EDUS332501-D
202501

DAIKIN

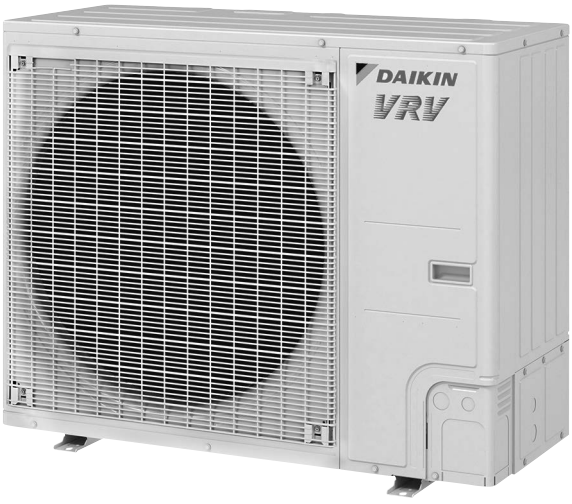
Engineering Data

Design Manual

RXTA-AAVJU

Heat Pump, 1 phase, 208 / 230 V, 60 Hz

R-32



VRV S

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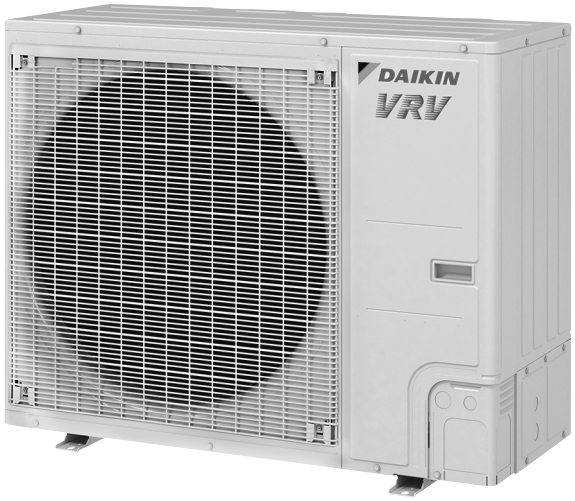
1. Features and Benefits

The ***VRV*** S series completes the ***VRV*** product family by introducing the enhanced features and benefits offered in Daikin's 3-phase ***VRV*** products in to the single phase offering.

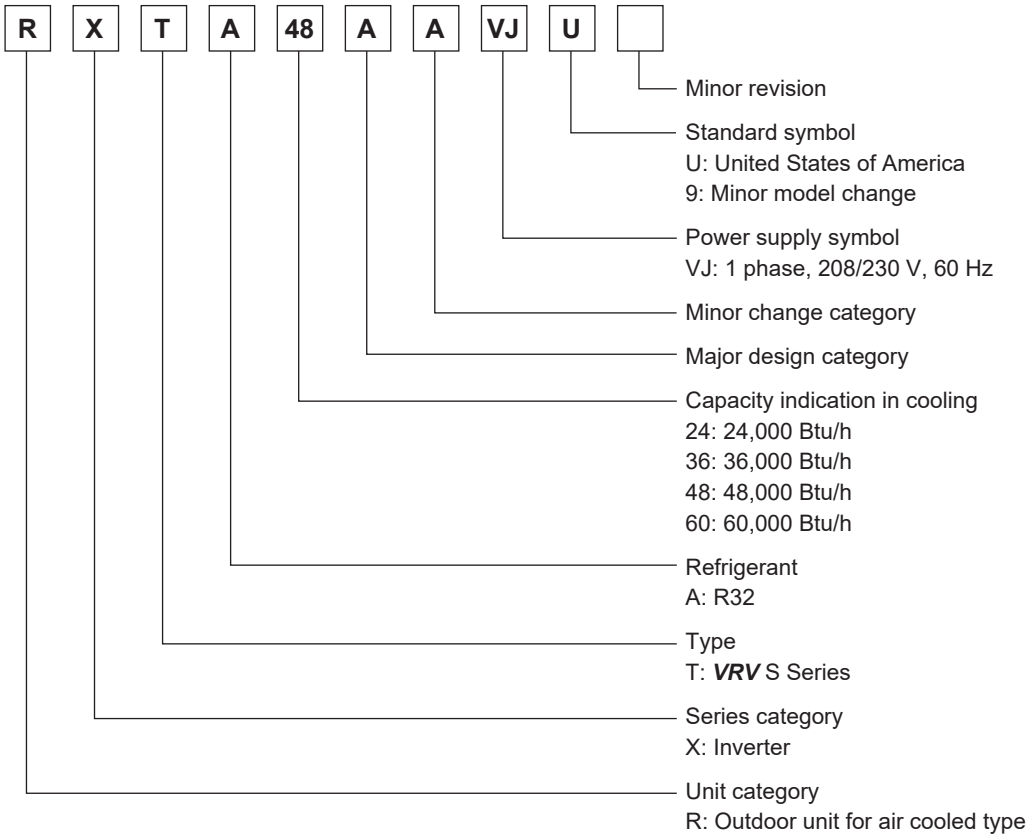
- Available in 2, 3, 4 and 5 ton models
- Year round comfort and energy savings delivered by combining ***VRV*** and Variable Refrigerant Temperature (VRT) technologies
- Broader diversity with ability to provide cooling and heating in up to 9 zones
- Compatible with all Daikin ducted and ductless indoor fan coils
- Easy installation with weight under 240 lbs
- Low sound levels for comfort in sound sensitive applications
- Engineered with Daikin's swing compressor technology to increase efficiency and reliability
- Dependable operation in extreme ambient conditions down to −4°F (−20°C) in heating and up to 122°F (50°C) in cooling
- Added safety and peace of mind with optional auto changeover to auxiliary heat
- Backed by best in class limited warranty for parts and compressor replacement, see warranty document for details*.



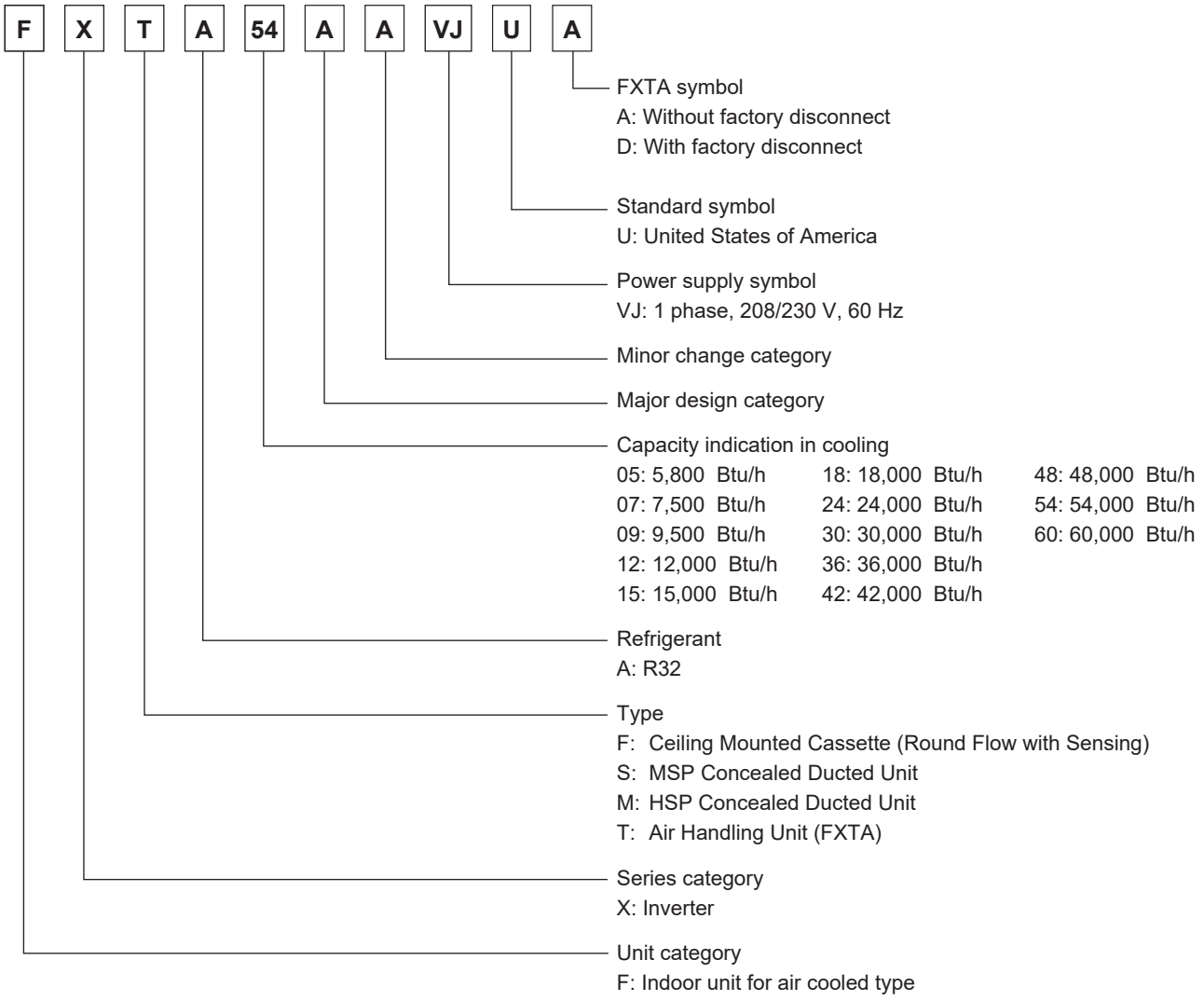
*- Complete warranty details available from local distributor or manufacturer's rep

2. Nomenclature

Outdoor Unit



Indoor Unit


F X T A 54 A A VJ U A
FXTA symbol
A: Without factory disconnect
D: With factory disconnect
Standard symbol
U: United States of America
Power supply symbol
VJ: 1 phase, 208/230 V, 60 Hz
Minor change category
Major design category
Capacity indication in cooling
05: 5,800 Btu/h
07: 7,500 Btu/h
09: 9,500 Btu/h
12: 12,000 Btu/h
15: 15,000 Btu/h
18: 18,000 Btu/h
24: 24,000 Btu/h
30: 30,000 Btu/h
36: 36,000 Btu/h
42: 42,000 Btu/h
48: 48,000 Btu/h
54: 54,000 Btu/h
60: 60,000 Btu/h
Refrigerant
A: R32
Type
F: Ceiling Mounted Cassette (Round Flow with Sensing)
S: MSP Concealed Ducted Unit
M: HSP Concealed Ducted Unit
T: Air Handling Unit (FXTA)
Series category
X: Inverter
Unit category
F: Indoor unit for air cooled type

3. Model Names

3.1 Outdoor Units

Capacity range			2 ton	3 ton	4 ton	5 ton	Power supply, Standard
Capacity index			24	36	48	60	
Heat pump	208/230 V	RXTA	24AA	36AA	48AA	60AA	VJU

Note:

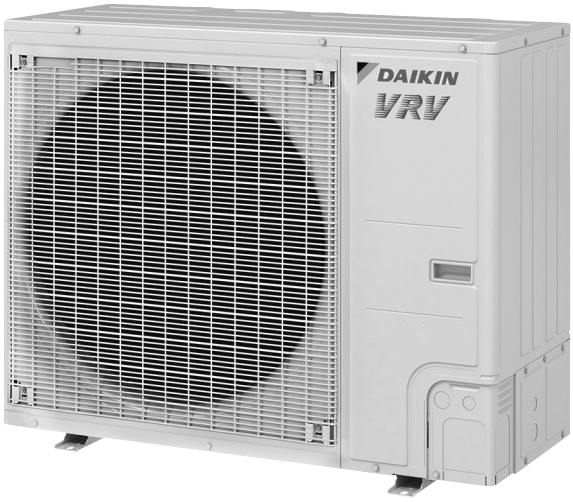
VJ: 1 phase, 208/230 V, 60 Hz
U(VJU): Standard symbol

3.2 Indoor Units

Capacity range		0.5 ton	0.6 ton	0.8 ton	1 ton	1.25 ton	1.5 ton		2 ton	2.5 ton	3 ton	3.5 ton	4 ton	4.5 ton	5 ton	Power supply, Standard
Capacity index		5.8	7.5	9.5	12	15	18	20	24	30	36	42	48	54	60	
Ceiling Mounted Cassette (Round Flow with Sensing)	FXFA	—	07AA	09AA	12AA	15AA	18AA	—	24AA	30AA	36AA	—	48AA	54AA	—	VJU
MSP Concealed Ducted Unit	FXSA	05AA	07AA	09AA	12AA	15AA	18AA	—	24AA	30AA	36AA	—	48AA	54AA	—	
HSP Concealed Ducted Unit	FXMA	—	—	—	—	15AA	18AA	—	24AA	30AA	36AA	—	48AA	54AA	—	
Air Handling Unit	FXTA	—	—	09AA	12AA	—	18AA	—	24AA	30AA	36AA	42AA	48AA	54AA	60AA	VJUA
		—	—	09AA	12AA	—	18AA	—	24AA	30AA	36AA	42AA	48AA	54AA	60AA	VJUD

4. External Appearance

4.1 Outdoor Units

RXTA24AAVJU RXTA36AAVJU RXTA48AAVJU RXTA60AAVJU
 2, 3, 4, 5 ton

4.2 Indoor Units

Ceiling Mounted Cassette (Round Flow with Sensing) FXFA-AA  Shown with BYCQ54GEFU	HSP Concealed Ducted Unit FXMA-AA 
MSP Concealed Ducted Unit FXSA-AA 	Air Handling Unit FXTA-AA 

5. Capacity Range

5.1 Connection Ratio

$$\text{Connection ratio} = \frac{\text{Total capacity index of the indoor units}}{\text{Capacity index of the outdoor units}}$$

Type	Min. connection ratio	Max. connection ratio
		Types of connected indoor units
		VRV indoor units
Single outdoor units	50%	130%

5.2 Outdoor Unit Combination

Model name	RXTA24AAVJU	RXTA36AAVJU	RXTA48AAVJU	RXTA60AAVJU
Capacity range	2 ton	3 ton	4 ton	5 ton
Capacity index	24	36	48	60
Max. number of connectable indoor units	4	6	8	9
Total capacity index of indoor units to be connected	12.0 ~ 31.2	18.0 ~ 46.8	24.0 ~ 62.4	30.0 ~ 78.0

6. Specifications

Model				RXTA24AAVJU
Power supply				1 phase, 208/230 V, 60 Hz
★1 Cooling capacity		Nominal	Btu/h (kW)	24,000 (7.0)
		Rated		Non-ducted: 23,000 (6.7)
				Ducted: 23,000 (6.7)
★2 Heating capacity		Nominal	Btu/h (kW)	27,000 (7.9)
		Rated		Non-ducted: 25,800 (7.6)
				Ducted: 25,000 (7.3)
Casing/color				Ivory white
Dimensions (H × W × D)			in. (mm)	34-1/4 × 43-5/16 × 18-1/8 (870 × 1,100 × 460)
Heat exchanger				Cross fin coil
Compressor	Type			Hermetically sealed swing type
	Motor output		kW	2.2
Fan	Type			Propeller fan
	Motor output		kW	0.234
	Airflow rate		cfm (m^3/min)	3,000 (85)
	Drive			Direct drive
Sound pressure level (reference data)		Cooling	dBA	56
		Heating	dBA	59
Sound power level (reference data)		Cooling	dB	74
		Heating	dB	77
Connecting pipes	Liquid pipe		in. (mm)	ϕ3/8 (ϕ9.5) (flare connection)
	Gas pipe		in. (mm)	ϕ5/8 (ϕ15.9) (flare connection)
Weight			lbs (kg)	234 (106)
Safety devices				High pressure switch, Outdoor fan driver overload protector, Inverter overload protector, Fusible plug, Fuse, Bimetal thermostat (external overload relay)
Defrost method				Reverse cycle defrosting
Capacity control			%	13 - 100
Refrigerant	Refrigerant name			R32
	Charge		lbs (kg)	7.5 (3.4)
	Control			Electronic expansion valve
Standard accessories				Installation manual, Operation manual, Clamps, Insulation tube, General Safety Considerations, etc.

Notes:

★1. Indoor temp.: 80°FDB (26.7°CDB), 67°FWB (19.4°CWB) / Outdoor temp.: 95°FDB (35.0°CDB) / Equivalent piping length: 25 ft (7.6 m), height difference: 0 ft. (0 m).

★2. Indoor temp.: 70°FDB (21.1°CDB) / Outdoor temp.: 47°FDB (8.3°CDB), 43°FWB (6.1°CWB) / Equivalent piping length: 25 ft (7.6 m), height difference: 0 ft. (0 m).

C: 4D154505A

Model				RXTA36AAVJU
Power supply				1 phase, 208/230 V, 60 Hz
★1 Cooling capacity		Nominal	Btu/h (kW)	36,000 (10.6)
		Rated		Non-ducted: 34,200 (10.0)
				Ducted: 34,200 (10.0)
★2 Heating capacity		Nominal	Btu/h (kW)	40,000 (11.7)
		Rated		Non-ducted: 37,000 (10.8)
				Ducted: 37,000 (10.8)
Casing/color				Ivory white
Dimensions (H × W × D)			in. (mm)	34-1/4 × 43-5/16 × 18-1/8 (870 × 1,100 × 460)
Heat exchanger				Cross fin coil
Compressor	Type			Hermetically sealed swing type
	Motor output		kW	3.4
Fan	Type			Propeller fan
	Motor output		kW	0.234
	Airflow rate		cfm (m^3/min)	3,000 (85)
	Drive			Direct drive
Sound pressure level (reference data)		Cooling	dBA	56
		Heating	dBA	59
Sound power level (reference data)		Cooling	dB	74
		Heating	dB	77
Connecting pipes	Liquid pipe		in. (mm)	ϕ3/8 (ϕ9.5) (flare connection)
	Gas pipe		in. (mm)	ϕ5/8 (ϕ15.9) (flare connection)
Weight			lbs (kg)	234 (106)
Safety devices				High pressure switch, Outdoor fan driver overload protector, Inverter overload protector, Fusible plug, Fuse, Bimetal thermostat (external overload relay)
Defrost method				Reverse cycle defrosting
Capacity control			%	13 - 100
Refrigerant	Refrigerant name			R32
	Charge		lbs (kg)	7.5 (3.4)
	Control			Electronic expansion valve
Standard accessories				Installation manual, Operation manual, Clamps, Insulation tube, General Safety Considerations, etc.

Notes:

★1. Indoor temp.: 80°FDB (26.7°CDB), 67°FWB (19.4°CWB) / Outdoor temp.: 95°FDB (35.0°CDB) / Equivalent piping length: 25 ft (7.6 m), height difference: 0 ft. (0 m).

★2. Indoor temp.: 70°FDB (21.1°CDB) / Outdoor temp.: 47°FDB (8.3°CDB), 43°FWB (6.1°CWB) / Equivalent piping length: 25 ft (7.6 m), height difference: 0 ft. (0 m).

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Model				RXTA48AAVJU
Power supply				1 phase, 208/230 V, 60 Hz
★1 Cooling capacity		Nominal	Btu/h (kW)	48,000 (14.1)
		Rated		Non-ducted: 45,500 (13.3)
				Ducted: 45,500 (13.3)
★2 Heating capacity		Nominal	Btu/h (kW)	52,000 (15.2)
		Rated		Non-ducted: 47,500 (13.9)
				Ducted: 46,000 (13.5)
Casing/color				Ivory white
Dimensions (H × W × D)			in. (mm)	34-1/4 × 43-5/16 × 18-1/8 (870 × 1,100 × 460)
Heat exchanger				Cross fin coil
Compressor	Type			Hermetically sealed swing type
	Motor output		kW	4.2
Fan	Type			Propeller fan
	Motor output		kW	0.234
	Airflow rate		cfm (m^3/min)	3,000 (85)
	Drive			Direct drive
Sound pressure level (reference data)		Cooling	dBA	56
		Heating	dBA	59
Sound power level (reference data)		Cooling	dB	74
		Heating	dB	77
Connecting pipes	Liquid pipe		in. (mm)	ϕ3/8 (ϕ9.5) (flare connection)
	Gas pipe		in. (mm)	ϕ5/8 (ϕ15.9) (flare connection)
Weight			lbs (kg)	234 (106)
Safety devices				High pressure switch, Outdoor fan driver overload protector, Inverter overload protector, Fusible plug, Fuse, Bimetal thermostat (external overload relay)
Defrost method				Reverse cycle defrosting
Capacity control			%	10 - 100
Refrigerant	Refrigerant name			R32
	Charge		lbs (kg)	7.5 (3.4)
	Control			Electronic expansion valve
Standard accessories				Installation manual, Operation manual, Clamps, Insulation tube, General Safety Considerations, etc.

Notes:

★1. Indoor temp.: 80°FDB (26.7°CDB), 67°FWB (19.4°CWB) / Outdoor temp.: 95°FDB (35.0°CDB) / Equivalent piping length: 25 ft (7.6 m), height difference: 0 ft. (0 m).

★2. Indoor temp.: 70°FDB (21.1°CDB) / Outdoor temp.: 47°FDB (8.3°CDB), 43°FWB (6.1°CWB) / Equivalent piping length: 25 ft (7.6 m), height difference: 0 ft. (0 m).

C: 4D154506A

Model				RXTA60AAVJU
Power supply				1 phase, 208/230 V, 60 Hz
★1 Cooling capacity		Nominal	Btu/h (kW)	60,000 (17.6)
		Rated		Non-ducted: 57,500 (16.9)
				Ducted: 57,500 (16.9)
★2 Heating capacity		Nominal	Btu/h (kW)	60,000 (17.6)
		Rated		Non-ducted: 57,000 (16.7)
				Ducted: 57,000 (16.7)
Casing/color				Ivory white
Dimensions (H × W × D)			in. (mm)	34-1/4 × 43-5/16 × 18-1/8 (870 × 1,100 × 460)
Heat exchanger				Cross fin coil
Compressor	Type			Hermetically sealed swing type
	Motor output		kW	5.0
Fan	Type			Propeller fan
	Motor output		kW	0.234
	Airflow rate		cfm (m^3/min)	3,000 (85)
	Drive			Direct drive
Sound pressure level (reference data)		Cooling	dBA	57
		Heating	dBA	59
Sound power level (reference data)		Cooling	dB	75
		Heating	dB	77
Connecting pipes	Liquid pipe		in. (mm)	ϕ3/8 (ϕ9.5) (flare connection)
	Gas pipe		in. (mm)	ϕ5/8 (ϕ15.9) (flare connection)
Weight			lbs (kg)	234 (106)
Safety devices				High pressure switch, Outdoor fan driver overload protector, Inverter overload protector, Fusible plug, Fuse, Bimetal thermostat (external overload relay)
Defrost method				Reverse cycle defrosting
Capacity control			%	9 - 100
Refrigerant	Refrigerant name			R32
	Charge		lbs (kg)	7.5 (3.4)
	Control			Electronic expansion valve
Standard accessories				Installation manual, Operation manual, Clamps, Insulation tube, General Safety Considerations, etc.

Notes:

★1. Indoor temp.: 80°FDB (26.7°CDB), 67°FWB (19.4°CWB) / Outdoor temp.: 95°FDB (35.0°CDB) / Equivalent piping length: 25 ft (7.6 m), height difference: 0 ft. (0 m).

★2. Indoor temp.: 70°FDB (21.1°CDB) / Outdoor temp.: 47°FDB (8.3°CDB), 43°FWB (6.1°CWB) / Equivalent piping length: 25 ft (7.6 m), height difference: 0 ft. (0 m).

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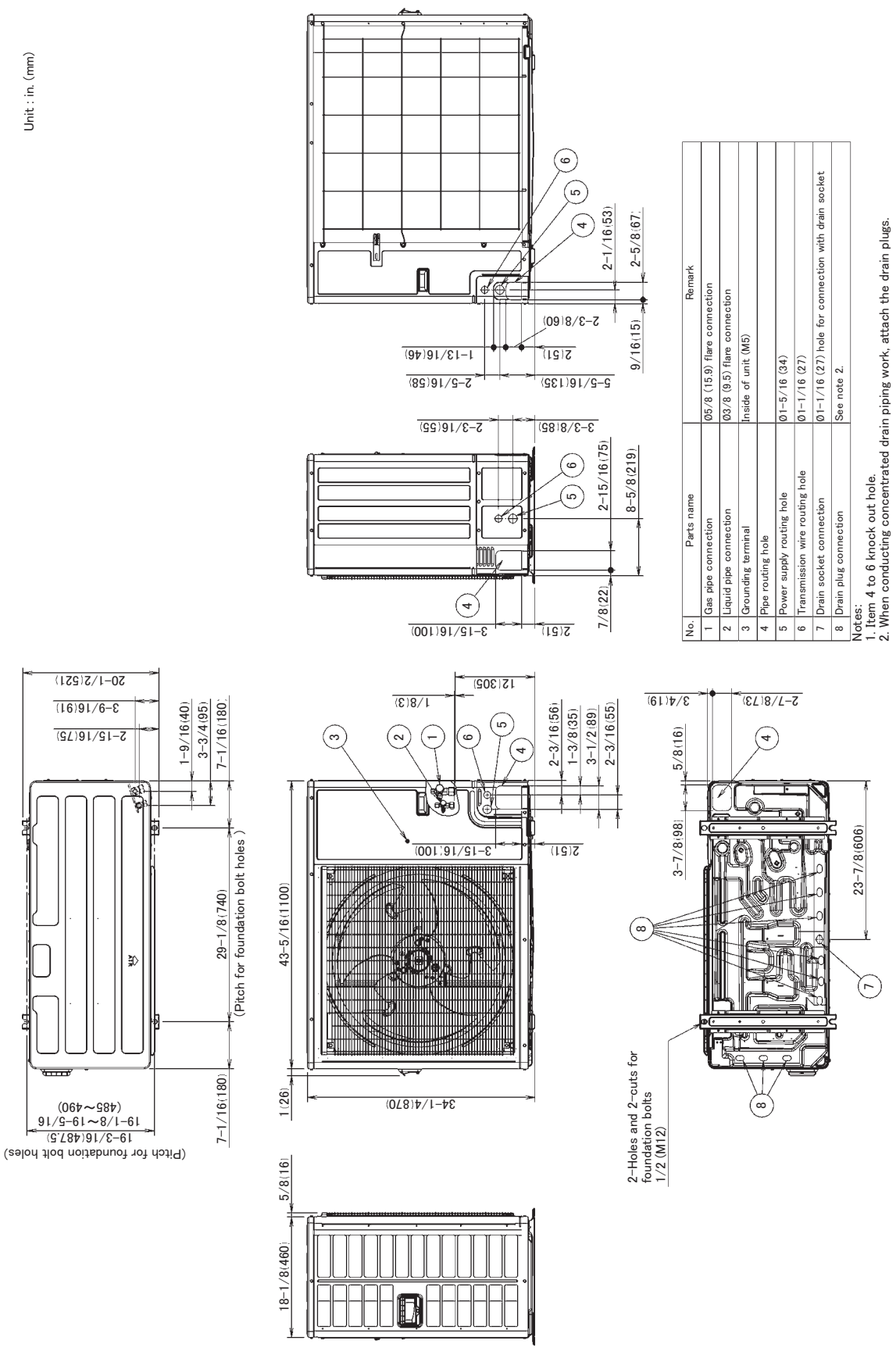
7. Dimensions

RXTA24 - 60AAVJU



No.	Parts name	Remark
1	Gas pipe connection	Ø5/8 (15.9) flare connection
2	Liquid pipe connection	Ø3/8 (9.5) flare connection
3	Grounding terminal	Inside of unit (M5)
4	Pipe routing hole	
5	Power supply routing hole	Ø1-5/16 (34)
6	Transmission wire routing hole	Ø1-1/16 (27)
7	Drain socket connection	Ø1-1/16 (27) hole for connection with drain socket
8	Drain plug connection	See note 2.

8. Service Space

RXTA24 - 60AAVJU

REQUIRED INSTALLATION SPACE

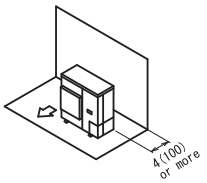
The unit of the values is in.(mm).

1. Where there is an obstacle on the suction side:

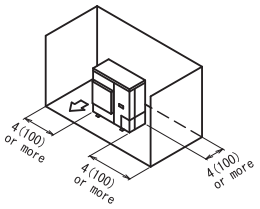
(a) No obstacle above

(1) Stand-alone installation

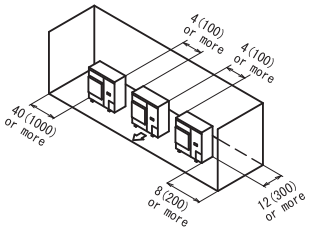
·Obstacle on the suction side only



·Obstacle on both sides



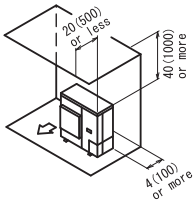
(2) Series installation
(2 or more)
·Obstacle on both sides



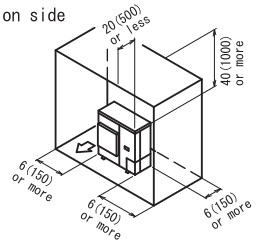
(b) Obstacle above, too

(1) Stand-alone installation

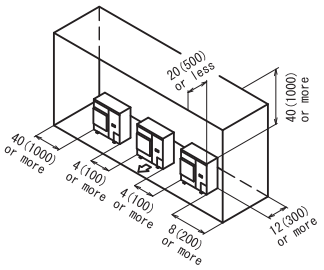
·Obstacle on the suction side, too



·Obstacle on the suction side and both sides



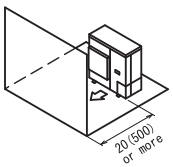
(2) Series installation
(2 or more)
·Obstacle on the suction side and both sides



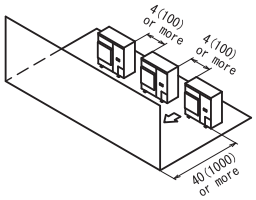
2. Where there is an obstacle on the discharge side:

(a) No obstacle above

(1) Stand-alone installation

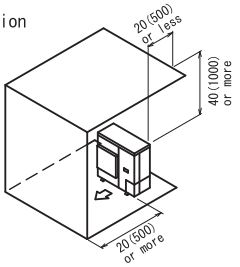


(2) Series installation
(2 or more)

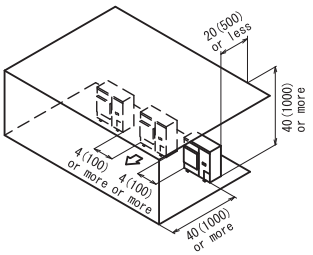


(b) Obstacle above, too

(1) Stand-alone installation



(2) Series installation
(2 or more)



3. Where there are obstacles on both suction and discharge sides:

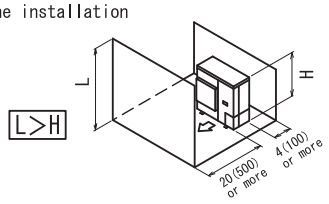
Pattern 1

Where the obstacles on the discharge side is higher than the unit:

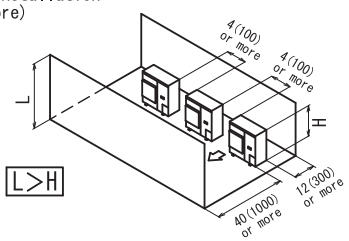
(There is no height limit for obstructions on the intake side.)

(a) No obstacle above

(1) Stand-alone installation



(2) Series installation
(2 or more)



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RXTA24 - 60AAVJU, continued

Unit: in. (mm)

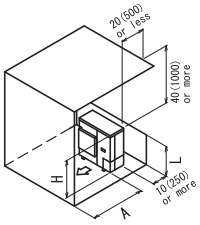
(b) Obstacle above, too

(1) Stand-alone installation

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	30 (750)
	1/2H<L≦H	40 (1000)
H<L	Set the stand as:	L≦H

Close the bottom of the installation frame to prevent the discharge air from being bypassed.



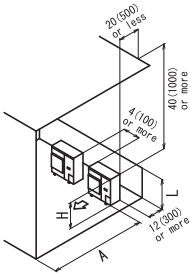
(2) Series installation (up to two units)

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	40 (1000)
	1/2H<L≦H	50 (1250)
H<L	Set the stand as:	L≦H

Close the bottom of the installation frame to prevent the discharge air from being bypassed.

Only two units can be installed for this series.



Pattern 2

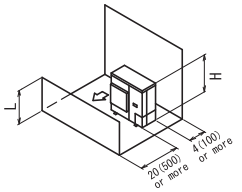
Where the obstacles on the discharge side is lower than the unit:

(There is no height limit for obstructions on the intake side.)

(a) No obstacle above

(1) Stand-alone installation

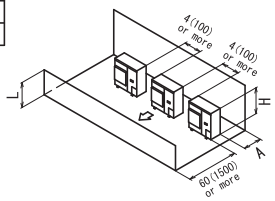
L≦H



(2) Series installation (2 or more)

The relations between H, A and L are as follows:

L	A
0<L≦1/2H	10 (250)
1/2H<L≦H	12 (300)



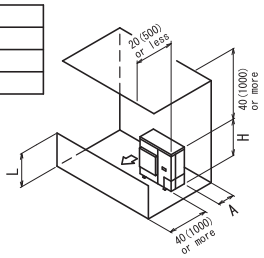
(b) Obstacle above, too

(1) Stand-alone installation

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	4 (100)
	1/2H<L≦H	8 (200)
H<L	Set the stand as:	L≦H

Close the bottom of the installation frame to prevent the discharge air from being bypassed.



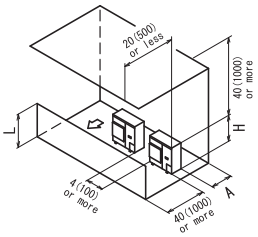
(2) Series installation (up to two units)

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	10 (250)
	1/2H<L≦H	12 (300)
H<L	Set the stand as:	L≦H

Close the bottom of the installation frame to prevent the discharge air from being bypassed.

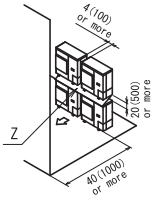
Only two units can be installed for this series.



4. Double-decker installation

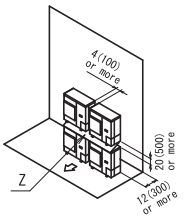
(a) Obstacle on the discharge side

- No more than two units should be stacked.
- If there is a danger of water from the drain falling on the lower outdoor unit and freezing, install a roof (field supply).
- To prevent the formation and growth of ice in the bottom frame of the 2nd level outdoor unit, install the outdoor unit so that the bottom frame will be sufficiently higher than the roof. (It is recommended to leave 20in. (500mm) or more)
- Shut off the Z part (the area between the upper outdoor unit and the lower outdoor unit) so that outlet air does not bypass.



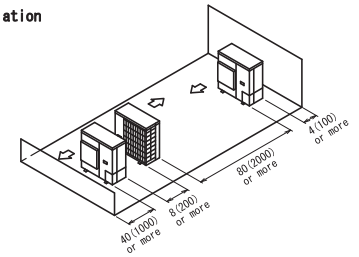
(b) Obstacle on the suction side

- No more than two units should be stacked.
- If there is a danger of water from the drain falling on the lower outdoor unit and freezing, install a roof (field supply).
- To prevent the formation and growth of ice in the bottom frame of the 2nd level outdoor unit, install the outdoor unit so that the bottom frame will be sufficiently higher than the roof. (It is recommended to leave 20in. (500mm) or more)
- Shut off the Z part (the area between the upper outdoor unit and the lower outdoor unit) so that outlet air does not bypass.



5. Multiple rows of series installation (on the rooftop, etc.)

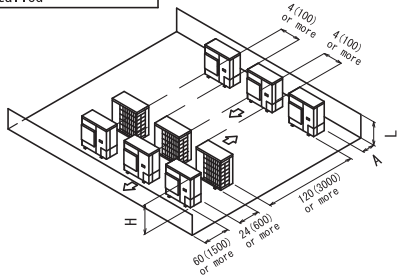
(a) Stand-alone installation



(b) Series installation (2 or more)

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	10 (250)
	1/2H<L≦H	12 (300)
H<L	Cannot be installed	



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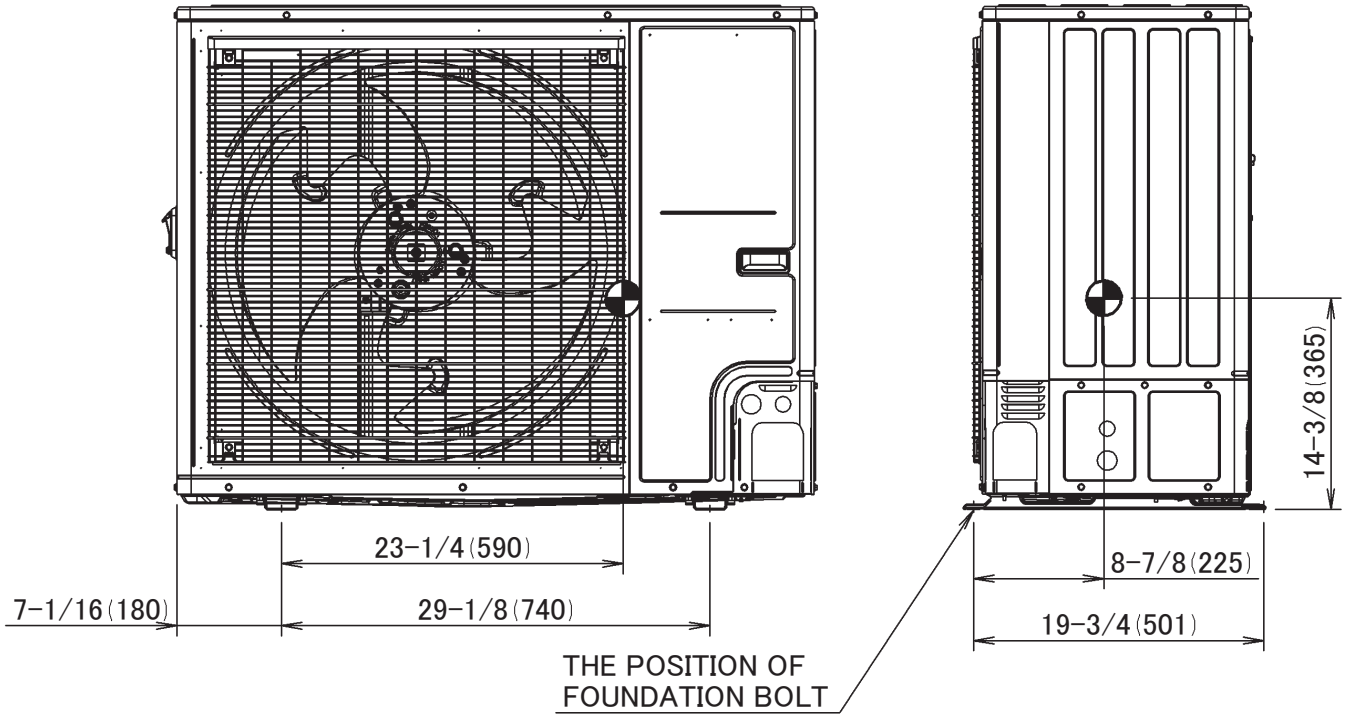
9. Center of Gravity

RXTA24 - 60AAVJU

Unit : in. (mm)



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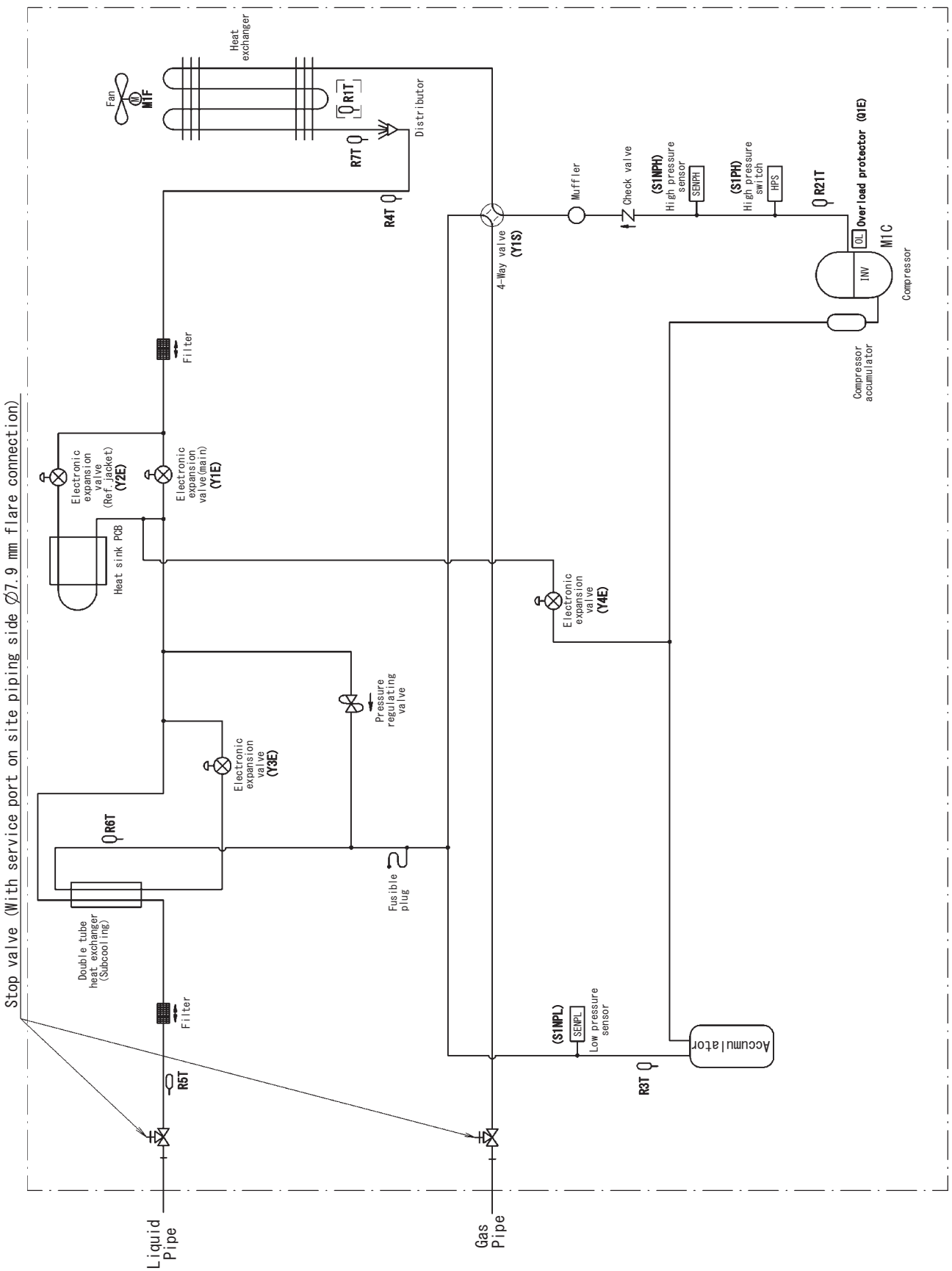
10.Piping Diagrams

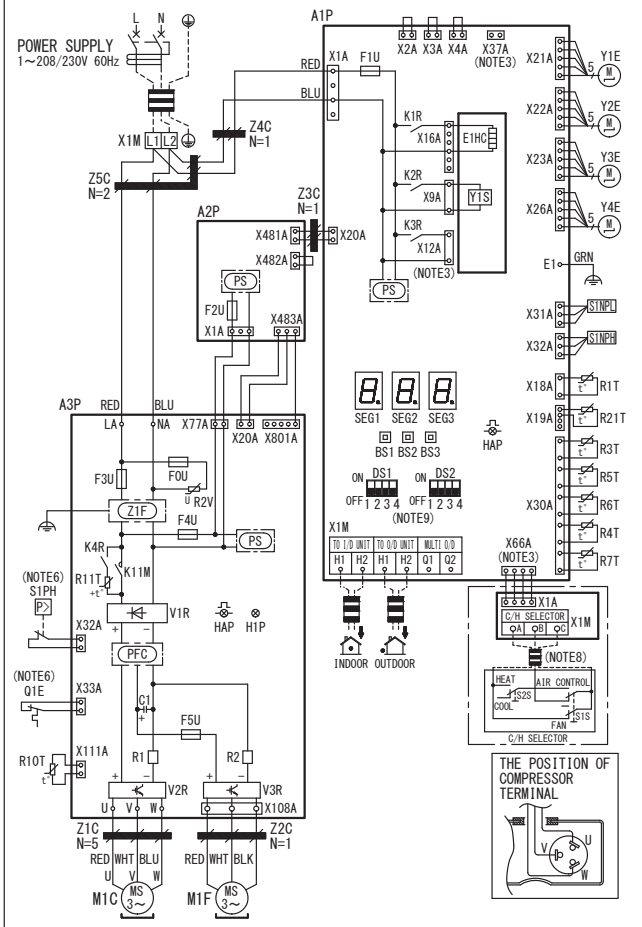
RXTA24 - 60AAVJU



11. Wiring Diagrams

RXTA24 - 60AAVJU

C: 3D151135C



NOTES)
1. THIS WIRING DIAGRAM APPLIES ONLY TO THE OUTDOOR UNIT.
2. :FIELD WIRING :PROTECTIVE GROUND(SCREW) :TERMINAL BLOCK :NOISELESS GROUND
:TERMINAL :CONNECTION :CONNECTOR
3. WHEN USING THE OPTIONAL ACCESSORIES, REFER TO THE INSTALLATION MANUAL OF THE OPTIONAL ACCESSORIES.
4. FOR CONNECTION WIRING FROM OUTDOOR-INDOOR TRANSMISSION H1・H2, OUTDOOR-OUTDOOR TRANSMISSION H1・H2 REFER TO INSTALLATION MANUAL.
5. HOW TO USE BS1～BS3 SWITCH, REFER TO "SERVICE PRECAUTIONS" LABEL ON BACK SIDE OF FRONT PLATE.
6. WHEN OPERATING, DO NOT SHORT-CIRCUIT PROTECTION DEVICES(S1PH AND Q1E).
7. COLOR:BLK:BLACK;RED:RED;BLU:BLUE;WHT:WHITE;GRN:GREEN.
8. CLASS 2 WIRE.
9. THE POSITIONS OF THE SELECTOR SWITCHES(DS1, DS2) INDICATE FACTORY SETTING. REFER TO THE SERVICE MANUAL IN DETAIL.

A1P	PRINTED CIRCUIT BOARD(MAIN)	R1OT	THERMISTOR(FIN)
A2P	PRINTED CIRCUIT BOARD(ACS)	R11T	PTC THERMISTOR
A3P	PRINTED CIRCUIT BOARD(COMP. INV.)	R21T	THERMISTOR(DISCHARGE PIPE)
C1	CAPACITOR	R2V	VARISTOR
BS1～BS3	PUSH BUTTON SWITCH(A1P)(MODE, SET, RETURN)	SEG1～SEG3	7-SEGMENT DISPLAY(A1P)
DS1, DS2	DIP SWITCH	S1NPH	PRESSURE SENSOR(HIGH)
E1HC	CRANKCASE HEATER	S1NPL	PRESSURE SENSOR(LOW)
F0U～F5U	FUSE	S1PH	PRESSURE SWITCH(HIGH)
H1P	PILOT LAMP(SERVICE MONITOR-RED)	V1R	DIODE BRIDGE
HAP	FLASHING LAMP(SERVICE MONITOR-GREEN)	V2R, V3R	IGBT POWER MODULE
K1R～K4R	MAGNETIC RELAY	X1M	TERMINAL BLOCK(POWER SUPPLY)
K11M	MAGNETIC CONTACTOR	X1M	TERMINAL BLOCK(CONTROL)(A1P)
M1C	MOTOR(COMPRESSOR)	Y1E	ELECTRONIC EXPANSION VALVE(MAIN)
M1F	MOTOR(FAN)	Y2E	ELECTRONIC EXPANSION VALVE(INVERTER COOLING)
PFC	POWER FACTOR CORRECTION	Y3E	ELECTRONIC EXPANSION VALVE(SUBCOOL HEAT EXC.)
PS	SWITCHING POWER SUPPLY	Y4E	ELECTRONIC EXPANSION VALVE(INJECTION)
Q1E	OVERLOAD PROTECTOR	Y1S	SOLENOID VALVE(4 WAY VALVE)
R1, R2	RESISTOR(CURRENT SENSOR)	Z1C～Z5C	FERRITE CORE
R1T	THERMISTOR(AIR)	Z1F	NOISE FILTER
R3T	THERMISTOR(SUCTION PIPE)		
R4T	THERMISTOR(HEAT EXC. LIQUID PIPE)	CONNECTOR FOR OPTIONAL ACCESSORIES	
R5T	THERMISTOR(SUBCOOLED LIQUID PIPE)	X12A	CONNECTOR(DRAIN PAN HEATER)
R6T	THERMISTOR(SUBCOOLED GAS PIPE)	X37A	CONNECTOR(OPTION ADAPTOR)
R7T	THERMISTOR(DEICER)	X66A	CONNECTOR(C/H SELECTOR)

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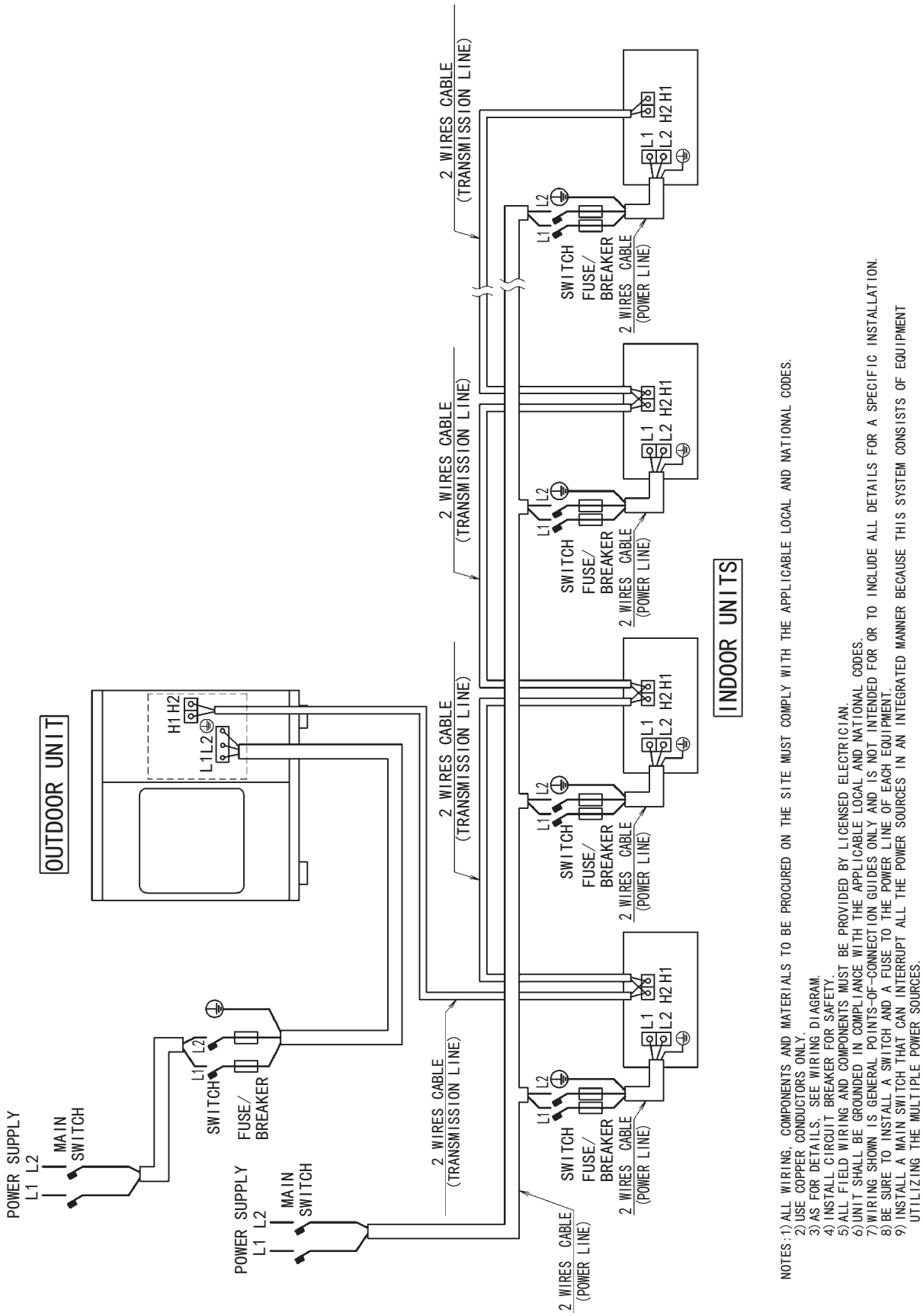
12.Field Wiring

RXTA24 - 60AAVJU



NOTES: 1) ALL WIRING, COMPONENTS AND MATERIALS TO BE PROCURED ON THE SITE MUST COMPLY WITH THE APPLICABLE LOCAL AND NATIONAL CODES.
2) USE COPPER CONDUCTORS ONLY.
3) AS FOR DETAILS, SEE WIRING DIAGRAM.
4) INSTALL CIRCUIT BREAKER FOR SAFETY.
5) ALL FIELD WIRING AND COMPONENTS MUST BE PROVIDED BY LICENSED ELECTRICIAN.
6) UNIT SHALL BE GROUNDED IN COMPLIANCE WITH THE APPLICABLE LOCAL AND NATIONAL CODES.
7) WIRING SHOWN IS GENERAL POINTS-OF-CONNECTION GUIDES ONLY AND IS NOT INTENDED FOR OR TO INCLUDE ALL DETAILS FOR A SPECIFIC INSTALLATION.
8) BE SURE TO INSTALL A SWITCH AND A FUSE TO THE POWER LINE OF EACH EQUIPMENT.
9) INSTALL A MAIN SWITCH THAT CAN INTERRUPT ALL THE POWER SOURCES IN AN INTEGRATED MANNER BECAUSE THIS SYSTEM CONSISTS OF EQUIPMENT UTILIZING THE MULTIPLE POWER SOURCES.

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13. Electrical Characteristics

RXTA24 - 60AAVJU

Model	Power Supply						Fan/Compressor Inverter Drive Input	Fan Motor Output		SCCR
	Hz	Volts	Min.	Max.	MCA	MOP	A	Hp	W	
RXTA24AAVJU	60	208/230	187	253	19.8	20	15.1	0.31	234	SCCR kA rms, Symmetrical @600V MAX: 5
RXTA36AAVJU	60	208/230	187	253	19.8	20	15.1	0.31	234	
RXTA48AAVJU	60	208/230	187	253	29.4	30	22.8	0.31	234	
RXTA60AAVJU	60	208/230	187	253	34.6	35	27.0	0.31	234	

Symbols:

MCA: Minimum Circuit Ampacity (A)
MOP: Maximum Overcurrent Protective Device (See note 4) (A)
SCCR: Short-Circuit Current Rating

Notes:

1. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.
2. Maximum allowable voltage unbalance between phases is 2%.
3. Select wiring size based on the MCA.
4. MOP is used to select the circuit breaker.

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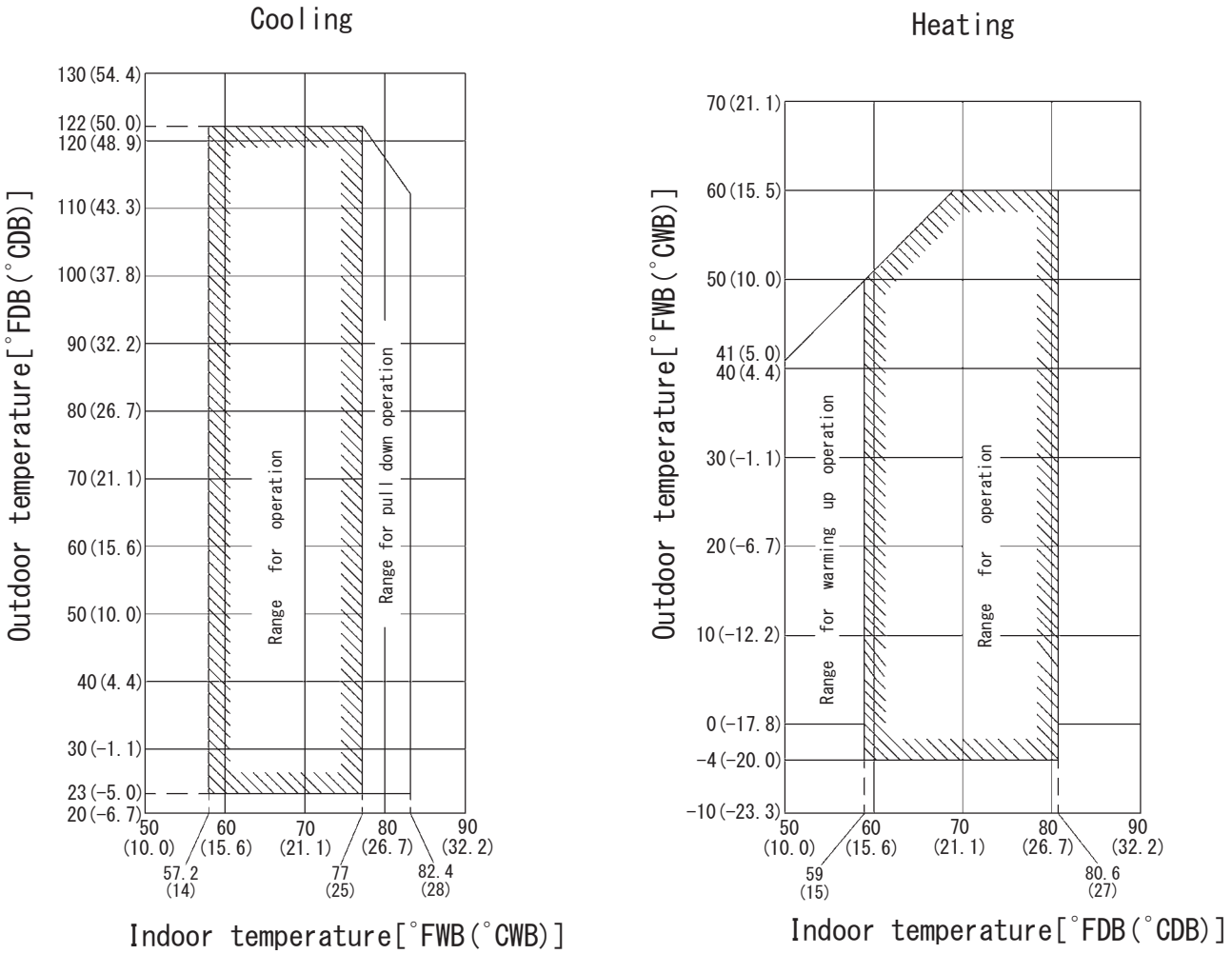
14.Operation Limits

RXTA24 - 60AAVJU



Note) This chart shows the range in which the outdoor unit can operate and be used.
It does not indicate the range of guaranteed capacity. Refer to performance characteristics for capacity.

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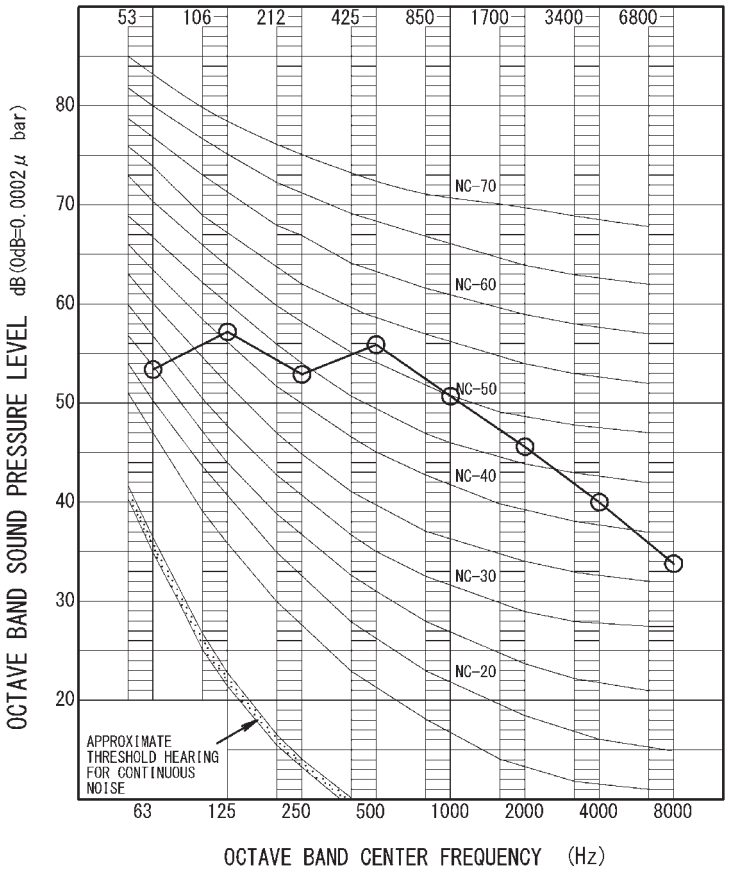
15.Sound Levels (Reference Data)

RXTA24 - 48AAVJU (cooling)



OVER ALL(dB)

SCALE A	56

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

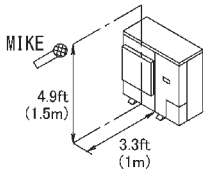
POWER SOURCE 208/230V 60Hz

COOLING RETURN AIR TEMPERATURE : 80.0TDB(26.7°CDB), 67.0TWB(19.4°CWB)
OUTDOOR TEMPERATURE : 95.0TDB(35.0°CDB), 75.0TWB(23.9°CWB)

MEASURING PLACE

ANECHOIC CHAMBER

LOCATION OF MICROPHONE



NOTE : 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 ENVIRONMENTAL NOISE AND SOUND REFLECTION.

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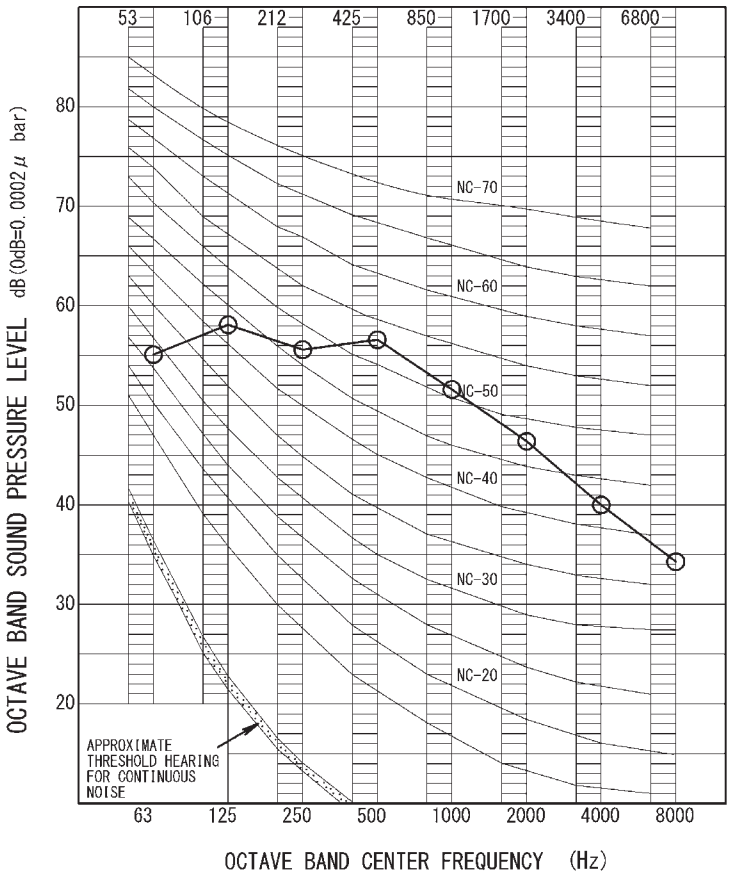
RXTA60AAVJU (cooling)



OVER ALL(dB)

SCALE A	57

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

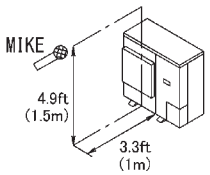
POWER SOURCE 208/230V 60Hz

COOLING RETURN AIR TEMPERATURE : 80.0FDB(26.7°CDB), 67.0FWB(19.4°CWB)
OUTDOOR TEMPERATURE : 95.0FDB(35.0°CDB), 75.0FWB(23.9°CWB)

MEASURING PLACE

ANECHOIC CHAMBER

LOCATION OF MICROPHONE



NOTE : 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 ENVIRONMENTAL NOISE AND SOUND REFLECTION.

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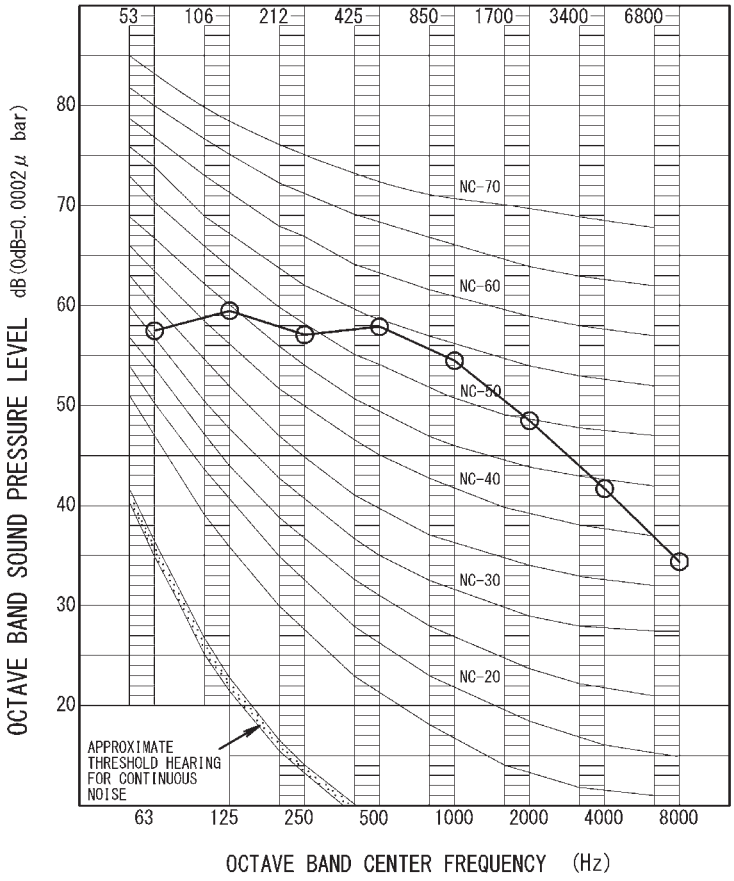
RXTA24 - 60AAVJU (heating)



OVER ALL(dB)

SCALE A	59

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

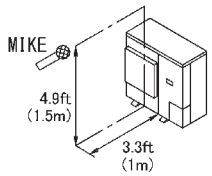
POWER SOURCE 208/230V 60Hz

HEATING RETURN AIR TEMPERATURE : 70.0DB(21.1°CDB)
OUTDOOR TEMPERATURE : 47.0DB(8.3°CDB), 43.0WB(6.1°CWB)

MEASURING PLACE

ANECHOIC CHAMBER

LOCATION OF MICROPHONE



NOTE : 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 ENVIRONMENTAL NOISE AND SOUND REFLECTION.
WHEN FROSTING ON COIL. OPERATING SOUND MAY BECOME LARGER THAN THE ABOVE VALUE.

16. Optional Accessories

RXTA24 - 60AAVJU

Optional accessories		RXTA24AAVJU	RXTA36AAVJU	RXTA48AAVJU	RXTA60AAVJU
ABC I/P printed circuit board kit		BRP2A82			
Cool / Heat selector		KRC19-26A6			
Wind baffle		KEH082A41			
Distributive piping	REFNET header	KHRP26M22H9 / KHRP26M22HA (Max. 4 branch),			
		KHRP26M33H9 / KHRP26M33HA (Max. 8 branch)			
	REFNET joint	KHRP26A22T9 / KHRP26A22TA			
External control adaptor		DTA104A53			
		DTA104A61			
		DTA104A62			

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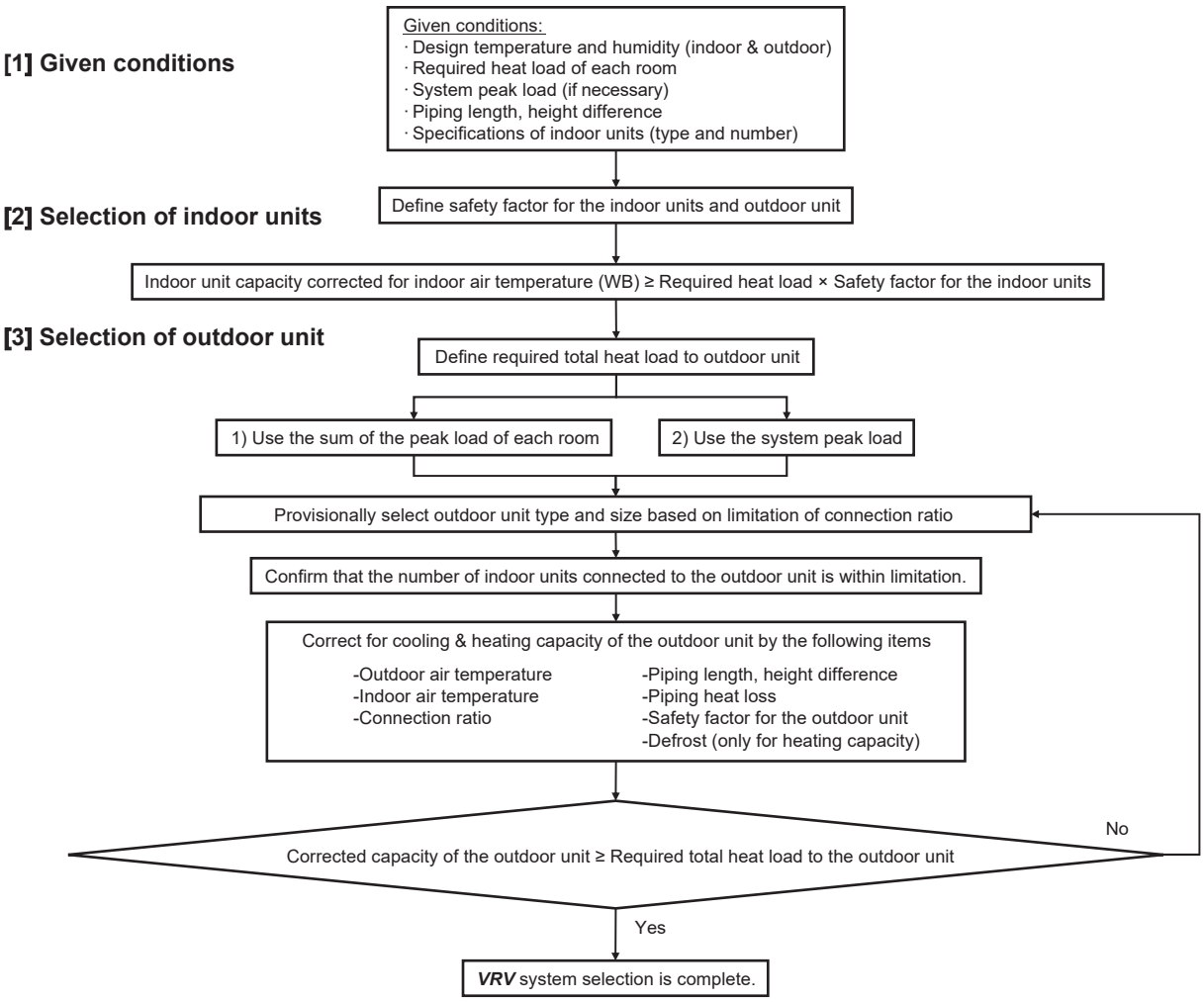
17.Selection Procedure

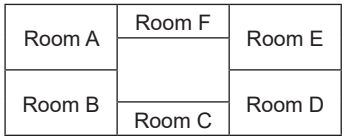
17.1 Selection Procedure

17.1.1 Flowchart



17.1.2 Selection Example

The following is a selection example based on total heat load for cooling.



Floor plan

[1] Given conditions

-Design conditions

Indoor air temperature: 67°FWB / 80°FDB, Outdoor air temperature: 93°FDB

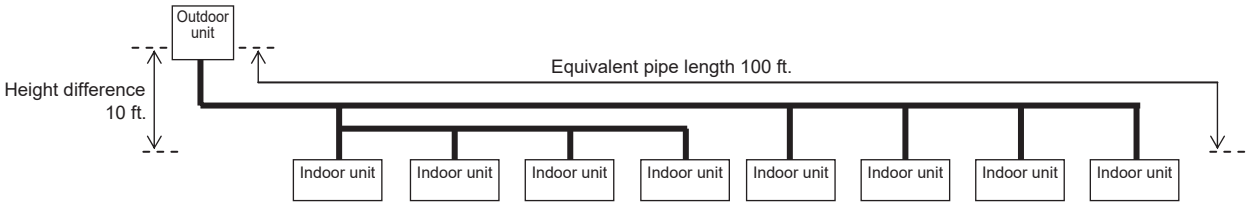
-Determine peak load of each room (and system peak load if necessary)

-Required heat load of each room

Time	Room A	Room B	Room C	Room D	Room E	Room F	Total
9:00	8.0	8.0	6.0	6.0	10.5	**10.5**	49.0
12:00	10.0	10.0	6.0	5.8	8.0	8.0	47.8
14:00	11.0	11.0	**7.8**	**7.8**	6.2	8.0	**51.8**
16:00	**12.1**	**12.2**	4.3	4.0	**12.1**	5.0	49.7

Total heat load (MBH)

From the above heat load calculation, the maximum heat load for the system (system peak load) is 51.8 MBH.



Select ***VRV*** indoor units FXSA-AA series for each room.

-Safety factor

In this example, safety factor is not used. (i. e., safety factor = 1.0)

[2] Selection of indoor units

Calculate total heat capacity of indoor units corrected for indoor air temperature.

In case design temperature of the indoor air falls between temperatures listed in the table, calculate the capacity by interpolation.

The corrected total heat capacity of indoor units shall satisfy the maximum heat load of each room.

Capacity table of indoor unit
Cooling capacity

Model	Indoor air temp. °FWB (°CWB) (Te: 43°F (6°C))											
	61 (16.1)		64 (17.8)		67 (19.4)		70 (21.1)		72 (22.2)		75 (23.9)	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	MBH	MBH	MBH	MBH	MBH	MBH	MBH	MBH	MBH	MBH	MBH	MBH
FXSA05AAVJU	4.8	4.5	5.5	4.7	5.8	4.7	5.9	4.6	6.0	4.5	6.0	4.5
FXSA07AAVJU	6.0	4.9	6.6	5.3	7.2	5.5	7.3	5.3	7.5	5.1	7.7	5.1
FXSA09AAVJU	7.7	6.1	8.9	6.8	9.5	7.0	9.6	6.7	9.8	6.6	10.0	6.6
FXSA12AAVJU	9.6	8.5	10.9	9.4	12.0	9.7	12.3	9.2	12.4	9.0	12.6	8.9
FXSA15AAVJU	12.1	10.2	13.6	11.1	15.0	11.3	15.3	11.0	15.4	10.8	15.6	10.3
FXSA18AAVJU	14.5	12.2	16.3	13.3	18.0	13.6	18.4	13.3	18.7	13.1	18.8	12.8
FXSA24AAVJU	19.3	15.2	21.9	16.9	24.0	17.1	24.4	16.7	24.7	16.4	25.1	15.8
FXSA30AAVJU	24.2	20.1	27.6	22.4	30.0	22.6	30.6	22.0	31.0	21.6	31.6	21.0
FXSA36AAVJU	29.1	22.9	33.0	25.2	36.0	25.7	36.7	25.1	37.2	24.7	37.9	23.9
FXSA48AAVJU	38.8	30.3	44.1	33.5	48.0	34.3	49.0	33.5	49.7	33.0	50.5	31.8
FXSA54AAVJU	43.7	34.1	49.8	37.8	54.0	38.6	55.2	37.7	56.0	37.2	56.7	35.7

TC: Total capacity: MBH
SHC: Sensible heat capacity: MBH

Selection results of indoor units

	Room A	Room B	Room C	Room D	Room E	Room F
Max. heat load (MBH)	12.1	12.2	7.8	7.8	12.1	10.5
Selected IDU	FXSA15AAVJU	FXSA15AAVJU	FXSA09AAVJU	FXSA09AAVJU	FXSA15AAVJU	FXSA12AAVJU
Corrected TC (MBH)	15.0	15.0	9.5	9.5	15.0	12.0

∗In case of selection based on Total Heat Load and Sensible Heat Load, select indoor units which satisfy not only the Total Heat Load but also the Sensible Heat Load of each room. The sensible heat capacity of indoor units is to be corrected for indoor air temperature. If the design temperature of indoor air falls between temperatures listed in table, calculate sensible heat capacity by using the bypass factor calculated by interpolation for each indoor air temperature.

[3] Selection of outdoor unit

[3] –1 Define the required total heat load from the indoor units to the outdoor unit

Define the required total heat load (A) based on (1) the sum of the peak load of each room or (2) the system peak load.
In this example, select an outdoor unit by (2).
Therefore, (A) = 51.8 MBH

[3] –2 Provisionally select outdoor unit

(1) Calculate CI (Capacity Index) of the selected indoor units.

CI of ***VRV*** indoor units

CI of FXSA09AAVJU = 9.5

CI of FXSA12AAVJU = 12

CI of FXSA15AAVJU = 15

Capacity range		0.5 ton	0.6 ton	0.8 ton	1 ton	1.25 ton	1.5 ton		2 ton	2.5 ton	3 ton	3.5 ton	4 ton	4.5 ton	5 ton	Power supply, Standard
Capacity index		5.8	7.5	9.5	12	15	18	20	24	30	36	42	48	54	60	
MSP Concealed Ducted Unit	FXSA	05AA	07AA	09AA	12AA	15AA	18AA	—	24AA	30AA	36AA	—	48AA	54AA	—	VJU

Calculate the total CI of the indoor units.

Total CI = 9.5 × 2 + 12 × 1 + 15 × 3 = 76

(2) Provisionally select an outdoor unit based on the total CI of the indoor units

The connection ratio of RXTA-AA shall be between 50% and 130%.

As the total CI of the indoor units is 76, outdoor units 5 ton are connectable.

Model name	RXTA24AAVJU	RXTA36AAVJU	RXTA48AAVJU	RXTA60AAVJU
Capacity range	2 ton	3 ton	4 ton	5 ton
Capacity index	24	36	48	60
Max. number of connectable indoor units	4	6	8	9
Total capacity index of indoor units to be connected	12.0 ~ 31.2	18.0 ~ 46.8	24.0 ~ 62.4	30.0 ~ 78.0

(3) Confirm that the number of the connected indoor units is within the limitation.

The number of the connected indoor units = 4

The max. number of connectable indoor units of 5 ton outdoor unit = 9

[3] –3 Calculate the corrected capacity of the outdoor unit.

-Calculate the connection ratio of the system.

Total CI = 76, CI of RXTA60AAVJU = 60

Connection ratio = 76 / 60 = 127%

-Using the capacity table of the outdoor unit, calculate the capacity (B) corrected for outdoor air temperature, indoor air temperature, and connection ratio.

∗In case the outdoor air temperature, the indoor air temperature, or the connection ratio falls between temperatures listed in the table, calculate the capacity by interpolation.

RXTA60AAVJU Cooling Capacity for Standard Condition (Te: 43°F)

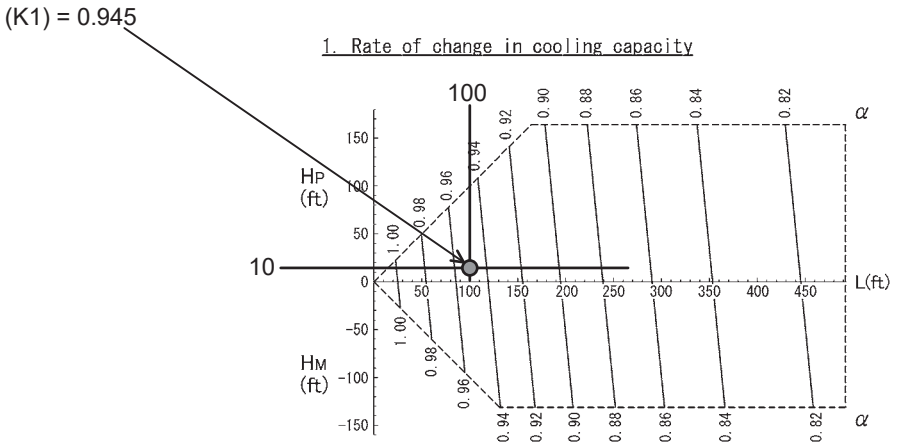
Connection ratio	Outdoor air temp.	Indoor air temp. (°FWB) 57		61		64		67		70		72		75	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
%	°FDB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
	23	55.7	1.81	64.6	2.22	71.3	2.56	78.0	2.92	84.7	3.30	89.1	3.52	92.7	3.53
	30	55.7	2.05	64.6	2.51	71.3	2.90	78.0	3.31	84.7	3.75	89.1	3.83	90.7	3.85
	40	55.7	2.41	64.6	2.97	71.3	3.43	78.0	3.92	84.7	4.26	86.4	4.28	87.8	4.30
	50	55.7	2.83	64.6	3.49	71.3	4.04	78.0	4.62	82.6	4.71	83.5	4.73	84.8	4.76
	54	55.7	3.00	64.6	3.72	71.3	4.30	78.0	4.87	81.5	4.90	82.3	4.92	83.7	4.95
	58	55.7	3.19	64.6	3.95	71.3	4.58	78.0	5.05	80.3	5.08	81.2	5.10	82.5	5.13
	62	55.7	3.39	64.6	4.20	71.3	4.87	77.8	5.23	79.1	5.26	80.0	5.28	81.3	5.32
	66	55.7	3.60	64.6	4.47	71.3	5.18	76.6	5.41	77.9	5.45	78.8	5.47	80.1	5.50
	70	55.7	3.82	64.6	4.75	71.3	5.51	75.5	5.60	76.8	5.63	77.6	5.66	79.0	5.69
	72	55.7	3.94	64.6	4.89	71.3	5.65	74.9	5.69	76.2	5.72	77.1	5.75	78.4	5.79
	75	55.7	4.11	64.6	5.12	71.3	5.79	74.0	5.83	75.3	5.86	76.2	5.89	77.0	5.91
130	79	55.7	4.36	64.6	5.44	71.3	5.97	72.8	6.01	74.1	6.05	74.8	6.07	74.8	6.07
	83	55.7	4.63	64.6	5.77	70.3	6.15	71.6	6.20	72.5	6.22	72.5	6.22	72.5	6.22
	87	55.7	4.91	64.6	6.13	69.2	6.34	70.2	6.38	70.2	6.38	70.2	6.38	70.2	6.38
	91	55.7	5.21	64.6	6.48	68.0	6.52	68.0	6.52	68.0	6.52	68.0	6.52	68.0	6.52
	93	55.7	5.36	64.6	6.57	66.8	6.60	66.8	6.60	66.8	6.60	66.8	6.60	66.8	6.60
	95	55.7	5.52	64.6	6.66	65.7	6.67	65.7	6.67	65.7	6.67	65.7	6.67	65.7	6.67
	99	55.7	5.86	60.1	6.58	60.1	6.58	60.1	6.58	60.1	6.58	60.1	6.58	60.1	6.58
	103	54.6	6.03	54.6	6.03	54.6	6.03	54.6	6.03	54.6	6.03	54.6	6.03	54.6	6.03
	106	50.4	5.60	50.4	5.60	50.4	5.60	50.4	5.60	50.4	5.60	50.4	5.60	50.4	5.60
	110	44.8	5.06	44.8	5.06	44.8	5.06	44.8	5.06	44.8	5.06	44.8	5.06	44.8	5.06
	115	37.9	4.38	37.9	4.38	37.9	4.38	37.9	4.38	37.9	4.38	37.9	4.38	37.9	4.38
	118	33.7	3.94	33.7	3.94	33.7	3.94	33.7	3.94	33.7	3.94	33.7	3.94	33.7	3.94
	122	28.1	3.35	28.1	3.35	28.1	3.35	28.1	3.35	28.1	3.35	28.1	3.35	28.1	3.35
	23	51.4	1.63	59.7	1.99	65.8	2.28	72.0	2.59	78.2	2.93	82.3	3.16	88.5	3.51
	30	51.4	1.84	59.7	2.25	65.8	2.58	72.0	2.94	78.2	3.32	82.3	3.59	88.5	3.83
	40	51.4	2.17	59.7	2.65	65.8	3.05	72.0	3.48	78.2	3.94	82.3	4.25	86.3	4.28
	50	51.4	2.53	59.7	3.11	65.8	3.58	72.0	4.09	78.2	4.64	82.2	4.70	83.4	4.73
	54	51.4	2.69	59.7	3.31	65.8	3.82	72.0	4.36	78.2	4.87	81.0	4.89	82.2	4.91
	58	51.4	2.86	59.7	3.52	65.8	4.06	72.0	4.64	78.2	5.05	79.8	5.07	81.0	5.10
	62	51.4	3.03	59.7	3.74	65.8	4.32	72.0	4.94	77.8	5.23	78.6	5.25	79.9	5.28
	66	51.4	3.22	59.7	3.97	65.8	4.59	72.0	5.26	76.7	5.41	77.5	5.43	78.7	5.47
	70	51.4	3.41	59.7	4.22	65.8	4.88	72.0	5.56	75.5	5.60	76.3	5.62	77.5	5.65
	72	51.4	3.51	59.7	4.35	65.8	5.03	72.0	5.65	74.9	5.69	75.7	5.71	76.9	5.75
	75	51.4	3.67	59.7	4.54	65.8	5.26	72.0	5.79	74.0	5.83	74.8	5.85	76.0	5.89
120	79	51.4	3.89	59.7	4.82	65.8	5.59	71.6	5.97	72.8	6.01	73.7	6.04	74.8	6.07
	83	51.4	4.12	59.7	5.12	65.8	5.94	70.5	6.16	71.7	6.20	72.5	6.22	72.5	6.22
	87	51.4	4.37	59.7	5.43	65.8	6.30	69.3	6.34	70.2	6.38	70.2	6.38	70.2	6.38
	91	51.4	4.63	59.7	5.77	65.8	6.49	68.0	6.52	68.0	6.52	68.0	6.52	68.0	6.52
	93	51.4	4.77	59.7	5.94	65.8	6.56	66.8	6.60	66.8	6.60	66.8	6.60	66.8	6.60
	95	51.4	4.91	59.7	6.12	65.7	6.67	65.7	6.67	65.7	6.67	65.7	6.67	65.7	6.67
	99	51.4	5.21	59.7	6.50	60.1	6.58	60.1	6.58	60.1	6.58	60.1	6.58	60.1	6.58
	103	51.4	5.52	54.6	6.03	54.6	6.03	54.6	6.03	54.6	6.03	54.6	6.03	54.6	6.03
	106	50.4	5.60	50.4	5.60	50.4	5.60	50.4	5.60	50.4	5.60	50.4	5.60	50.4	5.60
	110	44.8	5.06	44.8	5.06	44.8	5.06	44.8	5.06	44.8	5.06	44.8	5.06	44.8	5.06
	115	37.9	4.38	37.9	4.38	37.9	4.38	37.9	4.38	37.9	4.38	37.9	4.38	37.9	4.38
	118	33.7	3.94	33.7	3.94	33.7	3.94	33.7	3.94	33.7	3.94	33.7	3.94	33.7	3.94
	122	28.1	3.35	28.1	3.35	28.1	3.35	28.1	3.35	28.1	3.35	28.1	3.35	28.1	3.35

Connection ratio	120%	127%	130%
Cooling capacity	66.8	(B)	66.8

(B) = 66.8 + (66.8 – 66.8) × (127 – 120) / (130 – 120)

= 66.8

-Confirm capacity correction factor by piping length and level difference (K1)



-Calculate capacity correction factor by piping heat loss (K2)
(K2) = 1 + (heat loss factor per feet of piping × (equivalent piping length – 25 ft.)) / 100

In cooling mode, heat loss factor per feet at 93°F is calculated as below.
(R) Heat loss factor per feet = 0.072[*2] + (0.098[*1] – 0.072[*2]) × (93[*3] – 86[*4]) / (95[*5] – 86[*4]) = 0.0922

Using “Equivalent piping length = 100 ft.” and “Heat loss factor per feet = 0.0922”,
(K2) = 1 + (0.0922 × (100 – 25)) / 100 = 1.07

Cooling	Ambient temperature								
Heat loss factor per feet of piping (%)	41°F	50°F	59°F	68°F	77°F	86°F[*4]	93°F[*3]	95°F[*5]	104°F
	0.000	0.000	0.013	0.030	0.046	0.072[*2]	(R)	0.098[*1]	0.125

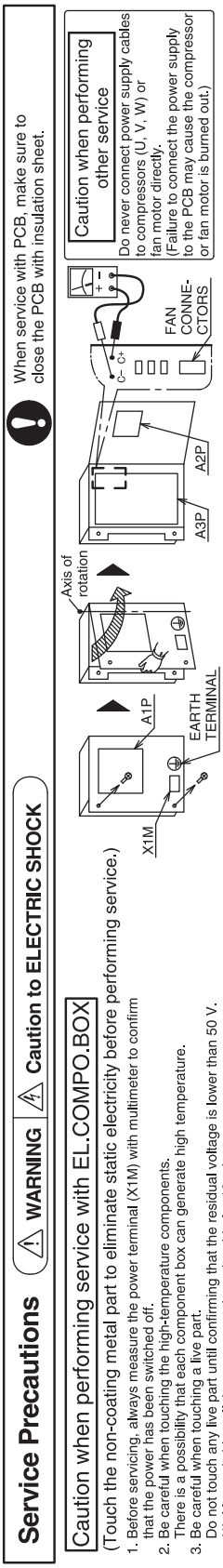
Heating	Ambient temperature							
Heat loss factor per feet of piping (%)	5°F	14°F	23°F	32°F	41°F	50°F	59°F	68°F
	0.328	0.305	0.282	0.256	0.233	0.210	0.187	0.161

-Calculate the corrected capacity of RXTA60AAVJU (C) by using (K1) and (K2).
Corrected capacity of RXTA60AAVJU (C) = (B) × (K1) / (K2) (add defrost correction factor for heating capacity)
Therefore (C) = 66.8 × 0.945 / 1.07 = 59.0 MBH

If the corrected capacity (C) is the same or greater than the required total heat load (A), selection is complete.
If (C) < (A), return to Procedure [3]–2 and provisionally select a larger outdoor unit.
In this example, 59.0 MBH (C) > 51.8 MBH (A), so there is no need to select a larger outdoor unit.

18.Caution Label

18.1 RXTA24 - 60AAVJU



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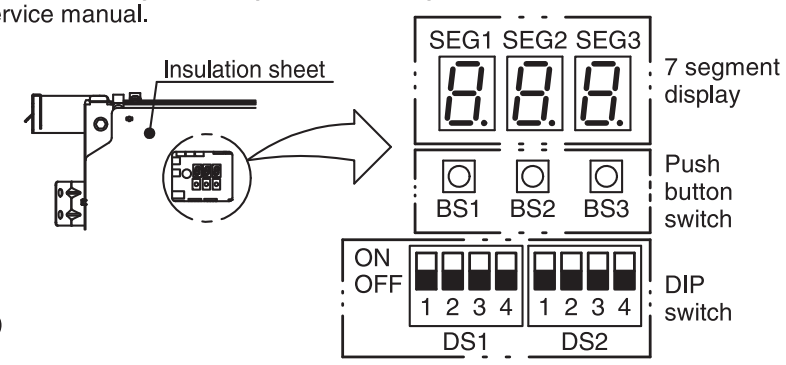
Field setting

If required, carry out the field setting according to the following instruction,
For details, see the service manual.

1. How to operate

- For operation the push button switch, perform under covering with insulation sheet as shown in the right figure with the power supply turned on and use a resin ballpoint or non-conducting object.



2.Setting by the push button switch (BS1～3)

- Function of push button

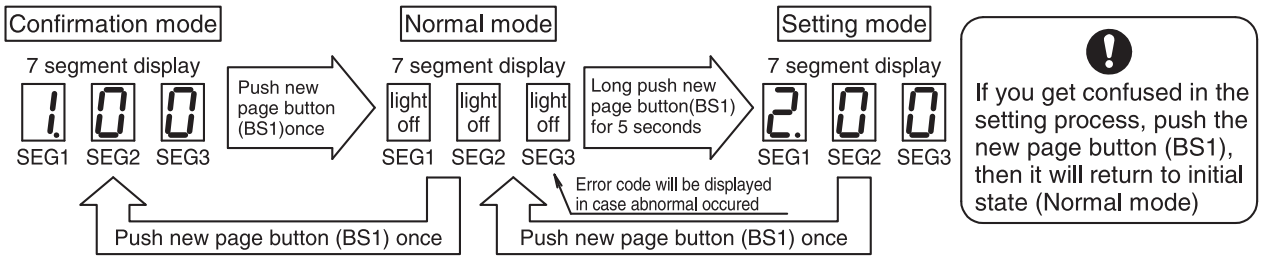
Push button	Button types	Use
BS1	New page button	For changing setting mode
BS2	Operation button	For changing field setting
BS3	Confirm button	
BS2 long push	Operation button	For check operation
BS3 long push	Confirm button	For resetting the address when the wiring is changed or an additional indoor unit is installed

⚠ When performing the operation such as inspection, to prevent electric shocks, protect the shaded area of the electrical component using the insulating tape.

- Normal Mode, Setting Mode, Confirmation Mode change method

Push new page button (BS1) it can be switched to as shown below Normal mode, Setting mode, Confirmation mode.

Setting mode can use for setting Ⓐ ～ Ⓖ items as shown in the table below.
Confirmation mode can use for confirmation of Ⓗ･Ⓙ items as shown in the table below.
(Note) About other setting and error code, see service manual.



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				7 Segment display		
	Set [Setting mode] or [Confirmation mode] first, then perform procedure as below.		Details of setting	SEG1	SEG2	SEG3
Setting procedure	① Push the operation button (BS2) following to setting item (Ⓐ~Ⓖ) and adjust the 7 segment display to require mode shown in the right. (※1) For selecting low noise operation, demand operation by outside order or VRT setting by external control adapter for outdoor unit (optional accessory) is required. For details, see the instruction attached the adapter.		Ⓐ VRT setting (※1)	2	0	7
			Ⓑ External low noise demand operation setting(※1)	2	1	2
			Ⓒ Additional refrigerant charge operation setting	2	2	0
			Ⓓ Refrigerant recovery / Evacuation mode setting	2	2	1
			Ⓔ Night time low noise setting	2	2	2
			Ⓕ External low noise level setting(※1)	2	2	5
			Ⓖ Demand level setting	2	3	0
	② Push the confirmation button (BS3) (The present setting will be indicated).			Either of ③		
	③ Push the operation button (BS2) and adjust the 7 segment display to required mode, shown in the right. (※2) Setting level efficiency For Ⓔ and Ⓕ: Setting value / Noise value → level 1~3 / low noise For Ⓖ: Setting value / Power consumption → level 1~8 / Less power ← For details, see the service manual. (※3) A is a number of 1 ～ 3 (※4) B is a number of 1 ～ 8	For Ⓐ	OFF (Factory setting)	light off	light off	0
			VRT setting by connecting "low noise sound" terminal	light off	light off	1
			VRT setting by connecting "demand input" terminal	light off	light off	2
		For ⒷⒸⒹ	ON	light off	light off	1
			OFF (Factory setting)	light off	light off	0
		For Ⓔ (※2)	OFF (Factory setting)	light off	light off	0
			level A (※3)	light off	light off	A(※3)
		For Ⓕ (※2)	level A (※3) (Factory setting:2)	light off	light off	A(※3)
		For Ⓖ (※2)	level B (※4) (Factory setting:3)	light off	light off	B(※4)
	④ Push confirmation button (BS3)		The setting in ③ is defined	If will turn to light ON.		
	⑤ Push confirmation button again (BS3)		The system start the operation according to the setting	2	0	0
	⑥ Push new page button (BS1)		Return to Normal mode	light off	light off	light off
Confirmation procedure	① Push operation button (BS2) according to confirmation item (Ⓗ,Ⓙ) and adjust the 7 segment display to required mode, shown in the right.		Ⓗ Low noise mode	1	0	1
			Ⓙ Demand operation	1	0	2
	② Push confirmation button (BS3) (The present setting will be indicated)		For during setting operation	light off	light off	1
			For during normal operation	light off	light off	0

Continue

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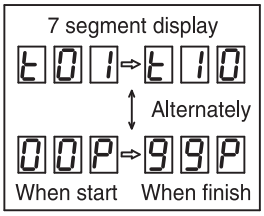
Check operation method

Make sure to open the gas side and liquid side stop valve before starting operation.

- Make sure to turn on the power supply of all connect units (indoor・outdoor) before operation.
- Make sure to close all outside panels, then operate. If not, the system cannot be checked properly.

- Make sure to carry out the check operation after the first installation. Otherwise,the error code. "U3" will be displayed in the remote controller. Normal operation can be carried out after 5 minutes from check operation.
- The check operation is automatically carried out in a cooling mode. The 7 segment will be indicated as shown in right, and "Test operation" and "Under centralized" will be displayed in the remote controller.
- During the check operation, it is impossible to stop the unit from the remote controller. When discontinue the operation, push the confirmation button (BS3). The system will stop after behind operation for 30 seconds.
- It may takes 5 minutes to bring the state of refrigerant uniform before the compressor starts. Moreover, during the check operation, the refrigerant running sound, the magnetic sound of a solenoid valve may become loud during operation, but these are not malfunctions.
- The abnormality of each indoor unit cannot be checked. After the check operation is finished, check the indoor units individually by normal operation using the remote controller.



[Operation procedure]

① To protect the compressor, make sure to turn the power supply for 6 hours before starting operation.
(After turning on the power supply, the unit can not start the operation until 7 segment goes off. (Maximum 12 minutes))
② In stop condition, set to Normal mode
③ Push the operation button (BS2) for 5 second or more (Then the unit will start the check operation)
④ Close the front panel. (Otherwise, it may cause a misjudgement.)
⑤ When the checks are completed (unit run for 30 - 40 min.), the system will stop automatically.
Check the operation results by the outdoor unit 7 segment display. (see the table shown upward)

Result	7 segment display
Normally finished	Light off
Abnormally finished	Error code

Push new page button (BS1) in case taking a wrong operation, then follow procedure since ② again.

[Measure for error finish]

① Confirm the error code by the remote controller and 7 segment display, and correct the abnormality.
(For how to correct abnormality and correction method, see the Installation manual, Operation manual and Service manual.)
② After correcting the abnormality, push the confirmation button (BS3) and reset the error code.
③ Carry out the check operation again and confirm that the abnormality is properly corrected.

Caution for piping work and additional refrigerant charge

- Use the charging hose and gauge mainfold designed exclusive use R32 in order to withstand the pressure and prevent impurities (such as SUNISO oil) from mixing into.
- Carry out a nitrogen blow when brazing.
- Charge the additional refrigerant in liquid state.
- Perform the airtightness and the vacuum drying sertainly.

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Additional refrigerant charging operation

- **When installation was finished, make sure to charge the refrigerant by using this procedure. If the refrigerant quantity is insufficient, the unit may malfunction.**

Setting procedure
① Connect the refrigerant charge hose and valve to the stop valve service port on the suction gas side.
② Make sure to completely open stop valve on the suction gas side, liquid side.
③ Turn ON the power of the indoor unit and the outdoor unit. To protect the compressor, make sure to turn on the power supply for 6 hours before starting operation.
④ In the stopped status, set the addition set ON to the additional refrigerant charging operation by Setting mode, and open refrigerant cylinder valve. About valve pulse, make sure to adjust refrigerant charging speed as 1kg/minute. ● The operation is automatically started, 7 segment display will be charged as shown in right (up) and "Test operation" and "Under centralized control" are displayed in the remote controller. ● Low pressure indication may display on 7 segment display (as shown in right (down)), however, operation can be carried out continuously.
⑤ After charging the specified quantity of refrigerant, close refrigerant cylinder valve, push confirmation button (BS3). ● The operation will be stopped. The operation is automatically stopped within 30 minutes. If charging is not completed, set and perform the additional refrigerant charging operation again. ● If the additional refrigerant charging operation is stopped soon, the refrigerant may be overcharged. Stop additional charging, make sure to confirm charged amount again.

Test operation •
Under centralized control
7 segment display
E01 ⇨ E05
When start When finish

Example 7 Segment display
0.17 MPa ⇨ 0.17

1.Record of setting details

After performing settings to Ⓔ～Ⓖ in the Setting mode, make a record by marking ○ in the table below.

Ⓔ Night time low noise setting	Ⓕ External low noise level setting	Ⓖ Demand level setting
OFF Level 1・2・3	Level 1・2・3	Level 1・2・3・4・5・6・7・8

2.Record of additional refrigerant charging amount (Be sure to fill in the table by the after-sales service staff.)

Calculate the refrigerant charging amount based on the following formula. Refer to installation manual for more details.

① Factory charged	Additional ② charging amount	=	(Total length(ft.(m)) of liquid piping size at Φ3/8"(9.5)) × 0.035 (0.053)	+	(Total length(ft.(m)) of liquid piping size at Φ1/4"(6.4)) × 0.013 (0.020)	+	Refrigerant adjustment by connected indoor unit type	①+②= Total
7.5(3.4) lbs(kg)	lbs(kg)		lbs(kg)		lbs(kg)		lbs(kg)	lbs(kg)

3.Record of indoor unit model name and installation lacation

No.	1	2	3	4	5	6	7	8	9
Model name									
Installation location									

Service mode operation method

- After turning on the power supply, the unit can not start until the 7 segment indication goes off for maximum 12 minutes.
- Do not turn off the power and do not reset the Setting mode when evacuating or recovering the refrigerant. (The expansion valves will close and the system can not be evacuated or recovered the refrigerant).

[Evacuation method] (At the first installation this evacuation is not reruied. It is only required for service)

① When the units is in stopping condition and under the Setting mode set the Ⓓ Refrigerant recovery/Evacuation mode (※).
② Evacuate the system with a vaccum pump.
③ Push confirm button (BS3) after finish evacuation and reset the evecuation mode.
④ Push new page button (BS1) and reset Setting mode.
(※)The expansion valves in the indoor and outdoor units will be opened completely 7 segment display will be changed as shown in the below and “Test operation” and “Under centralized control” will be displayed in the remote controller, The operation will be rejected.

7 segment display E01

[Refrigerant recovery operation method] (Make sure to use a refrigerant reclaimer)

① When the unit is at standstill and under the Setting mode set the Ⓓ Refrigerant recovery/Evacuation mode to ON.
② Recovery the refrigerant by a refrigerant reclaimer. (For details, see the manual attached in refrigerant reclaimer recovery operation method).
③ After completed, push the confirm button (BS3) and reset the refrigerant recovery mode.
④ Push new page button (BS1) and reset Setting mode.

C: 2P780086-1B

19. Caution for Refrigerant Leaks

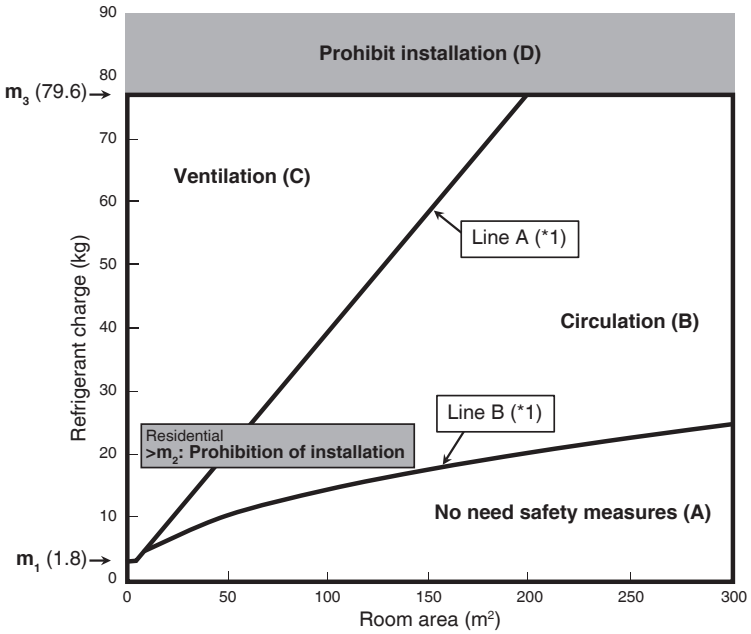
19.1 Introduction

These systems are charged with R32 refrigerant. Please refer to ASHRAE 15 and local standards and building code as applicable when installing this equipment. In the absence of codes, the following guidelines could be considered.

Safety measures at the installation area

Take safety measures according to the following table depending on the installation area.

For refrigerant charge and allowable maximum refrigerant charge room are, definition of room area, refer to the installation manual attached to the outdoor unit.



*1. Line A and B vary depending on the installation height of the indoor unit. For more accurate values, see to the table of Total refrigerant charge limit and the table of Max. refrigerant charge with no safety measures required.

Installation area	Safety measures requirements				Installation requirements for safety measure requirements
	Leak detection	Circulation	Ventilation	Operation when leak is occurred	
(A)	–	–	–	–	Possible to invalidate safety functions (*1)
(B)	○	○	–	Leak detection →Circulation	Not required (*2)
(C)	○	(○)	○	Leak detection →Ventilation	Install external ventilation system linked to leak detection (*3)

*1. Refrigerant leak sensors have a limited life span and are recommended to be disabled for areas where no safety measures are required.
The leak sensor can be disabled by setting Mode No.15 (25)-13 to 1 in the local settings of the remote controller. Though setting of Mode No. is carried out as a group, if you intend to carry out individual setting by each indoor unit or confirmation after setting, carry out setting with the Mode No. shown in the parenthesis ( ). See the instruction manual of the remote control for the local setting method.

*2. Indoor units for R32 are equipped with a refrigerant leak sensor. When leakage is detected, the unit performs circulation operation. There is no need to prepare other safety devices.

*3. The optional relay PC board for providing an output signal from the indoor unit is required to activate external devices such as a ventilation system. For more information, refer to the installation manual of the relay PC board.
The required ventilation airflow shall be calculated using of the formula below.
For (Q × 0.25*LFL)/10 < 1, the airflow of the mechanical ventilation shall be at least the quantity that satisfies the following formula:

$$m_c = -\frac{10 \times V}{Q} In\left(1 - \frac{Q \times 0.25 \times LFL}{10}\right)$$

For (Q × 0.25*LFL)/10 ≥ 1, the airflow shall be determined according the following formula:

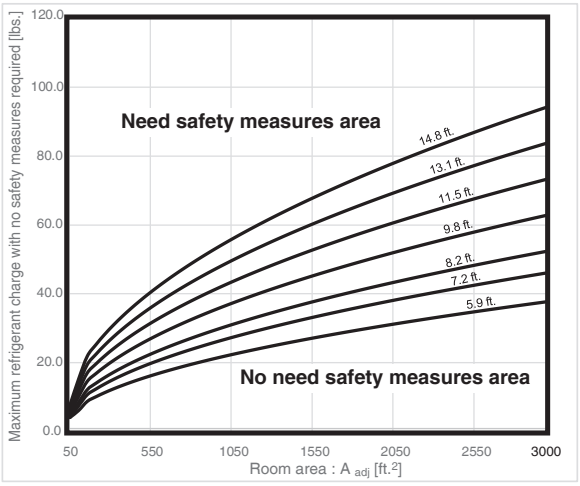
$$Q = \frac{10}{0.25 \times LFL}$$

Where
m_c is the total refrigerant charge in the system in kg, total charge determined by Step 3 of "1-3-4 To determine the charge limit for R32 refrigerant";
V is the room volume in m³;
10 is the expected maximum leak rate in kg/h;
Q is the ventilation airflow in m³/h;
LFL is the LOWER FLAMMABILITY LIMIT of 0.306 kg/m³;
Losses caused by ducts or other components in the air stream shall be considered.

C: 3P755177-1

◆Safety measures required or not (SI unit)

◆Safety measures required or not (FPS unit)



A_{adj} [m^2]	Max. refrigerant charge with no safety measures required (kg)						
	Effective installation height (h)						
	1.8 m	2.2 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m
5	1.8	1.8	1.9	2.3	2.7	3.1	3.4
10	2.8	3.4	3.8	4.6	5.4	6.1	6.9
15	4.0	4.8	5.5	6.6	7.7	8.8	9.9
20	4.6	5.6	6.4	7.6	8.9	10.2	11.5
25	5.1	6.3	7.1	8.5	10.0	11.4	12.8
30	5.6	6.9	7.8	9.3	10.9	12.5	14.0
35	6.1	7.4	8.4	10.1	11.8	13.5	15.1
40	6.5	7.9	9.0	10.8	12.6	14.4	16.2
45	6.9	8.4	9.5	11.5	13.4	15.3	17.2
50	7.2	8.9	10.1	12.1	14.1	16.1	18.1
55	7.6	9.3	10.5	12.7	14.8	16.9	19.0
60	7.9	9.7	11.0	13.2	15.4	17.6	19.8
65	8.3	10.1	11.5	13.8	16.1	18.3	20.6
70	8.6	10.5	11.9	14.3	16.7	19.0	21.4
75	8.9	10.8	12.3	14.8	17.2	19.7	22.2
80	9.2	11.2	12.7	15.3	17.8	20.4	22.9
85	9.4	11.5	13.1	15.7	18.4	21.0	23.6
90	9.7	11.9	13.5	16.2	18.9	21.6	24.3
95	10.0	12.2	13.9	16.6	19.4	22.2	25.0
100	10.2	12.5	14.2	17.1	19.9	22.8	25.6
105	10.5	12.8	14.6	17.5	20.4	23.3	26.2
110	10.7	13.1	14.9	17.9	20.9	23.9	26.9
115	11.0	13.4	15.3	18.3	21.4	24.4	27.5
120	11.2	13.7	15.6	18.7	21.8	24.9	28.0
125	11.5	14.0	15.9	19.1	22.3	25.4	28.6
130	11.7	14.3	16.2	19.5	22.7	25.9	29.2
135	11.9	14.5	16.5	19.8	23.1	26.4	29.7
140	12.1	14.8	16.8	20.2	23.6	26.9	30.3
145	12.3	15.1	17.1	20.6	24.0	27.4	30.8
150	12.5	15.3	17.4	20.9	24.4	27.9	31.4
155	12.8	15.6	17.7	21.3	24.8	28.3	31.9
160	13.0	15.8	18.0	21.6	25.2	28.8	32.4
165	13.2	16.1	18.3	21.9	25.6	29.2	32.9
170	13.4	16.3	18.5	22.3	26.0	29.7	33.4
175	13.5	16.6	18.8	22.6	26.3	30.1	33.9
180	13.7	16.8	19.1	22.9	26.7	30.5	34.4
185	13.9	17.0	19.3	23.2	27.1	31.0	34.8
190	14.1	17.3	19.6	23.5	27.4	31.4	35.3
195	14.3	17.5	19.9	23.8	27.8	31.8	35.8
200	14.5	17.7	20.1	24.1	28.2	32.2	36.2
205	14.7	17.9	20.4	24.4	28.5	32.6	36.7
210	14.8	18.1	20.6	24.7	28.9	33.0	37.1
215	15.0	18.4	20.9	25.0	29.2	33.4	37.5
220	15.2	18.6	21.1	25.3	29.5	33.8	38.0

A_{adj} [$ft.^2$]	Max. refrigerant charge with no safety measures required (lbs.)						
	Effective installation height (h)						
	5.9 ft.	7.2 ft.	8.2 ft.	9.8 ft.	11.5 ft.	13.1 ft.	14.8 ft.
54	4.0	4.0	4.2	5.1	5.9	6.7	7.6
108	6.1	7.4	8.4	10.1	11.8	13.5	15.2
161	8.7	10.7	12.1	14.6	17.0	19.4	21.9
215	10.1	12.3	14.0	16.8	19.6	22.4	25.2
269	11.3	13.8	15.7	18.8	22.0	25.1	28.2
323	12.4	15.1	17.2	20.6	24.0	27.5	30.9
377	13.4	16.3	18.6	22.3	26.0	29.7	33.4
431	14.3	17.5	19.8	23.8	27.8	31.7	35.7
484	15.1	18.5	21.0	25.2	29.5	33.7	37.9
538	16.0	19.5	22.2	26.6	31.0	35.5	39.9
592	16.7	20.5	23.3	27.9	32.6	37.2	41.9
646	17.5	21.4	24.3	29.1	34.0	38.9	43.7
700	18.2	22.2	25.3	30.3	35.4	40.5	45.5
753	18.9	23.1	26.2	31.5	36.7	42.0	47.2
807	19.6	23.9	27.2	32.6	38.0	43.5	48.9
861	20.2	24.7	28.0	33.7	39.3	44.9	50.5
915	20.8	25.4	28.9	34.7	40.5	46.3	52.0
969	21.4	26.2	29.8	35.7	41.7	47.6	53.6
1023	22.0	26.9	30.6	36.7	42.8	48.9	55.0
1076	22.6	27.6	31.4	37.6	43.9	50.2	56.4
1130	23.1	28.3	32.1	38.6	45.0	51.4	57.8
1184	23.7	28.9	32.9	39.5	46.0	52.6	59.2
1238	24.2	29.6	33.6	40.4	47.1	53.8	60.5
1292	24.7	30.2	34.4	41.2	48.1	55.0	61.8
1345	25.2	30.9	35.1	42.1	49.1	56.1	63.1
1399	25.7	31.5	35.8	42.9	50.1	57.2	64.4
1453	26.2	32.1	36.4	43.7	51.0	58.3	65.6
1507	26.7	32.7	37.1	44.5	51.9	59.4	66.8
1561	27.2	33.2	37.8	45.3	52.9	60.4	68.0
1615	27.7	33.8	38.4	46.1	53.8	61.5	69.1
1668	28.1	34.4	39.0	46.9	54.7	62.5	70.3
1722	28.6	34.9	39.7	47.6	55.5	63.5	71.4
1776	29.0	35.4	40.3	48.3	56.4	64.5	72.5
1830	29.4	36.0	40.9	49.1	57.2	65.4	73.6
1884	29.9	36.5	41.5	49.8	58.1	66.4	74.7
1938	30.3	37.0	42.1	50.5	58.9	67.3	75.7
1991	30.7	37.5	42.7	51.2	59.7	68.2	76.8
2045	31.1	38.0	43.2	51.9	60.5	69.2	77.8
2099	31.5	38.5	43.8	52.5	61.3	70.1	78.8
2153	31.9	39.0	44.3	53.2	62.1	71.0	79.8
2207	32.3	39.5	44.9	53.9	62.9	71.8	80.8
2260	32.7	40.0	45.4	54.5	63.6	72.7	81.8
2314	33.1	40.5	46.0	55.2	64.4	73.6	82.8
2368	33.5	40.9	46.5	55.8	65.1	74.4	83.7

C: 3P755177-1

A_{adj} [m^2]	Max. refrigerant charge with no safety measures required (kg)						
	Effective installation height (h)						
	1.8 m	2.2 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m
225	15.4	18.8	21.3	25.6	29.9	34.1	38.4
230	15.5	19.0	21.6	25.9	30.2	34.5	38.8
235	15.7	19.2	21.8	26.2	30.5	34.9	39.2
240	15.9	19.4	22.0	26.4	30.9	35.3	39.7
245	16.0	19.6	22.3	26.7	31.2	35.6	40.1
250	16.2	19.8	22.5	27.0	31.5	36.0	40.5
255	16.4	20.0	22.7	27.3	31.8	36.3	40.9
260	16.5	20.2	22.9	27.5	32.1	36.7	41.3
265	16.7	20.4	23.2	27.8	32.4	37.0	41.7
270	16.8	20.6	23.4	28.0	32.7	37.4	42.1
275	17.0	20.8	23.6	28.3	33.0	37.7	42.5
280	17.1	20.9	23.8	28.6	33.3	38.1	42.8
285	17.3	21.1	24.0	28.8	33.6	38.4	43.2
290	17.4	21.3	24.2	29.1	33.9	38.8	43.6
295	17.6	21.5	24.4	29.3	34.2	39.1	44.0
300	17.7	21.7	24.6	29.6	34.5	39.4	44.3

A_{adj} [$ft.^2$]	Max. refrigerant charge with no safety measures required (lbs.)						
	Effective installation height (h)						
	5.9 ft.	7.2 ft.	8.2 ft.	9.8 ft.	11.5 ft.	13.1 ft.	14.8 ft.
2422	33.9	41.4	47.0	56.4	65.9	75.3	84.7
2476	34.2	41.9	47.6	57.1	66.6	76.1	85.6
2530	34.6	42.3	48.1	57.7	67.3	76.9	86.5
2583	35.0	42.8	48.6	58.3	68.0	77.7	87.4
2637	35.3	43.2	49.1	58.9	68.7	78.5	88.4
2691	35.7	43.6	49.6	59.5	69.4	79.3	89.3
2745	36.1	44.1	50.1	60.1	70.1	80.1	90.1
2799	36.4	44.5	50.6	60.7	70.8	80.9	91.0
2852	36.8	44.9	51.0	61.3	71.5	81.7	91.9
2906	37.1	45.3	51.5	61.8	72.1	82.4	92.8
2960	37.4	45.8	52.0	62.4	72.8	83.2	93.6
3014	37.8	46.2	52.5	63.0	73.5	84.0	94.5
3068	38.1	46.6	52.9	63.5	74.1	84.7	95.3
3122	38.5	47.0	53.4	64.1	74.8	85.4	96.1
3175	38.8	47.4	53.9	64.6	75.4	86.2	97.0
3229	39.1	47.8	54.3	65.2	76.0	86.9	97.8

19.2 To Determine the Charge Limit for R32 Refrigerant

Please refer to ASHRAE 15 and relevant local standards and building codes as applicable to determine the charge limits when installing this equipment.

Step 1 – In order to derive the total refrigerant charge limit in the system, determine the area:

- of the rooms where an indoor unit is installed.
- AND of the rooms served by a ducted indoor unit installed in a different room.

The room area (A) shall be defined as the room area enclosed by the projection to the floor of the walls, partitions and doors of the space in which the appliance is installed. The area of the smallest room (A_{min}) being served by the system is used in the next step to determine the maximum allowable total charge of the system.

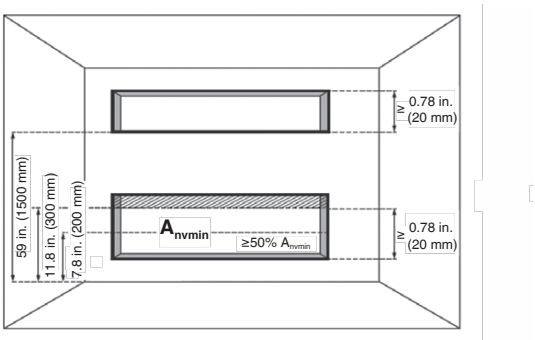
Spaces connected by only drop ceilings, ductwork, or similar connections shall not be considered a single space.

For units mounted higher than 5.9 ft. (1.8 m), spaces divided by partition walls which are no higher than 5.9 ft. (1.8 m) shall be considered a single space.

If the partition between two rooms on the same floor meets certain requirements, then the rooms are considered as one room and the areas of the rooms may be added up. In this way it is possible to increase the A_{min} value used to calculate the maximum allowed charge.

One of the following two requirements must be met to add up room areas:

1. Rooms on the same floor and connected by an open passageway between the spaces can be considered a single room if the passageway complies with all of the following.
   - It is a permanent opening.
   - It extends to the floor.
   - It is intended for people to walk through.
2. The area of the adjacent rooms, on the same floor, connected by permanent opening in the walls and/or doors between occupied spaces, including gaps between the wall and the floor, can be considered a single room provided all of the following are met.



A_{nvmin} Minimal natural ventilation area

For the lower opening:

- the openings are permanent openings which cannot be closed.
- the opening must be ≥ (A_{nvmin})

$$A_{\mathrm{nvmin}} = \frac{m_c - m_{max}}{LFL \times 104} \times \sqrt{\frac{A}{g \times m_{\max}} \times \frac{M}{M - 29}}$$

Where

A_{nvmin} is the minimum opening for natural ventilation in m²;

m_c is the total refrigerant charge in the system in kg, total charge determined by Step 3 of "19.2 To Determine the Charge Limit for R32 Refrigerant";

$m_{\max}$ is the charge limit for R32 refrigerant in the system in kg, the amount of refrigerant determined by the height of the room and the area of the room from the table in Step 2 below. However, 1.8 < $m_{\max}$ < 15.9;

LFL is the LOWER FLAMMABILITY LIMIT of 0.306 kg/m³;

A is the room area in m²;

M is the molar mass of the R32 refrigerant 52;

g is the gravity acceleration of 9.81 m/s²;

29 is the average molar mass of air in kg.

- The area of any openings above 11.8 in. (300 mm) from the floor does not count when determining A_{nvmin}
- At least 50% of A_{nvmin} is less than 7.8 in. (200 mm) above the floor
- The height of the opening is ≥ 0.78 in. (20 mm)

For the upper opening:

- the opening cannot be closed
- the opening must be ≥ 50% of A_{nvmin}
- the bottom of the upper opening must be ≥59 in. (1500 mm) above the floor
- the height of the opening is ≥ 0.78 in. (20 mm)

Note: The requirement for the upper opening can be met by drop ceilings, ventilation ducts or similar arrangements that provide an airflow path between the connected rooms.

The Indoor equipment mitigation requirements are calculated at sea level. For higher altitudes, adjust the smallest room area (A_{min}) determined above by the corresponding altitude adjustment factor shown below. This table is for reference only.

The adjusted room area (A_{adj}) is the product of the smallest room area (A_{min}) determined above and the adjustment factor AF, as shown in the following equation.

$A_{adj} = A_{min} * AF$

Height (m)	Height (ft.)	Altitude Adjustment Factor (AF)
At sea level	At sea level	1
1~200	1~660	1.02
200~400	660~1320	1.03
400~600	1320~1970	1.05
600~800	1970~2630	1.07
800~1000	2630~3290	1.09
1000~1200	3290~3940	1.11
1200~1400	3940~4600	1.13
1400~1600	4600~5250	1.15
1600~1800	5250~5910	1.17
1800~2000	5910~6570	1.19
2000~2200	6570~7220	1.21
2200~2400	7220~7880	1.24
2400~2600	7880~8540	1.26
2600~2800	8540~9190	1.29
2800~3000	9190~9850	1.31
3000~3200	9850~10500	1.34

Step 2 – Use the graph or table below to determine the total refrigerant charge limit in the system for each indoor unit AND for each room served by a ducted indoor unit.

The total refrigerant charge limit depends on the effective installation height, measured between:

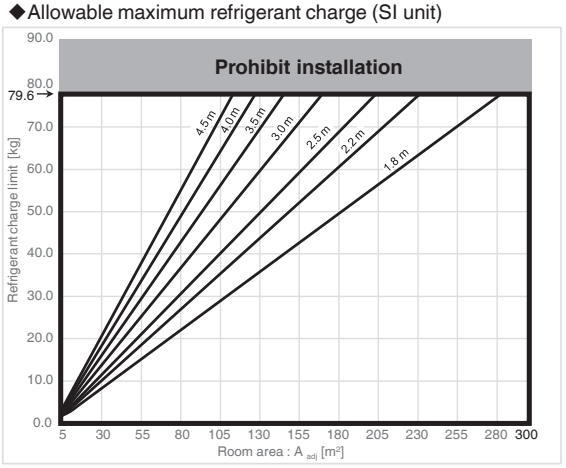
- the bottom side of the indoor unit and the lowest point of the floor, in case the indoor unit is installed in the same room.
- the bottom of the duct opening and the lowest point of the floor, for rooms served by a ducted indoor unit installed in a different room.

Note: If the height for your installation is not shown, use the closest lower height value in the table. E.g. for an installation height of 2.7 m, use the value corresponding with height 2.5 m of the table.
Refer to the databook for a more detailed table.

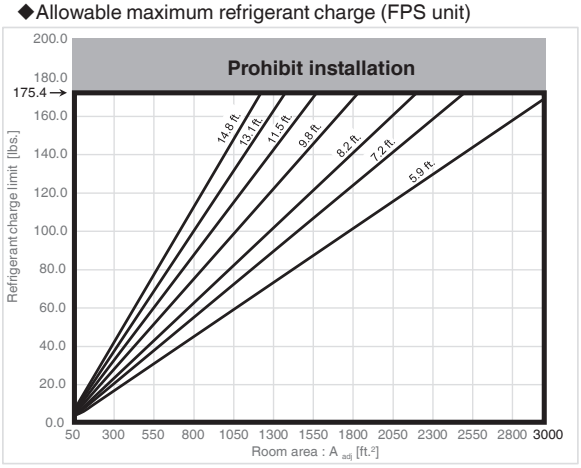
Note: If the room area for your installation is not shown, use linear interpolation to calculate it using the closest smallest and largest area values in the table.

C: 3P755177-1

◆Allowable maximum refrigerant charge (SI unit)



◆Allowable maximum refrigerant charge (FPS unit)



A_{adj} [m^2]	Total refrigerant charge limit (kg)						
	Effective installation height (h)						
	1.8 m	2.2 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m
5	1.8	1.8	1.9	2.3	2.7	3.1	3.4
10	2.8	3.4	3.8	4.6	5.4	6.1	6.9
15	4.1	5.0	5.7	6.9	8.0	9.2	10.3
20	5.5	6.7	7.7	9.2	10.7	12.2	13.8
25	6.9	8.4	9.6	11.5	13.4	15.3	17.2
30	8.3	10.1	11.5	13.8	16.1	18.4	20.7
35	9.6	11.8	13.4	16.1	18.7	21.4	24.1
40	11.0	13.5	15.3	18.4	21.4	24.5	27.5
45	12.4	15.1	17.2	20.7	24.1	27.5	31.0
50	13.8	16.8	19.1	23.0	26.8	30.6	34.4
55	15.1	18.5	21.0	25.2	29.5	33.7	37.9
60	16.5	20.2	23.0	27.5	32.1	36.7	41.3
65	17.9	21.9	24.9	29.8	34.8	39.8	44.8
70	19.3	23.6	26.8	32.1	37.5	42.8	48.2
75	20.7	25.2	28.7	34.4	40.2	45.9	51.6
80	22.0	26.9	30.6	36.7	42.8	49.0	55.1
85	23.4	28.6	32.5	39.0	45.5	52.0	58.5
90	24.8	30.3	34.4	41.3	48.2	55.1	62.0
95	26.2	32.0	36.3	43.6	50.9	58.1	65.4
100	27.5	33.7	38.3	45.9	53.6	61.2	68.9
105	28.9	35.3	40.2	48.2	56.2	64.3	72.3
110	30.3	37.0	42.1	50.5	58.9	67.3	75.7
115	31.7	38.7	44.0	52.8	61.6	70.4	79.2
120	33.0	40.4	45.9	55.1	64.3	73.4	79.6
125	34.4	42.1	47.8	57.4	66.9	76.5	79.6
130	35.8	43.8	49.7	59.7	69.6	79.6	79.6
135	37.2	45.4	51.6	62.0	72.3	79.6	79.6
140	38.6	47.1	53.6	64.3	75.0	79.6	79.6
145	39.9	48.8	55.5	66.6	77.6	79.6	79.6
150	41.3	50.5	57.4	68.9	79.6	79.6	79.6
155	42.7	52.2	59.3	71.1	79.6	79.6	79.6
160	44.1	53.9	61.2	73.4	79.6	79.6	79.6
165	45.4	55.5	63.1	75.7	79.6	79.6	79.6
170	46.8	57.2	65.0	78.0	79.6	79.6	79.6
175	48.2	58.9	66.9	79.6	79.6	79.6	79.6
180	49.6	60.6	68.9	79.6	79.6	79.6	79.6
185	50.9	62.3	70.8	79.6	79.6	79.6	79.6
190	52.3	64.0	72.7	79.6	79.6	79.6	79.6
195	53.7	65.6	74.6	79.6	79.6	79.6	79.6
200	55.1	67.3	76.5	79.6	79.6	79.6	79.6
205	56.5	69.0	78.4	79.6	79.6	79.6	79.6
210	57.8	70.7	79.6	79.6	79.6	79.6	79.6
215	59.2	72.4	79.6	79.6	79.6	79.6	79.6
220	60.6	74.1	79.6	79.6	79.6	79.6	79.6
225	62.0	75.7	79.6	79.6	79.6	79.6	79.6
230	63.3	77.4	79.6	79.6	79.6	79.6	79.6

A_{adj} [$ft.^2$]	Total refrigerant charge limit (lbs.)						
	Effective installation height (h)						
	5.9 ft.	7.2 ft.	8.2 ft.	9.8 ft.	11.5 ft.	13.1 ft.	14.8 ft.
54	4.0	4.0	4.2	5.1	5.9	6.7	7.6
108	6.1	7.4	8.4	10.1	11.8	13.5	15.2
161	9.1	11.1	12.6	15.2	17.7	20.2	22.8
215	12.1	14.8	16.9	20.2	23.6	27.0	30.4
269	15.2	18.6	21.1	25.3	29.5	33.7	37.9
323	18.2	22.3	25.3	30.4	35.4	40.5	45.5
377	21.3	26.0	29.5	35.4	41.3	47.2	53.1
431	24.3	29.7	33.7	40.5	47.2	54.0	60.7
484	27.3	33.4	37.9	45.5	53.1	60.7	68.3
538	30.4	37.1	42.2	50.6	59.0	67.5	75.9
592	33.4	40.8	46.4	55.7	64.9	74.2	83.5
646	36.4	44.5	50.6	60.7	70.8	81.0	91.1
700	39.5	48.2	54.8	65.8	76.7	87.7	98.7
753	42.5	51.9	59.0	70.8	82.6	94.4	106.3
807	45.5	55.7	63.2	75.9	88.5	101.2	113.8
861	48.6	59.4	67.5	81.0	94.4	107.9	121.4
915	51.6	63.1	71.7	86.0	100.3	114.7	129.0
969	54.6	66.8	75.9	91.1	106.3	121.4	136.6
1023	57.7	70.5	80.1	96.1	112.2	128.2	144.2
1076	60.7	74.2	84.3	101.2	118.1	134.9	151.8
1130	63.8	77.9	88.5	106.3	124.0	141.7	159.4
1184	66.8	81.6	92.8	111.3	129.9	148.4	167.0
1238	69.8	85.3	97.0	116.4	135.8	155.2	174.6
1292	72.9	89.0	101.2	121.4	141.7	161.9	175.4
1345	75.9	92.8	105.4	126.5	147.6	168.7	175.4
1399	78.9	96.5	109.6	131.5	153.5	175.4	175.4
1453	82.0	100.2	113.8	136.6	159.4	175.4	175.4
1507	85.0	103.9	118.1	141.7	165.3	175.4	175.4
1561	88.0	107.6	122.3	146.7	171.2	175.4	175.4
1615	91.1	111.3	126.5	151.8	175.4	175.4	175.4
1668	94.1	115.0	130.7	156.8	175.4	175.4	175.4
1722	97.1	118.7	134.9	161.9	175.4	175.4	175.4
1776	100.2	122.4	139.1	167.0	175.4	175.4	175.4
1830	103.2	126.2	143.4	172.0	175.4	175.4	175.4
1884	106.3	129.9	147.6	175.4	175.4	175.4	175.4
1938	109.3	133.6	151.8	175.4	175.4	175.4	175.4
1991	112.3	137.3	156.0	175.4	175.4	175.4	175.4
2045	115.4	141.0	160.2	175.4	175.4	175.4	175.4
2099	118.4	144.7	164.4	175.4	175.4	175.4	175.4
2153	121.4	148.4	168.7	175.4	175.4	175.4	175.4
2207	124.5	152.1	172.9	175.4	175.4	175.4	175.4
2260	127.5	155.8	175.4	175.4	175.4	175.4	175.4
2314	130.5	159.5	175.4	175.4	175.4	175.4	175.4
2368	133.6	163.3	175.4	175.4	175.4	175.4	175.4
2422	136.6	167.0	175.4	175.4	175.4	175.4	175.4
2476	139.6	170.7	175.4	175.4	175.4	175.4	175.4

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A_{adj} [m^2]	Total refrigerant charge limit (kg)						
	Effective installation height (h)						
	1.8 m	2.2 m	2.5 m	3.0 m	3.5 m	4.0 m	4.5 m
235	64.7	79.1	79.6	79.6	79.6	79.6	79.6
240	66.1	79.6	79.6	79.6	79.6	79.6	79.6
245	67.5	79.6	79.6	79.6	79.6	79.6	79.6
250	68.9	79.6	79.6	79.6	79.6	79.6	79.6
255	70.2	79.6	79.6	79.6	79.6	79.6	79.6
260	71.6	79.6	79.6	79.6	79.6	79.6	79.6
265	73.0	79.6	79.6	79.6	79.6	79.6	79.6
270	74.4	79.6	79.6	79.6	79.6	79.6	79.6
275	75.7	79.6	79.6	79.6	79.6	79.6	79.6
280	77.1	79.6	79.6	79.6	79.6	79.6	79.6
285	78.5	79.6	79.6	79.6	79.6	79.6	79.6
290	79.6	79.6	79.6	79.6	79.6	79.6	79.6
295	79.6	79.6	79.6	79.6	79.6	79.6	79.6
300	79.6	79.6	79.6	79.6	79.6	79.6	79.6

A_{adj} [$ft.^2$]	Total refrigerant charge limit (lbs.)						
	Effective installation height (h)						
	5.9 ft.	7.2 ft.	8.2 ft.	9.8 ft.	11.5 ft.	13.1 ft.	14.8 ft.
2530	142.7	174.4	175.4	175.4	175.4	175.4	175.4
2583	145.7	175.4	175.4	175.4	175.4	175.4	175.4
2637	148.8	175.4	175.4	175.4	175.4	175.4	175.4
2691	151.8	175.4	175.4	175.4	175.4	175.4	175.4
2745	154.8	175.4	175.4	175.4	175.4	175.4	175.4
2799	157.9	175.4	175.4	175.4	175.4	175.4	175.4
2852	160.9	175.4	175.4	175.4	175.4	175.4	175.4
2906	163.9	175.4	175.4	175.4	175.4	175.4	175.4
2960	167.0	175.4	175.4	175.4	175.4	175.4	175.4
3014	170.0	175.4	175.4	175.4	175.4	175.4	175.4
3068	173.0	175.4	175.4	175.4	175.4	175.4	175.4
3122	175.4	175.4	175.4	175.4	175.4	175.4	175.4
3175	175.4	175.4	175.4	175.4	175.4	175.4	175.4
3229	175.4	175.4	175.4	175.4	175.4	175.4	175.4

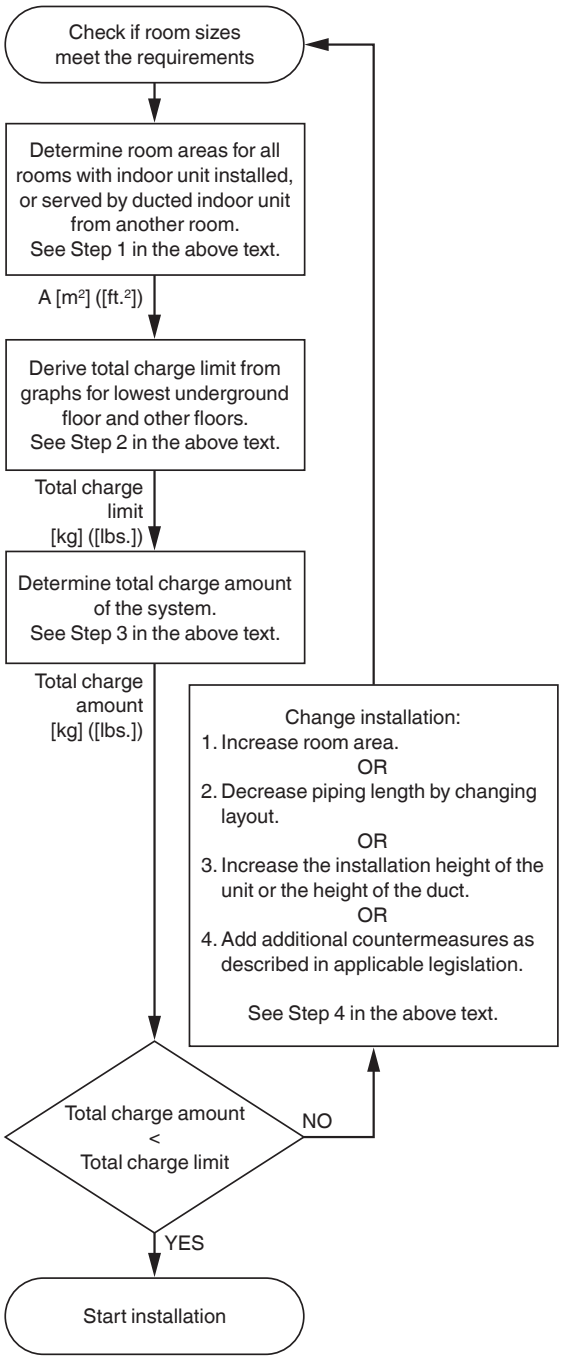
Step 3 – Determine the total amount of refrigerant in the system:
Total charge = Factory charge + additional charge =
3.4 kg (7.5 lbs.) + R[(a)]
Refer to the installation manual in the separate booklet for the calculation of the R value (additional refrigerant to be charged).

Step 4 – The total refrigerant charge in the system MUST be less than the lowest value of the refrigerant charge limit for each room where an indoor unit is installed or that is served by a ducted indoor unit installed in a different room. If NOT, change the installation (see choices below) and repeat all of the above steps.
1. Increase the area of the room restricting the total charge.
OR
2. Decrease the piping length by changing the system layout.
OR
3. Increase the installation height of the unit or the duct.
OR
4. Add additional countermeasures as described in applicable legislation.
The optional relay PC board for providing an output signal from the indoor unit can be used to connect and activate the additional countermeasures (e.g. mechanical ventilation).
Total charge can be increased to 79.6 kg (175.4 lbs.) by connecting a ventilation system.

Note: The total refrigerant charge amount in the system MUST always be lower than 79.6 kg (175.4 lbs.).

For further details, please refer to the General Safety Considerations booklet.

Flow chart



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20.Safety Devices Setting

20.1 FXFA-AA

Model	FXFA07AAVJU	FXFA09AAVJU	FXFA12AAVJU	FXFA15AAVJU	FXFA18AAVJU
Printed circuit board fuse (A2P)	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A
Printed circuit board fuse (A2P)	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A

Model	FXFA24AAVJU	FXFA30AAVJU	FXFA36AAVJU	FXFA48AAVJU	FXFA54AAVJU
Printed circuit board fuse (A2P)	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A
Printed circuit board fuse (A2P)	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A

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20.2 FXSA-AA

Model	FXSA05AAVJU	FXSA07AAVJU	FXSA09AAVJU	FXSA12AAVJU	FXSA15AAVJU	FXSA18AAVJU
Printed circuit board fuse (A2P)	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A	250 V, 3.15 A	250 V, 10 A
Printed circuit board fuse (A2P)	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A	450 V, 3.15 A	450 V, 6.3 A
Printed circuit board fuse (A3P)	—	—	—	—	—	250 V, 12 A

Model	FXSA24AAVJU	FXSA30AAVJU	FXSA36AAVJU	FXSA48AAVJU	FXSA54AAVJU
Printed circuit board fuse (A2P)	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A
Printed circuit board fuse (A2P)	450 V, 6.3 A	450 V, 6.3 A	450 V, 6.3 A	450 V, 6.3 A	450 V, 6.3 A
Printed circuit board fuse (A3P)	250 V, 12 A	250 V, 12 A	250 V, 12 A	250 V, 12 A	250 V, 12 A

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20.3 FXMA-AA

Model	FXMA15AAVJU	FXMA18AAVJU	FXMA24AAVJU	FXMA30AAVJU	FXMA36AAVJU	FXMA48AAVJU	FXMA54AAVJU
Printed circuit board fuse (A2P)	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A
Printed circuit board fuse (A2P)	450 V, 6.3 A	450 V, 6.3 A	450 V, 6.3 A	450 V, 6.3 A	450 V, 6.3 A	450 V, 6.3 A	450 V, 6.3 A
Printed circuit board fuse (A3P)	250 V, 12 A	250 V, 12 A	250 V, 12 A	250 V, 12 A	250 V, 12 A	250 V, 12 A	250 V, 12 A

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20.4 FXTA-AA

Model (without factory disconnect)	FXTA09AAVJUA	FXTA12AAVJUA	FXTA18AAVJUA	FXTA24AAVJUA	FXTA30AAVJUA
Model (with factory disconnect)	FXTA09AAVJUD	FXTA12AAVJUD	FXTA18AAVJUD	FXTA24AAVJUD	FXTA30AAVJUD
Printed circuit board fuse (F1U)	32 V, 3 A	32 V, 3 A	32 V, 3 A	32 V, 3 A	32 V, 3 A
Printed circuit board fuse (F2U)	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A
Others	Blower motor, Fan driver overload protector				

Model (without factory disconnect)	FXTA36AAVJUA	FXTA42AAVJUA	FXTA48AAVJUA	FXTA54AAVJUA	FXTA60AAVJUA
Model (with factory disconnect)	FXTA36AAVJUD	FXTA42AAVJUD	FXTA48AAVJUD	FXTA54AAVJUD	FXTA60AAVJUD
Printed circuit board fuse (F1U)	32 V, 3 A	32 V, 3 A	32 V, 3 A	32 V, 3 A	32 V, 3 A
Printed circuit board fuse (F2U)	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A	250 V, 10 A
Others	Blower motor, Fan driver overload protector				

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1. Introduction

1.1 ED Book List

Design Manual ..... RXTA-AAVJU ..... **EDUS332501-D (This booklet)**

Capacity Table Book

Heat Pump ..... RXTA-AAVJU **EDUS332501-C**

Indoor Units

Ceiling Mounted Cassette (Round Flow with Sensing) .... FXFA-AA **EDUS392414-F14**

MSP Concealed Ducted Unit ..... FXSA-AA **EDUS392412-F17**

HSP Concealed Ducted Unit ..... FXMA-AA **EDUS392413-F4**

Air Handling Unit ..... FXTA-AA .... **Engineering Data FXTA-AA**

1.2 Publication List of Engineering Data for *VRV* Products

Shaded sections indicate Engineering Data Book/s published for this series.
Timing of publication is subject to change without notice.

Outdoor Unit

Refrigerant	Category	Product series	Type	Volts	Model name	Area	Book category	Book No.	Published in
R32	Air cooled	***VRV*** S	H/P	208/230 V	RXTA-AAVJU	USA Canada	Design Manual	EDUS332501-D	Jan.2025
							Capacity Table	EDUS332501-C	
		VRV S Aurora	H/P	208/230 V	RXLA-AAVJU	USA Canada	Design Manual	EDUS332503-D	Jan.2025
							Capacity Table	EDUS332503-C	

Note:
C/O: Cooling only, H/P: Heat pump, H/R: Heat recovery

Indoor Unit and Other Products

Refrigerant	Product category	Product type	Model name	Area	Book No.	Published in
R32	***VRV*** Indoor units	Ceiling Mounted Cassette (Round Flow with Sensing)	FXFA07-54AAVJU	USA Canada	EDUS392414-F14	Feb.2025
		MSP Concealed Ducted Unit	FXSA05-54AAVJU	USA Canada	EDUS392412-F17	Feb.2025
		HSP Concealed Ducted Unit	FXMA15-54AAVJU	USA Canada	EDUS392413-F4	Feb.2025
		Air Handling Unit	FXTA09-60AAVJUA FXTA09-60AAVJUD	USA Canada	Engineering Data FXTA-AA	Apr.2025

Warning

- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the user's manual carefully before using this product. The user's manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

●Specifications, designs and other content appearing in this brochure are current as of January 2025 but subject to change without notice.

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