Manualslib.com - The Global Manuals Library

SAMSUNG AE CXYB K/EU SERIES TECHNICAL DATA BOOK

Table of Contents

Features And Benefits
Table of Contents
Line-up
Outdoor Units
Specifications
Outdoor Units
Electrical characteristics
Dimensional drawing
Center of Gravity
Electrical wiring diagram
Sound data
Sound Pressure Level
Sound Power Level
Operation range
Piping diagram
Capacity table
Silent mode corrections
Installation
Safety Zone
Mounting the outdoor unit
General area
Tightening torque
Connecting the water pipes
Installation Height
Outdoor wiring
Refrigerant type
Other ManualsLib Projects

SAMSUNG

EHS Technical Data Book

EHS Mono R290 Pump for Europe (R290, 50Hz, HP)



99% Lower GWP R290

Model : AE***CXYB*K/EU

History

Version	Modification	Date	Remark
Ver.1.0	Released EHS Mono R290 Pump for Europe TDB	23. 09. 05	
Ver.1.1	Updated the final specification	23. 10. 10	

Nomenclature

Model Name

AE	160	C	X	Y	B	G	K	/	EU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		Buyer

(1) Classification

AE	EHS

(2) Capacity

X 1/10 kW (3 digits)

(3) Version

C	2023

(4) Product Type

N	Indoor Unit
X	Outdoor Unit

(5) Feature 1

Y	MONO

(6) Feature 2

B	EHS Mono R290 Pump

(7) Rating Voltage

E	220~240V, 50Hz, 1Φ
G	380~415V, 50Hz, 3Φ

(8) Mode

K	Heat Pump (R290)

Features & Benefits

EHS Mono R290 Pump



R290 Refrigerant

The natural R290 refrigerant has an Ozone Depletion Potential (ODP) of zero and a Global Warming Potential (GWP) of 3, which is lower than conventional R32 or R410A refrigerants*. It also has a reinforced design with 5 layers of safety features to reduce the risks of using the R290 refrigerant.



* GWP by refrigerant: R290 = 3, R32 = 675, R410A = 2088.



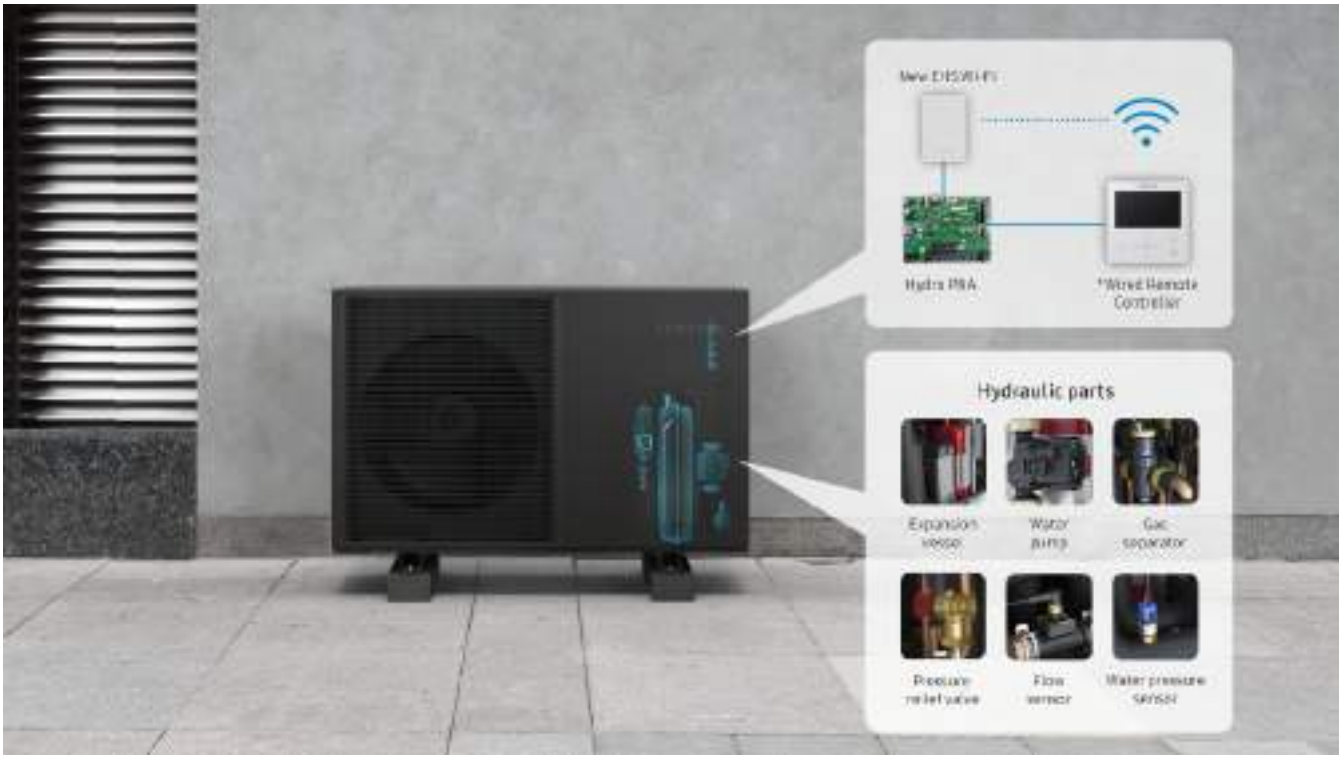
Creates extremely hot water – up to 75°C

Enjoy a supply of extremely hot leaving water of up to 75°C*, which enables effective convection heating and provides sanitary water. It improves energy efficiency**, as it can supply sanitary water of up to 70°C*** using only a Heatpump. And it is hot enough to kill Legionella bacteria****.

* Leaving water temperature from an outdoor unit is 75°C when the outdoor temperature is -10~35°C. Sanitary water leaving a DHW tank is 70°C when the outdoor temperature is -10~43°C. Results may vary depending on the actual usage conditions.
** Based on internal testing compared to a conventional model AE***RXYD*G/EU.
*** Leaving water temperature of sanitary hot water, when the outdoor temperature is between -10~43°C. If the outdoor temperature is lower than -10°C, a Booster Heater is required. Results may vary depending on the actual usage conditions.
**** Sanitary hot water should be stored at 60°C or higher in order to kill Legionella bacteria.

Features & Benefits

EHS Mono R290 Pump



Save time installing
Convenience in Installation

Install the system and check the water pressure easily. All of the parts for the water piping, like the pump and expansion tank, are fitted inside, which reduces the installation time and space. And a water pressure sensor lets you conveniently monitor the water pressure on a remote controller.



Features & Benefits

EHS Mono R290 Pump



Adjustable, 4-step, low-noise operation
Low Sound Level of 35dB(A)

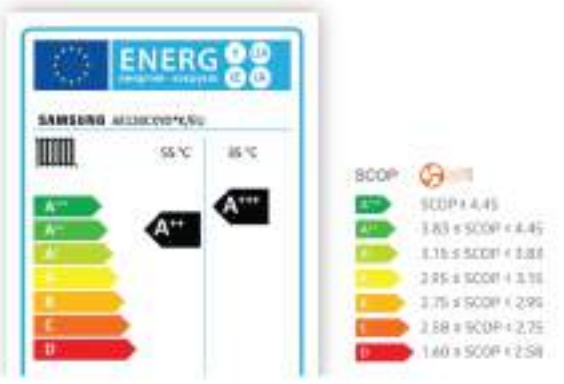
Make less noise whenever you need. The 4-Step Quiet mode* enables adjustable low-noise operation to meet the noise level regulations in European countries. Simply select from four different steps and reduce the sound level by 3dB, 5dB, 7dB or keep it as low as 35dBA*** to reduce disturbance.

* The heating performance may be reduced when operating in Quiet mode.
** The Technical Instructions on Noise Abatement (German: TA-Lärm) contain regulations for protecting the general public or neighborhood from noise emissions.
*** Based on internal testing. The noise level is measured 3m away from the front of the outdoor unit. Results may vary depending on environmental factors and individual use.

Enhanced efficiency
High Efficiency (SCOP A+++)

Enjoy consistently high energy savings. It has an enhanced Seasonal Coefficient of Performance (SCOP) A+++ energy efficiency rating across the whole range of capacities*. It has been increased by up to14%** compared to conventional models and is up to15% more than the A+++ rating criteria***.

* Based on internal testing when generating 35°C water, in accordance with EN14825. Results may vary depending on the system configuration and actual usage conditions.
** Based on internal testing when generating 35°C water using an EHS R290 Mono 5kW model, AE050CXYDEK/EU (SCOP: 5.10), compared to an EHS R32 Mono model of the same capacity, AE050RXYDEG/EU (SCOP: 4.46).
*** Based on internal testing when generating 35°C water using an EHS R290 Mono 5kW model, AE050CXYDEK/EU (SCOP: 5.10), compared to the criteria of A+++, SCOP≧ 4.45.



Contents

1. Line-up 8

2. Outdoor Units 9

2-1. Specifications 9
2-2. Electrical characteristics 15
2-3. Dimensional drawing 16
2-4. Center of Gravity 18
2-5. Electrical wiring diagram 20
2-6. Sound data 22
2-7. Operation range 27
2-8. Piping diagram 28
2-9. Capacity table 30
2-10. Silent mode corrections 31

3. Installation 32

1.Line-up

1-1. Outdoor unit

Capacity		5.0 kW	8.0 kW	12.0 kW	16.0 kW
Image					
Model	1 phase	AE050CXYBEK/EU	AE080CXYBEK/EU	AE120CXYBEK/EU	AE160CXYBEK/EU
	3 phase	-	AE080CXYBGK/EU	AE120CXYBGK/EU	AE160CXYBGK/EU

2. Outdoor Units

2-1. Specifications

Model Name					-	AE050CXYBEK/EU	AE080CXYBEK/EU	AE080CXYBGK/EU
Power Supply					Φ, #, V, Hz	1, 2, 220~240, 50	1, 2, 220~240, 50	3, 4, 380~415, 50
System	Mode				-	Heat Pump (A2W)	Heat Pump (A2W)	Heat Pump (A2W)
	Performance	Capacity	Heating	A2W Condition #1.	W	5,000	8,000	8,000
				(A7/W35) [1]*	Btu/h	17,100	27,300	27,300
				A2W condition #2	W	5,000	8,000	8,000
				A2W condition #3		5,000	8,000	8,000
				A2/W35 [4]*		5,000	8,000	8,000
				A-7/W35 [4]*		5,000	8,000	8,000
			Cooling	A2W Condition #1.	W	5,000	8,000	8,000
				(A35/W18) [1]*	Btu/h	17,100	27,300	27,300
				A2W condition #2	W	3,900	5,700	5,700
	Power	Power Input	Heating	A2W Condition #1. (A7/W35) [1]*	W	980	1,630	1,630
				A2W condition #2		1,320	2,160	2,160
				A2W condition #3		1,610	2,670	2,670
				A2/W35 [4]*		1,160	1,900	1,900
				A-7/W35 [4]*		1,670	2,670	2,670
			Cooling	A2W Condition #1. (A35/W18) [1]*	W	1,280	2,050	2,050
				A2W condition #2		1,279	1,900	1,900
		Current Input	Heating	A2W Condition #1.	A	4.63	7.70	2.56
			Cooling			6.05	9.69	3.22
			Heating	A2W condition #2	A	6.24	10.21	3.39
			Cooling			7.61	12.62	4.19
		Current	MCA		A	16.1	26.0	16.1
			MFA		A	17.6	28.6	17.7
	Efficiency	COP (Nominal Heating) A2W condition #1				5.10	4.91	4.91
		EER (Nominal Cooling) A2W condition #1				3.91	3.90	3.90
		EER (Nominal Cooling) A2W condition #2				3.05	3.00	3.00
		COP		A2W condition #2	W/W	3.8	3.7	3.7
				A2W condition #3		3.1	3.0	3.0
				A2/W35 [4]*		4.3	4.2	4.2
				A-7/W35 [4]*		3.0	3.0	3.0
		PdesignH (LWT 35°C)				5,500	8,000	8,000
		PdesignH (LWT 55°C)				5,500	8,000	8,000
		SCOP (35°C)				5.10	4.85	4.85
		SCOP (55°C)				3.60	3.55	3.55
		SCOP Class (35°C)				A+++	A+++	A+++
		SCOP Class (55°C)				A++	A++	A++
		SEER				4.2	4.3	4.3
	Water Connections	Water Flow Rate (Nominal)		Heating	LPM	14.4	23.1	23.1
				Cooling	LPM	14.4	21.6	21.6
		Water Flow Rate		Min	LPM	7	7	7
				Max	LPM	48	48	48
		Water Pressure (Max)			bar	3	3	3
		Water Pipe Type	threaded male	Inlet	Φ, mm	28	28	28
				Outlet	Φ, mm	28	28	28
		Leaving Water Temperature	Min.~Max	Heating	°C	15 ~ 75	15 ~ 75	15 ~ 75
			Min.~Max	Cooling	°C	5 ~ 25	5 ~ 25	5 ~ 25
			Max.	DHW	°C	70	70	70
	Refrigerant	Type			-	R290	R290	R290
		Factory Charging			kg	630	870	870
					tCO_2e	0.00189	0.00255	0.00255
		Control Method			-	EEV	EEV	EEV
Outdoor Unit	Compressor	Type			-	Rotary	Rotary	Rotary
		Model Name			-	UF8HC5180FEU	UF5HC5260FEX	UF5HC5260FEX
		Oil		Type	-	Mineral	Mineral	Mineral
				Initial Charge	cc	590	850	850
		Quantity			EA	1	1	1
		Output			W	1551	2236	2236
		Starting method			-	Inverter driven	Inverter driven	Inverter driven
	Heat exchanger	Length			mm	986/957/928	986/957/928	986/957/928
		Rows	Quantity		EA	2	3	3
		Fin pitch			mm	1.5	1.5	1.5
		Passes	Quantity		EA	6-6	9-9	9-9
		Face area			m^2	0.79	0.79	0.79
		Stages	Quantity		EA	38	38	38
		Tube type			Φ	7	7	7
		Fin	Type		-	Corrugate	Corrugate	Corrugate
			Treatment		-	Anti Salt	Anti Salt	Anti Salt
	Water Heat Exchanger	Type			-	Brazed Plate Exchager	Brazed Plate Exchager	Brazed Plate Exchager
		Quantity			EA	1	1	1
		Internal water volume			L	0.588	0.588	1.008

2. Outdoor Units

2-1. Specifications

Model Name					-	AE050CXYBEK/EU	AE080CXYBEK/EU	AE080CXYBGK/EU
Outdoor Unit	Fan	Type			-	Propeller Fan	Propeller Fan	Propeller Fan
		Discharge direction				Horizontal	Horizontal	Horizontal
		Air Flow Rate		Heating	m³/min	52	65	65
				Cooling	m³/min	55	69	69
		Quantity			EA	1	1	1
	Fan motor	Quantity			EA	1	1	1
		Model			-	FMDC531SSJ	FMDC531SSJ	FMDC531SSJ
		Output			W	125	125	125
		Drive			-	Direct drive	Direct drive	Direct drive
		Speed	Heating		rpm	550	720	720
			Cooling		rpm	580	760	760
	Base Heater				W	150	150	150
	Water Pump	Model Name			-	UPM4K25-75/130	UPM4K25-75/130	UPM4K25-75/130
		Motor Input		Max	W	60	60	60
		Quantity			EA	1	1	1
	Backup Heater	Power			kW	2/4/6 (Option)	2/4/6 (Option)	2/4/6 (Option)
	Safety device	Pressure relief valve			bar	2.9	2.9	2.9
		Flow Sensor			LPM	○(5~60)	○(5~60)	○(5~60)
	Expansion vessel	Internal water volume			liter	10	10	10
		Working pressure			MPa	0.3	0.3	0.3
	Air vent				-	Gas seperator	Gas seperator	Gas seperator
	Water Pressure Sensor				-	○	○	○
	Strainer				-	○	○	○
	Sound Level	Sound Pressure Level		Heating	dB(A)	41	45	45
				Cooling	dB(A)	41	45	45
				Night Mode(3m)	dB(A)	35	35	35
		Sound Power Level		Heating	dB(A)	55	59	59
				Cooling	dB(A)	55	59	59
	Connections	Water pipe		inlet	-	BSPP male 1"	BSPP male 1"	BSPP male 1"
				outlet	-	BSPP male 1"	BSPP male 1"	BSPP male 1"
	Casing	Color			-	Shadow Gray	Shadow Gray	Shadow Gray
		Material			-	GI-SGCC	GI-SGCC	GI-SGCC
	Packing	Material			-	EPS/BOX	EPS/BOX	EPS/BOX
		Weight			kg	13	13	13
	External Dimension	Net Weight			kg	113	125	125
		Shipping Weight			kg	131	143	143
		Net Dimensions (WxHxD)			mm	1,270 × 850 × 500	1,270 × 850 × 500	1,270 × 850 × 500
		Shipping Dimensions (WxHxD)			mm	1,330 × 1,018 × 630	1,330 × 1,018 × 630	1,330 × 1,018 × 630
	Operating Temp. Range	Heating			℃	-25 ~ 35	-25 ~ 35	-25 ~ 43
		Cooling			℃	10 ~ 46	10 ~ 46	10 ~ 46
		D.Hot Water			℃	-25 ~ 43	-25 ~ 43	-25 ~ 43
Additional Accessories	Wi-Fi Kit				-	○	○	○
	Shutoff Valve 25A				-	1EA (IN) inc. Filter	1EA (IN) inc. Filter	1EA (IN) inc. Filter
	Temperature Sensor for DHW Tank				-	○	○	○
	Connector Wire -PV Control/Peak power control				-	○	○	○
	Water Pressure Sensor				-	-	-	-
	Gas seperator				-	-	-	-
Function	SD Card Converter				-	○	○	○
	PV / SG Ready				-	○	○	○
	muti zone (2 zone)				-	○	○	○
	Comm Kit (OEM Modbus)				-	-	-	-
	Control Kt (Controller of water part)				-	○	○	○
	Remote Controller				-	Optional Part	Optional Part	Optional Part
	Wi-Fi Enable				-	○ (Wi-Fi Module - Accessory)	○ (Wi-Fi Module - Accessory)	○ (Wi-Fi Module - Accessory)

NOTE

- Specifications may be subject to change without prior notice.

1) A2W Condition #1 : (Heating) Water In/Out 30°C/35°C, Outdoor Air 7°C[DB]/6°C[WB]; (Cooling) Water In/Out 23°C/18°C, Outdoor Air 35°C[DB].
2) A2W Condition #2 : (Heating) Water In/Out 40°C/45°C, Outdoor Air 7°C[DB]/6°C[WB]; (Cooling) Water In/Out 12°C/7°C, Outdoor Air 35°C[DB].
3) A2W Condition #3 : (Heating) Water In/Out 47°C/55°C, Outdoor Air 7°C[DB]/6°C[WB].
4) A2W Condition : (A2W35) Water In/Out -/35°C, Outdoor Air 2°C[DB]/1°C[WB]; (A-7/W35) Water In/Out -/35°C, Outdoor Air -7°C[DB]/-(※ Peak Capacity)
5) Select wire size based on the value of MCA
6) Soundpressure 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
7) 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) These products contain R290 (GWP=3) which isfluorinated greenhouse gas.
9) The system is operated in (-25°C ≤ Outdoor temp. < -20°C) condition, but no guarantee of capacity.
10) The system is operated by only Booster Heater in special condition (35 °C < Outdoor temp. ≤ 43°C).

2. Outdoor Units

2-1. Specifications

Model Name						-	AE120CXYBEK/EU	AE120CXYBGK/EU
Power Supply						Φ,#,V,Hz	1, 2, 220~240, 50	3, 4, 380~415, 50
System	Mode					-	Heat Pump (A2W)	Heat Pump (A2W)
	Performance	Capacity	Heating	A2W Condition #1.		W	12,000	12,000
				(A7/W35) [1]*		Btu/h	40,900	40,900
				A2W condition #2		W	12,000	12,000
				A2W condition #3			12,000	12,000
				A2/W35 [4]*			12,000	12,000
				A-7/W35 [4]*			12,000	12,000
			Cooling	A2W Condition #1.		W	12,000	12,000
				(A35/W18) [1]*		Btu/h	40,900	40,900
				A2W condition #2		W	9,000	9,000
	Power	Power Input	Heating	A2W Condition #1.		W	2,500	2,500
				(A7/W35) [1]*				
				A2W condition #2			3,240	3,240
				A2W condition #3			4,000	4,000
				A2/W35 [4]*			2,790	2,790
				A-7/W35 [4]*			4,000	4,000
			Cooling	A2W Condition #1.		W	3,000	3,000
				(A35/W18) [1]*				
				A2W condition #2			3,103	3,103
		Current Input	Heating	A2W Condition #1.		A	11.81	3.92
			Cooling				14.18	4.71
			Heating	A2W condition #2		A	15.31	5.08
			Cooling				18.9	6.28
		Current	MCA			A	32.0	16.1
			MFA			A	35.2	17.7
	Efficiency	COP (Nominal Heating) A2W condition #1					4.80	4.80
		EER (Nominal Cooling) A2W condition #1					4.00	4.00
		EER (Nominal Cooling) A2W condition #2					2.90	2.90
		COP		A2W condition #2		W/W	3.7	3.7
				A2W condition #3			3.0	3.0
				A2/W35 [4]*			4.3	4.3
				A-7/W35 [4]*			3.0	3.0
		PdesignH (LWT 35°C)					12,000	12,000
		PdesignH (LWT 55°C)					12,000	12,000
		SCOP (35°C)					4.90	4.90
		SCOP (55°C)					3.65	3.65
		SCOP Class (35°C)					A+++	A+++
		SCOP Class (55°C)					A++	A++
		SEER					4.8	4.8
	Water Connections	Water Flow Rate (Nominal)		Heating		LPM	34.6	34.6
				Cooling		LPM	34.6	34.6
		Water Flow Rate		Min		LPM	7	7
				Max		LPM	58	58
		Water Pressure (Max)				bar	3	3
		Water Pipe Type	threaded male	Inlet		Φ, mm	28	28
				Outlet		Φ, mm	28	28
		Leaving Water Temperature	Min.~Max	Heating		°C	15 ~ 75	15 ~ 75
			Min.~Max	Cooling		°C	5 ~ 25	5 ~ 25
			Max.	DHW		°C	70	70
	Refrigerant	Type				-	R290	R290
		Factory Charging				kg	1250	1250
						tCO_2e	0.00375	0.00375
		Control Method				-	EEV	EEV
Outdoor Unit	Compressor	Type				-	Scroll	Scroll
		Model Name				-	DS4HC5066FNA	DS4HC5066FNA
		Oil		Type		-	Kixx RF P85 (GSC)	Kixx RF P85 (GSC)
				Initial Charge		cc	1100	1100
		Quantity				EA	1	1
		Output				W	3803	3803
		Starting method				-	Inverter driven	Inverter driven
	Heat exchanger	Length				mm	1239/1210/1182	1239/1210/1182
		Rows	Quantity			EA	3	3
		Fin pitch				mm	1.5	1.5
		Passes	Quantity			EA	22-12	22-12
		Face area				m^2	1.17	1.17
		Stages	Quantity			EA	46	46
		Tube type				Φ	7	7
		Fin	Type			-	Corrugate	Corrugate
			Treatment			-	Anti Salt	Anti Salt
	Water Heat Exchanger	Type				-	Braszed Plate Exchager	Braszed Plate Exchager
		Quantity				EA	1	1
		Internal water volume				L	1.008	1.008

2. Outdoor Units

2-1. Specifications

Model Name					-	AE120CXYBEK/EU	AE120CXYBGK/EU
Outdoor Unit	Fan	Type			-	Propeller Fan	Propeller Fan
		Discharge direction				Horizontal	Horizontal
		Air Flow Rate		Heating	m³/min	95	95
				Cooling	m³/min	90	90
		Quantity			EA	1	1
	Fan motor	Quantity			EA	1	1
		Model			-	SIC-88FWJ-F1122-1	SIC-88FWJ-F1122-1
		Output			W	122	122
		Drive			-	Direct drive	Direct drive
		Speed	Heating		rpm	590	590
			Cooling		rpm	560	560
	Base Heater				W	150	150
	Water Pump	Model Name			-	UPM4XLK 25-90/130	UPM4XLK 25-90/130
		Motor Input		Max	W	60	60
		Quantity			EA	1	1
	Backup Heater	Power			kW	2/4/6 (Option)	2/4/6 (Option)
	Safety device	Pressure relief valve			bar	2.9	2.9
		Flow Sensor			LPM	○(5~60)	○(5~60)
	Expansion vessel	Internal water volume			liter	10	10
		Working pressure			MPa	0.3	0.3
	Air vent				-	Gas seperator	Gas seperator
	Water Pressure Sensor				-	○	○
	Strainer				-	○	○
	Sound Level	Sound Pressure Level		Heating	dB(A)	47	47
				Cooling	dB(A)	47	47
				Night Mode(3m)	dB(A)	35	35
		Sound Power Level		Heating	dB(A)	60	60
				Cooling	dB(A)	60	60
	Connections	Water pipe		inlet	-	BSPP male 1"	BSPP male 1"
				outlet	-	BSPP male 1"	BSPP male 1"
	Casing	Color			-	Shadow Gray	Shadow Gray
		Material			-	GI-SGCC	GI-SGCC
	Packing	Material			-	EPS/BOX	EPS/BOX
		Weight			kg	20	20
	External Dimension	Net Weight			kg	154	154
		Shipping Weight			kg	174	174
		Net Dimensions (WxHxD)			mm	1,270 × 1,018 × 530	1,270 × 1,018 × 530
		Shipping Dimensions (WxHxD)			mm	1,330 × 1,226 × 630	1,330 × 1,226 × 630
	Operating Temp. Range	Heating			℃	-25 ~ 43	-25 ~ 43
		Cooling			℃	10 ~ 46	10 ~ 46
		D.Hot Water			℃	-25 ~ 43	-25 ~ 43
Additional Accessories	Wi-Fi Kit				-	○	○
	Shutoff Valve 25A				-	1EA (IN) inc. Filter	1EA (IN) inc. Filter
	Temperature Sensor for DHW Tank				-	○	○
	Connector Wire -PV Control/Peak power control				-	○	○
	Water Pressure Sensor				-	○	○
	Gas seperator				-	○	○
Function	SD Card Converter				-	○	○
	PV / SG Ready				-	○	○
	muti zone (2 zone)				-	○	○
	Comm Kit (OEM Modbus)				-	-	-
	Control Kt (Controller of water part)				-	○	○
	Remote Controller				-	Optional Part	Optional Part
	Wi-Fi Enable				-	○ (Wi-Fi Module - Accessory)	○ (Wi-Fi Module - Accessory)

NOTE

- Specifications may be subject to change without prior notice.

1) A2W Condition #1 : (Heating) Water In/Out 30°C/35°C, Outdoor Air 7°C[DB]/6°C[WB]; (Cooling) Water In/Out 23°C/18°C, Outdoor Air 35°C[DB].
2) A2W Condition #2 : (Heating) Water In/Out 40°C/45°C, Outdoor Air 7°C[DB]/6°C[WB]; (Cooling) Water In/Out 12°C/7°C, Outdoor Air 35°C[DB].
3) A2W Condition #3 : (Heating) Water In/Out 47°C/55°C, Outdoor Air 7°C[DB]/6°C[WB].
4) A2W Condition : (A2W35) Water In/Out -/35°C, Outdoor Air 2°C[DB]/1°C[WB]; (A-7/W35) Water In/Out -/35°C, Outdoor Air -7°C[DB]/-(※ Peak Capacity)
5) Select wire size based on the value of MCA
6) Soundpressure 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
7) 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) These products contain R290 (GWP=3) which is fluorinated greenhouse gas.
9) The system is operated in (-25°C ≤ Outdoor temp. < -20°C) condition, but no guarantee of capacity.
10) The system is operated by only Booster Heater in special condition (35 °C < Outdoor temp. ≤ 43°C).

2. Outdoor Units

2-1. Specifications

Model Name						-	AE160CXYBEK/EU	AE160CXYBGK/EU
Power Supply						Φ,#,V,Hz	1, 2, 220~240, 50	3, 4, 380~415, 50
System	Mode					-	Heat Pump (A2W)	Heat Pump (A2W)
	Performance	Capacity	Heating	A2W Condition #1.		W	16,000	16,000
				(A7/W35) [1]*		Btu/h	54,600	54,600
				A2W condition #2		W	16,000	16,000
				A2W condition #3			16,000	16,000
				A2/W35 [4]*			16,000	16,000
				A-7/W35 [4]*			16,000	16,000
			Cooling	A2W Condition #1.		W	14,000	14,000
				(A35/W18) [1]*		Btu/h	47,800	47,800
				A2W condition #2		W	10,400	10,400
	Power	Power Input	Heating	A2W Condition #1. (A7/W35) [1]*		W	3,550	3,550
				A2W condition #2			4,570	4,570
				A2W condition #3			5,520	5,520
				A2/W35 [4]*			4,100	4,100
				A-7/W35 [4]*			5,710	5,710
			Cooling	A2W Condition #1. (A35/W18) [1]*		W	3,680	3,680
				A2W condition #2			3,586	3,714
		Current Input	Heating	A2W Condition #1.		A	16.78	5.57
			Cooling				17.39	5.77
			Heating	A2W condition #2		A	21.6	7.17
			Cooling				26.09	8.66
		Current	MCA			A	32.0	16.1
			MFA			A	35.2	17.7
	Efficiency	COP (Nominal Heating) A2W condition #1					4.51	4.51
		EER (Nominal Cooling) A2W condition #1					3.80	3.80
		EER (Nominal Cooling) A2W condition #2					2.90	2.90
		COP		A2W condition #2		W/W	3.5	3.5
				A2W condition #3			2.9	2.9
				A2/W35 [4]*			3.9	3.9
				A-7/W35 [4]*			2.8	2.8
		PdesignH (LWT 35°C)					15,500	15,500
		PdesignH (LWT 55°C)					14,500	15,500
		SCOP (35°C)					4.70	4.70
		SCOP (55°C)					3.55	3.55
		SCOP Class (35°C)					A+++	A+++
		SCOP Class (55°C)					A++	A++
		SEER					5.0	5.0
	Water Connections	Water Flow Rate (Nominal)		Heating		LPM	46.2	46.2
				Cooling		LPM	40.4	40.4
		Water Flow Rate		Min		LPM	7	7
				Max		LPM	58	58
		Water Pressure (Max)				bar	3	3
		Water Pipe Type	threaded male	Inlet		Φ, mm	28	28
				Outlet		Φ, mm	28	28
		Leaving Water Temperature	Min.~Max	Heating		°C	15 ~ 75	15 ~ 75
			Min.~Max	Cooling		°C	5 ~ 25	5 ~ 25
			Max.	DHW		°C	70	70
	Refrigerant	Type				-	R290	R290
		Factory Charging				kg	1250	1250
						tCO_2e	0.00375	0.00375
		Control Method				-	EEV	EEV
Outdoor Unit	Compressor	Type				-	Scroll	Scroll
		Model Name				-	DS4HC5066FNA	DS4HC5066FNA
		Oil		Type		-	Kixx RF P85 (GSC)	Kixx RF P85 (GSC)
				Initial Charge		cc	1100	1100
		Quantity				EA	1	1
		Output				W	3803	3803
		Starting method				-	Inverter driven	Inverter driven
	Heat exchanger	Length				mm	1239/1210/1182	1239/1210/1182
		Rows	Quantity			EA	3	3
		Fin pitch				mm	1.5	1.5
		Passes	Quantity			EA	22-12	22-12
		Face area				m^2	1.17	1.17
		Stages	Quantity			EA	46	46
		Tube type				Φ	7	7
		Fin	Type			-	Corrugate	Corrugate
			Treatment			-	Anti Salt	Anti Salt
	Water Heat Exchanger	Type				-	Brazed Plate Exchager	Brazed Plate Exchager
		Quantity				EA	1	1
		Internal water volume				L	1.008	1.008

2. Outdoor Units

2-1. Specifications

Model Name					-	AE160CXYBEK/EU	AE160CXYBGK/EU
Outdoor Unit	Fan	Type			-	Propeller Fan	Propeller Fan
		Discharge direction				Horizontal	Horizontal
		Air Flow Rate		Heating	m³/min	95	95
				Cooling	m³/min	94	94
		Quantity			EA	1	1
	Fan motor	Quantity			EA	1	1
		Model			-	SIC-88FWJ-F1122-1	SIC-88FWJ-F1122-1
		Output			W	122	122
		Drive			-	Direct drive	Direct drive
		Speed	Heating		rpm	590	590
			Cooling		rpm	580	580
	Base Heater				W	150	150
	Water Pump	Model Name			-	UPM4XLK 25-90/130	UPM4XLK 25-90/130
		Motor Input		Max	W	60	60
		Quantity			EA	1	1
	Backup Heater	Power			kW	2/4/6 (Option)	2/4/6 (Option)
	Safety device	Pressure relief valve			bar	2.9	2.9
		Flow Sensor			LPM	○(5~60)	○(5~60)
	Expansion vessel	Internal water volume			liter	10	10
		Working pressure			MPa	0.3	0.3
	Air vent				-	Gas seperator	Gas seperator
	Water Pressure Sensor				-	○	○
	Strainer				-	○	○
	Sound Level	Sound Pressure Level		Heating	dB(A)	51	51
				Cooling	dB(A)	51	51
				Night Mode(3m)	dB(A)	35	35
		Sound Power Level		Heating	dB(A)	65	65
				Cooling	dB(A)	65	65
	Connections	Water pipe		inlet	-	BSPP male 1"	BSPP male 1"
				outlet	-	BSPP male 1"	BSPP male 1"
	Casing	Color			-	Shadow Gray	Shadow Gray
		Material			-	GI-SGCC	GI-SGCC
	Packing	Material			-	EPS/BOX	EPS/BOX
		Weight			kg	20	20
	External Dimension	Net Weight			kg	154	154
		Shipping Weight			kg	174	174
		Net Dimensions (WxHxD)			mm	1,270 × 1,018 × 530	1,270 × 1,018 × 530
		Shipping Dimensions (WxHxD)			mm	1,330 × 1,226 × 630	1,330 × 1,226 × 630
	Operating Temp. Range	Heating			℃	-25 ~ 43	-25 ~ 43
		Cooling			℃	10 ~ 46	10 ~ 46
		D.Hot Water			℃	-25 ~ 43	-25 ~ 43
Additional Accessories	Wi-Fi Kit				-	○	○
	Shutoff Valve 25A				-	1EA (IN) inc. Filter	1EA (IN) inc. Filter
	Temperature Sensor for DHW Tank				-	○	○
	Connector Wire -PV Control/Peak power control				-	○	○
	Water Pressure Sensor				-	○	○
	Gas seperator				-	○	○
Function	SD Card Converter				-	○	○
	PV / SG Ready				-	○	○
	muti zone (2 zone)				-	○	○
	Comm Kit (OEM Modbus)				-	-	-
	Control Kt (Controller of water part)				-	○	○
	Remote Controller				-	Optional Part	Optional Part
	Wi-Fi Enable				-	○ (Wi-Fi Module - Accessory)	○ (Wi-Fi Module - Accessory)

NOTE

- Specifications may be subject to change without prior notice.

1) A2W Condition #1 : (Heating) Water In/Out 30°C/35°C, Outdoor Air 7°C[DB]/6°C[WB]; (Cooling) Water In/Out 23°C/18°C, Outdoor Air 35°C[DB].
2) A2W Condition #2 : (Heating) Water In/Out 40°C/45°C, Outdoor Air 7°C[DB]/6°C[WB]; (Cooling) Water In/Out 12°C/7°C, Outdoor Air 35°C[DB].
3) A2W Condition #3 : (Heating) Water In/Out 47°C/55°C, Outdoor Air 7°C[DB]/6°C[WB].
4) A2W Condition : (A2W35) Water In/Out -/35°C, Outdoor Air 2°C[DB]/1°C[WB]; (A-7/W35) Water In/Out -/35°C, Outdoor Air -7°C[DB]/-(※ Peak Capacity)
5) Select wire size based on the value of MCA
6) Soundpressure 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
7) 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) These products contain R290 (GWP=3) which is fluorinated greenhouse gas.
9) The system is operated in (-25°C ≤ Outdoor temp. < -20°C) condition, but no guarantee of capacity.
10) The system is operated by only Booster Heater in special condition (35 °C < Outdoor temp. ≤ 43°C).

2. Outdoor Units

2-2. Electrical characteristics

Capacity [kW]	Model	Power Supply				Voltage Range [V]		Nominal Running Current [A]		Current [A]	
		Φ	#	Hz	Voltage	Min. (-10%)	Max. (+10%)	Cooling	Heating	MCA	MFA
5.0	AE050CXYBEK/EU	1	2	50	220-240	198	264	6.05	4.63	16.1	17.6
8.0	AE080CXYBEK/EU	1	2	50	220-240	198	264	9.69	7.70	26.0	28.6
12.0	AE120CXYBEK/EU	1	2	50	220-240	198	264	14.18	11.81	32.0	35.2
16.0	AE160CXYBEK/EU	1	2	50	220-240	198	264	17.39	16.78	32.0	35.2
8.0	AE080CXYBGK/EU	3	4	50	380-415	342	457	3.22	2.56	16.1	17.7
12.0	AE120CXYBGK/EU	3	4	50	380-415	342	457	4.71	3.92	16.1	17.7
16.0	AE160CXYBGK/EU	3	4	50	380-415	342	457	5.77	5.57	16.1	17.7

NOTE

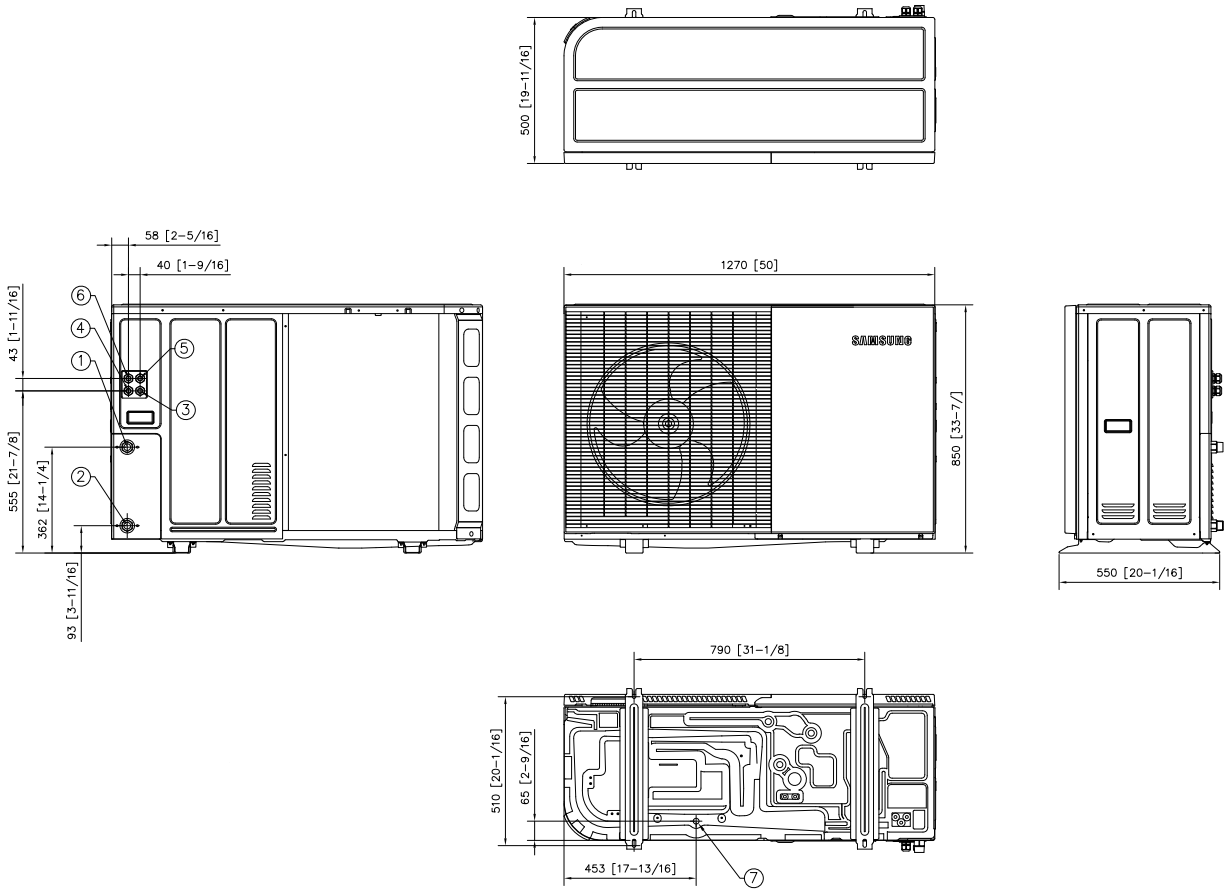
- MCA : Mimium circuit amperes
- MFA : Maximum fuse amperes
- Select wire size based on the value of MCA

2. Outdoor Units

2-3. Dimensional drawing

AE050CXYBEK/EU, 080CXYB*K/EU

Units : mm [inches]



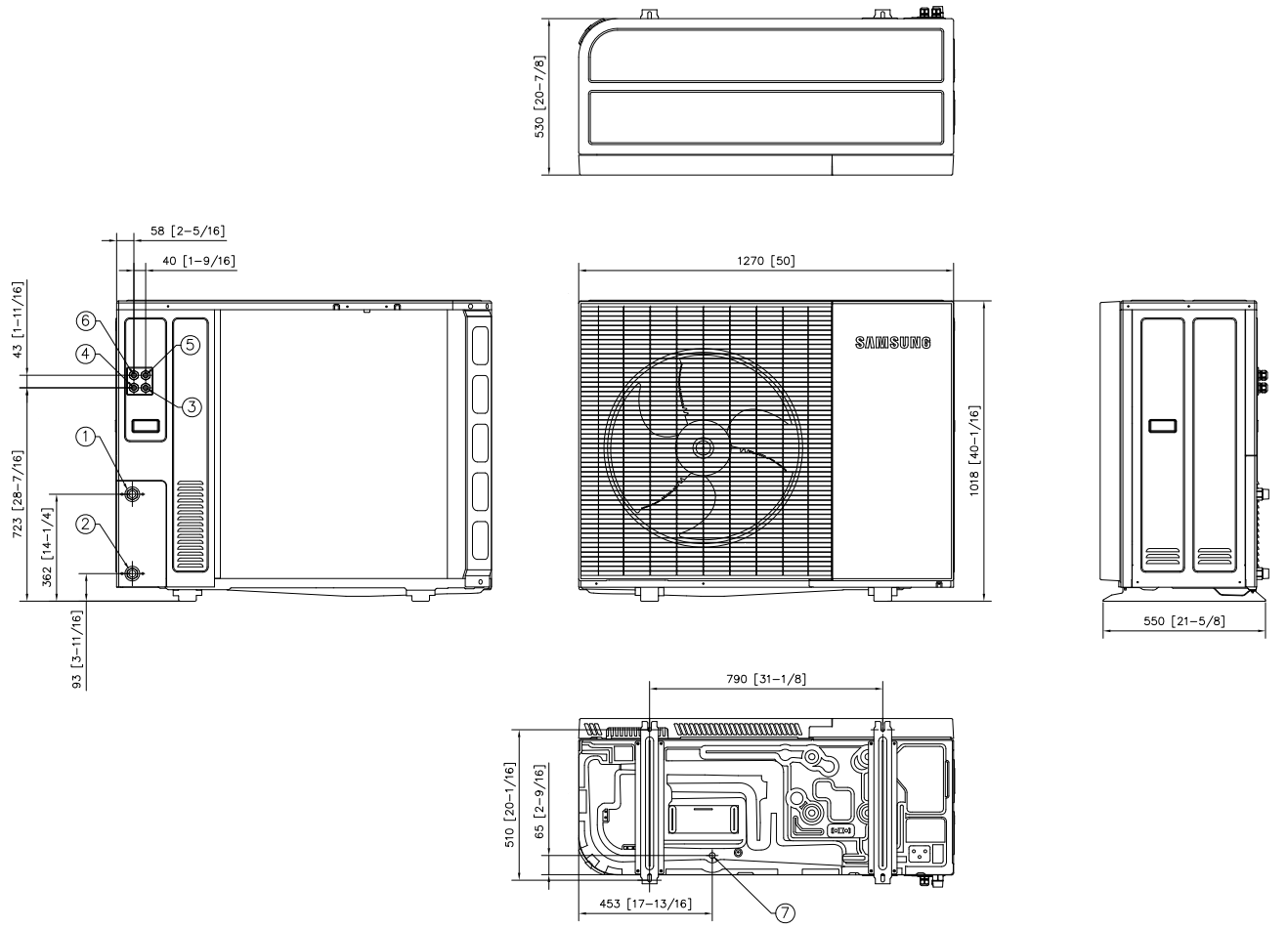
NO	Name	Description
1	Water Pipe (Out)	BSPP 1"Male
2	Water Pipe (In)	BSPP 1"Male
3	Power wiring conduit	Φ25
4	Communication wiring conduit	Φ25
5	Conduit	Φ25
6	Conduit	Φ25
7	Drain holes	Connect with the provided drain plug

2. Outdoor Units

2-3. Dimensional drawing

AE120/160CXYB*K/EU

Units : mm [inches]



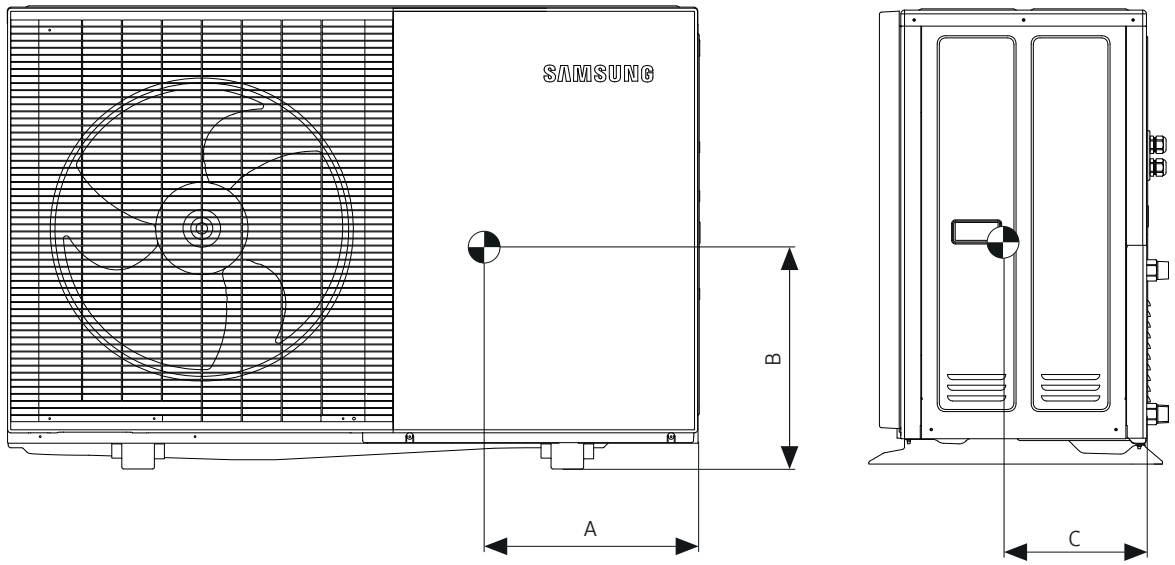
NO	Name	Description
1	Water Pipe (Out)	BSPP 1"Male
2	Water Pipe (In)	BSPP 1"Male
3	Power wiring conduit	Φ25
4	Communication wiring conduit	Φ25
5	Conduit	Φ25
6	Conduit	Φ25
7	Drain holes	Connect with the provided drain plug

2. Outdoor Units

2-4. Center of Gravity

AE050CXYBEK/EU, 080CXYB*K/EU

Units : mm [inches]



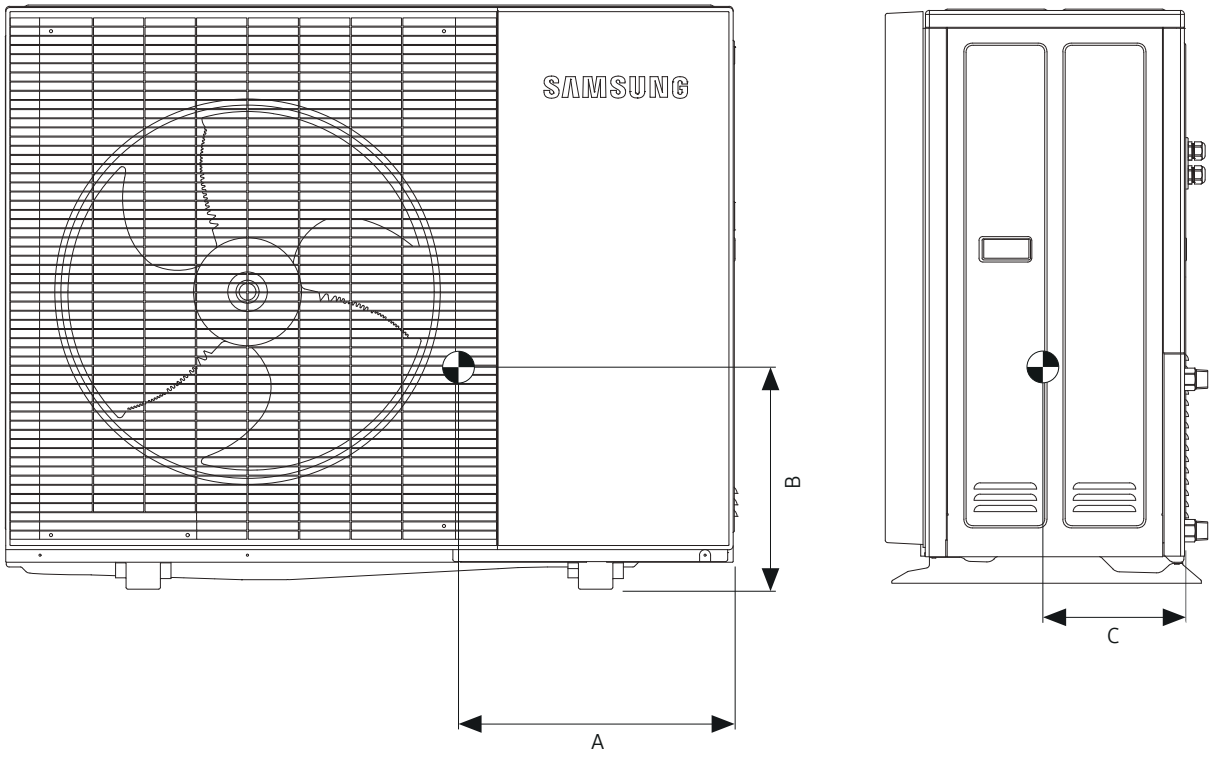
Model	A	B	C
AE050CXYBEK/EU AE080CXYBEK/EU AE080CXYBGK/EU	490 [19 5/16]	360 [14 3/16]	280 [11]

2. Outdoor Units

2-4. Center of Gravity

AE120/160CXYB*K/EU

Units : mm [inches]

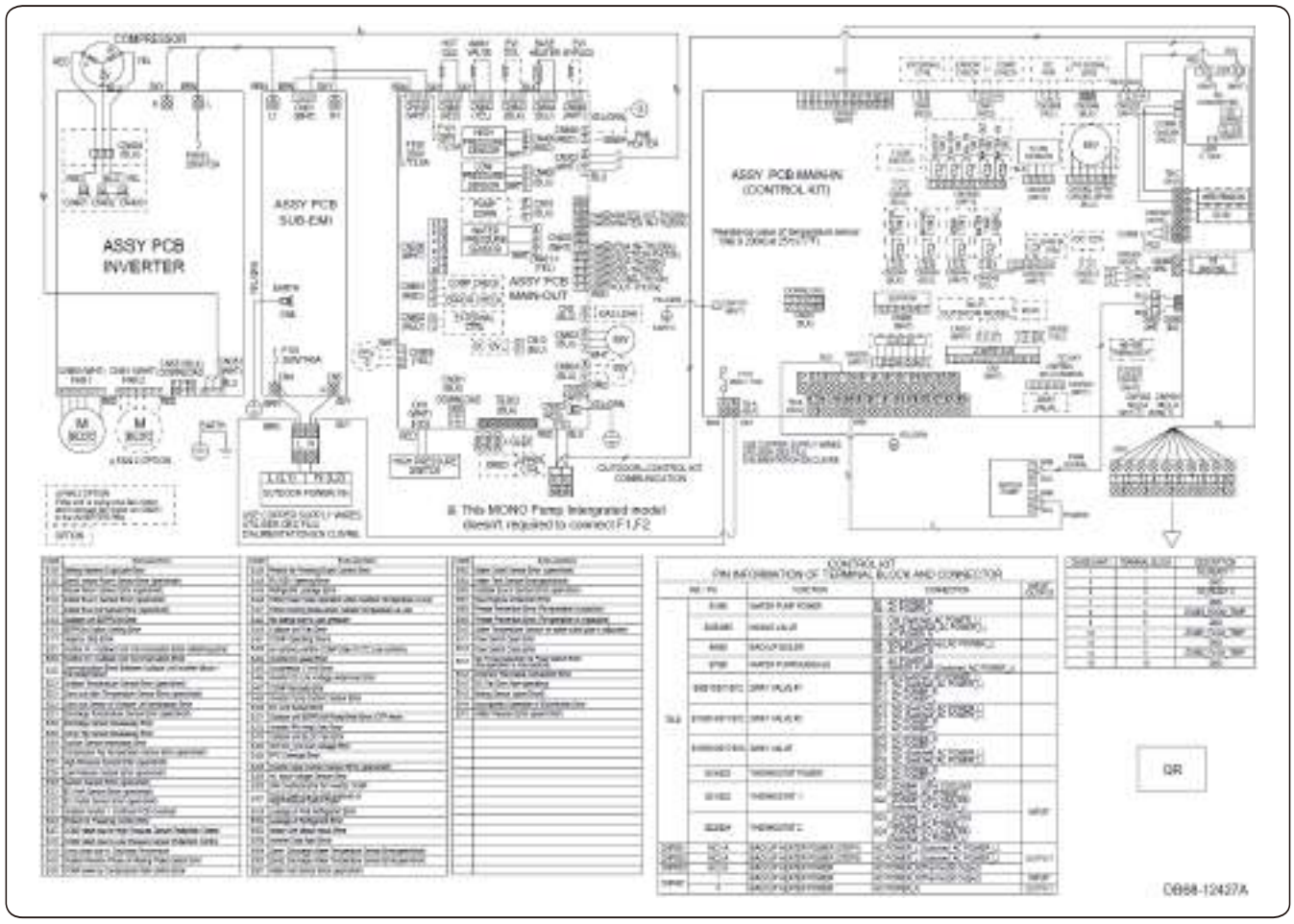


Model	A	B	C
AE120CXYB*K/EU AE160CXYB*K/EU	470 [18 1/2]	410 [16 1/8]	240 [9 7/16]

2. Outdoor Units

2-5. Electrical wiring diagram

AE050CXYBEK/EU, AE080CXYBEK/EU, AE120CXYBEK/EU, AE160CXYBEK/EU



ASSY PCB MAIN-OUT	Printed circuit board(MAIN)	EVA OUT(10k)	Thermistor (EVA OUT_10Kohm)
ASSY PCB INVER	Printed circuit board(INVERTER)	EVA-IN(10k)	Thermistor (EVA-IN_10Kohm)
ASSY PCB SUB-EMI	Printed circuit board(EMI)	WATER OUT(10k)	Thermistor (WATER OUT_10Kohm)
ASSY PCB MAIN-IN (CONTROL KIT)	Printed circuit board (CONTROL KIT)	WATER-IN(10k)	Thermistor (WATER-IN_10Kohm)
OUT-TH(10k)	Thermistor (OUT_10Kohm)	WATER OUT-TH(200k)	Thermistor (WATER OUT_200Kohm)
COND-TH(10k)	Thermistor (COND_10Kohm)	HOT GAS	Solenoid Valve - Hot Gas bypass
DIS-TH(200k)	Thermistor (DISCHARGE_200Kohm)	4WAY VALVE	Solenoid Valve - 4Way
OLP-TH(200k)	Thermistor (OLP_200Kohm)	EVI SOL	Solenoid Valve - EVI
SUCTION-TH(10k)	Thermistor (SUCTION_10kKohm)	EVI BYPASS	Solenoid Valve - EVI Bypass
EVA IN-TH(200k)	Thermistor (EVA IN_200Kohm)	M-BLDC	Motor for Outdoor Fan
WATER IN-TH(200k)	Thermistor (WATER IN_200Kohm)	EEV	Electronic Expansion Valve
HEATER(10k)	Thermistor (HEATER_10Kohm)	EXTERNAL CTRL	External Control
MIXING(10k)	Thermistor (MIXING_10Kohm)	UPPER CTRL	Upper Control
ROOM(10k)	Thermistor (ROOM_10Kohm)	PV SIGNAL	Photo Voltaic SIGNAL
WATER TANK(200k)	Thermistor (WATER TANK_200Kohm)	SD CONVERTER	Secure Digital Converter
DHW IN(10k)	Thermistor (Domestic Hot Water_10Kohm)	SD CARD	Secure Digital Card

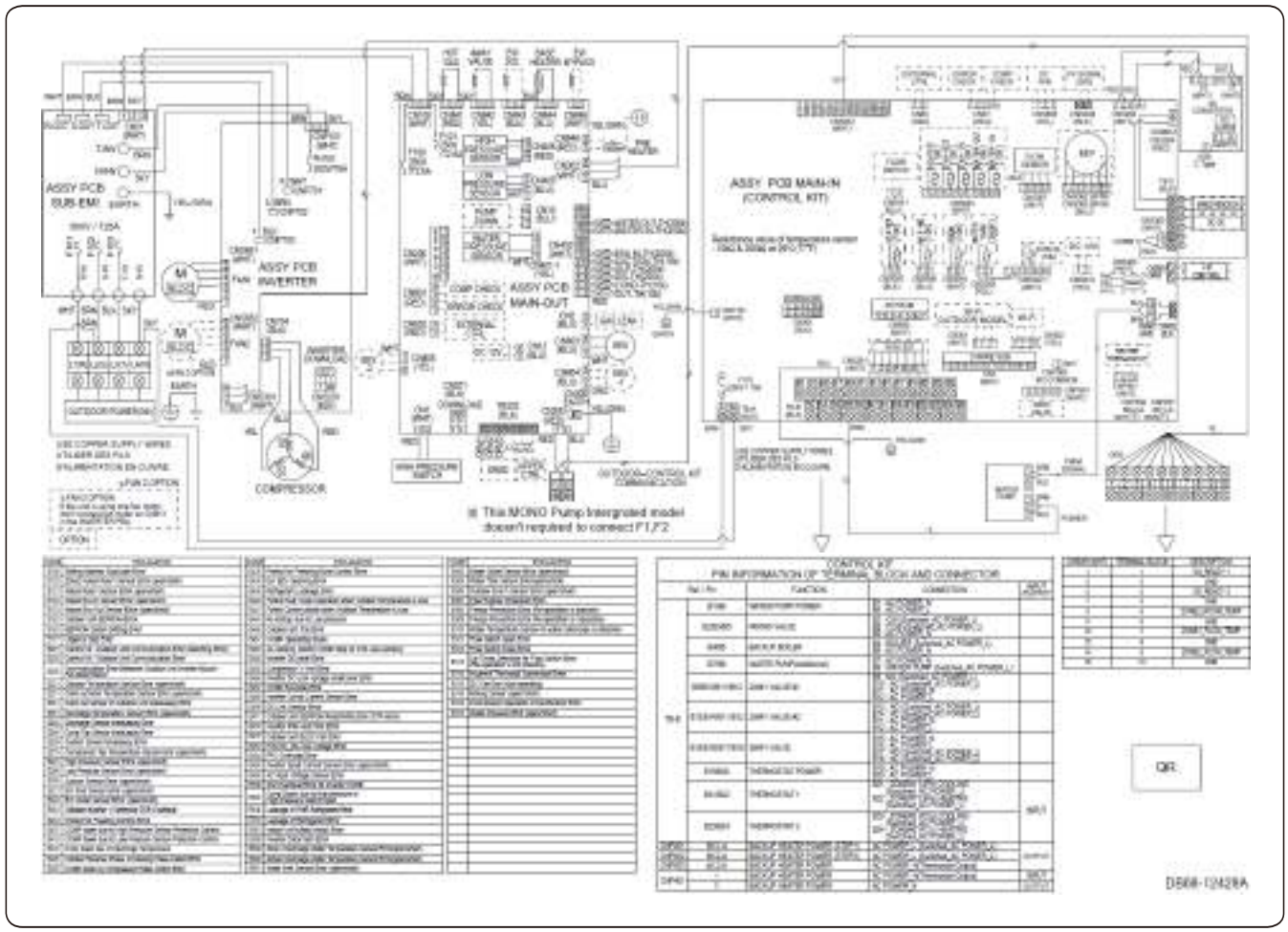
NOTES

1. This wiring diagram applies only to the Outdoor unit.
2. Symbols show as follow :
   BLK: black, RED: red, BLU: blue, WHT: white, YEL: yellow, BRN: brown, SKY: skyblue, GRN: green
3. For connection wiring indoor-outdoor transmission F1-F2.
4. ⏚ Protective earth(SCREW)

2. Outdoor Units

2-5. Electrical wiring diagram

AE080CXYBGK/EU, AE120CXYBGK/EU, AE160CXYBGK/EU



ASSY PCB MAIN-OUT	Printed circuit board(MAIN)	EVA OUT(10k)	Thermistor (EVA OUT_10Kohm)
ASSY PCB INVER	Printed circuit board(INVERTER)	EVA-IN(10k)	Thermistor (EVA-IN_10Kohm)
ASSY PCB SUB-EMI	Printed circuit board(EMI)	WATER OUT(10k)	Thermistor (WATER OUT_10Kohm)
ASSY PCB MAIN-IN (CONTROL KIT)	Printed circuit board (CONTROL KIT)	WATER-IN(10k)	Thermistor (WATER-IN_10Kohm)
OUT-TH(10k)	Thermistor (OUT_10Kohm)	WATER OUT-TH(200k)	Thermistor (WATER OUT_200Kohm)
COND-TH(10k)	Thermistor (COND_10Kohm)	HOT GAS	Solenoid Valve - Hot Gas bypass
DIS-TH(200k)	Thermistor (DISCHARGE_200Kohm)	4WAY VALVE	Solenoid Valve - 4Way
OLP-TH(200k)	Thermistor (OLP_200Kohm)	EVI SOL	Solenoid Valve - EVI
SUCTION-TH(10k)	Thermistor (SUCTION_10kKohm)	EVI BYPASS	Solenoid Valve - EVI Bypass
EVA IN-TH(200k)	Thermistor (EVA IN_200Kohm)	M-BLDC	Motor for Outdoor Fan
WATER IN-TH(200k)	Thermistor (WATER IN_200Kohm)	EEV	Electronic Expansion Valve
HEATER(10k)	Thermistor (HEATER_10Kohm)	EXTERNAL CTRL	External Control
MIXING(10k)	Thermistor (MIXING_10Kohm)	UPPER CTRL	Upper Control
ROOM(10k)	Thermistor (ROOM_10Kohm)	PV SIGNAL	Photo Voltaic SIGNAL
WATER TANK(200k)	Thermistor (WATER TANK_200Kohm)	SD CONVERTER	Secure Digital Converter
DHW IN(10k)	Thermistor (Domestic Hot Water_10Kohm)	SD CARD	Secure Digital Card

NOTES

1. This wiring diagram applies only to the Outdoor unit.
2. Symbols show as follow :
   BLK: black, RED: red, BLU: blue, WHT: white, YEL: yellow, BRN: brown, SKY: skyblue, GRN: green
3. For connection wiring indoor-outdoor transmission F1-F2.
4. ⏚ Protective earth(SCREW)

2. Outdoor Units

2-6. Sound data

Summary

Capacity (kW)	Model	Sound Pressure dB(A)		Sound Power dB(A)	
		Heating	Cooling	Heating	Cooling
5.0	AE050CXYBEK/EU	41	41	55	55
8.0	AE080CXYBEK/EU	45	45	59	59
12.0	AE120CXYBEK/EU	47	47	60	60
16.0	AE160CXYBEK/EU	51	51	65	65
8.0	AE080CXYBGK/EU	45	45	59	59
12.0	AE120CXYBGK/EU	47	47	60	60
16.0	AE160CXYBGK/EU	51	51	65	65

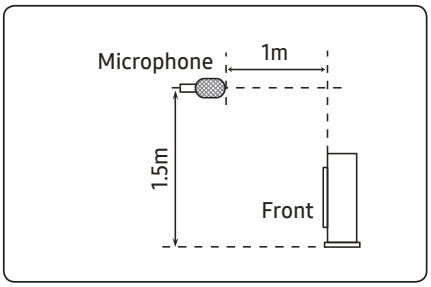
NOTE

- Specifications may be subject to change without prior notice.
- 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.

2. Outdoor Units

2-6. Sound data

Sound Pressure level

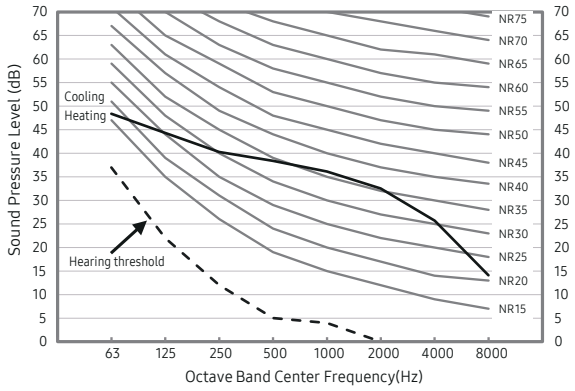


Unit: dB(A)

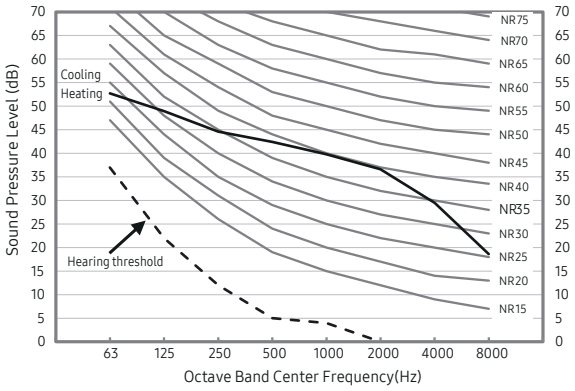
Model	Heating	Cooling
AE050CXYBEK/EU	41	41
AE080CXYBEK/EU	45	45
AE120CXYBEK/EU	47	47
AE160CXYBEK/EU	51	51

- NR Curve

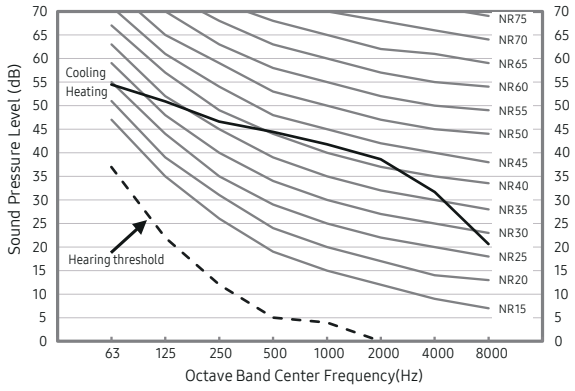
1) AE050CXYBEK/EU



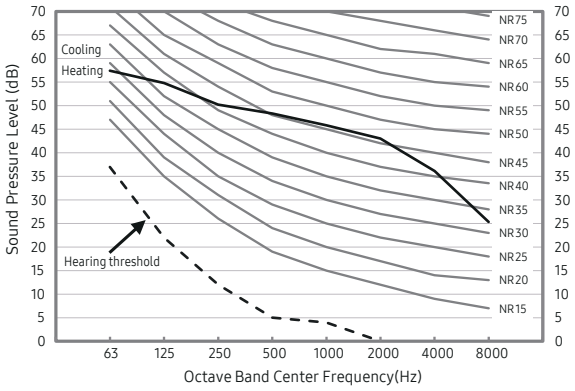
2) AE080CXYBEK/EU



3) AE120CXYBEK/EU



4) AE160CXYBEK/EU

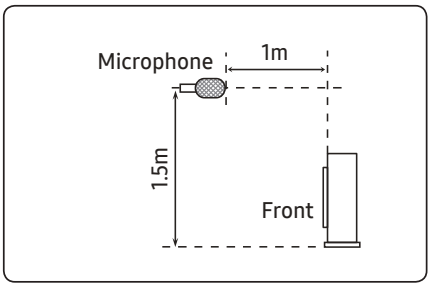


2. Outdoor Units

2-6. Sound data

Sound Pressure level

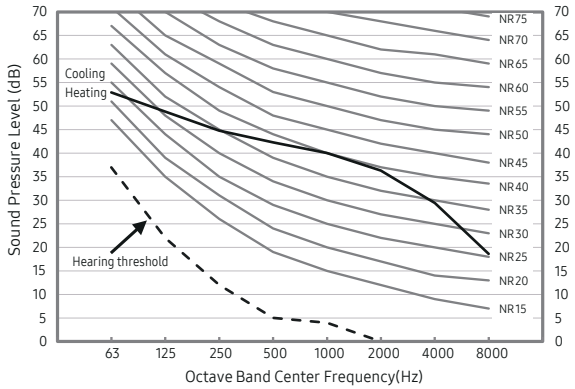
Unit: dB(A)



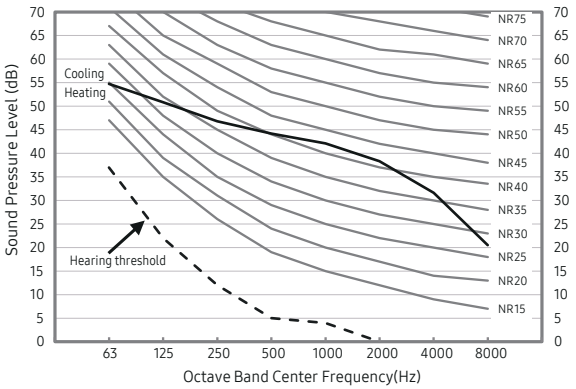
Model	Heating	Cooling
AE080CXYBGK/EU	45	45
AE120CXYBGK/EU	47	47
AE160CXYBGK/EU	51	51

- NR Curve

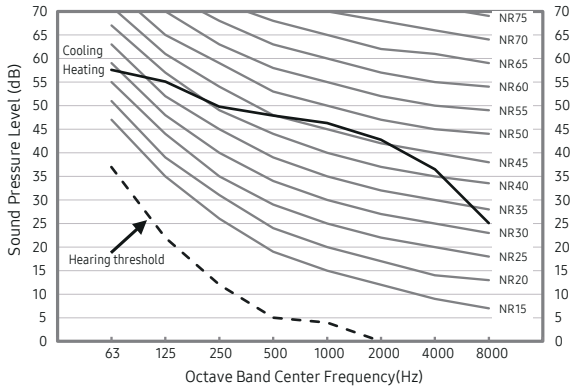
5) AE080CXYBGK/EU



6) AE120CXYBGK/EU



7) AE160CXYBGK/EU



2. Outdoor Units

2-6. Sound data

Sound Power level

Unit: dB(A)

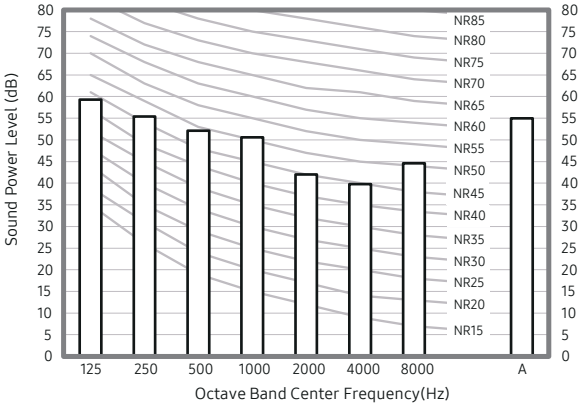
Model	Heating	Cooling
AE050CXYBEK/EU	55	55
AE080CXYBEK/EU	59	59
AE120CXYBEK/EU	60	60
AE160CXYBEK/EU	65	65

NOTE

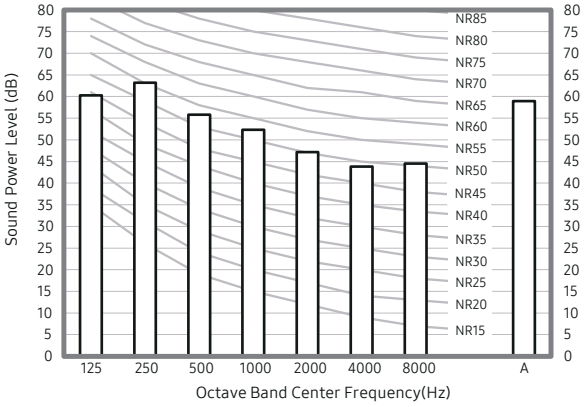
- Specifications may be subject to change without prior notice
  - Sound power level is an absolute value that a sound source generates.
  - dBA = A-weighted sound power level.
  - Reference power : 1pW.
  - Measured according to ISO 3741.

- NR Curve

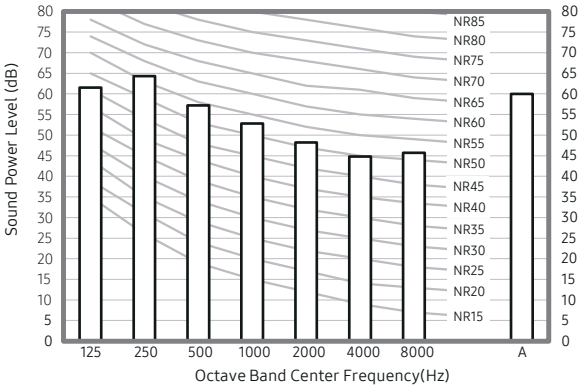
1) AE050CXYBEK/EU



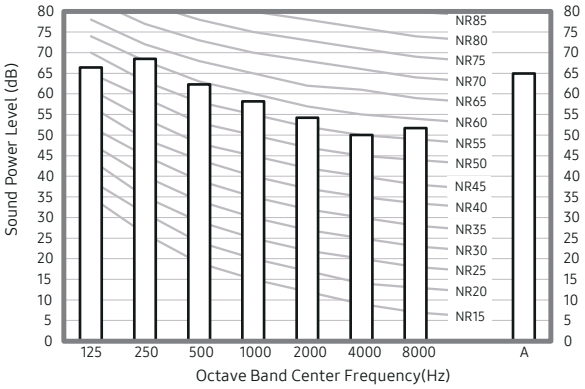
2) AE080CXYBEK/EU



3) AE120CXYBEK/EU



4) AE160CXYBEK/EU



2. Outdoor Units

2-6. Sound data

Sound Power level

Unit: dB(A)

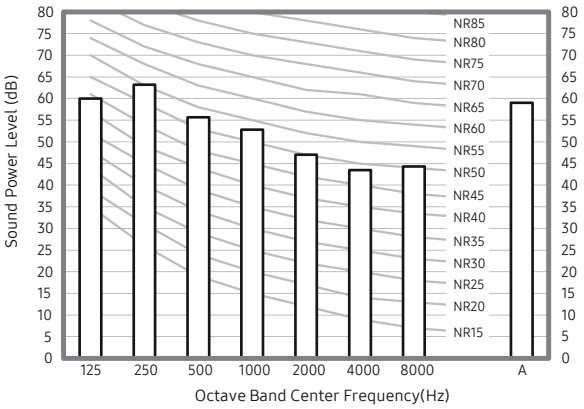
Model	Heating	Cooling
AE080CXYBGK/EU	59	59
AE120CXYBGK/EU	60	60
AE160CXYBGK/EU	65	65

NOTE

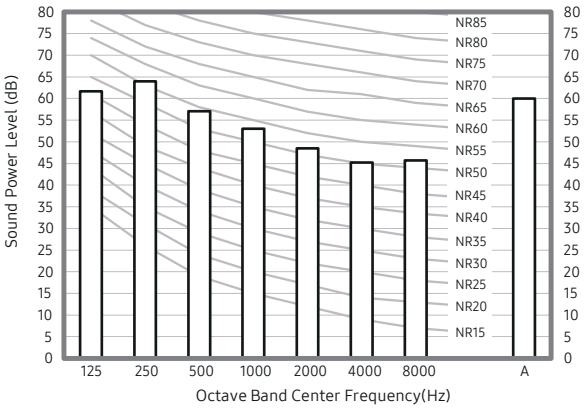
- Specifications may be subject to change without prior notice
  - Sound power level is an absolute value that a sound source generates.
  - dBA = A-weighted sound power level.
  - Reference power : 1pW.
  - Measured according to ISO 3741.

- NR Curve

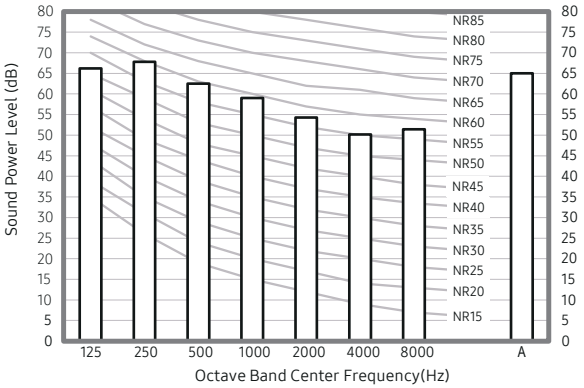
5) AE080CXYBGK/EU



6) AE120CXYBGK/EU



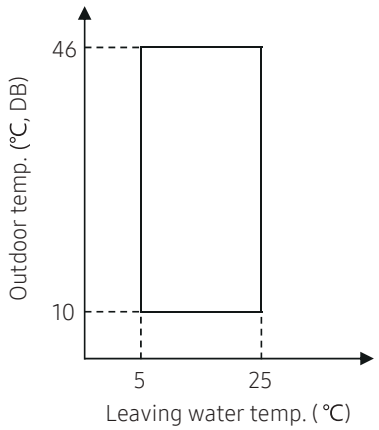
7) AE160CXYBGK/EU



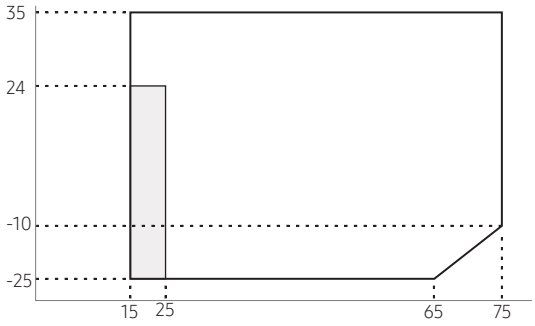
2. Outdoor Units

2-7. Operation range

1) Cooling



2) Heating



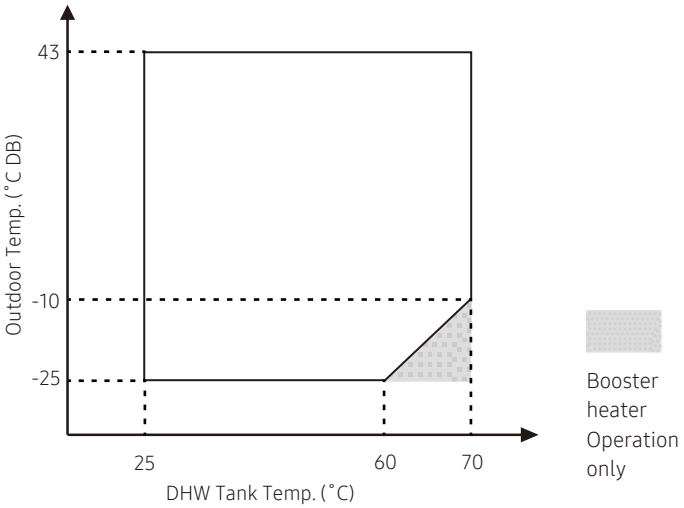
Outdoor Unit		Water Temp. (℃)			Water Flow Rates (LPM)			Air Temp. (℃, DB/WB)		
		Min	Std	Max	Min	Std	Max	Min	Std	Max
Controller	Cooling	5	-	25						
	Heating	15	-	75						
Cooling	Inlet	-	23 (12*2)	30	7	Δ 5℃	58 (48*1)	10/-	35/24	46/28
	Outlet	5	18 (7*2)	25						
Heating	Inlet	5	30 (40*2)	-				-25/-	7/6	35/24
	Outlet	25 (15*3)	35 (45*2)	75						

*1) Model : AE050CXYBEK/EU
AE080CXYB*K/EU

*2) Eurovent Test Condition #2

*3) Back up heater operation.

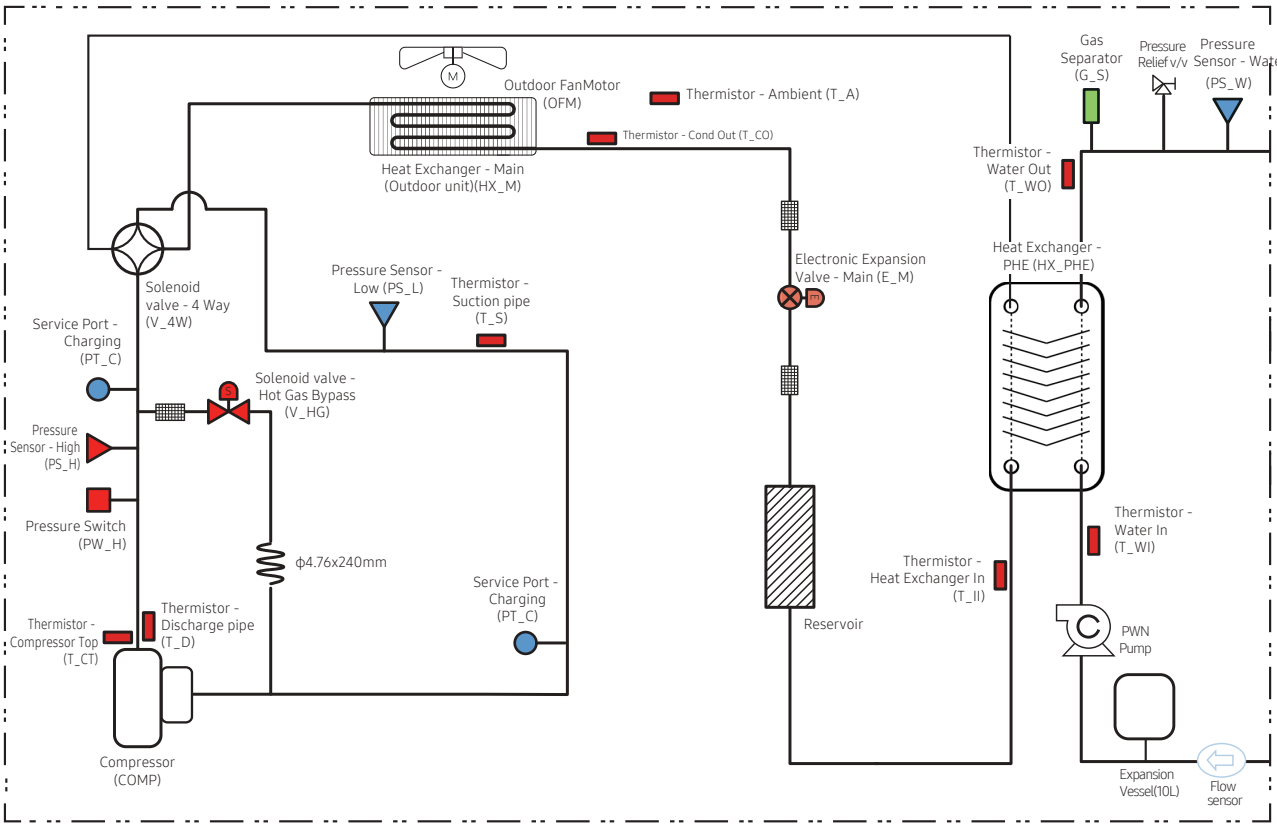
3) DHW (Domestic Hot Water Tank)



2. Outdoor Units

2-8. Piping diagram

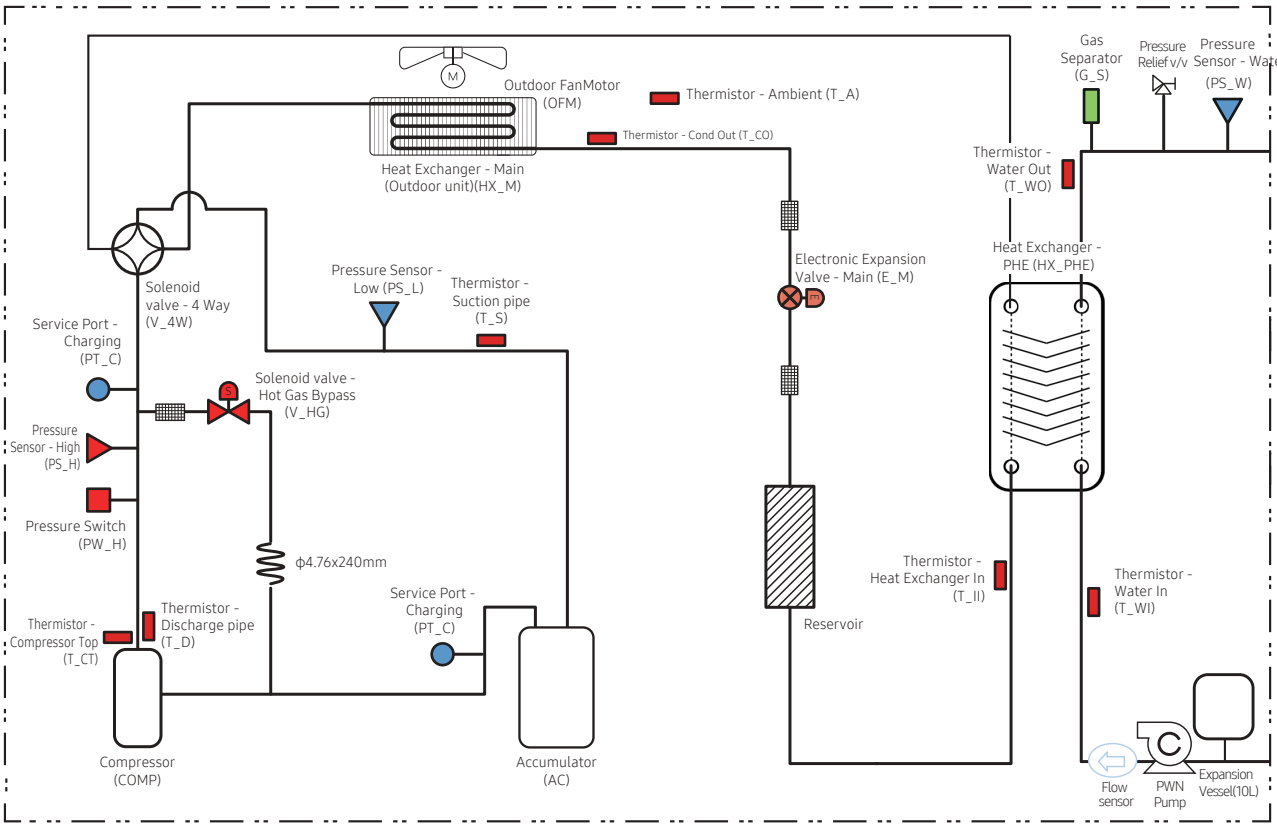
AE050CXYBEK/EU, 080CXYB*K/EU



2. Outdoor Units

2-8. Piping diagram

AE120/160CXYB*K/EU



2. Outdoor Units

2-9. Capacity table

1) Maximum Heating Capacity (Peak Value)

LWT (Leaving Water Temp.), Tamb (Ambient Temp.), HC (Heating Capacity), PI (Power input), WF (Water Flow)

Model	LWT (°C) \ Tamb (°C)	25			30			35			40			45			50			55			60			65			70			75		
		HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)
AE050CXYBEK/EU	-25	3,850	1,980	11.1	3,695	1,970	10.6	3,540	1,950	10.2	3,470	1,990	10.0	3,390	2,020	9.8	3,350	2,110	9.7	3,310	2,220	7.0	3,250	2,290	7.0	3,190	2,380	7.0						
	-20	4,410	1,930	12.7	4,295	2,010	12.4	4,180	2,100	12.1	4,100	2,130	11.8	4,020	2,160	11.6	3,900	2,220	11.3	3,780	2,290	7.0	3,710	2,380	7.0	3,640	2,480	7.0						
	-15	4,900	1,850	14.1	4,815	2,000	13.9	4,730	2,180	13.6	4,620	2,190	13.3	4,520	2,210	13.1	4,410	2,290	12.8	4,300	2,390	7.8	4,220	2,480	7.7	4,140	2,590	7.0	4,040	2,610	7.0			
	-10	5,470	1,680	15.7	5,235	1,760	15.1	5,000	1,850	14.4	5,000	2,020	14.4	5,000	2,210	14.5	5,000	2,350	14.5	5,000	2,500	9.1	4,940	2,650	9.0	4,850	2,800	7.1	4,710	2,920	7.0	4,560	3,040	7.0
	-7	5,710	1,580	16.4	5,355	1,600	15.4	5,000	1,670	14.4	5,000	1,800	14.4	5,000	2,020	14.5	5,000	2,190	14.5	5,000	2,380	9.1	5,000	2,520	9.1	5,000	2,680	7.3	5,000	2,940	7.3	5,000	3,260	7.3
	-2	5,840	1,340	16.8	5,420	1,310	15.6	5,000	1,280	14.4	5,000	1,460	14.4	5,000	1,700	14.5	5,000	1,870	14.5	5,000	2,070	9.1	5,000	2,200	9.1	5,000	2,360	7.3	5,000	2,600	7.3	5,000	2,890	7.3
	2	5,900	1,170	17.0	5,450	1,160	15.7	5,000	1,160	14.4	5,000	1,310	14.4	5,000	1,520	14.5	5,000	1,650	14.5	5,000	1,810	9.1	5,000	1,990	9.1	5,000	2,200	7.3	5,000	2,390	7.3	5,000	2,610	7.3
	7	6,090	980	17.5	5,545	980	16.0	5,000	980	14.4	5,000	1,130	14.4	5,000	1,320	14.5	5,000	1,450	14.5	5,000	1,610	9.1	5,000	1,740	9.1	5,000	1,890	7.3	5,000	2,100	7.3	5,000	2,360	7.3
	12	6,400	920	18.4	6,270	1,010	18.1	6,140	1,110	17.7	6,080	1,220	17.6	6,010	1,340	17.4	5,980	1,510	17.3	5,950	1,730	10.8	5,920	1,820	10.8	5,880	2,070	8.6	5,850	2,290	8.5	5,820	2,480	8.5
	15	6,890	900	19.8	6,675	980	19.2	6,460	1,080	18.6	6,390	1,200	18.5	6,330	1,360	18.3	6,250	1,510	18.1	6,180	1,710	11.2	6,100	1,790	11.1	6,080	2,010	8.9	6,060	2,220	8.8	6,040	2,500	8.8
	20	7,490	850	21.5	7,225	950	20.8	6,960	1,080	20.1	6,880	1,220	19.9	6,790	1,400	19.6	6,700	1,520	19.4	6,610	1,670	12.0	6,530	1,770	11.9	6,480	2,020	9.4	6,470	2,270	9.4	6,390	2,560	9.4
	25	8,020	810	23.1	7,800	920	22.5	7,580	1,070	21.9	7,490	1,210	21.6	7,390	1,410	21.4	7,270	1,530	21.1	7,160	1,690	13.0	7,020	1,840	12.8	6,920	2,070	10.1	6,840	2,250	10.0	6,770	2,470	9.9
	30	8,510	770	24.5	8,305	880	23.9	8,100	1,030	23.4	7,990	1,190	23.1	7,880	1,400	22.8	7,820	1,530	22.7	7,750	1,700	14.1	7,690	1,880	14.0	7,620	2,120	11.1	7,550	2,280	11.0	7,410	2,460	10.8
	35	9,080	730	26.1	8,840	840	25.5	8,600	1,010	24.8	8,410	1,150	24.3	8,220	1,360	23.8	8,150	1,490	23.6	8,080	1,660	14.7	8,020	1,840	14.6	7,950	2,050	11.6	7,850	2,200	11.5	7,690	2,350	11.3
AE080CXYBEK/EU	-25	5,700	3,020	16.4	5,475	3,000	15.8	5,250	2,980	15.1	5,135	3,030	14.8	5,020	3,080	14.5	4,960	3,220	14.4	4,900	3,380	8.9	4,810	3,500	8.7	4,720	3,630	7.0						
	-20	6,600	2,970	19.0	6,425	3,090	18.5	6,250	3,230	18.0	6,130	3,270	17.7	6,010	3,320	17.4	5,830	3,420	16.9	5,650	3,530	10.2	5,550	3,670	10.1	5,450	3,820	7.9						
	-15	7,400	2,880	21.3	7,270	3,110	20.9	7,140	3,380	20.6	6,980	3,400	20.2	6,820	3,430	19.7	6,655	3,560	19.3	6,490	3,710	11.8	6,370	3,860	11.6	6,250	4,030	9.1	6,100	4,070	8.9			
	-10	8,250	2,610	23.7	8,125	2,820	23.4	8,000	3,080	23.1	7,940	3,310	22.9	7,880	3,580	22.8	7,730	3,730	22.4	7,580	3,910	13.7	7,450	4,120	13.5	7,320	4,360	10.7	7,105	4,530	10.4	6,890	4,740	10.1
	-7	8,620	2,460	24.8	8,310	2,560	23.9	8,000	2,670	23.1	8,000	2,960	23.1	8,000	3,330	23.1	8,000	3,600	23.2	8,000	3,920	14.5	8,000	4,160	14.5	8,000	4,420	11.6	7,775	4,710	11.3	7,550	5,070	11.0
	-2	8,810	2,080	25.3	8,405	2,090	24.2	8,000	2,110	23.1	8,000	2,410	23.1	8,000	2,810	23.1	8,000	3,080	23.2	8,000	3,400	14.5	8,000	3,630	14.5	8,000	3,880	11.6	8,000	4,280	11.7	8,000	4,760	11.7
	2	8,910	1,820	25.6	8,455	1,860	24.3	8,000	1,900	23.1	8,000	2,160	23.1	8,000	2,500	23.1	8,000	2,720	23.2	8,000	2,990	14.5	8,000	3,270	14.5	8,000	3,620	11.6	8,000	3,930	11.7	8,000	4,300	11.7
	7	9,190	1,520	26.4	8,595	1,570	24.7	8,000	1,630	23.1	8,000	1,860	23.1	8,000	2,160	23.1	8,000	2,390	23.2	8,000	2,670	14.5	8,000	2,870	14.5	8,000	3,110	11.6	8,000	3,460	11.7	8,000	3,880	11.7
	12	9,850	1,470	28.3	9,650	1,600	27.8	9,450	1,770	27.2	9,350	1,930	27.0	9,250	2,130	26.8	9,200	2,390	26.7	9,150	2,730	16.6	9,100	2,890	16.5	9,050	3,280	13.2	9,000	3,630	13.1	8,950	3,930	13.1
	15	10,400	1,390	29.9	10,075	1,520	29.0	9,750	1,680	28.1	9,650	1,870	27.9	9,550	2,110	27.6	9,440	2,350	27.4	9,330	2,670	16.9	9,210	2,780	16.7	9,180	3,120	13.4	9,150	3,450	13.4	9,110	3,880	13.3
	20	11,300	1,320	32.5	10,905	1,480	31.4	10,510	1,680	30.3	10,380	1,900	30.0	10,250	2,180	29.7	10,115	2,370	29.3	9,980	2,600	18.1	9,860	2,760	17.9	9,780	3,140	14.2	9,760	3,530	14.2	9,650	3,990	14.1
	25	12,110	1,270	34.8	11,775	1,430	33.9	11,440	1,660	33.0	11,300	1,880	32.6	11,160	2,190	32.3	10,980	2,390	31.8	10,800	2,620	19.6	10,600	2,860	19.3	10,450	3,210	15.2	10,320	3,490	15.1	10,220	3,840	15.0
	30	12,850	1,200	37.0	12,535	1,370	36.1	12,220	1,610	35.2	12,060	1,840	34.8	11,900	2,180	34.4	11,800	2,380	34.2	11,700	2,640	21.2	11,600	2,930	21.1	11,500	3,290	16.7	11,400	3,540	16.6	10,800	3,690	15.8
	35	13,700	1,140	39.4	13,340	1,310	38.4	12,980	1,570	37.4	12,690	1,790	36.6	12,400	2,110	35.9	12,300	2,320	35.7	12,200	2,580	22.1	12,100	2,850	22.0	12,000	3,190	17.5	11,100	3,200	16.2	10,100	3,180	14.8
AE080CXYBGK/EU	-25	5,700	3,020	16.4	5,475	3,000	15.8	5,250	2,980	15.1	5,135	3,030	14.8	5,020	3,080	14.5	4,960	3,220	14.4	4,900	3,380	8.9	4,810	3,500	8.7	4,720	3,630	7.0						
	-20	6,600	2,970	19.0	6,425	3,090	18.5	6,250	3,230	18.0	6,130	3,270	17.7	6,010	3,320	17.4	5,830	3,420	16.9	5,650	3,530	10.2	5,550	3,670	10.1	5,450	3,820	7.9						
	-15	7,400	2,880	21.3	7,270	3,110	20.9	7,140	3,380	20.6	6,980	3,400	20.2	6,820	3,430	19.7	6,655	3,560	19.3	6,490	3,710	11.8	6,370	3,860	11.6	6,250	4,030	9.1	6,100	4,070	8.9			
	-10	8,250	2,610	23.7	8,125	2,820	23.4	8,000	3,080	23.1	7,940	3,310	22.9	7,880	3,580	22.8	7,730	3,730	22.4	7,580	3,910	13.7	7,450	4,120	13.5	7,320	4,360	10.7	7,105	4,600	10.4	6,890	4,890	10.1
	-7	8,620	2,460	24.8	8,310	2,560	23.9	8,000	2,670	23.1	8,000	2,960	23.1	8,000	3,330	23.1	8,000	3,600	23.2	8,000	3,920	14.5	8,000	4,160	14.5	8,000	4,420	11.6	7,775	4,710	11.3	7,550	5,070	11.0
	-2	8,810	2,080	25.3	8,405	2,090	24.2	8,000	2,110	23.1	8,000	2,410	23.1	8,000	2,810	23.1	8,000	3,080	23.2	8,000	3,400	14.5	8,000	3,630	14.5	8,000	3,880	11.6	8,000	4,280	11.7	8,000	4,760	11.7
	2	8,910	1,820	25.6	8,455	1,860	24.3	8,000	1,900	23.1	8,000	2,160	23.1	8,000	2,500	23.1	8,000	2,720	23.2	8,000	2,990	14.5	8,000	3,270	14.5	8,000	3,620	11.6	8,000	3,930	11.7	8,000	4,300	11.7
	7	9,190	1,520	26.4	8,595	1,570	24.7	8,000	1,630	23.1	8,000	1,860	23.1	8,000	2,160	23.1	8,000	2,390	23.2	8,000	2,670	14.5	8,000	2,870	14.5	8,000	3,110	11.6	8,000	3,460	11.7	8,000	3,880	11.7
	12	9,850	1,470	28.3	9,650	1,600	27.8	9,450	1,770	27.2	9,350	1,930	27.0	9,250	2,130	26.8	9,200	2,390	26.7	9,150	2,730	16.6	9,100	2,890	16.5	9,050	3,280	13.2	9,000	3,630	13.1	8,950	3,930	13.1
	15	10,400	1,390	29.9	10,075	1,520	29.0	9,750	1,680	28.1	9,650	1,870	27.9	9,550	2,110	27.6	9,440	2,350	27.4	9,330	2,670	16.9	9,210	2,780	16.7	9,180	3,120	13.4	9,150	3,450	13.4	9,110	3,880	13.3
	20	11,300	1,320	32.5	10,905	1,480	31.4	10,510	1,680	30.3	10,380	1,900	30.0	10,250	2,180	29.7	10,115	2,370	29.3	9,980	2,600	18.1	9,860	2,760	17.9	9,780	3,140	14.2	9,760	3,530	14.2	9,650	3,990	14.1
	25	12,110	1,270	34.8	11,775	1,430	33.9	11,440	1,660	33.0	11,300	1,880	32.6	11,160	2,190	32.3	10,980	2,390	31.8	10,800	2,620	19.6	10,600	2,860	19.3	10,450	3,210	15.2	10,320	3,490	15.1	10,220	3,840	15.0
	30	12,850	1,200	37.0	12,535	1,370	36.1	12,220	1,610	35.2	12,060	1,840	34.8	11,900	2,180	34.4	11,800	2,380	34.2	11,700	2,640	21.2	11,600	2,930	21.1	11,500	3,290	16.7	11,400	3,540	16.6	11,300	3,880	16.5
	35	13,700	1,140	39.4	13,340	1,310	38.4	12,980	1,570	37.4	12,690	1,790	36.6	12,400	2,110	35.9	12,300	2,320	35.7	12,200	2,580	22.1	12,100	2,850	22.0	12,000	3,190	17.5	11,100	3,260	16.2	11,820	3,880	17.3
AE120CXYBEK/EU	-25	9,800	4,830	28.2	9,650	4,990	27.8	9,500	5,160	27.4	9,400	5,450	27.1	9,300	5,780	26.9	9,150	5,950	26.5	9,000	6,200	16.3	8,850	6,420	16.1	8,800	6,720	12.8						
	-20	10,500	4,550	30.2	10,400	4,790	29.9	10,300	5,070	29.7	10,250	5,360	29.6	10,150	5,660	29.4	10,100	5,940	29.3	10,000	6,250	18.1	9,850	6,510	17.9	9,760	6,920	14.2						
	-15	11,700	4,460	33.6	11,420	4,780	32.9	11,150	5,180	34.6	11,125	5,400	32.1	11,075	5,620	32.0	11,050	5,900	32.0	11,000	6,220	19.9	10,930	6,580	19.9	10,680	6,960	15.6	9,800	6,710	14.3			
	-10	12,890	3,710	37.1	12,445	4,100	35.8	12,000	4,620	34.6	12,000	5,050	34.7	12,000	5,500	34.7	12,000	5,760	34.8	12,000	6,140	21.8	12,000	6,700	21.8	11,500	6,970	16.7	10,660	6,940	15.6	9,940	6,900	14.5
	-7	12,930	3,360	37.2	12,470	3,640	35.9	12,000	4,000	34.6	12,000	4,430	34.7	12,000	5,010	34.7	12,000	5,460	34.8	12,000	5,860	21.8	12,000	6,230	21.8	12,000	6,770	17.5	11,270	6,970	16.5	10,200	6,900	14.9
	-2	13,220	3,100	38.0	12,610	3,160	36.3	12,000	3,140	34.6	12,000	3,630	34.7	12,000	4,190	34.7	12,000	4,600	34.8	12,000	5,070	21.8	12,000	5,390	21.8	12,000	5,940	17.5	12,000	6,550	17.5	11,680	6,880	17.1
	2	13,370	2,660	38.5	12,680	2,800	36.5	12,000	2,790	34.6	12,000	3,210	34.7	12,000	3,640	34.7	12,000	4,110	34.8	12,000	4,490	21.8	12,000	4,940	21.8	12,000	5,540	17.5	12,000	6,020	17.5	12,000	6,450	17.6
	7	13,790	2,180	39.7	12,890	2,360	37.1	12,000	2,500	34.6	12,000	2,790	34.7	12,000	3,240	34.7	12,000	3,550	34.8	12,000	4,000	21.8	12,000	4,270	21.8	12,000	4,710	17.5	12,000	5,290	17.5	12,000	5,880	17.6
	12	14,780	2,190	42.5	14,480	2,420	41.7	14,180	2,660	40.9	14,030	2,900	40.5	13,880	3,260	40.2	13,800	3,570	40.0	13,730	4,090	24.9	13,650	4,330	24.8	13,580	4,880	19.8	13,500	5,480	19.7	13,430	5,860	19.7
	15	15,600	2,100	44.9	15,110	2,260	43.5	14,630	2,510	42.2	14,480	2,780	41.8	14,330	3,250	41.5	14,160	3,540	41.1	14,000	3,990	25.4	13,820	4,140	25.1	13,770	4,650	20.1	13,730	5,130	20.0	13,670	5,820	20.0
	20	16,950	1,990	48.7	16,360	2,230	47.1	15,770	2,510	45.5	15,570	2,840	45.0	15,380	3,300	44.5	15,170	3,590	44.0	14,970	3,870	27.1	14,790	4,140	26.9	14,670	4,720	21.4	14,640	5,290	21.4	14,620	5,850	21.4
	25	18,170	1,900	52.3	17,660	2,150	50.8	17,160	2,480	49.5	16,950	2,840	49.0	16,740	3,210	48.4	16,470	3,540	47.7	16,200	3,920	29.4	15,900	4,250	28.9	15,680	4,870	22.8	15,480	5,210	22.6	15,000	5,470	21.9
	30	19,280	1,790	55.4	18,800	2,040	54.1	18,330	2,400	52.9	18,090	2,770	52.2	17,850	3,230	51.6	17,700	3,560	51.3	17,550	4,000	31.8	17,400	4,350	31.6	17,250	4,920	25.1	15,900	5,050	23.2	14,900	5,050	21.8
	35	20,550	1,720	58.0	20,010	1,950	57.6	19,470	2,350	56.1	19,040	2,710	55.0	18,600	3,130	53.8	18,450	3,480	53.5	18,300	3,890	33.2	18,150	4,260	33.0	17,250	4,620	25.1	15,900	4,600	23.2	14,750	4,600	21.6
AE120CXYBGK/EU	-25	9,800	4,830	28.2	9,650	4,990	27.8	9,500	5,160	27.4	9,450	5,480	27.3	9,400	5,840	27.2	9,380	6,100	27.2	9,350	6,440	17.0	9,300	6,890	16.9	9,250	7,400	13.5						
	-20	11,000	4,760	31.6	10,900	5,020	31.4	10,800	5,320	31.1	10,750	5,630	31.0	10,650	5,940	30.8	10,550	6,210	30.6	10,350	6,470	18.8	10,250	6,770	18.6	10,150	7,360	14.8						
	-15	11,700	4,460	33.6	11,420	4,780	32.9	11,150	5,180	32.1	11,125	5,400	32.1	11,075	5,620	32.0	11,050	5,900	32.0	11,000	6,220	19.9	10,930	6,580	19.9	10,870	7,200	15.8	10,400	7,270	15.2			
	-10	12,890	3,710	37.1	12,445	4,100	35.8	12,000	4,620	34.6	12,000	5,050	34.7	12,000	5,500	34.7	12,000	5,760	34.8	12,000	6,140	21.8	12,000	6,700	21.8	12,000	7,500	17.5	11,100	7,450	16.2	10,450	7,410	15.3
	-7	12,930	3,360	37.2	12,470	3,640	35.9	12,000	4,000	34.6	12,000	4,430	34.7	12,000	5,010	34.7	12,000	5,460	34.8	12,000	5,860	21.8	12,000	6,230	21.8	12,000	6,770	17.5	11,800	7,520	17.2	11,500	7,930	16.8
	-2	13,220	3,100	38.0	12,610	3,160	36.3	12,000	3,140	34.6	12,000	3,630	34.7	12,000	4,190	34.7	12,000	4,600	34.8	12,000	5,070	21.8	12,000	5,390	21.8	12,000	5,940	17.5	12,000	6,550	17.5	12,000	7,410	17.6
	2	13,370	2,660	38.5	12,680	2,800	36.5	12,000	2,790	34.6	12,000	3,210	34.7	12,000	3,640	34.7	12,000	4,110	34.8	12,000	4,490	21.8	12,000	4,940	21.8	12,000	5,540	17.5	12,000	6,020	17.5	12,000	6,450	17.6
	7	13,790	2,180	39.7	12,890	2,360	37.1	12,000	2,500	34.6	12,000	2,790	34.7	12,000	3,240	34.7	12,000	3,550	34.8	12,000	4,000	21.8	12,000	4,270	21.8	12,000	4,710	17.5	12,000	5,290	17.5	12,000	5,880	17.6
	12	14,780	2,190	42.5	14,480	2,420	41.7	14,180	2,660	40.9	14,030	2,900	40.5	13,880	3,260	40.2	13,800	3,570	40.0	13,730	4,090	24.9	13,650	4,330	24.8	13,580	4,880	19.8	13,500	5,480	19.7	13,430	5,860	19.7
	15	15,600	2,100	44.9	15,110	2,260	43.5	14,630	2,510	42.2	14,480	2,780	41.8	14,330	3,250	41.5	14,160	3,540	41.1	14,000	3,990	25.4	13,820	4,140	25.1	13,770	4,650	20.1	13,730	5,130	20.0	13,670	5,820	20.0
	20	16,950	1,990	48.7	16,360	2,230	47.1	15,770	2,510	45.5	15,570	2,840	45.0	15,380	3,300	44.5	15,170	3,590	44.0	14,970	3,870	27.1	14,790	4,140	26.9	14,670	4,720	21.4	14,640	5,290	21.4	14,620	5,850	21.4
	25	18,170	1,900	52.3	17,660	2,150	50.8	17,160	2,480	49.5	16,950	2,840	49.0	16,740	3,210	48.4	16,470	3,540	47.7	16,200	3,920	29.4	15,900	4,250	28.9	15,680	4,870	22.8	15,480	5,210	22.6	15,330	5,590	22.4
	30	19,280	1,790	55.4	18,800	2,040	54.1	18,330	2,400	52.9	18,090	2,770	52.2	17,850	3,230	51.6	17,700	3,560	51.3	17,550	4,000	31.8	17,400	4,350	31.6	17,250	4,920	25.1	16,850	5,190	24.6	16,390	5,560	24.0
	35	20,550	1,720	58.0	20,010	1,950	57.6	19,470	2,350	56.1	19,040	2,710	55.0	18,600	3,130	53.8	18,450	3,480	53.5	18,300	3,890	33.2	18,150	4,260	33.0	17,950	4,810	26.1	17,750	5,100	25.9	17,560	5,480	25.7

2. Outdoor Units

2-9. Capacity table

1) Maximum Heating Capacity (Peak Value)

LWT (Leaving Water Temp.), Tamb (Ambient Temp.), HC (Heating Capacity), PI (Power input), WF (Water Flow)

Model	LWT (°C)	25			30			35			40			45			50			55			60			65			70			75		
	Tamb (°C)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)
AE160CXYBEK/EU	-25	9800	4830	28.2	10650	5630	30.7	11500	6570	33.2	11050	6680	31.9	10600	6790	30.7	10370	6950	30.1	9800	6950	17.8	9390	6950	17.1	8800	6720	12.8						
	-20	13300	6240	38.3	13135	6570	37.8	12970	6940	37.4	12400	6940	35.8	11830	6950	34.2	11460	6950	33.2	11100	6940	20.1	10190	6940	18.5	9760	6920	14.2						
	-15	14980	6350	43.1	14370	6620	41.4	13760	6950	39.7	13390	6950	38.7	13010	6950	37.6	12630	6950	36.6	11880	6950	21.5	11070	6950	20.1	10680	6960	15.6	9800	6710	14.3			
	-10	16200	5180	46.6	16100	5930	46.4	16000	6960	46.2	15195	6950	43.9	14390	6950	41.6	13890	6950	40.3	13320	6950	24.2	12230	6950	22.2	11500	6970	16.7	10660	6940	15.6	9940	6900	14.5
	-7	16250	4690	46.7	16125	5150	46.4	16000	5710	46.2	15600	6170	45.1	15200	6740	44.0	14430	6770	41.8	13810	6950	25.0	12720	6950	23.1	11820	6940	17.2	11270	6970	16.5	10200	6900	14.9
	-2	16300	4250	46.9	16150	4410	46.5	16000	4590	46.2	15800	5140	45.6	15600	5860	45.1	15500	6190	44.9	15400	6850	27.9	14700	6950	26.7	13450	6940	19.6	12050	6920	17.6	11680	6880	17.1
	2	16400	3480	47.2	16200	3760	46.6	16000	4100	46.2	16000	4640	46.2	16000	5330	46.3	16000	5710	46.4	16000	6300	29.0	15500	6720	28.2	14420	6940	21.0	13110	6920	19.1	12600	6920	18.4
	7	17500	3110	50.3	16750	3310	48.2	16000	3550	46.2	16000	4000	46.2	16000	4570	46.3	16000	4940	46.4	16000	5520	29.0	16000	5930	29.1	16000	6540	23.3	14890	6910	21.7	13400	6910	19.6
	12	18520	3050	53.3	18150	3290	52.3	17770	3580	51.2	17585	3940	50.8	17400	4390	50.3	17300	4660	50.2	17210	5340	31.2	17110	5600	31.1	17020	6370	24.8	15900	6680	23.2	15400	6700	22.5
	15	19970	2990	57.4	19285	3190	55.5	18600	3430	53.6	18500	3860	53.4	18400	4420	53.2	18120	4720	52.5	17920	5320	32.5	17760	5480	32.3	17500	6360	25.5	15900	6360	23.2	15400	6360	22.5
	20	20400	2660	58.0	19770	2930	56.9	19140	3280	55.2	18975	3730	54.8	18810	4340	54.4	18610	4580	54.0	18400	4960	33.4	18210	5260	33.1	17600	6050	25.6	15900	6050	23.2	15100	6040	22.1
	25	20830	2420	58.0	20255	2690	58.0	19680	3060	56.7	19450	3420	56.2	19220	3880	55.6	19100	4280	55.4	19050	4800	34.5	18800	5110	34.2	17600	5480	25.6	15900	5480	23.2	15000	5470	21.9
	30	22110	2280	58.0	21565	2560	58.0	21020	2960	58.0	20745	3390	58.0	20470	3990	58.0	20300	4250	58.0	20010	4750	36.3	19600	5050	35.6	17600	5050	25.6	15900	5050	23.2	14900	5050	21.8
	35	23560	2190	58.0	22945	2490	58.0	22330	2900	58.0	21830	3300	58.0	21330	3860	58.0	21160	4150	58.0	20500	4540	37.2	19600	4600	35.6	17600	4600	25.6	15900	4600	23.2	14750	4600	21.6
AE160CXYBGK/EU	-25	9800	4830	28.2	10650	5630	30.7	11500	6570	33.2	11400	7000	32.9	11300	7480	32.7	11200	7800	32.5	11000	8270	19.9	10800	8570	19.6	10600	8880	15.4						
	-20	13300	6240	38.3	13135	6570	37.8	12970	6940	37.4	12500	7030	36.1	12400	7460	35.9	12300	7730	35.7	12100	7900	21.9	11700	8540	21.3	11500	8850	16.7						
	-15	14980	6350	43.1	14370	6620	41.4	13760	6950	39.7	13450	7000	38.8	13100	7020	37.9	12850	7130	37.3	12560	7550	22.8	12260	8100	22.3	11860	8140	17.3	10800	7990				
	-10	16200	5180	46.6	16100	5930	46.4	16000	6960	46.2	15195	6950	43.9	14390	6950	41.6	13890	6950	40.3	13320	6950	24.2	12860	7490	23.4	12250	7660	17.8	11000	7490	16.1	10500	7760	15.4
	-7	16250	4690	46.7	16125	5150	46.4	16000	5710	46.2	15600	6170	45.1	15200	6740	44.0	14430	6770	41.8	13810	6950	25.0	13520	7550	24.6	13210	8010	19.2	11850	7500	17.3	11450	8010	16.8
	-2	16300	4250	46.9	16150	4410	46.5	16000	4590	46.2	15800	5140	45.6	15600	5860	45.1	15500	6190	44.9	15400	6850	27.9	14700	6950	26.7	13450	6940	19.6	12050	6920	17.6	11680	6880	17.1
	2	16400	3480	47.2	16200	3760	46.6	16000	4100	46.2	16000	4640	46.2	16000	5330	46.3	16000	5710	46.4	16000	6300	29.0	15500	6720	28.2	14420	6940	21.0	13110	6920	19.1	12600	6920	18.4
	7	17500	3110	50.3	16750	3310	48.2	16000	3550	46.2	16000	4000	46.2	16000	4570	46.3	16000	4940	46.4	16000	5520	29.0	16000	5930	29.1	16000	6540	23.3	16000	7550	23.4	16000	8510	23.4
	12	18520	3050	53.3	18150	3290	52.3	17770	3580	51.2	17585	3940	50.8	17400	4390	50.3	17300	4660	50.2	17210	5340	31.2	17110	5600	31.1	17020	6370	24.8	16920	7170	24.7	16780	7360	24.6
	15	19970	2990	57.4	19285	3190	55.5	18600	3430	53.6	18500	3860	53.4	18400	4420	53.2	18120	4720	52.5	17920	5320	32.5	17760	5480	32.3	17600	6420	25.6	17400	7020	25.4	17000	7110	24.9
	20	20400	2660	58.0	19770	2930	56.9	19140	3280	55.2	18975	3730	54.8	18810	4340	54.4	18610	4580	54.0	18400	4960	33.4	18210	5260	33.1	18050	6220	26.3	17750	6830	25.9	17420	7050	25.5
	25	20830	2420	58.0	20255	2690	58.0	19680	3060	56.7	19450	3420	56.2	19220	3880	55.6	19100	4280	55.4	19050	4800	34.5	18800	5110	34.2	18600	5810	27.1	18300	6350	26.7	17900	6680	26.2
	30	22110	2280	58.0	21565	2560	58.0	21020	2960	58.0	20745	3390	58.0	20470	3990	58.0	20300	4250	58.0	20010	4750	36.3	19750	5100	35.9	19520	5660	28.4	19090	6120	27.9	18650	6390	27.3
	35	23560	2190	58.0	22945	2490	58.0	22330	2900	58.0	21830	3300	58.0	21330	3860	58.0	21160	4150	58.0	20750	4620	37.6	20430	4840	37.1	20260	5350	29.5	19960	5870	29.1	19590	6220	28.7

1. Heating Capacity
 - Capacity is according to EN14511.
 - Valid for heated water range (ΔT = Leaving water temperature - Entering water temperature)
   : If LWT≤50°C, ΔT=5°C or 50°C<LWT≤60°C , ΔT=8°C or LWT>60°C, ΔT=10°C, within the minimum ~ maximum water flow rate.
2. Cooling Capacity
 - Capacity is according to EN14511.
 - Valid for Cooling water range (ΔT =Entering water temperature - Leaving water temperature)
   : ΔT=5°C, within the minimum ~ maximum water flow rate.
3. Power input : Power input is according to EN14511.
4. Peak value : Tested without defrost operation in accordance with EN14511.

※ The real capacity would be changed according to the install environment.

2. Outdoor Units

2-9. Capacity table

2) Maximum Heating Capacity (Integrated Value)

LWT (Leaving Water Temp.), Tamb (Ambient Temp.), HC (Heating Capacity), PI (Power input), WF (Water Flow)

Model	LWT (°C)	25			30			35			40			45			50			55			60			65			70			75		
	Tamb (°C)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)
AE050CXYBEK/EU	-25	3,850	1,980	11.1	3,695	1,970	10.6	3,540	1,950	10.2	3,470	1,990	10.0	3,390	2,020	9.8	3,350	2,110	9.7	3,310	2,220	7.0	3,250	2,290	7.0	3,190	2,380	7.0						
	-20	4,410	1,930	12.7	4,295	2,010	12.4	4,180	2,100	12.1	4,100	2,130	11.8	4,020	2,160	11.6	3,900	2,220	11.3	3,780	2,290	7.0	3,710	2,380	7.0	3,640	2,480	7.0						
	-15	4,900	1,850	14.1	4,815	2,000	13.9	4,730	2,180	13.6	4,620	2,190	13.3	4,520	2,210	13.1	4,410	2,290	12.8	4,300	2,390	7.8	4,220	2,480	7.7	4,140	2,590	7.0	4,040	2,610	7.0			
	-10	5,310	1,730	15.3	5,110	1,840	14.7	4,910	1,980	14.2	4,880	2,090	14.1	4,850	2,220	14.0	4,840	2,320	14.0	4,830	2,420	8.8	4,820	2,590	8.8	4,800	2,770	7.0	4,680	2,900	7.0	4,560	3,040	7.0
	-7	5,380	1,550	15.5	5,165	1,650	14.9	4,950	1,770	14.3	4,950	1,900	14.3	4,950	2,040	14.3	4,950	2,210	14.4	4,940	2,410	9.0	4,920	2,590	8.9	4,900	2,800	7.1	4,900	2,980	7.2	4,890	3,190	7.2
	-2	5,460	1,390	15.7	5,205	1,440	15.0	4,950	1,500	14.3	4,950	1,700	14.3	4,950	1,960	14.3	4,950	2,100	14.4	4,950	2,270	9.0	4,950	2,410	9.0	4,950	2,570	7.2	4,870	2,760	7.1	4,770	2,970	7.0
	2	5,540	1,230	15.9	5,245	1,260	15.1	4,950	1,300	14.3	4,950	1,470	14.3	4,950	1,710	14.3	4,950	1,890	14.4	4,950	2,150	9.0	4,950	2,220	9.0	4,950	2,290	7.2	4,950	2,510	7.2	4,840	2,710	7.1
	7	6,090	980	17.5	5,545	980	16.0	5,000	980	14.4	5,000	1,130	14.4	5,000	1,320	14.5	5,000	1,450	14.5	5,000	1,610	9.1	5,000	1,740	9.1	5,000	1,890	7.3	5,000	2,100	7.3	5,000	2,360	7.3
	12	6,400	920	18.4	6,270	1,010	18.1	6,140	1,110	17.7	6,080	1,220	17.6	6,010	1,340	17.4	5,980	1,510	17.3	5,950	1,730	10.8	5,920	1,820	10.8	5,880	2,070	8.6	5,850	2,290	8.5	5,820	2,480	8.5
	15	6,890	900	19.8	6,675	980	19.2	6,460	1,080	18.6	6,390	1,200	18.5	6,330	1,360	18.3	6,250	1,510	18.1	6,180	1,710	11.2	6,100	1,790	11.1	6,080	2,010	8.9	6,060	2,220	8.8	6,040	2,500	8.8
	20	7,490	850	21.5	7,225	950	20.8	6,960	1,080	20.1	6,880	1,220	19.9	6,790	1,400	19.6	6,700	1,520	19.4	6,610	1,670	12.0	6,530	1,770	11.9	6,480	2,020	9.4	6,470	2,270	9.4	6,390	2,560	9.4
	25	8,020	810	23.1	7,800	920	22.5	7,580	1,070	21.9	7,490	1,210	21.6	7,390	1,410	21.4	7,270	1,530	21.1	7,160	1,690	13.0	7,020	1,840	12.8	6,920	2,070	10.1	6,840	2,250	10.0	6,770	2,470	9.9
	30	8,510	770	24.5	8,305	880	23.9	8,100	1,030	23.4	7,990	1,190	23.1	7,880	1,400	22.8	7,820	1,530	22.7	7,750	1,700	14.1	7,690	1,880	14.0	7,620	2,120	11.1	7,550	2,280	11.0	7,410	2,460	10.8
	35	9,080	730	26.1	8,840	840	25.5	8,600	1,010	24.8	8,410	1,150	24.3	8,220	1,360	23.8	8,150	1,490	23.6	8,080	1,660	14.7	8,020	1,840	14.6	7,950	2,050	11.6	7,850	2,200	11.5	7,690	2,350	11.3
AE080CXYBEK/EU	-25	5,700	3,020	16.4	5,475	3,000	15.8	5,250	2,980	15.1	5,135	3,030	14.8	5,020	3,080	14.5	4,960	3,220	14.4	4,900	3,380	8.9	4,810	3,500	8.7	4,720	3,630	7.0						
	-20	6,600	2,970	19.0	6,425	3,090	18.5	6,250	3,230	18.0	6,130	3,270	17.7	6,010	3,320	17.4	5,830	3,420	16.9	5,650	3,530	10.2	5,550	3,670	10.1	5,450	3,820	7.9						
	-15	7,400	2,880	21.3	7,270	3,110	20.9	7,140	3,380	20.6	6,980	3,400	20.2	6,820	3,430	19.7	6,655	3,560	19.3	6,490	3,710	11.8	6,370	3,860	11.6	6,250	4,030	9.1	6,100	4,070	8.9				
	-10	8,020	2,690	23.1	7,715	2,860	22.2	7,410	3,070	21.4	7,365	3,250	21.3	7,320	3,460	21.2	7,310	3,600	21.2	7,300	3,760	13.2	7,275	4,020	13.2	7,250	4,320	10.6	7,070	4,510	10.3	6,890	4,740	10.1
	-7	8,120	2,410	23.4	7,810	2,570	22.5	7,500	2,780	21.6	7,490	2,970	21.6	7,480	3,180	21.6	7,465	3,440	21.6	7,450	3,740	13.5	7,425	4,020	13.5	7,400	4,350	10.8	7,390	4,630	10.8	7,380	4,950	10.8
	-2	8,240	2,170	23.7	8,020	2,290	23.1	7,800	2,430	22.5	7,825	2,760	22.6	7,850	3,200	22.7	7,775	3,400	22.5	7,700	3,630	14.0	7,600	3,810	13.8	7,500	4,010	10.9	7,350	4,290	10.7	7,200	4,620	10.5
	2	8,360	1,910	24.0	8,155	2,020	23.5	7,950	2,150	22.9	7,950	2,430	23.0	7,950	2,790	23.0	7,950	3,120	23.0	7,950	3,550	14.4	7,800	3,600	14.2	7,650	3,650	11.1	7,475	3,900	10.9	7,300	4,210	10.7
	7	9,190	1,520	26.4	8,595	1,570	24.7	8,000	1,630	23.1	8,000	1,860	23.1	8,000	2,160	23.1	8,000	2,390	23.2	8,000	2,670	14.5	8,000	2,870	14.5	8,000	3,110	11.6	8,000	3,460	11.7	8,000	3,880	11.7
	12	9,850	1,470	28.3	9,650	1,600	27.8	9,450	1,770	27.2	9,350	1,930	27.0	9,250	2,130	26.8	9,200	2,390	26.7	9,150	2,730	16.6	9,100	2,890	16.5	9,050	3,280	13.2	9,000	3,630	13.1	8,950	3,930	13.1
	15	10,400	1,390	29.9	10,075	1,520	29.0	9,750	1,680	28.1	9,650	1,870	27.9	9,550	2,110	27.6	9,440	2,350	27.4	9,330	2,670	16.9	9,210	2,780	16.7	9,180	3,120	13.4	9,150	3,450	13.4	9,110	3,880	13.3
	20	11,300	1,320	32.5	10,905	1,480	31.4	10,510	1,680	30.3	10,380	1,900	30.0	10,250	2,180	29.7	10,115	2,370	29.3	9,980	2,600	18.1	9,860	2,760	17.9	9,780	3,140	14.2	9,760	3,530	14.2	9,650	3,990	14.1
	25	12,110	1,270	34.8	11,775	1,430	33.9	11,440	1,660	33.0	11,300	1,880	32.6	11,160	2,190	32.3	10,980	2,390	31.8	10,800	2,620	19.6	10,600	2,860	19.3	10,450	3,210	15.2	10,320	3,490	15.1	10,220	3,840	15.0
	30	12,850	1,200	37.0	12,535	1,370	36.1	12,220	1,610	35.2	12,060	1,840	34.8	11,900	2,180	34.4	11,800	2,380	34.2	11,700	2,640	21.2	11,600	2,930	21.1	11,500	3,290	16.7	11,400	3,540	16.6	10,800	3,690	15.8
	35	13,700	1,140	39.4	13,340	1,310	38.4	12,980	1,570	37.4	12,690	1,790	36.6	12,400	2,110	35.9	12,300	2,320	35.7	12,200	2,580	22.1	12,100	2,850	22.0	12,000	3,190	17.5	11,100	3,200	16.2	10,100	3,180	14.8
AE080CXYBGK/EU	-25	5,700	3,020	16.4	5,475	3,000	15.8	5,250	2,980	15.1	5,135	3,030	14.8	5,020	3,080	14.5	4,960	3,220	14.4	4,900	3,380	8.9	4,810	3,500	8.7	4,720	3,630	7.0						
	-20	6,600	2,970	19.0	6,425	3,090	18.5	6,250	3,230	18.0	6,130	3,270	17.7	6,010	3,320	17.4	5,830	3,420	16.9	5,650	3,530	10.2	5,550	3,670	10.1	5,450	3,820	7.9						
	-15	7,400	2,880	21.3	7,270	3,110	20.9	7,140	3,380	20.6	6,980	3,400	20.2	6,820	3,430	19.7	6,655	3,560	19.3	6,490	3,710	11.8	6,370	3,860	11.6	6,250	4,030	9.1	6,100	4,070	8.9				
	-10	8,020	2,690	23.1	7,715	2,860	22.2	7,410	3,070	21.4	7,365	3,250	21.3	7,320	3,460	21.2	7,310	3,600	21.2	7,300	3,760	13.2	7,275	4,020	13.2	7,250	4,320	10.6	7,070	4,580	10.3	6,890	4,890	10.1
	-7	8,120	2,410	23.4	7,810	2,570	22.5	7,500	2,780	21.6	7,490	2,970	21.6	7,480	3,180	21.6	7,465	3,440	21.6	7,450	3,740	13.5	7,425	4,020	13.5	7,400	4,350	10.8	7,390	4,630	10.8	7,380	4,950	10.8
	-2	8,240	2,170	23.7	8,020	2,290	23.1	7,800	2,430	22.5	7,825	2,760	22.6	7,850	3,200	22.7	7,775	3,400	22.5	7,700	3,630	14.0	7,600	3,810	13.8	7,500	4,010	10.9	7,350	4,290	10.7	7,200	4,620	10.5
	2	8,360	1,910	24.0	8,155	2,020	23.5	7,950	2,150	22.9	7,950	2,430	23.0	7,950	2,790	23.0	7,950	3,120	23.0	7,950	3,550	14.4	7,800	3,600	14.2	7,650	3,650	11.1	7,475	3,900	10.9	7,300	4,210	10.7
	7	9,190	1,520	26.4	8,595	1,570	24.7	8,000	1,630	23.1	8,000	1,860	23.1	8,000	2,160	23.1	8,000	2,390	23.2	8,000	2,670	14.5	8,000	2,870	14.5	8,000	3,110	11.6	8,000	3,460	11.7	8,000	3,880	11.7
	12	9,850	1,470	28.3	9,650	1,600	27.8	9,450	1,770	27.2	9,350	1,930	27.0	9,250	2,130	26.8	9,200	2,390	26.7	9,150	2,730	16.6	9,100	2,890	16.5	9,050	3,280	13.2	9,000	3,630	13.1	8,950	3,930	13.1
	15	10,400	1,390	29.9	10,075	1,520	29.0	9,750	1,680	28.1	9,650	1,870	27.9	9,550	2,110	27.6	9,440	2,350	27.4	9,330	2,670	16.9	9,210	2,780	16.7	9,180	3,120	13.4	9,150	3,450	13.4	9,110	3,880	13.3
	20	11,300	1,320	32.5	10,905	1,480	31.4	10,510	1,680	30.3	10,380	1,900	30.0	10,250	2,180	29.7	10,115	2,370	29.3	9,980	2,600	18.1	9,860	2,760	17.9	9,780	3,140	14.2	9,760	3,530	14.2	9,650	3,990	14.1
	25	12,110	1,270	34.8	11,775	1,430	33.9	11,440	1,660	33.0	11,300	1,880	32.6	11,160	2,190	32.3	10,980	2,390	31.8	10,800	2,620	19.6	10,600	2,860	19.3	10,450	3,210	15.2	10,320	3,490	15.1	10,220	3,840	15.0
	30	12,850	1,200	37.0	12,535	1,370	36.1	12,220	1,610	35.2	12,060	1,840	34.8	11,900	2,180	34.4	11,800	2,380	34.2	11,700	2,640	21.2	11,600	2,930	21.1	11,500	3,290	16.7	11,400	3,540	16.6	11,300	3,880	16.5
	35	13,700	1,140	39.4	13,340	1,310	38.4	12,980	1,570	37.4	12,690	1,790	36.6	12,400	2,110	35.9	12,300	2,320	35.7	12,200	2,580	22.1	12,100	2,850	22.0	12,000	3,190	17.5	11,100	3,260	16.2	11,820	3,880	17.3
AE120CXYBEK/EU	-25	9,800	4,830	28.2	9,650	4,990	27.8	9,500	5,160	27.4	9,400	5,450	27.1	9,300	5,780	26.9	9,150	5,950	26.5	9,000	6,200	16.3	8,850	6,420	16.1	8,800	6,720	12.8						
	-20	10,500	4,550	30.2	10,400	4,790	29.9	10,300	5,070	29.7	10,250	5,360	29.6	10,150	5,660	29.4	10,100	5,940	29.3	10,000	6,250	18.1	9,850	6,510	17.9	9,760	6,920	14.2						
	-15	11,700	4,460	33.6	11,420	4,780	32.9	11,150	5,180	32.1	11,125	5,400	32.1	11,075	5,620	32.0	11,050	5,900	32.0	11,000	6,220	19.9	10,930	6,580	19.9	10,680	6,960	15.6	9,800	6,710	14.3			
	-10	12,030	4,130	34.6	11,570	4,380	33.3	11,120	4,540	32.1	11,050	5,030	31.9	10,980	5,290	31.8	10,970	5,460	31.8	10,950	5,760	19.9	10,910	6,150	19.8	10,870	6,590	15.8	10,660	6,940	15.6	9,940	6,900	14.5
	-7	12,180	3,730	35.0	11,720	3,860	33.7	11,450	4,160	33.0	11,240	4,590	32.5	11,220	4,820	32.5	11,200	4,980	32.5	11,180	5,670	20.3	11,140	6,160	20.2	11,100	6,660	16.2	10,900	6,900	15.9	10,050	6,930	14.7
	-2	12,360	3,350	35.5	12,030	3,430	34.6	11,900	3,710	34.3	11,820	4,310	34.1	11,780	4,900	34.1	11,660	5,000	33.8	11,550	5,340	20.9	11,400	5,710	20.7	11,250	6,130	16.4	11,030	6,500	16.1	10,200	6,610	14.9
	2	12,540	2,950	36.1	12,230	3,090	35.2	11,900	3,310	34.3	11,900	3,750	34.4	11,900	4,410	34.4	11,900	4,590	34.5	11,900	5,020	21.6	11,700	5,340	21.3	11,480	5,590	16.7	11,350	5,990	16.6	11,200	6,590	16.4
	7	13,790	2,180	39.7	12,890	2,360	37.1	12,000	2,500	34.6	12,000	2,790	34.7	12,000	3,240	34.7	12,000	3,550	34.8	12,000	4,000	21.8	12,000	4,270	21.8	12,000	4,710	17.5	12,000	5,290	17.5	12,000	5,880	17.6
	12	14,780	2,190	42.5	14,480	2,420	41.7	14,180	2,660	40.9	14,030	2,900	40.5	13,880	3,260	40.2	13,800	3,570	40.0	13,730	4,090	24.9	13,650	4,330	24.8	13,580	4,880	19.8	13,500	5,480	19.7	13,430	5,860	19.7
	15	15,600	2,100	44.9	15,110	2,260	43.5	14,630	2,510	42.2	14,480	2,780	41.8	14,330	3,250	41.5	14,160	3,540	41.1	14,000	3,990	25.4	13,820	4,140	25.1	13,770	4,650	20.1	13,730	5,130	20.0	13,670	5,820	20.0
	20	16,950	1,990	48.7	16,360	2,230	47.1	15,770	2,510	45.5	15,570	2,840	45.0	15,380	3,300	44.5	15,170	3,590	44.0	14,970	3,870	27.1	14,790	4,140	26.9	14,670	4,720	21.4	14,640	5,290	21.4	14,620	5,850	21.4
	25	18,170	1,900	52.3	17,660	2,150	50.8	17,160	2,480	49.5	16,950	2,840	49.0	16,740	3,210	48.4	16,470	3,540	47.7	16,200	3,920	29.4	15,900	4,250	28.9	15,680	4,870	22.8	15,480	5,210	22.6	15,000	5,470	21.9
	30	19,280	1,790	55.4	18,800	2,040	54.1	18,330	2,400	52.9	18,090	2,770	52.2	17,850	3,230	51.6	17,700	3,560	51.3	17,550	4,000	31.8	17,400	4,350	31.6	17,250	4,920	25.1	15,900	5,050	23.2	14,900	5,050	21.8
	35	20,550	1,720	58.0	20,010	1,950	57.6	19,470	2,350	56.1	19,040	2,710	55.0	18,600	3,130	53.8	18,450	3,480	53.5	18,300	3,890	33.2	18,150	4,260	33.0	17,250	4,620	25.1	15,900	4,600	23.2	14,750	4,600	21.6
AE120CXYBGK/EU	-25	9,800	4,830	28.2	9,650	4,990	27.8	9,500	5,160	27.4	9,450	5,480	27.3	9,400	5,840	27.2	9,380	6,100	27.2	9,350	6,440	17.0	9,300	6,890	16.9	9,250	7,400	13.5						
	-20	11,000	4,760	31.6	10,900	5,020	31.4	10,800	5,320	31.1	10,750	5,630	31.0	10,650	5,940	30.8	10,550	6,210	30.6	10,350	6,470	18.8	10,250	6,770	18.6	10,150	7,360	14.8						
	-15	11,700	4,460	33.6	11,420	4,780	32.9	11,150	5,180	32.1	11,125	5,400	32.1	11,075	5,620	32.0	11,050	5,900	32.0	11,000	6,220	19.9	10,930	6,580	19.9	10,870	7,200	15.8	10,400	7,270	15.2			
	-10	12,030	4,130	34.6	11,570	4,380	33.3	11,120	4,540	32.1	11,050	5,030	31.9	10,980	5,290	31.8	10,970	5,460	31.8	10,950	5,760	19.9	10,910	6,150	19.8	10,870	6,590	15.8	10,800	7,250	15.8	10,450	7,410	15.3
	-7	12,180	3,730	35.0	11,720	3,860	33.7	11,450	4,160	33.0	11,240	4,590	32.5	11,220	4,820	32.5	11,200	4,980	32.5	11,180	5,670	20.3	11,140	6,160	20.2	11,100	6,660	16.2	10,950	7,020	16.0	10,700	7,540	15.7
	-2	12,360	3,350	35.5	12,030	3,430	34.6	11,900	3,710	34.3	11,820	4,310	34.1	11,780	4,900	34.1	11,660	5,000	33.8	11,550	5,340	20.9	11,400	5,710	20.7	11,250	6,130	16.4	11,030	6,500	16.1	10,900	7,220	16.0
	2	12,540	2,950	36.1	12,230	3,090	35.2	11,900	3,310	34.3	11,900	3,750	34.4	11,900	4,410	34.4	11,900	4,590	34.5	11,900	5,020	21.6	11,700	5,340	21.3	11,480	5,590	16.7	11,350	5,990	16.6	11,200	6,590	16.4
	7	13,790	2,180	39.7	12,890	2,360	37.1	12,000	2,500	34.6	12,000	2,790	34.7	12,000	3,240	34.7	12,000	3,550	34.8	12,000	4,000	21.8	12,000	4,270	21.8	12,000	4,710	17.5	12,000	5,290	17.5	12,000	5,880	17.6
	12	14,780	2,190	42.5	14,480	2,420	41.7	14,180	2,660	40.9	14,030	2,900	40.5	13,880	3,260	40.2	13,800	3,570	40.0	13,730	4,090	24.9	13,650	4,330	24.8	13,580	4,880	19.8	13,500	5,480	19.7	13,430	5,860	19.7
	15	15,600	2,100	44.9	15,110	2,260	43.5	14,630	2,510	42.2	14,480	2,780	41.8	14,330	3,250	41.5	14,160	3,540	41.1	14,000	3,990	25.4	13,820	4,140	25.1	13,770	4,650	20.1	13,730	5,130	20.0	13,670	5,820	20.0
	20	16,950	1,990	48.7	16,360	2,230	47.1	15,770	2,510	45.5	15,570	2,840	45.0	15,380	3,300	44.5	15,170	3,590	44.0	14,970	3,870	27.1	14,790	4,140	26.9	14,670	4,720	21.4	14,640	5,290	21.4	14,620	5,850	21.4
	25	18,170	1,900	52.3	17,660	2,150	50.8	17,160	2,480	49.5	16,950	2,840	49.0	16,740	3,210	48.4	16,470	3,540	47.7	16,200	3,920	29.4	15,900	4,250	28.9	15,680	4,870	22.8	15,480	5,210	22.6	15,330	5,590	22.4
	30	19,280	1,790	55.4	18,800	2,040	54.1	18,330	2,400	52.9	18,090	2,770	52.2	17,850	3,230	51.6	17,700	3,560	51.3	17,550	4,000	31.8	17,400	4,350	31.6	17,250	4,920	25.1	16,850	5,190	24.6	16,390	5,560	24.0
	35	20,550	1,720	58.0	20,010	1,950	57.6	19,470	2,350	56.1	19,040	2,710	55.0	18,600	3,130	53.8	18,450	3,480	53.5	18,300	3,890	33.2	18,150	4,260	33.0	17,950	4,810	26.1	17,750	5,100	25.9	17,560	5,480	25.7

2. Outdoor Units

2-9. Capacity table

2) Maximum Heating Capacity (Integrated Value)

LWT (Leaving Water Temp.), Tamb (Ambient Temp.), HC (Heating Capacity), PI (Power input), WF (Water Flow)

Model	LWT (°C)	25			30			35			40			45			50			55			60			65			70			75		
	Tamb (°C)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)	HC (W)	PI (W)	WF (LPM)
AE160CXYBEK/EU	-25	9,800	4,830	28.2	10,650	5,630	30.7	11,500	6,570	33.2	11,050	6,680	31.9	10,600	6,790	30.7	10,370	6,950	30.1	9,800	6,950	17.8	9,390	6,950	17.1	8,800	6,720	12.8						
	-20	13,300	6,240	38.3	13,135	6,570	37.8	12,970	6,940	37.4	12,400	6,940	35.8	11,830	6,950	34.2	11,460	6,950	33.2	11,100	6,940	20.1	10,190	6,940	18.5	9,760	6,920	14.2						
	-15	14,980	6,350	43.1	14,370	6,620	41.4	13,760	6,950	39.7	13,390	6,950	38.7	13,010	6,950	37.6	12,630	6,950	36.6	11,880	6,950	21.5	11,070	6,950	20.1	10,680	6,960	15.6	9,800	6,710	14.3			
	-10	15,000	5,880	43.1	14,380	6,030	41.4	13,750	6,190	39.6	13,400	6,490	38.7	13,050	6,830	37.8	12,650	6,840	36.7	12,200	6,850	22.1	11,770	6,770	21.4	11,100	6,770	16.2	10,660	6,940	15.6	9,940	6,900	14.5
	-7	14,800	5,150	42.6	14,400	5,360	41.5	14,000	5,600	40.4	13,960	6,080	40.3	13,910	6,640	40.2	13,800	6,830	40.0	12,820	6,850	23.2	12,000	6,770	21.8	11,140	6,750	16.2	10,900	6,900	15.9	10,050	6,930	14.7
	-2	14,500	4,460	41.7	14,630	4,740	42.1	14,760	5,050	42.6	14,690	5,730	42.4	14,610	6,610	42.3	14,300	6,590	41.5	13,400	6,450	24.3	12,840	6,770	23.3	12,140	6,750	17.7	11,300	6,770	16.5	10,300	6,780	15.1
	2	14,200	3,790	40.8	14,850	4,210	42.8	15,500	4,700	44.7	15,250	5,210	44.0	15,000	5,880	43.4	14,600	6,120	42.3	14,000	6,060	25.4	13,930	6,770	25.3	13,450	6,750	19.6	12,300	6,760	18.0	11,500	6,760	16.8
	7	17,500	3,110	50.3	16,750	3,310	48.2	16,000	3,550	46.2	16,000	4,000	46.2	16,000	4,570	46.3	16,000	4,940	46.4	16,000	5,520	29.0	16,000	5,930	29.1	16,000	6,540	23.3	14,890	6,910	21.7	13,400	6,910	19.6
	12	18,520	3,050	53.3	18,150	3,290	52.3	17,770	3,580	51.2	17,585	3,940	50.8	17,400	4,390	50.3	17,300	4,660	50.2	17,210	5,340	31.2	17,110	5,600	31.1	17,020	6,370	24.8	15,900	6,680	23.2	15,400	6,700	22.5
	15	19,970	2,990	57.4	19,285	3,190	55.5	18,600	3,430	53.6	18,500	3,860	53.4	18,400	4,420	53.2	18,120	4,720	52.5	17,920	5,320	32.5	17,760	5,480	32.3	17,500	6,360	25.5	15,900	6,360	23.2	15,400	6,360	22.5
	20	20,400	2,660	58.0	19,770	2,930	56.9	19,140	3,280	55.2	18,975	3,730	54.8	18,810	4,340	54.4	18,610	4,580	54.0	18,400	4,960	33.4	18,210	5,260	33.1	17,600	6,050	25.6	15,900	6,050	23.2	15,100	6,040	22.1
	25	20,830	2,420	58.0	20,255	2,690	58.0	19,680	3,060	56.7	19,450	3,420	56.2	19,220	3,880	55.6	19,100	4,280	55.4	19,050	4,800	34.5	18,800	5,110	34.2	17,600	5,480	25.6	15,900	5,480	23.2	15,000	5,470	21.9
	30	22,110	2,280	58.0	21,565	2,560	58.0	21,020	2,960	58.0	20,745	3,390	58.0	20,470	3,990	58.0	20,300	4,250	58.0	20,010	4,750	36.3	19,600	5,050	35.6	17,600	5,050	25.6	15,900	5,050	23.2	14,900	5,050	21.8
	35	23,560	2,190	58.0	22,945	2,490	58.0	22,330	2,900	58.0	21,830	3,300	58.0	21,330	3,860	58.0	21,160	4,150	58.0	20,500	4,540	37.2	19,600	4,600	35.6	17,600	4,600	25.6	15,900	4,600	23.2	14,750	4,600	21.6
AE160CXYBGK/EU	-25	9,800	4,830	28.2	10,650	5,630	30.7	11,500	6,570	33.2	11,400	7,000	32.9	11,300	7,480	32.7	11,200	7,800	32.5	11,000	8,270	19.9	10,800	8,570	19.6	10,600	8,880	15.4						
	-20	13,300	6,240	38.3	13,135	6,570	37.8	12,970	6,940	37.4	12,500	7,030	36.1	12,400	7,460	35.9	12,300	7,730	35.7	12,100	7,900	21.9	11,700	8,540	21.3	11,500	8,850	16.7						
	-15	14,980	6,350	43.1	14,370	6,620	41.4	13,760	6,950	39.7	13,450	7,000	38.8	13,100	7,020	37.9	12,850	7,130	37.3	12,560	7,550	22.8	12,260	8,100	22.3	11,860	8,140	17.3	10,800	7,990	15.8			
	-10	15,000	5,880	43.1	14,380	6,030	41.4	13,750	6,190	39.6	13,400	6,490	38.7	13,050	6,830	37.8	12,650	6,840	36.7	12,200	6,850	22.1	11,820	7,250	21.5	11,720	7,560	17.1	11,000	7,490	16.1	10,500	7,760	15.4
	-7	14,800	5,150	42.6	14,400	5,360	41.5	14,000	5,600	40.4	13,960	6,080	40.3	13,910	6,640	40.2	13,800	6,830	40.0	12,820	6,850	23.2	12,030	7,120	21.9	11,800	7,420	17.2	11,030	7,500	16.1	10,340	7,600	15.1
	-2	14,500	4,460	41.7	14,630	4,740	42.1	14,760	5,050	42.6	14,690	5,730	42.4	14,610	6,610	42.3	14,300	6,590	41.5	13,400	6,450	24.3	12,650	6,800	23.0	12,060	6,850	17.6	11,330	6,950	16.5	10,500	7,050	15.4
	2	14,200	3,790	40.8	14,850	4,210	42.8	15,500	4,700	44.7	15,250	5,210	44.0	15,000	5,880	43.4	14,600	6,120	42.3	14,000	6,060	25.4	13,610	6,770	24.7	13,290	6,780	19.4	12,240	6,800	17.9	11,510	6,850	16.8
	7	17,500	3,110	50.3	16,750	3,310	48.2	16,000	3,550	46.2	16,000	4,000	46.2	16,000	4,570	46.3	16,000	4,940	46.4	16,000	5,520	29.0	16,000	5,930	29.1	16,000	6,540	23.3	16,000	7,550	23.4	16,000	8,510	23.4
	12	18,520	3,050	53.3	18,150	3,290	52.3	17,770	3,580	51.2	17,585	3,940	50.8	17,400	4,390	50.3	17,300	4,660	50.2	17,210	5,340	31.2	17,110	5,600	31.1	17,020	6,370	24.8	16,920	7,170	24.7	16,780	7,360	24.6
	15	19,970	2,990	57.4	19,285	3,190	55.5	18,600	3,430	53.6	18,500	3,860	53.4	18,400	4,420	53.2	18,120	4,720	52.5	17,920	5,320	32.5	17,760	5,480	32.3	17,600	6,420	25.6	17,400	7,020	25.4	17,000	7,110	24.9
	20	20,400	2,660	58.0	19,770	2,930	56.9	19,140	3,280	55.2	18,975	3,730	54.8	18,810	4,340	54.4	18,610	4,580	54.0	18,400	4,960	33.4	18,210	5,260	33.1	18,050	6,220	26.3	17,750	6,830	25.9	17,420	7,050	25.5
	25	20,830	2,420	58.0	20,255	2,690	58.0	19,680	3,060	56.7	19,450	3,420	56.2	19,220	3,880	55.6	19,100	4,280	55.4	19,050	4,800	34.5	18,800	5,110	34.2	18,600	5,810	27.1	18,300	6,350	26.7	17,900	6,680	26.2
	30	22,110	2,280	58.0	21,565	2,560	58.0	21,020	2,960	58.0	20,745	3,390	58.0	20,470	3,990	58.0	20,300	4,250	58.0	20,010	4,750	36.3	19,750	5,100	35.9	19,520	5,660	28.4	19,090	6,120	27.9	18,650	6,390	27.3
	35	23,560	2,190	58.0	22,945	2,490	58.0	22,330	2,900	58.0	21,830	3,300	58.0	21,330	3,860	58.0	21,160	4,150	58.0	20,750	4,620	37.6	20,430	4,840	37.1	20,260	5,350	29.5	19,960	5,870	29.1	19,590	6,220	28.7

1. Heating cap ity
 - Capacity is according to EN14511.
 - Valid for heated water range (ΔT = Leaving water temperatu e - Entering water temperature)
  : If LWT≤50°C, ΔT=5°C or 50°C<LWT≤60°C , ΔT=8°C or LWT>60°C, ΔT=10°C, within the minimum ~ maximum water flow rate.
2. Cooling capacit
 - Capacity is according to EN14511
 - Valid for ooling water range (ΔT =Entering water temperature - Leaving water temperature)
  : ΔT=5°C, within the minimum ~ maximum water flow rate.
3. Power input : Power input is according to EN1451
4. Peak value : Tested wi out defrost operation in accordance with EN14511.

※ T e real capacity would be changed according to the install environment.

2. Outdoor Units

2-9. Capacity table

3) Cooling Capacity

LWT (Leaving Water Temp.), Tamb (Ambient Temp.), CC (Cooling Capacity), PI (Power input), WF (Water Flow)

Model	LWT(℃)	7			10			13			15			18			25		
	Tamb(℃)	CC (W)	PI (W)	WF(LPM)	CC (W)	PI (W)	WF(LPM)	CC (W)	PI (W)	WF(LPM)	CC (W)	PI (W)	WF(LPM)	CC (W)	PI (W)	WF(LPM)	CC (W)	PI (W)	WF(LPM)
AE050CXYBEK/EU	10	4,485	670	12.9	4,577	670	13.2	4,959	720	14.3	5,244	730	15.1	5,750	730	16.5	6,327	690	18.2
	20	4,290	790	12.3	4,415	800	12.7	4,785	750	13.8	5,060	780	14.6	5,550	830	16.0	6,105	860	17.6
	30	4,095	1,040	11.8	4,253	1,030	12.2	4,611	1,090	13.3	4,876	1,100	14.0	5,350	1,020	15.4	5,883	1,020	17.0
	35	3,900	1,280	11.2	4,050	1,300	11.6	4,350	1,200	12.5	4,600	1,220	13.2	5,000	1,280	14.4	5,550	1,080	16.0
	46	3,650	1,870	10.5	3,850	1,860	11.1	4,120	1,830	11.8	4,420	1,870	12.7	4,800	1,930	13.8	5,246	1,900	15.1
AE080CXYBEK/EU	10	6,560	990	18.8	7,010	1,030	20.1	7,870	1,140	22.6	8,440	1,170	24.3	9,200	1,160	26.5	10,260	1,120	29.6
	20	6,270	1,150	18.0	6,760	1,220	19.4	7,590	1,220	21.8	8,140	1,250	23.4	8,880	1,320	25.6	9,900	1,390	28.5
	30	5,990	1,520	17.2	6,510	1,580	18.7	7,310	1,730	21.0	7,840	1,780	22.5	8,560	1,640	24.6	9,540	1,650	27.5
	35	5,700	1,900	16.4	6,200	1,990	17.8	6,900	1,900	19.8	7,400	1,970	21.3	8,000	2,050	23.1	9,000	1,750	26.0
	46	5,250	2,690	15.1	5,820	2,810	16.7	6,390	2,840	18.4	6,900	2,920	19.8	7,750	3,110	22.3	8,320	3,020	24.0
AE080CXYBGK/EU	10	6,560	990	18.8	7,010	1,030	20.1	7,870	1,140	22.6	8,440	1,170	24.3	9,200	1,160	26.5	10,260	1,120	29.6
	20	6,270	1,150	18.0	6,760	1,220	19.4	7,590	1,220	21.8	8,140	1,250	23.4	8,880	1,320	25.6	9,900	1,390	28.5
	30	5,990	1,520	17.2	6,510	1,580	18.7	7,310	1,730	21.0	7,840	1,780	22.5	8,560	1,640	24.6	9,540	1,650	27.5
	35	5,700	1,900	16.4	6,200	1,990	17.8	6,900	1,900	19.8	7,400	1,970	21.3	8,000	2,050	23.1	9,000	1,750	26.0
	46	5,250	2,690	15.1	5,820	2,810	16.7	6,390	2,840	18.4	6,900	2,920	19.8	7,750	3,110	22.3	8,320	3,020	24.0
AE120CXYBEK/EU	10	10,350	1,590	29.7	10,740	1,600	30.9	11,630	1,650	33.4	12,430	1,690	35.7	13,800	1,700	39.7	15,050	1,470	43.4
	20	9,900	1,850	28.4	10,360	1,890	29.8	11,220	1,780	32.3	11,990	1,800	34.5	13,320	1,930	38.3	14,520	1,770	41.9
	30	9,450	2,440	27.1	9,980	2,450	28.7	10,810	2,490	31.1	11,550	2,550	33.2	12,840	2,400	37.0	13,990	2,030	40.3
	35	9,000	3,100	25.9	9,500	3,070	27.3	10,200	2,700	29.3	10,900	2,830	31.3	12,000	3,000	34.6	13,200	2,230	38.1
	46	7,500	3,920	21.5	8,150	3,970	23.4	9,050	3,920	26.0	9,650	3,970	27.8	10,050	3,940	28.9	12,200	3,970	35.2
AE120CXYBGK/EU	10	10,350	1,590	29.7	10,740	1,600	30.9	11,630	1,650	33.4	12,430	1,690	35.7	13,800	1,700	39.7	15,050	1,470	43.4
	20	9,900	1,850	28.4	10,360	1,890	29.8	11,220	1,780	32.3	11,990	1,800	34.5	13,320	1,930	38.3	14,520	1,770	41.9
	30	9,450	2,440	27.1	9,980	2,450	28.7	10,810	2,490	31.1	11,550	2,550	33.2	12,840	2,400	37.0	13,990	2,030	40.3
	35	9,000	3,100	25.9	9,500	3,070	27.3	10,200	2,700	29.3	10,900	2,830	31.3	12,000	3,000	34.6	13,200	2,230	38.1
	46	8,550	4,620	24.6	9,030	4,400	25.9	9,690	4,200	27.9	10,360	4,260	29.8	11,400	4,470	32.8	12,540	4,080	36.2
AE160CXYBEK/EU	10	11,960	1,910	34.4	12,430	1,930	35.7	13,510	2,060	38.8	14,480	1,990	41.6	16,100	2,090	46.3	17,670	1,820	50.9
	20	11,440	2,190	32.9	11,990	2,220	34.5	13,040	2,210	37.5	13,970	2,200	40.2	15,540	2,370	44.7	17,050	2,190	49.2
	30	10,920	2,880	31.4	11,550	3,000	33.2	12,560	3,110	36.1	13,460	2,960	38.7	14,980	2,940	43.1	16,430	2,510	47.4
	35	10,400	3,590	29.9	11,000	3,590	31.6	11,850	3,350	34.1	12,700	3,480	36.5	14,000	3,680	40.4	15,500	2,750	44.7
	46	7,520	3,940	21.6	8,170	3,990	23.5	9,080	3,940	26.1	9,680	3,970	27.8	10,100	3,960	29.1	12,270	3,980	35.4
AE160CXYBGK/EU	10	11,960	1,910	34.4	12,430	1,930	35.7	13,510	2,060	38.8	14,480	1,990	41.6	16,100	2,090	46.3	17,670	1,820	50.9
	20	11,440	2,190	32.9	11,990	2,220	34.5	13,040	2,210	37.5	13,970	2,200	40.2	15,540	2,370	44.7	17,050	2,190	49.2
	30	10,920	2,880	31.4	11,550	3,000	33.2	12,560	3,110	36.1	13,460	2,960	38.7	14,980	2,940	43.1	16,430	2,510	47.4
	35	10,400	3,590	29.9	11,000	3,590	31.6	11,850	3,350	34.1	12,700	3,480	36.5	14,000	3,680	40.4	15,500	2,750	44.7
	46	9,880	5,340	28.4	10,450	5,150	30.0	11,260	5,000	32.4	12,070	5,070	34.7	13,300	5,340	38.3	14,730	4,990	42.5

1. Heating cap ity
 - Capacity is according to EN14511.
 - Valid for heated water range (ΔT = Leaving water temperatu e - Entering water temperature)
  : If LWT≤50℃, ΔT=5℃ or 50℃<LWT≤60℃ , ΔT=8℃ or LWT>60℃, ΔT=10℃, within the minimum ~ maximum water flow rate.
2. Cooling capacit
 - Capacity is according to EN14511
 - Valid for ooling water range (ΔT =Entering water temperature - Leaving water temperature)
  : ΔT=5℃, within the minimum ~ maximum water flow rate.
3. Power input : Power input is according to EN1451
4. Peak value : Tested wi out defrost operation in accordance with EN14511.

※ T e real capacity would be changed according to the install environment.

2. Outdoor Units

2-10. Silent mode corrections

Heating

Silent Function	Outdoor Air Temperature(°C DB)			
	-15	2	7	15
Level 1	0.92	0.90	0.95	0.95
Level 2	0.82	0.80	0.86	0.86
Level 3	0.68	0.67	0.72	0.72
Low-noise	0.54	0.60	0.65	0.65

Cooling

Silent Function	Outdoor Air Temperature(°C DB)			
	10	20	35	45
Level 1	1.00	1.00	0.95	0.95
Level 2	0.98	0.98	0.86	0.86
Level 3	0.78	0.78	0.65	0.65
Low-noise	0.70	0.70	0.65	0.65

Correction factor by % glycol

Anti-freeze	Propylene glycol	
%wt	Correction factor	
	Capacity	Power Input
0%	1.000	1.000
10%	0.988	0.994
20%	0.973	0.988
30%	0.955	0.982
40%	0.933	0.976
50%	0.910	0.970

3. Installation

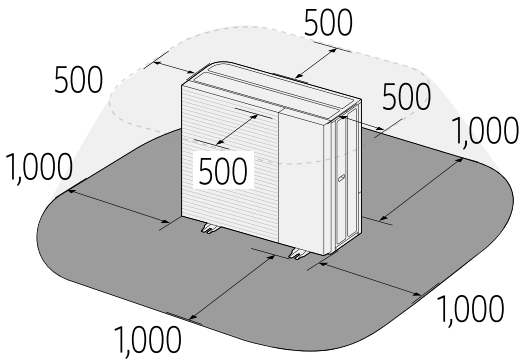
Outdoor unit

Safety Zone

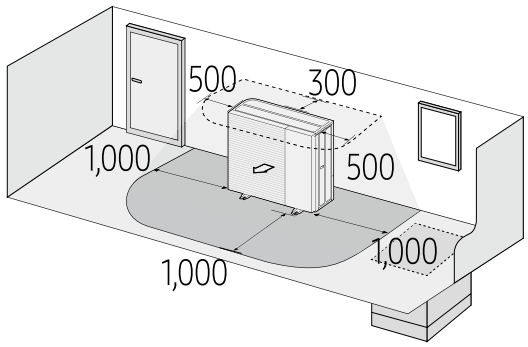
⚠ WARNING

- In case of a leakage the refrigerant must not be able to enter the indoor under any circumstances.
  The Safety Zone shall not have any building openings such as:
  Windows, Doors, Light wells, Flat roof windows, Air Inlet / Outlet of ventilation systems, etc.
- R-290 refrigerant is heavier than air and can be collected on the ground. There should be no sinking or deepening of the ground in the safety zone.
- The safety zone should not extend to intact buildings or public spaces.
- The safety zone cannot be modified later to violate the protection rules.

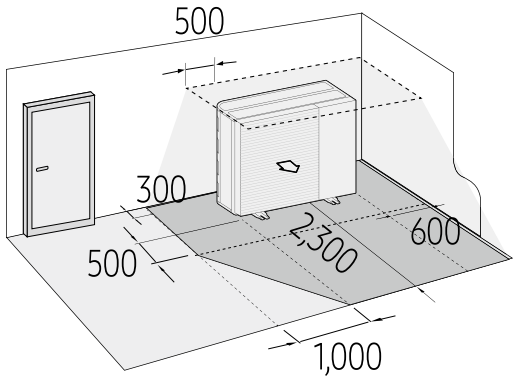
(Unit : mm)



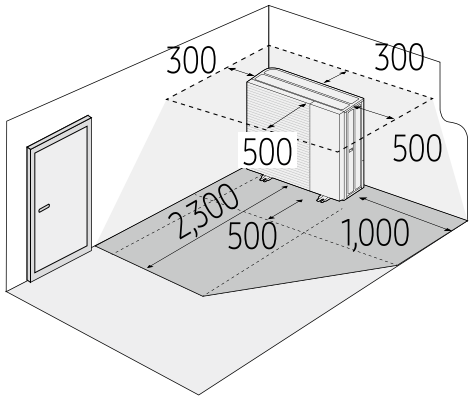
- When installed on the ground
- When installed in a place with a flat roof



- When installed on the ground in front of a building wall



- When installed at the right corner of a building



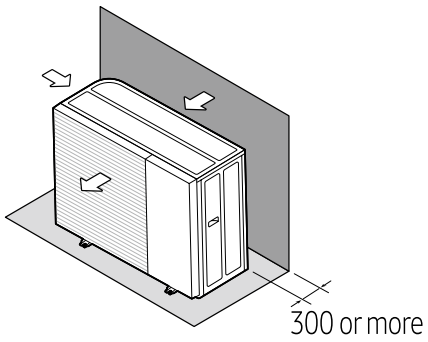
- When installed at the Left corner of a building

3. Installation

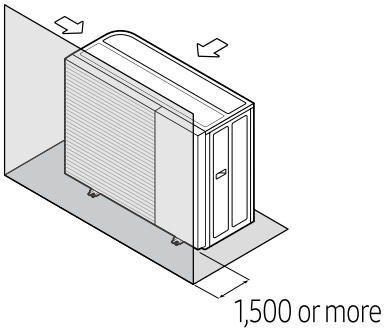
Outdoor unit

When installing 1 outdoor unit

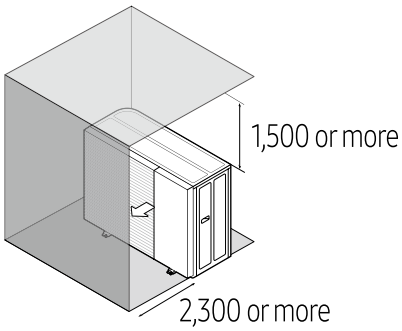
(Unit : mm)



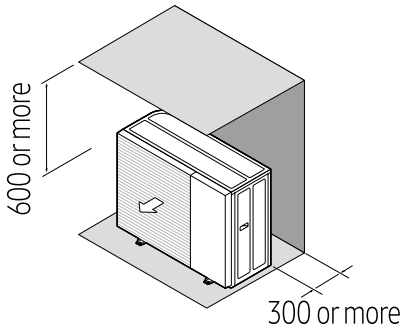
- Wall on suction-side



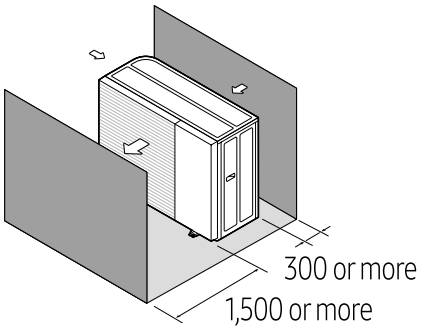
- When the air outlet is towards the wall



- Top-side obstacle
- Discharge-side obstacle
- Wall on discharge-side



- Top-side obstacle
- Wall on suction-side



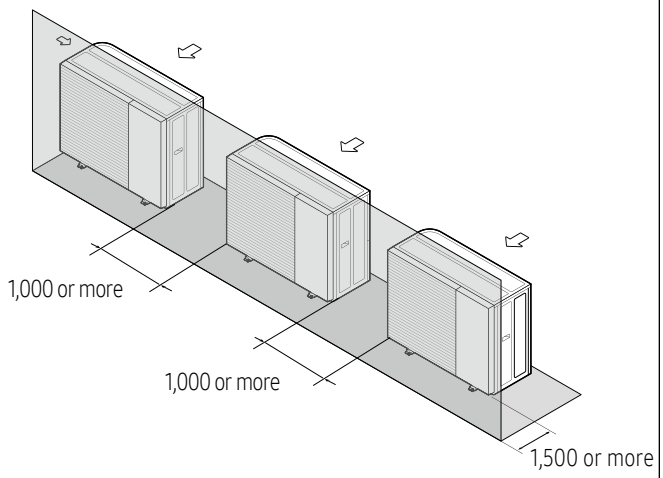
- Suction-side obstacle
- Wall on discharge-side

3. Installation

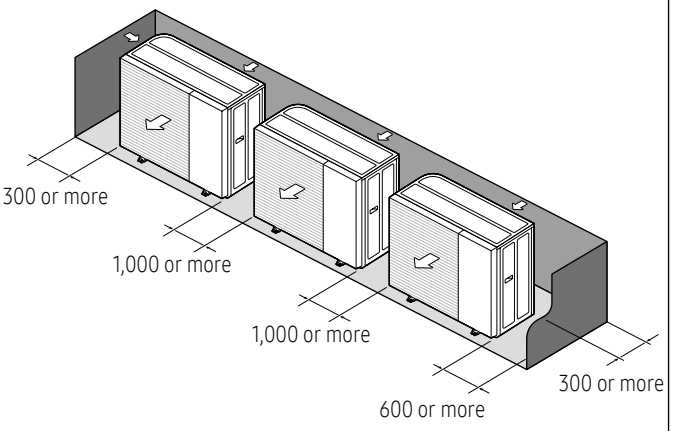
Outdoor unit

When installing more than 1 outdoor unit

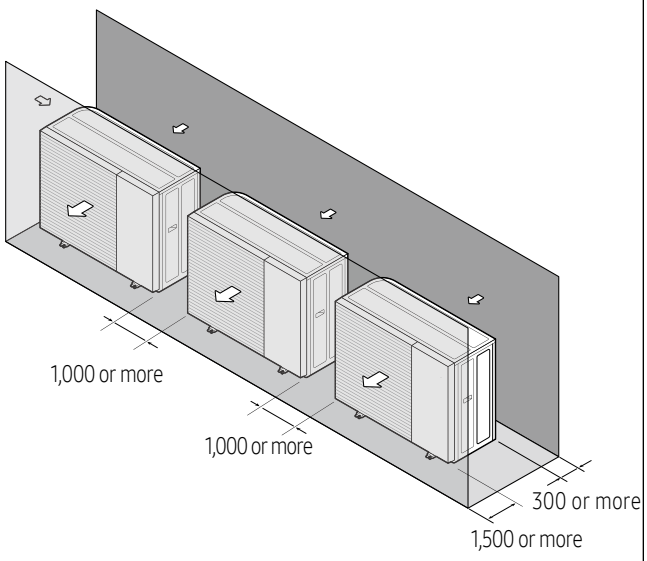
(Unit : mm)



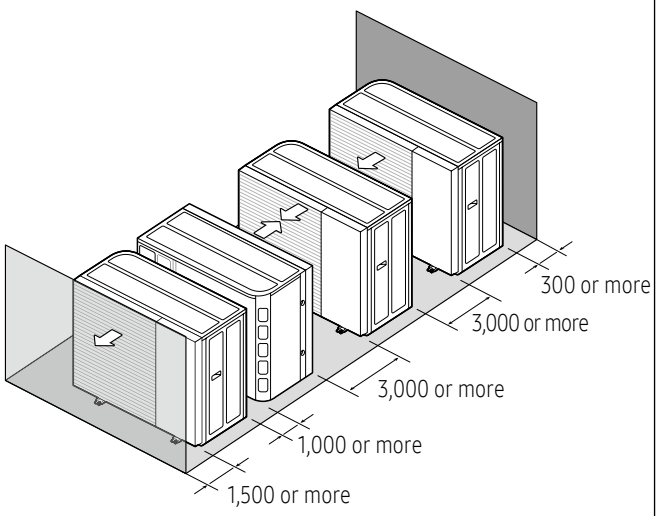
- Wall on discharge-side



- Suction-side obstacle (3 sides)
- No top-side obstacle



- Wall on suction-side
- Wall on discharge-side



- Wall on suction-side
- Wall on discharge-side

⚠ CAUTION

- The units must be installed according to distances declared, in order to permit accessibility from each side, to guarantee correct operation of maintenance or repairing of the products. The unit's parts must be accessible and serviceable under safe working conditions (for people or things).

3. Installation

Outdoor unit

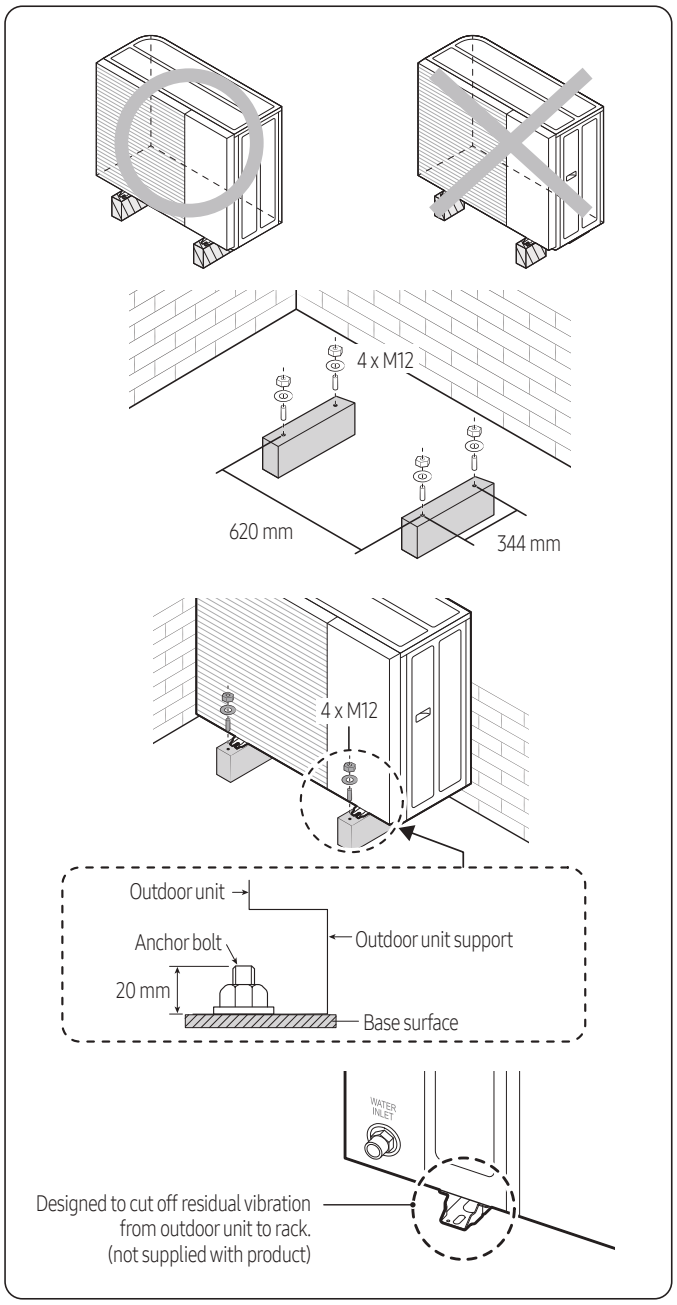
Mounting the outdoor unit

The outdoor unit must be installed on a rigid and stable base to avoid any increase in the noise level and vibration, particularly if the outdoor unit is to be installed in a location exposed to strong winds or at a height, the unit must be fixed to an appropriate support (wall or ground).

⚠ CAUTION

- When tightening the anchor bolt, tighten the rubber washer to prevent the outdoor unit bolt connection part from corroding.
- Make a drain outlet around the base for outdoor unit drainage.
- If the outdoor unit is installed on the roof, you have to check the ceiling strength and waterproof the unit.
- The anchor bolt must be 20 mm or higher from the base surface.

※ In order to prevent freezing of water drains, additional protection such as application of a heating cable may be required.



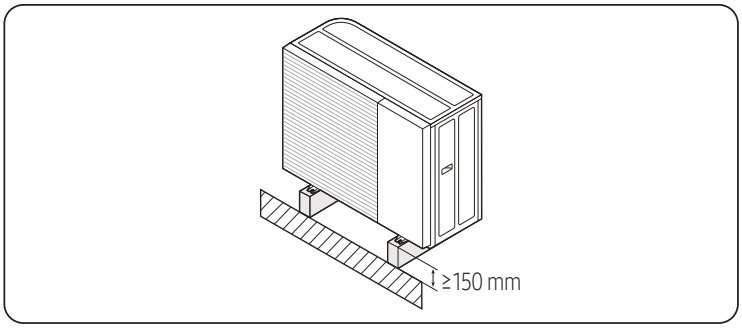
3. Installation

Outdoor unit

General area

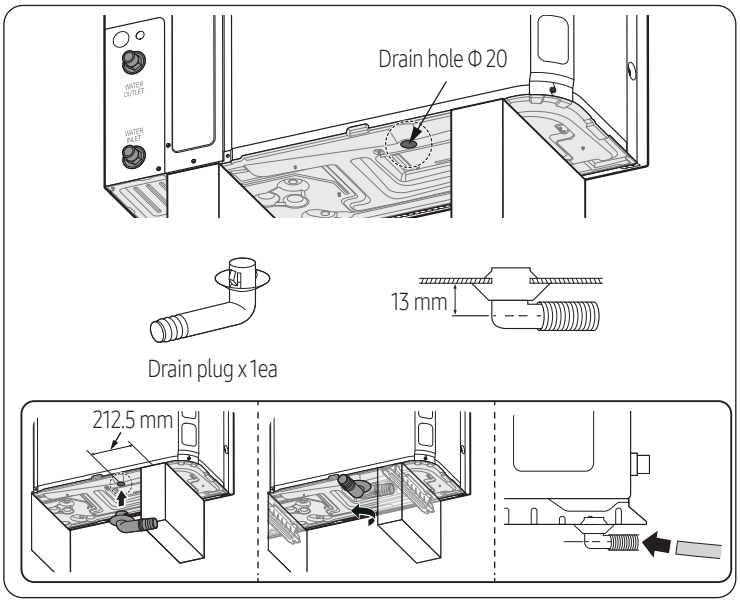
While the air to water heat pump is operating in heating mode, ice can accumulate on the surface of the condenser.
To prevent ice from growing, the system occasionally enters a defrost mode and the ice on the surface thaws off.
Water dripping from the condenser is guided through the drain holes to prevent ice formation inside the base plate at subzero temperatures.

- In case there is not enough space for natural drainage from the outdoor unit, additional drain work is required.
  Follow the description as per below:
  - Provide a minimum of 150 mm of free space to the floor.
  - Insert the drain plug into the hole at the bottom of the outdoor unit.
  - Connect the drain hose to the drain plug.
  - Make sure dirt and debris cannot block the drain (hose). Clean the base plate whenever needed.
  - For the remaining holes (that do not have the drain plug), insert the drain cap
  - Make sure that the water dripping from the drain hose runs away correctly and safely.



⚠ WARNING

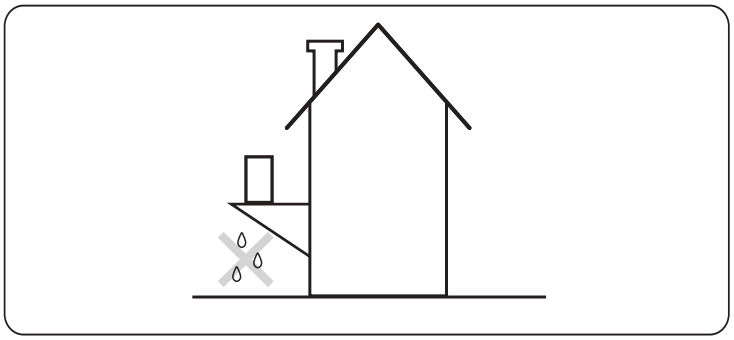
- If the drainage is not adequate, it can lead to stagnant water and ice build-up, causing system performance issues and possible damages.



1 Prepare a water drainage channel around the foundation, to drain waste water from around the unit.
2 If the water drainage from the unit is inadequate, please raise the unit on construction concrete blocks, etc. (the height of the construction should be at least 150 mm).

3. Installation

Outdoor unit



3 If you install the unit on a frame, please install a slanted waterproof plate within 150 mm of the underside of the unit to prevent water from plashing against the bottom plate from below.

4 When installing the unit in a place frequently exposed to snow, pay special attention to elevating the foundation as high as the average snow height plus the additional required 150 mm.

5 If you install the unit on a wall support bracket, please install drainage pipework. In order to avoid the drain water from dripping on the floor potentially creating a slippery surface or an ice layer under freezing conditions.

※ Please securely mount the outdoor unit before connecting the water piping.

3. Installation

Outdoor unit

About the piping work

Water connections must be made in accordance with the Water Piping and Wiring diagram delivered with the unit, respecting the water inlet and outlet. If air, moisture or dust gets in the water circuit, problems may occur. Therefore, always take into account the following when connecting the water circuit:

- Use clean pipes only.
- Hold the pipe end downwards when removing burrs.
- Cover the pipe end when inserting it through a wall so that no dust and dirt enter.
- Use a good thread sealant for the sealing of the connections.
- The sealing must be able to withstand the pressures and temperatures of the system. When using non-brass metallic piping, make sure to insulate both materials from each other to prevent galvanic corrosion.
- Because brass is a soft material, use appropriate tooling for connecting the water circuit. Inappropriate tooling will cause damage to the pipes.

⚠ CAUTION

- Be careful not to deform the unit piping by using excessive force when connecting the piping. Deformation of the piping can cause the unit to malfunction.
- Always use two wrenches (spanners) for tightening or loosening the water connections, and tighten connections with a torque wrench as specified in the below table. If not, connections and parts can be damaged and leak.
- The unit is only to be used in a closed water system. If applications are in open water circuit, it will generate heat exchangers fouling, corrosion, and leak.

Name	Tightening torque	
BSPP1	350~380 kgf•cm	34~37 N•m

Connecting the water pipes

Connecting the water piping typically follows the below procedure:

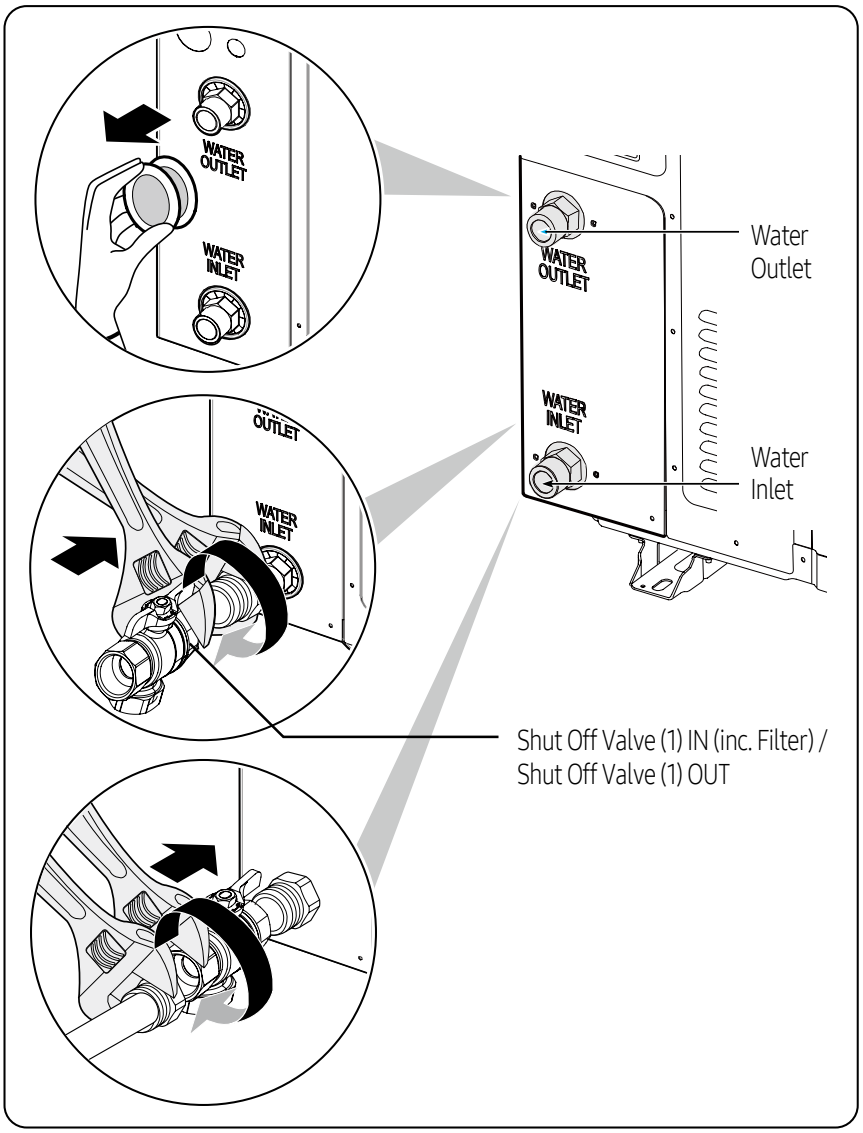
1 Connect the water piping to the outdoor unit.
2 Connect the water piping to the indoor unit.
3 Connect the recirculation piping.
4 Connect the drain hose to the drain.
5 Fill the water circuit.
6 Fill the DHW tank.
7 Insulate the water piping.

NOTE

- Do not use excessive force when connecting the piping.
  Deformation of the piping can cause malfunctioning of the unit.
- Connect the shut-off valve (with integrated filter) to the outdoor unit water inlet, using the thread sealant.
  At this time, the filter should be directed downward so that impurities can be collected.
- Connect the field piping to the shut-off valve.
- Connect the shut-off valve to the outdoor unit water outlet, using the thread sealant.

3. Installation

Outdoor unit

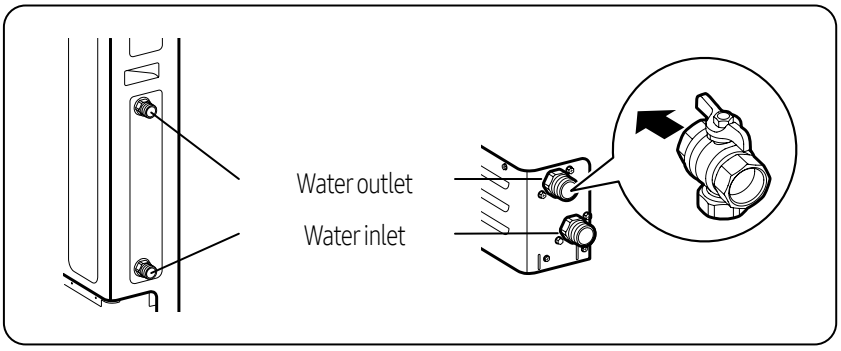


NOTE

- About the shut-off valve with integrated filter:
  - The installation of the shut-off valve at the water inlet is mandatory.
  - Mind the flow direction of the valve.

Water Charging

Fill water into the outdoor unit by opening the shut-off and drain valves.



3. Installation

Outdoor unit

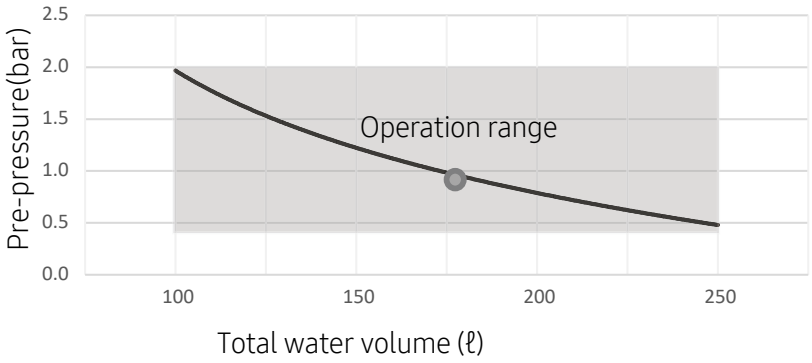
⚠ CAUTION

- The operating range of leaving water temperature is 15~75˚C at heating conditions and 5~25˚C at cooling conditions.
- The minimum required water flow for operation is 7 liters/min. At all times the required water flow-rates should remain. Otherwise, the unit can stop due to a lack of water.
- Water quality must be according to EN directive 98/83 EC. (Please refer to the reference guide for details.)
- Charge the water higher than pressure of 1.0 bar by using make-up water assembly(Field supply).
  (The water pressure indicated on the manometer will vary depending on the water temperature) The nominal water pressure in the system should remain about 1.0 bar at all times to avoid air entering the water system.

Setting capacity and pre-pressure of the expansion vessel

When it is required to change the default pre-pressure of the expansion vessel(1 bar), keep in mind the following guidelines:

▶ Use only dry nitrogen to set the expansion vessel prepressure.
▶ Inappropriate setting of the expansion vessel prepressure will lead to malfunction of the system.
Therefore, the pre-pressure should only be adjusted by a licensed installer.



Installation height difference(a)	Water volume	
	‹185 Litres	›185 Litres
‹7m	No pre-pressure adjustment required.	Actions required: • Pre-pressure must be decreased, calculate according to “Calculating the pre-pressure of the expansion vessel”. • Check if the water volume is lower than maximum allowed water volume.
›7m	Actions required: • Pre-pressure must be increased, calculate the appropriate value following by “Calculating the pre-pressure of the expansion vessel”. • Check if the water volume is lower than maximum allowed water volume.	Expansion vessel of the unit too small for the installation.

(a) Installation height difference: height difference(m) between the highest point of the water circuit and the indoor unit. If the unit is located at the highest point of the installation, the installation height is considered 0m.
- When Expansion vessel has a capacity 8 liters and 1bar pre-charged. Water volume of total system for reliable performance is minimum 30 Liter (AE050/080CXYB**), 50 Liter (AE120/160CXYB**).

3. Installation

Outdoor unit

Calculating the pre-pressure of the expansion vessel

▶ The pre-pressure(Pg) to be set depends on the maximum installation height difference(H) and is calculated as below : Pg=(H/10+0.3) bar

Protection of the water circuit freezing

To prevent the hydraulic components from freezing, it has a freezing protection function that includes activation of the pump at low temperatures.
However, in case of a power failure, these functions cannot guarantee protection.
To protect the water circuit from freezing, any one of the following acts shall be performed.

- Add glycol to water. Glycol lowers the freezing point of water.
- Install the anti-freeze valve. The anti-freeze valve discharges water from the system before it freezes.

Freeze protection by glycol

Freeze protection solutions must use propylene glycol with a toxicity rating of Class 1 as listed in Clinical Toxicology of Commercial Products, 5th Edition.

⚠ WARNING

- Ethylene glycol is toxic and must not be used in the primary water circuit in case of any cross-contamination of the portable circuit.
- If you add glycol to the water, do NOT install anti-freeze valve, to avoid Glycol leaking out of the anti-freeze valves into the environment.
- If an anti-freeze protection is used, it will result in increased pressure drop and it may also cause a slight capacity reduction.

⚠ CAUTION

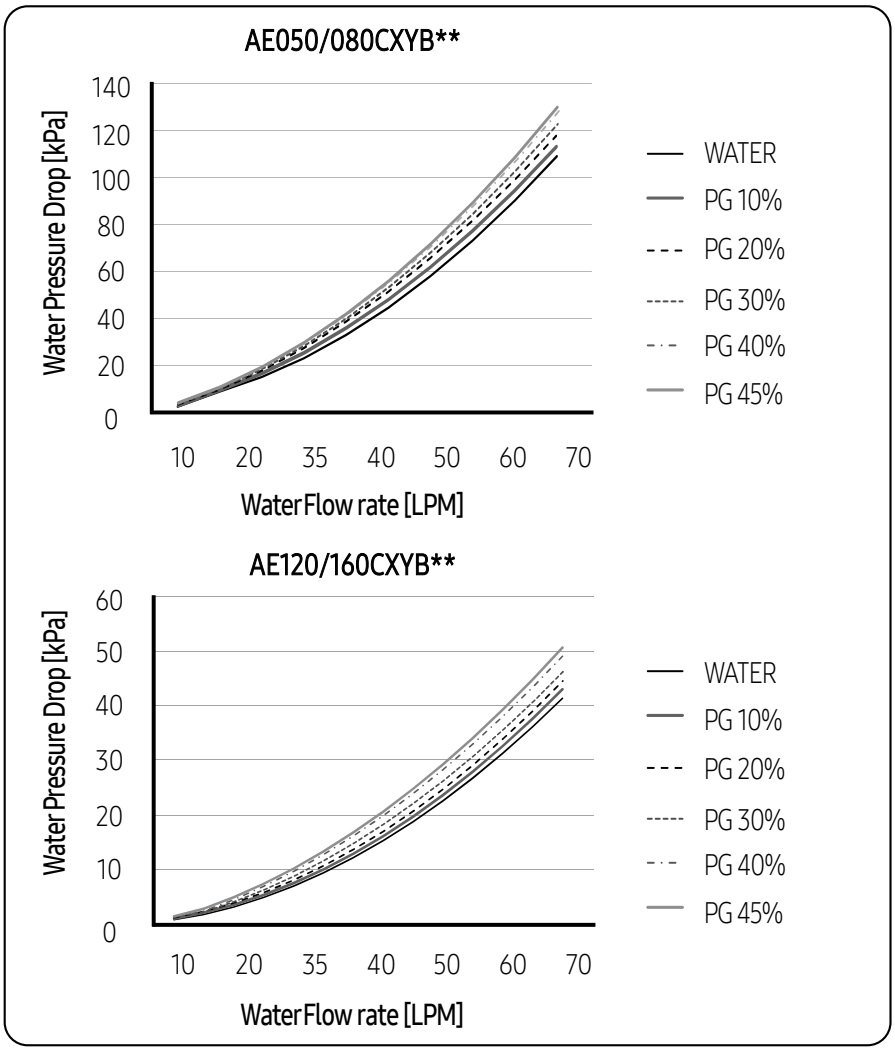
- Due to the presence of glycol, corrosion of the system is possible. Uninhibited glycol will turn acidic under the influence of oxygen. The acidic uninhibited glycol attacks metal surfaces and forms galvanic corrosion cells that cause severe damage to the system.
- A glycol with corrosion inhibitors is selected to counteract acids formed by the oxidation of glycols.
- No automotive glycol is used because their corrosion inhibitors have a limited lifetime and contain silicates which can foul or plug the system.
- Galvanized pipes are NOT used in glycol systems since the presence may lead to the precipitation of certain components in the glycol's corrosion inhibitor.

Unit resistance and PHE resistance by glycol concentrate

The unit is composed of water pipes and PHE basically. To ensure correct operation and predict the expected performance, Flow and Resistance table can be used and Flow and resistance characteristic is dependent on Glycol concentration.

3. Installation

Outdoor unit



Changing Glycol concentration can cause the pressure drop of the system and it can lead to make flow rate slow. Just in case of performance degradation, installer shall be careful of flow rate changes.

The required concentration of glycol depends on the lowest expected outdoor temperature, and on whether you want to protect the system from bursting or from freezing. To prevent the system from freezing, more glycol is required. Add glycol according to the table below.

Freezing Points of Propylene Glycol - Water Mixtures		
Percent Propylene Glycol [wt.%]	**Freezing Point [°F]**	**Freezing Point [°C]**
0	32	0
10	26	-3
20	20	-7
30	10	-12
36	0	-18
40	-5	-20
43	-10	-23
48	-20	-29

3. Installation

Outdoor unit

Outdoor water piping insulation

The complete water circuit, inclusive all the piping, must be insulated to prevent condensation during cooling operation and reduction of the heating and cooling capacity as well as prevention of freezing of the outside water piping during winter time. The thickness of the sealing materials must be at least 9 mm with ƛ=0.035 W/mK in order to prevent freezing on the outside water piping. If the temperature is higher than 30°C and the humidity is higher than RH 80%, then the thickness of the sealing materials should be at least 20 mm in order to avoid condensation on the surface of the sealing.

For piping in free air, it is recommended to use the insulation thickness as shown in the below table as a minimum (with ƛ=0.035 W/mK).

Piping length (m)	Minimum insulation thickness (mm)
< 20	19
20 ~ 30	32
30 ~ 40	40
40 ~ 50	50

NOTE

- This recommendation ensures good operation of the unit, however, local regulations may differ and shall be followed.

Minimum active water volume

The minimum active water volume of the system is the amount of water which is always pumped around, even when all valves in the system are closed. The use of a buffer tank can increase the active volume and therefore the operation time between compressor start and stop.
Ideally, systems should be designed for around 12 to 15 minutes of operation, in order to meet with our declared efficiencies. This time frame is based on a maximum of 4 On/Off cycles per hour. The required minimum active water volume can be calculated via the below stated formula:

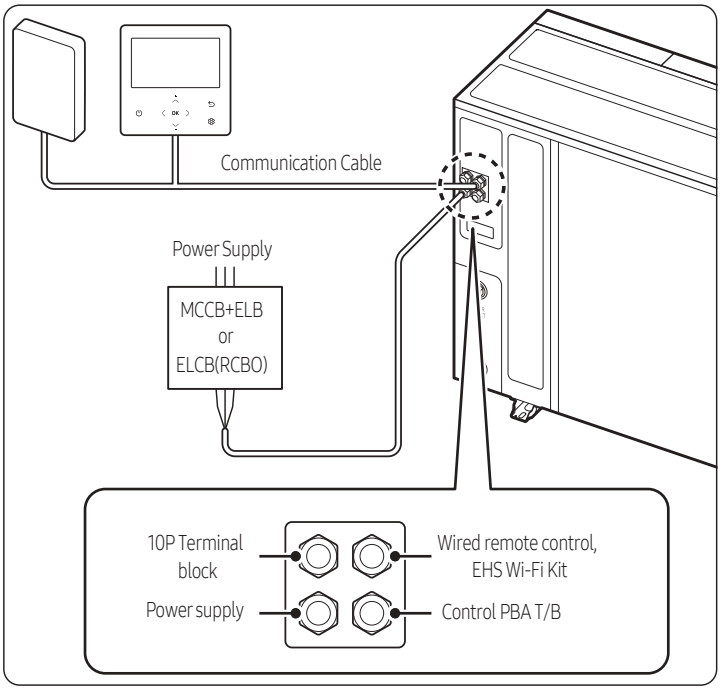
$$V_{min} = \frac{t_{min} \times \Phi_{min}}{C_{water} \times \Delta T}$$

V_{min} : Minimum active volume [dm3]
t_{min} : Minimum allowed operation time is 12 min or 720 sec per cycle [s, sec]
Φ_{min} : Minimum compressor output [kW = kJ/s]
C_{water} : Specific heat of water (4,2) [kJ/kg*K]
ΔT : Temperature increase (5-10 K) [K]

3. Installation

Outdoor unit

Electrical wiring diagram



Specification of power cable

- 1 Phase
  - The power cables are not supplied with the air to water heat pump.
  - Power supply cords of parts of appliances for outdoor use shall not be thinner than polychloroprene sheathed flexible cord (Code designation IEC:60245 IEC 57 / CENELEC:H05RN-F)
  - This equipment complies with IEC 61000-3-12.

Outdoor unit	Rated		Voltage Range		MCA	MFA
	Hz	Volts	Min	Max	Min Circuit Amps.	Max Fuse Amps.
AE050CXYBEK	50	220-240	198	264	16.1	17.6
AE080CXYBEK	50	220-240	198	264	26	28.6
AE120CXYBEK	50	220-240	198	264	32	35.2
AE160CXYBEK	50	220-240	198	264	32	35.2

- 3 Phase
  - The power cables are not supplied with the air to water heat pump.
  - 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)
  - This equipment complies with IEC 61000-3-12 provided that the short-circuit power (SSC) is greater than or equal to 3.3[MVA] at the interface point between the user's supply and the public system. It is the responsibility of the installer to ensure, by consultation with the energy company if necessary, that the equipment is connected only to a supply with a short-circuit power (SSC) greater than or equal to 3.3[MVA].

Outdoor unit	Rated		Voltage Range		MCA	MFA
	Hz	Volts	Min	Max	Min Circuit Amps.	Max Fuse Amps.
AE080CXYBGK	50	380-415	342	457	16.1	17.7
AE120CXYBGK	50	380-415	342	457	16.1	17.7
AE160CXYBGK	50	380-415	342	457	16.1	17.7

3. Installation

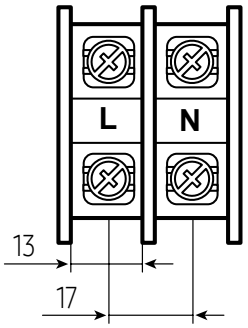
Outdoor unit

Terminal block specification

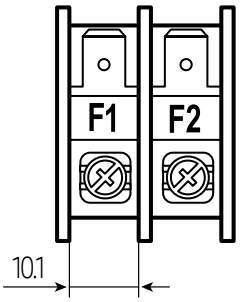
- 1 Phase

(Unit: mm)

AC power: M5 screw



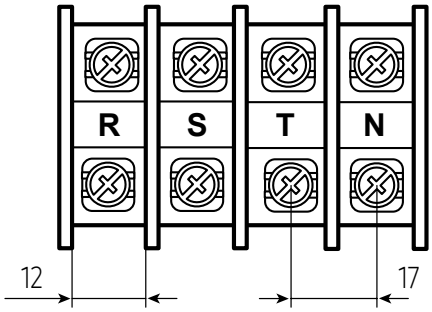
Communication: M4 screw



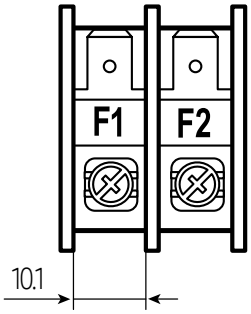
- 3 Phase

(Unit: mm)

AC power: M5 screw

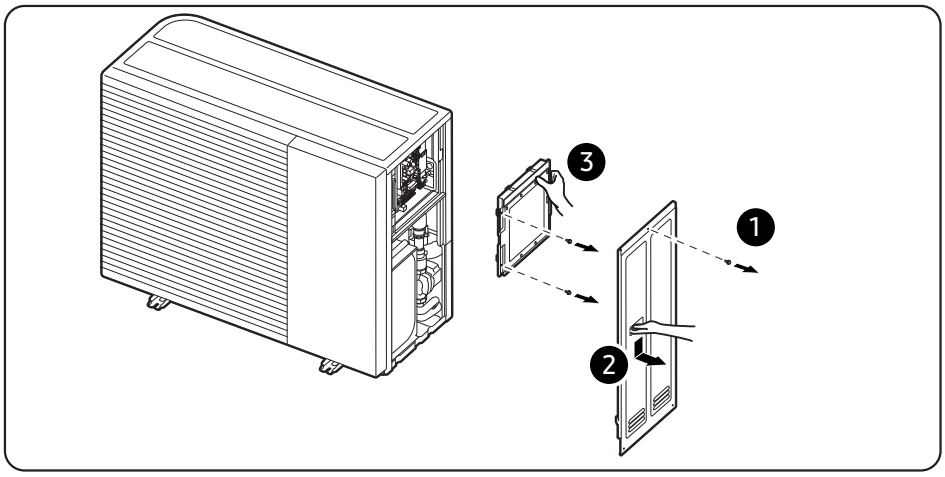


Communication: M4 screw



Outdoor wiring

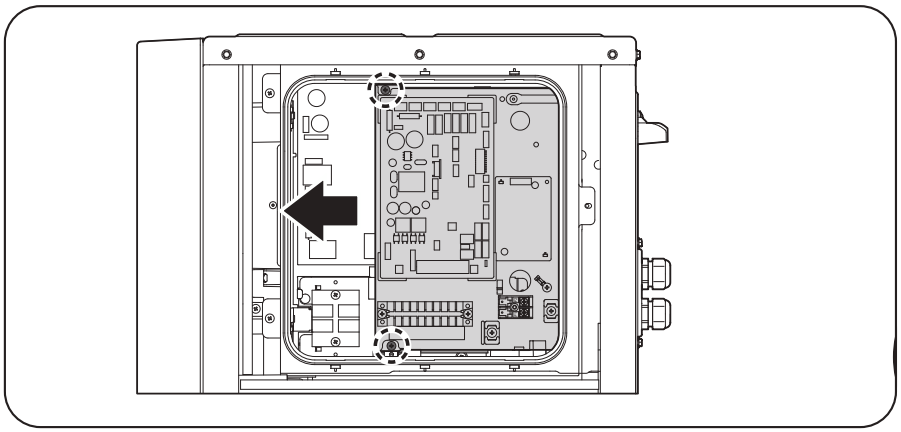
1 Open the switch side cover.



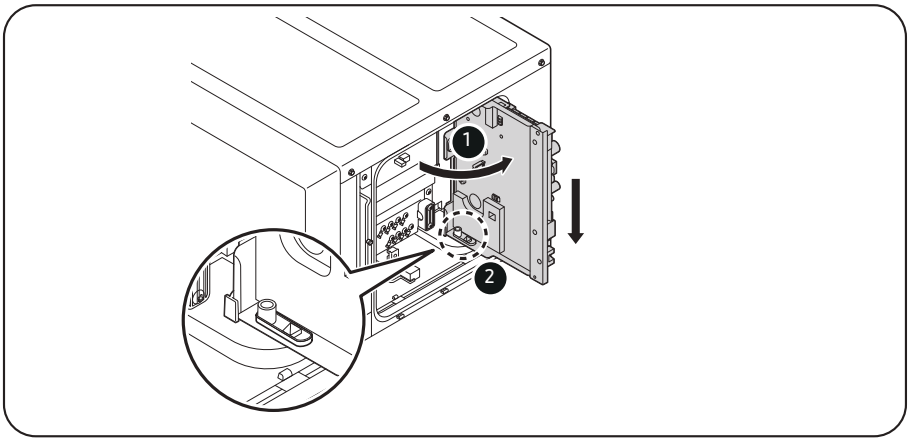
3. Installation

Outdoor unit

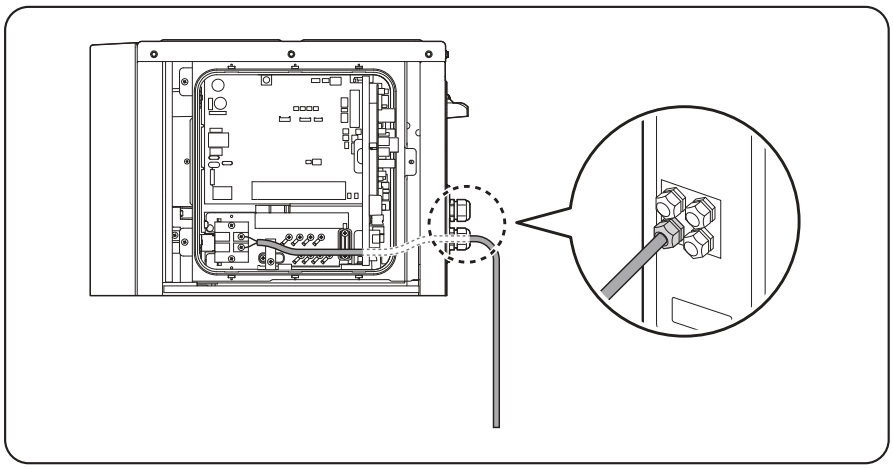
2 Remove 2 screws and pull the plate to the left.



3 If the plate is rotated to where the hook is, it will be fixed to the hook.



4 Insert the cables at the rear of the unit, and route them through the factory mounted cable sleeves into the switch box.

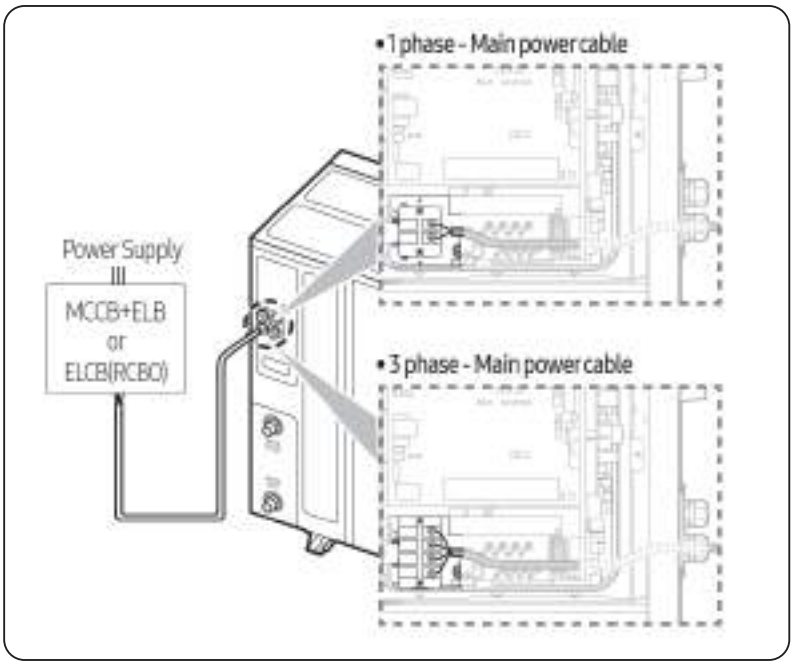


3. Installation

Outdoor unit

Route the cable through the frame

- Connect the wires to the terminal block and fix the cable with the cable tie.



- When installing electrical wiring: tension on the cable(s) must be avoided.
- Earth wire for the outdoor unit cables must be clamped to a suitable ring terminal clamp (not supplied)
- For the power cable, use the grade H07RN-F or H05RN-F materials.
- Power supply cords of parts of appliances for outdoor unit use shall not be thinner than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 57 / CENELEC: H05RN-F or IEC:60245 IEC 66 / CENELEC: H07RN-F)

- Specification of communication cable

Communication cable	Specifications
0.75 mm², 2 wires shielded	LiYCY

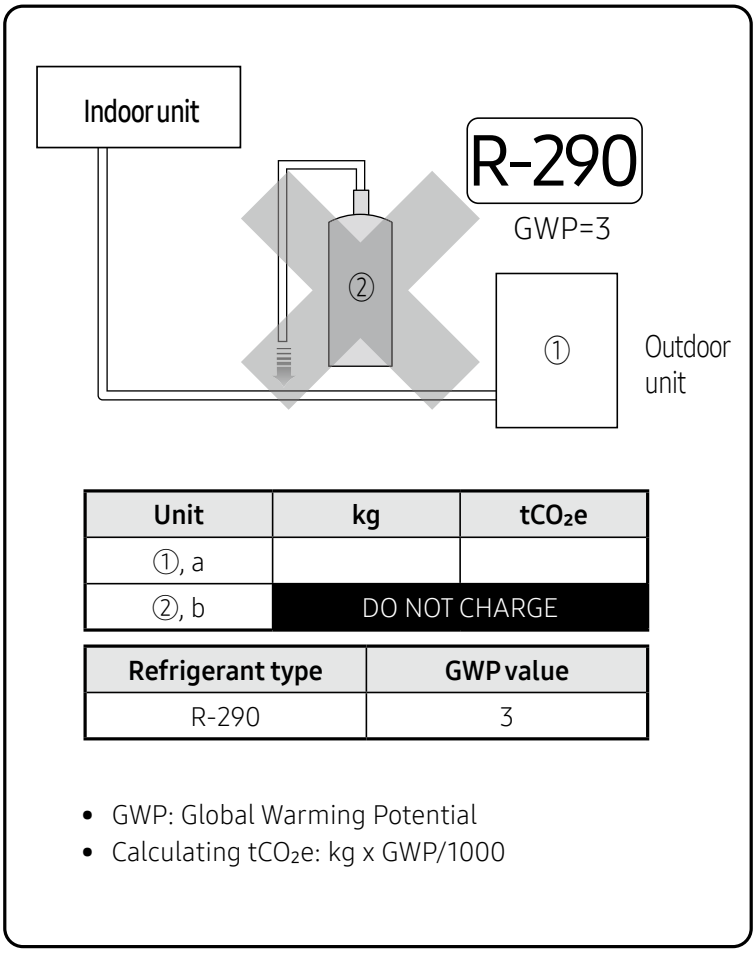
3. Installation

Outdoor unit

Important information: regulation regarding the refrigerant used

Please fill in the following with indelible ink on the refrigerant charge label supplied with this product and on this manual.

- ① the factory refrigerant charge of the product.
- ② the additional refrigerant amount charged in the field.



Unit	kg	tCO_2e
①, a		
②, b	DO NOT CHARGE	

Refrigerant type	GWP value
R-290	3

- GWP: Global Warming Potential
- Calculating tCO_2e: kg x GWP/1000

NOTE

a Factory refrigerant charge of the product: see unit name plate.

b Additional refrigerant amount charged in the field.
(Refer to the above information for the quantity of refrigerant replenishment.)

⚠ CAUTION

- The filled-out label must be adhered in the proximity of the product charging port.
(ex. onto the inside of the stop valve cover.)

2023. 10
Ver.1.1

Samsung Electronics Co., LTD.
Head Office (Suwon Korea) 129, Samsung-Ro, Yeongtong-Gu, Suwon City, Gyeonggi-Do, Korea 16677
Website : www.samsung.com, https://partnerhub.samsung.com Email : airconditioner@samsung.com
Images and data in this book may subject to change without prior notice.

Other ManualsLib Projects

 www.manualslib.com

 www.manualslib.de

 www.manualslib.es

 www.manualslib.fr

 www.manualslib.nl

 www.manualslib.mx

 www.manualslib.tech 30+ Languages