No	Item	REYQ18~48P (Multi-combination of REMQ8~16P)
1	REFNET HEADER	KHRQ23M29H KHRQ23M64H KHRQ23M75H
2	REFNET JOINT	KHRQ23M20T KHRQ23M29T KHRQ23M64T KHRQ23M75T
3	OUTDOOR MULTI CONNECTION KIT FOR 2 OUTDOOR UNITS	BHFQ23P907
4	OUTDOOR MULTI CONNECTION KIT FOR 3 OUTDOOR UNITS	BHFQ23P1357
5	CENTRAL DRAIN PAN KIT	KWC26C280 (for REMQ8~12P) KWC26C450 (for REMQ14~16P) (See note 2)
6	DIGITAL PRESSURE GAUGE KIT	BHGP26A1 (See note 3)
7	BS BOX FOR H/R	BSVQ100PV19 BSVQ160PV19 BSVQ250PV19

Notes:

1. All options are kits.
2. Central drain pan kit shall be combined based on the outdoor multi connection table.
3. Only 1 option per installation is needed.

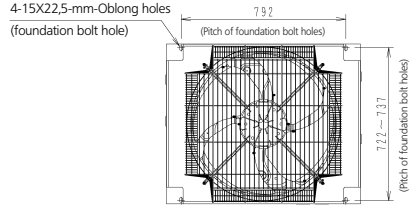
REMQ-P

Multi combination TW drawing overview

HP	REMQ8P	REMQ10P	REMQ12P	REMQ14P	REMQ16P
18	1	1			
20	1		1		
22		1	1		
24			2		
26		1			1
28			1		1
30				1	1
32					2
34	1	1			1
36	1		1		1
38		1	1		1
40			2		1
42		1			2
44			1		2
46				1	2
48					3

4TW29111-1

REMQ8,10,12P



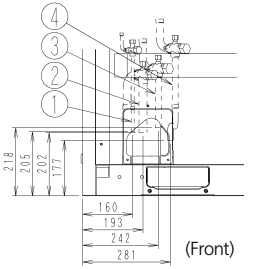
Notes)

1 For piping connection method (front and bottom sides) see the installation manual.

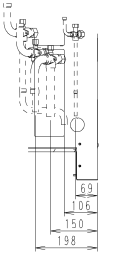
2 Suction gas pipe
- Φ 22.2 Brazing connection ... REMQ8,10P
- Φ 28.6 Brazing connection ... REMQ12P

Liquid pipe
- Φ 9.5 Brazing connection ... REMQ8,10P
- Φ 12.7 Brazing connection ... REMQ12P

3 Piping connection diameter for field connection.



(Front)



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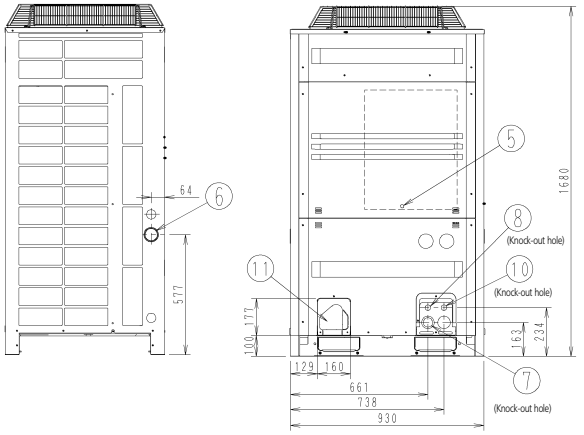
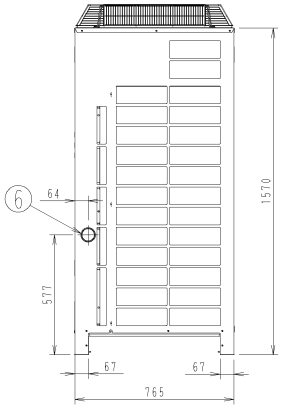
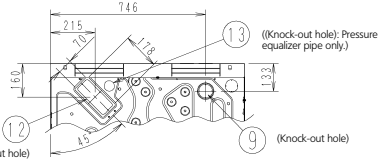
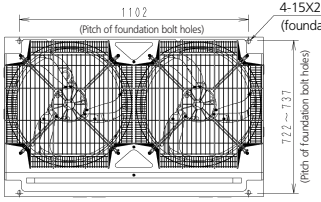




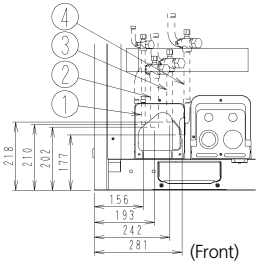


1 Liquid pipe connection port see note 2.3.
2 Suction gas pipe connection port see note 2.3.
3 High and low pressure gas pipe connection port Φ 19.1 Brazing connection see note 3.
4 Pressure equalizer pipe connection port Φ 19.1 Brazing connection see note 3.
5 Grounding terminal inside of switch box (M8)
6 Power cord routing hole (side) Φ 62
7 Power cord routing hole (front) Φ 45
8 Power cord routing hole (front) Φ 27
9 Power cord routing hole (bottom) Φ 65.5
10 Wire routing hole (front) Φ 27
11 Pipe routing hole (front) see note 1.
12 Pipe routing hole (bottom) see note 1.
13 Pipe routing hole (bottom) Φ 50 see note 1.

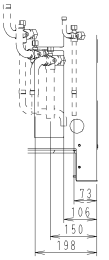
REMQ14,16P



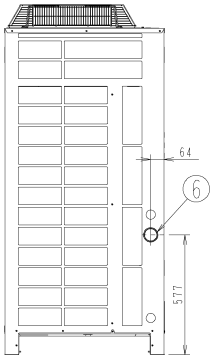
Notes)
1 For piping connection method (front and bottom sides) see the installation manual.
2 Piping connection diameter for field connection.

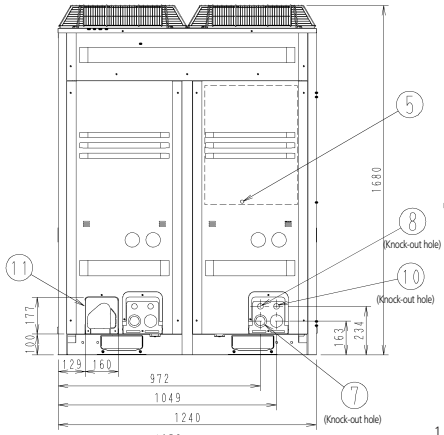


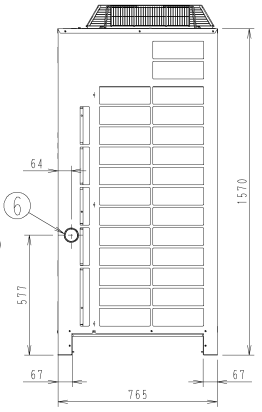
(Front)

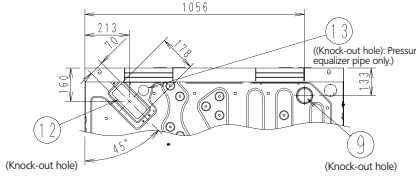


(Left side)



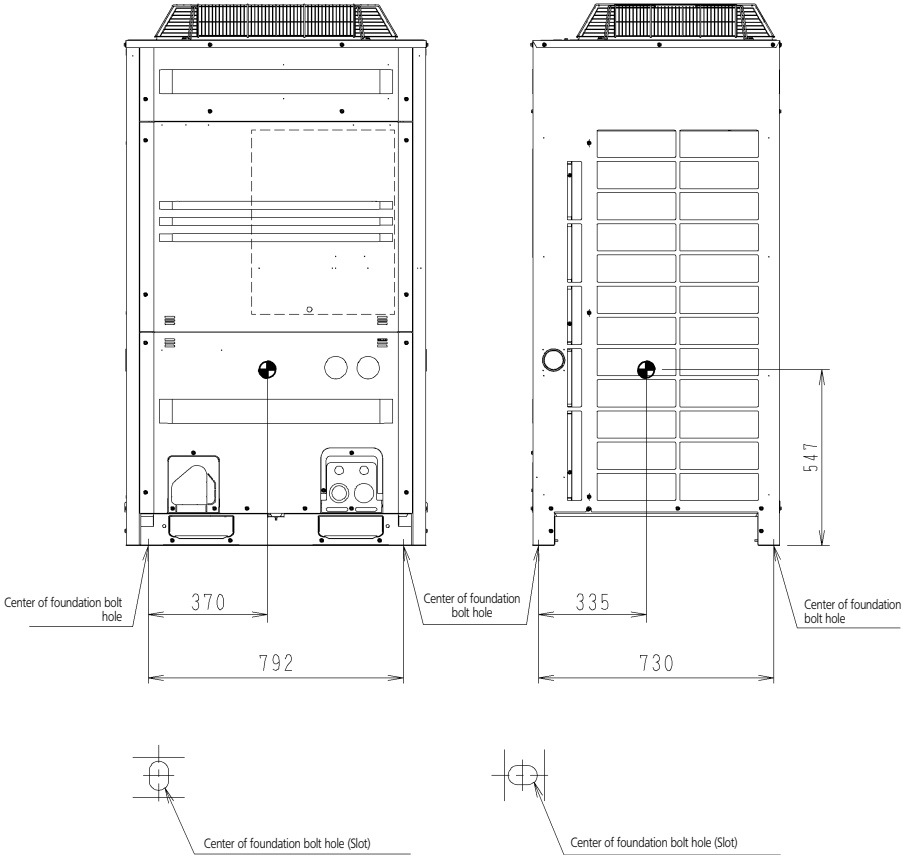






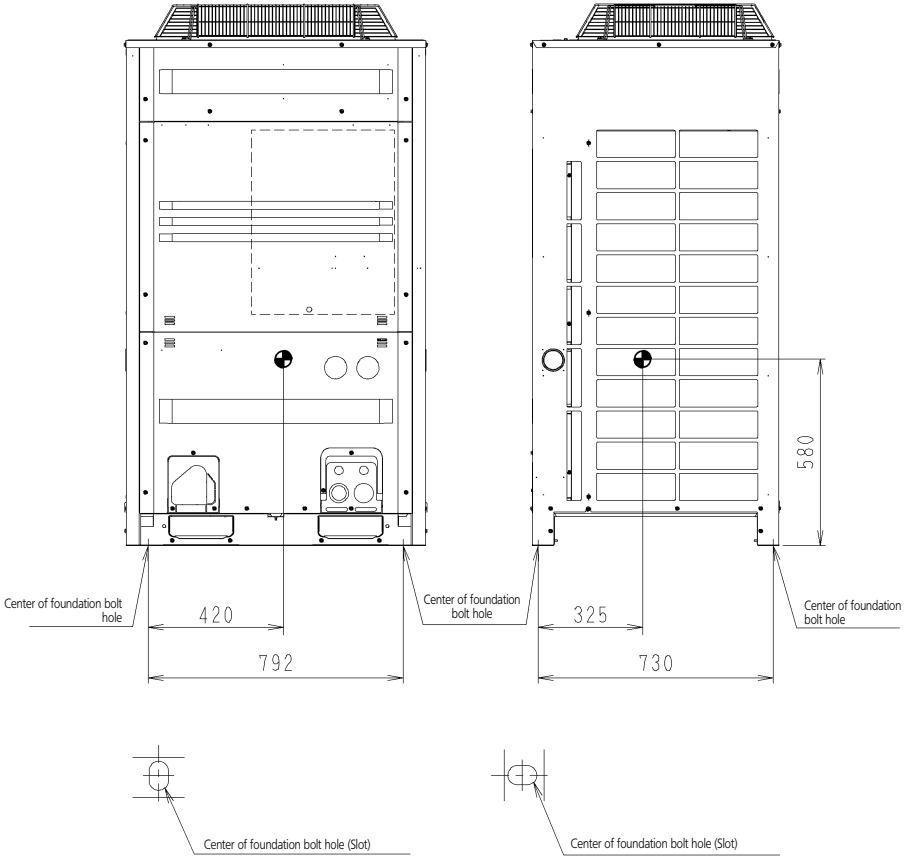
1 Liquid pipe connection port Φ 12.7 Brazing connection see note 2.
2 Suction gas pipe connection port Φ 28.6 Brazing connection see note 2.
3 High and low pressure gas pipe connection port Φ 22.2 Brazing connection see note 2.
4 Pressure equalizer pipe connection port Φ 19.1 Brazing connection see note 2.
5 Grounding terminal inside of switch box (M8)
6 Power cord routing hole (side) Φ 62
7 Power cord routing hole (front) Φ 45
8 Power cord routing hole (front) Φ 27
9 Power cord routing hole (bottom) Φ 65.5
10 Wire routing hole (front) Φ 27
11 Pipe routing hole (front) see note 1.
12 Pipe routing hole (bottom) see note 1.
13 Pipe routing hole (bottom) Φ 50 see note 1.

REMQ8P



4D057576

REMQ10,12P



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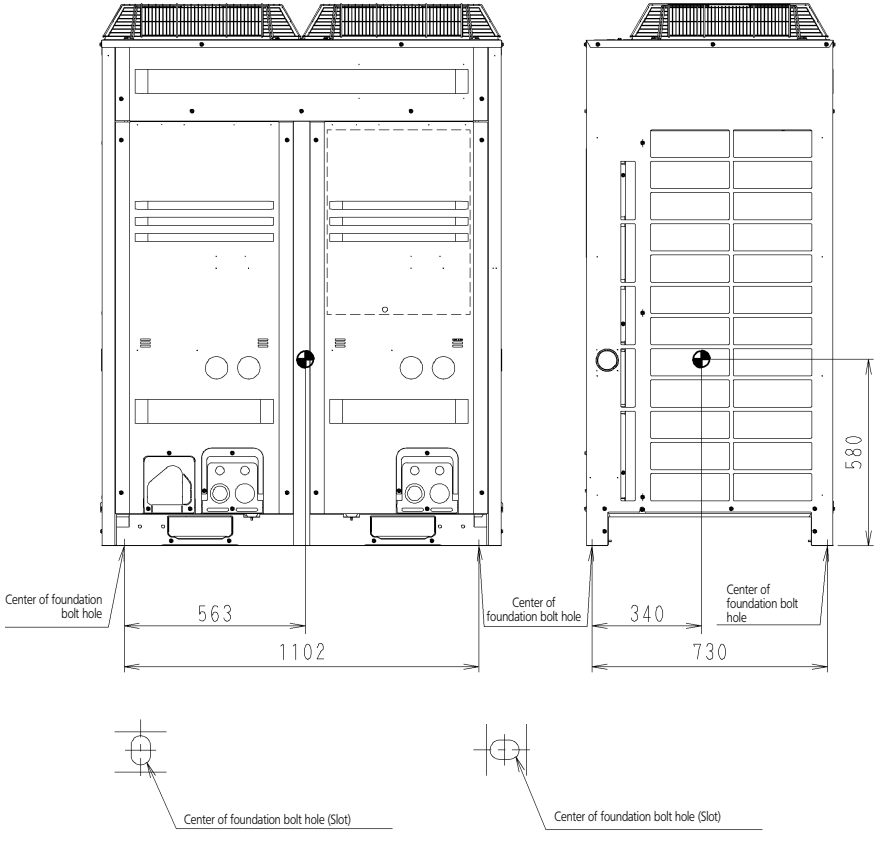
REMQ14,16P



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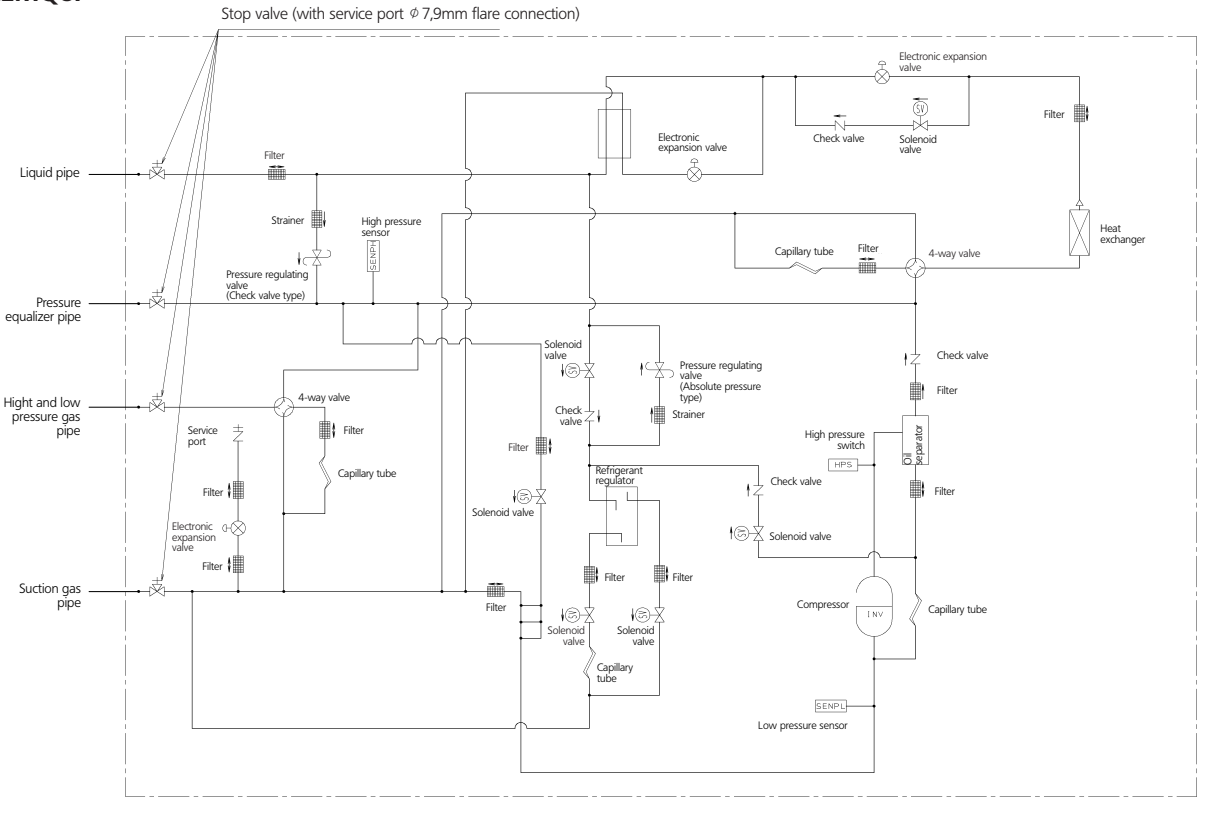
REMQ8P



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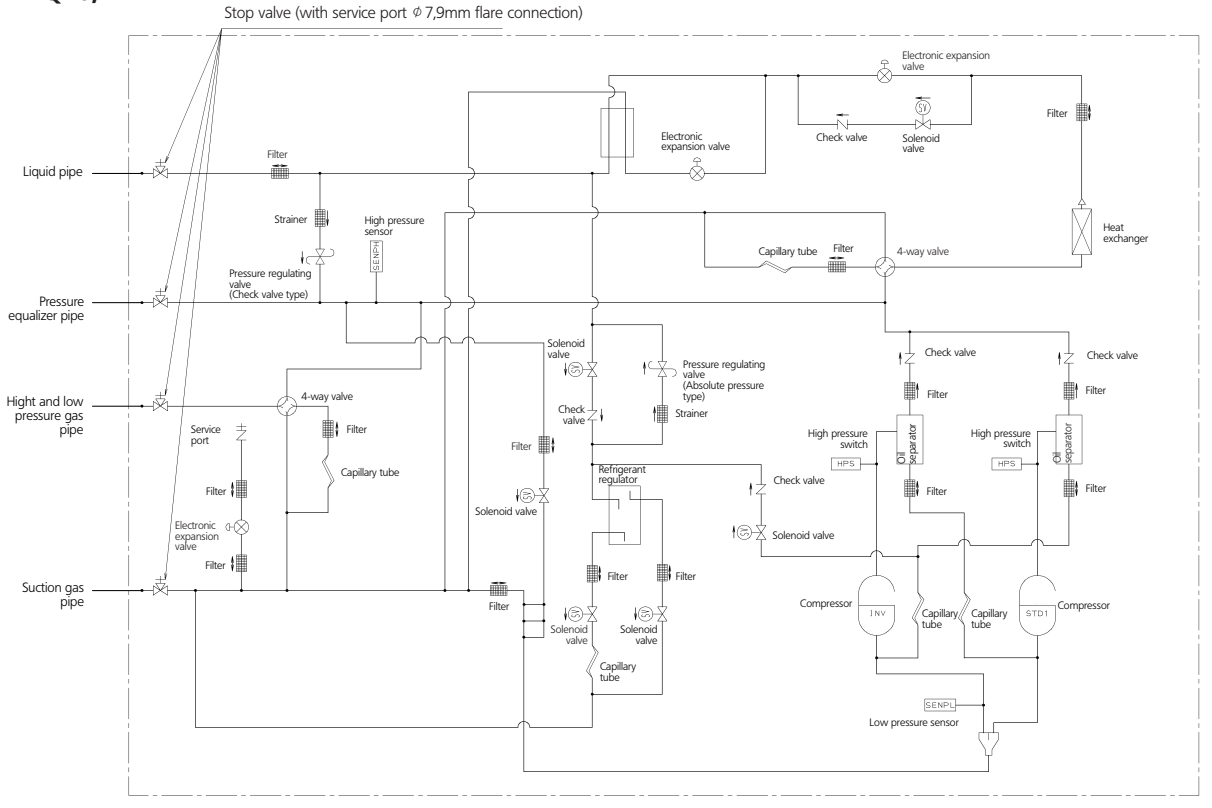
REMQ10,12P



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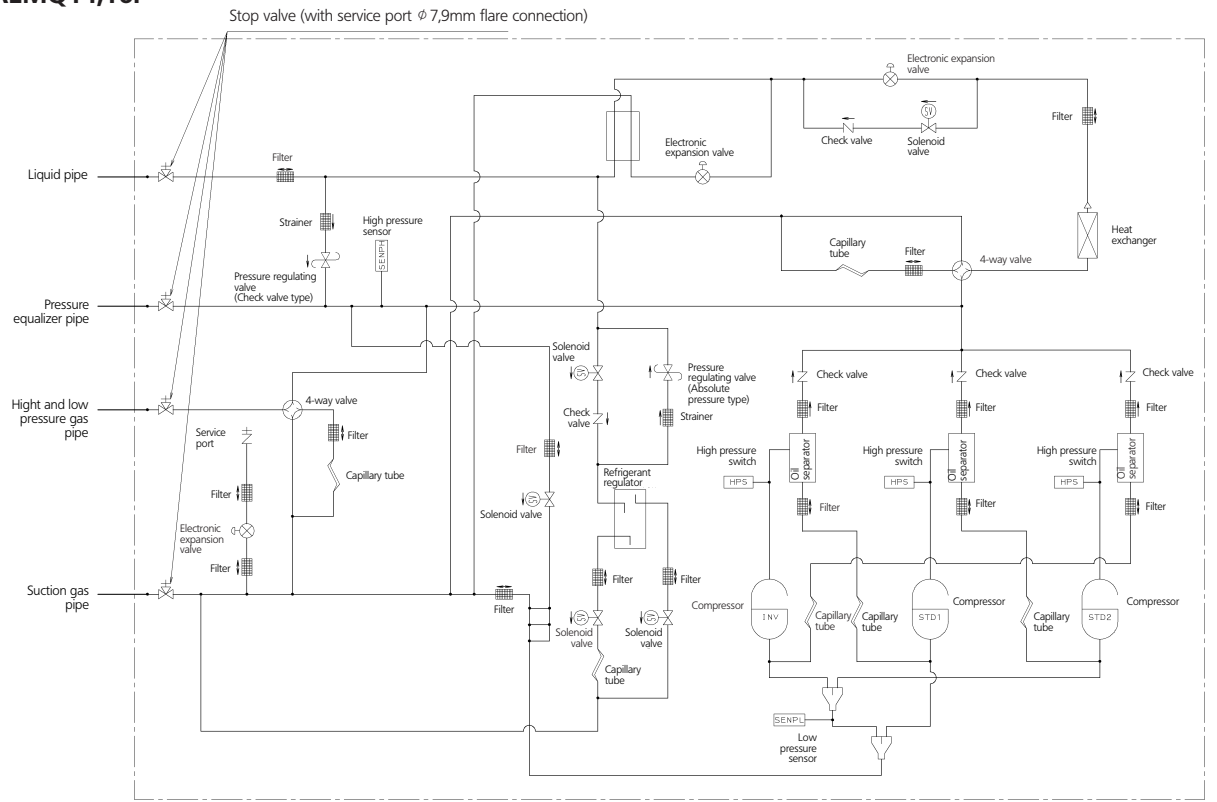
REMQ14,16P



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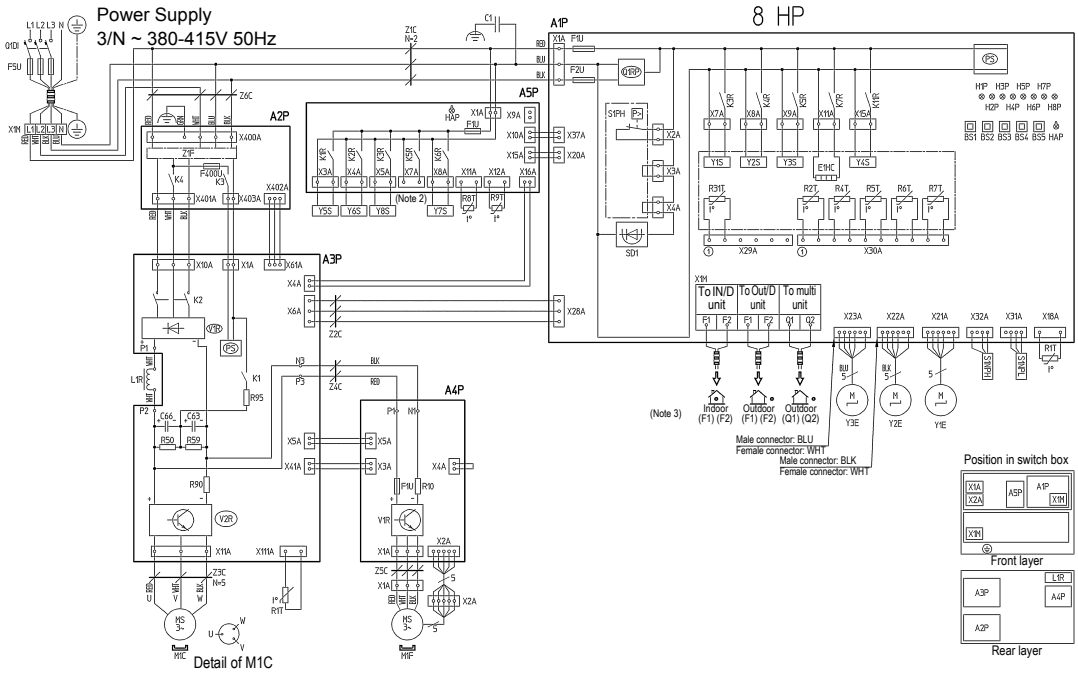
REMQ8P



A1P~A8P	Printed circuit board		L1R	Reactor		Y1E	Electronic expansion valve (main)	
	A1P: main	A4P: fan	M1C	Motor (compressor)		Y2E	Electronic expansion valve (charge)	
	A2P: noise filter	A5P: sub	M1F	Motor (fan)		Y3E	Electronic expansion valve (subcool)	
	A3P: inverter		PS	Switching power supply (A1P, A3P)		Y1S~Y3S	Solenoid valve	
BS1~BS5	Push button switch		Q1DI	Earth leakage breaker			Y1S: RMTG	Y2S: 4 way valve (pipe)
	(mode, set, return, test, reset)		Q1RP	Reverse phase detection circuit			Y3S: 4 way valve (H/E gas)	
C1, C63, C66	Capacitor		R10	Resistor (current sensor) (A4P)			Y4S: RMTL	Y5S: Hot gas
E1HC~E3HC	Crankcase heater		R50, R59	Resistor			Y6S: EV bypass	R7S: RMTO
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)		R90	Resistor (current sensor)			Y8S: RMTT	
F1U	Fuse (T, 3.15A, 250V) (A5P)		R95	Resistor (current limiting)		Z1C~Z6CA	Noise filter (ferrite core)	
F1U	Fuse (8A, DC650V) (A4P)			Thermistor		Z1F	Noise filter (with surge absorber)	
F5U	Field fuse			R1T: air (A1P)	R6T: sub cool H/E liquid			
F400U	Fuse (T, 6.3A, 250V) (A2P)		R1T~R9T	R1T: fin (A3P)	R7T: H/E liquid	Connector for optional parts		
H1P~H8P	Pilotlamp (service monitor - orange)		R31T~R33T	R2T: H/E gas	R8T: suction	X7A	Operation output (A5P)	
	[H2P] Prepare, test - - - - - - - flickering			R4T: H/E deicer	R9T: liquid	X9A	Power supply (adapter) (A5P)	
	Malfunction detection - - light up			R5T: sub cool H/E gas	R31T: M1C discharge			
HAP	Pilotlamp (service monitor - green) (A1P)(A5P)		S1NPH	Pressure sensor (high)				
K1~K4	K1: magnetic relay	K2: magnetic contactor (M1C)	S1NPL	Pressure sensor (low)				
	K3: magnetic relay	K4: magnetic contactor (M1C)	S1PH	Pressure switch (high)				
K1R~K11R	Magnetic relay		SD1	Safety devices input				
	K1R: Y5S (A5P)	K2R: Y6S (A5P)	V1R	Diode bridge (A3P)	Power module (A4P)			
	K3R: Y1S (A1P)	K3R: Y1S (A5P)	V2R	Power module (A3P)				
	K4R: Y2S (A1P)	K5R: Y3S (A1P)	X1A, X2A	Connector (M1F)				
	K5R: (for option) (A5P)	K6R: Y7S (A5P)	X1M	Terminal strip (power supply)				
	K7R: E1HC (A1P)	K11R: Y4S (A1P)	X1M	Terminal strip (control) (A1P)				

: Field wiring
: Terminal strip
: Connector
: Terminal
: Protective earth (screw)

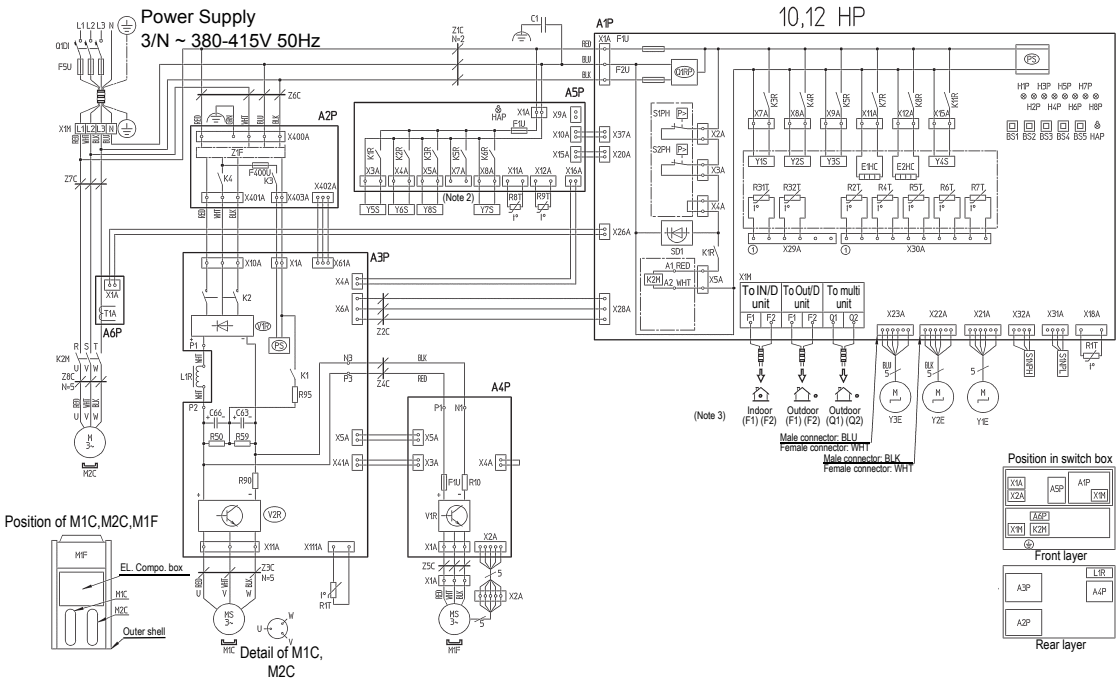
Colors:
BLK: Black
BLU: Blue
BRN: Brown
ORG: Orange
PNK: Pink
GRN: Green
RED: Red
WHT: White
YLW: Yellow
GRY: Grey

2TW29116-1

NOTES

1 This wiring diagram only applies to the outdoor unit.
2 When using the option adapter, refer to the installation manual.
3 Refer to the installation manual, for connection wiring to indoor-oudoor transmission F1 - F2, outdoor-outdoor transmission F1 - F2, outdoor-multi transmission Q1 - Q2 and on how to use BS1~BS5 and DS1, DS2 switch.
4 Do not operate the unit by short-circuiting protection device S1PH

REMQ10,12P



A1P~A8P	Printed circuit board		L1R	Reactor	Y1E	Electronic expansion valve (main)	
	A1P: main	A4P: fan	M1C, M2C	Motor (compressor)	Y2E	Electronic expansion valve (charge)	
	A2P: noise filter	A5P: sub	M1F	Motor (fan)	Y3E	Electronic expansion valve (subcool)	
	A3P: inverter	A6P: current sensor	PS	Switching power supply (A1P, A3P)	Y1S~Y3S	Solenoid valve	
BS1~BS5	Push button switch (mode, set, return, test, reset)		Q1DI	Earth leakage breaker		Y1S: RMTG	Y2S: 4 way valve (pipe)
			Q1RP	Reverse phase detection circuit		Y3S: 4 way valve (H/E gas)	
C1, C63, C66	Capacitor		R10	Resistor (current sensor) (A4P)		Y4S: RMTL	Y5S: Hot gas
E1HC, E2HC	Crankcase heater		R50, R59	Resistor		Y6S: EV bypass	R7S: RMTO
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)		R90	Resistor (current sensor)		Y8S: RMTT	
F1U	Fuse (T, 3.15A, 250V) (A5P)		R95	Resistor (current limiting)	Z1C~Z8C	Noise filter (ferrite core)	
F1U	Fuse (8A, DC650V) (A4P)		R1T~R9T R31T~R33T	Thermistor	Z1F	Noise filter (with surge absorber)	
F5U	Field fuse			R1T: air (A1P) R4T: H/E deicer			
F400U	Fuse (T, 6.3A, 250V) (A2P)			R1T: fin (A3P) R5T: sub cool H/E gas	Connector for optional parts		
H1P~H8P	Pilotlamp (service monitor - orange) [H2P] Prepare, test - - - - - - - flickering Malfunction detection - - light up			R2T: H/E gas R6T: sub cool H/E liq	X7A	Operation output (A5P)	
				R31T: M1C discharge R7T: H/E liquid	X9A	Power supply (adapter) (A5P)	
				R32T: M2C discharge R8T: suction			
HAP	Pilotlamp (service monitor - green) (A1P)(A5P)			R9T: liquid			
K1~K4	K1: magnetic relay	K2: magnetic contactor (M1C)	S1NPH	Pressure sensor (high)			
	K3: magnetic relay	K4: magnetic contactor (M1C)	S1NPL	Pressure sensor (low)			
K2M	Magnetic contactor (M2C)		S1PH, S2PH	Pressure switch (high)			
K1R~K11R	Magnetic relay		SD1	Safety devices input			
	K1R: K2M (A1P)	K2R: Y5S (A5P)	T1A	Current sensor			
	K2R: Y6S (A5P)	K3R: Y1S (A1P)	V1R	Diode bridge (A3P)			
	K3R: Y1S (A5P)	K4R: Y2S (A1P)	V2R	Power module (A3P)			
	K5R: Y3S (A1P)	K5R: (for option) (A5P)	X1A, X2A	Connector (M1F)			
	K6R: Y7S (A5P)	K7R: E1HC (A1P	X1M	Terminal strip (power supply)			
	K8R: E2HC (A1P)	K11R: Y4S (A1P)	X1M	Terminal strip (control) (A1P)			

: Field wiring
: Terminal strip
: Connector
: Terminal
: Protective earth (screw)

Colors:

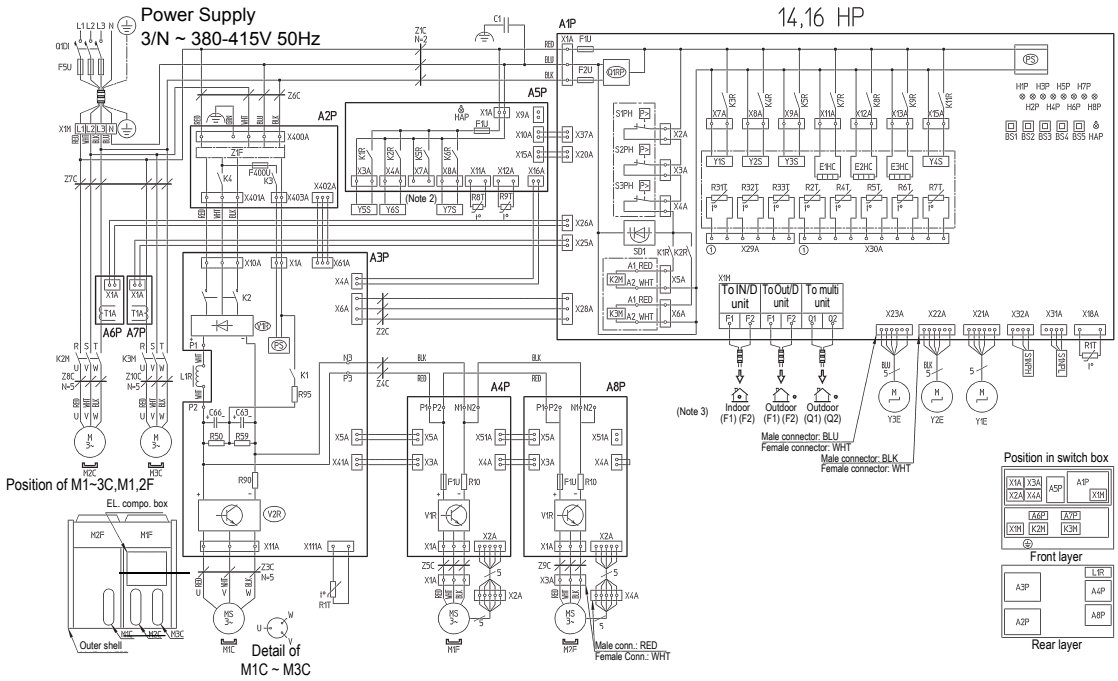
BLK:	Black	GRN:	Green
BLU:	Blue	RED:	Red
BRN:	Brown	WHT:	White
ORG:	Orange	YLW:	Yellow
PNK:	Pink	GRY:	Grey

2TW29126-1

NOTES

1 This wiring diagram only applies to the outdoor unit.
2 When using the option adapter, refer to the installation manual.
3 Refer to the installation manual, for connection wiring to indoor-oudoor transmission F1 - F2, outdoor-outdoor transmission F1 - F2, outdoor-multi transmission Q1 - Q2 and on how to use BS1~BS5 and DS1, DS2 switch.
4 Do not operate the unit by short-circuiting protection device S1PH, S2PH.

REMQ14,16P



A1P~A8P	Printed circuit board		L1R	Reactor	Y2E	Electronic expansion valve (charge)	
	A1P: main	A4P,A8P: fan	M1R ~ M3C	Motor (compressor)	Y3E	Electronic expansion valve (subcool)	
	A2P: noise filter	A5P: sub	M1F, M2F	Motor (fan)	Y1S~Y3S	Solenoid valve	
	A3P: inverter	A6P,A7P: current sensor	PS	Switching power supply (A1P, A3P)		Y1S: RMTG	Y2S: 4 way valve (pipe)
BS1~BS5	Push button switch (mode, set, return, test, reset)		Q1DI	Earth leakage breaker		Y3S: 4 way valve (H/E gas)	
			Q1RP	Reverse phase detection circuit		Y4S: RMTL	Y5S: Hot gas
C1, C63, C66	Capacitor		R10	Resistor (current sensor) (A4P,A8P)		Y6S: EV bypass	Y7S: RMTO
E1HC, E3HC	Crankcase heater		R50, R59	Resistor	Z1C~Z10C	Noise filter (ferrite core)	
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)		R90	Resistor (current sensor)	Z1F	Noise filter (with surge absorber)	
F1U	Fuse (T, 3.15A, 250V) (A5P)		R95	Resistor (current limiting)			
F1U	Fuse (8A, DC650V) (A4P,A8P)			Thermistor	Connector for optional parts		
F5U	Field fuse		R1T~R9T R31T~R33T	R1T: air (A1P) R4T: H/E deicer	X7A	Operation output (A5P)	
F400U	Fuse (T, 6.3A, 250V) (A2P)			R1T: fin (A3P) R5T: sub cool H/E gas	X9A	Power supply (adapter) (A5P)	
H1P~H8P	Pilotlamp (service monitor - orange) [H2P] Prepare, test - - - - - - - flickering Malfunction detection - - light up			R2T: H/E gas R6T: sub cool H/E liq.			
				R31T: M1C discharge R7T: H/E liquid			
				R32T: M2C discharge R8T: suction			
HAP	Pilotlamp (service monitor - green) (A1P)(A5P)			R33T: M3C discharge R9T: liquid			
K1~K4	K1: magnetic relay	K2: magnetic contactor (M1C)	S1NPH	Pressure sensor (high)			
	K3: magnetic relay	K4: magnetic contactor (M1C)	S1NPL	Pressure sensor (low)			
K2M, K3M	Magnetic contactor (M2C, M3C)		S1PH ~ S3PH	Pressure switch (high)			
K1R~K11R	Magnetic relay		SD1	Safety devices input			
	K1R: K2M (A1P)	K1R: Y5S (A5P)	T1A	Current sensor (A6P, A7P)			
	K2R: K3M (A1P)	K2R: Y6S (A5P)	V1R	Diode bridge (A3P) Power module (A4P, A8P)			
	K3R: Y1S (A1P)	K4R: Y2S (A1P)	V2R	Power module (A3P)			
	K5R: Y3S (A1P)	K5R:: (for option) (A5P)	X1A, X2A	Connector (M1F, M2F)			
	K6R: Y7S (A5P)	K7R: E1HC (A1P	X1M	Terminal strip (power supply)			
	K8R: E2HC (A1P)	K9R: E3HC (A1P)	X1M	Terminal strip (control) (A1P)			
	K11R: Y4S (A1P)		Y1E	Electronic expansion valve (main)			

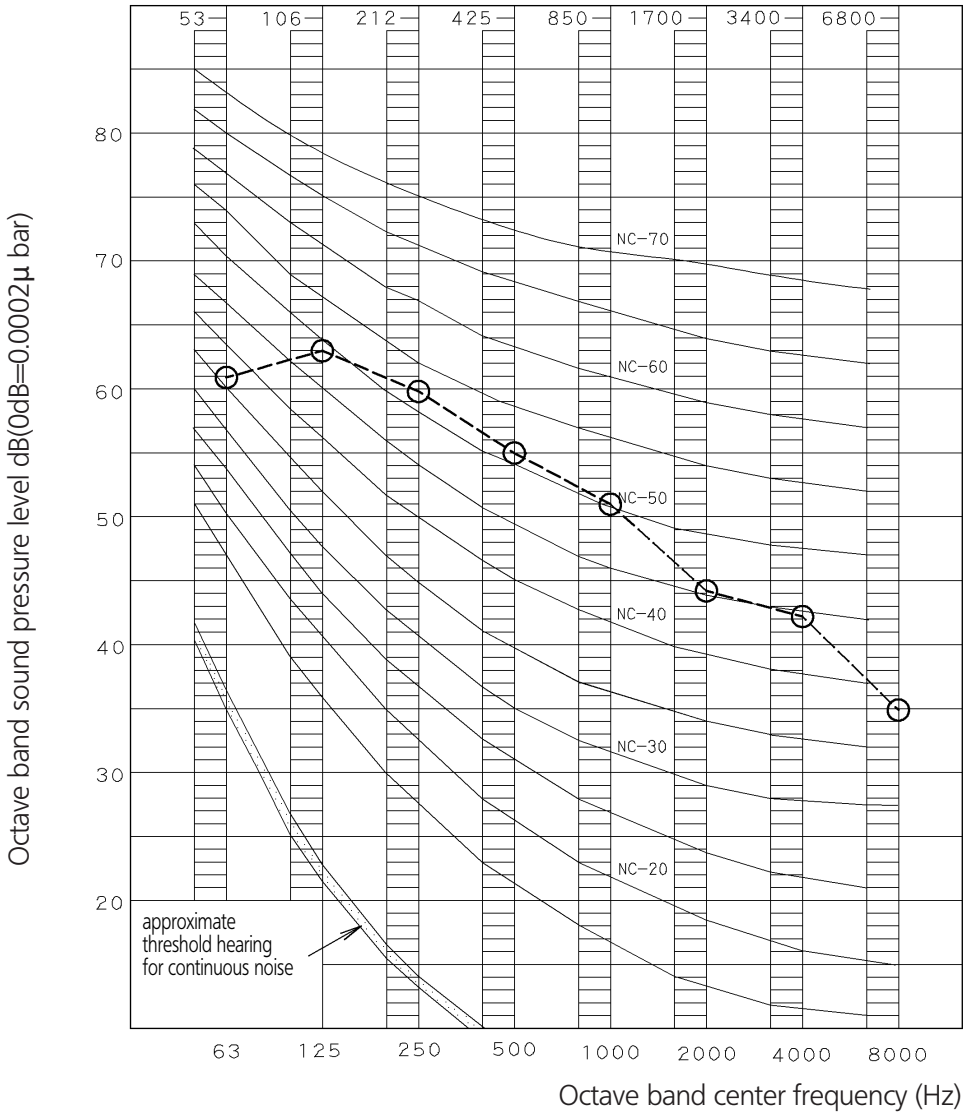
: Field wiring
: Terminal strip
: Connector
: Terminal
: Protective earth (screw)

Colors:
BLK: Black
BLU: Blue
BRN: Brown
ORG: Orange
PNK: Pink
GRN: Green
RED: Red
WHT: White
YLW: Yellow
GRY: Grey

2TW29146-1

NOTES

1 This wiring diagram only applies to the outdoor unit.
2 When using the option adapter, refer to the installation manual.
3 Refer to the installation manual, for connection wiring to indoor-oudoor transmission F1 - F2, outdoor-outdoor transmission F1 - F2, outdoor-multi transmission Q1 - Q2 and on how to use BS1~BS5 and DS1, DS2 switch.
4 Do not operate the unit by short-circuiting protection device S1PH ~ S3PH.



NOTES

1 Over all (dB)
(B,G,N is already rectified)

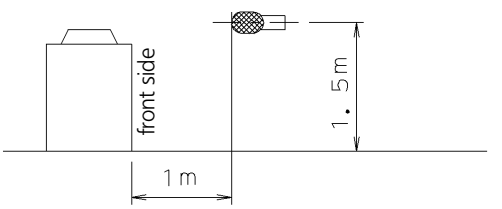
Scale	50Hz
A	57
C	66

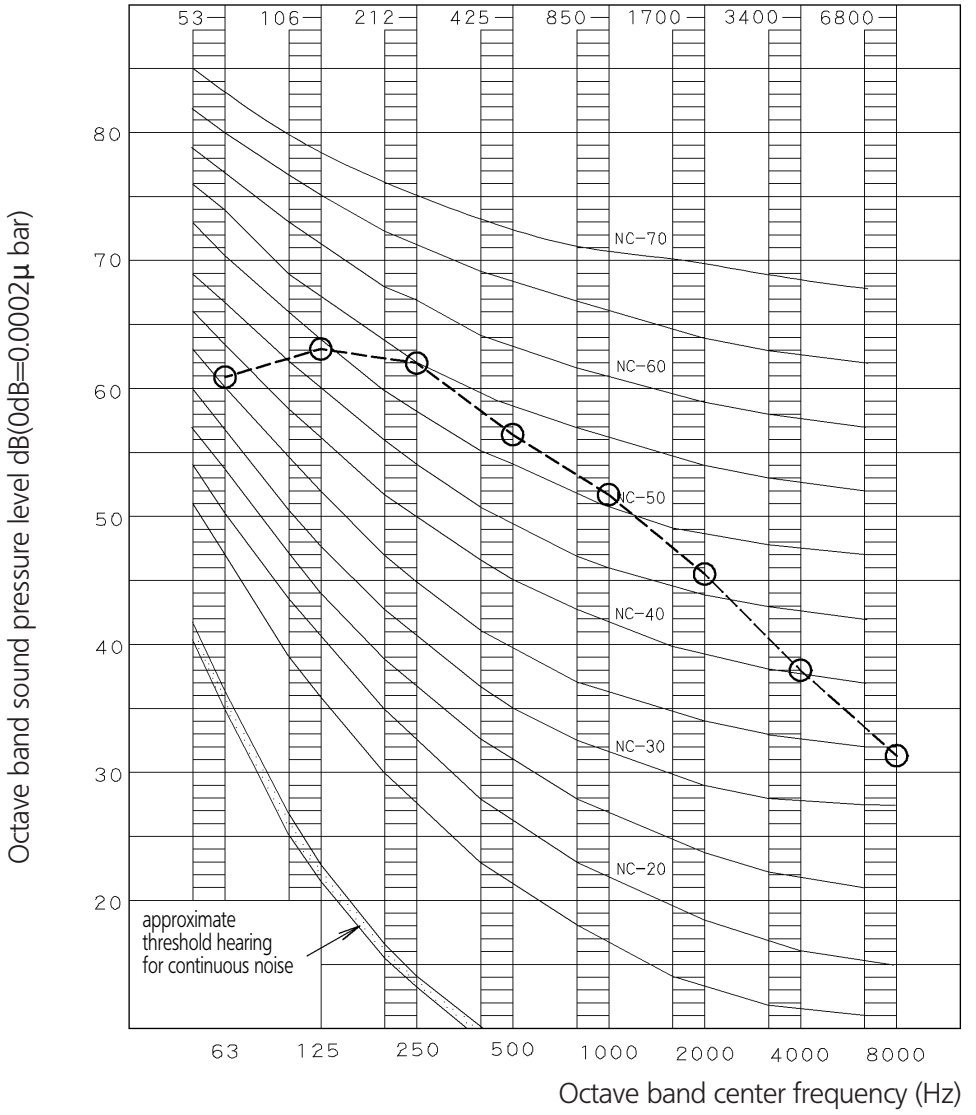
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

Measuring place: Anechoic chamber (conversion value)

3 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to enviromental noise and sound reflection.

4 Location of microphone





NOTES

1 Over all (dB)
(B,G,N is already rectified)

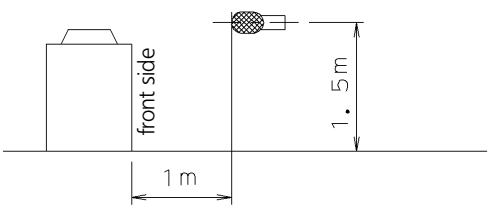
Scale	50Hz
A	58
C	67

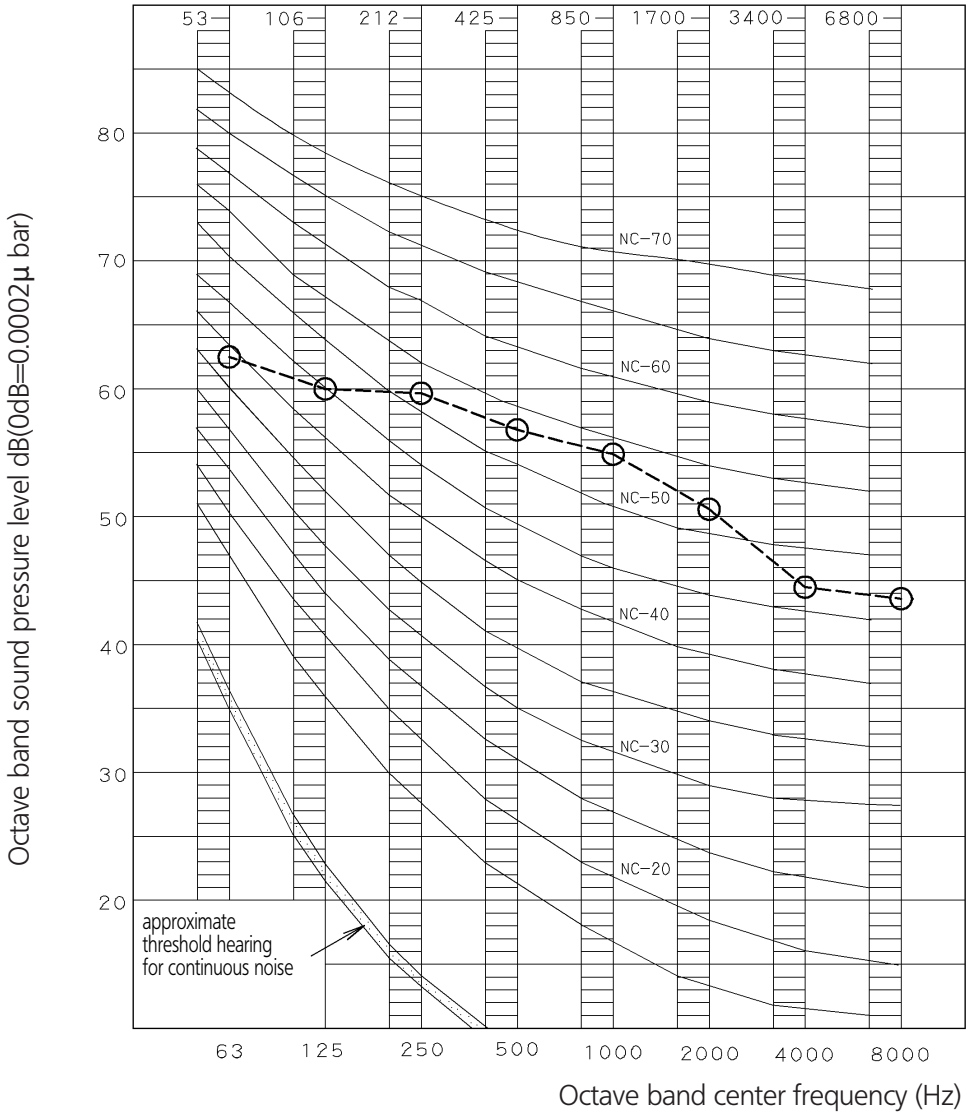
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

Measuring place: Anechoic chamber (conversion value)

3 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to enviromental noise and sound reflection.

4 Location of microphone





NOTES

1 Over all (dB)
(B,G,N is already rectified)

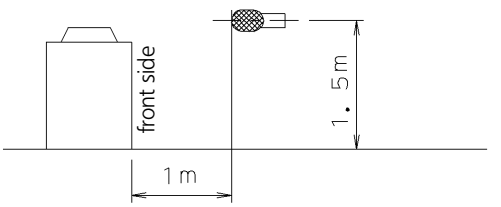
Scale	50Hz
A	60
C	66

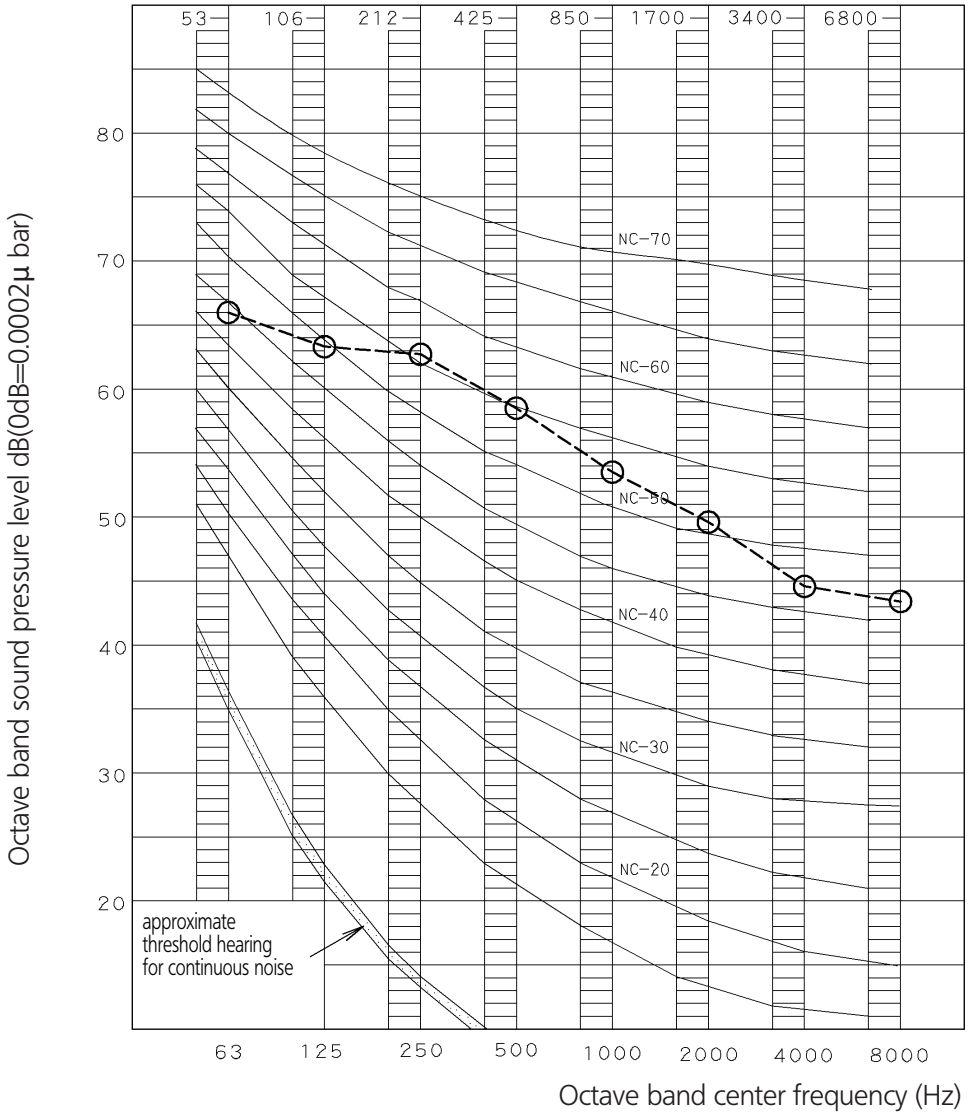
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

Measuring place: Anechoic chamber (conversion value)

3 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to enviromental noise and sound reflection.

4 Location of microphone





NOTES

1 Over all (dB)
(B,G,N is already rectified)

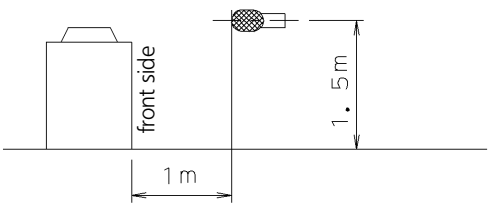
Scale	50Hz
A	60
C	69

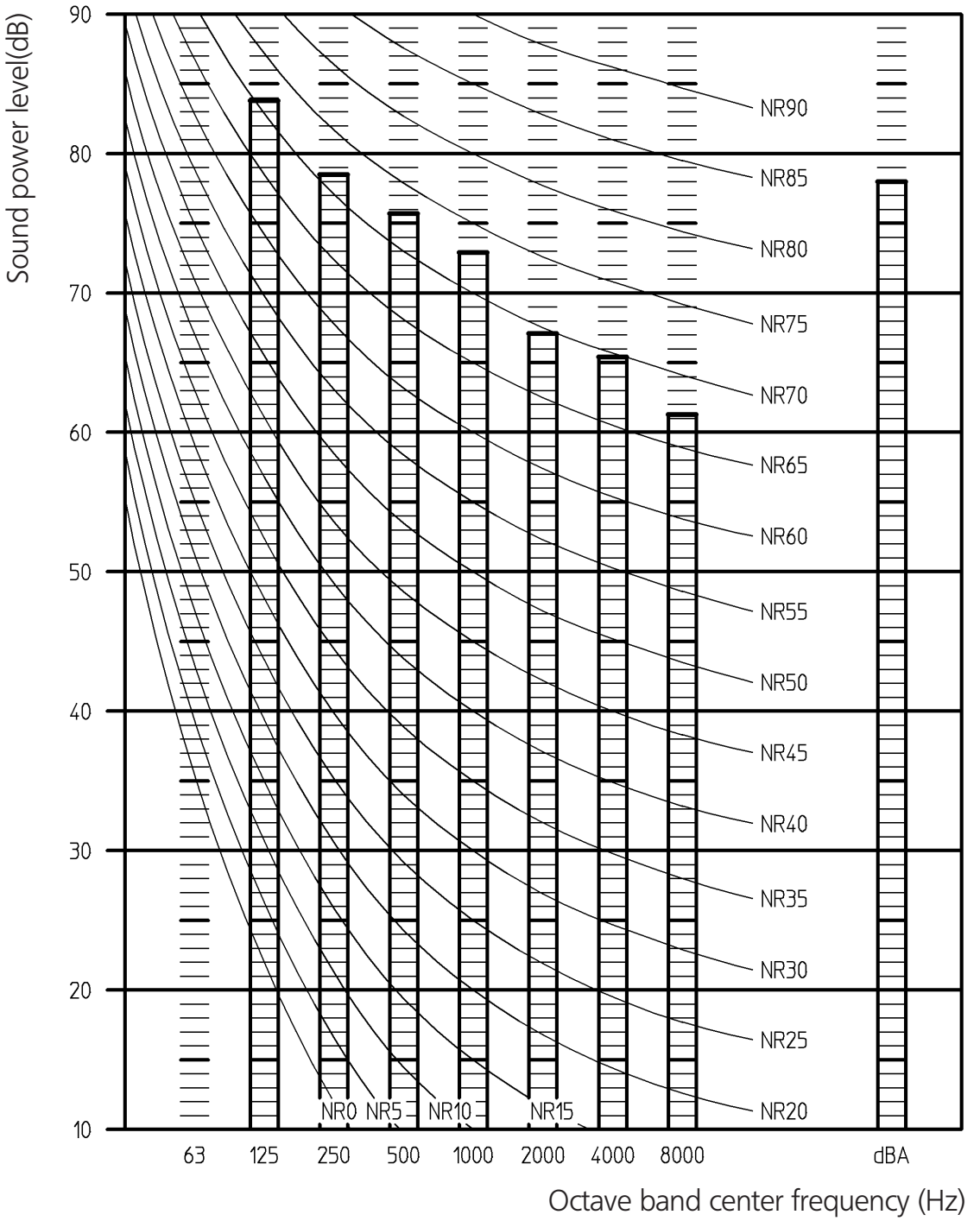
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

Measuring place: Anechoic chamber (conversion value)

3 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to enviromental noise and sound reflection.

4 Location of microphone



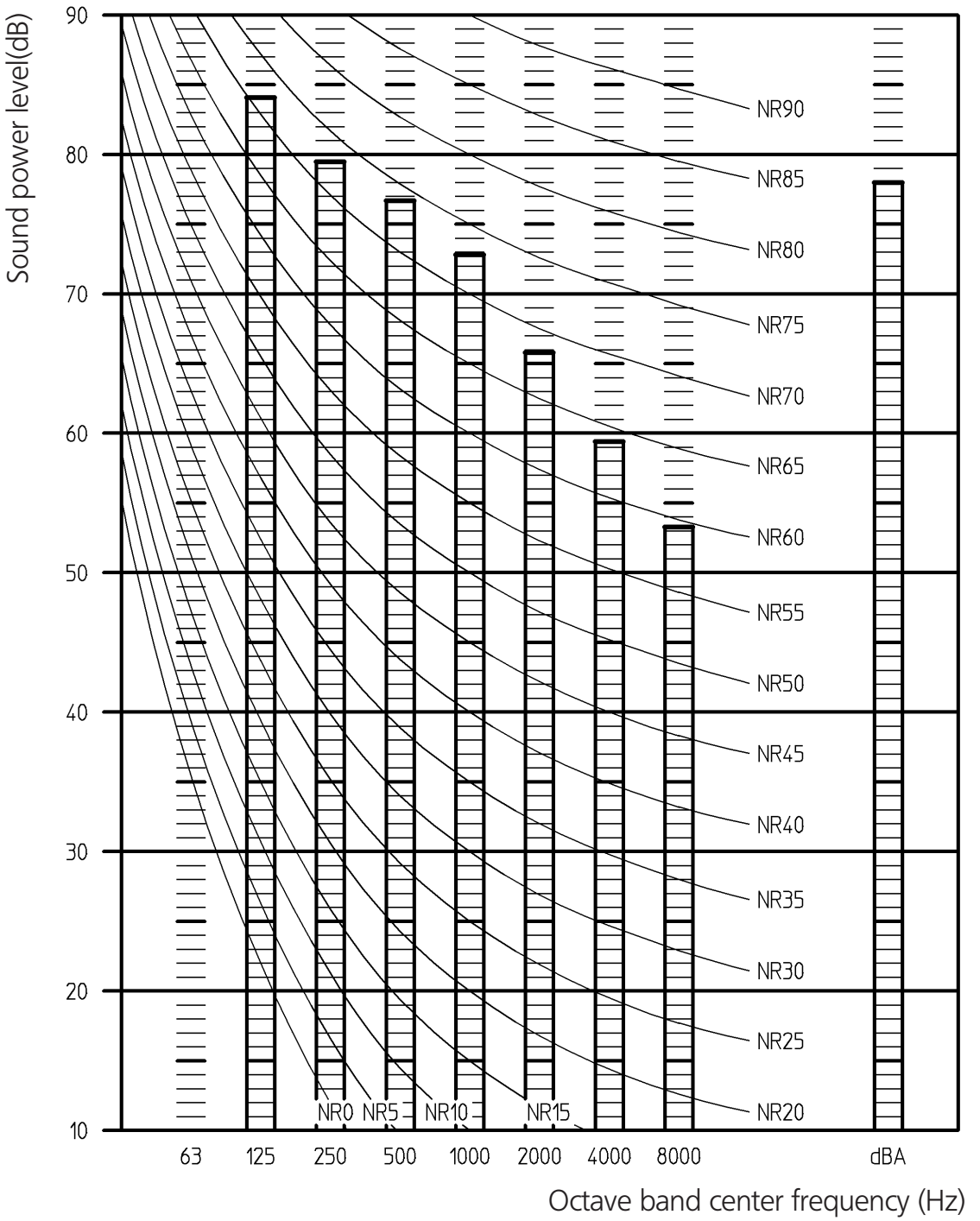


NOTES

1 dBA = A-weighted sound power level (A-scale according to IEC)

2 Reference acoustic intensity 0dB = 10E-6μW/m^2.

3 Measured according to ISO 3744



NOTES

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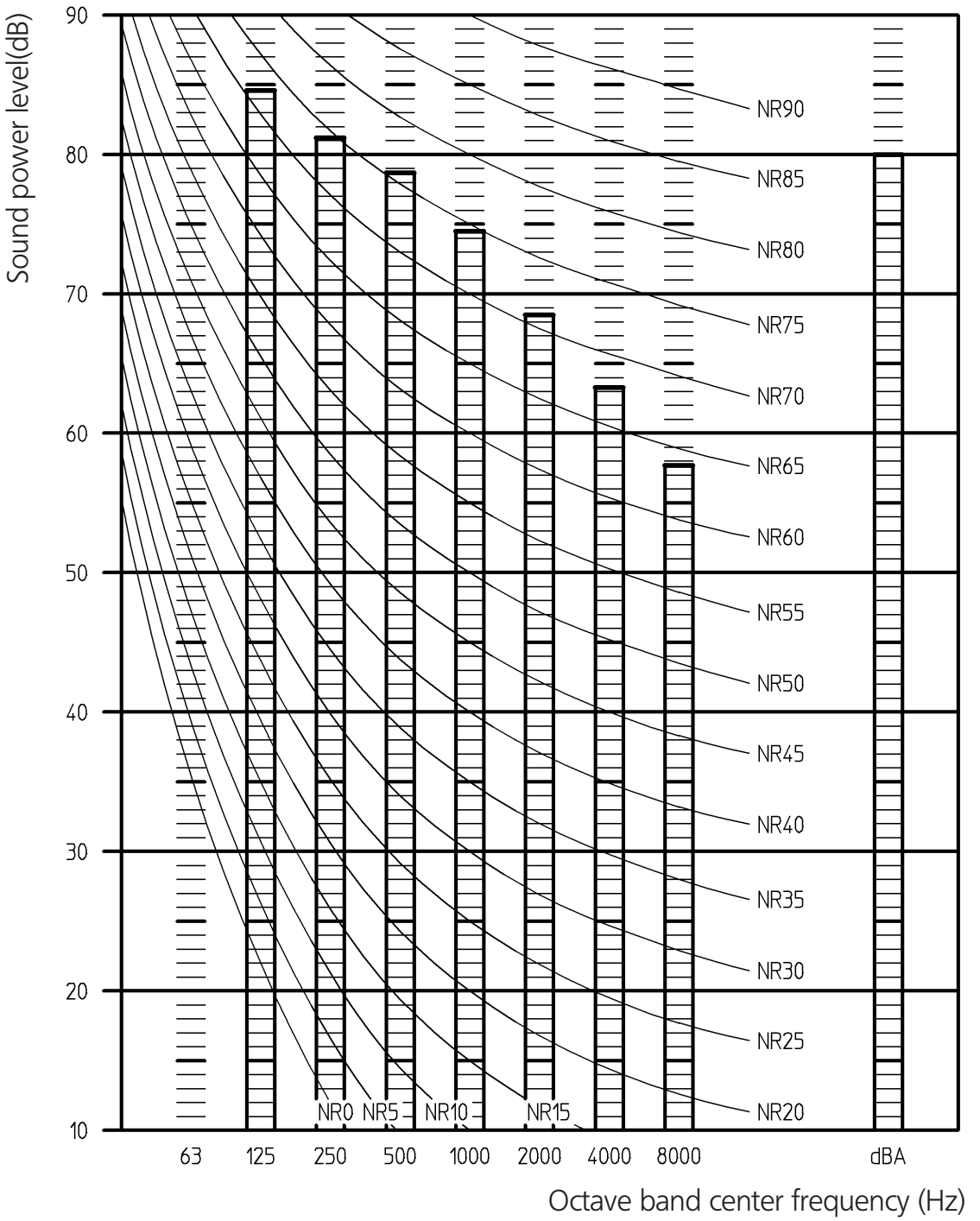

NOTES

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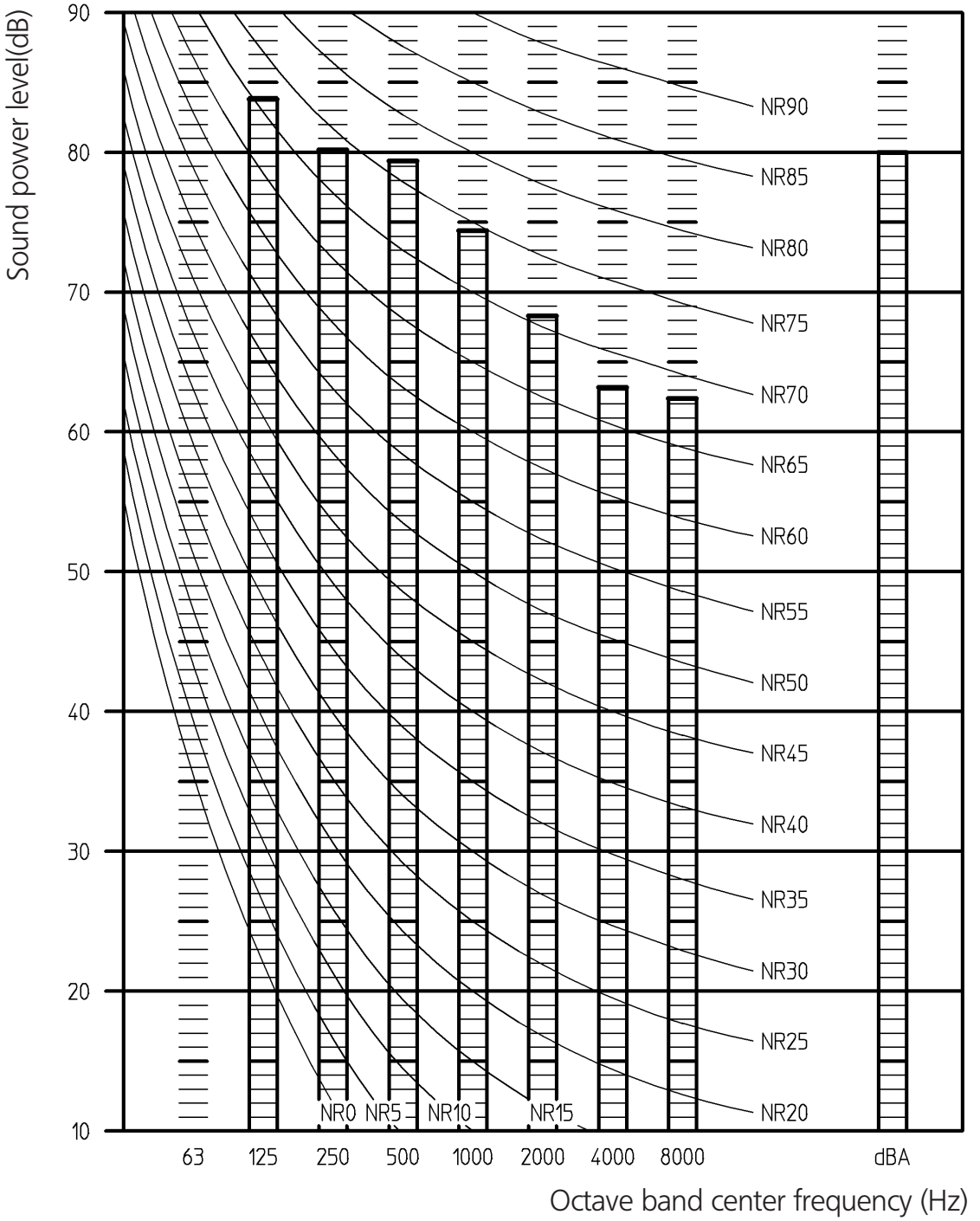


NOTES

1 dBA = A-weighted sound power level (A-scale according to IEC)

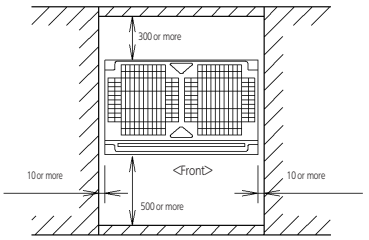
2 Reference acoustic intensity 0dB = 10E-6μW/m^2.

3 Measured according to ISO 3744

REMQ-P

For single unit installation

<Pattern 1>



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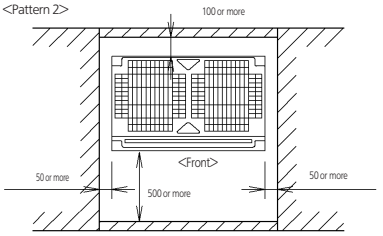
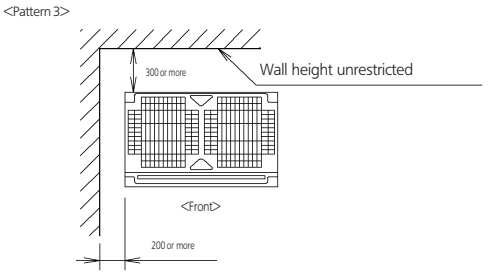
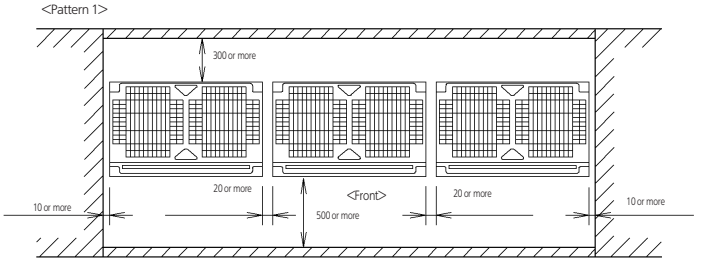


<Pattern 3>



For installation in rows

<Pattern 1>



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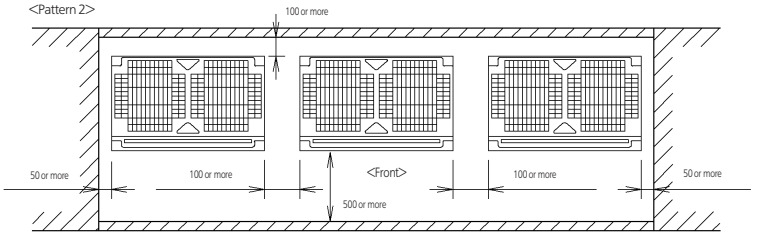
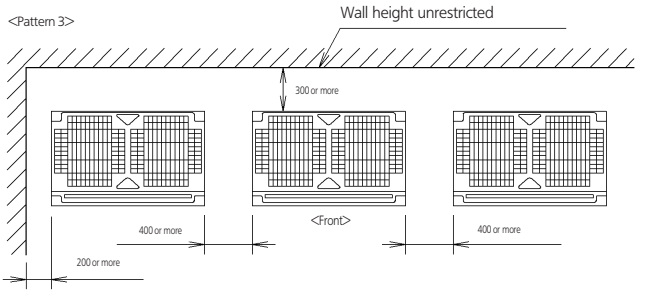


<Pattern 3>



Notes:

1 Heights of walls in case of Patterns 1 and 2:
Front: 1500 mm
suction side: 500 mm
Side: Height unrestricted.
Installation space to be shown in this drawing is based on the cooling operation at 35 degrees outdoor air temperature.
When the design outdoor air temperature exceeds 35 degrees or the load exceeds maximum ability because of much generation load of heat in all outdoor unit, take the suction side space more broadly than the space to be shown in this drawing.

2 If the above wall heights are exceeded then h1/2 and h2/2 should be added to the front and suction side service spaces respectively as shown in the figure on the right.

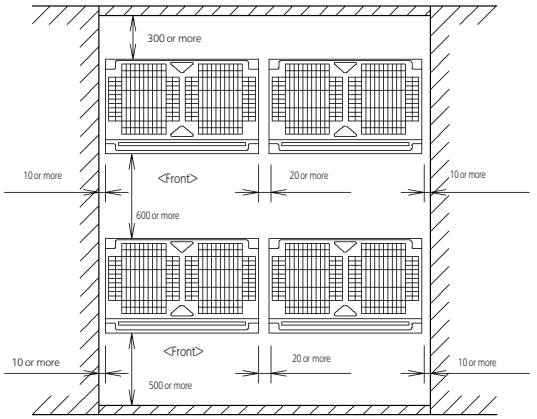
3 When installing the units most appropriate pattern should be selected from those shown above in order to obtain the best fit in the space available always bearing in mind the need to leave enough space for a person to pass between units and wall and for the air to circulate freely.
(If more units are to be installed than are catered for in the above patterns your layout should take account of the possibility of short circuits.)

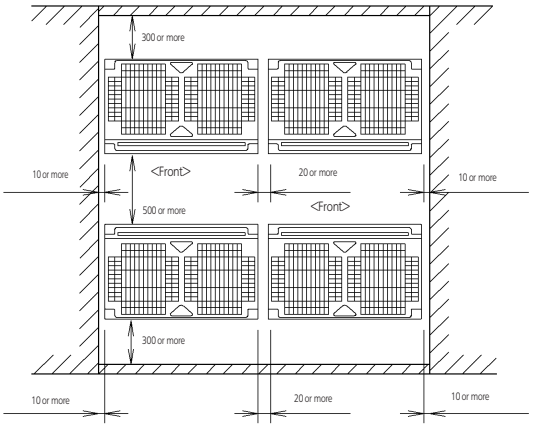
4 The units should be installed to leave sufficient space at the front for the on site refrigerant piping work to be carried out comfortably.

REMQ-P

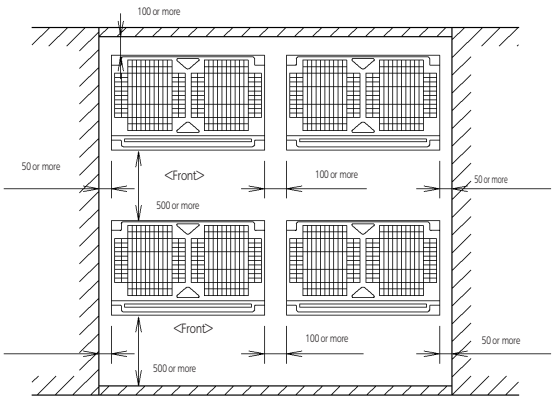
For centralized group layout

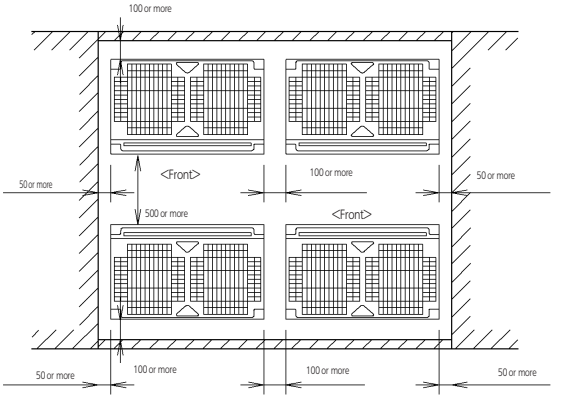
<Pattern 1>



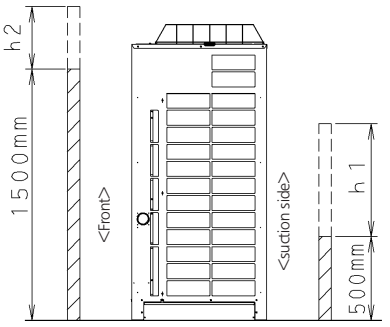


<Pattern 2>

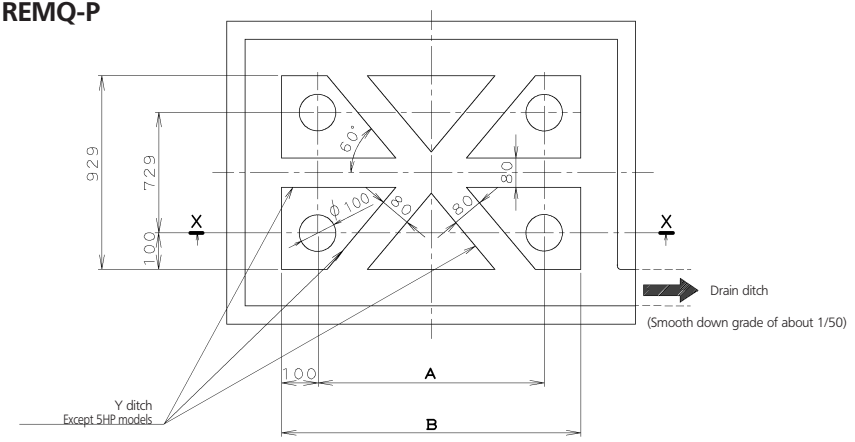


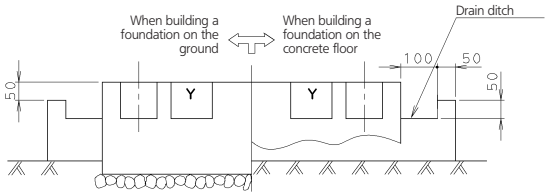


<Unit: mm>

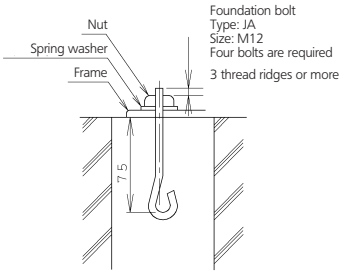


REMQ-P

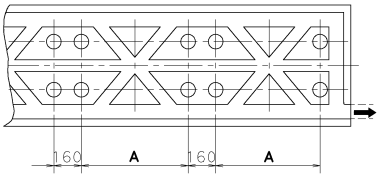




X - X Cross section



Foundation bolt executing method

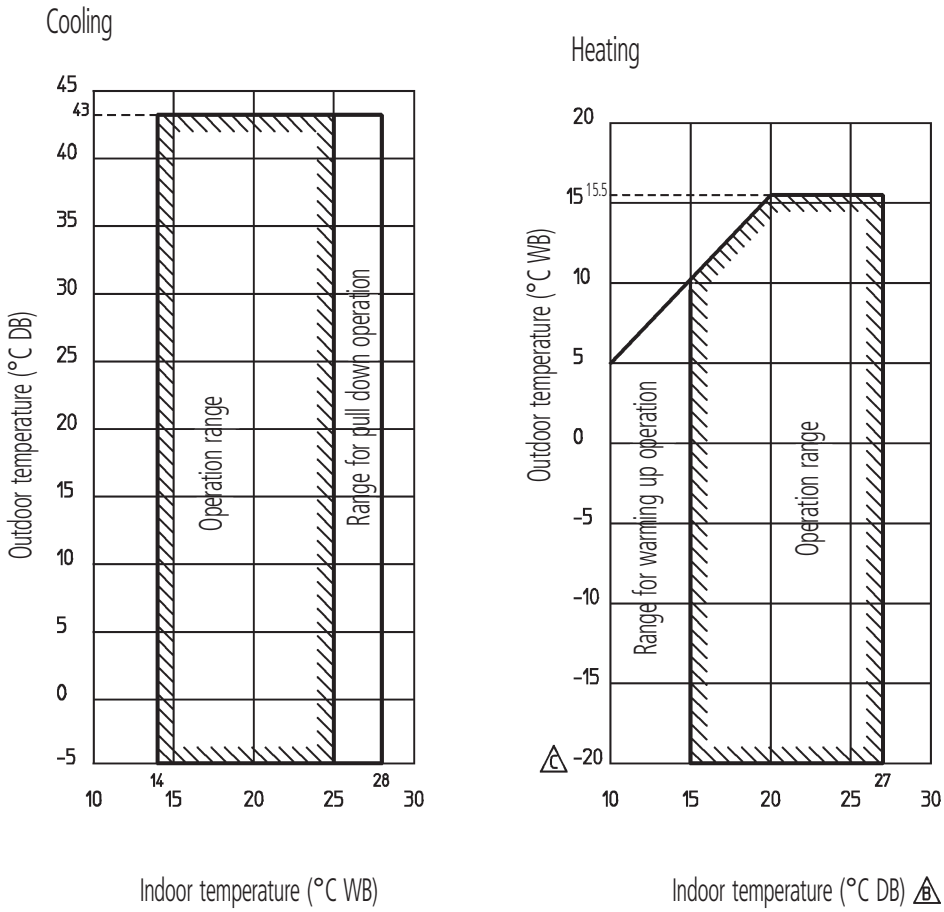


When installing multiple units in connection

Model	A	B
REMQ8-10-12P	792	992
REMQ14-16P	1102	1302

NOTES

1 The proportions of cement: sand: gravel for the concrete shall be 1:2:4, and the reinforcement bars that their diameter are 10mm, (approx. 300mm intervals) shall be placed.
2 The surface shall be finished with mortar. The corner edges shall be chamfered.
3 When the foundation is built on a concrete floor, rubble is not necessary. However, the surface of the section on which the foundation is built shall have rough finish.
4 A drain ditch shall be made around the foundation to thoroughly drain water from the equipment installation area.
5 When installing the equipment on a roof, the floor strength shall be checked, and water-proofing measures shall be taken.
6 Y ditch is not necessary for 5HP models.



4TW25797-3C

NOTES

1 These figures assume the following operation conditions:
indoor and outdoor units:
   - equivalent pipe lenght: 7.5 m
   - level difference: 0 m
2 Depending on operation and installation conditions, the indoor unit can change over to freeze-up operation (indoor de-icing).
3 To reduce the freeze-up operation (indoor de-icing) frequency it is recommended to install the outdoor unit in a location not exposed to wind.