



SAMSUNG

# Project Report

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**Muzeum Śląskie**

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### 1.1 Name of building1

Dept	Fl	Room	Area		Load per unit area		Required Capacity			Sum of capacity			Model	Qty	Nominal Capacity			Outdoor	Model	Nominal Capacity		Combi. Ratio	
			CAD	SALES	Cooling	Heating	Cooling		Heating	Cooling		Heating			Cooling		Heating						
							TC	SHC		TC	TC				SHC	TC							
									Cooling			Heating					Cooling			Heating	Cooling	Heating	
			m2	m2	kW/m2	kW/m2	kW	kW	kW	kW	kW	kW			kW	kW	kW	-	-	kW	kW	%	%
Name of building1	1F	12	37.9506	37.95	0	0	0.00	0.00	0.00	28.4	21.6	32	AM071FNMDEH/EU	4	7.10	5.40	8.00	DVM S	AM240FXVAGH/EU	67.20	75.60	119	121
		10	6.89103	6.89	0	0	0.00	0.00	0.00	2.2	1.5	2.5	AM022FNQDEH/EU	1	2.20	1.50	2.50						
		AHU NW2	10.9054	10.91	0	0	0.00	0.00	0.00	7.1	5.4	8	AHU025HP(New)	1	7.10	5.40	8.00						
	0F	02	45.666	45.67	0	0	0.00	0.00	0.00	28.4	21.6	32	AM071FNMDEH/EU	4	7.10	5.40	8.00						
		AHU NW1	22.5357	22.54	0	0	0.00	0.00	0.00	14	11.2	16.8	AHU050HP(New)	1	14.00	11.20	16.80						

## 2 Piping & Wiring

### 2.1 DVM S

#### 2.1.1 Detail Load Profile

- 1) Design condition: Poland, KATOWICE, Cooling 32.0/24.0, Heating -20.0/20.0
- 2) Load profile

Building			Unit		Liquid	Gas	H.P.Gas	Airflow	Nominal Capacity			Simulated Capacity			Combi. Ratio	
Dept	Fl	Room	Name	Model name					Cooling		Heating	Cooling		Heating	Cooling	Heating
									TC	SHC	TC	TC	SHC	TC		
-	-	-	-	-	mm	mm	mm	CMM	kW	kW	kW	kW	kW	kW	%	%
Name of building1	0F		DVM S	AM240FXVAGH/EU	15.88	28.58			67.20		75.60	63.37		64.24	119.2	120.8
	1F	12	12_1	AM071FNMDEH/EU	9.52	15.88		17.00	7.10	5.40	8.00	5.60	4.35	5.79		
		12	12_2	AM071FNMDEH/EU	9.52	15.88		17.00	7.10	5.40	8.00	5.60	4.35	5.79		
		12	12_3	AM071FNMDEH/EU	9.52	15.88		17.00	7.10	5.40	8.00	5.60	4.35	5.79		
		12	12_4	AM071FNMDEH/EU	9.52	15.88		17.00	7.10	5.40	8.00	5.60	4.35	5.79		
		10	10	AM022FNODEH/EU	6.35	12.70		6.80	2.20	1.50	2.50	1.75	1.25	1.81		
		AHU NW2	AHU NW2	AHU025HP(New)	9.52	15.88			7.10	5.40	8.00	5.60	4.35	5.79		
	0F	02	02_1	AM071FNMDEH/EU	9.52	15.88		17.00	7.10	5.40	8.00	5.60	4.35	5.79		
		02	02_2	AM071FNMDEH/EU	9.52	15.88		17.00	7.10	5.40	8.00	5.60	4.35	5.79		
		02	02_3	AM071FNMDEH/EU	9.52	15.88		17.00	7.10	5.40	8.00	5.60	4.35	5.79		
		02	02_4	AM071FNMDEH/EU	9.52	15.88		17.00	7.10	5.40	8.00	5.60	4.35	5.79		
		AHU NW1	AHU NW1	AHU050HP(New)	9.52	15.88			14.00	11.20	16.80	11.13	9.12	10.26		

## 2.1.2 Control

1) This data is for reference only. Verify local, state, and national electric codes. Samsung does not guarantee this data.

### 2) Configuration

Building			Unit		Transmission wires	Power wires	Breaker F use	Main Address		RMC Address		Accessories	
Dept	Fl	Room	Name	Model name								Optional accessories	Basic accessories
-	-	-	-	-	mm2	mm2	A						
Name of building1	0F		DVM S	AM240FXVAGH/EU	0.75~1.5	~	75						
	1F	12	12_1	AM071FNMDEH/EU	0.75~1.50	1.5~2.5		0	0	0	0	MDP-M075SGU3D,MWR-WE10N	
		12	12_2	AM071FNMDEH/EU	0.75~1.50	1.5~2.5		0	1	0	0	MDP-M075SGU3D,MWR-WE10N	
		12	12_3	AM071FNMDEH/EU	0.75~1.50	1.5~2.5		0	2	0	0	MDP-M075SGU3D,MWR-WE10N	
		12	12_4	AM071FNMDEH/EU	0.75~1.50	1.5~2.5		0	3	0	0	MDP-M075SGU3D,MWR-WE10N	
		10	10	AM022FNQDEH/EU	0.75~1.50	1.5~2.5		0	4	0	0	MWR-WE10N	
		AHU NW2	AHU NW2	AHU025HP(New)	0.75~1.5	1.5~2.5		0	5	0	0	MWR-WE10N,MXD-K025AN	
	0F	02	02_1	AM071FNMDEH/EU	0.75~1.50	1.5~2.5		0	6	0	0	MDP-M075SGU3D,MWR-WE10N	
		02	02_2	AM071FNMDEH/EU	0.75~1.50	1.5~2.5		0	7	0	0	MDP-M075SGU3D,MWR-WE10N	
		02	02_3	AM071FNMDEH/EU	0.75~1.50	1.5~2.5		0	8	0	0	MDP-M075SGU3D,MWR-WE10N	
		02	02_4	AM071FNMDEH/EU	0.75~1.50	1.5~2.5		0	9	0	0	MDP-M075SGU3D,MWR-WE10N	
		AHU NW1	AHU NW1	AHU050HP(New)	0.75~1.5	1.5~2.5		1	0	0	0	MWR-WE10N,MXD-K025AN	

2.1.3 Equipment list

1) Equipment list

Categories	Model name		Qty	Categories	Model name		Qty
DVM S(NEW)	AM240FXVAGH/EU	AM120FXVAGH/EU	2	AHU KIT		MXD-K025AN	2
MSP DUCT		AM071FNMDEH/EU	8	Y-Joint		MXJ-TA3819M	1
NEO FORTE		AM022FNQDEH/EU	1			MXJ-YA2815M	1
AHU(New)		AHU025HP(New)	1			MXJ-YA2812M	1
		AHU050HP(New)	1			MXJ-YA2512M	5
DRAIN PUMP		MDP-M075SGU3D	8			MXJ-YA1509M	3
WIRED REMOTE CONTROLL ER		MWR-WE10N	11				

2) Piping length

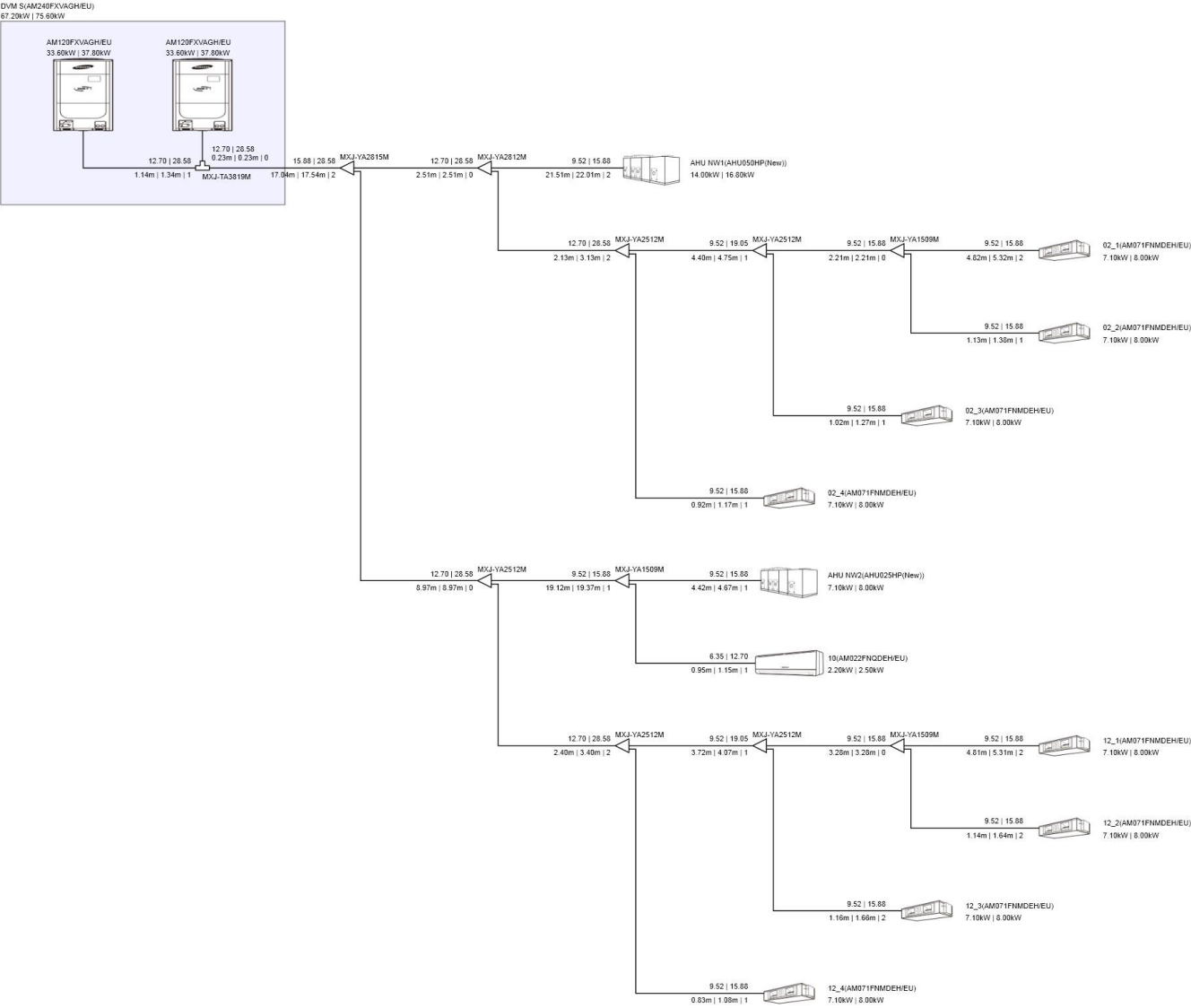
Length as pipe diameter		6.35	9.52	12.70	15.88	19.05	22.22	25.40	28.58	31.75	34.92	38.10	41.28	44.45	47.63	50.80	53.98
1. Liquid piping	m	0.95	74.48	17.39	20.04												
2. Gas piping	m			0.95	66.36	8.12			37.42								
3. High pressure gas piping	m																
Restriction of pipe length		Restriction (Based on installation manual)						Actual piping length				Equivalent piping length					
1. Total piping length	m	1000.00						116.15									
2. Maximum piping length	m	200.00						54.90				53.90					
3. Main pipe length	m							20.04									
4. Piping length between the first branch and the farthest indoor unit	m	45.00/90.00						33.42									
5. Level difference between outdoor and indoor unit(Max) (OD above ID unit / OD below ID unit)	m	110.00/40.00						-7.00									
6. Level difference between indoor units	m	50.00						4.00									

3) Basic and additional refrigerant amount

Basic refrigerant charge amount : 11.00 kg

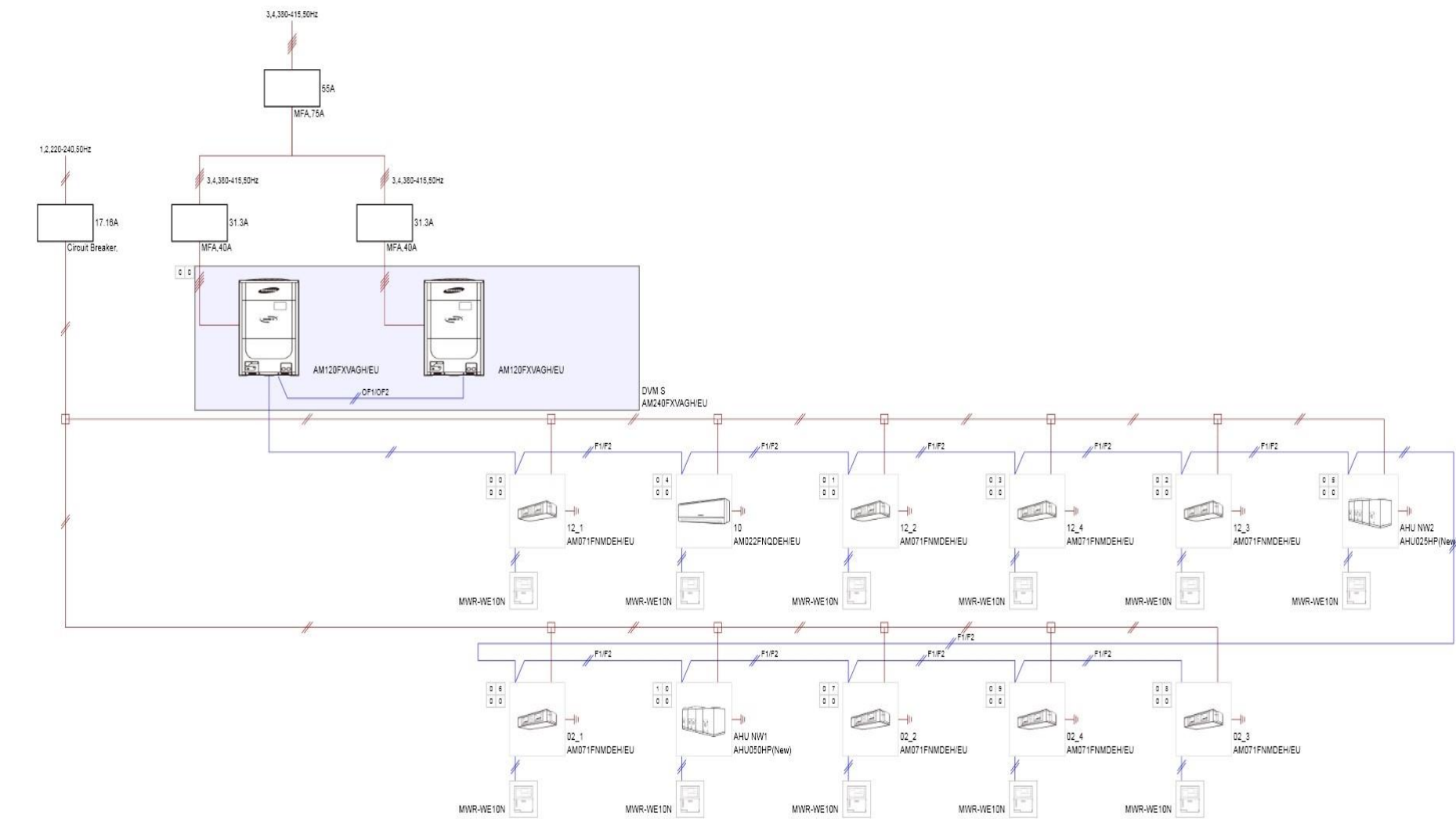
Additional refrigerant amount : 14.37 kg

2.1.4 Piping



- The system configuration may be different from the actual installation conditions, refer to the installation manual.

2.1.5 Wiring



- The system configuration may be different from the actual installation conditions, refer to the installation manual.

## 3 Specification

### 3.1 DVM

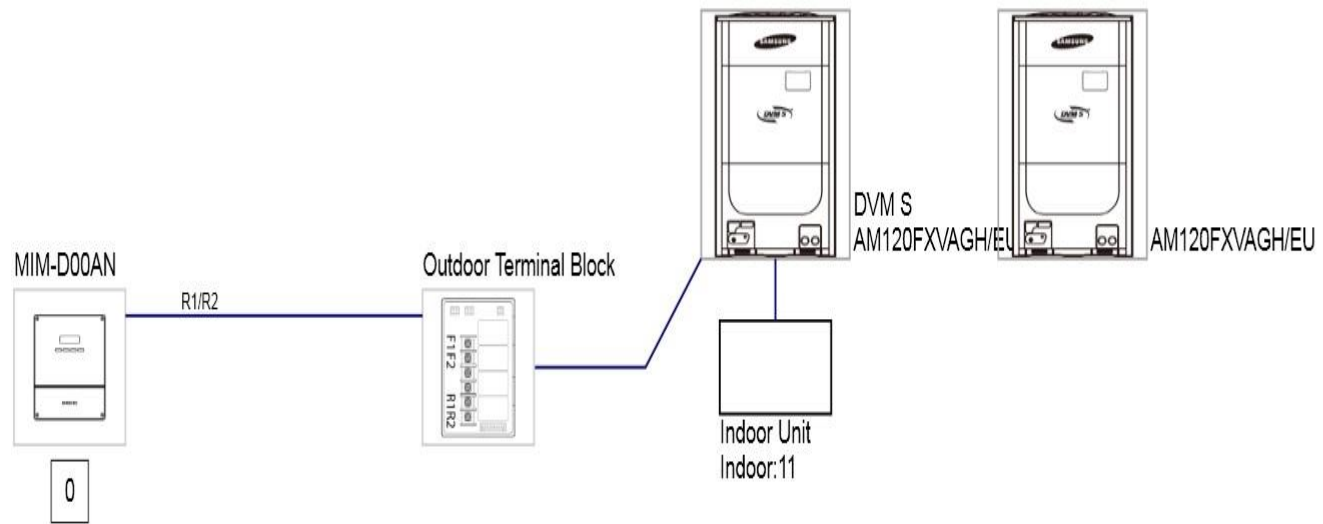
#### 3.1.1 Outdoor units

Model name			AM240FXVAGH/EU			
Power supply		Ø, #, V, Hz	3,4,380-415,50Hz			
Mode		-	HEAT PUMP			
Performance	HP/TON		HP/TON	24		
	Capacity(Nominal)	Cooling	kW	67.2		
			Kcal/h	57790		
		Cooling 46°C	kW	-		
			Kcal/h	N/A		
		Heating	kW	75.6		
			Kcal/h	65020		
	-20 °C	Heating(Low ambient temp.)	kW	-		
			Kcal/h	N/A		
Power	Power Input(Nominal)	Cooling	kW	16.8		
		Heating	kW	17.4		
	Power Input (at specific)		kW	N/A		
	Power Input(Nominal)	Cooling	A	27		
		Heating	A	28		
	Max. Current Input		A	55		
COP	Cooling		-	4.00		
	Heating		-	4.34		
Compressor	Type		-	SSC Scrollx2		
	Output		kW × n	6.13x2		
Fan	Type		-	Propeller		
	Output		W	400x2		
	Number of Units		EA	1		
	Air Flow Rate		CMM	190x2		
	External Static Pressure	Max.	mmAq	8		
Piping Connections	Liquid Pipe		Ø,mm(in)	15.88(5/8")		
	Gas Pipe		Ø,mm(in)	28.58(1 1/8")		
	Discharge Gas Pipe		Ø,mm(in)	-(-)		
	Oil Equalizing Pipe		Ø,mm(in)	N/A(N/A)		
Field Wiring	Power Source Wire		mm2	-		
	Transmission Cable		mm2	0.75/1.5		
Refrigerant	Type		-	R410A		
	Factory Charging		kg	5.50x2		
Sound	Sound pressure		dB(A)	65		
External Dimension	Net Weight		kg	190.00x2		
	Shipping Weight		kg	206.00x2		
	Net Dimensions (WxHxD)		mm	(880.00x1695.00x765.00)x2		
	Shipping Dimensions (WxHxD)		mm	(948.00x1887.00x832.00)x2		
Operating Temp. Range	Cooling		C	-5.00~48.00		
	Heating		C	-20.00~24.00		

### 3.1.2 Indoor units

Model				AHU025HP(New)	AHU050HP(New)	AM022FNQDEH/EU	AM071FNMDEH/EU	
Power supply			Ø, #, V, Hz	1,2,220-240,50/60Hz	1,2,220-240,50/60Hz	1,2,220-240,50Hz	1,2,220-240,50Hz	
Performance	Capacity(Nominal)	Cooling	kW	7.1	14	2.2	7.1	
			Kcal/h	6110	12040	1890	6110	
		Cooling (SHC)	kW	5.4	11.2	1.5	5.4	
			Kcal/h	4640	9630	1290	4640	
		Heating	kW	8	16.8	2.5	8	
			Kcal/h	6880	14450	2150	6880	
Power	Power Input(Nominal)	Cooling	W	750	1500	25	190	
		Heating		750	1500	25	190	
	Current Input	Cooling	A	3	4	0.16	1.25	
		Heating		3	4	0.16	1.25	
Fan	Motor	Type	-	Sirocco Fan	Sirocco Fan	Crossflow Fan	Sirocco Fan	
		Output	W	300x2	600x2	23	124	
		Number of unit	EA	2	2	1	1	
	Air Flow Rate	H/M/L (UL)	CMM	17.50/-/-	35.00/-/-	7.80/6.80/5.80	18.50/17.00/15.50	
	External Pressure	Min / Std / Max	mmAq	5.00 / 10.00 / 20.00	5.00 / 10.00 / 20.00	-	0.00 / 4.00 / 8.00	
Piping Connections	Liquid Pipe		Ø,mm(in)	9.52(3/8")	9.52(3/8")	6.35(1/4")	9.52(3/8")	
	Gas Pipe		Ø,mm(in)	15.88(5/8")	15.88(5/8")	12.7(1/2")	15.88(5/8")	
	Drain Pipe		Ø,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)	ID 18 HOSE	VP25 (OD 32,ID 25)	
Field Wiring	Power Source Wire		mm2	1.5~2.5	1.5~2.5	1.5~2.5	1.5~2.5	
	Transmission Cable		mm2	0.75/1.5	0.75/1.5	0.75/1.50	0.75/1.50	
Refrigerant	Type		-	R410A	R410A	R410A	R410A	
	Control Method		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED	
Sound	Sound pressure	High / Low	dBA	-/-	-/-	31/26	39/31	
Dimensions	Net Weight		kg	120.00	120.00	8.30	29.00	
	Shipping Weight		kg			11.30	33.00	
	Net Dimensions (WxHxD)		mm	2800.00x760.00x1000.00	2800.00x760.00x1000.00	825.00x285.00x189.00	900.00x260.00x480.00	
	Shipping Dimensions (WxHxD)		mm	-x-x-	-x-x-	904.00x353.00x263.00	1170.00x340.00x595.00	
Panel Size	Panel model		-					
	Panel Net Weight		kg					
	Shipping Weight		kg					
	Net Dimensions (WxHxD)		mm					
	Shipping Dimensions (WxHxD)		mm					

## 4 Controller



- The system configuration may be different from the actual installation conditions, refer to the installation manual.

5 Total Equipment List

Index	Model	Qty	Remark(Categories)	Unit Price	Amount
Outdoor unit	AM120FXVAGH/EU	2	DVM S(NEW)	0	0
	AM071FNMDEH/EU	8	MSP DUCT	0	0
Indoor unit	AHU025HP(New)	1	AHU(New)	0	0
	AHU050HP(New)	1	AHU(New)	0	0
	AM022FNQDEH/EU	1	NEO FORTE	0	0
Piping	MXJ-TA3819M	1	Y-Joint	0	0
	MXJ-YA2815M	1	Y-Joint	0	0
	MXJ-YA2812M	1	Y-Joint	0	0
	MXJ-YA2512M	5	Y-Joint	0	0
	MXJ-YA1509M	3	Y-Joint	0	0
Control System	MIM-D00AN	1	DMS 2.0	0	0
Optional accessories	MDP-M075SGU3D	8	DRAIN PUMP	0	0
	MWR-WE10N	11	WIRED REMOTE CONTROLLER	0	0
	MXD-K025AN	2	AHU KIT	0	0
Ref. Pipe	6.35(1/4")	0.95	m	0	0
	9.52(3/8")	74.48	m	0	0
	12.70(1/2")	18.34	m	0	0
	15.88(5/8")	86.4	m	0	0
	19.05(3/4")	8.12	m	0	0
	28.58(1 1/8")	37.42	m	0	0
Additional Ref. Quantity	R410A	14.37	kg	0	0
Total					0