

Products catalogue

SPLIT · MULTI
· OFFICE · VRF

MDV[®]





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- what is s

SPLIT series

All Easy









MULTI series

Units combination possibility:

- floor & ceiling type
- duct type
- wall-mounted type
- cassette type





VRF series

2nd generation indoor units!

EVI compressor

 low heating capacity decreases in extreme minus temperatures



ONE

- capacity from 7.2 kW!
- 90 kW in one module
- capacity extension with 28.0 and 33.5 kW



pecial about us





Aroma



Operation in low ambient temperatures



1W in standby mode



Aromati filter



OFFICE series

Standard and compact cassette



We give more power!

- Model 18 = 5.3 kW
- Model 24 = 7.3 kW



BIG Inverter Duct unit 20-56 kW



Full control options:

- individual
- group
- central
- BMS





Maximum distances between indoor and outdoor units

SPLIT series – 50 m OFFICE series – 65 m VRF series – 1000 m

Innovative solutions

Design with us

Our unique and technologically advanced systems are perfect for any project.

X2 system



The MULTI X2 system consists of two, simultaneously operating indoor units, connected to a single outdoor unit. This solution ensures installation space savings, thanks to the application of just one outdoor unit while keeping the required heating or cooling capacity in the airconditioned room. MULTI X2 systems are designed for air-conditioning of large spaces such as: conference rooms, open-space type offices, banquet halls and dining rooms. Dedicated units: ducted, floor & ceiling and cassette.

More on page 30

Modules for air handling units



IMM control

Intelligent MDV Manager (IMM) - as a management system, is especially designed to control and monitor all functions of the MDV VRF system. Flexibility and versatility of application depending on different needs, makes it an ideal manager of any building.

More on page 175



We care for you and environment

bioHEPA filter

- cleans the air of 99% dust with particles larger than 0,3µm
- captures up to 95% bacteria and some viruses as well as fungal cells (including mould)
- · creates the effect of sterilisation and air purity



R-32 green refrigerant

By using R-32 refrigerant you contribute to the prevention of global warming.

R-32 refrigerant has three times lower global-warming potential (GWP) in comparison with traditional R410a gas. Contrary to R-32 other refrigerants (such as R-22) it does not contain chlorine which has a harmful effect on the stratospheric ozone layer, leading to its destruction. R-32 refrigerant brings many benefits both for the environment and for the user. It provides very high energy efficiency and better performance of the unit. It belongs to refrigerants with the lowest flammability (2L class).







Energy saving



ECONOMY OPERATION

When enabled, this function starts the air-conditioner for 8 hours in economy operation mode, thereby reducing energy consumption even by 60% in comparison with operation in standard mode.



SLEEP MODE

By activating this function, the air-conditioner will automatically increas (or decrease in the heating mode) the set temperature by 1°C during the first two hours of operation, while the fan is set at low speed. After further 5 hours of continuous operation – the air-conditioner will switch off. Unnoticeable for the user, slow change of temperature and automatic switching off, guarantees maintaining comfort and significant energy saving.



1W IN STANDBY MODE

In the standby mode, by cutting off the power from the unused electric components, the energy consumption will be reduced to IW. In comparison with conventional units that use 5W of energy in standby mode, we can achieve savings of 80%.

Reliability



REFRIGERANT LEAKAGE DETECTION

In the event the unit detects refrigerant leakage, the indoor unit display will show the EC code and the air-conditioner stops operating. This function additionally protects the compressor against damage.



SELF-DIAGNOSTICS AND PROTECTION FUNCTION

In the event of detected malfunction, the unit automatically switches off and displays relevant error code, what significantly simplifies diagnostics and resolving the failure.



EMERGENCY OPERATION MODE

In the event of temperature sensor failure, the air-conditioner displays an error code, without stopping the operation. This allows the air-conditioner to operate in the emergency mode until the arrival of the service team.



OPERATION IN LOW AMBIENT TEMPERATURES

A built-in low temperature kit adjusts the outdoor unit fan speed according to the condensing temperature. This allows the unit to operate in cooling mode at outdoor temperatures as low as -15°C.

Health



bioHEPA FILTER

It is made of material with pores size of 0,3µm. By using the bioHEPA filters in air-conditioning, 99% of particles down to 0,3µm can be captured. This filter stops fungal cells (including mould), up to 95% of bacteria and some of the viruses, which contributes to the effect of sterilisation and air purity.



HIGH DENSITY FILTER

Smaller mesh diameter of the filter cloth increases filtering efficiency up to 80% in comparison with traditional filters used in other air-conditioners.



FILTER WITH SILVER IONS

Silver ions placed on a special net clean air from bacteria by damaging their cell walls.



CATALYST FILTER

Special catalytic coating of the filter cleans air from formaldehyde and other organic odorous compounds.



FRESH AIR

Outdoor air can be supplied to the air-conditioner through the additional ventilation duct. This ensures the supply of oxygen, making the conditions in the room even more comfortable.



SELF-CLEANING

This function includes cleaning of the indoor heat exchanger by drying it after operation and also cleaning of the outdoor heat exchanger which is provided by the fun which rotates in the opposite direction to the standard rotation.

dircon

Comfort



"FOLLOW ME" FUNCTION

In normal conditions, the unit measures room temperature using the sensor placed under the cover of the appliance. By activating the "Follow me" function, the temperature measurement is performed by the wired or wireless remote controller sensor. This allows to maintain the accurate temperature in the place occupied by the user.



3D AIRFLOW

Automatic vertical and horizontal louvre swing ensures even temperature distribution in the whole room.



TURBO FUNCTION

After switching this function on, the fan will automatically run on the highest speed, in order to rapidly cool down the room.



5 STEPS OF OUTDOOR FAN SPEED REGULATION

Use of inverter motor in the outdoor fan, allowed to increase the available speeds from two to five, which significantly influences reduction of noise level and power consumption.



HOT START FUNCTION

Activation and speed of the fun in the heating mode depends on temperature of the indoor unit heat exchanger. This prevents the cold air drafts, which might be uncomfortable to the user.



360° AIRFLOW

Special design of the cassette air-conditioner panel makes it possible to blow air in all available directions, ensuring optimal cooling or heating in the whole room.



8°C HEATING

This function allows to maintain the minimal temperature of 8° C. This prevents excessive room cooling during longer absence of the residents in the winter period.



INTELLIGENT MODULATION OF THE FAN ROTATIONAL SPEED

12 steps of indoor fan speed regulation to ensure the highest comfort to the users.



AUTO SWING

Through automatic swing of the air louver we can achieve even distribution of the cold or warm air in the whole room.



TEMPERATURE COMPENSATION

Temperature measured by the sensor placed inside the air-conditioner, may differ, depending on the installation height, from the temperature above the floor even by several degrees. The temperature compensation function allows relevant adjustments to be made in order to ensure more accurate temperature control and increase the air-conditioner usage comfort.



VERTICAL/HORIZONTAL LOUVERS

Enable to set any angle of the vertical/horizontal louvers and to turn on the automatic swing function.

Facilities



MANUAL SWITCH

You can easily turn the air-conditioner on or off, without using a remote controller or additional tools, just use the built-in switch.



WIRED REMOTE CONTROLLER

The wired remote controller is permanently fixed to a wall. Depending on the model, the controller has many additional functions that facilitate the maintenance of comfort conditions. It is especially recommended for commercial spaces.



AUTO RESTART

In case of power cuts, the air-conditioner memorizes all last settings and resumes them automatically after the power is restored.



TIMER

This function enables to program the time of automatic switching on and off of the air-conditioner.



MONO & MULTI

Compatible indoor units can be used in single split and multi systems. This facilitates the air-conditioning system configuration in a building with a higher number of rooms.



BUILT-IN DRAIN PUMP

The built-in drain pump with a lift height up to 750 mm, facilitates distribution of the condensate drain installation in the space above the suspended ceiling.



REMOTE SWITCH

Integrated on/off contacts enable remote switching on and off of the air-conditioner with use of an additional switch. This contact can also be used for an emergency switching off of the air-conditioning system, in case of e.g. fire alarm.



CENTRAL CONTROLLER

The central controller enables control of up to 64 indoor units. The control can be carried out individually or in groups. The maximum cable length is 1200 m.



RESTORING THE LOUVER SETTINGS

The air-conditioner memorizes the last setting of the louver and resumes it each time the unit is started.



TWO-WAY CONNECTION OF CONDENSATE DRAIN

Condensate drain pipes can be connected both from the left or right side of the unit, what significantly simplifies the installation.



STATIC PRESSURE SETTING

The external static pressure of the unit can be set manually with use of the switch placed on the control board.



SHORT CUT

After enabling this function, the system will automatically return to the previous settings, including operating mode, set temperatures, fan rotation speed and sleep mode (if it was activated).



LED ON/OFF

The LED display as well as a signal tone (depending on the model) can be turned on or off, in order to ensure comfort and silence.

Split SERIES





All Easy



All Easy





Simple installation

All Easy saves installation time. And all this thanks to the modified connection terminal, massive installation plate and ample space for piping and wiring.

Easy cleaning

Easy do disassemble filters can be removed from the unit without opening the panel. Moreover, detachable louvers make it possible to shorten the airconditioner cleaning time by up to half, compared with standard appliances.

STANDARD

(available with wireless remote controller RG57A2(B)BGEF)



Wireless remote (RG57A2(B)/BGEF)



Emergency operation mode



LED on/off



Refrigerant leakage detection



High density



Easy

installation

Restoring the louver settings



Intelligent modulation of the fan rotational speed



1W in standby mode

1W



Operation in low



Two-way connection





ambient

兴

Auto restart

of the condensate

"Follow me"

Catalyst filter Horizontal / vertical Short cut function louver control

Split and multi compatible

5 steps of fan speed

Manual



Hot start





TURBO function



3D airflow







Self-cleaning





OPTIONAL





WiFi control



Alarm port



Central

Wired remote



8°C heating with RG57A6(B)BGEF Drain pump

hinHFPA filter

8°C ,



Set				ZAE-09N8-A1	ZAE-12N8-A1	ZAE-18N8-A1	ZAE-24N8-A1			
Indoor unit				MSAEAU-09HRFNX-QRD0GW	MSAEBU-12HRFNX-QRD0GW	MSAECU-18HRFNX-QRD0GW	MSAEDU-24HRFNX-QRD0GW			
Outdoor unit			MOBA30-09HFN8-QRD0GW	MOBA30-12HFN8-QRD0GW	MOB30-18HFN8-QRD0GW	MOCA30-24HFN8-QRD0GW				
Power supply (V/pl	hase/Hz)			220-240/1/50						
Version				Reversible heat pump						
	Conneity	Rated	kW	2.6	3.5	5.3	7.3			
	Capacity	Min-Max	kW	1.2 - 3.4	1.4 - 4.6	2.0 - 6.2	2.1 - 8.4			
	Rated input power		kW	0.77	1.15	1.50	2.26			
Cooling	EER		kW/kW	3.38	3.04	3.53	3.23			
	Annual power consumpt	tion	kWh/year	134	204	280	393			
	SEER			6.8	6.3	7.1	6.6			
	Energy efficiency class			A++	A++	A++	A++			
	Conneity	Rated	kW	2.9	4.1	5.7	7.6			
Heating	Capacity	Min-Max	kW	0.8~3.4	0.9~5.1	1.3~7.0	2.1~9.4			
	Rated input power		kW	0.78	1.07	1.39	2.11			
	COP		kW/kW	3.72	3.83	4.10	3.60			
	Annual power consumption		kWh/year	778	859	1406	2053			
	SCOP			4.0	4.0	4.0	4.0			
	Energy efficiency class			A+	A+	A+	Α+			
Maximum input cu	irrent		А	9.5	10.0	11.5	16.0			
	Dimensions (width x depth x height)		mm	717×193×302	805×193×302	964×222×325	1106×232×342			
	Transport dimensions (width x depth x height)		mm	785×285×375	875×285×375	1045×325×405	1195×342×420			
	Weight (net/gross)		kg	7.5/10.1	8.2/10.9	10.8/14.3	14.3/18.2			
ndoor	Airflow (low/medium/high	gh)	m³/min	5.5/7.2/8.1	6.0/8.2/9.2	9.2/12.0/13.5	10.8/16.2/17.5			
unit	Sound pressure level [quiet/low/medium/high]		dB(A)	21/29/34/41	23/30/37/41	24/33/41/45	27/35/44/46			
	Sound power level		dB(A)	53	54	57	59			
	Dimensions (width x dep	oth x height)	mm	700×300×555	700×300×555	800×333×554	845×363×702			
	Transport dimensions (v		mm	815×325×615	815×325×615	920×390×615	965×395×765			
Outdoor	Weight (net/gross)		kg	26.4/28.9	26.5/28.8	37.0/39.9	48.0/51.3			
ınit	Airflow		m³/min	33.3	33.3	35.0	45.0			
	Sound pressure level		dB(A)	55	55	57	59			
	Sound power level		dB(A)	59	61	62	65			
	Туре			R32	R32	R32	R32			
Refrigerant	Charged amount		kg	0.70	0.80	1.25	1.60			
	Liquid/gas		mm	Ø6.35 / Ø9.52	Ø6.35 / Ø9.52	Ø6.35 / Ø12.7	Ø9.52 / Ø15.9			
Refrigerant	Maximum length		m	25	25	30	50			
nstallation	Maximum height differe	nce	m	10	10	20	25			
Recommended	Power supplied unit/cro		mm²	outdoor / 3×1.5	outdoor / 3×1.5	outdoor / 3×2.5	outdoor / 3×2.5			
electrical wiring	Transmission		mm²	5×1.5	5×1.5	5×1.5	5×1.5			
and protections	Fuse		А	10	10	16	20			
Recommended on	erating temperature	Cooling	°C			~ 50				
ranges (outdoor)	oracing temperature	Heating	°C			~ 30				

Capacity is based on the following conditions:
Cooling: indoor temperature 27°C DB/19°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB.
Installation length: length of connected pipes is 75 m, the height difference is 0.
The unit contains fluorinated greenhouse gases (R32 GWP-675).
For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.
Choice of the appropriate solution is a matter for installer.

Accessories

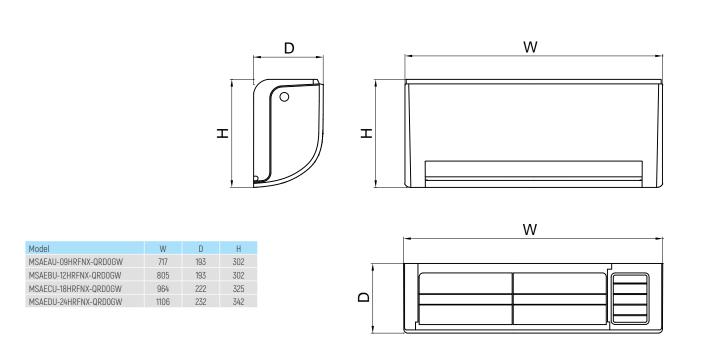
Standard	
RG57A2(B)/BGEF	Wireless remote controller
· "	
Option	
KJR-29B	Individual wired remote controller with Follow Me function
KJR-150A (with Multi Function Board)	Group remote controller (with MFB and KJR-29B controller)
KJR-120C1 (with Multi Function Board)	Wired remote controller with weekly schedule function
CCM30 (with Multi Function Board)	Basic central controller
CCM180A/WS (with Multi Function Board)	Central controller with touch screen and schedule
CCM15	Central controller without display. It allows to control the air-conditioner from a computer.
WIFI 0SK-105	It allows to control from a Smartphone with NetHome Plus application.
RG57A6(B)BGEF	Wireless remote controller with Frost Protect function

Detailed description of the controllers is available in the Control section.



Indoor units

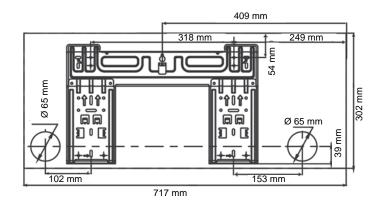




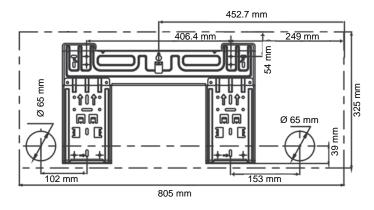


Assembly drawing of each model

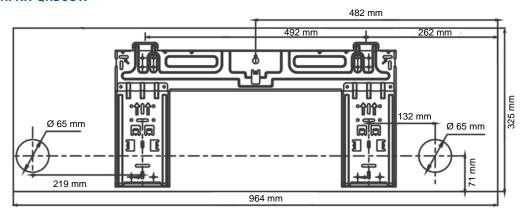
MSAEAU-09HRFNX-QRD0GW



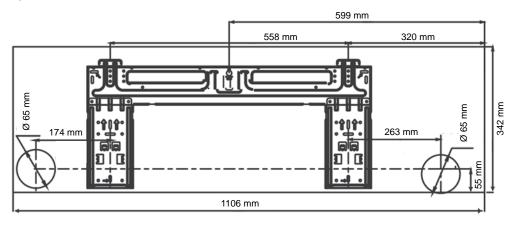
MSAEBU-12HRFNX-QRDOGW, MSAEBU-09HRFN8-QRD6GW, MSAEBU-12HRFN8-QRD6GW



MSAECU-18HRFNX-QRD0GW



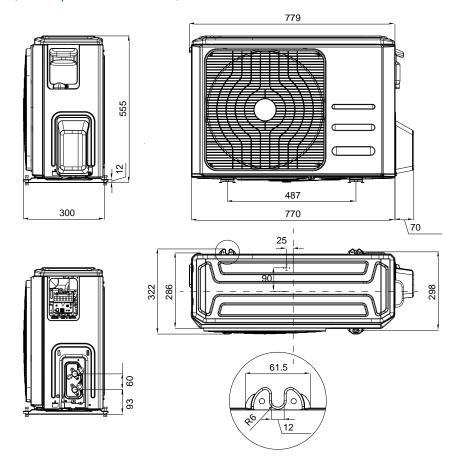
MSAEDU-24HRFNX-QRD0GW



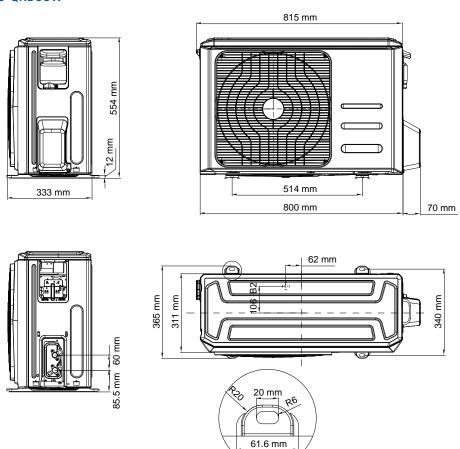


Outdoor units

MOBA30-09HFN8-QRD0GW, MOBA30-12HFN8-QRD0GW

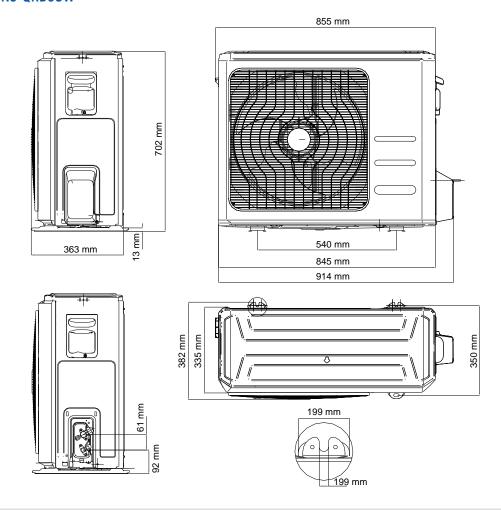


MOB30-18HFN8-QRD0GW





MOCA30-24HFN8-QRD0GW





Split SERIES





Aroma



Aroma





Control from Nethome PLUS application

This application allows you to control the air-conditioner from any place on earth.

Aromatic filter

The air-conditioner is optionally equipped with an aromatic filter, which ensures feeling of jasmine freshness for several weeks.

Functions

STANDARD

(available with wireless remote controller RG57A7(B)/BGEF)



WiFi control

Wireless remote



TURBO function



Emergency operation mode





Timer



(RG57A7(B)/BGEF)

Restoring the louver settings



5 steps of fan speed regulation



Intelligent modulation 1W in standby of the fan rotational speed mode



Hot start



Auto restart



"Follow me" function





Split and multi compatible Operation in low ambient temperatures





Self-cleaning



High density



Catalyst filter



Horizontal louver



Refrigerant



Manual switch



OPTIONAL



hinHFPA filter



Arnmatic



8°C heating with RG57A6(B)BGEF



Drain pump



Set				ZAF-09N8-B1-W	ZAF-12N8-B1-W	ZAF-18N8-B1-W	ZAF-24N8-B1-W			
Indoor unit				MSAFBU-09HRDN8-QRD- 0GWX-W	MSAFBU-12HRDNX-QR- D0FGWX-W	MSAFCU-18HRFN8-QRD- 0GW-W	D- MSAFDU-24HRFN8-QRD- 0GW-W			
Outdoor unit				MOX133-09HFN8-QRD0GW	MOX133-12HFN8-QRD0GW	MOX330-18HFN8-QRD0GW	MOX431-24HFN8-QRD0GW			
Power supply (V/p	hase/Hz)			220-240/1/50						
Version					Reversible	heat pump				
		Rated	kW	2.6	3.5	5.3	7.0			
	Capacity	Min-Ma×	kW	0.9~3.4	1.1~4.2	0.34~5.83	2.1~7.9			
0 1:	Rated input power		kW	0.73	1.21	1.55	2.60			
Cooling	EER		kW/kW	3.60	2.89	3.42	2.69			
	SEER			6.3	6.1	7.4	6.1			
	Energy efficiency class			A++	A++	A++	A++			
		Rated	kW	2.9	3.8	5.6	7.3			
	Capacity	Min-Ma×	kW	0.8~3.4	1.1~4.2	3.1~5.85	1.6~7.9			
Heating	Rated input power		kW	0.73	1.10	1.57	2.40			
	СОР		kW/kW	3.97	3.45	3.57	3.04			
	SCOP			4.0	4.0	4.0	4.0			
Energy efficiency class				Д+	A+	Α+	Д+			
Maximum input current A			10.0	10.0	10.0	16.0				
	Dimensions (width x depth x height)		mm	805×194×285	805×194×285	957×213×302	1040×220×327			
	Transport dimensions (width x depth x height)		mm	870×285×360	870×285×360	1035×305×380	1120×315×407			
	Weight (net/gross)		kg	7.6/9.8	7.6/9.8	10.0/13.0	12.3/15.8			
Indoor	Airflow (low/medium/high	Airflow (low/medium/high)		5.4/6.0/7.7	5.1/7.1/9.0	9.0/11.3/14.0	11.0/13.6/16.3			
unit	Sound pressure level (low/medium/high)	Sound pressure level		25/32/38.5	25/34.5/40.5	26/36/42.5	36/40.5/45			
	Sound power level		dB(A)	54	55	56	59			
	Dimensions (width x dept	h x height)	mm	720×270×495	720×270×495	805×330×554	890×324×673			
	Transport dimensions (wi		mm	828×298×540	828×298×540	915×370×615	995×398×740			
Outdoor	Weight (net/gross)		kg	23.2/25.0	23.2/25.0	32.7/35.4	42.9/45.9			
unit	Airflow		m³/min	29.2	30.0	35.0	58.3			
	Sound pressure level		dB(A)	55.5	56	55	59			
	Sound power level		dB(A)	62.0	63	63	67			
	Туре			R32	R32	R32	R32			
Refrigerant	Charged amount		kg	0.55	0.55	1.08	1.42			
	Liquid/gas		mm	Ø6.35 / Ø9.52	Ø6.35 / Ø9.52	Ø6.35 / Ø12.7	Ø9.52 / Ø15.9			
Refrigerant	Maximum length		m	25	25	30	50			
installation	Maximum height differen	ce	m	10	10	20	25			
Recommended	Power supplied unit/cross		mm²	outdoor / 3×1.5	outdoor / 3×1.5	outdoor / 3×2.5	outdoor / 3×2.5			
electrical wiring	Transmission		mm ²	5×1.5	5×1.5	5×1.5	5×1.5			
and protections	Fuse		А	10	10	16	20			
Recommended on	erating temperature	Cooling	°C			~ 50				
ranges (outdoor)	ording temperature	Heating	°C			~ 30				

Capacity is based on the following conditions:

Cooling: indoor temperature 2°C DB/19°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m. the height difference is 0. The unit contains fluorinated greenhouse gases (R32 GWP=675). For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

* Function available with R657A6[B]/BGEF controller

Accessories

Standard	
RG57A7(B)/BGEF	Wireless remote controller
WIFI OSK-105	It allows to control from a Smartphone with NetHome Plus application.

Option	
KJR-29B	Individual wired remote controller with Follow Me function
RG57A6(B)BGEF	Wireless remote controller with Frost Protect function

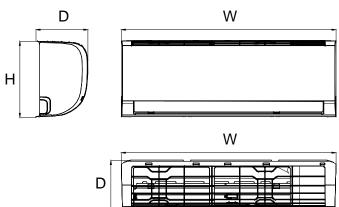
Detailed description of the controllers is available in the Control section.



Indoor units

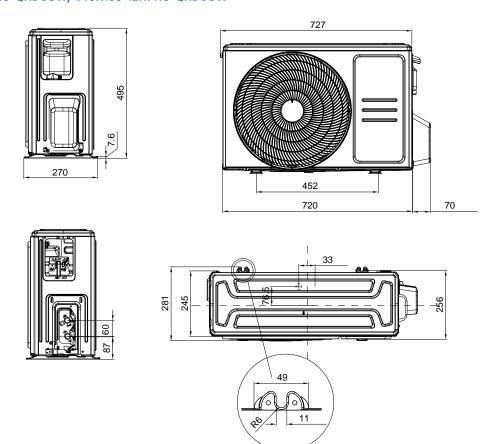


Model	Unit	W	D	Н
MSAFBU-09HRDN8-QRD0GW X	mm	805	194	285
MSAFBU-12HRDNX-QRD0FGW X	mm	805	194	285
MSAFCU-18HRFN8-QRD0GW	mm	957	213	302
MSAFDU-24HREN8-ORDOGW	mm	1040	220	310



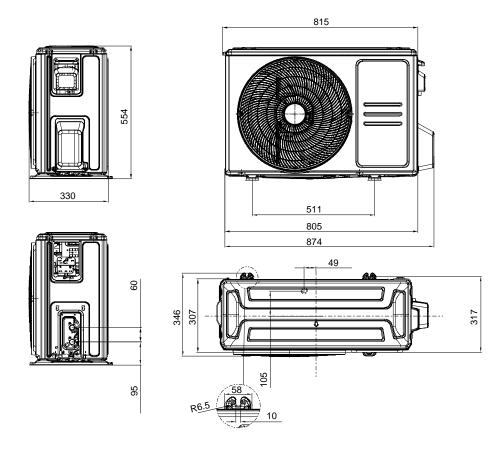
Outdoor units

${\tt MOX133-09HFN8-QRD0GW,\ MOX133-12HFN8-QRD0GW}$

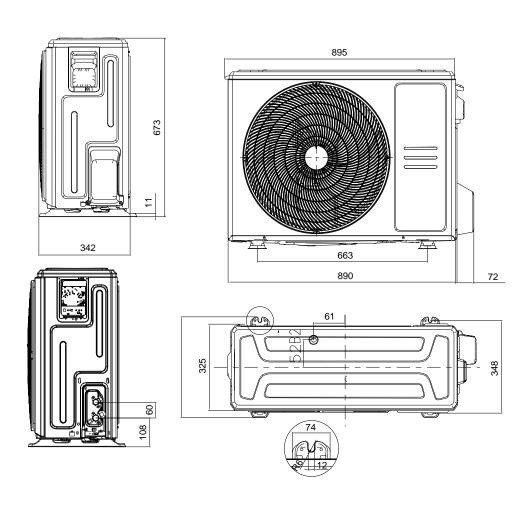




MOX330-18HFN8-QRD0GW



MOX431-24HFN8-QRD0GW



Multi SERIES







MULTI Free Match

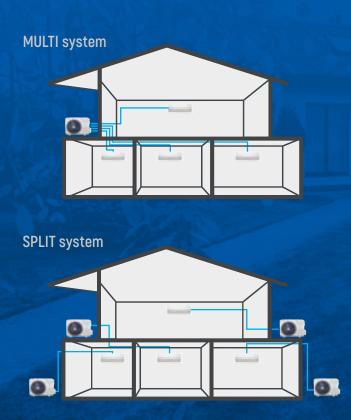


Free Match - flexible installation

Possible to connect up to 5 indoor units to one outdoor unit. Each indoor unit can be individually controlled. Indoor units do not need to be installed at the same time, what enables system extension depending on the user needs.

Wide selection of indoor units

In one system, it is possible to connect All Easy and Aroma series wall-mounted units (capacity: 2.6-7.3 kW) and cassette type units (capacity: 3.5-5.3 kW), ducted (3.5-5.3 kW), ceiling-floor (5.3 kW). Total installation length can reach up to 80 m. It gives more design freedom and great possibilities of air-conditioning system configuration in spaces with different interior arrangements.







Outdoor unit			M20D-18HFN8-QA	M30F-27HFN8-QA	M40E-28HFN8-Q	M40B-36HFN8-Q	M50D-42HFN8-Q		
Power supply (V/p	hase/Hz)		220-240/1/50						
Version			Reversible heat pump						
	Rated capacity	kW	5.3	7.9	8.2	10.6	12.3		
	Rated input power	kW	1.63	2.45	2.50	3.52	3.80		
Cooling	EER	kW/kW	3.25	3.22	3.28	2.91	3.22		
	SEER		6.1	6.1	6.8	6.5	6.6		
	ErP energy class		A++	A++	A++	A++	A++		
	Rated capacity	kW	5.6	7.9	8.8	11.1	12.3		
	Rated input power	kW	1.50	2.20	2.40	3.17	3.32		
leating	COP	kW/kW	3.73	3.59	3.67	3.51	3.71		
	SCOP		4.0	4.0	4.0	4.0	4.0		
	ErP energy class		Α+	A+	A+	A+	Α+		
Maximum input power W			2850	3600	4150	4600	4700		
Airflow		m³/min	36.7	45.0	63.3	66.7	64.2		
Sound pressure level de		dB(A)	56	54	62	63	62		
Sound power level		dB(A)	65	67	67	68	71		
	Dimensions (width x depth x height)	mm	800×333×554	845×363×702	946×410×810	946×410×810	946×410×810		
Outdoor Init	Transport dimensions (width x depth x height)	mm	920×390×615	965×395×765	1090×500×875	1090×500×875	1090×500×875		
iiiic	Weight (net/gross)	kg	35.5/38.5	51.1/55.8	62.1/67.7	68.8/75.6	73.3/80.4		
Refrigerant	Туре		R32	R32	R32	R32	R32		
terrigeranit	Charged amount	kg	1.25	1.72	2.10	2.10	2.40		
	Liquid/gas	mm	2× Ø6.35 / 2× Ø9.52	3× Ø6.35 / 3ר9.52	4 × Ø6.35 / 3× Ø9.52+1× Ø12.7	4 × Ø6.35 / 3× Ø9.52+1× Ø12.7	5 × Ø6.35 / 4× Ø9.52+1× Ø12.7		
	Maximum total length	m	40	60	80	80	80		
Refrigerant	Maximum length to each unit	m	25	30	35	35	35		
nstallation	Maximum height difference (outdoor-indoor)	m	15	15	15	15	15		
	Max. height difference between indoor units	m	10	10	10	10	10		
Recommended	Power supply	mm²	3×2.5	3×2.5	3×4.0	3×4.0	3×4.0		
lectrical wiring	Transmission	mm²	4×1.5	4×1.5	4×1.5	4×1.5	4×1.5		
nd protections	Fuse	А	16	20	25	25	30		
ecommended on	perating temperature Cooling	°C			-15 ~ 50				
anges (outdoor)	Heating	°C			-15 ~ 24				

Capacity is based on the following conditions:

Cooling: indoor temperature Z°C DB/I9°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/I5°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases (R32 GWP=675).

For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.

Choice of the appropriate solution is a matter for installer

Available combinations of indoor units

Cooling capacity 5.3 kW

18

M20D-18HFN8-QA 1 UNIT 2 UNITS 9 9+9 12

Cooling capacity 7.9 kW

M3	OF-27HFN8-	QA
1 UNIT	2 UNITS	3 UNITS
9	9+9	9+9+9
12	9+12	9+9+12
18	9+18	9+12+12
	12+12	
	12.10	

Cooling capacity 8.2 kW

M40E-28HFN8-Q								
1UNIT	2 UNITS	3 UNITS	4 UNITS					
9	9+9	9+9+9	9+9+9+9					
12	9+12	9+9+12	9+9+9+12					
18	9+18	9+9+18						
	12+12	12+12+18						
	12+18	12+12+12						
	18+18							

Cooling capacity 10.6 kW

M40B-36HFN8-Q									
1UNIT	2 UNITS	3 UI	NITS	4 UNITS					
9	9+9	9+9+9	12+12+12	9+9+9+9	9+12+12+18				
12	9+12	9+9+12	12+12+18	9+9+9+12	12+12+12+12				
18	9+18	9+9+18	12+18+18	9+9+9+18					
	12+12	9+12+12	12+12+12	9+9+12+12					
	12+18	9+12+18	12+12+18	9+9+12+18					
	18+18	9+18+18	12+18+18	9+12+12+12					

Cooling capacity 12.3 kW

9+12 9+18

12+12

M50D-42HFN8-Q										
1 UNIT	2 UI	NITS	3 UNITS		4 UNITS			5 UNITS		
9	9+9	12+18	9+9+9	9+12+18	12+12+24	9+9+9+9	9+9+12+18	9+12+12+24	9+9+9+9+9	9+9+12+12+12
12	9+12	12+24	9+9+12	9+12+24	12+18+18	9+9+9+12	9+9+12+24	9+12+18+18	9+9+9+9+12	9+12+12+12+12
18	9+18	18+18	9+9+18	9+18+18	18+18+18	9+9+9+18	9+9+18+18	12+12+12+12	9+9+9+9+18	
24	9+24	18+24	9+9+24	12+12+12		9+9+9+24	9+12+12+12	12+12+12+18	9+9+9+12+12	
	12+12		9+12+12	12+12+18		9+9+12+12	9+12+12+18		9+9+9+12+18	



Compact cassette 570x570 mm



Set with white panel		ZMCA-12N8-C1M	ZMCA-18N8-C1M	
Set with black panel		ZMCA-12N8-C1MB	ZMCA-18N8-C1MB	
Indoor unit			CSTS-12R32IVT IN	CSTS-18R32IVT IN
White panel			T-MBQ	4-03E
Black panel			T-MBQ ⁴	-03EB
Power supply ((V/phase/Hz)		220-24	0/1/50
Cooling	Rated capacity	kW	3.5	5.3
Cooling	Rated input power	kW	0.045	0.045
Heating	Rated capacity	kW	4 <u>.4</u>	5.4
neating	Heating Rated input power		0.045	0.045
Airflow (low/m	Airflow (low/medium/high) m		7/8.5/10.3	8.3/10.3/12
Sound pressur	Sound pressure level (quiet/low/medium/high) d		25.5/33/36/41	29/35.5/39.5/43
Sound power I	evel	dB(A)	57	59
	Dimensions (width x depth x height)	mm	570×570×260	570×570×260
Indoor unit	Transport dimensions (width x depth x height)	mm	655×665×290	662×662×317
	Weight (net/gross)	kg	16.3/20.4	16/20.6
	Dimensions (width x depth x height)	mm	647×647×50	647×647×50
Panel	Transport dimensions (width x depth x height)	mm	715×715×123	715×715×123
	Weight (net/gross)		2.5/4.5	2.5/4.5
Refrigerant	Liquid	mm	Ø6.35	Ø6.35
installation	Gas	mm	Ø9.52	Ø12.7

Copiary is based in the following controllors.

Cooling: indoor temperature 27°C DB/9°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/9°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R32 GWP=675]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.



Ducted

Indoor unit			DCTS-12R32IVT IN	DCTS-18R32IVT IN
Power supply	(V/phase/Hz)		220-24	0/1/50
Cooling	Rated capacity	kW	3.5	5.3
Cooling	Rated input power	kW	0.130	0.090
Handina.	Rated capacity	kW	3.8	5.6
Heating	Rated input power	kW	0.130	0.090
Airflow (low/medium/high)		m³/min	5.0/8.0/10.0	8.58/11.77/15.18
Sound pressur	Sound pressure level (quiet/low/medium/high)		23/29/30.5/34.5	26/34/38/41
Sound power l	level	dB(A)	58	58
External statio	pressure	Pa	25 (0~60)	25 (0~100)
	Dimensions (width x depth x height)	mm	700×450×200	880×674×210
Indoor unit	Transport dimensions (width x depth x height)	mm	860×540×285	1070×725×280
	Weight (net/gross)	kg	17.8/21.5	24.4/29.6
Refrigerant	Liquid	mm	Ø6.35	Ø6.35
installation	Gas	mm	Ø9.52	Ø12.7

Cooling: indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R32 GWP=675]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.



Floor & ceiling type

Indoor unit			CLFS-18R32IVT IN
Power supply (V/phase/Hz)			220-240/1/50
0!:	Rated capacity	kW	5.3
Cooling	Rated input power	kW	0.096
II+:	Rated capacity	kW	5.6
Heating	Rated input power	kW	0.096
Airflow (low/medium/high) m		m³/min	12.05/13.99/15.97
Sound pressure level (low/medium/high)		dB(A)	24/36.5/41/43.5
Sound power I	level	dB(A)	59
	Dimensions (width x depth x height)	mm	1068×675×235
Indoor unit	Transport dimensions (width x depth x height)	mm	1145×755×313
	Weight (net/gross)	kg	28.0/33.3
Refrigerant	Liquid	mm	Ø6.35
installation	Gas	mm	Ø12.7

Capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/19°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases (832 GWP-675). For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in nother manner. Choice of the appropriate solution is a matter for installer.



All Easy



Indoor unit			MSAEAU-09HRFNX-QRD0GW	MSAEBU-12HRFNX-QRD0GW	MSAECU-18HRFNX-QRD0GW	MSAEDU-24HRFNX-QRD0GW		
Power supply ((V/phase/Hz)			220-240/1/50				
Cooling	Rated capacity	kW	2.6	3.5	5.3	7.3		
Cooling	Rated input power	kW	0.024	0.024	0.034	0.062		
Heating	Rated capacity	kW	2.9	4.1	5.7	7.6		
Heating	Rated input power	kW	0.024	0.024	0.034	0.062		
Airflow (low/medium/high) m³/r		m³/min	5.5/7.2/8.1	6.0/8.2/9.2	9.2/12.0/13.5	10.8/16.2/17.5		
Sound pressur	Sound pressure level (low/medium/high)		21/29/34/41	23/30/37/41	24/33/41/45	27/35/44/46		
Sound power I	evel	dB(A)	53	54	57	59		
	Dimensions (width x depth x height)	mm	717×193×302	805×193×302	964×222×325	1106×323×342		
Indoor unit	Transport dimensions (width x depth x height)	mm	785×285×375	875×285×375	1045×325×405	1195×342×420		
	Weight (net/gross)	kg	7.5/10.1	8.2/10.9	10.8/14.3	14.3/18.2		
Refrigerant	Liquid	mm	Ø6.35	Ø6.35	Ø6.35	Ø9.52		
installation	Gas	mm	Ø9.52	Ø9.52	Ø12.7	Ø15.9		

Capacity is based on the following conditions:
Cooling: indoor temperature 27°C DB/19°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R32 GWP=675]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

Aroma

Indoor unit			MSAFBU-09HRDN8-QRD0GWX-W	MSAFBU-12HRDN8-QRD0GWX-W	MSAFCU-18HRFN8-QRD0GW-W	MSAFDU-24HRFN8-QRD0GW-W
Power supply	(V/phase/Hz)			220-24	0/1/50	
Cooling	Rated capacity	kW	2.6	3.5	5.3	7.0
Cooling	Rated input power	kW	0.048	0.048	0.044	0.062
Heating	Rated capacity	kW	2.9	3.5	5.6	7.3
Heating	Rated input power	kW	0.048	0.048	0.044	0.062
Airflow (low/medium/high) m ³ /n		m³/min	5.4/6.0/7.8	5.2/7.2/9	9.0/11.3/14.0	11.0/13.6/16.3
Sound pressur	re level (low/medium/high)	dB(A)	25/32/38.5	25/34.5/40.5	28/34/44	30/37/46
Sound power I	evel	dB(A)	54	55	55	59
	Dimensions (width x depth x height)	mm	805×194×285	805×194×285	957×213×302	1040×220×310
Indoor unit	Transport dimensions (width x depth x height)	mm	870×270×360	870×270×360	1035×295×380	1120×405×327
	Weight (net/gross)	kg	7.6/9.7	7.6/9.8	10.0/13.0	12.3/15.8
Refrigerant installation	Liquid	mm	Ø6.35	Ø6.35	Ø6.35	Ø9.52
	Gas	mm	Ø9.52	Ø9.52	Ø12.7	Ø15.9

Cooling: indoor temperature 27°C DB/19°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m the height difference is 0. The unit contains fluorinated greenhouse gases (R32 GWP=675). For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

Accessories

Control: All Easy; Aroma; cassette type; floor & ceiling type

Standard	
RG51A(2)/E	Wireless remote controller
RG57A2(B)/BGEF	Wireless remote controller All Easy
RG57A7(B)/BGEF	Wireless remote controller Aroma
Option (excluding Aroma)	
KJR-29B	Individual basic wired remote controller
KJR-120C1	Individual advanced wired remote controller with weekly schedule
KJR-150A	Group remote controller
CCM-180A/WS	Central controller with touch screen and schedule
CCM-30	Basic central controller
CCM-15	Central controller without display. Allows to control from a computer.
WIFI WF-60A1	WiFi module for cassette or floor & ceiling type units. It allows to control from a Smartphone with NetHome Plus application.
WIFI OSK-105	WiFi module for All Easy units

Control: ducted

Standard	
KJR-120C1	Individual advanced wired remote controller with weekly schedule
Option	
RG51A(2)/E	Wireless remote controller
KJR-150A	Group remote controller
CCM-180A/WS	Central controller with touch screen and schedule
CCM-30	Basic central controller
CCM-15	Central controller without display. Allows to control from a computer.
WIFI WF-60A1	It allows to control from a Smartphone with NetHome Plus application.



MULTI X2



Simultaneous operation

The MULTI X2 system consists of two, simultaneously operating indoor units, connected to a single outdoor unit. This solution ensures installation space savings, thanks to the application of just one outdoor unit while keeping the required heating or cooling capacity in the air-conditioned room. MULTI X2 systems are designed for air-conditioning of large spaces as: conference rooms, open-space type offices, banquet halls and dining rooms.

Dedicated indoor units

MULTI X2 system enables connecting indoor units with the same capacity. Available models: cassette, duct and ceiling type (capacity index: 18 or 24).







Set	Outdoor units	Indoor units	Branch pipe	Panel
TWIN P14A	UNVS-48R32INT OU	CLFB-24R32IVT IN	FQZHN-01D	-
TWIN PI4A	VIN PI4A UNV3-40R3ZINT UU	CLFB-24R32IVT IN	FUZHN-UID	
TWIN DAGA	WIN D14A UNVS-48R32INT OU	DCTB-24R32IVT IN	FQZHN-01D	- T-MBQ4-04A1
IWIN DI4A		DCTB-24R32IVT IN		
TWIN K14A	UNVS-48R32INT OU	CSTB-24R32IVT IN	FQZHN-01D	
	UNV5-48K3ZINT UU	CSTB-24R32IVT IN		

Outdoor unit				UNVS-48R32INT OU	
Power supply (V/phase/Hz)			380-415/3/50		
Version				Reversible heat pump	
	Capacity	Rated	kW	14.1	
	Сарасну	Min-Max	kW	3.53~15.53	
Cooling	Rated input power		kW	3.70	
Cooling	EER		kW/kW	3.80	
	SEER			6.1	
	ErP energy class			A++	
	Capacity	Rated	kW	16.1	
	Сарасну	Min-Max	kW	4.10~18.17	
Heating	Rated input power		kW	5.50	
пеашу	COP		kW/kW	2.93	
	SCOP	SCOP		4.0	
	ErP energy class			А+	
Maximum input	current		А	13.0	
Maximum input	power		W	6900	
Airflow			m³/min	125.0	
Sound pressure	level		dB(A)	64	
Sound power le	vel		dB(A)	74	
0.11	Dimensions (width x dept	th x height)	mm	952×415×1333	
Outdoor unit	Transport dimensions (width x depth x height)		mm	1095×495×1480	
diffe	Weight (net/gross)	Weight (net/gross)		103.7/118.3	
Refrigerant	Туре			R32	
Reirigerani	Charged amount	Charged amount		2.90	
D ()	Liquid/gas		mm	Ø9.52 / Ø15.9	
Refrigerant installation	Maximum length		m	75	
Maximum height difference		m	30		
Recommended	Power supply		mm²	5×2.5	
electrical wiring			mm²	4×1.0	
and protections	Fuse		А	25	
	operating temperature	Cooling	°C	-15 ~ 50	
ranges (outdoor	r)	Heating	°C	-15 ~ 24	

Capacity is based on the following conditions:
Cooling: indoor temperature 27°C DB/19°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 75 m, the height difference is 0.
The unit contains fluorinated greenhouse gases (R32 GWP=675).
For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.







MULTI X2 cassette type

Indoor unit			CSTB-24R32IVT IN	
Panel			T-MBQ4-04A1	
Power supply (V/ph	ase/Hz)		220-240/1/50	
Cooling	Rated capacity	kW	7.0	
Cooling	Rated input power	kW	0.141	
Heating	Rated capacity	kW	7.6	
Heating	Rated input power	kW	0.141	
Airflow (low/medium/high) m ³ /r		m³/min	16.6/19/21.6	
Sound pressure lev	el (quiet/low/medium/high)	dB(A)	27/39.5/42.5/45.5	
Sound power level		dB(A)	59	
	Dimensions (width x depth x height)	mm	830×830×205	
Indoor unit	Transport dimensions (width x depth x height)	mm	910×910×250	
	Weight (net/gross)	kg	21.6/25.4	
	Dimensions (width x depth x height)	mm	950×950×55	
Panel	Transport dimensions (width x depth x height)	mm	1035×1035×90	
	Weight (net/gross)	kg	6/9	
Refrigerant	Liquid	mm	Ø9.52	
installation	Gas	mm	Ø15.9	

Capacity is based on the following conditions:
Cooling: indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R32 GWP=675]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

MULTI X2 duct type



Indoor unit			DCTB-24R32IVT IN	
Power supply (V/phase/Hz)			220-240/1/50	
Cooling	Rated capacity	kW	7.0	
Cooling	Rated input power	kW	0.090	
Heating	Rated capacity	kW	7.6	
Heating Rated input power		kW	0.090	
Airflow (low/medium/high)		m³/min	13.75/17.25/20.48	
Sound pressure level (quiet/low/medium/high)		dB(A)	27/37/40/42	
Sound power level		dB(A)	62	
External static pres	ssure	Pa	25 (0~160)	
	Dimensions (width x depth x height)	mm	1100×774×249	
Indoor unit	Transport dimensions (width x depth x height)	mm	1305×805×305	
	Weight (net/gross)	kg	32.3/39.1	
Refrigerant	Liquid	mm	Ø9.52	
installation	Gas	mm	Ø15.9	

Capacity is based on the following conditions: Cooling: indoor temperature 27°C DB/19°C WB; outdoor temperature 27°C DB/19°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases (832 GWP-675). For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.



MULTI X2 floor & ceiling type



Indoor unit			CLFB-24R32IVT IN
Power supply (V/pha	Power supply (V/phase/Hz)		220-240/1/50
0	Rated capacity	kW	7.0
Cooling	Rated input power	kW	0.100
Heating	Rated capacity	kW	7.6
Heating	Rated input power	kW	0,100
Airflow (low/medium/high) m³/m		m³/min	14.23/17.05/19.87
Sound pressure level (quiet/low/medium/high) dB(dB(A)	32/43/46/49
Sound power level		dB(A)	55
	Dimensions (width x depth x height)	mm	1068×675×235
Indoor unit	Transport dimensions (width x depth x height)	mm	1145×755×318
	Weight (net/gross)	kg	28/33.1
Refrigerant	Liquid	mm	Ø9.52
installation	Gas	mm	Ø15.9

Capacity is based on the following conditions:
Cooling: indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R32 GWP=675]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

Accessories

Control: cassette type; floor & ceiling type

Standard	
RG51A(2)/E	Wireless remote controller
Option	
KJR-29B	Individual basic wired remote controller
KJR-120C1	Individual advanced wired remote controller with weekly schedule
KJR-150A	Group remote controller
CCM-180A/WS	Central controller with touch screen and schedule
CCM-30	Basic central controller
CCM-15	Central controller without display. Allows to control from a computer.
WIFI WF-60A1	It allows to control from a Smartphone with NetHome Plus application.

Control: duct type

Standard	
KJR-120C1	Individual advanced wired remote controller with weekly schedule
Option	
RG51A(2)/E	Wireless remote controller
KJR-150A	Group remote controller
CCM-180A/WS	Central controller with touch screen and schedule
CCM-30	Basic central controller
CCM-15	Central controller without display. Allows to control from a computer.
WIFI WF-60A1	It allows to control from a Smartphone with NetHome Plus application.

SERIES







Compact cassette





Compact design

Unit with dimensions of 570x260x570 mm perfectly fits into a false ceiling tile. Installation hooks are placed on the four corners of the casing thus saving space above ceiling.

Fireproof electric control box

Modern cabinet of the electric control box meets even stricter fire resistance requirements.

Functions

STANDARD

Available with wireless remote controller RG51A(2)/E









control box



Drain pump

(RG51A(2)/E)



Fresh air

TURBO



Refrigerant



leakage detection



Self-cleaning

ECO



Auto Swing



Switching the airflow direction



LED on/off by 6°



8℃

temperatures

OPTIONAL

operation





Wired remote

Central



Set with white par	nel			ZMCA-12N8-C1	ZMCA-18N8-C1		
Set with black par	nel			ZMCA-12N8-C1B	ZMCA-18N8-C1B		
ndoor unit				CSTS-12R32IVT IN	CSTS-18R32IVT IN		
Outdoor unit				UNVS-12R32INT OU	UNVS-18R32INT OU		
White panel				T-MB0	Q4-03E		
Black panel				T-MBQ	4-03EB		
ndoor unit power	supply (V/phase/Hz)			220-240/1/50	220-240/1/50		
Outdoor unit powe	er supply (V/phase/Hz)			220-240/1/50	220-240/1/50		
Version				Reversible	heat pump		
	0 '1	Rated	kW	3.5	5.3		
	Capacity	Min-Max	kW	0.85~4.11	2.90~5.59		
	Rated input power		kW	1.01	1.63		
Cooling	EER		kW/kW	3.47	3.24		
	SEER			6.6	6.3		
				A++	A++		
	· · · · · · · · · · · · · · · · · · ·	Rated	kW	3.81	5.57		
	Capacity	Min-Max	kW	0.47~4.31	2.37~6.10		
	CUP SCOP ErP energy class Im input current Dimensions (width x depth: Transport dimensions (widt Weight [net/gross] Airflow (low/medium/high)		kW	1.01	1.54		
leating			kW/kW	3.77	3.62		
	Capacity Rated input power EER SEER ErP energy class Capacity Rated input power COP SCOP ErP energy class t current Dimensions (width x depth x Transport dimensions (width weight (net/gross) Airflow (low/medium/high) Sound pressure level Dimensions (width x depth x Transport dimensions (width		,	4.1	4.0		
				A+	A+		
Maximum innut cu	**		A	10.0	13.5		
iaximam input ou		hoight)	mm	570×570×260	570×570×260		
Maximum input cur ndoor unit		0 ,	mm	655×655×290	662×662×317		
		i x deptii x neignt)	kg	16.3/20.4	16/20.6		
			m³/min	7/8.5/10.3	8.3/10.3/12		
	Capacity Rated input power EER SEER ErP energy class Capacity Rated input power COP SCOP ErP energy class put current Dimensions (width x depth Transport dimensions (width Weight (net/gross) Airflow (low/medium/high) Sound pressure level (quiet/lo Sound power level Dimensions (width x depth Transport dimensions (width Weight (net/gross) Airflow (low/medium/high) Sound pressure level (quiet/lo Sound pressure level (wiet/lo Weight (net/gross) Dimensions (width x depth Transport dimensions (width Weight (net/gross) Airflow Sound pressure level Sound power level Type Charged amount Liquid/gas Maximum length Maximum length Maximum height difference drain Outdoor unit power supply Communication cable Fuse	/modium/high]	dB(A)	25.5/33/36/41	29/35.5/39.5/43		
		// medium/ mgm	dB(A)	23.3/30/41	29/33.3/39.3/43 59		
		hoight)	mm	647×647×50	647×647×50		
lanal				715×715×123	715×715×123		
anel		i x deptri x neigntj	mm	2.5/4.5	2.5/4.5		
	0 1 10 1		kg	.,			
		•	mm	765×303×555	805×330×554		
		i x depth x neight)	mm	887×337×610	915×370×615		
Outdoor Init			kg	26.6/29	32.5/35.2		
THE			m³/min	36.6	35.0		
	' ·		dB(A)	54	56		
			dB(A)	62	65		
efrigerant	71		l.e.	R32	R32		
			kg	0.72	1.15		
efrigerant			mm	Ø6.35 / Ø9.52	Ø6.35 / Ø12.7		
stallation			m	25	30		
	Maximum height difference		m	10	20		
Condensate drain			mm	Ø25	Ø25		
Recommended		cord	mm²	3×1.5	3×1.5		
electrical wiring			mm²	4×1.0	4×1.0		
and protections	Fuse		А	20	20		
	erating temperature	Cooling	°C		~ 50		
anges (outdoor)		Heating	°C	-15	~ 24		

Capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/19°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m. the height difference is 0. The unit contains fluorinated greenhouse gases (R32 GWP=675).

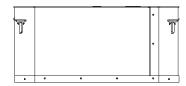
For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

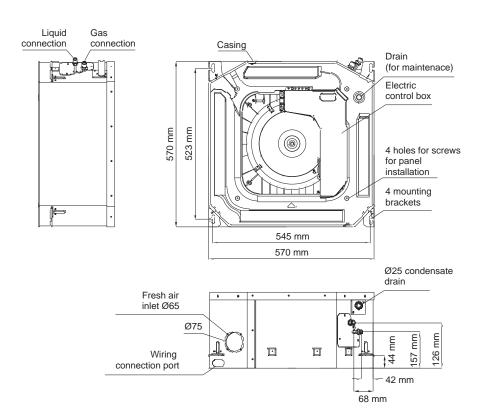
Accessories

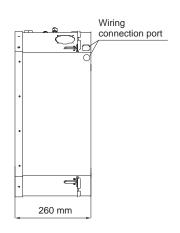
Standard	
RG51A(2)/E	Wireless remote controller
Option	
KJR-29B	Individual basic wired remote controller
KJR-120C1	Individual advanced wired remote controller with weekly schedule
KJR-150A	Group remote controller
CCM-180A/WS	Central controller with touch screen and schedule
CCM-30	Basic central controller
CCM-15	Central controller without display. Allows to control from a computer.
WIFI WF-60A1	It allows to control from a Smartphone with NetHome Plus application.

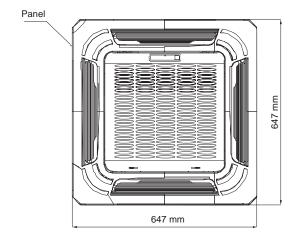


Indoor units



















Standard cassette





Even larger surface of the air outlet

Air outlet surface in the latest version of the unit has been increased by 23%, providing lower airflow speed and quieter operation.

Optimised heat exchanger

Enlarged heat exchange area improves unit performance and airflow.

Functions

STANDARD

Available with wireless remote controller RG51A(2)/E



controller (RG51A(2)/E)







Refrigerant leakage detection



Fresh air



Restoring the louve



Drain pump



Auto restart



Timer



Operation in low ambient temperatures







Economy operation



5 steps of fan speed regulation



TURBO function















Auto Swing



Short cut function



Heating 8°C

OPTIONAL



WiFi control



Wired remote



Centra



Set with white	panel			ZMCD-24N8-C1	ZMCD-36N8-C1	ZMCD-36N8-C3	ZMCD-42N8-C1	ZMCD-42N8-C3	ZMCD-48N8-C3	ZMCD-55N8-C3		
Indoor unit				CSTB- 24R32IVT IN	CSTB- 36R32IVT IN	CSTB- 36R32IVT IN	CSTB- 42R32IVT IN	CSTB- 42R32IVT IN	CSTB- 48R32IVT IN	CSTB- 55R32IVT IN		
Outdoor unit				UNVS- 24R32INT OU	UNVS- 36R32INTS OU	UNVS- 36R32INTT OU	UNVS- 42R32INTS OU	UNVS- 42R32INTT OU	UNVS- 48R32INT OU	UNVS- 55R32INT OU		
White panel							T-MBQ4-04A1					
Indoor unit pov	ver supply (V/phase/Hz)			220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50		
Outdoor unit po	ower supply (V/phase/Hz)			220-240/1/50	220-240/1/50	380-415/3/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50		
Version					Reversible heat pump							
	Congoitu	Rated	kW	7.03	10.55	10.55	12.0	12.0	14.1	15.2		
	Capacity	Min-Max	kW	3.30~7.91	2.70~11.43	2.70~11.43	2.93~12.31	2.93~12.31	3.52~15.83	4.10~16.71		
Cooling	Rated input power		kW	2.32	3.95	4.00	4.20	4.30	4.65	5.00		
	EER k			3.03	2.67	2.64	2.86	2.79	3.03	3.05		
	ErP energy class			A++	A++	A++	A++	A++	A++	A++		
	0:	Rated	kW	7.62	11.14	11.14	13.48	13.48	16.1	18.17		
	Capacity	Min-Max	kW	2.81~8.94	2.78~12.30	2.78~12.66	3.37~14.07	3.37~14.07	4.10~17.29	4.4~19.93		
Heating	Rated input power		kW	1.90	3.00	3.00	3.70	3.70	4.58	5.55		
	COP	kW/kW	4.01	3.71	3.71	3.64	3.64	3.52	3.27			
	ErP energy class			A+	Α+	А	Α+	А	A+	A+		
Maximum input current			Α	13.5	21.5	10.0	21.5	12.0	11.2	14.0		
	Dimensions (width x depth	mm	830×830×205	830×830×245	830×830×245	830×830×287	830×830×287	830×830×287	830×830×287			
	Transport dimensions (width	mm	910×910×250	910×910×290	910×910×290	910×910×330	910×910×330	910×910×330	910×910×330			
	Weight (net/gross)		kg	21.6/25.4	27.2/31.2	27.2/31.2	29.3/33.5	29.3/33.5	29.3/33.5	29.3/33.5		
Indoor unit	Airflow (low/medium/high)		m³/min	16.6/19/21.6	23/25.8/28.3	23/25.8/28.3	26.7/29.2/31.7	26.7/29.2/31.7	26.3/29.6/32.8	27.5/30.8/33.3		
unic	Sound pressure level (quiet/low/medium/high)		dB(A)	27/39.5/42.5/45.5	39/44.5/47.5/50	39/44.5/47.5/50	38/46/48.5/51	38/46/48.5/51	37.5/46.5/48.65/51	40/48/50.5/53		
	Sound power level	Sound power level			64	64	66	66	66	66		
	Dimensions (width x depth	x height)	mm	950×950×55	950×950×55	950×950×55	950×950×55	950×950×55	950×950×55	950×950×55		
Panel	Transport dimensions (width	x depth x height)	mm	1035×1035×90	1035×1035×90	1035×1035×90	1035×1035×90	1035×1035×90	1035×1035×90	1035×1035×90		
	Weight (net/gross)	, ,	kg	6/9	6/9	6/9	6/9	6/9	6/9	6/9		
	Dimensions (width x depth	x height)	mm	890×342×673	946×410×810	946×410×810	946×410×810	946×410×810	952×415×1333	952×415×1333		
	Transport dimensions (width		mm	955×398×740	1090×500×885	1090×500×885	1090×500×885	1090×500×885	1095×495×1480	1095×495×1480		
Outdoor	Weight (net/gross)	,	kg	43.9/46.9	66.9/71.5	80.5/85	71/75	80.5/85	103.7/118.3	107.0/121.2		
unit	Airflow		m³/min	58.3	66.7	66.7	66.7	66.7	125.0	125.0		
	Sound pressure level		dB(A)	60	63	63	63	63	64	64		
	Sound power level		dB(A)	69	70	70	72	72	74	75		
- 44	Туре			R32	R32	R32	R32	R32	R32	R32		
Refrigerant	Charged amount		kg	1.50	2.40	2.40	2.80	2.80	2.90	3.00		
	Liquid/gas		mm	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9		
Refrigerant	Maximum length		m	50	75	75	75	75	75	75		
installation	Maximum height difference	9	m	25	30	30	30	30	30	30		
Condensate drain			mm	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32		
	Outdoor unit power supply	cord	mm ²	3×2.5	3×4.0	5×2.5	3×4.0	5×2.5	5×2.5	5×2.5		
electrical	Communication cable	oord	mm ²	U.L.U	0,-1.0	U^L.U	4×1.0	J.L.J	U^L.U	U^L.U		
wiring and protections			A	20	40	20	40	20	25	25		
		Cooling	°C	20	40	20	-15 ~ 50	20	20	23		
Recommended ranges (outdoor	l operating temperature	Cooling										
ranges (outdot	JI J	Heating	°C				-15 ~ 24					

Capacity is based on the following conditions:

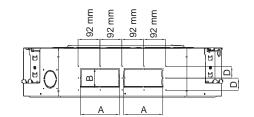
Cooling: indoor temperature 2°C DB/19°C WB; outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R32 GWP=675]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

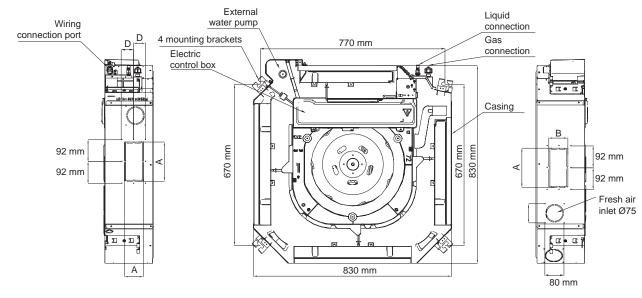
Accessories

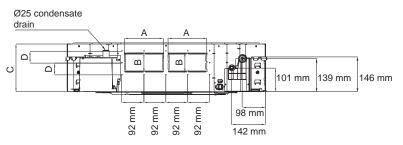
Standard	
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Option	
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KJR-150A	Group remote controller
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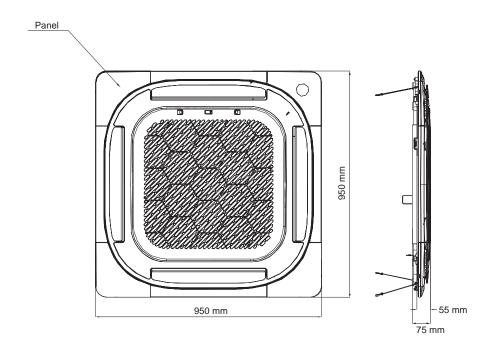
Indoor units







Model (KBtu/h)	Unit	Α	В	С	D
24	mm	165	80	204	50
30~36	mm	165	100	245	60
42~60	mm	165	100	287	60











Floor & ceiling type



Functions

STANDARD

Available with wireless remote controller RG51A(2)/E



MDV

controller (RG51A(2)/E)







leakage detection



Fresh air



Restoring the louve settings



3D airflow Horizontal louvers control



Vertical louvers control



Operation in low ambient temperatures



Emergency



Auto restart



Economy operation



5 steps of fan speed regulation



TURBO function







Sleep mode







Remote switch



Optional connection Short cut function of the condensate





Heating 8°C

OPTIONAL





controller



controller

3D airflow

Fresh air supply

air inside the air-conditioned space.

Vertical and horizontal airflow can be adjusted with use of a controller in order

Fresh air can be supplied to the room in order to ensure high quality of the

to direct the stream of air in any corner of the room.



Set				ZMUE-18N8-C1	ZMUE-24N8-C1	ZMUE-36N8-C1	ZMUE-36N8-C3	ZMUE-42N8-C1	ZMUE-42N8-C3	ZMUE-48N8-C3	ZMUE-55N8-C3
Indoor unit				CLFS- 18R32IVT IN	CLFB- 24R32IVT IN	CLFB- 36R32IVT IN	CLFB- 36R32IVT IN	CLFB- 42R32IVT IN	CLFB- 42R32IVT IN	CLFB- 48R32IVT IN	CLFB- 55R32IVT IN
Outdoor unit	t			UNVS- 18R32INT OU	UNVS- 24R32INT OU	UNVS- 36R32INTS OU	UNVS- 36R32INTT OU	UNVS- 42R32INTS OU	UNVS- 42R32INTS OU	UNVS- 48R32INTT OU	UNVS- 55R32INT OU
Indoor unit p	ower supply (V/phase	e/Hz)		220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Outdoor unit	power supply (V/pha	se/Hz)		220-240/1/50	220-240/1/50	220-240/1/50	380-415/3/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50
		Rated	kW	5.28	7.03	10.55	10.55	12.1	12.1	14.07	15.83
	Capacity	Min-Max	kW	2.71~5.86	3.22~7.77	2.73~11.43	2.73~11.78	3.2~13.2	3.2~13.2	3.52~15.24	4.10~16.71
Cooling	Rated input power		kW	1.45	2.30	3.90	4.00	4.03	4.15	5.00	5.65
Ü	EER		kW/kW	3.64	3.12	2.71	2.64	3.00	2.91	2.81	2.80
	ErP energy class			A++	A++	A++	A++	A++	A++	A++	A++
		Rated	kW	5.57	7.62	11.72	11.7	13.5	13.5	16.12	18.17
	Capacity	Min-Max	kW	2.42~6.30	2.72~8.29	2.78~12.78	2.81~12.78	2.9~14.7	2.9~14.7	4.10~17.00	4.4~19.64
Heating	Rated input power		kW	1.50	2.05	3.35	3.35	3.49	3.49	5.10	6.05
ricating	COP kW/kV			3.71	3.72	3.50	3.50	3.87	3.87	3.16	3.00
				A+	A+	A+	A+	A+	A+	A	A+
Mavimum in	ErP energy class		Α	13.5	13.5	21.5	10.0	21.5	12.0	11.2	14.0
Maximum	Dimensions (width x	denth v height)	mm	1068×675×235	1068×675×235	1650×675×235	1650×675×235	1650×675×235	1650×675×235	1650×675×235	1650×675×235
	Transport dimension	mm	1145×755×313	1145×755×318	1725×755×318	1725×755×318	1725×755×318	1725×755×318	1725×755×318	1725×755×318	
Indoor	(width x depth x height)		kg		/						
	Weight (net/gross)	0 1 10 1		28.0/33.3	28/33.1	41.5/48	41.5/48	41.5/48	41.5/48	41.7/48.5	42.3/49.2
unit	Airflow (low/medium/high)		m³/min	12.05/13.98/15.97	14.22/17.05/19.87	25.07/28.8/32.58	25.06/28.8/32.58	25.06/28.8/32.58	25.06/28.8/32.58	26.67/30.83/35	27.5/32.5/36.67
	Sound pressure level (quiet/low/medium/high)		dB(A)	24/36.5/41/43.5	32/43/46/49	37/44/48.5/50	39/44.5/47.5/51	39/44.5/47.5/51	39/44.5/47.5/51	36/45/50/53	38/46.5/50.5/54
	Sound power level		dB(A)	59	55	65	65	65	65	67	67
	Dimensions (width x	depth x height)	mm	805×330×554	890×342×673	946×410×810	946×410×810	946×410×810	946×410×810	952×415×1333	952×415×1333
	Transport dimension (width x depth x heigh		mm	915×370×615	995×398×740	1090×500×885	1090×500×885	1090×500×885	1090×500×885	1095×495×1480	1095×495×1480
Outdoor	Weight (net/gross)	,	kg	32.5/35.2	43.9/46.9	66.9/71.5	80.5/85	66.9/71.5	80.5/85	103.7/118.3	107.0/121.2
unit	Airflow		m³/min	35.0	58.3	66.7	66.7	66.7	66.7	125.0	125.0
	Sound pressure leve	el .	dB(A)	56	60	63	63	63	63	63.5	64
	Sound power level		dB(A)	65	69	70	70	70	72	74	75
	Type		ab(ri)	R32	R32	R32	R32	R32	R32	R32	R32
Refrigerant	Charged amount		kg	1.15	1.50	2.40	2.40	240	2.40	2.90	3.00
	Liquid/gas		mm	Ø6.35 / Ø12.7	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9
Refrigerant	Maximum length		m	30	50	75	75	75	75	75	75
installation	Maximum height dif	forence	m	20	25	30	30	30	30	30	30
· · · · · · · · · · · · · · · · · · ·		mm	Ø32	032	032	032	Ø32	Ø32	032	032	
Recom- mended	Outdoor unit power:	supply cora	mm ²	3×1.5	3×2.5	3×4.0	5×2.5	3×4.0	5x2.5	5×2.5	5×2.5
electrical wiring and	Communication cab	le	mm²					1.0			
protections	Fuse		Α	20	20	40	20	40	25	25	25
Recommend	ed operating	Cooling	°C				-15	~ 50			
tomnoraturo	ranges (outdoor)	Heating	°C				-15	~ 24			

Capacity is based on the following conditions:

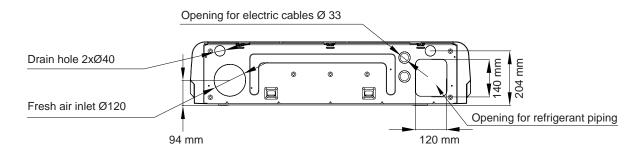
Cooling: indoor temperature 2°C DB/19°C WB, outdoor temperature 3°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases (R32 GWP=675). For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

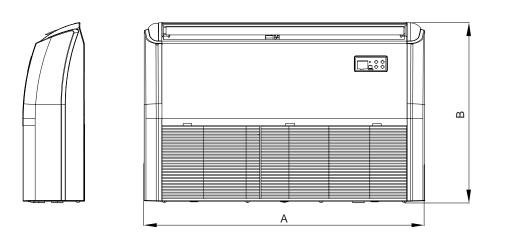
Accessories

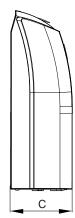
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Option	
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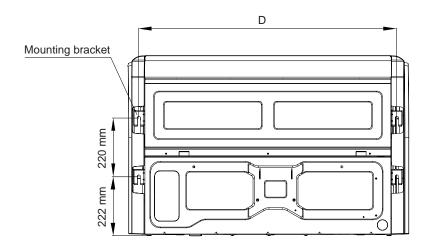
Indoor units











Model (KBtu/h)	Unit	А	В	С	D
18~24	mm	1068	675	235	983
36~60	mm	1650	675	235	1565







Ducted





New fan design

New, enhanced eccentric fan design improves flow of the discharged air which results in higher performance.

Slim design

Low height of the unit is intended for installation in narrow space above ceiling. Furthermore, there are two possibilities of air intake - from back or from bottom. The way the air is taken in can be adjusted depending on the place of unit installation.

Functions

STANDARD

Available with wired remote controller KJR-120C1



controller

setting



Standard filter



ambient temperatures







"Follow me" function



Optional connection



of the condensate leakage detection drain



Remote switch

Sleep mode

Fresh air



OPTIONAL













Central

Wireless remote controller (RG51A(2)/E)

Economy operation (RG51A(2)/E)

Clean function

LED on/off



WiFi control



Set								ZMTI-36HFN8-C3				
Indoor unit				DCTS- 12R32IVT IN	DCTS- 18R32IVT IN	DCTB- 24R32IVT IN	DCTB- 36R32IVT IN	DCTB- 36R32IVT IN	DCTB- 42R32IVT IN	DCTB- 42R32IVT IN	DCTB- 48R32IVT IN	DCTB- 55R32IVT IN
Outdoor uni	it			UNVS- 12R32INT OU	UNVS- 18R32INT OU	UNVS- 24R32INT OU	UNVS- 36R32INTS OU	UNVS- 36R32INTT OU	UNVS- 42R32INTS OU	UNVS- 42R32INTT OU	UNVS- 48R32INT OU	UNVS- 55R32INT OU
Indoor unit	power supply (V/phase/	Hz)		220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Outdoor uni	t power supply (V/phase	e/Hz)		220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	380-415/3/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50
Version							Re	versible heat pu	mp			
	Canacity	Rated	kW	3.52	5.28	7.03	10.55	10.55	12.02	12.02	14.07	15.24
	Capacity	Min-Max	kW	0.53~3.99	2.55~5.86	3.28~8.16	2.75~11.14	2.73~11.78	2.93~12.31	2.93~12.31	3.52~15.53	4.10~17.29
Cooling	Rated input power		kW	1.05	1.53	2.19	3.95	4.00	4.20	4.30	4.80	5.25
	EER		kW/kW	3.35	3.45	3.21	2.67	2.64	2.86	2.79	2.93	2.90
	ErP energy class			A++	A++	A++	A++	A++	A++	A++	A++	A++
	0 "	Rated	kW	3.81	5.6	7.62	11.72	11.72	13.48	13.48	16.0	18.17
	Capacity	Min-Max	kW	1.0~4.39	2.2~6.15	2.81~8.49	2.78~12.78	2.78~12.84	3.37~14.07	3.37~14.07	3.7~18.0	4.40~20.52
Heating	Rated input power		kW	1.04	1.51	1.90	3.25	3.25	3.45	3.45	4.26	6.20
	COP		kW/kW	3.66	3.69	4.01	3.61	3.61	3.91	3.91	3.76	2.93
	ErP energy class			A+	Α+	A+	A+	Α+	Α+	Α+	А	Α+
Maximum ir	ErP energy class aximum input current			10.0	13.5	13.5	21.5	10.0	21.5	12.0	11.2	14.0
	Dimensions (width x de	epth x height)	mm	700×450×200	880×674×210	1100×774×249	1360×774×249	1360×774×249	1200×874×300	1200×874×300	1200×874×300	1200×874×300
	Transport dimensions (width x depth x height)		mm	860×540×285	1070×725×280	1305×805×315	1570×805×330	1570×805×330	1405×915×365	1405×915×365	1405×915×365	1405×915×365
	Weight (net/gross)		kg	17.8/21.5	24.4/29.6	32.3/39.1	40.5/48.2	40.5/48.2	47.6/55.8	47.6/55.8	47.6/55.8	47.4/56.1
Indoor	External static pressure		Pa	25 (0~60)	25 (0~100)	25 (0~160)	37 (0~160)	37 (0~160)	50 (0~160)	50 (0~160)	50 (0~160)	50 (0~160)
unit	Airflow		m³/min	5.0/8.0/10.0	8.59/11.77/15.19	13.75/17.25/20.48	25/30/35	25/30/35	28/34/40	28/34/40	28/34/40	30.3/36.8/43.3
	Sound pressure level (quiet/low/medium/high)i)		dB(A)	23/29/30.5/34.5	26/34/38/41	27/37/40/42	42/46/48/49.5	42.5/46/48/49.5	43/48/49/51.5	43/48/49/51.5	42/47/49/50	47/49/52.5
	Sound power level	3,	dB(A)	58	58	62	61	61	67	67	66	66
	Dimensions (width x de	nth v height)	mm	765×303×555	805×330×554	890×342×673	946×410×810	946×410×810	946×410×810	946×410×810	952×415×1333	952×415×1333
	Transport dimensions (width x depth x height)	spur x neight)	mm	887×337×610	915×370×615	995×398×740	1090×500×885	1090×500×885	1090×500×885	1090×500×885	1095×495×1480	1095×495×1480
Outdoor	Weight (net/gross)		kg	26.6/29	32.5/35.2	43.9/46.9	66.9/71.5	80.5/85	71.0/75.0	80.5/85	103.7/118.3	107.0/121.2
unit	Airflow		m³/min	36.7	32.5/35.2	58.3	66.9/71.5	66.7	66.7	66.7	125.0	125.0
	Sound pressure level		dB(A)	54	56	60	63	63	63	63	63.5	64
	Sound power level		dB(A)	62	65	69	70	70	72	72	74	75
ndoor unit Outdoor unit Refrigerant Refrigerant nstallation Condensate			UD(A)	R32	R32	R32	R32	R32	R32	R32	R32	R32
Refrigerant	Type Charged amount		kg	0.72	1.15	1.50	2.40	2.40	2.80	2.80	2.90	3.00
	Liquid/gas			Ø6.35 / Ø9.52	Ø6.35 / Ø12.7	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9
Refrigerant	1 . 0		mm									
installation	Maximum length	onoo	m	25	30 20	50	75 30	75 70	75 30	75 30	75 30	75 30
Condonasta	Ü		m	10 Ø25	Ø25	25 Ø32	032	30 Ø32	032	Ø32	032	032
		mm										
Recommen- ded	Outdoor unit power supp	oly cord	mm ²	3×1.5	3×1.5	3×2.5	3×4.0	5×2.5	3×4.0	5×2.5	5×2.5	5×2.5
electrical wiring and	Communication cable		mm²					4×1.0				
protections	Fuse		Α	20	20	20	40	20	40	20	25	25
Recommen	ded operating	Cooling	°C					-15 ~ 50				
	e ranges (outdoor)	Heating	°C					-15 ~ 24				

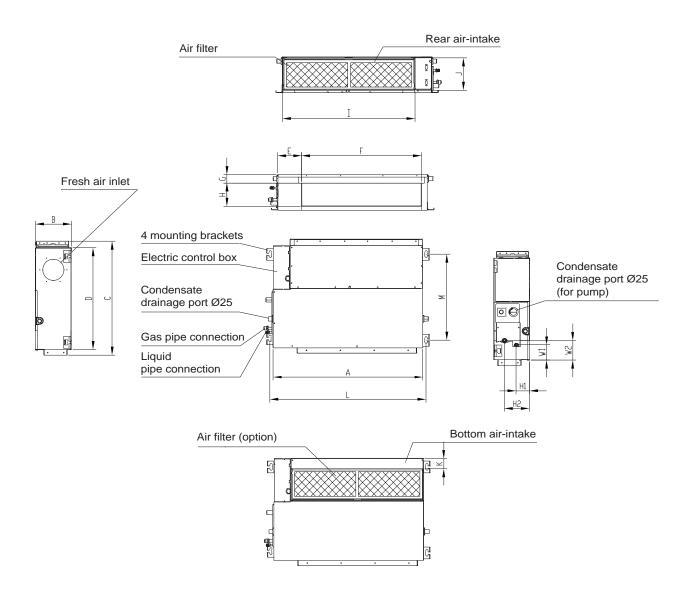
Capacity is based on the following conditions:
Cooling: indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R32 GWP=675]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

Accessories

Standard	
KJR-120C1	Individual advanced wired remote controller with weekly schedule
Option	
RG51A(2)/E	Wireless remote controller
KJR-150A	Group remote controller
CCM-180A/WS	Central controller with touch screen and schedule
CCM-30	Basic central controller
CCM-15	Central controller without display. Allows to control from a computer.
WIFI WF-60A1	It allows to control from a Smartphone with NetHome Plus application.

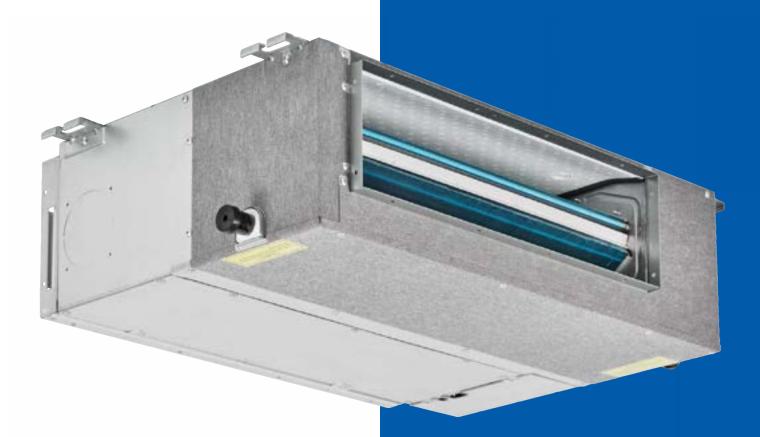


Indoor units



Mandal (VDA/L)	Dimensions (mm)																
Model (KBtu/h)	A B		С	D	E	F	G	Н	- 1	J	K	L	М	H1	H2	Н3	H4
12	700	210	506	450	137	537	30	152	599	186	50	741	360	84	140	84	84
18	880	210	674	600	140	706	50	136	782	190	40	920	508	78	148	88	112
24	1100	249	774	700	140	926	50	175	1001	228	5	1140	598	80	150	130	155
30-36	1360	249	774	700	140	1186	50	175	1261	228	5	1400	598	80	150	130	155
42-55	1200	300	874	800	123	1044	50	227	1101	280	5	1240	697	80	150	185	210







Ducted BIG Inverter





High static pressure

Static pressure up to 400 Pa makes it possible to use ducts with length of up to 14 m and height of up to 6,5 m. These units are specially designed for large, spacious rooms.

Flexible installation

High available static pressure allows to apply different solutions of air distribution in rooms with unusual shapes.

Functions

STANDARD

Available with wired remote controller WDC86E/KD



controller



leakage detection



ambient temperatures







Auto restart

OPTIONAL







Wireless remote controller (RM05)



				NEW	NEW	NEW			
Set				ZBIG-200N1-C3	ZBIG-250N1-C3	ZBIG-280N1-C3	ZBIG-400N1-B3	ZBIG-450N1-B3	ZBIG-560N1-B3
Indoor unit				MDV-200T1/DN1	MDV-250T1/DN1	MDV-280T1/DN1	MDV-400T1/DN1	MDV-450T1/DN1	MDV-560T1/DN1
Outdoor unit				MVi-200WV2RN1(A)	MVi-260WV2RN1(A)	MVi-280WV2RN1(A)	MDV-V400W/DRN1	MDV-V450W/DRN1	MV6- i560WV2GN1-E
	r supply (V/phase/Hz) ver supply (V/phase/Hz)			220-240/1/50 380-415/3/50	220-240/1/50 380-415/3/50	220-240/1/50 380-415/3/50	220-240/1/50 380-415/3/50	220-240/1/50 380-415/3/50	220-240/1/50 380-415/3/50
Version	, (., p,)			555, 2, 25	, ., .,		heat pump	, .,	, ., .,
	Capacity	Rated	kW	20.0	25.0	28.0	40.0	45.0	56.0
Cooling	Rated input power		kW	7.09	8.8	13.9	13.70	15.40	18.27
, and the second	EER			2.82	2.84	2.01	2.92	2.92	3.07
	Capacity	Rated	kW	22.5	26.0	31.5	45.0	56.0	63.0
Heating	Rated input power kW			7.09	8.0	7.88	12.90	14.50	16.07
	COP	kW/kW	3.17	3.25	4.00	3.49	3.86	3.92	
	Dimensions (width x depth x h	mm	1440×505×925	1440×505×925	1440×505×925	2005×670×929	2005×670×929	2005×670×929	
	Transport dimensions (width	x depth x height)	mm	1509×550×990	1509×550×990	1509×550×990	2095×800×964	2095×800×964	2095×800×964
	Weight (net/gross) kg			130/142	130/142	130/142	210.0/235.0	210.0/235.0	218.0/248.0
Indoor unit	External static pressure Pa			170 (20~250)	170 (20~250)	170 (20~250)	300 (100 ~ 400)	300 (100 ~ 400)	300 (100 ~ 400)
	Airflow (low/medium/high) m³/min			62.4/67.4/72.6	62.4/67.4/72.6	62.4/67.4/72.6	73.3/90.8/108.3	73.3/90.8/108.3	83.3/103.3/123.3
	Sound pressure level (low/medium/high)	dB(A)	50/54/57	50/54/57	50/54/57	52/57/60	52/57/60	51/56/59	
	Dimensions (width x depth x h	neight)	mm	1120×1558×528	1120×1558×528	1120×1558×528	1360×540×1650	1460×540×1650	1340×825×1635
0	Transport dimensions (width	x depth x height)	mm	1270×1720×565	1270×1720×565	1270×1720×565	1450×560×1785	1550×560×1785	1405×910×1805
Outdoor unit	Weight (net/gross)		kg	143.0/159.0	144.0/160.0	144.0/160.0	240.0/260.0	275.0/290.0	344.0/364.0
unit	Airflow		m³/min	150	166.67	183.33	276.0	276.0	283.0
	Sound pressure level		dB(A)	58	59	60	62	62	66
Refrigerant	Туре			R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant installation	Liquid/gas		mm	Ø9,53 / Ø19,1	Ø9,53 / Ø22.2	Ø9,53 / Ø22.2	Ø12.7 / Ø22.2	Ø12.7 / Ø25.4	Ø19.1 / Ø31.8
Condensate drain mm²			Ø32	Ø32	Ø32	Ø32	Ø32	Ø32	
Recommended	Indoor unit power supply cord mm ²			3×2.5	3×2.5	3×2.5	3×2.5	3×2.5	3×2.5
electrical wiring	Outdoor unit power supply co	ord	mm²	5×4.0	5×4.0	5×4.0	5×4.0	5×4.0	5×6.0
and protections	Communication cable		mm²			3×0.75 (s	shielded)		
Recommended o	perating temperature	Cooling	°C	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-5 ~ 48
ranges (outdoor)		Heating	°C	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-23 ~ 24

Capacity is based on the following conditions:
Cooling: indoor temperature 2°C DB/19°C WB, outdoor temperature 3°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases (R410A GWP=2088). For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.

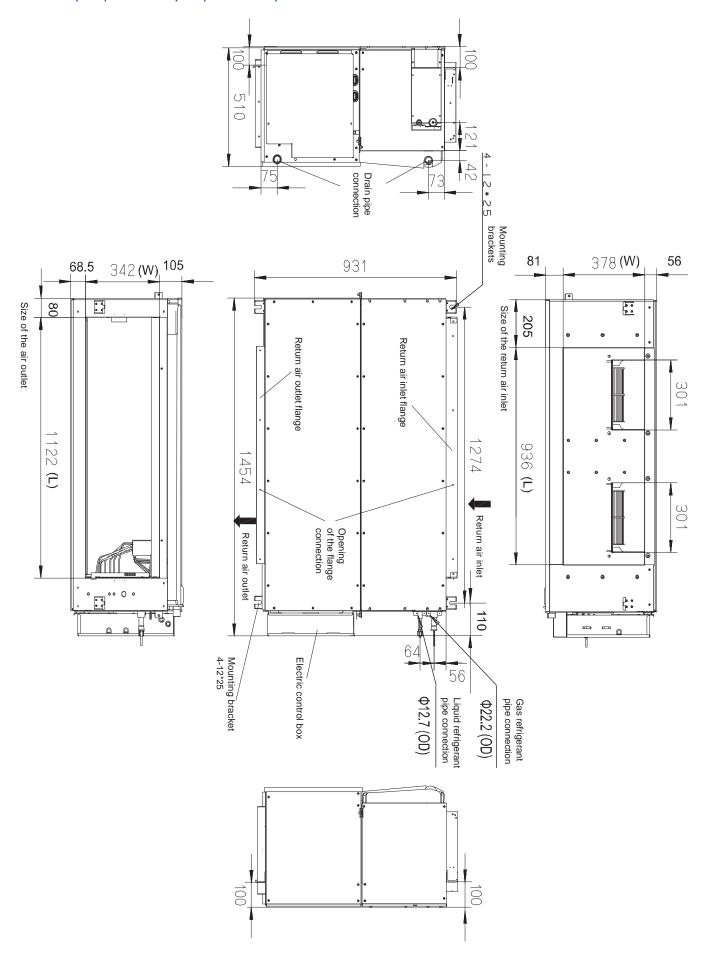
Accessories

Standard	
WDC86E/KD	Individual advanced wired remote controller with weekly schedule
Option	
RM05	Wireless remote controller
WDC120E/KD	Group remote controller with weekly schedule
CCM-180A/WS	Central controller with touch screen and schedule
CCM-30	Basic central controller
CCM-15	Central controller without display. Allows to control from a computer.



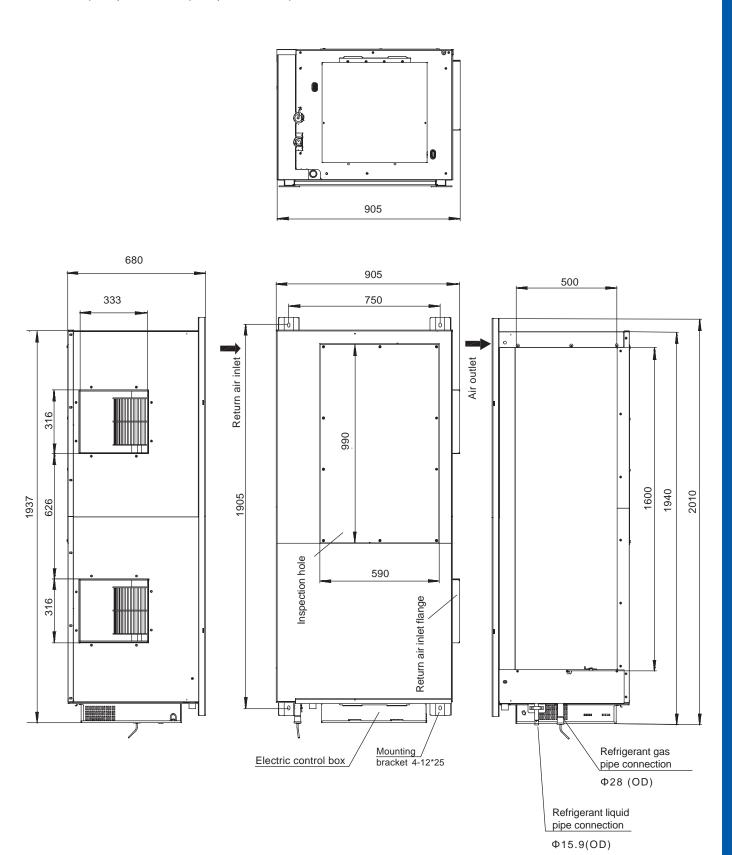
Indoor units

MDV-200T1/DN1, MDV-250T1/DN1, MDV-280T1/DN1





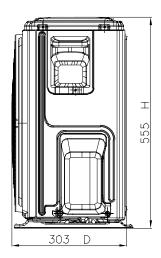
MDV-400T1/DN1, MDV-450T1/DN1, MDV-560T1/DN1

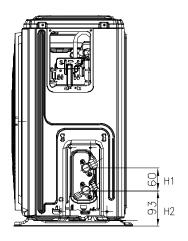


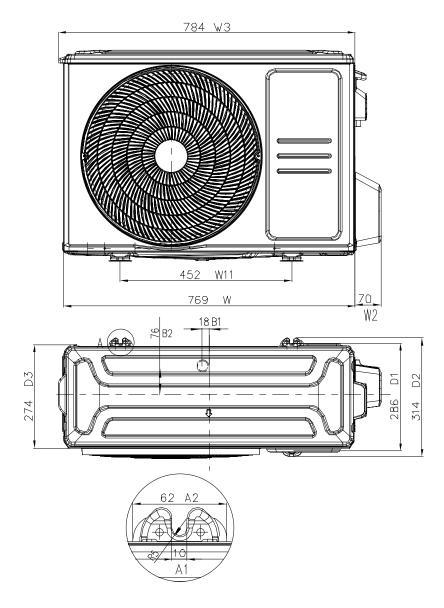


Outdoor units

UNVS-12R32INT OU

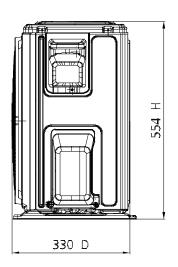


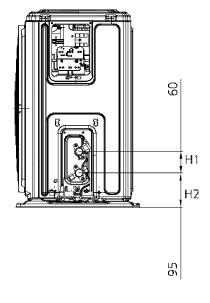


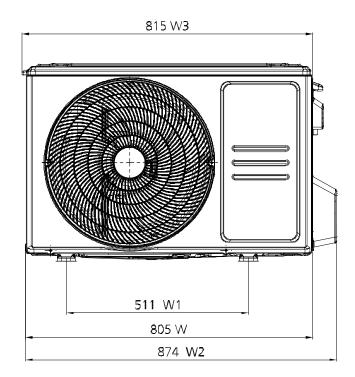


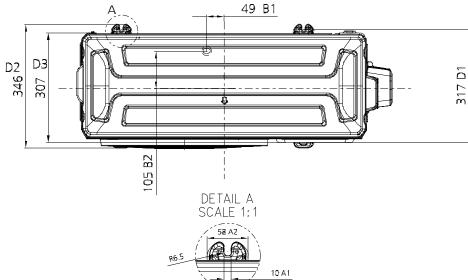


UNVS-18R32INT OU



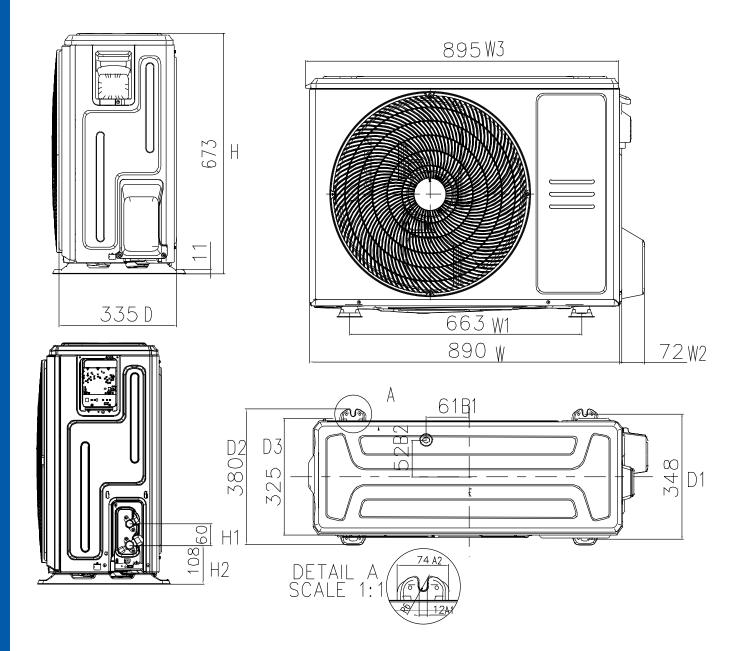






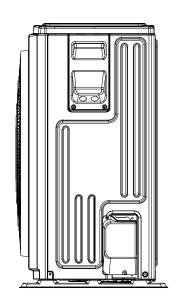


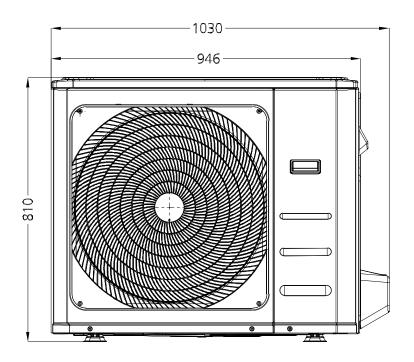
UNVS-24R32INT OU

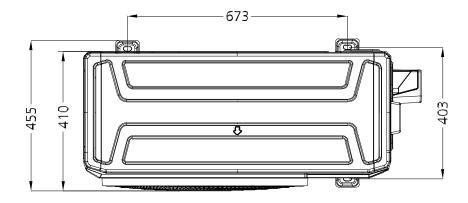




UNVS-36R32INTS OU, UNVS-36R32INTT OU, UNVS-42R32INTS OU, UNVS-42R32INTT OU

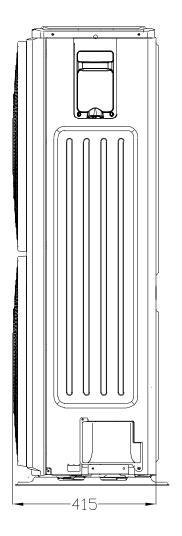


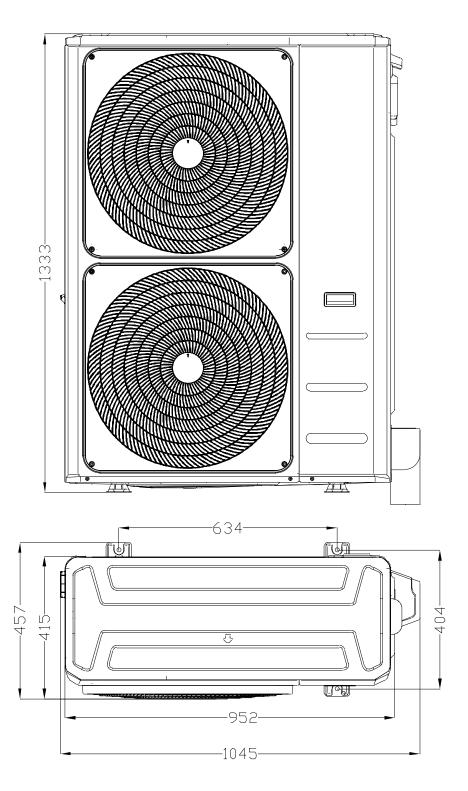






UNVS-48R32INT OU, UNVS-55R32INT OU





















AIR Kit

AIR Kit control module enables connection of the universal, inverter outdoor unit with a refrigerant coil in the air handling unit.

Main characteristics:

- simple construction and low costunlimited control of the condensing unit
- 0~10V analogue signal control
- heating and cooling mode
- soft start function
- support of all Office Standard MDV units
- error display
- defrost function
- anti-freeze Frost sensor (option)
- on/off signal control

Very simple connection

The system utilizes expansion elements built-in the outdoor unit, so it is unnecessary to use additional valves.

The unit is controlled by the input signals:

- dry contact, on-off signal to enable cooling and heating operation
- 0-10 V DC signal for stepless control of unit capacity

Signals outputted from the control unit:

- dry contact for alarm signal
- dry contact, signal active during outdoor unit exchanger defrosting

Heating/cooling mode

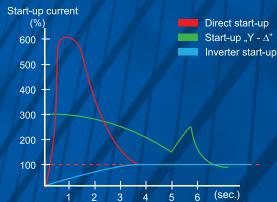
AIR Kit module can supply coils of the air handling units that operates both, as coolers or heaters.



Soft start

Inverter compressor with the 'soft' start function limits temporary overloads and voltage drops in the building's electrical network. High performance inverter compressors achieve rated capacity in a very short time, directly impacting the time of cooling down or heating up the airconditioned rooms. Lower temperature fluctuations provide an instant feeling of comfort.

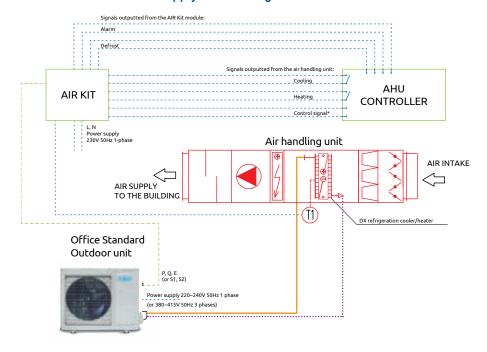
Comparing the inverter start-up with conventional one





Circuit diagrams

Connection of the outdoor unit with the supply air handling unit



Designation:

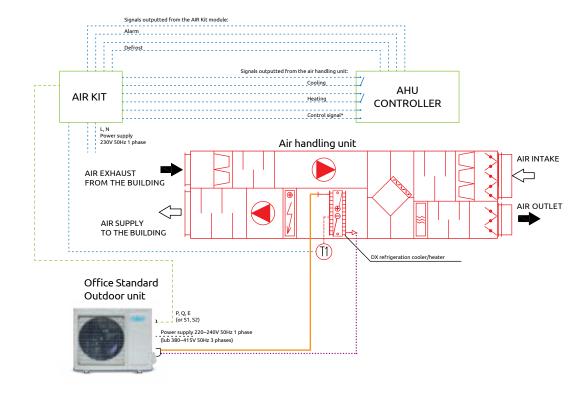
- LIQUID copper pipeline, heat insulated
- GAS copper pipeline, heat insulated
- --- Electrical / signal and control connections

 Optional temperature sensor for the anti-freeze protection

*Control signals:

- · analogue 0~10V
- resistance 0~25 Ω
- · ON/OFF

Connection of the outdoor unit with the supply and exhaust air handling unit



Designation:

- LIQUID copper pipeline, heat insulated
- GAS copper pipeline, heat insulated Electrical / signal and control connections
- (T1) Optional temperature sensor for the anti-freeze protection

*Control signals:

- analogue 0~10V
 resistance 0~25 Ω
- ON/OFF



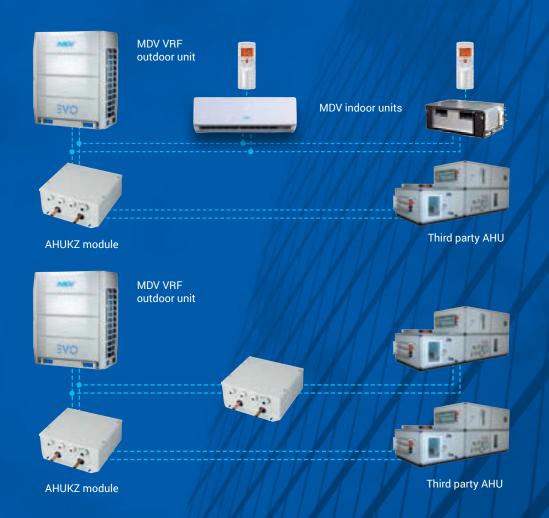


Functions

CE-AHUKZ-00~03DM control module enables interaction of the MDV VRF system with another manufacturers units, that needs to be supplied with R410A refrigerant. The module can be used for supplying refrigerant heat exchangers in air handling units and other unconventional air-conditioning units.

Flexible configuration

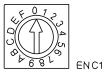
The AHU can be connected as one of several indoor units in the VRF system (indoor units with total capacity of minimum 50% of the whole refrigerant circuit capacity). It is also possible to connect one AHU directly to one outdoor unit or several AHUs to one outdoor unit while maintaining individual control.





Capacity control - high application flexibility

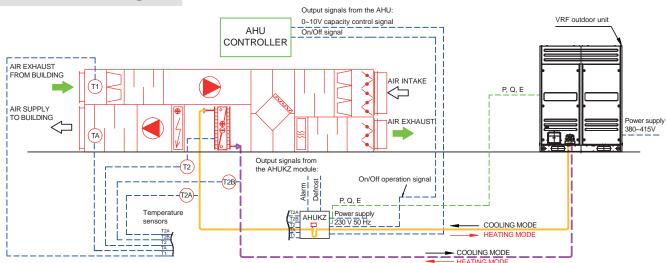
AHUKZ modules are available in different sizes from 2,2 kW to 56 kW. The built-in knob enables reduction of the rated module capacity so as to optimally adjust it to the AHU heat exchanger capacity. Built-in electronic expansion valve enables stepless adjustment of cooling and heating, ensuring comfort in the air-conditioned room.



Stepless capacity control using AHU signal

AHUKZ module enables capacity adjustment by means of a 0~10V analogue signal from the AHU. Additionally, this module is fitted with an output defrost signal and automatic operation mode changeover.

Connection diagram



DESIGNATIONS:

(T1) return air temperature (on air extract from a room)

(TA) supply air temperature

(T2A) heat exchanger inlet temperature (liquid pipe)

T2) heat exchanger average temperature (in the middle of the exchanger)

T2B heat exchanger outlet temperature (gas pipe)

LIQUID copper pipeline, thermally insulated

GAS copper pipeline, thermally insulated

- Electrical / signal and control connections

Technical specifications

Model			AHUKZ-00DM	AHUKZ-01DM	AHUKZ-02DM	AHUKZ-03DM		
Power supply		V/phase/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50		
Cooling	Minimum / maximum capacity	kW	2.2-9.0	9.0-20	20-36	36-56		
Heating	eating Minimum / maximum capacity		2.2-9.0	9.0-20	20-36	36-56		
Dimensions Net dimensions (width x height x depth) Transport dimensions (width x height x depth)		mm	393×341×125	393×341×125	393×341×125	393×341×125		
		mm	490×440×205	490×440×205	490×440×205	490×440×205		
Refrigerant			R410A	R410A	R410A	R410A		
Refrigerant f	low control		Electronic expansion valve					
D:-:	Inlet pipe	mm	Ø8	Ø8	Ø12.7	Ø15.9		
Piping	Outlet pipe	mm	Ø8	Ø8	Ø12,7	Ø15.9		
0-61	Power supply	mm ²	3×2.0	2×2.0	3×4.0	3×4.0		
Cables	Communication with external unit	mm²	3×0.75 shielded	3×0.75 shielded	3×0.75 shielded	3×0.75 shielded		
Wired remote	e controller		WDC-86E/KD	WDC-86E/KD	WDC-86E/KD	WDC-86E/KD		







Set				AHU-KIT09-B1AF	AHU-KIT12-B1AF	AHU-KIT09-CX1AF	AHU-KIT12-CX1AF	AHU-KIT18-CX1AF	AHU-KIT24-CXAF	AHU-KIT24-B1
Coil module				KA8140	KA8140	KA8140	KA8140	KA8140	KA8140	KA8140
Outdoor unit				MOBA03-09HFN8- QRD0GW	MOBA03-12HFN8- QRD0GW	MOX133-09HFN8- QRD0GW	MOX133-12HFN8- QRD0GW	MOX330-18HFN8- QRD0GW	MOX431-24HFN8- QRDOGW	UNVS- 24R32INT OU
Outdoor unit power	r supply (V/phase	e/Hz)		220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Coil module power	supply (V/phase,	/Hz)		220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Version						R	eversible heat pum	р		
Rated kW			2.6	3.5	2.6	3.5	5.3	7.0	7.0	
Cooling	Capacity	Min-Max	kW	1.0~3.2	1.1~4.1	0.9~3.4	1.1~4.2	0.34~5.83	2.1~7.9	2.2~8.2
	Rated input power		kW	0.71	1.24	0.73	1.21	1.55	2.60	2.19
	EER		kW/kW	3.70	2.82	3.60	2.89	3.42	2.69	3.21
	0:	Rated	kW	2.9	3.5	2.9	3.8	5.6	7.3	7.4
Heating	Capacity	Min-Max	kW	0.8~3.4	1.1~4.2	0.8~3.4	1.1~4.2	3.1~5.85	1.6~7.9	2.4~8.7
	Rated input power		kW	0.74	0.96	0.73	1.10	1.57	2.40	1.98
	COP	COP kW		3.92	3.65	3.97	3.45	3.57	3.04	3.72
Airflow			m³/min	28.3	28.3	29.2	30.0	35.0	58.3	58.3
Sound pressure lev	/el		dB(A)	55	55	55.5	56	55	59	60
Dimensions (width	x depth x height)		mm	700×270×550	700×270×550	720×270×495	720×270×495	805×330×554	890×324×673	890×342×673
Transport dimension	ons (width x deptl	h x height)	mm	815×325×615	815×325×615	835×300×540	835×300×540	915×370×615	995×398×740	995×398×740
Weight (net/gross)			kg	22.8/25.1	22.8/25.1	23.2/25.0	23.2/25.0	32.7/35.4	42.9/45.9	43.9/46.9
Refrigerant	Туре			R32	R32	R32	R32	R32	R32	R32
Kerriyeranı	Charged amou	int	kg	0.50	0.50	0.55	0.55	1.08	1.42	1.50
5.63	Liquid/gas		mm	Ø6.35 / Ø9.52	Ø6.35 / Ø9.52	Ø6.35 / Ø9.52	Ø6.35 / Ø9.52	Ø6.35 / Ø12.7	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9
Refrigerant installation	Maximum leng	th	m	25	25	25	25	30	50	50
motunation	Maximum heigl	Maximum height difference m		10	10	10	10	20	25	25
Recommended electrical wiring	Power supply of	cord	mm²	3×1.5	3×1.5	3×1.5	3×1.5	3×2.5	3×2.5	3×2.5
and protections	Fuse	Fuse A		10	10	-	-	16	20	20
Recommended ope	erating	Cooling	°C	-15 ~ 50	-15 ~ 50	-15 ~ 50	-15 ~ 50	-15 ~ 50	-15 ~ 50	-15 ~ 50
temperature range		Heating	°C	-25 ~ 30	-25 ~ 30	-15 ~30	-15 ~30	-25 ~ 30	-25 ~ 30	-15 ~ 24

Capacity is based on the following conditions:

Cooling: indoor temperature 2°C DB/19°C WB, outdoor temperature 3°C DB/24°C WB. Heating: indoor temperature 20°C DB/15°C WB; outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m. the height difference is 0. The unit contains fluorinated greenhouse gases [R32 GWP=675]. For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.







Set				AHU-KIT36-B1	AHU-KIT36-B3	AHU-KIT42-B1	AHU-KIT42-B3	AHU-KIT48-B3	AHU-KIT55-B3		
Coil module				KA8140	KA8140	KA8140	KA8140	KA8140	KA8140		
Outdoor unit				UNVS-36R32INTS OU	UNVS-36R32INTT OU	UNVS-42R32INTS OU	UNVS-42R32INTT OU	UNVS-48R32INT OU	UNVS-55R32INT OU		
Outdoor unit powe	er supply (V/phase	e/Hz)		220-240/1/50	380-415/3/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50		
Coil module power	r supply (V/phase	/Hz)		220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50		
Version						Reversible	heat pump				
	0	Rated	kW	10.4	10.5	12.1	12.1	13.6	15.7		
01:	Capacity	Min-Ma×	kW	2.6~12.0	2.6~12.0	3.2~13.2	3.2~13.2	4.8~14.6	5.3~16.7		
Cooling	Rated input po	wer	kW	3.91	3.90	4.03	4.03	5.42	5.99		
	EER		kW/kW	2.66	2.69	3.00	3.00	2.51	2.62		
	Capacity	Rated	kW	11.1	11.1	13.5	13.5	15.9	18.2		
		Min-Ma×	kW	2.9~13.2	2.9~13.2	2.9~14.7	2.9~14.7	3.9~16.8	4.4~19.3		
Heating	Rated input power		kW	3.07	2.97	3.49	3.49	5.34	6.03		
	COP	COP		3.62	3.74	3.87	3.87	2.98	3.02		
Airflow			m³/min	66.7	66.7	66.7	66.7	125.0	125.0		
Sound pressure le	vel		dB(A)	63	63	63	63	63,5	64		
Dimensions (width	x depth x height]		mm	946×410×810	946×410×810	946×410×810	946×410×810	952×415×1333	952×415×1333		
Transport dimensi	ons (width x dept	h x height)	mm	1090×500×885	1090×500×885	1090×500×885	1090×500×885	1095×495×1480	1095×495×1480		
Weight (net/gross	:]		kg	66.9/71.5	80.5/85.0	71.0/75.0	71.0/75.0	103.7/118.3	107/121.2		
Refrigerant	Туре			R32	R32	R32	R32	R32	R32		
Kerriyeranı	Charged amou	int	kg	2.40	2.40	2.80	2.80	2.90	3.00		
5.61	Liquid/gas		mm	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9	Ø9.52 / Ø15.9		
Refrigerant installation	Maximum leng	th	m	75	75	75	75	75	75		
III Stallation	Maximum heig	ht difference	m	30	30	30	30	30	30		
Recommended electrical wiring	Power supply of	Power supply cord mm ²		5×2.5	5×2.5	5×2.5	5×2.5	5×2.5	5×2.5		
and protections	Fuse	Fuse A		25	16	16	16	16	20		
Recommended op	erating	Cooling	°C	-15 ~ 50							
	temperature ranges (outdoor) Heating		°C	-15 ~ 24							

Capacity is based on the following conditions:

Cooling: indoor temperature 2°C DB/9°C WB, outdoor temperature 3°C DB/24°C WB. Heating: indoor temperature 20°C DB/5°C WB, outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R410A, GWP=2088]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.







Set				AHU-KIT- 180-B3	AHU-KIT- 200-C3	AHU-KIT 260-C3	AHU-KIT 335-C3	AHU-KIT- 400-B3	AHU-KIT- 450-B3	AHU-KIT- 500-B3	AHU-KIT- 560-B3	AHU-KIT- 615-B3	
Coil module				AHUKZ-01DM	AHUKZ-02DM	AHUKZ-02DM	AHUKZ-03DM	AHUKZ-03DM	AHUKZ-03DM	AHUKZ-03DM	AHUKZ-03DM	AHUKZ-02DM + AHUKZ-02DM	
Outdoor unit	MDV -V180W/RN1	MVi- 200WV2RN1(A)	MVi- 260WV2RN1(A)	MVi- 335WV2RN1(A)	MDV-V 400W/DRN1	MDV- V450W/DRN1	MV6- i500WV2GN1-E	MV6- i560WV2GN1-E	MV6- i615WV2GN1-E				
Outdoor unit power	supply (V/phas	e/Hz)		380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	
Coil module power	supply (V/phase	e/Hz)		220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	
Version						Reversible	heat pump						
	Canacity	Rated	kW	17.5	20.0	26.0	33.5	40.0	45.0	50.0	56.0	61.5	
Cooling	Capacity	Min-Max	kW	-	-	-	-	-	-	-	-	-	
Cooling	Rated input po	ower	kW	5.30	6.35	8.13	15.09	15.09	13.55	14.70	16.00	20.20	
	EER		kW/kW	3.30	3.15	3.20	2.22	2.65	3.32	3.40	3.50	3.04	
	Canacity	Rated	kW	19.0	22.0	28.5	33.5	40.0	45.0	50.0	56.0	61.5	
Hanking.	Capacity	Min-Max	kW	-	-	-	-	-	-	-	-	-	
Heating	Rated input po	ower	kW	5.00	6.20	7.22	7.94	10.00	11.11	12.20	13.80	17.60	
	СОР		kW/kW	6.70	3.55	3.95	4.22	4.00	4.05	4.10	4.06	3.49	
Airflow			m³/min	113.0	150.0	175.0	188	276.0	276.0	217.0	283.0	283.0	
Sound pressure lev	el		dB(A)	59	58	59	61	62	62	65	66	66	
Dimensions (width:	x depth x height)	mm	900×320×1327	×1327 1120×528×1558			1360×540×1650 1460×540×1650			1340×850×1635		
Transport dimensio	ns (width x dep	th x height)	mm	1030×435×1456		1270×565×1720	0×565×1720 1450×560×1785 1550×560×1785 1405			1405×910×1805			
Weight (net/gross)			kg	107.0/118.0	143.0/159.0	144.0/160.0	157.0/173.0	250.0/268.0	280.0/300.0	295.0/322.0	344.0/364.0	344.0/364.0	
D-f-:	Туре			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	
Refrigerant	Charged amou	ınt	kg	4.50	6.50	6.50	8.00	9.00	12.00	13.00	17.00	17.00	
- 44	Liquid/gas		mm	Ø9.52 / Ø19.1	Ø9.52 / Ø19.1	Ø9.52 / Ø22.2	Ø12.7 / Ø25.4	Ø12.7 / Ø22.2	Ø12.7 / Ø25.4	Ø19.1 / Ø31.8	Ø19.1 / Ø31.8	Ø19.1 / Ø31.8	
Refrigerant installation	Maximum leng	jth	m	60	60	150	150	100	100	175	175	175	
matanation	Maximum heig	ht difference	m	30	50	50	50	30	30	110	110	110	
Recommended electrical wiring	Power supply	cord	mm²	5×4.0	5×4.0	5×4.0	5×4.0	5×4.0	5×4.0	5×6.0	5×6.0	5×10.0	
and protections	Fuse		А	25	25	32	32	60	60	50	50	63	
Recommended ope	rating	Cooling	°C	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-5 ~ 48	-5 ~ 48	-5 ~ 48	
temperature range		Heating	°C	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-23 ~ 24	-23 ~ 24	-23 ~ 24	

Capacity is based on the following conditions:

Cooling: indoor temperature 2°C DB/9°C WB, outdoor temperature 3°C DB/24°C WB. Heating: indoor temperature 20°C DB/5°C WB, outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R410A, GWP=2088]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.



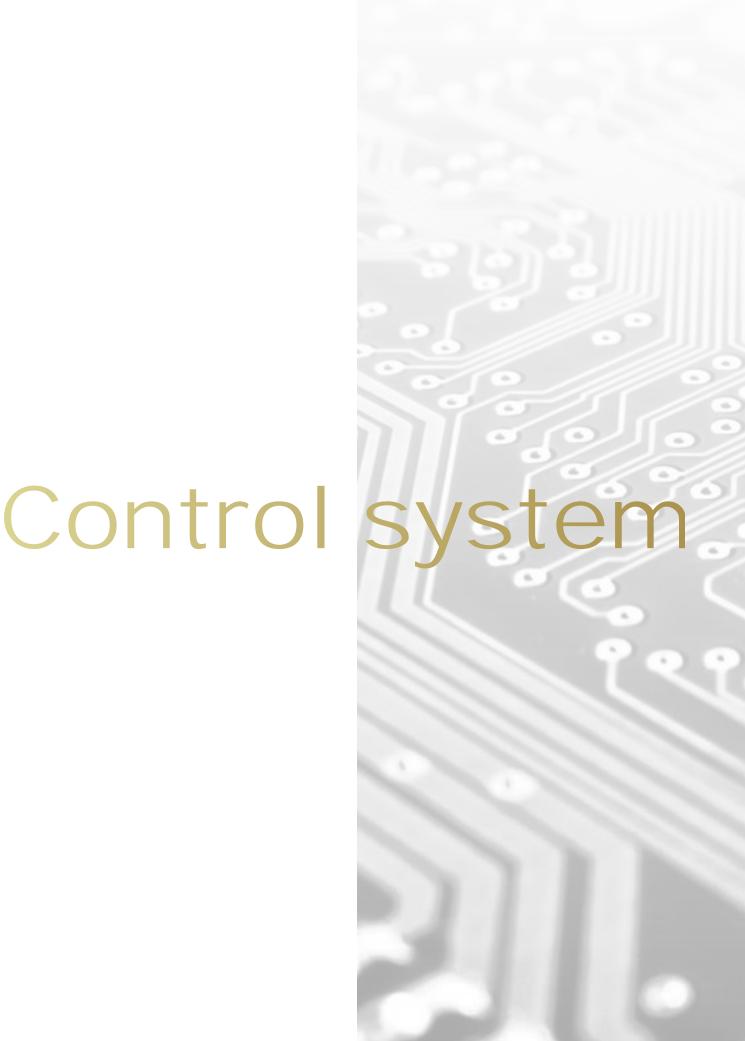




Set				AHU-KIT670-B3	AHU-KIT730-B3	AHU-KIT785-B3	AHU-KIT850-B3	AHU-KIT900-B3	
Coil module				AHUKZ-02DM + AHUKZ-02DM	AHUKZ-02DM + AHUKZ-03DM	AHUKZ-02DM + AHUKZ-03DM	AHUKZ-02DM + AHUKZ-03DM	AHUKZ-02DM + AHUKZ-03DM MV6-i900WV2GN1-E	
Outdoor unit				MV6-i670WV2GN1-E	MV6-i730WV2GN1-E	MV6-i785WV2GN1-E	MV6-i850WV2GN1-E		
Outdoor unit pow	er supply (V/phas	e/Hz)		380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	
Coil module powe	r supply (V/phase	e/Hz)		220-240/1/50 220-240/1/50 220-240/1/50 220-240/1/50				220-240/1/50	
/ersion						Reversible heat pump			
	Canacity	Rated	kW	67.0	73.0	78.5	85.0	90.0	
Cooling	Capacity	Min-Max	kW	-	-	-	-	-	
	Rated input power		kW	21.60	21.60	24.90	28.30	32.10	
	EER		kW/kW	3.10	3.38	3.15	3.00	2.80	
	Canacity	Rated	kW	67.0	73.0	78.5	85.0	90.0	
	Capacity	Min-Max	kW	-	-	-	-	-	
eating	Rated input power		kW	16.80	16.80 18.10		24.30	26.50	
	COP		kW/kW	3.99	4.03	3.60	3.50	3.40	
irflow			m³/min	417.0	417.0	417.0	400.0	400.0	
ound pressure le	evel		dB(A)	67	68	68	68	68	
imensions (widt	n x depth x height]	mm	1730×850×1830	<1830 1730×850×1830 1730×850×1830 1730×850×18		1730×850×1830	1730×850×1830	
ransport dimens	ions (width x dept	th x height)	mm	1800×910×2000	1800×910×2000	1800×910×2000	1800×910×2000 1800×910×2000		
Veight (net/gros	s)		kg	407.0/430.0	429.0/452.0	429.0/452.0	475.0/507.0	475.0/507.0	
lafriaarant	Туре			R410A	R410A	R410A	R410A	R410A	
efrigerant	Charged amou	unt	kg	22.00	22.00	22.00	25.00	25.00	
	Liquid/gas		mm	Ø19.1 / Ø31.8	Ø22.2 / Ø31.8	Ø22.2 / Ø31.8	Ø22.2 / Ø38.1	Ø22.2 / Ø38.1	
efrigerant estallation	Maximum leng	gth	m	175	175	175	175	175	
notaliativii	Maximum heig	ht difference	m	110	110	110	110	110	
ecommended lectrical wiring	Power supply	Power supply cord		5×10.0	5×10.0	5×10.0	5×10.0	5×10.0	
nd protections	Fuse	Fuse		63	63	63	80	80	
Recommended operating Co		Cooling	°C	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	
emperature ranç		Heating	°C	-23 ~ 24	-23 ~ 24	-23 ~ 24	-23 ~ 24	-23 ~ 24	

Capacity is based on the following conditions:

Cooling: indoor temperature 2°C DB/9°C WB, outdoor temperature 3°C DB/24°C WB. Heating: indoor temperature 20°C DB/5°C WB, outdoor temperature 7°C DB/6°C WB. Installation length: length of connected pipes is 7.5 m, the height difference is 0. The unit contains fluorinated greenhouse gases [R410A, GWP=2088]. For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.









CONTROL SYSTEM



RG57A2(B)/BGEF, Aroma RG57A7(B)/BGEF

FUNCTIONS

- On / Off
- Increasing and reducing temperature by 1°C, min. temp. 17°C; max 30°C
- Changing operation mode auto/cool/dry/heat/fan
- Switching fan rotational speed auto/low/med/high
- Sleep mode (saves energy at night)
- · ECO function
- · Turbo (reaching the set temperature in the shortest possible time)
- Self-cleaning
- Turning on / off unit LED display
- Setting on and off time
- Louver swing
- Setting vertical angle of the louvers
- "Follow Me" function temperature sensor built-in the controller



Timer

The built-in timer enables to program the time of automatic switching on/off of the air-conditioner.



Air-conditioner set to operate in the auto mode from 8 AM to 8 PM.

Specifications

Model	RG-57
Dimensions (width x height x depth)	55×140×23mm
Power supply	3.0V (R03/LR03×2)
Signal range	8 m
Ambient temperature	-5 ~ 60 °C

RG51A(2)/E

FUNCTIONS

- On / Off
- Changing operation mode auto/cool/dry/heat/fan
- Vertical / horizontal louver swing
- Sleep mode (saves energy at night)
- Changing angle of the louvers
- Self-cleaning
- Temperature setting
- Switching fan rotational speed auto/low/med/high
- Setting on and off time
- Turbo
- Muting the sound and turning off the LEDs in the unit
- Button lock



Vertical and horizontal swing

This function ensures that warm/cool air reaches every corner of the room.

Specifications

Model	RG-51
Dimensions (width x height x depth)	55×140×23 mm
Power supply	3.0V (R03/LR03×2)
Signal range	8 m
Ambient temperature	-5 ~ 60 °C



KJR29B/BK-E



FUNCTIONS

- On / Off
- · Operation mode setting
- Setting fan speed
- · Setting target temperature
- Timer
- · Quiet operation
- Button lock
- · Filter cleaning reminder
- Swing function
- · "Follow Me" function
- · Remote signal reception

Specifications

Model	KJR29B/BK-E
Dimensions (width x height x depth)	120×120×20 mm
Power supply	DC 5V
Ambient temperature	-5 ~ 43 °C
Ambient humidity	RH 40% ~ RH 90%

"Follow Me" function

An icon visible on the display shows that this function is active and temperature is measured in the installation location of the sensor. Information on temperature value is send to indoor unit every 3 minutes.



KJR120C1

FUNCTIONS

- On / Off
- · Changing operation mode auto/cool/dry/heat/fan
- Switching fan rotational speed auto/low/med/high
- Up / down and right / left swing
- Error codes display
- · Room temperature
- Setting on and off time
- · Temperature setting
- · Weekly timer
- · "Follow Me" function
- · Child lock

Specifications

Model	KJR120C1
Dimensions (width x height x depth)	120×120×18,5 mm
Power supply	DC 5V / CD 12V
Ambient temperature	-5 ~ 43 °C
Ambient humidity	RH 40% ~ RH 90%

Setting static pressure in ducted units

Depending on the installation environment it is possible to adjust static pressure to ensure comfort conditions in every room.



CCM30/BKE-A

FUNCTIONS

- · Control of up to 64 air-conditioners
- · Individual or group control
- · On / Off
- · Operation mode setting
- Fan speed setting
- · Set temperature adjustment
- Timer
- · Lock function
- · Swing function
- Cooling mode
- · Heating mode
- · Fan mode



NOTE! The controller is available in two versions: CCM30/BKE-A (recssed installation) CCM30/BKE-B (wall-mounted)

Central remote controller

The controller is a multifunctional device, which can control operation of up to 64 indoor units. The maximum length of the transmission cable is 1200 m.



Specifications

Model	CCM30
Dimensions (width x height x depth)	180×122×78 mm
Power supply	198-242V, 50/60Hz
Ambient temperature	-15 ~ 43 °C
Ambient humidity	RH 40% ~ RH 90%

CCM-180A/WS

FUNCTIONS

- On / Off
- · Changing operation mode
- Individual, group and central control
- Control of up to 64 indoor units
- Weekly timer
- · Error code display
- · Emergency switching on/off



Central control

It is possible to connect up to 64 indoor units to a single central remote controller.



Specifications

Model	CCM-180A
Dimensions (width x height x depth)	182×123×34 mm
Power supply	DC 5V



KJR-150A



KJR-150A controller enables connection of up to 16 indoor units in one group through XYE terminals. KJR-150A control module provides control of all units in the group with use of KJR-29B remote controller. However, it must be remembered that all units are operating with the same settings (e.g. large open spaces).

Specifications

Model	CCM30
Dimensions (width x height x depth)	120×120×20 mm
Power supply	DC 5V
Ambient temperature	-5 ~ 43 °C
Ambient humidity	RH 40% ~ RH 90%

Multi Function Board



MFB module enables connecting the following controllers to the wall-mounted air-conditioners:

- · KJR-120C1 individual wired
- · Central CCM30; CCM180; CC15 (data converter); KJR-150 (group controller)
- · Connecting 1st generation BMS gates (CCM08; CCm18; LonGW64; KNX1B/16/64
- plus ON/OFF port
- Alarm port

VRF outdoor units







EVO series

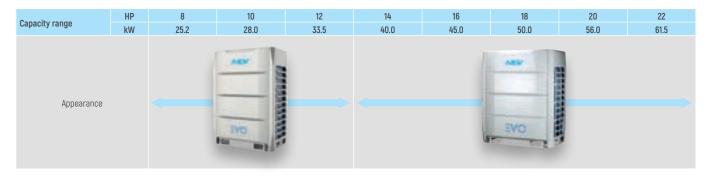


EVO is a modular system for changing the operation mode of the circuit from cooling to heating, with a guarantee that the constant condition will be maintained in all zones.





Model



Combination table

Model	No. of outdoor	of outdoor NO. 01	Outdoor unit combination							Max. no. of connected	Capacity [kW]		
	units	compressors	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	indoor units	Cooling	Heating
MV5-E252W/V2GN1	1	1	1								13	25.2	27.0
MV5-E280W/V2GN1	1	1		1							16	28.0	31.5
4V5-E335W/V2GN1	1	1			1						20	33.5	37.5
4V5-E400W/V2GN1	1	2				1					23	40.0	40.0
4V5-E450W/V2GN1	1	2					1				26	45.0	45.0
4V5-E500W/V2GN1	1	2						1			29	50.0	50.0
1V5-E560W/V2GN1	1	2							1		33	56.0	56.0
4V5-E615W/V2GN1	1	2								1	36	61.5	61.5
4V5-E670W/V2GN1	2	2			2						39	67.0	75.0
1V5-E730W/V2GN1	2	3		1			1				43	73.0	76.5
1V5-E780W/V2GN1	2	3		1				1			46	78.0	81.5
1V5-E840W/V2GN1	2	3		1					1		50	84.0	87.5
1V5-E895W/V2GN1	2	3		1						1	53	89.5	93.0
1V5-E950W/V2GN1	2	3			1					1	56	95.0	99.0
1V5-E1000W/V2GN1	2	4						2			59	100.0	100.0
1V5-E1065W/V2GN1	2	4					1			1	63	106.5	106.5
1V5-E1115W/V2GN1	2	4						1		1	64	111.5	111.5
1V5-E1175W/V2GN1	2	4							1	1	64	117.5	117.5
1V5-E1230W/V2GN1	2	4								2	64	123.0	123.0
1V5-E1285W/V2GN1	3	4			2					1	64	128.5	136.5
1V5-E1345W/V2GN1	3	5		1			1			1	64	134.5	138.0
1V5-E1395W/V2GN1	3	5		1				1		1	64	139.5	143.0
1V5-E1455W/V2GN1	3	5		1					1	1	64	145.5	149.0
4V5-E1510W/V2GN1	3	5		1						2	64	151.0	154.5
4V5-E1565W/V2GN1	3	5			1					2	64	156.5	160.5
4V5-E1615W/V2GN1	3	6						2		1	64	161.5	161.5
4V5-E1680W/V2GN1	3	6					1			2	64	168.0	168.0
4V5-E1730W/V2GN1	3	6						1		2	64	173.0	173.0
4V5-E1790W/V2GN1	3	6							1	2	64	179.0	179.0
1V5-E1845W/V2GN1	3	6								3	64	184.5	184.5
1V5-E1900W/V2GN1	4	6			2					2	64	190.0	198.0
1V5-E1960W/V2GN1	4	7		1	_		1			2	64	196.0	199.5
1V5-E2010W/V2GN1	4	7		1				1		2	64	201.0	204.5
1V5-E2070W/V2GN1	4	7		1					1	2	64	207.0	210.5
1V5-E2125W/V2GN1	4	7		1						3	64	212.5	216.5
1V5-E2180W/V2GN1	4	7			1					3	64	218.0	222.0
1V5-E2230W/V2GN1	4	8						2		2	64	223.0	223.0
4V5-E2295W/V2GN1	4	8					1	_		3	64	229.5	229.5
4V5-E2345W/V2GN1	4	8						1		3	64	234.5	234.5
4V5-E2405W/V2GN1	4	8							1	3	64	240.5	240.5
4V5-E2460W/V2GN1	4	8								4	64	246.0	246.0

Note:
Unit capacity is based on the following conditions:
Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB
Heating: indoor temperature 27°C DB/ 15°C WB, outdoor temperature 7°C DB
Refrigerant installation length 7.5 m with the height difference of 0 m.
The above combination is recommended by the manufacturer.
DB - dry bulb, WB - wet bulb
For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.
Choice of the appropriate solution is a matter for installer.



High performance for large buildings

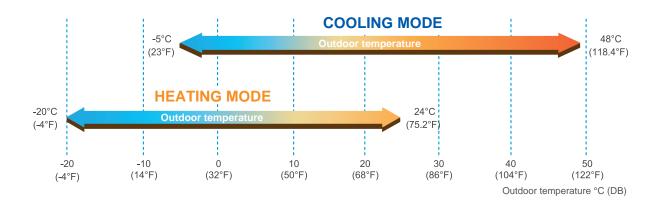
Capacity range: from 8 HP (25.2 kW) up to 88 HP (246 kW) in steps of 2 HP (5 kW). Maximum 64 indoor units with the total connectable capacity of 130% of the rated outdoor unit capacity in one system.





Wide range of acceptable outdoor temperatures

EVO system provides stable operation in extreme temperatures from -20°C to +48°C.



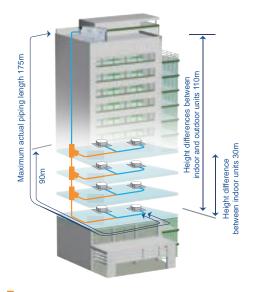


Long refrigerant piping

Total installation length up to 1000 m with the height difference of 110 m increases the range of system applications in large projects.

			Acceptable value (m)		
	Total piping length *(actual)				
Pipe length	Maximum length (L)	Actual length	175		
	Maximum length (L)	Equivalent length	200		
	Distance from the first systo the farthest indoor unit	stem separation tube (equivalent length)	40/90**		
Height	Between indoor	Outdoor unit above	90		
	and outdoor units	Outdoor unit below	110		
	Between indoor units				

Total piping length is equal to twice the piping length — plus piping length — If this section exceeds 40 m, it is important to meet special conditions, specified in the technical documentation in the part concerning installation.

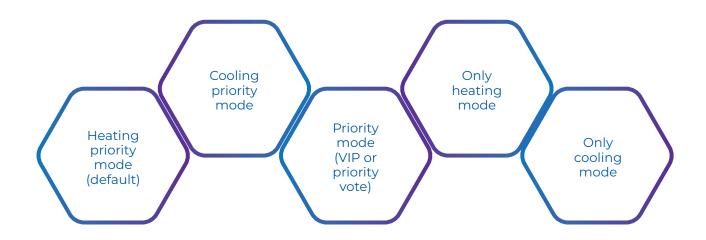


first system separation tube

Many options of operation lock

Possibility to set different priorities and operation mode locks ensure greater convenience of use. Available options are: heating priority, cooling priority, heating only, cooling only as well as VIP and vote.

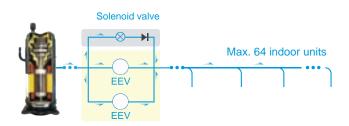
In the VIP or "vote" mode, the whole system's mode of operation is decided by the master unit with address set to 63. If the system lacks an unit with 63 address, the operation mode is determined by the units with higher cooling or heating load.





Multiple solenoid valve control technology

Two electronic expansion valves (EEV) and solenoid bypass valve on the liquid line. Each of the EEV valves is controlled with 480 pulses in order to precisely adjust the flow (960 pulses in total). All the solenoid valves installed in the unit, ensure accurate temperature control, stable system operation and saving in order to reach comfortable conditions.



Refrigerant pressure control technology

The pressure sensor monitors high system pressure and sends this information dynamically to the main board. System adjusts speed of the DC fan motor, accordingly to the system load and high pressure, and this way ensures precise pressure control. It can also operate with the most convenient pressure mode in different operating conditions. This will increase its reliability and extend the expected lifetime.



Alternative operation cycle of outdoor units

In a multi module arrangement, any outdoor unit can operate as a master, switching periodically other outdoor units operation. This ensures uniform durability of the units and as a result significantly increases their service life.

OPERATION PRIORITY



Back up - maintaining operation

In case of master outdoor unit failure in a modular system, the slave type outdoor unit is set automatically as the Master unit - the remaining units can continue operation. This function can be enabled with a switch on the outdoor unit board.





Precise oil control technology

Five-stage oil control technology ensures the compressor oil is maintained on a safe level, completely wiping out the problem of its deficiency.

1st step:

oil separation inside the compressor;

2nd step:

highly efficient oil separator (deoiling efficiency up to 99%);

3rd step

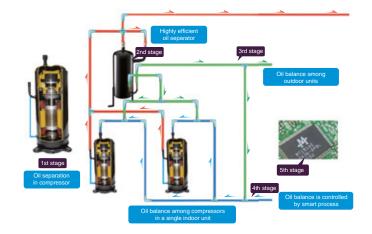
oil level balance technology among compressors;

4th step:

oil level balance technology among modules;

5th step:

intelligent oil return programme.



Gravity oil balancing in outdoor units

In the refrigerant system made of two and more outdoor units, MDV uses the oil balance, which equalizes oil under gravity and maintains it on a stable level in every unit, without the need to stop operation. In standard applications, during part load operation, the oil accumulates in the operation unit. Standard units, from time to time, stop the cooling or heating operation and continue in the oil recovery mode. MDV units, by adopting the oil balance, operate continuously.



High temperature protection

A specially designed air direction louver of the inverter control system heat sink, allows to obtain up to 8°C lower temperature of the electronic components, with regard to the solution without the louver, thus warranting reliability of operation.







Protective functions



Earthing



Current protection



Phase sequence protection



Fan motor thermal protection



Default phase protection



Compressor overload protection



Overvoltage protection



Compressor thermal protection



Low voltage protection



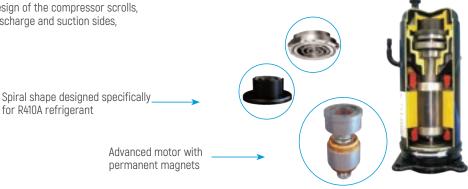
Pressure protection



DC inverter compressor

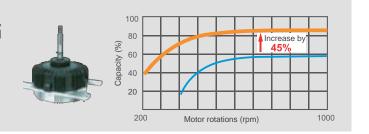
EVO series relies solely on the DC inverter compressors. Advantages:

- · high efficiency thanks to the asymmetric design of the compressor scrolls,
- · effectiveness thanks to the seal between discharge and suction sides,
- · refrigerant oil balance.



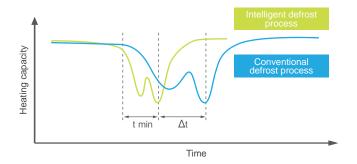
Fan with DC motor

Required compression is secured by the fan with DC inverter driven motor, that ensures up to 45% energy saving in comparison to the solution based on AC supplied motors.



Smart defrost technology

The programme allows to precisely specify the real system demand for defrost function. Smart technology reduces defrosting time to a minimum - limiting interruptions to the heating operation it maintains comfortable room conditions.



Rotatable electric box

Easy technical maintenance thanks to the new, rotational construction of the electric box - a perfect solution as the box can rotate up to an angle of 150°. It is very convenient during installation and technical inspections and also eliminates the time necessary to remove the box.

Application of a display, available without the need to disassemble the cover, ensures fast diagnosis.

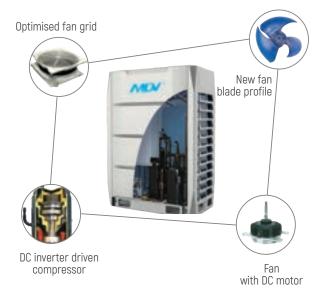


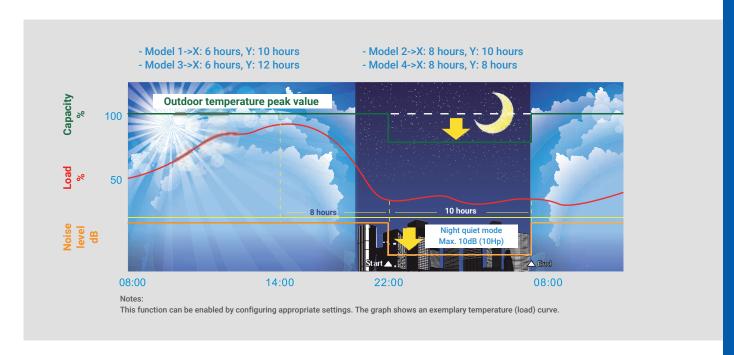


Advanced quiet operation technology

- improved air outlet grille and new shape of fan blades result in reduction of operation noise and vibrations;
- DC inverter driven compressor, low operation noise; new sound insulation of the compressor.
- · DC inverter driven fan motor, low noise and night quiet operation mode;
- silent mode in MDV units can be easily activated and allows to set the system operation in 4 time regimes, after measuring the highest outdoor temperature:
 - 1. activation after 6 hours of the highest outdoor temperature quiet operation lasts for 10 hours,
 - 2. activation after 8 hours of the highest outdoor temperature
 - quiet operation lasts for 10 hours,
 - 3. activation after 6 hours of the highest outdoor temperature quiet operation lasts for 12 hours,
 - 4. aactivation after 8 hours of the highest outdoor temperature
 - quiet operation lasts for 8 hours.

In the auto quiet mode with the full capacity, the noise level can be reduced by 15 dB(A).





Self-diagnosis mode and auto addressing function

- · air-conditioning system self-diagnosis available at the push of the button;
- outdoor unit automatically assigns addresses to indoor units, without the need to enter manual settings; with use of the wireless remote controller it is possible to acquire and modify any indoor unit address..





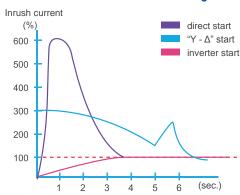
Automatic identification



Smart "soft start" technology

DC Inverter compressor with ,soft" start function reduces the problem of strong inrush current surges. High-performance and quiet scroll type compressor, starts up faster what directly influences the air-conditioned rooms cooling down or heating up time.

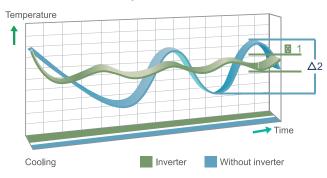
Comparison of inverter and conventional starting



Fast heating up and cooling down

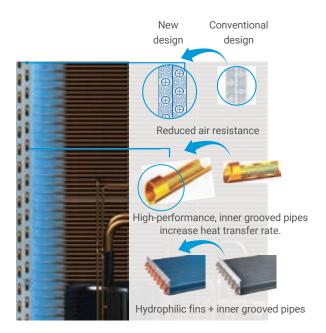
Benefiting from the use of DC inverter driven compressor, the system achieves full load in a very short time and thus limits cooling down or heating up time, to ensure instant comfort. Less temperature fluctuation will create a better living environment.

Room temperature fluctuations



High-performance sigma type heat exchanger

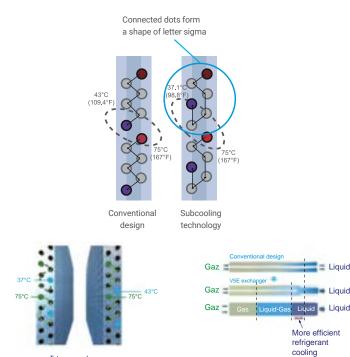
Sigma technology is characterised by high heat exchange efficiency. New design of the exchangers and the fins with hydrophilic film ensure high heat exchange efficiency in each operation mode of the system. Enlarged heat-exchanging area through the grooved pipes on the refrigerant side, ensures high energy efficiencies.



Higher heat exchange efficiency and savings on running costs are obtained by changing the placement of exchanger fins. Enlarged heat-exchanging area and reduced airflow resistance, resulted in more efficient operation of the unit.

Example

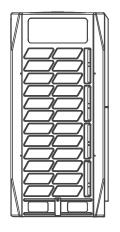
Exchanger with conventional refrigerant flow allows to cool down the fluid to 43°C at the outside temperature +35°C. Sigma technology cools refrigerant down to 37,1°C in the same conditions. Owing to this, the condenser fan consumes less electric energy, and the refrigerant is sub-cooled.

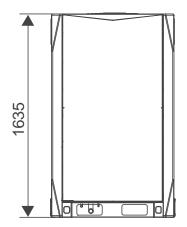


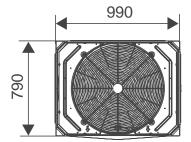
δ type exchanger



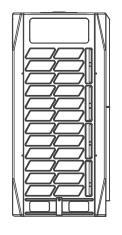
25.2, 28.0, 33.5 kW

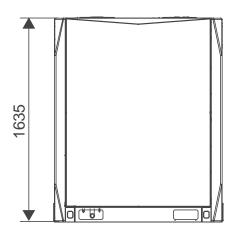


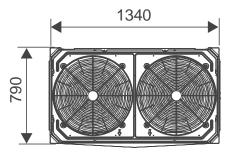




40.0, 45.0, 50.0, 56.0 kW









25.2~33.5 kW



Technical specifications

Model			MV5-E252W/V2GN1	MV5-E280W/V2GN1	MV5-E335W/V2GN1
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	25.2	28.0	33.5
Caaling	Input power	kW	6.81	7.67	8.91
Cooling	EER	W/W	3.70	3.65	3.76
	SEER	W/W	7.29	7.10	6.36
	Capacity	kW	27.0	31.5	37.5
Heating	Input power	kW	5.58	7.26	8.91
пеашу	COP	W/W	4.84	4.34	4.21
	SCOP	W/W	3.97	3.97	4.18
Acceptable indoor	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor	units	pcs	20	20	25
	Туре		Scroll	Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi	Hitachi
compressor	Q-ty		1	1	1
F	Туре		DC	DC	DC
Fan motor	Q-ty		1	1	1
	Туре		Axial	Axial	Axial
-	Q-ty		1	1	1
Fan	04-4:-	Pa	0~20 (default)	0~20 (default)	0~20 (default)
	Static pressure	Pa	20~60 (option)	20~60 (option)	20~60 (option)
	Heat exchanger External finish Pipe type		Aluminum with hydrophilic coating	Aluminum with hydrophilic coating	Aluminum with hydrophilic coating
Heat exchanger			Internally threaded	Internally threaded	Internally threaded
Airflow		m³/min	200	200	200
Sound pressure le	vel	dB(A)	43~59	43~63	43~62
	Net dimensions (width x height x depth)	mm	990×1635×790	990×1635×790	990×1635×790
Dimensions and	Transport dimensions (width x height x depth)	mm	1055×1805×855	1055×1805×855	1055×1805×855
weight	Net / gross weight	kg	219/234	219/234	237/252
D-f-:	Туре		R410A	R410A	R410A
Refrigerant	Charged amount	kg	9	9	11
Expansion compor	nent		Electronic expansion valve	Electronic expansion valve	Electronic expansion valve
	Liquid pipe	mm	Ø12.7	Ø12.7	Ø12.7
	Gas pipe	mm	Ø25.4	Ø25.4	Ø25.4
	Oil balance	mm	Ø6.35	Ø6.35	Ø6.35
	Total installation length	m	1000	1000	1000
Refrigerant installation	Max. distance indoor-outdoor	m	200	200	200
IIIStdlidtlUII	Max. height difference, outdoor unit above	m	90	90	90
	Max. height difference, outdoor unit below	m	110	110	110
	Height difference between indoor units	m	30	30	30
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Note:

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing.

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.







Technical specifications

Model			MV5-E400W/V2GN1	MV5-E450W/V2GN1	MV5-E500W/V2GN1
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	40.0	45.0	50.0
01:	Input power	kW	10.93	13.64	14.71
Cooling	EER	W/W	3.66	3.30	3.40
	SEER	W/W	6.56	6.15	6.60
	Capacity	kW	40.0	45.0	50.0
Hooting	Input power	Input power kW		11.69	12.50
Heating	COP	W/W	4.07	3.85	4.00
	SCOP	W/W	4.06	4.06	3.98
Acceptable indoor	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor		pcs	25	30	30
	Туре		Scroll	Scroll	Scroll
DC Inverter	Brand		Hitachi	Hitachi	Hitachi
compressor	Q-ty		2	2	2
-	Туре		DC	DC	DC
Fan motor	Q-ty		2	2	2
	Туре		Axial	Axial	Axial
_	Q-ty		2	2	2
Fan	0:	Pa	0~20 (default)	0~20 (default)	0~20 (default)
	Static pressure	Pa	20~60 (option)	20~60 (option)	20~60 (option)
Heat exchanger External finish Pipe type			Aluminum with hydrophilic coating	Aluminum with hydrophilic coating	Aluminum with hydrophilic coating
			Internally threaded	Internally threaded	Internally threaded
Airflow		m³/min	233	233	267
Sound pressure lev	vel	dB(A)	43~66	43~66	43~66
	Net dimensions (width x height x depth)	mm	1340×1635×790	1340×1635×790	1340×1635×790
Dimensions and	Transport dimensions (width x height x depth)	mm	1405×1805×855	1405×1805×855	1405×1805×855
weight	Net / gross weight	kg	297/315	297/315	305/323
D (Туре		R410A	R410A	R410A
Refrigerant	Charged amount	kg	13	13	13
Expansion compon	ient		Electronic expansion valve	Electronic expansion valve	Electronic expansion valve
	Liquid pipe	mm	Ø15.9	Ø15.9	Ø15.9
	Gas pipe	mm	Ø31.8	Ø31.8	Ø31.8
	Oil balance	mm	Ø6.35	Ø6.35	Ø6.35
	Total installation length	m	1000	1000	1000
Refrigerant	Max. distance indoor-outdoor	m	200	200	200
installation	Max. height difference, outdoor unit above	m	90	90	90
	Max. height difference, outdoor unit below	m	110	110	110
	Height difference between indoor units	m	30	30	30
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Note

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB

Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing.

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.





SVO

Technical specifications

Model			MV5-E560W/V2GN1	MV5-E615W/V2GN1
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50
	Capacity	kW	56.0	61.5
0	Input power	kW	16.47	19.84
Cooling	EER	W/W	3.40	3.10
	SEER	W/W	6.54	6.13
	Capacity	kW	56.0	61.5
	Input power	kW	16.47	19.84
Heating	COP	W/W	4.00	3.80
	SCOP	W/W	3.82	3.82
Acceptable indoor u	unit capacity range	%	50-150	50-150
Max. no. of indoor u	nits	pcs	35	40
	Туре		Scroll	Scroll
DC Inverter	Brand		Hitachi	Hitachi
compressor	Q-ty		2	2
	Туре		DC	DC
Fan motor	Q-ty		2	2
	Туре		Axial	Axial
	Q-ty		2	2
Fan	0.11	Pa	0~20 (default)	0~20 (default)
	Static pressure	Pa	20~60 (option)	20~60 (option)
Heat exchanger External finish Pipe type			Aluminum with hydrophilic coating	Aluminum with hydrophilic coating
			Internally threaded	Internally threaded
Airflow		m³/min	267	267
Sound pressure leve	el	dB(A)	43~66	43~66
	Net dimensions (width x height x depth)	mm	1340×1635×790	1340×1635×790
Dimensions and	Transport dimensions (width x height x depth)	mm	1405×1805×855	1405×1805×855
weight	Net / gross weight	kg	340/358	340/358
5.61	Туре		R410A	R410A
Refrigerant	Charged amount	kg	16	16
Expansion compone	-		Electronic expansion valve	Electronic expansion valve
	Liquid pipe	mm	Ø15.9	Ø15.9
	Gas pipe	mm	Ø31.8	Ø31.8
	Oil balance	mm	Ø6.35	Ø6.35
Refrigerant	Total installation length	m	1000	1000
	Max. distance indoor-outdoor	m	200	200
installation	Max. height difference, outdoor unit above	m	90	90
	Max. height difference, outdoor unit below	m	110	110
	Height difference between indoor units	m	30	30
Outdoor	Cooling	°C	-5-48	-5~48
temperature	Heating	°C	-20~24	-20~24

Note:

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing.

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.



67.0~78.0 kW



Technical specifications

	Units set name		MV5-E670W/V2GN1	MV5-E730W/V2GN1	MV5-E780W/V2GN1
Model	Compound units		MV5-E335W/V2GN1	MV5-E280W/V2GN1	MV5-E280W/V2GN1
			MV5-E335W/V2GN1	MV5-E450W/V2GN1	MV5-E500W/V2GN1
	Branch pipe connecting compound units		FQZHW-02N1D	FQZHW-02N1D	FQZHW-02N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	67.0	73.0	78.0
Cooling	Input power	kW	17.82	21.13	22.20
	EER	kW/kW	3.76	3.45	3.51
	Capacity	kW	75.0	76.5	81.5
Heating	Input power	kW	17.82	18.58	19.39
	COP	kW/kW	4.21	4.12	4.20
Acceptable indoor	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor	units	pcs	40	45	50
DO 1	Туре		Scroll	Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi	Hitachi
Compressor	Q-ty		2	3	3
Airflow		m³/min	400	433	467
Sound pressure lev	vel	dB(A)	65	68	68
	Net dimensions (width x height x depth)	mm	(990×1635×790)×2	(960×1635×790) + (1340×1635×790)	(960×1635×790) + (1340×1635×790)
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1055×1805×855)×2	(1055×1805×855) + (1405×1805×855)	(1055×1805×855) + (1405×1805×855)
Worgine	Net / gross weight	kg	237×2/252×2	219+297/234+315	219+305/234+323
Defrigarent	Туре		R410A	R410A	R410A
Refrigerant Charged amount		kg	22	22	22
Refrigerant	Liquid pipe	mm	Ø15.9	Ø19.1	Ø19.1
installation	Gas pipe	mm	Ø28.6	Ø31.8	Ø31.8
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB. outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB. outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb. WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

 $Main\ pipeline\ diameters\ are\ given\ for\ reference\ design\ conditions\ and\ basing\ on\ the\ assumption\ of\ 100\%\ outdoor\ unit\ over-sizing.$

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases [R410A GWP=2088].

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.



84.0~95.0 kW



Technical specifications

	Units set name		MV5-E840W/V2GN1	MV5-E895W/V2GN1	MV5-E950W/V2GN1
Model	0 1 11		MV5-E280W/V2GN1	MV5-E280W/V2GN1	MV5-E335W/V2GN1
	Compound units		MV5-E560W/V2GN1	MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units	Branch pipe connecting compound units		FQZHW-02N1D	FQZHW-02N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	84.0	89.5	95.0
Cooling	Input power	kW	23,96	27,33	28,75
	EER	kW/kW	3.51	3.27	3.30
	Capacity	kW	87.5	93.0	99.0
Heating	Input power	kW	20,89	23,07	25,09
	COP	kW/kW	4.19	4.03	3.95
Acceptable indoor u	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor u	nits	pcs	55	55	60
DO 1	Туре		Scroll	Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi	Hitachi
Compressor	Q-ty		3	3	3
Airflow		m³/min	467	467	467
Sound pressure leve	el	dB(A)	68	68	67
D	Net dimensions (width x height x depth)	mm	(990×1635×790) + (1340×1635×790)	(990×1635×790) + (1340×1635×790)	(990×1635×790) + (1340×1635×790)
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1055×1805×855) + (1405×1805×855)	(1055×1805×855) + (1405×1805×855)	(1055×1805×855) + (1405×1805×855)
Worgine	Net / gross weight	kg	219+340/234+358	219+340/234+358	237+340/252+358
Refrigerant	Туре		R410A	R410A	R410A
Remigerant	Charged amount	kg	25	25	27
Refrigerant	Liquid pipe	mm	Ø19.1	Ø19.1	Ø19.1
installation	Gas pipe	mm	Ø31.8	Ø31.8	Ø31.8
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

 $Main\ pipeline\ diameters\ are\ given\ for\ reference\ design\ conditions\ and\ basing\ on\ the\ assumption\ of\ 100\%\ outdoor\ unit\ over-sizing.$

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.



100.0~111.5 kW



Technical specifications

	Units set name		MV5-E1000W/V2GN1	MV5-E1065W/V2GN1	MV5-E1115W/V2GN1
Model	Compound units		MV5-E500W/V2GN1 MV5-E500W/V2GN1	MV5-E450W/V2GN1 MV5-E615W/V2GN1	MV5-E500W/V2GN1 MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-02N1D	FQZHW-02N1D	FQZHW-02N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	100.0	106.5	111.5
Cooling	Input power	kW	29,42	33,48	34,55
	EER	kW/kW	3.40	3.18	3.23
	Capacity	kW	100.0	106.5	111.5
Heating	Input power	kW	25,00	27,87	28,68
	COP	kW/kW	4.00	3.82	3.89
Acceptable indoor	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor	units	pcs	64	64	64
	Туре		Scroll	Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi	Hitachi
Compressor	Q-ty		4	4	4
Airflow		m³/min	533	500	533
Sound pressure le	vel	dB(A)	69	69	69
	Net dimensions (width x height x depth)	mm	(1340×1635×790)×2	(1340×1635×790)×2	(1340×1635×790)×2
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1405×1805×855)×2	(1405×1805×855)×2	(1405×1805×855)×2
Weight	Net / gross weight	kg	305×2/323×2	297+340/315+358	305+340/323+358
Defricerent	Туре		R410A	R410A	R410A
Refrigerant	Charged amount	kg	26	29	29
Refrigerant	Liquid pipe	mm	Ø19.1	Ø19.1	Ø19.1
installation	Gas pipe	mm	Ø38.1	Ø38.1	Ø38.1
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing.

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.



117.5~123.0 kW



Technical specifications

	Units set name		MV5-E1175W/V2GN1	MV5-E1230W/V2GN1
Model	Compound units		MV5-E560W/V2GN1 MV5-E615W/V2GN1	MV5-E615W/V2GN1 MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-02N1D	FQZHW-02N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50
	Capacity	kW	117.5	123.0
Cooling	Input power	kW	36,31	39,68
	EER	kW/kW	3.24	3.10
	Capacity	kW	117.5	123.0
Heating	Input power	kW	30,18	32,36
	COP	kW/kW	3.89	3.80
Acceptable indoor	unit capacity range	%	50-150	50-150
Max. no. of indoor	units	pcs	64	64
DO Incomban	Туре		Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi
Compressor	Q-ty		4	4
Airflow		m³/min	533	533
Sound pressure lev	vel	dB(A)	69	69
D:	Net dimensions (width x height x depth)	mm	(1340×1635×790)×2	(1340×1635×790)×2
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1405×1805×855)×2	[1405×1805×855]×2
Worgine	Net / gross weight	kg	340×2/358×2	340×2/358×2
Refrigerant	Туре		R410A	R410A
Remigerant	Charged amount	kg	32	32
Refrigerant	Liquid pipe	mm	Ø19.1	Ø19.1
installation	Gas pipe	mm	Ø31.8	Ø31.8
Outdoor	Cooling	°C	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing.

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.



128.5~139.5 kW



Technical specifications

	Units set name		MV5-E1285W/V2GN1	MV5-E1345W/V2GN1	MV5-E1395W/V2GN1
				MV5-E280W/V2GN1	MV5-E280W/V2GN1
Model	Compound units		MV5-E335W/V2GN1	MV5-E450W/V2GN1	MV5-E500W/V2GN1
			MV5-E615W/V2GN1	MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units	h pipe connecting compound units		FQZHW-03N1D	FQZHW-03N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	128.5	134.5	139.5
Cooling	Input power	kW	37.66	40.97	42.04
	EER	kW/kW	3.41	3.28	3.32
	Capacity	kW	136.5	138	143.0
Heating	Input power	kW	34.00	34.76	35.57
	COP	kW/kW	4.01	3.97	4.02
Acceptable indoor	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor	units	pcs	64	64	64
501	Туре		Scroll	Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi	Hitachi
Compressor	Q-ty		4	5	5
Airflow		m³/min	667	700	733
Sound pressure lev	vel	dB(A)	69	70	70
	Net dimensions (width x height x depth)	mm	(990×1635×790)×2 + (1340×1635×790)	(990×1635×790) + (1340×1635×790)×2	(990×1635×790) + (1340×1635×790)×2
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1055×1805×855)×2 + (1405×1805×855)	(1055×1805×855) + (1405×1805×855)×2	(1055×1805×855) + (1405×1805×855)×2
Weight	Net / gross weight	kg	237×2+340/252×2+358	219+297+340/234+315+358	219+305+340/234+323+358
Refrigerant	Туре		R410A	R410A	R410A
Kenigerani	Charged amount	kg	38	38	38
Refrigerant	Liquid pipe	mm	Ø19.1	Ø19.1	Ø19.1
installation	Gas pipe	mm	Ø38.1	Ø38.1	Ø38.1
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB

Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor. Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing. Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.



145.5~156.5 kW



Technical specifications

	Units set name		MV5-E1455W/V2GN1	MV5-E1510W/V2GN1	MV5-E1565W/V2GN1
M. I.I			MV5-E280W/V2GN1	MV5-E280W/V2GN1	MV5-E335W/V2GN1
Model	Compound units		MV5-E560W/V2GN1	MV5-E615W/V2GN1	MV5-E615W/V2GN1
			MV5-E615W/V2GN1	MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-03N1D	FQZHW-03N1D	FQZHW-03N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	145.5	151.0	156.5
Cooling	Input power	kW	43.80	47.17	48.59
	EER	kW/kW	3.32	3.20	3.22
	Capacity	kW	149.0	154.5	160.5
Heating	Input power	kW	37.07	39.25	41.27
	COP	kW/kW	4.02	3.94	3.89
Acceptable indoor u	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor u	units	pcs	64	64	64
201	Туре		Scroll	Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi	Hitachi
Compressor	Q-ty		5	5	5
Airflow		m³/min	733	733	733
Sound pressure lev	el	dB(A)	70	70	70
	Net dimensions (width x height x depth)	mm	(990×1635×790) + (1340×1635×790)×2	(990×1635×790) + (1340×1635×790)×2	(990×1635×790) + (1340×1635×790)×2
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1055×1805×855) + (1405×1805×855)×2	(1055×1805×855) + (1405×1805×855)×2	(1055×1805×855) + (1405×1805×855)×2
Weight	Net / gross weight	kg	219+340×2/234+358×2	219+340×2/234+358×2	237+340×2/252+358×2
Type			R410A	R410A	R410A
Refrigerant	Charged amount	kg	41	41	43
Refrigerant	Liquid pipe	mm	Ø22.2	Ø22.2	Ø22.2
installation	Gas pipe	mm	Ø41.3	Ø41.3	Ø41.3
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB

Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor. Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing. Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.



161.5~173.0 kW



Technical specifications

	Units set name		MV5-E1615W/V2GN1	MV5-E1680W/V2GN1	MV5-E1730W/V2GN1
			MV5-E500W/V2GN1	MV5-E450W/V2GN1	MV5-E500W/V2GN1
Model	Compound units		MV5-E500W/V2GN1	MV5-E615W/V2GN1	MV5-E615W/V2GN1
			MV5-E615W/V2GN1	MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-03N1D	FQZHW-03N1D	FQZHW-03N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	161.5	168.0	173.0
Cooling	Input power	kW	49.26	53.32	54.39
	EER	kW/kW	3.28	3.15	3.18
	Capacity	kW	161.5	168.0	173.0
Heating	Input power	kW	41.18	44.05	44.86
	COP	kW/kW	3.92	3.81	3.86
cceptable indoor	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor	units	pcs	64	64	64
20.1	Туре		Scroll	Scroll	Scroll
C Inverter compressor	Brand		Hitachi	Hitachi	Hitachi
orribressor	Q-ty		6	6	6
Airflow		m³/min	800	767	800
Sound pressure lev	vel	dB(A)	71	71	71
	Net dimensions (width x height x depth)	mm	(1340×1635×790)×3	(1340×1635×790)×3	(1340×1635×790)×3
imensions and veight	Transport dimensions (width x height x depth)	mm	(1405×1805×855)×3	(1405×1805×855)×3	(1405×1805×855)×3
veigitt	Net / gross weight	kg	340+305×2/358+323×2	297+340×2/315+358×2	305+340×2/323+358×2
Ofrigoropt	Туре		R410A	R410A	R410A
tefrigerant	Charged amount	kg	42	45	45
tefrigerant	Liquid pipe	mm	Ø22.2	Ø22.2	Ø22.2
nstallation	Gas pipe	mm	Ø41.3	Ø41.3	Ø41.3
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB

Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor. Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing. Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).

For the proper operation of outdoor units in the heat pump mode it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.



179.0~184.5 kW



Technical specifications

	11. 20		NAME E4700M (MOON)	NAME E40/EM/NOOM4
	Units set name		MV5-E1790W/V2GN1	MV5-E1845W/V2GN1
Model			MV5-E560W/V2GN1	MV5-E615W/V2GN1
чопеі	Compound units		MV5-E615W/V2GN1	MV5-E615W/V2GN1
			MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-03N1D	FQZHW-03N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50
	Capacity	kW	179.0	184.5
Cooling	Input power	kW	56.15	59.52
	EER	kW/kW	3.19	3.10
	Capacity	kW	179.0	184.5
Heating	Input power	kW	46.36	48.54
	COP	kW/kW	3.86	3.80
Acceptable indoor u	nit capacity range	%	50-150	50-150
Max. no. of indoor u	nits	pcs	64	64
20.1	Туре		Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi
Juli hi essoi	Q-ty		6	6
Airflow		m³/min	800	800
Sound pressure leve	el	dB(A)	71	71
	Net dimensions (width x height x depth)	mm	(1340×1635×790)×3	(1340×1635×790)×3
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1405×1805×855)×3	(1405×1805×855)×3
veigitt	Net / gross weight	kg	340×3/358×3	340×3/358×3
Dofrigarant	Туре		R410A	R410A
Refrigerant	Charged amount	kg	48	48
Refrigerant	Liquid pipe	mm	Ø22.2	Ø22.2
nstallation	Gas pipe	mm	Ø41.3	Ø41.3
Outdoor	Cooling	°C	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB

Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB

Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor. Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing. Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).



190.0~201.0 kW



Technical specifications

Units set name			MV5-E1900W/V2GN1	MV5-E1960W/V2GN1	MV5-E2010W/V2GN1
				MV5-E280W/V2GN1	MV5-E280W/V2GN1
Model	0		MV5-E335W/V2GN1	MV5-E450W/V2GN1	MV5-E500W/V2GN1
	Compound units		MV5-E615W/V2GN1	MV5-E615W/V2GN1	MV5-E615W/V2GN1
			MV5-E615W/V2GN1	MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-04N1D	FQZHW-04N1D	FQZHW-04N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	380-415/3/50
	Capacity	kW	190.0	196.0	201.0
Cooling	Input power	kW	57.50	60.81	61.88
	EER	kW/kW	3.30	3.22	3.25
	Capacity	kW	198.0	199.5	204.5
Heating	Input power kW		50.18	50.94	51.75
	COP	kW/kW	3.95	3.92	3.95
Acceptable indoor	unit capacity range	%	50-150	50-150	50-150
Max. no. of indoor	units	pcs	64	64	64
DO 1 .	Туре		Scroll	Scroll	Scroll
DC Inverter compressor	Brand		Hitachi	Hitachi	Hitachi
Compressor	Q-ty		6	7	7
Airflow		m³/min	933	967	1000
Sound pressure lev	/el	dB(A)	70	71	71
	Net dimensions (width x height x depth)	mm	(990×1635×790)×2 + (1340×1635×790)×2	(990×1635×790) + (1340×1635×790)×3	(990×1635×790) + (1340×1635×790)×3
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1055×1805×855)×2 + (1405×1805×855)×2	(1055×1805×855) + (1405×1805×855)×3	(1055×1805×855) + (1405×1805×855)×3
woigne	Net / gross weight	kg	237×2+340×2/252×2+358×2	219+297+340×2/234+315+358×2	219+305+340×2/234+323+358×2
Defrigerent	Туре		R410A	R410A	R410A
Refrigerant	Charged amount	kg	54	54	54
Refrigerant	Liquid pipe	mm	Ø25.4	Ø25.4	Ø25.4
installation	Gas pipe	mm	Ø44.5	Ø44.5	Ø44.5
Outdoor	Cooling	°C	-5~48	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24	-20~24

Unit capacity is based on the following conditions:

Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

Main pipeline diameters are given for reference design conditions and basing on the assumption of 100% outdoor unit over-sizing.

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).



207.0~212.5 kW



Technical specifications

	Units set name		MV5-E2070W/V2GN1	MV5-E2125W/V2GN1
			MV5-E280W/V2GN1	MV5-E280W/V2GN1
Model	0		MV5-E560W/V2GN1	MV5-E615W/V2GN1
	Compound units		MV5-E615W/V2GN1	MV5-E615W/V2GN1
			MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-04N1D	FQZHW-04N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50
	Capacity	kW	207.0	212.5
Cooling	Input power	kW	63.64	67.01
	EER	kW/kW	3.25	3.17
	Capacity	kW	210.5	216.5
Heating	Input power	kW	53.25	55.43
	COP	kW/kW	3.95	3.91
Acceptable indoor	unit capacity range	%	50-150	50-150
Max. no. of indoor	units	pcs	64	64
DC Inverter	Туре		Scroll	Scroll
ompressor	Brand		Hitachi	Hitachi
5011pi 6330i	Q-ty		7	7
Airflow		m³/min	1000	1000
Sound pressure lev	rel	dB(A)	71	71
	Net dimensions (width x height x depth)	mm	(990×1635×790) + (1340×1635×790)×3	(990×1635×790) + (1340×1635×790)×3
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1055×1805×855) + (1405×1805×855)×3	(1055×1805×855) + (1405×1805×855)×3
woigne	Net / gross weight	kg	219+340×3/234+358×3	219+340×3/234+358×3
Dofrigoront	Туре		R410A	R410A
Refrigerant	Charged amount	kg	57	57
Refrigerant	Liquid pipe	mm	Ø25.4	Ø25.4
installation	Gas pipe	mm	Ø44.5	Ø44.5
Outdoor	Cooling	°C	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24

Note:

Unit capacity is based on the following conditions: Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

 $Main\ pipeline\ diameters\ are\ given\ for\ reference\ design\ conditions\ and\ basing\ on\ the\ assumption\ of\ 100\%\ outdoor\ unit\ over-sizing.$

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).



218.0~223.0 kW



Technical specifications

	Units set name		MV5-E2180W/V2GN1	MV5-E2230W/V2GN1
			MV5-E335W/V2GN1	MV5-E500W/V2GN1
Model			MV5-E615W/V2GN1	MV5-E500W/V2GN1
	Compound units		MV5-E615W/V2GN1	MV5-E615W/V2GN1
			MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-04N1D	FQZHW-04N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50
	Capacity	kW	218.0	223.0
Cooling	Input power	kW	68.43	69.10
	EER	kW/kW	3.19	3.23
	Capacity	kW	222.0	223.0
Heating	Input power	kW	57.45	57.36
	COP	kW/kW	3.86	3.89
Acceptable indoor	unit capacity range	%	50-150	50-150
Max. no. of indoor (units	pcs	64	64
20.1	Туре		Scroll	Scroll
OC Inverter compressor	Brand		Hitachi	Hitachi
cumpi essui	Q-ty		7	8
Airflow		m³/min	1000	1067
Sound pressure lev	rel	dB(A)	71	72
	Net dimensions (width x height x depth)	mm	(990×1635×790) + (1340×1635×790)×3	(1340×1635×790)×4
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1055×1805×855) + (1405×1805×855)×3	(1405×1805×855)×4
voigne	Net / gross weight	kg	237+340×3/252+358×3	305×2+340×2/323×2+358×2
Onfrigarant	Туре		R410A	R410A
Refrigerant	Charged amount	kg	59	58
Refrigerant nstallation	Liquid pipe	mm	Ø25.4	Ø25.4
nstallation	Gas pipe	mm	Ø44.5	Ø44.5
Outdoor	Cooling	°C	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24

Note:

Unit capacity is based on the following conditions: Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

 $Main\ pipeline\ diameters\ are\ given\ for\ reference\ design\ conditions\ and\ basing\ on\ the\ assumption\ of\ 100\%\ outdoor\ unit\ over-sizing.$

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).



229.5~234.5 kW



Technical specifications

	Units set name		MV5-E2295W/V2GN1	MV5-E2345W/V2GN1
			MV5-E450W/V2GN1	MV5-E500W/V2GN1
Model	0		MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Compound units		MV5-E615W/V2GN1	MV5-E615W/V2GN1
			MV5-E615W/V2GN1	MV5-E615W/V2GN1
	Branch pipe connecting compound units		FQZHW-04N1D	FQZHW-04N1D
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50
	Capacity	kW	229.5	234.5
Cooling	Input power	kW	73.16	74.23
	EER	kW/kW	3.14	3.16
	Capacity	kW	229.5	234.5
Heating	Input power	kW	60.23	61.04
	COP	kW/kW	3.81	3.84
Acceptable indoor	unit capacity range	%	50-150	50-150
Max. no. of indoor	units	pcs	64	64
201	Туре		Scroll	Scroll
DC Inverter	Brand		Hitachi	Hitachi
compressor	Q-ty		8	8
Airflow		m³/min	1033	1067
Sound pressure le	vel	dB(A)	72	72
	Net dimensions (width x height x depth)	mm	(1340×1635×790)×4	(1340×1635×790)×4
Dimensions and weight	Transport dimensions (width x height x depth)	mm	(1405×1805×855)×4	(1405×1805×855)×4
Wolgitt	Net / gross weight	kg	297+340×3/315+358×3	305+340×3/323+358×3
Defeirement	Туре		R410A	R410A
Refrigerant	Charged amount	kg	61	61
Refrigerant	Liquid pipe	mm	Ø25.4	Ø25.4
Refrigerant installation	Gas pipe	mm	Ø44.5	Ø44.5
Outdoor	Cooling	°C	-5~48	-5~48
temperature	Heating	°C	-20~24	-20~24

Note:

Unit capacity is based on the following conditions: Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

 $Main\ pipeline\ diameters\ are\ given\ for\ reference\ design\ conditions\ and\ basing\ on\ the\ assumption\ of\ 100\%\ outdoor\ unit\ over-sizing.$

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).



240.5~246.0 kW



Technical specifications

	Units set name		MV5-E2405W/V2GN1	MV5-E2460W/V2GN1		
Model			MV5-E560W/V2GN1	MV5-E615W/V2GN1		
	Compound units		MV5-E615W/V2GN1	MV5-E615W/V2GN1		
	Compound units		MV5-E615W/V2GN1	MV5-E615W/V2GN1		
			MV5-E615W/V2GN1	MV5-E615W/V2GN1		
	Branch pipe connecting compound units		FQZHW-04N1D	FQZHW-04N1D		
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50		
Cooling	Capacity	kW	240.5	246.0		
	Input power	kW	75.99	79.36		
	EER	kW/kW	3.16	3.10		
Heating	Capacity	kW	240.5	246.0		
	Input power	kW	62.54	64.72		
	COP	kW/kW	3.85	3.80		
Acceptable indoor unit capacity range		%	50-150	50-150		
Max. no. of indoor units		pcs	64	64		
DC Inverter compressor	Туре		Scroll	Scroll		
	Brand		Hitachi	Hitachi		
Jumpi essui	Charged amount		8	8		
Airflow		m³/min	1067	1067		
Sound pressure level		dB(A)	72	72		
Dimensions and weight	Net dimensions (width x height x depth)	mm	(1340×1635×790)×4	[1340×1635×790]×4		
	Transport dimensions (width x height x depth)	mm	(1405×1805×855)×4	(1405×1805×855)×4		
	Net / gross weight	kg	340×4/358×4	340×4/358×4		
Refrigerant	Туре		R410A	R410A		
	Charged amount	kg	64	64		
Refrigerant installation	Liquid pipe	mm	Ø25.4	Ø25.4		
	Gas pipe	mm	Ø44.5	Ø44.5		
Outdoor temperature	Cooling	°C	-5~48	-5~48		
	Heating	°C	-20~24	-20~24		

Note:

Unit capacity is based on the following conditions: Cooling: indoor temperature 27°C DB/ 19°C WB, outdoor temperature 35°C DB Heating: indoor temperature 20°C DB/ 15°C WB, outdoor temperature 7°C DB Refrigerant installation length 7.5 m with the height difference of 0 m.

DB - dry bulb, WB - wet bulb

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1.3 m above the floor.

 $Main\ pipeline\ diameters\ are\ given\ for\ reference\ design\ conditions\ and\ basing\ on\ the\ assumption\ of\ 100\%\ outdoor\ unit\ over-sizing.$

Actual diameters to be determined on the basis of the data included in technical documentation or with help of the selection software.

The unit contains fluorinated greenhouse gases (R410A GWP=2088).



ONE Series



ONE series is a system designed for single-family houses, offices and other small commercial facilities. Depending on the outdoor unit size, it is possible to connect from 6 to 40 indoor units to one circuit. Individual control system ensures independent setting of required air parameters in each room.





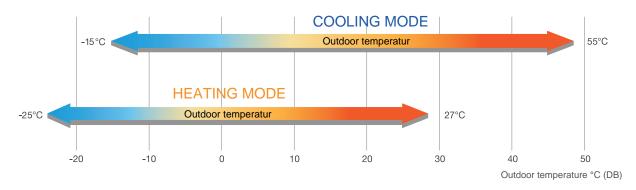
Variety of available outdoor units

Outdoor unit capacity ranges from 7.2 to 90.0 kW. Perfect for application in residences and single-family houses, small offices and other public facilities.



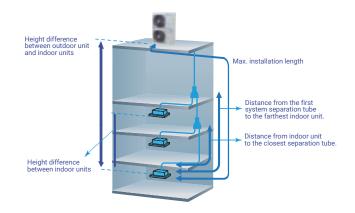
Wide range of available outdoor temperatures

ONE series system guarantees correct operation in the outdoor temperature range from -25°C to +55°C.



Long refrigerant piping - design flexibility

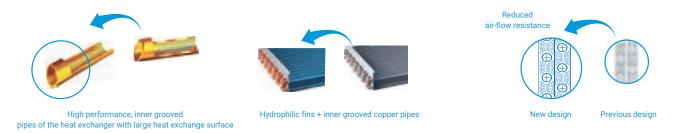
			Acceptable value (m)							
			7.2 kW	9.0 i 12.2 kW	14.0 i 15.5 kW	12.3 - 17.5 kW	20.0 - 33.5 kW	40.0 - 45.0 kW	50.0 - 90.0 kW	
Piping length	Total piping length (actual)		≤ 50	≤ 65	≤ 100	100	150	250	1000	
	Maximum length (L)	Actual length	≤ 35	≤ 45	≤ 60	60	100	100	175	
		Equivalent length	≤ 40	≤ 50	≤ 70	70	120	120	200	
Height	Distance from the first system separation tube to the farthest indoor unit		≤ 20	≤ 20	≤ 20	20	40	40	40	
	Distance from indoor unit to the closest separation tube		15	15	15	15	15	15	90	
difference	Between indoor and outdoor units	Outdoor unit above	≤ 10	≤ 20	≤ 30	30	50	30	70	
		Outdoor unit below	≤ 10	≤ 20	≤ 20	20	40	20	110	
	Between indoor units		≤ 8	≤ 8	≤ 8	8	15	8	30	





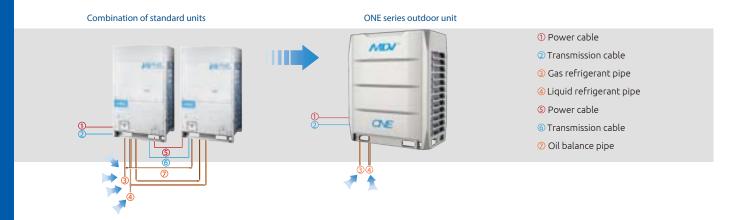
High-performance heat exchanger

Inside the specially designed heat exchanger there are used fins with greater heat exchange surface and reduced airflow resistance. External surface of the fins is covered with hydrophilic coating. The copper pipes internal surfaces have a special groove embossed, which improves heat transfer on the refrigerant side. These solutions, together with the innovative method of exchanger pipes connection, ensure the highest heat exchange efficiency.



Lower risk of refrigerant leakage

In comparison to standard units combined of several modules, the units of the Individual type do not require creating any complex electric and cooling connections at the installation site. The power supply and communication cables, the oil balance pipe and distributors on cooling pipes are eliminated. A larger number of soldered connections in combined system increases the risk of moisture passage into the inside of pipelines. Thanks to the reduced number of connection in the ONE series system, this risk is limited to the minimum.



Cooling down the electronics

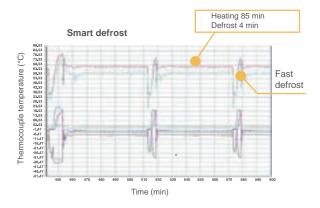
The electric control box in VRF ONE series systems is cooled with refrigerant. This reduces the average temperature of electrical components by about 8°C, ensuring stable and safe operation of the control system.

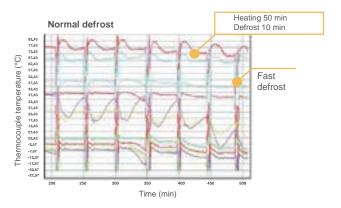




Defrosting technology

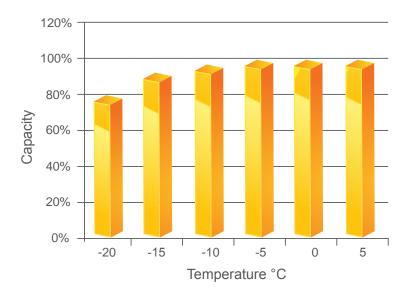
A specially designed defrosting algorithm provides the removal of ice from outdoor unit heat exchanger in optimal time. Because the defrosting time depends on actual, outside conditions, the heating intervals are reduced to the minimum necessary, what has a significant influence on keeping thermal comfort in the heated rooms.





Higher heating capacity

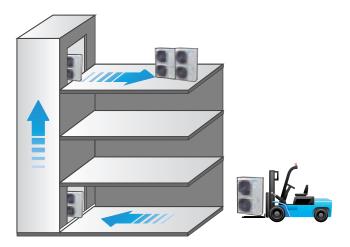
Heating capacity obtains 100% of nominal capacity at outdoor temperature of -5°C and 90% at -15°C.





Compact design - effective use of space

Compact size and limited weight facilitate transport and installation, reduce ceiling and structure loads. Now, only with help of a forklift and an elevator, the units can be placed on the roof of a high building.



Installation space saving - building aesthetic is maintained

Outdoor unit compact casing leads to considerable savings of the installation space. Small dimensions and low weight makes it possible to install the unit even on the wall brackets. In comparison to traditional split type air-conditioners, the ONE series system replaces from several to dozens of smaller units, without affecting current aesthetic of the building.







Easy maintenance

Forced cooling switch enables starting the outdoor unit in cooling mode in any conditions, which facilitate refrigerant charge in case of such need. Self-diagnosis function detects system malfunctions and displays adequate error codes, which makes it considerably easier to perform troubleshooting.









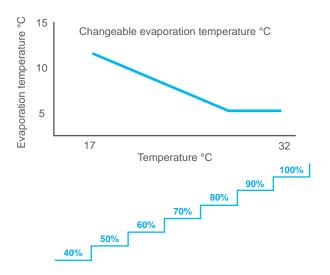
Energy Management System (EMS)

VARIABLE REFRIGERANT TEMPERATURE FOR BALANCED COMFORT AND PERFORMANCE

Evaporation temperature (in cooling mode) and condensing temperature (in heating mode) are adjusted automatically, depending on the indoor and outdoor temperature, in order to increase comfort and energy efficiency.

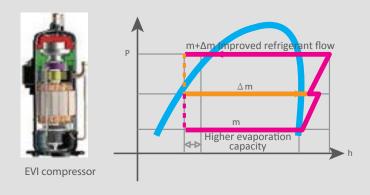
POWER LIMIT DURING ENERGY SUPPLY DISRUPTIONS

Through the integration with the EMS system, in installation with temporary disruptions in energy supply, V6 system can be set at 40-100% capacity.



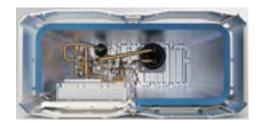
Improved compressor with vapour injection (EVI)

Adoption of the DC inverter compressors with vapour injection, ensures stable operation of the ONE series units in the heating mode at temperature reaching -23 °C, significantly increasing heating capacity.

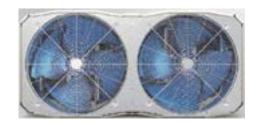


G type, high-performance heat exchanger

Units with capacity from 67.0 to 90.0 kW are equipped with high-performance 3-row G type heat exchanger with the exchange area 1.5 times bigger than in 61.5 kW unit. Additionally, 67.0 90.0 kW units have a large fan with up to 750 mm diameter.



3-row G-type exchanger

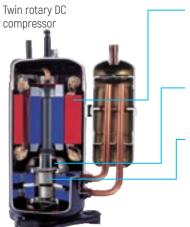


Big fan



DC Inverter - high performance compressor

Application of new inverter technology and DC fan motor allow to achieve high capacity and energy saving, significantly reducing energy consumption during continuous operation, while ensuring stable temperature conditions in the room.



High performance DC motor · new motor core

- high density neodymium magnet
- concentrated stator
- wide range of operational frequency

Better balance and very low vibrations

- twin eccentric discs
- two balance weights

- More stable moving parts
 optimal shafts and vanes fitting
- optimisation of compressor drive technology
- extremely durable bearings
- compact construction

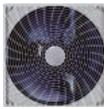


Quiet fan with DC motor

Special guard design and properly profiled fan blades significantly reduces noise while keeping large airflow.

DC Panasonic fan motor

- fan speed wide adjustment range
- lower noise
- lower energy consumption



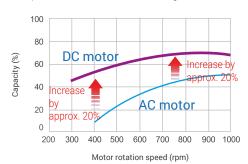




New, bigger propeller

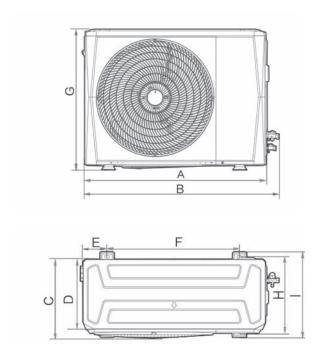
DC motor efficiency

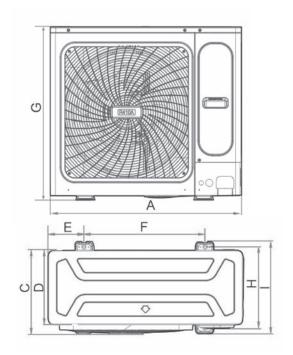
(comparison with conventional alternating current motor)



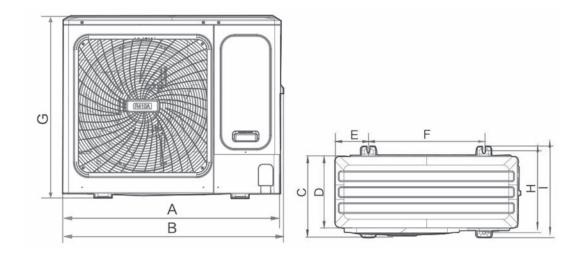
7.2 kW

10.0 and 12.0 kW



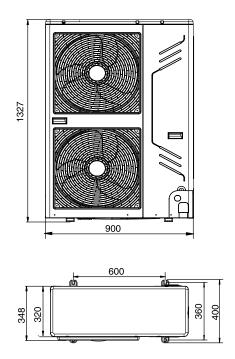


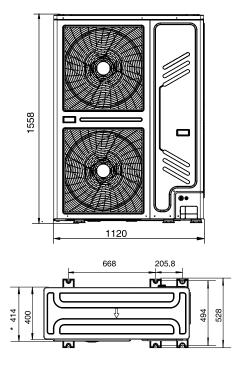
14.0 and 15.5 kW



Model	Α	В	С	D	E	F	G	Н	1
8.0 kW	910	982	390	345	120	663	712	375	426
10.0 and 12.0 kW	950	/	406	360	175	590	840	390	440
14.0 and 16.0 kW	1040	1053	452	410	191	656	865	463	523

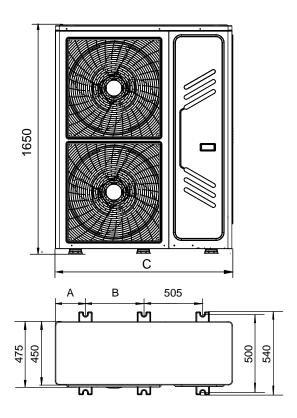
20.0-33.5 kW



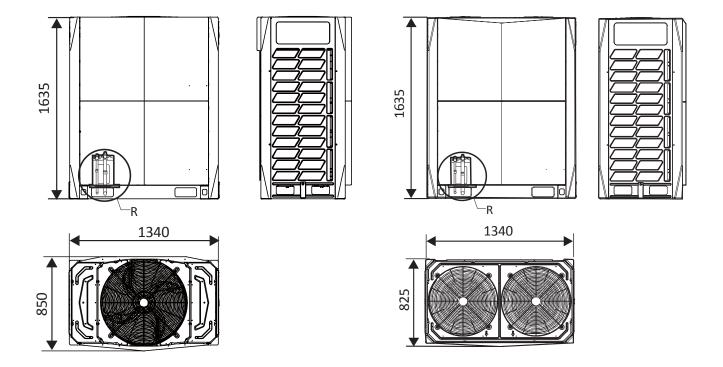


* for 28.0 and 33.5 kW models it is 440 mm.

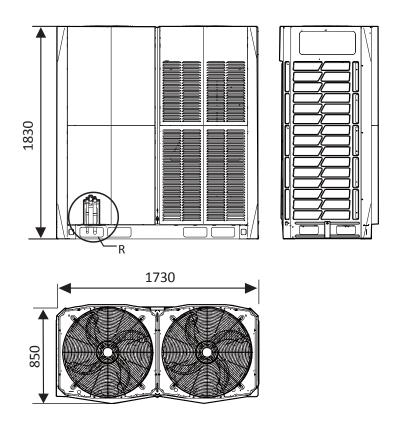
40.0-49.0 kW



56.0, 61.5 kW



67.0, 73.0, 78.5, 85.0, 90.0 kW





7.2~15.5 kW







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Techn	ıcal	spe	CITI	cati	ions
			U III I	-	

	al specifications		NEW	NEW	NEW		NEW		NEW		
Model			MDV-V80W/ DN1(C)	MDV-V100W/ DN1(C)	MDV-V120W/ DN1(C)	MDV-V120W/ DRN1	MDV-V140W/ DN1(C)	MDV-V140W/ DRN1	MDV-V160W/ DN1(C)	MDV-V160W/ DRN1	
Power supply		V/phase/Hz		220-240/1/50		380-415/3/50	220-240/1/50	380-415/3/50	220-240/1/50	380-415/3/50	
	Capacity	kW	7.2	9.0	12.2	12.3	14.0	14.0	15.5	15.5	
0 1:	Input power	kW	2.18	2.64	4.32	3.25	4.56	3.85	5.35	4.52	
Cooling	EER	kW/kW	3.30	3.41	2.82	3.78	3.07	3.64	2.90	3.43	
	SEER	kW/kW	5.78	6.24	5.84	5.40	5.99	5.30	6.09	5.50	
	Capacity	kW	7.2	9.0	14.0	13.2	16.0	15.4	18.0	17.0	
Handina.	Input power	kW	1.82	2.12	3.17	3.47	4.08	4.05	5.71	4.77	
Heating	COP	kW/kW	3.96	4.25	4.42	3.80	3.92	3.80	3.15	3.56	
	SCOP	kW/kW	3.80	4.37	4.32	3.85	4.46	3.95	4.21	3.80	
Acceptable indoor unit capacity range %			45-200	45-200	45-200	45-200	45-200	45-200	45-200	45-200	
Max. no. of indoor units			16*	16*	16*	16*	16*	16*	16*	16*	
DC Inverter	Туре		Rotary								
compressor	r Brand			GMCC		Mitsubishi	GMCC	Mitsubishi	GMCC	Mitsubishi	
Fan motor	Туре				D	IC					
-	Type		Axial								
Fan	Q-ty		1	1	1	2	1	2	1	2	
Heat exchanger	Туре				Aluminum with hydrophilic coating						
Airflow		m³/min	61.7	86.7	83.3	100.0	90.0	100.0	86.7	100.0	
Sound pressure le	vel	dB(A)	54	54	56	57	56	57	56	57	
Sound power level		dB(A)	65	68	70	72	71	73	71	73	
	Net dimensions (width x height x depth)	mm	910×712×345	950×840×360	950×840×360	900×1327×400	1040×865×410	900×1327×400	1040×865×410	900×1327×400	
Dimensions and weight	Transport dimensions (width x height x depth)	mm	1045×800×485	1025×860×510	1025×860×510	1030×1456×435	1120×890×560	1030×1456×435	1120×890×560	1030×1456×435	
and weight	Net / gross weight	kg	75.5/85.5	75.5/85.5	95.0/106.0	95.0/106.0	95.0/106.0	95.0/106.0	100.0/111.0	102.0/113.0	
5.61	Туре					R4	10A				
Refrigerant	Charged amount	kg	2.2	2.35	3.0	3.3	3.4	3.9	3.8	3.9	
Expansion compor	nent					Electronic ex	pansion valve				
	Liquid pipe/gas pipe	mm			Ø9.52	/ Ø15.9			Ø9.52	/ Ø19.1	
Refrigerant installation	Max. piping length	m	50	65	65	100	100	100	100	100	
IIIotaliatiuii	Max. height difference between ODU and IDU	m	10	20	20	30	30	30	30	30	
Outdoor	Cooling	°C	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55	
temperature	Heating	°C	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	

Unit capacity is based on the following conditions:
Cooling - indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB.
Heating - indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB.

Refrigerant installation length 7,5 m with the height difference of 0 m. DB dry bulb. WB- wet bulb.



18.0~20.0 kW

Technical specifications

iechnic	cal specifications			NEW	
Model			MDV-V180W/DRN1	MVi-200WV2RN1(A)	
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	
	Capacity	kW	17.5	20.0	
\	Input power	kW	5.47	4.9	
Cooling	EER	kW/kW	3.20	4.08	
	SEER	kW/kW	5.50	7.11	
	Capacity	kW	19.0	22.5	
	Input power	kW	5.00	6.59	
eating	COP	kW/kW	3.80	3.41	
	SCOP	kW/kW	4.15	3.95	
cceptable indoor	unit capacity range	%	45-200	45-200	
ax. no. of indoor	units		16*	40*	
CInverter	Туре		Rota	ry	
mpressor	Brand		Mitsubishi Electric	GMCC	
n motor	Туре		DC		
_	Туре		Axia	ıl	
n	Q-ty		2	2	
eat exchanger	Туре		Aluminum with hydrophilic coating	Aluminum with hydrophilic coating	
flow		m³/min	113	150	
ound pressure le	evel	dB(A)	59	58	
ound power leve	l	dB(A)	74	-	
	Net dimensions (width x height x depth)	mm	900×1327×400	1120×1558×528	
mensions Id weight	Transport dimensions (width x height x depth)	mm	1030×1456×435	1270×1720×565	
ia woigitt	Net / gross weight	kg	107.0/118.0	143/159	
frianzont	Туре		R410	A	
efrigerant	Charged amount	kg	4.5	6.5	
pansion compo	nent		Electronic expa	ansion valve	
	Liquid pipe/gas pipe	mm	Ø9.52/	Ø19.1	
frigerant stallation	Max. piping length	m	100		
Janation	Max. height difference between ODU and IDU	m	30		
utdoor	Cooling	°C	-15 ~ 55	-15 ~ 55	
emperature	Heating	°C	-25 ~ 27	-25 ~ 27	

Unit capacity is based on the following conditions:
Cooling - indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB.
Heating - indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB.

Refrigerant installation length 7,5 m with the height difference of 0 m. DB dry bulb. WB- wet bulb.





Technical specifications

	ar specifications		NEW	NEW	NEW	NEW			
Model			MVi-224WV2RN1(A)	MVi-260WV2RN1(A)	MVi-280WV2RN1(A)	MVi-335WV2RN1(A			
Power supply		V/phase/Hz	380~415/3/50	380~415/3/50	380~415/3/50	380~415/3/50			
	Capacity	kW	22.4	26.0	28.5	33.5			
0 !:	Input power	kW	6.83	9.63	12.28	14.38			
Cooling	EER	kW/kW	3.28	2.70	2.32	2.33			
	SEER kW		6.83	6.55	6.35	6.42			
	Capacity	kW	25.0	28.5	31.5	37.5			
Heating	Input power	kW	6.67	7.43	7.41	9.08			
	COP	kW/kW	3.75	3.84	4.25	4.13			
	SCOP	kW/kW	4.26	4.53	4.56	3.96			
Acceptable indoor unit capacity range %			45-200	45-200	45-200	45-200			
Max. no. of indoor	units		40*	40*	40*	40*			
DC Inverter Type compressor Brand				Rot	ary				
				GMCC		Mitsubishi			
Fan motor	Туре		D	C					
-	Type		Axial						
Fan	Q-ty	2	2	2	2				
Heat exchanger	Туре		Aluminum with hydrophilic coating						
Airflow		m³/min	175	175	183	188			
Sound pressure lev	vel	dB(A)	59	60	59	61			
Sound power level		dB(A)	-	-	-	-			
	Net dimensions (width x height x depth)	mm	1120×1558×528	1120×1558×528	1120×1558×528	1120×1558×528			
Dimensions and weight	Transport dimensions (width x height x depth)	mm	1270×1720×565	1270×1720×565	1270×1720×565	1270×1720×565			
and weight	Net / gross weight	kg	143/159	144/160	144/157	157/173			
D. (Туре		R410A	R410A	R410A	R410A			
Refrigerant	Charged amount	kg	6,5	6,5	6,5	8			
Expansion compon	nent			Electronic ex	pansion valve				
	Liquid pipe/gas pipe	mm	Ø9.52 / Ø19.1	Ø9.52 / Ø22.2	Ø9.5/ Ø22.2	Ø12.7 / Ø25.4			
Refrigerant nstallation	Max. piping length	m	120	120	120	120			
natallation	Max. height difference between ODU and IDU	m	30	30	30	30			
Outdoor	Cooling	°C	-15 ~ 55	-15 ~ 55	-15 ~ 55	-15 ~ 55			
temperature	Heating	°C	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27			

Unit capacity is based on the following conditions:
Cooling - indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB.
Heating - indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB.

Refrigerant installation length 7,5 m with the height difference of 0 m. DB dry bulb. WB- wet bulb.





Technical specifications

Model			MDV-V400W/DRN1(A)	MDV-V450W/DRN1(A)	MDV-V490W/DRN1(A)			
Power supply		V/phase/Hz	380~415/3/50	380~415/3/50	380~415/3/50			
	Capacity	kW	40.0	45.0	49.0			
0 "	Input power	kW	15.09	13.55	14.70			
Cooling	EER	kW/kW	2.65	3.32	3.33			
	SEER	kW/kW	5.70	5.65	5.55			
	Capacity	kW	40.0	45.0	54.0			
U+:	Input power	kW	10.0	11.11	13.70			
Heating	COP	kW/kW	4.0	4.05	3.94			
	SCOP	kW/kW	3.75	3.70	3.70			
Acceptable indoor unit capacity range %		%	45-200	45-200	45-200			
Max. no. of indoor units			40*	40*	40*			
DC Inverter	Туре		Rotary					
compressor	Brand			Mitsubishi Electric				
Fan motor	Туре			DC + AC				
Fon	Туре			Axial				
Fan	Q-ty		2	2	2			
Heat exchanger	Туре			Aluminum with hydrophilic coating				
Airflow		m³/min	276	276	276			
Sound pressure lev	vel	dB(A)	62	62	62			
Sound power level		dB(A)	82	83	83			
	Net dimensions (width x height x depth)	mm	1360×1650×540	1460×1650×540	1460×1650×540			
Dimensions and weight	Transport dimensions (width x height x depth)	mm	1450×1785×560	1550×1785×560	1550×1785×560			
and worgine	Net / gross weight	kg	250/268	280/300	280/300			
Refrigerant	Туре		R410A	R410A	R410A			
kerrigerani	Charged amount	kg	9	12	12			
Expansion compon	nent			Electronic expansion valve				
D. (Liquid pipe/gas pipe	mm	Ø12.7/Ø22.2	Ø12.7/Ø25.4	Ø12.7/Ø25.4			
Refrigerant installation	Max. piping length	m	250	250	100			
	Max. height difference between ODU and IDU	m	30	30	30			
Outdoor	Cooling	°C	-15 ~ 55	-15 ~ 55	-15 ~ 55			
temperature	Heating	°C	-25 ~ 27	-25 ~ 27	-25 ~ 27			

Unit capacity is based on the following conditions:
Cooling - indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB.
Heating - indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB.

Refrigerant installation length 7,5 m with the height difference of 0 m. DB dry bulb. WB- wet bulb.



50.0~56.0 kW

Technical specifications



Power supply				MV6-i560WV2GN1-E	
		V/phase/Hz	380-415/3/50	380-415/3/50	
	Capacity	kW	50.0	56.0	
	Input power	kW	14.7	16.0	
Cooling	EER	kW/kW	3.45	3.5	
	SEER	kW/kW	6.8	6.45	
	Capacity	kW	50.0	56.0	
	Input power	kW	12.2	13.83	
Heating	COP	kW/kW	4.10	4.05	
	SCOP	kW/kW	3.65	3.65	
Acceptable indoor	unit capacity range	%	50-200	50-200	
lax. no. of indoor			up to 64	up to 64	
	Туре		scroll	scroll	
OC Inverter	Brand		Hitachi	Hitachi	
compressor	Q-ty		1	2	
	Туре		DC	DC	
an motor Q-ty			1	2	
	Туре		Axial	Axial	
	Q-ty		2	7	
Fan	·	Pa	0~40 (default)	0~40 (default)	
	Static pressure	Pa	20~60 (option)	20~60 (option)	
	External finish		Aluminum with hydrophilic coating	Aluminum with hydrophilic coating	
Heat exchanger	Pipe type		Internally threaded	Internally threaded	
Airflow		m³/min	217	283	
Sound pressure lev	VP	dB(A)	43 ~ 65	43 ~ 66	
Sound power level		dB(A)	88	88	
P	Net dimensions (width x height x depth)	mm	1340×1635×850	1340×1635×850	
Dimensions	Transport dimensions (width x height x depth)	mm	1405×1805×910	1405×1805×910	
and weight	Net / gross weight	kg	295/322	344/364	
	Type	Ng	R410A	R410A	
Refrigerant	Charged amount	kg	13	17	
Expansion compon		Ng .	Electronic expansion valve	Electronic expansion valve	
_xparision compon	Liquid pipe	mm	Ø15.9/ Ø19.1*	Ø19.1	
	Gas pipe	m	Ø31.8	Ø31.8	
	Oil balance	mm	901.0	-	
ofrigoros t	Total installation length	m	1000	1000	
Refrigerant nstallation	Max. distance indoor-outdoor	m	200	200	
	Max. height difference, outdoor unit above	m	90	90	
	Max. height difference, outdoor unit below	m	110	110	
	Height difference between indoor units		30	30	
2		m °C			
Outdoor temperature	Cooling Heating	°C	-5 ~ 48 -23 ~ 24	-5 ~ 48 -23 ~ 24	

Note:
Unit capacity is based on the following conditions:
Cooling - indoor temperature Z7°C DB/19°C WB, outdoor temperature 35°C DB.
Heating - indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB.
Refrigerant installation length 5 m with the height difference of 0 m.

DB dry bulb, WB- wet bulb.

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1 m above the floor.

The unit contains fluorinated greenhouse gases R4IDA (GWP=2088).

For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.

Choice of the appropriate solution is a matter for installer.

*depending on the selection software



61.5~67.0 kW

Technical specifications

Model			MV6-i615WV2GN1-E	MV6-i670WV2GN1-E	
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	
	Capacity	kW	61.5	67.0	
0	Input power	kW	20.16	21.61	
Cooling	EER	kW/kW	3.05	3.10	
	SEER	kW/kW	6.25	6.84	
	Capacity	kW	61.5	67.0	
Heating	Input power	kW	16.40	15.95	
Heating	COP	kW/kW	3.75	4.20	
	SCOP	kW/kW	3.65	3.80	
Acceptable indooi	r unit capacity range	%	50-200	50-200	
Max. no. of indoor	units		up to 64	up to 64	
	Туре		scroll	Scroll	
DC Inverter compressor	Brand		Hitachi	Hitachi	
00mpi 0000i	Q-ty		2	2	
Fon motor	Туре		DC	DC	
Fan motor	Q-ty		2	2	
	Туре		Axial	Axial	
Fan	Q-ty		2	2	
	Ctatio proggura	Pa	0~40 (default)	0~40 (default)	
	Static pressure	Pa	20~60 (option)	20~60 (option)	
	External finish		Aluminum with hydrophilic coating	Aluminum with hydrophilic coating	
Heat exchanger	Pipe type		Internally threaded	Internally threaded	
Airflow		m³/min	283	417	
Sound pressure le		dB(A)	43 ~ 66	43~67	
Sound power leve	ıl	dB(A)	88	89	
	Net dimensions (width x height x depth)	mm	1340×1635×850	1730×1830×850	
Dimensions and weight	Transport dimensions (width x height x depth)	mm	1405×1805×910	1800×2000×910	
ana weigin	Net / gross weight	kg	344/364	407/430	
Refrigerant	Туре		R410A	R410A	
Kerriyeranı	Charged amount	kg	17	22	
Expansion compo	nent		Electronic expansion valve	Electronic expansion valve	
	Liquid pipe	mm	Ø19.1	Ø19.1	
	Gas pipe	m	Ø31.8	Ø31.8	
	Oil balance	mm	-	-	
Refrigerant	Total installation length	m	1000	1000	
installation	Max. distance indoor-outdoor	m	200	200	
	Max. height difference, outdoor unit above	m	90	90	
	Max. height difference, outdoor unit below	m	110	110	
	Height difference between indoor units	m	30	30	
Outdoor	Cooling	°C	-5 ~ 48	-5~48	
temperature	Heating	°C	-23 ~ 24	-23~24	

Note:
Unit capacity is based on the following conditions:
Cooling - indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB.
Heating - indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB.
Refrigerant installation length 5 m with the height difference of 0 m.

DB dry bulb, WB- wet bulb.

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1 m above the floor.

The unit contains fluorinated greenhouse gases R4IDA (GWP=2088).

For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner. Choice of the appropriate solution is a matter for installer.



73.0~78.5 kW

Technical specifications



Model			MV6-i730WV2GN1-E	MV6-i785WV2GN1-E	
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	
	Capacity	kW	73.0	78.5	
0 1:	Input power	kW	21.47	24.92	
Cooling	EER	kW/kW	3.40	3.15	
	SEER	kW/kW	6.49	6.20	
	Capacity	kW	73.0	78.5	
	Input power	W	18.02	21.22	
Heating	COP	kW/kW	4.05	3.70	
	SCOP	kW/kW	3.80	3.80	
Acceptable indoor	r unit capacity range	%	50-200	50-200	
Max. no. of indoor	units		up to 64	up to 64	
	Туре		Scroll	Scroll	
DC Inverter compressor	Brand		Hitachi	Hitachi	
compressor	Q-ty		2	2	
-	Туре		DC	DC	
an motor Q-ty			2	2	
	Туре		Axial	Axial	
F	Q-ty		2	2	
Fan	Charlie annual and	Pa	0~40 (default)	0~40 (default)	
	Static pressure	Pa	20~60 (option)	20~60 (option)	
	External finish		Aluminum with hydrophilic coating	Aluminum with hydrophilic coating	
Heat exchanger	Pipe type		Internally threaded	Internally threaded	
Airflow		m³/min	417	417	
Sound pressure le	evel	dB(A)	43~68	43~68	
Sound power level	I	dB(A)	90	90	
	Net dimensions (width x height x depth)	mm	1730×1830×850	1730×1830×850	
Dimensions and weight	Transport dimensions (width x height x depth)	mm	1800×2000×910	1800×2000×910	
and weight	Net / gross weight	kg	429/452	429/452	
D-f-:	Туре		R410A	R410A	
Refrigerant	Charged amount	kg	22	22	
Expansion compo	nent		Electronic expansion valve	Electronic expansion valve	
	Liquid pipe	mm	Ø19.1/Ø22.2*	Ø19.1/Ø22.2*	
	Gas pipe	m	Ø31.8	Ø31.8	
	Oil balance	mm	-	-	
Refrigerant	Total installation length	m	1000	1000	
installation	Max. distance indoor-outdoor	m	200	200	
	Max. height difference, outdoor unit above	m	90	90	
	Max. height difference, outdoor unit below	m	110	110	
	Height difference between indoor units	m	30	30	
Outdoor	Cooling	°C	-5~48	-5~48	
temperature	Heating	°C	-23~24	-23~24	

Note:
Unit capacity is based on the following conditions:
Cooling - indoor temperature Z7°C DB/19°C WB, outdoor temperature 35°C DB.
Heating - indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB.
Refrigerant installation length 5 m with the height difference of 0 m.

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1 m above the floor.

The unit contains fluorinated greenhouse gases R4IDA (GWP=2088).

For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.

Choice of the appropriate solution is a matter for installer.

*depending on the selection software



85.0~90.0 kW

Technical specifications

Model			MV6-i850WV2GN1-E	MV6-i900WV2GN1-E	
Power supply		V/phase/Hz	380-415/3/50	380-415/3/50	
	Capacity	kW	85.0	90.0	
0 !	Input power	kW	28.33	32.14	
Cooling	EER	kW/kW	3.00	2.80	
	SEER	kW/kW	6.05	5.87	
	Capacity	kW	85.0	90.0	
	Input power	kW	24.3	26.47	
Heating	COP	kW/kW	3.50	3.40	
	SCOP	kW/kW	3.90	3.90	
Acceptable indoor	r unit capacity range	%	50-200	50-200	
Max. no. of indoor	units		up to 64	up to 64	
	Туре		Scroll	Scroll	
DC Inverter	Brand		Hitachi	Hitachi	
compressor	Q-ty		2	2	
	Туре		DC	DC	
Fan motor	Q-ty		2	2	
	Туре		Axial	Axial	
Fan	Q-ty		2	2	
	0	Pa	0~40 (default)	0~40 (default)	
	Static pressure	Pa	20~60 (option)	20~60 (option)	
	External finish		Aluminum with hydrophilic coating	Aluminum with hydrophilic coating	
Heat exchanger	Pipe type		Internally threaded	Internally threaded	
Airflow		m³/min	400	400	
Sound pressure le	evel	dB(A)	43~68	43~68	
Sound power leve	I	dB(A)	90	90	
	Net dimensions (width x height x depth)	mm	1730×1830×850	1730×1830×850	
Dimensions	Transport dimensions (width x height x depth)	mm	1800×2000×910	1800×2000×910	
and weight	Net / gross weight	kg	475/507	475/507	
D ()	Туре		R410A	R410A	
Refrigerant	Charged amount	kg	25	25	
Expansion compo	nent		Electronic expansion valve	Electronic expansion valve	
	Liquid pipe	mm	Ø22.2	Ø22.2	
	Gas pipe	m	Ø31.8/Ø38.1*	Ø31.8/Ø38.1*	
	Oil balance	mm	-	-	
Refrigerant	Total installation length	m	1000	1000	
installation	Max. distance indoor-outdoor	m	200	200	
	Max. height difference, outdoor unit above	m	90	90	
	Max. height difference, outdoor unit below	m	110	110	
	Height difference between indoor units	m	30	30	
Outdoor	Cooling	°C	-5~48	-5~48	
temperature	Heating	°C	-23~24	-23~24	

Note:
Unit capacity is based on the following conditions:
Cooling - indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB.
Heating - indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB.
Refrigerant installation length 5 m with the height difference of 0 m.

DB dry bulb, WB- wet bulb.

Noise level measured in a reverberation chamber, at a distance of 1 m from the front of the unit. A microphone placed 1 m above the floor.

The unit contains fluorinated greenhouse gases R4IDA (GWP=2088).

For the proper operation of outdoor units in the heat pump mode, it is necessary to apply a drain pan heater or provide smooth condensate drain in another manner.

Choice of the appropriate solution is a matter for installer.

*depending on the selection software

VRF INDOOR UNITS







2nd generation									
indoor units	Model	18	22	28	36	45	56	71	80
Туре	kW	1.8	2.2	2.8	3.6	4.5	5.6	7.1	8.0
Wall-mounted			•	•	•	•	•	•	•
Duct - medium static pressure			•	•	•	•	•	•	•
Duct - high static pressure								•	•
Duct with 100% fresh air intake									
4-way compact cassette			•	•	•	•			
4-way standard cassette				•	•	•	•	•	•
2-way cassette			•	•	•	•	•	•	
1-way cassette		•	•	•	•	•	•	•	
Ceiling-floor					•	•	•	•	•
Standing (floor)			•	•	•	•	•	•	•



90	100	112	125	140	160	200	250	280	Page
9.0	10.0	11.2	12.5	14.0	16.0	20.0	25.0	28.0	. 135
•									122
•		•		•					126
•		•		•	•	•	•	•	130
			•	•		•	•	•	136
									138
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M model



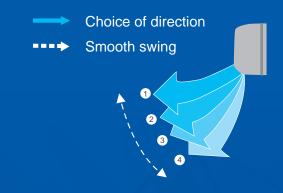
7 fan speeds

7 available indoor unit fan speeds allows more accurate airflow adjustment and enables individual adaptation of comfort conditions in a room.



Automatic swing

Possibility to set louvers swing. Louvers can be stopped in any position. Air louver automatically adjusts its position when changing the operation mode, so to ensure highest possible comfort.



Super slim design

Front panel can be easily removed in order to improve service access.



Improved refrigerant flow control, lower noise level

EXV expansion valve provides quiet operation and precise adjustment of the refrigerant flow, which ensures stable maintenance of the set temperature. Full range of adjustment is 2000 steps. Three fan speeds and properly shaped air deflectors ensure even airflow without unnecessary whirls and turbulence.



Technical specifications

Model			MDV-022G/DN1	MDV-028G/DN1	MDV-036G/DN1	MDV-045G/DN1			
Power supply		V/phase/Hz	220-240/1/50						
	Rated capacity (*1)	kW	2.2	2.8	3.6	4.5			
Cooling	Input power	kW	0.028	0.028	0.03	0.04			
	Input current	А	0.12	0.12	0.13	0.17			
	Rated capacity (*2)	kW	2.4	3.2	4.0	5.0			
Heating	Input power	kW	0.028	0.028	0.03	0.04			
	Input current	А	0.12	0.12	0.13	0.17			
Heat exchanger	Corrosion protection		Hydrophilic coating						
Rated airflow m ³ /h		m³/h	356/368/380/393/402/411/422	316/338/353/370/386/402/417	488/515/544/573/591/628/656	424/450/478/507/535/563/594			
Sound level (speed	1/2/3/4/5/6/7) (*3)	dB(A)	29/29/29/30/30/30/31	29/29/29/30/30/30/31	30/30/31/31/32/32/33	31/31/32/33/33/34/35			
Sound power level	(speed 1/2/3/4/5/6/7) (*3)	dB(A)	44/44/44/45/45/45/46	44/44/44/45/45/45/46	45/45/46/47/47/47/48	45/45/46/47/47/47/48			
	Net (width x height x depth)	mm	835×280×203	835×280×203	990×315×223	990×315×223			
Dimensions	Transport (width x height x depth)	mm	935×385×320	935×385×320	1085×420×335	1085×420×335			
	Net/gross weight	kg	8.4/12.1	9.5/13.1	11.4/15.5	12.8/16.9			
Refrigerant				R4	10A				
Refrigerant flow of	control		Electronic expansion valve						
Piping	Liquid	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35			
Pipiliy	Gas	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7			
Condensate drain mm		mm	Ø16			Ø16			
Wiring	Power supply	mm²	3×1.5						
Wiring	Transmission	mm ²	3×0.75 shielded						

Model		MDV-056G/DN1	MDV-071G/DN1	MDV-080G/DN1	MDV-090G/DN1				
Power supply V/phase/Hz									
	Rated capacity (*1)	kW	5.6	7.1	8.0	9.0			
Cooling	Input power	kW	0.045	0.055	0.055	0.082			
	Input current	А	0.20	0.24	0.24	0.36			
	Rated capacity (*2)	kW	6.3	8.0	9.0	10.0			
Heating	Input power	kW	0.045	0.055	0.055	0.082			
	Input current	А	0.20	0.24	0.24	0.36			
Heat exchanger	Corrosion protection		Hydrophilic coating						
Rated airflow		m³/h	547/578/613/648/685/713/747	809/875/940/1005/1065/1130/1195	809/875/940/1005/1065/1130/1195	867/934/1005/1067/1125/1300/1421			
Sound level (speed	1/2/3/4/5/6/7) (*3)	dB(A)	34/34/35/36/36/37/38 36/37/38/39/42/43/44 36/37/38/39/42/43/44		36/37/38/39/42/43/44	53/55/56/58/60/61/63			
Sound power leve	l (speed 1/2/3/4/5/6/7) (*3)	dB(A)	49/49/50/51/51/52/53	51/52/53/54/57/58/59	51/52/53/54/57/58/59	38/40/41/43/45/46/48			
	Net (width x height x depth)	mm	990×315×223	1194×343×262	1194×343×262	1194×343×262			
Dimensions	Transport (width x height x depth)	mm	1085×420×335	1290×375×460	1290×375×460	1290×375×460			
	Net/gross weight	kg	12.8/16.9	17.0/22.4	17.0/22.4	17.0/22.4			
Refrigerant			R410A						
Refrigerant flow	control			Electronic ex	pansion valve				
Piping	Liquid	mm	Ø9.53	Ø9.53	Ø9.53	Ø9.53			
ripiliy	Gas	mm	Ø15.9	Ø15.9	Ø15.9	Ø15.9			
Condensate drain mm		mm	Ø16		Ø 16				
Wiring	Power supply	mm²		3×					
Wiring	Transmission	mm ²		3×0.75 s	hielded				

Rated capacity is given for the following conditions:
(1) Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Refrigerant piping length is 7,5 m with height difference of 0 m.(*2) Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Refrigerant piping length is 7,5 m with height difference of 0 m. DB - dry bulb. WB - wet bulb (*3) Sound pressure level measured in a semi-anechoic chamber.

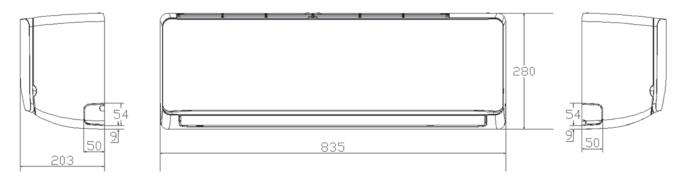
Accessories

	RM05B	Wireless remote controller
Individual control	WDC-86E/KD	Wired remote controller with flat touch panel and Follow Me function
	WDC-120G/WK	Wired remote controller with group control and weekly timer
	CCM-180A/WS	Central controller with colour 6.2' LCD touch screen, control up to 64 indoor units
	CCM-270A/WS	Central controller with colour 10.1' LCD touch screen, control up to 384 indoor units
Central controllers	MD-CCM15	WEB central controller, control up to 64 indoor units
	IMMP-M	Communication module for IMM Intelligent Manager
	IMMP-S	Software for IMM Intelligent Manager
	DTS634/DT636	Electric energy meter for IMM system
Adapters/accessories	NIM09	Motion sensor
	IMM-BAC	BACnet system up to 256 indoor units
II I I I I I I I I I I I I I I I I I I	GW-MOD	ModBus system up to 64 indoor units
IInd generation BMS - for ONE system above 49kW	GW-LON	IonWorks system up to 256 indoor units
	GW-KNX	KNX system for max. 1 indoor unit
	MD-CCM-18A/N	ModBus system up to 64 indoor units for MV5 outdoor units i.e. EVO
Ist generation BMS - for EVO and ONE systems up to	MD-CCM08/E	IonWorks system up to 256 indoor units
49kW	LONGW64E	lonWorks system up to 256 indoor units
	KNX1B/16/64	KNX system for max. 1 indoor unit

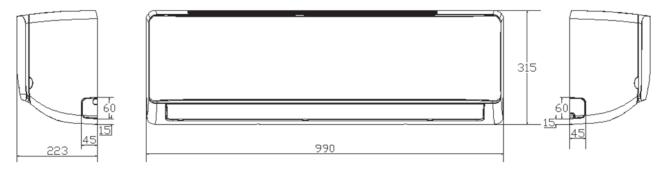


Indoor units

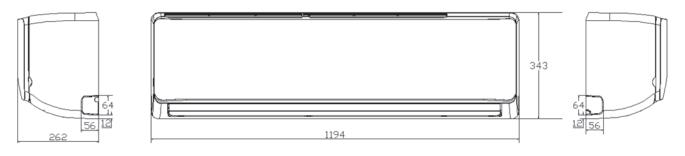
MDV-022G/DN1, MDV-028G/DN1



MDV-036G/DN1, MDV-045G/DN1, MDV-056G/DN1



MDV-071G/DN1, MDV-080G/DN1, MDV-090G/DN1







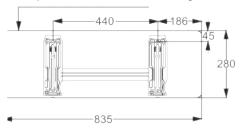
Assembly drawing of each model

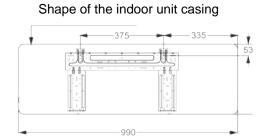


MDV-022G/DN1, MDV-028G/DN1

MDV-036G/DN1, MDV-045G/DN1, MDV-056G/DN1

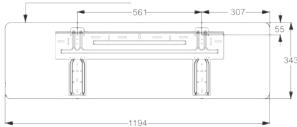
Shape of the indoor unit casing





MDV-071G/DN1, MDV-080G/DN1, MDV-090G/DN1

Shape of the indoor unit casing

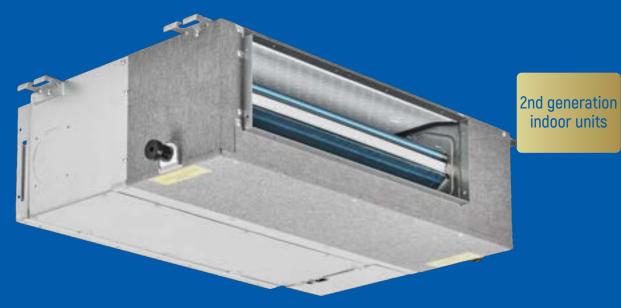






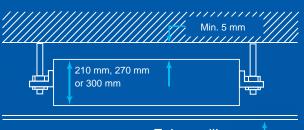
indoor units

Medium static pressure



Compact size

Unit height only 210 mm (22÷71 models) and 270 mm (80÷112 models) and 300 mm (140 model). Electronic expansion valve EXV built-in the unit.



False ceiling

Wide capacity range

Capacity range from 2.2 kW to 14.0 kW. 10 models available.



Convenient installation

- EXV valve built-in the unit.
- Filter fitted in the aluminium frame, easy to remove.
- Standard air inlet from the back of the unit, or optional from the bottom.
- The possibility of supplying fresh air. Inlet and outlet connection flanges as standard.
- Drain pump as a standard equipment.





Technical specifications

Model			MDV-022T2/DN1	MDV-028T2/DN1	MDV-036T2/DN1	MDV-045T2/DN1	MDV-056T2/DN1			
Power supply		V/phase/Hz	220~240/1/50							
	Rated capacity (*1)	kW	2.2	2.8	3.6	4.5	5.6			
Cooling	Input power	kW	0.04	0.04	0.045	0.092	0.092			
	Input current	А	0.17	0.17	0.20	0.40	0.40			
	Rated capacity (*2)	kW	2.6	3.2	4.0	5.0	6.3			
Heating	Input power	kW	0.04	0.04	0.045	0.092	0.092			
	Input current	А	0.17	0.17	0.20	0.40	0.40			
Heat exchanger	Corrosion protection				Hydrophilic coating					
Rated airflow		m³/h	300/330/360/400/ 440/480/520	300/330/360/400/ 440/480/520	370/400/430/460/ 500/540/580	400/480/540/620/ 680/740/800	560/600/640/680/ 720/760/830			
Available static p	ressure	Pa	10(0~50)	10(0~50)	10(0~50)	10(0~50)	10(0~50)			
Sound pressure I (speed 1/2/3/4/5		dB(A)	23/25/26/28/29/31/32	23/25/26/28/29/31/32	33/34/35/36/36/37/37	33/34/35/36/37/37/38	28/29/30/32/33/34/36			
Sound power levi (speed 1/2/3/4/5		dB(A)	41/43/44/46/47/49/50	41/43/44/46/47/49/50	33/34/35/36/36/37/37	33/34/35/36/37/37/38	46/47/48/50/51/52/54			
	Net dimensions (width x height x depth)	mm	780×210×500	780×210×500	780×210×500 780×210×500		1000×210×500			
Dimensions	Transport dimensions (width x height x depth)	mm	870×285×525	870×285×525	870×285×525	1090×285×525	1090×285×525			
	Net/gross weight	kg	18.0/21.0	18.0/21.0	18.0/21.0	21.5/25.0	21.5/25.0			
Refrigerant					R410A					
Refrigerant flow	control				Electronic expansion valve					
Dining	Liquid	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35	Ø6.35			
Piping	Gas	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7	Ø12.7			
Condensate drain mm		Ø25	Ø25	Ø25	Ø25	Ø25				
Mirina	Power supply	mm²			3×1.5					
Wiring	Transmission	mm²			3×0.75 shielded					

Model		MDV-071T2/DN1	MDV-080T2/DN1	MDV-090T2/DN1	MDV-112T2/DN1	MDV-140T2/DN1				
Power supply		V/phase/Hz	220-240/1/50							
	Rated capacity (*1)	kW	7.1	8.0	9.0	11.2	14.0			
Cooling	Input power	kW	kW 0.098		0.12	0.2	0.25			
	Input current	А	0.43	0.48	0.52	0.87	1.09			
	Rated capacity (*2)	kW	8.0	9.0	10.0	12.5	15.5			
Heating	Input power	kW	0.098	0.11	0.12	0.2	0.25			
	Input current	А	0.43	0.48	0.52	0.87	1.09			
Heat exchanger	Corrosion protection				Hydrophilic coating					
Rated airflow	Rated airflow m ³ /h		680/720/780/840/ 900/960/1000	780/860/940/1020/ 1100/1180/1260	780/860/940/1020/1100/ 1180/1260	1080/1140/1210/1290/ 1360/1430/1500	1360/1460/1560/1660/ 1760/1860/1960			
Available static pr	essure	Pa	10(0~50)	20(10~100)	20(10~100)	20(10~100)	40(30~150)			
	Sound pressure level (speed 1/2/3/4/5/6/7) (*3) dB(A)		28/29/30/32/33/35/37	28/29/31/33/34/35/37	28/29/31/33/34/35/37	33/34/35/37/38/38/39	33/35/36/37/38/39/41			
Sound power leve (speed 1/2/3/4/5)		dB(A)	46/47/48/50/51/53/55	46/47/49/51/52/53/55	46/47/49/51/52/53/55	51/52/53/55/56/56/57	51/53/54/55/56/57/59			
	Net dimensions (width x height x depth)	mm	1220×210×500	1230×270×775	1230×270×775	1230×270×775	1290×300×865			
Dimensions	Transport dimensions (width x height x depth)	mm	1335×285×525	1335×350×795	1335×350×795	1335×350×795	1400×375×925			
	Net/gross weight	kg	25.7/30.2	36.5/44.5	37/45	37/45	46.5/55.5			
Refrigerant			R410A							
Refrigerant flow of	control				Electronic expansion valve					
Dining	Liquid	mm	Ø9.53	Ø9.53	Ø9.53	Ø9.53	Ø9.53			
Piping	Gas	mm	Ø15.9	Ø15.9	Ø15.9	Ø15.9	Ø15.9			
Condensate drain mm		Ø25	Ø25	Ø25	Ø25	Ø25				
Wiring	Power supply	mm²			3×1.5					
Wiring	Transmission	mm²			3×0.75 shielded	3×0.75 shielded				

Rated capacity is given for the following conditions:

(*1) Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB. Refrigerant piping length is 7,5 m with height difference of 0 m.

(*2) Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Refrigerant piping length is 7,5 m with height difference of 0 m.

DB - dry bulb. WB - wet bulb

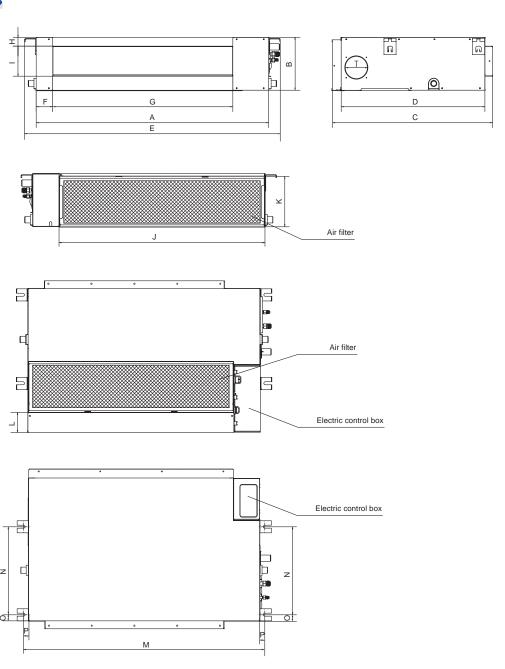
^(*3) Sound pressure level measured in a semi-anechoic chamber 1,4m below the unit.



Accessories

	RM05B	Wireless remote controller
Individual control	WDC-86E/KD	Wired remote controller with flat touch panel and Follow Me function
	WDC-120G/WK	Wired remote controller with group control and weekly timer
	CCM-180A/WS	Central controller with colour 6.2' LCD touch screen, control up to 64 indoor units
	CCM-270A/WS	Central controller with colour 10.1' LCD touch screen, control up to 384 indoor units
Central controllers	MD-CCM15	WEB central controller, control up to 64 indoor units
	IMMP-M	Communication module for Intelligent Manager IMM
	IMMP-S	Software for IMM Intelligent Manager
A d+ /i	DTS634/DT636	Electric energy meter for IMM system
Adapters/accessories	NIM09	Motion sensor
	IMM-BAC	BACnet system up to 256 indoor units
III-d acception DMC for OME system above (OLAN)	GW-MOD	ModBus system up to 64 indoor units
IInd generation BMS - for ONE system above 49kW	GW-LON	IonWorks system up to 256 indoor units
	GW-KNX	KNX system for max. 1 indoor unit
	MD-CCM-18A/N	ModBus system up to 64 indoor units for MV5 outdoor units i.e. EVO
Ist generation BMS - for EVO and ONE systems up to	MD-CCM08/E	IonWorks system up to 256 indoor units
49kW	LONGW64E	IonWorks system up to 256 indoor units
	KNX1B/16/64	KNX system for max. 1 indoor unit

Indoor units





Madal	Dimensions (mm)								
Model	Α	В	С	D	Е	F	G	Н	
MDV-022T2/DN1 - MDV-036T2/DN1	700	210	500	450	780	45	512	17	
MDV-045T2/DN1 - MDV-056T2/DN1	920	210	500	450	1000	45	732	17	
MDV-071T2/DN1	1140	210	500	450	1220	45	950	17	
MDV-080T2/DN1 - MDV-112T2/DN1	1140	270	775	710	1230	65	933	35	
MDV-140T2/DN1	1200	300	865	800	1290	85	969	40	
Model	Dimensions (mm)								
Model	1	J	K	L	М	N	0	Р	
MDV-022T2/DN1- MDV-036T2/DN1	145	570	180	-	740	350	35	20	
MDV-045T2/DN1 - MDV-056T2/DN1	145	790	180	-	960	350	35	20	
MDV-071T2/DN1	145	1010	180	-	1180	350	35	20	
MDV-080T2/DN1 - MDV-112T2/DN1	179	1035	260	20	1180	490	26	20	
MDV-140T2/DN1	204	1094	288	45	1240	500	26	20	





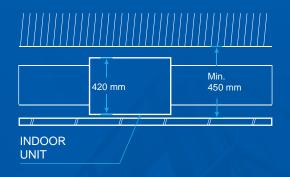
High static pressure



Flexible structure of the air supply duct

Maximum length of the air supply duct is approx. 14 m, airflow range is 6,5 m. Minimum ceiling cavity is 450 mm (unit height is 420 mm for 71÷160 models).





Convenient installation

- EXV valve built-in the unit.
- Filter fitted in the aluminium frame, easy to remove.
- The possibility of supplying fresh air. Inlet and outlet connection flanges as standard
- Standard air inlet from the back of the unit, or optional from the bottom.

Wide capacity range

Capacity range from 7.1 kW to 28.0 kW. 9 models available.

Flexible control, simple maintenance

Wired remote controller as a standard equipment. LED display is pre-wired to the electrical box - easy error codes reading. Possibility to install the electric box in a distance of 1 m from the unit, in a more convenient place for the service stuff. As a standard, the unit is equipped with ports for remote turning on and off and alarm signaling [230 V].



Technical specifications

Model			MDV-071T1/DN1	MDV-080T1/DN1	MDV-090T1/DN1	MDV-112T1/DN1	MDV-140T1/DN1	MDV-160T1/DN1		
Power supply		V/phase/Hz		220-240/1/50						
01:	Rated capacity (*1)	kW	7.1	8.0	9.0	11.2	14.0	16.0		
Cooling	Input power	kW	0.18	0.18	0.22	0.38	0.42	0.7		
Heating	Rated capacity (*2)	kW	8.0	9.0	10.0	12.5	16.0	17.0		
Heating	Input power	kW	0.18	0.18	0.22	0.38	0.42	0.7		
Heat exchanger	Corrosion protection				Hydrophil	ic coating				
Rated airflow		m³/h	1160/1193/1227/1260/ 1293/1327/1360	1160/1193/1227/1260/ 1293/1327/1360	1140/1187/1233/128/ 1327/1373/1420	1350/1437/1523/161/ 1697/1783/1870	1601/1707/1813/1920/ 2027/2133/2240	1880/2010/2140/2270/ 2400/2530/2660		
Available static p	ressure	Pa	100(30~200)	100(30~200)	100(30~200)	100(30~200)	100(30~200)	100(30~200)		
	Sound pressure level (speed 1/2/3/4/5/6/7) (*3) dB(A)		42/43/44/45/ 45/46/46	42/43/44/45/ 45/46/46	45/46/47/48/ 48/49/50	45/46/47/48/ 49/50/50	48/49/50/51/ 51/52/53	50/50/51/52/ 53/54/54		
Sound power leve (speed 1/2/3/4/5)		dB(A)	60/61/62/63/ 63/64/64	60/61/62/63/ 63/64/64	63/64/65/66/ 66/67/68	63/64/65/66/ 67/68/68	66/67/68/69/ 69/70/71	68/68/69/70/ 71/72/72		
	Net dimensions (width x height x depth) (*4)	mm	965×423×690	965×423×690	965×423×690	965×423×690	1322×423×691	1322×423×691		
Dimensions	Transport dimensions (width x height x depth)	mm	1090×440×768	1090×440×768	1090×440×768	1090×440×768	1436×450×768	1436×450×768		
	Net/gross weight	kg	41.0/47.0	41.0/47.0	51.0/57.0	51.0/57.0	63.0/70.0	63.0/70.0		
Refrigerant			R410A							
Refrigerant flow	control				Electronic ex	pansion valve				
Dining	Liquid	mm	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø9.52		
Piping	Gas	mm	Ø15.9	Ø15.9	Ø15.9	Ø15.9	Ø15.9	Ø15.9		
Condensate drain mm		Ø25	Ø25	Ø25	Ø25	Ø25	Ø25			
Wiring	Power supply	mm²			3×	1.5				
Wiring	Transmission	mm ²			3×0.75 s	shielded				

Model			MDV-200T1/DN1	MDV-250T1/DN1	MDV-280T1/DN1	MDV-400T1/DN1	MDV-450T1/DN1	MDV-560T1/DN1		
Power supply V/phase/Hz			220-240/1/50							
	Rated capacity (*1)	kW	20.0	25.0	28.0	40	45	56		
Cooling	Input power	kW	0.99	1.2	1.2	1.8	1.8	2.27		
Heating	Rated capacity (*2)	kW	22.5	26.0	31.5	45	56	63		
пеанну	Input power	kW	0.99	1.2	1.2	1.8	1.8	2.27		
Heat exchanger	Corrosion protection				Hydrophil	ic coating				
Rated airflow		m³/h	3730/3830/3930/4030 /4130/4230/4330	3730/3830/3930/4030 /4130/4230/4330	3730/3830/3930/4030 /4130/4230/4330	4400/4750/5100/5450 /5800/6150/6500	4400/4750/5100/5450 /5800/6150/6500	5000/5400/5800/620 0/6600/7000/7400		
Available static p	ressure	Pa	170(20~250)	170(20~250)	170(20~250)	300(100~400)	300(100~400)	300(100~400)		
	Sound pressure level [speed 1/2/3/4/5/6/7] [*3] dB[A]		50/52/53/54/ 55/56/57	50/52/53/54/ 55/56/57	50/52/53/54/ 55/56/57	52/54/55/57/ 58/59/60	52/54/55/57/ 58/59/60	51/53/55/56/ 57/58/59		
Sound power level (speed 1/2/3/4/5		dB(A)	68/70/71/72/ 73/74/75	68/70/71/72/ 73/74/75	68/70/71/72/ 73/74/75	70/72/73/75/ 76/77/78	70/72/73/75/ 76/77/78	69/71/73/74/ 75/76/77		
	Net dimensions (width x height x depth) (*4)	mm	1454×515×931	1454×515×931	1454×515×931	2005×929×670	2005×929×670	2005×929×670		
Dimensions	Transport dimensions (width x height x depth)	mm	1509×550×990	1509×550×990	1509×550×990	2095×964×800	2095×964×800	2095×964×800		
	Net/gross weight	kg	130.0/142.0	130.0/142.0	130.0/142.0	210/235	210/235	218/248		
Refrigerant			R410A							
Refrigerant flow	control				Electronic expans	sion valve (2 sets)				
Dining	Liquid	mm	Ø9.52 (×2)	Ø9.52 (×2)	Ø9.52 (×2)	Ø15.9 (×2)	Ø15.9 (×2)	Ø15.9 (×2)		
Piping	Gas	mm	Ø15.9 (×2)	Ø15.9 (×2)	Ø15.9 (×2)	Ø28.6 (×2)	Ø28.6 (×2)	Ø28.6 (×2)		
Condensate drain	Condensate drain mm		Ø32	Ø32	Ø32	Ø32	Ø32	Ø32		
Wiring	Power supply	mm²			3×	1.5				
Wiring	Transmission	mm²			3×0.75 s	shielded				

Rated capacity is given for the following conditions:

[1] Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB. Refrigerant piping length is 7,5 m with height difference of 0 m.

[2] Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Refrigerant piping length is 7,5 m with height difference of 0 m.

DB - dry bulb. WB - wet bulb

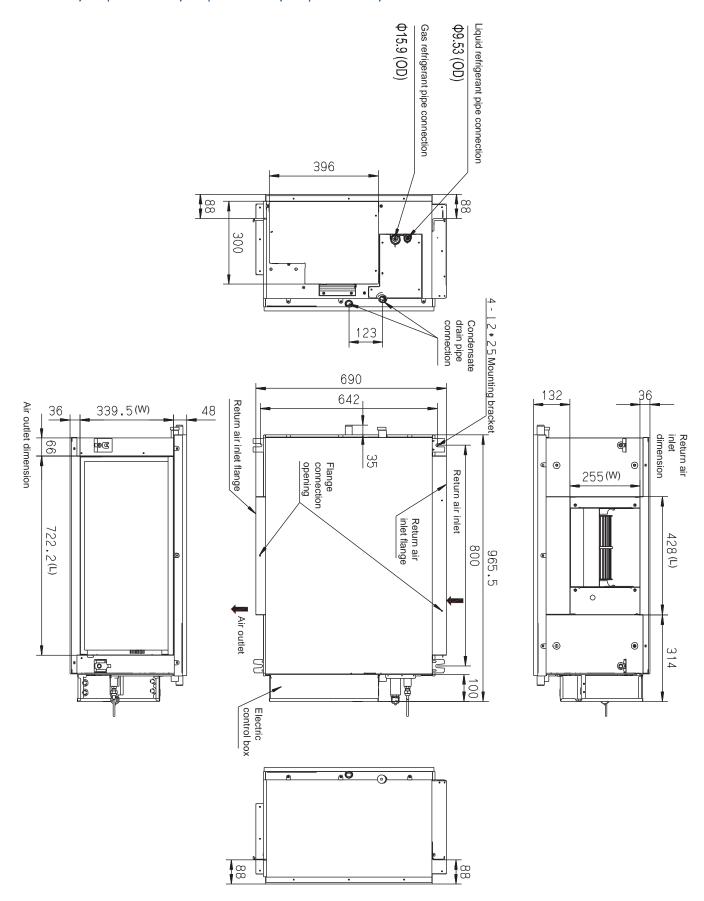
(*3) Sound pressure level measured in a semi-anechoic chamber 1,4m below the unit.

(*4) The given dimensions of the casing are the largest external dimensions of the unit, including mountings to brackets.



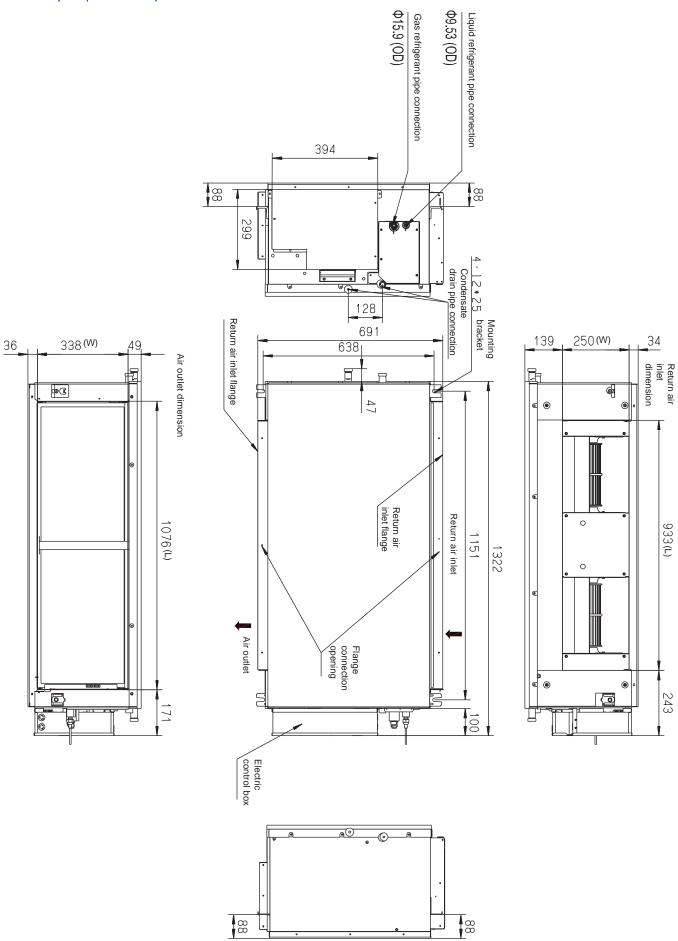
Indoor units

MDV-071T1/DN1, MDV-080T1/DN1, MDV-090T1/DN1, MDV-1121T1/DN1



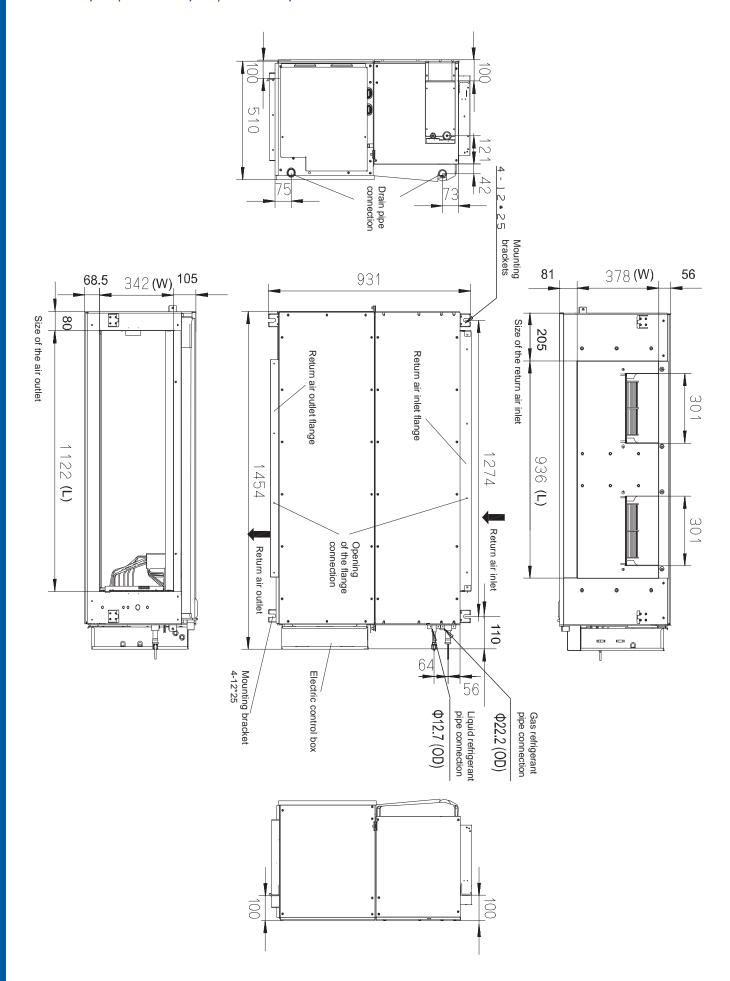


MDV-140T1/DN1, MDV-160T1/DN1





MDV-200T1/DN1, MDV-250T1/DN1, MDV-280T1/DN1











100% fresh air



2nd generation indoor units

100% of fresh air

Filtering, cooling and heating function can be performed in one system. Duct unit can operate on 100% fresh air or partial recirculation.



Comfortable and healthy climate

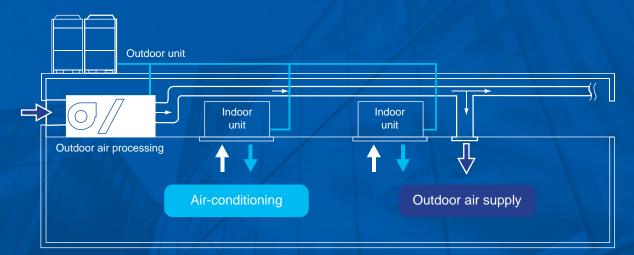
Fresh air supply to the air-conditioned rooms ensures highest comfort of the occupants.

High external static pressure

External static pressure can achieve 200 Pa (models 125÷280).

Flexible structure of air supply ducts

Maximum length of the air supply duct is approx. 14 m, airflow range is 6,5 m. Minimum ceiling cavity is 450 mm (unit height is 420 mm for 125÷140 models).





Technical specifications

Model			MDV-125FA/DN1	MDV-140FA/DN1			
Power supply		V/phase/Hz	220-240/1/50				
	Rated capacity (*1)	kW	12.5	14.0			
Cooling	Input power	kW	0.48	0.48			
	Input current	А	2.09	2.09			
	Rated capacity (*2)	kW	10.5	12.0			
Heating	Input power	kW	0.48	0.48			
	Input current	А	2.09	2.09			
Heat exchanger	Corrosion protection		Hydrophilic	coating			
Rated airflow		m³/h	1500/1583/1667/1750/ 1833/1917/2000	1500/1583/1667/1750/ 1833/1917/2000			
Available static pr	ressure	Pa	180(30–200)	180(30~200)			
	Sound pressure level (speed 1/2/3/4/5/6/7) (*3) dB(42/43/44/45/46/47/48	42/43/44/45/46/47/48			
Sound power leve (speed 1/2/3/4/5)	el /6/7) (*3)	dB(A)	60/61/62/63/64/65/66	60/61/62/63/64/65/66			
	Net dimensions (width x height x depth)	mm	1322×423×691	1322×423×691			
Dimensions	Transport dimensions (width x height x depth)	mm	1436×450×768	1436×450×768			
	Net/gross weight	kg	68.0/76.0	68.0/76.0			
Refrigerant			R410A				
Refrigerant flow of	control		Electronic expansion valve				
Piping Liquid Gas		mm	Ø9.5	3			
		mm	Ø15.9				
Condensate drain	Condensate drain mm		Ø25				
Wiring	Power supply	mm²	3×1.	5			
wiinig	Transmission	mm²	3×0.75 shielded				

Notes:

Rated capacity is given for the following conditions:

(*1) Cooling: Outdoor temperature 33°C DB/28°C WB

(*2) Heating: Outdoor temperature 0°C DB/ -2.9°C WB

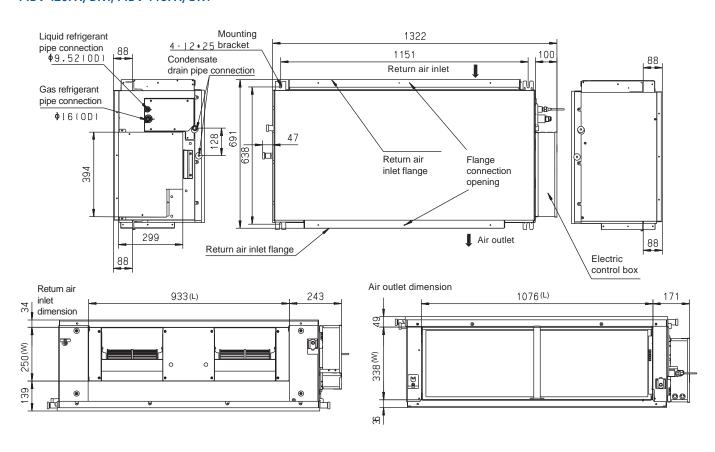
Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m. $\,$

DB - dry bulb. WB - wet bulb

 $\left[^{*}3\right]$ Sound pressure level measured in a semi-anechoic chamber 1,4m below the unit.

Indoor units

MDV-125FA/DN1, MDV-140FA/DN1





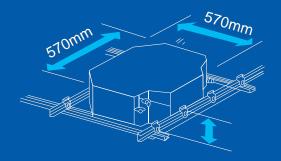
4-way compact



2nd generation indoor units

Compact design, easy installation and maintenance

Compact structure enables installation in standard 600x600 modular ceiling. Units low height and weight simplify installation works.

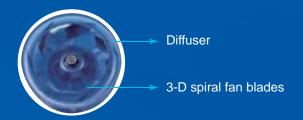


Quiet operation, gentle airflow

Modern structure and spatially shaped fan blades significantly reduced noise level while maintaining large airflow.

7 fan speeds

7 available indoor unit fan speeds allows more accurate airflow adjustment and enables individual adaptation of comfort conditions in a room.





360° air outlet

 360° air outlet ensures even temperature and airflow distribution in the whole room.

Built-in drain pump

Built-in drain pump with maximum head up to 500 mm.







Model			MDV-022Q4C/DN1	MDV-028Q4C/DN1	MDV-036Q4C/DN1	MDV-045Q4C/DN1	
Panel			CE-MBQ-03C4	CE-MBQ-03C4	CE-MBQ-03C4	CE-MBQ-03C4	
Power supply		V/phase/Hz		220~24	0/1/50		
	Rated capacity (*1)	kW	2.2	2.8	3.6	4.5	
Cooling	Input power	kW	0.035	0.035	0.04	0.05	
	Input current	А	0.15	0.15	0.17	0.22	
	Rated capacity (*2)	kW	2.4	3.2	4.0	5.0	
Heating	Input power	kW	0.035	0.035	0.04	0.05	
	Input current	А	0.15	0.15	0.17	0.22	
Fan	Input power	W	16.4	19.5	19.5	23.6	
Heat exchanger	Corrosion protection			Hydrophil	ic coating		
Rated airflow		m³/h	238/268/288/313/345/380/414	238/268/288/313/345/380/414	314/350/380/409/450/485/521	314/350/380/409/450/485/521	
Sound pressure level [speed 1/2/3/4/5/6/7] (*3) dB(A)		dB(A)	22/23/26/29/33/34/35	22/23/26/29/33/34/35	28/29/30/32/35/38/41	28/29/30/32/35/38/41	
Sound power leve (speed 1/2/3/4/5/	l /6/7) (*3)	dB(A)	38/39/42/45/49/50/51	38/39/42/45/49/50/51	43/44/45/47/50/53/56	43/44/45/47/50/53/56	
	Net dimensions (width x height x depth) (*4)	mm	630×260×570	630×260×570	630×260×570	630×260×570	
Unit dimensions	Transport dimensions (width x height x depth)	mm	700×345×660	700×345×660	700×345×660	700×345×660	
	Net/gross weight	kg	18.0/23.5	18.0/23.5	19.2/25	19.2/25	
	Net dimensions (width x height x depth)	mm	647×50×647	647×50×647	647×50×647	647×50×647	
Panel	Transport dimensions (width x height x depth)	mm	715×123×715	715×123×715	715×123×715	715×123×715	
	Net/gross weight	kg	2.5/4.5	2.5/4.5	2.5/4.5	2.5/4.5	
Refrigerant				R4	10A		
Refrigerant flow o	control			Electronic ex	pansion valve		
Dining	Liquid	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35	
Piping	Gas	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7	
Condensate drain		mm	Ø32	Ø32	Ø32	Ø32	
A4(:-:	Power supply	mm²		3×	1.5		
Wiring	Transmission	mm²		3×0.75 s	shielded		

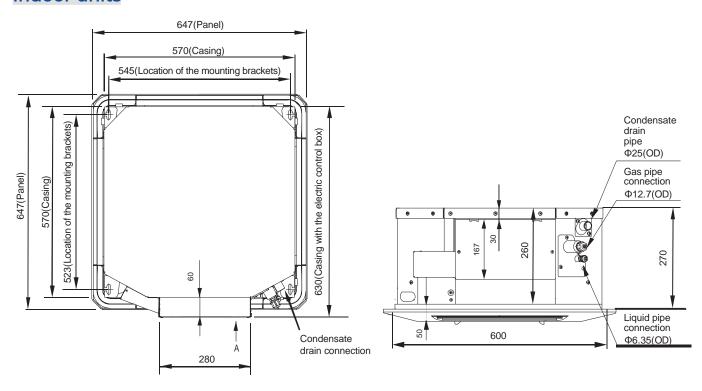
Rated capacity is given for the following conditions:

(**1) Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB
(**2) Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB
Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m.
DB - dry bulb. WB - wet bulb

[*3] Sound pressure level measured in a semi-anechoic chamber at a distance of 1,4 m from the unit.

[*4] The given dimensions of the casing are the largest dimensions including mounting brackets.

Indoor units





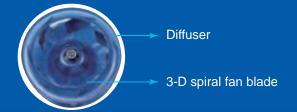
4-way standard



2nd generation indoor units

Quiet operation, gentle airflow

Modern structure and spatially shaped fan blades significantly reduced noise level while maintaining large airflow.



Even 4-way air supply

Four air outlet ducts provides effective circulation in the whole room. Setting the high fan speed ensures even temperature distribution also in rooms with height of more than 3 m.



Additional connections

Possible to air-condition additional rooms by connection of ventilation ducts.



Easy troubleshooting

Reading the error codes directly from a display on the panel simplifies problem recognition and helps in quicker troubleshooting.



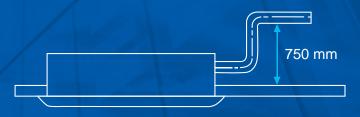
Slim design

Ultra slim unit structure facilitates installation and maintenance. Unit height is only 230 mm (for 28÷80 models).

230 mm

Built-in drain pump

Built-in drain pump with maximum head up to 750 mm, significantly simplifies drain outlet installation.





Model			MDV-028Q4/DN1	MDV-036Q4/DN1	MDV-045Q4/DN1	MDV-056Q4/DN1	MDV-071Q4/DN1
Panel			T-MBQ-02C1	T-MBQ-02C1	T-MBQ-02C1	T-MBQ-02C1	T-MBQ-02C1
Power supply		V/phase/Hz			220~240/1/50		
	Rated capacity (*1)	kW	2.8	3.6	4.5	5.6	7.1
Cooling	Input power	kW	0.025	0.025	0.031	0.031	0.046
	Input current	А	0.11	0.11	0.13	0.13	0.20
	Rated capacity (*2)	kW	3.2	4.0	5.0	6.3	8.0
Heating	Input power	kW	0.025	0.025	0.031	0.031	0.046
Ŭ	Input current	А	0.11	0.11	0.13	0.13	0.20
Fan	Input power	W	42	42	44	44	55
Heat exchanger	Corrosion protection				Hydrophilic coating		
Rated airflow	,	m³/h	542/611/637/658/ 711/751/801	542/611/637/658/ 711/751/801	635/698/714/744/ 804/866/893	635/698/714/744/ 804/866/893	671/738/778/800/ 864/937/977
Sound pressure (speed 1/2/3/4/		dB(A)	23/26/28/28/30/31/32	23/26/28/28/30/31/32	26/28/30/31/31/34/35	26/28/30/31/31/34/35	27/28/30/31/34/35/35
Sound power lev (speed 1/2/3/4/		dB(A)	39/41/43/43/45/46/47	39/41/43/43/45/46/47	40/42/45/46/46/49/50	40/42/45/46/46/49/50	41/42/45/47/47/49/50
	Net dimensions (width x height x depth) (*4)	mm	840×230×840	840×230×840	840×230×840	840×230×840	840×230×840
Unit dimensions	Transport dimensions (width x height x depth)	mm	955×260×955	955×260×955	955×260×955	955×260×955	955×260×955
	Net/gross weight	kg	21.3/25.8	21.3/25.8	23.2/27.6	23.2/27.6	23.2/27.6
	Net dimensions (width x height x depth)	mm	950×50×950	950×50×950	950×50×950	950×50×950	950×50×950
Panel	Transport dimensions (width x height x depth)	mm	1035×90×1035	1035×90×1035	1035×90×1035	1035×90×1035	1035×90×1035
Refrigerant	Net/gross weight	kg	5.8/7.9	5.8/7.9	5.8/7.9 R410A	5/8	5.8/7.9
Refrigerant flow	control				Electronic expansion valve		
	Liquid	mm	Ø6.35	Ø6.35	Ø6.35	Ø9.53	Ø9.53
Piping	Gas	mm	Ø12.7	Ø12.7	Ø12.7	Ø15.9	Ø15.9
Condensate drai		mm	Ø32	Ø32	Ø32	Ø32	Ø32
	Power supply	mm²	go.	902	3×1.5	902	902
Wiring	Transmission	mm²			3×0.75 shielded		
Model			MDV-080Q4/DN1	MDV-090Q4/DN1	MDV-100Q4/DN1	MDV-112Q4/DN1	MDV-140Q4/DN1
Panel			T-MBQ-02C1	T-MBQ-02C1	T-MBQ-02C1	T-MBQ-02C1	T-MBQ-02C1
Power supply		V/phase/Hz			220~240/1/50		
	Rated capacity (*1)	kW	8.0	9.0	10.0	11.2	14.0
Cooling	Input power	kW	0.048	0.075	0.075	0.075	0.094
3	Input current	А	0.21	0.33	0.33	0.33	0.41
	Rated capacity (*2)	kW	9.0	10.0	11.0	12.5	16.0
Heating	Input power	kW	0.048	0.075	0.075	0.075	0.094
g	Input current	A	0.21	0.33	0.33	0.33	0.41
Fan	Input power	W	42	42	44	44	55
	Corrosion protection	**	TL	TL.	Hydrophilic coating		30
Rated airflow	Corrosion protection	m³/h	774/840/912/977/ 1064/1131/1203	970/1029/1111/1201/ 1230/1294/1349	1100/1150/1200/1250/ 1440/1600/1700	1100/1150/1200/1250/ 1440/1600/1700	1150/1200/1250/1300/ 1500/1650/1800
Sound pressure (speed 1/2/3/4/		dB(A)	28/29/31/31/34/35/36	28/30/31/31/34/35/37	34/35/37/38/40/42/43	34/35/37/38/40/42/43	37/39/40/41/42/44/45
Sound power lev (speed 1/2/3/4/	vel 5/6/7) (*3)	dB(A)	42/42/46/46/48/49/52	43/44/46/46/48/49/53	49/50/52/53/55/57/58	49/50/52/53/55/57/58	52/54/55/56/57/59/60
Unit	Net dimensions (width x height x depth) (*4)	mm	840×230×840	840×300×840	840×300×840	840×300×840	840×300×840
dimensions	Transport dimensions (width x height x depth)	mm	955×260×955	955×330×955	955×330×955	955×330×955	955×330×955
	Net/gross weight	kg	23.2/27.6	28.4/33.8	28.4/33.8	28.4/33.8	28.4/33.8
	Net dimensions (width x height x depth)	mm	950×50×950	950×50×950	950×50×950	950×50×950	950×50×950
Panel	Transport dimensions (width x height x depth)	mm	1035×90×1035	1035×90×1035	1035×90×1035	1035×90×1035	1035×90×1035
	Net/gross weight	kg	5.8/7.9	5.8/7.9	5.8/7.9	5.8/7.9	5.8/7.9
Refrigerant					R410A		
Refrigerant flow					Electronic expansion valve		
	Liquid	mm	Ø9.53	Ø9.53	Ø9.53	Ø9.53	Ø9.53
				at a constant	w	4	4
Piping	Gas	mm	Ø15.9	Ø15.9	Ø15.9	Ø15.9	Ø15.9
Piping		mm mm	Ø15.9 Ø32	Ø15.9 Ø32	Ø15.9 Ø32	Ø15.9 Ø32	Ø15.9 Ø32
Piping Condensate drai							
Piping	in	mm			Ø32		

Rated capacity is given for the following conditions:

[1] Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB

[2] Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB

Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m.

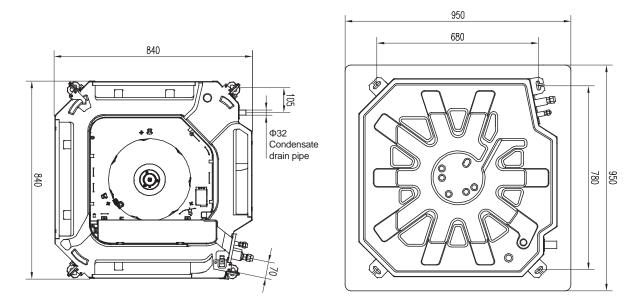
DB - dry bulb. WB - wet bulb

(*3) Sound pressure level measured in a semi-anechoic chamber at a distance of 1,4 m below the unit.

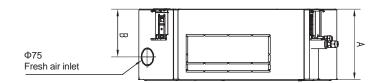
(*4) The given dimensions of the casing are the largest dimensions including mounting brackets.



Indoor units













2-way



2nd generation indoor units

Long distance

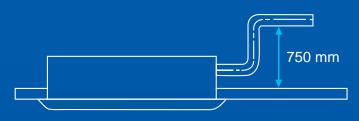
Long distance air stream ensures even temperature distribution in the whole room.

Quiet operation

Optimum air ducts shape significantly reduces noise level. Minimum noise level is only 24 dB(A).

Built-in drain pump

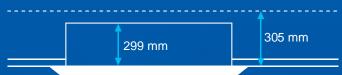
A drain pump with head of 750 mm is built-in as a standard.



Stylish design

With a stylish appearance and compact size, the unit harmonizes with the room interior. Slim structure (only 299 mm of height) simplifies installation in limited spaces.

Slim intake grille design simplifies maintenance and maintaining cleanness.





Model			MDV-022Q2/DN1	MDV-028Q2/DN1	MDV-036Q2/DN1	MDV-045Q2/DN1	MDV-056Q2/DN1	MDV-071Q2/DN1	
Panel		MBQ2-01	MBQ2-01	MBQ2-01	MBQ2-01	MBQ2-01	MBQ2-01		
Power supply		V/phase/Hz		220~240/1/50					
	Rated capacity (*1)	kW	2.2	2.8	3.6	4.5	5.6	7.1	
Cooling	Input power	kW	0.035	0.04	0.04	0.05	0.069	0.098	
	Input current	А	0.15	0.17	0.17	0.22	0.30	0.43	
	Rated capacity (*2)	kW	2.6	3.2	4	5	6.3	8	
Heating	Input power	kW	0.035	0.04	0.04	0.05	0.069	0.098	
	Input current	А	0.15	0.17	0.17	0.22	0.30	0.43	
Heat exchanger	Corrosion protection				Hydrophil	ic coating			
Rated airflow		m³/h	410/449/488/530/ 571/612/654	410/449/488/530/ 571/612/654	458/509/554/591/ 641/679/725	550/592/631/670/ 731/792/850	670/702/755/800/ 855/925/980	770/808/921/1000/ 1068/1115/1200	
Sound level (lowe	Sound level (lowest-highest) (*3) dB(A)		21 - 30	21 - 30	22 - 32	27 - 34	27 - 36	31 - 41	
Sound power leve (speed 1/2/3/4/5)		dB(A)	24/25/27/29/ 30/31/33	24/25/27/29/ 30/31/33	25/27/29/30/ 32/33/35	30/31/32/34/ 35/36/37	30/31/33/35/ 36/37/39	34/36/38/40/ 41/42/44	
	Net dimensions (width x height x depth) (*4)	mm	1172×299×591	1172×299×591	1172×299×591	1172×299×591	1172×299×591	1172×299×591	
Unit dimensions	Transport dimensions (width x height x depth)	mm	1355×400×675	1355×400×675	1355×400×675	1355×400×675	1355×400×675	1355×400×675	
	Net/gross weight	kg	33.5/42.0	33.5/42.0	33.5/42.0	35.0/43.5	35.0/43.5	35.0/43.5	
	Net dimensions (width x height x depth)	mm	1430×53×680	1430×53×680	1430×53×680	1430×53×680	1430×53×680	1430×53×680	
Panel	Transport dimensions (width x height x depth)	mm	1525×130×765	1525×130×765	1525×130×765	1525×130×765	1525×130×765	1525×130×765	
	Net/gross weight	kg	10.5/15	10.5/15	10.5/15	10.5/15	10.5/15	10.5/15	
Refrigerant					R4	10A			
Refrigerant flow of	control	typ			Electronic ex	pansion valve			
Dining	Liquid	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35	Ø9.53	Ø9.53	
Piping	Gas	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7	Ø15.9	Ø15.9	
Condensate drain		mm	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32	
Wiring	Power supply	mm²			3×	1.5			
wiiiig	Transmission	mm²			3×0.75 s	shielded			

Rated capacity is given for the following conditions:

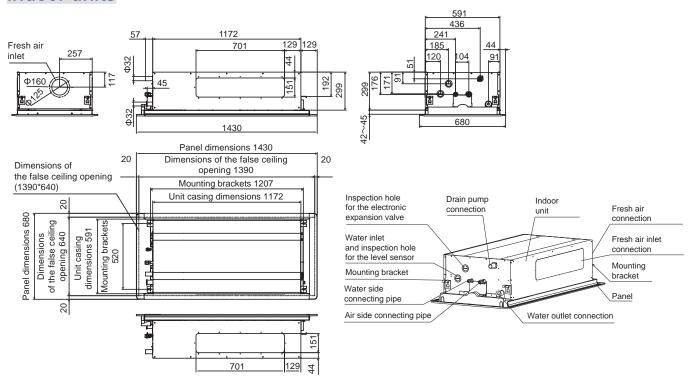
[1] Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB (12) Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB

Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m. DB - dry bulb. WB - wet bulb

(*3) Sound pressure level measured in an anechoic chamber

[*4] Sound pressure level measured in a semi-anechoic chamber

Indoor units





1-way



Only 153 mm of height

Optimal shape of the air ducts significantly reduces noise level.



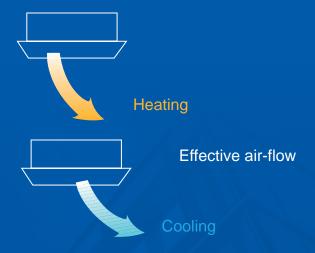
Built-in drain pump

A drain pump with head of 750 mm is built-in as a standard.



Auto Swing

Auto swing mechanism guarantees even air and temperature distribution in the room.



Air filters

Special enzyme filtration technology removes bacteria, smoke and pollens from the air. This makes the room air more natura and healthier.



Model			MDV-018Q1/DN1	MDV-022Q1/DN1	MDV-028Q1/DN1	MDV-036Q1/DN1	
Panel			MBQ1-02D	MBQ1-02D	MBQ1-02D	MBQ1-02D	
Power supply		V/phase/Hz	220~240/1/50				
	Rated capacity (*1)	kW	1.8	2.2	2.8	3.6	
Cooling	Input power	kW	0.025	0.025	0.03	0.03	
	Input current	А	0.11	0.11	0.13	0.13	
	Rated capacity (*2)	kW	2.2	2.6	3.2	4.0	
Heating	Input power	kW	0.025	0.025	0.03	0.03	
	Input current	А	0.11	0.11	0.13	0.13	
Heat exchanger	Corrosion protection			Hydrophil	ic coating		
Rated airflow		m³/h	275/312/360/404/448/482/523	275/312/360/404/448/482/523	315/364/420/456/492/531/573	315/364/420/456/492/531/573	
Sound level (lowe	st-highest) (*3)	dB(A)	27 - 34	27 - 34	31 - 36	31 - 36	
Sound pressure le (speed 1/2/3/4/5)		dB(A)	30/31/32/34/35/36/37	30/31/32/34/35/36/37	34/35/35/36/37/38/39	34/35/35/36/37/38/39	
	Net dimensions (width x height x depth)	mm	1054×153×425	1054×153×425	1054×153×425	1054×153×425	
Unit dimensions	Transport dimensions (width x height x depth)	mm	1155×245×490	1155×245×490	1155×245×490	1155×245×490	
	Net/gross weight	kg	11.8/15.3	11.8/15.3	12.3/15.8	12.3/15.8	
	Net dimensions (width x height x depth)	mm	1180×25×465	1180×25×465	1180×25×465	1180×25×465	
Panel	Transport dimensions (width x height x depth)	mm	1232×107×517	1232×107×517	1232×107×517	1232×107×517	
	Net/gross weight	kg	3.5/5.2	3.5/5.2	3.5/5.2	3.5/5.2	
Refrigerant				R4	10A		
Refrigerant flow of	control	typ		Electronic ex	pansion valve		
Distan	Liquid	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35	
Piping	Gas	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7	
Condensate drain		mm		Ø	25		
Marine -	Power supply	mm²		3×	1.5		
Wiring	Transmission	mm²		3×0.75 s	shielded		

Model			MDV-045Q1/DN1	MDV-056Q1/DN1	MDV-071Q1/DN1		
Panel			MBQ1-01D	MBQ1-01D	MBQ1-01D		
Power supply		V/phase/Hz		220~240/1/50			
	Rated capacity (*1)	kW	4.5	5.6	7.1		
Cooling	Input power	kW	0.04	0.048	0.06		
	Input current	А	0.17	0.21	0.26		
	Rated capacity (*2)	kW	5.0	6.3	8.0		
Heating	Input power	kW	0.04	0.048	0.06		
	Input current	А	0.17	0.21	0.26		
Heat exchanger	Corrosion protection			Hydrophilic coating			
Rated airflow		m³/h	476/510/556/600/638/662/693	549/589/643/688/728/763/792	592/637/689/749/815/873/933		
Sound level (lower	st-highest) (*3)	dB(A)	32 - 38	33 - 39	34 - 41		
Sound pressure le (speed 1/2/3/4/5)	evel /6/7) (*4)	dB(A)	35/36/37/38/39/40/41	36/37/38/39/40/41/42	37/48/39/41/42/43/44		
	Net dimensions (width x height x depth)	mm	1275×189×450	1275×189×450	1275×189×450		
Unit dimensions	Transport dimensions (width x height x depth)	mm	1370×295×505	1370×295×505	1370×295×505		
	Net/gross weight	kg	16.1/20.4	16.4/20.7	17.6/22.4		
	Net dimensions (width x height x depth)	mm	1350×25×505	1350×25×505	1350×25×505		
Panel	Transport dimensions (width x height x depth)	mm	1410×95×560	1410×95×560	1410×95×560		
	Net/gross weight	kg	4.0/5.4	4.0/5.4	4.0/5.4		
Refrigerant				R410A			
Refrigerant flow of	control	typ		Electronic expansion valve			
Dining	Liquid	mm	Ø6.35	Ø12.7	Ø12.7		
Piping	Gas	mm	Ø12.7	Ø15.9	Ø15.9		
Condensate drain		mm		Ø25			
Wiring	Power supply	mm²		3×1.5			
vviiiig	Transmission	mm²	3×0.75 shielded				

Rated capacity is given for the following conditions:

[1] Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB

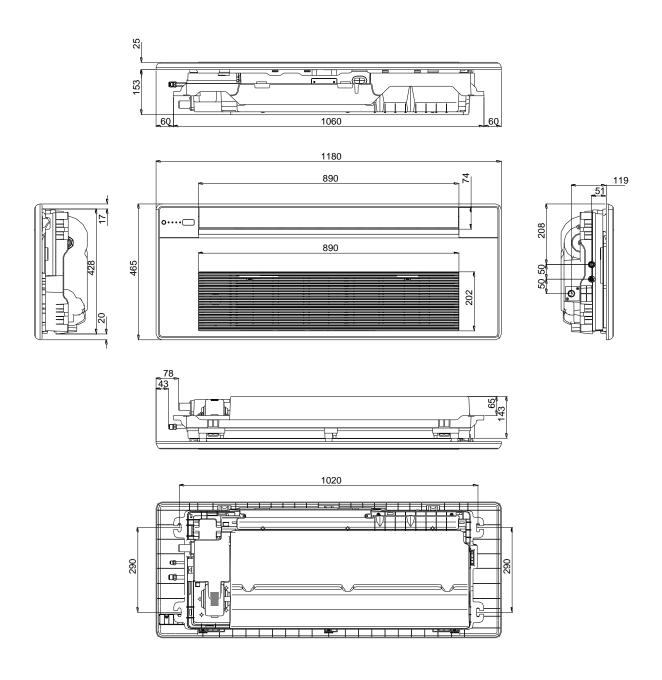
[2] Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB

Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m. DB - dry bulb. WB - wet bulb (*3) Sound pressure level measured in an anechoic chamber

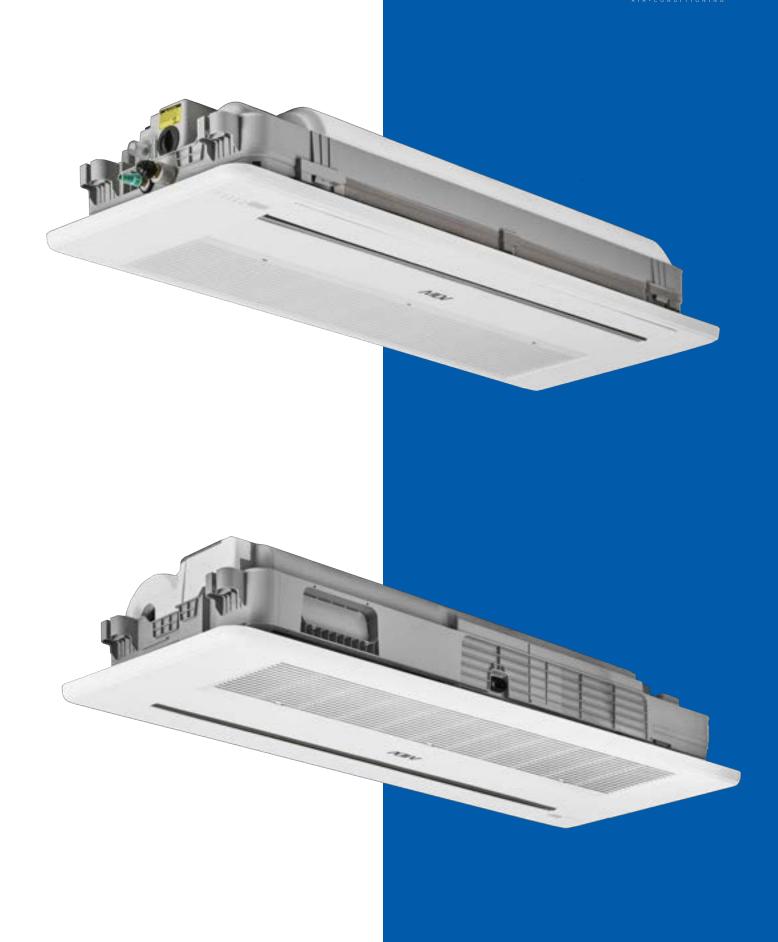


Indoor units

MDV-045Q1/DN1, MDV-056Q1/DN1, MDV-071Q1/DN1









Floor & ceiling type



Convenient installation

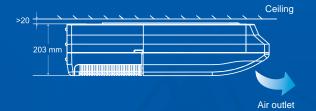
Easy and convenient installation below the ceiling even in narrow spaces in corners (when, for instance, it is impossible to install the unit in the central part of the ceiling due to such obstacles as lighting etc.).

Key features

- Slim
- Elegant appearance
- Relatively low weight
- Quick installation
- Low noise level



Possible to install vertically against the wall or horizontally below the ceiling



Panel with LED display

A clear operating panel with LED display informs about operation status, and in case of failure, helps to read the error code.

Auto swing function and wide airflow angle

Units are equipped with the automatic vertical and horizontal swing function, what ensures even temperature distribution in a room. Three fan speeds are available. Multi blade fan ensures even airflow without unnecessary whirls and turbulences.







Model			MDV-036DL/DN1	MDV-045DL/DN1	MDV-056DL/DN1	MDV-071DL/DN1
Power supply		V/phase/Hz		220~24	0/1/50	
	Rated capacity (*1)	kW	3.6	4.5	5.6	7.1
Cooling	Input power	kW	0.049	0.115	0.115	0.115
	Input current	А	0.21	0.50	0.50	0.50
	Rated capacity (*2)	kW	4.0	5.0	6.3	8.0
Heating	Input power	kW	0.049	0.115	0.115	0.115
	Input current	А	0.21	0.50	0.50	0.50
Rated airflow m³/h		m³/h	420/440/460/480/ 500/525/550	420/440/460/480/ 500/525/550	720/755/792/830/ 860/895/930	720/755/792/830/ 860/895/930
Sound level (lowest-highest) (*3) dB(A)		dB(A)	33 - 37	33 - 37	35 - 40	35 - 40
Sound pressure le (speed 1/2/3/4/5)		dB(A)	36/36/37/38/38/39/40	36/36/37/38/38/39/40	38/38/39/41/41/42/43	38/38/39/41/41/42/43
	Net dimensions (width x height x depth)	mm	990×660×203 990×660×203		990×660×203	990×660×203
Unit dimensions	Transport dimensions (width x height x depth)	mm	1089×744×296	1089×744×296	1089×744×296	1089×744×296
	Net/gross weight	kg	26.0/32.0	26.0/32.0	28.0/34.0	28.0/34.0
Refrigerant				R4	10A	
Refrigerant flow of	control	typ		Electronic ex	pansion valve	
Dining	Liquid	mm	Ø6.35	Ø6.35	Ø9.53	Ø9.53
Piping	Gas	mm	Ø12.7	Ø12.7	Ø15.9	Ø15.9
Condensate drain		mm	Ø16	Ø16	Ø16	Ø16
Wiring	Power supply	mm²		3×	1.5	
Wiring	Transmission	mm²		3×0.75 s	shielded	

Model			MDV-080DL/DN1	MDV-090DL/DN1	MDV-112DL/DN1	MDV-140DL/DN1
Power supply		V/phase/Hz		220~24	0/1/50	
	Rated capacity (*1)	kW	8.0	9.0	11.2	14.0
Cooling	Input power	kW	0.13	0.13	0.18	0.18
	Input current	А	0.57	0.57	0.78	0.78
	Rated capacity (*2)	kW	9.0	10.0	12.5	15.0
Heating	Input power	kW	0.13	0.13	0.18	0.18
	Input current	А	0.57	0.57	0.78	0.78
Rated airflow m³/h		m³/h	1050/1085/1130/1170/ 1210/1245/1280	1050/1085/1130/1170/ 1210/1245/1280	1580/1620/1660/1700/ 1765/1830/1890	1580/1620/1660/1700/ 1765/1830/1890
Sound level (lowe	Sound level (lowest-highest) (*3) dB(A)		37 - 42	37 - 42	39 - 44	39 - 44
	Sound pressure level speed 1/2/3/4/5/6/7) (*4) dB(A)		40/41/42/43/43/44/45	40/41/42/43/43/44/45	42/43/44/45/45/46/47	42/43/44/45/45/46/47
	Net dimensions (width x height x depth)	mm	1280×660×203	1280×660×203	1670×680×244	1670×680×244
Unit dimensions	Transport dimensions (width x height x depth)	mm	1379×744×296	1379×744×296	1915×760×330	1915×760×330
	Net/gross weight	kg	35.0/41.0	35.0/41.0	48.0/58.0	48.0/58.0
Refrigerant				R4	10A	
Refrigerant flow of	control	typ		Electronic ex	pansion valve	
Dining	Liquid	mm	Ø9.53	Ø9.53	Ø9.53	Ø9.53
Piping	Gas	mm	Ø15.9	Ø15.9	Ø15.9	Ø15.9
Condensate drain		mm	Ø16	Ø16	Ø16	Ø16
Wiring	Power supply	mm²		3×	1.5	
Wiring	Transmission	mm²		3×0.75 s	shielded	

Rated capacity is given for the following conditions:

[*1] Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB
(*2) Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB
Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m.

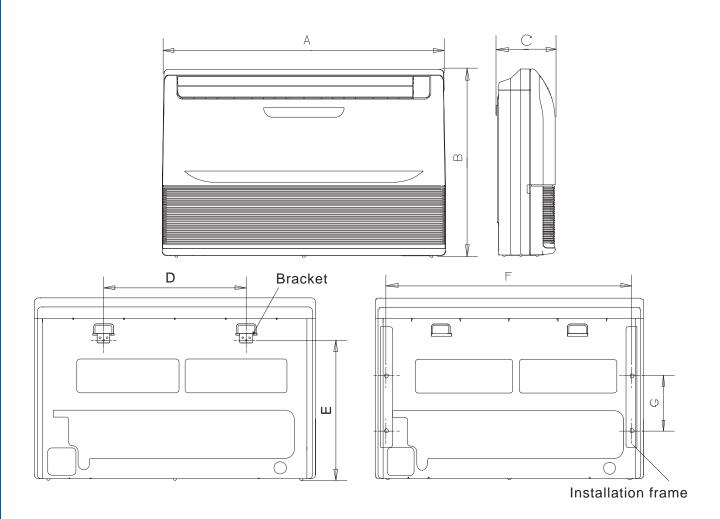
DB - dry bulb, WB - wet bulb

(*3) Sound pressure level measured in an anechoic chamber

(*4) Sound pressure level measured in a semi-anechoic chamber



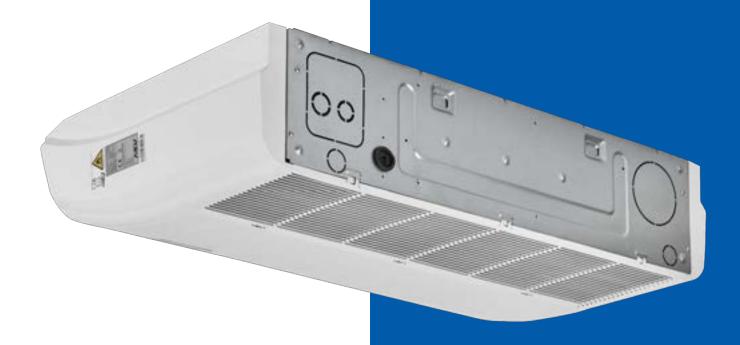
Indoor units



Madal	Dimensions (mm)								
Model	Α	В	С	D	Е	F	G		
MDV-036DL/DN1		660	203	506	506	907			
MDV-045DL/DN1	990						200		
MDV-056DL/DN1	990								
MDV-071DL/DN1									
MDV-080DL/DN1	1280	000	203	795	506	1195	200		
MDV-090DL/DN1	1280	660			200	1190			
MDV-112DL/DN1	4070	680	244	1040	450	1542	200		
MDV-140DL/DN1	1670						200		









Standing



2nd generation indoor units

High versatility

Units can be mounted on wall or floor, extremely simple access to the unit interior simplifies cleaning and maintenance.

Modern design

The proper structure of the unit facilitates access to the filter (supplied as a standard). Stylish and elegant design perfectly harmonizes with every modern room interior design. Each metal part is galvanically covered with anti-corrosion coating, which significantly extends the service life of the unit.

Compact structure

The standing unit can be flush-mounted and therefore it perfectly harmonizes with room interior design. Depth of 212 mm additionally simplifies installation. Low noise level and efficient operation create a perfect comfort level in the room.





Model			MDV-022F3/DN1(A)	MDV-028F3/DN1(A)	MDV-036F3/DN1(A)	MDV-045F3/DN1(A)
Power supply		V/phase/Hz		220~24	0/1/50	
	Rated capacity (*1)	kW	2.2	2.8	3.6	4.5
Cooling	Input power	kW	0.035	0.035	0.04	0.044
	Input current	А	0.15	0.15	0.17	0.19
	Rated capacity (*2)	kW	2.4	3.2	4.0	5.0
Heating	Input power	kW	0.035	0.035	0.041	0.046
	Input current	А	0.15	0.15	0.18	0.20
Heat exchanger	Corrosion protection			Hydrophil	ic coating	
Rated airflow		m³/h	426/431/439/449/454/464/473	426/431/439/449/454/464/473	408/427/450/471/488/503/524	483/507/533/557/584/611/636
Sound level (lowest-highest) (*3)			23 - 27	23 - 27 24 - 28		24 - 28
Sound pressure le (speed 1/2/3/4/5)			29/30/31/33/34/35/36	29/30/31/33/34/35/36	30/31/32/34/35/36/37	30/31/32/34/35/36/37
	Net dimensions (width x height x depth)	mm	915×470×200	915×470×200	915×470×200	1133×470×200
Dimensions	Transport dimensions (width x height x depth)	mm	985×555×255	985×555×255	985×555×255	1205×555×255
	Net/gross weight	kg	17.7/21.4	17.7/21.4	18.3/22.1	21.4/25.8
Refrigerant				R4	10A	
Refrigerant flow of	control			Electronic ex	pansion valve	
Dining	Gas	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35
Piping	Liquid	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7
Condensate drain	1	mm	Ø18,5	Ø18,5 Ø18,5		Ø18,5
Wiring	Power supply	mm²		3×	1.5	
Wiring	Transmission	mm²		3×0.75 s	shielded	

Model			MDV-056F3/DN1(A)	MDV-071F3/DN1(A)	MDV-080F3/DN1(A)
Power supply		V/phase/Hz		220~240/1/50	
	Rated capacity (*1)	kW	5.6	7.1	8.0
Cooling	Input power	kW	0.045	0.53	0.62
	Input current	А	0.20	2.30	2.70
	Rated capacity (*2)	kW	6.3	8.0	9.0
Heating	Input power	kW	0.047	0.57	0.64
	Input current	А	0.20	2.48	2.78
Heat exchanger	Corrosion protection			Hydrophilic coating	
Rated airflow		m³/h	624/651/683/717/738/756/781	739/770/803/834/865/893/928	739/770/803/834/865/893/928
Sound level (lowe	Sound level (lowest-highest) (*3)		28 - 38 28 - 38		30 - 41
Sound pressure le (speed 1/2/3/4/5)			31/32/33/35/37/39/41	31/32/33/35/37/39/41	33/35/37/39/40/42/44
	Net dimensions (width x height x depth)	mm	1253×566×200 1253×566×200		1253×566×200
Dimensions	Transport dimensions (width x height x depth)	mm	1325×650×255	1325×650×255	1325×650×255
	Net/gross weight	kg	25.5/31.2	27.3/33.0	27.3/33.0
Refrigerant				R410A	
Refrigerant flow of	control			Electronic expansion valve	
Dining	Gas	mm	Ø9.53	Ø9.53	Ø9.53
Piping	Liquid	mm	Ø12.7	Ø15.9	Ø15.9
Condensate drain		mm	Ø18.5		Ø18.5
Wising	Power supply			3×1.5	
Wiring	Transmission	mm²			

Rated capacity is given for the following conditions:
[1] Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB

[*2] Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB

Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m. DB - dry bulb. WB - wet bulb

(*3) Sound pressure level measured in an anechoic chamber



Model			MDV-022F4/DN1(A)	MDV-028F4/DN1(A)	MDV-036F4/DN1(A)	MDV-045F4/DN1(A)		
Power supply		V/phase/Hz		220~24	0/1/50			
	Rated capacity (*1)	kW	2.2	2.8	3.6	4.5		
Cooling	Input power	kW	0.035	0.035	0.04	0.044		
	Input current	А	0.15	0.15	0.17	0.19		
	Rated capacity (*2)	kW	2.4	3.2	4.0	5.0		
Heating	Input power	kW	0.035	0.035	0.041	0.046		
	Input current	А	0.15	0.15	0.18	0.20		
Heat exchanger	Corrosion protection			Hydrophil	ic coating			
Rated airflow	Rated airflow m ³ /h		430/441/452/464/475/486/498	430/441/452/464/475/486/498	425/445/465/485/505/524/544	510/538/566/595/623/651/680		
Sound level (lowest-highest) (*3)			26 - 33	26 - 33	27 - 34	27 - 34		
Sound pressure lo (speed 1/2/3/4/5,			29/30/31/33/34/35/36	29/30/31/33/34/35/36	30/31/32/34/35/36/37	30/31/32/34/35/36/37		
	Net dimensions (width x height x depth)	mm	1020×495×200	1020×495×200	1020×495×200	1240×495×200		
Dimensions	Transport dimensions (width x height x depth)	mm	1125×595×285	1125×595×285	1125×595×285	1345×595×285		
	Net/gross weight	kg	22.5/28.2	22.5/28.2	23.3/29	27.7/33.8		
Refrigerant				R41	IOA			
Refrigerant flow of	control			Electronic ex	pansion valve			
Dining	Gas	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35		
Piping	Liquid	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7		
Condensate drain mm		Ø18.5 Ø18.5		Ø18.5				
Wising	Power supply	mm²	3×1.5					
Wiring	Transmission	mm²		3×0.75 s	hielded			

Model			MDV-056F4/DN1(A)	MDV-071F4/DN1 (A)	MDV-080F4/DN1(A)
Power supply		V/phase/Hz		220~240/1/50	
	Rated capacity (*1)	kW	5.6	7.1	8.0
Cooling	Input power	kW	0.045	0.53	0.62
	Input current	А	0.20	2.30	2.70
	Rated capacity (*2)	kW	6.3	0.8	9.0
Heating	Input power	kW	0.047	0.57	0.64
	Input current	А	0.20	2.48	2.78
Heat exchanger	Corrosion protection			Hydrophilic coating	
Rated airflow		m³/h	641/668/694/721/748/774/801	730/765/799/834/869/904/939	730/765/799/834/869/904/939
Sound level (lowe	st-highest) (*3)		28 - 38	30 - 41	30 - 41
Sound pressure le (speed 1/2/3/4/5)			31/32/33/35/37/39/41	31/32/33/35/37/39/41 33/35/37/39/40/42/44	
	Net dimensions (width x height x depth)	mm	1360×591×200 1360×591×200		1360×591×200
Dimensions	Transport dimensions (width x height x depth)	mm	1465×695×285	1465×695×285	1465×695×285
	Net/gross weight	kg	31.8/39.7	34.5/42.3	34.5/42.3
Refrigerant				R410A	
Refrigerant flow of	control			Electronic expansion valve	
Dining	Gas	mm	Ø9.53	Ø9.53	Ø9.53
Piping	Liquid	mm	Ø12.7	Ø15.9	Ø15.9
Condensate drain		mm	Ø18.5		Ø18.5
Wiring	Power supply	mm²		3×1.5	
Wiring	Transmission	mm²		3×0.75 shielded	

Rated capacity is given for the following conditions:
[*1] Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB

[*2] Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB

Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m. DB - dry bulb. WB - wet bulb ['3] Sound pressure level measured in an anechoic chamber



Model			MDV-022F5/DN1(A)	MDV-028F5/DN1(A)	MDV-036F5/DN1(A)	MDV-045F5/DN1(A)
Power supply		V/phase/Hz	220-240/1/50			
	Rated capacity (*1)	kW	2.2	2.8	3.6	4.5
Cooling	Input power	kW	0.035	0.035	0.04	0.044
	Input current	А	0.15	0.15	0.17	0.19
	Rated capacity (*2)	kW	2.4	3.2	4.0	5.0
Heating	Input power	kW	0.035	0.035	0.041	0.046
	Input current	А	0.15	0.15	0.18	0.20
Heat exchanger	Corrosion protection			Hydrophil	ic coating	
Rated airflow		m³/h	430/441/452/464/475/486/498	430/441/452/464/475/486/498	407/424/414/458/474/491/508	528/555/582/610/637/655/692
Sound level (lowe	st-highest) (*3)		26 - 33	26 - 33	27 - 34	27 - 34
	Sound pressure level (speed 1/2/3/4/5/6/7) [*4]		29/30/31/33/34/35/36	29/30/31/33/34/35/36	30/31/32/34/35/36/37	30/31/32/34/35/36/37
	Net dimensions (width x height x depth)	mm	1020×495×200	1020×495×200	1020×495×200	1240×495×200
Dimensions	Transport dimensions (width x height x depth)	mm	1125×595×285	1125×595×285	1125×595×285	1345×595×285
	Net/gross weight	kg	22.5/28.2	22.5/28.2	23.3/29	27.7/33.8
Refrigerant				R41	IOA	
Refrigerant flow	control		Electronic expansion valve			
D	Gas	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35
Piping	Liquid	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7
Condensate drain mm		Ø18.5	Ø18.5	Ø18.5	Ø18.5	
VA Contract	Power supply	mm²		3×	1.5	
Wiring	Transmission	mm²			hielded	

Model			MDV-056F5/DN1(A)	MDV-071F5/DN1(A)	MDV-080F5/DN1(A)
Power supply		V/phase/Hz		220~240/1/50	
	Rated capacity (*1)	kW	5.6	7.1	8.0
Cooling	Input power	kW	0.045	0.53	0.62
	Input current	А	0.20	2.30	2.70
	Rated capacity (*2)	kW	6.3	8.0	9.0
Heating	Input power	kW	0.047	0.57	0.64
	Input current	А	0.20	2.48	2.78
Heat exchanger	Corrosion protection			Hydrophilic coating	
Rated airflow		m³/h	653/680/706/732/759/785/811	721/755/790/825/860/895/930	721/755/790/825/860/895/930
Sound level (lowest-highest) (*3)			28 - 38	30 - 41	30 - 41
Sound pressure le (speed 1/2/3/4/5)			31/32/33/35/37/39/41	33/35/37/39/40/42/44	33/35/37/39/40/42/44
	Net dimensions (width x height x depth)	mm	1360×591×200	1360×591×200	1360×591×200
Dimensions	Transport dimensions (width x height x depth)	mm	1465×695×285	1465×695×285	1465×695×285
	Net/gross weight	kg	31.8/39.7	34.5/42.3	34.5/42.3
Refrigerant				R410A	
Refrigerant flow of	control			Electronic expansion valve	
D: :	Gas	mm	Ø9.53	Ø9.53	Ø9.53
Piping	Liquid	mm	Ø12.7	Ø15.9	Ø15.9
Condensate drain		mm	Ø18.5	Ø18.5	Ø18.5
Wiring	Power supply	mm²		3×1.5	
Wiring	Transmission	mm²		3×0.75 shielded	

Rated capacity is given for the following conditions:
[1] Cooling: Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C Temp. DB/24°C WB

[*2] Heating: Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB

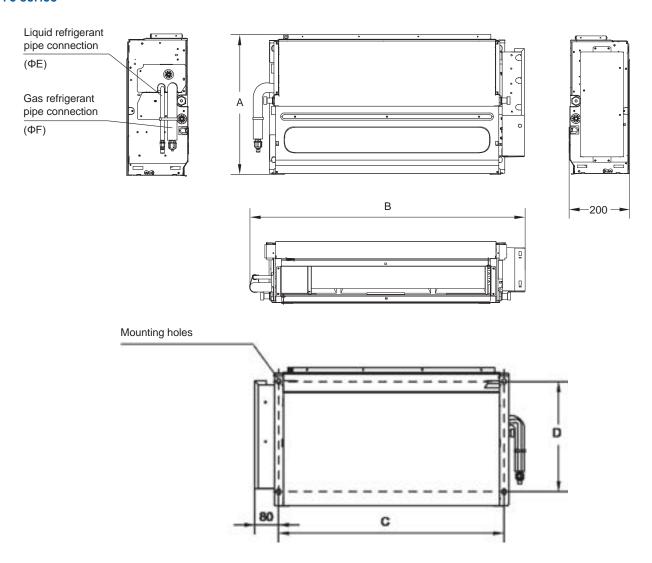
Refrigerant piping length measured for the liquid side 8 m. Height difference 0 m. DB - dry bulb. WB - wet bulb

(*3) Sound pressure level measured in an anechoic chamber



Indoor units

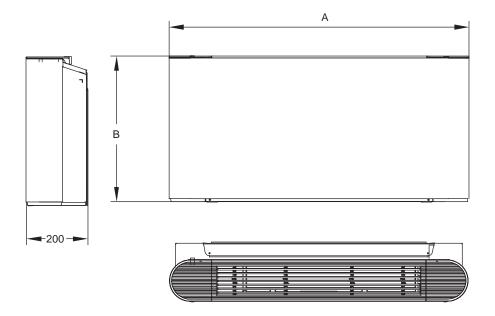
F3 series

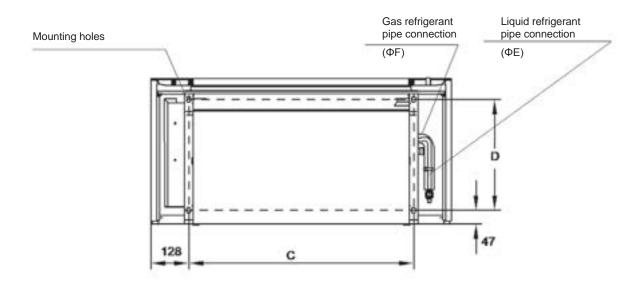


Model		Dimensions of	Connection diameters (mm)			
Model	Α	В	С	D	E	F
MDV-022F3/DN1(A)	470	915	764	375	Ø 6.35	Ø 12.7
MDV-028F3/DN1(A)	470	915	764	375	Ø 6.35	Ø 12.7
MDV-036F3/DN1(A)	470	915	764	375	Ø 6.35	Ø 12.7
MDV-045F3/DN1(A)	470	1133	984	375	Ø 6.35	Ø 12.7
MDV-056F3/DN1(A)	566	1253	1104	391	Ø 6.35	Ø 12.7
MDV-071F3/DN1(A)	566	1253	1104	391	Ø 9.53	Ø 15.9
MDV-080F3/DN1(A)	566	1253	1104	391	Ø 9.53	Ø 15.9



F4, F5 series





Madel		Dimensions o	Connection diameters (mm)			
Model	A	В	C	D	E	F
MDV-022F4(F5)/DN1(A)	1020	495	764	375	Ø 6.35	Ø 12.7
MDV-028F4(F5)/DN1(A)	1020	495	764	375	Ø 6.35	Ø 12.7
MDV-036F4(F5)/DN1(A)	1020	495	764	375	Ø 6.35	Ø 12.7
MDV-045F4(F5)/DN1(A)	1240	495	984	375	Ø 6.35	Ø 12.7
MDV-056F4(F5)/DN1(A)	1360	591	1104	391	Ø 6.35	Ø 12.7
MDV-071F4(F5)/DN1(A)	1360	591	1104	391	Ø 9.53	Ø 15.9
MDV-080E4(E5)/DN1(Δ)	1360	591	1104	391	Ø 9 53	Ø 15 9

VRF Control











Individual and group remote controllers for VRF indoor units

Individual and group remote controllers

	Individual wireless remote controller	Individual wired remote controller	Group wired remote controller
	RM05B	WDC-86E/KD	WDC-120G/WK
Number of connected indoor units	1	1	16
Operation mode setting (auto/cool/heat/dry/fan)	×	×	×
Set temperature adjustment (up/down)	×	×	×
On/Off	×	×	×
Switching on and off the indoor unit display	×	×	×
Switching on and off the quiet operation function	×	×	×
Switching on and off the additional heater	×	×	-
SET (setting) fan speed configuration	×	-	-
LOCK keys locking and unlocking	×	-	×
C/H function select (cool only or heat only)	×	-	-
Fan speed setting (7 speeds)	×	×	×
Vertical louvers angle setting	×	×	×
Horizontal louvers angle setting	-	-	×
Vertical swing	×	×	×
ECO	×	×	×
Schedule (on time program and off time program)	×	-	×
Installation settings (indoor unit address setting)	×	×	×
Installation settings (restoring factory default settings)	-	×	×
Follow Me function	-	×	×
Filter cleaning reminder	-	×	×
Individual controllers lock	-	×	×
Room temperature	-	-	×
Current time	-	-	×
Error codes	-	×	×
Setting extension	-	-	×
Dual temperature set point	-	×	×
2 authorization levels	-	-	×

Central controllers

				Control with use of a computer via website
	CCM-180A/WS	CCM-270B/WS	CCM30	MD-CCM15
Max. number of indoor units	64	384	64	64
Max. number of refrigerant systems	8	48	1	1
Touch screen	6,2"	10,1"	-	-
On/Off	×	×	×	×
Operation mode setting	×	×	×	×
Temperature setting	×	×	×	×
Dual temperature set point	×	×	×	×
7 fan speeds	×	×	×	×
Auto swing	×	×	×	×
5-step swing louver	×	×	×	×
Room temperature	-	×	×	×
Current time	×	×	×	×
Outdoor unit Eco mode setting	×	×	×	-
Holiday setting	×	×	×	-
Weekly schedule	×	×	-	×
Daily schedule	×	×	×	×
2 authorization levels	×	×	×	-
Setting extension	×	-	×	-
Unit model recognition	×	×	×	-
Electricity charge distribution	-	×	-	-
Energy management	×	×	-	-
Visual schematic	-	×	-	-
Group management	×	×	×	×
Error codes	×	×	×	×
System parameter querying	×	-	×	×
USB output	×	×	×	×
Report display	×	×	×	-
LAN access	-	×	×	-
Polish language supported	×	-	×	-







The optional wireless remote controller for cassette, floor & ceiling, wall-mounted, console and duct type VRF units (installation of the infrared signal receiver is necessary).

FUNCTIONS

- Operation mode setting (auto/cool/heat/dry/fan)
- Set temperature adjustment (up/down)
- On/Off
- · Switching on and off the indoor unit display
- · Switching on and off the quiet operation function
- · Switching on and off the additional heater
- · SET (setting) fan speed configuration
- · LOCK keys locking and unlocking
- · C/H function select (cool only or heat only)
- Fan speed setting (7 speeds)
- · Vertical louver angle adjustment
- Swing
- · ECO
- · Schedule (air-conditioner on and off time program)
- Installation settings (indoor unit address setting)

Timer functions

It is used to set the indoor units on and off time. The timer allows user to set the accurate time of unit operation. The timer facilitates management of units operation and reduces power consumption. The timer can be used at homes, apartments and also in office and industrial spaces.

Installation settings

Indoor unit address can be easily set or checked with use of RM05B controller. Address setting is one of the most important steps of the VRF system commissioning. This is the first verification of proper installation.

Quiet operation mode

When this function is enabled, the indoor unit automatically optimizes the level of generated noise, adequately for the "quiet operation" mode. After operating for 8 hours in the quiet mode, the unit switches back to the normal operation mode.

Model	RM05B
Dimensions (width x height x depth)	150×65×20 mm
Power supply	3.0V (2 pcs of AAA batteries)
Ambient temperature	-5 ~ 43 °C
Ambient humidity	RH 40% ~ RH 90%



WDC-86E/KD

FUNCTIONS

- Operation mode switching auto/cool/heat/dry/fan
- Set temperature adjustment (up/down)
- On/Of
- · Switching on and off the indoor unit display
- · Switching on and off the quiet operation function
- · Switching on and off the additional heater
- · Locking and unlocking the buttons
- · Fan speed setting (7 speeds)
- · Vertical louvers angle setting
- Swing
- · ECO
- · Schedule (air-conditioner on and off timer)
- · Installation settings (indoor unit address setting)
- · "Follow Me" function
- Room temperature display
- · Error code display



Individual wired controller. A controller for cassette, duct, ceiling & floor, wall-mounted and console type VRF units.

2-way communication

Communication between the indoor unit and the wired remote controller is a two-way process. It means that the parameters displayed on the wired remote controller are refreshed in the real time, in accordance with changes made to the indoor unit parameters. The controller is connected to X1 and X2 terminals of the indoor unit. Maximum wiring length between the wired remote controller and the indoor unit is 200 m.



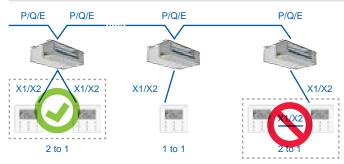








Two controllers can be connected to a single indoor unit



In case of connecting two controllers with a single indoor units, the two devices control the same unit. One of the controllers serves as the "main" and the other as the "secondary". A maximum of two controllers can be connected to a single unit.

Daily timer

This function enables to program an hour of switching the air-conditioner on and off.

Model	WDC-86E/KD
Dimensions (width x height x depth)	86×86×18 mm
Power supply	DC 18V
Wire type	Shielded, 2-wire, copper
Wire size	AWG 16-20
Wire length	Max 200 m



WDC-120G/WK(A)



Group remote controller for cassette, duct, ceiling & floor, wall-mounted and console VRF indoor units.

FUNCTIONS

- Operation mode switching auto/cool/heat/dry/fan
- · Set temperature adjustment (up/down)
- On/Off
- · Current time display
- · Current temperature disply
- Setting prolong function
- · Switching on and off the indoor unit display
- · Switching on and off the quiet operation function
- · Switching on and off the additional heater
- · Locking and unlocking the buttons
- · Fan speed setting (7 speeds)
- · Vertical louvers angle setting
- Swing
- ECO
- Schedule (air-conditioner on and off timer)
- Installation settings (indoor unit address setting)
- · "Follow Me" function
- · Room temperature display
- · Error code display

Group control

It is easy to control a group of up to 16 indoor units with just one controller. The controller provides simultaneous control of all indoor units, but it should be noted that all these units operate with a single setting (it can be used on big open space rooms). Two controllers can be used for a single group of units. If settings are changed on one controller, they are automatically changed also on the second one. In order to implement the group control, the controller should be connected to X1X2 and D1D2 terminals of the indoor unit, and then the indoor unit should be connected in a group with D1D2 terminals.

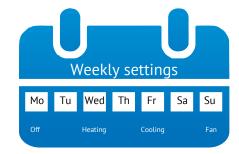


Setting prolong function

This function is especially designed for those, who need to prolong the air-conditioner operation after the time of scheduled switching off. This function incorporates the schedule function. By enabling this function, the system switching off is delayed for 1 or 2 hours.

Weekly timer

The built-in timer is a convenient solution that enables automatic system turning on and off at defined time during the week of operation.



Model	WDC-120G/WK		
Dimensions (width x height x depth)	120×120×20 mm		
Power supply	DC 18V		
Wire type	Shielded, 2- or 4-wire (for the 2nd generation unit)		
Wire type	Shielded, 4-wire (for units other than the 2nd generation)		
Wire size	AWG 20		
Wire length	Max 200 m for the 2nd generation unit (X1/X2/D1/D2 ports)		
Wire length	Max 20 m for units other than the 2nd generation (CN2 port)		



CCM30

FUNCTIONS

- · Touch panel controller
- · Max 64 indoor units controlled as a group or individually
- · Large, easy to read screen with backlight
- Basic functions: On/off, temperature and operation mode setting, fan speed switching.
- Checking parameters (set point, readouts from T1, T2, T2B sensors)
- · Locking individual control in indoor units
- · Operation mode lock, controller lock
- · Timer 24h
- Filter cleaning reminder (dirty filter alarm)
- · Option to connect to PC, BMS gate and data converter



NOTE! CCM30 is available in two versions: CCM30/BKE-A (controller for recessed installation) CCM30/BKE-B (wall mounted controller)

Central controller for ONE series from 49kW and EVO series.

Option to connect to PC, BMS gate and data converter

Communication between the indoor unit and the wired remote controller is a two-way process. It means that the parameters displayed on the wired remote controller are refreshed in the real time, in accordance with changes made to the indoor unit parameters. The controller is connected to X1 and X2 terminals of the indoor unit. Maximum wiring length between the wired remote controller and the indoor unit is 200 m.

Model	CCM30
Dimensions (width x height x depth)	180×122×78 mm
Power supply	198-242V, 50/60Hz
Ambient temperature	-15 ~ 43 °C
Ambient humidity	RH 40% ~ RH 90%



CCM180A/WS



FUNCTIONS

- · 6.2" colour, touch screen
- · Option to connect max 64 indoor units or max 8 refrigerant systems
- · Advanced control
- Ability to group units (max. 20 groups)
- · Weekly timer
- · Holiday mode
- · 2 authorization modes
- · System configuration check mode
- · Indoor and outdoor units operation check
- Error code registry
- · Option to export the error reports to an USB drive
- Software update via USB

Central controller for ONE and EVO series provides individual, group or central control of unit in the air-conditioning system.

Central controller

Multifunctional central controller can control up to 64 indoor units. Total transmission line length can reach up to 1200 m. The controller can be directly connected to the indoor units or to the "master" outdoor unit, what significantly simplifies the wiring. The below illustration shows two ways of controller connection.



Unit operation monitoring

The controller provides real-time preview of unit operational parameters, temperature readouts in each room, checking the error codes. An error history with dates of occurrence is stored in the controller memory. "Help" button expands a list which helps to understand the meaning of each code, thus speeding up the diagnostics and troubleshooting.

Weekly timer

User can program up to four changes of air-conditioner operating parameters during one day. Available functions: ON/OFF, operation mode, temperature and fan speed.



Control

Central controller provides individual control of each single unit and simultaneous control of all units. In addition, we can create groups with chosen air-conditioners and control the whole group. Switching the whole system on and off can be done with the push of a single button. Feedback signal from indoor units promptly informs user about acceptance of settings.

Specifications

Model	CCM180A/WS
Dimensions (width x height x depth)	180×124×30 mm
Power supply	AC 100-240V/ 50-60 Hz, 800mA; DC 12V, 2A
Ambient temperature	-15 ~ 43 °C
Amhient humidity	RH 40% ~ RH 90%

Touch screen

New CCM180A controller is equipped with a 6.2" colour touch screen. Controller menu is available in Polish language in all its parts.



CCM-270B/WS

FUNCTIONS

- · 10,1" colour, touch screen
- Connectable up to 384 indoor units and max 48 refrigerant systems (6 ports ensure connection of 8 systems)
- · Electric energy charge distribution
- ECS function (power consumption monitoring)
- · System diagram
- Group management
- · Indoor and outdoor units operation monitoring
- · Recognition of unit model
- · Schedule management
- Error code registry



Central controller for ONE series units with capacity above 50 kW ensures individual, group or central control of units in the air-conditioning system. In addition, it provides electric energy charge distribution. The controller can be used standalone with its own web page or with use of a touch screen.

Selected functions of the controller

 Used standalone with its own web page or with use of a touch screen can control up to 384 units.

In addition, it can operate as a gate for the latest MDV network Management System (IMMPRO). CCM-270A/WS gate uses a LAN port for establishing connection with local network and internet. The picture below illustrates the structure of the CCM-270A/WS network.

CCM-270A/WS controller can be operated in three ways:

Option 1: Central controller function, control of indoor and outdoor units from the touch screen interface. This functionality enables control of up to 384 indoor units.

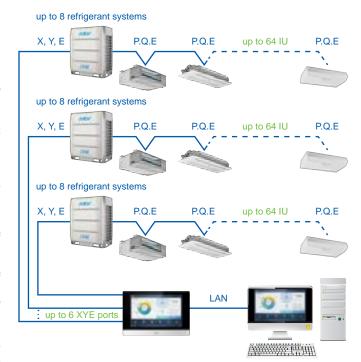
Option 2: Units control via web page, after connecting the gate to a computer with a LAN cable.Gate web page address: 192.168.100.40:8000. This functionality enables control of up to 384 indoor units.

Option 3: The gate can be connected with IMMPRO software. IMMPRO is the latest software for management of MDV CAC brand network and enables connection with up to 10 CCM-270A/WS devices, giving a total of 3840 controllable indoor units.

Electricity bills and energy management.

By activation of the ECS function, the controller enables estimation of electric energy consumed by the outdoor units, and then its distribution among the indoor units. Owing to this, the electricity bills can be evenly split between each tenant. In order to use the "ECS" function of the CCM-270A/WS controller it is necessary to connect an electricity meter to the outdoor unit for the purpose of energy monitoring. Data collected in this way can be sent to CCM-270A/WS for billing the users of indoor units, according to their usage rate. Moreover, a user can set limits or locks for indoor units, i.e.: minimum cooling temperature, maximum heating temperature, fan speed, operation mode, remote controller lock and wired remote controller lock.

 System diagram - by importing floor plans of a building and then placing indoor units in their current locations, user can create an individual system diagram. Thanks to this improvement, indoor unit monitoring and control is even more comfortable.



Model	CCM30
Dimensions (width x height x depth)	270×183×26.7 mm
Power supply	198-242V, 50/60Hz
Ambient temperature	0 ~ 40 °C
Ambient humidity	RH 10% ~ RH 90%





Advanced control system designed for EVO and ONE series units with capacity up to 49kW

Energy consumption costs division between each tenant

Intelligent MDV Manager (IMM) monitors operation of each particular indoor and outdoor unit, among others their operating time and intensity, and on this basis, it divides the air-conditioning exploitation costs between all the users.

Versatility of applications

Intelligent MDV Manager (IMM) - as a management system, is especially designed to control and monitor all functions of the MDV VRF system. Flexibility and versatility of application depending on different needs, makes it an ideal manager of any building.

- it can manage 4 M-Interface web gates, 64 refrigerant systems, 1024 indoor units and 256 outdoor units from one PC
- web network access
- user-friendly and intuitive interface
- central monitoring and building management

- control lock (each particular controller)
- temperature limits setting
- proportional division of energy consumption
- annual operation schedule
- indication of low load level
- generating operational reports (daily, weekly, monthly)
- displaying errors and warning message
- filter replacement reminder
- emergency stop, alarm signalling

Displaying outdoor unit parameters

- cooperation with Windows 7 64bit and Windows XP 32bit system
- monitoring and control from any place with use of PC computer, phone, tablet
- web network access with use of the most popular search engines: IE, Firefox, Chrome, Safari etc.
- provides remote access through DSL, VPN and etc.
- annual operation schedule

- indication of low load level
- generating operational reports (daily, weekly, monthly)
- displaying errors and warning message
- filter replacement reminder
- emergency stop, alarm signalling





IMMP-BAC, IMMP-S

Versatility of applications

- it can manage 10 gates in the IMMP-M system, 320 refrigerant systems, 2564 indoor units
- temperature setting
- dual temperature set points
- 7-speed fan control
- automatic swing
- 5-step swing
- outdoor unit ECO mode setting
- holiday setting
- schedule management
- present time
- 2 authorization levels
- unit model recognition
- electricity charge distribution
- system diagram
- energy management
- group control
- error codes
- system parameter querying
- report output
- operation setting log
- LAN access
- data backup
- remote signal reception
- choice of language (Polish, English, French, Spanish)



Designed for ONE systems with capacity above 49kW.



Schedule management

Daily, weekly or annual schedules can be used to set individual settings of the unit such as on/off, operating mode, set temperature, fan speed and swing.

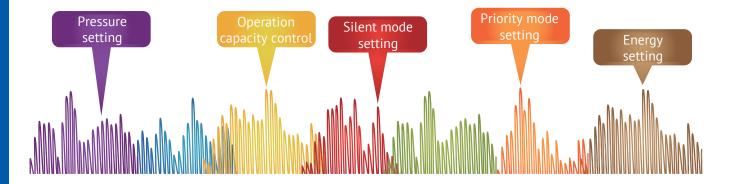
Electricity charge distribution

The IMMPRO uses the patented MDV Calculation Method to estimate the electricity consumption of the outdoor units and then divide it among the indoor units so that the electricity charges can be equitably divided among building occupants.

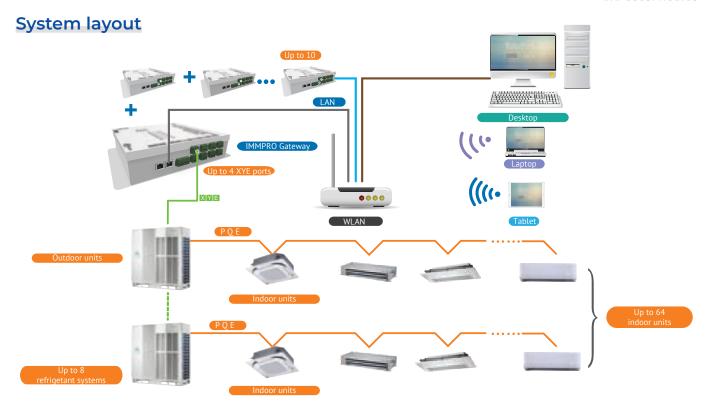


Outdoor unit configuration

Outdoor unit configuration and settings can be monitored and controlled without having to go outdoors.







Specifications

Model	IMMP-BAC	
Dimensions (width x height x depth)	319×251×66 mm	
Power supply	100-240V(50/60Hz)	

Controllers comparison

IMMP-BAC and CCM-270B/WS are two latest generation gates, which can be used as gates for IMMPRO software. It is essential to analyse their differences. The most obvious advantage of CCM-270B/WS is the 10.1" touch screen, which enables individual use of the controller or in cooperation with IMMPRO. Home pages of both devices comprise some good comparison. Despite similar functionality, the page of CCM-270B/WS clearly distinguishes it from IMMP-BAC in comprehensive comparison. The table below shows a comparison of both gates.

Parameter	CCM270A/WS	IMMP-BAC
Touch screen	10.1 inch	without screen
Central controller	Can be used as a central controller without computer support	Impossible to use as a central controller
Max. number of systems	8x6	8x4
Map view	available	unavailable
Indoor units group function	available	available
Max. number of indoor units	384	256
Independent control without computer	available	unavailable
E-mail functionality	available	unavailable
Economy control of the indoor and outdoor units	available	available
Wi-Fi network functionality	available	unavailable
Schedule	available	available
USB compatible	available	unavailable
Brightness adjustment	available	unavailable
Electricity charge distribution	available	available
Energy statistics storage period	12 months	2 months



MD-CCM15

Group/network central controller – max. 64 connectable indoor units. It does not provide a display, therefore it needs to be connected to an external screen, e.g. computer or tablet.

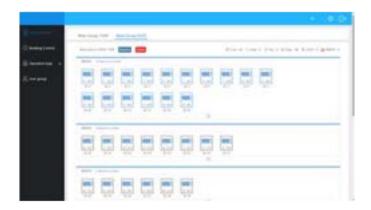


Diversity of applications

The controller is used to convert data between RS485 and TCP/IP protocols. Access to the VRF system management is performed through the web site. The user can control and monitor air-conditioning system operation through the LAN and WAN network. Access to the air-conditioning system is available through WEB/HTTP/TCP/IP. Remote control with use of a computer, smartphone, tablet etc.

Simple control interface

- Software access through the WEB.
- Simple and user friendly "click and go" interface.
- Individual and group control.
- Icon colours enable easy recognition of the air-conditioners operation mode.
- Full-screen mode and temperature adjustment with a slider available.

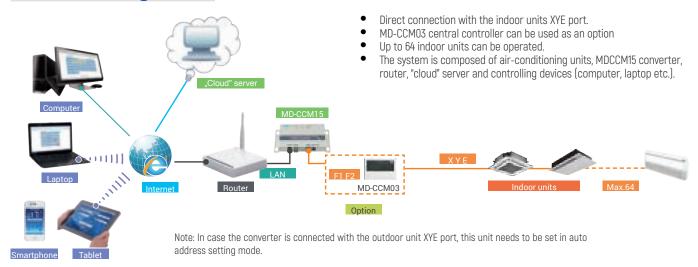


Functions available via website

- Control and monitoring of single unit or whole group operational status.
- Weekly timer, individual or group programming.
- Group control of several converters after logging in as a "group user".
- Error history simplified service and system troubleshooting owing to the possibility of checking the history of occurred errors.



Network configuration



Weekly timer

- Weekly timer for mobile devices available
- Possibility of setting several time periods daily for a single unit or the whole group
- Functions available for the weekly timer mode: start/stop, operation mode and temperature



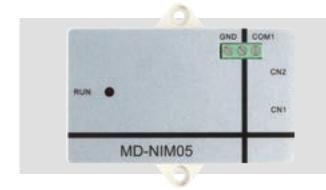
Smart control system

- Remote control of the air-conditioning system with use of a smartphone or tablet.
- Possibility to control and monitor the system operation at any place and time.
- Ability to turn the unit off remotely in order to avoid wasteful consumption of energy.



MD-NIM05 - hotel

key-card module



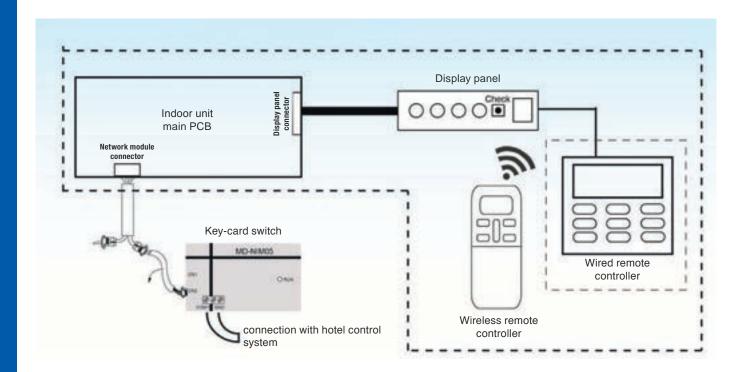
This device is configured to work with hotel key-card switches and provides smart control of the air-conditioners, energy saving and cost reduction.

Advantages

- No additional power supply
- Does not interfere with the key-card switch functionality
- Control automation by integration with wired controller
- Simple installation

Hotel key-card module

- Works with wired controller
- MD-NIM05/E module shall be connected to CN20 connector (CN12 in case of wall-mounted units) on the air-conditioner main PCB (dry contact).
- In MD-NIM05B/E, a signal between the module and the hotel key-card switch is apply voltage type (230V/50Hz/1ph).





NIM09 - Motion sensor

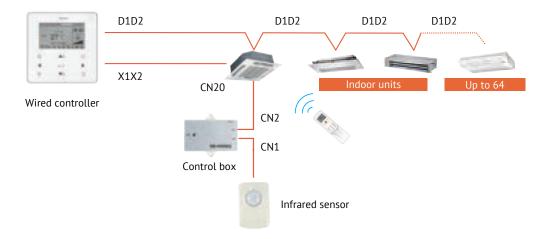


Thanks to the infrared sensors the device detects motion and this enables control of the indoor unit. If the room remains unoccupied for 30 or 60 minutes, the air-conditioner will stop operating and resume automatically after detecting motion.

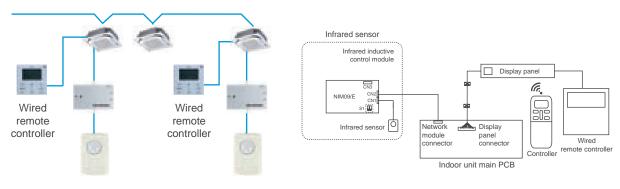
Advantages

- Automatic room temperature adjustment
- Extending the off time avoiding frequent switching on/off
- Perfect for offices, conference rooms or hotels cost reduction

Connection example



Installation example



NIM09 is compatible with the wired remote controller

Electrical wiring



MD-NIM10

Energy distribution module to compensate for lacking OAE ports in ONE systems. Enables connecting units to the IMM network and usage of energy meter.

FUNCTIONS

- · OAE ports: connected to meter OAE ports
- PQE ports: connected to outdoor unit PQE ports
- Each M-interface can be connected to a single MD-NIM10 through K1 K2 E ports
 The network address can be set with use of S1 rotary switch on the MD-NIM10 main PC

Connection diagram







Easy Test

Diagnostic interface that provides a quick troubleshooting process. It enables manual adjustment of particular components of the outdoor unit. It is compatible with Split, Multi and Office Standard series.

FUNCTIONS

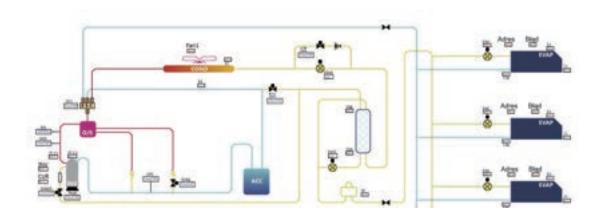
- · Current compressor operating frequency
- Target compressor operating frequency
- · Air temperature from indoor unit
- · Indoor unit heat exchanger temperature
- · Outdoor unit heat exchanger temperature
- · Outdoor temperature
- · Discharge temperature
- · Temperature of the gas returning to outdoor unit
- · Unit running current (AC)
- · Outdoor unit DC voltage (IPM module input)
- · Maximum AC voltage (bridge rectifier input)
- · Set temperature
- · Outdoor unit load
- · Indoor unit error
- · Outdoor unit error
- · Outdoor unit fan speed
- EEV opening (electronic expansion valve)
- · Operation mode
- Indoor unit operation mode
- · Outdoor unit operation mode
- Outdoor unit error status
- Compressor error status

Model	Easy Test
System operating parameters readout	•
Compressor manual adjustment	•
Fan manual adjustment	•
Electronic expansion valve manual adjustment	•
Expanded error code list	•
Simple connection	•

Easy Test VRF – MCAC-DIAG-B diagnostic software

FUNCTIONS

- · VRF systems monitoring and system errors diagnostics
- · Access for service professionals to VRF system parameters, and thus fast and precise diagnostics of the operating system
- · Transparent and user-friendly interface with reach visuals
- · System diagram of refrigerant flow can be generated for graphic interpretation of system status.
- Data log record in the logging history, including operational records and error reports









DTS343-3 - energy meter

The device is designed for the measurement of energy consumed by the three-phase four-wire AC system. It includes a microcontroller, electric energy measuring system, LCD display and RS485 communication interface. The meter complies with IEC 62053-21:2003 and other electrical safety standards. It features missing or changed phase signalling, and also an option of alarm events recording.

MCAC-PIDU

The module for maintaining the indoor unit power supply. We can use MCAC-PIDU to ensure continuous system operation, despite breakdowns or interruption of a single unit power supply in the network. As the module detects an error, it supplies an indoor unit with low voltage of 5V/12V (it can be connected to only one indoor unit). As a result the indoor unit is put on stand-by.





Extension kit



The module allows an indoor unit to be extended with additional XYE ports. This enables connection of two BMS systems or additional central control.



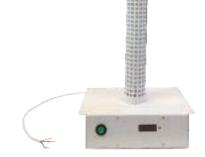


Healthy Kit

This device in connection with the air-conditioning and ventilation system provides air sterilization. It can eliminate most of bacteria, mould, viruses, germs, fungi and volatile organic compounds present in air and on the surface of objects.

The Healthy Kit can be successfully used in:

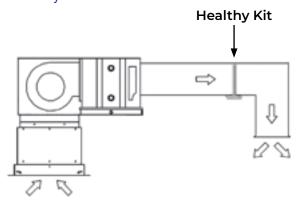
- hospitals,
- pharmacies,
- · beauty salons,
- avms
- food processing industry,
- hotels,
- · offices,
- kindergartens and schools,
- houses and many other public facilities.

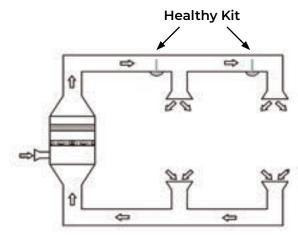


Main features of the set

- · Clean and healthy air without secondary pollution.
- Easy installation and connection. Special maintenance is unnecessary.
- As it is equipped with an air flow sensor it can be synchronized with the air-conditioning duct system. The device starts operation 5 seconds after detecting flow of air in a duct.
- Total operating time counter is equipped with a light sensor and error code display.
- Line port with option to connect an alarm notifying of aging of the UV lamp and that the lamp is not switched on (line port alarm signal and external control signal)
- Line port with option to connect an external control signal and control of unit operational status.
- CB, CE and RoHS certificates.

The Healthy Kit can be installed as a single unit in a duct or as a set of units in the whole air-conditioning or ventilation system.





Model			MDL-PSM10W	MDL-PSM18W	MDL-PSM28W
Airflow*		m³/h	≤1500	≤2600	≤4300
UV lamp power		W	10	18	28
Input voltage		V	220~240	220~240	220-240
Frequency		Hz	50/60	50/60	50/60
Rated current		А	0,05	0,09	0,16
Weight		kg	1.4	1.7	2.0
Dimensions (length x width x (height 1 + height 2)) mm		250×157×(72+227)	250×157×(72+371)	250×157×(72+565)	
D: : (.: ((: :	Bacteria		organic bacteria ≥97%; aerobic bacteria ≥99,9%		
Disinfection efficiency	Ozone			≤0,003mg/m³	

^{*} Unit selection is based on airflow performance









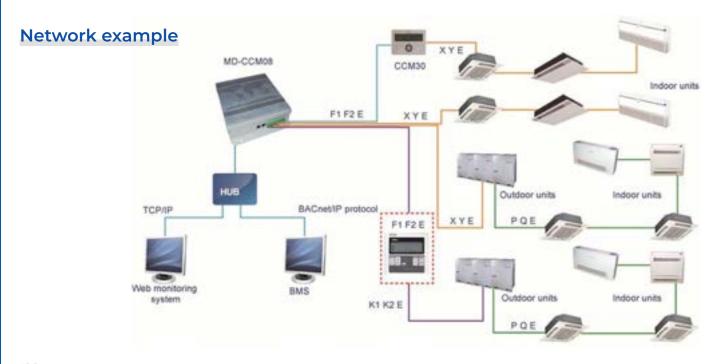
EVO and ONE systems (up to 49 kW)



MD-CCM08 is an interface that allows information collection, sending commands and connection of indoor and outdoor units to the BACnet network (automation network and building management). MD-CCM08 gateway enables integration of the building management systems and airconditioning as well as connecting it independently to the MDV VRF system.

Advantages

- Connection of max 256 IDU or 128 ODU
- Connection of IDU and ODU to the BMS system via BACnet protocol
- Option to connect only IDU and ODU, without BMS system
- Covers 4 groups of RS485 communication ports
- User can check the unit status and change their settings via the local network
- Support BACnet/IP access
- Compatible with the Firefox web browser





MC-CCM18 is a gate that connects the central MDV air-conditioning system with BMS. It provides the opportunity to create the Modbus network including up to 1024 indoor units and 64 outdoor units.

Advantages

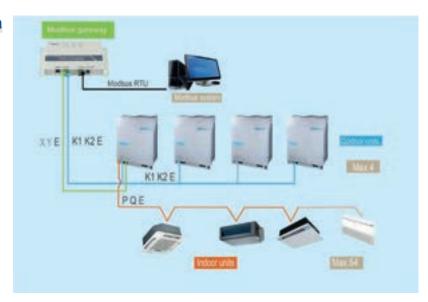
- One gate can be connected up to 64 IDU and 4 odu
- The network can be comprised of up to 16 gates
- Built-in WEB server function
- Supports Modbus network protocol
- Transmission mode used for information transfer is RTU
- Wide voltage range 12-48V DC

One Modbus gate can directly connect the refrigerant system with a PC or master Modbus. A computer can be connected with Modbus protocol in two ways:

Method of TCP/IP connection



Method of TCP/IP connection



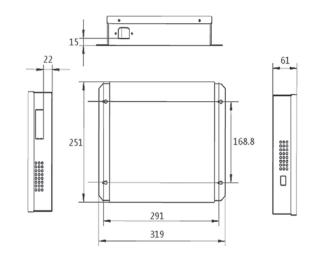


LONGW64 gate operates in LonWorks standard and enables direct network connection of up to 64 indoor units. The interface helps setting the operation mode of the units by collecting information from the central unit of the MDV air-conditioning system.

Advantages

- Main control module uses Flash memory
- Control software available online
- Nonpolar twisted pairs facilitate connection with the LonWorks network

LONGW64 enables creation of the central monitoring system, which will be responsible for collecting information and control of indoor units. This can be done by connecting the gate to a computer in one of two ways:



Method appropriate for any system, it connects up to 64 IDU



BMS system

Method appropriate only for the ONE system, it connects up to 64 IDU



ONE system (above 49 kW)

The IMMP-BAC gate has 4 inputs that enable connection of up to 64 indoor units and 24 outdoor units to each of them (total number of connected units is 256). Additionally, with the use of the IMMPRO system, the gate enables activation of the power distribution function. It estimates energy consumed by an outdoor unit and calculates it for each indoor unit. This allows splitting the electricity bill in the managed building.



Advantages

- It includes BACnet standards
- Connects VRF system with BACnet network
- Supports IMMP-BAC protocols
- Plug-in terminal interface facilitates connection

Specifications

Function	Description
Input power	100-220VAC 50/60Hz
Communication interface	4× RS485 interface
	1× RJ45 Ethernet port
	Ethernet port
Working environment	Temperature: 0-40°C
Dimensions (mm)	260×250×60
Weight (kg)	2.7

The gate must be located in the same network segment as the main computer of the building management system, otherwise it will not be possible to establish communication between them.

Connection diagram



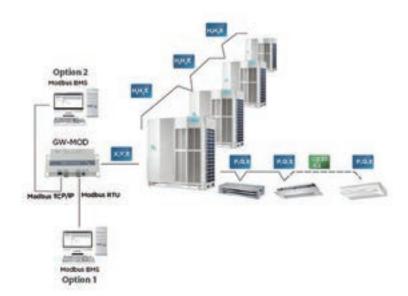




GW-MOD gate supports only ONE series MDV outdoor units with capacity of 50 kW and more (please contact Technical Support Department regarding the indoor units). It is possible to connect up to 64 indoor units and 4 outdoor units to one system.

The central computer gains access to the gate in two ways:

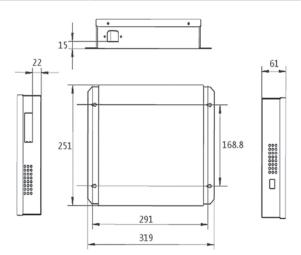
- through the Modbus/TCP protocol
- on the basis of Modbus/RTU protocol through 485 interface



The GW-LON gate is equipped with a built-in LonWorks function that supports LonTalk protocol. The VRF system can communicate with the building management system, based on LonWorks by converting the RS458 protocol into standard LonTalk protocol. The gate enables connection of up to 64 indoor units and 32 outdoor units.



Function	Description
Processor/memory	FT 5000 Smart Transceiver system, 10 Mhz, 64 K flash memory
	Hidden service switch
Services	Service indicator (red)
	Power LED indicator (green)
Voltage range	100-240 VAC 50/60Hz
Max current input (A)	2
Working environment	Temperature: 0-40°C
Software configuration	Standard LonMark configuration Supporting direct read/write to memory by the network management tool based on LNS.
Dimensions (mm)	319×251×61





A single GW-KNX gate can be connected only to a single unit. It is possible to install it inside the controlled unit. The gate enables two-way monitoring and control of all functional parameters of the unit. It can be configured directly from ETS. GW-KNX is delivered with the full database of communication objects that provide the simplest integration or, for example, temperature control of the controlled unit.



- 1. Power supply
- 2. Program button
- 3. LED indicator
- 4. RS485 communication ports

Functions	Description
Power supply	29VDC 10mA
LED indicator	KNX information on programming status
Button	programmable KNX button
Configuration	Configuration with use of ETS software
Dimensions (mm)	85×51×16



Communication

4 BMS protocols available that support communication with the air-conditioning system: ModBus, BACnet, LonWorks, kNX.

Flexibility of application

Thanks to the BMS gateways it is possible to build complex system networks, including even thousands of indoor units, operating in hundreds of refrigerant systems – depending on customer's requirements and communication protocol

Operation monitoring

It is possible to control operation parameters in real time. Enables data analysis, reduction of energy consumption and minimising costs, as well as fast detection of abnormalities in system operation.

		BACnet	ModBUS	LonWorks	KNX
		IMMP-BAC	GW-MOD	GW-LON	GW-KNX
Max IDU		256	64	64	1
Max ODU		128	4	32	1
Max. refrigerant sy	ystems	32	1	8	1
Control	ON/OFF	Х	Х	Х	Х
	Operation mode	Х	Х	Х	Х
	Set temperature	Х	Х	Х	Х
	Fan speed	Х	Х	Х	Х
	Power management	Х	Х	Х	х
IDU monitoring	Room temperature	Х	X	X	Х
	Alarm status	X	X	X	Х
	Alarm display	X	X	X	Х
ODU monitoring	Operation mode	Х	Х	Х	х
	Outdoor temperature	X	X	X	Х
	Fan speed	X	X	X	Х
	Compressor frequency	X	X	X	Х
	Evaporation temperature	X	X	X	Х
	System pressure readout	X	X	X	Х
	Alarm status	X	X	X	Х
Alarm display		Х	Х	X	Х
LAN access		Χ	X	χ	Х











Outdoor unit branch joint dimensions

Model Description	Dimensions Weight	Gas side	Liquid side
FQZHW-02N1D Connection of 2 outdoor units	255x150x185 mm 1.5 kg	OD:31.8 ID:31.8 ID:34.9 OD:34.9 Q4 Q3 ID:31.8 ID:31.8 ID:34.9	OD:15.9 ID:15.9 ID:19.1 OD:19.1 Y3 Y1 ID:15.9 ID:15.9 ID:22.2 ID:15.9 ID:15.9 ID:19.1
FQZHW-03N1D Connection of 3 outdoor units	345x160x285 mm 3,4 kg	0D:31.8	OD:15.9 ID:19.1 Y2 ID:19.1 Y6 Y1 ID:15.9
FQZHW-04N1D Connection of 4 outdoor units	475x165x300 mm 4,8 kg	OD:31.8 ID:25.4 Q2 ID:31.8 ID:	OD:15.9 ID:12.7 Y2 ID:15.9 ID:22.2 ID:25.4 ID:22.2 ID:25.4 ID:15.9 ID:



Indoor unit branch joint dimensions

Model Description	Dimensions Weight	Gas side	Liquid side
FQZHN-01D Total capacity index of connectable units below 16,6 kW	290x105x100 mm 0,4 kg	(ID:15.9) (ID:15.9) (ID:15.9) (ID:19.1	D:6.4 D:6.4 D:9.5
FQZHN-02D Total capacity index of connectable units 16,6~33,0 kW	290x105x100 mm 0,6 kg	D:12.7 (D:19.1) (D:19.1) (D:22.2 OD:22.2 OD:22.2 OD:22.2	ID:6.4 ID:9.5 ID:9.5 OD:12.7 OD:12.7 ID:12.7 ID:12.7 ID:12.7
FQZHN-03D Total capacity index of connectable units 33,0~66,0 kW	310x130x125 mm 0,9 kg	D:15.9 D:19.1 D:22.2 D:22.2 D:28.6 OD:28.6 OD:28.6	(ID:12.7) (ID:12.7) (ID:12.7) (ID:15.9) (ID:15.9) (ID:15.9)
FQZHN-04D Total capacity index of connectable units 66,0~92,0 kW	350x180x170 mm 1,5 kg	DD:34.9 DD:34.9 DD:34.9 DD:34.9	(D:12.7 (D:15.9) (D:15.9) (D:19.1 OD:19.1
FQZHN-05D Total capacity index of connectable units 92 kW and more	365x195x215 mm 1,9 kg	D:34.9 D:41.3 D:44.5 D:41.3	D:12.7 (D:19.1) (D:19.1) (D:22.2 OD:22.2 OD:22.2

NOTES



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