

SAMSUNG

Project Report

UAM Fizyka

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Name : Mateusz Wielk
Telephone : +48 600 099 250
E-mail : m.wielk@partner.samsung.com
Address : Samsung Electronics Polska



1. Total Load Profile

1.1 UAM

Dept	FI	Room	Area		Load per unit area		Load			Sum of capacity			Model	Qty	Nominal Capacity			Outdoor	Model	Nominal Capacity		Combi. Ratio		
			CAD	SALE S	Cooling	Heating	Cooling		Heating	Cooling		Heating			Cooling	Heating	Cooling			Heating	Cooling	Heating	Cooling	Heating
							TC	SHC	TC	TC	SHC	TC												
			m2	m2	kW/m2	kW/m2	kW	kW	kW	kW	kW	kW			kW	kW	kW	-	-	kW	kW	%	%	
UAM	Piętro	Sala 1.19	205.689	205.69	0.25	0	50.40	0.00	0.00	50.4	37.8	56.7	AM056HNMPKH/EU	9	5.60	4.20	6.30	System VRF 1.19	AM180JXVHGH/ET	50.40	56.70	100	100	
		Sala 1.20	205.325	205.32	0.25	0	50.40	0.00	0.00	50.4	37.8	56.7	AM056HNMPKH/EU	9	5.60	4.20	6.30	System VRF 1.20	AM180JXVHGH/ET	50.40	56.70	100	100	



2. Piping & Wiring

2.1 System VRF 1.19

2.1.1 Detail Load Profile

1) Design condition: Poland, POZNAN, Cooling 30, Heating -18

2) Load profile

Building			Unit		Liquid Pipe	Gas Pipe	H.P.Gas Pipe	Airflow		Design condition : Indoor		Max. Capacity @design condition		Simultaneous Operation Capacity			Combination Ratio		
Dept	Fl	Room	Name	Model name						Cooling WB.Temp	Heating DB.Temp	Cooling		Heating	Cooling		Heating	Cooling	Heating
-	-	-	-	-	ø, mm	ø, mm	ø, mm	Mod e	CMM	°C	°C	kW	kW	kW	kW	kW	%	%	
UAM	Dach		System VRF 1.19	AM180JXVHGH/ET	15.88	28.58			290.00			49.21		44.65	49.21		44.65	100	100
	Piętro	Sala 1.19	Sala 1.19_1	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		
		Sala 1.19	Sala 1.19_2	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		
		Sala 1.19	Sala 1.19_3	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		
		Sala 1.19	Sala 1.19_4	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		
		Sala 1.19	Sala 1.19_5	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		
		Sala 1.19	Sala 1.19_6	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		
		Sala 1.19	Sala 1.19_7	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		
		Sala 1.19	Sala 1.19_8	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		
		Sala 1.19	Sala 1.19_9	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.47	4.10	4.96		

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		Communication wires	Power wires	Breaker Fuse	Main Address		RMC Address		Accessories	
Dept	Fl	Room	Name	Model name								Optional accessories	Basic accessories
-	-	-	-	-	mm2	mm2	A						
UAM	Dach		System VRF 1.19	AM180JXVHGH/ET	0.75~	~	50						
	Piętro	Sala 1.19	Sala 1.19 1	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	2	0	0	MCM-A300N	MCM-A300N
		Sala 1.19	Sala 1.19 2	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	1	0	0		
		Sala 1.19	Sala 1.19 3	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	0	0	0		
		Sala 1.19	Sala 1.19 4	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	5	0	0		
		Sala 1.19	Sala 1.19 5	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	4	0	0		
		Sala 1.19	Sala 1.19 6	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	3	0	0		
		Sala 1.19	Sala 1.19 7	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	8	0	0		
		Sala 1.19	Sala 1.19 8	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	7	0	0		
		Sala 1.19	Sala 1.19 9	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	6	0	0		



2.1.3 Equipment list

1) Equipment list

Categories	Model name		Qty	Categories	Model name		Qty
DVM S(NEW)		AM180JXVHGH/ET	1	Y-Joint		MXJ-YA2512M	4
DUCT S		AM056HNMPKH/EU	9			MXJ-YA1509M	3
Y-Joint		MXJ-YA2815M	1				

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	15.39	16.39	5.52	3.72												
2. Gas piping	m			15.39	8.97	7.42			9.25								
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						43.43									
2. Maximum piping length	m	200.00						23.60				26.05					
3. Main pipe length	m							3.72									
4. Piping length between the first branch and the farthest indoor unit	m	45.00/90.00						19.88									
5. Level difference between outdoor and indoor unit(Max) (OD above ID unit / OD below ID unit)	m	40.00/110.00						2.00									
6. Level difference between indoor units	m	50.00															

3) Basic and additional charging ref. amount

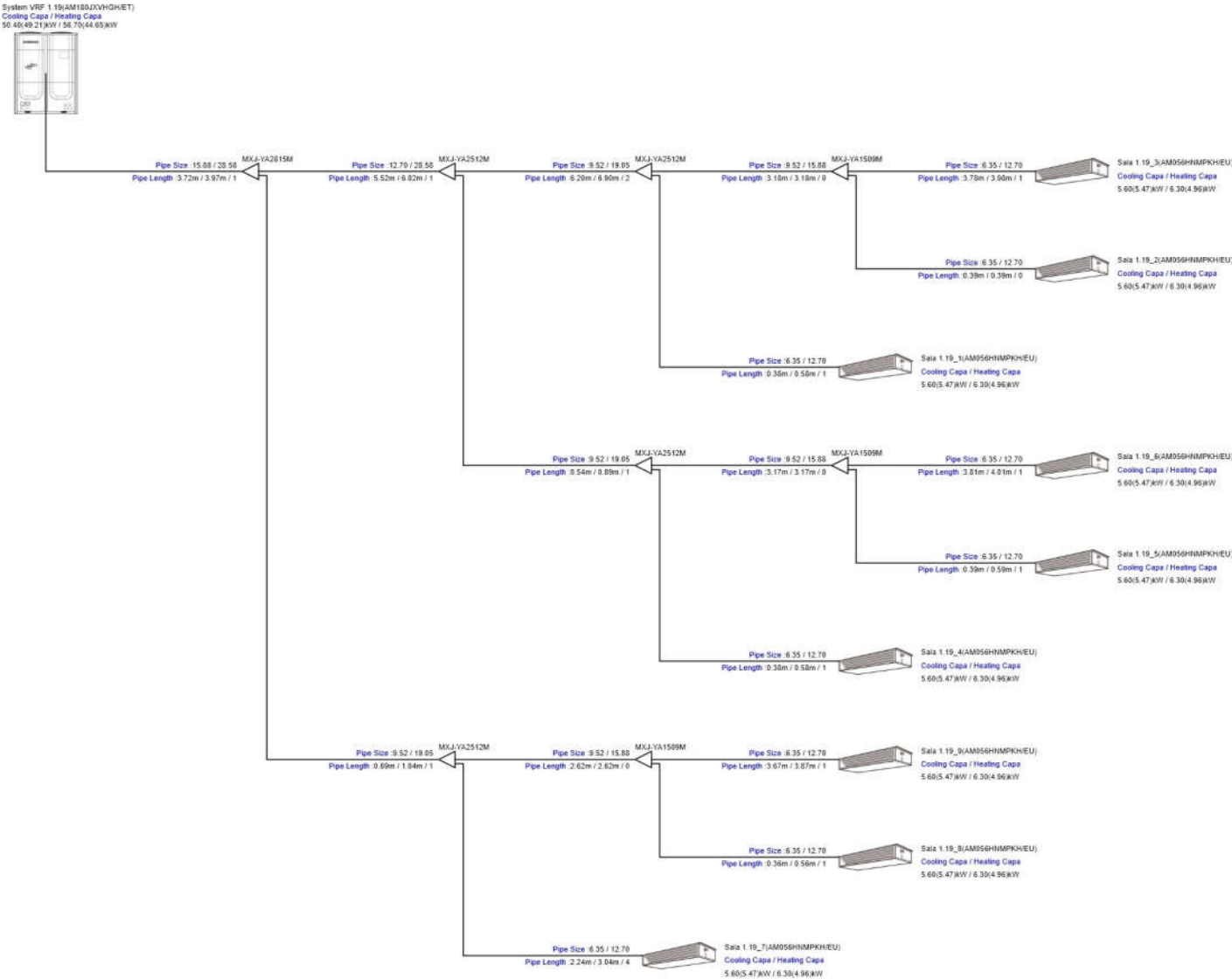
Basic (Factory) charge ref. amount : 8.400 kg

Additional Field charging ref. amount : 4.830 kg

Total number of bendings : 17



2.1.4 Piping



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



2.2 System VRF 1.20

2.2.1 Detail Load Profile

1) Design condition: Poland, POZNAN, Cooling 30, Heating -18

2) Load profile

Building			Unit		Liquid Pipe	Gas Pipe	H.P.Gas Pipe	Airflow		Design condition : Indoor		Max. Capacity @design condition		Simultaneous Operation Capacity			Combination Ratio		
Dept	Fl	Room	Name	Model name						Cooling WB.Temp	Heating DB.Temp	Cooling		Heating	Cooling		Heating	Cooling	Heating
												TC	SHC	TC	TC	SHC	TC		
-	-	-	-	-	ø, mm	ø, mm	ø, mm	Mod e	CMM	°C	°C	kW	kW	kW	kW	kW	kW	%	%
UAM	Dach		System VRF 1.20	AM180JXVHGH/ET	15.88	28.58			290.00			49.35		44.65	49.35		44.65	100	100
	Piętro	Sala 1.20	Sala 1.20 1	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		
		Sala 1.20	Sala 1.20 2	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		
		Sala 1.20	Sala 1.20 3	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		
		Sala 1.20	Sala 1.20 4	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		
		Sala 1.20	Sala 1.20 5	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		
		Sala 1.20	Sala 1.20 6	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		
		Sala 1.20	Sala 1.20 7	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		
		Sala 1.20	Sala 1.20 8	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		
		Sala 1.20	Sala 1.20 9	AM056HNMPKH/EU	6.35	12.70		H	16.00	19	20	5.60	4.20	6.30	5.48	4.11	4.96		

2.2.2 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		Communication wires	Power wires	Breaker Fuse	Main Address		RMC Address		Accessories		
Dept	Fl	Room	Name	Model name								Optional accessories		Basic accessories
-	-	-	-	-	mm2	mm2	A							
UAM	Dach		System VRF 1.20	AM180JXVHGH/ET	0.75~	~	50							
	Piętro	Sala 1.20	Sala 1.20 1	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	8	0	0	MCM-A300N		MCM-A300N
		Sala 1.20	Sala 1.20 2	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	7	0	0			
		Sala 1.20	Sala 1.20 3	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	6	0	0			
		Sala 1.20	Sala 1.20 4	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	5	0	0			
		Sala 1.20	Sala 1.20 5	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	4	0	0			
		Sala 1.20	Sala 1.20 6	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	3	0	0			
		Sala 1.20	Sala 1.20 7	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	2	0	0			
		Sala 1.20	Sala 1.20 8	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	1	0	0			
		Sala 1.20	Sala 1.20 9	AM056HNMPKH/EU	0.75~1.5	1.5~2.5		0	0	0	0			



2.2.3 Equipment list

1) Equipment list

Categories	Model name		Qty	Categories	Model name		Qty
DVM S(NEW)		AM180JXVHGH/ET	1	Y-Joint		MXJ-YA2512M	4
DUCT S		AM056HNMPKH/EU	9			MXJ-YA1509M	3
Y-Joint		MXJ-YA2815M	1				

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	14.83	18.60	4.13	2.36												
2. Gas piping	m			14.83	10.30	8.30			6.49								
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						42.32									
2. Maximum piping length	m	200.00						20.80				22.65					
3. Main pipe length	m							2.36									
4. Piping length between the first branch and the farthest indoor unit	m	45.00/90.00						18.44									
5. Level difference between outdoor and indoor unit(Max) (OD above ID unit / OD below ID unit)	m	40.00/110.00						2.00									
6. Level difference between indoor units	m	50.00															

3) Basic and additional charging ref. amount

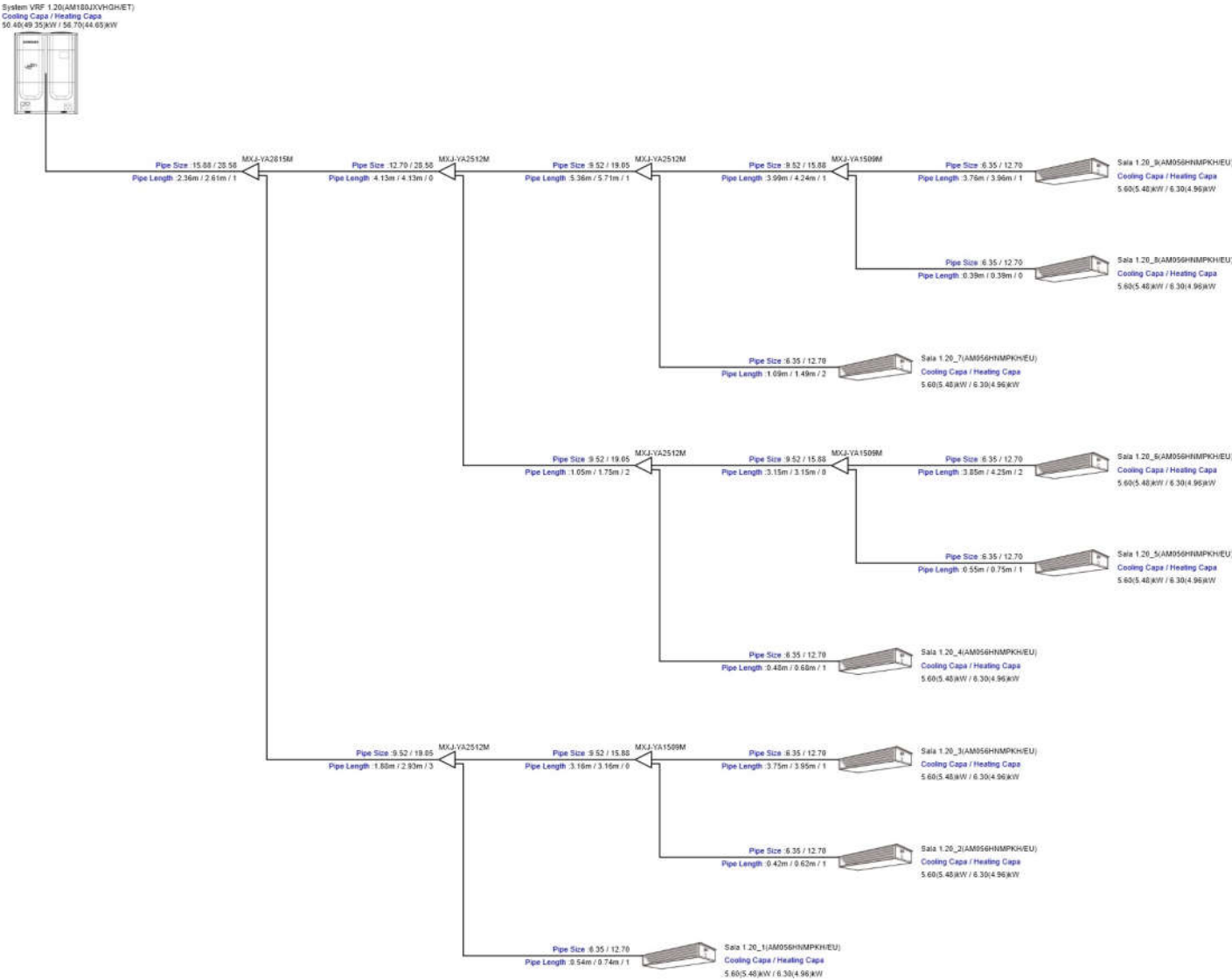
Basic (Factory) charge ref. amount : 8.400 kg

Additional Field charging ref. amount : 4.530 kg

Total number of bendings : 18



2.2.4 Piping



- 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			AM180JXVHGH/ET		
Power supply		Ø, #, V, Hz	3,4,380-415,50Hz		
Mode		-	HEAT PUMP		
Performance	HP/TON		HP/TON	18/14.33	
	Capacity(Nominal)	Cooling	kW	50.4	
			Kcal/h	43340	
		Cooling 46°C	kW	-	
			Kcal/h	N/A	
		Heating	kW	56.7	
			Kcal/h	48760	
	-20 °C	Heating(Low ambient temp.)	kW	-	
			Kcal/h	N/A	
Power	Power Input(Nominal)	Cooling	kW	12.32	
		Heating	kW	12.01	
	Power Input (at specific)		kW	N/A	
	Current Input(Nominal)	Cooling	A	19.8	
		Heating	A	19.3	
	Max. Current Input		A	39.2	
COP	Circuit Breaker		A	50	
	Cooling		-	4.09	
	Heating		W/W	4.72	
Compressor	Type		-	SSC Scrollx2	
	Output		kW × n	6.39x2	
Fan	Type		-	Propeller	
	Output		W	620x2	
	Number of Units		EA	2	
	Air Flow Rate		CMM	290.00	
	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/	
Refrigerant	Type		-	R410A	
	Factory Charging		kg	8.400	
Sound	Sound pressure		dB(A)	63	
External Dimension	Net Weight		kg	293.000	
	Shipping Weight		kg	312.000	
	Net Dimensions (WxHxD)		mm	1295.00x1695.00x765.00	
	Shipping Dimensions (WxHxD)		mm	1363.00x1887.00x832.00	
Operating Temp. Range	Cooling		°C	-5.00~48.00	
	Heating		°C	-25.00~24.00	



3.1.2 Indoor units

Model			AM056HNMPKH/EU				
Power supply			Ø, #, V, Hz	1,2,220-240,50Hz			
Performance	Capacity(Nominal)	Cooling	kW	5.6			
			Kcal/h	4820			
		Cooling (SHC)	kW	4.2			
			Kcal/h	3610			
		Heating	kW	6.3			
			Kcal/h	5420			
Power	Power Input(Nominal)	Cooling	W	70			
		Heating		70			
	Current Input	Cooling	A	0.7			
		Heating		0.7			
Fan	Motor	Type	-	Sirocco Fan			
		Output	W	153			
		Number of unit	EA	1			
	Air Flow Rate	H/M/L (UL)	CMM	16.00/13.50/11.00			
	External Pressure	Min / Std / Max	mmAq	0.00 / 3.00 / 15.00			
Piping Connections	Liquid Pipe		Ø,mm(in)	6.35(1/4")			
	Gas Pipe		Ø,mm(in)	12.7(1/2")			
	Drain Pipe		Ø,mm	VP25 (OD 32,ID 25)			
Field Wiring	Power Source Wire		mm2	1.5~2.5			
	Transmission Cable		mm2	0.75/1.5			
Refrigerant	Type		-	R410A			
	Control Method		-	EEV INCLUDED			
Sound	Sound pressure	High / Low	dBA	33/27			
Dimensions	Net Weight		kg	25.500			
	Shipping Weight		kg	30.000			
	Net Dimensions (WxHxD)		mm	850.00x250.00x700.00			
	Shipping Dimensions (WxHxD)		mm	1064.00x320.00x784.00			
Panel Size	Panel model		-				
	Panel Net Weight		kg				
	Shipping Weight		kg				
	Net Dimensions (WxHxD)		mm				
	Shipping Dimensions (WxHxD)		mm				



4. Total Equipment List

Index	Model	Qty	Remark(Categories)	Unit Price	Amount
Outdoor unit	AM180JXVHGH/ET	2	DVM S(NEW)	0	0
Indoor unit	AM056HNMPKH/EU	18	DUCT S	0	0
Piping	MXJ-YA2815M	2	Y-Joint	0	0
	MXJ-YA2512M	8	Y-Joint	0	0
	MXJ-YA1509M	6	Y-Joint	0	0
Optional accessories	MCM-A300N	2	CONTROLLER	0	0
Ref. Pipe	6.35(1/4")	30.22	m	0	0
	9.52(3/8")	34.99	m	0	0
	12.70(1/2")	39.87	m	0	0
	15.88(5/8")	25.35	m	0	0
	19.05(3/4")	15.72	m	0	0
	28.58(1 1/8")	15.74	m	0	0
Additional Ref. Amount	R410A	9.36	kg	0	0
		Total			0

