DAIKIN

EDUS391434-B

R-410A

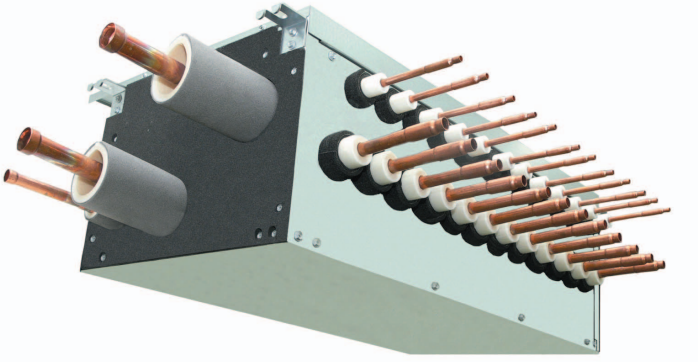
Engineering Data

BSQ-TVJ
BS-Q54TVJ
Branch Selector Unit

Single Branch Selector Unit
BSQ36-96TVJ



Multi Branch Selector Unit
BS4-12Q54TVJ



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Appendix 1 Installation Manual for Single Branch Selector Unit **A1**

Appendix 2 Installation Manual for Multi Branch Selector Unit **A2**

Part 1
General Information

1. Model Names of Branch Selector Unit 4
2. External Appearance 4
   2.1 Branch Selector Unit 4
3. Interchangeability 4
4. Nomenclature 5
5. Capacity Range 6
   5.1 Limitation of capacity index for Heat Recovery 6

1. Model Names of Branch Selector Unit

Single Branch Selector Unit for Heat Recovery

Series		Model Name			Power Supply, Standard
Heat Recovery	BSQ	36T	60T	96T	VJ

Note: No interchangeability between BSVQ-PVJU and BSQ-TVJ.

VJ: 1 phase, 208/230V, 60Hz

Multi Branch Selector Unit for Heat Recovery

Series		Model Name					Power Supply, Standard
Heat Recovery	BS	4Q54T	6Q54T	8Q54T	10Q54T	12Q54T	VJ

Note: No interchangeability between BSV-Q36PVJU and BS-Q54TVJ.

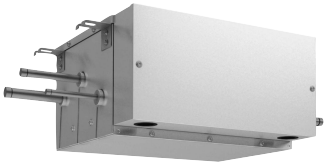
VJ: 1 phase, 208/230V, 60Hz

2. External Appearance

2.1 Branch Selector Unit

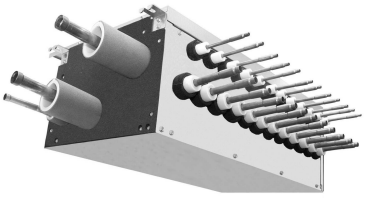
Single Branch Selector Unit

BSQ36TVJ
BSQ60TVJ
BSQ96TVJ



Multi Branch Selector Unit

BS4Q54TVJ
BS6Q54TVJ
BS8Q54TVJ
BS10Q54TVJ
BS12Q54TVJ



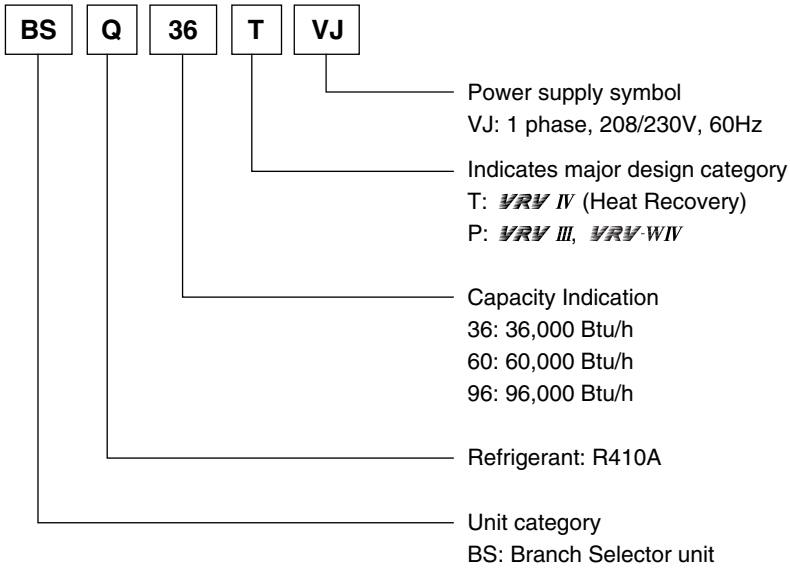
3. Interchangeability

Outdoor unit				Branch Selector unit	New Branch Selector unit		(Reference) Current Branch Selector unit	
					Single Branch Selector unit	Multi Branch Selector unit	Single Branch Selector unit	Multi Branch Selector unit
					BSQ36TVJ BSQ60TVJ BSQ96TVJ	BS4Q54TVJ BS6Q54TVJ BS8Q54TVJ BS10Q54TVJ BS12Q54TVJ	BSVQ36PVJU BSVQ60PVJU BSVQ96PVJU	BSV4Q36PVJU BSV6Q36PVJU
VRV IV	Heat Recovery	REYQ-T	REYQ-TYDN	Connectable	Connectable	Not connectable	Not connectable	
			REYQ-TTJU	Connectable	Connectable	Not connectable	Not connectable	
VRV III	Heat Recovery	REYQ-PC	REYQ-PCYD	Connectable (*1)	Connectable (*1)	Connectable (*1)	Connectable (*1)	
			REYQ-PCTJ	Connectable (*1)	Connectable (*1)	Connectable (*1)	Connectable (*1)	
VRV-WIV	Heat Recovery Heat Pump	RWEYQ-PC	RWEYQ-PCYD	Connectable (*1)	Connectable (*1)	Connectable (*1)	Connectable (*1)	
			RWEYQ-PCTJ	Connectable (*1)	Connectable (*1)	Connectable (*1)	Connectable (*1)	

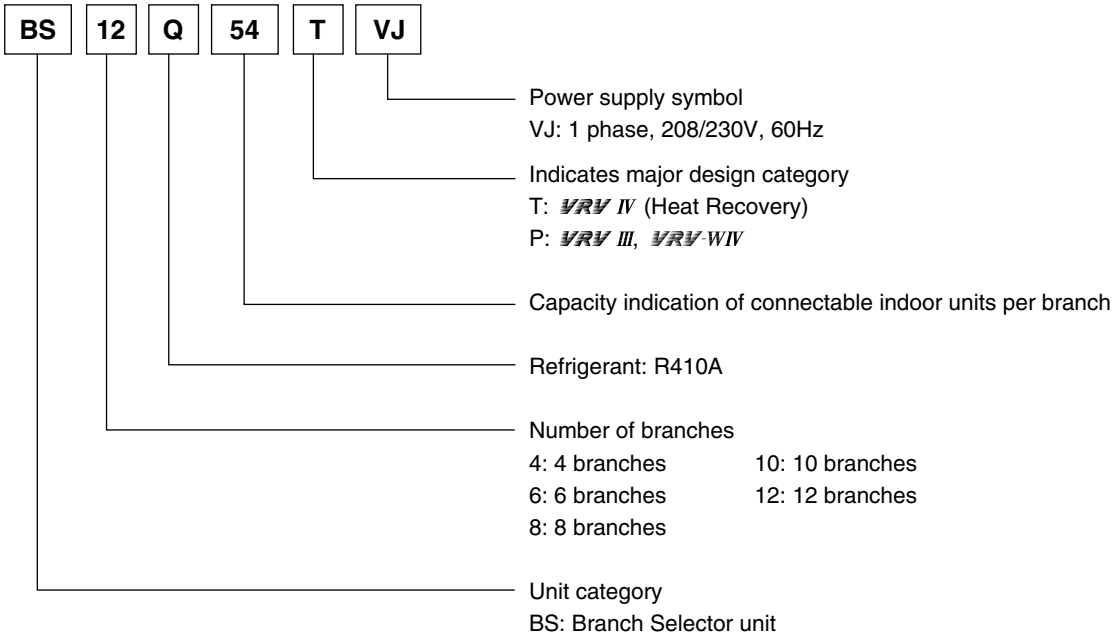
Note: *1. Combination of P-series and T-series of Branch Selector units in a single system is not permitted. Combining the two series may cause malfunction.

4. Nomenclature

Single Branch Selector unit (only necessary for Heat Recovery System)



Multi Branch Selector unit (only necessary for Heat Recovery System)



5. Capacity Range

5.1 Limitation of capacity index for Heat Recovery

Single Branch Selector unit

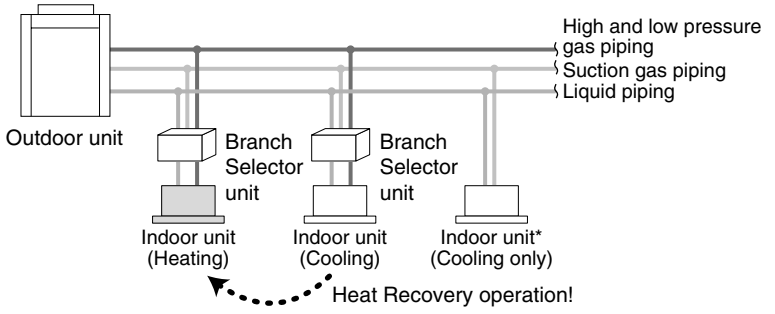
Model	BSQ36TVJ	BSQ60TVJ	BSQ96TVJ
Maximum number of connectable indoor units	4	8	8
Total capacity index of connectable indoor units	unit ≤ 36	36 < unit ≤ 60	60 < unit ≤ 96

Multi Branch Selector unit

Model	BS4Q54TVJ	BS6Q54TVJ	BS8Q54TVJ	BS10Q54TVJ	BS14Q54TVJ
Maximum number of connectable indoor units	20	30	40	41	41
Maximum number of connectable indoor units per branch	5	5	5	5	5
Number of branches	4	6	8	10	12
Maximum capacity index of connectable indoor units	144 or less	216 or less	290 or less	290 or less	290 or less
Maximum capacity index of connectable indoor units per branch (*1)	54 or less	54 or less	54 or less	54 or less	54 or less

Note: *1. When the total capacity of indoor units to be connected downstream is larger than 54 (Max. 96), use a junction pipe kit (KHRP26A250T, optional parts) to join two connections downstream from the Branch Selector unit.

Heat Recovery



★For indoor units used for cooling only (do not connect to Branch Selector unit when using for Heat Recovery), total capacity index must be 50% or less than the capacity index of the outdoor units.

Part 2
Branch Selector Unit

BSQ-TVJ
Single Branch Selector Unit 9

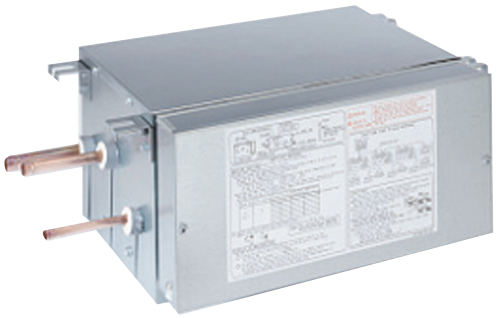
BS-Q54TVJ
Multi Branch Selector Unit 25

BSQ-TVJ
Single Branch Selector Unit

1. Features and Benefits - Single-port 10
2. Specifications 11
3. Dimensions 12
4. Piping Diagrams 15
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1. Features and Benefits - Single-port

Daikin's new single-port branch selector boxes are ideal for spaces that require individual heating and cooling control.



BSQ36TVJ, BSQ60TVJ & BSQ96TVJ
Single-port

- Individual control and changeover for one group of indoor units
- 36, 60 and 96 MBH capacity per port options
- Lower sound levels thanks to simplified mechanical design, when compared to VRV III models
- Ultimate design flexibility - single and multi-port units can be combined in one system
- Low built-in height
- Requires minimal installation space
- No drain piping needed

Branch Selector Boxes Compatibility:

Single-port Branch Selector Boxes BS-TVJ series are compatible with VRV IV REYQ-T, VRV-W IV RWEYQ-PC and VRV III REYQ-PC series.

2. Specifications

Model				BSQ36TVJ	BSQ60TVJ	BSQ96TVJ
Power supply				1 phase, 208/230V, 60Hz	1 phase, 208/230V, 60Hz	1 phase, 208/230V, 60Hz
Maximum number of connectable indoor units				4	8	8
Total capacity index of connectable indoor units				36 or less	More than 36 and 60 or less	More than 60 and 96 or less
Casing				Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
Dimensions: (H×W×D)			in.	8-1/8 × 15-1/4 × 12-13/16	8-1/8 × 15-1/4 × 12-13/16	8-1/8 × 15-1/4 × 12-13/16
			mm	207 × 388 × 326	207 × 388 × 326	207 × 388 × 326
Sound absorbing thermal insulation material				Foamed polyurethane, Flame resistant needle felt	Foamed polyurethane, Flame resistant needle felt	Foamed polyurethane, Flame resistant needle felt
Connecting pipes	Indoor unit	Liquid pipes	in. (mm)	ϕ3/8 (ϕ9.5) C1220T (Brazing connection) ★1	ϕ3/8 (ϕ9.5) C1220T (Brazing connection)	ϕ3/8 (ϕ9.5) C1220T (Brazing connection)
		Gas pipes	in. (mm)	ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★1	ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★2	ϕ7/8 (ϕ22.2) C1220T (Brazing connection) ★3
	Outdoor unit	Liquid pipes	in. (mm)	ϕ3/8 (ϕ9.5) C1220T (Brazing connection)	ϕ3/8 (ϕ9.5) C1220T (Brazing connection)	ϕ3/8 (ϕ9.5) C1220T (Brazing connection)
		Suction gas pipes	in. (mm)	ϕ5/8 (ϕ15.9) C1220T (Brazing connection)	ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★2	ϕ7/8 (ϕ22.2) C1220T (Brazing connection) ★3
		HP/LP gas pipes	in. (mm)	ϕ1/2 (ϕ12.7) C1220T (Brazing connection)	ϕ1/2 (ϕ12.7) C1220T (Brazing connection) ★2	ϕ3/4 (ϕ19.1) C1220T (Brazing connection) ★3
Weight			lbs	24	24	31
			kg	11	11	14
★4 ★5 ★6 ★7 Sound level (Reference data)	Operating sound		dB(A)	35	41	41
	Max. sound		dB(A)	40	45	45
Standard accessories				Installation manual, Accessory pipes, Insulation pipe cover, Clamps	Installation manual, Accessory pipes, Insulation pipe cover, Clamps	Installation manual, Accessory pipes, Insulation pipe cover, Clamps
Drawing No.	Specifications			C: 4D092812	C: 4D092813	C: 4D092814
	Sound level			C: 4D092818A	C: 4D092819A	C: 4D092819A

Notes:

★1. In case of connecting with a 07 to18 type indoor unit, match to the size of field pipes using the accessory pipes.
(Connection between the accessory pipes and the field pipes must be brazed.)

★2. In case of connecting with indoor unit capacity index 54 or more and 60 or less, match to the size of the field pipes using the accessory pipes.
(Connection between the accessory pipes and the field pipes must be brazed.)

★3. In case of connecting with a 72 type indoor unit or indoor unit capacity index more than 60 and less than 72, match to the size of the field pipes using the accessory pipes.
(Connection between the accessory pipes and the field pipes must be brazed.)

★4. 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.

★5. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating, operating sound can be heard.

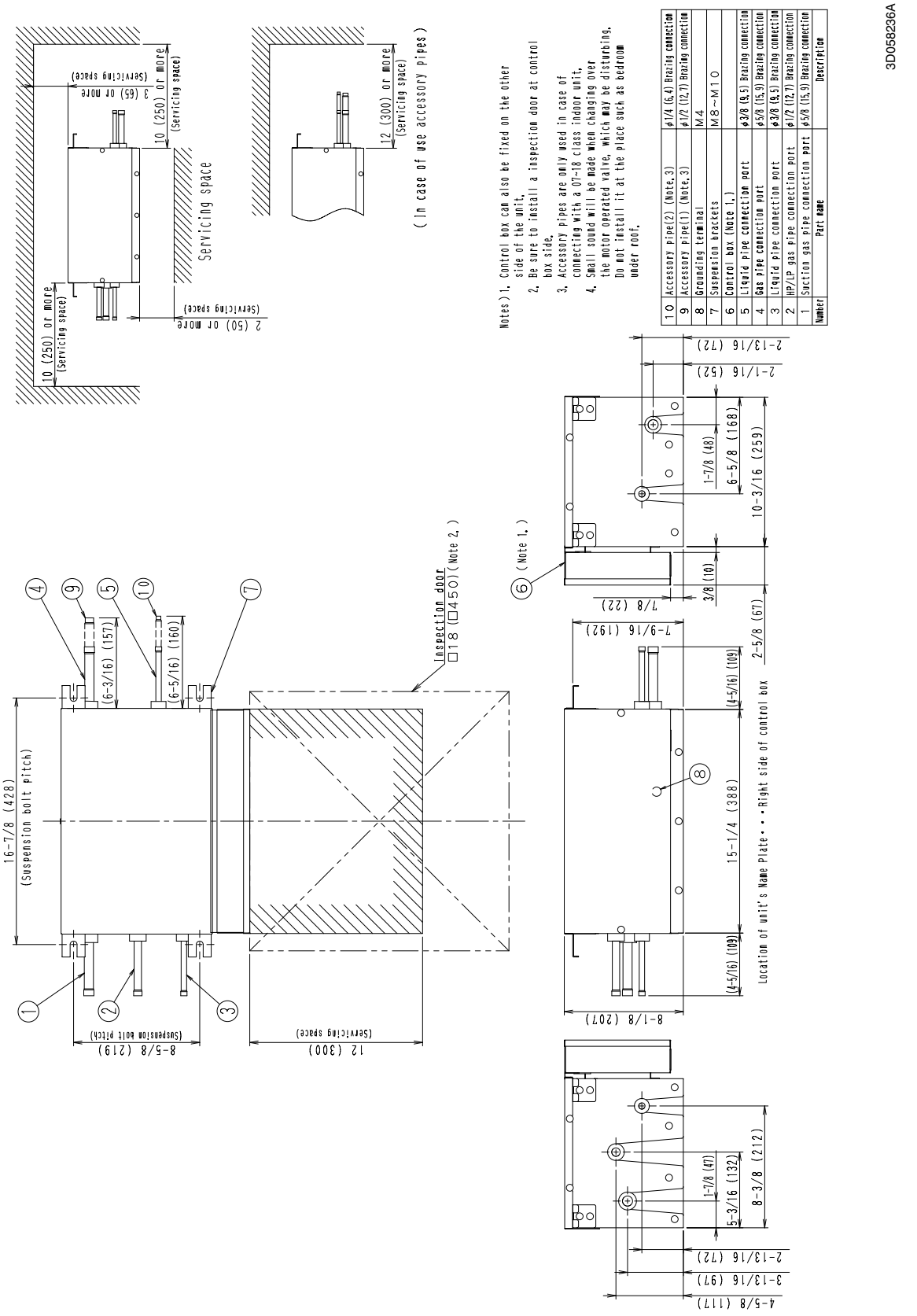
★6. A transient sound means the operated sound of the change of cooling and heating, or oil return, or defrost.

★7. The maximum sound is max value of transient sound (the change of cooling and heating).

3. Dimensions

BSQ36TVJ

Unit: in. (mm)

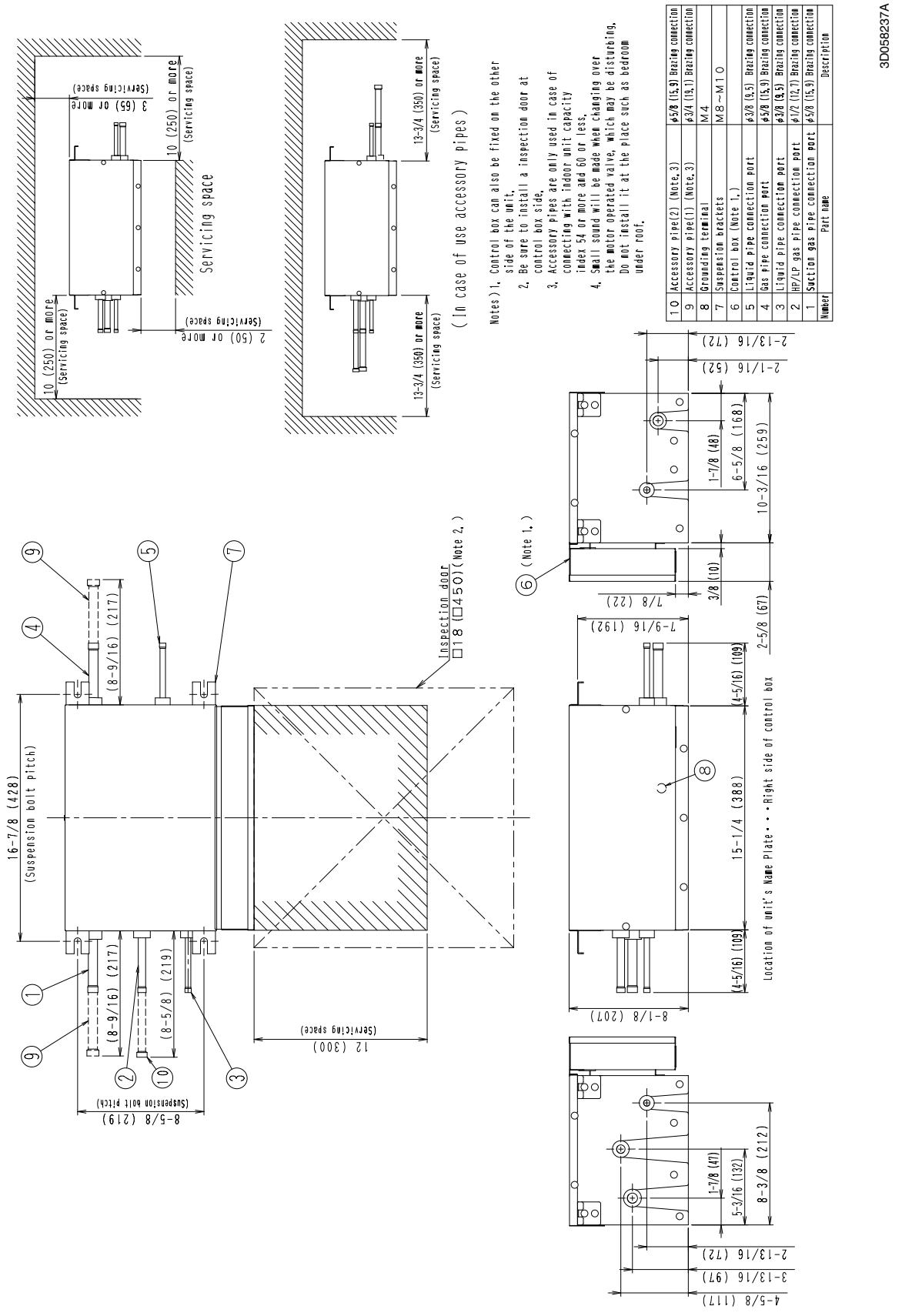


Number	Part name	Description
10	Accessory pipe(2) (Note. 3)	ø1/4 (6.4) Brazing connection
9	Accessory pipe(1) (Note. 3)	ø1/2 (12.7) Brazing connection
8	Grounding terminal	M4
7	Suspension brackets	M8~M10
6	Control box (Note 1.)	
5	Liquid pipe connection port	ø3/8 (9.5) Brazing connection
4	Gas pipe connection port	ø5/8 (15.9) Brazing connection
3	Liquid pipe connection port	ø3/8 (9.5) Brazing connection
2	HP/LP gas pipe connection port	ø1/2 (12.7) Brazing connection
1	Suction gas pipe connection port	ø5/8 (15.9) Brazing connection

2

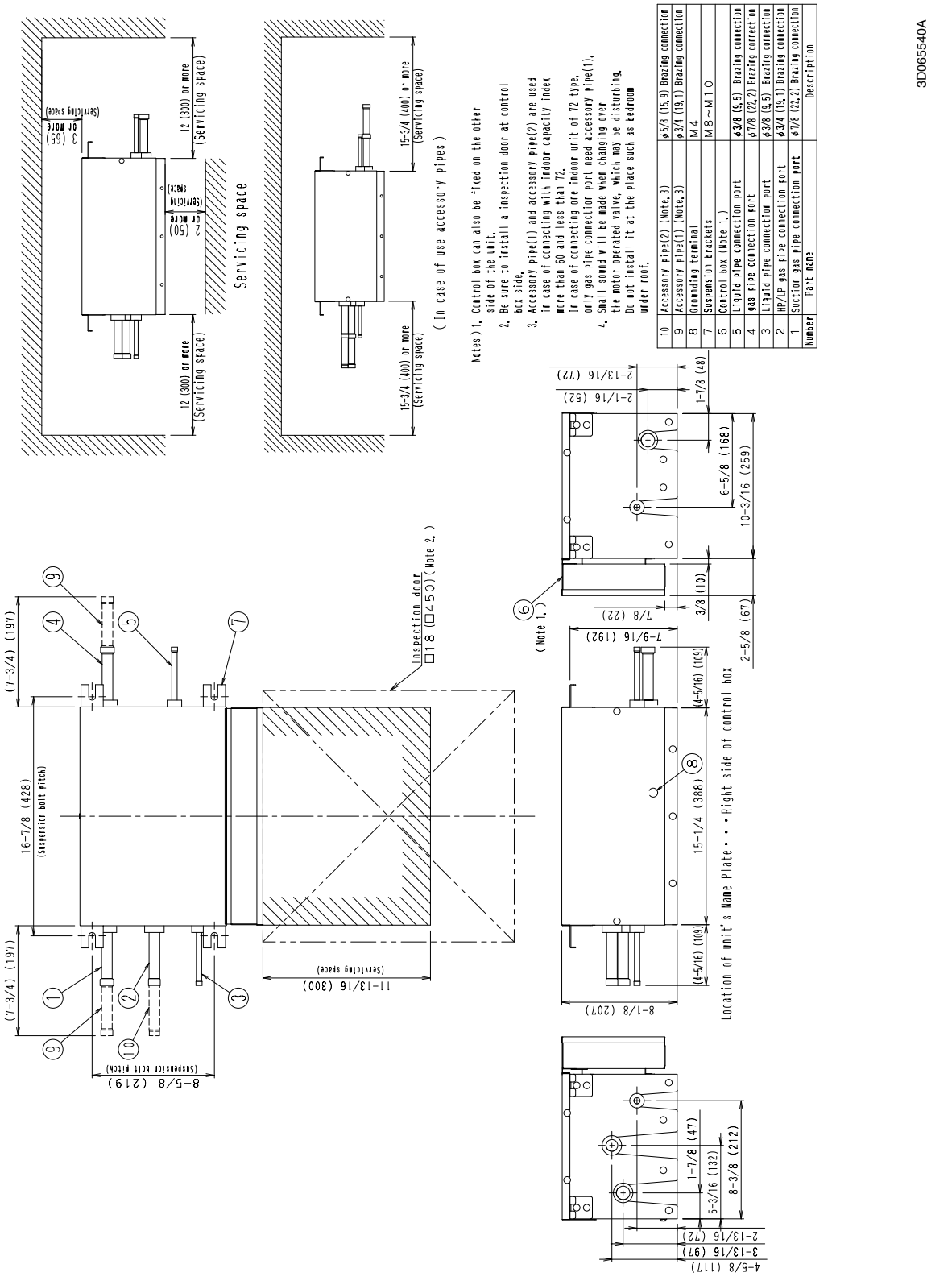
BSQ60TVJ

Unit: in. (mm)



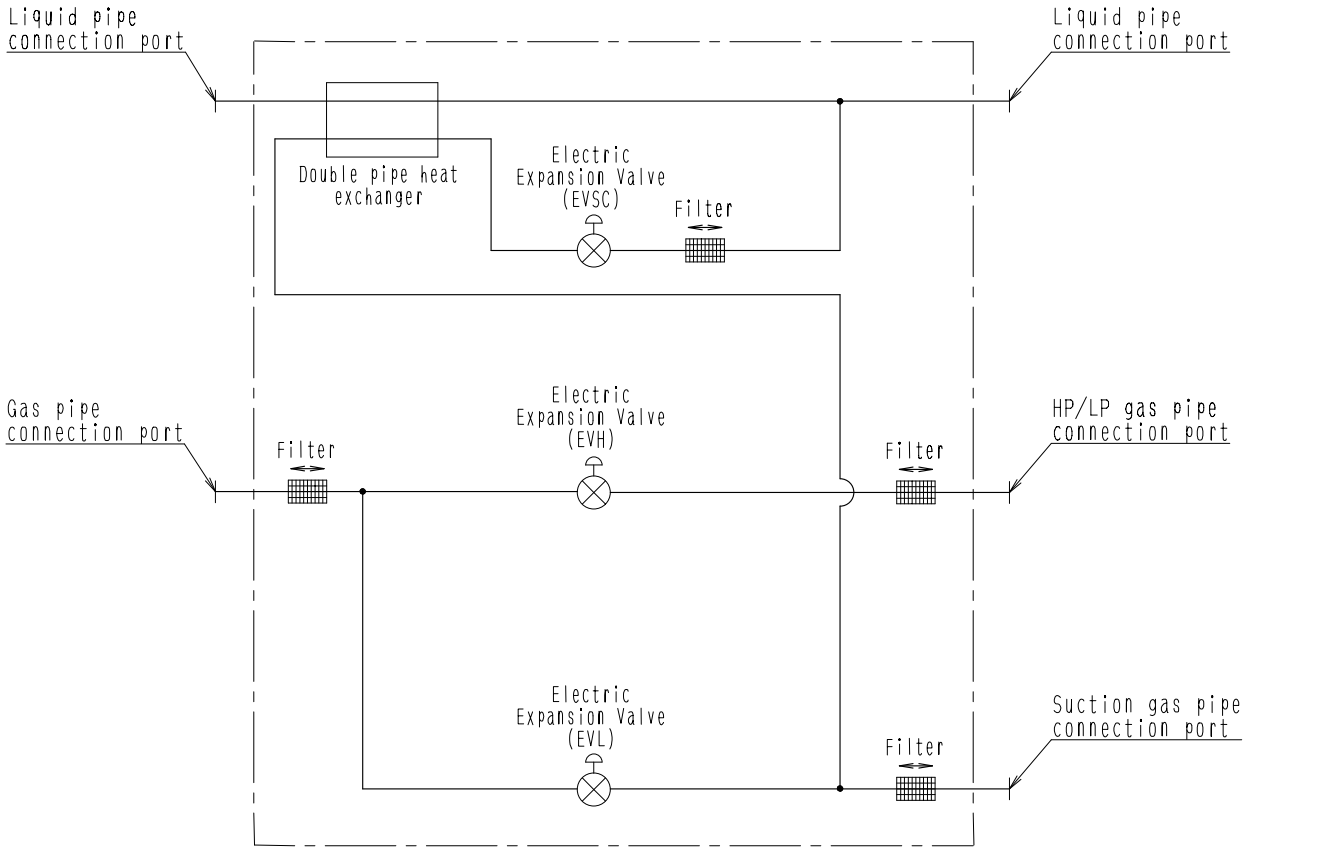
BSQ96TVJ

Unit: in. (mm)



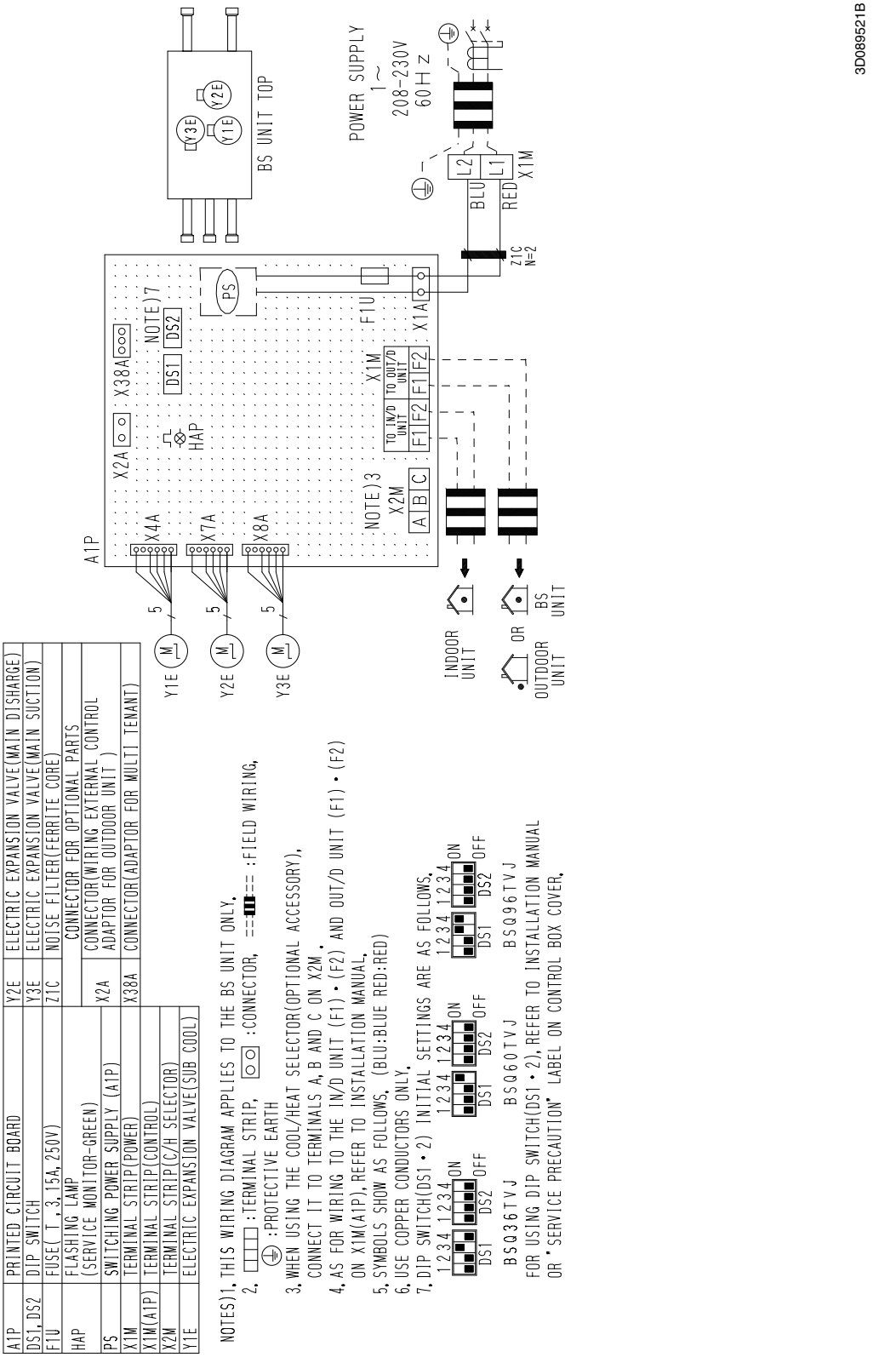
4. Piping Diagrams

BSQ36TVJ/BSQ60TVJ/BSQ96TVJ



5. Wiring Diagrams

BSQ36TVJ/BSQ60TVJ/BSQ96TVJ



6. Electric Characteristics

BSQ36TVJ/BSQ60TVJ/BSQ96TVJ

Units				Power supply		IFM		Input(W)	
Model	Hz	Volts	Voltage range	MCA	MOP	KW	FLA	Cooling	Heating
BSQ36TVJ	60	208/230	MAX. 253 Min. 187	0.1	15	——	——	5	5
BSQ60TVJ				0.1	15	——	——	5	5
BSQ96TVJ				0.1	15	——	——	5	5

Symbols:

MCA : Minimum. Circuit Ampacity (A)
MOP : Maximum Overcurrent Protective Device(A)
KW : Fan Motor Rated Output(HP)
FLA : Full Load Ampacity(A)
IFM : Indoor Fan Motor

Note:

1. Voltage range

   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.

2. Maximum allowable voltage unbalance between phases is 2%.

3. MCA/MOP

   MCA = 1.25 X FLA

   MOP ≦ 4 X FLA

   (Next lower standard protective device rating. Min.15A)

4. Select wire size based on MCA.

4D092815A

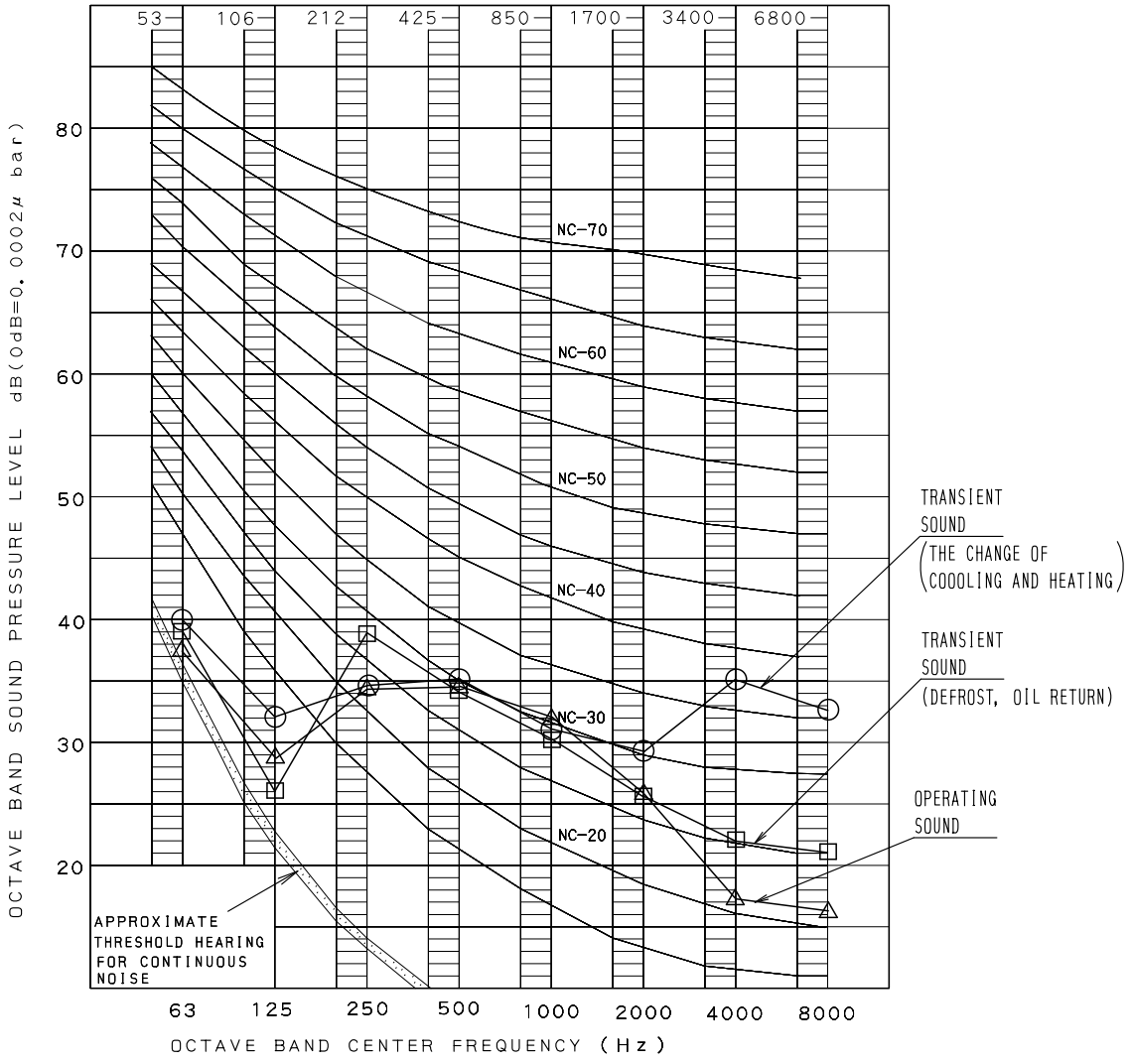
7. Safety Devices Setting

Model	BSQ36TVJ	BSQ60TVJ	BSQ96TVJ
Printed circuit board fuse	250V 3.15A	250V 3.15A	250V 3.15A

C: 4D057956D

8. Sound Levels (Reference Data)

BSQ36TVJ



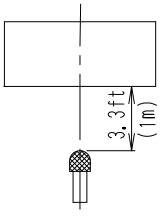
OVER ALL (dB)

SCALE	OPERATING SOUND	MAX SOUND
A	35	40
C	42	44

OPERATING CONDITIONS

POWER SOURCE 208/230V 60Hz

LOCATION OF MICROPHONE



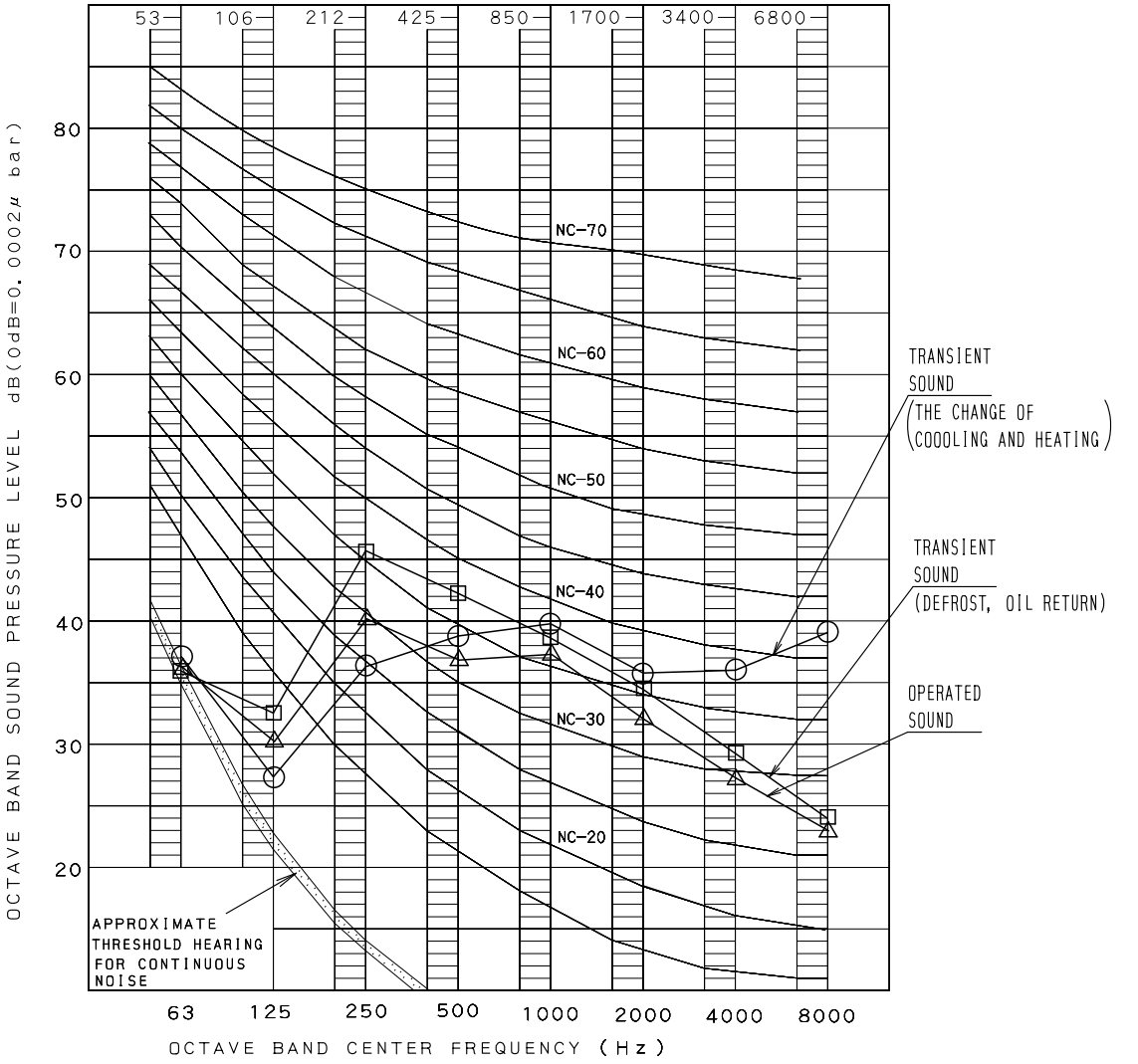
MEASURING PLACE

ANECHOIC CHAMBER(CONVERSION VALUE)

Note)1. 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.
2. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating, operating sound can be heard.
3. A transient sound means the operated sound of the change of cooling and heating, or oil return, or defrost.
4. The maximum sound is max value of transient sound (the change of cooling and heating).

4D092818A

BSQ60TVJ/BSQ96TVJ



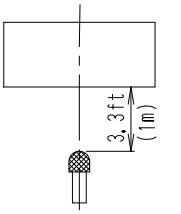
OVER ALL (dB)

SCALE	OPERATING SOUND	MAX SOUND
A	41	45
C	45	49

OPERATING CONDITIONS

POWER SOURCE 208/230V 60Hz

LOCATION OF MICROPHONE



MEASURING PLACE

ANECHOIC CHAMBER(CONVERSION VALUE)

Note)1. 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.
2. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating, operating sound can be heard.
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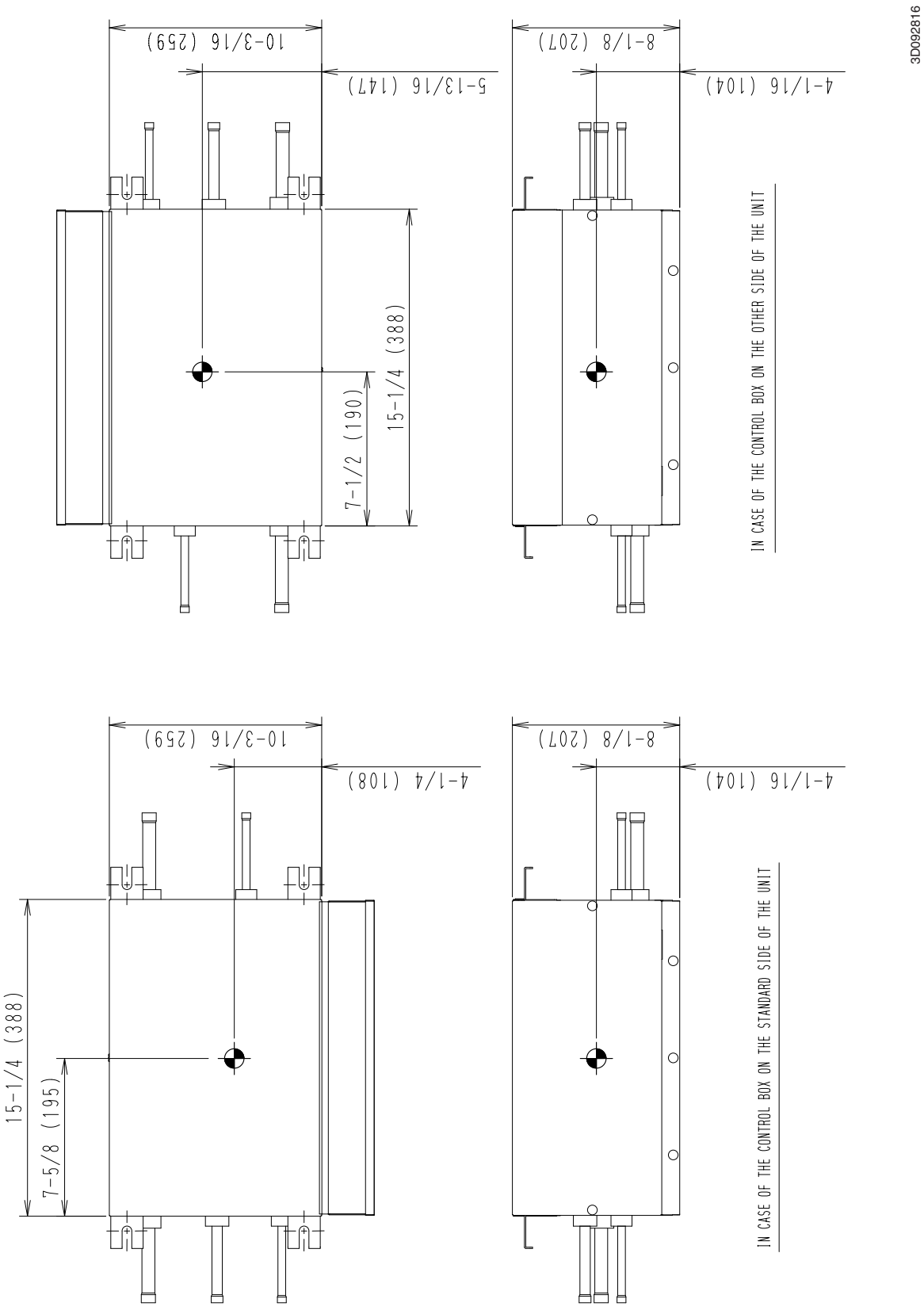
4D092819A

9. Center of Gravity

2

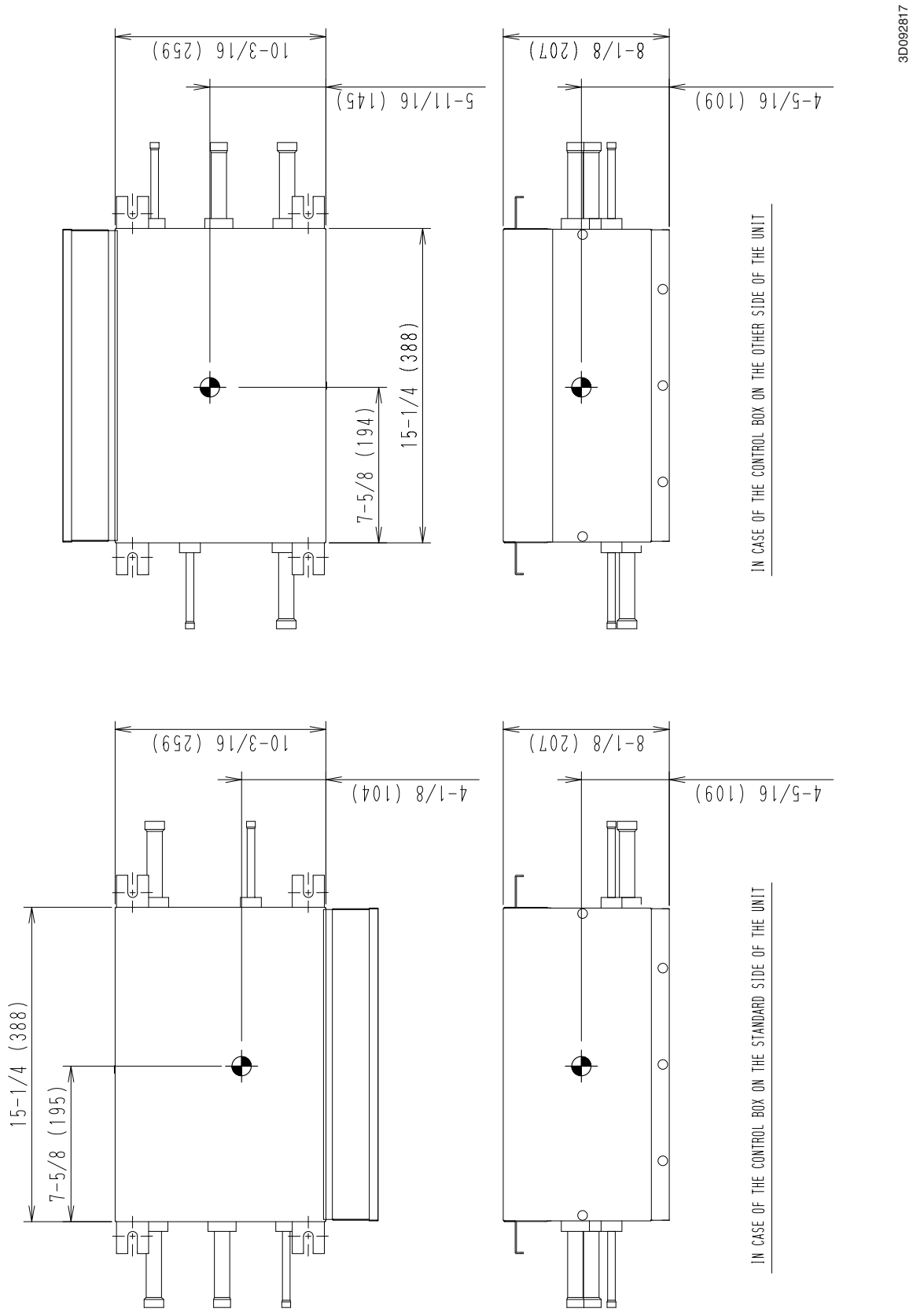
BSQ36TVJ/BSQ60TVJ

Unit: in. (mm)



BSQ96TVJ

Unit: in. (mm)



10. Accessories

10.1 Optional Accessories (For Control)

Option	BSQ36TVJ BSQ60TVJ BSQ96TVJ
External control adaptor for outdoor units	DTA104A61

C: 3D092346B

BS-Q54TVJ
Multi Branch Selector Unit

3

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1. Features and Benefits - Multi-port

Providing flexibility and minimizing mechanical and electrical installation costs, Daikin's new branch selector boxes are ideal for spaces that require individual heating and cooling control.



BS4Q54TVJ
4 port



BS6Q54TVJ & BS8Q54TVJ
6-8 port



BS10Q54TVJ, BS12Q54TVJ
10-12 port

- Individual control and changeover with extended range of product offerings - 4, 6, 8, 10 and 12 port options
- Up to 54 MBH capacity per port
- Lower sound levels thanks to simplified mechanical design, when compared to VRV III models
- Ultimate design flexibility - single and multi-port units can be combined in one system
  - Up to 72% reduction in footprint, as compared to VRV III models
  - Up to 65% reduction in weight, as compared to VRV III models
- Quick installation due to fewer brazing points and less wiring
- Unlimited number of unused ports per box or system.
- Low built-in height
- No drain piping needed

Branch Selector Boxes Compatibility:

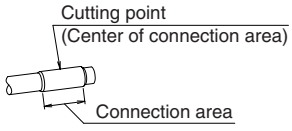
Multi-port Branch Selector Boxes BS-TVJ series are compatible with VRV IV REYQ-T, VRV-W IV RWEYQ-PC and VRV III REYQ-PC series.

2. Specifications

Model				BS4Q54TVJ	BS6Q54TVJ
Power supply				1 phase, 208/230V, 60Hz	1 phase, 208/230V, 60Hz
Maximum number of connectable indoor units				20	30
Maximum number of connectable indoor units per branch				5	5
Number of branches				4	6
Maximum capacity index of connectable indoor units				144 or less	216 or less
Maximum capacity index of connectable indoor units per branch				54 or less	54 or less
Casing				Galvanized steel plate	Galvanized steel plate
Dimensions: (H×W×D)			in. (mm)	11-3/4 × 14-9/16 × 18-15/16 (298 × 370 × 480)	11-3/4 × 22-13/16 × 18-15/16 (298 × 580 × 480)
Sound absorbing thermal insulation material				Urethane foam, Polyethylene foam	Urethane foam, Polyethylene foam
Connecting pipes	Indoor unit	Liquid pipes	in. (mm)	ϕ1/4 (ϕ6.4), ϕ3/8 (ϕ9.5) C1220T (Brazing connection) ★1	ϕ1/4 (ϕ6.4), ϕ3/8 (ϕ9.5) C1220T (Brazing connection) ★1
		Gas pipes	in. (mm)	ϕ1/2 (ϕ12.7), ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★1	ϕ1/2 (ϕ12.7), ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★1
	Outdoor unit	Liquid pipes	in. (mm)	ϕ3/8 (ϕ9.5) C1220T (Brazing connection) ★2 ★3	ϕ1/2 (ϕ12.7) C1220T (Brazing connection) ★2 ★3
		Suction gas pipes	in. (mm)	ϕ7/8 (ϕ22.2) C1220T (Brazing connection) ★2 ★3	ϕ1-1/8 (ϕ28.6) C1220T (Brazing connection) ★2 ★3
		HP/LP gas pipes	in. (mm)	ϕ3/4 (ϕ19.1) C1220T (Brazing connection) ★2 ★3	ϕ3/4 (ϕ19.1) C1220T (Brazing connection) ★2 ★3
Weight			lbs	49	68
			kg	22	31
★4 ★5 ★6 Sound level (Reference data)	Operating sound		dB(A)	38	39
	Max. sound		dB(A)	45	47
Standard accessories				Accessory pipes, Clamps, Insulation tube, Vinyl tube, Installation manual	Accessory pipes, Clamps, Insulation tube, Vinyl tube, Installation manual
Drawing No.	Specifications			C: 4D092338A	C: 4D092339A
	Sound level			C: 4D092295	C: 4D092296

Notes:

★1. In case of connecting with a 07 to 18 type indoor unit, there is no need to cut and connect as it is.
In case of others, cut the outlet pipe and connect to the connecting pipe.

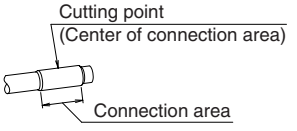


★2. In case joint diameter does not suit on the triple piping side, need reducer (field supply).
★3. Insulators are necessary (field supply) for the triple piping side.
★4. The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
★5. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating, operating sound can be heard.
★6. The maximum sound is max value of transient sound, such as oil return and defrost, the change of cooling and heating, etc.

Model				BS8Q54TVJ	BS10Q54TVJ
Power supply				1 phase, 208/230V, 60Hz	1 phase, 208/230V, 60Hz
Maximum number of connectable indoor units				40	41
Maximum number of connectable indoor units per branch				5	5
Number of branches				8	10
Maximum capacity index of connectable indoor units				290 or less	290 or less
Maximum capacity index of connectable indoor units per branch				54 or less	54 or less
Casing				Galvanized steel plate	Galvanized steel plate
Dimensions: (H×W×D)			in. (mm)	11-3/4 × 22-13/16 × 18-15/16 (298 × 580 × 480)	11-3/4 × 32-5/16 × 18-15/16 (298 × 820 × 480)
Sound absorbing thermal insulation material				Urethane foam, Polyethylene foam	Urethane foam, Polyethylene foam
Connecting pipes	Indoor unit	Liquid pipes	in. (mm)	ϕ1/4 (ϕ6.4), ϕ3/8 (ϕ9.5) C1220T (Brazing connection) ★1	ϕ1/4 (ϕ6.4), ϕ3/8 (ϕ9.5) C1220T (Brazing connection) ★1
		Gas pipes	in. (mm)	ϕ1/2 (ϕ12.7), ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★1	ϕ1/2 (ϕ12.7), ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★1
	Outdoor unit	Liquid pipes	in. (mm)	ϕ1/2 (ϕ12.7) C1220T (Brazing connection) ★2 ★3	ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★2 ★3
		Suction gas pipes	in. (mm)	ϕ1-1/8 (ϕ28.6) C1220T (Brazing connection) ★2 ★3	ϕ1-1/8 (ϕ28.6) C1220T (Brazing connection) ★2 ★3
		HP/LP gas pipes	in. (mm)	ϕ3/4 (ϕ19.1) C1220T (Brazing connection) ★2 ★3	ϕ1-1/8 (ϕ28.6) C1220T (Brazing connection) ★2 ★3
Weight			lbs	73	101
			kg	33	46
★4 ★5 ★6 Sound level (Reference data)	Operating sound		dB(A)	39	40
	Max. sound		dB(A)	47	48
Standard accessories				Accessory pipes, Clamps, Insulation tube, Vinyl tube, Installation manual	Accessory pipes, Clamps, Insulation tube, Vinyl tube, Installation manual
Drawing No.	Specifications			C: 4D092340A	C: 4D092341A
	Sound level			C: 4D092296	C: 4D092297

Notes:

★1. In case of connecting with a 07 to 18 type indoor unit, there is no need to cut and connect as it is.
In case of others, cut the outlet pipe and connect to the connecting pipe.



★2. In case joint diameter does not suit on the triple piping side, need reducer (field supply).

★3. Insulators are necessary (field supply) for the triple piping side.

★4. 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.

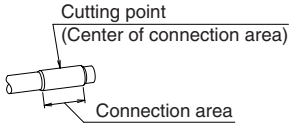
★5. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating, operating sound can be heard.

★6. The maximum sound is max value of transient sound, such as oil return and defrost, the change of cooling and heating, etc.

Model				BS12Q54TVJ
Power supply				1 phase, 208/230V, 60Hz
Maximum number of connectable indoor units				41
Maximum number of connectable indoor units per branch				5
Number of branches				12
Maximum capacity index of connectable indoor units				290 or less
Maximum capacity index of connectable indoor units per branch				54 or less
Casing				Galvanized steel plate
Dimensions: (H×W×D)			in. (mm)	11-3/4 × 32-5/16 × 18-15/16 (298 × 820 × 480)
Sound absorbing thermal insulation material				Urethane foam, Polyethylene foam
Connecting pipes	Indoor unit	Liquid pipes	in. (mm)	ϕ1/4 (ϕ6.4), ϕ3/8 (ϕ9.5) C1220T (Brazing connection) ★1
		Gas pipes	in. (mm)	ϕ1/2 (ϕ12.7), ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★1
	Outdoor unit	Liquid pipes	in. (mm)	ϕ5/8 (ϕ15.9) C1220T (Brazing connection) ★2 ★3
		Suction gas pipes	in. (mm)	ϕ1-1/8 (ϕ28.6) C1220T (Brazing connection) ★2 ★3
		HP/LP gas pipes	in. (mm)	ϕ1-1/8 (ϕ28.6) C1220T (Brazing connection) ★2 ★3
Weight			lbs	106
			kg	48
★4 ★5 ★6 Sound level (Reference data)	Operating sound		dB(A)	40
	Max. sound		dB(A)	48
Standard accessories				Accessory pipes, Clamps, Insulation tube, Vinyl tube, Installation manual
Drawing No.	Specifications			C: 4D092342A
	Sound level			C: 4D092297

Notes:

★1. In case of connecting with a 07 to 18 type indoor unit, there is no need to cut and connect as it is.
In case of others, cut the outlet pipe and connect to the connecting pipe.

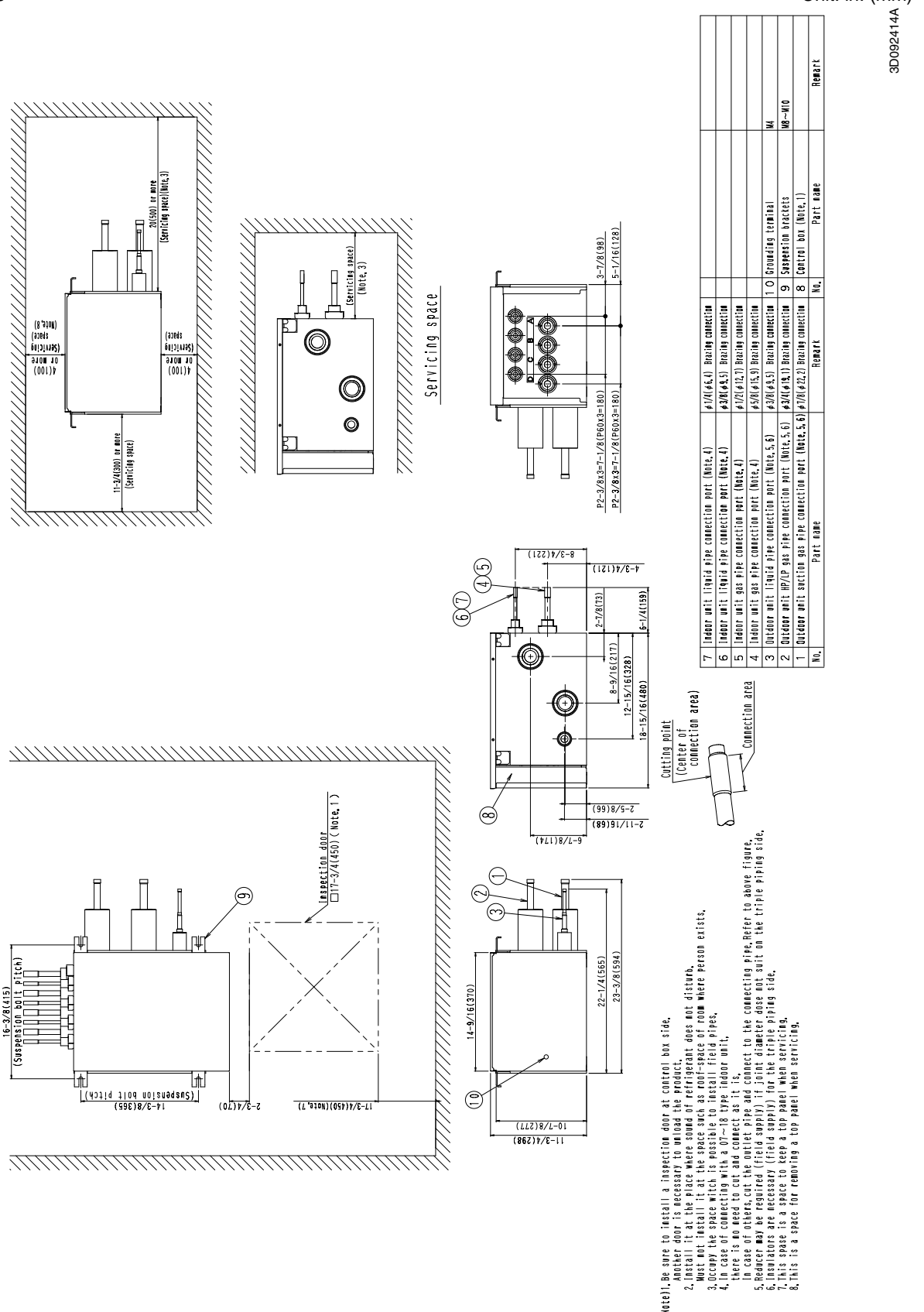


★2. In case joint diameter does not suit on the triple piping side, need reducer (field supply).
★3. Insulators are necessary (field supply) for the triple piping side.
★4. The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
★5. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating, operating sound can be heard.
★6. The maximum sound is max value of transient sound, such as oil return and defrost, the change of cooling and heating, etc.

3. Dimensions

BS4Q54TVJ

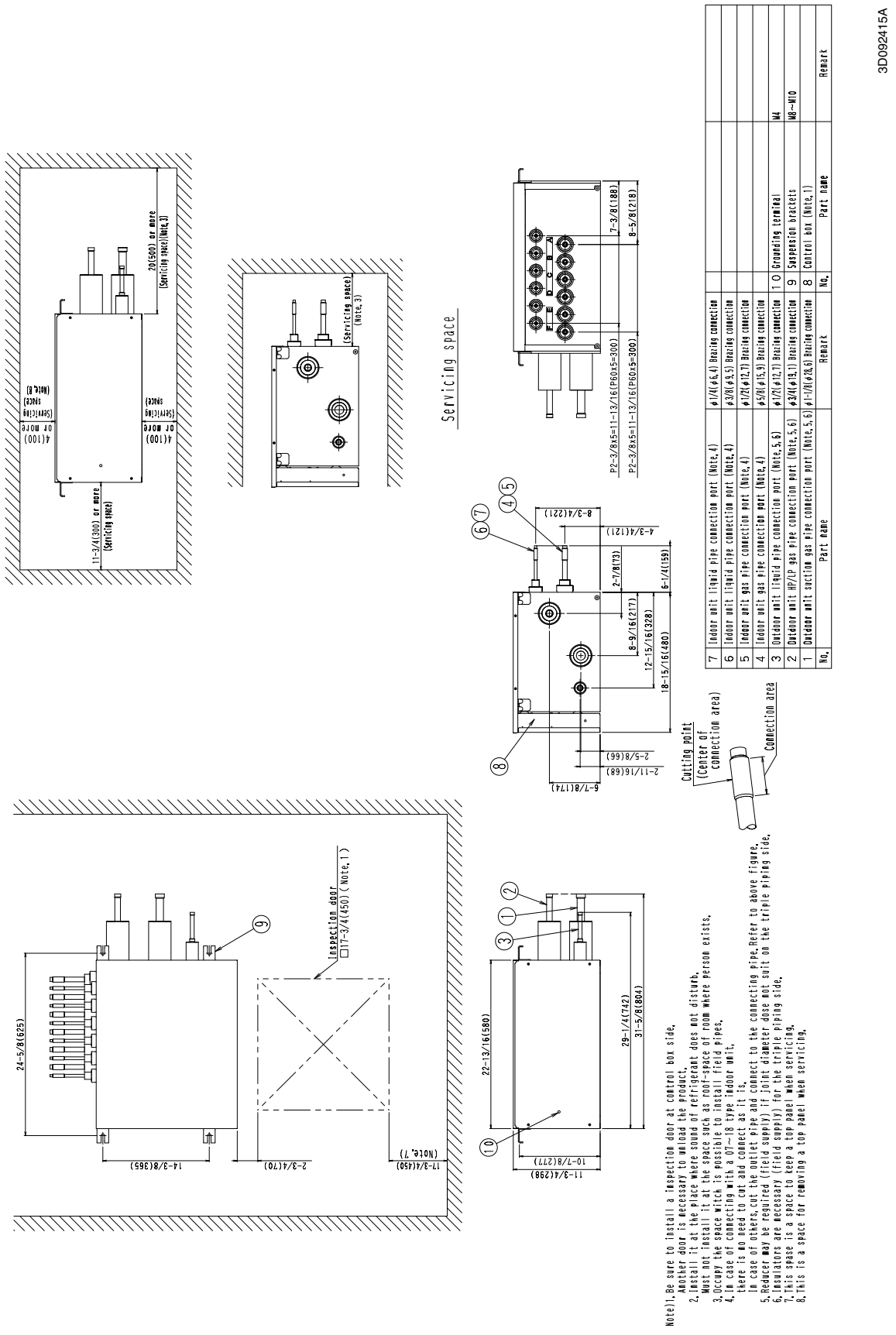
Unit: in. (mm)



No.	Part name	Remark
7	Indoor unit liquid pipe connection port (Note.4)	ø1/4(ø6.4) Brazing connection
6	Indoor unit liquid pipe connection port (Note.4)	ø3/8(ø9.5) Brazing connection
5	Indoor unit gas pipe connection port (Note.4)	ø1/2(ø12.7) Brazing connection
4	Indoor unit gas pipe connection port (Note.4)	ø5/8(ø15.9) Brazing connection
3	Outdoor unit liquid pipe connection port (Note.5,6)	ø3/8(ø9.5) Brazing connection
2	Outdoor unit HP/LP gas pipe connection port (Note.5,6)	ø3/4(ø18.1) Brazing connection
1	Outdoor unit suction gas pipe connection port (Note.5,6)	ø7/8(ø22.2) Brazing connection
10	Grounding terminal	M4
9	Suspension brackets	M8~M10
8	Control box (Note.1)	

BS6Q54TVJ

Unit: in. (mm)



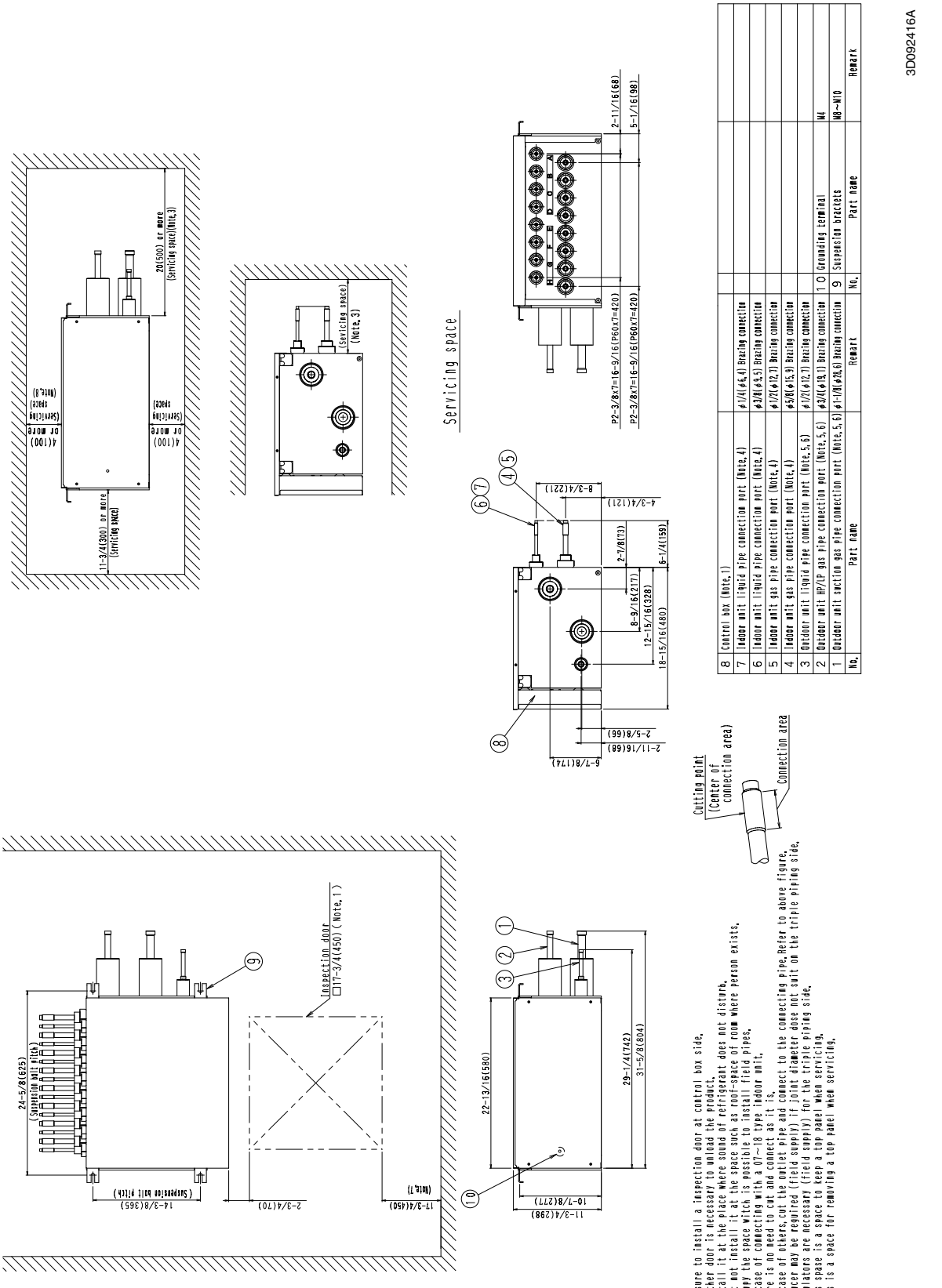
No.	Part name	Remark
7	Indoor unit liquid pipe connection port (Note.4)	ø1/4(ø6.4) Brazing connection
6	Indoor unit liquid pipe connection port (Note.4)	ø3/8(ø9.5) Brazing connection
5	Indoor unit gas pipe connection port (Note.4)	ø1/2(ø12.7) Brazing connection
4	Indoor unit gas pipe connection port (Note.4)	ø5/8(ø15.9) Brazing connection
3	Outdoor unit liquid pipe connection port (Note.5,6)	ø1/2(ø12.7) Brazing connection
2	Outdoor unit HP/LP gas pipe connection port (Note.5,6)	ø3/4(ø19.1) Brazing connection
1	Outdoor unit suction gas pipe connection port (Note.5,6)	ø1-1/8(ø28.6) Brazing connection

No.	Part name	Remark
10	Grounding terminal	M4
9	Suspension brackets	M8~M10
8	Control box (Note.1)	

Note)1. Be sure to install a inspection door at control box side.
Another door is necessary to unload the product.
2. Install it at the Place where sound of refrigerant does not disturb.
Must not install it at the space such as roof-space of room where person exists.
3. Occupy the space which is possible to install field pipes.
4. In case of connecting with a 07~18 type indoor unit,
there is no need to cut and connect as it is.
In case of others, cut the outlet pipe and connect to the connecting pipe. Refer to above figure.
5. Reducer may be required (field supply) if joint diameter does not suit on the triple piping side.
6. Insulators are necessary (field supply) for the triple piping side.
7. This space is a space to keep a top panel when servicing.
8. This is a space for removing a top panel when servicing.

BS8Q54TVJ

Unit: in. (mm)



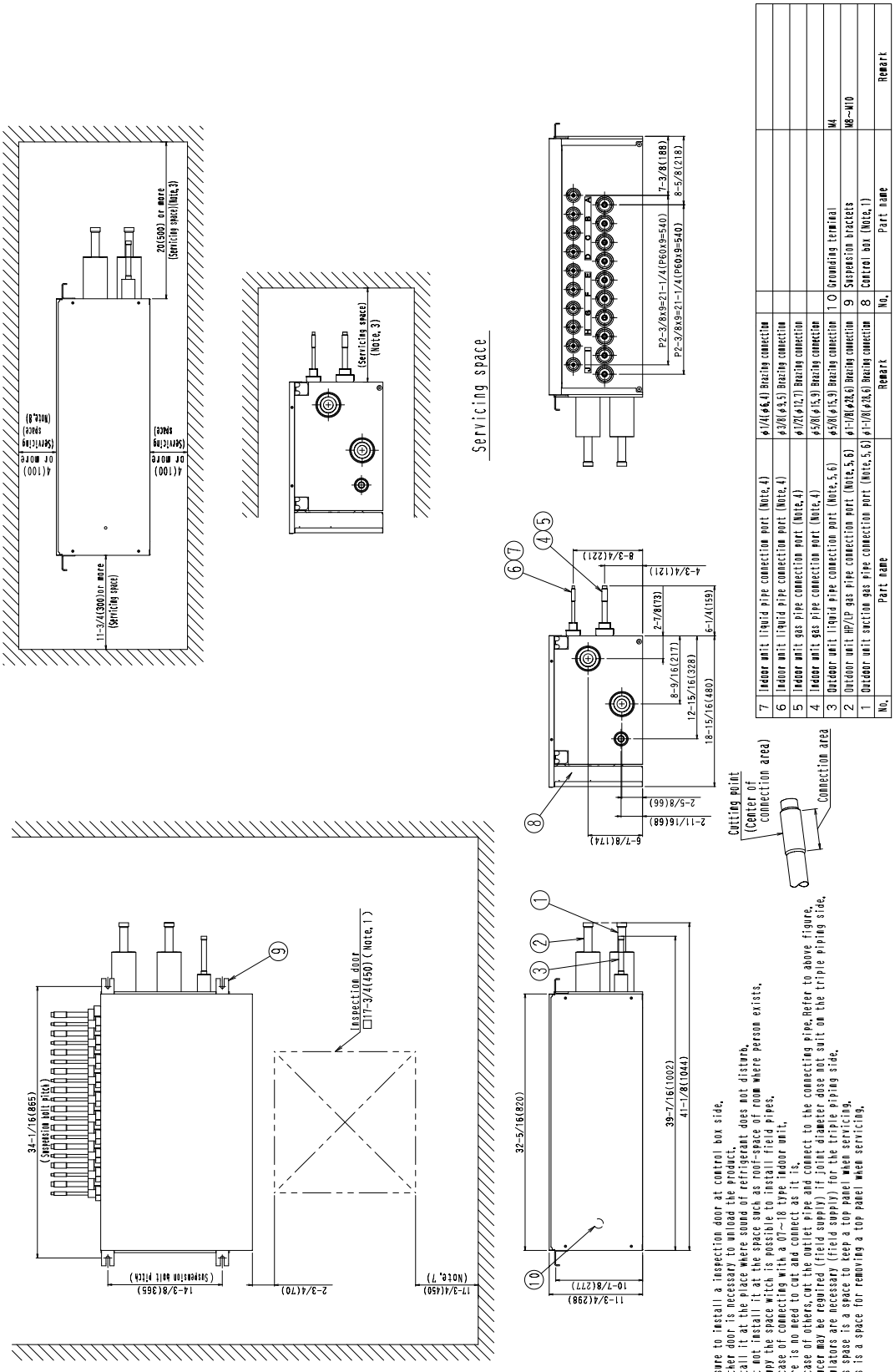
No.	Part name	Remark
8	Control box (Note.1)	
7	Indoor unit liquid pipe connection port (Note.4)	φ1/4(φ6.4) Brazing connection
6	Indoor unit liquid pipe connection port (Note.4)	φ3/8(φ9.5) Brazing connection
5	Indoor unit gas Pipe connection port (Note.4)	φ1/2(φ12.7) Brazing connection
4	Indoor unit gas pipe connection port (Note.4)	φ5/8(φ15.9) Brazing connection
3	Outdoor unit liquid pipe connection port (Note.5, 6)	φ1/2(φ12.7) Brazing connection
2	Outdoor unit HP/LP gas pipe connection port (Note.5, 6)	φ3/4(φ19.1) Brazing connection
1	Outdoor unit suction gas pipe connection port (Note.5, 6)	φ1-1/8(φ28.6) Brazing connection

No.	Part name	Remark
10	Grounding terminal	M4
9	Suspension brackets	M8~M10

BS10Q54TVJ

Unit: in. (mm)

3D092417A



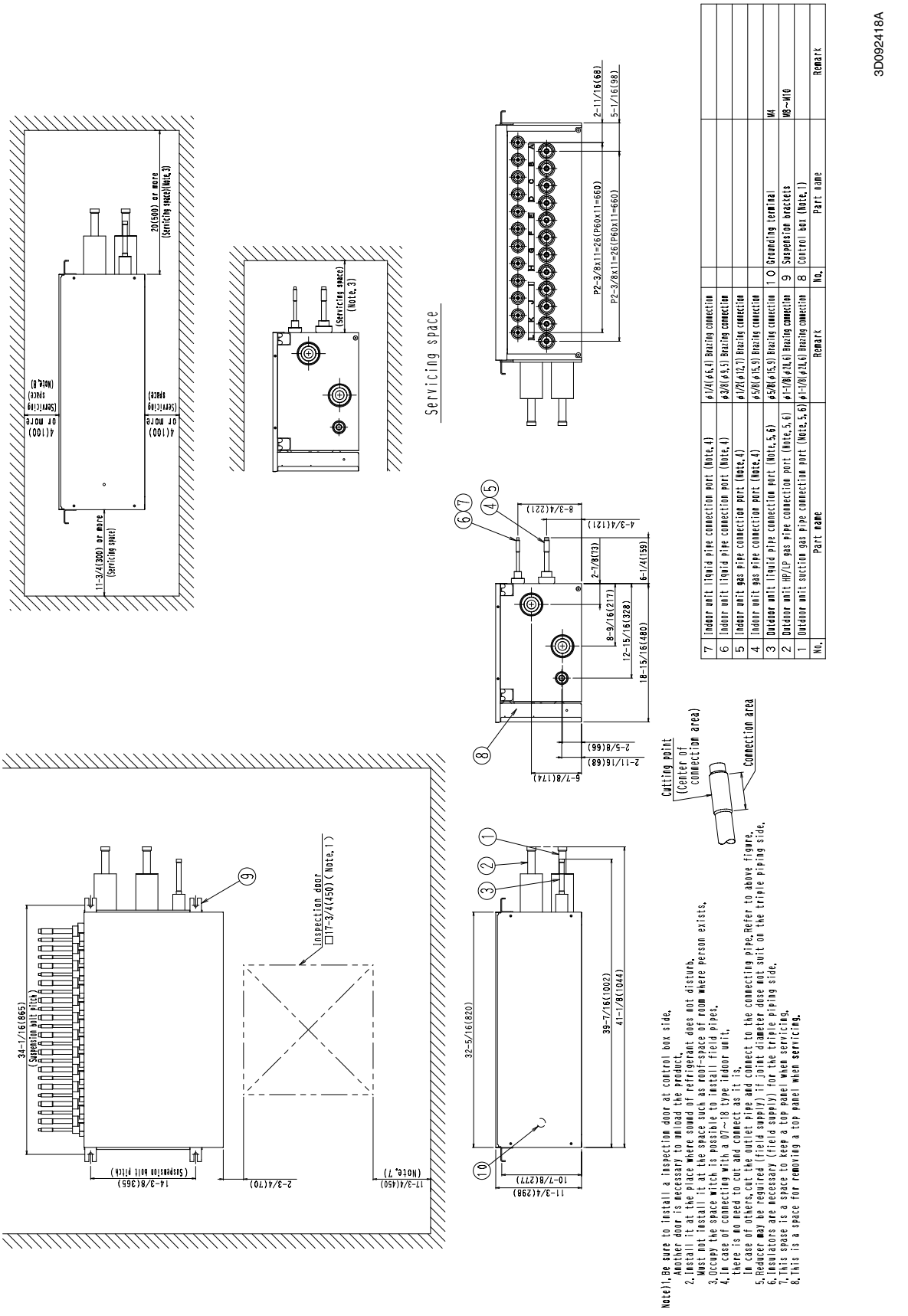
No.	Part name	Remark
7	Indoor unit liquid pipe connection port (Note.4)	ϕ1/4(ϕ6.4) Brazing connection
6	Indoor unit liquid pipe connection port (Note.4)	ϕ3/8(ϕ9.5) Brazing connection
5	Indoor unit gas pipe connection port (Note.4)	ϕ1/2(ϕ12.7) Brazing connection
4	Indoor unit gas pipe connection port (Note.4)	ϕ5/8(ϕ15.9) Brazing connection
3	Outdoor unit liquid pipe connection port (Note.5,6)	ϕ5/8(ϕ15.9) Brazing connection
2	Outdoor unit HP/LP gas pipe connection port (Note.5,6)	ϕ1-1/8(ϕ28.6) Brazing connection
1	Outdoor unit suction gas pipe connection port (Note.5,6)	ϕ1-1/8(ϕ28.6) Brazing connection

No.	Part name	Remark
10	Grounding terminal	M4
9	Suspension brackets	M8~M10
8	Control box (Note.1)	

Note)1. Be sure to install a inspection door at control box side.
2. Another door is necessary to unload the product.
3. Install it at the place where sound of refrigerant does not disturb.
4. Must not install it at the space such as roof-space of room where person exists.
5. Occupy the space which is possible to install field pipes.
6. In case of connecting with a 07~18 type indoor unit, there is no need to cut and connect as it is.
In case of others, cut the outlet pipe and connect to the connecting pipe. Refer to above figure.
5. Reducer may be required (field supply) if joint diameter dose not suit on the triple piping side.
6. Insulators are necessary (field supply) for the triple piping side.
7. This space is a space to keep a top panel when servicing.
8. This is a space for removing a top panel when servicing.

BS12Q54TVJ

Unit: in. (mm)



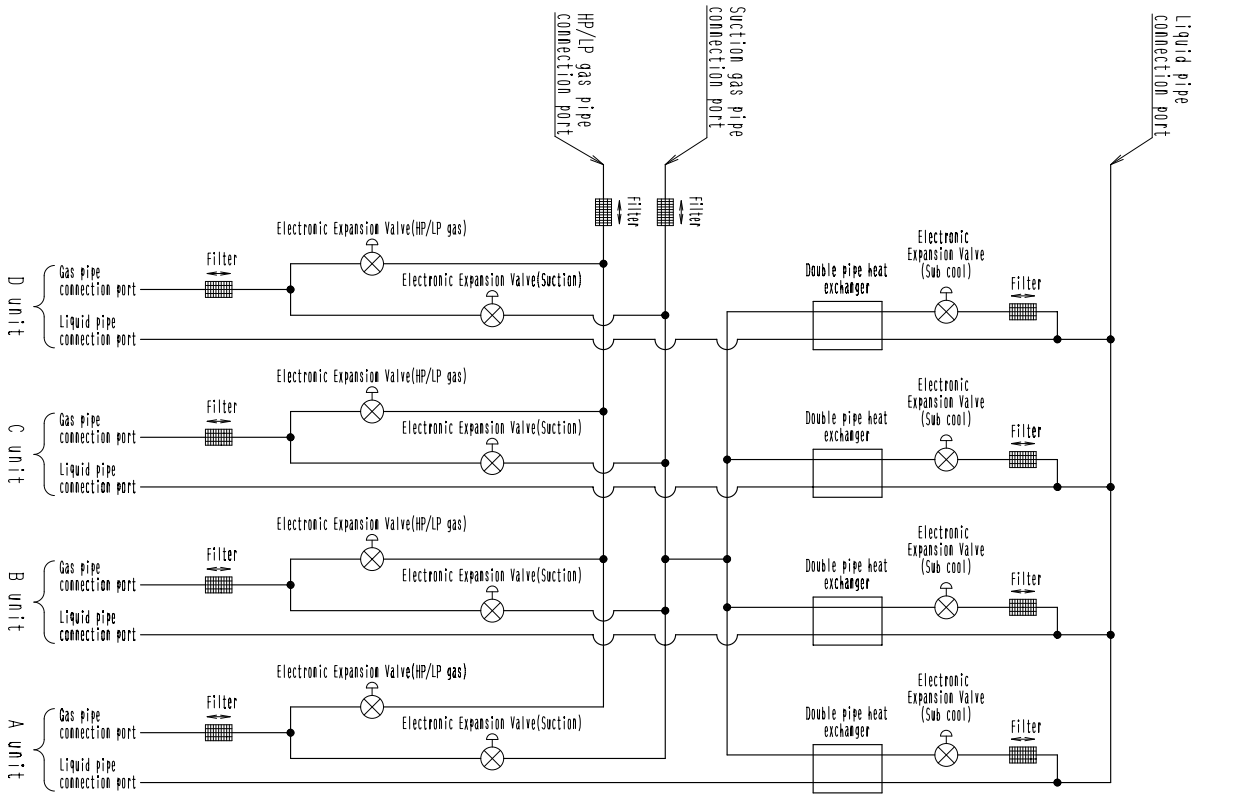
No.	Part name	Remark
7	Indoor unit liquid pipe connection port (Note.4)	ø1/4(ø6.4) Brazing connection
6	Indoor unit liquid pipe connection port (Note.4)	ø3/8(ø9.5) Brazing connection
5	Indoor unit gas pipe connection port (Note.4)	ø1/2(ø12.7) Brazing connection
4	Indoor unit gas pipe connection port (Note.4)	ø5/8(ø15.9) Brazing connection
3	Outdoor unit liquid pipe connection port (Note.5,6)	ø5/8(ø15.9) Brazing connection
2	Outdoor unit HP/LP gas pipe connection port (Note.5,6)	ø1-1/8(ø28.6) Brazing connection
1	Outdoor unit suction gas pipe connection port (Note.5,6)	ø1-1/8(ø28.6) Brazing connection

No.	Part name	Remark
10	Grounding terminal	M4
9	Suspension brackets	M8~M10
8	Control box (Note.1)	

Note)1. Be sure to install a inspection door at control box side.
Another door is necessary to unload the product.
2. Install it at the place where sound of refrigerant does not disturb.
Must not install it at the space such as roof-space of room where person exists.
3. Occupy the space which is possible to install field pipes.
4. In case of connecting with a 07~18 type indoor unit,
there is no need to cut and connect as it is.
In case of others, cut the outlet pipe and connect to the connecting pipe.Refer to above figure.
5. Reducer may be required (field supply) if joint diameter dose not suit on the triple piping side.
6. Insulators are necessary (field supply) for the triple piping side.
7. This space is a space to keep a top panel when servicing.
8. This is a space for removing a top panel when servicing.

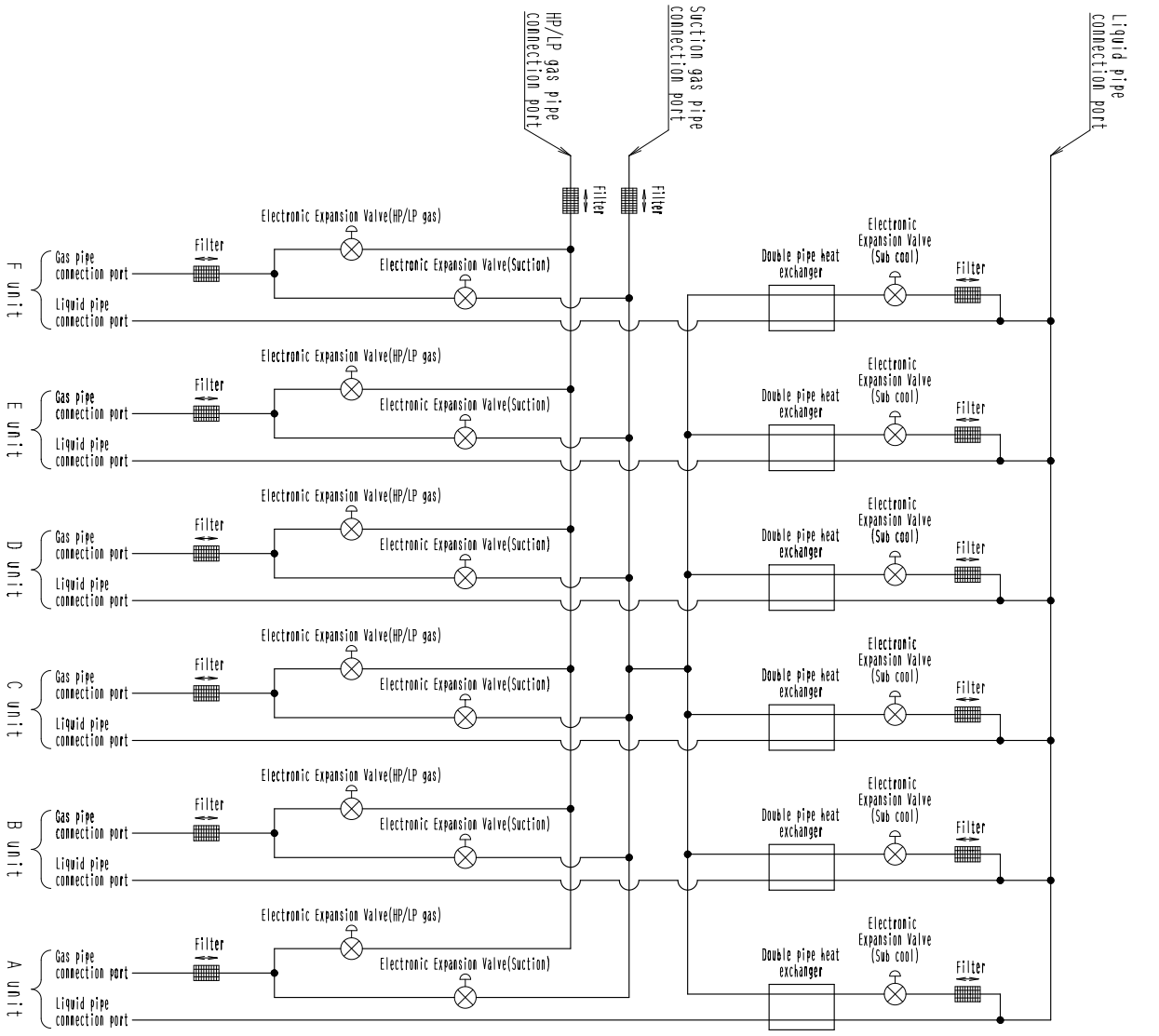
4. Piping Diagrams

BS4Q54TVJ



3D086032A

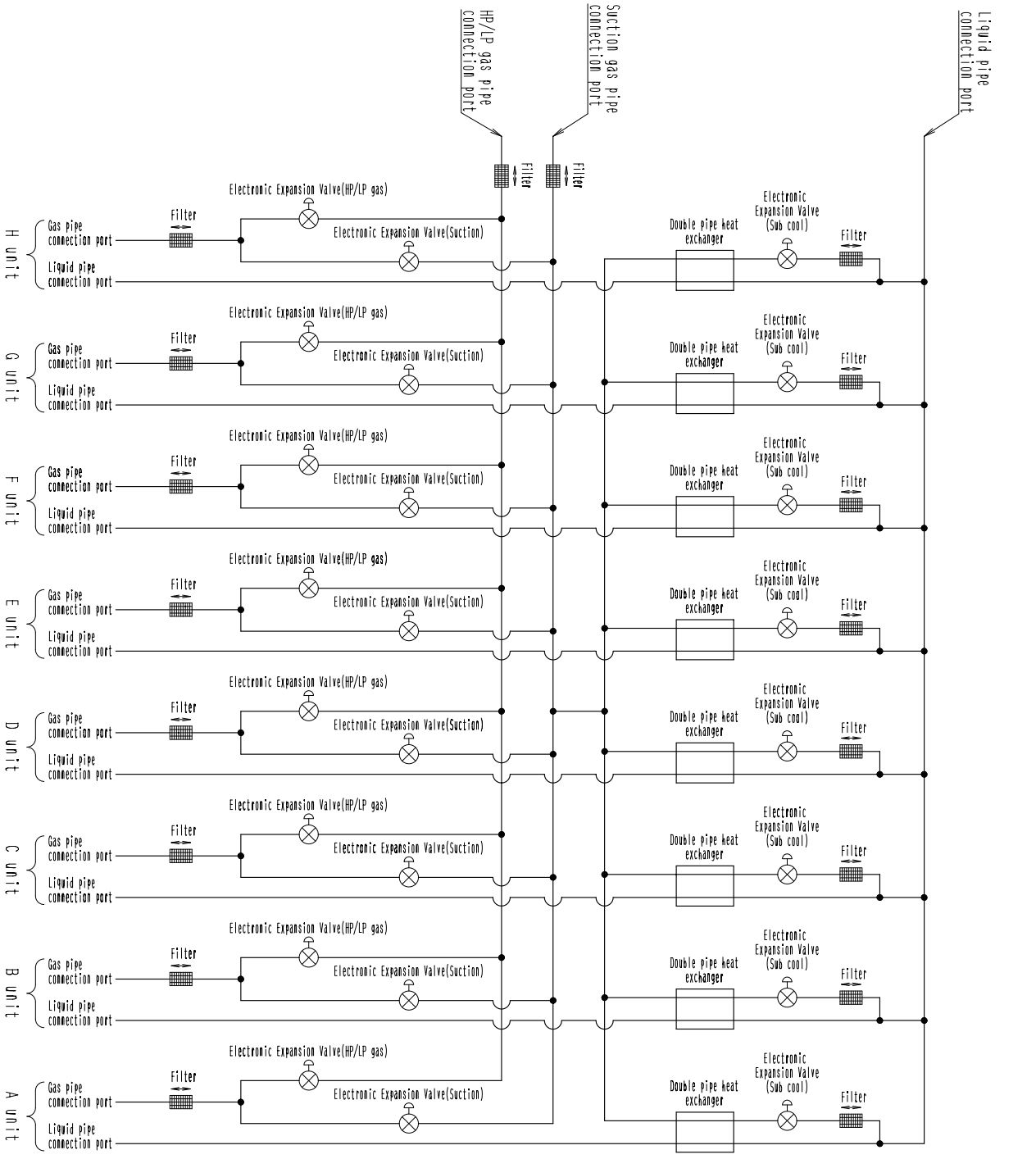
BS6Q54TVJ



3D086033A

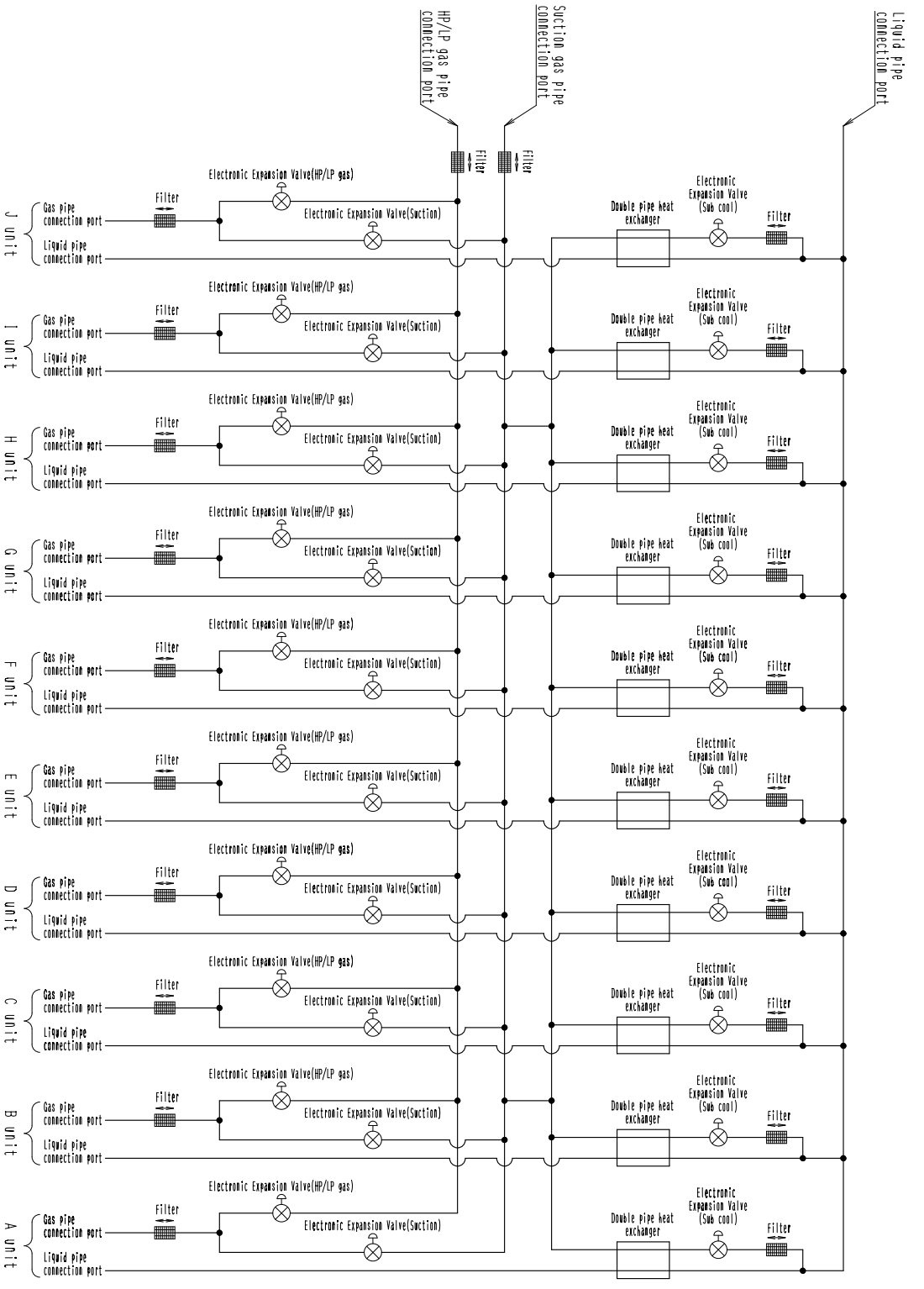
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BS8Q54TVJ



3D086034A

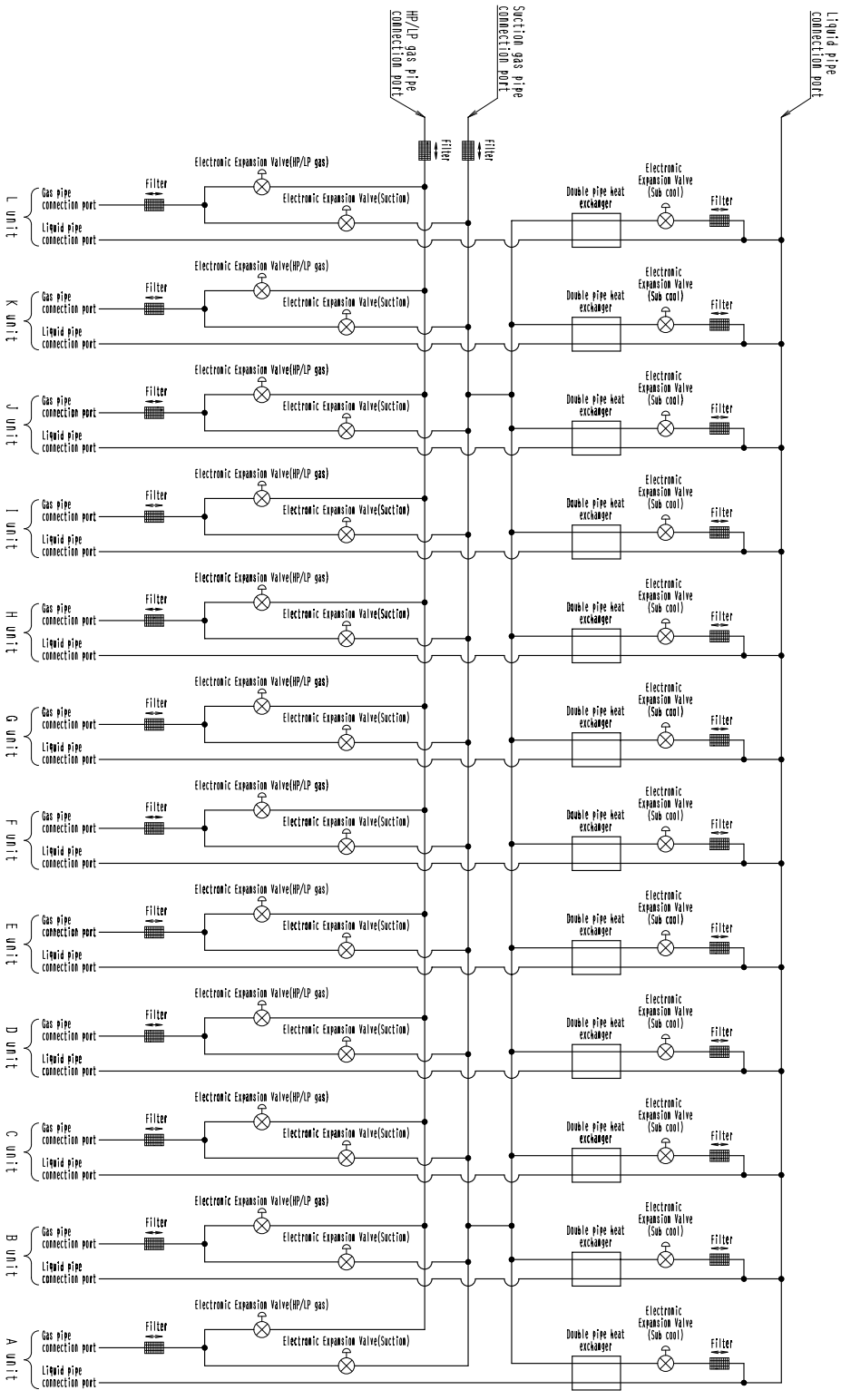
BS10Q54TVJ



3D086035A

3

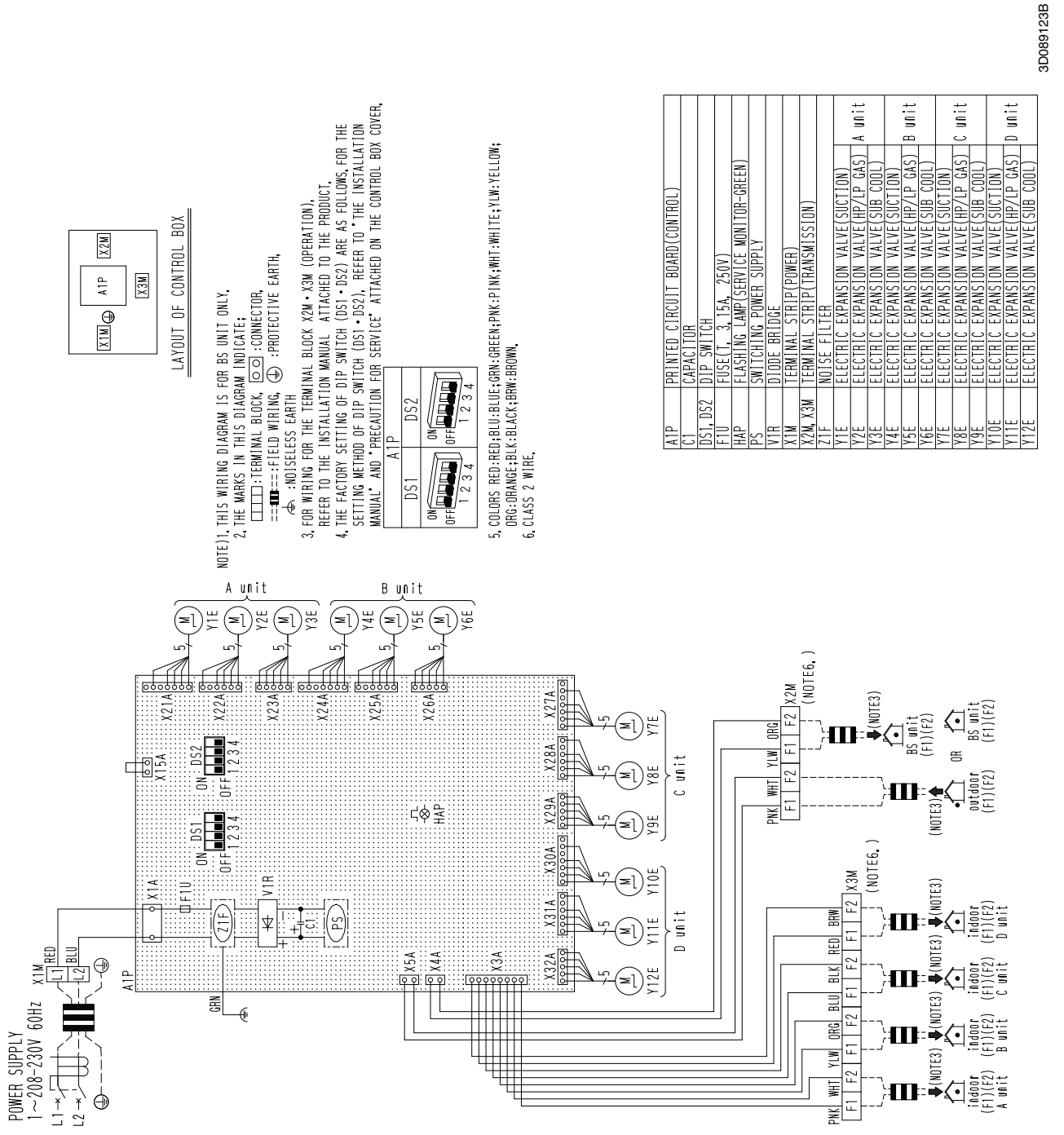
BS12Q54TVJ



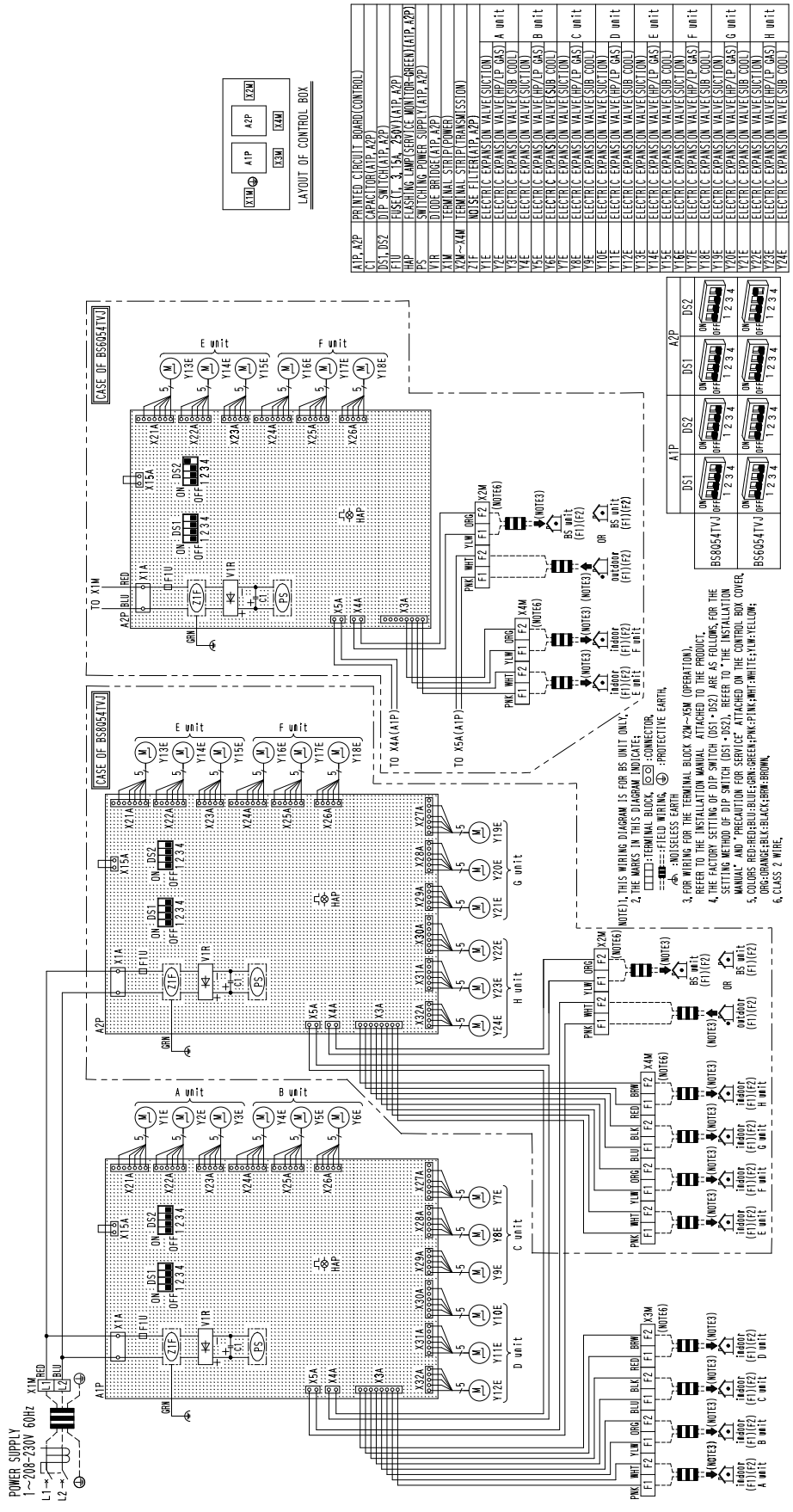
3D086036A

5. Wiring Diagrams

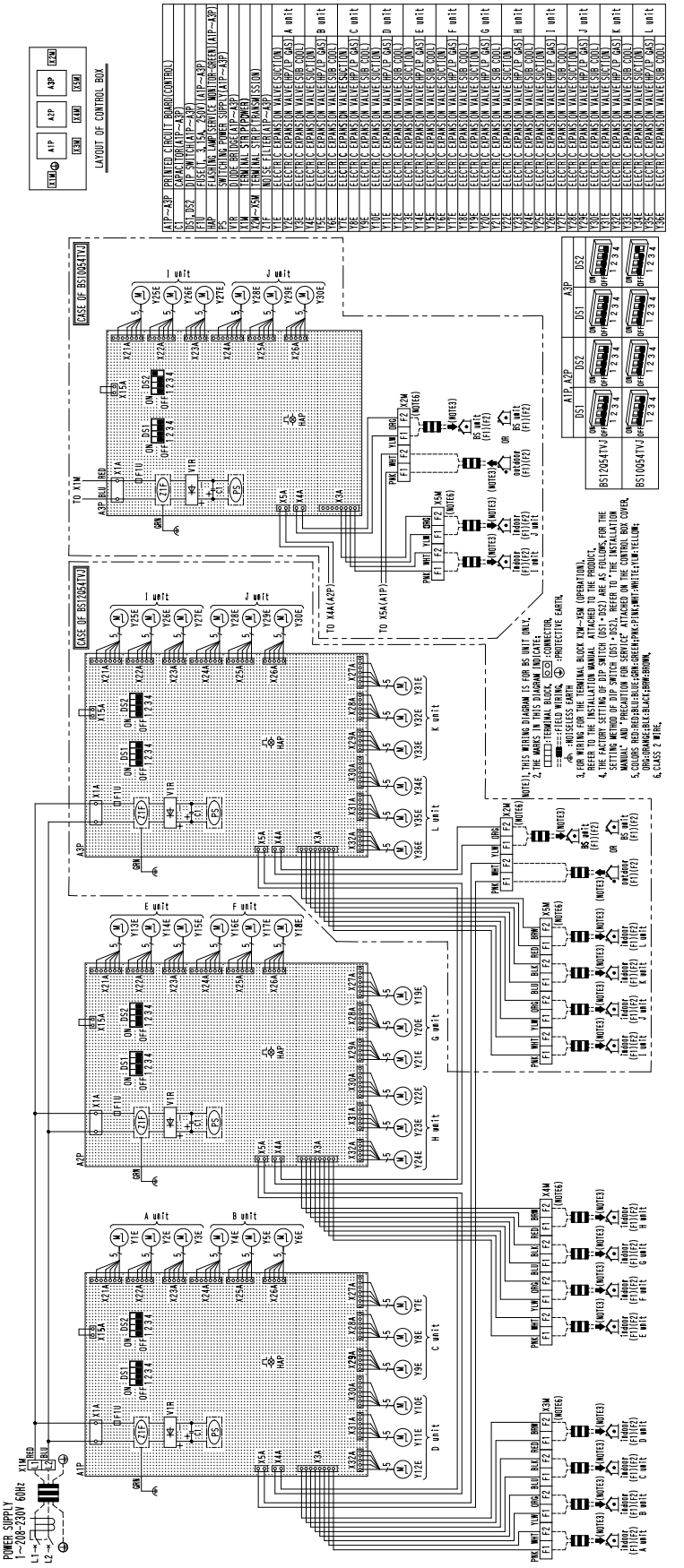
BS4Q54TVJ



BS6Q54TVJ/BS8Q54TVJ



BS10Q54TVJ/BS12Q54TVJ



2D089121B

6. Electric Characteristics

BS4Q54TVJ/BS6Q54TVJ/BS8Q54TVJ/BS10Q54TVJ/BS12Q54TVJ

Units				Power supply		IFM		Input(W)	
Model	Hz	Volts	Voltage range	MCA	MOP	KW	FLA	Cooling	Heating
BS4Q54TVJ	60	208/230	MAX. 253 Min. 187	0.4	15	——	——	43	43
BS6Q54TVJ				0.6		——	——	64	64
BS8Q54TVJ				0.8		——	——	86	86
BS10Q54TVJ				1.0		——	——	107	107
BS12Q54TVJ				1.2		——	——	129	129

Symbols:

MCA : Minimum Circuit Ampacity (A)
MOP : Maximum Overcurrent Protective Device(A)
KW : Fan Motor Rated Output(HP)
FLA : Full Load Ampacity(A)
IFM : Indoor Fan Motor

Note:

1. Voltage range

   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.

2. Maximum allowable voltage unbalance between phases is 2%.

3. MCA/MOP

   MCA = 1.25 X FLA

   MOP ≦ 4 X FLA

   (Next lower standard protective device rating. Min. 15A)

4. Select wire size based on MCA.

4D092344

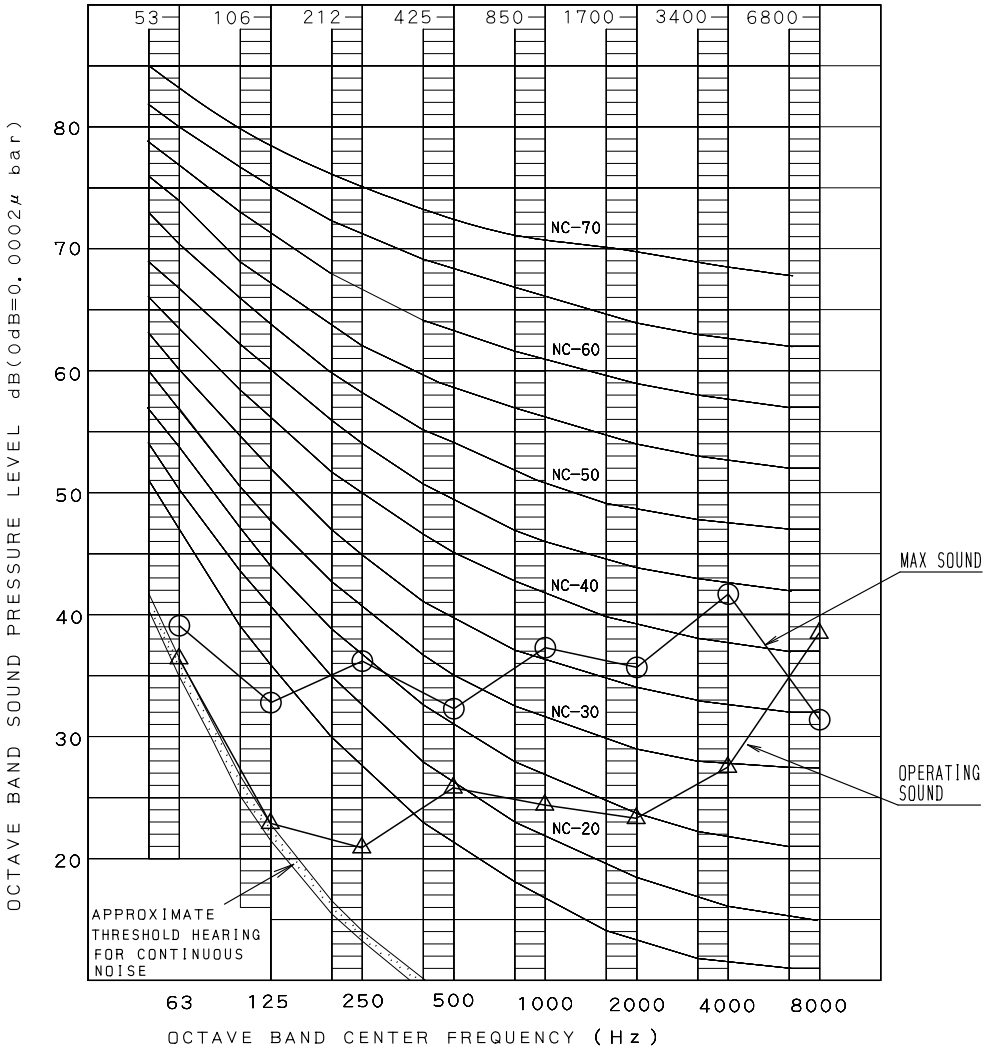
7. Safety Devices Setting

Model	BS4Q54TVJ	BS6Q54TVJ	BS8Q54TVJ	BS10Q54TVJ	BS12Q54TVJ
Printed circuit board fuse	250V 3.15A	250V 3.15A	250V 3.15A	250V 3.15A	250V 3.15A

C: 4D092343

8. Sound Levels (Reference Data)

BS4Q54TVJ



OVER ALL (dB)

SCALE	OPERATING SOUND	MAX SOUND
A	38	45

The operated sound is measured when the indoor units are connected to all the branches.

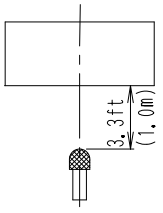
MEASURING PLACE

ANECHOIC CHAMBER(CONVERSION VALUE)

OPERATING CONDITIONS

POWER SOURCE 208/230V 60Hz

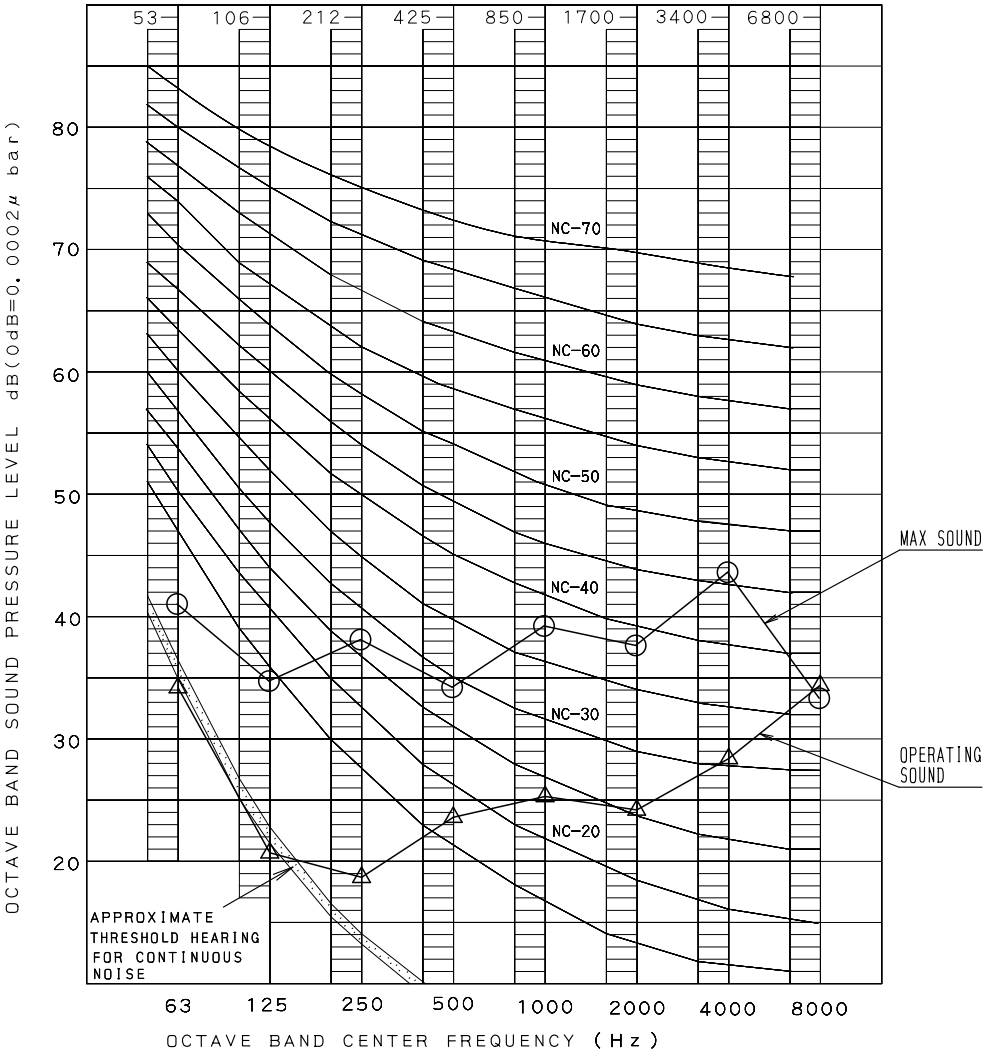
LOCATION OF MICROPHONE



Note)1. 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.
2. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating,
operating sound can be heard.
3. The maximum sound is max value of transient sound , such as oil return and defrost, the change of cooling and heating, etc.

C: 4D092295

BS6Q54TVJ/BS8Q54TVJ



OVER ALL (dB)

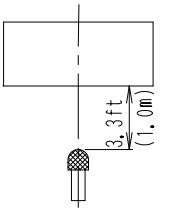
SCALE	OPERATING SOUND	MAX SOUND
A	39	47

The operated sound is measured when the indoor units are connected to all the branches.

OPERATING CONDITIONS

POWER SOURCE 208/230V 60Hz

LOCATION OF MICROPHONE



MEASURING PLACE

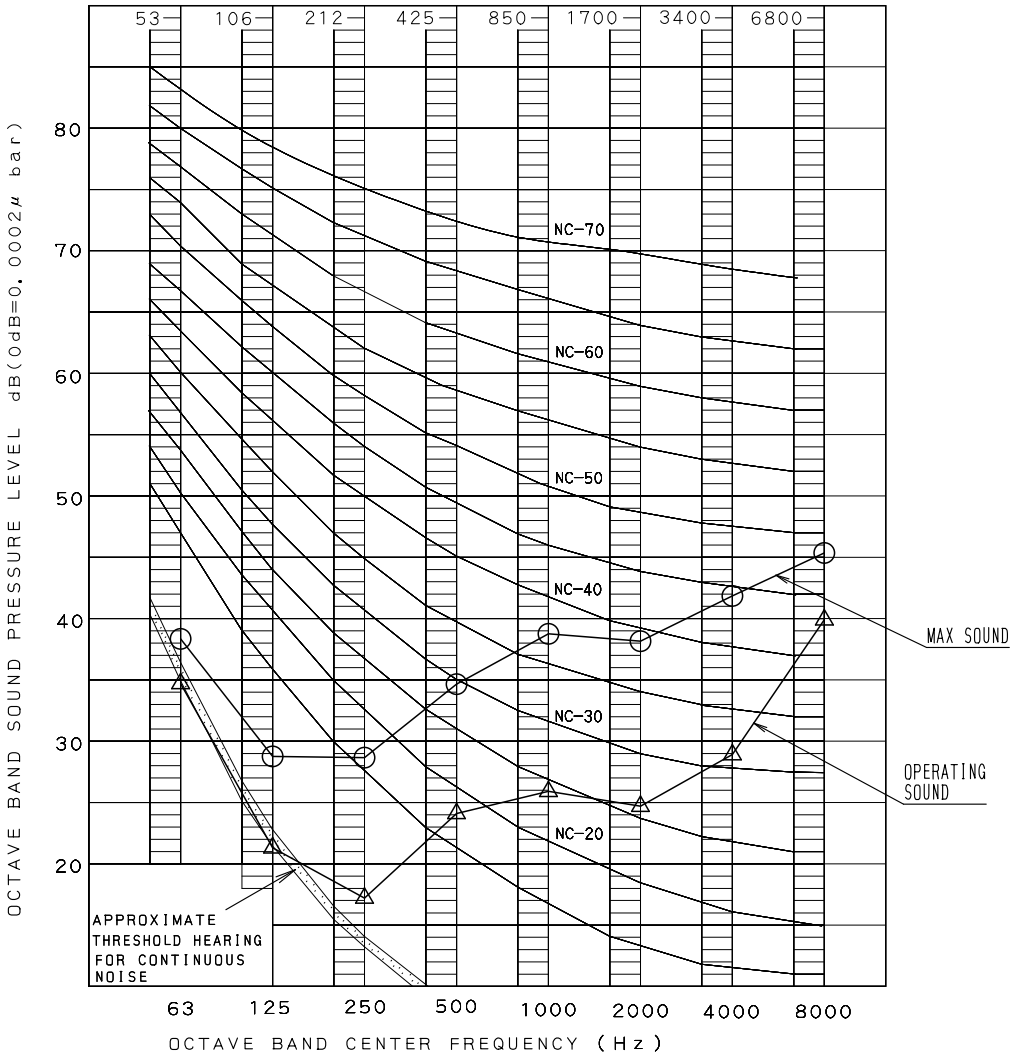
ANECHOIC CHAMBER(CONVERSION VALUE)

Note)1. 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.
2. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating,
operating sound can be heard.
3. The maximum sound is max value of transient sound , such as oil return and defrost, the change of cooling and heating, etc.

C: 4D092296

3

BS10Q54TVJ/BS12Q54TVJ



OVER ALL (dB)

SCALE	OPERATING SOUND	MAX SOUND
A	40	48

The operated sound is measured when the indoor units are connected to all the branches.

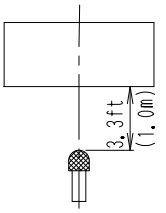
MEASURING PLACE

ANECHOIC CHAMBER(CONVERSION VALUE)

OPERATING CONDITIONS

POWER SOURCE 208/230V 60Hz

LOCATION OF MICROPHONE



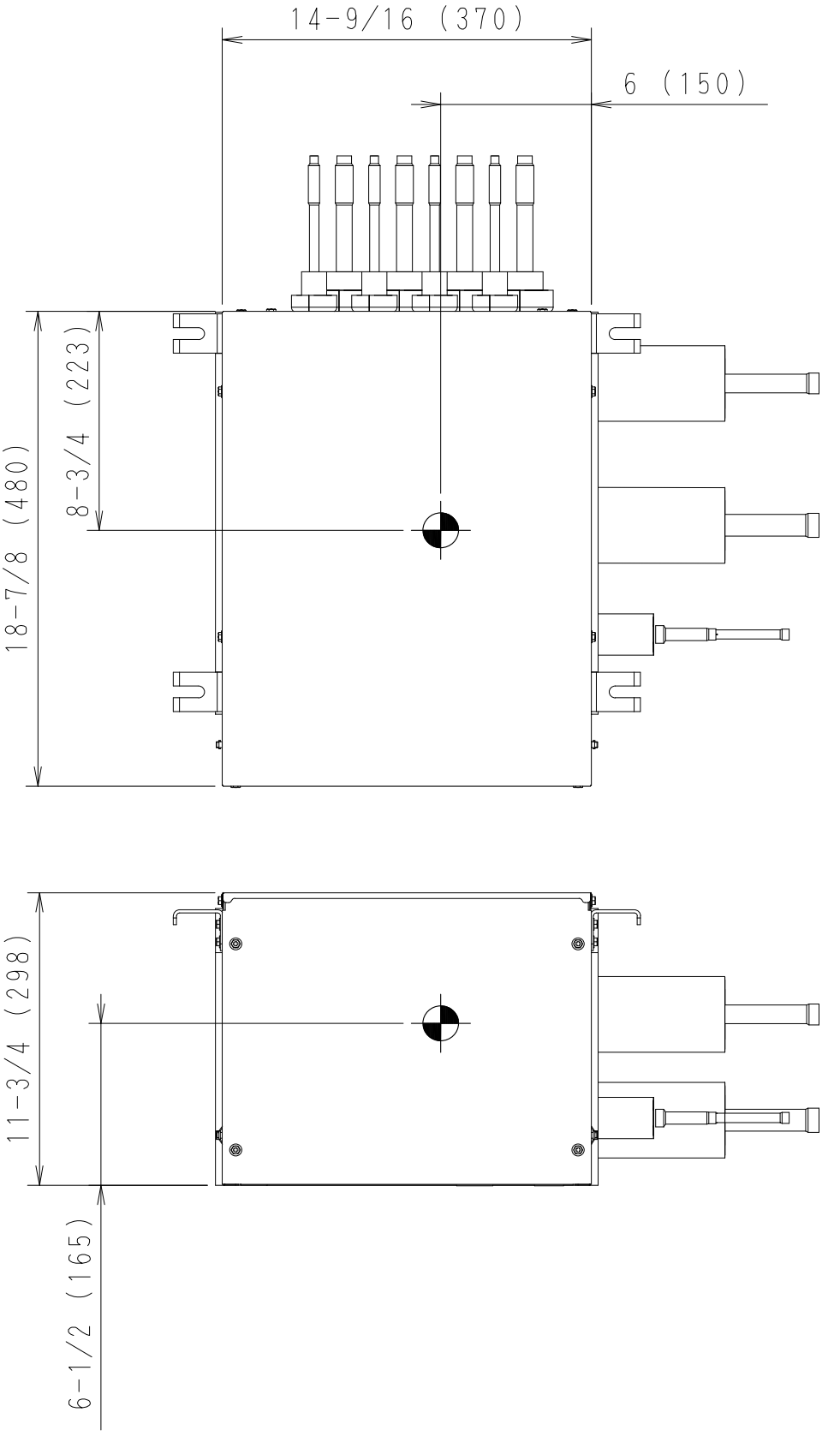
Note)1. The operating sound is measured in anechoic chamber,
if it is measured under the actual installation conditions,
it is normally over the set value due to enviromental noise and sound reflection.
2. Even if the indoor unit to be connected downstream of Branch Selector unit has stopped, when the system is operating,
operating sound can be heard.
3. The maximum sound is max value of transient sound , such as oil return and defrost , the change of cooling and heating, etc.

C: 4D092297

9. Center of Gravity

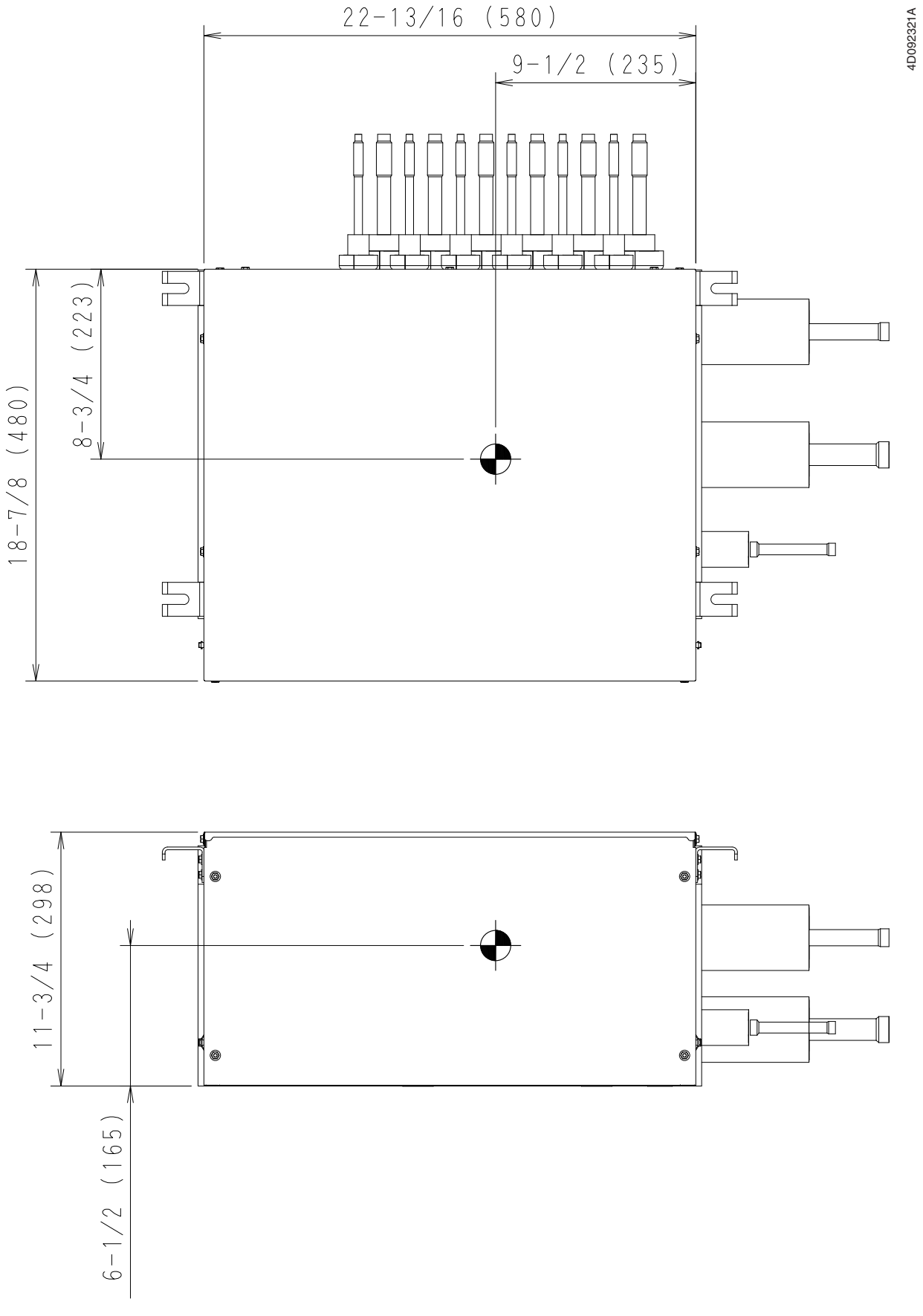
BS4Q54TVJ

Unit: in. (mm)



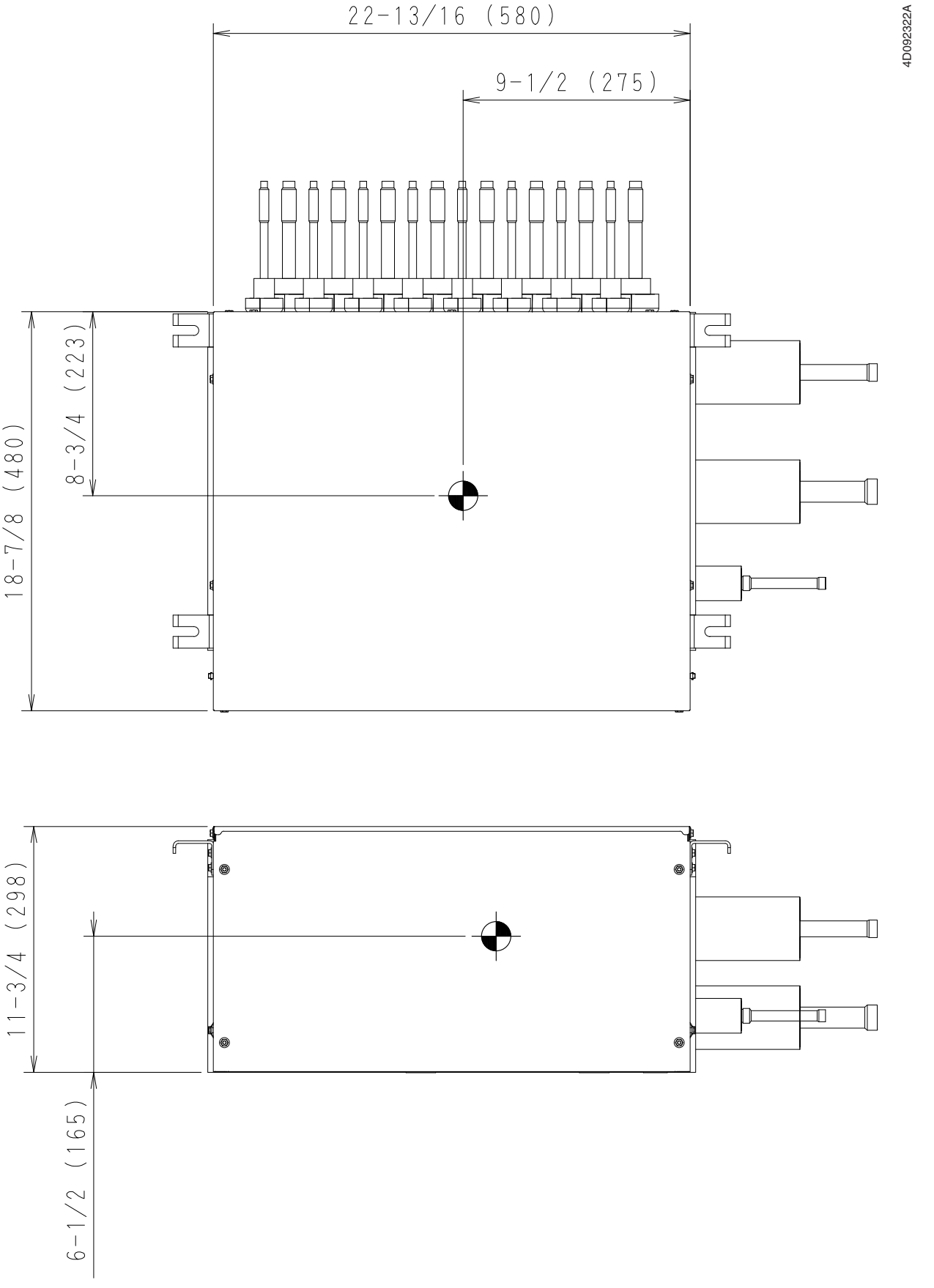
BS6Q54TVJ

Unit: in. (mm)



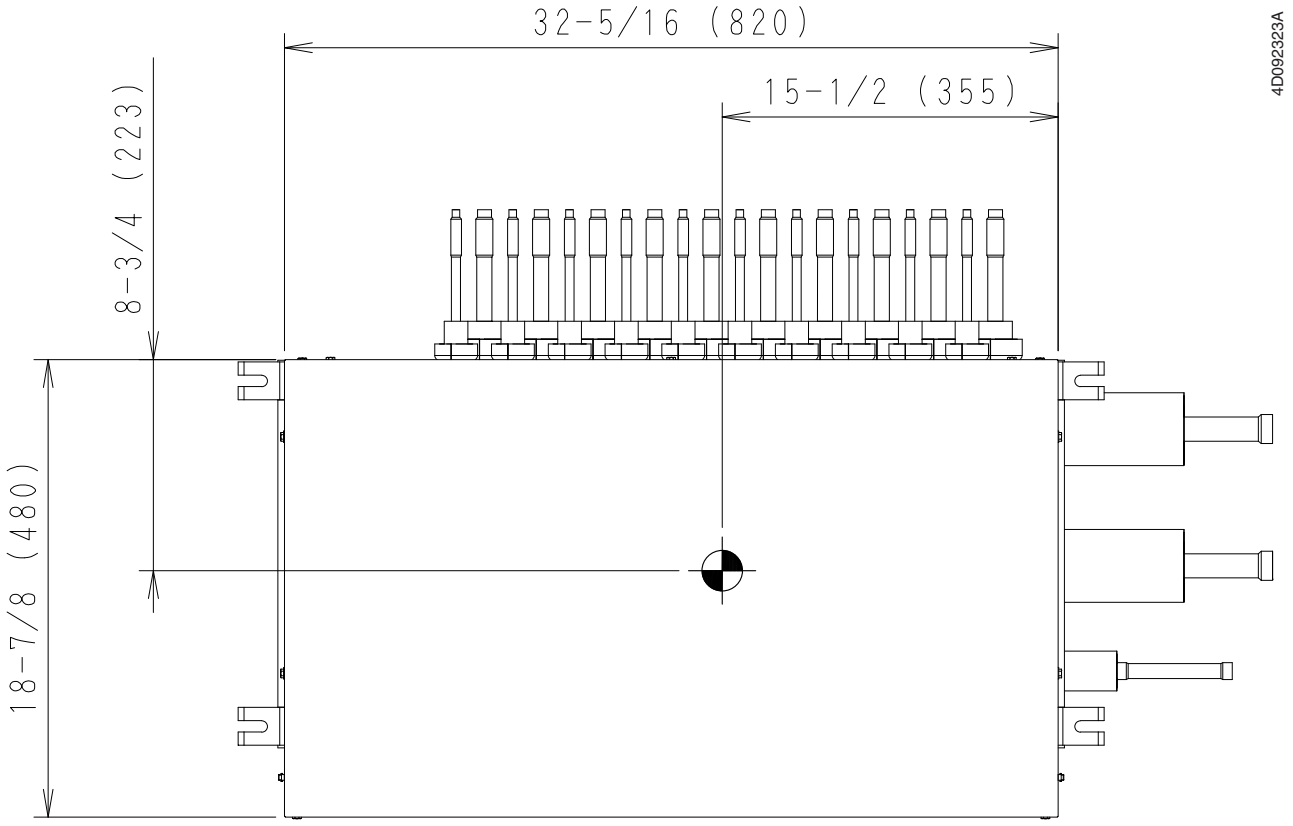
BS8Q54TVJ

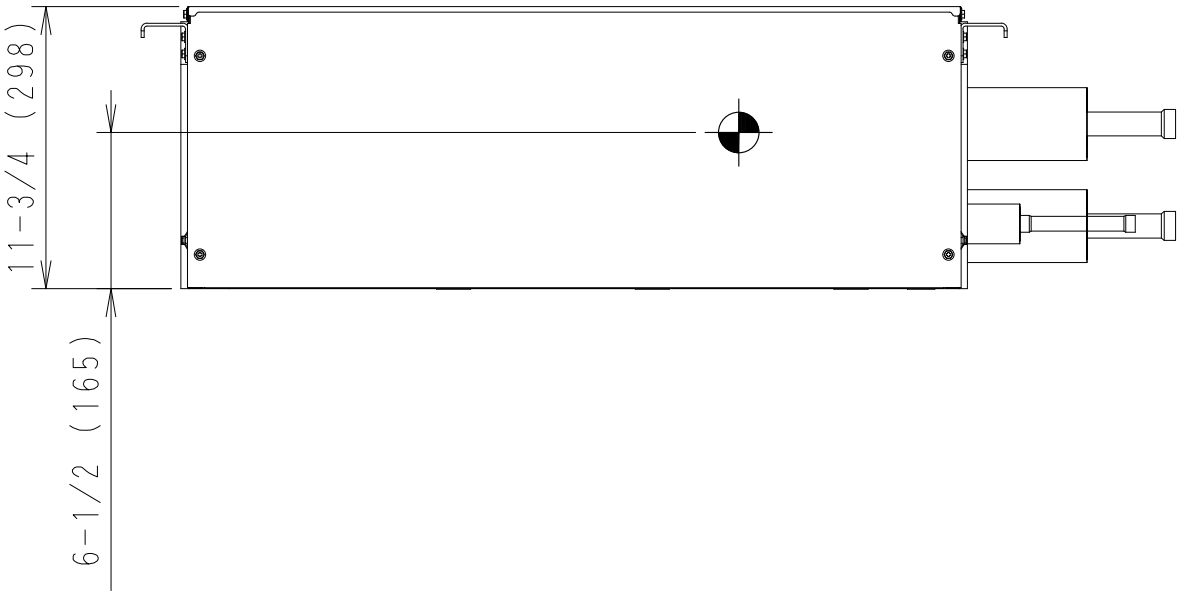
Unit: in. (mm)



BS10Q54TVJ

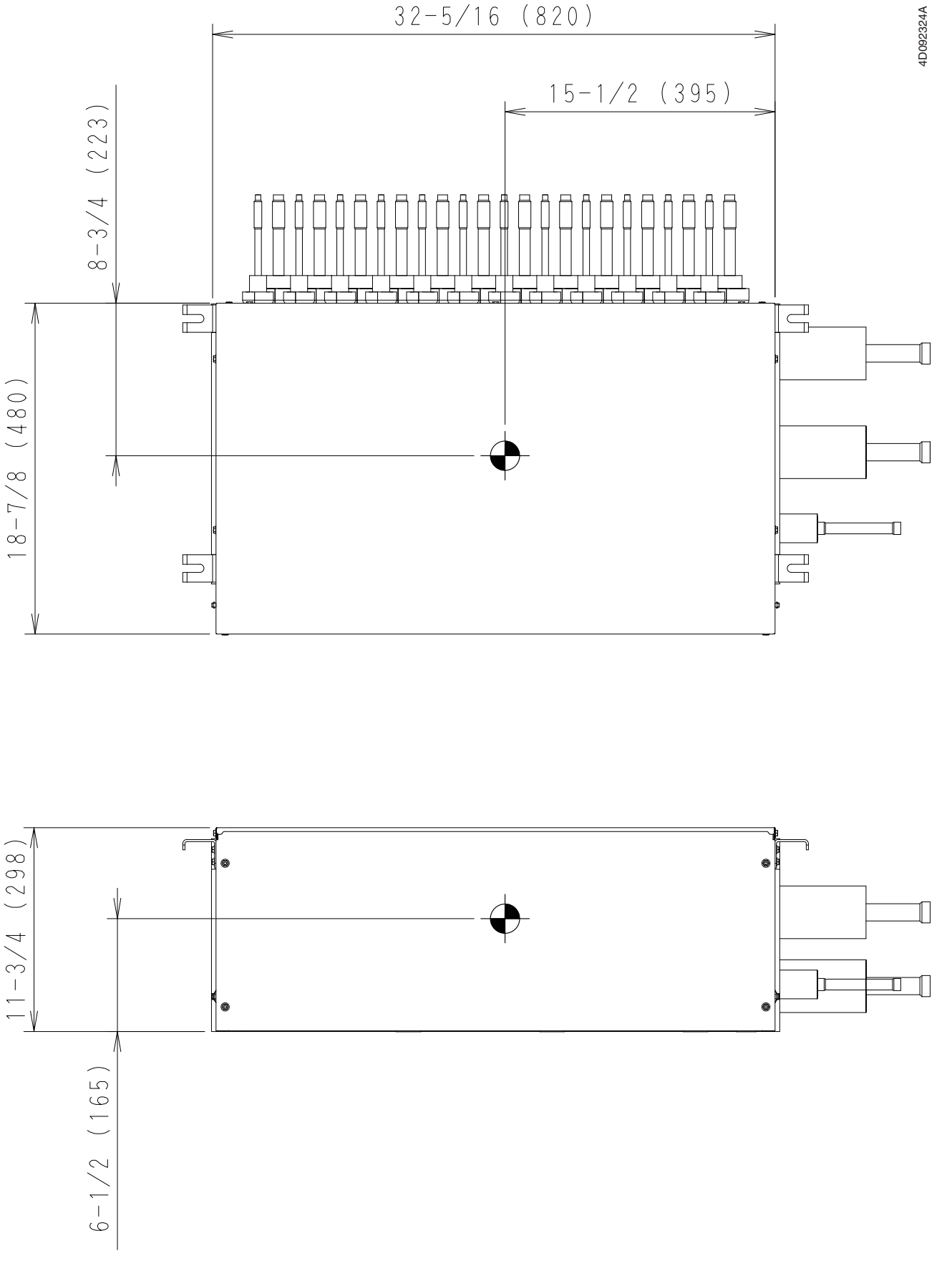
Unit: in. (mm)





BS12Q54TVJ

Unit: in. (mm)



10. Accessories

10.1 Optional Accessories (For Unit)

Option	BS4Q54TVJ	BS6Q54TVJ	BS8Q54TVJ	BS10Q54TVJ	BS12Q54TVJ
Closed pipe kit	KHFP26A100C				
Joint kit	KHRP26A250T				

C: 3D092346B

Appendix 1 Installation Manual for Single Branch Selector Unit

1. Installation Manual i

1. Installation Manual

BSQ36TVJ/BSQ60TVJ/BSQ96TVJ

Safety considerations

Read these Safety considerations for Installation carefully before installing an air conditioner or heat pump. After completing the installation, make sure that the unit operates properly during the startup operation.
Instruct the customer on how to operate and maintain the unit.
Inform customers that they should store this Installation Manual with the Operation Manual for future reference.
Always use a licensed installer or contractor to install this product.
Improper installation can result in water or refrigerant leakage, electrical shock, fire, or explosion.
Meanings of **DANGER**, **WARNING**, **CAUTION**, and **NOTE** Symbols:

⚠ **DANGER** . . . . . Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ **WARNING** . . . . . Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ **CAUTION** . . . . . Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

⚠ **NOTE** . . . . . Indicates situations that may result in equipment or property-damage accidents only.

INFORMATION . . . This symbol identifies useful tips or additional information.

⚠ DANGER

- Refrigerant gas is heavier than air and replaces oxygen. A massive leak will result in oxygen depletion, especially in basements, and an asphyxiation hazard will result in serious injury or death.
- Do not ground units to water pipes, gas pipes, telephone wires, or lightning rods as incomplete grounding will result a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes will result a gas leak and potential explosion resulting in severe injury or death.
- If refrigerant gas leaks during installation, ventilate the area immediately. Refrigerant gas will result in producing toxic gas if it comes into contact with fire. Exposure to this gas will result in severe injury or death.
- After completing the installation work, check that the refrigerant gas does not leak throughout the system.
- Do not install unit in an area where flammable materials are present due to risk of explosions that will result in serious injury or death.
- Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation will result in injuries or death by suffocation.

⚠ WARNING

- Only qualified personnel must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation could result in water leakage, electric shock, or fire.
- When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits. Excessive refrigerant leaks, in the event of an accident in a closed ambient space, could result in oxygen deficiency.
- Use only specified accessories and parts for installation work. Failure to use specified parts could result in water leakage, electric shocks, fire, or the unit falling.
- Install the air conditioner or heat pump on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength could result in the unit falling and causing injuries.
- Take into account strong winds, typhoons, or earthquakes when installing. Improper installation could result in the unit falling and causing accidents.
- Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local, state and national regulations. An insufficient power supply capacity or improper electrical construction could result in electric shocks or fire.
- Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires. Improper connections or installation could result in fire.
- When wiring, position the wires so that the control box cover can be securely fastened. Improper positioning of the control box cover could result in electric shocks, fire, or the terminals overheating.
- Before touching electrical parts, turn off the unit.
- This equipment can be installed with a Ground-Fault Circuit Interrupter (GFCI). Although this is a recognized measure for additional protection, with the grounding system in North America, a dedicated GFCI is not necessary.
- Securely fasten the unit terminal cover (panel). If the terminal cover/panel is not installed properly, dust or water may enter the outdoor unit and could result in fire or electric shock.
- When installing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R410A) such as air. Any presence of air or other foreign substance in the refrigerant circuit could result in abnormal pressure rise or rupture, resulting in injury.
- Do not change the setting of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion could result.

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⚠ CAUTION

- Do not touch the switch with wet fingers. Touching a switch with wet fingers may result in electric shock.
- Do not allow children to play on or around the unit or it may result in injury.
- The heat exchanger fins are sharp enough to cut, and may result in injury if improperly used. To avoid injury wear glove or cover the fins when working around them.
- Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. It may result in your hands getting burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- Install drain piping to proper drainage. Improper drain piping may result in water leakage and property damage.
- Insulate piping to prevent condensation.
- Be careful when transporting the product.
- Do not turn off the power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, water leakage may result.
- Do not use a charging cylinder. Using a charging cylinder may cause the refrigerant to deteriorate.
- Refrigerant R410A in the system must be kept clean, dry, and tight.
  (a) Clean and Dry - Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.
  (b) Tight - R410A does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth's protection again harmful ultraviolet radiation. R410A can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation. Read the chapter Refrigerant Piping and follow the procedures.
- Since R410A is a blend, the required additional refrigerant must be charged in its liquid state. If the refrigerant is charged in a state of gas, its composition can change and the system will not work properly.
- The indoor unit is for R410A. See the catalog for indoor models that can be connected. Normal operation is not possible when connected to other units.
- Remote controller (wireless kit) transmitting distance can be shorter than expected in rooms with electronic fluorescent lamps (inverter or rapid start types). Install the indoor unit far away from fluorescent lamps as much as possible.
- Indoor units are for indoor installation only. Outdoor units can be installed either outdoors or indoors. This unit is for indoor use.
- Do not install the air conditioner or heat pump in the following locations:
  (a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen.
  Plastic parts may deteriorate and fall off and thus may result in water leakage.
  (b) Where corrosive gas, such as sulfurous acid gas, is produced.
  Corroding copper pipes or soldered parts may result in refrigerant leakage.
  (c) Near machinery emitting electromagnetic waves. Electromagnetic waves may disturb the operation of the control system and cause the unit to malfunction.
  (d) Where flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions may result in a fire.
- Take adequate measures to prevent the outdoor unit from being used as a shelter by small animals. Small animals making contact with electrical parts may result in malfunctions, smoke, or fire. Instruct the customer to keep the area around the unit clean.

⚠ NOTE

- Install the power supply and transmission wires for the indoor and outdoor units at least 3.5 ft. (1 m) away from televisions or radios to prevent image interference or noise. Depending on the radio waves, a distance of 3.5 ft. (1 m) may not be sufficient to eliminate the noise.
- Dismantling the unit, treatment of the refrigerant, oil and additional parts must be done in accordance with the relevant local, state, and national regulations.
- Do not use the following tools that are used with conventional refrigerants: gauge manifold, charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, or refrigerant recovery equipment.
- If the conventional refrigerant and refrigerator oil are mixed in R410A, the refrigerant result in deterioration.
- This air conditioner or heat pump is an appliance that should not be accessible to the general public.
- As design pressure is 478 psi (3.3 MPa), the wall thickness of field-installed pipes should be selected in accordance with the relevant local, state, and national regulations.

Codes and Regulations

This product is designed and manufactured to comply with national codes. Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations. Rated performance is achieved after 72 hours of operation.

BSQ36TVJ
BSQ60TVJ
BSQ96TVJ

VRVIV System Air Conditioners

Installation manual

CONTENTS

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Codes and Regulations ii
1. BEFORE INSTALLATION 2
2. SELECTING INSTALLATION SITE 3
3. PREPARATIONS BEFORE INSTALLATION 4
4. BRANCH SELECTOR UNIT INSTALLATION 4
5. REFRIGERANT PIPING WORK 5
6. ELECTRIC WIRING WORK 10
7. INITIAL SETTING 13
8. ADDING AN ADDITIONAL CHARGE OF REFRIGERANT 14
9. CHECK OPERATION AND TEST OPERATION 14

The original instructions are written in English. All other languages are translations of the original instructions.

1. BEFORE INSTALLATION

1-1 Precautions

- Hold the unit by the hanging brackets (4 points) when opening the box and moving it, and do not lift it holding on to any other part especially the refrigerant piping.
- About installation of outdoor and indoor unit, refer to the installation manual provided with outdoor and indoor unit.
- This unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment. If installed as a household appliance it could cause electromagnetic interference.

1-2 Accessories

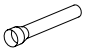
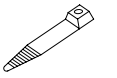
Check the following accessories are included with your unit.

NOTE

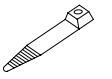
- Do not throw away any of the accessories until installation is complete.

〈**BSQ36 · 60TVJ**〉

Unit: in. (mm)

Name	1) Accessory pipes (BSQ36 only)		1) Accessory pipes (BSQ60 only)		2) Clamp	3) Insulation tube		Explanation Document
Quantity	1 pc.	1 pc.	1 pc.	2 pcs.	16 pcs.	2 pcs.	3 pcs.	1 copy
Shape	1)-1  ϕ3/8 (ϕ9.5)	1)-2  ϕ5/8 (ϕ15.9)	1)-1  ϕ1/2 (ϕ12.7)	1)-2  ϕ5/8 (ϕ15.9)		3)-1  (Small)	3)-2  (Large)	Installation manual

〈**BSQ96TVJ**〉

Name	1) Accessory pipes		2) Clamp	3) Insulation tube			Explanation Document
Quantity	1 pc.	2 pcs.	16 pcs.	2 pcs.	2 pcs.	1 pc.	1 copy
Shape	1)-1  ϕ3/4 (ϕ19.1)	1)-2  ϕ3/4 (ϕ19.1)		3)-1  (Medium)	3)-2  (Small)	3)-3  (Large)	Installation manual

1-3 Combination

- This Branch Selector unit is only for systems for models T series and PC series. It cannot be connected to systems for models M, P, PA and PB series.
- For series of applicable indoor units, refer to the catalog or other literature.
- Select the Branch Selector unit to fit the total capacity (sum of unit's capacity) and max. number of the indoor units to be connected downstream. About indoor unit's capacity, refer to the **Table 2**.

Table 1

Model	Total capacity of all downstream indoor units	Max. number of all downstream indoor units
BSQ36TVJ	$A \leq 36$	4
BSQ60TVJ	$36 < A \leq 60$	8
BSQ96TVJ	$60 < A \leq 96$	8

Table 2

Capacity expressed as indoor unit's model No.	07	09	12	18	24	30	36	42	48	54	72	96
Indoor unit's capacity (for use in computation)	7.5	9.5	12	18	24	30	36	42	48	54	72	96

<Example>
In case of the Branch Selector unit with connect two FXFQ**12**P and two FXMQ**18**P.
Total capacity = **12**×2+**18**×2 = 60 → **Select BSQ60TVJ**

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1-4 Checklist

Exercise particular care concerning the following items during installation work and check again after installation is complete:

Post-installation checklist

Checklist	If defective	Check here.
Has the Branch Selector unit been installed securely?	The unit may fall, vibrate, or operate noisily.	
Did you conduct a gas leak inspection?	The unit may fail to heat or cool as designed.	
Was the unit fully insulated? (Refrigerant pipes)	The unit may leak water.	
Is the supply voltage the same as the voltage indicated on the label?	The unit may fail to operate or burn up.	
Are there any wiring mistakes or erroneous wiring or erroneous pipe connections?	The unit may fail to operate, burn up, or produce abnormal noise.	
Has the unit been grounded?	The unit may pose a hazard in the event of a short-circuit.	
Is the thickness of the electrical wiring the same as described in the specifications?	The unit may fail to operate or burn up.	

Delivery checklist

Checklist	Check here.
Has a cover been installed on the control box?	
Did you give the customer the installation manual?	

2. SELECTING INSTALLATION SITE

Select an installation site where the following conditions are satisfied and that meets with your customer's approval.

- Where is resistible against weight of Branch Selector unit.
- Locations where the wall is not significantly tilted.
- Where sufficient clearance for maintenance and service can be ensured. (**Refer to Fig. 1.**)
- Locations where an inspection hole (**refer to Fig. 2**) can be installed to the control box side (see Note).
- Where the total piping length involving indoor unit and outdoor unit is below the allowable piping length. (See installation manual attached to outdoor unit.)

Note: The control box mounting surface can be changed.
For information on how to change the mounting surface, refer to **"4. BRANCH SELECTOR UNIT INSTALLATION"**.

Unit: in. (mm)

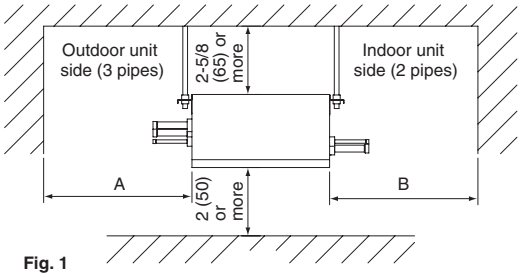


Fig. 1

Unit: in. (mm)

Branch Selector unit Name	A	B
BSQ36TVJ	10 (250) or more	10 (250) or more (*1)
BSQ60TVJ	10 (250) or more (*2)	10 (250) or more (*2)
BSQ96TVJ	12 (300) or more (*3)	12 (300) or more (*3)

Unit: in. (mm)

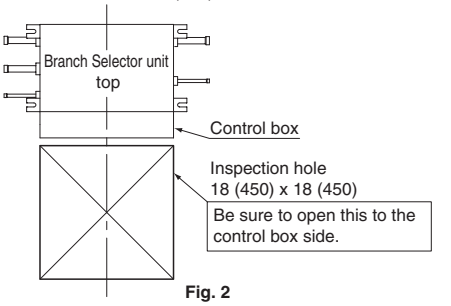


Fig. 2

(*1) When using accessory pipes 1)-1, 2 (refer to 5-5 Piping connection), provide a service space of at least 12 in. (300 mm).
(*2) When using accessory pipes 1)-1, 2 (refer to 5-5 Piping connection), provide a service space of at least 14 in. (350 mm).
(*3) When using accessory pipes 1)-1, 2 (refer to 5-5 Piping connection), provide a service space of at least 16 in. (400 mm).

⚠ WARNING

Securely install the unit at a location that is capable of withstanding its weight.
Inadequate strength may cause the indoor unit to fall, resulting in bodily injury.

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⚠ CAUTION

To prevent video and audio interference, install the Branch Selector unit as well as associated power wiring and signal transmission lines at least 40 in. (1 m) away from TVs and radios.
However, depending on the reception, interference may result even if a minimum distance of 40 in. (1 m) is maintained.

3. PREPARATIONS BEFORE INSTALLATION

Refer the **Fig. 3** and install the suspension bolts and hanging brackets.

〈**Suspension bolts: For supporting the product**〉
- Use 3/8 in. (M8) to 7/16 in. (M10) suspension bolts.
- When holes are to be made anew, used embedded inserts and embedded foundation bolts. When holes are already provided, use hole-in-anchors or the like.
  Install the Branch Selector unit so that its weight can be withstood.

〈**Hanging bracket: For supporting the connection pipe**〉
- Be sure to support the connection piping around the unit using hanging brackets that are kept within 40 in. (1 m) of the body side surface. Hanging excessive weight on the Branch Selector unit hanging bracket could cause the unit to fall and injure someone.

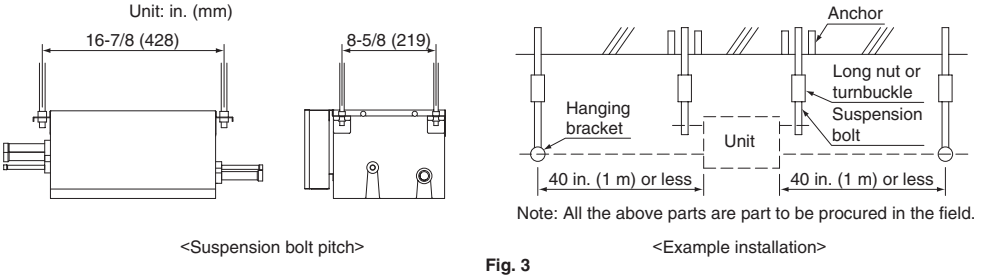


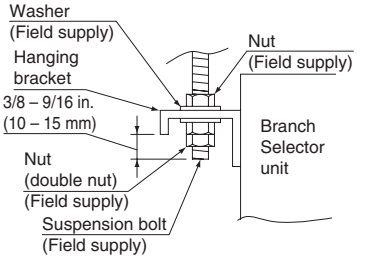
Fig. 3

4. BRANCH SELECTOR UNIT INSTALLATION

Use only accessories and parts which are of the designated specification when installing.

(1) When necessary, use the following procedure to change the control box mounting. (**Refer to Fig. 4.**)
1) Remove the control box cover. (2 screws)
2) Remove the control box. (2 screws)
3) Remove the top panel. (4 screws)
4) Remove the coil cover. (1 screw)
5) Change the pull out direction of the wire (motorized valve coil) between the body and the control box.
6) Rotate the coil cover 180 degrees and attach it.
7) Turn the top panel around 180 degrees and attach it.
8) Attach the control box.
9) Attach the control box cover.

(2) Attach the hooks to the suspension bolts.
Be sure to use the nuts (3/8 in. (M8) or 7/16 in. (M10): 3 pcs, 4 locations) and washers (For 3/8 in. (M8), Outside diameter dimension 15/16 in. (24 mm) to 1-1/8 in. (28 mm), For 7/16 in.(M10): Outside diameter 1-3/16 in. (30 mm) to 1-5/16 in. (34 mm): 2 pcs, 4 locations) (field supply) from both the top and bottom sides of the hanging bracket and make sure they are tightened correctly.



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NOTE

- The Branch Selector unit has a top and a bottom, so install it so that the diagonal lines in the **Fig. 4** are where the top is. (Failing to do so may prevent the unit from operating properly and increase the volume of the operating noise.)

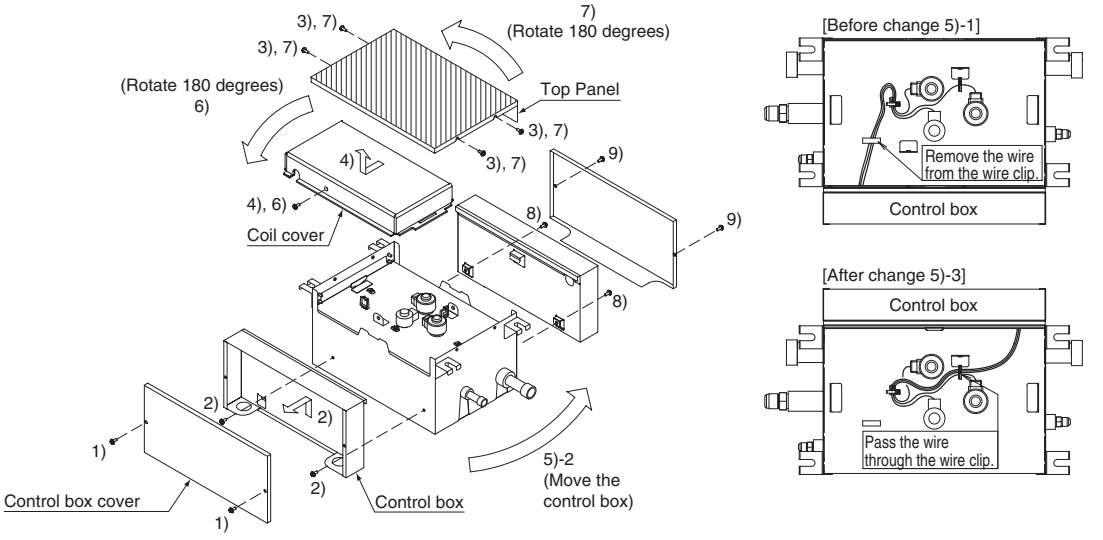


Fig. 4

5. REFRIGERANT PIPING WORK

- For instruction for installing piping between the outdoor unit and Branch Selector unit, selecting a refrigerant branch kit, and installing piping between the refrigerant branch kit and the indoor unit, refer to the installation manual and equipment design materials included with the outdoor unit.
- Before beginning the work, be sure to verify that the type of refrigerant used is R410A. (The unit will not operate correctly with a different type of refrigerant.)
- Insulate all of the piping, including the liquid pipes, high/low pressure gas pipes, suction gas pipes, gas pipes, and the pipe connections for these.
  Not insulating these pipes could result in water leaks or burns.
  In particular, low-temperature gas flows in the high/low pressure gas piping during full cooling operation, so the same amount of insulation as used for the suction gas pipes is required.
  In addition, high-temperature gas flows in the high/low pressure gas piping and gas piping, so use insulation that can withstand more than 250°F (120°C).
- Select insulation material as necessary for the installation environment.
  For details, refer to the Engineering Data Book.
  If you fail to do so, condensation could form on the surface of the insulation.

NOTE

- This product only uses the new refrigerant (R410A). Be sure to use the special pipe cutters for R410A, during installation.
- Make sure that nothing besides the specified refrigerant, such as air, gets into the refrigerant piping.
- If refrigerant gas leaks during the work, ventilate the area. (The outdoor units are filled with refrigerant.)

5-1 Piping material selection

- Use only pipes which are clean inside and outside and which do not accumulate harmful sulfur, oxidants, dirt, cutting oils, moisture, or other contamination. (Foreign materials inside pipes including oils for fabrication must be 9 mg/10 ft. (9 mg/3 m) or less.)

- For information regarding the piping allowable maximum length, allowable height difference, and allowable length after a branch, refer to the installation manual that came with the outdoor unit or Engineering Data Book.
- The refrigerant branch kit (sold separately) is required for piping branches. For information on how to select a refrigerant branch kit, refer to the installation manual that came with the outdoor unit or Engineering Data Book.

5-2 Protection against contamination when installing pipes

Protect the piping to prevent moisture, dirt, dust, etc. from entering the piping.

Place	Installation period	Protection method
Outdoor	More than a month	Pinch the pipe
	Less than a month	Pinch or tape the pipe
Indoor	Regardless of the period	

NOTE

Exercise special caution to prevent dirt or dust when passing piping through holes in walls and when passing pipe edges to the exterior.

5-3 Pipe connection work precautions

- When brazing refrigerant piping, begin working after replacing the nitrogen (*1) or perform brazing while nitrogen is flowing in the refrigerant piping (*2) (**refer to Fig. 5**).
  (*1) For details on nitrogen replacement, see the “VRV Installation Manual” (available at any Daikin dealer).
  (*2) The pressure regulator for the nitrogen released when doing the brazing should be set to about 2.9 psi (0.02 MPa) (enough to feel a slight breeze on your cheek).

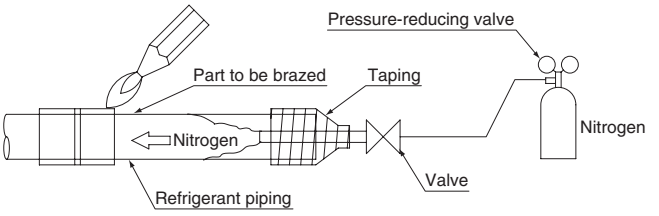


Fig. 5

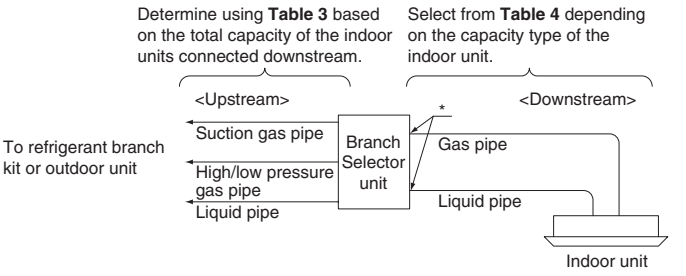
NOTE

- Do not use an anti-oxidizing agent when brazing the piping. Residual debris could clog the piping or cause parts to malfunction.
- Do not use a flux when brazing the refrigerant pipe joints.
  Using a chlorine flux may cause the pipes to corrode, and if it contains fluoride it may cause the refrigerant lubricant to deteriorate, adversely affecting the refrigerant piping system.
  Use phosphor copper brazing (B-Cu93P-710/795: ISO 3677) which does not require flux.

5-4 Pipe size selection

From **Example of connection 1** and **2** below and **Table 3, 4 and 5** select the piping size between the outdoor unit (refrigerant branch kit) and Branch Selector unit, and between the Branch Selector unit and the indoor unit (refrigerant branch kit).

Example of connection 1: When 1 indoor unit is connected downstream from the Branch Selector unit



Example of connection 2: When there is a branch downstream from the Branch Selector unit

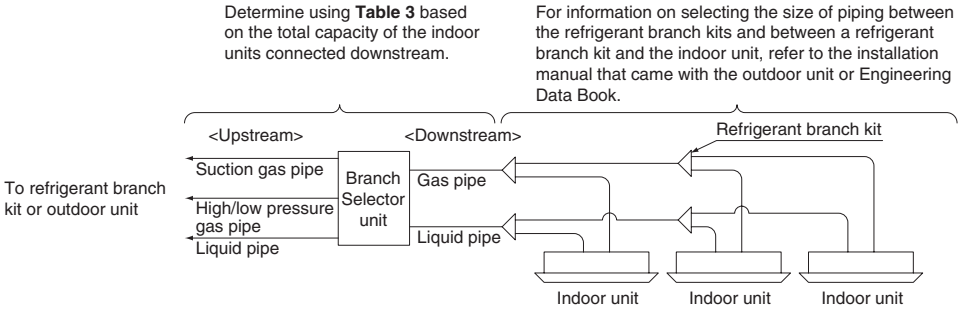


Table 3 Indoor unit total capacity and pipe size

Total capacity index of indoor units (x)	Pipe size (Outside diameter)									
	Upstream						Downstream			
	Suction		High/low pressure		Liquid		Gas pipe		Liquid pipe	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
$x < 54$	ϕ5/8	ϕ15.9	ϕ1/2	ϕ12.7	ϕ3/8	ϕ9.5	ϕ5/8	ϕ15.9	ϕ3/8	ϕ9.5
$54 \leq x < 72$	ϕ3/4	ϕ19.1	ϕ5/8	ϕ15.9			ϕ3/4	ϕ19.1		
$72 \leq x \leq 96$	ϕ7/8	ϕ22.2	ϕ3/4	ϕ19.1			ϕ7/8	ϕ22.2		

Table 4 Indoor unit connection pipe size

Capacity type of indoor units	Pipe size (Outside diameter)			
	Gas pipe		Liquid pipe	
	in.	mm	in.	mm
07, 09, 12, 18	ϕ1/2	ϕ12.7	ϕ1/4	ϕ6.4
24, 30, 36, 42, 48, 54	ϕ5/8	ϕ15.9	ϕ3/8	ϕ9.5
72	ϕ3/4	ϕ19.1		
96	ϕ7/8	ϕ22.2		

* The Branch Selector unit downstream connection pipe sizes are shown below. If the pipe diameter differs from that of the indoor unit connection pipe size selected from **Table 4**, follow the instructions in "5-5 Piping connection" and use the included pipe to make the connection.

Table 5 Branch Selector unit connection pipe size

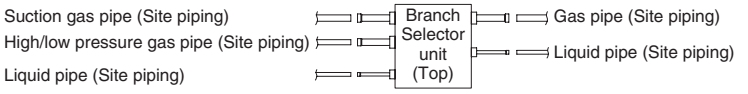
Branch Selector unit	Pipe size (Outer diameter)			
	Gas pipe		Liquid pipe	
	in.	mm	in.	mm
BSQ36TVJ	ϕ5/8	ϕ15.9	ϕ3/8	ϕ9.5
BSQ60TVJ				
BSQ96TVJ	ϕ7/8	ϕ22.2		

5-5 Piping connection

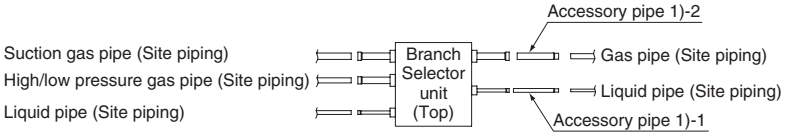
Follow the connection example below and connect the site piping.

BSQ36TVJ type

When the downstream indoor unit total capacity is 36 or less and when one indoor unit with a capacity of 24 to 36 is connected downstream.

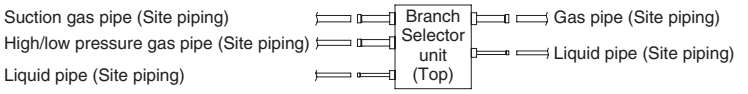


When one indoor unit with a capacity of 07 to 18 is connected downstream

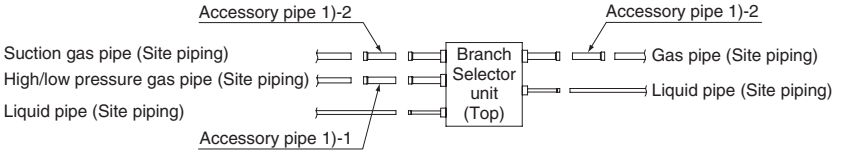


BSQ60TVJ type

When the downstream indoor unit total capacity is more than 36 but less than 54 and when one indoor unit with a capacity of 42 to 54 is connected downstream.

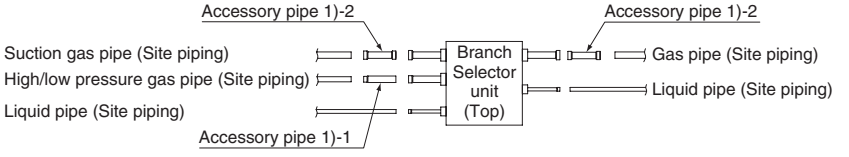


When the downstream indoor unit total capacity is 54 or more but 60 or less

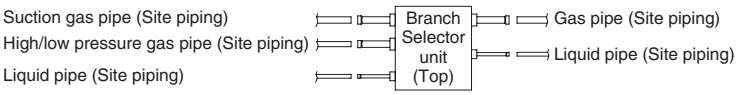


BSQ96TVJ type

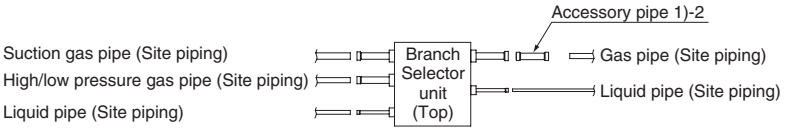
When the downstream indoor unit total capacity is more than 60 but less than 72



When the downstream indoor unit total capacity is 72 or more but 96 or less and when one indoor unit with a capacity of 96 is connected downstream.



When one indoor unit with a capacity of 72 is connected downstream



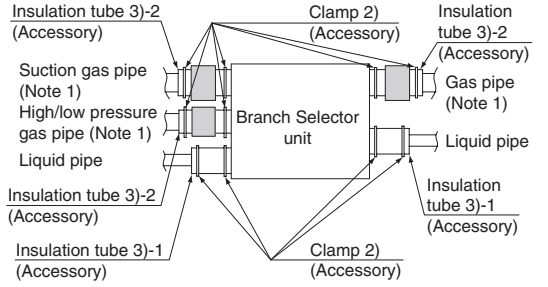
5-6 Piping insulation

- After the gas leak inspection is completed, refer to the following figures and use the included insulation tube 3) and clamps 2) to apply the insulation.

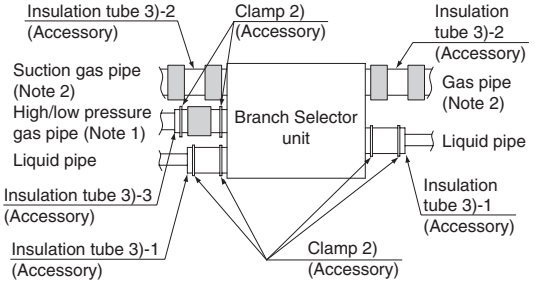
⚠ CAUTION

- Insulate all of the piping including the liquid pipes, high/low pressure gas pipes, suction gas pipes, gas pipes, and the pipe connections for these.
  Not insulating these pipes could result in water leaks or burns.
  In particular, low-temperature gas flows in the high/low pressure gas pipes during full cooling operation, so the same amount of insulation as used for the suction gas pipes is required.
  In addition, high-temperature gas flows in the high/low pressure gas piping and gas piping, so use insulation that can withstand more than 250°F (120°C).
- When reinforcing the insulation material in accordance with the installation environment, also reinforce the insulation on the piping protruding from the unit.
  Insulation material required for reinforcement work should be supplied in the field.
  For more information, refer to the Engineering Data Book.

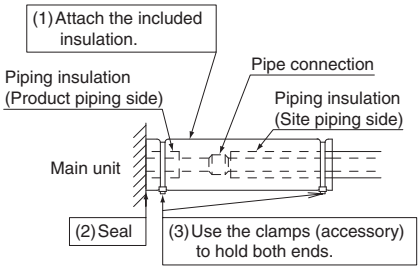
BSQ36 · 60TVJ type



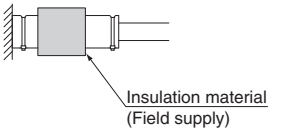
BSQ96TVJ type



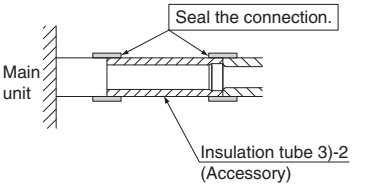
Insulation Attachment Instructions



Note 1: For suction gas pipes, high/low pressure gas pipes, and gas pipes, after attaching the included insulation tube, wrap more insulation (field supply) around the connections.

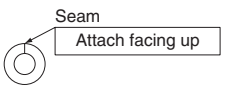


Note 2: For Model Q96, wrap sealing material (field supply) around the insulation tube 3)-2 Branch Selector unit side and site piping side connections to seal them.



Insulation Installation Precautions

1. Seal so that air cannot be in and out of the end.
2. Do not over tighten the clamp so as to maintain the insulation thickness.
3. Be sure to attach the insulation (field supply) with the seams facing up. (See figure at right.)



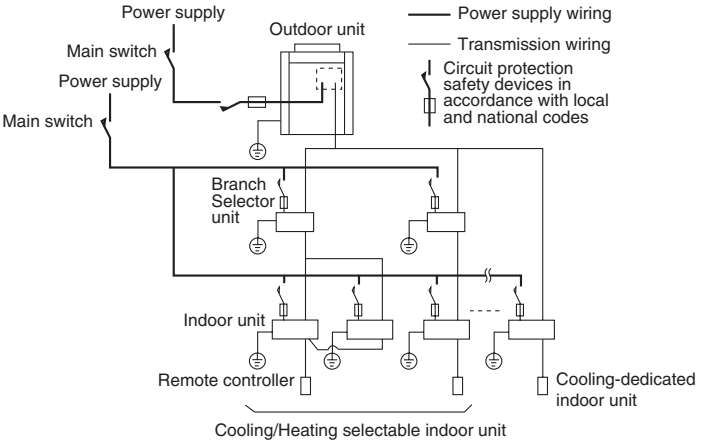
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6. ELECTRIC WIRING WORK

6-1 General instructions

- All wiring must be performed by an authorized electrician.
- All field supplied parts and materials, electric works must conform to local codes.
- Always ground wires. (In accordance with national regulations of the pertinent country.)
- Always turn off the power before performing the electric wire installation work.
- Follow the "WIRING DIAGRAM" attached to the unit body to wire the outdoor unit and indoor units.
- Properly connect wire of the specified wire type and copper thickness. Also use the included clamp to avoid applying excessive force to the terminal (field wire, ground wire).
- Do no let the ground wire should come in contact with gas pipes, water pipes, lighting rods, or telephone ground wires.
  - Gas pipes: gas leaks can cause explosions and fire.
  - Water pipes: cannot be grounded if hard vinyl pipes are used.
  - Telephone ground and lightning rods: the ground potential when struck by lightning gets extremely high.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.
- This system consists of multiple Branch Selector unit. Mark each Branch Selector unit as unit A, unit B . . . , and be sure the terminal board wiring to the outdoor unit and indoor unit are properly matched. If wiring and piping between the outdoor unit, Branch Selector unit and an indoor unit are mismatched, the system may cause a malfunction.
- Do not turn on the power supply (branch switches, overload interrupters) until all other work is done.

6-2 Example for the whole system



6-3 Power circuit, safety device and cable requirements

- A power circuit (**refer to Table 6**) must be provided for connection of the unit. The circuit must be protected with safety devices in accordance with local and national codes. i.e a fuse, a circuit breaker or a GFCI.
- When using residual current operated circuit breakers, be sure to use a high-speed type (0.1 second or less) 30 mA rated residual operating current.
- Use copper conductors only.
- Use insulated wire for the power cord.
- Select the power supply cable type and size in accordance with relevant local and national regulations.
- Use vinyl cord with sheath or cable (2-wire) of AWG 18-16 for transmission wiring.

Table 6

Model	Type	Hz	Voltage	Units: Voltage range		Power supply	
				Min.	Max.	MCA	MOP
BSQ36TVJ BSQ60TVJ BSQ96TVJ	VJ	60	208/230	187	253	0.1	15

MCA: Minimum Circuit Ampacity (A); MOP: Maximum Overcurrent Protective Device (A)

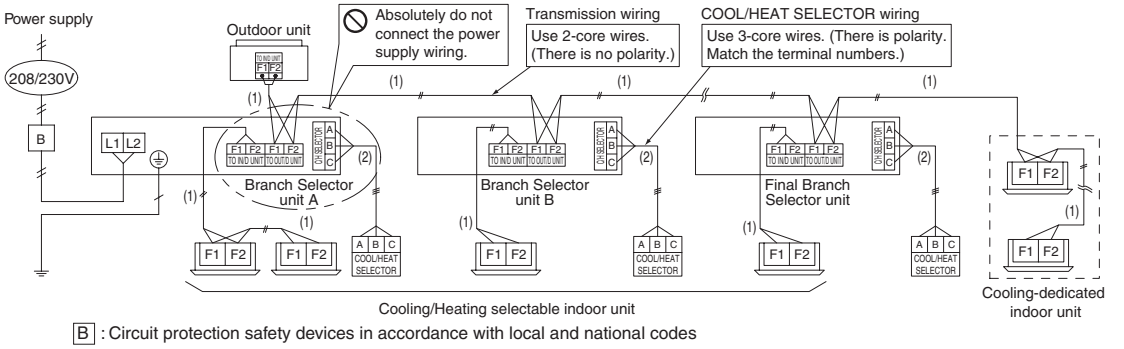
NOTE
- **Table 6** of electrical characteristics refers to one Branch Selector unit.
- See the Engineering Data Book for other details.

6-4 Wiring example

WARNING

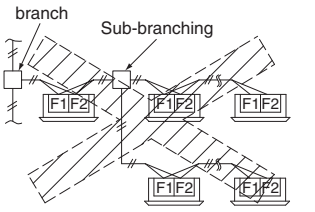
Install circuit protection safety devices in accordance with local and national codes.
Failure to install circuit protection safety devices in accordance with local and national codes may result in electric shock or fire.

- Here is shown a wiring example for one system transmission wiring.
- Connect "TO IN/D UNIT (F1, F2)" terminals on the printed circuit board of the outdoor unit and "TO OUT/D UNIT (F1, F2)" terminals on the printed circuit board of the first Branch Selector unit A.



B : Circuit protection safety devices in accordance with local and national codes

NOTE
1. Connect cooling-dedicated air conditioners to "TO OUT/D UNIT (F1, F2)" terminals of the final Branch Selector unit.
2. Use 2-core wire for the transmission wiring. Using a multi-core wire with 3 or more cores when 2 or more indoor units are used at once could cause abnormal stoppage. (Only use 3-core wire in the COOL/HEAT SELECTOR.)
3. Absolutely do not connect the power supply wiring to the transmission wiring terminal block. Doing so could damage the entire system.
4. For the transmission wiring, use wire that is within the following ranges. Exceeding these limits could cause a transmission error.
   (1) Between the Branch Selector unit and indoor units: Max. 3,280 ft. (1,000 m)
   Between the Branch Selector unit and outdoor unit: Max. 3,280 ft. (1,000 m)
   Between Branch Selector units: Max. 3,280 ft. (1,000 m)
   Total wiring length: 6,560 ft. (2,000 m) or less
   Branch point max: 16 branch points
   (2) Between a Branch Selector unit and COOL/HEAT SELECTOR
   Maximum wiring length: 1,640 ft. (500 m) or less
5. When the shield wire is used, be sure to ground the one side of the shield wire.
   The total wiring length is 4,920 ft. (1,500 m) when shielded wire is used.



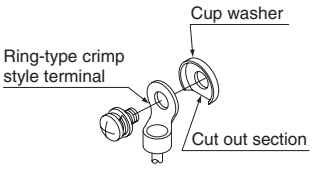
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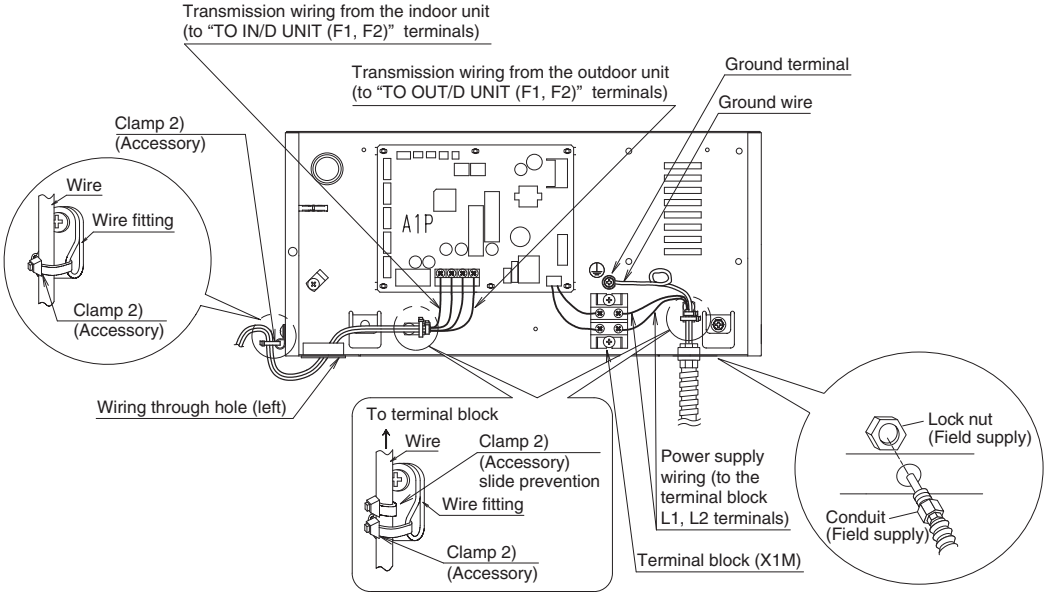
6-5 Wiring connections

Remove the control box cover on the side and follow the directions to connect the wires.

〈**Transmission wiring**〉
Remove the control box cover and connect the wires to "TO IN/D UNIT (F1, F2)" and "TO OUT/D UNIT (F1, F2)" terminals (printed circuit board (A1P)).
At this time, pass the wiring into the unit through the wiring through hole (left) and use the included clamps 2) to securely hold the wires (in 2 places).

〈**Power supply wiring and ground wire**〉
Remove the control box cover and connect the power supply wiring to the power terminal block (X1M).
Also connect the ground wire to the ground wire terminal. Pass both the power supply wire and the ground wire together through the wire through hole (right) and into the control box and use the included clamps 2) to securely hold the wires (in 2 places).
Be sure to wire the ground wire so that comes out of the slit in the cup washer.
(Not doing so could cause insufficient ground wire contact and causing the wire not to function as a ground.)





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NOTE

- Use ring-type crimp style terminal for connections to the power terminal block. (**Refer to Fig. 6.**)
  Also, insulate the crimped area by attaching an insulation sleeve, etc.
- Use an appropriate screwdriver for tightening the terminal screw.
  Using a screwdriver that is too small could damage the screw head and prevent proper tightening.
- Over tightening the terminal screw could damage the screw.
  Refer to the **Table 7** for the terminal screw tightening torque.
- When fastening the wire, use the included clamp 2) so as not to apply tensile force to the wire connection and then securely fasten the wire. Also, after wiring is completed, organize the wiring so that the control box cover does not pop up and then properly replace the control box cover.
  Make sure no wires are pinched when replacing the control box cover.
  Always use the wire through hole to protect the wires.
- Do not pass the transmission wiring and power supply wiring through the same locations and outside of the unit keep them separated by at least 2 in. (50 mm).
  Not doing so could cause the transmission wiring to pick up electric noise (external noise) and result in a malfunction or breakdown.
- After the wiring working is complete, use sealer (field supply) to seal closed the wire through hole. (Entry by small animals, etc., could cause a malfunction.)

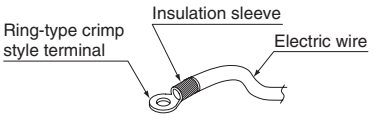


Fig. 6

Table 7

Terminal screw size	Tightening torque
M3.5 (COOL/HEAT SELECTOR/transmission wiring terminal block (A1P))	0.65±0.05 ft.lbf (0.88±0.08 N·m)
M4 (Power supply terminal block)	0.97±0.09 ft.lbf (1.31±0.13 N·m)
M4 (Ground terminal)	1.25±0.12 ft.lbf (1.69±0.17 N·m)

7. INITIAL SETTING

⚠ WARNING

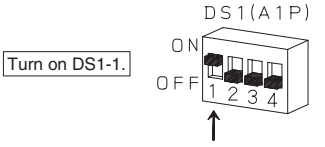
Electric shock hazard! Before performing work, be sure to disconnect any power source connected to the unit.

- When the refrigerant piping and wire installation work is completed, make the following settings as required.

1. Setting for when connecting the COOL/HEAT SELECTOR to the Branch Selector unit.

〈**Setting description**〉
Set the input signal from the COOL/HEAT SELECTOR (sold separately) to ON/OFF.

〈**Setting method**〉
Set the dip switches (DS1-1) on printed circuit board (A1P) as shown below before turning on the power to the Branch Selector unit.



NOTE

This setting is read by the microcomputer when the Branch Selector unit power is turned on.

- Be sure to make the setting before turning on the power.
- Always close the control box cover after making the setting.

2. Setting when changing the "Automatic mode differential" in the Cooling/Heating Automatic Operation Mode.

〈**Setting description**〉
- The "Automatic mode differential" can be changed within the range of 0°F (0°C) to 12.6°F (7°C) (0°F (0°C) at factory shipment).
- For details regarding the "Automatic mode differential" and indoor unit operation, refer to the Engineering Data Book.

〈**Setting method**〉
The setting is made using the "Local setting mode" by the remote controller of indoor unit connected to the Branch Selector unit.
For information regarding the setting method, refer to the Engineering Data Book.
The following table gives a list of the "MODE NO.," "FIRST CODE NO.," and "SECOND CODE NO."

NOTE
This setting is operated by the operation remote controller while the indoor unit power is turned on.
- When the indoor unit, outdoor unit, and Branch Selector unit installation work is completed, confirm that it is safe even with the power turned on before proceeding with the work.

MODE NO.	FIRST CODE NO.	SECOND CODE NO.	Automatic mode differential °F (°C)	
12 (22)	4	1	0 (0)	← At factory shipment.
		2	1.8 (1)	
		3	3.6 (2)	
		4	5.4 (3)	
		5	7.2 (4)	
		6	9.0 (5)	
		7	10.8 (6)	
		8	12.6 (7)	

8. ADDING AN ADDITIONAL CHARGE OF REFRIGERANT

Follow the instructions in the installation manual that came with the outdoor unit to add an additional charge of refrigerant.

9. CHECK OPERATION AND TEST OPERATION

(1) Verify that the control box cover is closed.
(2) Refer to the installation manual included with the outdoor unit and conduct a check and a test run after all the work on the Branch Selector unit and outdoor and indoor units is completed and the operational safety of the units is confirmed.
- You will hear the motor operated valve operating sound for about 90 seconds as it is automatically initialized (closed) after power is turned on, but this is not a problem.
- System malfunctions can be verified by means of the following method:
  Indication on the indoor operation remote controller
  Overall system malfunctions, including of the Branch Selector unit, can be identified using the LCD malfunction display on the operation remote controller. For more information about the malfunction display and its significance, refer to the service precaution name plate affixed to the indoor unit and the user manual included with the outdoor unit.

Appendix 2 Installation Manual for Multi Branch Selector Unit

1. Installation Manual i

1. Installation Manual

BS4Q54TVJ/BS6Q54TVJ/BS8Q54TVJ/BS10Q54TVJ/BS12Q54TVJ

Safety considerations

Read these Safety considerations for Installation carefully before installing an air conditioner or heat pump. After completing the installation, make sure that the unit operates properly during the startup operation.
Instruct the customer on how to operate and maintain the unit.
Inform customers that they should store this Installation Manual with the Operation Manual for future reference.
Always use a licensed installer or contractor to install this product.
Improper installation can result in water or refrigerant leakage, electrical shock, fire, or explosion.
Meanings of **DANGER**, **WARNING**, **CAUTION**, and **NOTE** Symbols:

⚠ **DANGER**	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ **WARNING**	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ **CAUTION**	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
⚠ **NOTE**	Indicates situations that may result in equipment or property-damage accidents only.
INFORMATION . . .	This symbol identifies useful tips or additional information.

⚠ DANGER

- Refrigerant gas is heavier than air and replaces oxygen. A massive leak will result in oxygen depletion, especially in basements, and an asphyxiation hazard will result in serious injury or death.
- Do not ground units to water pipes, gas pipes, telephone wires, or lightning rods as incomplete grounding will result a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes will result a gas leak and potential explosion resulting in severe injury or death.
- If refrigerant gas leaks during installation, ventilate the area immediately. Refrigerant gas will result in producing toxic gas if it comes into contact with fire. Exposure to this gas will result in severe injury or death.
- After completing the installation work, check that the refrigerant gas does not leak throughout the system.
- Do not install unit in an area where flammable materials are present due to risk of explosions that will result in serious injury or death.
- Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation will result in injuries or death by suffocation.

⚠ WARNING

- Only qualified personnel must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation could result in water leakage, electric shock, or fire.
- When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits. Excessive refrigerant leaks, in the event of an accident in a closed ambient space, could result in oxygen deficiency.
- Use only specified accessories and parts for installation work. Failure to use specified parts could result in water leakage, electric shocks, fire, or the unit falling.
- Install the air conditioner or heat pump on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength could result in the unit falling and causing injuries.
- Take into account strong winds, typhoons, or earthquakes when installing. Improper installation could result in the unit falling and causing accidents.
- Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local, state and national regulations. An insufficient power supply capacity or improper electrical construction could result in electric shocks or fire.
- Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires. Improper connections or installation could result in fire.
- When wiring, position the wires so that the control box cover can be securely fastened. Improper positioning of the control box cover could result in electric shocks, fire, or the terminals overheating.
- Before touching electrical parts, turn off the unit.
- This equipment can be installed with a Ground-Fault Circuit Interrupter (GFCI). Although this is a recognized measure for additional protection, with the grounding system in North America, a dedicated GFCI is not necessary.
- Securely fasten the unit terminal cover (panel). If the terminal cover/panel is not installed properly, dust or water may enter the outdoor unit and could result in fire or electric shock.
- When installing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R410A) such as air. Any presence of air or other foreign substance in the refrigerant circuit could result in abnormal pressure rise or rupture, resulting in injury.
- Do not change the setting of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion could result.

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⚠ CAUTION

- Do not touch the switch with wet fingers. Touching a switch with wet fingers may result in electric shock.
- Do not allow children to play on or around the unit or it may result in injury.
- The heat exchanger fins are sharp enough to cut, and may result in injury if improperly used. To avoid injury wear glove or cover the fins when working around them.
- Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. It may result in your hands getting burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- Insulate piping to prevent condensation.
- Be careful when transporting the product.
- Do not turn off the power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, water leakage may result.
- Do not use a charging cylinder. Using a charging cylinder may cause the refrigerant to deteriorate.
- Refrigerant R410A in the system must be kept clean, dry, and tight.
  (a) Clean and Dry - Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.
  (b) Tight - R410A does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth's protection again harmful ultraviolet radiation. R410A can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation. Read the chapter Refrigerant Piping and follow the procedures.
- Since R410A is a blend, the required additional refrigerant must be charged in its liquid state. If the refrigerant is charged in a state of gas, its composition can change and the system will not work properly.
- The indoor unit is for R410A. See the catalog for indoor models that can be connected. Normal operation is not possible when connected to other units.
- Remote controller (wireless kit) transmitting distance can be shorter than expected in rooms with electronic fluorescent lamps (inverter or rapid start types). Install the indoor unit far away from fluorescent lamps as much as possible.
- Indoor units are for indoor installation only. Outdoor units can be installed either outdoors or indoors. This unit is for indoor use.
- Do not install the air conditioner or heat pump in the following locations:
  (a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen.
  Plastic parts may deteriorate and fall off and thus may result in water leakage.
  (b) Where corrosive gas, such as sulfurous acid gas, is produced.
  Corroding copper pipes or soldered parts may result in refrigerant leakage.
  (c) Near machinery emitting electromagnetic waves.
  Electromagnetic waves may disturb the operation of the control system and cause the unit to malfunction.
  (d) Where flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions may result in a fire.
- Take adequate measures to prevent the outdoor unit from being used as a shelter by small animals. Small animals making contact with electrical parts may result in malfunctions, smoke, or fire. Instruct the customer to keep the area around the unit clean.

⚠ NOTE

- Install the power supply and transmission wires for the indoor and outdoor units at least 3.5 ft. (1 m) away from televisions or radios to prevent image interference or noise. Depending on the radio waves, a distance of 3.5 ft. (1 m) may not be sufficient to eliminate the noise.
- Dismantling the unit, treatment of the refrigerant, oil and additional parts must be done in accordance with the relevant local, state, and national regulations.
- Do not use the following tools that are used with conventional refrigerants: gauge manifold, charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, or refrigerant recovery equipment.
- If the conventional refrigerant and refrigerator oil are mixed in R410A, the refrigerant result in deterioration.
- This air conditioner or heat pump is an appliance that should not be accessible to the general public.
- As design pressure is 478 psi (3.3 MPa), the wall thickness of field-installed pipes should be selected in accordance with the relevant local, state, and national regulations.

Codes and Regulations

This product is designed and manufactured to comply with national codes. Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations. Rated performance is achieved after 72 hours of operation.

BS4Q54TVJ BS10Q54TVJ
BS6Q54TVJ BS12Q54TVJ VRVIV System Air Conditioners Installation manual
BS8Q54TVJ

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The original instructions are written in English. All other languages are translations of the original instructions.

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1. BEFORE INSTALLATION

1-1 Precautions

- Be sure to verify in advance that the refrigerant used in installation work is R410A. The unit will not operate correctly with a different type of refrigerant.
- When moving the unit during or after unpacking, hold it using the 4 hanging brackets and avoid subjecting other parts, particularly refrigerant pipes and the control box, to force.
- For more information about installation of outdoor and indoor units, refer to the installation manual that came with each unit.

1-2 Accessories

- Verify that the following accessories have been included in the packaging.

Important

Do not throw away any accessories that may be needed in installation work until installation is complete.

Name		Clamps (1)	Insulation tube (2)		Vinyl tube (3)
Quantity	BS4Q54TVJ	23 pcs.	4 pcs.	4 pcs.	1 pc.
	BS6Q54TVJ	32 pcs.	6 pcs.	6 pcs.	
	BS8Q54TVJ	40 pcs.	8 pcs.	8 pcs.	
	BS10Q54TVJ	49 pcs.	10 pcs.	10 pcs.	
	BS12Q54TVJ	57 pcs.	12 pcs.	12 pcs.	
Shape		(1) 	(2)-1  (Thin)	(2)-2  (Thick)	(3)

Name		Stopper pipes (4)		Insulation tube for stopper pipes (5)		Documentation
Quantity	BS4Q54TVJ	1 pc.	1 pc.	1 pc.	1 pc.	1 copy
	BS6Q54TVJ					
	BS8Q54TVJ					
	BS10Q54TVJ					
	BS12Q54TVJ					
Shape		(4)-1  ϕ3/8 in. (ϕ9.5 mm)	(4)-2  ϕ5/8 in. (ϕ15.9 mm)	(5)-1  (Thin)	(5)-2  (Thick)	Installation Manual

NOTES

- You will need a reducing joint (to be supplied in the field) if the diameter of the pipe on site as described in the outdoor unit's installation manual or equipment design materials does not match the diameter of the connection pipe on the outdoor side of the Branch Selector unit.
- Thermal insulation for connection pipes on the outdoor unit side must be supplied in the field.

1-3 Combination

- This Branch Selector unit is only for systems for models REYQ-T and PC series. It cannot be connected to systems for models REYQ-M, P, PA and PB series.
- For series of applicable indoor units, refer to the catalog or other literature.
- Select the Branch Selector unit to fit the total capacity (sum of unit's capacity) of the indoor units to be connected downstream, refer to the Table 1. About indoor unit's capacity, refer to the Table 2.

Table 1

Model	Total capacity of all downstream indoor units
BS4Q54TVJ	A ≤ 144 (*)
BS6Q54TVJ	A ≤ 216 (*)
BS8Q54TVJ BS10Q54TVJ BS12Q54TVJ	A ≤ 290 (*)

* The total capacity and number of indoor units connectable to each branch connector are up to 54 and 5, respectively. When the total capacity of indoor units to be connected downstream is larger than 54 (MAX. 96), use a junction pipe kit (KHRP26A250T, sold separately) to join two connections downstream from the Branch Selector unit.

Table 2

Capacity expressed as indoor unit's model No.	07	09	12	18	24	30	36	42	48	54	72	96
Indoor unit's capacity (for use in computation)	7.5	9.5	12	18	24	30	36	42	48	54	72	96

<Example selection>
In case of the Branch Selector unit with connect a FXFQ**12**P and a FXMQ**18**P.
Total capacity = **12+18** = 30

1-4 Checklist

Exercise particular care concerning the following items during installation work and check again after installation is complete:

Post-installation checklist

Checklist	If defective	Check here.
Has the Branch Selector unit been installed securely?	The unit may fall, vibrate, or operate noisily.	
Did you conduct a gas leak inspection?	The unit may fail to heat or cool as designed.	
Was the unit fully insulated? (Refrigerant pipes)	The unit may leak water.	
Is the supply voltage the same as the voltage indicated on the label?	The unit may fail to operate or burn up.	
Are there any wiring mistakes or erroneous wiring or erroneous pipe connections?	The unit may fail to operate, burn up, or produce abnormal noise.	
Has the unit been grounded?	The unit may pose a hazard in the event of a short-circuit.	
Is the thickness of the electrical wiring the same as described in the specifications?	The unit may fail to operate or burn up.	

Delivery checklist

Checklist	Check here.
Has a cover been installed on the control box?	
Did you give the customer the installation manual?	

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2. SELECTING INSTALLATION SITE

Consider the following requirements when choosing the installation location and obtain the customer's consent:

- The location must be able to withstand the weight of the Branch Selector unit.
- The location must allow inspection holes to be installed on the control box side. (A separate opening is necessary when lowering the product.)
- There must be adequate space in which to perform installation and service work. (**Refer to Fig. 1.**)
- The length of pipe to the indoor unit and outdoor unit must be less than or equal to the permissible pipe length (as listed in the installation manual that came with the outdoor unit).
- The sound of refrigerant being pumped through the pipes must not be a problem. (Never install above the ceiling of an occupied room.)

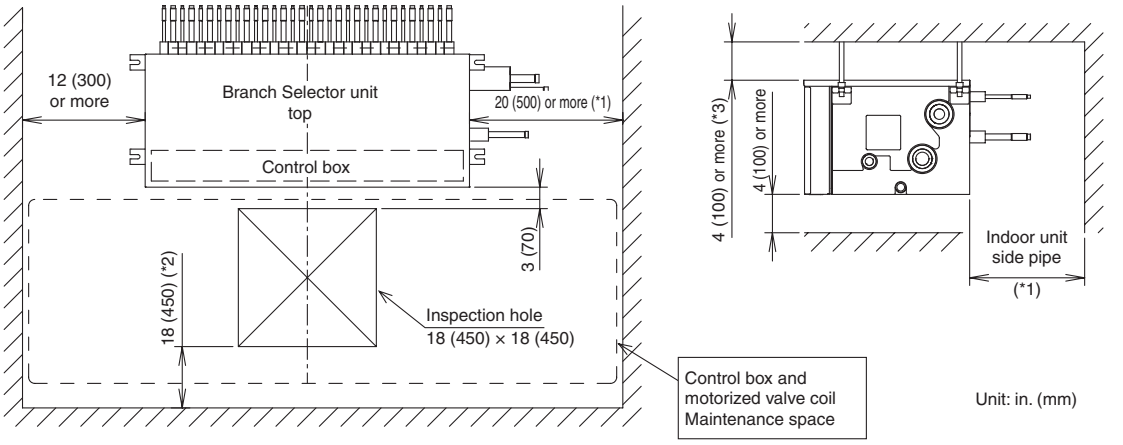


Fig. 1

(*1) Leave enough space to connect the site pipes.
(*2) This space is needed to place the top plate when performing service on the motor operated valve coil.
(*3) This space is needed to remove the top plate when performing service on the motor operated valve coil.

⚠ WARNING

Securely install the unit at a location that is capable of withstanding its weight.

Inadequate strength may cause the indoor unit to fall, resulting in bodily injury.

⚠ CAUTION

- Leave enough space to perform maintenance on the control box.
- To prevent video and audio interference, install the Branch Selector unit as well as associated power wiring and signal transmission lines at least 40 in. (1 m) away from TVs and radios.
  However, depending on the reception, interference may result even if a minimum distance of 40 in. (1 m) is maintained.

3. PREPARATIONS BEFORE INSTALLATION

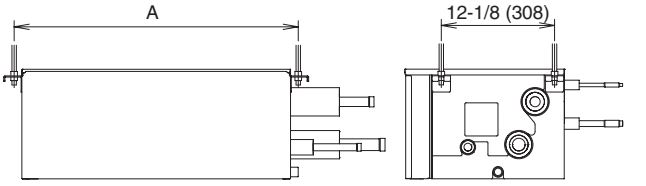
Install suspension bolts and hanging brackets as illustrated in the diagram below.

- Use a suspension bolt size of 3/8 in.(M8) to 7/16 in.(M10).
- Use mold-in inserts and embedded foundation bolts for new installations or hole-in anchor bolts or similar hardware for existing installations, taking care to install in a manner that can withstand the unit's weight.

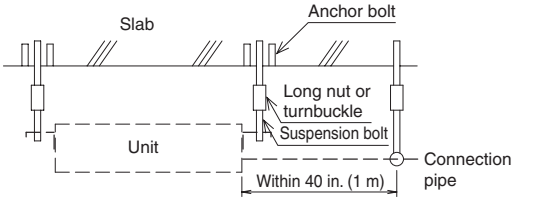
Unit: in. (mm)

Branch Selector unit	A
BS4Q54TVJ	16-5/16 (415)
BS6Q54TVJ	24-5/8 (625)
BS8Q54TVJ	
BS10Q54TVJ	34-1/16 (865)
BS12Q54TVJ	

<Suspension bolt spacing>



- Use the hanging brackets to support the connection pipes on both the front and back of the unit within 40 in. (1 m) of the unit's side.
  Placing an excessive amount of weight on the Branch Selector unit's hanging brackets may cause the unit to fall, resulting in bodily injury.



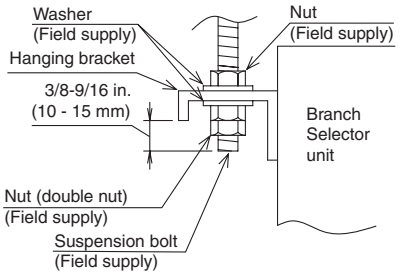
Note: All the above parts must be supplied in the field

<Example installation>

4. BRANCH SELECTOR UNIT INSTALLATION

Use only accessories and parts that conform to the designated specifications when installing the unit.

1. Position the Branch Selector unit and secure it temporarily in place.
   Attach the hanging brackets to the suspension bolts as per the instructions in the figure to the right.
   Be sure to affix nuts (3/8 in.(M8) or 7/16 in.(M10), 3 pieces in 4 locations) and washers (for 3/8 in.(M8), outside diameter of 15/16 in. (24 mm) to 1-1/8 in. (28 mm) or for 7/16 in.(M10), outside diameter of 1-3/16 in. (30 mm) to 1-5/16 in. (34 mm): 2 pieces in 4 locations) (to be supplied in the field) from both the top and bottom of the hanging brackets on both sides of the unit to secure it in place.
2. Adjust the height of the unit as desired.
3. Using a level, verify that the unit has been installed in a level orientation.



⚠ WARNING

- Install the Branch Selector unit in a level orientation.
- Attach nuts on both the top and bottom of the hanging brackets.
  Overtightening the lower nut without the upper nut in place may cause the hanging bracket and top plate to deform, causing the unit to produce abnormal noise.

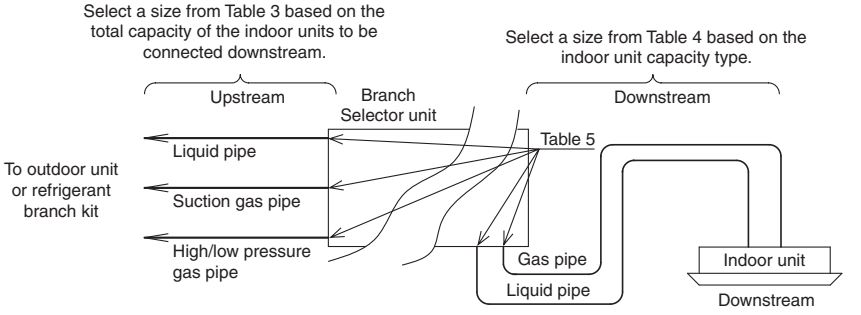
5. REFRIGERANT PIPING WORK

- For instructions for installing piping between the outdoor unit and the Branch Selector unit, selecting a refrigerant branch kit, and installing piping between the refrigerant branch kit and indoor units, refer to the installation manual and included with the outdoor unit.
- Before beginning the work, be sure to verify that the type of refrigerant used is R410A. (The unit will not operate correctly with a different type of refrigerant.)
- Insulate all of the piping, including the liquid pipes, high/low pressure gas pipes, suction gas pipes, gas pipes, and the pipe connections for these.
  Not insulating these pipes could result in water leaks or burns.
  In particular, low-temperature gas flows in the high/low pressure gas piping during full cooling operation, so the same amount of insulation as used for the suction gas pipes is required.
  In addition, high-temperature gas flows in the high/low pressure gas piping and gas piping, so use insulation that can withstand more than 250°F (120°C).
- Select insulation material as necessary for the installation environment.
  For details, refer to the Engineering Data Book.
  If you fail to do so, condensation could form on the surface of the insulation.

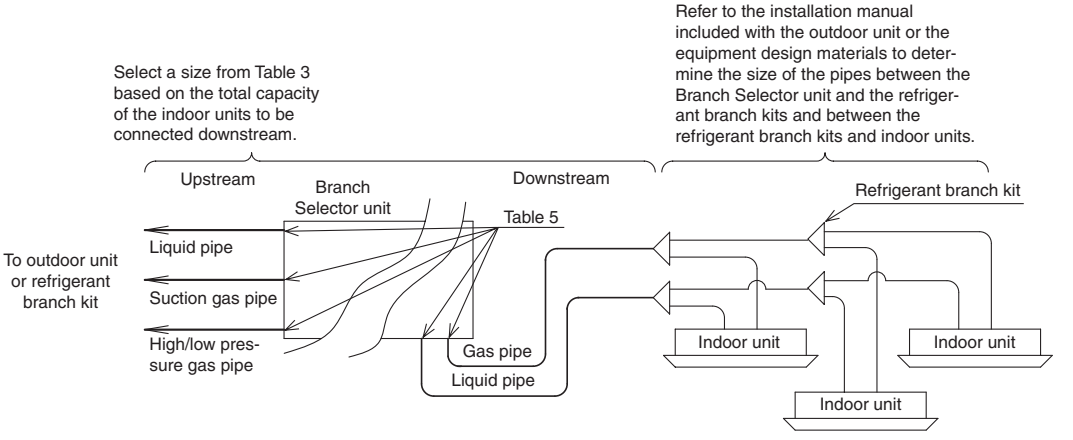
5-1 Pipe size selection

Select the size of piping between the outdoor unit (refrigerant branch kit) and the Branch Selector unit and between the Branch Selector unit and indoor units (refrigerant branch kits) based on example connections 1 and 2 below and Tables 3, 4 and 5.

Example connection 1 : When connecting 1 indoor unit downstream of the Branch Selector unit



Example connection 2 : When there is a branch downstream from the Branch Selector unit



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Table 3 Total indoor unit capacity and pipe size

Total indoor unit capacity (x)	Pipe size (Outside diameter)									
	Upstream						Downstream			
	Suction		High/low pressure		Liquid		Gas pipe		Liquid pipe	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
x < 54	ϕ5/8	ϕ15.9	ϕ1/2	ϕ12.7	ϕ3/8	ϕ9.5	ϕ5/8	ϕ15.9	ϕ3/8	ϕ9.5
54 ≤ x < 72	ϕ3/4	ϕ19.1	ϕ5/8	ϕ15.9			ϕ3/4	ϕ19.1		
72 ≤ x < 111	ϕ7/8	ϕ22.2	ϕ3/4	ϕ19.1			ϕ7/8	ϕ22.2		
111 ≤ x < 162	ϕ1-1/8	ϕ28.6			ϕ1/2	ϕ12.7				
162 ≤ x < 230			ϕ1-1/8	ϕ28.6	ϕ5/8	ϕ15.9				
230 ≤ x ≤ 290	ϕ1-3/8	ϕ34.9			ϕ3/4	ϕ19.1				

- In case of connection to the main pipe, refer to the installation manual included with the outdoor unit or the equipment design materials.

Table 4 Indoor unit connection pipe size

Indoor unit capacity size	Pipe size (Outside diameter)			
	Gas pipe		Liquid pipe	
	in.	mm	in.	mm
07, 09, 12, 18	ϕ1/2	ϕ12.7	ϕ1/4	ϕ6.4
24, 30, 36, 42, 48, 54	ϕ5/8	ϕ15.9	ϕ3/8	ϕ9.5
72	ϕ3/4	ϕ19.1		
96	ϕ7/8	ϕ22.2		

- Table 5 lists Branch Selector unit connection pipe size.

Table 5 Branch Selector unit connection pipe size

Outdoor unit side (*1)

Branch Selector unit	Suction pipe		High/low pressure gas pipe		Liquid pipe	
	in.	mm	in.	mm	in.	mm
BS4Q54TVJ	ϕ7/8	ϕ22.2	ϕ3/4	ϕ19.1	ϕ3/8	ϕ9.5
BS6Q54TVJ	ϕ1-1/8	ϕ28.6			ϕ1/2	ϕ12.7
BS8Q54TVJ						
BS10Q54TVJ			ϕ1-1/8	ϕ28.6	ϕ5/8	ϕ15.9
BS12Q54TVJ						

Indoor unit side (*2)

Branch Selector unit	Gas pipe		Liquid pipe	
	in.	mm	in.	mm
BS4Q54TVJ	ϕ1/2 (ϕ5/8)	ϕ12.7 (ϕ15.9)	ϕ1/4 (ϕ3/8)	ϕ6.4 (ϕ9.5)
BS6Q54TVJ				
BS8Q54TVJ				
BS10Q54TVJ				
BS12Q54TVJ				

*1 If the pipe size differs from that of the size selected from Table 3, you will need a reducing joint (to be supplied in the field).

*2 The pipe diameter in parentheses can be used by cutting the pipes on the Branch Selector unit side with a pipe cutter. For details, refer to “5-3 Piping connection.”

NOTES

- If the number of indoor units to be connected is less than the number of branch ports (so that there are empty branch ports left, or if you plan to increase the number in the future), any of the branch ports can be left open.
- If you plan to add new indoor units in the future, select a pipe size based on the total indoor unit capacity before addition of new units.
- For more information about how to install the stop valve kit for extension, refer to the installation manual included with the stop valve kit for extension.

5-2 Pipe connection work precautions

Connect the pipes.

- Braze (*2) refrigerant pipes after nitrogen replacement (replacing air and nitrogen while allowing nitrogen to flow inside the refrigerant pipe (*1)). (**Refer to Fig. 2.**)

  (*1) The pressure regulator for the nitrogen released when doing the brazing should be set to about 2.9 psi (0.02 MPa) (enough to feel a slight breeze on your cheek).

  (*2) Do not use flux when brazing the refrigerant pipe.
  Use phosphor copper (B-Cu93P-710/795: ISO 3677), which does not require flux, as the filler metal for brazing.
  (Using chlorine flux may cause the pipes to corrode, and if it contains fluoride it may cause the refrigerant lubricant to degrade, adversely affecting the refrigerant piping system.)

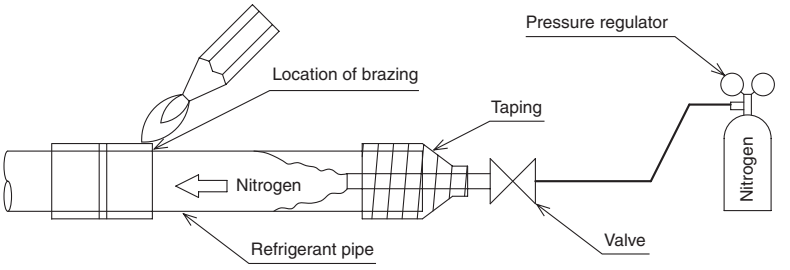


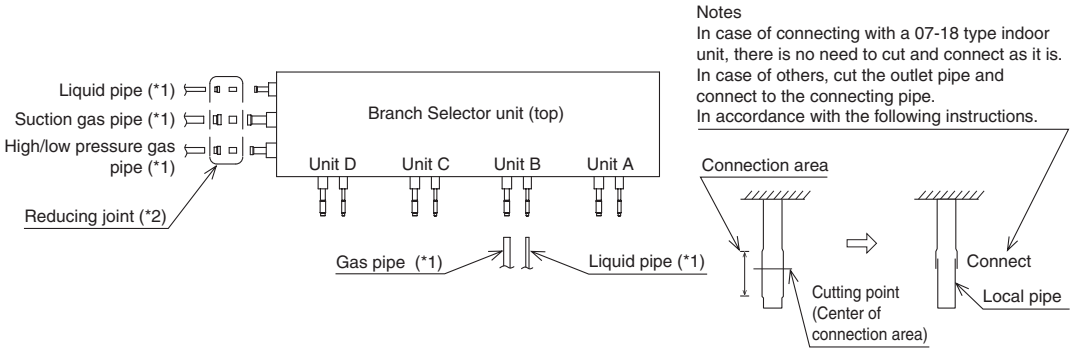
Fig. 2

⚠ CAUTION

- Do not use an anti-oxidizing agent when brazing the piping.
  (Residual debris could clog the piping or cause parts to malfunction.)

- For more information about outdoor unit refrigerant pipes, see the installation manual included with the outdoor unit or the Engineering Guide.
  (Failure to purge air from the pipes or fill additional refrigerant may result in an insufficient volume of refrigerant in the pipes or other problems, causing the equipment to malfunction [for example, to not cool or heat properly].)

5-3 Piping connection



(*1) Indicates local pipe.
(*2) Reducing joint may be required (field supply) if the local pipe size does not suit on the pipe size of the Branch Selector unit (Table 5).

— If there are branch ports left unused (not connected to an indoor unit)

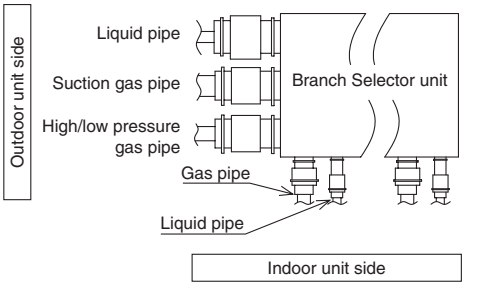
- If there are unused branch ports, use stopper pipe (4) (accessory).
  If there are numerous unused branch ports, be sure to use the stop pipe kit (KHFP26A100C).

5-4 Airtightness test and vacuum drying

- After completing refrigerant piping work for the indoor units, Branch Selector unit, and outdoor unit, conduct an airtightness test and vacuum drying.
  For more information about the airtightness test pressure, refer to the outdoor unit's installation manual.

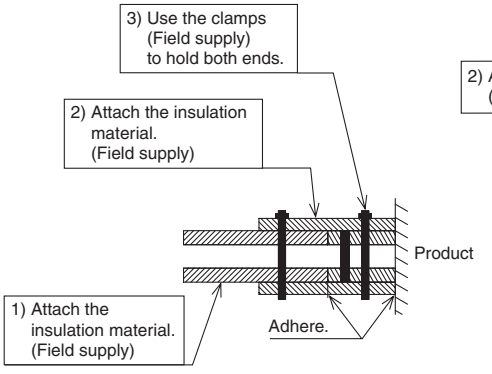
5-5 Piping insulation

- After the gas leak inspection is completed, refer to the following figures and use the included insulation tube (2) and clamps (1) to apply the insulation.

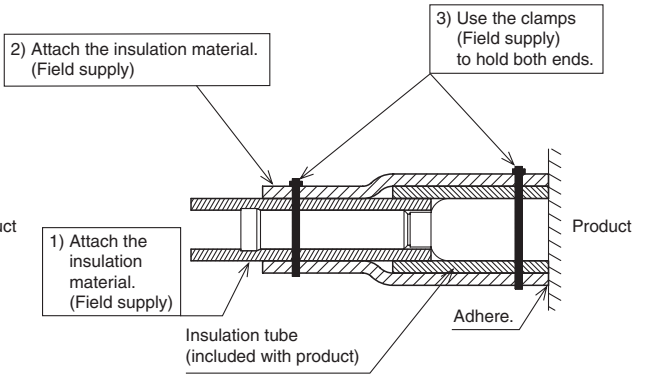


⚠ CAUTION

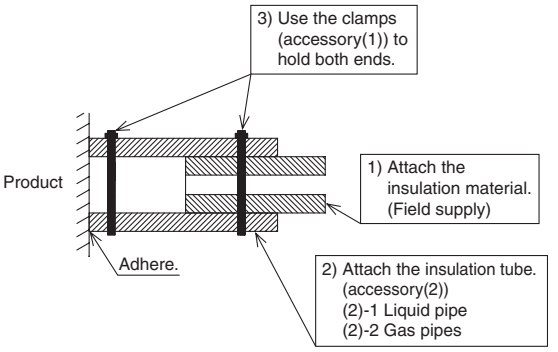
- Insulate all of the piping including the liquid pipes, high/low pressure gas pipes, suction gas pipes, gas pipes, and the pipe connections for these.
  Not insulating these pipes could result in water leaks or burns.
  In particular, low-temperature gas flows in the high/low pressure gas pipes during full cooling operation, so the same amount of insulation as used for the suction gas pipes is required.
  In addition, high-temperature gas flows in the high/low pressure gas piping and gas piping, so use insulation that can withstand more than 250°F (120°C).
- When reinforcing the insulation material in accordance with the installation environment, also reinforce the insulation on the piping protruding from the unit.
  Insulation material required for reinforcement work should be supplied in the field.
  For more information, refer to the Engineering Data Book.



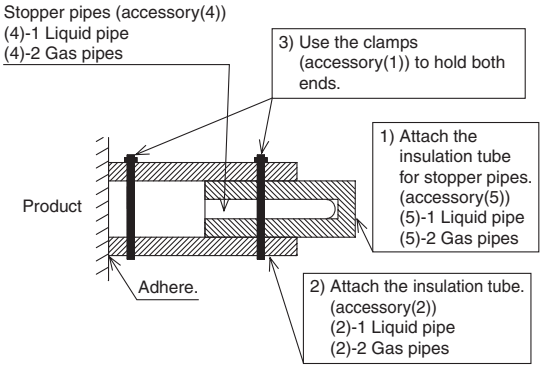
Insulation material installation instructions (outdoor unit side) (liquid pipes)



Insulation material installation instructions (outdoor unit side) (suction and high/low pressure gas pipes)



Insulation tube installation instructions (indoor unit side) (gas and liquid pipes)



Insulation tube installation instructions for unused branch ports (indoor unit side) (gas and liquid pipes)

⚠ CAUTION

- Wrap insulation material with the seam facing up. (**Refer to Fig. 3.**)

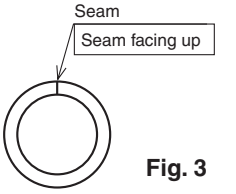


Fig. 3

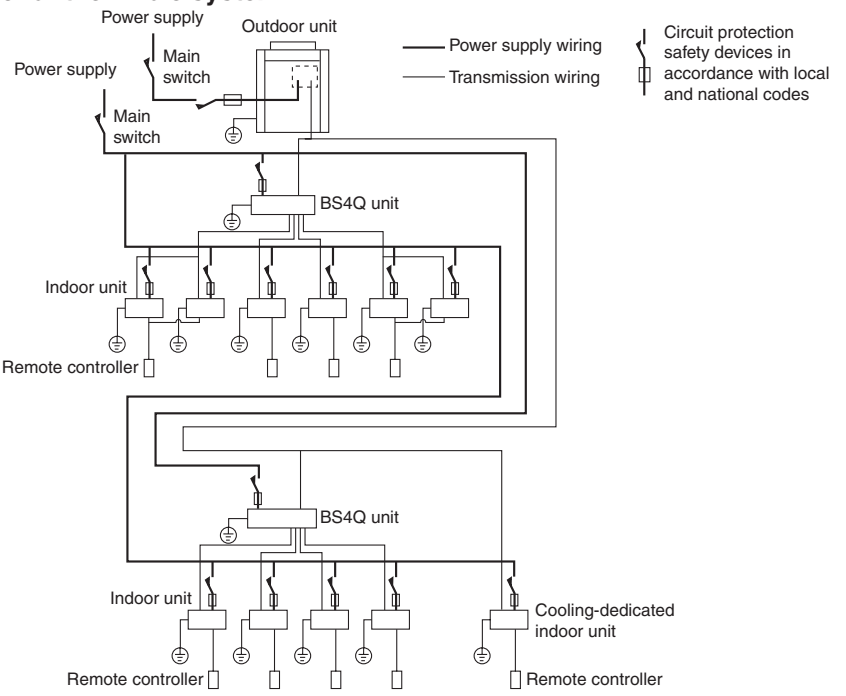
6. ELECTRIC WIRING WORK

6-1 General instructions

- All wiring must be performed by an authorized electrician.
- All field supplied parts and materials, electric works must conform to local codes.
- Always ground wires. (In accordance with national regulations of the pertinent country.)
- Always turn off the power before performing the electric wire installation work.
- Follow the “WIRING DIAGRAM” attached to the unit body to wire the outdoor unit and indoor units.
- Properly connect wire of the specified wire type and copper thickness. Also use the included clamp to avoid applying excessive force to the terminal (field wire, ground wire).
- Do not let the ground wire should come in contact with gas pipes, water pipes, lighting rods, or telephone ground wires.
  - Gas pipes: gas leaks can cause explosions and fire.
  - Water pipes: cannot be grounded if hard vinyl pipes are used.
  - Telephone ground and lightning rods: the ground potential when struck by lightning gets extremely high.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.
- This system consists of multiple Branch Selector units. Mark each Branch Selector unit as unit A, unit B . . . , and be sure the terminal board wiring to the outdoor unit and indoor unit are properly matched. If wiring and piping between the outdoor unit, Branch Selector unit and an indoor unit are mismatched, the system may cause a malfunction.
- Do not turn on the power supply (branch switches, overload interrupters) until all other work is done.

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6-2 Example for the whole system



6-3 Power circuit, safety device and cable requirements

- A power circuit (refer to Table 6) must be provided for connection of the unit. The circuit must be protected with safety devices in accordance with local and national codes i.e a fuse, a circuit breaker or a GFCI.
- When using residual current operated circuit breakers, be sure to use a high-speed type (0.1 second or less) 30mA rated residual operating current.
- Use copper conductors only.
- Use insulated wire for the power cord.
- Select the power supply cable type and size in accordance with relevant local and national regulations.
- Use vinyl cord with sheath or cable (2 wire) of AWG 18 - 16 for transmission wiring.
- The transmission wire lengths are as follows:
  Between the Branch Selector unit and indoor units: Max. 3,280 ft. (1,000 m)
  Between the Branch Selector unit and outdoor unit: Max. 3,280 ft. (1,000 m)
  Between Branch Selector units: Max. 3,280 ft. (1,000 m)
  Total wiring length: 6,560 ft. (2,000 m) or less

Table 6

Model	Units					Power supply	
	Type	Hz	Voltage	Voltage range			
				Min.	Max.	MCA	MOP
BS4Q54TVJ	VJ	60	208/230	187	253	0.4	15
BS6Q54TVJ						0.6	
BS8Q54TVJ						0.8	
BS10Q54TVJ						1.0	
BS12Q54TVJ						1.2	

MCA: Minimum Circuit Ampacity (A); MOP: Maximum Overcurrent Protective Device (A)

NOTES

- The above Table 6 of electrical characteristics refers to one Branch Selector unit.

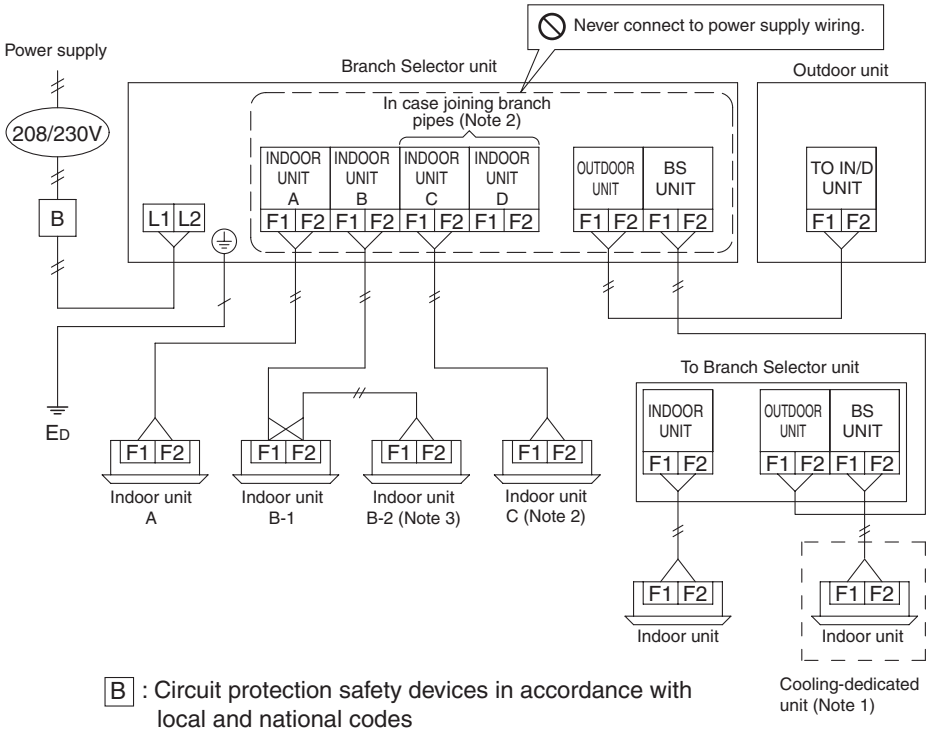
6-4 Wiring example

⚠ WARNING

Install circuit protection safety devices in accordance with local and national codes.

Failure to install circuit protection safety devices in accordance with local and national codes may result in electric shock or fire.

- Here is shown a wiring example for transmission wiring.
- Connect "TO IN/D UNIT (F1, F2)" terminals on the printed circuit board of the outdoor unit to "OUTDOOR UNIT (F1, F2)" terminals of the first Branch Selector unit.



B : Circuit protection safety devices in accordance with local and national codes

NOTES

1. Connect the cooling-dedicated unit to "OUTDOOR UNIT (F1, F2)" terminals of the final Branch Selector unit.
2. This wiring example applies when joining the C and D branches and connecting them to indoor units. The terminal block to which the transmission wiring is connected can be connected to either indoor unit C or indoor unit D.
   However, the DIP switches must be set appropriately.
   For more information about how to set DIP switches, refer to "**7. INITIAL SETTING**".
3. The maximum connection number of indoor units per branch is 5 sets.

⚠ CAUTION

- Use 2-core transmission wiring.
  Using the same wire with 3 or more cores to connect 2 or more indoor units may cause them to stop with an error.
- When the shield wire is used, be sure to ground the one side of the shield wire.
  The total wiring length is 4,920 ft. (1,500m) when shielded wire is used.
- Be sure to use ring type crimp style terminals with insulation sleeves to connect wires to the power supply terminal block. (**Refer to Fig. 4.**)
- Do not use with the power supply terminal block and ground terminal connected to wiring for another circuit.
- Do not pre-solder stranded wire.
- Connect wires securely so that the terminals will not be subjected to external force.

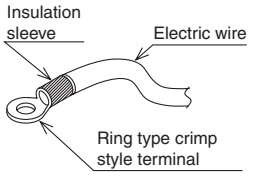


Fig. 4

- Use an appropriately sized screwdriver to tighten the terminal screws.
  Use of a screwdriver that is too small could damage the screw head and prevent proper tightening.
- Overtightening the terminal screws could damage the screw.
  Refer to the table for the terminal screw tightening torque.

Terminal screw size	Tightening torque
M3.5 (transmission wire terminal block)	0.65 ± 0.05 ft·lbf (0.88 ± 0.08 N·m)
M4 (power supply terminal block)	0.97 ± 0.09 ft·lbf (1.31 ± 0.13 N·m)
M4 (ground terminal)	1.25 ± 0.12 ft·lbf (1.69 ± 0.17 N·m)

- Never connect power supply wiring to the transmission wiring terminal block.
  Doing so may damage the entire system.
- Transmission wiring cannot be branched again after the initial branch.
  (**Refer to Fig. 5.**)

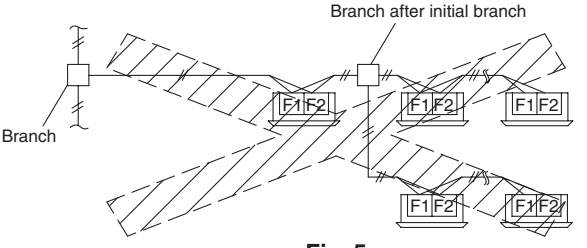
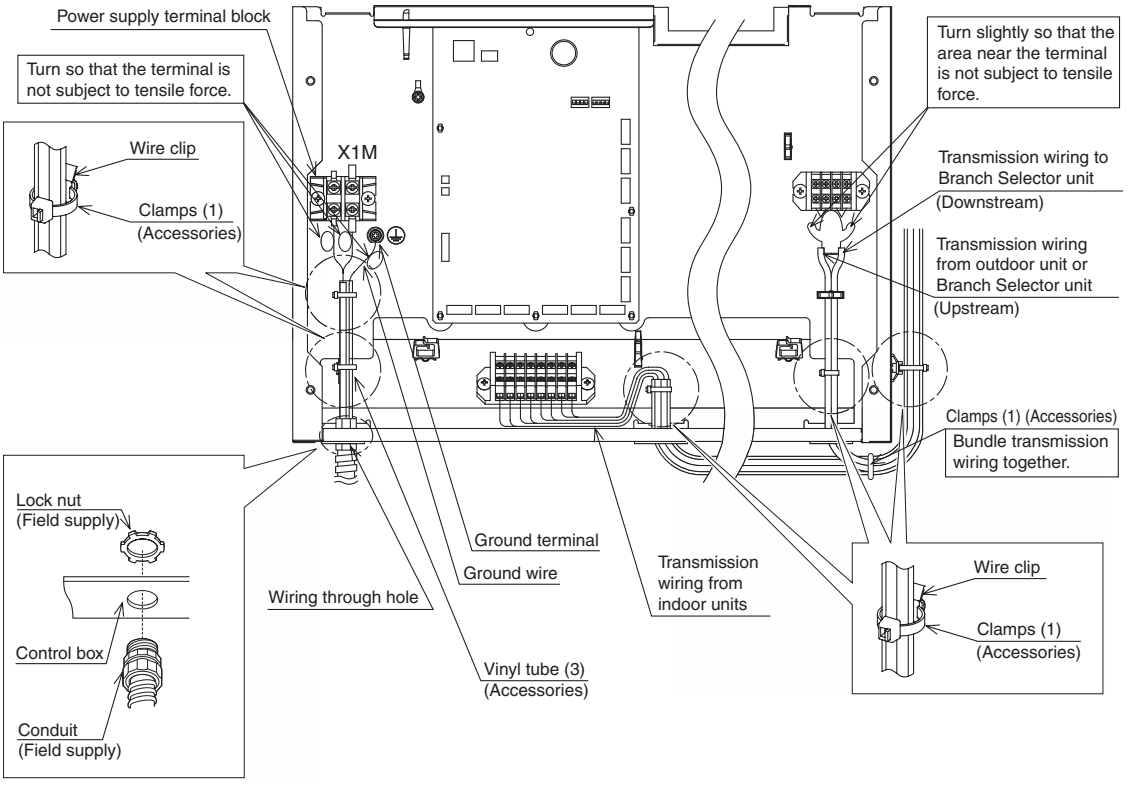


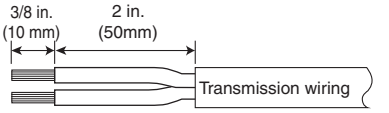
Fig. 5

6-5 Wiring connections

(Remove the control box cover and connect the wiring as shown in the figure below.)



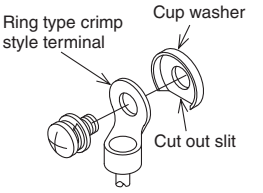
- Transmission wiring
  Remove the control box cover and connect the wires to the transmission wiring terminals (outdoor unit F1 and F2, Branch Selector unit F1 and F2, and each indoor unit (for example, for the BS12Q54TVJ, indoor unit A through L) (F1 and F2)).
  At this time, pass the wiring into the unit through the wiring through hole and use the included clamps (1) to securely hold the wires. For more information about how much insulation to strip off transmission wiring, refer to the following figure.

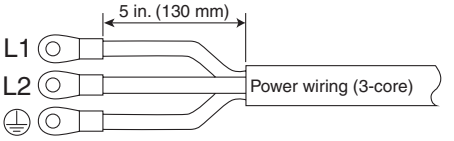


⚠ CAUTION

Verify that the piping line coincides with the transmission wiring.

- Power supply wiring and ground wires
  Remove the control box cover and connect the power supply wiring to the power terminal block (X1M).
  Also connect the ground wire to the ground wire terminal.
  Pass both the power supply wires and the ground wire together through the wire through hole (left) into the control box and use the included clamps (1) to securely hold the wires in place.
  Be sure to wire the ground wire so that it comes out of the cut out slit in the cup washer.
  (Not doing so could cause insufficient ground wire contact, causing the wire not to function as a ground.)
  For more information about how much insulation to strip off power wiring, refer to the following figure.



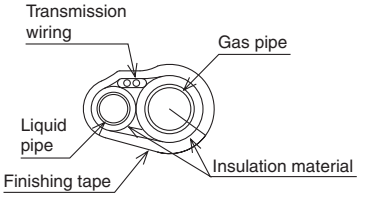


⚠ WARNING

Organize the wiring and securely reattach the control box cover.
Pinched wires or a loose control box cover could result in electric shock or fire.

⚠ CAUTION

- When fastening the wire, use the included clamp (1) so as not to apply tensile force to the wire connection and then securely fasten the wire.
  Also, after the wiring is completed, organize the wiring so that the control box cover does not pop up and then properly replace the control box cover.
  Make sure no wires are pinched when replacing the control box cover.
  Always use the wire through hole to protect wires.
- Do not pass the transmission wiring and power supply wiring through the same locations, and outside of the unit keep them separated by at least 2 in. (50 mm).
  Not doing so could cause the transmission wiring to pick up electric noise (external noise) and result in a malfunction or breakdown.
- After the wiring work is complete, use sealer (to be supplied in the field) to seal closed the wire through hole.
  (Entry by small animals, etc., could cause a malfunction.)
- As shown in the figure to the right, wrap the transmission wiring between each Branch Selector unit and indoor unit with finishing tape (to be supplied in the field).



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7. INITIAL SETTING

7-1 Settings in the field

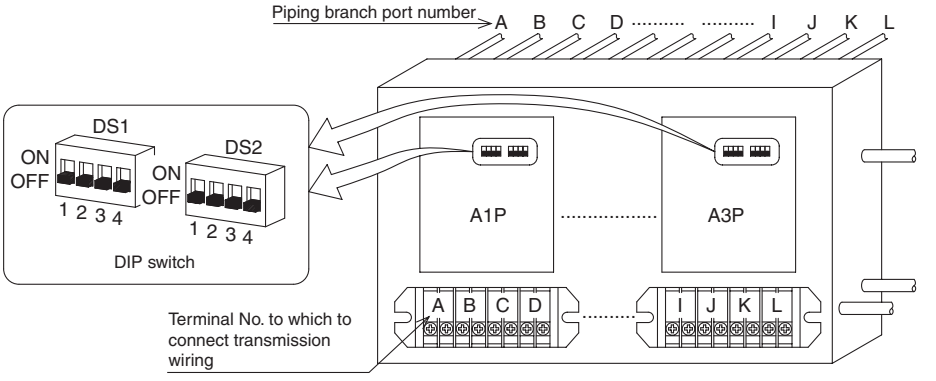
Follow the instructions below to set the DIP switches as necessary.

⚠ WARNING

Electric shock hazard! Before performing work, be sure to disconnect any power source connected to the unit.

Procedure

1. Disconnect the power source.
2. Set the DIP switches (DS1, DS2) for the corresponding branch ports based on the following table.
3. Once work is complete, be sure to close the control box cover.

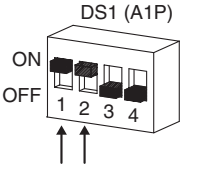


<Setting>

1. Setting for branch ports to which no indoor unit is connected

	Setting	Setting for branch ports to which no indoor unit is connected (Example 1)											
	DIP switch setting	ON (Not connected) OFF (Factory default)											
	DIP switch No.	DS1 (A1P)				DS1 (A2P)				DS1 (A3P)			
		1	2	3	4	1	2	3	4	1	2	3	4
BS4Q54TVJ	Target branch port	Unit A	Unit B	Unit C	Unit D	Unit E	Unit F	Unit G	Unit H	Unit I	Unit J	Unit K	Unit L
BS6Q54TVJ													
BS8Q54TVJ													
BS10Q54TVJ													
BS12Q54TVJ													

(Example 1)
When not connecting the indoor unit to the A and B branch circuits

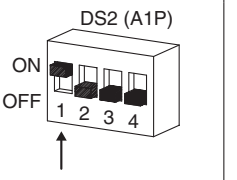


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2. Setting when joining branch ports

	Setting	Setting when joining branch ports (Example 2)					
	DIP switch setting	ON (Joined) OFF (Factory default)					
	DIP switch No.	DS2 (A1P)		DS2 (A2P)		DS2 (A3P)	
		1	2	1	2	1	2
BS4Q54TVJ	Target branch port	A and B units joined	C and D units joined	E and F units joined	G and H units joined	I and J units joined	K and L units joined
BS6Q54TVJ							
BS8Q54TVJ							
BS10Q54TVJ							
BS12Q54TVJ							

(Example 2)
When joining the A and B branches



When joining branches, only the branch port combinations shown in the above table can be used. (For example, units B and C cannot be joined.)

8. ADDING AN ADDITIONAL CHARGE OF REFRIGERANT

Follow the instructions in the installation manual that came with the outdoor unit to add an additional charge of refrigerant.

9. CHECK OPERATION AND TEST OPERATION

1. Verify that the control box cover is closed.
2. Refer to the installation manual included with the outdoor unit and conduct a check and a test run after all the work on the Branch Selector unit and outdoor and indoor units is completed and the operational safety of the units is confirmed.
   - You will hear the motor operated valve operating for about 90 seconds as it is automatically initialized (closed) after power is turned on, but this is not a problem.
   - System malfunctions can be verified by means of the following methods:
     Indication on the indoor operation remote controller
     Overall system malfunctions, including of the Branch Selector unit, can be identified using the LCD malfunction display on the operation remote controller. For more information about the malfunction display and its significance, refer to the service precaution name plate affixed to the indoor unit and the user manual included with the outdoor unit.

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 August 2015 but subject to change without notice.

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