SAMSUNG

SAC Technical Data Book

R32 MCU/SVB for Global

1. MCU (Mode Control Unit)
2. SVB (Shut off Valve Box)

Model : MCU-A*NEK1UN, MCU-A*NEK1N, MSB-A*NEK1UN, MSB-A*NEK1N

History

Version	Modification	Date	Remark
Ver.1.0	Released DVM R32 MCU/SVB TDB for global	26. 01. 06	

Contents

1. MCU (Mode Control Unit) 4

2. SVB (Shut off Valve Box) 21

1. MCU (Mode Control Unit)

Specification

Type					MCU		
Model					MCU-A1NEK1UN	MCU-A2NEK1UN	MCU-A4NEK1UN
Power Supply				Φ | # | V | Hz	1 | 2 | 208-230 | 60	1 | 2 | 208-230 | 60	1 | 2 | 208-230 | 60
Mode				-	Heat Recovery	Heat Recovery	Heat Recovery
Power	Current	MCA		A	1.5	0.5	0.5
		MFA		A	-	-	-
		MOP		A	15	15	15
Maximum number of connectable indoor units				EA	8	16	32
Maximum number of connectable indoor unit per branch				EA	8	8	8
Number of branches				EA	1	2	4
Maximum capacity of connectable indoor units				kW	16	32	61.6
				Btu/h	54,000	108,000	216,000
				MBH	54	108	216
Maximum capacity of connectable indoor units per branch		-		kW	16	16	16
				Btu/h	54,000	54,000	54,000
				MBH	54	54	54
		Y-Joint		kW	-	32	32
				Btu/h	-	108,000	108,000
				MBH	-	108	108
Piping Connections	Outdoor unit	Liquid Pipe		Φ, mm	15.88	15.88	15.88
				Φ, inch	5/8	5/8	5/8
		Gas Pipe		Φ, mm	22.22	22.22	22.22
				Φ, inch	7/8	7/8	7/8
		High Pressure Gas Pipe		Φ, mm	22.22	22.22	22.22
				Φ, inch	7/8	7/8	7/8
	Indoor unit	Liquid Pipe		Φ, mm	9.52	9.52	9.52
				Φ, inch	3/8	3/8	3/8
		Gas Pipe		Φ, mm	15.88	15.88	15.88
				Φ, inch	5/8	5/8	5/8
Wiring Connection	Power Source Wire			mm^2	2.5	2.5	2.5
	Transmission Cable			mm^2	0.75	0.75	0.75
Refrigerant Calculation		Additional		kg	0.3	0.3	0.3
Sound Pressure	Stable cooling Operation			dB(A)	30	30	32
	Heating-to-Cooling Change over			dB(A)	45	45	45
External Dimension	Net Weight			kg	24	26	30
				lbs	52.91	57.32	66.14
	Shipping Weight			kg	31	33	37
				lbs	68.34	72.75	81.57
	Net Dimensions	W		mm	492	492	492
				in	19.37	19.37	19.37
		H		mm	271	271	271
				in	10.67	10.67	10.67
		D		mm	780	780	780
				in	30.71	30.71	30.71
	Shipping Dimensions	W		mm	1,022	1,022	1,022
				in	40.24	40.24	40.24
		H		mm	353	353	353
				in	13.90	13.90	13.90
		D		mm	982	982	982
				in	38.66	38.66	38.66
Installation	-15 ℃ operation	1 port	Max.	kW	5	5	5
				MBH	17	17	17
		2 port	Min.	kW	-	5	5
				MBH	-	17	17
			Max.	kW	-	16	16
				MBH	-	54	54

※ If the sum of the connected indoor unit capacity connected to the MCU is greater than 67.2kW, performance may vary depending on operating conditions.
※ The incoming pipe diameters supplying refrigerant to the MCU are determined based on the sum of the connected indoor units.
If these pipe diameters are different than the MCU pipe diameters, use the provided reducers to connect to the MCU.
If the provided reducers are not the correct size, field supplied reducers must be used.

1. MCU (Mode Control Unit)

Specification

Type					MCU		
Model					MCU-A6NEK1UN	MCU-A8NEK1UN	MCU-A12NEK1UN
Power Supply				Φ | # | V | Hz	1 | 2 | 208-230 | 60	1 | 2 | 208-230 | 60	1 | 2 | 208-230 | 60
Mode				-	Heat Recovery	Heat Recovery	Heat Recovery
Power	Current	MCA		A	0.5	1	1.5
		MFA		A	-	-	15
		MOP		A	15	15	-
Maximum number of connectable indoor units				EA	32	64	64
Maximum number of connectable indoor unit per branch				EA	8	8	8
Number of branches				EA	6	8	12
Maximum capacity of connectable indoor units				kW	61.6	85	85
				Btu/h	216,000	290,000	290,000
				MBH	216	290	290
Maximum capacity of connectable indoor units per branch		-		kW	16	16	16
				Btu/h	54,000	54,000	54,000
				MBH	54	54	54
		Y-Joint		kW	32	32	32
				Btu/h	108,000	108,000	108,000
				MBH	108	108	108
Piping Connections	Outdoor unit	Liquid Pipe		Φ, mm	15.88	15.88	15.88
				Φ, inch	5/8	5/8	5/8
		Gas Pipe		Φ, mm	22.22	22.22	22.22
				Φ, inch	7/8	7/8	7/8
		High Pressure Gas Pipe		Φ, mm	22.22	22.22	22.22
				Φ, inch	7/8	7/8	7/8
	Indoor unit	Liquid Pipe		Φ, mm	9.52	9.52	9.52
				Φ, inch	3/8	3/8	3/8
		Gas Pipe		Φ, mm	15.88	15.88	15.88
				Φ, inch	5/8	5/8	5/8
Wiring Connection	Power Source Wire			mm^2	2.5	2.5	2.5
	Transmission Cable			mm^2	0.75	0.75	0.75
Refrigerant Calculation		Additional		kg	0.65	0.65	1
Sound Pressure	Stable cooling Operation			dB(A)	32	35	35
	Heating-to-Cooling Change over			dB(A)	45	45	45
External Dimension	Net Weight			kg	48.5	53	75.5
				lbs	106.92	116.85	166.45
	Shipping Weight			kg	57	61.5	86
				lbs	125.66	135.58	189.60
	Net Dimensions	W		mm	937	937	1382
				in	36.89	36.89	54.41
		H		mm	271	271	271
				in	10.67	10.67	10.67
		D		mm	780	780	780
				in	30.71	30.71	30.71
	Shipping Dimensions	W		mm	1,457	1,457	1,902
				in	57.36	57.36	74.88
		H		mm	353	360	353
				in	13.90	14.17	13.90
		D		mm	982	982	982
				in	38.66	38.66	38.66
Installation	-15 ℃ operation	1 port	Max.	kW	5	5	5
				MBH	17	17	17
		2 port	Min.	kW	5	5	5
				MBH	17	17	17
			Max.	kW	16	16	16
				MBH	54	54	54

※ If the sum of the connected indoor unit capacity connected to the MCU is greater than 67.2kW, performance may vary depending on operating conditions.
※ The incoming pipe diameters supplying refrigerant to the MCU are determined based on the sum of the connected indoor units.
If these pipe diameters are different than the MCU pipe diameters, use the provided reducers to connect to the MCU.
If the provided reducers are not the correct size, field supplied reducers must be used.

1. MCU (Mode Control Unit)

Specification

Type					MCU		
Model					MCU-A1NEK1N	MCU-A2NEK1N	MCU-A4NEK1N
Power Supply				Φ | # | V | Hz	1 | 2 | 220-240 | 50	1 | 2 | 220-240 | 50	1 | 2 | 220-240 | 50
Mode				-	Heat Recovery	Heat Recovery	Heat Recovery
Power	Current	MCA		A	0.5	0.5	0.5
		MFA		A	15	15	15
		MOP		A	-	-	-
Maximum number of connectable indoor units				EA	8	16	32
Maximum number of connectable indoor unit per branch				EA	8	8	8
Number of branches				EA	1	2	4
Maximum capacity of connectable indoor units				kW	16	32	61.6
				Btu/h	54,000	108,000	216,000
				MBH	54	108	216
Maximum capacity of connectable indoor units per branch		-		kW	16	16	16
				Btu/h	54,000	54,000	54,000
				MBH	54	54	54
		Y-Joint		kW	-	32	32
				Btu/h	-	108,000	108,000
				MBH	-	108	108
Piping Connections	Outdoor unit	Liquid Pipe		Φ, mm	15.88	15.88	15.88
				Φ, inch	5/8	5/8	5/8
		Gas Pipe		Φ, mm	22.22	22.22	22.22
				Φ, inch	7/8	7/8	7/8
		High Pressure Gas Pipe		Φ, mm	22.22	22.22	22.22
				Φ, inch	7/8	7/8	7/8
	Indoor unit	Liquid Pipe		Φ, mm	9.52	9.52	9.52
				Φ, inch	3/8	3/8	3/8
		Gas Pipe		Φ, mm	15.88	15.88	15.88
				Φ, inch	5/8	5/8	5/8
Wiring Connection	Power Source Wire			mm^2	2.5	2.5	2.5
	Transmission Cable			mm^2	0.75	0.75	0.75
Refrigerant Calculation		Additional		kg	0.3	0.3	0.3
Sound Pressure	Stable cooling Operation			dB(A)	30	30	32
	Heating-to-Cooling Change over			dB(A)	45	45	45
External Dimension	Net Weight			kg	24	26	30
				lbs	52.91	57.32	66.14
	Shipping Weight			kg	31	33	37
				lbs	68.34	72.75	81.57
	Net Dimensions	W		mm	492	492	492
				in	19.37	19.37	19.37
		H		mm	271	271	271
				in	10.67	10.67	10.67
		D		mm	780	780	780
				in	30.71	30.71	30.71
	Shipping Dimensions	W		mm	1,022	1,022	1,022
				in	40.24	40.24	40.24
		H		mm	353	353	353
				in	13.90	13.90	13.90
		D		mm	982	982	982
				in	38.66	38.66	38.66
Installation	-15 ℃ operation	1 port	Max.	kW	5	5	5
				MBH	17	17	17
		2 port	Min.	kW	-	5	5
				MBH	-	17	17
			Max.	kW	-	16	16
				MBH	-	54	54

※ If the sum of the connected indoor unit capacity connected to the MCU is greater than 67.2kW, performance may vary depending on operating conditions.
※ The incoming pipe diameters supplying refrigerant to the MCU are determined based on the sum of the connected indoor units.
If these pipe diameters are different than the MCU pipe diameters, use the provided reducers to connect to the MCU.
If the provided reducers are not the correct size, field supplied reducers must be used.

1. MCU (Mode Control Unit)

Specification

Type					MCU		
Model					MCU-A6NEK1N	MCU-A8NEK1N	MCU-A12NEK1N
Power Supply				Φ | # | V | Hz	1 | 2 | 220-240 | 50	1 | 2 | 220-240 | 50	1 | 2 | 220-240 | 50
Mode				-	Heat Recovery	Heat Recovery	Heat Recovery
Power	Current	MCA		A	1	1	1.5
		MFA		A	15	15	15
		MOP		A	-	-	-
Maximum number of connectable indoor units				EA	32	64	64
Maximum number of connectable indoor unit per branch				EA	8	8	8
Number of branches				EA	6	8	12
Maximum capacity of connectable indoor units				kW	61.6	85	85
				Btu/h	216,000	290,000	290,000
				MBH	216	290	290
Maximum capacity of connectable indoor units per branch		-		kW	16	16	16
				Btu/h	54,000	54,000	54,000
				MBH	54	54	54
		Y-Joint		kW	32	32	32
				Btu/h	108,000	108,000	108,000
				MBH	108	108	108
Piping Connections	Outdoor unit	Liquid Pipe		Φ, mm	15.88	15.88	15.88
				Φ, inch	5/8	5/8	5/8
		Gas Pipe		Φ, mm	22.22	22.22	22.22
				Φ, inch	7/8	7/8	7/8
		High Pressure Gas Pipe		Φ, mm	22.22	22.22	22.22
				Φ, inch	7/8	7/8	7/8
	Indoor unit	Liquid Pipe		Φ, mm	9.52	9.52	9.52
				Φ, inch	3/8	3/8	3/8
		Gas Pipe		Φ, mm	15.88	15.88	15.88
				Φ, inch	5/8	5/8	5/8
Wiring Connection	Power Source Wire			mm^2	2.5	2.5	2.5
	Transmission Cable			mm^2	0.75	0.75	0.75
Refrigerant Calculation		Additional		kg	0.65	0.65	1
Sound Pressure	Stable cooling Operation			dB(A)	32	35	35
	Heating-to-Cooling Change over			dB(A)	45	45	45
External Dimension	Net Weight			kg	48.5	53	75.5
				lbs	106.92	116.85	166.45
	Shipping Weight			kg	57	61.5	86
				lbs	125.66	135.58	189.60
	Net Dimensions	W		mm	937	937	1382
				in	36.89	36.89	54.41
		H		mm	271	271	271
				in	10.67	10.67	10.67
		D		mm	780	780	780
				in	30.71	30.71	30.71
	Shipping Dimensions	W		mm	1,457	1,457	1,902
				in	57.36	57.36	74.88
		H		mm	353	353	353
				in	13.90	13.90	13.90
		D		mm	982	982	982
				in	38.66	38.66	38.66
Installation	-15 ℃ operation	1 port	Max.	kW	5	5	5
				MBH	17	17	17
		2 port	Min.	kW	5	5	5
				MBH	17	17	17
			Max.	kW	16	16	16
				MBH	54	54	54

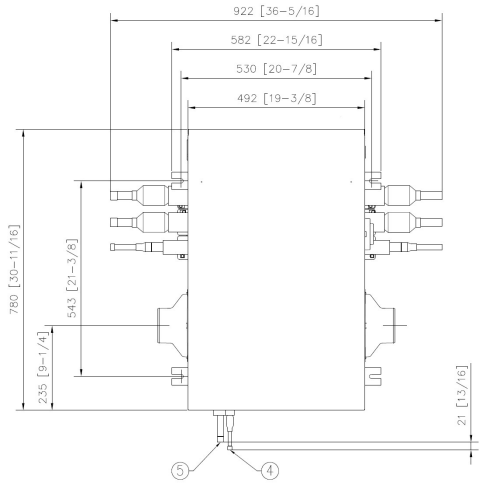
※ If the sum of the connected indoor unit capacity connected to the MCU is greater than 67.2kW, performance may vary depending on operating conditions.
※ The incoming pipe diameters supplying refrigerant to the MCU are determined based on the sum of the connected indoor units.
If these pipe diameters are different than the MCU pipe diameters, use the provided reducers to connect to the MCU.
If the provided reducers are not the correct size, field supplied reducers must be used.

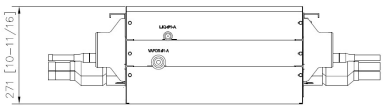
1. MCU (Mode Control Unit)

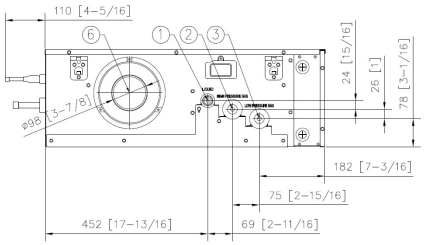
Dimensional drawings

MCU-A1NEK1UN, MCU-A1NEK1N

Unit: mm [inch]







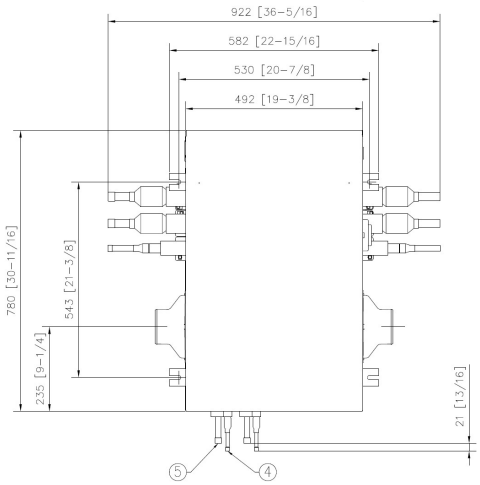
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant High Pressure Gas Pipe	-
3	Refrigerant Low Pressure Gas Pipe	-
4	LIQ (Indoor)	-
5	VAPOR (Indoor)	-
6	Duct	Φ100 [4]

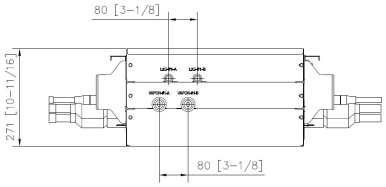
1. MCU (Mode Control Unit)

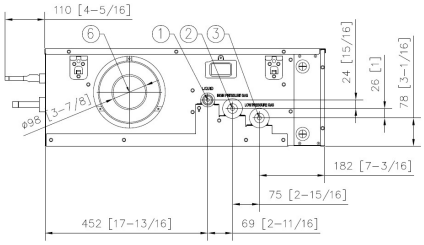
Dimensional drawings

MCU-A2NEK1UN, MCU-A2NEK1N

Unit: mm [inch]







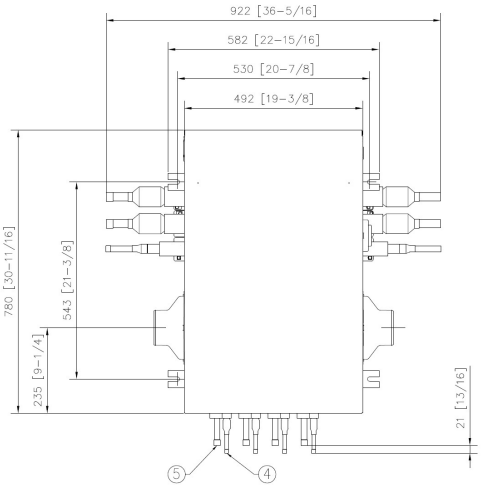
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant High Pressure Gas Pipe	-
3	Refrigerant Low Pressure Gas Pipe	-
4	LIQ (Indoor)	-
5	VAPOR (Indoor)	-
6	Duct	Φ100 [4]

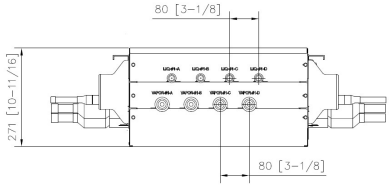
1. MCU (Mode Control Unit)

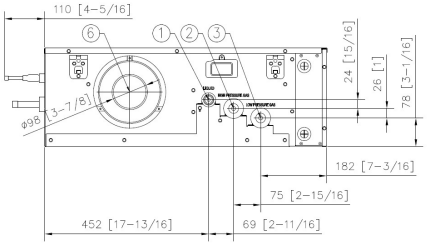
Dimensional drawings

MCU-A4NEK1UN, MCU-A4NEK1N

Unit: mm [inch]







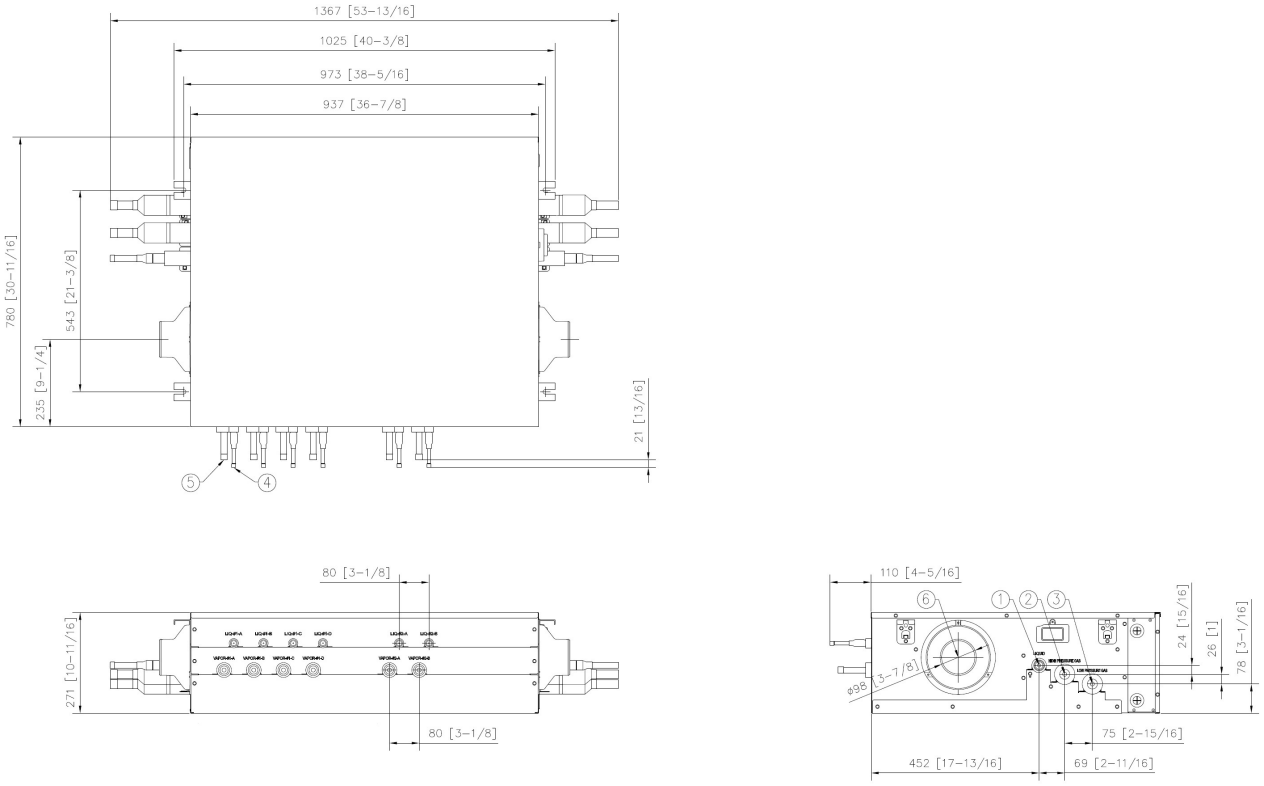
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant High Pressure Gas Pipe	-
3	Refrigerant Low Pressure Gas Pipe	-
4	LIQ (Indoor)	-
5	VAPOR (Indoor)	-
6	Duct	Φ100 [4]

1. MCU (Mode Control Unit)

Dimensional drawings

MCU-A6NEK1UN, MCU-A6NEK1N

Unit: mm [inch]



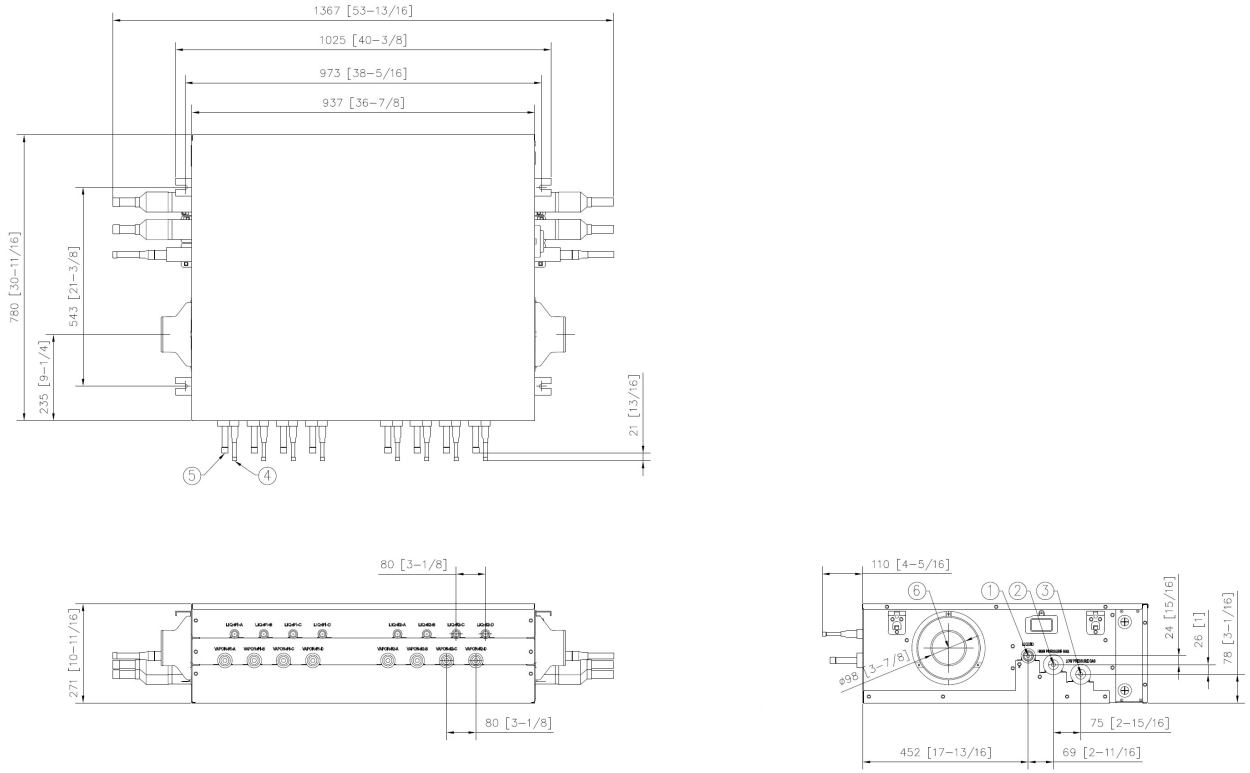
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant High Pressure Gas Pipe	-
3	Refrigerant Low Pressure Gas Pipe	-
4	LIQ (Indoor)	-
5	VAPOR (Indoor)	-
6	Duct	Φ100 [4]

1. MCU (Mode Control Unit)

Dimensional drawings

MCU-A8NEK1UN, MCU-A8NEK1N

Unit: mm [inch]



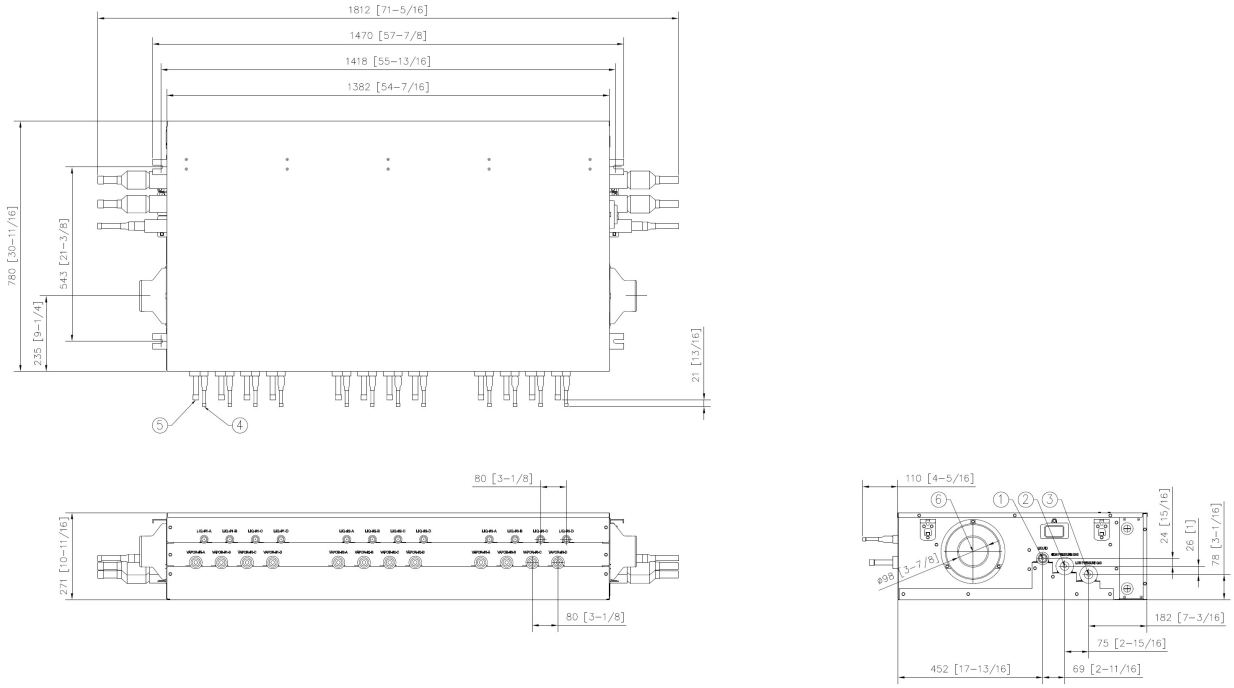
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant High Pressure Gas Pipe	-
3	Refrigerant Low Pressure Gas Pipe	-
4	LIQ (Indoor)	-
5	VAPOR (Indoor)	-
6	Duct	Φ100 [4]

1. MCU (Mode Control Unit)

Dimensional drawings

MCU-A12NEK1UN, MCU-A12NEK1N

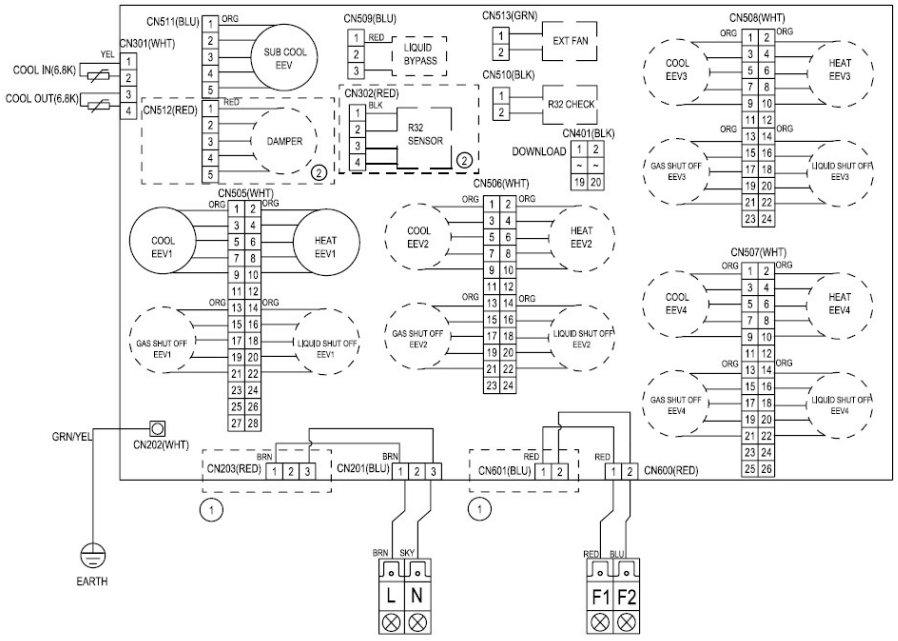
Unit: mm [inch]



No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant High Pressure Gas Pipe	-
3	Refrigerant Low Pressure Gas Pipe	-
4	LIQ (Indoor)	-
5	VAPOR (Indoor)	-
6	Duct	Φ100 [4]

1. MCU (Mode Control Unit)

Electrical Wiring Diagram



USE COPPER SUPPLY WIRES.
UTILISER DES FILS D'ALIMENTATION EN CUIVRE.

① OPTION	6,8,12 INDOOR MCU APPLY
② OPTION	1,2,4 INDOOR MCU ALWAYS APPLY
	6,8 INDOOR MCU 2nd PBA APPLY
	12 INDOOR MCU 3rd PBA APPLY

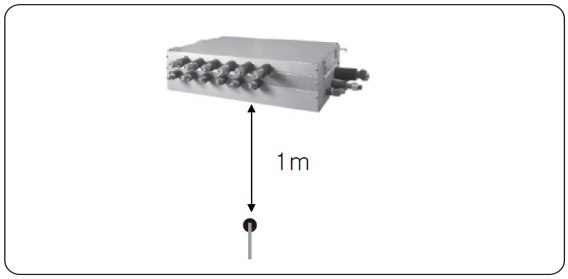
ERROR	DESCRIPTION
E686	R32 sensor short/open
E687	2nd refrigerant leak detection error
E688	Refrigerant leak sensor failure error
E689	Refrigerant leak sensor replacement notification error
E690	Refrigerant leak sensor lifetime expiration error
E694	installation combination of indoor unit and wired remote control Error
E695	Refrigerant leak sensor lifetime unpredictable error
E696	1st refrigerant leak detection error
E697	2nd refrigerant leak detection error
E698	Refrigerant leak sensor failure error
E699	Refrigerant leak sensor replacement notification error
E700	Refrigerant leak sensor lifetime expiration error

NOTE

- This wiring diagram applies only to the MCU kits.
- Symbols show as follow : BLK: black, RED: red, BLU: blue, WHT: white, YEL: yellow, BRN: brown, SKY: skyblue: GRN: green
- For connection wiring indoor-outdoor transmission F1-F2.
- ⏚ Protective earth(screw),CN* : connector, N : The wire quantity

1. MCU (Mode Control Unit)

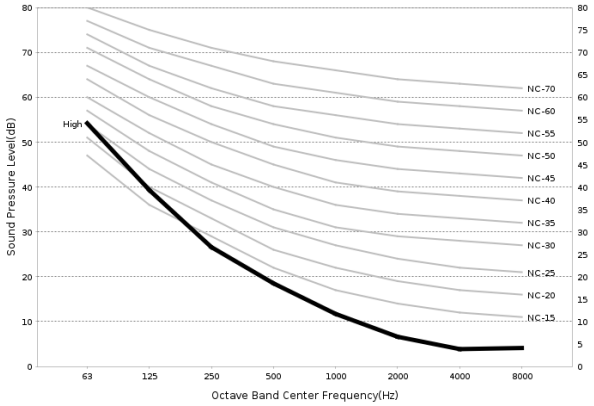
Sound pressure level



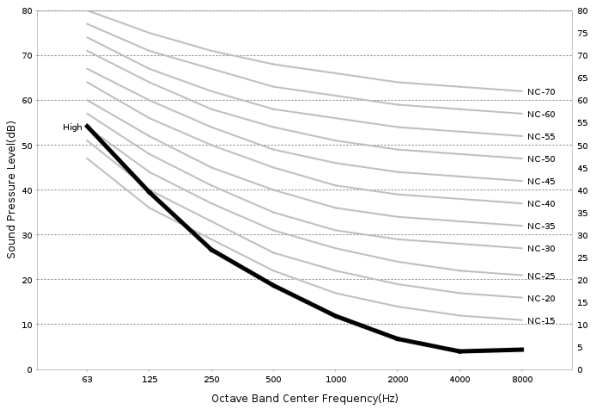
Model	Sound Level (dBA)
MCU-A1NEK1UN, MCU-A1NEK1N	30
MCU-A2NEK1UN, MCU-A2NEK1N	30
MCU-A4NEK1UN, MCU-A4NEK1N	32
MCU-A6NEK1UN, MCU-A6NEK1N	32

- NC Curve

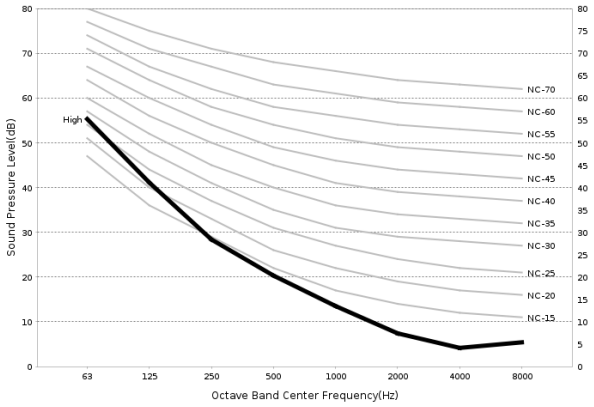
1) MCU-A1NEK1UN, MCU-A1NEK1N



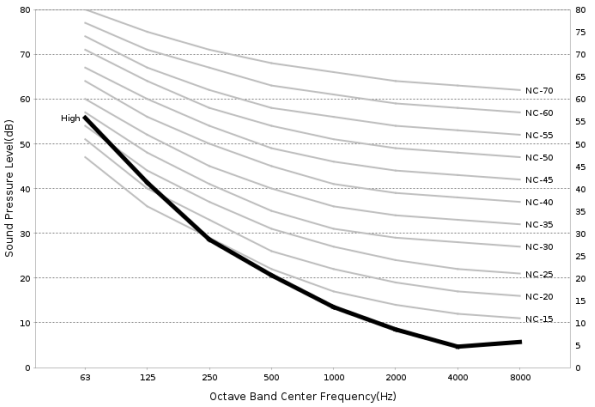
2) MCU-A2NEK1UN, MCU-A2NEK1N



3) MCU-A4NEK1UN, MCU-A4NEK1N



4) MCU-A6NEK1UN, MCU-A6NEK1N

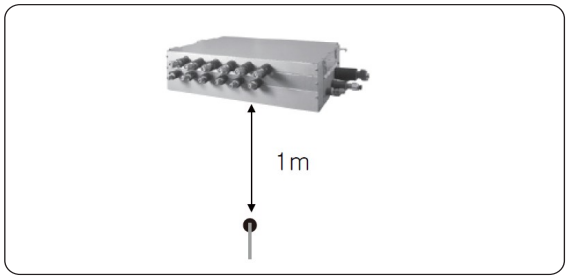


NOTE

- This value was measured at steady state in anechoic chamber and may vary depending on operating condtion.
- Sound pressure level will vary depending on a range of factors such as the construction of the particular room where the equipment is installed.

1. MCU (Mode Control Unit)

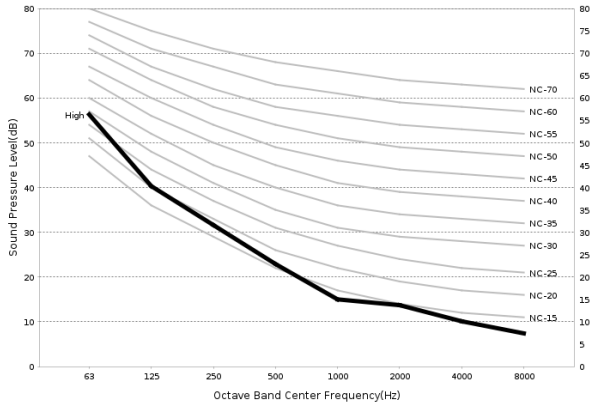
Sound pressure level



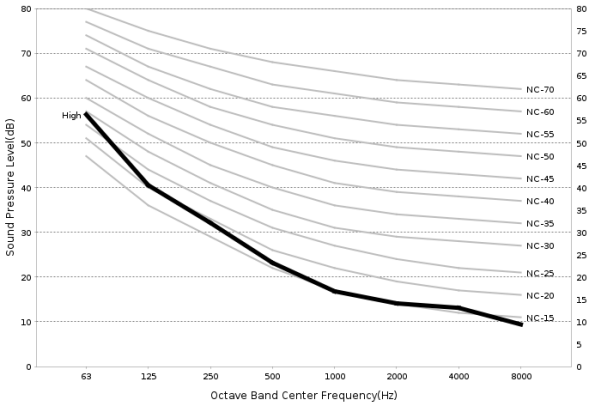
Model	Sound Level (dBA)
MCU-A8NEK1UN, MCU-A8NEK1N	35
MCU-A12NEK1UN, MCU-A12NEK1N	35

- NC Curve

5) MCU-A8NEK1UN, MCU-A8NEK1N



6) MCU-A12NEK1UN, MCU-A12NEK1N



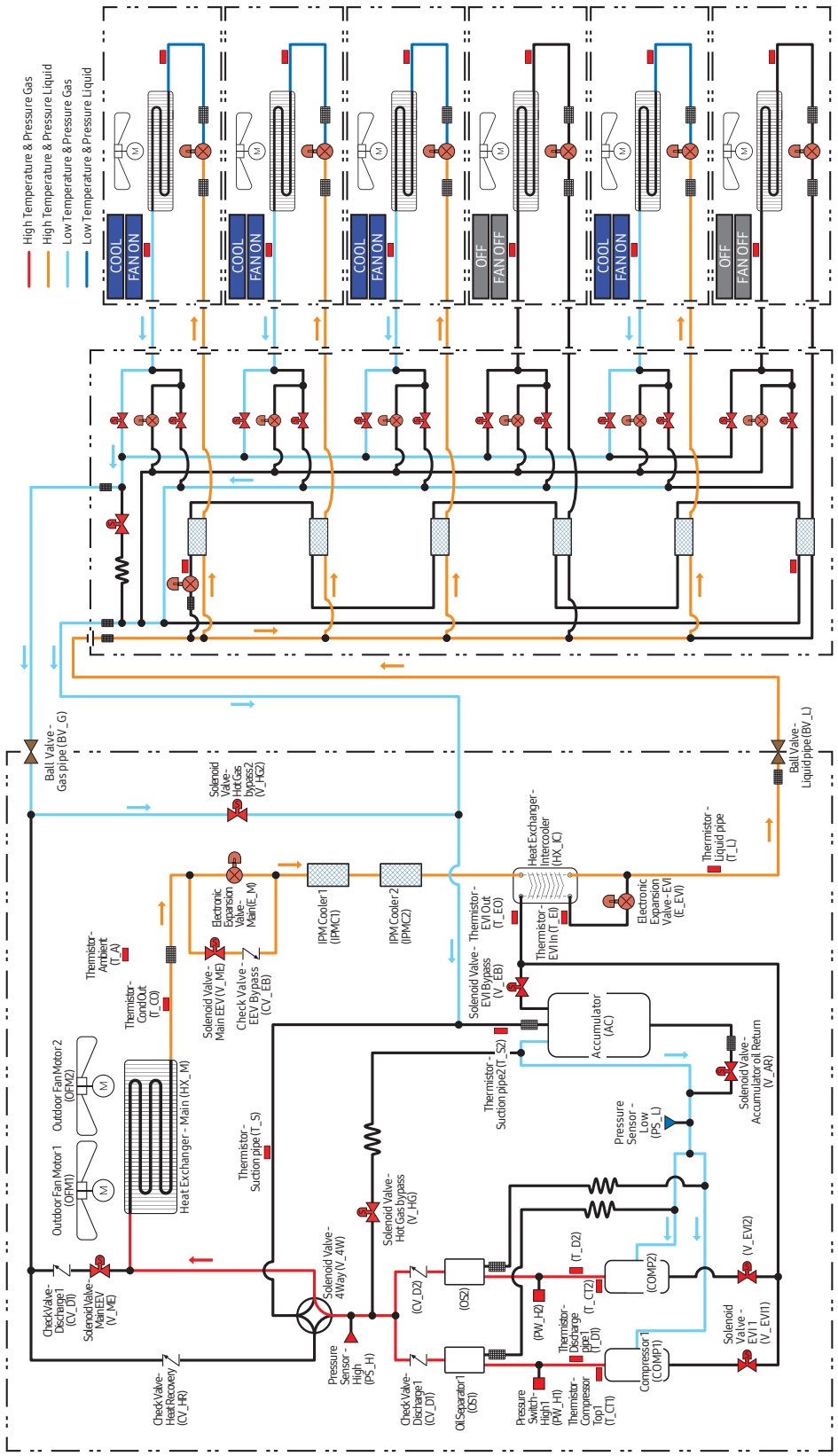
NOTE

- This value was measured at steady state in anechoic chamber and may vary depending on operating condtion.
- Sound pressure level will vary depending on a range of factors such as the construction of the particular room where the equipment is installed.

1. MCU (Mode Control Unit)

Piping diagram

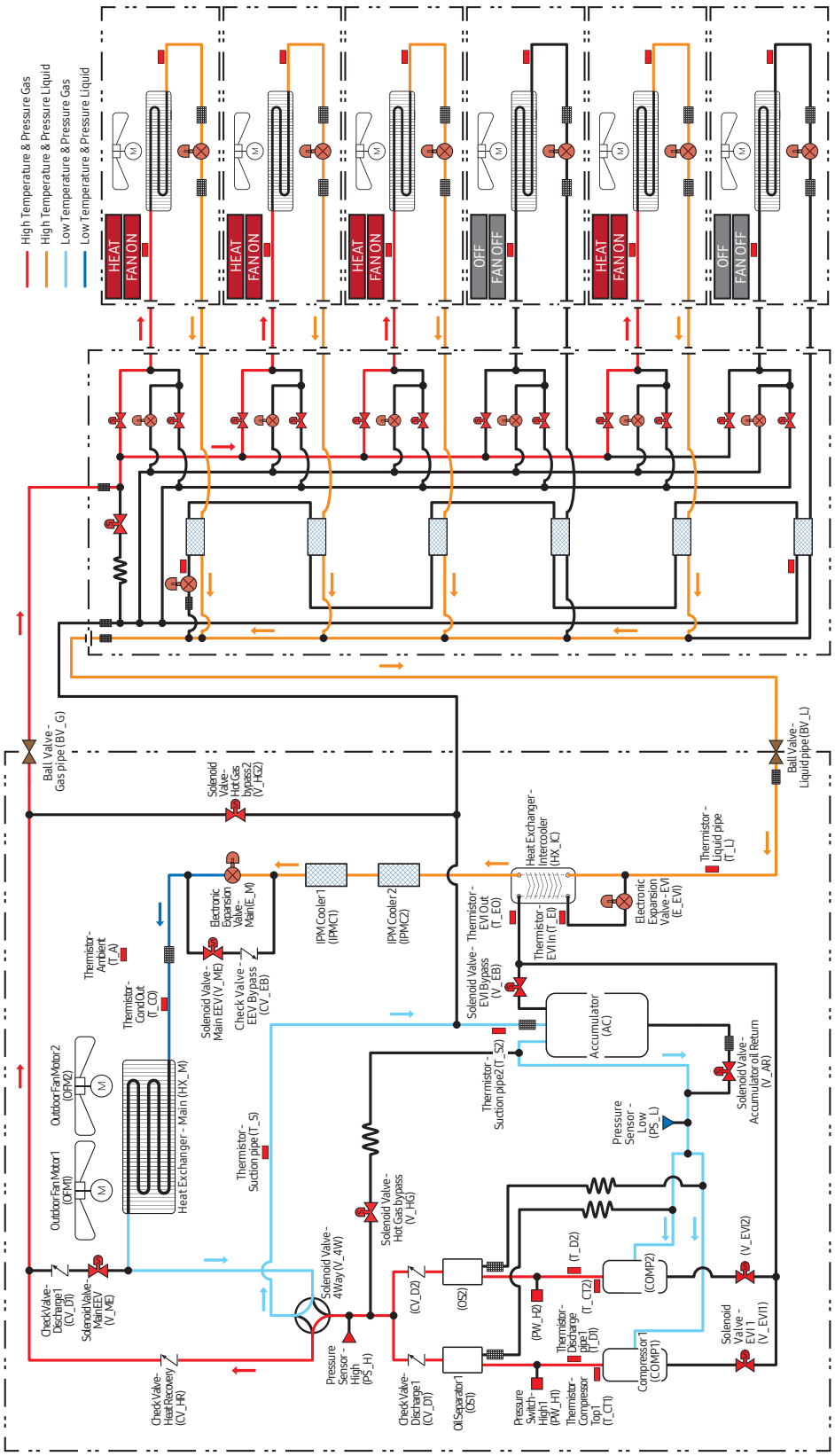
Cooling mode



1. MCU (Mode Control Unit)

Piping diagram

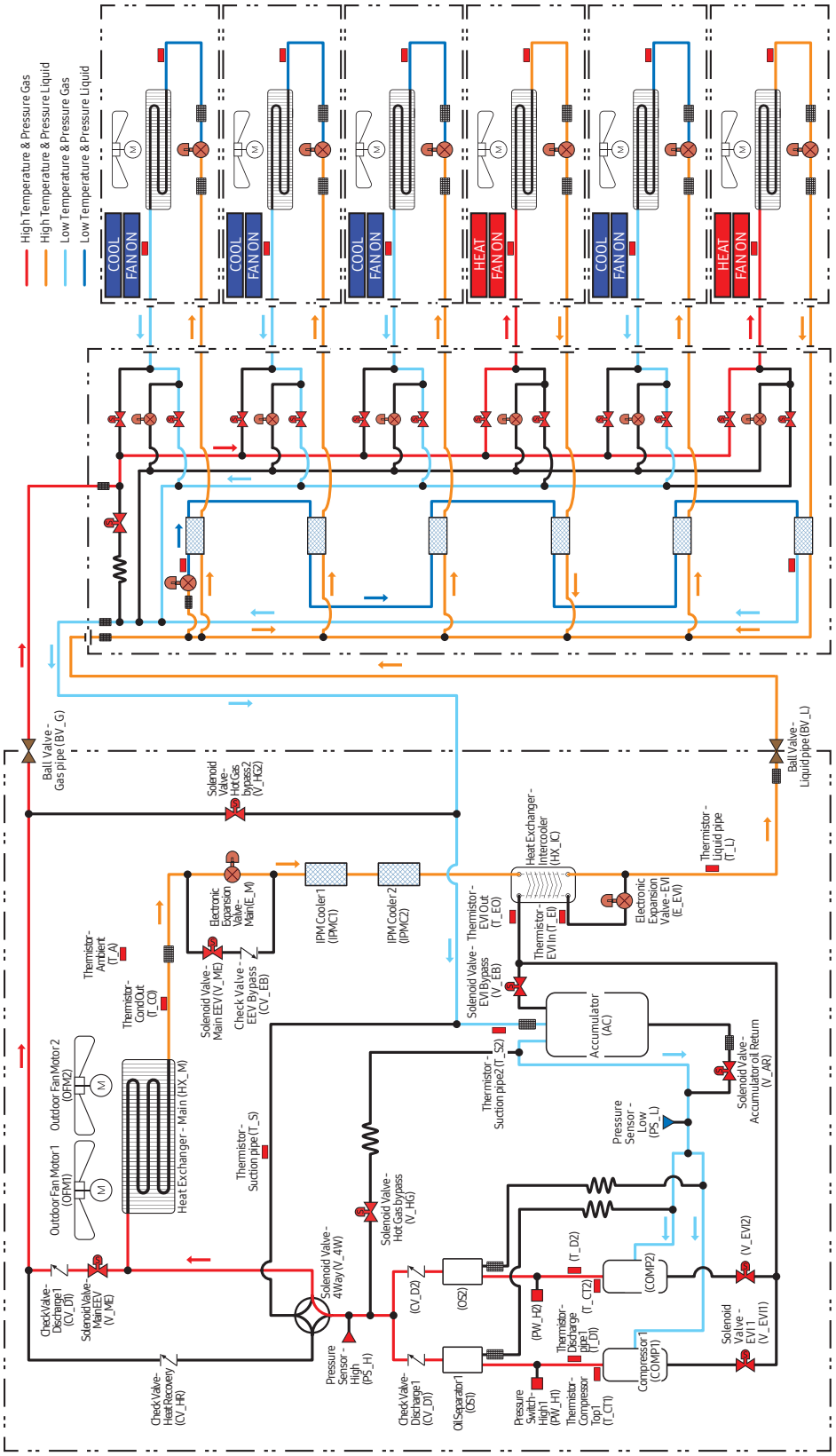
Heating mode



1. MCU (Mode Control Unit)

Piping diagram

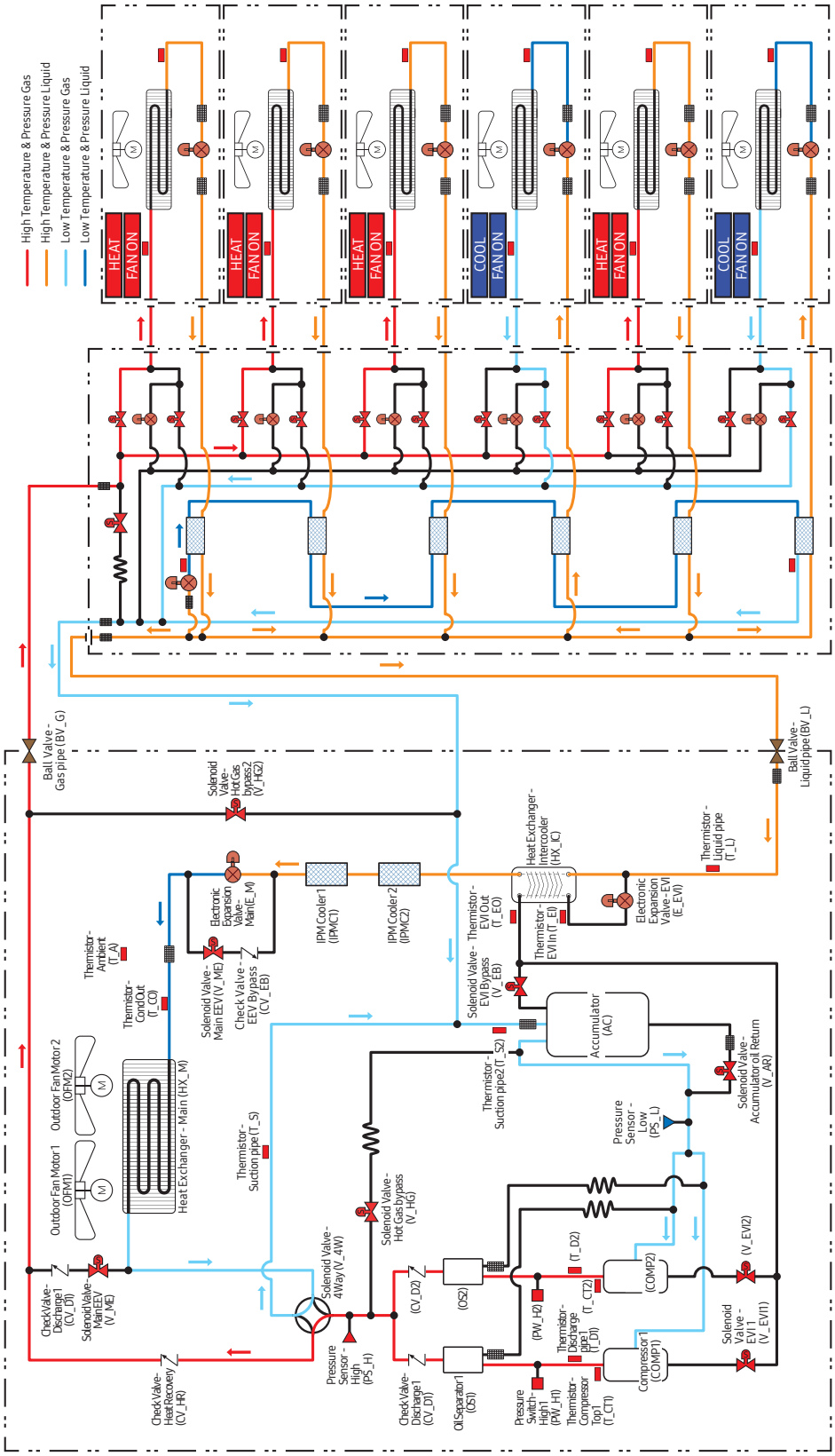
Main Cooling mode



1. MCU (Mode Control Unit)

Piping diagram

Main Heating mode



2. SVB (Shut off Valve Box)

Specification

Type				SVB		
Model				MSB-A1NEK1UN	MSB-A2NEK1UN	MSB-A4NEK1UN
Power Supply			Φ | # | V | Hz	1 | 2 | 208-230 | 60	1 | 2 | 208-230 | 60	1 | 2 | 208-230 | 60
Mode			-	Heat Pump	Heat Pump	Heat Pump
Power	Current	MCA	A	0.5	0.5	0.5
		MFA	A	-	-	-
		MOP	A	15	15	15
Maximum number of connectable indoor units			EA	8	16	32
Maximum number of connectable indoor unit per branch			EA	8	8	8
Number of branches			EA	1	2	4
Maximum capacity of connectable indoor units			kW	16	32	61.6
			Btu/h	54,000	108,000	216,000
			MBH	54	108	216
Maximum capacity of connectable indoor units per branch		-	kW	16	16	16
			Btu/h	54,000	54,000	54,000
			MBH	54	54	54
		Y-Joint	kW	-	32	32
			Btu/h	-	108,000	108,000
			MBH	-	108	108
Piping Connections	Outdoor unit	Liquid Pipe	Φ, mm	15.88	15.88	15.88
			Φ, inch	5/8	5/8	5/8
		Gas Pipe	Φ, mm	22.22	22.22	22.22
			Φ, inch	7/8	7/8	7/8
	Indoor unit	Liquid Pipe	Φ, mm	9.52	9.52	9.52
			Φ, inch	3/8	3/8	3/8
		Gas Pipe	Φ, mm	15.88	15.88	15.88
			Φ, inch	5/8	5/8	5/8
Wiring Connection	Power Source Wire		mm^2	2.5	2.5	2.5
			AWG	12	12	12
	Transmission Cable		mm^2	0.75	0.75	0.75
			AWG	18	18	18
Refrigerant Calculation		Additional	kg	0.3	0.3	0.3
Sound Pressure Level			dB(A)	30	30	31
External Dimension	Net Weight		kg	21.5	22.5	25
			lbs	47.40	49.60	55.12
	Shipping Weight		kg	28.5	29.5	32
			lbs	62.83	65.04	70.55
	Net Dimensions	W	mm	492	492	492
			in	19.37	19.37	19.37
		H	mm	271	271	271
			in	10.67	10.67	10.67
		D	mm	780	780	780
			in	30.71	30.71	30.71
	Shipping Dimensions	W	mm	1,022	1,022	1,022
			in	40.24	40.24	40.24
		H	mm	353	353	353
			in	13.9	13.9	13.9
		D	mm	982	982	982
			in	38.66	38.66	38.66

※ If the sum of the connected indoor unit capacity connected to the MCU is greater than 67.2kW, performance may vary depending on operating conditions.
※ The incoming pipe diameters supplying refrigerant to the MCU are determined based on the sum of the connected indoor units.
If these pipe diameters are different than the MCU pipe diameters, use the provided reducers to connect to the MCU.
If the provided reducers are not the correct size, field supplied reducers must be used.

2. SVB (Shut off Valve Box)

Specification

Type				SVB		
Model				MSB-A6NEK1UN	MSB-A8NEK1UN	MSB-A12NEK1UN
Power Supply			Φ | # | V | Hz	1 | 2 | 208-230 | 60	1 | 2 | 208-230 | 60	1 | 2 | 208-230 | 60
Mode			-	Heat Pump	Heat Pump	Heat Pump
Power	Current	MCA	A	1	1	1.5
		MFA	A	-	-	-
		MOP	A	15	15	15
Maximum number of connectable indoor units			EA	32	64	64
Maximum number of connectable indoor unit per branch			EA	8	8	8
Number of branches			EA	6	8	12
Maximum capacity of connectable indoor units			kW	61.6	85	85
			Btu/h	216,000	290,000	290,000
			MBH	216	290	290
Maximum capacity of connectable indoor units per branch		-	kW	16	16	16
			Btu/h	54,000	54,000	54,000
			MBH	54	54	54
		Y-Joint	kW	32	32	32
			Btu/h	108,000	108,000	108,000
			MBH	108	108	108
Piping Connections	Outdoor unit	Liquid Pipe	Φ, mm	15.88	15.88	15.88
			Φ, inch	5/8	5/8	5/8
		Gas Pipe	Φ, mm	22.22	22.22	22.22
			Φ, inch	7/8	7/8	7/8
	Indoor unit	Liquid Pipe	Φ, mm	9.52	9.52	9.52
			Φ, inch	3/8	3/8	3/8
		Gas Pipe	Φ, mm	15.88	15.88	15.88
			Φ, inch	5/8	5/8	5/8
Wiring Connection	Power Source Wire		mm^2	2.5	2.5	2.5
			AWG	12	12	12
	Transmission Cable		mm^2	0.75	0.75	0.75
			AWG	18	18	18
Refrigerant Calculation		Additional	kg	0.65	0.65	1
Sound Pressure Level			dB(A)	32	34	35
External Dimension	Net Weight		kg	41	44	62
			lbs	90.39	97.00	136.69
	Shipping Weight		kg	49.5	52.5	72.5
			lbs	109.13	115.74	159.83
	Net Dimensions	W	mm	937	937	1,382
			in	36.89	36.89	54.41
		H	mm	271	271	271
			in	10.67	10.67	10.67
		D	mm	780	780	780
			in	30.71	30.71	30.71
	Shipping Dimensions	W	mm	1,457	1,467	1,902
			in	57.36	57.76	74.88
		H	mm	353	353	353
			in	13.9	13.9	13.9
		D	mm	982	982	982
			in	38.66	38.66	38.66

※ If the sum of the connected indoor unit capacity connected to the MCU is greater than 67.2kW, performance may vary depending on operating conditions.
※ The incoming pipe diameters supplying refrigerant to the MCU are determined based on the sum of the connected indoor units.
If these pipe diameters are different than the MCU pipe diameters, use the provided reducers to connect to the MCU.
If the provided reducers are not the correct size, field supplied reducers must be used.

2. SVB (Shut off Valve Box)

Specification

Type				SVB		
Model				MSB-A1NEK1N	MSB-A2NEK1N	MSB-A4NEK1N
Power Supply			Φ | # | V | Hz	1 | 2 | 220-240 | 50	1 | 2 | 220-240 | 50	1 | 2 | 220-240 | 50
Mode			-	Heat Pump	Heat Pump	Heat Pump
Power	Current	MCA	A	0.5	0.5	0.5
		MFA	A	15	15	15
		MOP	A	-	-	-
Maximum number of connectable indoor units			EA	8	16	32
Maximum number of connectable indoor unit per branch			EA	8	8	8
Number of branches			EA	1	2	4
Maximum capacity of connectable indoor units			kW	16	32	61.6
			Btu/h	54,000	108,000	216,000
			MBH	54	108	216
Maximum capacity of connectable indoor units per branch		-	kW	16	16	16
			Btu/h	54,000	54,000	54,000
			MBH	54	54	54
		Y-Joint	kW	-	32	32
			Btu/h	-	108,000	108,000
			MBH	-	108	108
Piping Connections	Outdoor unit	Liquid Pipe	Φ, mm	15.88	15.88	15.88
			Φ, inch	5/8	5/8	5/8
		Gas Pipe	Φ, mm	22.22	22.22	22.22
			Φ, inch	7/8	7/8	7/8
	Indoor unit	Liquid Pipe	Φ, mm	9.52	9.52	9.52
			Φ, inch	3/8	3/8	3/8
		Gas Pipe	Φ, mm	15.88	15.88	15.88
			Φ, inch	5/8	5/8	5/8
Wiring Connection	Power Source Wire		mm^2	2.5	2.5	2.5
			AWG	12	12	12
	Transmission Cable		mm^2	0.75	0.75	0.75
			AWG	18	18	18
Refrigerant Calculation		Additional	kg	0.3	0.3	0.3
Sound Pressure Level			dB(A)	30	30	31
External Dimension	Net Weight		kg	21.5	22.5	25
			lbs	47.40	49.60	55.12
	Shipping Weight		kg	28.5	29.5	32
			lbs	62.83	65.04	70.55
	Net Dimensions	W	mm	492	492	492
			in	19.37	19.37	19.37
		H	mm	271	271	271
			in	10.67	10.67	10.67
		D	mm	780	780	780
			in	30.71	30.71	30.71
	Shipping Dimensions	W	mm	1,022	1,022	1,022
			in	40.24	40.24	40.24
		H	mm	353	353	353
			in	13.9	13.9	13.9
		D	mm	982	982	982
			in	38.66	38.66	38.66

※ If the sum of the connected indoor unit capacity connected to the MCU is greater than 67.2kW, performance may vary depending on operating conditions.
※ The incoming pipe diameters supplying refrigerant to the MCU are determined based on the sum of the connected indoor units.
If these pipe diameters are different than the MCU pipe diameters, use the provided reducers to connect to the MCU.
If the provided reducers are not the correct size, field supplied reducers must be used.

2. SVB (Shut off Valve Box)

Specification

Type				SVB		
Model				MSB-A6NEK1N	MSB-A8NEK1N	MSB-A12NEK1N
Power Supply			Φ | # | V | Hz	1 | 2 | 220-240 | 50	1 | 2 | 220-240 | 50	1 | 2 | 220-240 | 50
Mode			-	Heat Pump	Heat Pump	Heat Pump
Power	Current	MCA	A	1	1	1.5
		MFA	A	15	15	15
		MOP	A	-	-	-
Maximum number of connectable indoor units			EA	32	64	64
Maximum number of connectable indoor unit per branch			EA	8	8	8
Number of branches			EA	6	8	12
Maximum capacity of connectable indoor units			kW	61.6	85	85
			Btu/h	216,000	290,000	290,000
			MBH	216	290	290
Maximum capacity of connectable indoor units per branch		-	kW	16	16	16
			Btu/h	54,000	54,000	54,000
			MBH	54	54	54
		Y-Joint	kW	32	32	32
			Btu/h	108,000	108,000	108,000
			MBH	108	108	108
Piping Connections	Outdoor unit	Liquid Pipe	Φ, mm	15.88	15.88	15.88
			Φ, inch	5/8	5/8	5/8
		Gas Pipe	Φ, mm	22.22	22.22	22.22
			Φ, inch	7/8	7/8	7/8
	Indoor unit	Liquid Pipe	Φ, mm	9.52	9.52	9.52
			Φ, inch	3/8	3/8	3/8
		Gas Pipe	Φ, mm	15.88	15.88	15.88
			Φ, inch	5/8	5/8	5/8
Wiring Connection	Power Source Wire		mm^2	2.5	2.5	2.5
			AWG	12	12	12
	Transmission Cable		mm^2	0.75	0.75	0.75
			AWG	18	18	18
Refrigerant Calculation		Additional	kg	0.65	0.65	1
Sound Pressure Level			dB(A)	32	34	35
External Dimension	Net Weight		kg	41	44	62
			lbs	90.39	97.00	136.69
	Shipping Weight		kg	49.5	52.5	72.5
			lbs	109.13	115.74	159.83
	Net Dimensions	W	mm	937	937	1,382
			in	36.89	36.89	54.41
		H	mm	271	271	271
			in	10.67	10.67	10.67
		D	mm	780	780	780
			in	30.71	30.71	30.71
	Shipping Dimensions	W	mm	1,457	1,467	1,902
			in	57.36	57.76	74.88
		H	mm	353	353	353
			in	13.9	13.9	13.9
		D	mm	982	982	982
			in	38.66	38.66	38.66

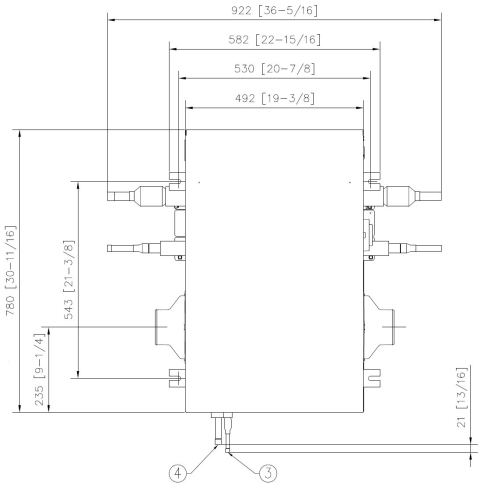
※ If the sum of the connected indoor unit capacity connected to the MCU is greater than 67.2kW, performance may vary depending on operating conditions.
※ The incoming pipe diameters supplying refrigerant to the MCU are determined based on the sum of the connected indoor units.
If these pipe diameters are different than the MCU pipe diameters, use the provided reducers to connect to the MCU.
If the provided reducers are not the correct size, field supplied reducers must be used.

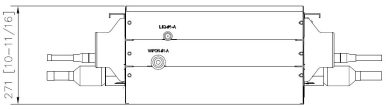
2. SVB (Shut off Valve Box)

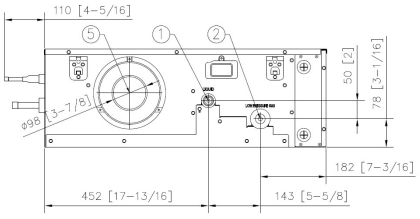
Dimensional drawings

MSB-A1NEK1UN, MSB-A1NEK1N

Unit: mm [inch]







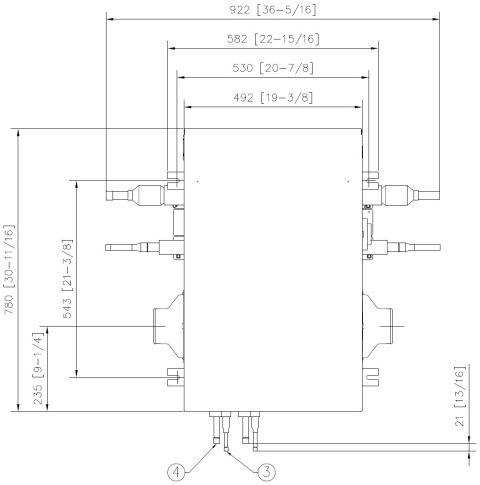
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant Low Pressure Gas Pipe	-
3	LIQ (Indoor)	-
4	VAPOR (Indoor)	-
5	Duct	Φ100 [4]

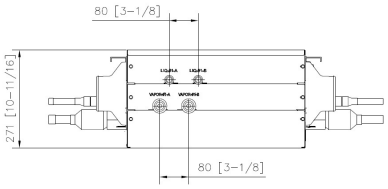
2. SVB (Shut off Valve Box)

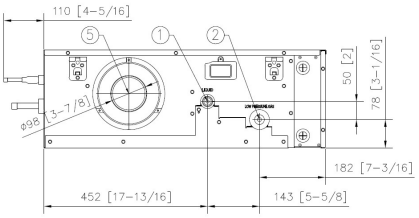
Dimensional drawings

MSB-A2NEK1UN, MSB-A2NEK1N

Unit: mm [inch]







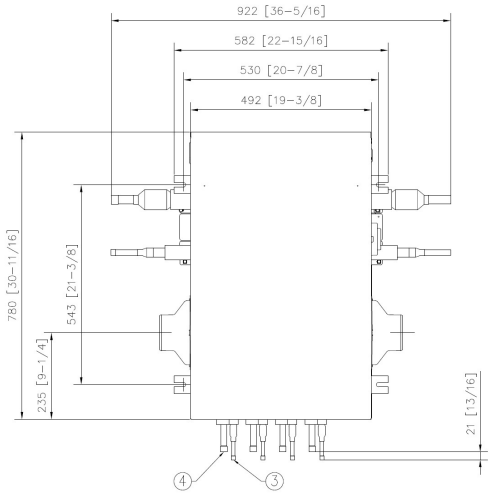
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant Low Pressure Gas Pipe	-
3	LIQ (Indoor)	-
4	VAPOR (Indoor)	-
5	Duct	Φ100 [4]

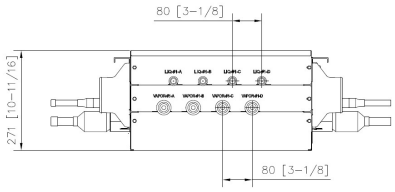
2. SVB (Shut off Valve Box)

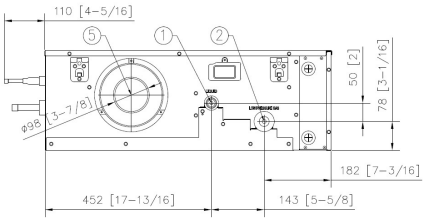
Dimensional drawings

MSB-A4NEK1UN, MSB-A4NEK1N

Unit: mm [inch]







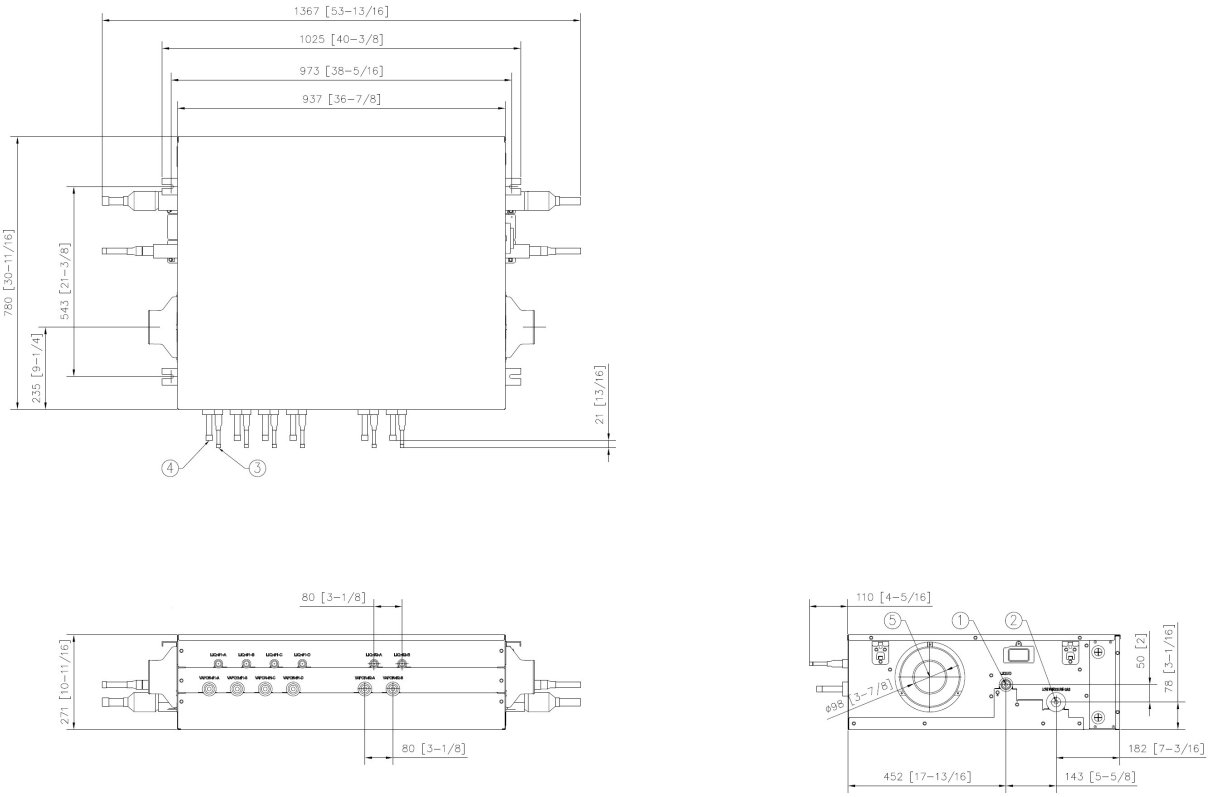
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant Low Pressure Gas Pipe	-
3	LIQ (Indoor)	-
4	VAPOR (Indoor)	-
5	Duct	Φ100 [4]

2. SVB (Shut off Valve Box)

Dimensional drawings

MSB-A6NEK1UN, MSB-A6NEK1N

Unit: mm [inch]



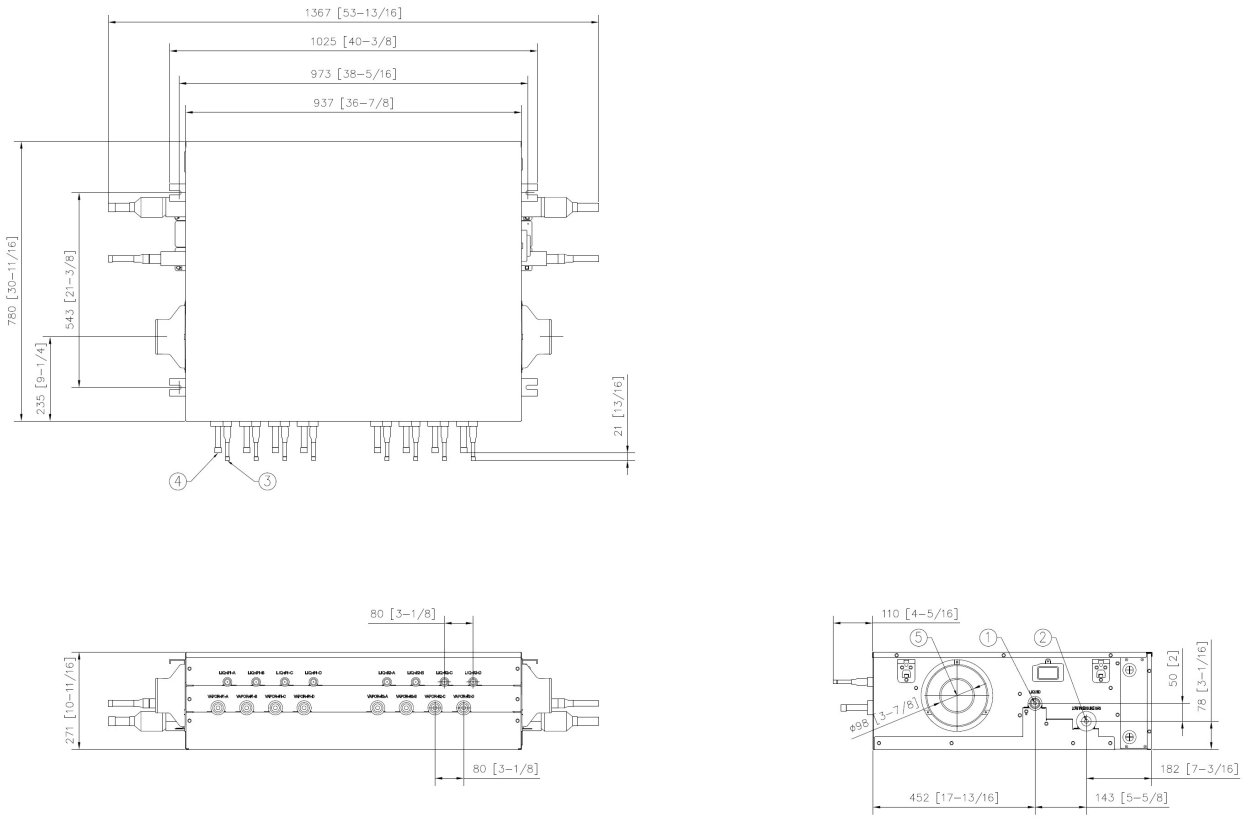
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant Low Pressure Gas Pipe	-
3	LIQ (Indoor)	-
4	VAPOR (Indoor)	-
5	Duct	Φ100 [4]

2. SVB (Shut off Valve Box)

Dimensional drawings

MSB-A8NEK1UN, MSB-A8NEK1N

Unit: mm [inch]



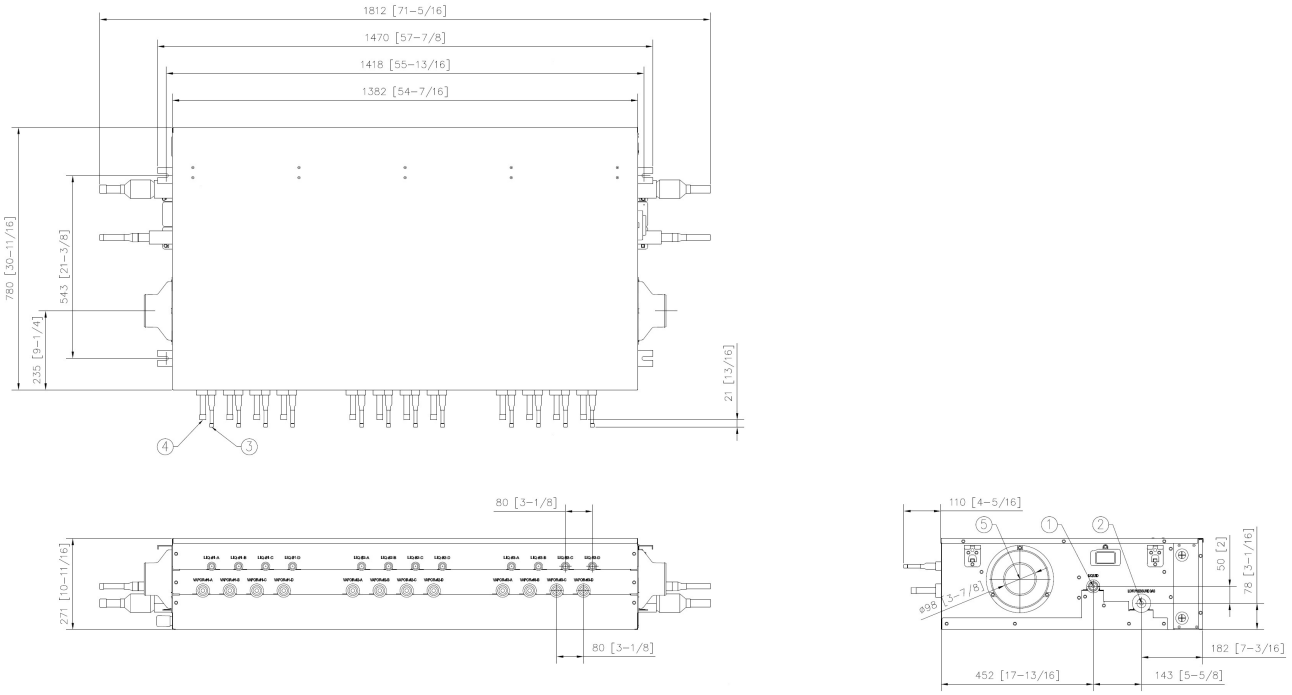
No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant Low Pressure Gas Pipe	-
3	LIQ (Indoor)	-
4	VAPOR (Indoor)	-
5	Duct	Φ100 [4]

2. SVB (Shut off Valve Box)

Dimensional drawings

MSB-A12NEK1UN, MSB-A12NEK1N

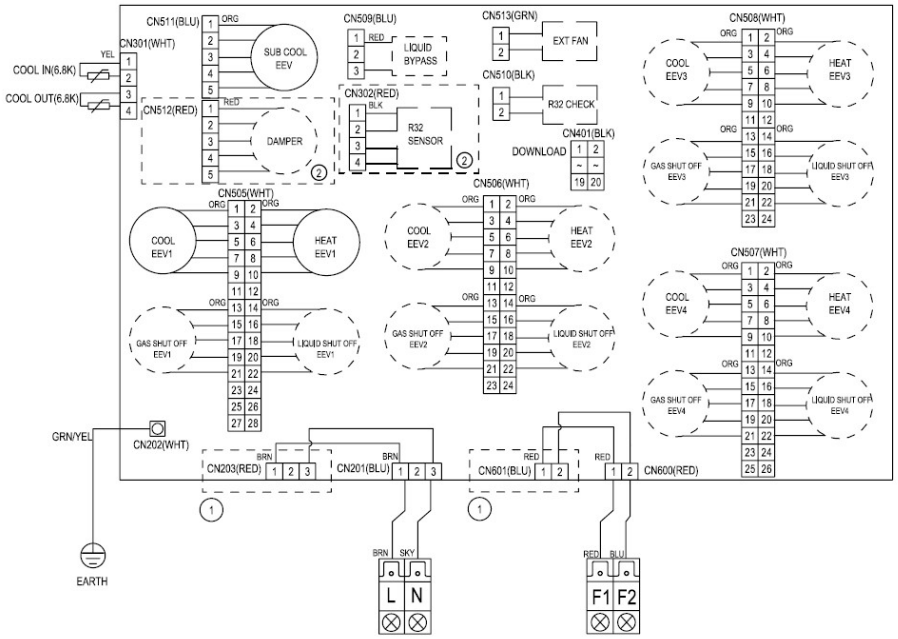
Unit: mm [inch]



No.	Name	Description
1	Refrigerant Liquid Pipe	-
2	Refrigerant Low Pressure Gas Pipe	-
3	LIQ (Indoor)	-
4	VAPOR (Indoor)	-
5	Duct	Φ100 [4]

2. SVB (Shut off Valve Box)

Electrical Wiring Diagram



USE COPPER SUPPLY WIRES.
UTILISER DES FILS D'ALIMENTATION EN CUIVRE.

① OPTION	6,8,12 INDOOR MCU APPLY
② OPTION	1,2,4 INDOOR MCU ALWAYS APPLY
	6,8 INDOOR MCU 2nd PBA APPLY
	12 INDOOR MCU 3rd PBA APPLY

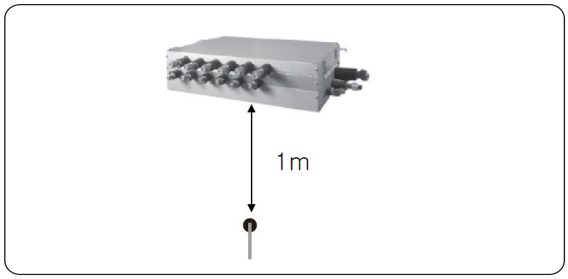
ERROR	DESCRIPTION
E686	R32 sensor short/open
E687	2nd refrigerant leak detection error
E688	Refrigerant leak sensor failure error
E689	Refrigerant leak sensor replacement notification error
E690	Refrigerant leak sensor lifetime expiration error
E694	installation combination of indoor unit and wired remote control Error
E695	Refrigerant leak sensor lifetime unpredictable error
E696	1st refrigerant leak detection error
E697	2nd refrigerant leak detection error
E698	Refrigerant leak sensor failure error
E699	Refrigerant leak sensor replacement notification error
E700	Refrigerant leak sensor lifetime expiration error

NOTE

- This wiring diagram applies only to the SVB kits.
- Symbols show as follow : BLK: black, RED: red, BLU: blue, WHT: white, YEL: yellow, BRN: brown, SKY: skyblue: GRN: green
- For connection wiring indoor-outdoor transmission F1-F2.
- ⏚ Protective earth(screw),CN* : connector, ⅄ : The wire quantity

2. SVB (Shut off Valve Box)

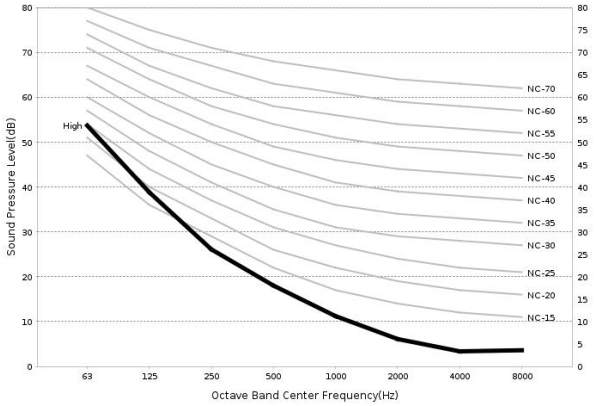
Sound pressure level



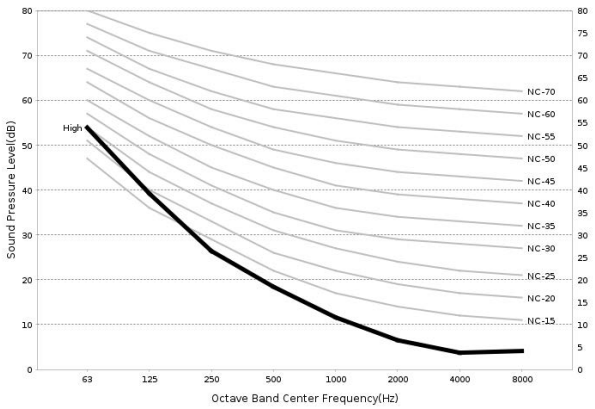
Model	Sound Level (dBA)
MSB-A1NEK1UN, MSB-A1NEK1N	30
MSB-A2NEK1UN, MSB-A2NEK1N	30
MSB-A4NEK1UN, MSB-A4NEK1N	31
MSB-A6NEK1UN, MSB-A6NEK1N	32

- NC Curve

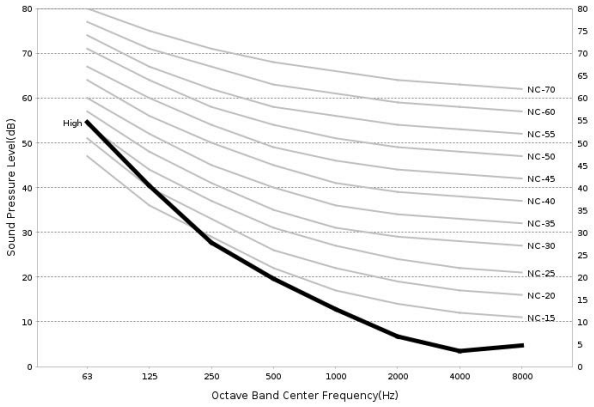
1) MSB-A1NEK1UN, MSB-A1NEK1N



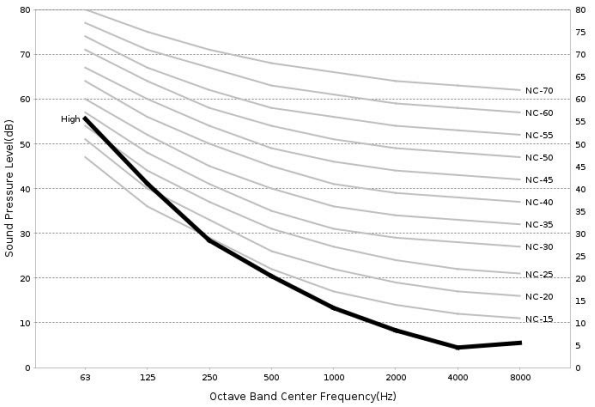
2) MSB-A2NEK1UN, MSB-A2NEK1N



3) MSB-A4NEK1UN, MSB-A4NEK1N



4) MSB-A6NEK1UN, MSB-A6NEK1N

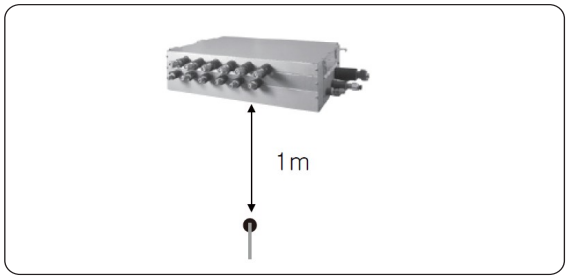


NOTE

- This value was measured at steady state in anechoic chamber and may vary depending on operating condtion.
- Sound pressure level will vary depending on a range of factors such as the construction of the particular room where the equipment is installed.

2. SVB (Shut off Valve Box)

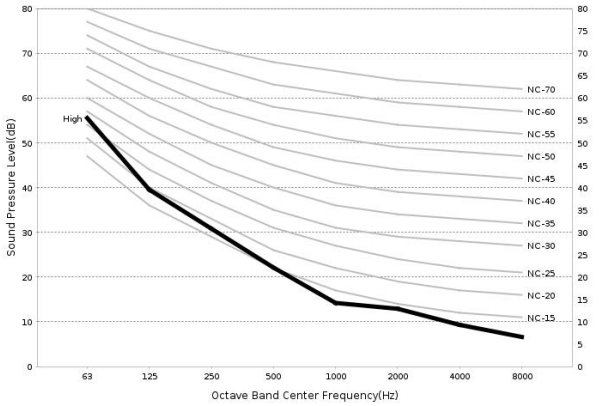
Sound pressure level



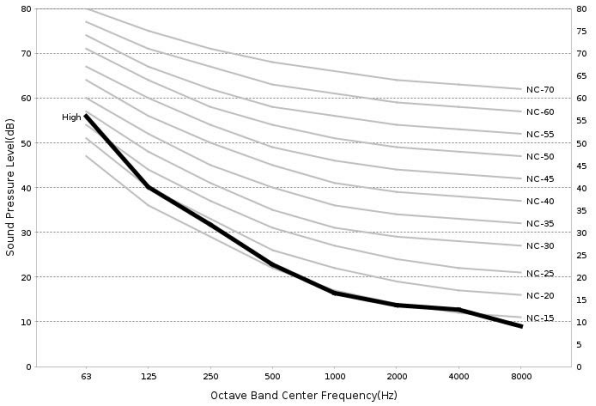
Model	Sound Level (dBA)
MSB-A8NEK1UN, MSB-A8NEK1N	34
MSB-A12NEK1UN, MSB-A12NEK1N	35

- NC Curve

5) MSB-A8NEK1UN, MSB-A8NEK1N



6) MSB-A12NEK1UN, MSB-A12NEK1N



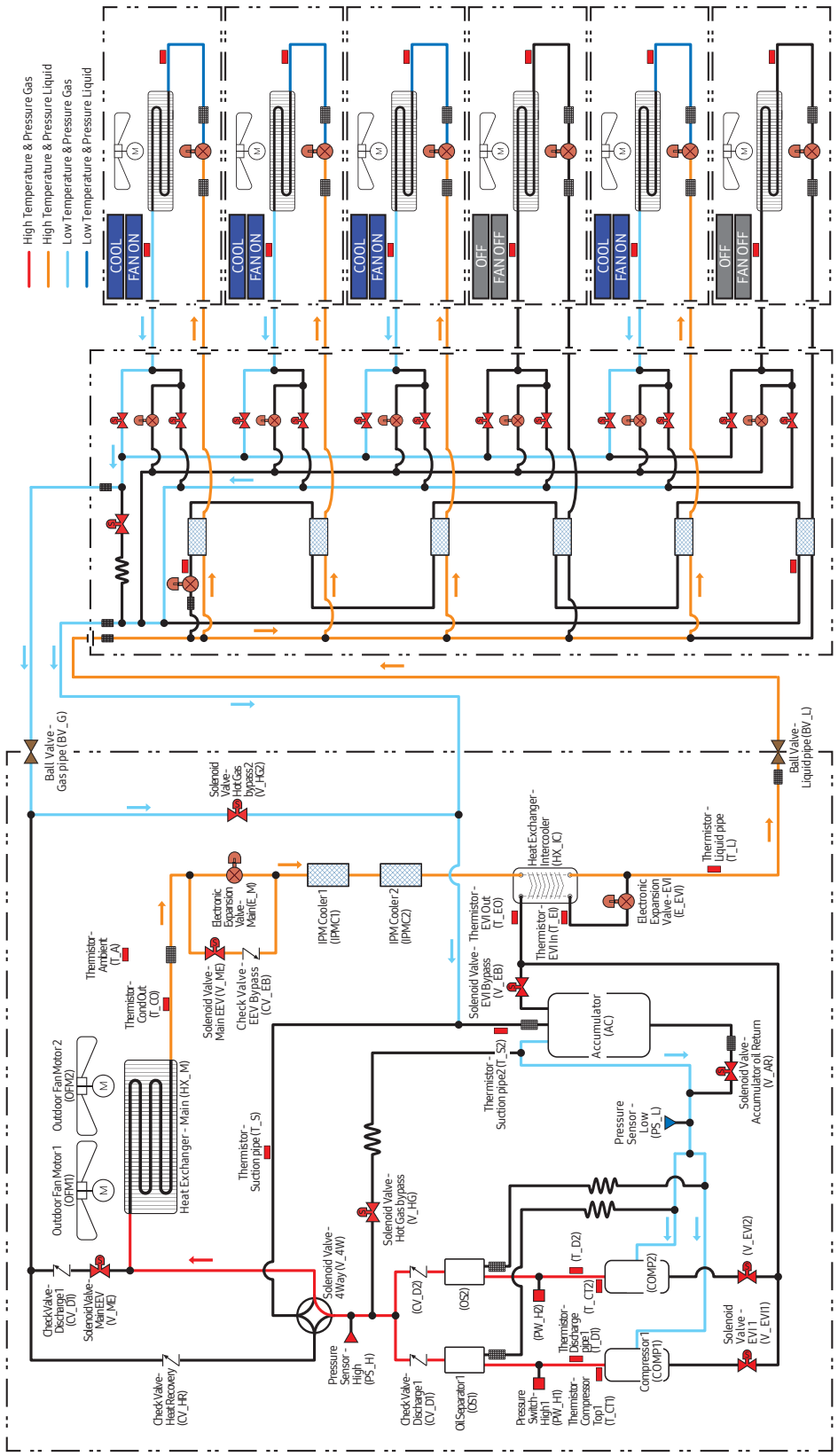
NOTE

- This value was measured at steady state in anechoic chamber and may vary depending on operating condtion.
- Sound pressure level will vary depending on a range of factors such as the construction of the particular room where the equipment is installed.

2. SVB (Shut off Valve Box)

Piping diagram

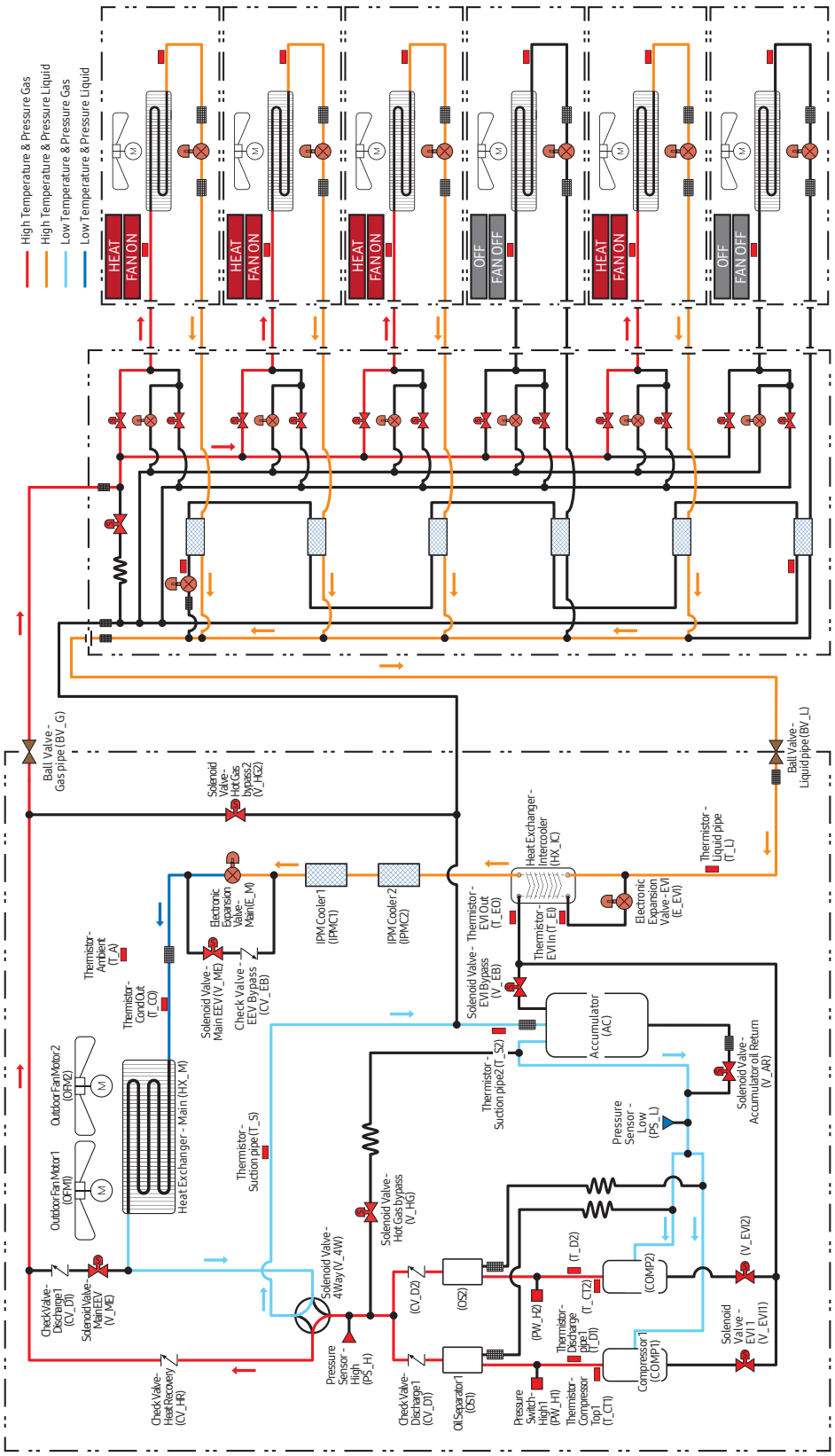
Cooling mode



2. SVB (Shut off Valve Box)

Piping diagram

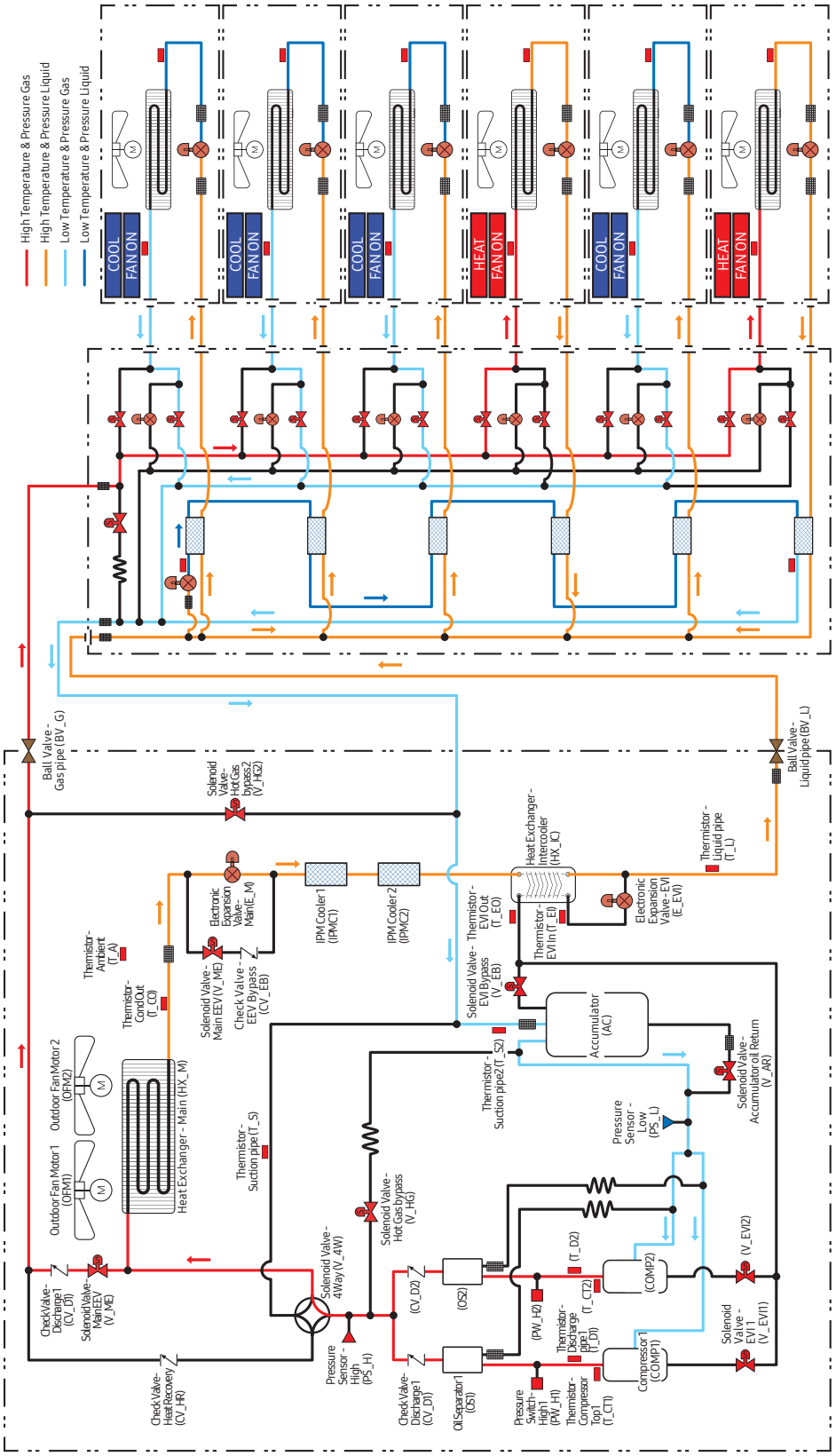
Heating mode



2. SVB (Shut off Valve Box)

Piping diagram

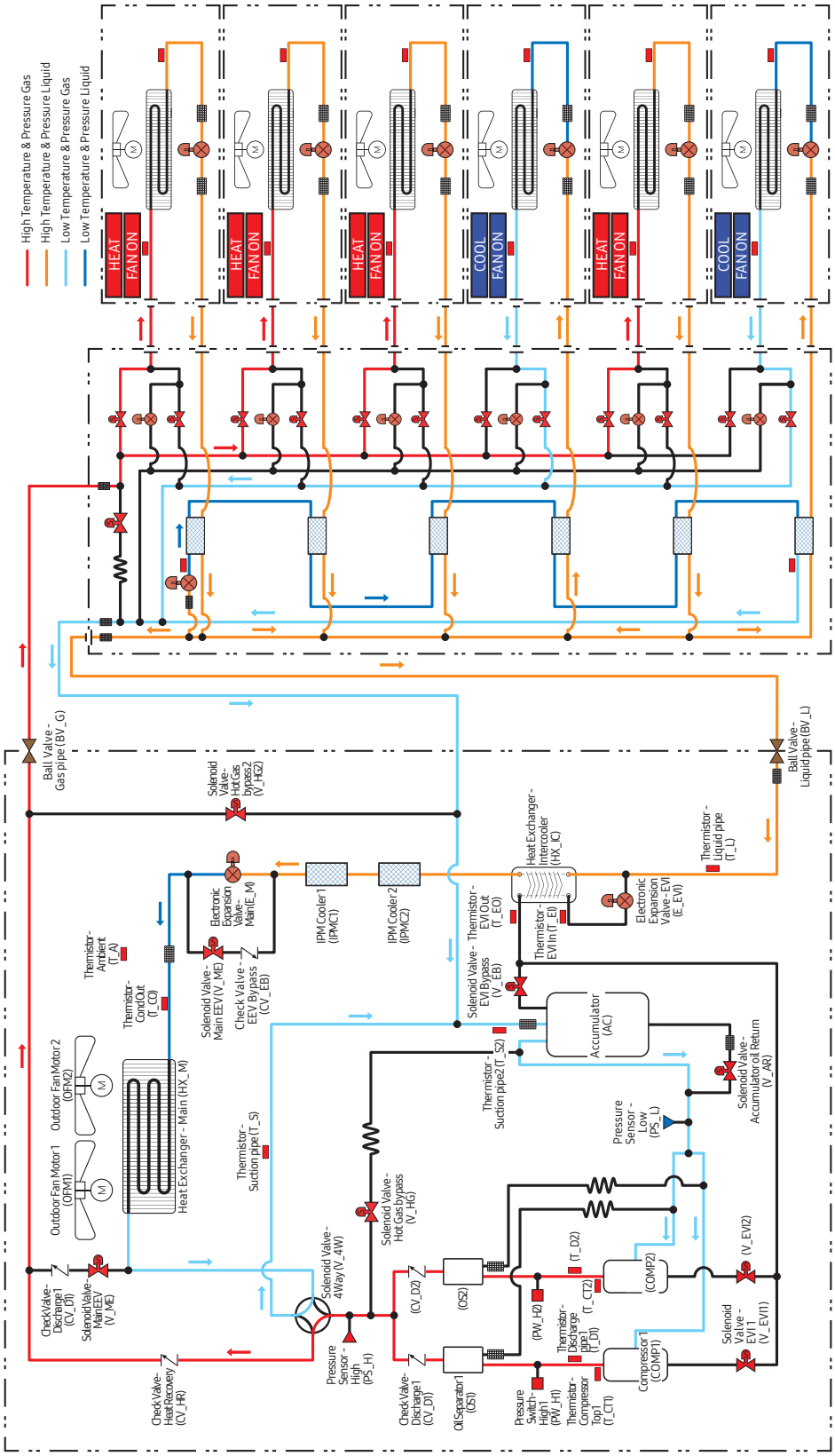
Main Cooling mode



2. SVB (Shut off Valve Box)

Piping diagram

Main Heating mode



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