

**SAMSUNG**

# VRF

# Technical Data Book

DVM S Eco for South America  
(R410A, 60Hz, HP)



Model : AM\*\*\*KXMDCH/AZ

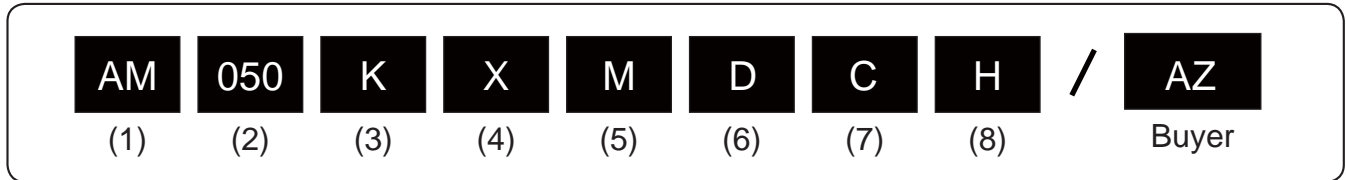
# Nomenclature

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## Outdoor Unit

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### Model Name



#### (1) Classification

AM	DVM
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#### (5) Product Notation

M	DVM S Eco
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#### (2) Capacity

x 1/10 HP (3 digits)
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#### (6) Feature

<b>A</b>	Standard + General Temp.+ MODULE
<b>H</b>	High EER + Low Temp + Module
<b>D</b>	STANDARD+GENERAL Temp. + NON MODULE

#### (3) Version

F	2013
H	2014
J	2015
K	2016
M	2017

#### (7) Rating Voltage

<b>E</b>	1Ø, 220~240V, 50Hz
<b>G</b>	3Ø, 380~415V, 50Hz
<b>H</b>	3Ø, 380V, 60Hz
<b>C</b>	1Ø, 208~230V, 60Hz

#### (4) Product Type

<b>X</b>	Outdoor Unit
<b>N</b>	Indoor Unit

#### (8) Mode

<b>H</b>	Heat Pump
<b>R</b>	Heat Recovery

## 2. Specification

### Outdoor unit

Type				DVM S Eco	DVM S Eco
Model Name				AM040KXMDCH/AZ	AM050KXMDCH/AZ
Power Supply		Φ, #, V, Hz		1, 2, 208~230V, 60Hz	1, 2, 208~230V, 60Hz
Mode			-	HEAT PUMP	HEAT PUMP
Performance	HP		HP	4	5
	Capacity	Cooling	kW	12.1	14.0
			Btu/h	41,200	48,000
		Heating	kW	12.1	14.0
			Btu/h	41,200	48,000
Maximum number of connectable indoor units			ea	6	8
Power	Total capacity of the connected Indoor Units	Min.	kW	5.6	7.0
		Max.	kW	14.5	18.2
	Power Input	Cooling <sup>1)</sup>	kW	3.6	4.0
		Heating <sup>2)</sup>		2.9	3.4
	Current Input	Cooling <sup>1)</sup>	A	17.5	19.5
		Heating <sup>2)</sup>		14.0	16.5
	Current	Minimum	MVA	-	-
		MCA	A	24	27
MFA		A	32	40	
COP	Cooling <sup>1)</sup>		W/W	3.36	3.50
	Heating <sup>2)</sup>		W/W	4.17	4.12
	ESEER		W/W	-	-
Casing	Material	Cabinet	-	EGI steel plate	EGI steel plate
		Base	-	GI steel plate	GI steel plate
Heat exchanger	Type		-	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al
		Tube	-	Cu	Cu
	Fin Treatment		-	Anti-corrosion	Anti-corrosion
Compressor	Type		-	Twin BLDC Rotary	Twin BLDC Rotary
	Output		kW × n	4.12	4.12
	Model Name		-	UG5T450FUEJX	UG5T450FUEJX
	Oil	Type	-	PVE	PVE
Initial Charge		cc	1,700	1,700	
Fan	Type		-	Propeller	Propeller
	Discharge direction		-	Horizontal	Horizontal
	Quantity		ea	1	1
	Air Flow Rate		m <sup>3</sup> /min	64	70
			l/s	1,067	1,167
	External Static Pressure	Max.	mmAq	-	-
Pa			-	-	
Fan Motor	Model		-	BLDC Motor	BLDC Motor
	Output x n		W	125 x 1	139 x 1

## 2. Specification

Type				DVM S Eco	DVM S Eco
Model Name				AM040KXMDCH/AZ	AM050KXMDCH/AZ
Piping Connections	Liquid Pipe	Type		Braze connection	Braze connection
		Φ, mm		9.52	9.52
		Φ, inch		3/8"	3/8"
	Gas Pipe	Type		Braze connection	Braze connection
		Φ, mm		15.88	15.88
		Φ, inch		5/8"	5/8"
	Discharge Gas Pipe	Φ, mm		-	-
		Φ, inch		-	-
	Heat insulation		-	Both liquid and gas pipes	Both liquid and gas pipes
	Piping length (ODU-IDU)	Max. [Equiv.]	m	50 (65)	50 (65)
	Piping length (1st Branch-IDU)	Max.	m	40	40
	Total piping length (System)	Max.	m	150	150
	Level difference (ODU in highest position)	Max.	m	30	30
Level difference (IDU in highest position)	Max.	m	25	25	
Level difference (IDU-IDU)	Max.	m	15	15	
Wiring connections <sup>3)</sup>	Communication	Minimum	mm <sup>2</sup>	0.75	0.75
		Remark	-	F1,F2	F1,F2
Refrigerant	Type			R410A	R410A
	Factory Charging		kg	2.0	2.5
Sound <sup>4)</sup>	Sound Pressure	Cooling	dB(A)	52	55
		Heating		54	57
	Sound Power			73	75
External Dimension	Net Weight		kg	79.0	83.5
	Shipping Weight		kg	84.5	89.0
	Net Dimensions (WxHxD)		mm	940 x 998 x 330	940 x 998 x 330
	Shipping Dimensions (WxHxD)		mm	1009 x 1124 x 419	1009 x 1124 x 419
Operating Temp. Range	Cooling		°C	-5.0 ~ 48.0	-5.0 ~ 48.0
	Heating		°C	-20.0 ~ 24.0	-20.0 ~ 24.0

### NOTE

- Specifications may be subject to change without prior notice.
  - 1) Cooling capacities are based on;
    - Indoor temperature : 27°C DB, 19°C WB
    - Outdoor temperature : 35°C DB, 24°C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m
  - 2) Heating capacities are based on;
    - Indoor temperature : 20°C DB, 15°C WB
    - Outdoor temperature : 7°C DB, 6°C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m
  - 3) Select wire size based on the value of MCA
  - 4) Sound power level is an absolute value that a sound source generates.  
 Sound pressure level is a relative value, depending on the distance and acoustic environment.  
 Sound values are obtained in an anechoic room.  
 Sound values of multi combination are theoretical values based on sound results of individual installed units.
  - 5) These products contain R410A which is fluorinated greenhouse gas.

### 3. Electrical Characteristics

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Capacity		Model	Power Supply				Voltage Range		Running Current [A]		Current [A]		ODU Fan Motor
HP	kW		Φ	#	Hz	Voltage	Min. (-10%)	Max. (+10%)	Cooling	Heating	MCA	MFA	kW
4	12.1	AM040KXMDCH/AZ	1	2	60	208-230	187	253	17.5	14.0	24	32	0.125
5	14.0	AM050KXMDCH/AZ	1	2	60	208-230	187	253	19.5	16.5	27	40	0.139

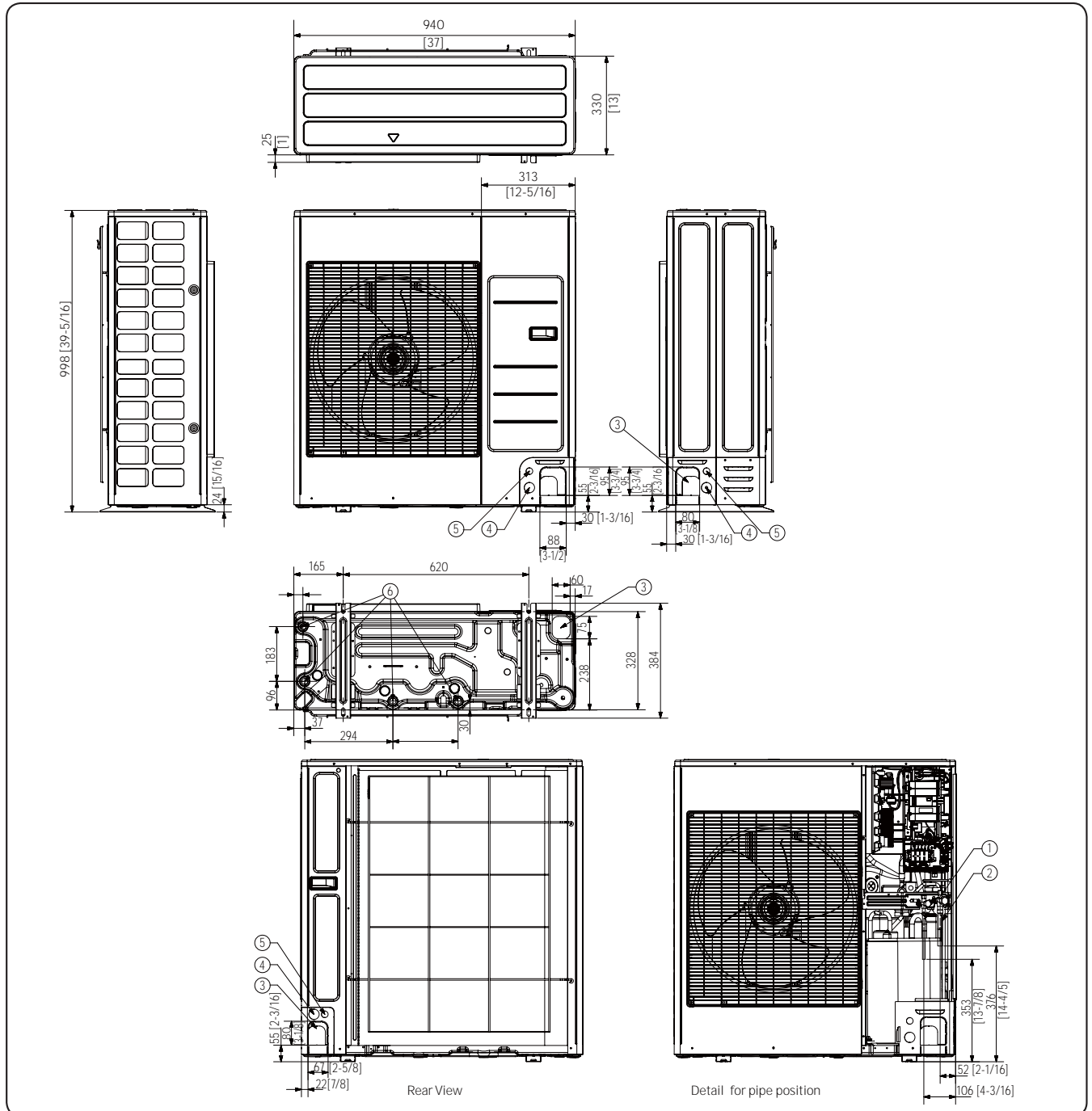
 NOTE

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

# 4. Dimensional Drawing

AM040KXMDCH/AZ, AM050KXMDCH/AZ

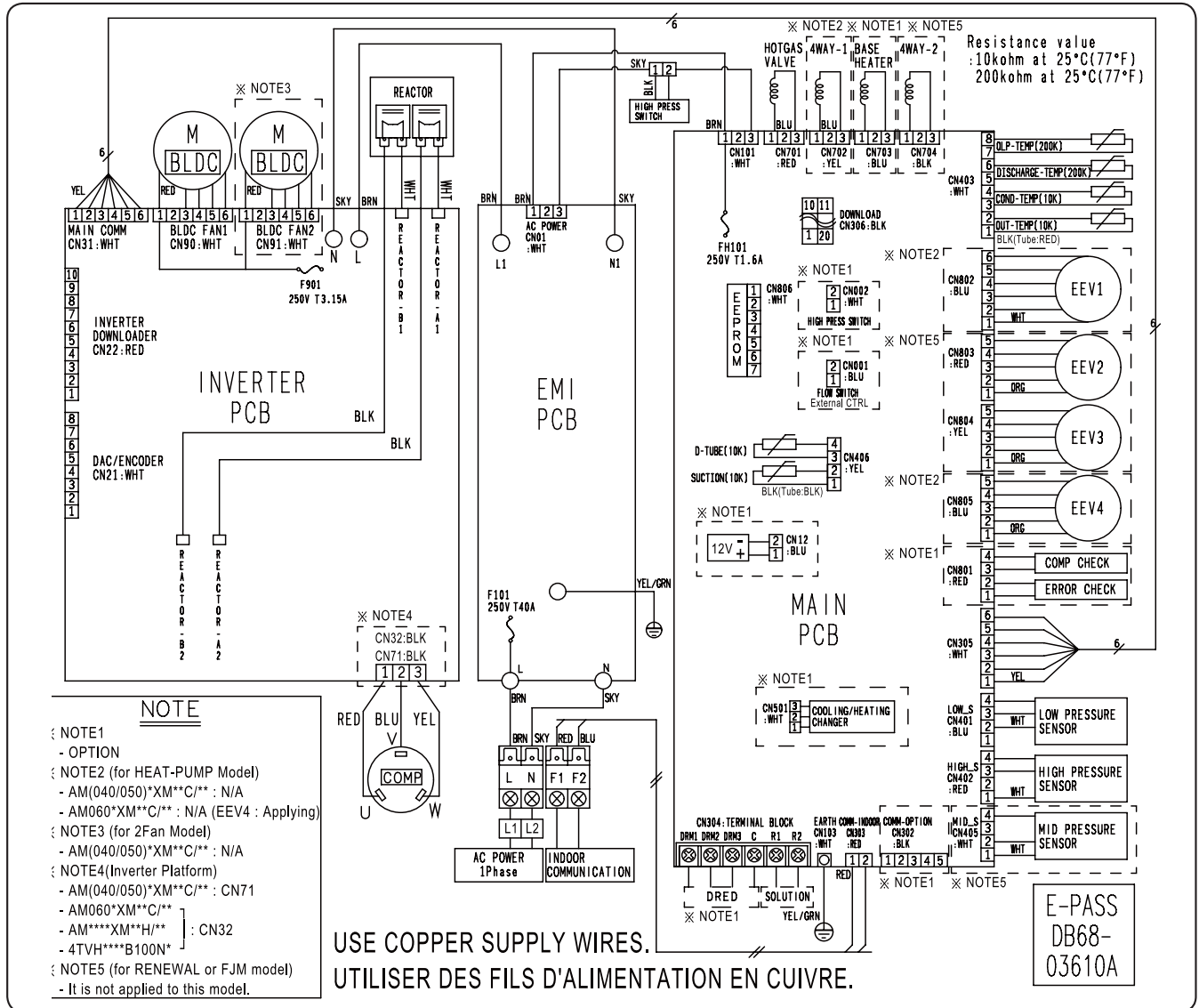
Units : mm [inches]



NO	Name	Description
		4 / 5 HP
1	Refrigerant liquid pipe	Φ9.52 (Φ3/8)
2	Refrigerant gas pipe	Φ15.88 (Φ5/8)
3	Knockout hole for pipe intake	Front / Side / Rear / Bottom
4	Power wiring conduits	Front / Side / Rear, Φ34 (Φ1-3/8)
5	Communication wiring conduits	Front / Side / Rear, Φ22 (Φ7/8)
6	Drain holes	Connect with the provided drain plug.

# 6. Electrical Wiring Diagram

AM040KXMDCH/AZ, AM050KXMDCH/AZ



INVERTER PCB	Printed circuit board (inverter)	EEV2	Electronic expansion valve_2	OUT-TEMP(10K)	Thermistor (Air)
EMI PCB	Printed circuit board (emi)	EEV3	Electronic expansion valve_3	COND-TEMP(10K)	Thermistor (COND.)
MAIN PCB	Printed circuit board (main)	EEV4	Electronic expansion valve_4	DISCHARGE(200K)	Thermistor Discharge
COMP	Motor (compressor)	HOTGAS VALVE	Solenoid valve (HOTGAS)	4WAY-1	Solenoid valve (4WAY-1)
M(BLDC)	Motor (fan)	BASE HEA	Heater for base	4WAY-2	Solenoid valve (4WAY-2)
EEV1	Electronic expansion valve_1	OLP-TEMP(200K)	Thermistor (OLP-TEMP)		

## NOTE

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

# 7. Sound Data

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## Summary

Capacity		Model	Sound Pressure dB(A)		Sound Power dB(A)
HP	KW		Cooling	Heating	
4	12.1	AM040KXMDCH/AZ	52	54	73
5	14.0	AM050KXMDCH/AZ	55	57	75

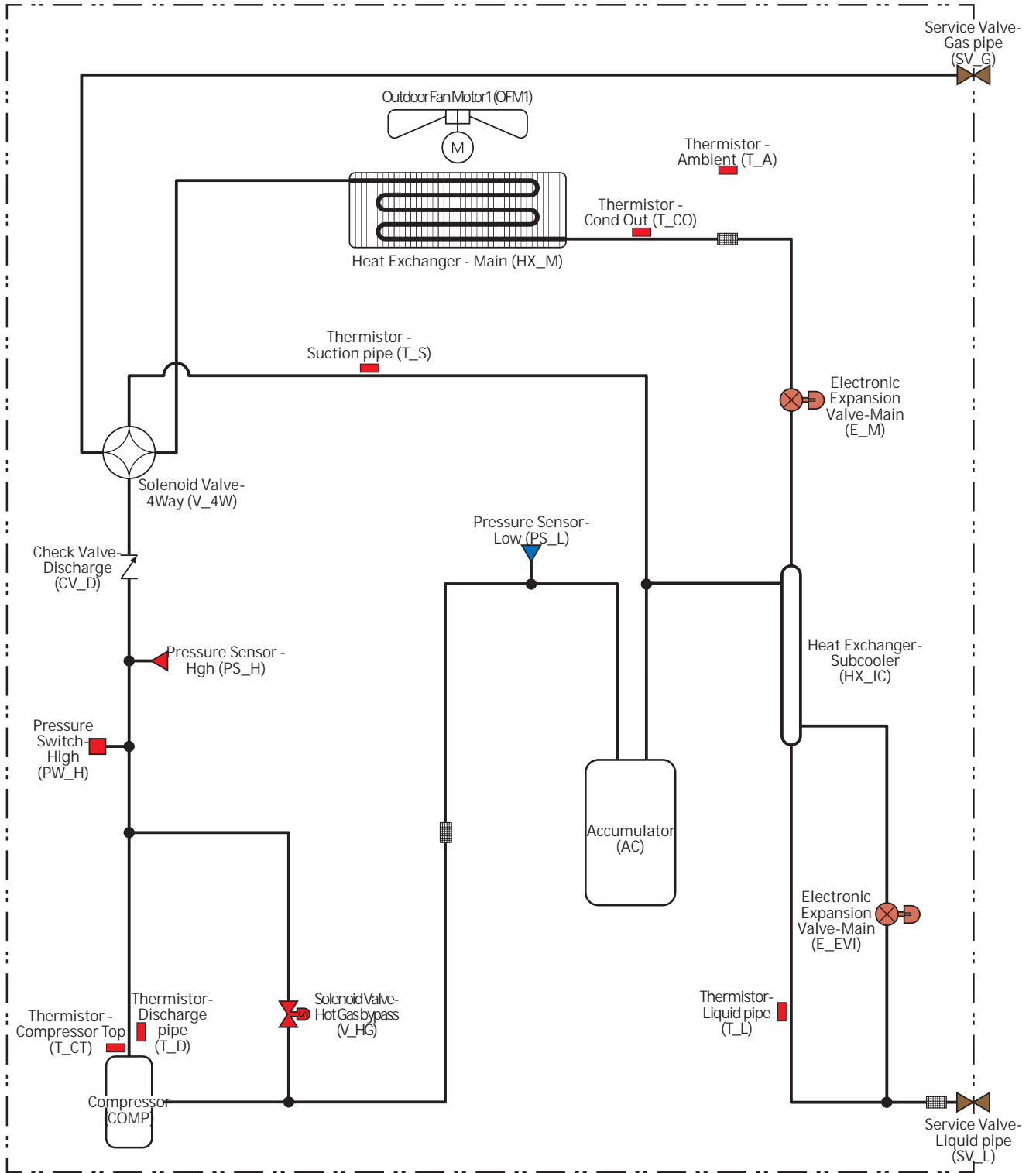
### NOTE

- 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.



# 9. Piping Diagram

AM040KXMDCH/AZ, AM050KXMDCH/AZ



2018.03  
Ver.1.1

**Samsung Electronics Co., LTD.**  
**B2B PM / SE**

Head Office (Suwon Korea) 129, Samsung-Ro, Yeongtong-Gu, Suwon City, Gyeonggi-Do, Korea 16677  
Website : [www.samsung.com](http://www.samsung.com), <http://btsp.samsungsbn.com> Email : [airconditioner@samsung.com](mailto:airconditioner@samsung.com)  
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