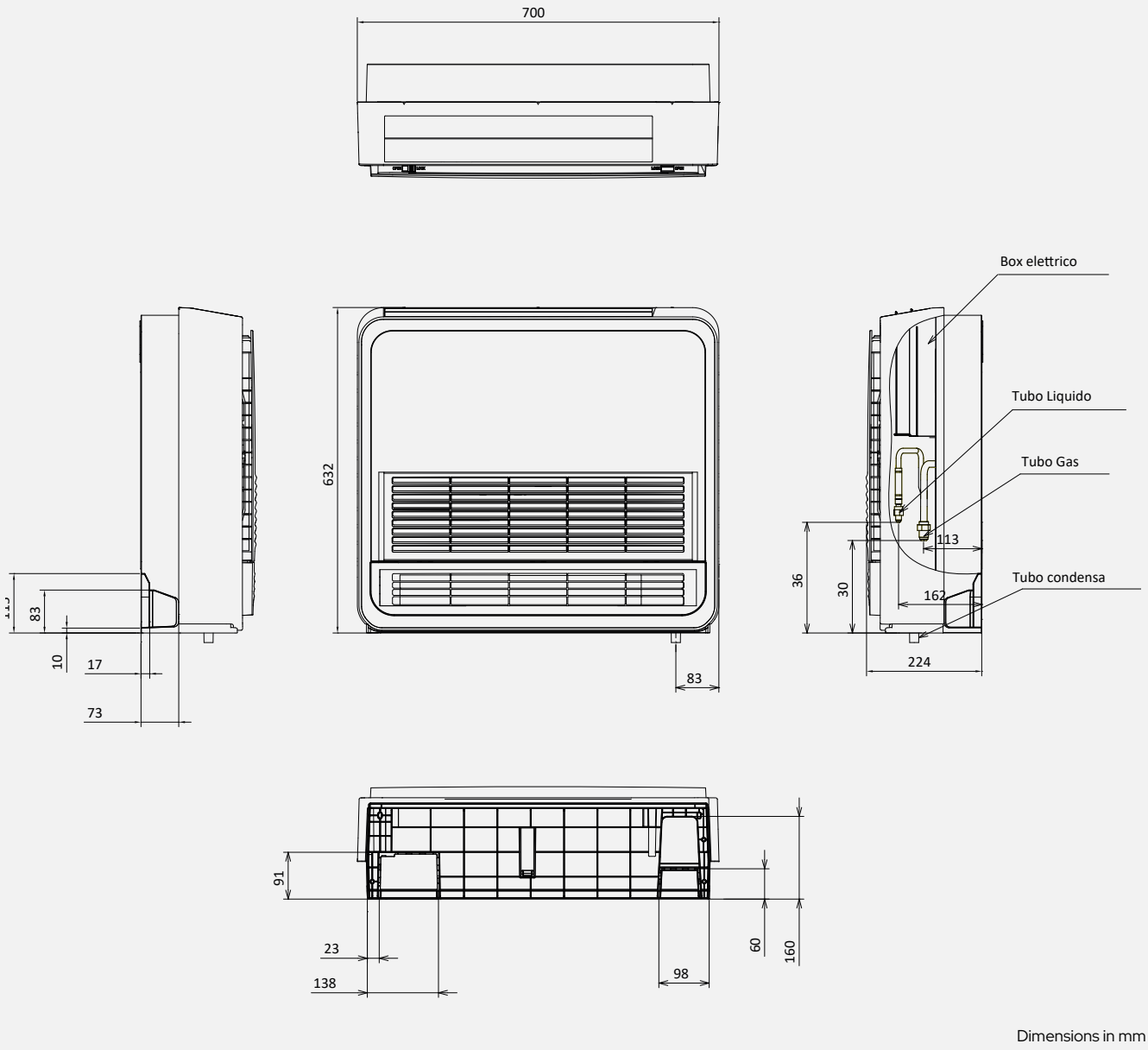
The **piping** can be connected laterally **from** the **right or left**, from the bottom or from the rear. A dedicated provision is also available on the rear of the unit to facilitate piping through the wall behind the unit and minimize the visual impact of the installation.

The combination of dual air discharge, automatic louver control and multiple installation options makes the MAXA console a particularly versatile solution, ensuring uniform comfort, rapid air conditioning and seamless architectural integration in any environment.

			22C	28C	36C	50C
Btu/h			7500	9600	12300	17100
Power supply			AC 1Φ,220~240V/50Hz(60Hz)			
Cooling capacity (nom.)		kW	2,2	2,8	3,6	5,0
Heating capacity (nom.)		kW	2,5	3,3	4,2	5,6
Power input (nom.)		W	11	12	14	23
Sound pressure level		dB(A)	34/32/31/29/27/26	36/35/32/31/29/27	39/36/34/31/29/27	44/43/41/39/37/36
Air flow rate		m3/min	7.4/7.0/6.4/ 6.0/5.6/5.3	8.0/7.4/7.0/ 6.4/6.0/5.6	8.2/7.6/6.8/ 6.2/5.7/5.3	10.1/9.7/9.0/ 8.5/7.9/7.3
Refrigerant		-	R410A			
Refrigerant piping (flare connections)	Gas pipe	mm (")	Φ12.7 (1/2)	Φ12.7 (1/2)	Φ12.7 (1/2)	Φ12.7 (1/2)
	Liquid pipe	mm (")	Φ6.4 (1/4)	Φ6.4 (1/4)	Φ6.4 (1/4)	Φ6.4 (1/4)
Condensate drain (outside diameter)		mm	Φ18	Φ18	Φ18	Φ18
Dimensional data	External dimensions (HxWxD)	mm	630x700x225	630x700x225	630x700x225	630x700x225
	Net weight	kg	16,1	16,1	17,4	17,4
	Gross weight	kg	21,1	21,1	21,5	21,5
Colour		-	White			
Infrared remote controller (standard)		-	IRC 01			
Wired controller (optional)		-	WHC 16			

Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below.
Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB.
Sound pressure level is tested according to Appendix B of EN14511, measured at a distance of 1 m and at a height of 1 m from the upper louver.
The above parameters are measured in an anechoic chamber without reflected sound; therefore, the impact of reflected noise must be taken into account in the actual installation.
The appearance of the indoor units may be subject to change without prior notice.

Dimensional Drawings - C



Dimensions in mm

MARV2.0 - LP

Low static pressure ducted indoor units

1.7~4.5kW



Low static pressure ducted indoor unit for MAXA VRF systems, designed for installation in false ceilings with limited technical space. Thanks to its reduced height of just 192 mm and width of less than 770 mm, the unit can be easily integrated even in environments where available space is limited.

The compact design reduces the space required within the false ceiling, preserving the available room height while ensuring high design flexibility.

The conditioned air can be distributed through ductwork connected to standard grilles and diffusers or through the exclusive optional 3D AirFlow grille, equipped with motorized louvers for more precise control of the airflow direction.

This solution allows the system to be adapted to different architectural and comfort requirements while maintaining highly uniform indoor air conditioning.

To facilitate installation even where ceiling void space is particularly limited, the unit allows the return air intake to be configured either from the rear or from the bottom.

This feature provides greater design flexibility and allows the installation to be easily adapted to specific site requirements.

The motorized 3D AirFlow grille is available for Slim ducted units and integrates:

- LED display for room temperature indication;
- relative humidity indication;
- motorized horizontal and vertical louvers;
- wide air distribution angle.

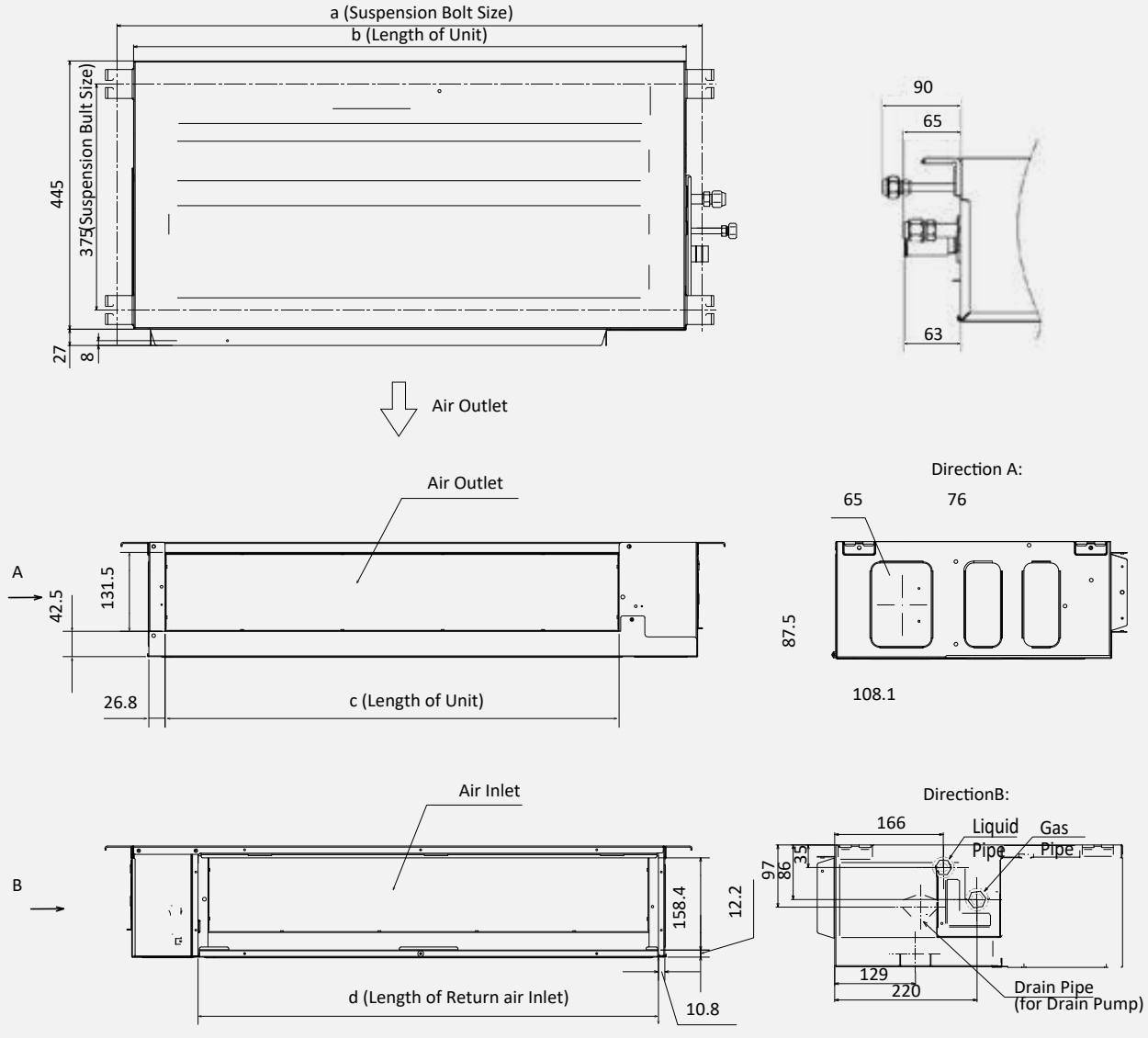
Motorized airflow control ensures more uniform distribution of the conditioned air and improved indoor comfort control.

The compact dimensions, configurable return air intake and compatibility with different air distribution systems make MAXA Slim ducted units an ideal solution for residential, commercial and tertiary applications requiring high installation flexibility and minimal architectural impact.

			17LP	28LP	36LP	45LP
Btu/h (cooling)			5800	9600	12300	15300
Power supply			AC 1Φ, 220V~240V/50Hz/60Hz			
Cooling capacity (nom.)		kW	1,7	2,8	3,6	4,5
Heating capacity (nom.)		kW	1,9	3,2	4,0	5,0
Power input (nom.)		W	30	50	50	60
Sound pressure level		dB(A)	28/27/26/24/23/21	35/32/32/30/26/23		
Air flow rate		m3/min	7.0/6.5/6.1/5.7/5/3/4.8	9.0/8.1/7.3/6.7/5.9/5.2		12.0/10.8/9.4/8.1/6.8/5.5
Available external static pressure		Pa	10 (10-30-50)			
Refrigerant		-	R32/R410A			
Refrigerant piping (flare connections)	Gas pipe	mm (")	ø12,7 (1/2)	ø12,7 (1/2)	ø12,7 (1/2)	ø12,7 (1/2)
	Liquid pipe	mm (")	ø6,4 (1/4)	ø6,4 (1/4)	ø6,4 (1/4)	ø6,4 (1/4)
Condensate drain (outside diameter)		mm	ø32			
Max. condensate pump lift (supplied as standard)		mm	900			
Dimensional data	External dimensions (HxWxD)	mm	192x700x447	192x700x447	192x700x447	192x910x447
	Net weight	kg	16	17	17	20
	Gross weight	kg	19	20	20	24
R32 sensor			(standard)			
Wired controller (mandatory accessory)		-	WHC 16			

Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below.
Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB. Sound pressure level is tested according to Appendix B of EN14511, measured 1.5 m below the unit, at 220 Vac power supply (at 240Vac it increases by ~1 dB)
The above parameters are measured in an anechoic chamber without reflected sound; therefore, the impact of reflected noise must be taken into account in the actual installation.
G1 class filters supplied as standard.
Available external static pressure on the discharge side is measured without filters.

Dimensional Drawings - LP



Model	Nominal dimensions			
	A	B	C	D
17LP	752	700	537	573
28LP	752	700	537	573
36LP	752	700	537	573
45LP	962	910	748	784

Dimensions in mm

MARV2.0 - HP

High static pressure ducted indoor units

5,6~28,0 kW

Low static pressure ducted indoor unit for MAXA VRF systems, designed for installation in false ceilings with limited technical space. Thanks to its reduced height of just 192 mm and width of less than 770 mm, the unit can be easily integrated even in environments where available space is limited.



The compact design reduces the space required within the false ceiling, preserving the available room height while ensuring high design flexibility.

The conditioned air can be distributed through ductwork connected to standard grilles and diffusers or through the exclusive optional 3D AirFlow grille, equipped with motorized louvers for more precise control of the airflow direction.

This solution allows the system to be adapted to different architectural and comfort requirements while maintaining highly uniform indoor air conditioning.

To facilitate installation even where ceiling void space is particularly limited, the unit allows the return air intake to be configured either from the rear or from the bottom.

This feature provides greater design flexibility and allows the installation to be easily adapted to specific site requirements.

The motorized 3D AirFlow grille is available for Slim ducted units and integrates:

- LED display for room temperature indication;
- relative humidity indication;
- motorized horizontal and vertical louvers;
- wide air distribution angle.

Motorized airflow control ensures more uniform distribution of the conditioned air and improved indoor comfort control.

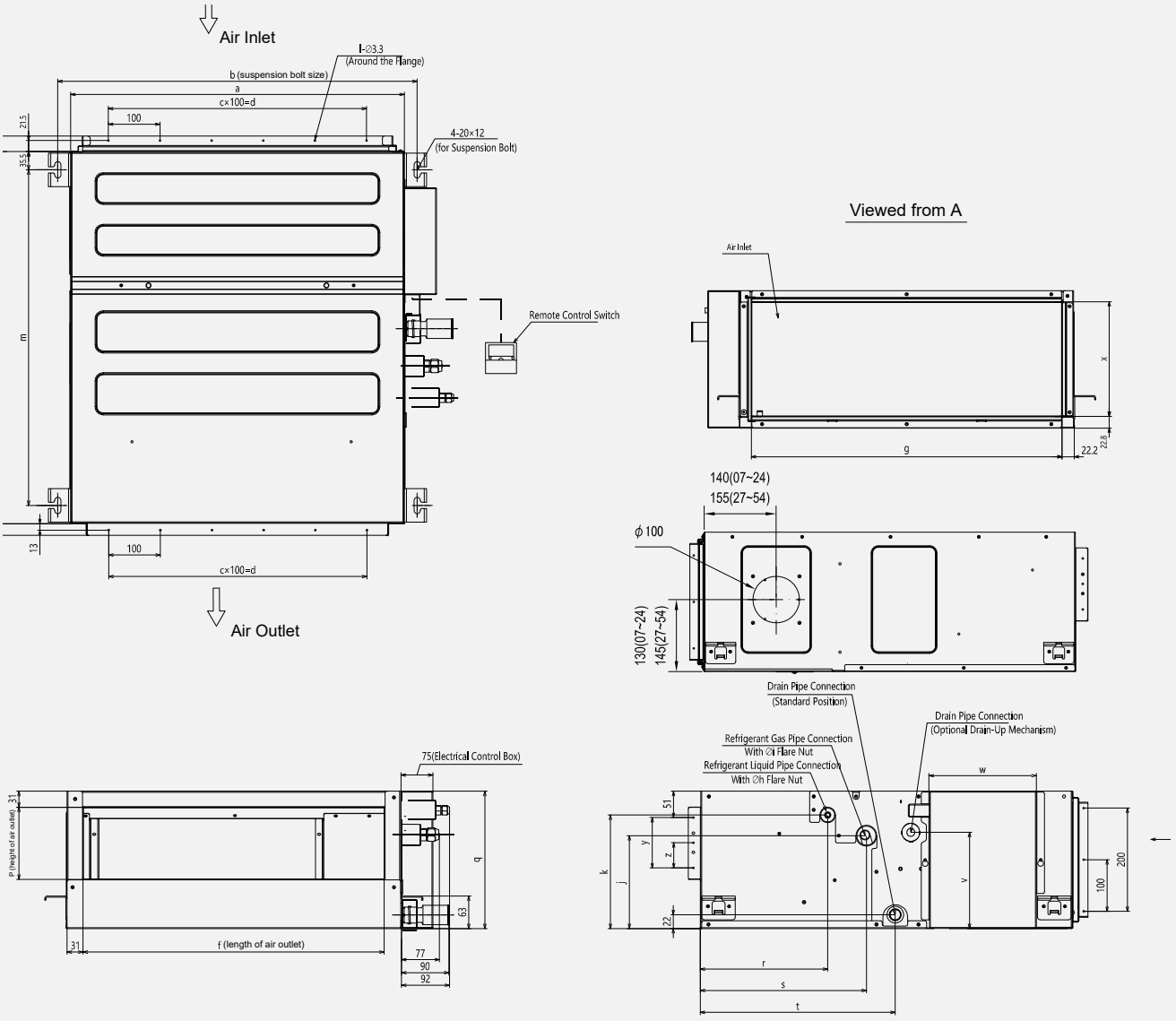
The compact dimensions, configurable return air intake and compatibility with different air distribution systems make MAXA Slim ducted units an ideal solution for residential, commercial and tertiary applications requiring high installation flexibility and minimal architectural impact.

			56HP	90HP	160HP	224HP	280HP
Btu/h (cooling)			19100	30800	54500	76500	95600
Power supply			AC 1Φ, 220V~240V/50Hz/60Hz				
Cooling capacity (nom.)		kW	5,6	9,0	16,0	22,4	28,0
Heating capacity (nom.)		kW	6,3	10,0	18,0	25,0	31,5
Power input (nom.)		W	55	100	223	610	830
Sound pressure level (SHi/Hi/Me/Lo/Slo/Night)		dB(A)	33/30/27/ 25/23/22	34/32/30/ 28/25/22	41/38/35/ 33/30/27	49/48/47/ 46/45/44	53/53/50/ 49/47/45
Airflow rate (SHi/Hi/Me/Lo/Slo/Night)		m³/min	14.5/13/11.5/ 10.5/9.5/8.7	25/23/21/ 19/17/15	39/35,5/31/ 26,5/23,5/21,8	55/54/52/ 51/49/48	72/68/65/ 61/58/50
Available external static pressure		Pa	30 (30~150)	50 (50~200)		150 (50~250)	
Refrigerant		-	R32 - R410A				
Gas pipe		mm (“)	ø15,88 (5/8)			ø22,2 (7/8)	
Liquid pipe		mm (“)	ø6,35 (1/4)	ø9,53 (3/8)			
Refrigerant piping connection type			Flare			Brazed	
Condensate drain (outside diameter)		mm	ø32				
Max. condensate pump lift (supplied as standard)		mm	900			600	
Dimensional data	External dimensions (HxWxD)	mm	270x(900+75)720	300x(1100+75) x800	300x(1400+75) x800	470x1250x1120	
	Net weight	kg	30	40	49	94	106
	Gross weight	kg	37	40	57	106	111
R32 sensor			(standard)				
Wired controller (mandatory accessory)		-	WHC 16				

Cooling and heating performance is measured in accordance with EN14511 and refers to the conditions specified below.
Between IU and OU: 100% capacity ratio, piping length 7.5m, height difference 0m.
Cooling air temperatures: indoor 27°C DB/19°C WB, outdoor 35°C DB. Heating air temperatures: indoor 20°C DB, outdoor 7°C DB/6°C WB.
Sound pressure level is tested according to Appendix B of EN14511, measured 1.5 m below the unit with a 2 m supply air duct and a 1 m return air duct, at 220 Vac power supply (at 240Vac it increases by ~1 dB).
The above parameters are measured in an anechoic chamber without reflected sound; therefore, the impact of reflected noise must be taken into account in the actual installation.
Available external static pressure is measured without filters.

* The factory gas pipe diameter for 224HP* is Φ22.2 mm; it can be changed to 19.05 mm after welding the adapter pipe.

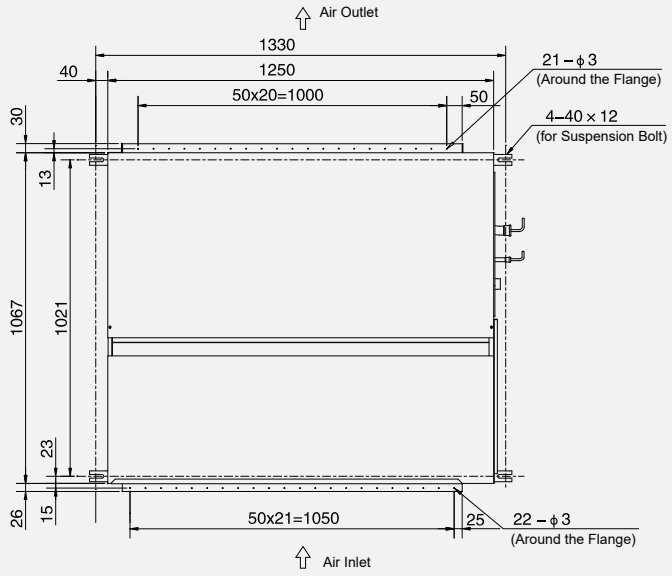
Dimensional Drawings - 56HP~160HP



Model	Nominal dimensions																							
	a	b	c	d	f	g	h	i	j	k	l	m	n	p	q	r	s	t	u	v	w	x	y	z
56HP	900	946	8	800	834	851.6	6.35	15.88	182	222	24	650	720	140	270	246	321	377	402	188	206.8	240.2	97.6	48.8
90HP	1100	1150	10	1000	1038	1055.6	9.53	15.88	150	190	28	727	800	197	300	270	345	401	431	185	231	286.6	155	77.5
160HP	1300	1450	13	1300	1338	1353.6	9.53	15.88	150	190	34	727	800	197	300	270	345	401	431	185	231	286.6	155	77. 5

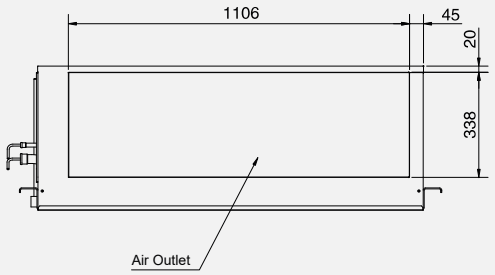
Dimensions in mm

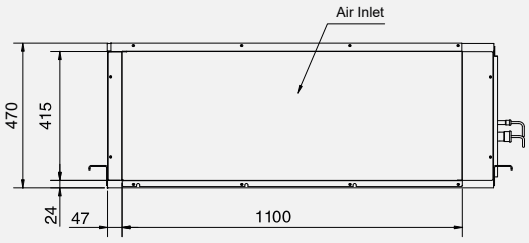
Dimensional Drawings - 224HP~280HP

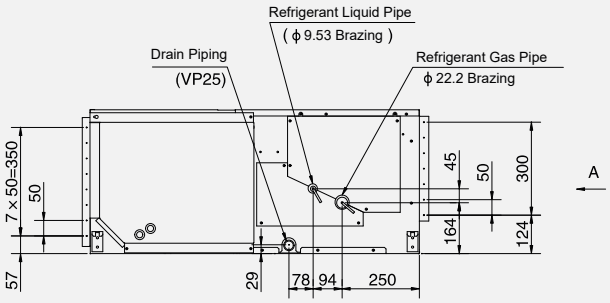


Unit:mm

Viewed from A







Control systems

Options

Type	Wired controller	Remote control
		
Model	WHC 16	IRC 01
Max. number of connectable indoor units	16	–
Power supply	15V	3V
Dimensions (mm)	120×120	178.6×47.8
Cooling - Heating - Fan - Auto - Dehumidification	■	■
Automatic dehumidification (humidity sensor)	■	✕
Fan speed	■	■
Louver setting	■	■
Temperature setting	■	■
Operation monitoring	■	✕
Timer	■	■
Weekly timer	■	✕
Holiday setting	■	✕
Main-Sub control	■	✕
Indoor unit address setting	■	✕
Check function	■	✕
Option settings	■	✕
Air filter cleaning reminder	■	✕
Error code display	■	✕
Test run	■	■
Indoor/Outdoor unit PCB check	■	✕
Self-diagnostics function	■	■
Backlighting	■	■
Integrated temperature sensor	■	■
Wireless control available	■	–
Individual louver control	■	■
Breeze mode	■	✕
Motion sensor	■	✕
High-temperature sterilization	■	✕
ECO (energy saving)	■	■
Silent (indoor unit)	■	■
Sleep (indoor unit)	■	■
Window interlock	■	✕
Key card contact	■	✕
3D airflow	■	■
Child lock	■	✕
Self-cleaning	■	■
Automatic changeover	■	✕
Dynamic ESP	■	✕
Supply air temperature limit	■	✕

■ Available

✕ Not available

Compatibility

Type	Wired controller	Remote control
		
Model	WHC 16	IRC 01
4-way cassette	□	□
Mini 4-way cassette	□	□
Slim ducted unit	□	✕
High-ESP ducted unit	□	✕
Console	□	■
Wall-mounted unit	□	■

■ Standard

□ Optional

✕ Incompatible

Type	IR receiver		Touch centralized controller
			
Model	RW 60	RW 90	e-Center Marv
4-way cassette	✕	□	□
Mini 4-way cassette	□	✕	□
Slim ducted unit	✕	✕	□
High-ESP ducted unit	✕	✕	□
Console	✕	✕	□
Wall-mounted unit	✕	✕	□

■ Standard

□ Optional

✕ Incompatible

Type	Wi-Fi inter-face
	
Model	e-Marv
4-way cassette	□
Mini 4-way cassette	□
Slim ducted unit	□
High-ESP ducted unit	□
Console	□
Wall-mounted unit	□

■ Standard

□ Optional

✕ Incompatible

WHC 16

Wired Local Controller

- Full functionality and convenient touch buttons with 4" LCD display
- Dimensions: 120mm × 120mm
- Max. number of connectable indoor units: 16
- Display: LCD
- Buttons: Touch
- Supported languages: 11, English, French, Spanish, Italian, German, Polish, Arabic, Turkish, Russian, French, Dutch



Operating modes	Cooling - Heating - Auto - Fan - Dehumidification - ECO - Silent - Sleep
Timer	Daily - Weekly - Holiday mode
Service	Error Code - Parameter Check - Automatic Test Run - Indoor & Outdoor PCB Check - Self-Diagnostics
Louvers	Louver setting - Independent louver control - 3D airflow management
Special functions	ESP - Breeze - Motion sensor - Audible and visual alarm indication
Fan speed	6
Temperature setting	0.5°C
Management of up to 2 controllers per unit	■
Filter cleaning indication	■
Backlighting	■
Integrated room temperature sensor	■
Infrared receiver	■

IRC 01

Remote control

- High-quality display and stylish, user-friendly remote controller
- Dimensions: 178.6mm × 47.8mm
- Backlit LCD display



Operating modes	Cooling - Heating - Auto - Fan - Dehumidification
Timer	24-hour daily timer
Service	Test Run - Self-Diagnostics
Louvers	Louver setting - Individual louver control - 3D airflow
Special functions	Ionizer - ECO - Silent - Sleep - Self-cleaning
Fan speed	6
Temperature setting	1°C accuracy / setpoint or measured value
Integrated room temperature sensor	■

■ Available

✕ Not available

e-Center Marv

Centralized Controller

- Large 7” colour touch screen, simple, robust and reliable
- Dimensions: 252x170mm (10”)
- Resolution: 1280x800
- Max. 160 independently connected indoor units
- Max. 64 outdoor units connected
- Max. 4 centralized controllers on the bus line
- Weekly/holiday timer
- Remote control with WEB access
- Unit rotation function for data centres
- Password setting
- Remote I/O ports
- Multilanguage: Italian, English, French, etc.
- Cooling - Heating - Auto - Fan - Dehumidification - ECO
- Holiday mode
- Filter cleaning indication
- Optional functions with dry contacts as inputs / outputs



- Temperature setting limitation
- General / 4 zones / Individual control
- Dedicated 200-240 Vac power supply.

e-BMS1

Modbus

- Power supply 12V DC
- Max. number of connectable indoor units: 160 (64 groups)
- Dimensions (HxWxD): 50x170x220 mm
- On/Off mode
- Temperature setting
- Operating mode setting
- Return air temperature monitoring
- Airflow setting and monitoring
- On/Off control of all units
- Alarm monitoring and display
- Error codes
- Humidity control
- Max. 1 interface on the bus line
- 12 Vdc power supply not included



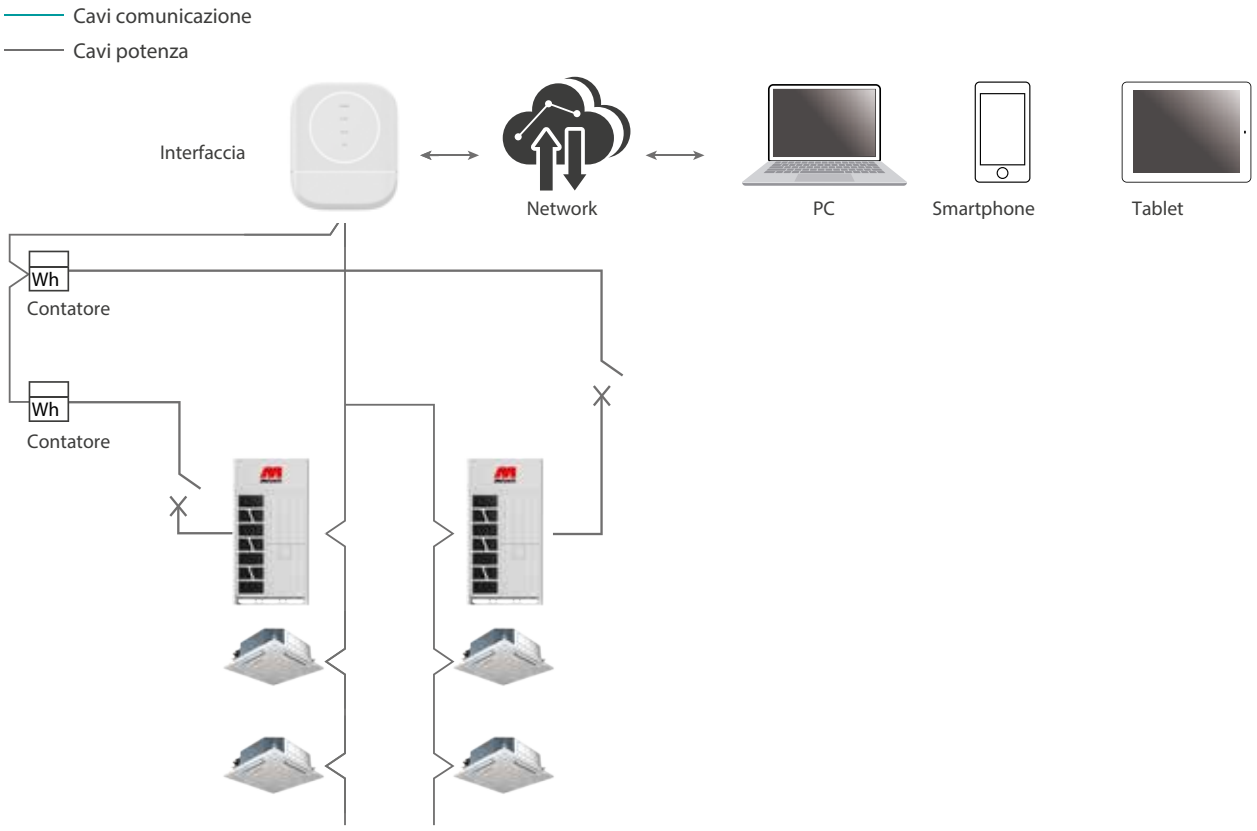
e-Marv

Wi-Fi interface

- Management via Android/iOS app for up to 64 indoor units
- Compact and elegant design
- For HVAC units, hydronic modules and heat recovery units
- Over-the-air (OTA) updates
- Simple and intuitive interfaces
- 12 V DC power supply
- Max. current 1 A
- Power consumption 2.4 W
- Dimensions 91 × 117 × 31 mm
- Net weight 0.14 kg







Service MARV

Smart tool to improve your Service

Professional service tool designed to simplify monitoring, diagnostics and maintenance activities for VRF systems. Thanks to Plug & Play technology, technicians can quickly access the system, view its operating status in real time and analyse the main operating parameters, reducing service time and troubleshooting activities.
The platform also integrates a convenient cloud-based management system, providing quick and easy access to system information, improving service efficiency and ensuring continuous performance monitoring over time.

- Dimensions 138x68x28 mm (WxDxH)
- Net weight 130 g
- Power supply 5V 500mA
- Indoor units monitored: 160

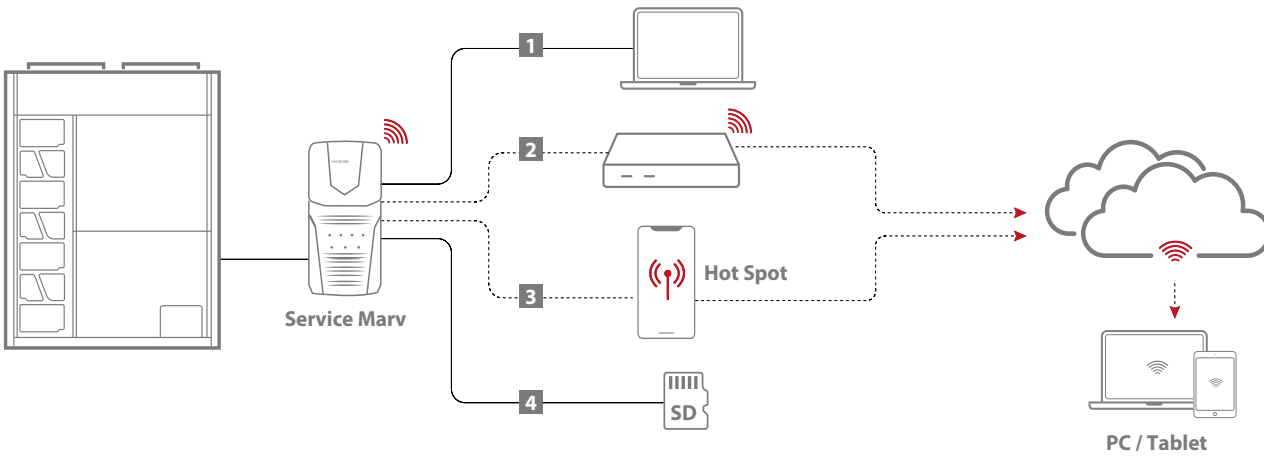


Compact design and intuitive operation

Designed to ensure maximum operating convenience, Service Marv combines compact dimensions with ease of use, providing technicians with a versatile and easily portable tool.
The SD memory of up to 32 GB allows operating data to be recorded and stored, facilitating analysis, diagnostics and maintenance activities over time.
Thanks to the different power supply options available – 5 Vdc adapter, connection to a computer or power bank – the device ensures maximum flexibility of use in any operating environment.
In addition, automatic online software updates keep the system up to date with the latest features and optimizations, ensuring consistent and reliable performance over time.

Advanced analysis and professional reporting

Service Marv provides a comprehensive and detailed analysis platform designed to offer a clear and immediate overview of the system's operating conditions.
Thanks to the graphical representation of operating data, technicians can easily monitor system performance, identify any anomalies and quickly assess the status of individual components.
Smart system diagrams simplify diagnostics and maintenance activities, enabling faster, more accurate and effective service operations.
For professional data management, the platform also allows comprehensive and intuitive reports to be exported in .CSV and .PDF formats, facilitating data sharing, service documentation and historical analysis of system performance.



Maximum connection flexibility and data management

Service Marv offers several connection options to meet any service, monitoring and diagnostic requirement.
The direct USB connection provides the simplest and most reliable solution for quickly connecting the device to a PC and accessing the system's operating data.

Through the Wi-Fi connection, technicians can monitor the system status and view the main operating parameters anytime and from anywhere, ensuring continuous performance monitoring.

When a stable Wi-Fi network is not available, Service Marv can be connected to a hotspot generated by a smartphone, still allowing remote monitoring and access to the system's operating data.

For even more comprehensive data management, the device features an SD card slot for recording and storing operating data, facilitating in-depth analysis and scheduled maintenance activities.

Accessories and options

Refrigerant leak detector

Model	Applicable models	
RD-32	R32 systems	

R32 shut-off valve box

Model	Applicable models	
RSOB-32	R32 systems	

Fresh air intake adapter (ø70mm)

Model	Applicable models	
EXT AIR	4-way cassette and mini 4-way cassette	

I/O connector for indoor and outdoor units

Model	Applicable models	
CONTACT KIT 01	All indoor and outdoor units	

Condensate drain kit for outdoor units

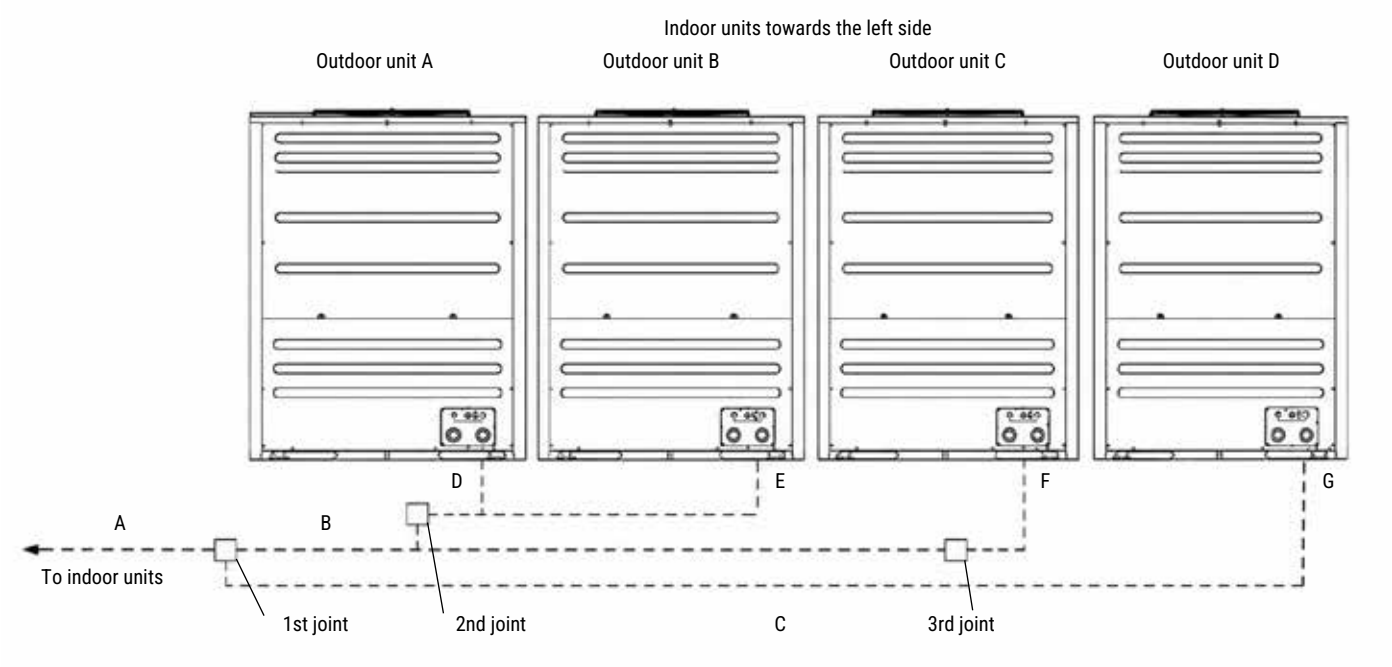
Model	Applicable models	
KDC 02	All outdoor units	

Condensate drain pump

Model	Power supply	Power consumption	Max. lifting height (mm)	Applicable models	
PMP 1HP	AC 220~240V(50/60Hz)	9±1.5 W	900	MARV2.0 56HP	
PMP 2HP	AC 220~240V(50/60Hz)	9±1.5 W	900	MARV2.0 90~160HP	
PMP 3HP	AC 220~240V(50/60Hz)	12±1.5 W	600	MARV2.0 224~280HP	

Joints and branches

Y-joints - Connection between outdoor units



Connection joints for modular outdoor units

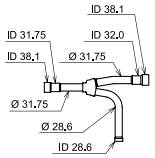
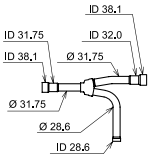
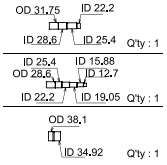
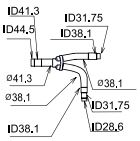
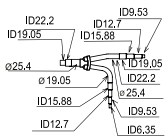
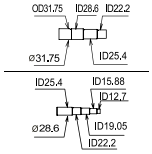
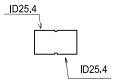
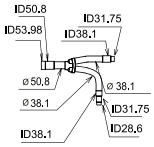
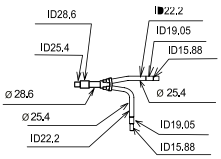
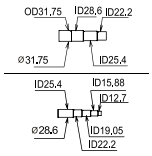
Outdoor unit	MARV2.0-800~1000 (28HP~36HP)	MARV2.0-1200~1250 (42HP~44HP)	MARV2.0-1300~1500 (46HP~54HP)	MARV2.0-1600~1850 (56HP~66HP)	MARV2.0-1900~2000 (68HP~72HP)
1st Y-joint	RFTK-90E	RFTK-90E	RFTK-200E	RFTK-200E	RFTK-200E
2nd Y-joint		RFTK-90E	RFTK-130E	RFTK-130E	RFTK-130E
3rd Y-joint				RFTK-130E	RFTK-130E

Y-joints - First branch after the outdoor unit

HP outdoor unit	4 a 10	12 a 16	18 a 24	26 a 54	56 a 66	≥ 68
Y-branch	RFTD-28Y	RFTD-45Y	RFTD-67Y	RFTD-150Y	RFTD-184Y	RFTD-200Y

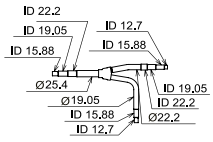
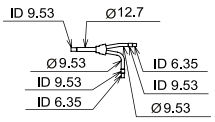
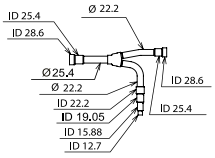
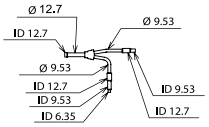
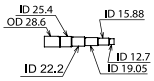
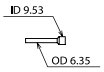
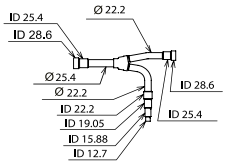
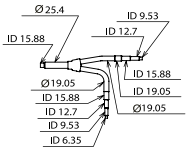
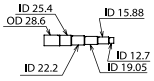
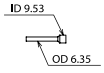
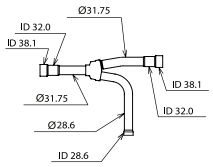
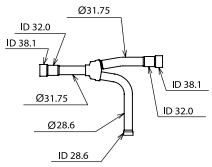
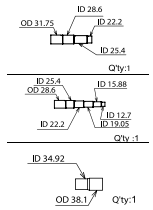
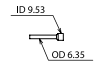
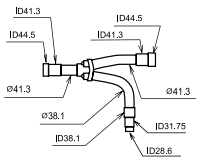
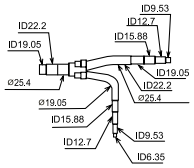
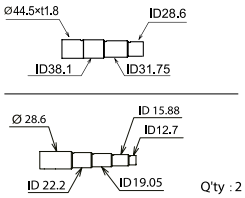
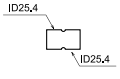
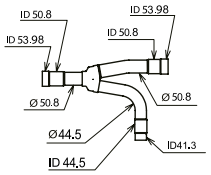
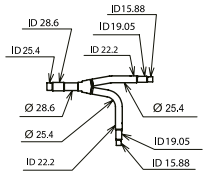
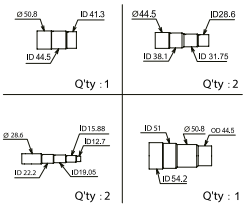
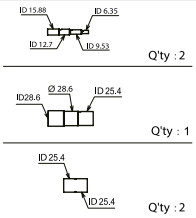
Connection joints for modular outdoor units – 2-Pipe Systems



Model	Gas pipe	Liquid pipe	Reducer for gas pipe	Reducer for liquid pipe
RFTK-90E				-
RFTK-130E				
RFTK-200E				-

Y-joint dimensions - Branches for 2-pipe systems



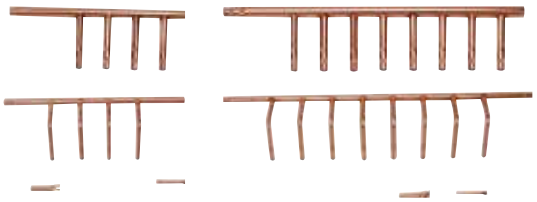
Model	Gas pipe	Liquid pipe	Reducer for gas pipe	Reducer for liquid pipe
RFTD-28Y			-	 Q'ty : 2
RFTD-45Y			 Q'ty: 1	 Q'ty: 1
RFTD-67Y			 Q'ty: 1	 Q'ty: 1
RFTD-150Y				 Q'ty: 1
RFTD-184Y			 Q'ty : 2	
RFTD-200Y				

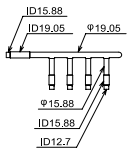
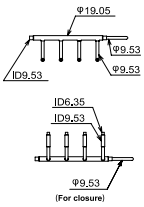
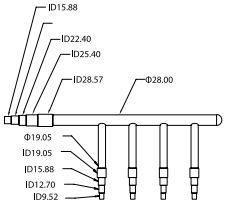
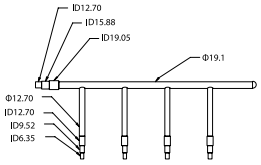
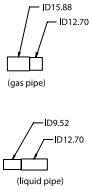
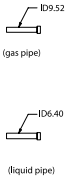
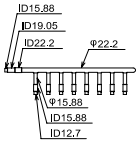
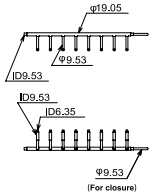
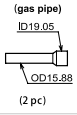
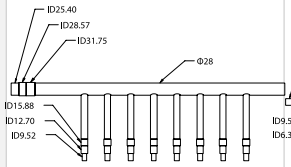
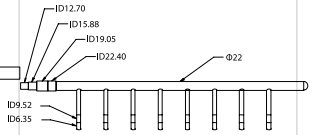
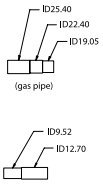
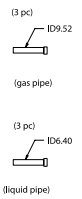
Unit: mm
ID: Internal diameter
OD: Outside diameter

Headers

The maximum capacity refers to the total capacity of the indoor units connected to the header. Downstream of the individual header outlets, no additional branches using Y-joints are permitted.

Model	No. of branches	Max. total indoor unit capacity (kW (kBtu/h - HP))
ADVCOLL 422 AR	4	22.4 (76 - 8)
ADVCOLL 828 AR	8	28 (96 - 10)
ADVCOLL 430 AR	4	30 (100 - 10)
ADVCOLL 850 AR	8	50 (170 - 17)



Model	Gas pipe	Liquid pipe	Reducer	End cap
ADVCOLL 422 AR				 
ADVCOLL 430 AR				
ADVCOLL 828 AR			 	 
ADVCOLL 850 AR				

Unit: mm
ID: Internal diameter
OD: Outside diameter