SAMSUNG

VRF Technical Data Book

DVM S for Euro_ET (R410A, 50Hz, HP)

Model : Essential Type

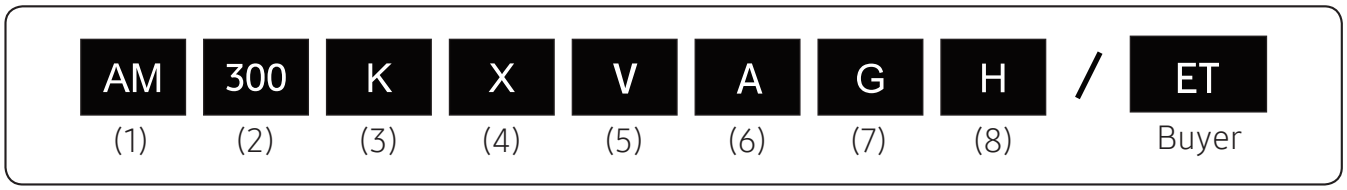
History

Version	Modification	Date	Remark
Ver. 1.0	Release DVM S Essential (R410A, 50Hz, HP) for Euro_ET TDB	16.12.19.	

Nomenclature

Outdoor Unit

Model Name



(1) Classification

AM	DVM

(2) Capacity

x 1/10 HP (3 digits)

(3) Version

F	2013
H	2014
J	2015
K	2016
M	2017

(4) Product Type

X	Outdoor Unit
N	Indoor Unit

(5) Feature 1

V	Inverter
M	DVM S Eco

(6) Feature 2

A	Standard + General Temp.+ Module
H	High EER + Low Temp. + Module
G	High EER + General Temp. + Module
D	Standard + General Temp. + Non-Module

(7) Rating Voltage

E	1Ø, 220~240V, 50Hz
G	3Ø, 380~415V, 50Hz
N	3Ø, 380~415V, 50/60Hz

(8) Mode

H	Heat Pump
R	Heat Recovery

Features & Benefits

Samsung's VRF system air conditioners offer instant temperature control, user-friendly installation and advanced functionality, along with smart power usage. Our flagship VRF-based Samsung DVM S is a highly innovative system that adopts the new third-generation Samsung Scroll Compressor (SSC) technology with Dual Digital Inverter. DVM S provides world-class energy efficiency and the most powerful cooling and heating performance available on the market. This ideal air conditioning system accomodates all variable environments, including large commercial or residential buildings.

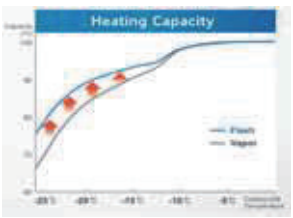
Samsung DVM S offers innovative features to benefit the indoor comfort as well operational coasts of the system through technological advances such as:

The world's largest capacity

Capacities of the outdoor units offer up to 30 HP rooftop space savings as well as lowering the installations and transportation costs.

High seasonal energy efficiency

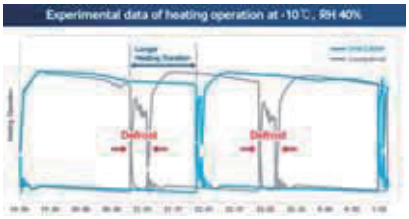
Samsung DVM S adopts a dual inverter scroll compressor that upgrades refrigerant flow and the motor's operating performance. It makes ESEER of DVM S is up to 8.00.



Superior Heating Performance & Wide Operating Temperature Range with Flash injection

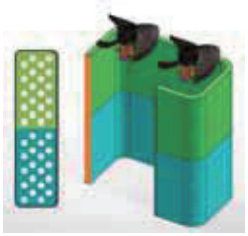
Increase refrigerant flow by 32%, extend heating operation range at -25°C, thanks to Flash Injection technology, extended compressor reliability range and control compression ratio.

Features & Benefits



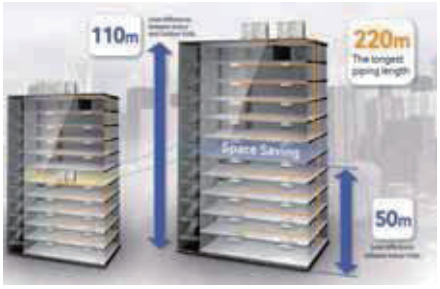
Intelligent Defrosting Logic

DVM S Intelligent Defrost Control logic keeps the unit in the heating mode for up to 40% longer through out the heating season compared to conventional model by monitoring the air resistance through the heat exchanger.



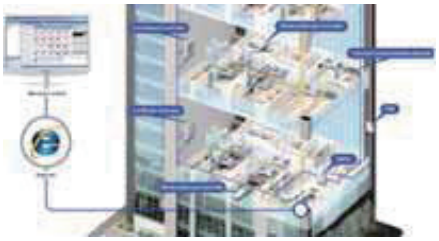
Optimised Heat Exchanger

Combination of optimised coil path and different types of fin design for upper and lower parts of the condenser evens out the airflow profile to optimise the heat transfer process.



Extended Piping Length Limits

Allows extended piping length of up to 220 m, and units will still give a great performance over wide areas. With this technology, installation is available with a maximum height level of 110 m, which is equivalent to 20 stories (each story is considered 5 m high).



Smart management

Further improves system's energy efficiency due to precise indoor climate control. Web-based remote monitoring and management system allows quick and easy HVAC control and breakdown alert.

Eurovent Certified Performance

Samsung DVM S had become the 1st VRF Product to be certified by Eurovent, the European Committee of HVAC&R, in March 2014.

Contents

1. Combination Table

Outdoor Units

Essential

System Model			Capacity of Single Unit (HP)											
Capa	Code	No. of Modules	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP
10HP	AM100MXVDGH/ET	1		1										
12HP	AM120MXVDGH/ET	1			1									
14HP	AM140MXVDGH/ET	1				1								
16HP	AM160MXVDGH/ET	1					1							
18HP	AM180MXVDGH/ET	1						1						
20HP	AM200MXVDGH/ET	2		2										
22HP	AM220MXVDGH/ET	2		1	1									
24HP	AM240MXVDGH/ET	2			2									
26HP	AM260MXVDGH/ET	2			1	1								
28HP	AM280MXVDGH/ET	2				2								
30HP	AM300MXVDGH/ET	2			1			1						
32HP	AM320MXVDGH/ET	2				1		1						
34HP	AM340MXVDGH/ET	2					1	1						
36HP	AM360MXVDGH/ET	2						2						
38HP	AM380MXVDGH/ET	3			2	1								
40HP	AM400MXVDGH/ET	3			1	2								

NOTE

- Make sure to use an indoor unit that is compatible with DVM S.
- Indoor units can be connected within the range indicated in following table.
- If the total capacity of the connected indoor units exceeds the indicated maximum capacity, cooling and heating capacity of the indoor unit may decrease.
- Total capacity of the connected indoor units can be allowed from 50% to 130% of the total outdoor unit capacity.
  0.5 × Σ(Outdoor unit capacity) ≤ Total capacity of the connected indoor units ≤ 1.3 × Σ(Outdoor unit capacity)
  - ※ You can connect maximum 64 indoor units to the outdoor unit. Maximum quantity of connectable indoor unit is set to 64 since outdoor unit only support up to 64 communication address. Indoor unit address can be assigned from 0~63. If the indoor unit address was assigned from 64~79, E201 error will occur.
  - ※ Maximum 32 Wall-mount type indoor units with EEV (AM✳✳✳✳NQDEH✳✳✳, AM✳✳✳JNVDKH✳✳✳) can be connected.
- In case of combining modules more than 90HP, please consult the manufacturer when connecting the indoor unit and deciding on piping length in accordance with design of the building.

1. Combination Table

Indoor Units

Model		Capacity (kW)														
		1.5	1.7	2.2	2.8	3.2	3.6	4.5	5.6	6.0	7.1	8.2	9.0	11.2	12.8	14.0	16.0
1Way CST	JSF-0																
	JSF-1																
	JSF-2																
2Way CST																	
4Way CST																	
360 CST																	
Floor Standing Unit																	
4Way CST S (600X600)																	
Duct S (MSP)																	
Slim Duct																	
MSP Duct																	
Ceiling																	
Console																	
Boracay																	
Boracay (with EEV)																	
AR5000																	
AR5000 (with EEV)																	

1. Combination Table

Indoor Units

Model	Capacity (kW)														
	6.0	7.1	8.2	9.0	11.2	12.8	14.0	16.0	18.0	22.0/ 22.4	25.0	28.0	32.0	50.0	500 CMH	1000 CMH
HSP Duct																
OAP Duct																
Big Duct																
PAC																
Hydro Unit HE																
Hydro Unit HT																
ERV Plus																

NOTE

- Make sure to use an indoor unit that is compatible with DVM S.
- If the total capacity of the connected indoor units exceeds the indicated maximum capacity, cooling and heating capacity of the indoor unit may decrease.
- Total capacity of the connected indoor units can be allowed from 50% to 130% of the total outdoor unit capacity. 0.5 ×Σ (Outdoor unit capacity) ≤ Total capacity of the connected indoor units ≤ 1.3 × Σ (Outdoor unit capacity)

※ You can connect maximum 64 indoor units to the outdoor unit. Maximum quantity of connectable indoor unit is set to 64 since outdoor unit only support up to 64 communication address. Indoor unit address can be assigned from 0~63. If the indoor unit address was assigned from 64~79, E201 error will occur.

※ Maximum 32 Wall-mount type indoor units with EEV (AM✕✕✕✕NQDEH✕✕✕, AM✕✕✕JNVDKH✕✕✕) can be connected.

1. Combination Table

External Appearance

Essential

Capa [HP]	Model Name	Model	Capa [HP]	Model Name	Model
10 12	AM100MXVDGH/ET AM120MXVDGH/ET		14 16 18	AM140MXVDGH/ET AM160MXVDGH/ET AM180MXVDGH/ET	
20 22 24	AM200MXVDGH/ET AM220MXVDGH/ET AM240MXVDGH/ET		26 30	AM260MXVDGH/ET AM300MXVDGH/ET	
28 32 34 36	AM280MXVDGH/ET AM320MXVDGH/ET AM340MXVDGH/ET AM360MXVDGH/ET		38	AM380MXVDGH/ET	
40	AM400MXVDGH/ET				

2. Specification

Essential

Type				DVM S	DVM S	DVM S
Model Name				AM100MXVDGH/ET	AM120MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 1			-	-	-
	Outdoor unit module 2			-	-	-
	Outdoor unit module 3			-	-	-
	Outdoor unit module 4			-	-	-
Power Supply			Ø, #, V, Hz	3, 4, 380-415, 50	3, 4, 380-415, 50	3, 4, 380-415, 50
Mode			-	HEAT PUMP	HEAT PUMP	HEAT PUMP
Performance	HP		HP	10	12	14
	Capacity	Cooling	kW	28.0 / 28.0*	33.6 / 33.6*	40.0 / 40.0*
		Heating	kW	31.5 / 28.0*	37.8 / 33.6*	45.0 / 40.0*
Maximum number of connectable indoor units			EA	18	21	26
Total capacity of the connected Indoor Units		Min.	kW	14.0	16.8	20.0
Total capacity of the connected Indoor Units		Max.	kW	36.4	43.7	52.0
Power	Power Input	Cooling	kW	7.18 / 7.18*	9.36 / 9.36*	12.42 / 12.42*
		Heating	kW	7.50 / 6.67*	9.22 / 8.20*	11.14 / 9.90*
	Current Input	Cooling	A	11.50	15.00	19.90
		Heating	A	12.00	14.80	17.90
	Current	Minimum Ssc	MVA	4.5	5.3	5.4
		MCA	A	21.1	25.0	25.0
		MFA	A	32	32	32
Efficiency	EER	Cooling	W/W	3.90 / 3.90*	3.59 / 3.59*	3.22 / 3.22*
	COP	Heating	W/W	4.20 / 4.20*	4.10 / 4.10*	4.04 / 4.04*
	ESEER		W/W	7.08	6.58	6.60
Casing	Material	Body	-	EGI Steel Plate	EGI Steel Plate	EGI Steel Plate
		Base	-	EGI Steel Plate	EGI Steel Plate	EGI Steel Plate
Heat Exchanger	Type		-	Fin & Tube	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al	Al
		Tube	-	Cu	Cu	Cu
	Fin Treatment		-	Anti-corrosion	Anti-corrosion	Anti-corrosion
Compressor	Output		kW x n	6.39 x 1	6.39 x 1	6.39 x 1
	Model Name		-	DS-GB066FAV* x 1	DS-GB066FAV* x 1	DS-GB066FAV* x 1
	Oil	Type	-	PVE	PVE	PVE
		Initial charge	cc x n	1,100 x 1	1,100 x 1	1,100 x 1
Fan	Type		-	Propeller	Propeller	Propeller
	Discharge direction		-	Top	Top	Top
	Quantity		EA	1	1	2
	Air Flow Rate		m^3/min	170	220	255
			l/s	2,833	3,667	4,250
	External Static Pressure	Max.	mmAq	8	8	8
			Pa	78.45	78.45	78.45
Fan Motor	Type		-	BLDC Motor	BLDC Motor	BLDC Motor
	Output		W x n	830 x 1	830 x 1	620 x 2
Piping Connections	Liquid Pipe		Type	Braze connection	Braze connection	Braze connection
			Φ, mm (inch)	9.52 (3/8)	12.70 (1/2)	12.70 (1/2)
	Gas Pipe		Type	Braze connection	Braze connection	Braze connection
			Φ, mm (inch)	22.22 (7/8)	28.58 (1-1/8)	28.58 (1-1/8)
	High pressure Gas Pipe(HR Only)		Type	-	-	-
			Φ, mm (inch)	-	-	-
	Heat Insulation		-	Both liquid and gas pipes	Both liquid and gas pipes	Both liquid and gas pipes
	Piping length (ODU-IDU)	Max. [Equiv.]	m	200[220]	200[220]	200[220]
	Piping length (1st Branch-IDU)	Max.	m	90	90	90
	Total piping length (System)	Max.	m	1,000	1,000	1,000
	Level difference (ODU in highest position)	Max.	m	110	110	110
	Level difference (IDU in highest position)	Max.	m	110	110	110
	Level difference (IDU-IDU)	Max.	m	50	50	50

2. Specification

Essential

Type				DVM S	DVM S	DVM S
Model Name				AM100MXVDGH/ET	AM120MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 1			-	-	-
	Outdoor unit module 2			-	-	-
	Outdoor unit module 3			-	-	-
	Outdoor unit module 4			-	-	-
Wiring connections	Transmission Cable		mm^2	0.75	0.75	0.75
	Remark		-	F1, F2	F1, F2	F1, F2
	Power supply intake		-	Both indoor and outdoor unit	Both indoor and outdoor unit	Both indoor and outdoor unit
Refrigerant	Type		-	R410A	R410A	R410A
	Factory Charging		kg	5.5	6.5	7.7
			tCO_2e	11.48	13.57	16.08
Sound	Sound Pressure	Cooling	dB(A)	58	62	61
		Heating	dB(A)	60	64	63
	Sound Power		dB(A)	79	81	81
External Dimension	Net Weight		kg	197.0	210.0	226.0
	Shipping Weight		kg	204.0	217.0	246.0
	Net Dimensions (WxHxD)		mm	880 x 1,695 x 765	880 x 1,695 x 765	1,295 x 1,695 x 765
	Shipping Dimensions (WxHxD)		mm	948 x 1,887 x 832	948 x 1,887 x 832	1,363 x 1,887 x 832
Operating Temp. Range	Cooling		°C	-5 ~ 48	-5 ~ 48	-5 ~ 48
	Heating		°C	-25 ~ 24	-25 ~ 24	-25 ~ 24

NOTE

- Specification may be subject to change without prior notice.
- Specification comply with EN14511.

1) Capacities are based on (Equivalent refrigerant piping 7.5m, Level differences 0m);
   - 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

   ※ Eurovent certified

2) Allowed combination ratio of the total rated indoor unit capacity over the rated outdoor unit capacity is 50~130%.

3) Sound pressure level is obtained in an anechoic room.
   - Sound pressure level is a relative value, depending on the distance and acoustic environment.
   - Sound pressure level may differ depending on operation condition.
   - dBA = A-weighted sound pressure level
   - Reference acoustic pressure 0 dB = 20uPa

4) Sound power level is an absolute value that a sound source generates.
   - dBA = A-weighted sound power level
   - Reference power : 1pW
   - Measured according to ISO 3741

5) Sound values of multi combination are theoretical values based on sound results of individual installed units.

6) These products contain R410A (GWP=2,088) which is fluorinated greenhouse gas.

7) If outdoor unit is located in a higher position than indoor unit, level difference is 110m or under.
   (If the level difference is higher than 50m, make a decision by PDM kit installation Guide software whether the PDM kit should be installed or not.)
   - PDM kit: Pressure Drop Modulation kit
     When the outdoor unit is below the indoor unit & the level differences are 40m or more, contact your local dealer for more information.

- In case you want to know more information regarding capacity and correction, please refer to capacity table TDB on pvi.samsung.com site.

2. Specification

Essential

Type				DVM S	DVM S	DVM S
Model Name				AM160MXVDGH/ET	AM180MXVDGH/ET	AM200MXVDGH/ET
	Outdoor unit module 1			-	-	AM100MXVDGH/ET
	Outdoor unit module 2			-	-	AM100MXVDGH/ET
	Outdoor unit module 3			-	-	-
	Outdoor unit module 4			-	-	-
Power Supply			Ø, #, V, Hz	3, 4, 380-415, 50	3, 4, 380-415, 50	3, 4, 380-415, 50
Mode			-	HEAT PUMP	HEAT PUMP	HEAT PUMP
Performance	HP		HP	16	18	20
	Capacity	Cooling	kW	45.0 / 45.0※	50.4 / 50.4※	56.0
		Heating	kW	50.4 / 45.0※	56.7 / 50.4※	63.0
Maximum number of connectable indoor units			EA	29	32	36
Total capacity of the connected Indoor Units		Min.	kW	22.5	25.2	28.0
Total capacity of the connected Indoor Units		Max.	kW	58.5	65.5	72.8
Power	Power Input	Cooling	kW	13.80 / 13.80※	16.00 / 16.00※	14.36
		Heating	kW	12.63 / 11.28※	14.80 / 13.16※	15.00
	Current Input	Cooling	A	22.10	25.70	23.00
		Heating	A	20.30	23.70	24.00
	Current	Minimum Ssc	MVA	7.2	8.8	9.0
		MCA	A	32.0	39.2	42.2
		MFA	A	40	50	63
Efficiency	EER	Cooling	W/W	3.26 / 3.26※	3.15 / 3.15※	3.90
	COP	Heating	W/W	3.99 / 3.99※	3.83 / 3.83※	4.20
	ESEER		W/W	6.39	5.91	7.08
Casing	Material	Body	-	EGI Steel Plate	EGI Steel Plate	EGI Steel Plate
		Base	-	EGI Steel Plate	EGI Steel Plate	EGI Steel Plate
Heat Exchanger	Type		-	Fin & Tube	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al	Al
		Tube	-	Cu	Cu	Cu
	Fin Treatment		-	Anti-corrosion	Anti-corrosion	Anti-corrosion
Compressor	Output		kW x n	7.81 x 1	7.81 x 1	(6.39 x 1) x 2
	Model Name		-	DS4GJ5080FV* x 1	DS4GJ5080FV* x 1	(DS-GB066FAV* x 1) x 2
	Oil	Type	-	PVE	PVE	PVE
		Initial charge	cc x n	1,400 x 1	1,400 x 1	(1,100 x 1) x 2
Fan	Type		-	Propeller	Propeller	Propeller
	Discharge direction		-	Top	Top	Top
	Quantity		EA	2	2	2
	Air Flow Rate		m^3/min	255	290	170 x 2
			l/s	4,250	4,833	2,833 x 2
	External Static Pressure	Max.	mmAq	8	8	8
			Pa	78.45	78.45	78.45
Fan Motor	Type		-	BLDC Motor	BLDC Motor	BLDC Motor
	Output		W x n	620 x 2	620 x 2	(830 x 1) x 2
Piping Connections	Liquid Pipe		Type	Braze connection	Braze connection	Braze connection
			Φ, mm (inch)	12.70 (1/2)	15.88 (5/8)	15.88 (5/8)
	Gas Pipe		Type	Braze connection	Braze connection	Braze connection
			Φ, mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
	High pressure Gas Pipe(HR Only)		Type	-	-	-
			Φ, mm (inch)	-	-	28.58 (1-1/8)
	Heat Insulation		-	Both liquid and gas pipes	Both liquid and gas pipes	Both liquid and gas pipes
	Piping length (ODU-IDU)	Max. [Equiv.]	m	200[220]	200[220]	200[220]
	Piping length (1st Branch-IDU)	Max.	m	90	90	90
	Total piping length (System)	Max.	m	1,000	1,000	1,000
	Level difference (ODU in highest position)	Max.	m	110	110	110
	Level difference (IDU in highest position)	Max.	m	110	110	110
	Level difference (IDU-IDU)	Max.	m	50	50	50

2. Specification

Essential

Type				DVM S	DVM S	DVM S
Model Name				AM160MXVDGH/ET	AM180MXVDGH/ET	AM200MXVDGH/ET
	Outdoor unit module 1			-	-	AM100MXVDGH/ET
	Outdoor unit module 2			-	-	AM100MXVDGH/ET
	Outdoor unit module 3			-	-	-
	Outdoor unit module 4			-	-	-
Wiring connections	Transmission Cable		mm^2	0.75	0.75	0.75
	Remark		-	F1, F2	F1, F2	F1, F2
	Power supply intake		-	Both indoor and outdoor unit	Both indoor and outdoor unit	Both indoor and outdoor unit
Refrigerant	Type		-	R410A	R410A	R410A
	Factory Charging		kg	8.4	8.4	5.5 x 2
			tCO_2e	17.54	17.54	22.97
Sound	Sound Pressure	Cooling	dB(A)	63	64	61
		Heating	dB(A)	67	67	63
	Sound Power		dB(A)	83	84	82
External Dimension	Net Weight		kg	253.0	255.0	197.0 x 2
	Shipping Weight		kg	273.0	275.0	204.0 x 2
	Net Dimensions (WxHxD)		mm	1,295 x 1,695 x 765	1,295 x 1,695 x 765	(880 x 1,695 x 765) x 2
	Shipping Dimensions (WxHxD)		mm	1,363 x 1,887 x 832	1,363 x 1,887 x 832	(948 x 1,887 x 832) x 2
Operating Temp. Range	Cooling		°C	-5 ~ 48	-5 ~ 48	-5 ~ 48
	Heating		°C	-25 ~ 24	-25 ~ 24	-25 ~ 24

NOTE

- Specification may be subject to change without prior notice.
- Specification comply with EN14511.

1) Capacities are based on (Equivalent refrigerant piping 7.5m, Level differences 0m);
   - 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

   ※ Eurovent certified

2) Allowed combination ratio of the total rated indoor unit capacity over the rated outdoor unit capacity is 50~130%.

3) Sound pressure level is obtained in an anechoic room.
   - Sound pressure level is a relative value, depending on the distance and acoustic environment.
   - Sound pressure level may differ depending on operation condition.
   - dBA = A-weighted sound pressure level
   - Reference acoustic pressure 0 dB = 20uPa

4) Sound power level is an absolute value that a sound source generates.
   - dBA = A-weighted sound power level
   - Reference power : 1pW
   - Measured according to ISO 3741

5) Sound values of multi combination are theoretical values based on sound results of individual installed units.

6) These products contain R410A (GWP=2,088) which is fluorinated greenhouse gas.

7) If outdoor unit is located in a higher position than indoor unit, level difference is 110m or under.
   (If the level difference is higher than 50m, make a decision by PDM kit installation Guide software whether the PDM kit should be installed or not.)
   - PDM kit: Pressure Drop Modulation kit
     When the outdoor unit is below the indoor unit & the level differences are 40m or more, contact your local dealer for more information.

- In case you want to know more information regarding capacity and correction, please refer to capacity table TDB on pvi.samsung.com site.

2. Specification

Essential

Type				DVM S	DVM S	DVM S
Model Name				AM220MXVDGH/ET	AM240MXVDGH/ET	AM260MXVDGH/ET
	Outdoor unit module 1			AM100MXVDGH/ET	AM120MXVDGH/ET	AM120MXVDGH/ET
	Outdoor unit module 2			AM120MXVDGH/ET	AM120MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 3			-	-	-
	Outdoor unit module 4			-	-	-
Power Supply			Ø, #, V, Hz	3, 4, 380-415, 50	3, 4, 380-415, 50	3, 4, 380-415, 50
Mode			-	HEAT PUMP	HEAT PUMP	HEAT PUMP
Performance	HP		HP	22	24	26
	Capacity	Cooling	kW	61.6	67.2	73.6
		Heating	kW	69.3	75.6	82.8
Maximum number of connectable indoor units			EA	40	43	47
Total capacity of the connected Indoor Units		Min.	kW	30.8	33.6	36.8
Total capacity of the connected Indoor Units		Max.	kW	80.1	87.4	95.7
Power	Power Input	Cooling	kW	16.54	18.72	21.78
		Heating	kW	16.72	18.44	20.36
	Current Input	Cooling	A	26.50	30.00	34.90
		Heating	A	26.80	29.60	32.70
	Current	Minimum Ssc	MVA	9.8	10.6	10.7
		MCA	A	46.1	50.0	50.0
		MFA	A	63	63	63
Efficiency	EER	Cooling	W/W	3.72	3.59	3.38
	COP	Heating	W/W	4.14	4.10	4.07
	ESEER		W/W	6.81	6.58	6.59
Casing	Material	Body	-	EGI Steel Plate	EGI Steel Plate	EGI Steel Plate
		Base	-	EGI Steel Plate	EGI Steel Plate	EGI Steel Plate
Heat Exchanger	Type		-	Fin & Tube	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al	Al
		Tube	-	Cu	Cu	Cu
	Fin Treatment		-	Anti-corrosion	Anti-corrosion	Anti-corrosion
Compressor	Output		kW x n	(6.39 x 1) x 2	(6.39 x 1) x 2	(6.39 x 1) x 2
	Model Name		-	(DS-GB066FAV* x 1) x 2	(DS-GB066FAV* x 1) x 2	(DS-GB066FAV* x 1) x 2
	Oil	Type	-	PVE	PVE	PVE
		Initial charge	cc x n	(1,100 x 1) x 2	(1,100 x 1) x 2	(1,100 x 1) x 2
Fan	Type		-	Propeller	Propeller	Propeller
	Discharge direction		-	Top	Top	Top
	Quantity		EA	2	2	3
	Air Flow Rate		m^3/min	170 x 1 + 220 x 1	220 x 2	220 x 1 + 255 x 1
			l/s	2,833 x 1 + 3,667 x 1	3,667 x 2	3,667 x 1 + 4,250 x 1
	External Static Pressure	Max.	mmAq	8	8	8
			Pa	78.45	78.45	78.45
Fan Motor	Type		-	BLDC Motor	BLDC Motor	BLDC Motor
	Output		W x n	(830 x 1) x 2	(830 x 1) x 2	(830 x 1) x 1 + (620 x 2) x 1
Piping Connections	Liquid Pipe		Type	Braze connection	Braze connection	Braze connection
			Φ, mm (inch)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)
	Gas Pipe		Type	Braze connection	Braze connection	Braze connection
			Φ, mm (inch)	28.58 (1-1/8)	34.92 (1-3/8)	34.92 (1-3/8)
	High pressure Gas Pipe(HR Only)		Type	-	-	-
			Φ, mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
	Heat Insulation		-	Both liquid and gas pipes	Both liquid and gas pipes	Both liquid and gas pipes
	Piping length (ODU-IDU)	Max. [Equiv.]	m	200[220]	200[220]	200[220]
	Piping length (1st Branch-IDU)	Max.	m	90	90	90
	Total piping length (System)	Max.	m	1,000	1,000	1,000
	Level difference (ODU in highest position)	Max.	m	110	110	110
	Level difference (IDU in highest position)	Max.	m	110	110	110
	Level difference (IDU-IDU)	Max.	m	50	50	50

2. Specification

Essential

Type				DVM S	DVM S	DVM S
Model Name				AM220MXVDGH/ET	AM240MXVDGH/ET	AM260MXVDGH/ET
	Outdoor unit module 1			AM100MXVDGH/ET	AM120MXVDGH/ET	AM120MXVDGH/ET
	Outdoor unit module 2			AM120MXVDGH/ET	AM120MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 3			-	-	-
	Outdoor unit module 4			-	-	-
Wiring connections	Transmission Cable		mm^2	0.75	0.75	0.75
	Remark		-	F1, F2	F1, F2	F1, F2
	Power supply intake		-	Both indoor and outdoor unit	Both indoor and outdoor unit	Both indoor and outdoor unit
Refrigerant	Type		-	R410A	R410A	R410A
	Factory Charging		kg	5.5 x 1 + 6.5 x 1	6.5 x 2	6.5 x 1 + 7.7 x 1
			tCO_2e	25.06	27.14	29.65
Sound	Sound Pressure	Cooling	dB(A)	63	65	65
		Heating	dB(A)	65	67	67
	Sound Power		dB(A)	83	84	84
External Dimension	Net Weight		kg	197.0 x 1 + 210.0 x 1	210.0 x 2	210.0 x 1 + 226.0 x 1
	Shipping Weight		kg	204.0 x 1 + 217.0 x 1	217.0 x 2	217.0 x 1 + 246.0 x 1
	Net Dimensions (WxHxD)		mm	(880 x 1,695 x 765) x 2	(880 x 1,695 x 765) x 2	(880 x 1,695 x 765) x 1 + (1,295 x 1,695 x 765) x 1
	Shipping Dimensions (WxHxD)		mm	(948 x 1,887 x 832) x 2	(948 x 1,887 x 832) x 2	(948 x 1,887 x 832) x 1 + (1,363 x 1,887 x 832) x 1
Operating Temp. Range	Cooling		℃	-5 ~ 48	-5 ~ 48	-5 ~ 48
	Heating		℃	-25 ~ 24	-25 ~ 24	-25 ~ 24

NOTE

- Specification may be subject to change without prior notice.
- Specification comply with EN14511.

1) Capacities are based on (Equivalent refrigerant piping 7.5m, Level differences 0m);
   - 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

   ※ Eurovent certified
2) Allowed combination ratio of the total rated indoor unit capacity over the rated outdoor unit capacity is 50~130%.
3) Sound pressure level is obtained in an anechoic room.
   - Sound pressure level is a relative value, depending on the distance and acoustic environment.
   - Sound pressure level may differ depending on operation condition.
   - dBA = A-weighted sound pressure level
   - Reference acoustic pressure 0 dB = 20uPa
4) Sound power level is an absolute value that a sound source generates.
   - dBA = A-weighted sound power level
   - Reference power : 1pW
   - Measured according to ISO 3741
5) Sound values of multi combination are theoretical values based on sound results of individual installed units.
6) These products contain R410A (GWP=2,088) which is fluorinated greenhouse gas.
7) If outdoor unit is located in a higher position than indoor unit, level difference is 110m or under.
   (If the level difference is higher than 50m, make a decision by PDM kit installation Guide software whether the PDM kit should be installed or not.)
   - PDM kit: Pressure Drop Modulation kit
     When the outdoor unit is below the indoor unit & the level differences are 40m or more, contact your local dealer for more information.

- In case you want to know more information regarding capacity and correction, please refer to capacity table TDB on pvi.samsung.com site.

2. Specification

Essential

Type				DVM S	DVM S	DVM S
Model Name				AM280MXVDGH/ET	AM300MXVDGH/ET	AM320MXVDGH/ET
	Outdoor unit module 1			AM140MXVDGH/ET	AM120MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 2			AM140MXVDGH/ET	AM180MXVDGH/ET	AM180MXVDGH/ET
	Outdoor unit module 3			-	-	-
	Outdoor unit module 4			-	-	-
Power Supply			Ø, #, V, Hz	3, 4, 380-415, 50	3, 4, 380-415, 50	3, 4, 380-415, 50
Mode			-	HEAT PUMP	HEAT PUMP	HEAT PUMP
Performance	HP		HP	28	30	32
	Capacity	Cooling	kW	80.0	84.0	90.4
		Heating	kW	90.0	94.5	101.7
Maximum number of connectable indoor units			EA	51	54	58
Total capacity of the connected Indoor Units		Min.	kW	40.0	42.0	45.2
Total capacity of the connected Indoor Units		Max.	kW	104.0	109.2	117.5
Power	Power Input	Cooling	kW	24.84	25.36	28.42
		Heating	kW	22.28	24.02	25.94
	Current Input	Cooling	A	39.80	40.70	45.60
		Heating	A	35.80	38.50	41.60
	Current	Minimum Ssc	MVA	10.8	14.1	14.2
		MCA	A	50.0	64.2	64.2
		MFA	A	63	75	75
Efficiency	EER	Cooling	W/W	3.22	3.31	3.18
	COP	Heating	W/W	4.04	3.93	3.92
	ESEER		W/W	6.60	6.18	6.21
Casing	Material	Body	-	EGI Steel Plate	EGI Steel Plate	EGI Steel Plate
		Base	-	EGI Steel Plate	EGI Steel Plate	EGI Steel Plate
Heat Exchanger	Type		-	Fin & Tube	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al	Al
		Tube	-	Cu	Cu	Cu
	Fin Treatment		-	Anti-corrosion	Anti-corrosion	Anti-corrosion
Compressor	Output		kW x n	(6.39 x 1) x 2	(6.39 x 1) x 1 + (7.81 x 1) x 1	(6.39 x 1) x 1 + (7.81 x 1) x 1
	Model Name		-	(DS-GB066FAV* x 1) x 2	(DS-GB066FAV* x 1) x 1 + (DS4GJ5080FV* x 1) x 1	(DS-GB066FAV* x 1) x 1 + (DS4GJ5080FV* x 1) x 1
	Oil	Type	-	PVE	PVE	PVE
		Initial charge	cc x n	(1,100 x 1) x 2	(1,100 x 1) x 1 + (1,400 x 1) x 1	(1,100 x 1) x 1 + (1,400 x 1) x 1
Fan	Type		-	Propeller	Propeller	Propeller
	Discharge direction		-	Top	Top	Top
	Quantity		EA	4	3	4
	Air Flow Rate		m^3/min	255 x 2	220 x 1 + 290 x 1	255 x 1 + 290 x 1
			l/s	4,250 x 2	3,667 x 1 + 4,833 x 1	4,250 x 1 + 4,833 x 1
	External Static Pressure	Max.	mmAq	8	8	8
			Pa	78.45	78.45	78.45
Fan Motor	Type		-	BLDC Motor	BLDC Motor	BLDC Motor
	Output		W x n	(620 x 2) x 2	(830 x 1) x 1 + (620 x 2) x 1	(620 x 2) x 2
Piping Connections	Liquid Pipe		Type	Braze connection	Braze connection	Braze connection
			Φ, mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	Gas Pipe		Type	Braze connection	Braze connection	Braze connection
			Φ, mm (inch)	34.92 (1-3/8)	34.92 (1-3/8)	34.92 (1-3/8)
	High pressure Gas Pipe(HR Only)		Type	-	-	-
			Φ, mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
	Heat Insulation		-	Both liquid and gas pipes	Both liquid and gas pipes	Both liquid and gas pipes
	Piping length (ODU-IDU)	Max. [Equiv.]	m	200[220]	200[220]	200[220]
	Piping length (1st Branch-IDU)	Max.	m	90	90	90
	Total piping length (System)	Max.	m	1,000	1,000	1,000
	Level difference (ODU in highest position)	Max.	m	110	110	110
	Level difference (IDU in highest position)	Max.	m	110	110	110
	Level difference (IDU-IDU)	Max.	m	50	50	50

2. Specification

Essential

Type				DVM S	DVM S	DVM S
Model Name				AM280MXVDGH/ET	AM300MXVDGH/ET	AM320MXVDGH/ET
	Outdoor unit module 1			AM140MXVDGH/ET	AM120MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 2			AM140MXVDGH/ET	AM180MXVDGH/ET	AM180MXVDGH/ET
	Outdoor unit module 3			-	-	-
	Outdoor unit module 4			-	-	-
Wiring connections	Transmission Cable		mm^2	0.75	0.75	0.75
	Remark		-	F1, F2	F1, F2	F1, F2
	Power supply intake		-	Both indoor and outdoor unit	Both indoor and outdoor unit	Both indoor and outdoor unit
Refrigerant	Type		-	R410A	R410A	R410A
	Factory Charging		kg	7.7 x 2	6.5 x 1 + 8.4 x 1	7.7 x 1 + 8.4 x 1
			tCO_2e	32.16	31.11	33.62
Sound	Sound Pressure	Cooling	dB(A)	64	66	66
		Heating	dB(A)	66	69	68
	Sound Power		dB(A)	84	86	86
External Dimension	Net Weight		kg	226.0 x 2	210.0 x 1 + 255.0 x 1	226.0 x 1 + 255.0 x 1
	Shipping Weight		kg	246.0 x 2	217.0 x 1 + 275.0 x 1	246.0 x 1 + 275.0 x 1
	Net Dimensions (WxHxD)		mm	(1,295 x 1,695 x 765) x 2	(880 x 1,695 x 765) x 1 + (1,295 x 1,695 x 765) x 1	(1,295 x 1,695 x 765) x 2
	Shipping Dimensions (WxHxD)		mm	(1,363 x 1,887 x 832) x 2	(948 x 1,887 x 832) x 1 + (1,363 x 1,887 x 832) x 1	(1,363 x 1,887 x 832) x 2
Operating Temp. Range	Cooling		℃	-5 ~ 48	-5 ~ 48	-5 ~ 48
	Heating		℃	-25 ~ 24	-25 ~ 24	-25 ~ 24

NOTE

- Specification may be subject to change without prior notice.
- Specification comply with EN14511.

1) Capacities are based on (Equivalent refrigerant piping 7.5m, Level differences 0m);
   - 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

   ※ Eurovent certified

2) Allowed combination ratio of the total rated indoor unit capacity over the rated outdoor unit capacity is 50~130%.

3) Sound pressure level is obtained in an anechoic room.
   - Sound pressure level is a relative value, depending on the distance and acoustic environment.
   - Sound pressure level may differ depending on operation condition.
   - dBA = A-weighted sound pressure level
   - Reference acoustic pressure 0 dB = 20uPa

4) Sound power level is an absolute value that a sound source generates.
   - dBA = A-weighted sound power level
   - Reference power : 1pW
   - Measured according to ISO 3741

5) Sound values of multi combination are theoretical values based on sound results of individual installed units.

6) These products contain R410A (GWP=2,088) which is fluorinated greenhouse gas.

7) If outdoor unit is located in a higher position than indoor unit, level difference is 110m or under.
   (If the level difference is higher than 50m, make a decision by PDM kit installation Guide software whether the PDM kit should be installed or not.)
   - PDM kit: Pressure Drop Modulation kit
     When the outdoor unit is below the indoor unit & the level differences are 40m or more, contact your local dealer for more information.

- In case you want to know more information regarding capacity and correction, please refer to capacity table TDB on pvi.samsung.com site.

2. Specification

Essential

Type				DVM S	DVM S
Model Name				AM340MXVDGH/ET	AM360MXVDGH/ET
	Outdoor unit module 1			AM160MXVDGH/ET	AM180MXVDGH/ET
	Outdoor unit module 2			AM180MXVDGH/ET	AM180MXVDGH/ET
	Outdoor unit module 3			-	-
	Outdoor unit module 4			-	-
Power Supply			Ø, #, V, Hz	3, 4, 380-415, 50	3, 4, 380-415, 50
Mode			-	HEAT PUMP	HEAT PUMP
Performance	HP		HP	34	36
	Capacity	Cooling	kW	95.4	100.8
		Heating	kW	107.1	113.4
Maximum number of connectable indoor units			EA	61	64
Total capacity of the connected Indoor Units		Min.	kW	47.7	50.4
Total capacity of the connected Indoor Units		Max.	kW	124.0	131.0
Power	Power Input	Cooling	kW	29.80	32.00
		Heating	kW	27.43	29.60
	Current Input	Cooling	A	47.80	51.40
		Heating	A	44.00	47.40
	Current	Minimum Ssc	MVA	16.0	17.6
		MCA	A	71.2	78.4
		MFA	A	80	90
Efficiency	EER	Cooling	W/W	3.20	3.15
	COP	Heating	W/W	3.90	3.83
	ESEER		W/W	6.13	5.91
Casing	Material	Body	-	EGI Steel Plate	EGI Steel Plate
		Base	-	EGI Steel Plate	EGI Steel Plate
Heat Exchanger	Type		-	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al
		Tube	-	Cu	Cu
	Fin Treatment		-	Anti-corrosion	Anti-corrosion
Compressor	Output		kW x n	(7.81 x 1) x 2	(7.81 x 1) x 2
	Model Name		-	(DS4GJ5080FV* x 1) x 2	(DS4GJ5080FV* x 1) x 2
	Oil	Type	-	PVE	PVE
		Initial charge	cc x n	(1,400 x 1) x 2	(1,400 x 1) x 2
Fan	Type		-	Propeller	Propeller
	Discharge direction		-	Top	Top
	Quantity		EA	4	4
	Air Flow Rate		m^3/min	255 x 1 + 290 x 1	290 x 2
			l/s	4,250 x 1 + 4,833 x 1	4,833 x 2
	External Static Pressure	Max.	mmAq	8	8
			Pa	78.45	78.45
Fan Motor	Type		-	BLDC Motor	BLDC Motor
	Output		W x n	(620 x 2) x 2	(620 x 2) x 2
Piping Connections	Liquid Pipe		Type	Braze connection	Braze connection
			Φ, mm (inch)	19.05 (3/4)	19.05 (3/4)
	Gas Pipe		Type	Braze connection	Braze connection
			Φ, mm (inch)	34.92 (1-3/8)	41.28 (1-5/8)
	High pressure Gas Pipe(HR Only)		Type	-	-
			Φ, mm (inch)	28.58 (1-1/8)	34.92 (1-3/8)
	Heat Insulation		-	Both liquid and gas pipes	Both liquid and gas pipes
	Piping length (ODU-IDU)	Max. [Equiv.]	m	200[220]	200[220]
	Piping length (1st Branch-IDU)	Max.	m	90	90
	Total piping length (System)	Max.	m	1,000	1,000
	Level difference (ODU in highest position)	Max.	m	110	110
	Level difference (IDU in highest position)	Max.	m	110	110
	Level difference (IDU-IDU)	Max.	m	50	50

2. Specification

Essential

Type				DVM S	DVM S
Model Name				AM340MXVDGH/ET	AM360MXVDGH/ET
	Outdoor unit module 1			AM160MXVDGH/ET	AM180MXVDGH/ET
	Outdoor unit module 2			AM180MXVDGH/ET	AM180MXVDGH/ET
	Outdoor unit module 3			-	-
	Outdoor unit module 4			-	-
Wiring connections	Transmission Cable		mm^2	0.75	0.75
	Remark		-	F1, F2	F1, F2
	Power supply intake		-	Both indoor and outdoor unit	Both indoor and outdoor unit
Refrigerant	Type		-	R410A	R410A
	Factory Charging		kg	8.4 x 2	8.4 x 2
			tCO_2e	35.08	35.08
Sound	Sound Pressure	Cooling	dB(A)	67	67
		Heating	dB(A)	70	70
	Sound Power		dB(A)	87	87
External Dimension	Net Weight		kg	253.0 x 1 + 255.0 x 1	255.0 x 2
	Shipping Weight		kg	273.0 x 1 + 275.0 x 1	275.0 x 2
	Net Dimensions (WxHxD)		mm	(1,295 x 1,695 x 765) x 2	(1,295 x 1,695 x 765) x 2
	Shipping Dimensions (WxHxD)		mm	(1,363 x 1,887 x 832) x 2	(1,363 x 1,887 x 832) x 2
Operating Temp. Range	Cooling		℃	-5 ~ 48	-5 ~ 48
	Heating		℃	-25 ~ 24	-25 ~ 24

NOTE

- Specification may be subject to change without prior notice.
- Specification comply with EN14511.

1) Capacities are based on (Equivalent refrigerant piping 7.5m, Level differences 0m);
   - 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

   ※ Eurovent certified

2) Allowed combination ratio of the total rated indoor unit capacity over the rated outdoor unit capacity is 50~130%.

3) Sound pressure level is obtained in an anechoic room.
   - Sound pressure level is a relative value, depending on the distance and acoustic environment.
   - Sound pressure level may differ depending on operation condition.
   - dBA = A-weighted sound pressure level
   - Reference acoustic pressure 0 dB = 20uPa

4) Sound power level is an absolute value that a sound source generates.
   - dBA = A-weighted sound power level
   - Reference power : 1pW
   - Measured according to ISO 3741

5) Sound values of multi combination are theoretical values based on sound results of individual installed units.

6) These products contain R410A (GWP=2,088) which is fluorinated greenhouse gas.

7) If outdoor unit is located in a higher position than indoor unit, level difference is 110m or under.
   (If the level difference is higher than 50m, make a decision by PDM kit installation Guide software whether the PDM kit should be installed or not.)
   - PDM kit: Pressure Drop Modulation kit
     When the outdoor unit is below the indoor unit & the level differences are 40m or more, contact your local dealer for more information.

- In case you want to know more information regarding capacity and correction, please refer to capacity table TDB on pvi.samsung.com site.

2. Specification

Essential

Type				DVM S	DVM S
Model Name				AM380MXVDGH/ET	AM400MXVDGH/ET
	Outdoor unit module 1			AM120MXVDGH/ET	AM120MXVDGH/ET
	Outdoor unit module 2			AM120MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 3			AM140MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 4			-	-
Power Supply			Ø, #, V, Hz	3, 4, 380-415, 50	3, 4, 380-415, 50
Mode			-	HEAT PUMP	HEAT PUMP
Performance	HP		HP	38	40
	Capacity	Cooling	kW	107.2	113.6
		Heating	kW	120.6	127.8
Maximum number of connectable indoor units			EA	64	64
Total capacity of the connected Indoor Units		Min.	kW	53.6	56.8
Total capacity of the connected Indoor Units		Max.	kW	139.4	147.7
Power	Power Input	Cooling	kW	31.14	34.20
		Heating	kW	29.58	31.50
	Current Input	Cooling	A	49.90	54.80
		Heating	A	47.50	50.60
	Current	Minimum Ssc	MVA	16.0	16.1
		MCA	A	75.0	75.0
		MFA	A	90	90
Efficiency	EER	Cooling	W/W	3.44	3.32
	COP	Heating	W/W	4.08	4.06
	ESEER		W/W	6.59	6.59
Casing	Material	Body	-	EGI Steel Plate	EGI Steel Plate
		Base	-	EGI Steel Plate	EGI Steel Plate
Heat Exchanger	Type		-	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al
		Tube	-	Cu	Cu
	Fin Treatment		-	Anti-corrosion	Anti-corrosion
Compressor	Output		kW x n	(6.39 x 1) x 3	(6.39 x 1) x 3
	Model Name		-	(DS-GB066FAV* x 1) x 3	(DS-GB066FAV* x 1) x 3
	Oil	Type	-	PVE	PVE
		Initial charge	cc x n	(1,100 x 1) x 3	(1,100 x 1) x 3
Fan	Type		-	Propeller	Propeller
	Discharge direction		-	Top	Top
	Quantity		EA	4	5
	Air Flow Rate		m^3/min	220 x 2 + 255 x 1	220 x 1 + 255 x 2
			l/s	3,667 x 2 + 4,250 x 1	3,667 x 1 + 4,250 x 2
	External Static Pressure	Max.	mmAq	8	8
			Pa	78.45	78.45
Fan Motor	Type		-	BLDC Motor	BLDC Motor
	Output		W x n	(830 x 1) x 2 + (620 x 2) x 1	(830 x 1) x 1 + (620 x 2) x 2
Piping Connections	Liquid Pipe		Type	Braze connection	Braze connection
			Φ, mm (inch)	19.05 (3/4)	19.05 (3/4)
	Gas Pipe		Type	Braze connection	Braze connection
			Φ, mm (inch)	41.28 (1-5/8)	41.28 (1-5/8)
	High pressure Gas Pipe(HR Only)		Type	-	-
			Φ, mm (inch)	34.92 (1-3/8)	34.92 (1-3/8)
	Heat Insulation		-	Both liquid and gas pipes	Both liquid and gas pipes
	Piping length (ODU-IDU)	Max. [Equiv.]	m	200[220]	200[220]
	Piping length (1st Branch-IDU)	Max.	m	90	90
	Total piping length (System)	Max.	m	1,000	1,000
	Level difference (ODU in highest position)	Max.	m	110	110
	Level difference (IDU in highest position)	Max.	m	110	110
	Level difference (IDU-IDU)	Max.	m	50	50

2. Specification

Essential

Type				DVM S	DVM S
Model Name				AM380MXVDGH/ET	AM400MXVDGH/ET
	Outdoor unit module 1			AM120MXVDGH/ET	AM120MXVDGH/ET
	Outdoor unit module 2			AM120MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 3			AM140MXVDGH/ET	AM140MXVDGH/ET
	Outdoor unit module 4			-	-
Wiring connections	Transmission Cable		mm^2	0.75	0.75
	Remark		-	F1, F2	F1, F2
	Power supply intake		-	Both indoor and outdoor unit	Both indoor and outdoor unit
Refrigerant	Type		-	R410A	R410A
	Factory Charging		kg	6.5 x 2 + 7.7 x 1	6.5 x 1 + 7.7 x 2
			tCO_2e	43.22	45.73
Sound	Sound Pressure	Cooling	dB(A)	66	66
		Heating	dB(A)	68	68
	Sound Power		dB(A)	86	86
External Dimension	Net Weight		kg	210.0 x 2 + 226.0 x 1	210.0 x 1 + 226.0 x 2
	Shipping Weight		kg	217.0 x 2 + 246.0 x 1	217.0 x 1 + 246.0 x 2
	Net Dimensions (WxHxD)		mm	(880 x 1,695 x 765) x 2 + (1,295 x 1,695 x 765) x 1	(880 x 1,695 x 765) x 1 + (1,295 x 1,695 x 765) x 2
	Shipping Dimensions (WxHxD)		mm	(948 x 1,887 x 832) x 2 + (1,363 x 1,887 x 832) x 1	(948 x 1,887 x 832) x 1 + (1,363 x 1,887 x 832) x 2
Operating Temp. Range	Cooling		℃	-5 ~ 48	-5 ~ 48
	Heating		℃	-25 ~ 24	-25 ~ 24

NOTE

- Specification may be subject to change without prior notice.
- Specification comply with EN14511.

1) Capacities are based on (Equivalent refrigerant piping 7.5m, Level differences 0m);
   - 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

   ※ Eurovent certified
2) Allowed combination ratio of the total rated indoor unit capacity over the rated outdoor unit capacity is 50~130%.
3) Sound pressure level is obtained in an anechoic room.
   - Sound pressure level is a relative value, depending on the distance and acoustic environment.
   - Sound pressure level may differ depending on operation condition.
   - dBA = A-weighted sound pressure level
   - Reference acoustic pressure 0 dB = 20uPa
4) Sound power level is an absolute value that a sound source generates.
   - dBA = A-weighted sound power level
   - Reference power : 1pW
   - Measured according to ISO 3741
5) Sound values of multi combination are theoretical values based on sound results of individual installed units.
6) These products contain R410A (GWP=2,088) which is fluorinated greenhouse gas.
7) If outdoor unit is located in a higher position than indoor unit, level difference is 110m or under.
   (If the level difference is higher than 50m, make a decision by PDM kit installation Guide software whether the PDM kit should be installed or not.)
   - PDM kit: Pressure Drop Modulation kit
     When the outdoor unit is below the indoor unit & the level differences are 40m or more, contact your local dealer for more information.

- In case you want to know more information regarding capacity and correction, please refer to capacity table TDB on pvi.samsung.com site.

3. Electric Characteristics

Essential

Capacity		Model	Power Supply		Voltage Range		Running Current [A]		Current [A]		ODU Fan Motor	
HP	kW		Hz	Voltage	Min. (-10%)	Max. (+10%)	Cooling	Heating	MCA	MFA	kW	FLA [A]
10	28.0	AM100MXVDGH/ET	50	380-415	342	456	11.5	12	21.1	32	0.83	2.4
12	33.6	AM120MXVDGH/ET	50	380-415	342	456	15	14.8	25	32	0.83	2.4
14	40.0	AM140MXVDGH/ET	50	380-415	342	456	19.9	17.9	25	32	1.24	3.8
16	45.0	AM160MXVDGH/ET	50	380-415	342	456	22.1	20.3	32	40	1.24	3.8
18	50.4	AM180MXVDGH/ET	50	380-415	342	456	25.7	23.7	39.2	50	1.24	3.8
20	56.0	AM200MXVDGH/ET	50	380-415	342	456	23	24	42.2	63	1.66	4.8
22	61.6	AM220MXVDGH/ET	50	380-415	342	456	26.5	26.8	46.1	63	1.66	4.8
24	67.2	AM240MXVDGH/ET	50	380-415	342	456	30	29.6	50	63	1.66	4.8
26	73.6	AM260MXVDGH/ET	50	380-415	342	456	34.9	32.7	50	63	2.07	6.2
28	80.0	AM280MXVDGH/ET	50	380-415	342	456	39.8	35.8	50	63	2.48	7.6
30	84.0	AM300MXVDGH/ET	50	380-415	342	456	40.7	38.5	64.2	75	2.07	6.2
32	90.4	AM320MXVDGH/ET	50	380-415	342	456	45.6	41.6	64.2	75	2.48	7.6
34	95.4	AM340MXVDGH/ET	50	380-415	342	456	47.8	44	71.2	80	2.48	7.6
36	100.8	AM360MXVDGH/ET	50	380-415	342	456	51.4	47.4	78.4	90	2.48	7.6
38	107.2	AM380MXVDGH/ET	50	380-415	342	456	49.9	47.5	75	90	2.9	8.6
40	113.6	AM400MXVDGH/ET	50	380-415	342	456	54.8	50.6	75	90	3.31	10

NOTE

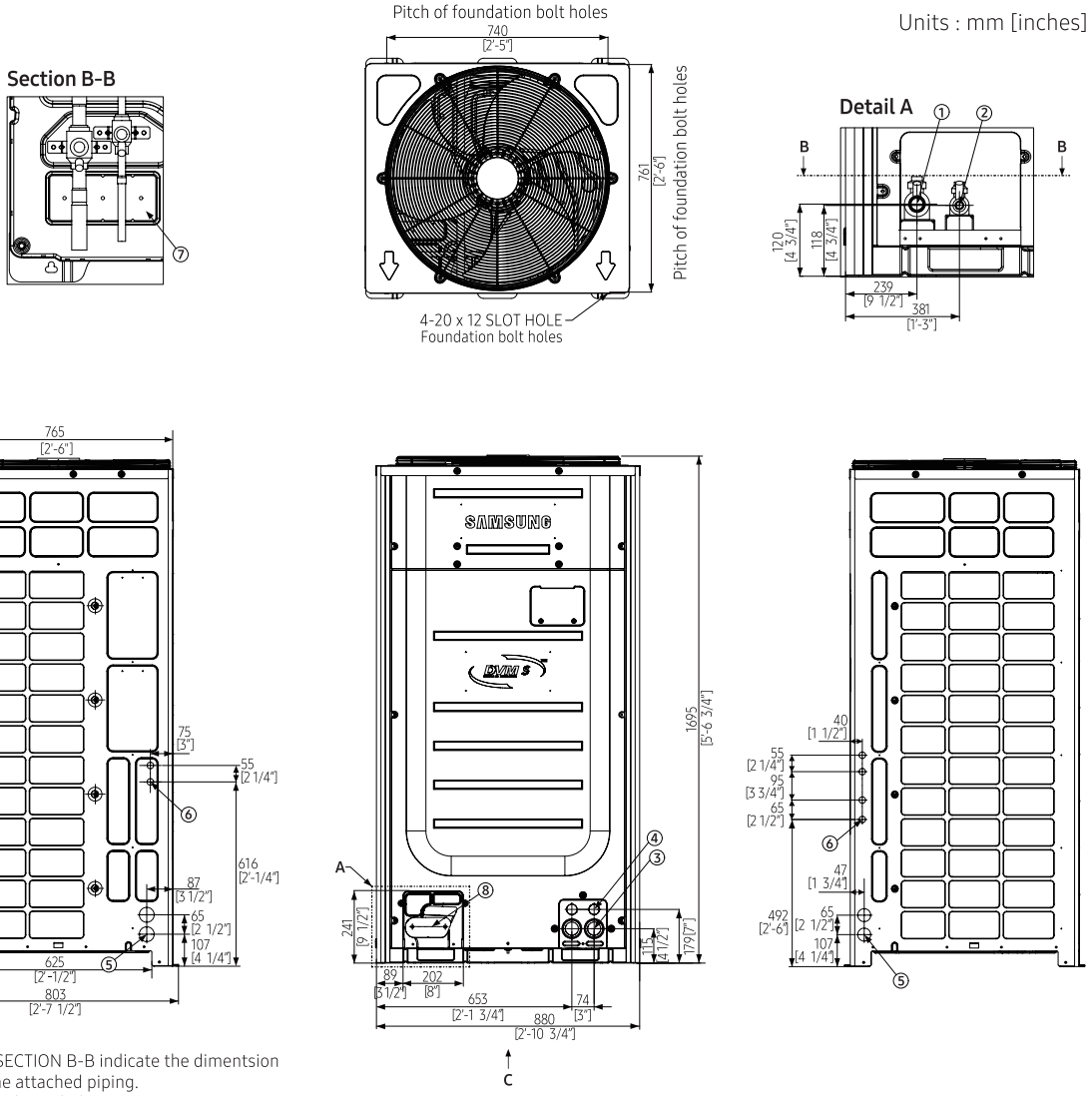
- MCA : Minimum circuit amperes
- MFA : Maximum fuse amperes
- FLA : Full load amperes

4. Dimensional Drawing

Outdoor unit

- AM100~120MXVDGH

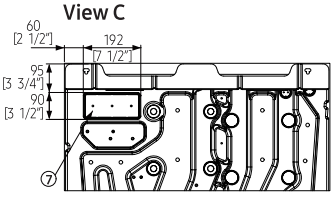
Units : mm [inches]



NOTE

1. Detail A and SECTION B-B indicate the dimentsion after fixing the attached piping.
2. Item 3-8 : Knock-out hole.
3. View C indicate the dimension of kock-out hole(bottom).
4. Pipe [Φ, mm(inch)] : Brazing connection

HP	Liquid pipe	Gas pipe
8	9.52(3/8)	19.05(3/4)
10	9.52(3/8)	22.22(7/8)
12	12.70(1/2)	28.58(1 1/8)
14	12.70(1/2)	28.58(1 1/8)
16	12.70(1/2)	28.58(1 1/8)
18	15.88(5/8)	28.58(1 1/8)
20	15.88(5/8)	28.58(1 1/8)
22	15.88(5/8)	28.58(1 1/8)
24	15.88(5/8)	34.92(1 3/8)
26	19.05(3/4)	34.92(1 3/8)
28	19.05(3/4)	34.92(1 3/8)
30	19.05(3/4)	34.92(1 3/8)

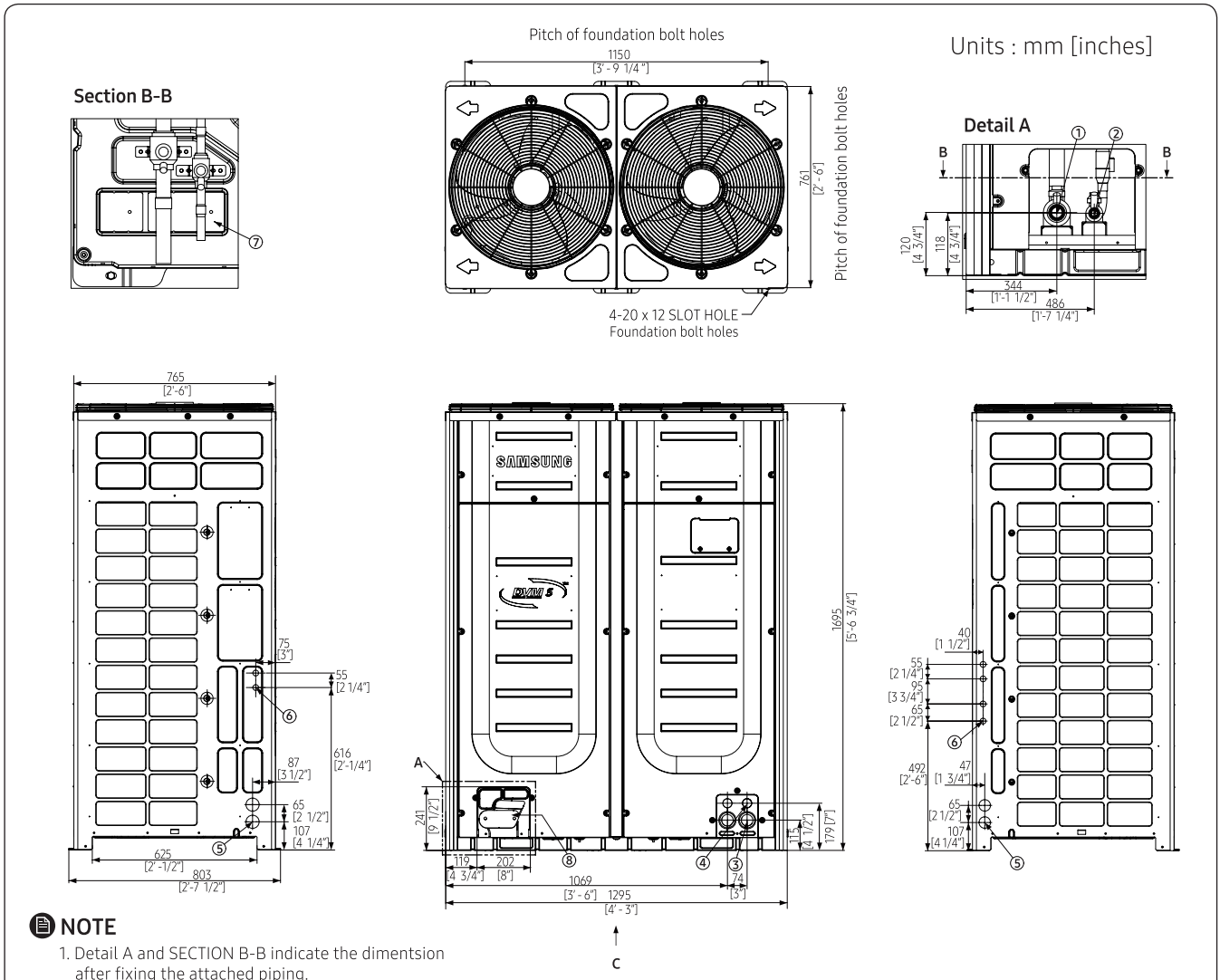


NO	Table of descriptions	Remark	NO	Table of descriptions	Remark
1	Gas Ref. pipe	See note 4.	5	Power wiring conduit	Φ44
2	Liquid Ref. pipe	See note 4.	6	Communication wiring conduit	Φ22
3	Power wiring conduit	Φ44	7	Knock-out Hole for Ref. Piping (bottom)	
4	Communication wiring conduit	Φ34	8	Knock-out Hole for Ref. Piping (front)	

4. Dimensional Drawing

Outdoor unit

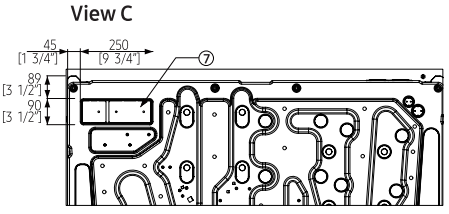
- AM140~180MXVDGH



NOTE

1. Detail A and SECTION B-B indicate the dimentsion after fixing the attached piping.
2. Item 3-8 : Knock-out hole.
3. View C indicate the dimension of kock-out hole(bottom)
4. Pipe [Φ, mm(inch)] : Brazing connection

HP	Liquid pipe	Gas pipe
8	9.52(3/8)	19.05(3/4)
10	9.52(3/8)	22.22(7/8)
12	12.70(1/2)	28.58(1 1/8)
14	12.70(1/2)	28.58(1 1/8)
16	12.70(1/2)	28.58(1 1/8)
18	15.88(5/8)	28.58(1 1/8)
20	15.88(5/8)	28.58(1 1/8)
22	15.88(5/8)	28.58(1 1/8)
24	15.88(5/8)	34.92(1 3/8)
26	19.05(3/4)	34.92(1 3/8)
28	19.05(3/4)	34.92(1 3/8)
30	19.05(3/4)	34.92(1 3/8)



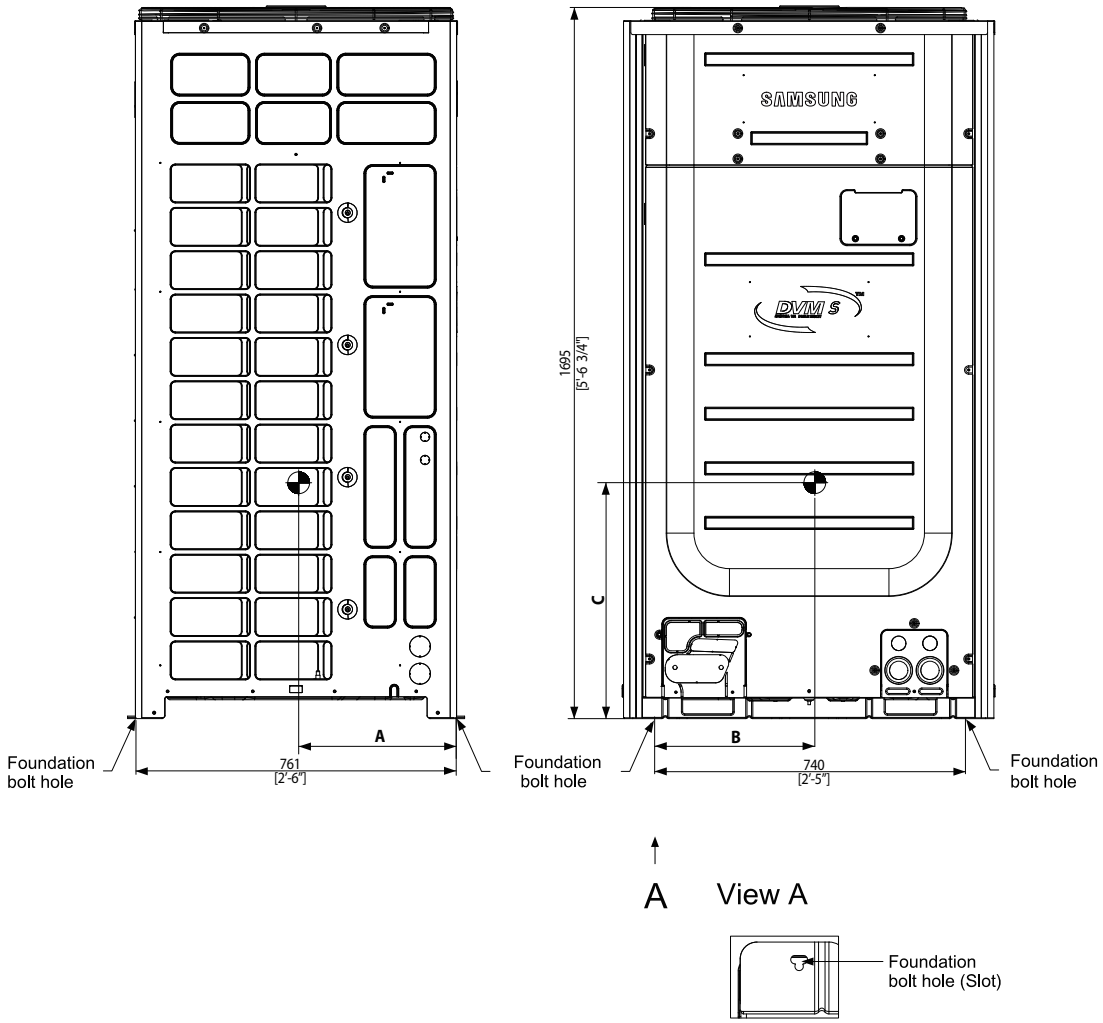
NO	Table of descriptions	Remark	NO	Table of descriptions	Remark
1	Gas Ref. pipe	See note 4.	5	Power wiring conduit	Φ44
2	Liquid Ref. pipe	See note 4.	6	Communication wiring conduit	Φ22
3	Power wiring conduit	Φ44	7	Knock-out Hole for Ref. Piping (bottom)	
4	Communication wiring conduit	Φ34	8	Knock-out Hole for Ref. Piping (front)	

5. Center of Gravity

Outdoor unit

- AM100~120MXVDGH

Units : mm [inches]



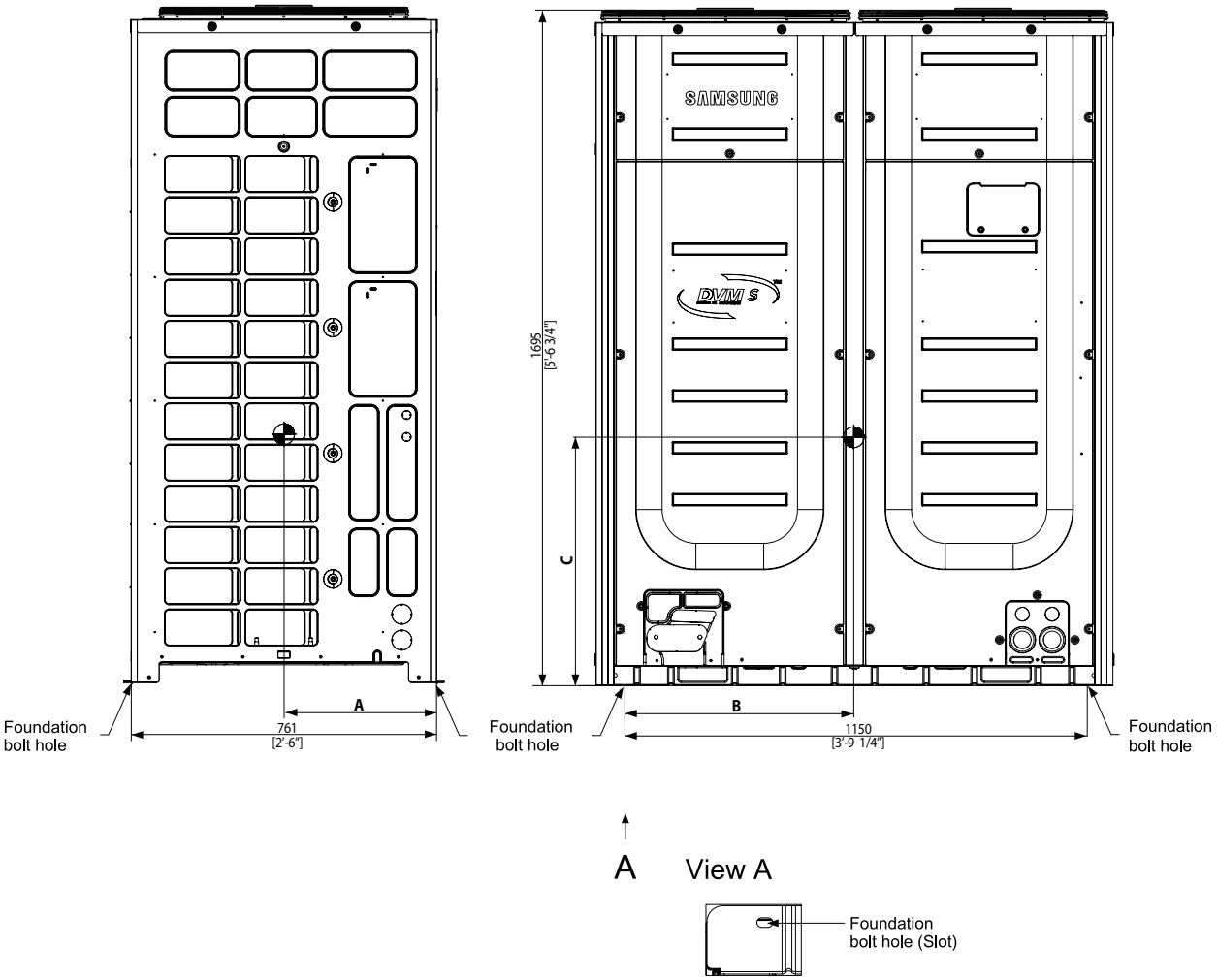
Model	A	B	C
AM080✳✳✳✳✳✳	360 [1'-2 1/4"]	455 [1'-6"]	560 [1'-10"]
AM100✳✳✳✳✳✳	360 [1'-2 1/4"]	455 [1'-6"]	560 [1'-10"]
AM120✳✳✳✳✳✳	360 [1'-2 1/4"]	455 [1'-6"]	560 [1'-10"]

5. Center of Gravity

Outdoor unit

- AM140~180MXVDGH

Units : mm [inches]

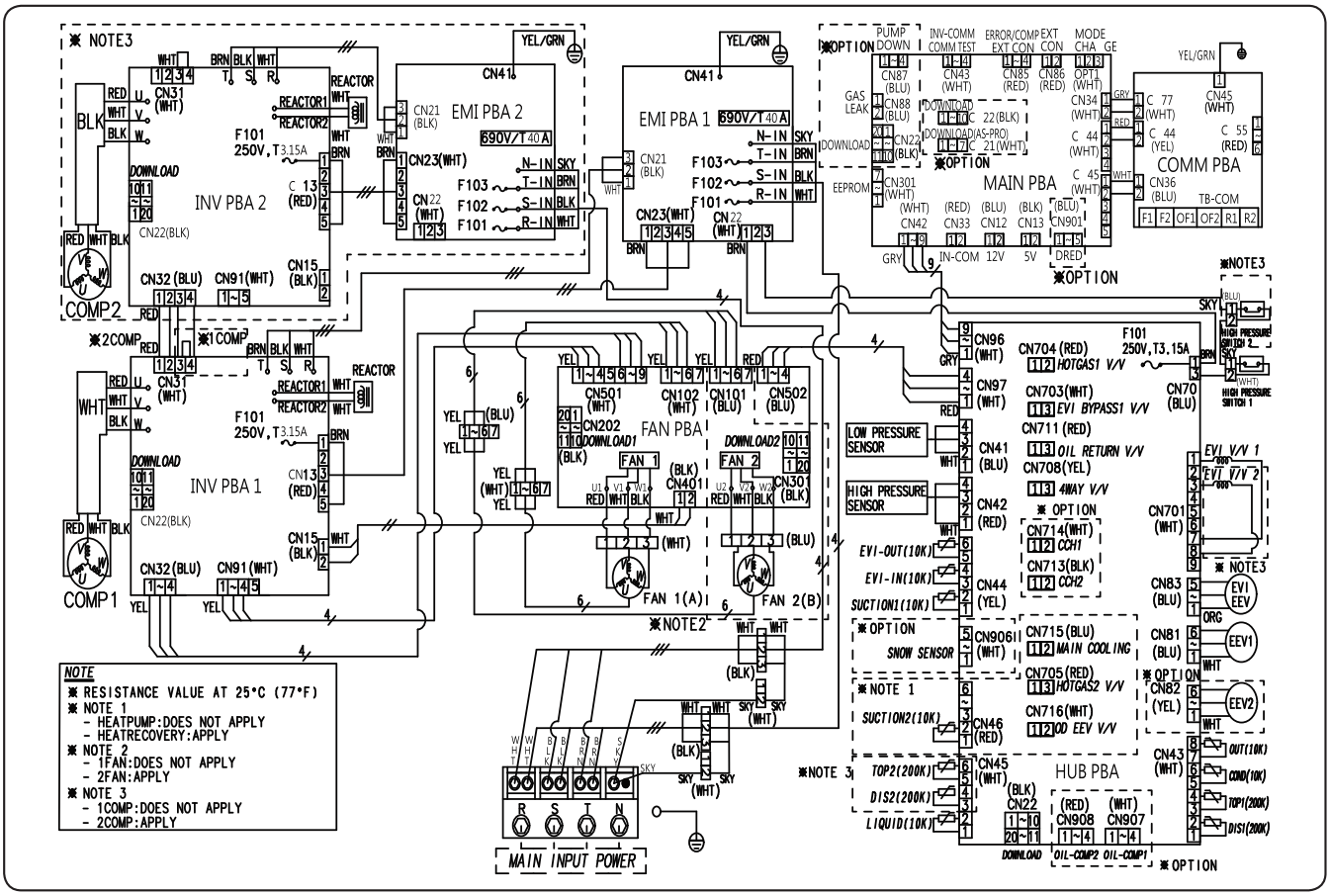


Model	A	B	C
AM140✻✻✻✻✻✻	370 [1'-2 1/2"]	595 [1'-11"]	620 [2'-4"]
AM160✻✻✻✻✻✻	365 [1'-2 3/8"]	655 [2'-1 3/4"]	620 [2'-4"]
AM180✻✻✻✻✻✻	365 [1'-2 3/8"]	655 [2'-1 3/4"]	620 [2'-4"]

6. Electrical Wiring Diagrams

Outdoor unit

- AM100~140MXVDGH



INV PBA1	Printed circuit board (inverter1)	EEV1	Electronic expansion valve 1	LIQUID(10K)	Thermistor (Liquid Tube Temp._10Kohm)
INV PBA2	Printed circuit board (inverter2)	EEV2	Electronic expansion valve 2	HOTGAS1 V/V	Solenoid valve (Hot Gas Bypass1)
EMI PBA1	Printed circuit board (emi1)	EVI-OUT(10K)	Thermistor (EVI-out_10kohm)	EVI BYPASS V/V	Solenoid valve (EVI BYPASS)
EMI PBA2	Printed circuit board (emi2)	EVI-IN(10K)	Thermistor (EVI-in_10kohm)	RETURN V/V	Solenoid valve (Accumulator Oil Return)
FAN PBA	Printed circuit board (fan motor)	SUCTION1(10K)	Thermistor (Suction Temp.1_10Kohm)	4WAY V/V	Solenoid valve (4 Way valve)
MAIN PBA	Printed circuit board (main)	SUCTION2(10K)	Thermistor (Suction Temp.2_10Kohm)	CCH1	Crank Case Heater (Compressor1)
HUB PBA	Printed circuit board (hub)	SNOW SENSOR	SNOW SENSOR	CCH2	Crank Case Heater (Compressor2)
COMM PBA	Printed circuit board (communication)	OIL-COMP1	Oil-Sensor (Compressor1)	MAIN COOLING	Solenoid valve (Main cooling)
COMP1	Motor (compressor1)	OIL-COMP2	Oil-Sensor (Compressor2)	HOTGAS2 V/V	Solenoid valve (Hot Gas Bypass2)
COMP2	Motor (compressor2)	OUT(10K)	Thermistor (Ambient Temp._10Kohm)	OD EEV V/V	Solenoid valve (Outdoor EEV)
FAN1	Motor (fan1)	COND(10K)	Thermistor (Cond Out Temp._10Kohm)	F101	FUSE (Inverter PBA)
FAN2	Motor (fan2)	TOP1(200K)	Thermistor (Compressor Top 1_200Kohm)	690V/T40A	FUSE (EMI PBA)
EVI V/V1	Solenode valve (EVI1)	TOP2(200K)	Thermistor (Compressor Top 2_200Kohm)	MODE CHANGE	Connector (Remote switching cool/heat selector)
EVI V/V 2	Solenode valve (EVI2)	DIS1(200K)	Thermistor (Discharge Temp.1_200Kohm)	EXT CON	Connector (Output EXT CON)
EVI EEV	Electronic expansion valve (EVI)	DIS2(200K)	Thermistor (Discharge Temp.2_200Kohm)	ERROR/COMP EXT	Connector (Output ERROR/COMP EXT CON)

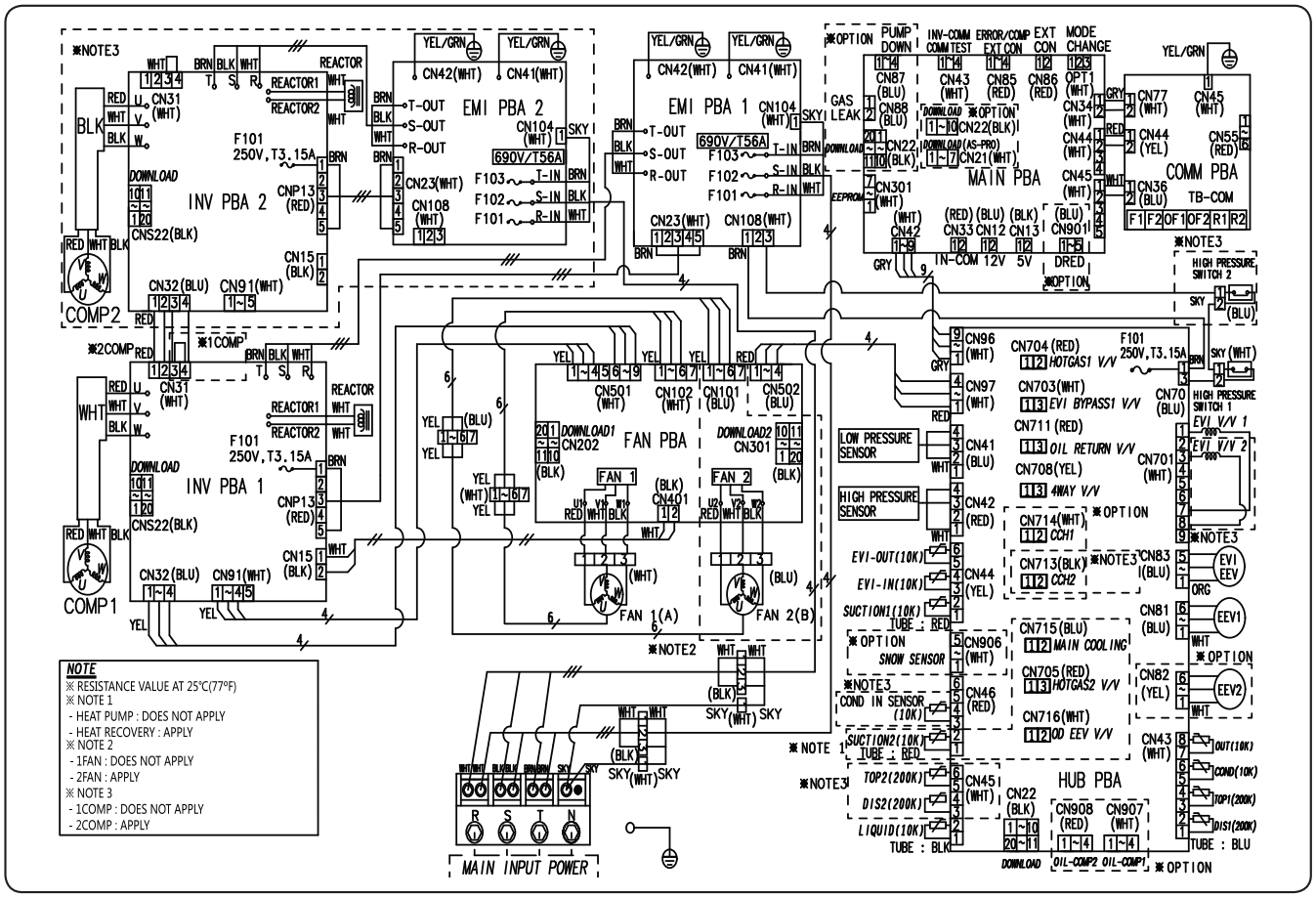
NOTE

- This wiring diagram applies only to the outdoor unit.
- Colors blk: black, red: red, blu: blue, wht: white, yel: yellow, brn: brown, sky: skyblue
- When operating, don't shortcircuit the protection device (High Pressure switch)
- For connection wiring indoor-outdoor transmission F1-F2, outdoor_outdoor transmission OF1-OF2, refer to the installation manual.
- ⏚ Protective earth(screw), ▭▭▭ : connector, N : The wire quantity

6. Electrical Wiring Diagrams

Outdoor unit

- AM160~180MXVDGH



INV PBA1	Printed circuit board (inverter1)	EEV1	Electronic expansion valve 1	LIQUID(10K)	Thermistor (Liquid Tube Temp._10Kohm)
INV PBA2	Printed circuit board (inverter2)	EEV2	Electronic expansion valve 2	HOTGAS1 V/V	Solenoid valve (Hot Gas Bypass1)
EMI PBA1	Printed circuit board (emi1)	EVI-OUT(10K)	Thermistor (EVI-out_10kohm)	EVI BYPASS V/V	Solenoid valve (EVI BYPASS)
EMI PBA2	Printed circuit board (emi2)	EVI-IN(10K)	Thermistor (EVI-in_10kohm)	RETURN V/V	Solenoid valve (Accumulator Oil Return)
FAN PBA	Printed circuit board (fan motor)	SUCTION1(10K)	Thermistor (Suction Temp.1_10Kohm)	4WAY V/V	Solenoid valve (4 Way valve)
MAIN PBA	Printed circuit board (main)	SUCTION2(10K)	Thermistor (Suction Temp.2_10Kohm)	CCH1	Crank Case Heater (Compressor1)
HUB PBA	Printed circuit board (hub)	SNOW SENSOR	SNOW SENSOR	CCH2	Crank Case Heater (Compressor2)
COMM PBA	Printed circuit board (communication)	OIL-COMP1	Oil-Sensor (Compressor1)	MAIN COOLING	Solenoid valve (Main cooling)
COMP1	Motor (compressor1)	OIL-COMP2	Oil-Sensor (Compressor2)	HOTGAS2 V/V	Solenoid valve (Hot Gas Bypass2)
COMP2	Motor (compressor2)	OUT(10K)	Thermistor (Ambient Temp._10Kohm)	OD EEV V/V	Solenoid valve (Outdoor EEV)
FAN1	Motor (fan1)	COND(10K)	Thermistor (Cond Out Temp._10Kohm)	F101	FUSE (Inverter PBA)
FAN2	Motor (fan2)	TOP1(200K)	Thermistor (Compressor Top 1_200Kohm)	690V/T56A	FUSE (EMI PBA)
EVI V/V1	Solenode valve (EVI1)	TOP2(200K)	Thermistor (Compressor Top 2_200Kohm)	MODE CHANGE	Connector (Remote switching cool/heat selector)
EVI V/V 2	Solenode valve (EVI2)	DIS1(200K)	Thermistor (Discharge Temp.1_200Kohm)	EXT CON	Connector (Output EXT CON)
EVI EEV	Electronic expansion valve (EVI)	DIS2(200K)	Thermistor (Discharge Temp.2_200Kohm)	ERROR/COMP EXT	Connector (Output ERROR/COMP EXT CON)

NOTE

- This wiring diagram applies only to the outdoor unit.
- Colors blk: black, red: red, blu: blue, wht: white, yel: yellow, brn: brown, sky: skyblue
- When operating, don't shortcircuit the protection device (High Pressure switch)
- For connection wiring indoor-outdoor transmission F1-F2, outdoor_outdoor transmission OF1-OF2, refer to the installation manual.
- ⏚ Protective earth(screw), ▭▭▭ : connector, N : The wire quantity

7. Sound Data

Summary

Essential

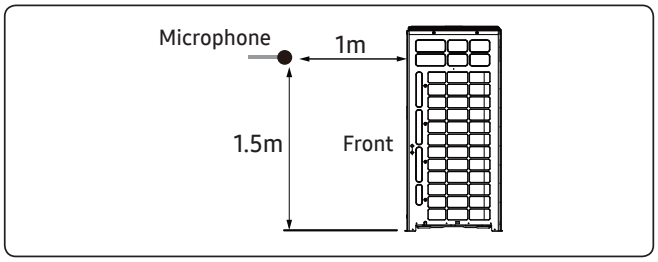
Capacity		Model	Sound Pressure dB(A)		Sound Power dB(A)
HP	kW		Cooling	Heating	
10	28.0	AM100MXVDGH/ET	58	60	79
12	33.6	AM120MXVDGH/ET	62	64	81
14	40.0	AM140MXVDGH/ET	61	63	81
16	45.0	AM160MXVDGH/ET	63	67	83
18	50.4	AM180MXVDGH/ET	64	67	84
20	56.0	AM200MXVDGH/ET	61	63	82
22	61.6	AM220MXVDGH/ET	63	65	83
24	67.2	AM240MXVDGH/ET	65	67	84
26	73.6	AM260MXVDGH/ET	65	67	84
28	80.0	AM280MXVDGH/ET	64	66	84
30	84.0	AM300MXVDGH/ET	66	69	86
32	90.4	AM320MXVDGH/ET	66	68	86
34	95.4	AM340MXVDGH/ET	67	70	87
36	100.8	AM360MXVDGH/ET	67	70	87
38	107.2	AM380MXVDGH/ET	66	68	86
40	113.6	AM400MXVDGH/ET	66	68	86

NOTE

- Sound Pressure Level
  - Sound pressure level is obtained in an anechoic room.
  - Sound pressure level is a relative value, depending on the distance and acoustic environment.
  - Sound pressure level may differ depending on operation condition.
  - dBA = A-weighted sound pressure level
  - Reference acoustic pressure 0 dB = 20μPa
- Sound Power Level
  - Sound power level is an absolute value that a sound source generates.
  - dBA = A-weighted sound power level.
  - Reference power : 1pW.
  - Measured according to ISO 3741.

7. Sound Data

Sound Pressure level

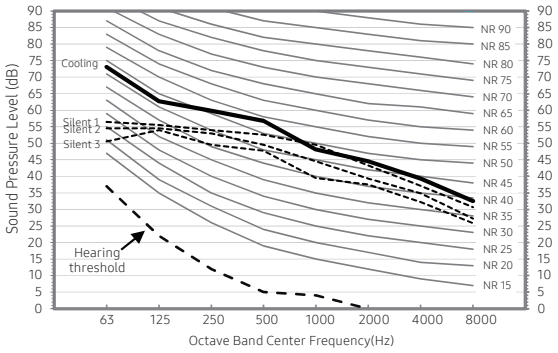


Unit: dB(A)

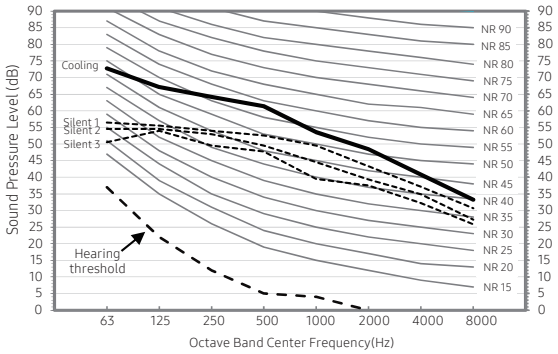
Model	Cooling	Silent 1	Silent 2	Silent 3
AM100MXVDGH/ET	58	55	52	49
AM120MXVDGH/ET	62	55	52	49
AM140MXVDGH/ET	61	57	55	49
AM160MXVDGH/ET	63	59	56	49

- NR Curve

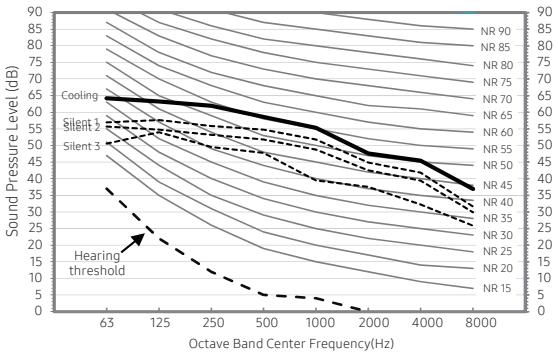
1) AM100MXVDGH/ET



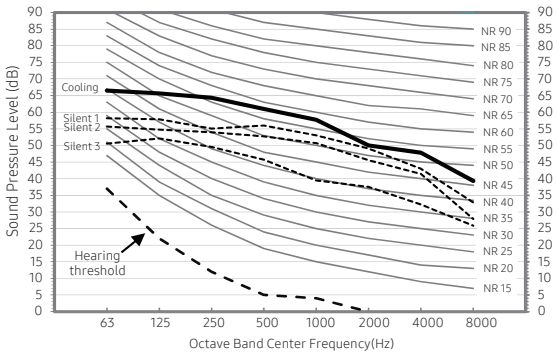
2) AM120MXVDGH/ET



3) AM140MXVDGH/ET



4) AM160MXVDGH/ET

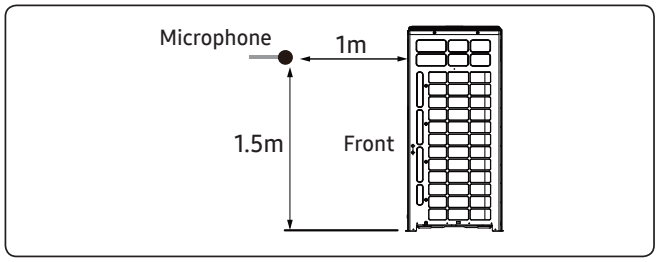


NOTE

- Specifications may be subject to change without prior notice.
  - Sound pressure level is obtained in an anechoic room.
  - Sound pressure level is a relative value, depending on the distance and acoustic environment.
  - Sound pressure level may differ depending on operation condition.
  - dBA = A-weighted sound pressure level
  - Reference acoustic pressure 0 dB = 20μPa

7. Sound Data

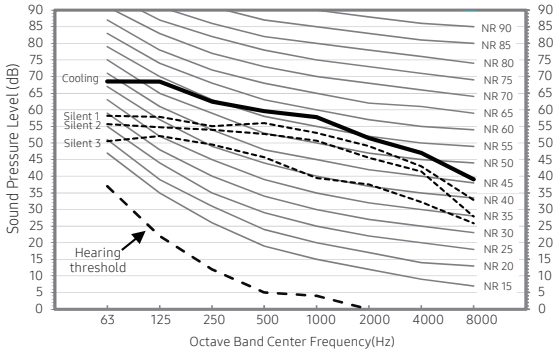
Sound Pressure level



Unit: dB(A)

Model	Cooling	Silent 1	Silent 2	Silent 3
AM180MXVDGH/ET	64	59	56	49

- NR Curve
  1) AM180MXVDGH/ET



NOTE

- Specifications may be subject to change without prior notice.
  - Sound pressure level is obtained in an anechoic room.
  - Sound pressure level is a relative value, depending on the distance and acoustic environment.
  - Sound pressure level may differ depending on operation condition.
  - dBA = A-weighted sound pressure level
  - Reference acoustic pressure 0 dB = 20μPa

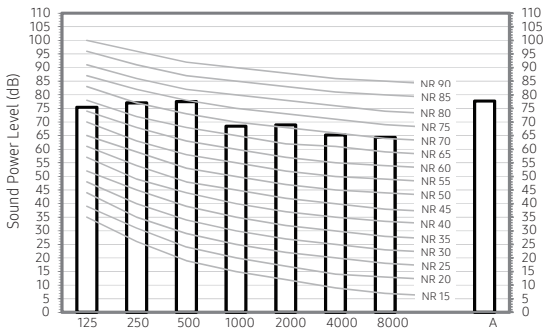
7. Sound Data

Sound Power level

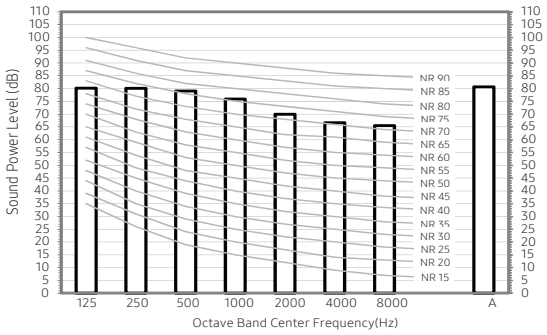
Unit: dB(A)

Model	Power
AM100MXVDGH/ET	79
AM120MXVDGH/ET	81
AM140MXVDGH/ET	81
AM160MXVDGH/ET	83

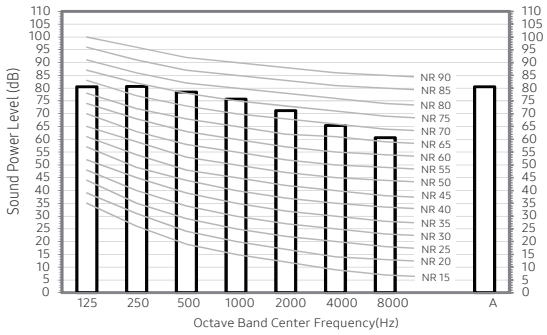
1) AM100MXVDGH/ET



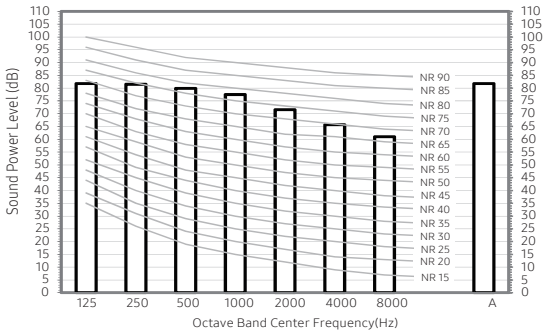
2) AM120MXVDGH/ET



3) AM140MXVDGH/ET



4) AM160MXVDGH/ET



NOTE

- Specifications may be subject to change without prior notice.
  - Sound power level is an absolute value that a sound source generates.
  - dBA = A-weighted sound power level.
  - Reference power : 1pW.
  - Measured according to ISO 3741.

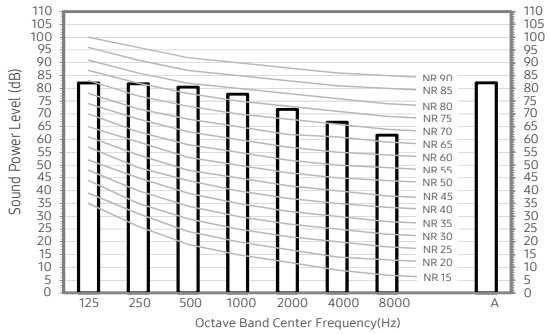
7. Sound Data

Sound Power level

Unit: dB(A)

Model	Power
AM180MXVDGH/ET	84

1) AM180MXVDGH/ET

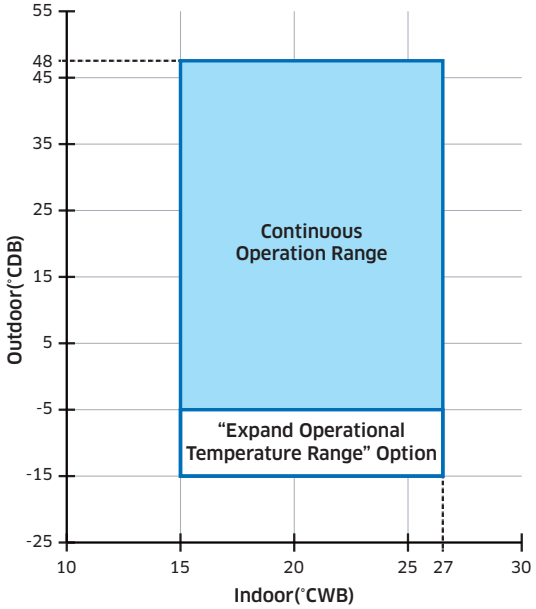


NOTE

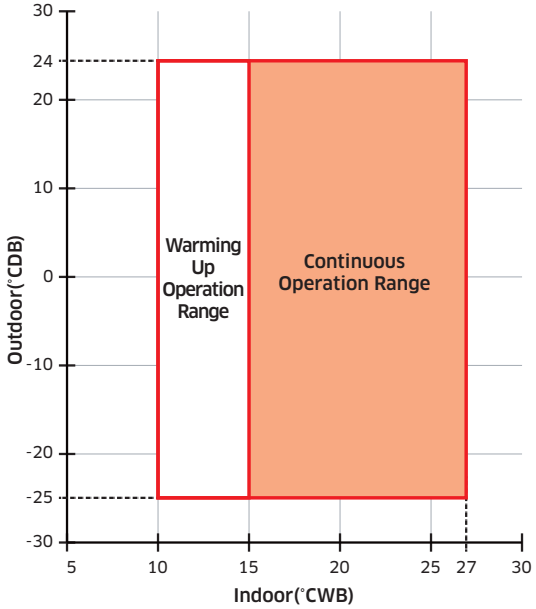
- Specifications may be subject to change without prior notice.
  - Sound power level is an absolute value that a sound source generates.
  - dBA = A-weighted sound power level.
  - Reference power : 1pW.
  - Measured according to ISO 3741.

8. Operation Range

Cooling



Heating



(1) The operating range is shown in these figures

(2) The assumed installation condtions are as follows

- Outdoor units and indoor units combination
- The Pipe length(including elbow) is 5m
- The Level difference is 0m

(3) In the low temperature expansion option application, the cooling operating is possible under expand operational range only for HR system

(4) In case of heatlng mode, operating is possible under warming up operation range. However continus opearting is impossible due to a protection control

8. Operation Range

Defrosting correction factor

The heating capacity tables do not take account of the reduction in capacity, when frost has accumulated or while the defrosting operation is in progress.

The capacity values, which take these factors into account, in other words, the integrated heating capacity values, can be calculated as follows :

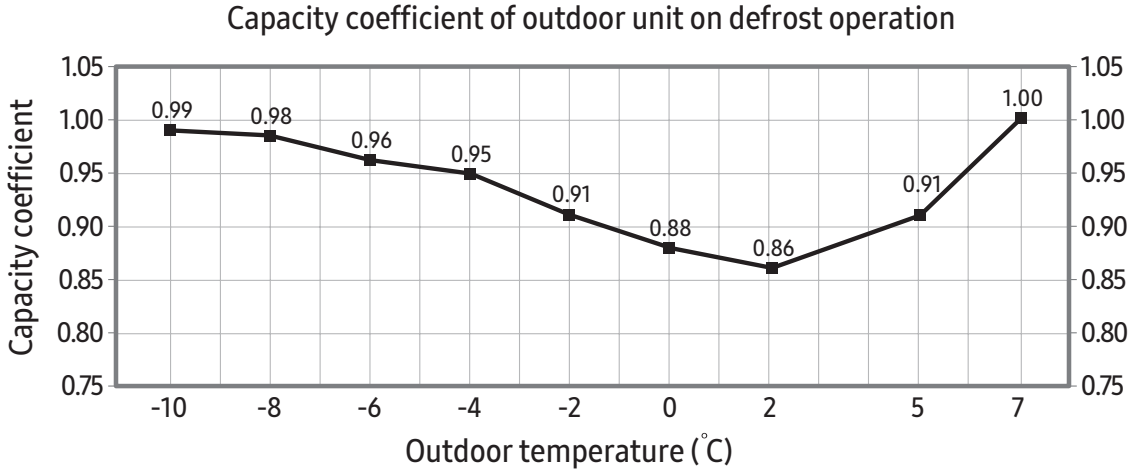
Formula : A = B × C

Integrated heating capacity = A

Value given in table of capacity characteristics = B

Integrating correction factor for frost accumulation (kW) = C

Outdoor temperature (°C, DB/WB)	-10/-10.4	-8/-8.5	-6/-6.5	-4/-4.6	-2/-2.7	0/-0.7	2/1.2	5/4.1	7/6
Capacity coefficient	0.99	0.98	0.96	0.95	0.91	0.88	0.86	0.91	1.00



On heating operation, frost can be formed on heat exchanger according to outdoor temperature.

(Frost on heat exchanger results in decreasing the performance.)

To remove frost on heat exchanger of outdoor unit, defrost operation is carried out periodically.

During defrost operation, capacity of outdoor unit may decrease.

The decrement is not considered to the individual capacity tables.

This figure shows an effect of intelligence defrost operation

It is actually the frost occurrence section from 0 °C or less.

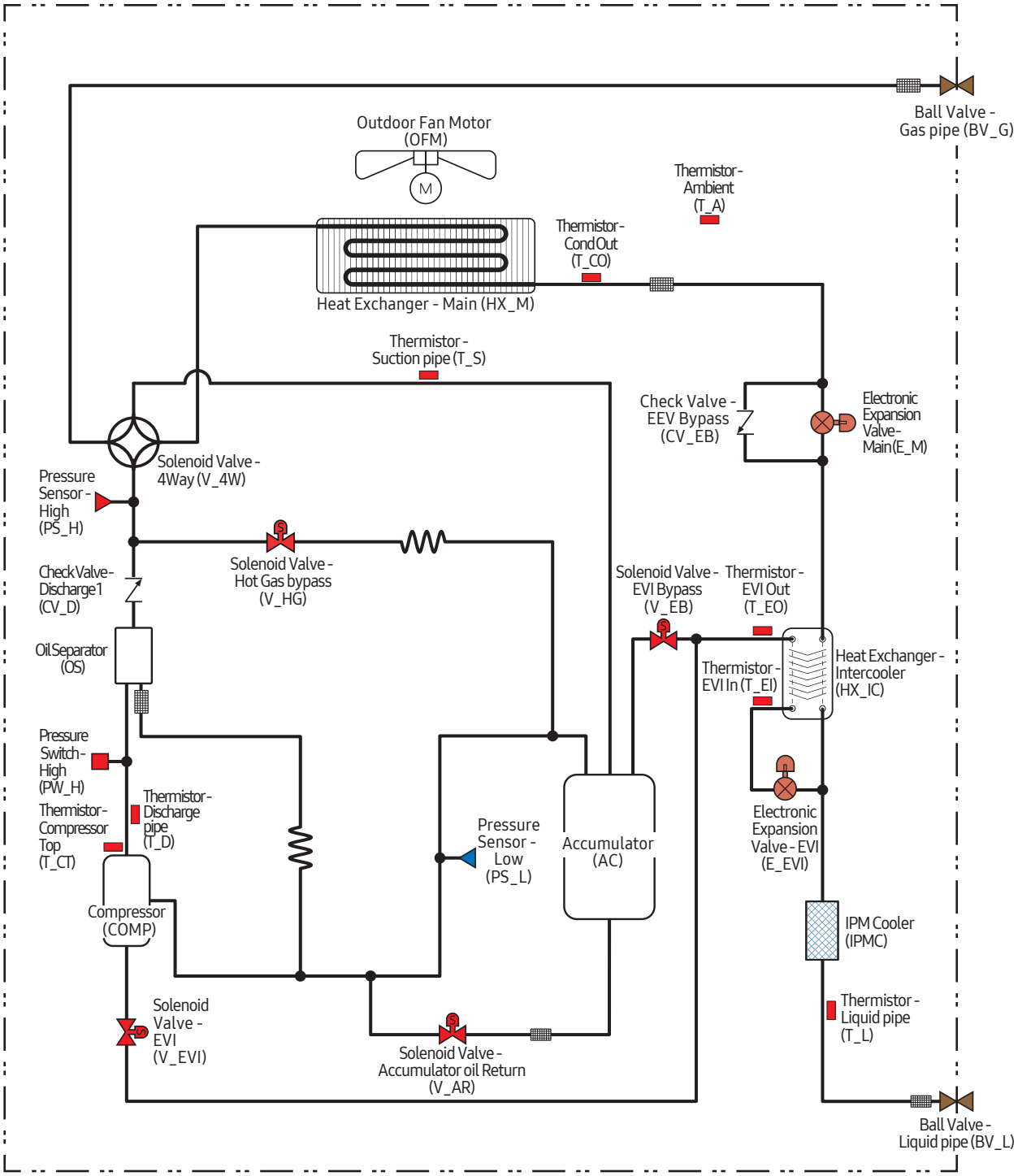
Since the outdoor temperature over 0 °C, the heating performance is the same before and after applying intelligence defrost operation

In outdoor conditions below 0 °C, frost conditions reflect the actual entering the defrost opration because heating performance is improved

9. Piping Diagram

Outdoor unit

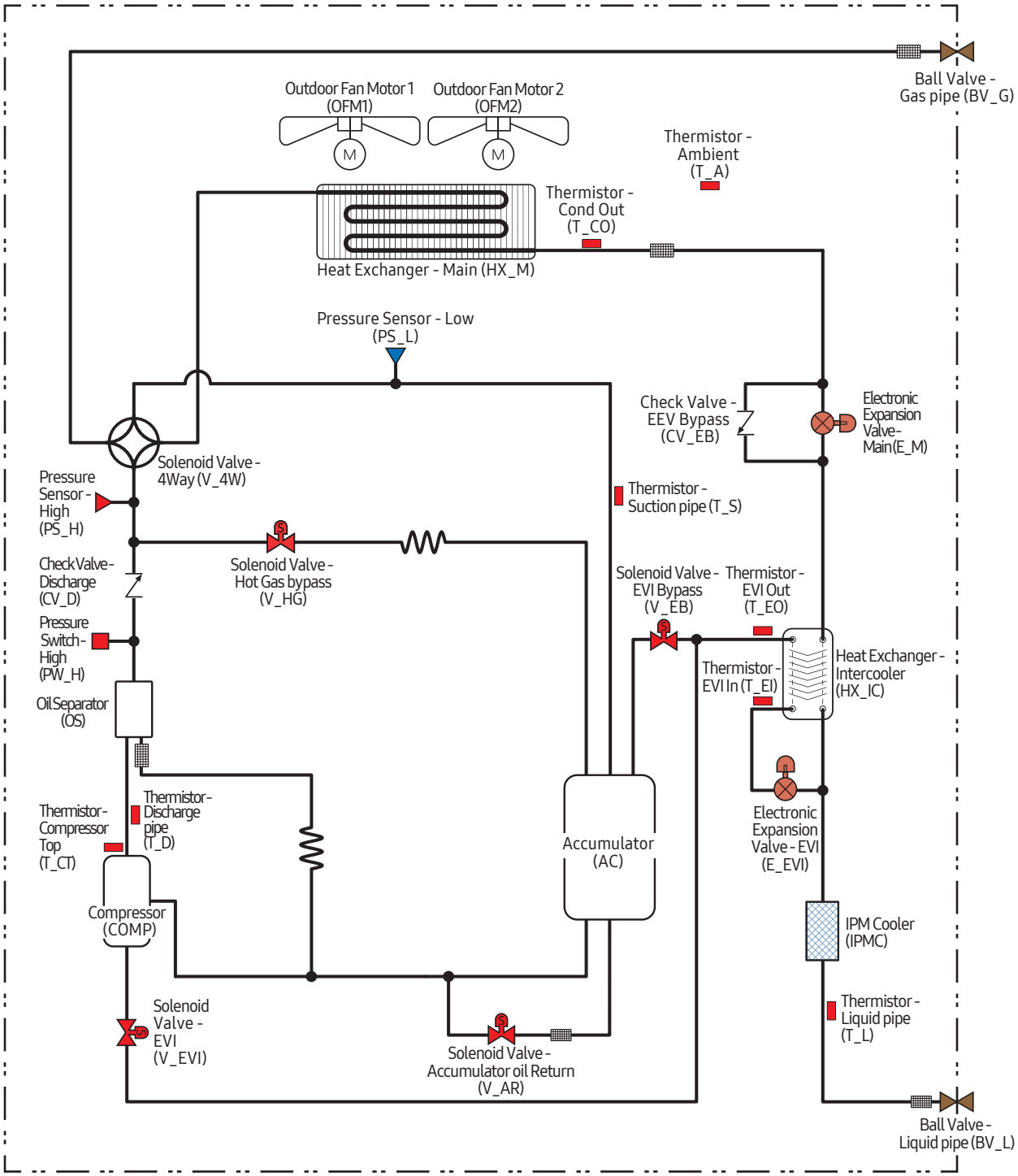
(1) AM100~120MXVDGH



9. Piping Diagram

Outdoor unit

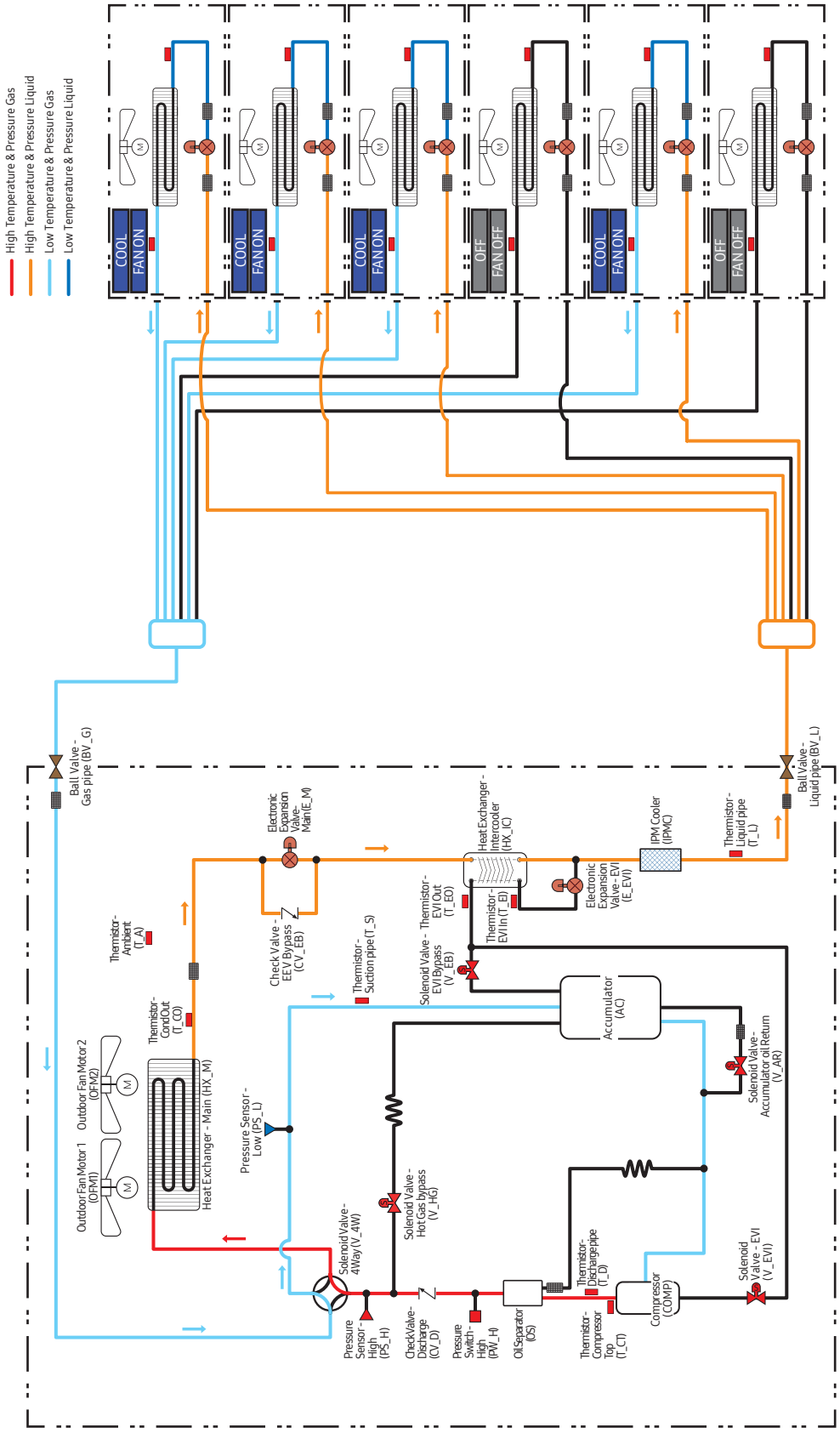
(2) AM140~180MXVDGH



9. Piping Diagram

Cooling System

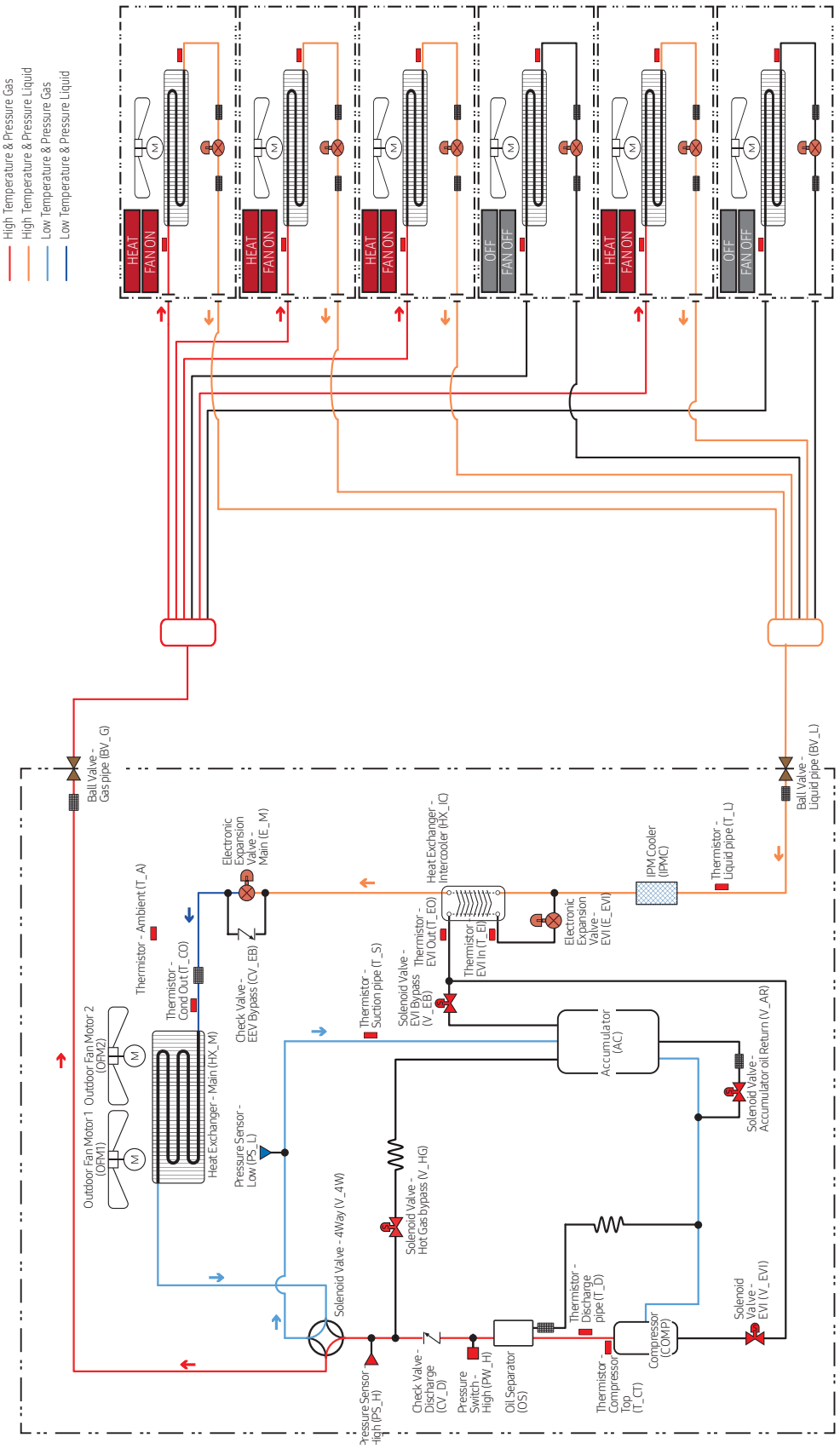
- 18HP with indoor units



9. Piping Diagram

Heating System

- 18HP with indoor units

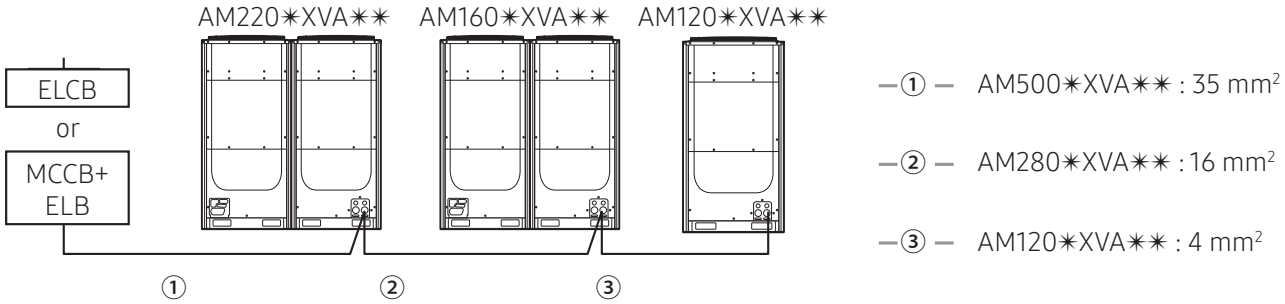


10. Installation

Electrical wiring work

- When installing outdoor units in module, select the power supply cable according to the sum of outdoor unit capacity. (Refer to the table for each model)
- Power Supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 66 / CENELEC: H07RN-F)

Ex.) AM500✳XVA✳✳



NOTE

- This device is intended for the connection to a power supply system with a maximum permissible system impedance shown in the table (on the left page) at the interface point (power service box) of the user's supply.
- The user must ensure that this device is connected only to a power supply system which fulfills the requirement above. If necessary, the user can ask the public power supply company for the system impedance at the interface point.
- This equipment complies with IEC 61000-3-12 provided that the short-circuit power Ssc is greater than or equal to Ssc(*2) at the interface point between the user's supply and the public system. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to a supply with a short-circuit power Ssc greater than or equal to Ssc(*2).

[Ssc (*2)]

Model	Ssc [MVA]
AM080JXVHGH/EU	3.1
AM100JXVHGH/EU	4.5
AM120JXVHGH/EU	5.3
AM140JXVHGH/ET	5.3
AM160JXVHGH/ET	6.6
AM180JXVHGH/ET	7.6
AM200JXVHGH/ET	8.0
AM220JXVHGH/ET	8.6
AM240KXVGGH/ET	12.5
AM260KXVGGH/ET	12.2
AM280KXVGGH/ET	13.6
AM080JXVHGR/EU	3.1
AM100JXVHGR/EU	4.5
AM120JXVHGR/EU	5.3
AM140JXVHGR/ET	5.3
AM160JXVHGR/ET	6.6
AM180JXVHGR/ET	7.6
AM200JXVHGR/ET	8.0
AM220JXVHGR/ET	8.6
AM240MXVGNR/ET	12.5

Model	Ssc [MVA]
AM260MXVGNR/ET	12.2
AM280MXVGNR/ET	13.6
AM300MXVANR/ET	14.8
AM080JXVAGH/EU	3.1
AM100JXVAGH/EU	4.5
AM120JXVAGH/EU	5.3
AM140KXVAGH/ET	5.4
AM160KXVAGH/ET	7.2
AM180KXVAGH/ET	8.8
AM200KXVAGH/ET	8.1
AM220KXVAGH/ET	8.6
AM240KXVAGH/ET	12.5
AM260KXVAGH/ET	12.2
AM280KXVAGH/ET	13.6
AM300KXVAGH/ET	14.8
AM100MXVDGH/ET	4.5
AM120MXVDGH/ET	5.3
AM140MXVDGH/ET	5.4
AM160MXVDGH/ET	7.2
AM180MXVDGH/ET	8.8

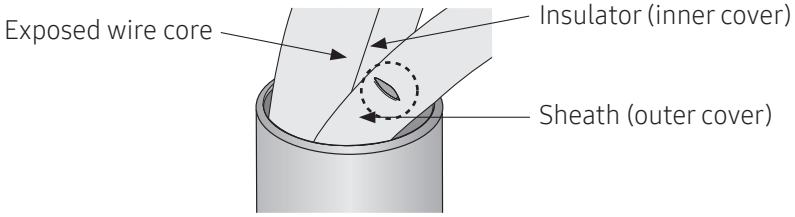
10. Installation

Electrical wiring work

CAUTION

Caution for electrical work

- You must install ELCB or MCCB + ELB
  - ELCB: Earth leakage breaker
  - MCCB: Molded case circuit breaker
  - ELB: Earth leakage breaker
- Do not operate the outdoor unit before completing the refrigerant pipe work.
- Do not disconnect or change the cable inside the product. It may cause damage to the product.
- Specification of the power cable is selected based on following installation condition; culvert installation/ ambient temperature 30 °C/ single multi conductor cables. If the condition is different from the ones stated, please consult an electrical installation expert and re-select the power cable.
  - If the length of power cable exceed 50m, re-select the power cable considering the voltage drop.
- Use a power cable made out of incombustible material for the insulator (inner cover) and the sheath (outer cover).
- Do not use the power cable with the core wire exposed due to insulator damage occurred during removal of the sheath. When the core wire is exposed, it may cause fire.



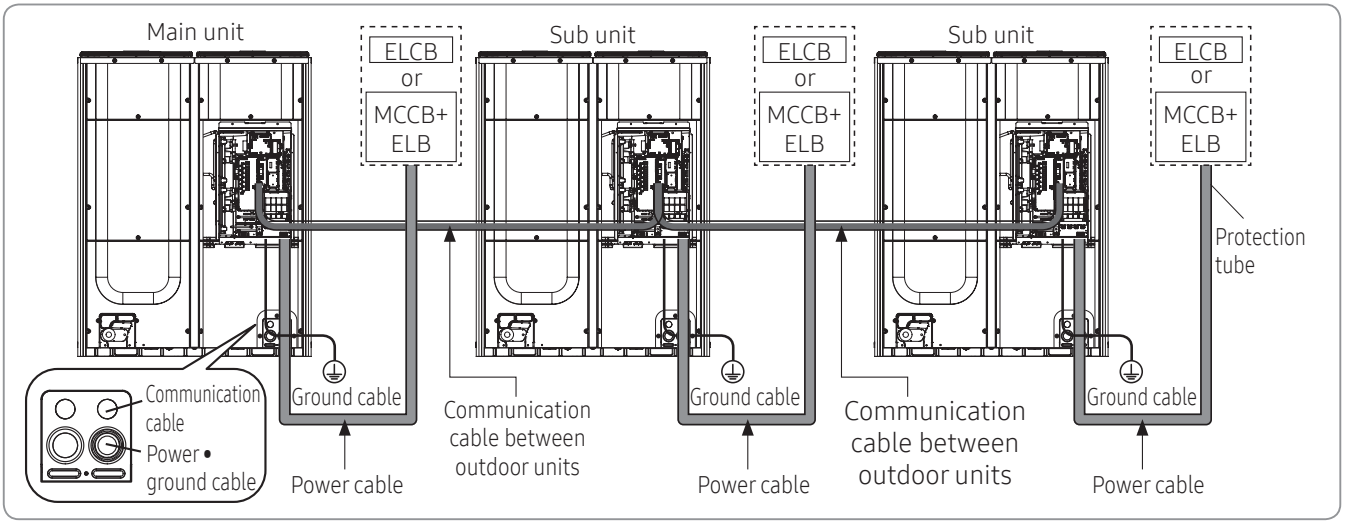
<The example of exposed core wire>

10. Installation

Electrical wiring work

Power and communication cable configuration

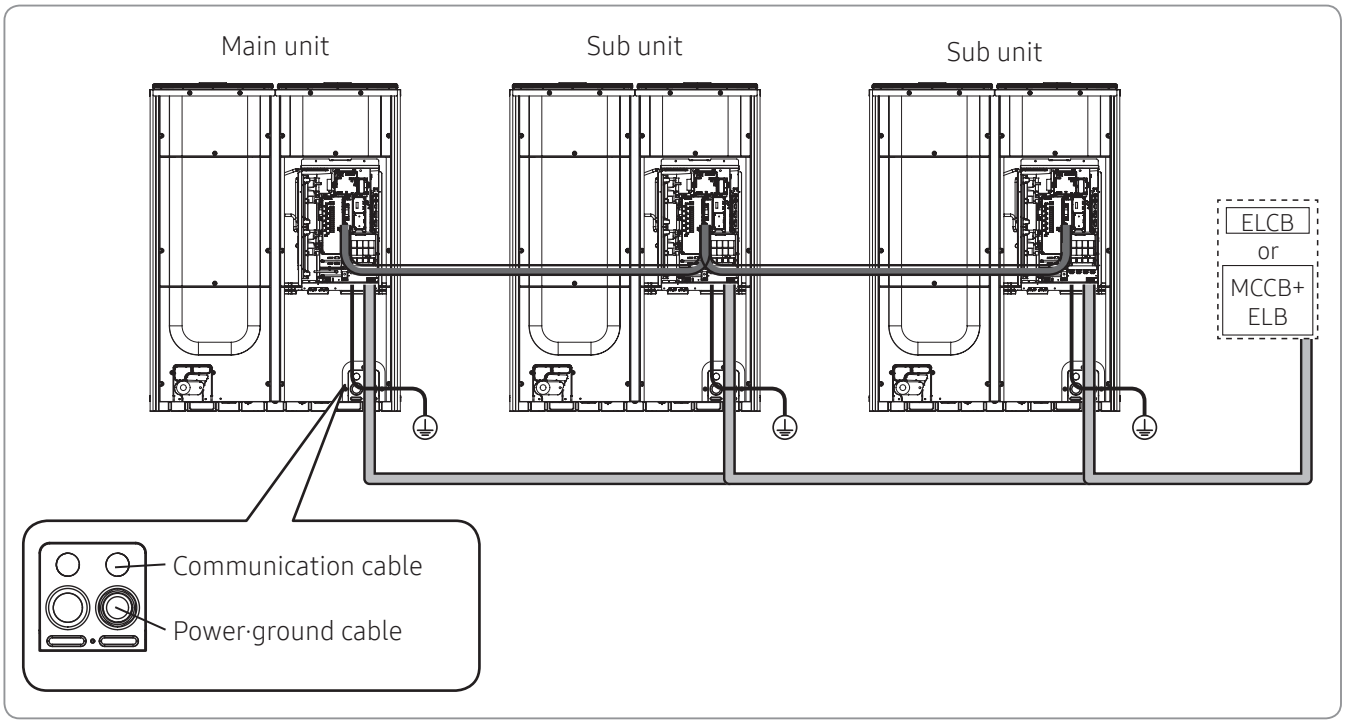
- Main power and the ground cable must be withdrawn through the knock-out hole on the bottom-right or right side of the cabinet.
- Withdraw the communication cable from the designated knock-out hole on the bottom-right side of the front part.
- Install the power and communication cable using separate cable protection tube.
- Fix a protection tube to the knock-out hole on the outdoor unit by using a CD connector or bushing. Make sure to use insulating bushing.



10. Installation

Electrical wiring work

<When the module combination is in the tables of "Outdoor unit combination">



Communication cable between outdoor units

Power cable

Protection tube

Power/ground cable

Specification of the protection tube

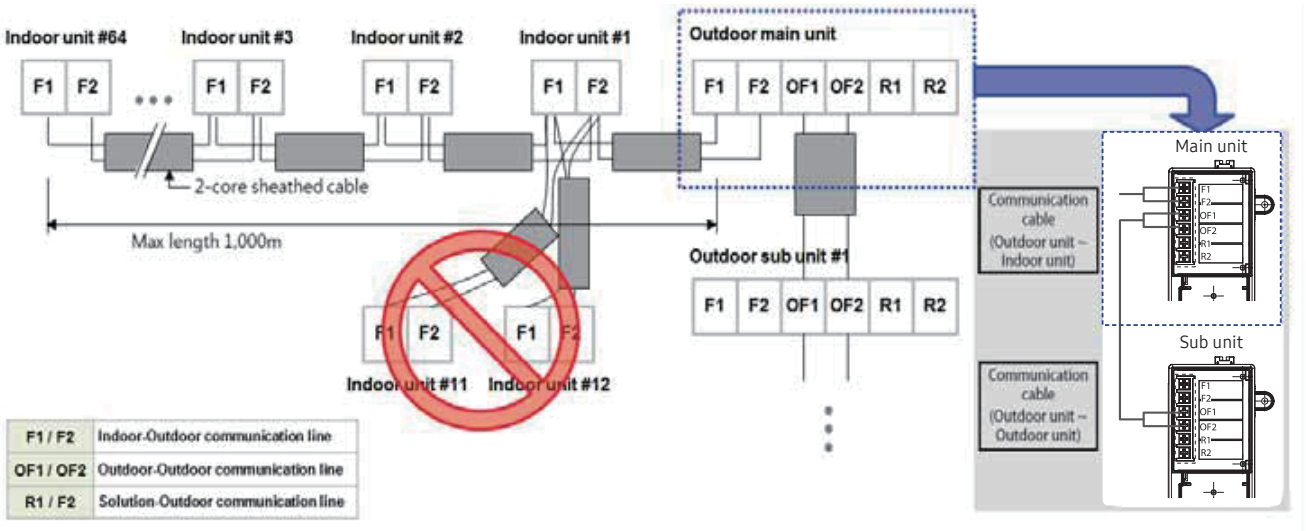
Name	Temper grade	Applicable conditions
Flexible PVC conduit	PVC	When the protection tube is installed indoor and not exposed to outside, because it is embedded in concrete structure
Class 1 flexible conduit	Galvanized steel sheet	When the protection tube is installed indoor but exposed to outside so there are risk of damage to the protection tube
Class 1 PVC coated flexible conduit	Galvanized steel sheet and Soft PVC compound	When the protection tube is installed outdoor and exposed to outside so there are risk of damage to the protection tube and extra waterproof is needed

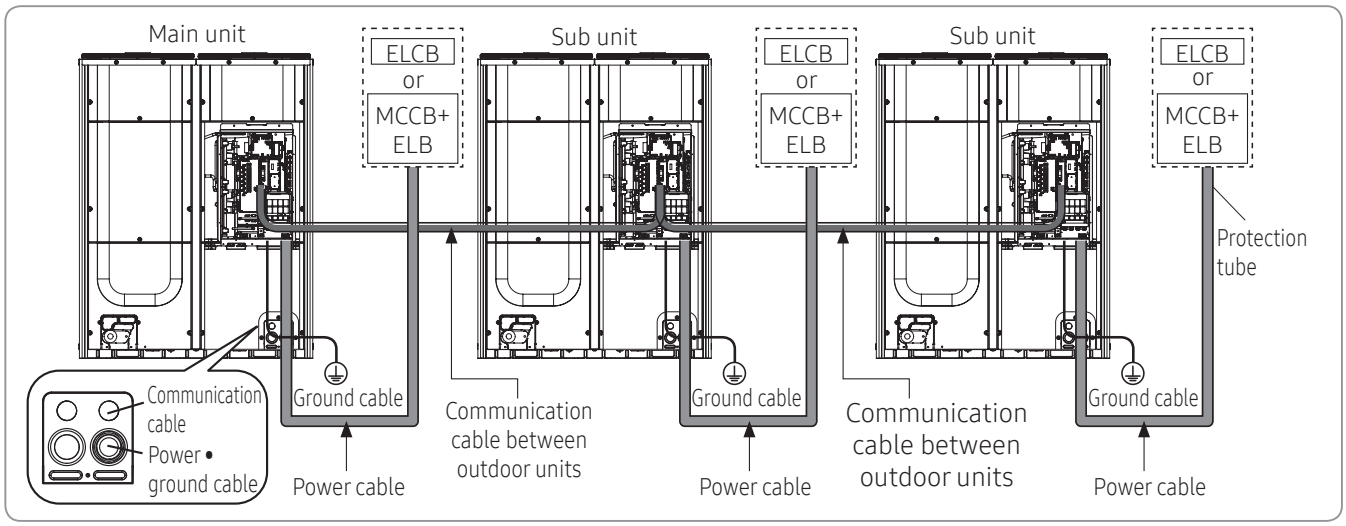
10. Installation

Electrical wiring work

Specification of Cable and Connecting method

- For communication cable, 2-core sheathed vinyl cable should be used which satisfies nominal area of 0.75~1.25mm2 thickness. If 2 or more than 3 communication are connected with one cable which is 4, 6 or more strands, communication malfunction could be caused. Only 2-core sheathed vinyl cable should be used for one communication line.
- Maximum connecting length is limited to 1000 m, so you should follow this limit not to cause malfunction of communication.
- Maximum number of units that can be connected to the outdoor main unit is 64, so do not exceed this limit.
- Communication cable should be connected in series as in the figure below, and malfunction of communication can be occur if many units are connected to the same terminal.
- Communication cable between indoor and outdoor units and communication cable between outdoor units has no polarity.





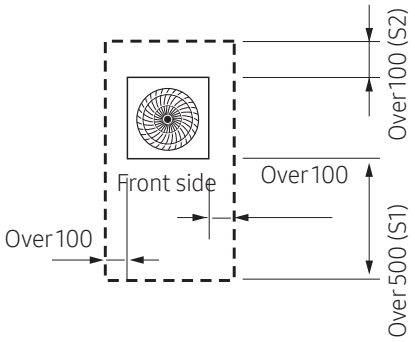
10. Installation

Space requirement for installation

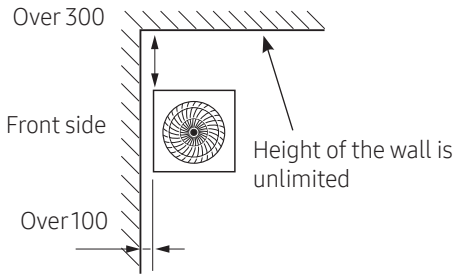
- ▶ Space requirement was decided based on following conditions; Cooling mode, outdoor temperature of 35 °C. Larger space is required if the outdoor temperature is higher than 35 °C or if the place is heated easily by quantity of solar radiation.
- ▶ When you secure installation space, consider path for people and the direction of the wind.
- ▶ Secure installation space as shown in the below illustration, considering ventilation and the service space.
- ▶ If the installation space is narrow, installer or other worker may get injured during work and may also cause problem to the product.
- ▶ If you install multiple number of outdoor units in one space, make sure to secure enough ventilation space if there's any walls around the product that may disturb the air flow. If enough ventilation space is not secured, product may malfunction.
- ▶ You may install the outdoor units with 20mm of space between the product, but product's performance may decrease depending on the installation environment.

Single installation

(Unit : mm)



<Case 1>

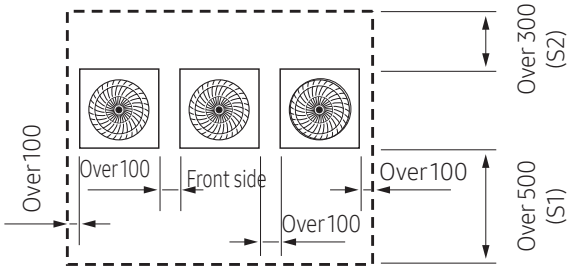


<Case 2>

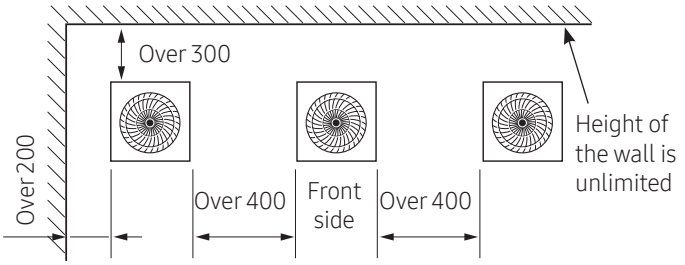
10. Installation

Space requirement for installation

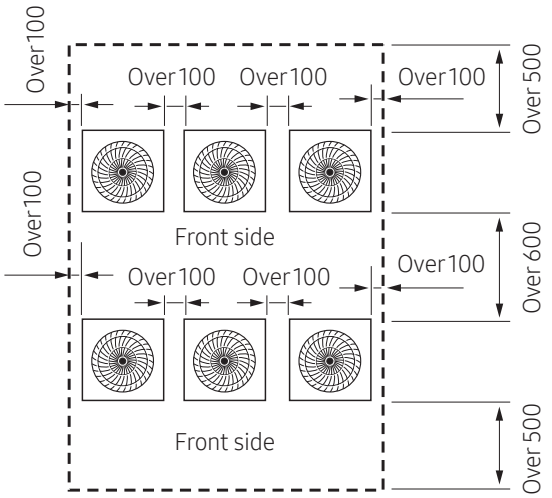
Module installation



<Case 1>



<Case 2>



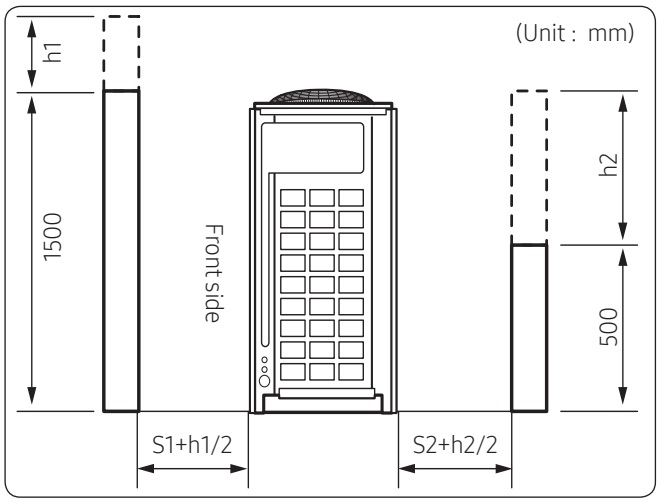
<Case 3>

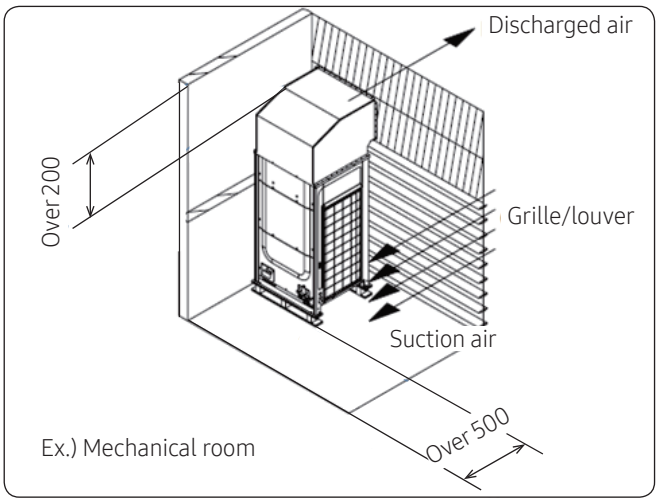
✳ For <Case 1> or <Case 3>

- Height of the wall on the front side should not be higher than 1500mm.
- Height of the wall on the air inlet side should not be higher than 500mm.
- Height of the wall on the side is not limited.
- If the height of the wall exceeds by certain value (h1, h2), additional clearance [(h1)/2, (h2)/2 : Half of the exceeded distance] should be added to the service space (S1, S2).

✳ At Machinery Room

- Make sure to install both discharge duct and suction grille / louver
- Static pressure of the discharge duct should be within the standard specification (78.45Pa) when installing the duct.
- Secure enough cross-sectional area on grille surface for easy air intake in case of machinery room installation.





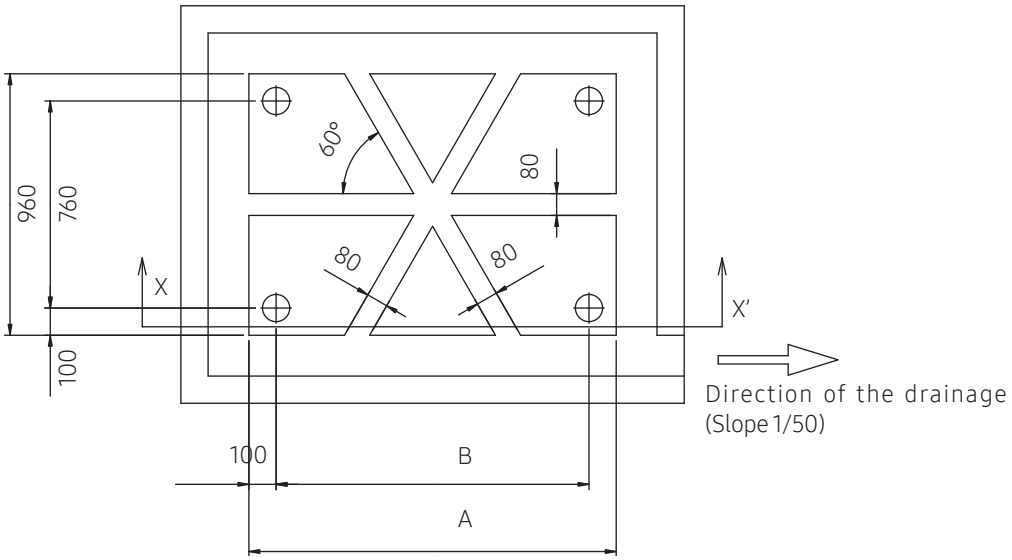
10. Installation

Base construction and installation of the outdoor unit

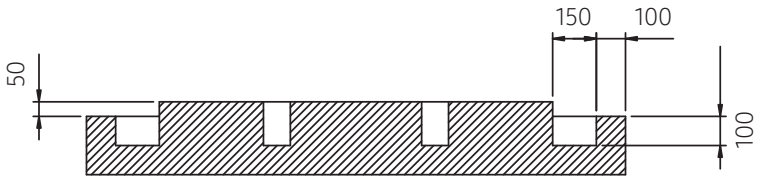
Examples of draining work

- ▶ Construct the drainage ditch with reinforced concretes and make sure that water-proofing work is done.
- ▶ For smooth draining of defrost water, make sure to apply 1/50 slope.
- ▶ Construct a drainage around the outdoor unit to prevent the defrost water (from the outdoor unit) from stagnating, overflowing or freezing near the installation space.
- ▶ When the outdoor unit is installed on the roof, check the strength and waterproof status of the roof.

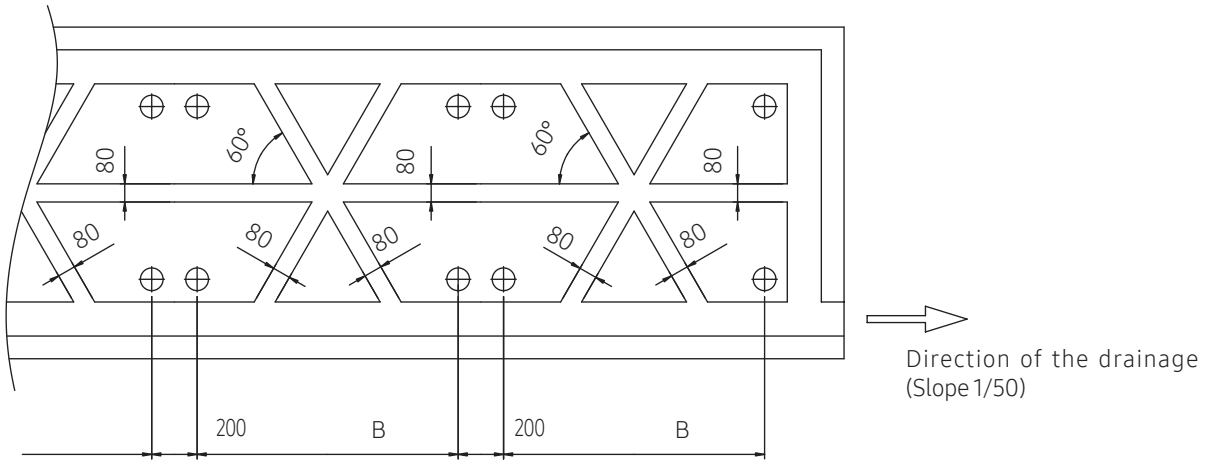
(Unit : mm)



<Drainage work for single installation>



<X-X' SECTION>



<Drainage work for module installation>

10. Installation

Base construction and installation of the outdoor unit

(Unit : mm)

Classification	DVM S Small Type	DVM S Large A Type	DVM S Large B type
A	940	1,350	1,350
B	740	1,150	1,150

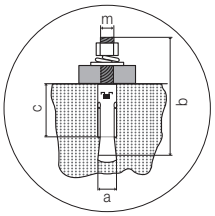
CAUTION

Cautions regarding on connecting the anchor bolt

▶ Tighten the rubber washer to prevent the bolt connection part of the outdoor unit from corroding.

▶ Anchor specification

Size	Diameter of drill bit (a)	Anchor length (b)	Sleeve length (c)	Insert depth	Fastening torque
Ø10	14 mm	75 mm	40 mm	50 mm	30 N·m



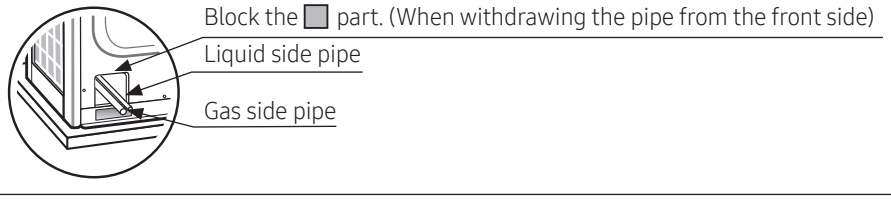
※ Use the anchor bolts and nuts that is zinc plated or made of STS material. Regular anchor bolts or nuts may get damaged by corrosion.

Cautions regarding on connecting the pipe

▶ If you install the outdoor unit on the rooftop, check the strength and make sure to waterproof the rooftop.

▶ Construct draining pit around the base construction and pay attention to the drainage around the outdoor unit. (Condensation or defrost water may form during outdoor unit operation.)

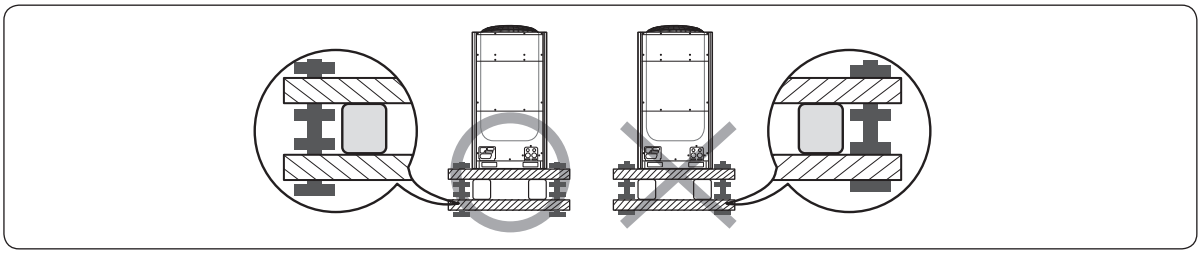
▶ If there's any possibility of small animals from entering the pipe outlet, block the outlet as shown in the illustration.



Cautions regarding on anti-vibration frame installation

▶ During installation, make sure there is no gap between the base ground and the supporting structures such as anti-vibration frame or H beam.

▶ Base ground must be constructed strongly to support the bottom part of the anti-vibration mount.



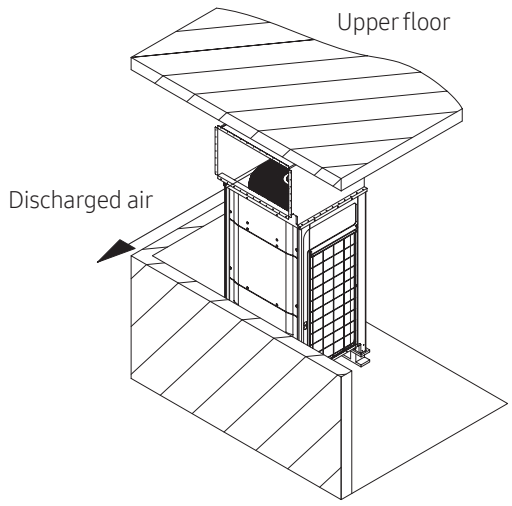
▶ After installing the anti-vibration frame, untighten the fixing part on the top and bottom part of the frame.

10. Installation

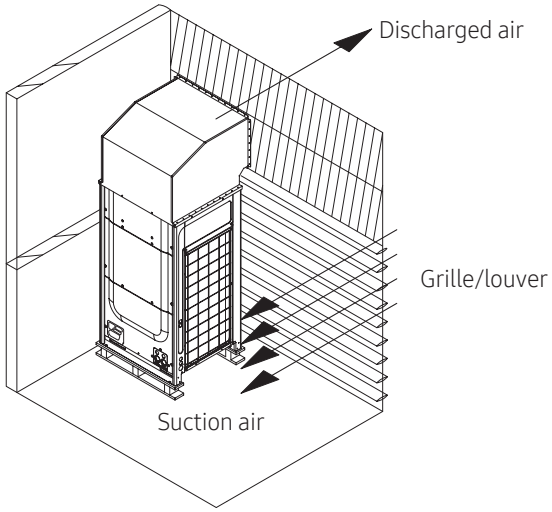
Wind/snow prevention duct

Installing the outdoor unit around the obstacles

▶ It is necessary to install a discharge guide duct(field supply) to direct exhaust from the fan horizontally, when it is difficult to provide a minimum space of 2m between the air outlet and a nearby obstacle.



Ex.) Balcony



Ex.) Mechanical room

Installing the outdoor unit in cold region

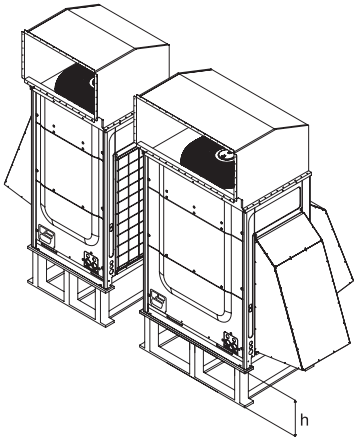
▶ In cold regions with lots of snowfall, install a snow prevention duct, as a sufficient countermeasure, to prevent snow from accumulating on the outdoor unit. When the snow prevention duct is not installed, frost may accumulate on the heat exchanger and heating operation may not work normally.

▶ Air outlet of the duct should not be directed to the enclosed space.

CAUTION

Cautions regarding on installing the frame and selecting the base ground

- Height (h) of the frame and the base ground should be higher than the "heaviest expected snowfall".
- Area of the frame and the base ground should not be larger than the are of the outdoor unit. Snow may accumulate if the area of the frame or the base ground is larger.



10. Installation

Wind/snow prevention duct

Installing the outdoor unit in windy region

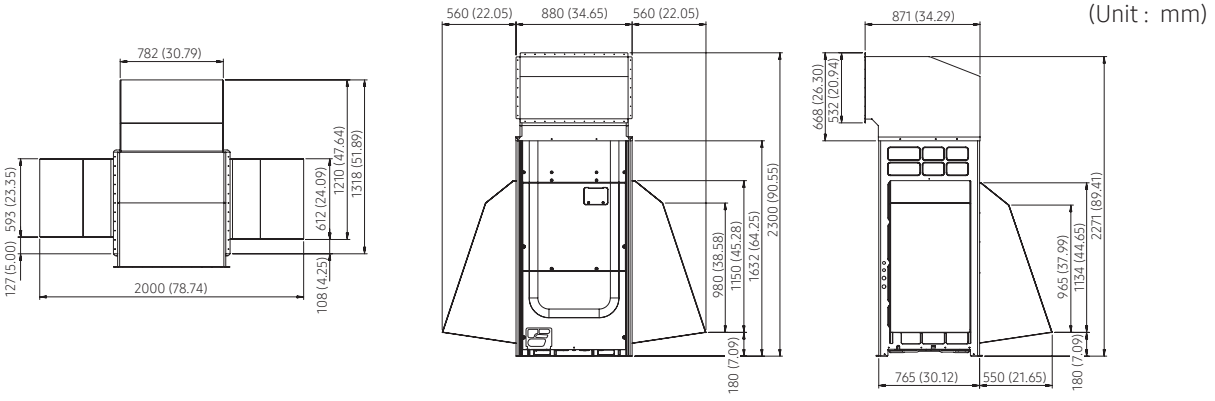
- ▶ In windy regions such as near sea shores, protection wall or wind protection duct must be installed for normal operation of the outdoor unit. (Refer to the illustration of the snow prevention duct, for installing the wind protection duct.)
- ▶ Install the wind prevention duct with the consideration of major wind direction. If the direction of the discharge part is same as major direction of the wind, it could cause product's performance decrease.

CAUTION

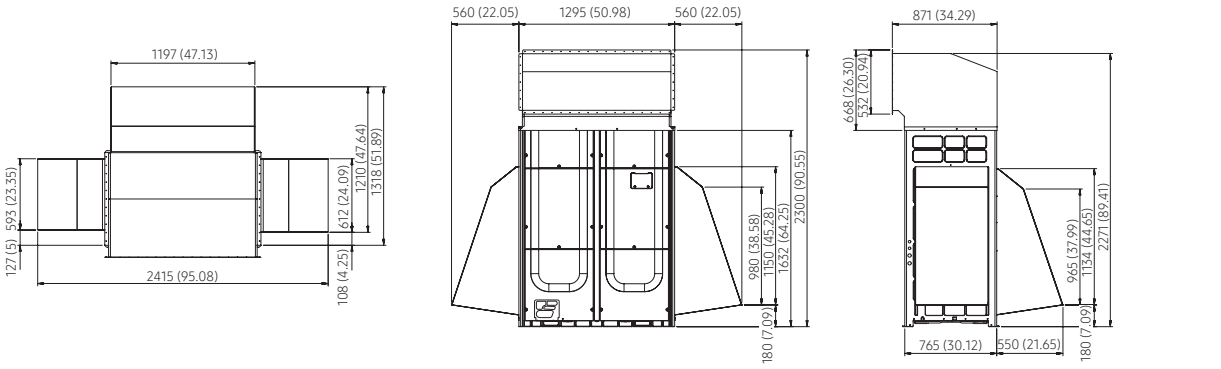
Cautions regarding on installing the frame and selecting the base ground

- The base ground must be solid and the outdoor unit must be fixed with anchor bolts.
- Make sure to install outdoor unit in a place strong enough to withstand its weight. If the place cannot withstand the weight of the outdoor unit, outdoor unit may fall and cause personal injury.
- When installing on a rooftop subject to strong wind, countermeasures must be taken to prevent the unit from falling down.
- Use a frame that is resistant to corrosion.

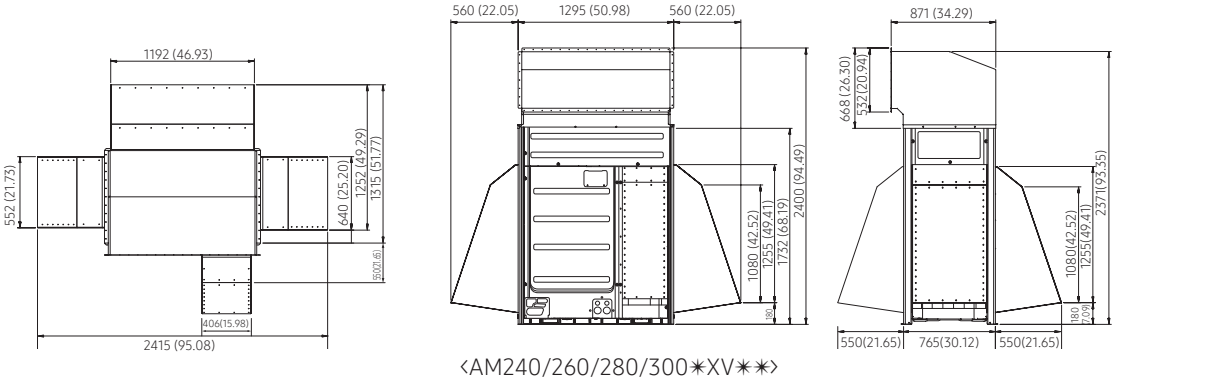
(Unit : mm)



‹AM080/100/120✶XV✶✶›



‹AM140/160/180/200/220✶XV✶✶›



‹AM240/260/280/300✶XV✶✶›

10. Installation

Refrigerant pipe installation

Refrigerant pipe work

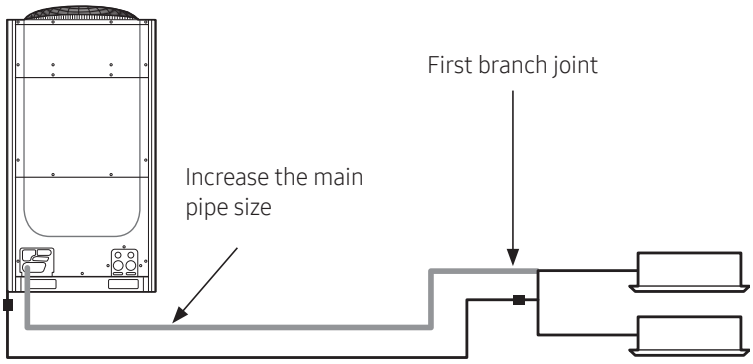
- ▶ The length of refrigerant pipe should be as short as possible and the height difference between an indoor and outdoor unit should be minimized.
- ▶ Piping work must be done within allowable piping length, height difference, and the allowable length after branching.
- ▶ The pressure of the R-410A is high. Use only certified refrigerant pipe and follow the installation method.
- ▶ After installing the pipes, calculate the total length of the pipe to check if additional refrigerant is needed. When you need to charge the additional refrigerant, make sure to use R-410A refrigerant.
- ▶ Use clean refrigerant pipe and there shouldn't be any harmful ion, oxide, dust, iron content or moisture inside pipe.
- ▶ Use tools and accessories that fit on R-410A only.

<table>
<tr><th>Tool</th><th colspan="2">Installation process/purpose</th><th>Compatibility with conventional tool</th></tr>
<tr><td>Pipe cutter</td><td rowspan="5">Refrigerant pipe installation</td><td>Pipe cutting</td><td rowspan="2">Compatible</td></tr>
<tr><td>Flaring tool</td><td>Pipe flaring</td></tr>
<tr><td>Refrigerant machine oil</td><td>Apply refrigerant oil on flared part</td><td>Exclusive ether oil, ester oil, alkali benzene oil or synthetic oil</td></tr>
<tr><td>Torque wrench</td><td>Connect flare nut with pipe</td><td rowspan="4">Compatible</td></tr>
<tr><td>Pipe bender</td><td>Pipe bending</td></tr>
<tr><td>Nitrogen gas</td><td rowspan="2">Air tightness test</td><td>Prevent oxidation within the pipe</td></tr>
<tr><td>Welder</td><td>Pipe welding</td></tr>
<tr><td>Manifold gage</td><td rowspan="2">Air tightness test ~ additional refrigerant charging</td><td rowspan="2">Vacuuming, charging refrigerant and checking operation</td><td>Need exclusive one to prevent mixture of R-22 refrigerant oil use and also the measurement is not available due to high pressure</td></tr>
<tr><td>Refrigerant charging hose</td><td>Need exclusive one since there is risk of refrigerant leakage or inflow of impurities</td></tr>
<tr><td>Vacuum pump</td><td colspan="2">Pipe drying</td><td>Compatible (Use products which contain the check valve to prevent the oil from flowing backward into the outdoor unit.)
Use the one that can be vacuumed up to -100.7kpa(5Torr).</td></tr>
<tr><td>Scale for refrigerant charging</td><td colspan="2">Refrigerant charging</td><td>Compatible</td></tr>
<tr><td>Gas leak detector</td><td colspan="2">Gas leak test</td><td>Need exclusive one
(Ones used for R-134a is compatible)</td></tr>
<tr><td>Flare nut</td><td colspan="3">Must use the flare nut equipped with the product. Refrigerant leakage may occur when the conventional flare nut for R-22 is used.</td></tr>
</table>

10. Installation

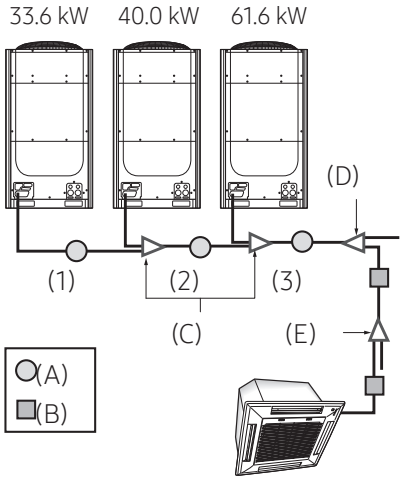
Refrigerant pipe installation

Selecting refrigerant pipe



- ▶ Install the refrigerant pipe according to main pipe size of each outdoor unit capacity.
- ▶ When the pipe length (including elbow) between an outdoor unit and the farthest indoor unit exceeds 90m, you must increase the size of the pipe (main pipe) by one grade which connects between the outdoor unit to the first branch joint.
- ▶ For H/R model, When the pipe length (including elbow) between an outdoor unit and the farthest indoor unit exceeds 90m, you must increase the size of the liquid pipe by one grade among the pipes(main pipe) which connects between the outdoor unit to the first branch joint.

H/P



Ex.) 135.2 kW

Capacity (kW)	No.	Pipe size (mm)	
		Liquid pipe	Gas pipe
33.6 kW	(1)	Ø12.70	Ø 28.58
73.6 kW	(2)	Ø19.05	Ø 34.92
135.2 kW	(3)	Ø19.05	Ø 41.28

10. Installation

Refrigerant pipe installation

Size of the pipe connected to the outdoor unit (A)

Select the size of the main pipe according to the below table.

<table>
<tr><th rowspan="2">Outdoor unit capacity (kW) (Cooling)</th><th colspan="2">*Maximum pipe length within 90m</th><th colspan="2">*Maximum pipe length over 90m</th></tr>
<tr><th>Liquid pipe (mm)</th><th>gas pipe (mm)</th><th>Liquid pipe (mm)</th><th>gas pipe (mm)</th></tr>
<tr><td>22.4 kW</td><td rowspan="2">Ø 9.52</td><td>Ø 19.05</td><td rowspan="2">Ø 12.70</td><td>Ø 22.22</td></tr>
<tr><td>22.5 kW ~ 28.1 kW</td><td>Ø 22.22</td><td>Ø 25.40 note1)</td></tr>
<tr><td>28.2 kW ~ 33.6 kW</td><td rowspan="3">Ø 12.70</td><td rowspan="6">Ø 28.58</td><td rowspan="3">Ø 15.88</td><td rowspan="2">Ø 28.58</td></tr>
<tr><td>33.7 kW ~ 40.0 kW</td></tr>
<tr><td>40.1 kW ~ 45.0 kW</td><td rowspan="5">Ø 31.75 note2)</td></tr>
<tr><td>45.1 kW ~ 50.4 kW</td><td rowspan="4">Ø 15.88</td><td rowspan="4">Ø 19.05</td></tr>
<tr><td>50.5 kW ~ 56.0 kW</td></tr>
<tr><td>56.1 kW ~ 63.3 kW</td></tr>
<tr><td>63.4 kW ~ 70.3 kW</td><td rowspan="2">Ø 34.92</td><td rowspan="2">Ø 38.10 note3)</td></tr>
<tr><td>70.4 kW ~ 98.4 kW</td><td rowspan="3">Ø 19.05</td><td rowspan="3">Ø 22.22</td></tr>
<tr><td>98.5 kW ~ 135.2 kW</td><td rowspan="2">Ø 41.28</td><td>Ø 41.28</td></tr>
<tr><td>135.3 kW ~ 169.0 kW</td><td rowspan="2">Ø 53.98</td></tr>
<tr><td>169.1 kW ~ 252.0 kW</td><td>Ø 22.22</td><td>Ø 53.98</td><td>Ø 25.40 note1)</td></tr>
</table>

*Maximum pipe length : The pipe length between an outdoor unit and the farthest indoor unit.

Note1) If Ø 25.40 pipe is not available on site, use Ø 28.58 pipe.

Note2) If Ø 31.75 pipe is not available on site, use Ø 34.92 pipe.

Note3) If Ø 38.10 pipe is not available on site, use Ø 41.28 pipe

10. Installation

Refrigerant pipe installation

Size of the pipe between branch joints (B)

Select the pipe size according to the sum of indoor unit capacity which will be connected after the branch.

✳ However, if the size of the pipe between branch joints (B) is bigger than the size of the pipe connected to the outdoor unit (A), apply the pipe size (A).

<table>
<tr><th rowspan="2">Indoor unit capacity (kW)</th><th colspan="2">Branch pipe length within 45m</th><th colspan="2">Branch pipe length between 45~90m</th></tr>
<tr><th>Liquid pipe (mm)</th><th>Gas pipe (mm)</th><th>Liquid pipe (mm)</th><th>Gas pipe (mm)</th></tr>
<tr><td>15.0 kW and below</td><td rowspan="3">Ø 9.52</td><td>Ø 15.88</td><td rowspan="3">Ø 12.70</td><td>Ø 19.05</td></tr>
<tr><td>15.1 kW ~ 22.4 kW</td><td>Ø 19.05</td><td>Ø 22.22</td></tr>
<tr><td>22.5 kW ~ 28.1 kW</td><td>Ø 22.22</td><td>Ø 25.40 note1)</td></tr>
<tr><td>28.2 kW ~ 40.0 kW</td><td rowspan="2">Ø 12.70</td><td rowspan="3">Ø 28.58</td><td rowspan="2">Ø 15.88</td><td>Ø 28.58</td></tr>
<tr><td>40.1 kW ~ 45.0 kW</td><td rowspan="2">Ø 31.75 note2)</td></tr>
<tr><td>45.1 kW ~ 63.3 kW</td><td rowspan="2">Ø 15.88</td><td rowspan="2">Ø 19.05</td></tr>
<tr><td>63.4 kW ~ 70.3 kW</td><td rowspan="2">Ø 34.92</td><td rowspan="2">Ø 38.10 note3)</td></tr>
<tr><td>70.4 kW ~ 98.4 kW</td><td rowspan="3">Ø 19.05</td><td rowspan="3">Ø 22.22</td></tr>
<tr><td>98.5 kW ~ 135.2 kW</td><td rowspan="2">Ø 41.28</td><td>Ø 41.28</td></tr>
<tr><td>135.3 kW ~ 169.0 kW</td><td rowspan="2">Ø 53.98</td></tr>
<tr><td>Over 169.0 kW</td><td>Ø 22.22</td><td>Ø 53.98</td><td>Ø 25.40 note1)</td></tr>
</table>

Note1) If Ø 25.40 pipe is not available on site, use Ø 28.58 pipe.

Note2) If Ø 31.75 pipe is not available on site, use Ø 34.92 pipe.

Note3) If Ø 38.10 pipe is not available on site, use Ø 41.28 pipe

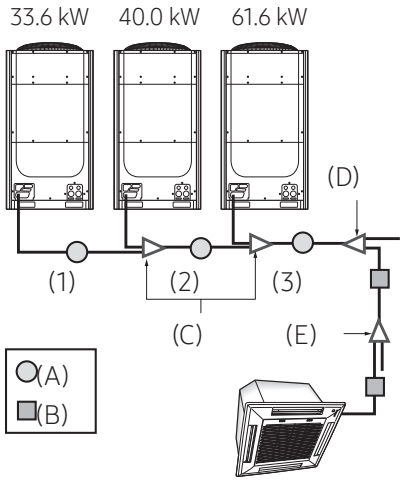
Size of the pipe between the branch joint and the indoor unit

Make a selection according to outdoor unit capacity.

Indoor unit capacity (kW)	Pipe size (O.D. mm)	
	Liquid pipe	Gas pipe
6.0 kW and below	Ø 6.35	Ø 12.70
6.1 kW ~ 16.0 kW	Ø 9.52	Ø 15.88
16.1 kW ~ 23.0 kW	Ø 9.52	Ø 19.05
Over 23.0 kW	Ø 9.52	Ø 22.22

10. Installation

Refrigerant pipe installation



Branch joint

▶ Branch joint between outdoor units (C)

Classification	Model name	Specification (kW)
Y-joint for outdoor unit (C)	MXJ-TA3419M	135.2 kW and below
	MXJ-TA4122M	Over 135.2 kW

▶ First branch joint (D)

Make a selection according to outdoor unit capacity.

Classification	Outdoor unit capacity (kW)	Model name of the branch joint
Y-joint (D)	40.0 kW and below	MXJ-YA2512M
	40.1 kW ~ 45.0 kW	MXJ-YA2812M
	45.1 kW ~ 67.2 kW	MXJ-YA2815M
	67.3 kW ~ 95.2 kW	MXJ-YA3419M
	95.3 kW ~ 135.2 kW	MXJ-YA4119M
	Over 135.2 kW	MXJ-YA4422M

10. Installation

Refrigerant pipe installation

▶ Branch joint (E)

Select a branch joint according to the sum of indoor unit capacity which will be connected after the branch.

※ However, if the size of the pipe between branch joints (E) is bigger than the size of the pipe connected to the outdoor unit (D), apply the pipe size (D).

1) Y-joint

Classification	Model name	Specification (kW)
Y-joint (E)	MXJ-YA1509M	15.0 kW and below
	MXJ-YA2512M	15.1 kW ~ 40.0 kW
	MXJ-YA2812M	40.1 kW ~ 45.0 kW
	MXJ-YA2815M	45.1 kW ~ 70.3 kW
	MXJ-YA3419M	70.4 kW ~ 98.4 kW
	MXJ-YA4119M	98.5 kW ~ 135.2 kW
	MXJ-YA4422M	Over 135.2 kW

2) Distribution header

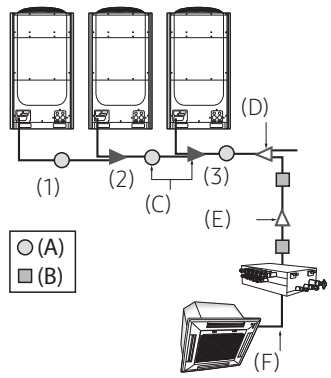
Classification	Model name	Specification (kW)
Distribution header (E)	MXJ-HA2512M	45.0 kW and below (for 4 rooms)
	MXJ-HA3115M	70.3 kW and below (for 8 rooms)
	MXJ-HA3819M	70.4 kW ~ 135.2 kW (for 8 rooms)

10. Installation

Refrigerant pipe installation

H/R

33.6 kW 40.0 kW 61.6 kW



Ex.) 135.2 kW

Capacity (kW)	No.	Pipe size (mm)		
		Liquid pipe	Low pressure gas pipe	High pressure gas pipe
33.6 kW	(1)	Ø 12.70	Ø 28.58	Ø 19.05
73.6 kW	(2)	Ø 19.05	Ø 34.92	Ø 28.58
135.2 kW	(3)	Ø 19.05	Ø 41.28	Ø 34.92

Size of the pipe connected to the outdoor unit (A)

Select the size of the pipe according to the below table.

Outdoor unit capacity (kW) (Cooling)	*Maximum pipe length within 90m			*Maximum pipe length over 90m		
	Liquid pipe (mm)	Low pressure gas pipe (mm)	High pressure gas pipe (mm)	Liquid pipe (mm)	Low pressure gas pipe (mm)	High pressure gas pipe (mm)
22.4 kW	Ø 9.52	Ø 19.05	Ø 15.88	Ø 12.70	Ø 19.05	Ø 15.88
22.5 kW ~ 28.1 kW		Ø 22.22	Ø 19.05		Ø 22.22	Ø 19.05
28.2 kW ~ 33.6 kW	Ø 12.70	Ø 28.58		Ø 15.88	Ø 28.58	
33.7 kW ~ 40.0 kW			Ø 22.22			Ø 22.22
40.1 kW ~ 45.0 kW						
45.1 kW ~ 50.4 kW	Ø 15.88			Ø 19.05		
50.5 kW ~ 56.0 kW			Ø 28.58			Ø 28.58
56.1 kW ~ 63.3 kW						
63.4 kW ~ 70.3 kW		Ø 34.92			Ø 34.92	
70.4 kW ~ 98.4 kW	Ø 19.05			Ø 22.22		
98.5 kW ~ 135.2 kW		Ø 41.28	Ø 34.92		Ø 41.28	Ø 34.92
135.3 kW ~ 169.0 kW						
169.1 kW ~ 252.0 kW	Ø 22.22	Ø 53.98	Ø 53.98	Ø 25.40 note1)	Ø 53.98	Ø 53.98

*Maximum pipe length : The pipe legth between an outdoor unit and the farthest indoor unit.

Note1) If Ø 25.40 pipe is not available on site, use Ø 28.58 pipe.

❊ For HR model, only increase the size of the liquid pipe If pipe length exceeds 90m

❊ For the case that the diameter of the default pipe of an outdoor unit does not match that of the pipe installed on the site, a socket is provided by default together with the outdoor unit.

10. Installation

Refrigerant pipe installation

H/R

Size of the pipe between branch joints (B)

Select the pipe size according to the sum of indoor unit capacity which will be connected after the branch.

※ However, if the size of the pipe between branch joints (B) is bigger than the size of the pipe connected to the outdoor unit (A), apply the pipe size (A).

<table>
<tr><th rowspan="2">Outdoor unit capacity (kW) (Cooling)</th><th colspan="3">Pipe size (mm)</th></tr>
<tr><th>Liquid pipe</th><th>Low pressure gas pipe</th><th>High pressure gas pipe</th></tr>
<tr><td>15.0 kW and below</td><td rowspan="3">Ø 9.52</td><td>Ø 15.88</td><td rowspan="2">Ø 15.88</td></tr>
<tr><td>15.1 kW ~ 22.4 kW</td><td>Ø 19.05</td></tr>
<tr><td>22.5 kW ~ 28.1 kW</td><td>Ø 22.22</td><td rowspan="2">Ø 19.05</td></tr>
<tr><td>28.2 kW ~ 33.6 kW</td><td rowspan="2">Ø 12.70</td><td rowspan="3">Ø 28.58</td></tr>
<tr><td>33.7 kW ~ 45.0 kW</td><td>Ø 22.22</td></tr>
<tr><td>45.1 kW ~ 50.4 kW</td><td rowspan="3">Ø 15.88</td><td rowspan="3">Ø 28.58</td></tr>
<tr><td>50.5 kW ~ 63.3 kW</td></tr>
<tr><td>63.4 kW ~ 70.3 kW</td><td rowspan="2">Ø 34.92</td></tr>
<tr><td>70.4 kW ~ 98.4 kW</td><td rowspan="3">Ø 19.05</td></tr>
<tr><td>98.5 kW ~ 135.2 kW</td><td>Ø 41.28</td><td>Ø 34.92</td></tr>
<tr><td>135.3 kW ~ 169.0 kW</td><td rowspan="2">Ø 53.98</td><td rowspan="2">Ø 41.28</td></tr>
<tr><td>Over 169.0 kW</td><td>Ø 22.22</td></tr>
</table>

Size of the pipe between the branch joint and the indoor unit

Make a selection according to outdoor unit capacity.

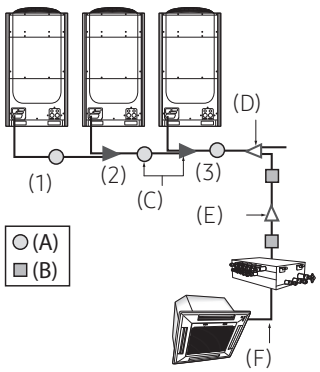
Indoor unit capacity (kW)	Pipe size (O.D. mm)	
	Liquid pipe	Gas pipe
6.0 kW and below	Ø 6.35	Ø 12.70
6.1 kW ~ 16.0 kW	Ø 9.52	Ø 15.88
16.1 kW ~ 23.0 kW	Ø 9.52	Ø 19.05
Over 23.0 kW	Ø 9.52	Ø 22.22

10. Installation

Refrigerant pipe installation

H/R

33.6 kW 39.2 kW 44.8 kW



Branch joint

▶ Branch joint between outdoor units (C)

Classification	Model name	Specification (kW)
Liquid/Low pressure Y-joint (C)	MXJ-TA3419M	135.2 kW and below
	MXJ-TA4122M	Over 135.2 kW
High pressure Y-joint (C)	MXJ-TA3100M	135.2 kW and below
	MXJ-TA3800M	Over 135.2 kW

▶ First branch joint (D)

Make a selection according to outdoor unit capacity.

Classification	Outdoor unit capacity (kW)	Model name of the branch joint
Liquid/Low pressure Y-joint (D)	40.0 kW and below	MXJ-YA2512M
	40.1 kW ~ 45.0 kW	MXJ-YA2812M
	45.1 kW ~ 67.2 kW	MXJ-YA2815M
	67.3 kW ~ 95.2 kW	MXJ-YA3419M
	95.3 kW ~ 135.2 kW	MXJ-YA4119M
	Over 135.2 kW	MXJ-YA4422M
High pressure Y-joint (D)	22.4 kW	MXJ-YA1500M
	22.5 kW ~ 67.2 kW	MXJ-YA2500M
	67.3 kW ~ 135.2 kW	MXJ-YA3100M
	Over 135.2 kW	MXJ-YA3800M

▶ Branch joint (E)

Select a branch joint according to the sum of indoor unit capacity which will be connected after the branch.

※ However, if the size of the pipe between branch joints (E) is bigger than the size of the pipe connected to the outdoor unit (D), apply the pipe size (D).

• Y-joint

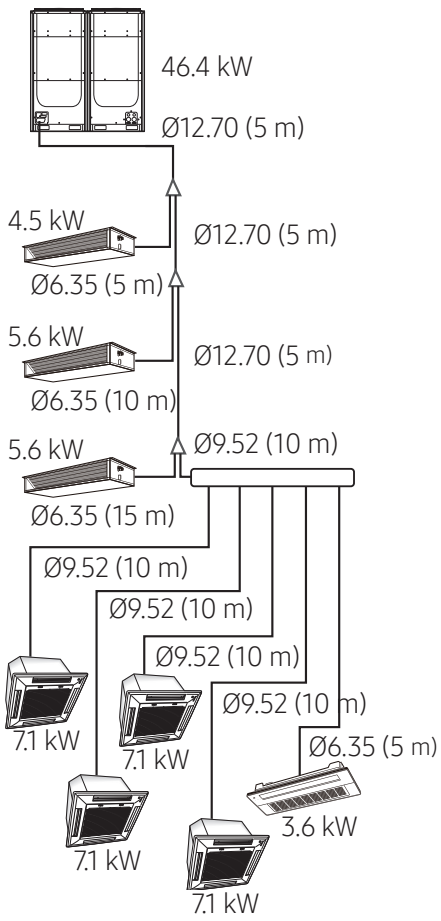
Classification	Model name	Specification (kW)
Y-joint (E)	MXJ-YA1509M	15.0 kW and below
	MXJ-YA2512M	15.1 kW ~ 40.0 kW
	MXJ-YA2812M	40.1 kW ~ 45.0 kW
	MXJ-YA2815M	45.1 kW ~ 70.3 kW
	MXJ-YA3419M	70.4 kW ~ 98.4 kW
	MXJ-YA4119M	98.5 kW ~ 135.2 kW
	MXJ-YA4422M	Over 135.2 kW
Y-joint (E) (Only H/R)	MXJ-YA1500M	22.4 kW and below
	MXJ-YA2500M	22.5 kW ~ 70.3 kW
	MXJ-YA3100M	70.4 kW ~ 135.2 kW
	MXJ-YA3800M	Over 135.2 kW

10. Installation

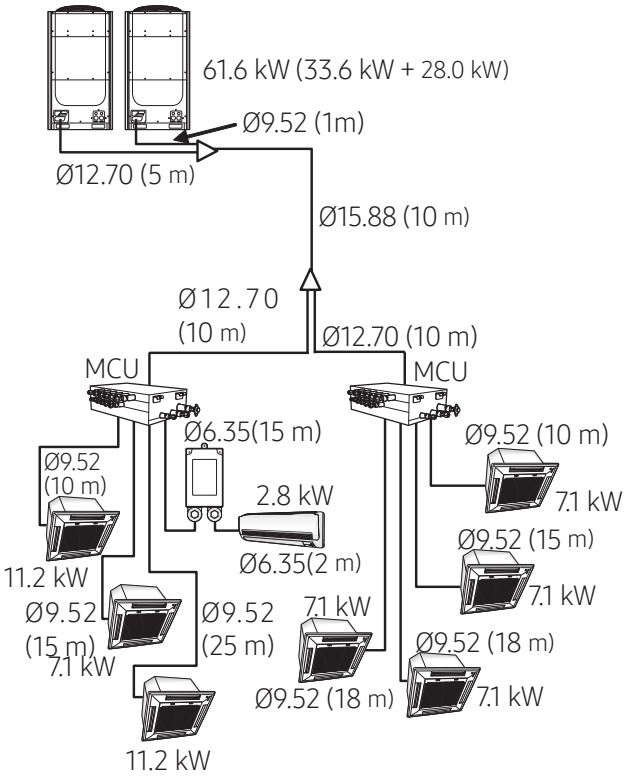
Refrigerant pipe installation

Additional refrigerant

H/P



H/R



10. Installation

Refrigerant pipe installation

Refrigerant pipe installation

▶ Basic amount of refrigerant within the outdoor unit (kg)

- Amount of additional refrigerant has to be calculated based on the sum of all liquid pipe length.

Classification	AM080JXVHGH/EU	AM100JXVHGH/EU	AM120JXVHGH/EU	AM140JXVHGH/ET	AM160JXVHGH/ET	AM180JXVHGH/ET
Basic amount	6.5	6.5	6.5	9.4	9.4	8.4
Classification	AM200JXVHGH/ET	AM220JXVHGH/ET	AM240KXVGGH/ET	AM260KXVGGH/ET	AM280KXVGGH/ET	
Basic amount	11.0	11.0	14.0	14.0	14.0	
Classification	AM080JXVAGH/EU	AM100JXVAGH/EU	AM120JXVAGH/EU	AM140KXVAGH/ET	AM160KXVAGH/ET	AM180KXVAGH/ET
Basic amount	5.5	5.5	6.5	7.7	8.4	8.4
Classification	AM200KXVAGH/ET	AM220KXVAGH/ET	AM240KXVAGH/ET	AM260KXVAGH/ET	AM280KXVAGH/ET	AM300KXVAGH/ET
Basic amount	8.4	8.4	14.0	14.0	14.0	14.0
Classification	AM100MXVDGH/ET	AM120MXVDGH/ET	AM140MXVDGH/ET	AM160MXVDGH/ET	AM180MXVDGH/ET	
Basic amount	5.5	6.5	7.7	8.4	8.4	
Classification	AM080JXVHGR/EU	AM100JXVHGR/EU	AM120JXVHGR/EU	AM140JXVHGR/ET	AM160JXVHGR/ET	AM180JXVHGR/ET
Basic amount	6.5	6.5	6.5	9.4	9.4	8.4
Classification	AM200JXVHGR/ET	AM220JXVHGR/ET	AM240MXVGNR/ET	AM260MXVGNR/ET	AM280MXVGNR/ET	AM300MXVANR/ET
Basic amount	11.0	11.0	14.0	14.0	14.0	14.0

▶ Amount of additional refrigerant depending on the pipe size (ⓐ)

- Amount of additional refrigerant has to be calculated based on the sum of all liquid pipe length.

Size of liquid pipe	Ø 6.35	Ø 9.52	Ø 12.70	Ø 15.88	Ø 19.05	Ø 22.22	Ø 25.40	Ø 28.58
Additional amount (kg/m)	0.02	0.06	0.125	0.18	0.27	0.35	0.53	0.65

- For the indoor unit already connected to EEV kit, the additional refrigerant charging is 0.01kg per meter regardless of the pipe size.

10. Installation

Refrigerant pipe installation

► Amount of additional refrigerant for each indoor unit (ⓑ)

(Unit : kg)

Model \ Capacity(kW)	1.5	1.7	2.2	2.8	3.2	3.6	4.5	5.6	6	7.1	8.2	9	9.3	11.2	12.8	14	16	18	22	22.4	28	32	50	500 CMH	1000 CMH
Slim 1way cassette (JSF) (AM✻✻✻FN1DE✻✻) (AM✻✻✻JN1DE✻✻)			0.25	0.25		0.25		0.32		0.32															
Interior 1way cassette (AM✻✻✻HN1DE✻✻)		0.15	0.15																						
2way cassette (AM✻✻✻FN2DE✻✻)								0.31		0.47															
4Way Casette S (AM✻✻✻FN4DE✻✻)							0.45	0.45		0.45		0.45		0.57	0.69	0.69									
360 Casette (AM✻✻✻KN4DE✻✻)							0.45	0.45		0.45		0.45		0.69	0.69	0.69									
Floor Standing Unit (AM✻✻✻✻NFDE✻✻)						0.22		0.32		0.32															
ERV plus (AM✻✻✻FNKDE✻✻)																								0.11	0.36
4way cassette S (600 x 600) (AM✻✻✻FNNDE✻✻)	0.29		0.29	0.29		0.29	0.37	0.37	0.37																
Duct S (AM✻✻✻HNMPK✻/✻)						0.22	0.22	0.22		0.22		0.31		0.38	0.38	0.38									
Duct S (AM✻✻✻HNMPK✻9✻)					0.31	0.31	0.38	0.38		0.38															
Duct S (AM✻✻✻HNHPK✻/✻)														0.38	0.38	0.38									
Slim duct (AM✻✻✻FNLDE✻✻)		0.17	0.17	0.17		0.26	0.35	0.35		0.45		0.42		0.42	0.62	0.62									
Slim duct (with drain pump) (AM✻✻✻KNLDE✻✻)							0.35	0.35		0.45		0.42		0.42	0.62	0.62									
MSP duct (AM✻✻✻✻NMDE✻✻)			0.24	0.24		0.24	0.28	0.28		0.28		0.32		0.54	0.68	0.68	0.91								
MSP duct (with drain pump) (AM✻✻✻KNMDE✻✻)			0.24	0.24		0.24	0.28	0.28		0.28		0.32		0.54	0.68	0.68	0.91								
Home Duct (AM✻✻✻KNLDEH)		0.13	0.13	0.13		0.17																			
Ceiling (AM✻✻✻FNCDE✻✻ / AM✻✻✻JNCDK✻✻)								0.39		0.39				0.56		0.95									
Console (AM✻✻✻✻NJDE✻✻)			0.16	0.27		0.27	0.27	0.27																	
Neo forte (AM✻✻✻FNTDE✻✻)	0.24		0.24	0.24		0.24		0.36		0.36															
Neo forte (with EEV) (AM✻✻✻FNQDE✻✻)	0.34		0.34	0.34		0.34	0.51	0.51		0.51															
AR5000 (AM✻✻✻JNADK✻✻)	0.16		0.16	0.19		0.25	0.25	0.52		0.52	0.52														
AR5000 (with EEV) (AM✻✻✻JNVDK✻✻)	0.22		0.22	0.25		0.34	0.34	0.71		0.71	0.71														
New Boracay (AM✻✻✻KNTDE✻✻)	0.24		0.24	0.32		0.32	0.49	0.49		0.49															
New Boracay (with EEV) (AM✻✻✻KNQDE✻✻)	0.24		0.24	0.32		0.32	0.49	0.49		0.49															
MAX 4 (with EEV) (AM✻✻✻MNQDE✻✻)													0.49												
HSP duct (AM✻✻✻FNHDE✻✻)														0.68	0.68	0.68			1.18		1.18				
OAP duct (AM✻✻✻JNEPE✻✻)																0.68			1.18		1.18				
Big duct (AM✻✻✻JNHFK✻✻)																		1.15		1.15					
Hydro Unit HE (AM✻✻✻FNBD✻✻)																	0.6					0.7	1.2		
Hydro Unit HT (AM✻✻✻FNBF✻✻)	0.6 note1)																								
MCU (MCU-S✻NE✻✻N)	0.5																								

► If AHU kit is included among the indoor units, you must add 0.063kg of refrigerant for every 1kW of the AHU capacity increase.

Note1) In case the capacity conjunction of the Hydro Unit HT exceeds 50 % among the total indoor unit, please don't put the additional refrigerant.

10. Installation

Refrigerant pipe installation

▶ Method to calculate total amount of additional refrigerant

- Amount of additional refrigerant depending on the pipe length (ⓐ)
- Amount of additional refrigerant for each indoor unit (ⓑ) = ∑(Amount of additional refrigerant for each connected indoor unit) ✳ Refer to the table
- Total amount of additional refrigerant = ⓐ+ⓑ

✳ Sum of total amount of additional refrigerant and the basic amount of refrigerant should not exceed 100kg. If the refrigerant exceeds 100kg, separate the module so that weight of the refrigerant doesn't exceed 100kg.

Ex.) For AM200FXVAG✳, basic amount of refrigerant is 8.4kg, therefore total amount of additional refrigerant (ⓐ+ⓑ) should not exceed 91.6 kg.

▶ Example of refrigerant calculation for HP models

Classification	Size of liquid pipe	Length (m)	Unit amount of refrigerant (kg/m)	Amount of additional refrigerant (kg)	Total amount of additional refrigerant (kg)
		①	②	①×②	∑(①×②)
Liquid pipe (ⓐ)	Ø 6.35	35	0.02	0.7	ⓐ 5.575
	Ø 9.52	50	0.06	3.0	
	Ø 12.70	15	0.125	1.875	

Classification	Model name of indoor unit	Number of units	Unit amount of refrigerant (kg/EA)	Amount of additional refrigerant (kg)	Total amount of additional refrigerant (kg)
		①	②	①×②	∑(①×②)
Indoor unit (ⓑ)	4way cassette (AM071FN4DEH✳)	4	0.45	1.80	ⓑ 3.10
	Slim duct (AM056FNLDEH✳)	2	0.35	0.70	
	Slim duct (AM045FNLDEH✳)	1	0.35	0.35	
	1way cassette (AM036FN1DEH✳)	1	0.25	0.25	

- Total amount of refrigerant (ⓐ+ⓑ) = 5.575+3.10 = 8.675 (kg)

▶ Example of refrigerant calculation for HR models

Classification	Size of liquid pipe	Length (m)	Unit amount of refrigerant (kg/m)	Amount of additional refrigerant (kg)	Total amount of additional refrigerant (kg)
		①	②	①×②	∑(①×②)
Liquid pipe (ⓐ)	Ø 6.35	15	0.02	0.3	ⓐ 11.965
	Ø 9.52	112	0.06	6.72	
	Ø 12.70	25	0.125	3.125	
	Ø 15.88	10	0.18	1.8	
	Ø 6.35 (EEV Kit ~ indoor unit)	2	0.01	0.02	

10. Installation

Refrigerant pipe installation

Classification	Model name of indoor unit	Number of units	Unit amount of refrigerant (kg/EA)	Amount of additional refrigerant (kg)	Total amount of additional refrigerant (kg)
		①	②	①×②	∑(①×②)
Indoor unit (ⓑ)	4way cassette (AM071FN4DEH✳)	5	0.45	2.25	ⓑ 4.66
	4way cassette (AM112FN4DEH✳)	2	0.57	1.14	
	Neo forte (AM028FNTDEH✳)	1	0.27	0.27	
	MCU	2	0.5	1	

- Total amount of refrigerant (ⓐ+ⓑ) = 11.965+4.66 = 16.625 (kg)

Temper grade and minimum thickness of the refrigerant pipe

Outer diameter (mm)	Minimum thickness (mm)	Temper grade
Ø 6.35	0.70	Annealed
Ø 9.52	0.70	
Ø 12.70	0.80	
Ø 15.88	1.00	
Ø 19.05	0.90	Drawn
Ø 22.22	0.90	
Ø 25.40	1.00	
Ø 28.58	1.10	
Ø 31.75	1.10	
Ø 34.92	1.21	
Ø 38.10	1.35	
Ø 41.28	1.43	
Ø 44.45	1.60	
Ø 50.80	2.00	
Ø 53.98	2.10	

CAUTION

- For pipes larger than Ø 19.05, drawn type (C1220T-1/2H or C1220T-H) type copper pipe must be used. If a annealed type (C1220T-O) copper pipe is used, pipe may break due to its low pressure resistance and cause personal injury.

10. Installation

Refrigerant pipe installation

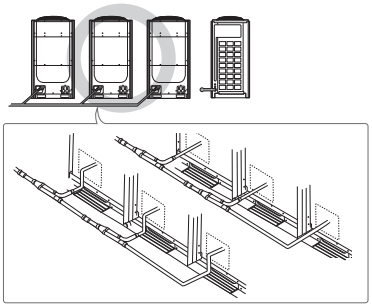
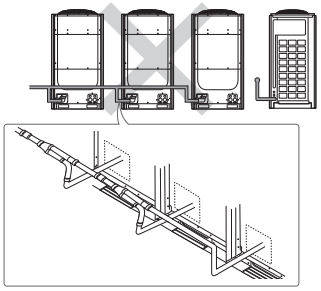
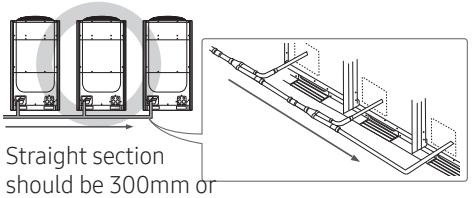
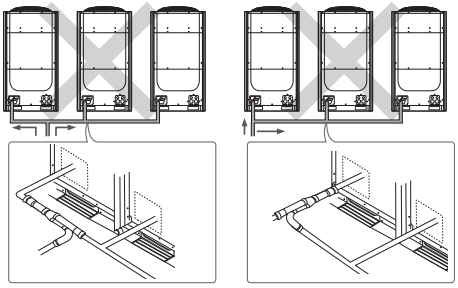
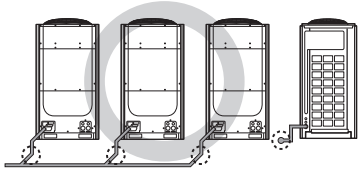
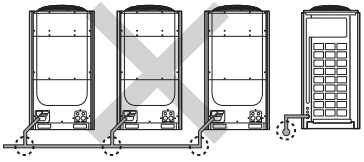
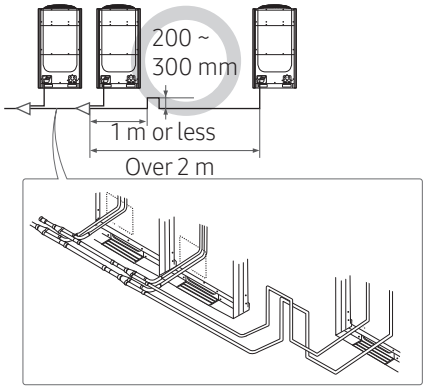
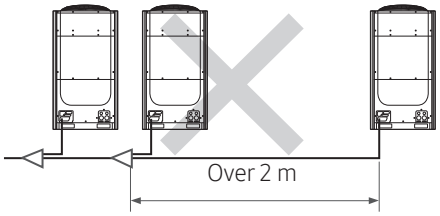
Additional refrigerant

Pipe installation between the outdoor units

- ▶ You will need branch joints, which is an optional accessory, for connecting in between outdoor units in order to combine outdoor units in module.

✳ For optimal distribution of the refrigerant, you must use Y-joint as branch joint for connecting outdoor units. (Do not use T-joint)

- ▶ When you install the outdoor units in module, there is no restriction of installation order among outdoor units.
- ▶ Height of the connection pipe should be same or lower than the ones connected to the outdoor units.
- ▶ Check the changes in comparison with the DVM II, III and IV.

Caution	Correct installation	Incorrect installation
Refrigerant pipes should be connected at the same or lower level than the ones connected to the outdoor unit.		
Refrigerant pipes must be connected by the side of the product.		
Branch joint between outdoor units must be installed horizontally.		
When the piping length between outdoor unit and the branch joint exceeds 2m, install a vertical trap as show in the figure.		

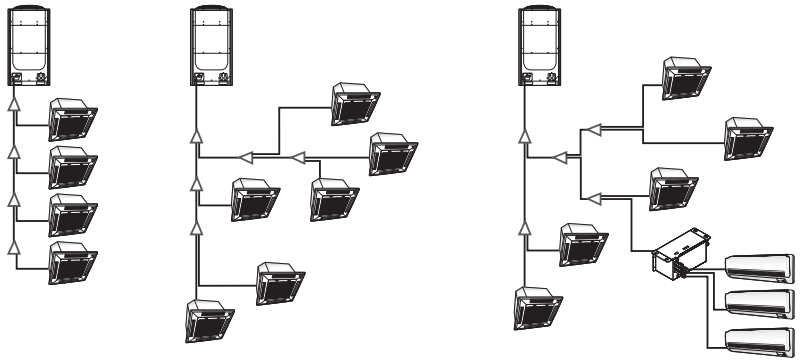
10. Installation

Refrigerant pipe installation

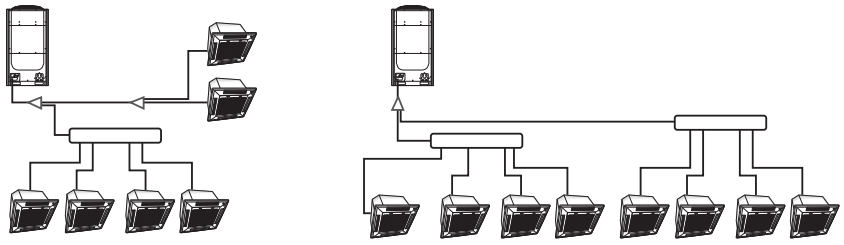
Examples of refrigerant pipe installation

H/P

1. Using Y-joint

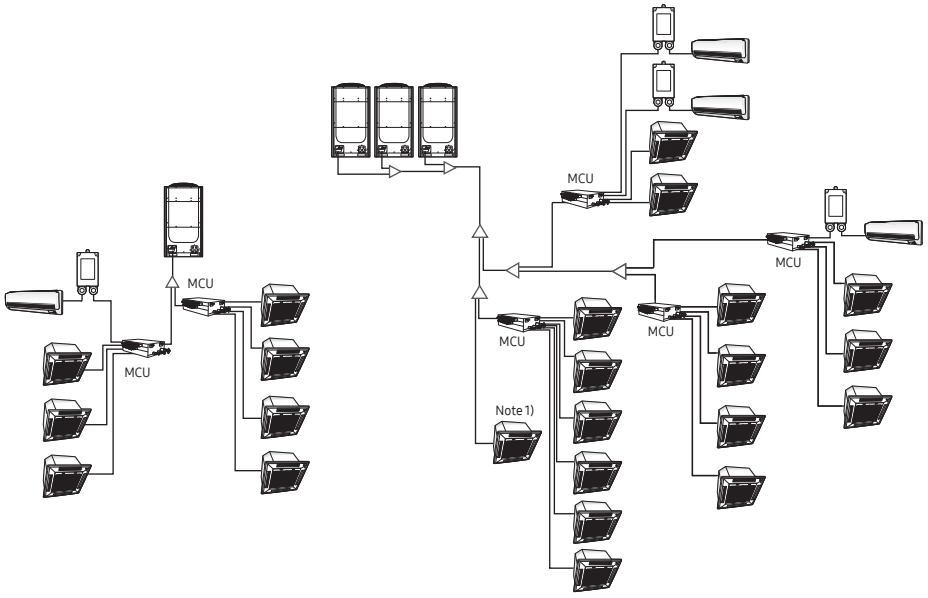


2. Using distribution header



H/R

Using Y-joint



Note 1) Direct-connected indoor unit without MCU (for HR only)

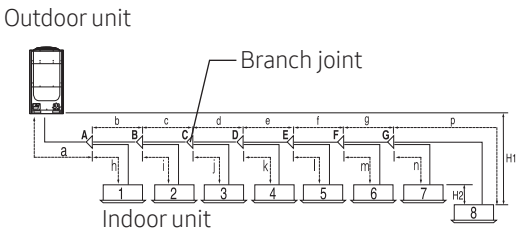
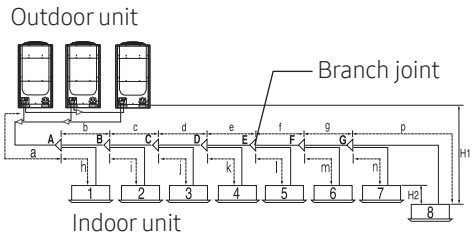
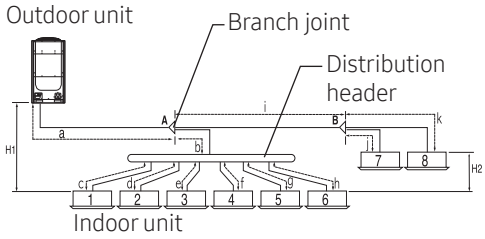
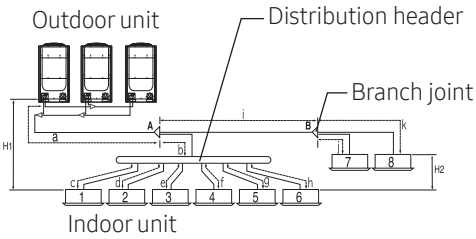
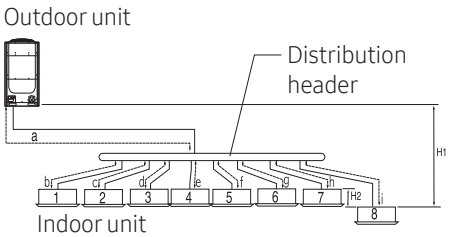
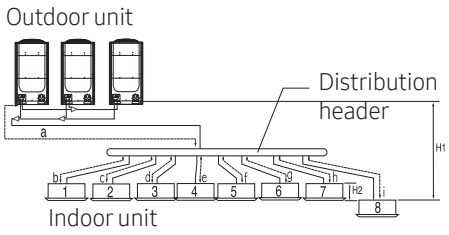
- This indoor unit can only be used for cooling operation. (Heating operation is not possible.)
- Connect indoor unit to liquid and low pressure gas pipe.
- Change the installation option for direct-connected indoor unit without MCU. (refer to the indoor unit installation manual)

10. Installation

Refrigerant pipe installation

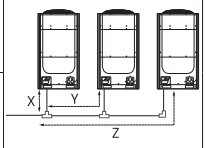
Allowable length of the refrigerant pipe and the installation examples

H/P

Classification	Single Installation	Module installation
Installing only with Y-joint		
Installing with Y-joint and distribution header		
Installing only with distribution header		

10. Installation

Refrigerant pipe installation

<table>
<tr><th colspan="5">Classification</th><th colspan="2">Example</th><th>Remarks</th></tr>
<tr><td rowspan="7">Maximum allowable length of pipe</td><td rowspan="6">Outdoor unit ~ Indoor unit</td><td rowspan="3">Actual length (Equivalent length)</td><td rowspan="3">200m and below (220m and below)</td><td>Installing only with Y-joint</td><td>a+b+c+d+e+f+g+p ≤ 200m(220m)</td><td rowspan="3">Equivalent length
Y-joint: 0.5 m,
Distribution header: 1 m</td></tr>
<tr><td>Installing with Y-joint and distribution header</td><td>a+b+h ≤ 200m (220m),
a+i+k ≤ 200m (220m)</td></tr>
<tr><td>Installing only with distribution header</td><td>a+i ≤ 200m (220m)</td></tr>
<tr><td rowspan="3">Total length of pipe (m)</td><td rowspan="3">1,000 m or less</td><td>Installing only with Y-joint</td><td>a+b+c+d+e+f+g+h+i+
j+k+l+m+n+p ≤ 1000m</td><td>-</td></tr>
<tr><td>Installing with Y-joint and distribution header</td><td>a+b+c+d+e+f+g+h+i+j+k
≤ 1000m</td><td>-</td></tr>
<tr><td>Installing only with distribution header</td><td>a+b+c+d+e+f+g+h+i
≤ 1000m</td><td>-</td></tr>
<tr><td rowspan="2">Outdoor unit ~ Outdoor unit (Module installation)</td><td>Pipe length</td><td>10 m or less</td><td colspan="2">x ≤ 10 m, y ≤ 10 m, z ≤ 10 m</td><td rowspan="2">  </td></tr>
<tr><td>Equivalent length</td><td>13 m or less</td><td colspan="2">x ≤ 13 m, y ≤ 13 m, z ≤ 13 m</td></tr>
<tr><td rowspan="2">Maximum allowable height difference of pipe</td><td>Outdoor unit ~ Indoor unit</td><td colspan="2">110/110m Note 2)</td><td colspan="3">H1 ≤ 110/110m</td></tr>
<tr><td>Indoor unit ~ Indoor unit</td><td colspan="2">50m or less</td><td colspan="3">H2 ≤ 50m</td></tr>
<tr><td colspan="8">But, when AM✶✶✶✶NQDEH✶✶✶ / AM✶✶✶JNVDKH✶✶✶ is installed, H2 is 15 m or less.</td></tr>
<tr><td rowspan="4">Maximum allowable length after branch joint</td><td rowspan="4">First branch joint ~ Farthest Indoor unit</td><td rowspan="4">Pipe length</td><td rowspan="3">45 m or less</td><td>Installing only with Y-joint</td><td>b+c+d+e+f+g+p ≤ 45 m</td><td rowspan="3">-</td></tr>
<tr><td>Installing with Y-joint and distribution header</td><td>i+k ≤ 45 m</td></tr>
<tr><td>Installing only with distribution header</td><td>i ≤ 45 m</td></tr>
<tr><td>45 m~ 90 m Note 1)</td><td colspan="2">Required conditions must be satisfied</td><td>-</td></tr>
</table>

10. Installation

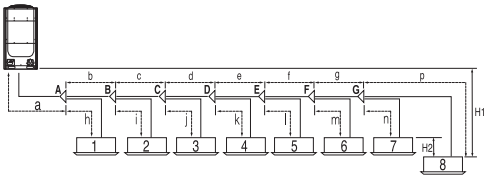
Refrigerant pipe installation

Electrical wiring work

EEV kit			Model name		Remarks
EEV kit ~ Indoor unit	Actual pipe length	2 m	MEV-E24SA	1 indooor	Apply to products without EEV (Wall mount & ceiling)
			MEV-E32SA		
		20 m or less	MXD-E24K132A	2 indooor	
			MXD-E24K200A		
			MXD-E32K200A		
			MXD-E24K232A	3 indooor	
			MXD-E24K300A		
			MXD-E32K224A		
			MXD-E32K300A		

❊ Please refer to the EEV Kit manual.

Note 1) Required condition

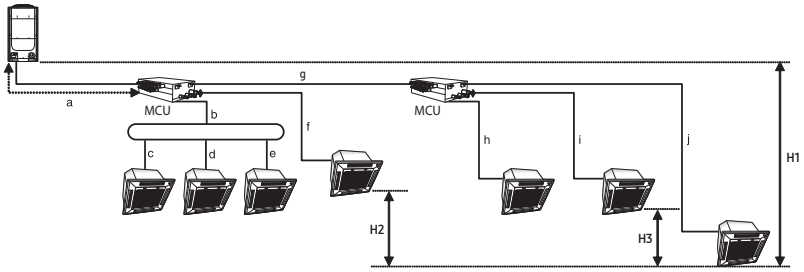
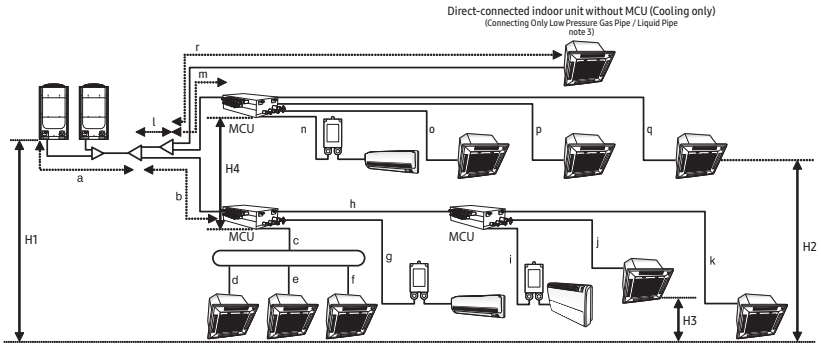
Classification	Condition	Example
First branch joint ~ Farthest Indoor unit	45m ≤ b+c+d+e+f+g+p ≤ 90m: branch pipes (b, c, d, e, f, g) size must be increased by 1 grade	
Total length of extended pipe	If the size of pipe (main pipe), between the first branch joint and the outdoor unit, is not increased by 1 grade, a+(b+c+d+e+f+g)×2 +h+i+j+k+l+m+n+p ≤ 1000 m	
	If the size of pipe (main pipe), between the first branch joint and the outdoor unit, is increased by 1 grade, (a+b+c+d+e+f+g)×2 +h+i+j+k+l+m+n+p ≤ 1000 m	
Each Y-joint ~ Each indoor unit	h, i, j, ... p ≤ 45 m	
Difference between the distance of the outdoor unit to the farthest indoor unit and nearest indoor unit ≤ 45m, (a+b+c+d+e+g+p)-(a+h) ≤ 45m		

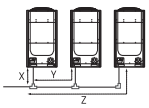
Note 2) When indoor unit is located at higher level than outdoor unit, allowable height difference is 110m, (If the height difference is over 40m, contact your local dealer for more information.)
but when the indoor unit is located at lower level than outdoor unit, allowable height difference is 110m (If the height difference is over 50m, need to decide whether to install PDM kit or not.)
Model name of the PDM kit : MXD-A38K2A, MXD-A12K2A, MXD-A58K2A

10. Installation

Refrigerant pipe installation

H/R

Classification	Installation with Y-joint
Installing with MCU only	
Installing with MCU and Y-joint	

Classification				Example		Remarks
Maximum allowable pipe length	Outdoor unit ~ Indoor unit	Actual pipe length (Equivalent length)	200 m or less (220 m or less)	Installing only with MCU	a+g+j ≤ 200 m (220 m)	Equivalent length Y-joint: 0.5 m Distribution header: 1 m MCU: 1 m
				Installing with MCU and Y-joint	a+b+h+k ≤ 200 m (220 m)	
		Total length of pipe	1000 m or less	Installing only with MCU	a+b+c+d+e+f+g+h+i+j ≤ 1000 m	
				Installing with MCU and Y-joint	a+b+c+...+r ≤ 1000 m	
	Outdoor unit ~ Indoor unit	Pipe length	10 m or less	x ≤ 10 m, y ≤ 10 m, z ≤ 10 m		
		Equivalent length	13 m or less	x ≤ 13 m, y ≤ 13 m, z ≤ 13 m		
	MCU ~ Indoor unit	Pipe length	45 m or less	Installing only with MCU	b+c ≤ 45 m, b+d ≤ 45 m, b+e ≤ 45 m, f≤ 45 m, g+h ≤ 45 m, g+i ≤ 45 m, g+j ≤ 45 m	
				Installing with MCU and Y-joint	c+d, c+e, c+f, g, h+i, h+j, h+k, n, o, p, q, r ≤ 45 m	

10. Installation

Refrigerant pipe installation

<table>
<tr><th colspan="4">Classification</th><th colspan="2">Example</th><th>Remarks</th></tr>
<tr><td rowspan="4">Maximum allowable height difference</td><td>Outdoor unit ~ Indoor unit</td><td rowspan="4">Pipe length</td><td>110 m / 110 m Note 1)</td><td colspan="2">H1 ≤ 110 m / 110 m</td><td></td></tr>
<tr><td rowspan="2">Indoor unit ~ Indoor unit</td><td>40 m or less</td><td colspan="2">H2 ≤ 40 m</td><td rowspan="2"></td></tr>
<tr><td colspan="3">But, when AM✻✻✻✻NQDEH✻ / AM✻✻✻JNV✻ is installed, H2 is 15 m or less.</td></tr>
<tr><td>Indoor unit ~ Indoor unit (in one MCU)</td><td>15 m or less</td><td colspan="2">H3 ≤ 15 m</td><td></td></tr>
<tr><td>MCU ~ MCU</td><td>30 m or less</td><td colspan="2">H4 ≤ 30 m</td><td></td></tr>
<tr><td rowspan="3">Maximum allowable length after branch joint</td><td rowspan="3">First branch joint ~ Farthest Indoor unit</td><td rowspan="3">Pipe length</td><td rowspan="2">45 m or less</td><td>Installing only with MCU</td><td>g+j ≤ 45 m</td><td></td></tr>
<tr><td>Installing with MCU and Y-joint</td><td>b+h+k ≤ 45 m
l+m+q ≤ 45 m
l+r ≤ 45 m</td><td rowspan="2"></td></tr>
<tr><td>45 ~ 90 m Note 2)</td><td colspan="2">Required conditions must be satisfied</td></tr>
</table>

<table>
<tr><th colspan="3">EEV kit</th><th colspan="2">Model name</th><th>Remarks</th></tr>
<tr><td rowspan="10">EEV kit ~ Indoor unit</td><td rowspan="10">Actual pipe length</td><td rowspan="2">2 m</td><td>MEV-E24SA</td><td rowspan="2">1 indooor</td><td rowspan="10">Apply to products without EEV (Wall mount & ceiling)</td></tr>
<tr><td>MEV-E32SA</td></tr>
<tr><td rowspan="8">20 m or less</td><td>MXD-E24K132A</td><td rowspan="3">2 indooor</td></tr>
<tr><td>MXD-E24K200A</td></tr>
<tr><td>MXD-E32K200A</td></tr>
<tr><td>MXD-E24K232A</td><td rowspan="4">3 indooor</td></tr>
<tr><td>MXD-E24K300A</td></tr>
<tr><td>MXD-E32K224A</td></tr>
<tr><td>MXD-E32K300A</td></tr>
</table>

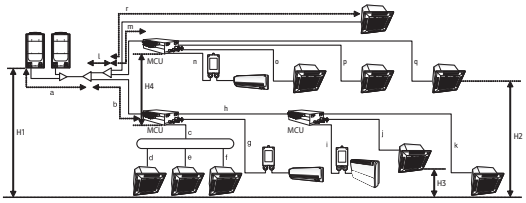
※ Please refer to the EEV Kit manual.

10. Installation

Refrigerant pipe installation

Note 1) When indoor unit is located at higher level than outdoor unit, allowable height difference is 110m, (If the height difference is over 40m, contact your local dealer for more information.) but when the indoor unit is located at lower level than outdoor unit, allowable height difference is 110m (If the height difference is over 50m, need to decide whether to install PDM kit or not.)
Model name of the PDM kit : MXD-A38K2A, MXD-A12K2A, MXD-A58K2A

Note 2) Required condition

Classification	Condition	Example
First branch joint ~ Farthest Indoor unit	45 m ≤ b+h+k, l+m+q, l+r ≤ 90 m : Size of the branch liquid and low pressure gas pipes (b, l, m) must be increased by 1 grade.	
Total length of extended pipe	If the size of pipe (main pipe), between the first branch joint and the outdoor unit, is not increased by 1 grade, a+(b+l+m) x 2+c+d+e+f+g+h+i+j+k+n+o+p+q+r ≤ 1000 m	
	If the size of pipe (main pipe), between the first branch joint and the outdoor unit, is increased by 1 grade, (a+b+l+m) x 2+c+d+e+f+g+h+i+j+k+n+o+p+q+r ≤ 1000 m	
MCU ~ Each indoor unit	c+d, c+e, c+f, g, h+i, h+j, h+k, n, o, p, q, r ≤ 45 m	
Difference between the distance of the outdoor unit to the farthest indoor unit and nearest indoor unit ≤ 45 (a+b+h+k) - (a+b+c+d) ≤ 45		

Note 3) For indoor units to which no MCU is connected, be sure to set their options to “Cooling only indoor unit,” and then connect them to a low pressure gas pipe and a liquid pipe. Be sure to combine the cooling only indoor units so that their total capacity becomes 50% or less of the total capacity of all indoor units.

Note 4) In case of connecting more than one indoor unit in one MCU Port, the below indoor units can not be combined. ERV plus (AM✳✳✳FNKDE✳✳), OAP duct(AM✳✳✳JNEPE✳✳), Hydro Unit HE(AM✳✳✳FNBD✳✳), Hydro Unit HT(AM✳✳✳FNBF✳✳), AHU kit (MXD-K✳✳✳AN, MCM-D✳✳✳N)

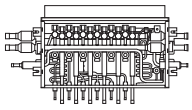
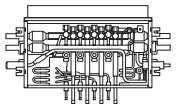
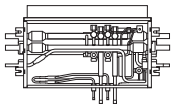
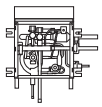
Note 5) In case of connecting two MCU ports with Y-joint, the indoor units can not be combined to more than one.

10. Installation

Refrigerant pipe installation

Installing the MCU

MCU specification

Model	MCU-S6NEK2N	MCU-S4NEK3N	MCU-S2NEK2N	MCU-S1NEK1N
Exterior of MCU				
Number of connectable indoor units at one port	Up to 8 units	Up to 8 units	Up to 8 units	Up to 8 units
The maximum capacity of the connectable indoor units at one port	16 kW	16 kW	16 kW	16 kW
The maximum capacity of the connectable indoor units	61.6 kW	61.6 kW	32.0 kW	16 kW
Internal EEV	Not included			

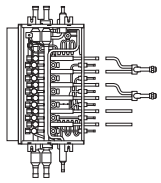
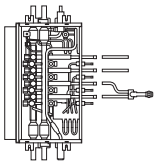
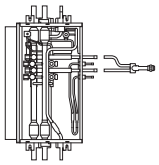
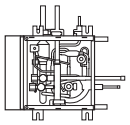
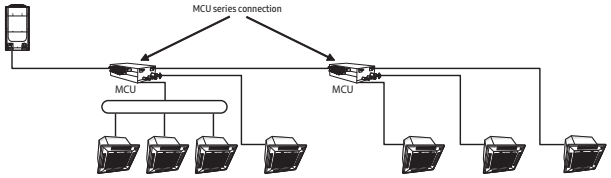
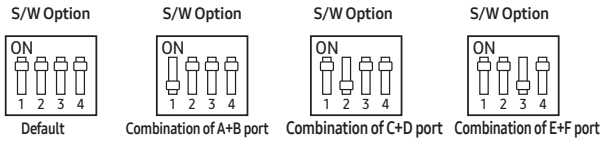
CAUTION

- Indoor units without internal EEV(AM✳✳✳✳NTDE✳, AM✳✳✳✳NADE✳) can not be connected directly to the MCU.
- Please connect these indoor units using EEV kit(MEV-E✳✳SA, MXD-E✳✳K✳✳✳A).

10. Installation

Refrigerant pipe installation

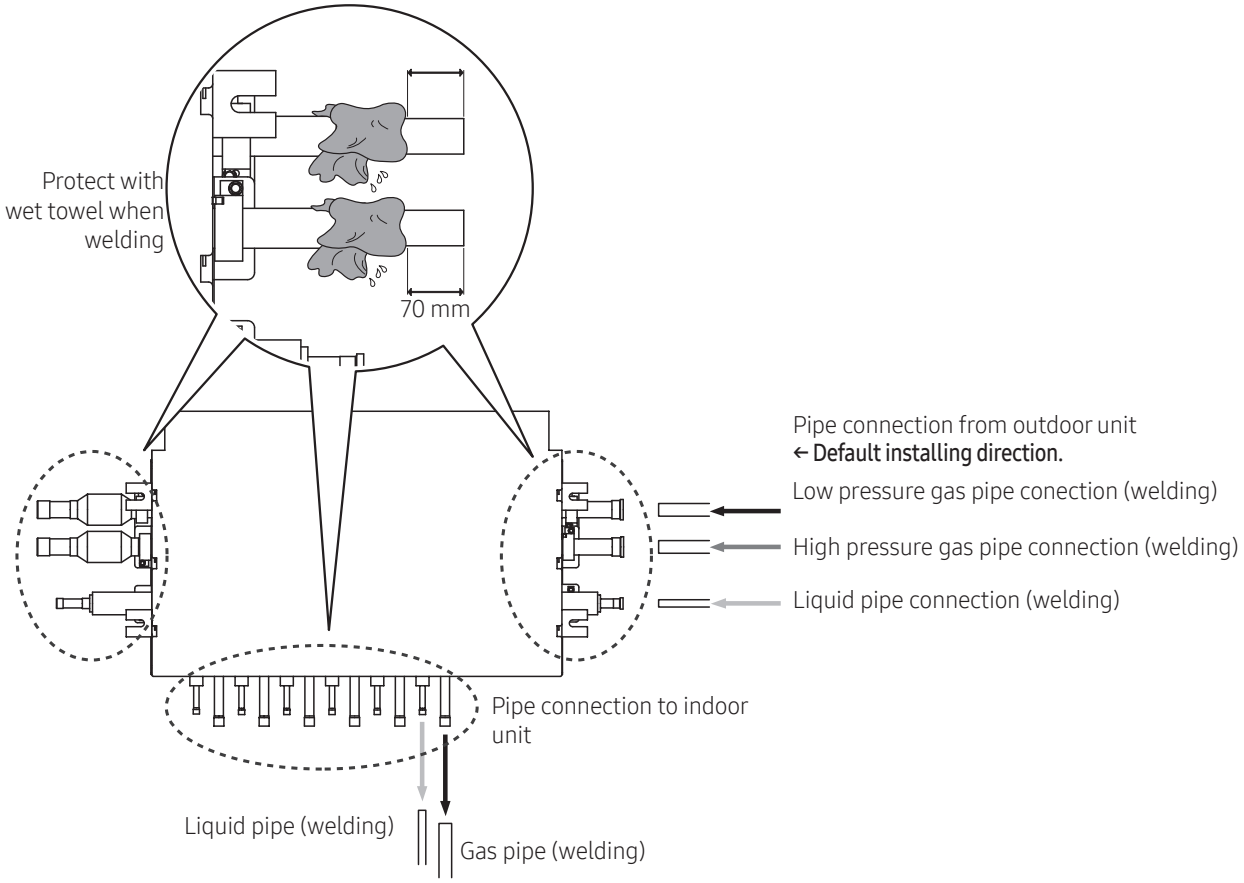
Installing the indoor units

Model	MCU-S6NEK2N	MCU-S4NEK3N	MCU-S2NEK2N	MCU-S1NEK1N
Example installing (Each port connection)				
Example installing (MCU series connection)				
Installing indoor units	Under 16.0 kW indoor unit : Don't use Y-connector 16.0 kW ~ 28.0 kW indoor unit : Use Y-connector at the Gas & Liquid line If you want to continuous cooling operation under -5 °C, set outdoor 'Expand operational temperature range for cooling operation (HR only)', and use Y-connector on 5.0 ~ 16 kW indoor unit In case of using Y-connector, it is only connectable for port combination at below Connectable port combination for Y-connector : A + B port, C + D port, E + F port Non-connectable port combination for Y-connector : B + C port, D + E port, non-continuous port Set Dip Switch option for using Y-connector  In case of MCU connection in series, the maximum capacity of indoor units in MCU series connection is 61.6 kW			This unit is only connectable for one port under 16 Kw This unit is impossible to connect MCU to MCU in series.

10. Installation

Refrigerant pipe installation

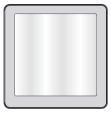
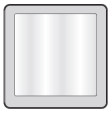
How to connect the pipes



- ✳ When installing MCU, use the pattern sheet for installation that is provided with the product.
- ✳ When welding the gas pipes, protect the product with the flame-proof sheet.
- ✳ When connecting the MCU with outdoor units, default direction is set in the MCU.
  If installing opposite direction, weld the enclosed copper cap in each high pressure, low pressure and liquid pipes.

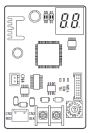
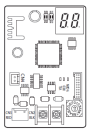
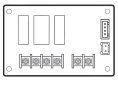
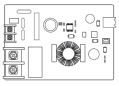
11. Accessory

Controller

Classification	Product	Model	Image	Remark	Using
Individual Control System	Wireless Remote Controller	MR-EH00			DVM, CAC
	Wireless Remote Controller	AR-KH00E		360 CST Only	DVM, CAC
	Wired Remote Controller	MWR-WE11N			DVM, CAC
	Wired Remote Controller - Simple Type	MWR-SH00N			DVM, CAC
	Wired Remote Controller - Touch Simple Type	MWR-SH10N			DVM, CAC
	ERV Wired Remote Controller	MWR-VH12N		ERV Olny	DVM, CAC
	Wired Remote Controller	MWR-WW00N		EHS Only	EHS
	Receiver KIT	MRK-A10N			DVM, CAC
	Zone Controller	MWR-ZS00N		Master controller + Damper controller	DVM, CAC
	Zone Controller	MWR-ZS10N		Slave controller	DVM, CAC
	Zone Controller	MRW-TS		External room sensor	DVM, CAC

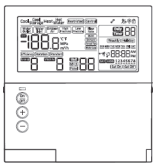
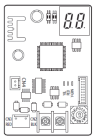
11. Accessory

Controller

Classification	Product	Model	Image	Remark	Using
Centralized Control System	Onoff Controller	MCM-A202DN			DVM, CAC
	Touch Centralized Controller	MCM-A300N			DVM, CAC
	WIFI KIT	MIM-H03N			DVM, CAC
	Interface Module	MIM-N01			DVM, CAC
	ERV Interface Module	MIM-N10			DVM, CAC
Integrated management System	DMS2.5	MIM-D01AN			DVM, CAC
	S-NET3	MST-P3P			DVM, CAC
Gate Way	BACnet Gateway	MIM-B17BN			DVM, CAC
	Lonworks Gateway	MIM-B18BN			DVM, CAC
	External Contact Interface Module	MIM-B14			DVM, CAC
	MTFC (Multi Tenant Function Controller)	MCM-C210N			DVM
	SIM (Signal Interface Module)	MIM-B12N			DVM, CAC
	PIM (Pulse Interface Module)	MIM-B16N			DVM, CAC

11. Accessory

Controller

Classification	Product	Model	Image	Remark	Using
Installation /Test run Solution	S-Converter	MIM-C02N			DVM, CAC
Others	External Room Sensor	MRW-TA			DVM, CAC
	Operation Mode Selection Switch	MCM-C200			DVM
	Module Controller	MCM-A00N		CHILLER Only	CHILLER
	FCU Interface Module	MIM-F10N		CHILLER Only	CHILLER

NOTE

- In case you want more information about the accessories, please refer to the control and accessories TDB on pvi.Samsung.com site.

11. Accessory

Controller & Control Accessory Compatibility

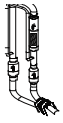
Item		NASA (DVM S)	Non-NASA (DVM +3/+4)	Remark
Individual Control System	Wireless Remote Controller	MR-EH00	MR-EH00	DVM, CAC
	Wireless Remote Controller	AR-KH00E	AR-KH00E	DVM, CAC (360 CST)
	Wired Remote Controller	MWR-WE11N	MWR-WE10	DVM, CAC
	Wired Remote Controller - Simple Type	MWR-SH00N	MWR-SH00	DVM, CAC
	Wired Remote Controller - Touch Simple Type	MWR-SH10N	-	DVM, CAC
	ERV Wired Remote Controller	MWR-VH12N	-	DVM, CAC (ERV)
	Wired Remote Controller	MWR-WW00N	MWR-WW00	EHS
	Receiver KIT	MRK-A10N	-	DVM, CAC
	Zone Controller	MWR-ZS00N	MWR-ZS00	DVM, CAC
	Zone Controller	MWR-ZS10N	MWR-ZS10	DVM, CAC
	Zone Controller	MRW-TS	MRW-TS	DVM, CAC
Centralized Control System	Onoff Controller	MCM-A202DN	MCM-A202D	DVM, CAC
	Touch Centralized Controller	MCM-A300N	-	DVM, CAC
	WIFI KIT	MIM-H03N	MIM-H03	DVM, CAC
	Interface Module	MIM-N01	MIM-N01	DVM, CAC
	ERV Interface Module	MIM-N10	MIM-N10	DVM, CAC
Integrated management System	DMS2.5	MIM-D01AN	MIM-D00A	DVM, CAC
	S-NET3	MST-P3P	MST-P3P	DVM, CAC
Gate Way	BACnet Gateway	MIM-B17BN	MIM-B17	DVM, CAC
	Lonworks Gateway	MIM-B18BN	MIM-B18	DVM, CAC
	External Contact Interface Module	MIM-B14	MIM-B14	DVM, CAC
	MTFC (Multi Tenant Function Controller)	MCM-C210N	-	
	SIM (Signal Interface Module)	MIM-B12N	MIM-B12	DVM, CAC
	PIM (Pulse Interface Module)	MIM-B16N	MIM-B16	DVM, CAC
	Module Controller	MCM-A00N	-	CHILLER ONLY
	FCU KIT	MIM-F00N	-	CHILLER ONLY
	FCU Interface Module	MIM-F10N	-	CHILLER ONLY
Installation / Test run Solution	S-Converter	MIM-C02N	MIM-C02	DVM, CAC
Others	External Room Sensor	MRW-TA	MRW-TA	DVM, CAC
	Operation Mode Selection Switch	MCM-C200	MCM-C200	DVM

NOTE

- In case you want more information about the accessories, please refer to the control and accessories TDB on pvi.Samsung.com site.

11. Accessory

Piping

Product	Image	Model	Remark
Y-Joint		MXJ-YA1509M	15.0 kW and below
		MXJ-YA2512M	Over 15.0 kW ~ 40.0 kW and below
		MXJ-YA2812M	Over 40.0 kW ~ 45.0 kW and below
		MXJ-YA2815M	Over 45.0 kW ~ 70.3 kW and below
		MXJ-YA3419M	Over 70.3 kW ~ 98.4 kW and below
		MXJ-YA4119M	Over 98.4 kW ~ 135.2 kW and below
		MXJ-YA4422M	Over 135.2 kW
Y-Joint (Only H/R)		MXJ-YA1500M	22.4 kW and below
		MXJ-YA2500M	Over 22.4 kW ~ 70.3 kW and below
		MXJ-YA3100M	Over 70.3 kW ~ 135.2 kW and below
		MXJ-YA3800M	Over 135.2 kW
Y-Joint Outdoor Unit		MXJ-TA3419M	135.2 kW and below
		MXJ-TA4122M	140.2 kW and Over
Y-Joint (Only H/R) Outdoor Unit		MXJ-TA3100M	135.2 kW and below
		MXJ-TA3800M	140.2 kW and Over
Distribution Header		MXJ-HA2512M	45.0 kW and below (for 4 rooms)
		MXJ-HA3115M	70.3 kW and below (for 8 rooms)
		MXJ-HA3819M	Over 70.3 kW ~ 135.2 kW and below (for 8 rooms)
MCU		MCU-S6NEK2N	6 ports, max 61.6kW (~16kW/1port)
		MCU-S4NEK3N	4 ports, max 61.6kW (~16kW/1port)
		MCU-S2NEK2N	2 ports, max 32.0kW (~16kW/1port)
		MCU-S1NEK1N	1 port, max 16.0kW (~16kW/1port)
EEV KIT		MEV-E24SA	1 Indoor
		MEV-E32SA	
		MXD-E24K132A	2 Indoor
		MXD-E24K200A	
		MXD-E32K200A	
		MXD-E24K232A	3 Indoor
		MXD-E24K300A	
		MXD-E32K224A	
		MXD-E32K300A	
PDM KIT		MXD-A38K2A	8~12 HP
		MXD-A12K2A	14~16 HP
		MXD-A58K2A	18~26 HP

NOTE

- In case you want more information about the accessories, please refer to the control and accessories TDB on pvi.Samsung.com site.

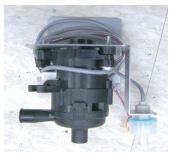
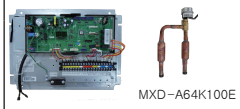
11. Accessory

Indoor unit

Product	Image	Model	Remark
Panel		PC1NUSMAN	1Way CST (JSF-1)
		PC1NUPMAN	1Way CST (JSF-1) (Z-sliding)
		PC1MWSKAN	1Way CST (JSF-0)
		PC1NWSMAN	1Way CST (JSF-1)
		PC1BWSMAN	1Way CST (JSF-2)
		PC2NUSMEN	2Way Cassette
		PC4SUSMAN	4Way Cassette S (600x600) (Waffle)
		PC4SUSMEN	4Way Cassette S (600x600) (Classic)
		PC4NUSKAN	4way Cassette S (Waffle)
		PC4NUSKEN	4way Cassette S (Classic)
		PC4NBSKAN	4way Cassette S (Waffle, Black)
		PC4NUDMAN	360 CST Square (White)
		PC4NUNMAN	360 CST Circular (White)
		PC4NBDMAN	360 CST Square (Black)
		PC4NBNMAN	360 CST Circular (Black)
S-Plasma Ion KIT		MSD-CAN1	[Option] 1Way, 4Way, 4Way (600x600), 360, Big Ceiling [Include] Console
		MSD-EAN1	[Option] Duct S, Big Duct, ERV, ERV Plus
Motion detect Sensor		MCR-SMA	4Way Cassette S (600x600)

11. Accessory

Indoor unit

Product	Image	Model	Remark			
ERV CO2 Sensor		MOS-C1	ERV, ERV PLUS			
External room sensor		MRW-TA	Casssette, Wall-mount, Ceiling, Duct, Console			
Drain Pump		MDP-N047SNC0D	OAP Duct (14.0 kW)			
		MDP-N047SNC1D	HSP Duct (22.0 / 28.0 kW) OAP Duct (22.4 / 28.0 kW)			
		MDP-M075SGU1D	MSP-0 / 1 Duct (9.2 / 11.2 kW)			
		MDP-M075SGU2D	MSP-2 Duct (12.8 / 14.0 kW) HSP Duct (11.2 / 12.8 / 14.0 kW)			
		MDP-M075SGU3D	MSP-S Duct (5.6 / 7.1 kW)			
		MDP-E075SEE3D	Slim Duct (2.0~14.0 kW)			
		MDP-G075SP	Duct S (External, All Capacities) BIG Duct			
		MDP-G075SQ	Duct S (Internal, 3.5 kW~14 kW) BIG Duct			
AHU KIT		MXD-K025AN	7.0 kW~8.75 kW			
		MXD-K050AN	14.0 kW~17.5 kW			
		MXD-K075AN	21.0 kW~26.25 kW			
		MXD-K100AN	28.0 kW~35.0 kW			
		MCM-D201N	28kW~35kW	56kW~70kW	84kW~105kW	112kW~140kW
			MDX-A64K100E X 1 EA	MDX-A64K100E X 2 EA	MDX-A64K100E X 3 EA	MDX-A64K100E X 4 EA

NOTE

- In case you want more information about the accessories, please refer to the control and accessories TDB on pvi.Samsung.com site.

11. Accessory

Indoor unit's Accessory Compatibility

Product	Model	Remark	1way			2way	4way	360	Mini 4way	Slim duct	MSP Duct				Duct-S	Big Duct	HSP Duct	OAP Duct		RAC	Ceiling	B-Ceiling	Console	PAC	Floor Standing	ERV Plus	AHU
			JSF-0	JSF-1	JSF-2						MSP-S	MSP-0	MSP-1	MSP-2				5HP	8,10HP								
Panel	PC4NUDMAN	Ceiling						O																			
	PC4NBDMAN	Ceiling (Black)						O																			
	PC4NUNMAN	Open						O																			
	PC4NBNMAN	Open (Black)						O																			
	PC4NUSKAN	Waffle					O																				
	PC4NBSKAN	Waffle (Black)					O																				
	PC4NUSKEN	Classic					O																				
	PC4SUSMAN	Waffle							O																		
	PC4SUSMEN	Classic							O																		
	PC1NUSMAN	Stripe		O																							
	PC1NUPMAN	Z-Slide		O																							
	PC1MWSKAN	Fluid	O																								
	PC1NWSMAN			O																							
	PC1BWSMAN				O																						
	PC2NUSMEN	Stripe				O																					
DRAIN PUMP	MDP-N047SNC0D	-																O									
	MDP-N047SNC1D	-															O		O								
	MDP-M075SGU1D	-										O	O														
	MDP-M075SGU2D	-												O													
	MDP-M075SGU3D	-									O																
	MDP-E075SEE3D	-								O																	
	MDP-G075SP	External, All Capacities													O	O											
	MDP-G075SQ	Internal													O	O											
S-Plasma Ion KIT	MSD-CAN1	-					O		O																		
	MSD-EAN1	-																								O	
Motion detect Sensor	MCR-SMA	-							O																		
ERV CO2 Sensor	MOS-C1	-																								O	
EEV KITS	MEV-E**SA	1 Indoor																		O							
	MXD-E**K***A	2,3 Indoor																		O							
MCU-KIT	MCU-S6NEK2N	6 ports, max 61.6kW	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O			O	O	O	O	O	O	O	O
	MCU-S4NEK3N	4 ports, max 61.6kW	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O			O	O	O	O	O	O	O	O
	MCU-S2NEK2N	2 ports, max 32.0kW	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O			O	O	O	O	O	O	O	O
	MCU-S1NEK1N	1 port, max 16.0kW	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O			O	O	O	O	O	O	O	O
AHU-KIT	MXD-K025AN	only for 2.5Hp's AHU																									O
	MXD-K050AN	only for 5Hp's AHU																									O
	MXD-K075AN	only for 7.5Hp's AHU																									O
	MXD-K100AN	only for 10Hp's AHU																									O
	MCM-D201N	only for 10~40Hp's AHU																									O

NOTE

- In case you want to know more information the accessories, please refer to the control and accessories TDB on pvi.samsung.com site

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