OUTDOOR UNITS

1. SPECIFICATIONS

Outdoor Model			PUHY-HP72TJMU-A(-BS)
Power source			3-phase 3-wire 208-230V ±10% 60Hz
Cooling capacity *1		BTU / h	72,000
		kW	21.1
	Power input	kW	5.60
(208-230)	Current input	A	17.2-15.6
Temp. range of	Indoor	W.B.	59~75°F(15~24°C)
cooling	Outdoor	D.B.	23~109°F(-5~43°C)
Heating capacity *2		BTU / h	80,000
		kW	23.4
	Power input	kW	6.14
(208-230)	Current input	A	18.9-17.1
Temp. range of	Indoor	D.B.	59~81°F(15~27°C)
heating	Outdoor	W.B.	-13~60°F(-25~15.5°C)
Minimum Circuit Ampacity		A	59-54
Maximum Overcurrent Protection		A	101-92
Indoor unit	Total capacity		50~130 % of outdoor unit capacity
	Model / Quantity		P06~P72 / 1~15
Sound pressure level (measured in anechoic room)		dB<A>	56.0
			61.0(at outdoor temp -5°F W.B. in heating)
Refrigerant	Liquid pipe	in.(mm)	1/2"(12.7) Brazed
piping diameter	Gas pipe	in.(mm)	3/4"(19.05) Brazed
FAN	Type x Quantity		Propeller fan x 1
	Airflow rate	m^3 / min	175
		L/s	2,920
		cfm	6,180
	Control , Driving mechanism		Inverter-control,Direct-driven by motor
	Motor output	kW	0.92
*3	External static press.		0 in.WG (0 Pa)
Compressor	Type x Quantity		Inverter scroll hermetic compressor x 1
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	5.3
	Case heater	kW	0.045(230 V)
	Lubricant		MEL32
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External dimension HxWxD		in.	64-31/32" x 36-1/4" x 29-15/16"
		mm	1,650 x 920 x 760
Protection	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)
devices	Inverter circuit(COMP./FAN)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
	Fan motor		Thermal switch
Refrigerant	Type x original charge		R410A x 19 lbs + 13 oz (9.0kg)
	Control		LEV and HIC circuit
Net weight		lbs (kg)	497(225)
Heat exchanger			Salt-resistant cross fin & copper tube
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)
Drawing	External		KD94C990
	Wiring		KE94C438
Standard attachment	Document		Installation Manual
	Accessory		Details refer to External Drw
Optional parts			Outdoor Connection pipe:CMY-HYS100CEB joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010C-G
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.

Notes:

1.Nominal cooling conditions
Indoor:80°FDB/67°FWB (26.7°CDB/19.4°CWB)
Outdoor:95°FDB (35°CDB)
Pipe length:25ft.(7.6m)
Level difference:0ft.(0m)
2.Nominal heating conditions
Indoor:70°FDB (21.1°CDB)
Outdoor:47°FDB/43°FWB (8.3°CDB/6.1°CWB)
Pipe length:25ft.(7.6m)
Level difference:0ft.(0m)
* Due to continuing improvement, above specifications may be subject to change without notice.
3.External static pressure option is available (0.12 in.WG, 0.24 in.WG / 30Pa, 60Pa).

Unit converter

BTU/h =kW x 3,412
cfm =m^3/min x 35.31
lbs =kg / 0.4536

*The specification data is subject to rounding variation.

Outdoor Model			PUHY-HP96TJMU-A(-BS)
Power source			3-phase 3-wire 208-230V ±10% 60Hz
Cooling capacity *1		BTU / h	96,000
		kW	28.1
	Power input	kW	8.16
(208-230)	Current input	A	25.1-22.7
Temp. range of	Indoor	W.B.	59~75°F(15~24°C)
cooling	Outdoor	D.B.	23~109°F(-5~43°C)
Heating capacity *2		BTU / h	108,000
		kW	31.7
	Power input	kW	8.80
(208-230)	Current input	A	27.1-24.5
Temp. range of	Indoor	D.B.	59~81°F(15~27°C)
heating	Outdoor	W.B.	-13~60°F(-25~15.5°C)
Minimum Circuit Ampacity		A	74-68
Maximum Overcurrent Protection		A	127-116
Indoor unit	Total capacity		50~130 % of outdoor unit capacity
	Model / Quantity		P06~P96 / 1~20
Sound pressure level (measured in anechoic room)		dB<A>	57.0
			62.0(at outdoor temp -5°F W.B. in heating)
Refrigerant	Liquid pipe	in.(mm)	1/2"(12.7) Brazed
piping diameter	Gas pipe	in.(mm)	7/8"(22.2) Brazed
FAN	Type x Quantity		Propeller fan x 1
	Airflow rate	m^3 / min	225
		L/s	3,750
		cfm	7,950
	Control , Driving mechanism		Inverter-control, Direct-driven by motor
	Motor output	kW	0.92
*3	External static press.		0 in.WG (0 Pa)
Compressor	Type x Quantity		Inverter scroll hermetic compressor x 1
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	6.7
	Case heater	kW	0.045(230 V)
	Lubricant		MEL32
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External dimension HxWxD		in.	64-31/32" x 48-1/16" x 29-15/16"
		mm	1,650 x 1,220 x 760
Protection	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)
devices	Inverter circuit(COMP./FAN)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
	Fan motor		Thermal switch
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8kg)
	Control		LEV and HIC circuit
Net weight		lbs (kg)	585(265)
Heat exchanger			Salt-resistant cross fin & copper tube
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)
Drawing	External		KD94C991
	Wiring		KE94C438
Standard attachment	Document		Installation Manual
	Accessory		Details refer to External Drw
Optional parts			Outdoor Connection pipe:CMY-YS300CEB joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010C-G
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.

Notes:

1.Nominal cooling conditions
Indoor:80°FDB/67°FWB (26.7°CDB/19.4°CWB)
Outdoor:95°FDB (35°CDB)
Pipe length:25ft.(7.6m)
Level difference:0ft.(0m)
2.Nominal heating conditions
Indoor:70°FDB (21.1°CDB)
Outdoor:47°FDB/43°FWB (8.3°CDB/6.1°CWB)
Pipe length:25ft.(7.6m)
Level difference:0ft.(0m)
* Due to continuing improvement, above specifications may be subject to change without notice.
3.External static pressure option is available (0.12 in.WG, 0.24 in.WG / 30Pa, 60Pa).

Unit converter

BTU/h =kW x 3,412
cfm =m^3/min x 35.31
lbs =kg / 0.4536

*The specification data is subject to rounding variation.

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Outdoor Model			PUHY-HP144TSJMU-A(-BS)
Power source			3-phase 3-wire 208-230V ±10% 60Hz
Cooling capacity *1		BTU / h	144,000
		kW	42.3
	Power input	kW	11.54
(208-230)	Current input	A	35.5-32.1
Temp. range of	Indoor	W.B.	59~75°F(15~24°C)
cooling	Outdoor	D.B.	23~109°F(-5~43°C)
Heating capacity *2		BTU / h	160,000
		kW	46.9
	Power input	kW	12.65
(208-230)	Current input	A	39.0-35.2
Temp. range of	Indoor	D.B.	59~81°F(15~27°C)
heating	Outdoor	W.B.	-13~60°F(-25~15.5°C)
Indoor unit	Total capacity		50~130 % of outdoor unit capacity
	Model / Quantity		P06~P96 / 1~31
Sound pressure level (measured in anechoic room)		dB<A>	59.0
			64.0(at outdoor temp -5°F W.B. in heating)
Refrigerant	Liquid pipe	in.(mm)	5/8"(15.88) Brazed
piping diameter	Gas pipe	in.(mm)	1-1/8"(28.58) Brazed

Set Model

Model			PUHY-HP72TJMU-A(-BS)	PUHY-HP72TJMU-A(-BS)
Minimum Circuit Ampacity		A	59-54	59-54
Maximum Overcurrent Protection		A	101-92	101-92
FAN	Type x Quantity		Propeller fan x 1	Propeller fan x 1
	Airflow rate	m^3 / min	175	175
		L/s	2,920	2,920
		cfm	6,180	6,180
	Control , Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor
	Motor output	kW	0.92	0.92
*3	External static press.		0 in.WG (0 Pa)	0 in.WG (0 Pa)
Compressor	Type x Quantity		Inverter scroll hermetic compressor x 1	Inverter scroll hermetic compressor x 1
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	5.3	5.3
	Case heater	kW	0.045(230 V)	0.045(230 V)
	Lubricant		MEL32	MEL32
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External dimension HxWxD		in.	64-31/32" x 36-1/4" x 29-15/16"	64-31/32" x 36-1/4" x 29-15/16"
		mm	1,650 x 920 x 760	1,650 x 920 x 760
Protection	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
devices	Inverter circuit(COMP./FAN)		Over-heat protection,Over-current protection	Over-heat protection,Over-current protection
	Compressor		Over-heat protection	Over-heat protection
	Fan motor		Thermal switch	Thermal switch
Refrigerant	Type x original charge		R410A x 19 lbs + 13 oz (9.0kg)	R410A x 19 lbs + 13 oz (9.0kg)
	Control		LEV and HIC circuit	
Net weight		lbs (kg)	497(225)	497(225)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure
Pipe between unit	High pressure	in.(mm)	1/2"(12.7)Brazed	1/2"(12.7)Brazed
and distributor	Low pressure	in.(mm)	3/4"(19.05)Brazed	3/4"(19.05)Brazed
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)	
Drawing	External		KD94C992	
	Wiring		KE94C438	KE94C438
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Outdoor Connection pipe:CMY-HYS100CEB Outdoor Twinning kit: CMY-Y100CBK3 joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010C-G	
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.	

Notes:

1.Nominal cooling conditions
Indoor:80°FDB/67°FWB (26.7°CDB/19.4°CWB)
Outdoor:95°FDB (35°CDB)
Pipe length:25ft.(7.6m)
Level difference:0ft.(0m)
2.Nominal heating conditions
Indoor:70°FDB (21.1°CDB)
Outdoor:47°FDB/43°FWB (8.3°CDB/6.1°CWB)
Pipe length:25ft.(7.6m)
Level difference:0ft.(0m)
* Due to continuing improvement, above specifications may be subject to change without notice.
3.External static pressure option is available (0.12 in.WG, 0.24 in.WG / 30Pa, 60Pa).

Unit converter

BTU/h =kW x 3,412
cfm =m^3/min x 35.31
lbs =kg / 0.4536

*The specification data is subject to rounding variation.

Outdoor Model			PUHY-HP192TSJMU-A(-BS)
Power source			3-phase 3-wire 208-230V ±10% 60Hz
Cooling capacity *1		BTU / h	192,000
		kW	56.3
	Power input	kW	16.81
(208-230)	Current input	A	51.8-46.8
Temp. range of	Indoor	W.B.	59~75°F(15~24°C)
cooling	Outdoor	D.B.	23~109°F(-5~43°C)
Heating capacity *2		BTU / h	216,000
		kW	63.4
	Power input	kW	18.13
(208-230)	Current input	A	55.9-50.5
Temp. range of	Indoor	D.B.	59~81°F(15~27°C)
heating	Outdoor	W.B.	-13~60°F(-25~15.5°C)
Indoor unit	Total capacity		50~130 % of outdoor unit capacity
	Model / Quantity		P06~P96 / 1~41
Sound pressure level (measured in anechoic room)		dB<A>	60.0
			65.0(at outdoor temp -5°F W.B. in heating)
Refrigerant	Liquid pipe	in.(mm)	5/8"(15.88) Brazed
piping diameter	Gas pipe	in.(mm)	1-1/8"(28.58) Brazed

Set Model

Model			PUHY-HP96TJMU-A(-BS)	PUHY-HP96TJMU-A(-BS)
Minimum Circuit Ampacity		A	74-68	74-68
Maximum Overcurrent Protection		A	127-116	127-116
FAN	Type x Quantity		Propeller fan x 1	Propeller fan x 1
	Airflow rate	m^3 / min	225	225
		L/s	3,750	3,750
		cfm	7,950	7,950
	Control , Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor
	Motor output	kW	0.92	0.92
*3	External static press.		0 in.WG (0 Pa)	0 in.WG (0 Pa)
Compressor	Type x Quantity		Inverter scroll hermetic compressor x 1	Inverter scroll hermetic compressor x 1
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	6.7	6.7
	Case heater	kW	0.045(230 V)	0.045(230 V)
	Lubricant		MEL32	MEL32
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External dimension HxWxD		in.	64-31/32" x 48-1/16" x 29-15/16"	64-31/32" x 48-1/16" x 29-15/16"
		mm	1,650 x 1,220 x 760	1,650 x 1,220 x 760
Protection	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
devices	Inverter circuit(COMP./FAN)		Over-heat protection,Over-current protection	Over-heat protection,Over-current protection
	Compressor		Over-heat protection	Over-heat protection
	Fan motor		Thermal switch	Thermal switch
Refrigerant	Type x original charge		R410A x 26 lbs + 1oz (11.8kg)	R410A x 26 lbs + 1oz (11.8kg)
	Control		LEV and HIC circuit	
Net weight		lbs (kg)	585(265)	585(265)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure
Pipe between unit	High pressure	in.(mm)	1/2"(12.7)Brazed	1/2"(12.7)Brazed
and distributor	Low pressure	in.(mm)	7/8"(22.2)Brazed	7/8"(22.2)Brazed
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)	
Drawing	External		KD94C993	
	Wiring		KE94C438	KE94C438
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Outdoor Connection pipe:CMY-YS300CEB Outdoor Twinning kit: CMY-Y100CBK3 joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010C-G	
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.	

Notes:

1.Nominal cooling conditions
Indoor:80°FDB/67°FWB (26.7°CDB/19.4°CWB)
Outdoor:95°FDB (35°CDB)
Pipe length:25ft.(7.6m)
Level difference:0ft.(0m)
2.Nominal heating conditions
Indoor:70°FDB (21.1°CDB)
Outdoor:47°FDB/43°FWB (8.3°CDB/6.1°CWB)
Pipe length:25ft.(7.6m)
Level difference:0ft.(0m)
* Due to continuing improvement, above specifications may be subject to change without notice.
3.External static pressure option is available (0.12 in.WG, 0.24 in.WG / 30Pa, 60Pa).

Unit converter

BTU/h =kW x 3,412
cfm =m^3/min x 35.31
lbs =kg / 0.4536

*The specification data is subject to rounding variation.

H2i Y

PUHY-HP72TJMU-A(-BS)

Ref.:PUHY_TJMU-A_EXD_USDB_HP72_1

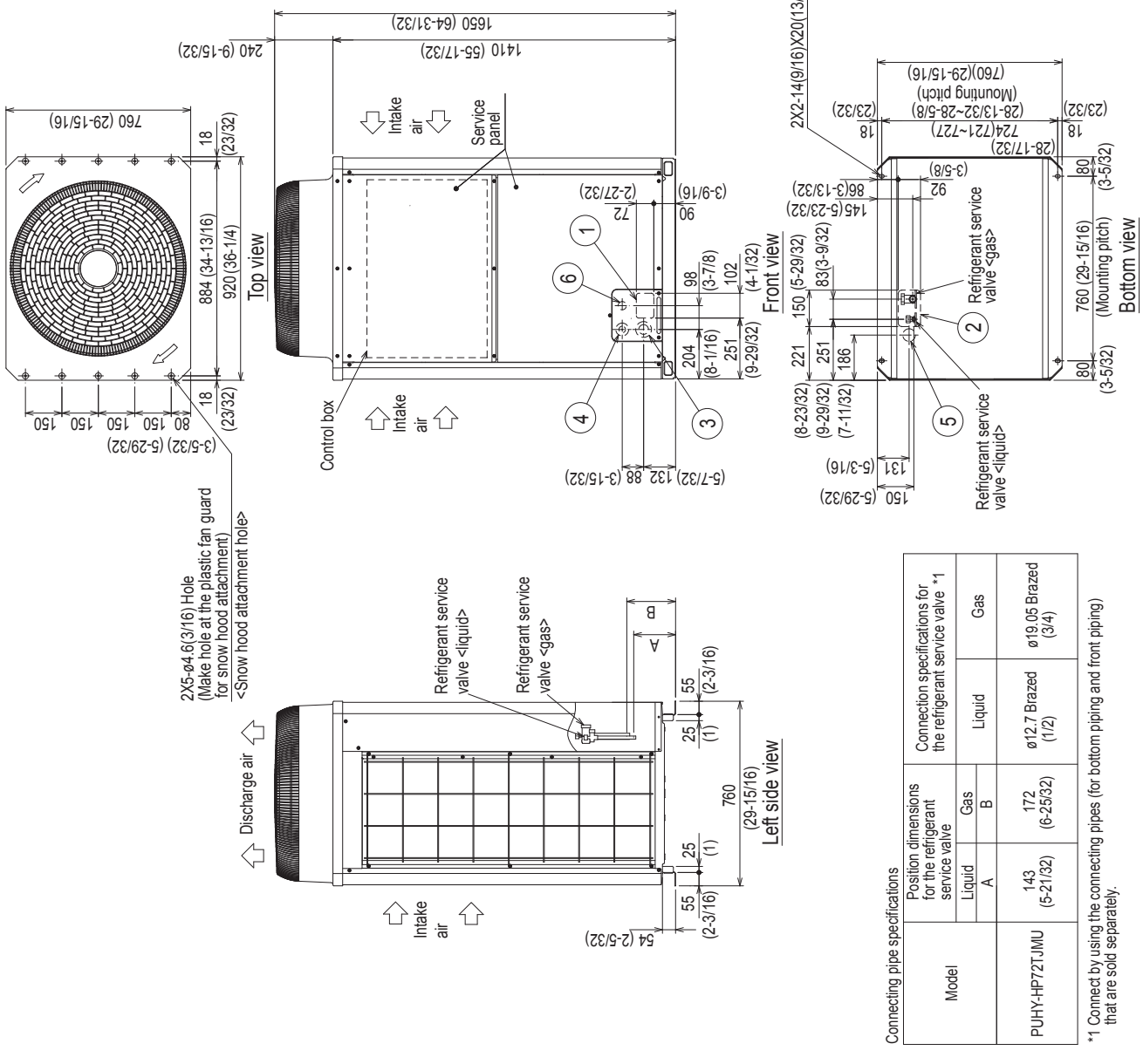
Unit : mm(in)

<Optional parts>
● Connecting pipe
<Gas> · Elbow(ID ø25.4(1)XOD ø25.4(1)) 1pc.
· Pipe (ID ø25.4(1)XOD ø19.05(3/4)) 1pc.

<Liquid> · Pipe (ID ø12.7(1/2)XOD ø12.7(1/2)) 1pc.

Note1.Please refer to the next page for information regarding necessary spacing around the unit and foundation work.
2.At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

NO.	Usage		Specifications
①	For pipes	Front through hole	102 X 72 Knockout hole (4-1/32) (2-27/32)
②		Bottom through hole	150 X 92 Knockout hole (5-29/32) (3-5/8)
③	For wires	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32) (1-3/8)
④		Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑤		Bottom through hole	ø52 Knockout hole (2-1/16)
⑥	For transmission cables	Front through hole	ø34 Knockout hole (1-11/32)



Connecting pipe specifications

Model	Position dimensions for the refrigerant service valve		Connection specifications for the refrigerant service valve *1	
	Liquid A	Gas B	Liquid	Gas
PUHY-HP72TJMU	143 (5-21/32)	172 (6-25/32)	ø12.7 Brazed (1/2)	ø19.05 Brazed (3/4)

*1 Connect by using the connecting pipes (for bottom piping and front piping) that are sold separately.

PUHY-HP72TJMU-A(-BS)

Ref.:PUHY_TJMU-A_EXD_USDB_HP72_2

Unit : mm(in)

1.Required space around the unit

● In case of single installation

① Secure enough space around the unit as shown in the figure below.

- With a space of at least 300mm(11-13/16) to the wall on the back of the unit
- With a space of at least 100mm(3-15/16) to the wall on the back of the unit

<Unit:mm(in)>

② When the height of the walls on the front, back or on the sides <H> exceeds the wall height limit as defined below add the height that exceeds the height limit <h> to the figures that are marked with an asterisk.

● In case of collective installation

① When multiple units are installed adjacent to each other, secure enough space to allow for air circulation and walkway between groups of units as shown in the figures below.
② At least two sides must be left open.
③ As with the single installation, add the height that exceeds the height limit <h> to the figures that are marked with an asterisk.
④ If there is a wall at both the front and the rear of the unit, install up to six units consecutively in the side direction and provide a space of 1000mm or more as inlet space/ passage space for each six units.

<Unit:mm(in)>

Fig.A

Fig.B

2.Foundation work

① Take into consideration the surface strength, water drainage route, piping route, and wiring route when preparing the installation site.
<Note that the drain water comes out of the unit during operation.>
② Build the foundation in such way that the corner of the installation leg is securely supported as shown in the right figure.(Fig.A)
When using a rubber isolating cushion, please ensure it is large enough to cover the entire width of each of the unit's legs.
③ The protrusion length of the anchor bolt must not exceed 30mm(1-3/16).(Fig.A)
④ Use four fixing plates as shown in the right figure <field supply required> when using post-installed anchor bolts.(Fig.B)
⑤ To prevent small animals and water and snow from entering the unit and damaging its parts, close the gap around the edges of through holes for pipes and wires with filler plates <field supply required>.
⑥ When the pipes or cables are routed at the bottom of the unit, make sure that the through hole at the base of the unit does not get blocked with the installation base.
⑦ Refer to the Installation Manual when installing units on an installation base.

PUHY-HP96TJMU-A(-BS)

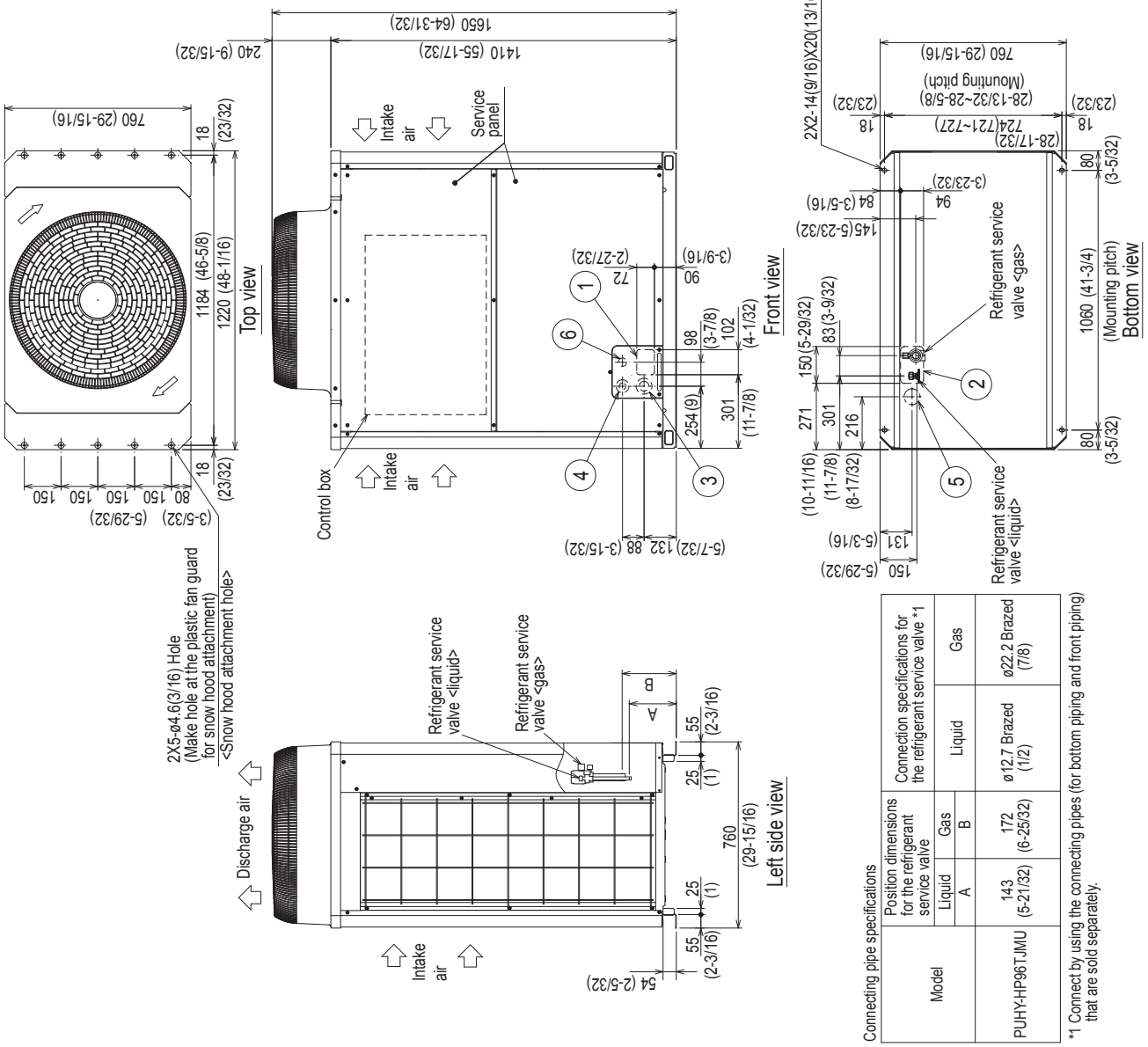
Ref.:PUHY_TJMU-A_EXD_USDB_HP96_1

Unit : mm(in)

<Optional parts>
● Connecting pipe
<Gas> · Elbow(ID⌀28.58(1-1/8)XOD⌀28.58(1-1/8)) 1pc.
· Pipe (ID⌀28.58(1-1/8)XOD⌀22.2(7/8)) 1pc.
<Liquid> · Pipe (ID⌀12.7(1/2)XOD⌀12.7(1/2)) 1pc.

Note1.Please refer to the next page for information regarding necessary spacing around the unit and foundation work.
2.At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

NO.	Usage		Specifications
①	For pipes	Front through hole	102 X 72 Knockout hole (4-1/32) (2-27/32)
②		Bottom through hole	150 X 94 Knockout hole (5-29/32) (3-23/32)
③	For wires	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32) (1-3/8)
④		Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑤		Bottom through hole	ø65 Knockout hole (2-9/16)
⑥	For transmission cables	Front through hole	ø34 Knockout hole (1-11/32)



Connecting pipe specifications

Model	Position dimensions for the refrigerant service valve		Connection specifications for the refrigerant service valve *1	
	Liquid A	Gas B	Liquid	Gas
PUHY-HP96TJMU	143 (5-21/32)	172 (6-25/32)	ø12.7 Brazed (1/2)	ø22.2 Brazed (7/8)

*1 Connect by using the connecting pipes (for bottom piping and front piping) that are sold separately.

PUHY-HP96TJMU-A(-BS)

Ref.:PUHY_TJMU-A_EXD_USDB_HP96_2

Unit : mm(in)

1.Required space around the unit

● In case of single installation

① Secure enough space around the unit as shown in the figure below.

- With a space of at least 300mm(11-13/16) to the wall on the back of the unit
- With a space of at least 100mm(3-15/16) to the wall on the back of the unit

<Unit:mm(in)>

② When the height of the walls on the front, back or on the sides <H> exceeds the wall height limit as defined below add the height that exceeds the height limit <h> to the figures that are marked with an asterisk.

● In case of collective installation

① When multiple units are installed adjacent to each other, secure enough space to allow for air circulation and walkway between groups of units as shown in the figures below.
② At least two sides must be left open.
③ As with the single installation, add the height that exceeds the height limit <h> to the figures that are marked with an asterisk.
④ If there is a wall at both the front and the rear of the unit, install up to six units consecutively in the side direction and provide a space of 1000mm or more as inlet space/ passage space for each six units.

Fig.A

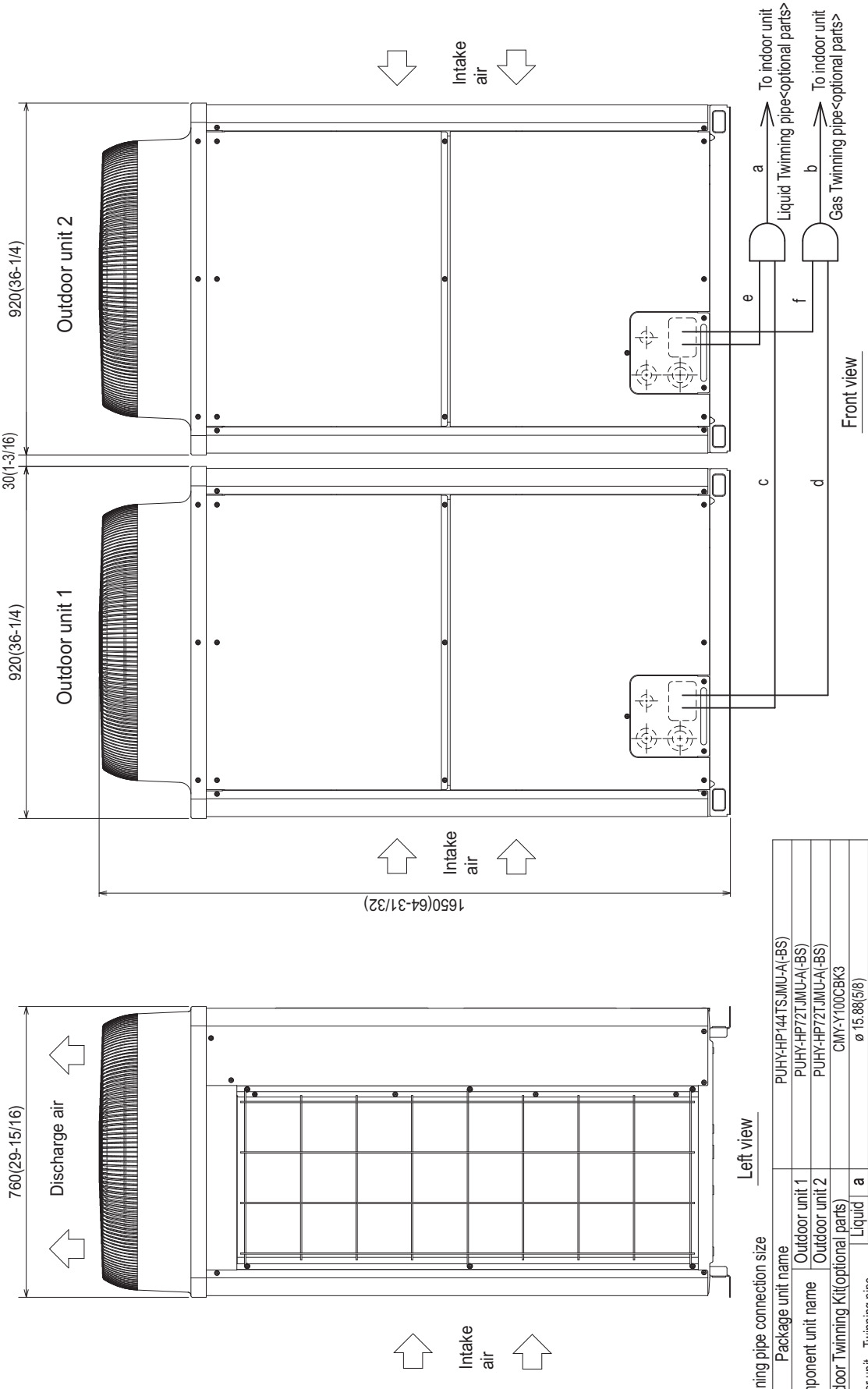
Fig.B

2.Foundation work

① Take into consideration the surface strength, water drainage route, piping route, and wiring route when preparing the installation site.
<Note that the drain water comes out of the unit during operation.>
② Build the foundation in such way that the corner of the installation leg is securely supported as shown in the right figure.(Fig.A)
When using a rubber isolating cushion, please ensure it is large enough to cover the entire width of each of the unit's legs.
③ The protrusion length of the anchor bolt must not exceed 30mm(1-3/16).(Fig.A)
④ Use four fixing plates as shown in the right figure <field supply required> when using post-installed anchor bolts.(Fig.B)
⑤ To prevent small animals and water and snow from entering the unit and damaging its parts, close the gap around the edges of through holes for pipes and wires with filler plates <field supply required>.
⑥ When the pipes or cables are routed at the bottom of the unit, make sure that the through hole at the base of the unit does not get blocked with the installation base.
⑦ Refer to the Installation Manual when installing units on an installation base.

PUHY-HP144TSJMU-A(-BS)

Unit : mm(in)



	Unit model	Liquid	Gas
		c or e	d or f
Twinning pipe~Outdoor unit	HP72	ø12.7(1/2)	ø19.05(3/4)

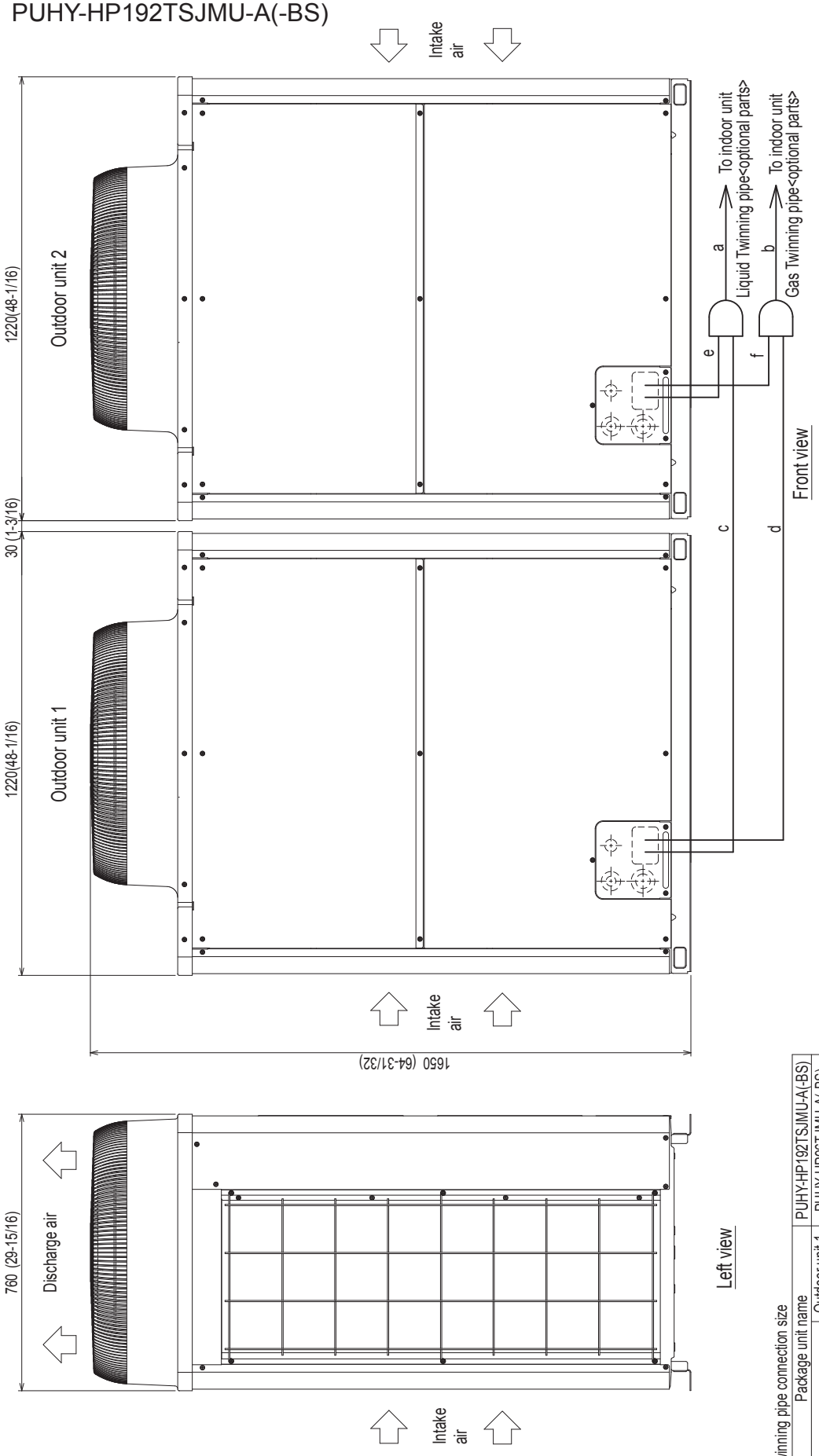
Twinning pipe connection size

Package unit name			PUHY-HP144TSJMU-A(-BS)
Component unit name	Outdoor unit 1		PUHY-HP72TJMU-A(-BS)
	Outdoor unit 2		PUHY-HP72TJMU-A(-BS)
Outdoor Twinning Kit(optional parts)			CMY-Y100CBK3
Indoor unit ~ Twinning pipe	Liquid	a	ø 15.88(5/8)
	Gas	b	ø 28.58(1-1/8)

Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.
2. Twinning pipes should not be tilted more than 15 degrees from the horizontal plane.
Be sure to see the Installation Manual for details of Twinning pipe installation.
3. The pipe section before the Twinning pipe (sections "a" and "b" in the figure) must have at least 500mm(19-11/16) of straight section
(*Including the straight pipe that is supplied with the Twinning pipe).
4. Only use the Twinning pipe by Mitsubishi (option parts).

PUHY-HP192TSJMU-A(-BS)

Unit : mm(in)



	Unit model	Liquid	Gas
Twinning pipe~Outdoor unit	HP96	c or e	d or f
		ø12.7(1/2)	ø22.2(7/8)

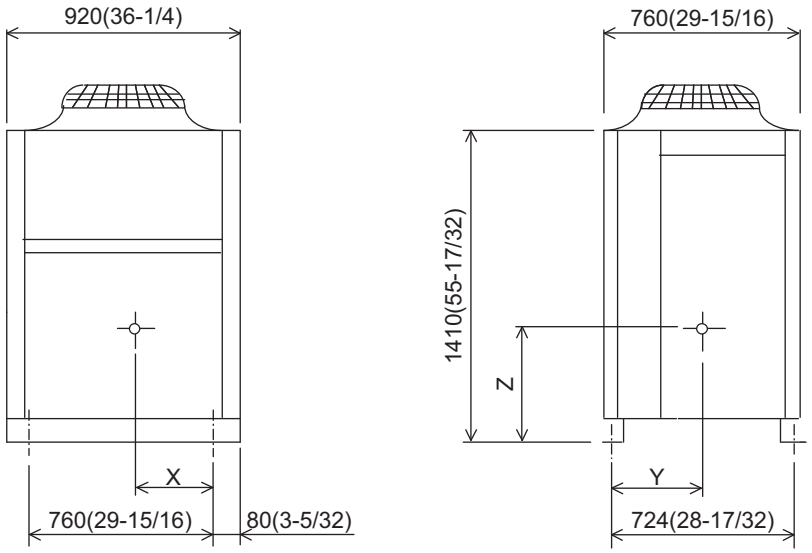
Twinning pipe connection size

Package unit name			PUHY-HP192TSJMU-A(-BS)
Component unit name	Outdoor unit 1		PUHY-HP96TJMU-A(-BS)
	Outdoor unit 2		PUHY-HP96TJMU-A(-BS)
Outdoor Twinning Kit(optional parts)			CMY-Y100CBK3
Indoor unit~Twinning pipe	Liquid	a	ø15.88(5/8)
	Gas	b	ø28.58(1-1/8)

Note 1.Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.
2.Twinning pipes should not be tilted more than 15 degrees from the horizontal plane.
Be sure to see the Installation Manual for details of Twinning pipe installation.
3.The pipe section before the Twinning pipe (sections "a" and "b" in the figure) must have at least 500mm(19-11/16) of straight section (*including the straight pipe that is supplied with the Twinning pipe).
4.Only use the Twinning pipe by Mitsubishi (optional parts).

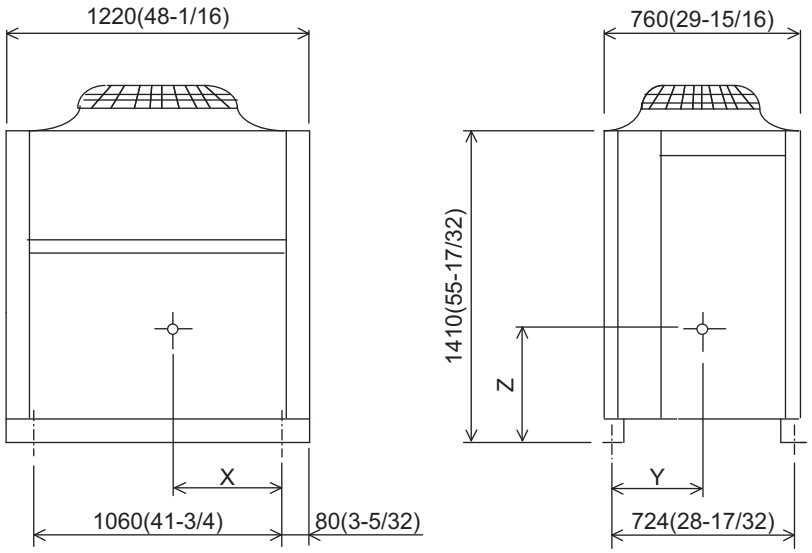
PUHY-HP72TJMU-A

Unit : mm[in.]



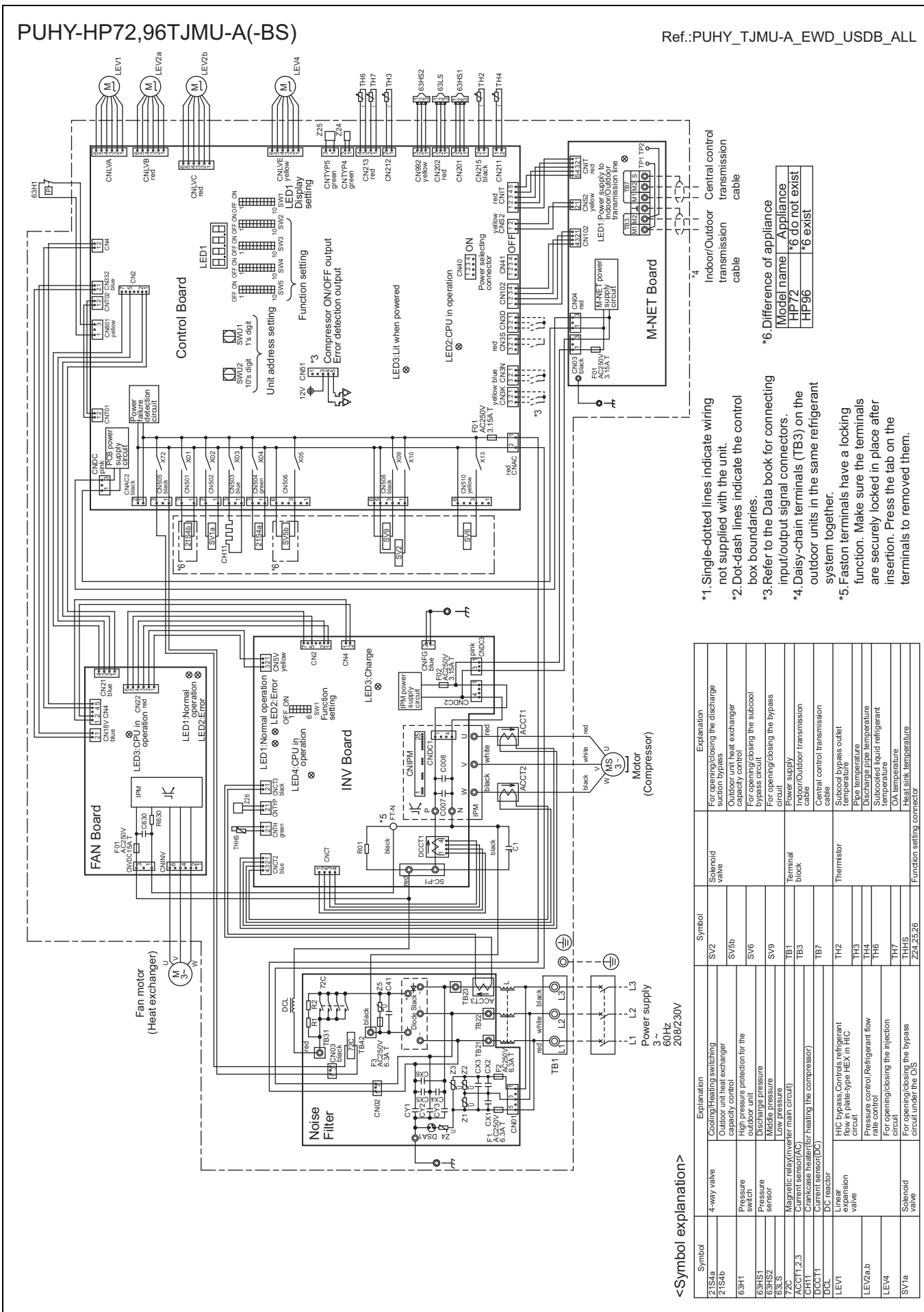
Model	X	Y	Z
PUHY-HP72TJMU-A	325(12-13/16)	307(12-3/32)	590(23-1/4)

PUHY-HP96TJMU-A



Model	X	Y	Z
PUHY-HP96TJMU-A	464(18-9/32)	326(12-27/32)	549(21-5/8)

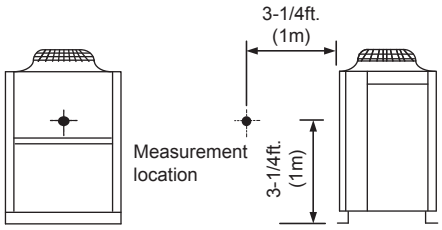
Ref. : PUHY_ TJMU_COG_USDB_HP72-96



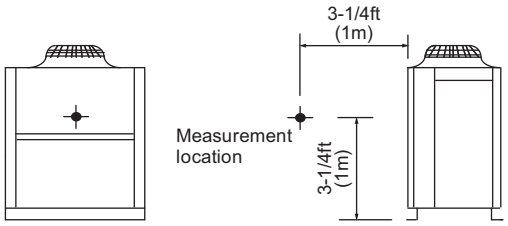
<Symbol explanation>

Symbol		Explanation	Symbol		Explanation
21S4a	4-way valve	Cooling/Heating switching	SV2	Solenoid valve	For opening/closing the discharge suction bypass
21S4b		Outdoor unit heat exchanger capacity control	SV5b		Outdoor unit heat exchanger capacity control
63H1	Pressure switch	High pressure protection for the outdoor unit	SV6		For opening/closing the subcool bypass circuit
63HS1	Pressure sensor	Discharge pressure	SV9		For opening/closing the bypass circuit
63HS2		Middle pressure	TB1	Terminal block	Power supply
63LS		Low pressure	TB3		Indoor/Outdoor transmission cable
72C	Magnetic relay(inverter main circuit)		TB7		Central control transmission cable
ACCT1,2,3	Current sensor(AC)		TH2	Thermistor	Subcool bypass outlet temperature
CH11	Crankcase heater(for heating the compressor)		TH3		Pipe temperature
DCCT1	Current sensor(DC)		TH4		Discharge pipe temperature
DCL	DC reactor		TH6		Subcooled liquid refrigerant temperature
LEV1	Linear expansion valve	HIC bypass,Controls refrigerant flow in plate-type HEX in HIC circuit	TH7		OA temperature
LEV2a,b		Pressure control,Refrigerant flow rate control	TH/HS		Heat sink temperature
LEV4		For opening/closing the injection circuit	Z24,25,26	Function setting connector	
SV1a	Solenoid valve	For opening/closing the bypass circuit under the O/S			

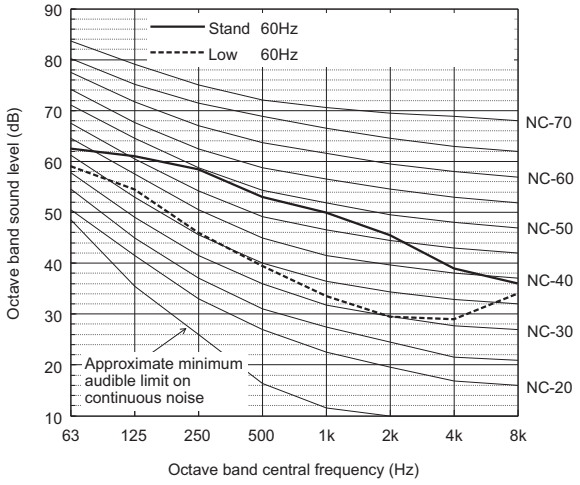
Measurement condition
PUHY-HP72TJMU-A(-BS)



Measurement condition
PUHY-HP96TJMU-A(-BS)



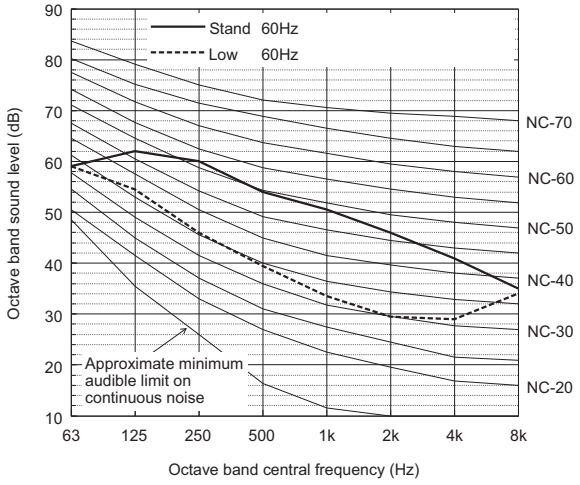
Sound level of PUHY-HP72TJMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	62.5	61.0	58.5	53.0	50.0	45.5	39.0	36.0	56.0
Low noise mode	60Hz	59.0	54.5	46.0	39.5	33.5	29.5	29.0	34.0	44.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Sound level of PUHY-HP96TJMU-A(-BS)

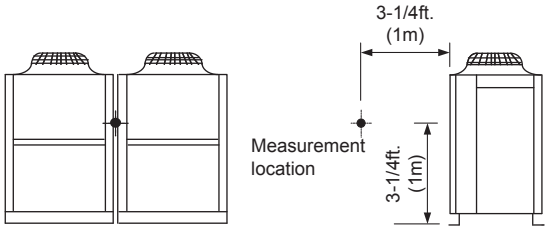


		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	59.0	62.0	60.0	54.0	50.5	46.0	41.0	35.0	57.0
Low noise mode	60Hz	59.0	54.5	46.0	39.5	33.5	29.5	29.0	34.0	44.0

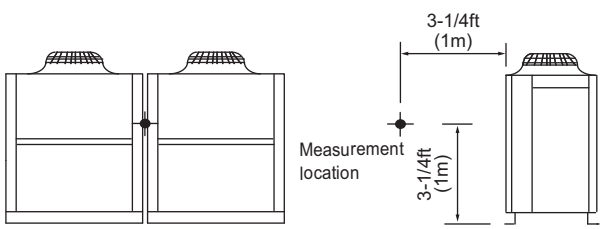
When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

H2i Y

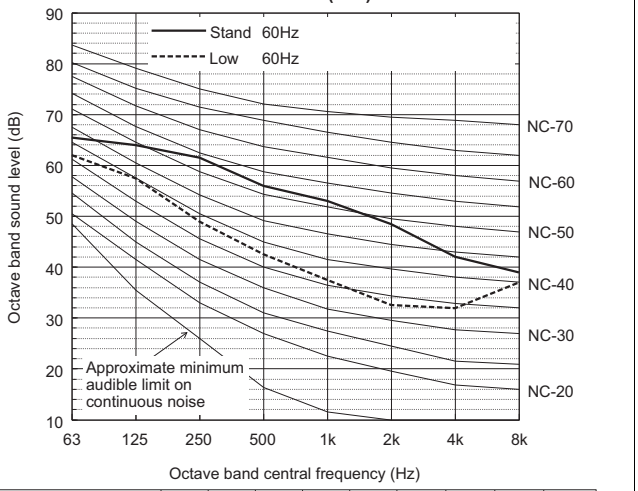
Measurement condition
PUHY-HP144TSJMU-A(-BS)



Measurement condition
PUHY-HP192TSJMU-A(-BS)



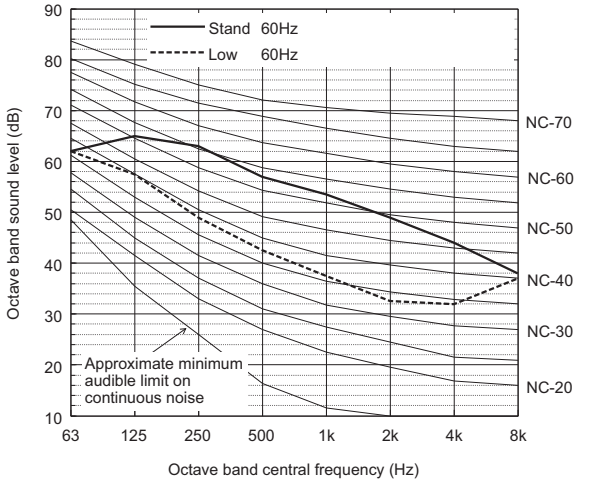
Sound level of PUHY-HP144TSJMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	65.5	64.0	61.5	56.0	53.0	48.5	42.0	39.0	59.0
Low noise mode	60Hz	62.0	57.5	49.0	42.5	37.5	32.5	32.0	37.0	47.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Sound level of PUHY-HP192TSJMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	62.0	65.0	63.0	57.0	53.5	49.0	44.0	38.0	60.0
Low noise mode	60Hz	62.0	57.5	49.0	42.5	37.5	32.5	32.0	37.0	47.0

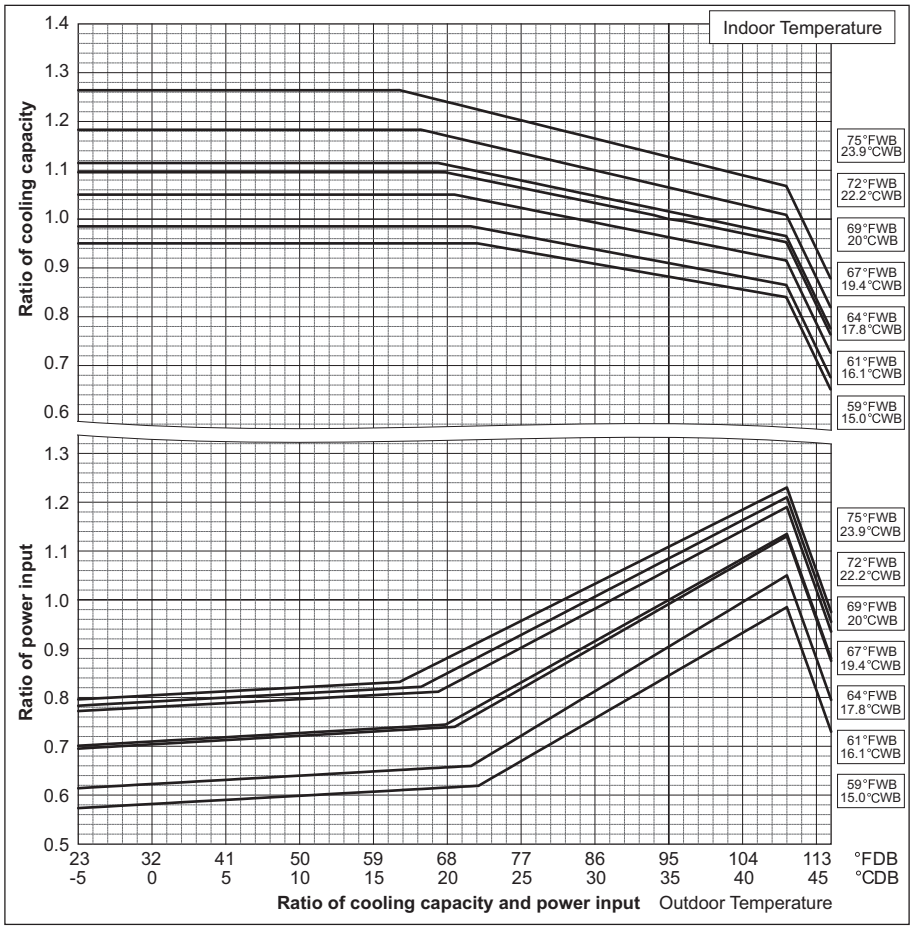
When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

6-1. Correction by temperature

CITY MULTI could have various capacities at different designing temperatures. Using the nominal cooling/heating capacity values and the ratios below, the capacity can be found for various temperatures.

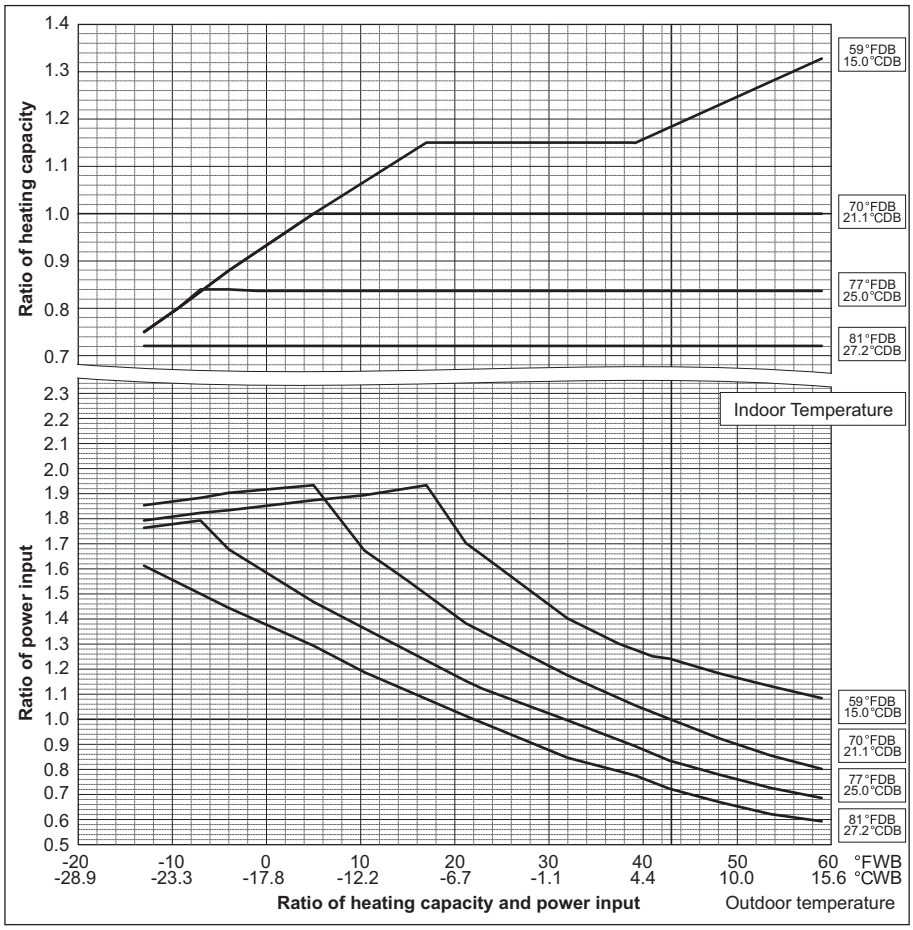
PUHY-		HP72TJMU	HP96TJMU
Nominal Cooling Capacity	kW	21.1	28.1
	BTU/h	72,000	96,000
Input	kW	5.60	8.16

PUHY-		HP144TSJMU	HP192TSJMU
Nominal Cooling Capacity	kW	42.3	56.3
	BTU/h	144,000	192,000
Input	kW	11.54	16.81



PUHY-		HP72TJMU	HP96TJMU
Nominal Heating Capacity	kW	23.4	31.7
	BTU/h	80,000	108,000
Input	kW	6.14	8.80

PUHY-		HP144TSJMU	HP192TSJMU
Nominal Heating Capacity	kW	46.9	63.4
	BTU/h	160,000	216,000
Input	kW	12.65	18.13



Ref:PUHY_T(S)JMU-A_CbT_USDB-HP72-192

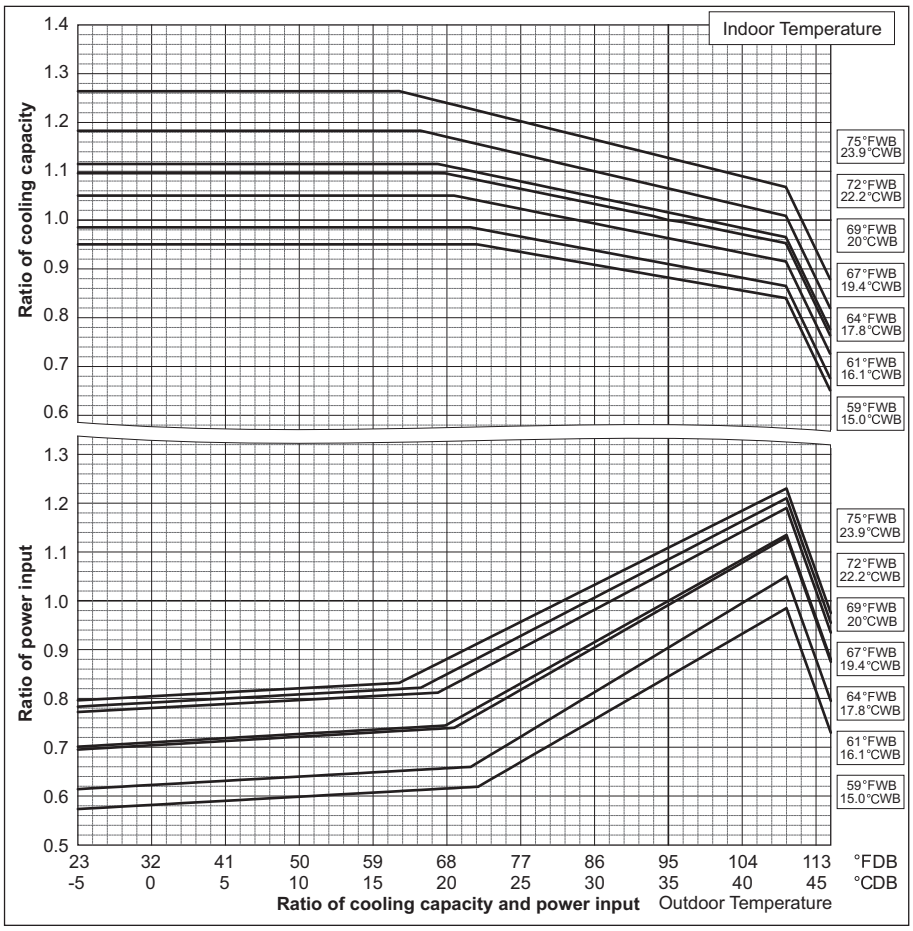
Correction by temperature (High Heating Performance Mode)

CITY MULTI could have various capacities at different designing temperatures. Using the nominal cooling/heating capacity values and the ratios below, the capacity can be found for various temperatures.

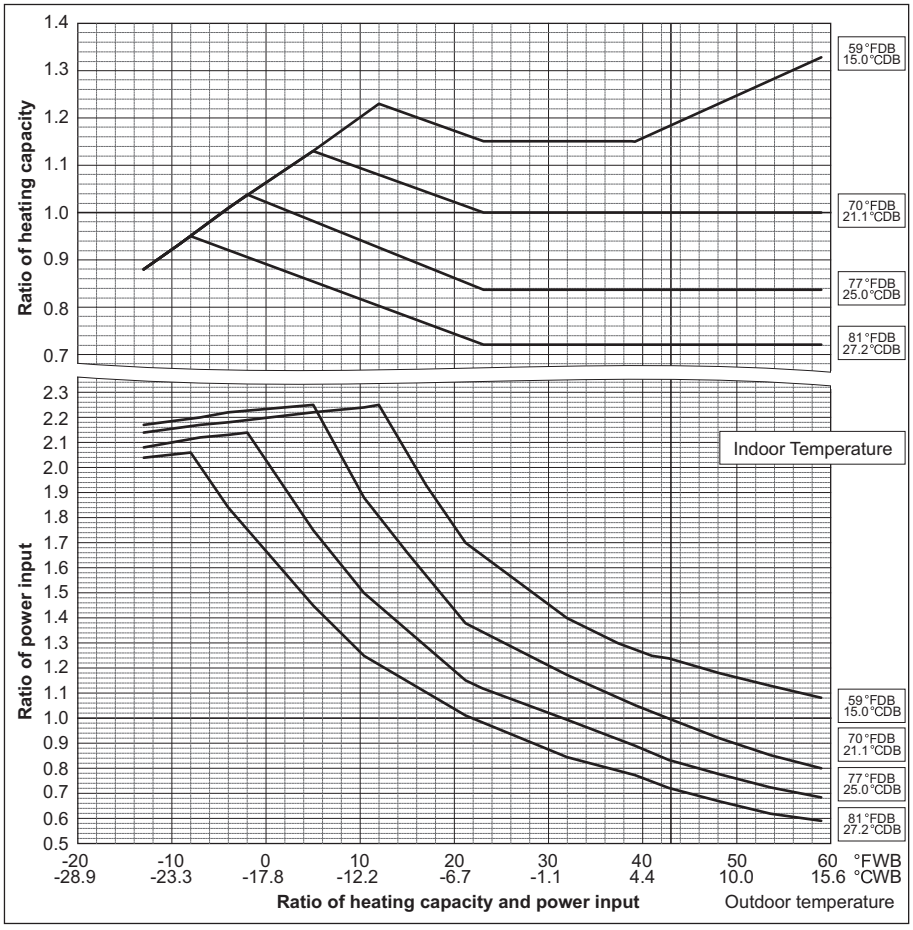
To select high heating performance mode, DipSW 3-7 must be set to ON and DipSW 4-10 must be set to OFF. (In the low ambient temperature, heating capacity and power input become higher than those under standard mode.)

PUHY-		HP72TJMU	HP96TJMU
Nominal Cooling Capacity	kW	21.1	28.1
	BTU/h	72,000	96,000
Input	kW	5.60	8.16

PUHY-		HP144TSJMU	HP192TSJMU
Nominal Cooling Capacity	kW	42.3	56.3
	BTU/h	144,000	192,000
Input	kW	11.54	16.81



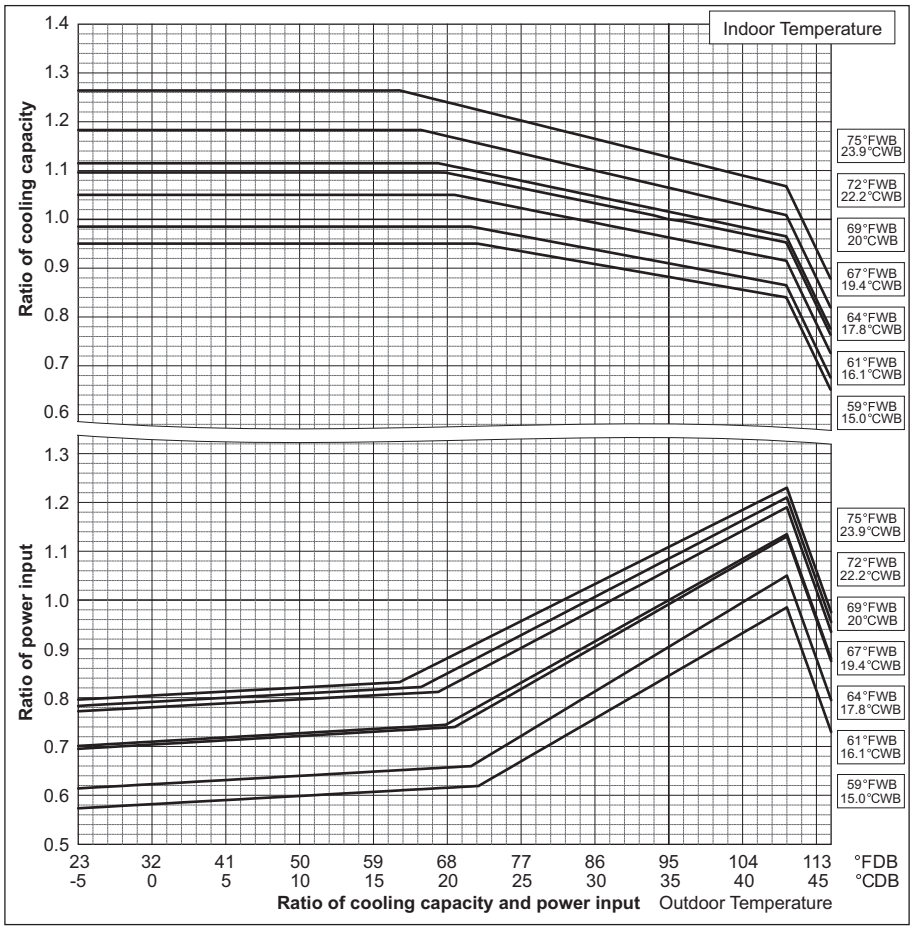
PUHY-		HP72TJMU	HP144TSJMU
Nominal Heating Capacity	kW	23.4	46.9
	BTU/h	80,000	160,000
Input	kW	6.14	12.65



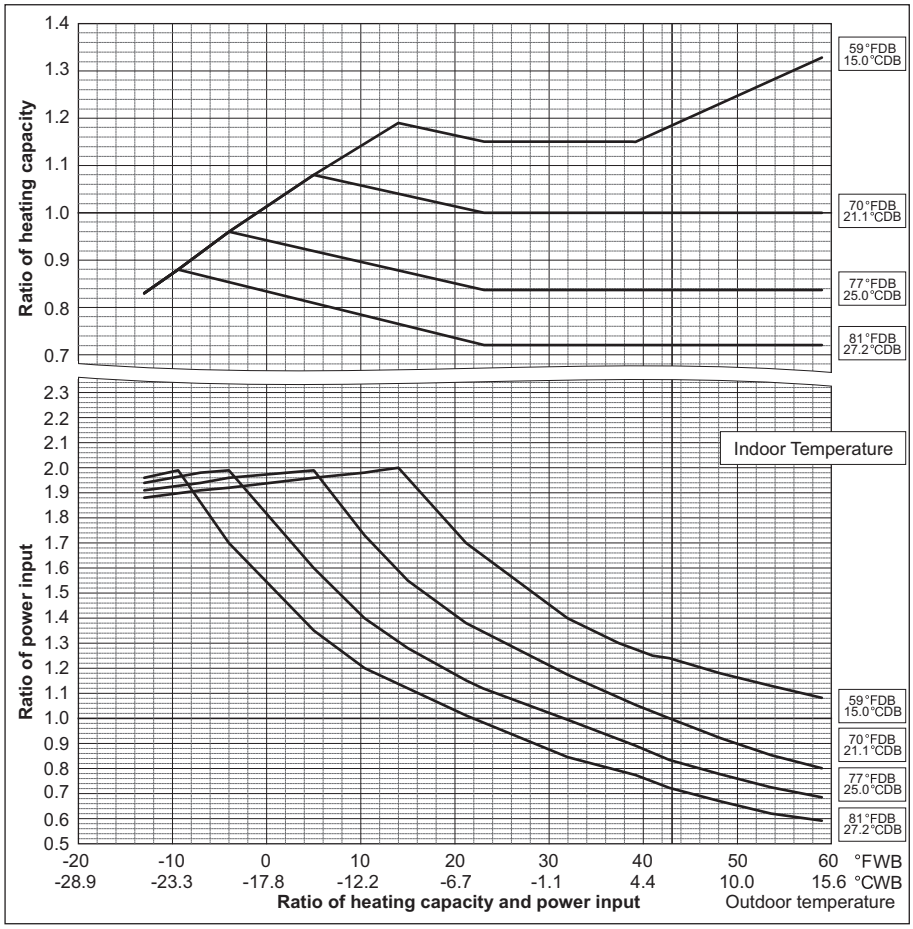
H2i Y

PUHY-		HP72TJMU	HP96TJMU
Nominal Cooling Capacity	kW	21.1	28.1
	BTU/h	72,000	96,000
Input	kW	5.60	8.16

PUHY-		HP144TSJMU	HP192TSJMU
Nominal Cooling Capacity	kW	42.3	56.3
	BTU/h	144,000	192,000
Input	kW	11.54	16.81



PUHY-		HP96TJMU	HP192TSJMU
Nominal Heating Capacity	kW	31.7	63.4
	BTU/h	108,000	216,000
Input	kW	8.80	18.13

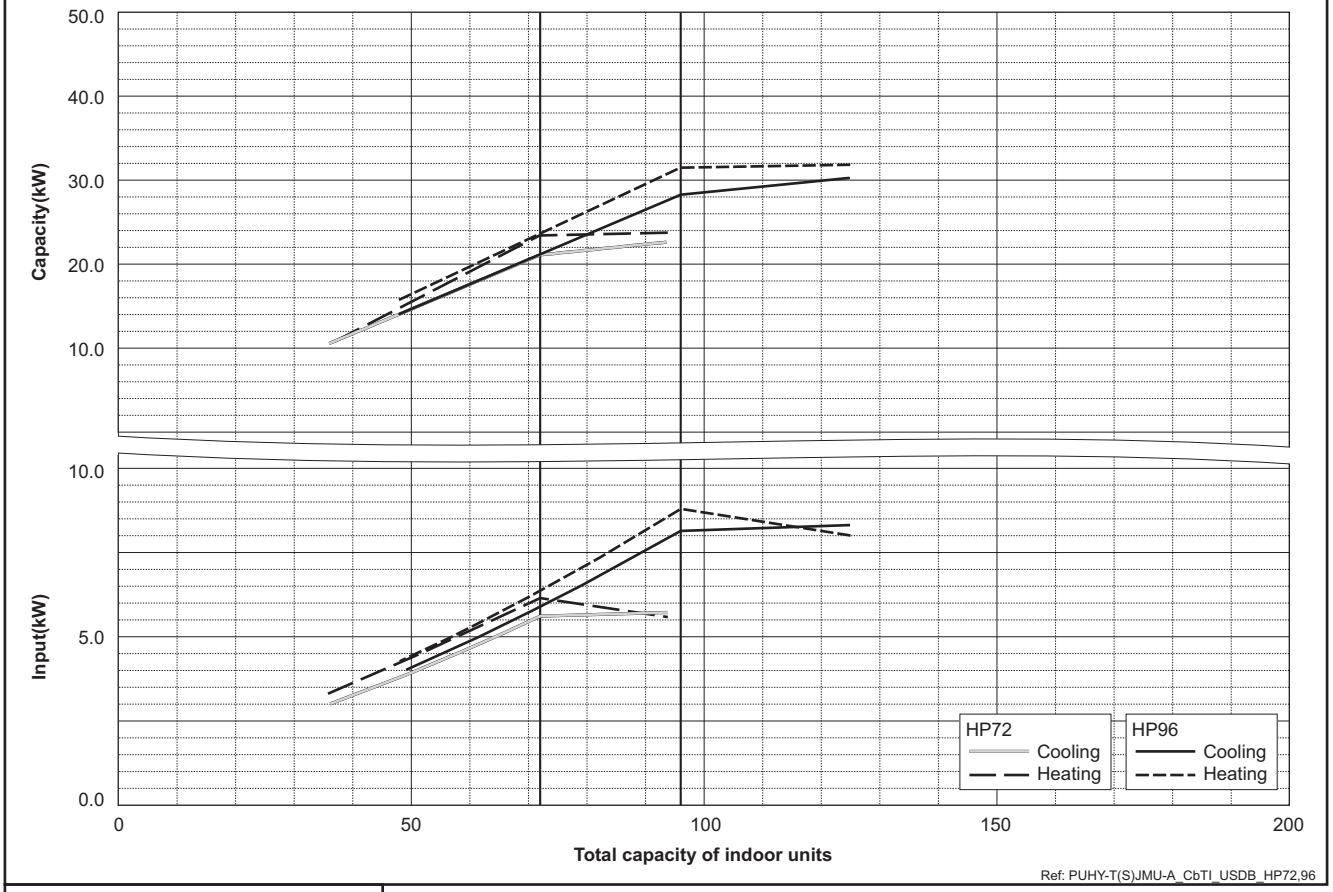


H2i Y

6-2. Correction by total indoor

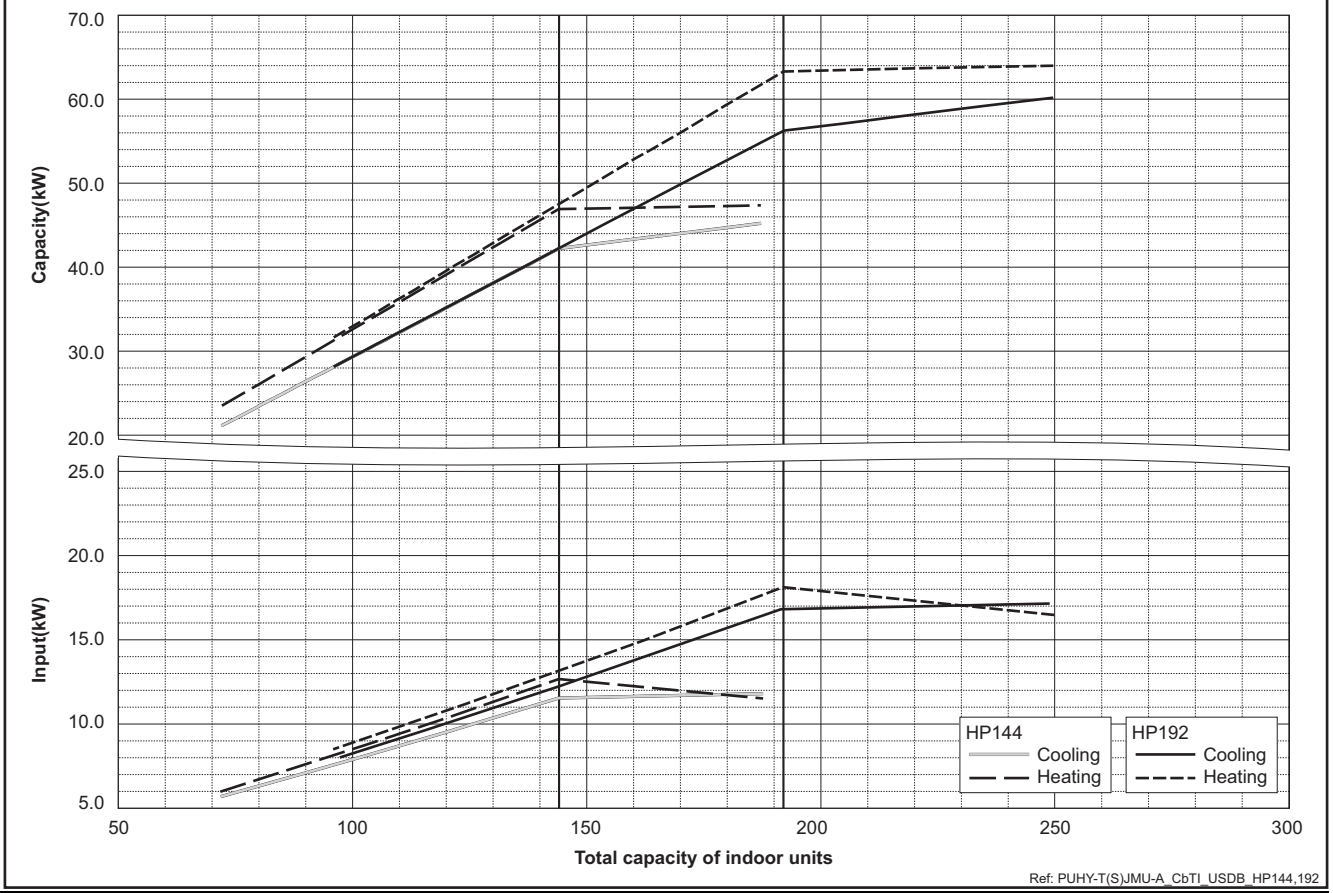
CITY MULTI system have different capacities and inputs when many combinations of indoor units with different total capacities are connected. Using following tables, the maximum capacity can be found to ensure the system is installed with enough capacity for a particular application.

PUHY-HP72,96TJMU



Ref: PUHY-T(S)JMU-A_CbTI_USDB_HP72,96

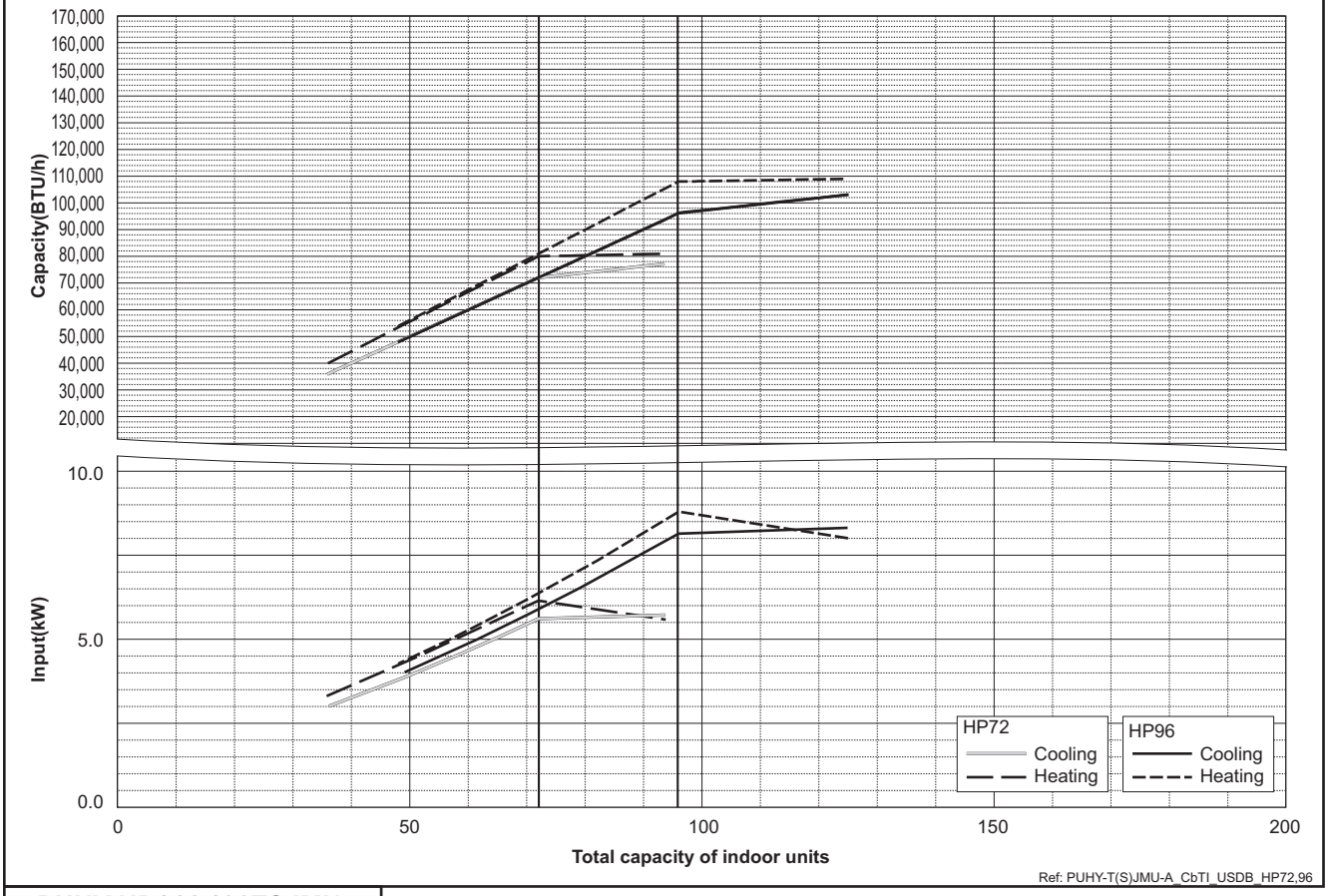
PUHY-HP144,192TSJMU



Ref: PUHY-T(S)JMU-A_CbTI_USDB_HP144,192

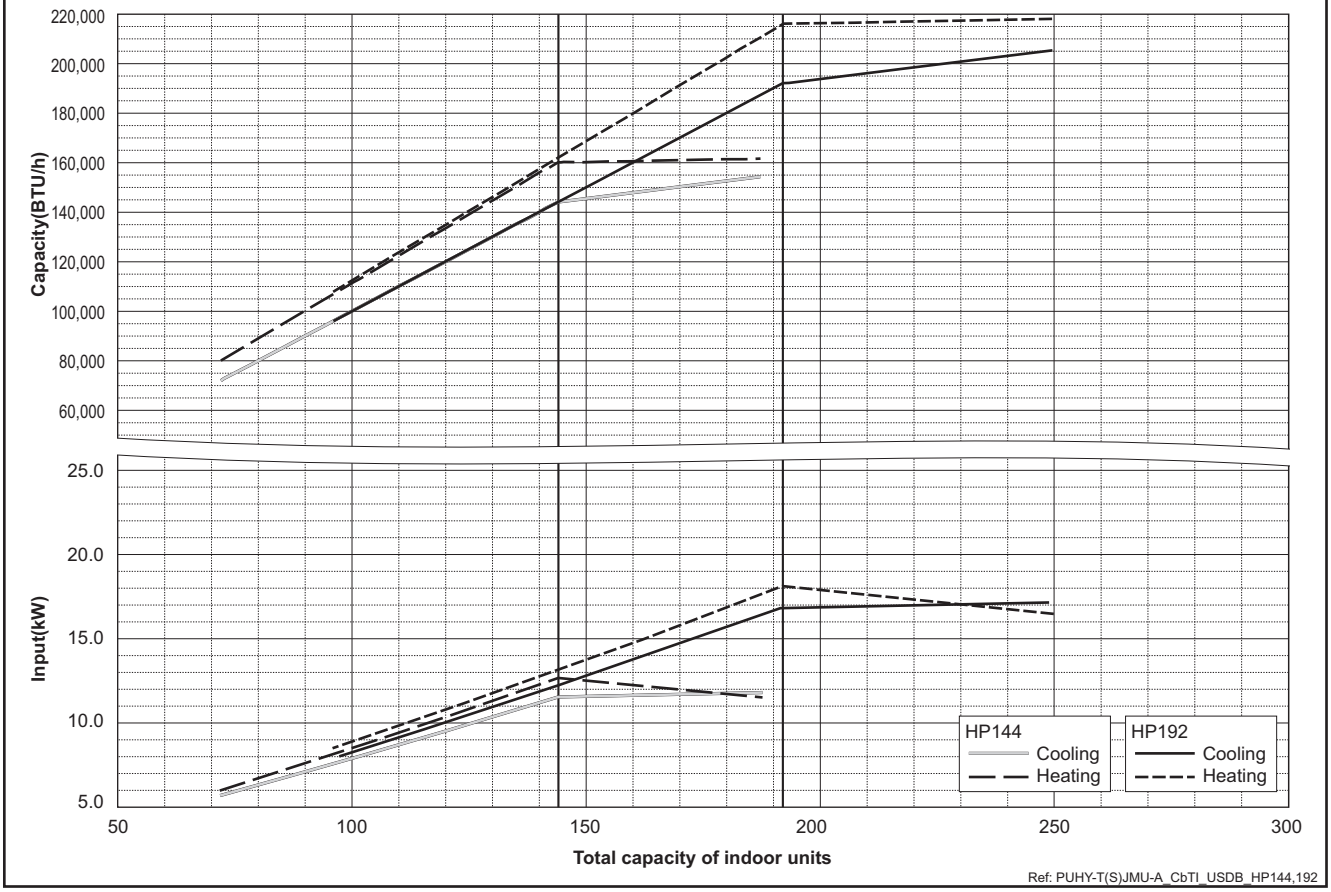
H2i Y

PUHY-HP72,96TJMU



Ref: PUHY-T(S)JMU-A_CbTI_USDB_HP72,96

PUHY-HP144,192TSJMU

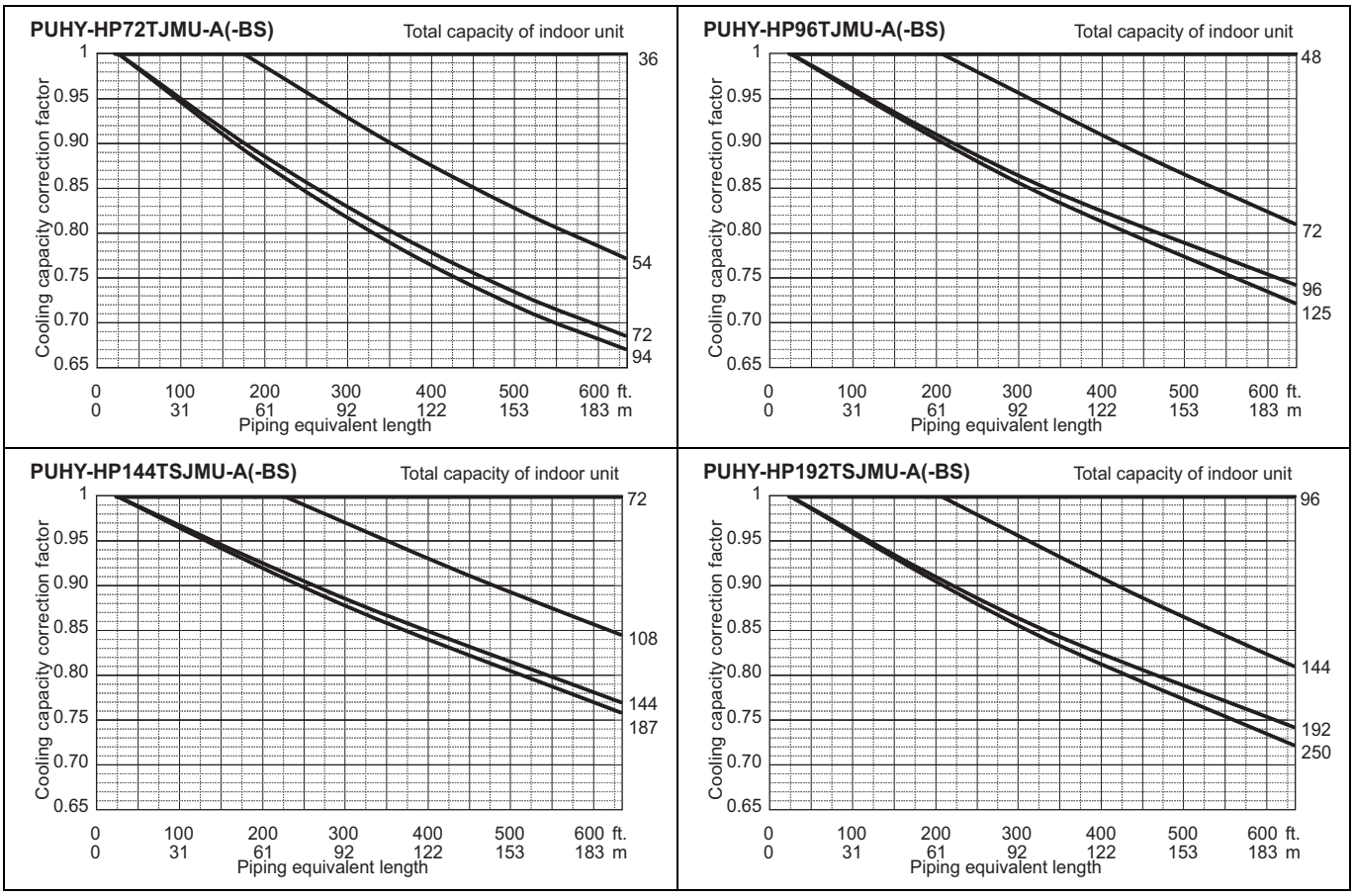


Ref: PUHY-T(S)JMU-A_CbTI_USDB_HP144,192

6-3. Correction by refrigerant piping length

CITY MULTI systems can have extended piping lengths if certain limitations are followed, but cooling/heating capacity could be reduced. Using following correction factor by equivalent piping length shown at 6-3-1 and 6-3-2, capacity can be found. 6-3-3 shows how to obtain the equivalent piping length.

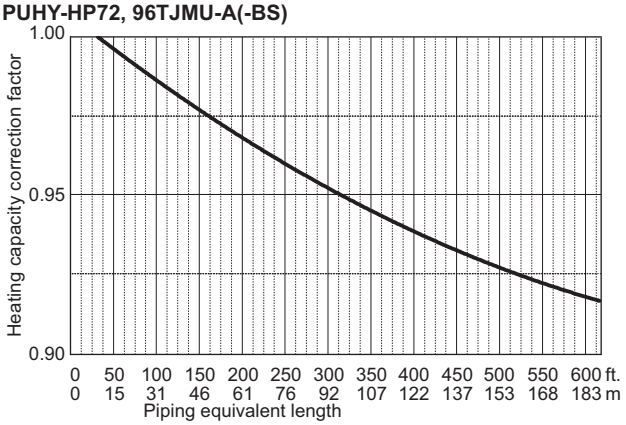
6-3-1. Cooling capacity correction



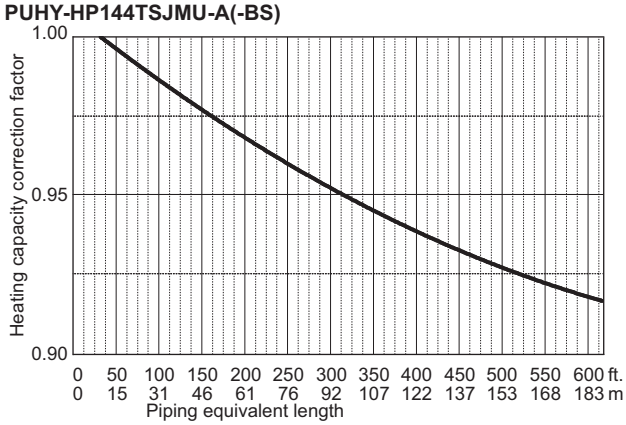
H2i Y

6-3-2. Heating capacity correction

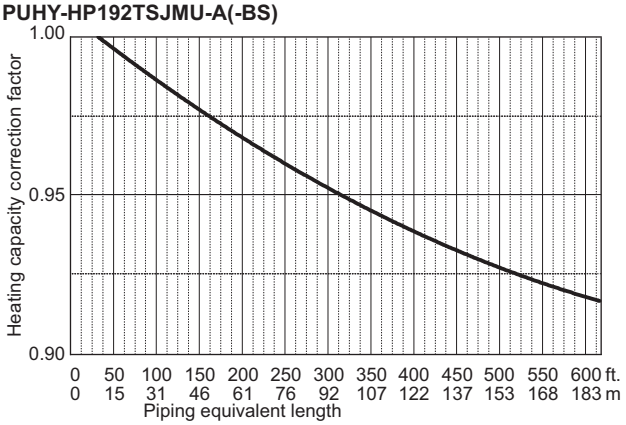
PUHY-HP72, 96TJMU-A(-BS)



PUHY-HP144TSJMU-A(-BS)



PUHY-HP192TSJMU-A(-BS)



H2i Y

6-3-3. How to obtain the equivalent piping length

1 PUHY-HP72TJMU-A

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.35 x number of bends in the piping) m
+ (1.15 x number of bends in the piping) ft.

2 PUHY-HP96TJMU-A

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.42 x number of bends in the piping) m
+ (1.38 x number of bends in the piping) ft.

3 PUHY-HP144,192TSJMU-A

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.50 x number of bends in the piping) m
+ (1.64 x number of bends in the piping) ft.

Ref.: EPL_T(S)JMU

6-4. Correction at frost and defrost

Due to frost at the outdoor heat exchanger and the automatic defrost operation, the heating capacity of the outdoor unit can be calculated by multiplying the correction factor shown in the table below.

Table of correction factor at frost and defrost

Outdoor inlet air temp. °CWB	6	4	2	1	0	-2	-4	-6	-8	-10	-25
Outdoor inlet air temp. °FWB	43	39	36	34	32	28	25	21	18	14	-13
PUHY-HP72,96TJMU	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.95	0.95	0.95	0.95
PUHY-HP144,192TSJMU	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.95	0.95	0.95	0.95

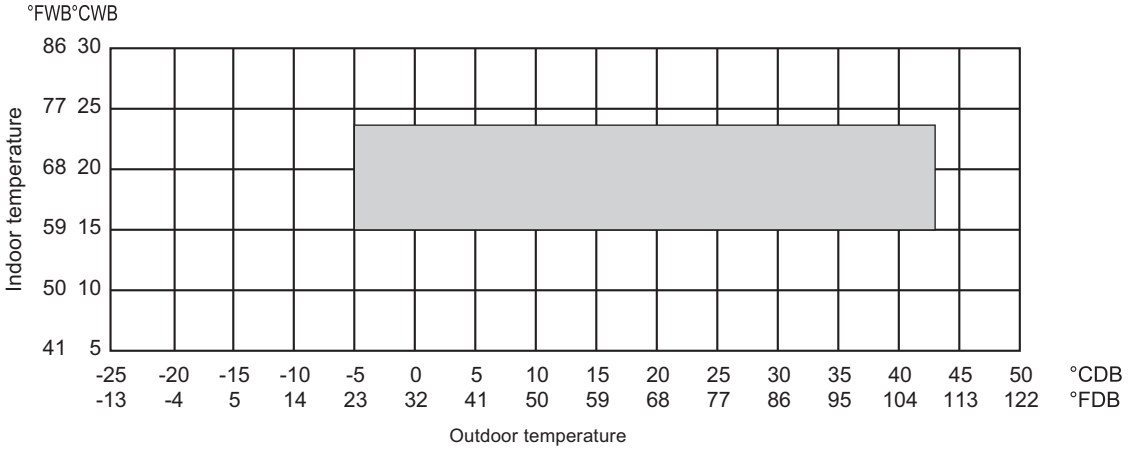
Ref.: CaF_TJMU

* The correction factors in the table above are used for a full-load and above.
Use the formula below to calculate the correction factor to use for a partial load.
Correction factor for partial load : K
Correction factor for a full load and above : K_0
Partial load factor : A

$$K = 1 - (1 - K_0) \times A$$

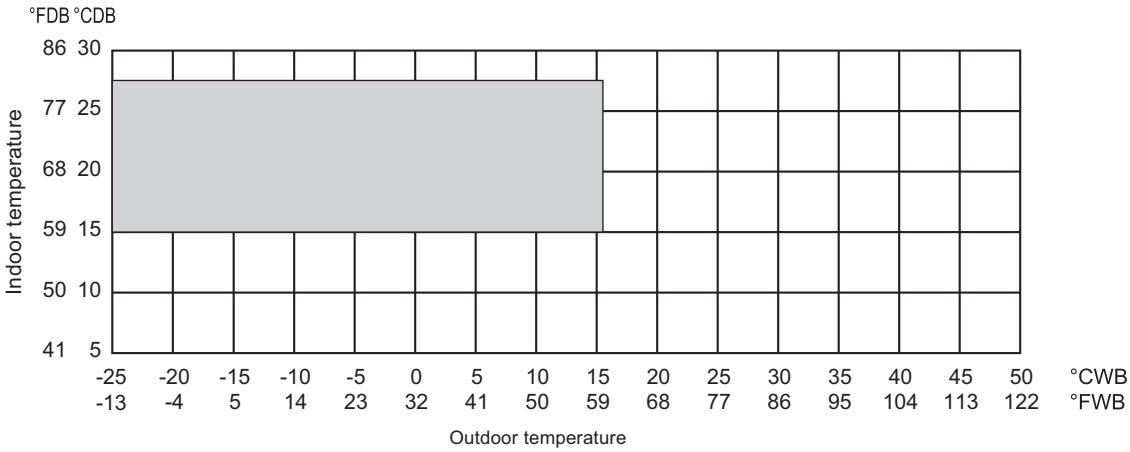
6-5. Operation temperature range

• Cooling



* The operation temperature of outdoor unit is limited into 0~43°CDB (32~109°FDB) when the outdoor unit is installed in a location that is positioned lower than the indoor units.

• Heating



Ref.: tr-thmu-y

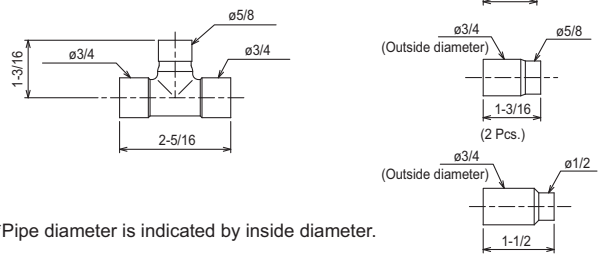
7-1. JOINT

CITY MULTI units can be easily connected by using Joint sets and Header sets provided by Mitsubishi Electric.
Five kinds of Joint sets are available for use. Refer to section 3 in "System Design" or the Installation Manual that comes with the Joint set for how to install the Joint set.

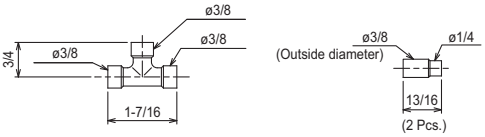
CMY-Y102SS-G2

in.

For Gas pipe:



For Liquid pipe:

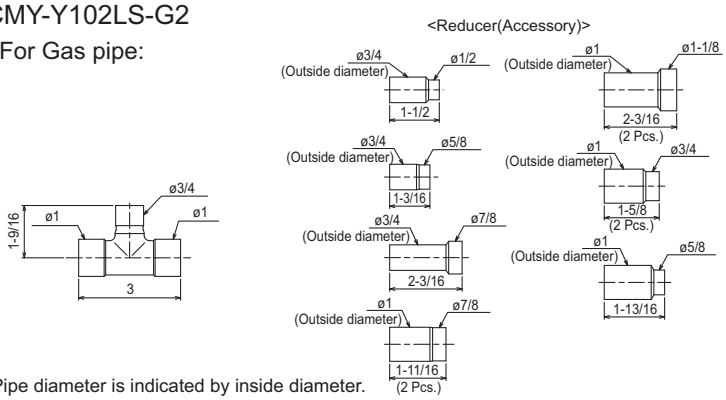


*Pipe diameter is indicated by inside diameter.

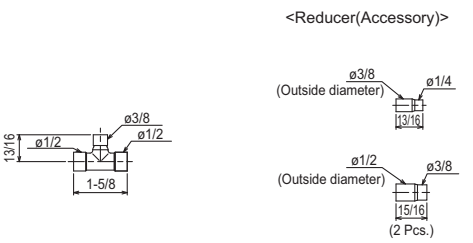
CMY-Y102LS-G2

in.

For Gas pipe:



For Liquid pipe:

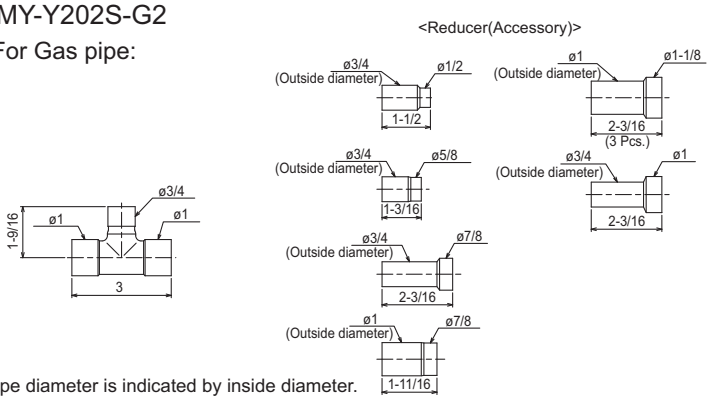


*Pipe diameter is indicated by inside diameter.

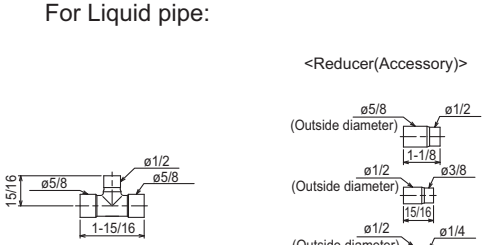
CMY-Y202S-G2

in.

For Gas pipe:



For Liquid pipe:

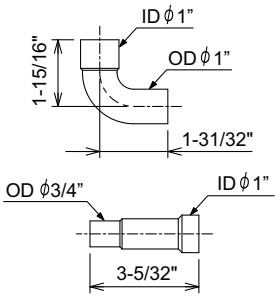


*Pipe diameter is indicated by inside diameter.

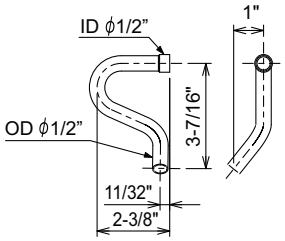
CMY-HYS100CEB <PUHY-HP72TJMU>

in.

For Gas pipe:



For Liquid pipe:

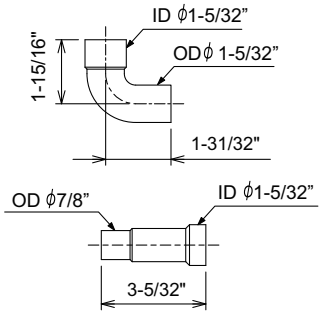


ID:Inner Diameter OD:Outer Diameter

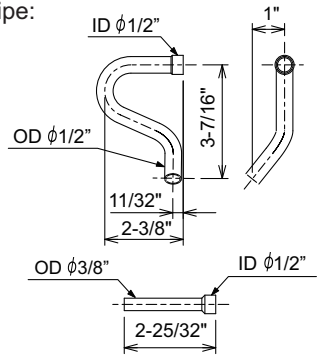
CMY-YS300CEB <PUHY-HP96TJMU>

in.

For Gas pipe:



For Liquid pipe:



ID:Inner Diameter OD:Outer Diameter

H2i Y

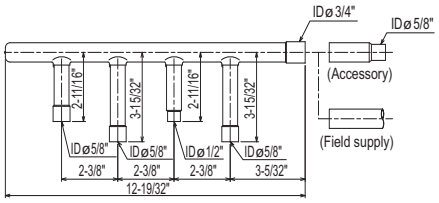
7-2. HEADER

CITY MULTI units can be easily connected by using Joint sets and Header sets provided by Mitsubishi Electric. Three kinds of Header sets are available for use. Refer to section 3 in "System Design" or the Installation Manual that comes with the Header set for how to install the Header set.

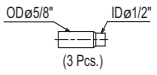
CMY-Y104C-G

in.

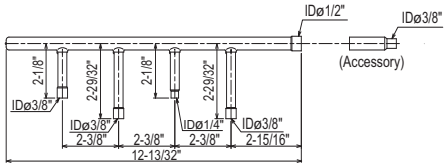
For gas pipe:



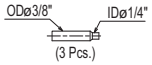
<Reducer(Accessory)>



For liquid pipe:



<Reducer(Accessory)>

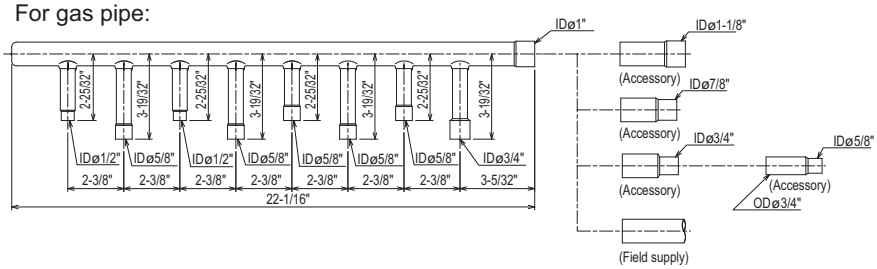


ID: Inner Diameter OD: Outer Diameter
NOTE: Besides above mentioned accessories, caps for ø1/4", ø3/8", ø1/2", ø5/8" pipes (each diameter 1 piece) are included in the Header set.

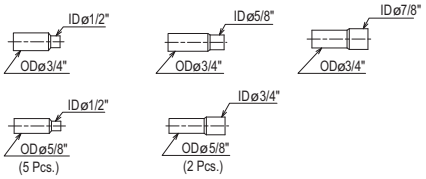
CMY-Y108C-G

in.

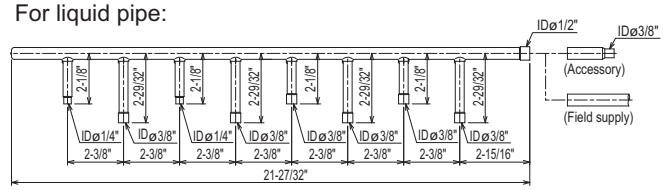
For gas pipe:



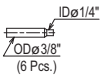
<Reducer(Accessory)>



For liquid pipe:



<Reducer(Accessory)>

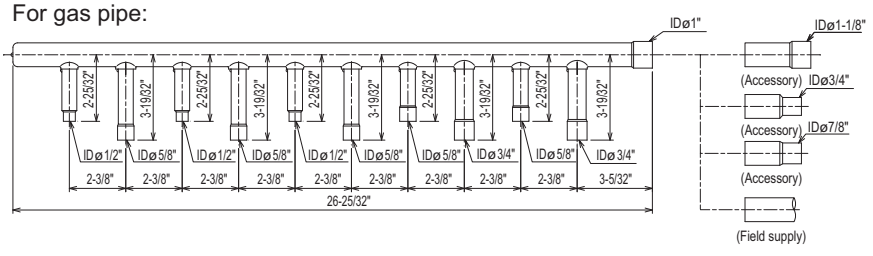


ID: Inner Diameter OD: Outer Diameter
NOTE: Besides above mentioned accessories, caps for ø1/4", ø3/8", ø1/2", ø5/8" pipes (each diameter 2 pieces) and 1 cap for ø3/4" pipe are included in the Header set.

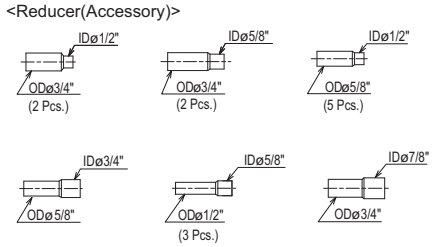
CMY-Y1010C-G

in.

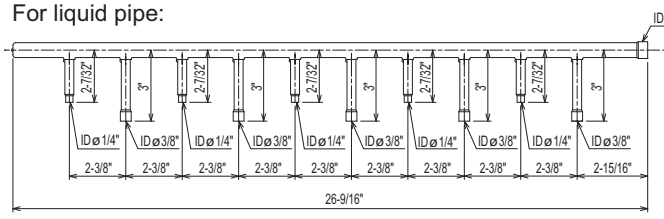
For gas pipe:



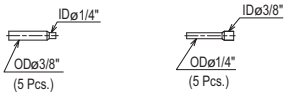
<Reducer(Accessory)>



For liquid pipe:



<Reducer(Accessory)>



ID: Inner Diameter OD: Outer Diameter
NOTE: Besides above mentioned accessories, caps for ø1/4", ø3/8", ø1/2", ø5/8" pipes (each diameter 2 pieces) and 1 cap for ø3/4" pipe are included in the Header set.

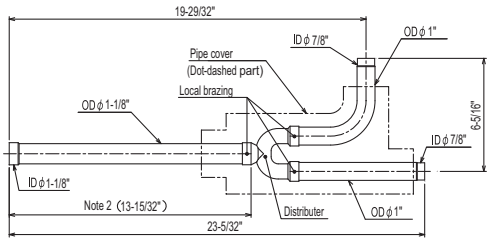
7-3. OUTDOOR TWINNING KIT

The following optional Outdoor Twinning Kit is needed to use to combine multiple refrigerant pipes. Refer to the chapter entitled System Design Section for the details of selecting a proper twinning kit.

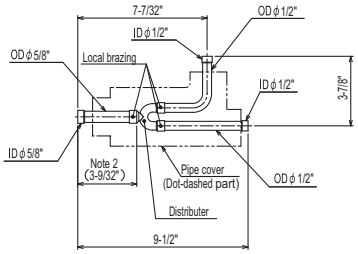
CMY-Y100CBK3

in.

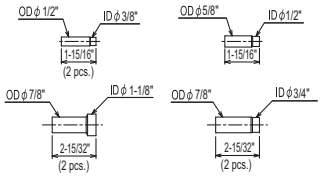
For Gas pipe:



For Liquid pipe:



<Reducer(Accessory)>



ID: Inner Diameter OD: Outer Diameter

H2i Y