

SAMSUNG

VRF

Technical Data Book

**DVM S Water for Europe
(R410A, 50/60Hz, HP/HR)**



Model : Premium energy efficiency Type
Premium compact type

Nomenclature

Outdoor units

Model name

AM	080	M	X	W	A	N	R	/	EU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(Buyer)

(1) Classification

AM	DVM
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(5) Feature1

W	DVM WATER
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(2) Capacity

x 1/10 HP (3 digits)

(6) Feature2

A	Standard + General Temp.+ Module
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(3) Version

F	2013
H	2014
J	2015
K	2016
M	2017

(7) Rating Voltage

N	3Ø, 380~415V, 50/60Hz
G	3Ø, 380~415V, 50Hz

(4) Product Type

X	Outdoor Unit
N	Indoor Unit

(8) Mode

R	Heat Recovery
H	Heat Pump

2. Specification

Premium compact type

Type			DVM S Water	DVM S Water	DVM S Water	DVM S Water		
Model Name	Outdoor unit module 1		AM300KXWANR	AM380MXWANR1	AM400MXWANR1	AM420MXWANR1		
	Outdoor unit module 2		AM300KXWANR	AM300KXWANR	AM300KXWANR	AM300KXWANR		
	Outdoor unit module 3		-	AM080MXWANR	AM100MXWANR	AM120MXWANR		
	Outdoor unit module 4		-	-	-	-		
Power Supply Mode			Ø, #, V, Hz	3, 4, 380-415, 50/60	3, 4, 380-415, 50/60	3, 4, 380-415, 50/60	3, 4, 380-415, 50/60	
Mode			-	HEAT RECOVERY	HEAT RECOVERY	HEAT RECOVERY	HEAT RECOVERY	
Performance	HP	HP	HP	30	38	40	42	
		Ton	Ton	23.9	30.3	31.9	33.5	
	Capacity	Cooling	kW	kW	84.0	106.4	112.0	117.6
			Btu/h	Btu/h	286,600	363,027	382,133	401,240
		Heating 2 ¹	kW	kW	94.5	119.7	126.0	132.3
			Btu/h	Btu/h	322,400	408,373	429,867	451,360
		Heating 4 ¹	kW	kW	74	-	-	-
			Btu/h	Btu/h	252,500	-	-	-
Maximum number of connectable indoor units	Total capacity of the connected Indoor Units	Min.	kW	42.0	53.2	56.0	58.8	
		Max.	kW	109.2	138.3	145.6	152.9	
Power	Power Input	Cooling 3 ¹	kW	16.80	20.47	21.67	22.80	
		Heating 2 ¹	kW	16.88	20.85	21.92	23.13	
		Heating 4 ¹	kW	15.42	-	-	-	
	Current Input	Cooling 3 ¹	A	26.4	32.6	34.5	36.7	
		Heating 2 ¹	A	26.5	33.1	34.9	36.9	
	Current	Minimum Ssc value	MVA	-	-	-	-	
MCA		A	48	64.1	64.1	68		
MFA		A	63	75	75	75		
COP	Cooling 3 ¹		W/W	5.00	5.20	5.17	5.16	
	Heating 2 ¹		W/W	5.60	5.74	5.75	5.72	
	Heating 4 ¹		W/W	4.80	-	-	-	
Casing	Material	Cabinet	-	Steel plate	Steel plate	Steel plate	Steel plate	
		Base	-	Steel plate	Steel plate	Steel plate	Steel plate	
Compressor	Type	-	-	Inverter Scroll	Inverter Scroll	Inverter Scroll	Inverter Scroll	
	Output	kW × n	-	(6.75)×2	(6.75)×2 + (5.18)×1	(6.75)×2 + (5.18)×1	(6.75)×2 + (6.39)×1	
	Model Name		-	DS-GB070FAVASG x 2	DS-GB070FAVASG x 2 + DS-GB052FAVB x 1	DS-GB070FAVASG x 2 + DS-GB052FAVB x 1	DS-GB070FAVASG x 2 + DS-GB066FAVB x 1	
	Oil	Type	-	PVE	PVE	PVE	PVE	
Initial Charge		cc	1,100 x 2	(1,100 x 2) + 1,100	(1,100 x 2) + 1,100	(1,100 x 2) + 1,100		
Condenser	Type	Type	PHE(Plate Heat Exchanger)	PHE(Plate Heat Exchanger)	PHE(Plate Heat Exchanger)	PHE(Plate Heat Exchanger)		
	Pipe Size	Ø, inch	PT2	PT2 + PT1-1/4	PT2 + PT1-1/4	PT2 + PT1-1/4		
	Pressure Drop	kPa	50	50 + 22	50 + 30	50 + 43		
	Water Flow Rate	LPM	285	285 + 80	285 + 96	285 + 114		
	Max. Pressure	Mpa	1.96	1.96	1.96	1.96		
Piping Connections	Liquid Pipe	Type	Brazed connection	Brazed connection	Brazed connection	Brazed connection		
		Ø, mm	19.05	19.05	19.05	19.05		
		Ø, inch	3/4"	3/4"	3/4"	3/4"		
	Gas Pipe (Low pressure gas ref. pipe)	Type	Brazed connection	Brazed connection	Brazed connection	Brazed connection		
		Ø, mm	34.92	41.28	41.28	41.28		
		Ø, inch	1 3/8"	1 5/8"	1 5/8"	1 5/8"		
	Discharge Pipe (High pressure gas ref. pipe)	Type	Brazed connection	Brazed connection	Brazed connection	Brazed connection		
		Ø, mm	28.58	34.92	34.92	34.92		
		Ø, inch	1 1/8"	1 3/8"	1 3/8"	1 3/8"		
	Heat insulation		-	Both liquid and gas pipes	Both liquid and gas pipes	Both liquid and gas pipes	Both liquid and gas pipes	
	Piping length	ODU-IDU	Max.	m	170 (190)	170 (190)	170 (190)	170 (190)
		After branch	Max.	m	90	90	90	90
Total piping length	System	Actual	m	500	500	500	500	
Level difference	ODU-IDU	Outdoor unit in highest position	m	50	50	50	50	
		Indoor unit in highest position	m	40	40	40	40	
	IDU-IDU	Max.	m	50	50	50	50	
Wiring connections	Communication	Minimum	mm ²	0.75	0.75	0.75	0.75	
		Remark	-	F1, F2	F1, F2	F1, F2	F1, F2	
Refrigerant	Type	-	-	R-410A	R-410A	R-410A	R-410A	
	Factory Charging	kg	11.0	19.0	16.8	17.0		
Sound ⁵¹⁾	Sound Pressure	Cooling	dB(A)	56	57	57	57	
		Heating	dB(A)	58	59	59	59	
	Sound Power	dB(A)	75	77	77	77		
External Dimension	Net Weight		kg	280	160 + 280	160 + 280	160 + 280	
	Shipping Weight		kg	290	167 + 290	167 + 290	167 + 290	
	Net Dimensions (WxHxD)		mm	1100 x 1000 x 545	(770 X 1000 X 545)+ (1100 x 1000 x 545)	(770 X 1000 X 545)+ (1100 x 1000 x 545)	(770 X 1000 X 545)+ (1100 x 1000 x 545)	
	Shipping Dimensions (WxHxD)		mm	1170 x 1200 x 620	(840 X 1200 X 620)+ (1170 x 1200 x 620)	(840 X 1200 X 620)+ (1170 x 1200 x 620)	(840 X 1200 X 620)+ (1170 x 1200 x 620)	
Operating Temp. Range	Cooling	°C	10.0 - 45.0	10.0 - 45.0	10.0 - 45.0	10.0 - 45.0		
	Heating	°C	10.0 - 45.0	10.0 - 45.0	10.0 - 45.0	10.0 - 45.0		

3. Electric Characteristics

Single

Capacity		Model	Power Supply		Voltage Range		Nominal Running Current [A]		Current [A]	
HP	kW		Hz	Voltage	Min. (-10%)	Max. (+10%)	Cooling	Heating	MCA	MFA
8	22.4	AM080MXWANR	50/60	380~415	342	456	6.2	6.6	16.1	20
10	28.0	AM100MXWANR	50/60	380~415	342	456	8.1	8.4	16.1	20
12	33.6	AM120MXWANR	50/60	380~415	342	456	10.3	10.4	20.0	25
20	56.0	AM200MXWANR	50/60	380~415	342	456	17.3	17.4	31.8	40
30	84.0	AM300KXWANR	50/60	380~415	342	456	26.4	26.5	48.1	63.1

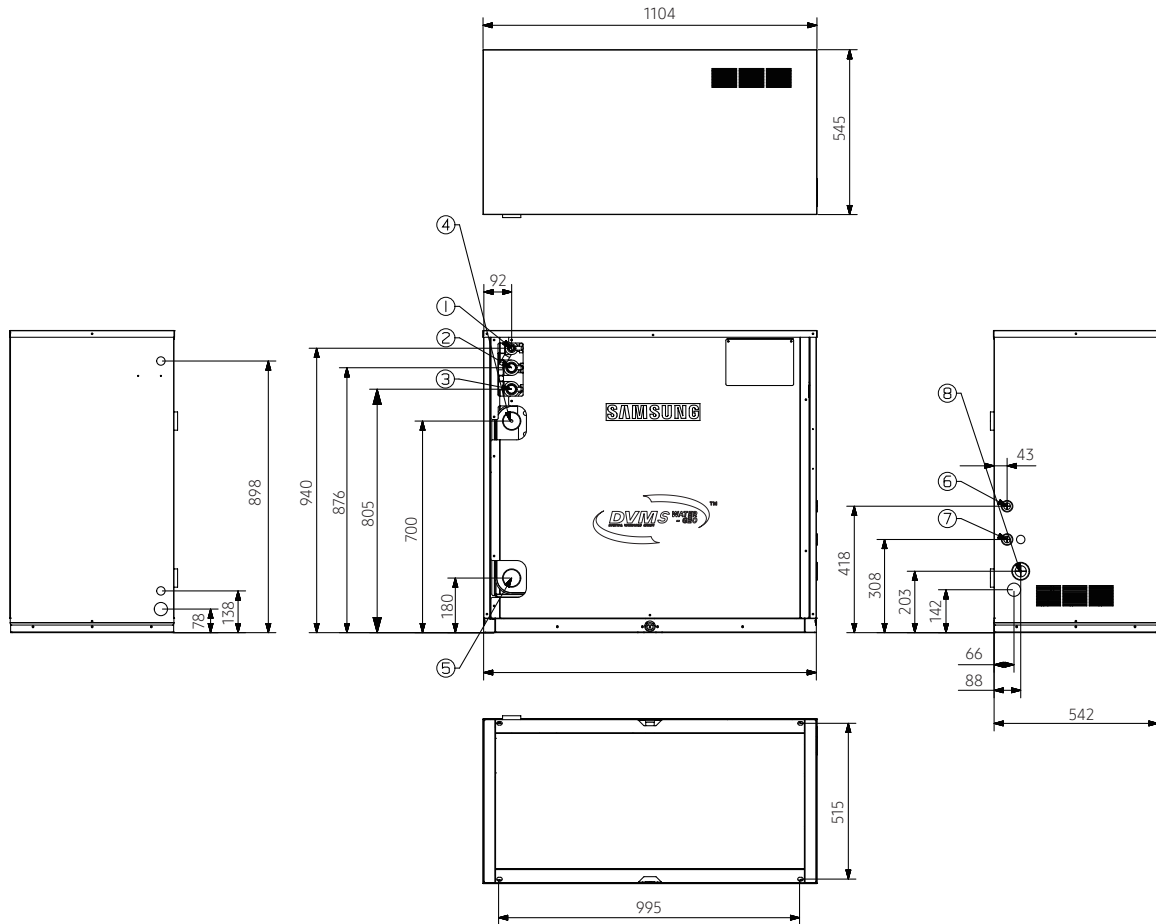
Module (Premium energy efficiency type)

Capacity		Model	Power Supply		Voltage Range		Nominal Running Current [A]		Current [A]	
HP	kW		Hz	Voltage	Min. (-10%)	Max. (+10%)	Cooling	Heating	MCA	MFA
16	44.8	AM160MXWANR2	50/60	380~415	342	456	12.4	13.2	32.2	40
18	50.4	AM180MXWANR2	50/60	380~415	342	456	14.3	15	32.2	40
22	61.6	AM220MXWANR2	50/60	380~415	342	456	18.4	18.8	36.1	40
24	67.2	AM240MXWANR2	50/60	380~415	342	456	20.6	20.8	40.0	50
26	72.8	AM260MXWANR2	50/60	380~415	342	456	20.5	21.6	48.3	63
28	78.4	AM280MXWANR2	50/60	380~415	342	456	23.5	24	47.9	63
30	84.0	AM300MXWANR2	50/60	380~415	342	456	25.4	25.8	47.9	63
32	89.6	AM320MXWANR2	50/60	380~415	342	456	27.6	27.8	51.8	63
34	95.2	AM340MXWANR2	50/60	380~415	342	456	28.7	29.2	56.1	63
36	100.8	AM360MXWANR2	50/60	380~415	342	456	29.7	30.6	64.0	75
38	106.4	AM380MXWANR2	50/60	380~415	342	456	31.6	32.4	64.0	75
40	112.0	AM400MXWANR2	50/60	380~415	342	456	34.6	34.6	63.6	75
42	117.6	AM420MXWANR2	50/60	380~415	342	456	35.7	36.2	67.9	75
44	123.2	AM440MXWANR2	50/60	380~415	342	456	37.9	38.2	71.8	80
48	134.4	AM480MXWANR2	50/60	380~415	342	456	40.8	41.4	79.7	90
50	140.0	AM500MXWANR2	50/60	380~415	342	456	42.7	43.2	79.7	90
52	145.6	AM520MXWANR2	50/60	380~415	342	456	44.9	45.2	83.6	100
60	168.0	AM600MXWANR2	50/60	380~415	342	456	51.9	52.2	95.4	125

4. Dimensional Drawing

AM300KXWA** (30HP)

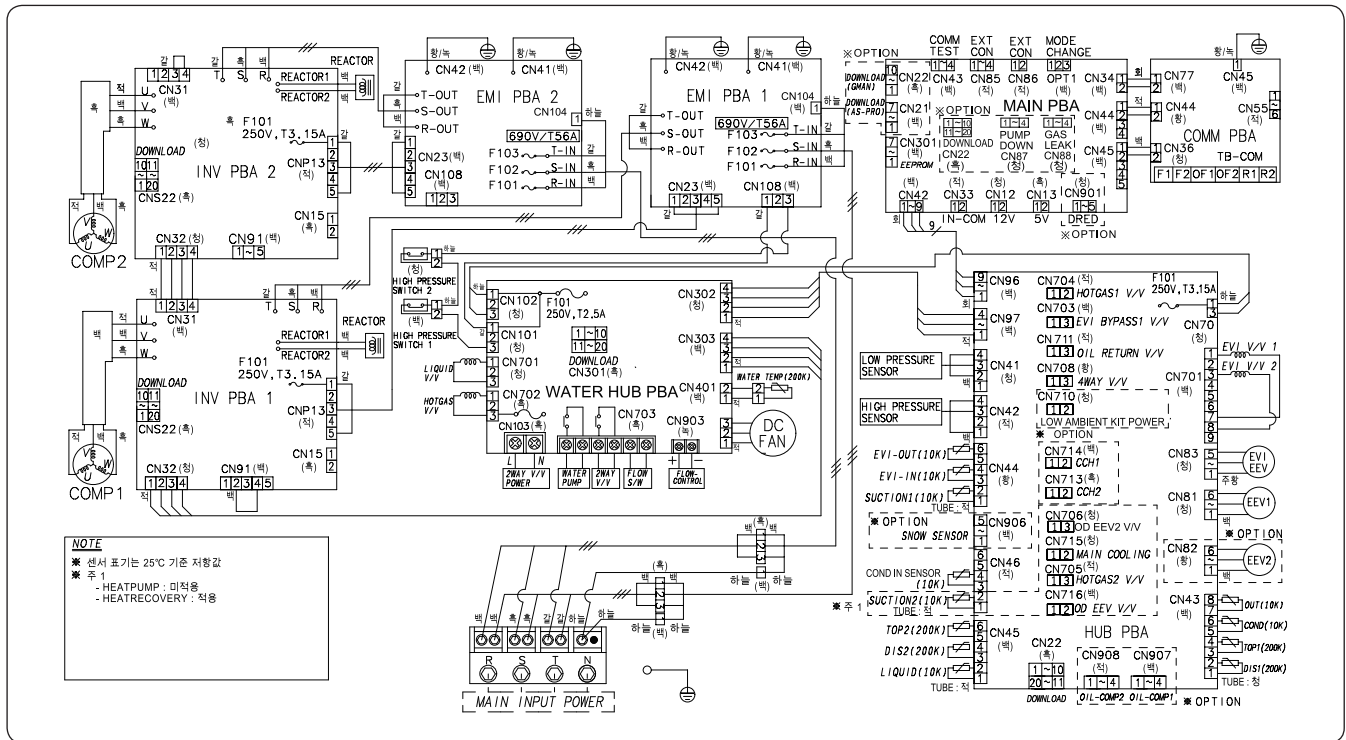
Unit : mm



No.	Name	Description	No.	Name	Description
①	Liquid ref. pipe	Ø 19.05 (3/4")	⑤	Water inlet pipe	PT2
②	High pressure gas ref. pipe	Ø 34.92 (1 3/8")	⑥	Communication wiring	-
③	Low pressure gas ref. pipe	Ø 28.58 (1 1/8")	⑦	External contact wiring	-
④	Water outlet pipe	PT2	⑧	Power wiring	-

6. Electrical Wiring Diagram

AM300KXWA※※ (30HP)



INV PBA1	Printed circuit board(Inverter PBA1)	EEV1	Electrical Expansion Valve 1	LIQUID(10K)	Temp. Sensor (Liquid Tube Temp. 10Kohm)
INV PBA2	Printed circuit board(Inverter PBA2)	EEV2	Electrical Expansion Valve 2	HOTGAS1 V/V	Solenoid Valve (Hot Gas Bypass1)
EMI PBA1	Printed circuit board(Noise Filter1)	EVI-OUT(10K)	Temp. Sensor (EVI-out 10kohm)	EVI BYPASS V/V	Solenoid Valve (EVI Bypass)
EMI PBA2	Printed circuit board(Noise Filter2)	EVI-IN(10K)	Temp. Sensor (EVI-in 10kohm)	RETURN V/V	Solenoid Valve (Accumulator Oil Return)
WATER HUB PCB	Printed circuit board(Water related load control)	SUCTION1(10K)	Temp. Sensor (Suction Temp.1 10Kohm)	4WAY V/V	Solenoid Valve (4Way Valve)
MAIN PBA	Printed circuit board(main)	SUCTION2(10K)	Temp. Sensor (Suction Temp.2 10Kohm)	CCH1	Crank Case Heater(COMP1)
HUB PBA	Printed circuit board(hub)	SNOW SENSOR	SNOW SENSOR	CCH2	Crank Case Heater(COMP2)
COMM PBA	Printed circuit board(Communication)	OIL-COMP1	Oil-Sensor (Compressor1)	MAIN COOLING	Solenoid Valve (Main Cooling)
COMP1	Motor (Compressor1)	OIL-COMP2	Oil-Sensor (Compressor2)	HOTGAS2 V/V	Solenoid Valve (Hot Gas Bypass2)
COMP2	Motor (Compressor2)	OUT(10K)	Temp. Sensor (Ambient Temp. 10Kohm)	OD EEV V/V	Solenoid Valve (Outdoor EEV)
FAN1	Motor (Outdoor Fan1)	COND(10K)	Temp. Sensor (Cond Out Temp. 10Kohm)	690V/T56A	FUSE(NOISE FILTER)
FAN2	Motor (Outdoor Fan1)	TOP1(200K)	Temp. Sensor (Compressor Top1 200Kohm)	MODE CHANGE	Connector (Remote switching cool/heat selector)
EVI V/V1	Solenoid Valve(EVI 1)	TOP2(200K)	Temp. Sensor (Compressor Top2 200Kohm)	EXT CON	Connector (Output EXT CON)
EVI V/V 2	Solenoid Valve(EVI 2)	DIS1(200K)	Temp. Sensor (Discharge Temp.1 200Kohm)	ERROR/COMP EXT	Connector (Output ERROR/COMP EXT CON)
EVI EEV	Enhanced Vapor Injection Electrical Expansion Valve	DIS2(200K)	Temp. Sensor (Discharge Temp.2 200Kohm)		

NOTE

- This wiring diagram applies only to the water-cooled DVM S Water.
- Colors BLK: black, RED: red, BLU: blue, WHT: white, YEL: yellow, BRN: brown, SKY: skyblue
- When operating, don't short circuit 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 Level

Summary

Single

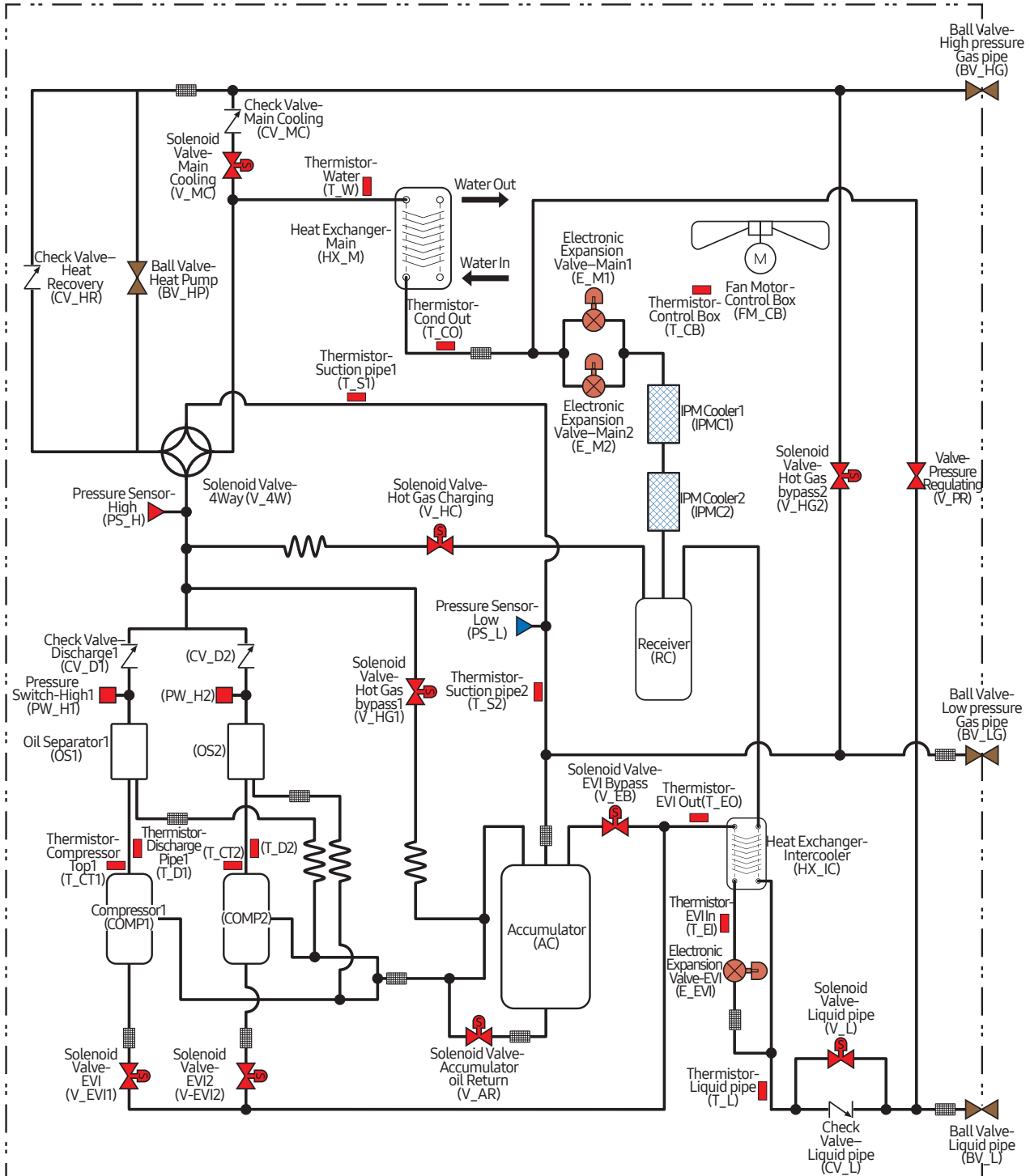
Capacity		Model	Sound Pressure dB(A)		Sound Power (dBA)
HP	KW		Cooling	Heating	
8	22.4	AM080MXWANR	45	46	70
10	28.0	AM100MXWANR	47	49	70
12	33.6	AM120MXWANR	47	50	70
20	56.0	AM200MXWANR	50	52	73
30	84.0	AM300KXWANR	56	58	75

Module (Premium energy efficiency type)

Capacity		Model	Sound Pressure dB(A)		Sound Power (dBA)
HP	KW		Cooling	Heating	
16	44.8	AM160MXWANR2	49	50	73
18	50.4	AM180MXWANR2	50	51	73
22	61.6	AM220MXWANR2	51	53	73
24	67.2	AM240MXWANR2	51	54	73
26	72.8	AM260MXWANR2	51	53	75
28	78.4	AM280MXWANR2	52	53	75
30	84.0	AM300MXWANR2	52	54	75
32	89.6	AM320MXWANR2	52	55	75
34	95.2	AM340MXWANR2	52	55	75
36	100.8	AM360MXWANR2	53	54	76
38	106.4	AM380MXWANR2	53	55	76
40	112.0	AM400MXWANR2	54	56	76
42	117.6	AM420MXWANR2	54	56	76
44	123.2	AM440MXWANR2	54	56	76
48	134.4	AM480MXWANR2	54	56	77
50	140.0	AM500MXWANR2	54	56	77
52	145.6	AM520MXWANR2	54	57	77
60	168.0	AM600MXWANR2	55	57	78

9. Piping Diagram

AM300KXWA**



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Ver.1.2

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