

AIR CONDITIONING SYSTEMS

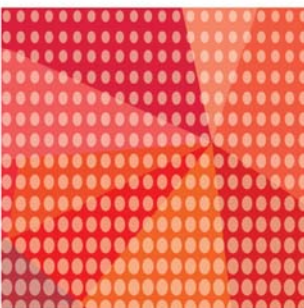
CITY MULTI

DATA BOOK

MODEL

PURY-P72-288T(S)KMU-A (-BS)

PURY-P72-288Y(S)KMU-A (-BS)



Heat Recovery R2-Series (K) - 208-230 V



Type(BTU/h)	72K	96K	120K	144K
Model Name	PURY-P72TKMU-A	PURY-P96TKMU-A	PURY-P120TKMU-A	PURY-P144TKMU-A

Heat Recovery R2-Series (K) - 460 V



Type(BTU/h)	72K	96K	120K	144K
Model Name	PURY-P72YKMU-A	PURY-P96YKMU-A	PURY-P120YKMU-A	PURY-P144YKMU-A



Type(BTU/h)	168K	192K	216K
Model Name	PURY-P168TSKMU-A	PURY-P192TSKMU-A	PURY-P216TSKMU-A



Type(BTU/h)	144K	168K	192K
Model Name	PURY-P144YSKMU-A	PURY-P168YSKMU-A	PURY-P192YSKMU-A



Type(BTU/h)	240K	264K	288K
Model Name	PURY-P240TSKMU-A	PURY-P264TSKMU-A	PURY-P288TSKMU-A



Type(BTU/h)	216K		
Model Name	PURY-P216YSKMU-A		



Type(BTU/h)	240K	264K	288K
Model Name	PURY-P240YSKMU-A	PURY-P264YSKMU-A	PURY-P288YSKMU-A

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1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P72TKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 208-230 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	72,000	
		kW	21.1	
	(208-230)	Power input	kW	4.40
		Current input	A	13.5-12.2
	(Rated)		BTU/h	69,000
			kW	20.2
(208-230)	Power input	kW	4.10	
	Current input	A	12.6-11.4	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	80,000	
		kW	23.4	
	(208-230)	Power input	kW	5.92
		Current input	A	18.2-16.5
	(Rated)		BTU/h	76,000
			kW	22.3
(208-230)	Power input	kW	5.79	
	Current input	A	17.8-16.1	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06~P96/1~18		
Sound pressure level (measured in anechoic room)		dB <A>	58.0	
Refrigerant piping diameter	High pressure	in. (mm)	5/8 (15.88) Brazed	
	Low pressure	in. (mm)	3/4 (19.05) Brazed	
Minimum Circuit Ampacity		A	23-21	
Maximum Overcurrent Protection		A	38-35	
FAN	Type x Quantity		Propeller fan x 1	
	Airflow rate	cfm	6,200	
		m ³ /min	175	
		L/s	2,920	
	Control, Driving mechanism		Inverter-control, Brushless DC motor	
	Motor output	kW	0.92	
*4	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	4.7	
	Case heater	kW	-	
	Lubricant		MEL32	
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D		in.	64-31/32 x 48-1/16 x 29-5/32	
		mm	1,650 x 1,220 x 740	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection	
	Fan motor		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller	
Net weight	lbs (kg)	503 (228)		
Heat exchanger		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)		-		
Defrosting method		Auto-defrost mode (Reversed refrigerant cycle)		
Drawing	External		KD94R359	
	Wiring		KE94C646	
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts		joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 BC controller: CMB-P104,105,106,108,1010,1013,1016NU-G1 Main BC controller: CMB-P108,1010,1013,1016NU-GA1,108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1		
Remarks		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.Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	Unit converter BTU/h =kW x 3,412 cfm =m ³ /min x 35.31 lbs =kg /0.4536
	2.Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	
	3.When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	
	4.External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
	* Due to continuing improvement, above specifications may be subject to change without notice.	

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P96TKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 208-230 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	96,000	
		kW	28.1	
	(208-230)	Power input	7.05	
		Current input	21.7-19.6	
	(Rated)		BTU/h	92,000
			kW	27.0
(208-230)	Power input	6.24	6.81	
	Current input	19.2-17.4	21.0-18.9	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	108,000	
		kW	31.7	
	(208-230)	Power input	8.28	
		Current input	25.5-23.0	
	(Rated)		BTU/h	103,000
			kW	30.2
(208-230)	Power input	7.80	7.75	
	Current input	24.0-21.7	23.9-21.6	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06-P96/1~24		
Sound pressure level (measured in anechoic room)	dB <A>	58.0		
Refrigerant piping diameter	High pressure	in. (mm)	3/4 (19.05) Brazed	
	Low pressure	in. (mm)	7/8 (22.2) Brazed	
Minimum Circuit Ampacity	A	34-31		
Maximum Overcurrent Protection	A	57-52		
FAN	Type x Quantity	Propeller fan x 1		
	Airflow rate	cfm	6,200	
		m ³ /min	175	
		L/s	2,920	
	Control, Driving mechanism	Inverter-control, Brushless DC motor		
	Motor output	kW	0.92	
*4 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	-	
	Lubricant	MEL32		
External finish	Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>			
External dimension H x W x D	in.	64-31/32 x 48-1/16 x 29-5/32		
	mm	1,650 x 1,220 x 740		
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)	Over heat protection, Over-current protection		
	Fan motor	-		
Refrigerant	Type x original charge	R410A x 26 lbs + 1 oz (11.8 kg)		
	Control	Indoor LEV and BC controller		
Net weight	lbs (kg)	538 (244)		
Heat exchanger	Salt-resistant cross fin & copper tube			
HIC circuit (HIC: Heat Inter-Changer)	-			
Defrosting method	Auto-defrost mode (Reversed refrigerant cycle)			
Drawing	External	KD94R359		
	Wiring	KE94C648		
Standard attachment	Document	Installation Manual		
	Accessory	Details refer to External Drw		
Optional parts	joint: CMY-Y102SS-G2,CMY-Y102LS-G2,CMY-R160-J1 BC controller: CMB-P104,105,106,108,1010,1013,1016NU-G1 Main BC controller: CMB-P108,1010,1013,1016NU-GA1,108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1			
Remarks	Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.			

R2 (K)

Notes:

- Cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)
- Heating conditions (Test conditions are based on AHRI 1230)
Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

* Due to continuing improvement, above specifications may be subject to change without notice.

Unit converter

BTU/h =kW x 3,412
cfm =m³/min x 35.31
lbs =kg /0.4536

*Above specification data is subject to rounding variation.

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P120TKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 208-230 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	120,000	
		kW	35.2	
	(208-230)	Power input	kW	9.44
		Current input	A	29.1-26.3
	(Rated)		BTU/h	114,000
			kW	33.4
(208-230)	Power input	kW	8.78	
	Current input	A	27.0-24.4	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	135,000	
		kW	39.6	
	(208-230)	Power input	kW	10.86
		Current input	A	33.4-30.2
	(Rated)		BTU/h	129,000
			kW	37.8
(208-230)	Power input	kW	10.10	
	Current input	A	31.1-28.1	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06~P96/1~30		
Sound pressure level (measured in anechoic room)		dB <A>	60.0	
Refrigerant piping diameter	High pressure	in. (mm)	3/4 (19.05) Brazed	
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed	
Minimum Circuit Ampacity		A	45-42	
Maximum Overcurrent Protection		A	74-68	
FAN	Type x Quantity	Propeller fan x 2		
	Airflow rate	cfm	11,300	
		m ³ /min	320	
		L/s	5,330	
	Control, Driving mechanism	Inverter-control, Brushless DC motor		
	Motor output	kW	0.92+0.92	
*4 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	8.2	
	Case heater	kW	-	
	Lubricant	MEL32		
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D		in.	64-31/32 x 68-29/32 x 29-5/32	
		mm	1,650 x 1,750 x 740	
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)	Over heat protection, Over-current protection		
	Fan motor	-		
Refrigerant	Type x original charge	R410A x 26 lbs + 1 oz (11.8 kg)		
	Control	Indoor LEV and BC controller		
Net weight	lbs (kg)	715 (324)		
Heat exchanger		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)		-		
Defrosting method		Auto-defrost mode (Reversed refrigerant cycle)		
Drawing	External	KD94R360		
	Wiring	KE94C650		
Standard attachment	Document	Installation Manual		
	Accessory	Details refer to External Drw		
Optional parts		joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 BC controller: CMB-P104,105,106,108,1010,1013,1016NU-G1 Main BC controller: CMB-P108,1010,1013,1016NU-GA1,108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1		
Remarks		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.		

Notes:	Unit converter
1.Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h =kW x 3.412
2.Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm =m ³ /min x 35.31
3.When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs =kg /0.4536
4.External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	*Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P144TKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 208-230 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	144,000	
		kW	42.2	
	(208-230)	Power input	kW	11.20
		Current input	A	34.5-31.2
	(Rated)		BTU/h	137,000
			kW	40.2
(208-230)	Power input	kW	10.14	
	Current input	A	31.2-28.2	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	160,000	
		kW	46.9	
	(208-230)	Power input	kW	13.54
		Current input	A	41.7-37.7
	(Rated)		BTU/h	152,000
			kW	44.5
(208-230)	Power input	kW	13.13	
	Current input	A	40.4-36.6	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06-P96/1~36		
Sound pressure level (measured in anechoic room)	dB <A>	61.0		
Refrigerant piping diameter	High pressure	in. (mm)	7/8 (22.2) Brazed	
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed	
Minimum Circuit Ampacity	A	53-48		
Maximum Overcurrent Protection	A	87-80		
FAN	Type x Quantity	Propeller fan x 2		
	Airflow rate	cfm	11,300	
		m ³ /min	320	
		L/s	5,330	
	Control, Driving mechanism	Inverter-control, Brushless DC motor		
	Motor output	kW	0.92±0.92	
*4 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	9.5	
	Case heater	kW	-	
	Lubricant	MEL32		
External finish	Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>			
External dimension H x W x D	in.	64-31/32 x 68-29/32 x 29-5/32		
	mm	1,650 x 1,750 x 740		
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)	Over heat protection, Over-current protection		
	Fan motor	-		
Refrigerant	Type x original charge	R410A x 26 lbs + 1 oz (11.8 kg)		
	Control	Indoor LEV and BC controller		
Net weight	lbs (kg)	715 (324)		
Heat exchanger	Salt-resistant cross fin & copper tube			
HIC circuit (HIC: Heat Inter-Changer)	-			
Defrosting method	Auto-defrost mode (Reversed refrigerant cycle)			
Drawing	External	KD94R360		
	Wiring	KE94C650		
Standard attachment	Document	Installation Manual		
	Accessory	Details refer to External Drw		
Optional parts	joint: CMY-Y102SS-G2,CMY-Y102LS-G2,CMY-R160-J1 Main BC controller: CMB-P108,1010,1013,1016NU-GA1,108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1			
Remarks	Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.			

R2 (K)

Notes:

- Cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)
- Heating conditions (Test conditions are based on AHRI 1230)
Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

* Due to continuing improvement, above specifications may be subject to change without notice.

Unit converter	
BTU/h	=kW x 3.412
cfm	=m ³ /min x 35.31
lbs	=kg /0.4536
*Above specification data is subject to rounding variation.	

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P168TSKMU-A (-BS)		
Indoor Model			Non-Ducted		Ducted
Power source			3-phase 3-wire 208-230 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	168,000		
		kW	49.2		
	(208-230)	Power input	12.80		
		Current input	39.4-35.7		
	(Rated)	BTU/h	161,000		
		kW	47.2		
(208-230)	Power input	11.80	11.90		
	Current input	36.3-32.9	36.7-33.1		
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)		
	Outdoor	D.B.	23~115°F (-5~46°C)		
Heating capacity (Nominal)	*2	BTU/h	188,000		
		kW	55.1		
	(208-230)	Power input	14.91		
		Current input	45.9-41.5		
	(Rated)	BTU/h	179,000		
		kW	52.5		
(208-230)	Power input	14.43	13.44		
	Current input	44.5-40.2	41.4-37.4		
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)		
	Outdoor	W.B.	-13~60°F (-25~15.5°C)		
Indoor unit	Total capacity	50~150% of outdoor unit capacity			
	Model/Quantity	P06~P96/1~42			
Sound pressure level (measured in anechoic room)		dB <A>	61.0		
Refrigerant piping diameter	High pressure	in. (mm)	7/8 (22.2) Brazed		
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed		

Set Model			PURY-P96TKMU-A(-BS)		PURY-P72TKMU-A(-BS)	
Model			PURY-P96TKMU-A(-BS)		PURY-P72TKMU-A(-BS)	
Minimum Circuit Ampacity			A		34-31	
Maximum Overcurrent Protection			A		57-52	
FAN	Type x Quantity		Propeller fan x 1		Propeller fan x 1	
	Airflow rate	cfm	6,200		6,200	
		m ³ /min	175		175	
		L/s	2,920		2,920	
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor	
	Motor output		kW		0.92	
*4 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	
	Case heater		kW		-	
	Lubricant		MEL32		MEL32	
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>	
External dimension H x W x D			in. 64-31/32 x 48-1/16 x 29-5/32		in. 64-31/32 x 48-1/16 x 29-5/32	
			mm 1,650 x 1,220 x 740		mm 1,650 x 1,220 x 740	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection	
	Fan motor		-		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller			
Net weight			lbs (kg)		538 (244)	
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
HIC circuit (HIC: Heat Inter-Changer)			-		-	
Pipe between unit and distributor	High pressure		in. (mm)		3/4 (19.05) Brazed	
	Low pressure		in. (mm)		-	
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)			
Drawing	External		KD94R352			
	Wiring		KE94C648		KE94C646	
Standard attachment	Document		Installation Manual			
	Accessory		Details refer to External Drw			
Optional parts			Outdoor Twinning kit: CMY-R100CBK2 joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1			
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.			

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg /0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P192TSKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 208-230 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	192,000	
		kW	56.3	
	(208-230)	Power input	kW	15.61
		Current input	A	48.1-43.5
	(Rated)		BTU/h	183,000
			kW	53.6
(208-230)	Power input	kW	14.61	
	Current input	A	45.0-40.7	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	215,000	
		kW	63.0	
	(208-230)	Power input	kW	17.20
		Current input	A	53.0-47.9
	(Rated)		BTU/h	205,000
			kW	60.1
(208-230)	Power input	kW	16.73	
	Current input	A	51.5-46.6	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06-P96/1~48		
Sound pressure level (measured in anechoic room)		dB <A>	61.0	
Refrigerant piping diameter	High pressure	in. (mm)	7/8 (22.2) Brazed	
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed	

Set Model		PURY-P96TKMU-A(-BS)		PURY-P96TKMU-A(-BS)		
Minimum Circuit Ampacity		A	34-31	34-31		
Maximum Overcurrent Protection		A	57-52	57-52		
FAN	Type x Quantity		Propeller fan x 1		Propeller fan x 1	
	Airflow rate	cfm	6,200	6,200		
		m ³ /min	175	175		
		L/s	2,920	2,920		
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor	
	Motor output	kW	0.92	0.92		
*4	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	-	-		
	Lubricant		MEL32		MEL32	
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D		in.	64-31/32 x 48-1/16 x 29-5/32	64-31/32 x 48-1/16 x 29-5/32		
		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection	
	Fan motor		-		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller			
Net weight	lbs (kg)	538 (244)	538 (244)			
Heat exchanger		Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)		-		-		
Pipe between unit and distributor	High pressure	in. (mm)	3/4 (19.05) Brazed	3/4 (19.05) Brazed		
	Low pressure	in. (mm)	-	7/8 (22.2) Brazed		
Defrosting method		Auto-defrost mode (Reversed refrigerant cycle)				
Drawing	External	KD94R352				
	Wiring	KE94C648	KE94C648			
Standard attachment	Document	Installation Manual				
	Accessory	Details refer to External Drw				
Optional parts		Outdoor Twinning kit: CMY-R100CBK2 joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108,1010,1013,1016NU-GA1,108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1				
Remarks		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.				

R2 (K)

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg / 0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P216TSKMU-A (-BS)			
Indoor Model			Non-Ducted		Ducted	
Power source			3-phase 3-wire 208-230 V ±10% 60 Hz			
Cooling capacity (Nominal)	*1	BTU/h	216,000			
		kW	63.3			
		Power input kW	18.22			
	(208-230)	(Rated)	Current input A	56.1-50.8		
			BTU/h	206,000		
			kW	60.4		
(208-230)	(Rated)	Power input kW	17.43	16.31		
		Current input A	53.7-48.6	50.3-45.4		
		Temp. range of cooling	Indoor W.B.	59~75°F (15~24°C)		
		Outdoor D.B.	23~115°F (-5~46°C)			
Heating capacity (Nominal)	*2	BTU/h	243,000			
		kW	71.2			
		Power input kW	19.89			
	(208-230)	(Rated)	Current input A	61.3-55.4		
			BTU/h	232,000		
			kW	68.0		
(208-230)	(Rated)	Power input kW	19.20	17.86		
		Current input A	59.2-53.5	55.0-49.8		
		Temp. range of heating	Indoor D.B.	59~81°F (15~27°C)		
		Outdoor W.B.	-13~60°F (-25~15.5°C)			
Indoor unit	Total capacity		50~150% of outdoor unit capacity			
	Model/Quantity		P06~P96/2~50 (Connectable branch pipe number is max. 48.)			
Sound pressure level (measured in anechoic room)			dB <A> 62.5			
Refrigerant piping diameter	High pressure		in. (mm) 1-1/8 (28.58) Brazed			
	Low pressure		in. (mm) 1-1/8 (28.58) Brazed			

Set Model			PURY-P120TKMU-A(-BS)		PURY-P96TKMU-A(-BS)	
Model			PURY-P120TKMU-A(-BS)		PURY-P96TKMU-A(-BS)	
Minimum Circuit Ampacity			A 45-42		A 34-31	
Maximum Overcurrent Protection			A 74-68		A 57-52	
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 1	
	Airflow rate	cfm	11,300		6,200	
		m ³ /min	320		175	
		L/s	5,330		2,920	
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor	
	Motor output		kW 0.92+0.92		kW 0.92	
*4 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 8.2		kW 6.7	
	Case heater		kW -		kW -	
	Lubricant		MEL32		MEL32	
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>	
External dimension H x W x D			in. 64-31/32 x 68-29/32 x 29-5/32 mm 1,650 x 1,750 x 740		in. 64-31/32 x 48-1/16 x 29-5/32 mm 1,650 x 1,220 x 740	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection	
	Fan motor		-		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller			
Net weight			lbs (kg) 715 (324)		lbs (kg) 538 (244)	
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
HIC circuit (HIC: Heat Inter-Changer)			-		-	
Pipe between unit and distributor	High pressure		in. (mm) 3/4 (19.05) Brazed		in. (mm) 3/4 (19.05) Brazed	
	Low pressure		in. (mm) -		in. (mm) 7/8 (22.2) Brazed	
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)			
Drawing	External		KD94R353			
	Wiring		KE94C650		KE94C648	
Standard attachment	Document		Installation Manual			
	Accessory		Details refer to External Drw			
Optional parts			Outdoor Twinning kit: CMY-R100XLCBK joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1			
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.			

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg / 0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P240TSKMU-A (-BS)			
Indoor Model			Non-Ducted		Ducted	
Power source			3-phase 3-wire 208-230 V ±10% 60 Hz			
Cooling capacity (Nominal)	*1	BTU/h	240,000			
		kW	70.3			
		Power input	21.11			
	(208-230)	(Rated)	Current input	65.1-58.8		
			BTU/h	228,000		
			kW	66.8		
(208-230)	(Rated)	Power input	20.03		19.06	
		Current input	61.7-55.8		58.7-53.1	
		Temp. range of cooling	Indoor	W.B.		59~75°F (15~24°C)
Temp. range of cooling	*2	Outdoor	D.B.		23~115°F (-5~46°C)	
		Heating capacity (Nominal)	BTU/h	270,000		
Heating capacity (Nominal)	*2	kW	79.1			
		Power input	22.73			
		Current input	70.1-63.3			
	(208-230)	(Rated)	BTU/h	258,000		
			kW	75.6		
			Power input	21.43		20.92
(208-230)	(Rated)	Current input	66.0-59.7		64.5-58.3	
		Temp. range of heating	Indoor	D.B.		59~81°F (15~27°C)
		Outdoor	W.B.		-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity				
	Model/Quantity	P06~P96/2~50 (Connectable branch pipe number is max. 48.)				
Sound pressure level (measured in anechoic room)	dB <A>	63.0				
Refrigerant piping diameter	High pressure	in. (mm)	1-1/8 (28.58) Brazed			
	Low pressure	in. (mm)	1-3/8 (34.93) Brazed			

Set Model			PURY-P120TKMU-A(-BS)		PURY-P120TKMU-A(-BS)	
Model			PURY-P120TKMU-A(-BS)		PURY-P120TKMU-A(-BS)	
Minimum Circuit Ampacity			A		45-42	
Maximum Overcurrent Protection			A		74-68	
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 2	
	Airflow rate	cfm	11,300		11,300	
		m ³ /min	320		320	
		L/s	5,330		5,330	
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor	
	Motor output		kW		0.92+0.92	
*4 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		8.2	
	Case heater		kW		-	
	Lubricant		MEL32		MEL32	
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>	
External dimension H x W x D			in.		64-31/32 x 68-29/32 x 29-5/32	
			mm		1,650 x 1,750 x 740	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection	
	Fan motor		-		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller			
Net weight			lbs (kg)		715 (324)	
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
HIC circuit (HIC: Heat Inter-Changer)			-		-	
Pipe between unit and distributor	High pressure		in. (mm)		3/4 (19.05) Brazed	
	Low pressure		in. (mm)		-	
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)			
Drawing	External		KD94R354			
	Wiring		KE94C650		KE94C650	
Standard attachment	Document		Installation Manual			
	Accessory		Details refer to External Drw			
Optional parts			Outdoor Twinning kit: CMY-R100XLCBK joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1			
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.			

Notes:

- Cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)
- Heating conditions (Test conditions are based on AHRI 1230)
Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

Unit converter	
BTU/h	=kW x 3.412
cfm	=m ³ /min x 35.31
lbs	=kg /0.4536

*Above specification data is subject to rounding variation

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P264TSKMU-A (-BS)			
Indoor Model			Non-Ducted		Ducted	
Power source			3-phase 3-wire 208-230 V ±10% 60 Hz			
Cooling capacity (Nominal)	*1	BTU/h	264,000			
		kW	77.4			
		Power input kW	23.05			
	(208-230)	(Rated)	Current input A	71.0-64.2		
			BTU/h	251,000		
			kW	73.6		
(208-230)	(Rated)	Power input kW	21.89	20.79		
		Current input A	67.5-61.0	64.1-57.9		
		D.B.	59~75°F (15~24°C)			
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)			
	Outdoor	D.B.	23~115°F (-5~46°C)			
Heating capacity (Nominal)	*2	BTU/h	295,000			
		kW	86.5			
		Power input kW	25.37			
	(208-230)	(Rated)	Current input A	78.2-70.7		
			BTU/h	281,000		
			kW	82.4		
(208-230)	(Rated)	Power input kW	24.65	22.64		
		Current input A	76.0-68.7	69.8-63.1		
		D.B.	59~81°F (15~27°C)			
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)			
	Outdoor	W.B.	-13~60°F (-25~15.5°C)			
Indoor unit	Total capacity		50~150% of outdoor unit capacity			
	Model/Quantity		P06~P96/2~50 (Connectable branch pipe number is max. 48.)			
Sound pressure level (measured in anechoic room)		dB <A>	63.5			
Refrigerant piping diameter	High pressure		1-1/8 (28.58) Brazed			
	Low pressure		1-3/8 (34.93) Brazed			

Model			PURY-P144TKMU-A(-BS)		PURY-P120TKMU-A(-BS)	
Minimum Circuit Ampacity			A	53-48	45-42	
Maximum Overcurrent Protection			A	87-80	74-68	
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 2	
	Airflow rate	cfm	11,300		11,300	
		m ³ /min	320		320	
		L/s	5,330		5,330	
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor	
	Motor output	kW	0.92+0.92		0.92+0.92	
*4 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	9.5		8.2	
	Case heater	kW	-		-	
	Lubricant		MEL32		MEL32	
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>	
External dimension H x W x D			in.	64-31/32 x 68-29/32 x 29-5/32	64-31/32 x 68-29/32 x 29-5/32	
			mm	1,650 x 1,750 x 740	1,650 x 1,750 x 740	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection	
	Fan motor		-		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller			
Net weight			lbs (kg)	715 (324)	715 (324)	
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
HIC circuit (HIC: Heat Inter-Changer)			-		-	
Pipe between unit and distributor	High pressure		in. (mm)	7/8 (22.2) Brazed	3/4 (19.05) Brazed	
	Low pressure		in. (mm)	-	1-1/8 (28.58) Brazed	
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)			
Drawing	External		KD94R354			
	Wiring		KE94C650		KE94C650	
Standard attachment	Document		Installation Manual			
	Accessory		Details refer to External Drw			
Optional parts			Outdoor Twinning kit: CMY-R100XLCBK joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1			
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.			

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg / 0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P288TSKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 208-230 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	288,000	
		kW	84.4	
	(208-230)	Power input	24.57	
		Current input	A	75.7-68.5
	(Rated)	BTU/h	274,000	
		kW	80.3	
(208-230)	Power input	23.24	22.26	
	Current input	A	71.6-64.8	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	320,000	
		kW	93.8	
	(208-230)	Power input	27.62	
		Current input	A	85.1-77.0
	(Rated)	BTU/h	304,000	
		kW	89.1	
(208-230)	Power input	26.83	24.40	
	Current input	A	82.7-74.8	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06~P96/2~50 (Connectable branch pipe number is max. 48.)		
Sound pressure level (measured in anechoic room)	dB <A>	64.0		
Refrigerant piping diameter	High pressure	in. (mm)	1-1/8 (28.58) Brazed	
	Low pressure	in. (mm)	1-3/8 (34.93) Brazed	

Set Model		PURY-P144TKMU-A(-BS)		PURY-P144TKMU-A(-BS)		
Minimum Circuit Ampacity		A	53-48	53-48		
Maximum Overcurrent Protection		A	87-80	87-80		
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 2	
	Airflow rate	cfm	11,300	11,300		
		m ³ /min	320	320		
		L/s	5,330	5,330		
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor	
	Motor output	kW	0.92+0.92	0.92+0.92		
*4	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	9.5	9.5		
	Case heater	kW	-	-		
	Lubricant		MEL32		MEL32	
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D		in.	64-31/32 x 68-29/32 x 29-5/32	64-31/32 x 68-29/32 x 29-5/32		
		mm	1,650 x 1,750 x 740	1,650 x 1,750 x 740		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection	
	Fan motor		-		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller			
Net weight	lbs (kg)	715 (324)		715 (324)		
Heat exchanger		Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)		-		-		
Pipe between unit and distributor	High pressure	in. (mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed		
	Low pressure	in. (mm)	-	1-1/8 (28.58) Brazed		
Defrosting method		Auto-defrost mode (Reversed refrigerant cycle)				
Drawing	External	KD94R354				
	Wiring	KE94C650		KE94C650		
Standard attachment	Document	Installation Manual				
	Accessory	Details refer to External Drw				
Optional parts		Outdoor Twinning kit: CMY-R100XLCBK joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1, CMB-P1016NU-HB1				
Remarks		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.				

R2 (K)

Notes:

- Cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)
- Heating conditions (Test conditions are based on AHRI 1230)
Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

* Due to continuing improvement, above specifications may be subject to change without notice.

Unit converter	
BTU/h	=kW x 3.412
cfm	=m ³ /min x 35.31
lbs	=kg /0.4536

*Above specification data is subject to rounding variation.

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P72YKMU-A (-BS)		
Indoor Model		Non-Ducted		
Power source		3-phase 3-wire 460 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	72,000	
		kW	21.1	
	(460)	Power input	kW	4.40
		Current input	A	6.1
	(Rated)		BTU/h	69,000
			kW	20.2
(460)	Power input	kW	4.10	
	Current input	A	5.7	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	80,000	
		kW	23.4	
	(460)	Power input	kW	5.92
		Current input	A	8.2
	(Rated)		BTU/h	76,000
			kW	22.3
(460)	Power input	kW	5.79	
	Current input	A	8.0	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06~P96/1~18		
Sound pressure level (measured in anechoic room)		dB <A>	58.0	
Refrigerant piping diameter	High pressure	in. (mm)	5/8 (15.88) Brazed	
	Low pressure	in. (mm)	3/4 (19.05) Brazed	
Minimum Circuit Ampacity		A	11	
Maximum Overcurrent Protection		A	17	
FAN	Type x Quantity		Propeller fan x 1	
	Airflow rate	cfm	6,200	
		m ³ /min	175	
		L/s	2,920	
	Control, Driving mechanism		Inverter-control, Brushless DC motor	
	Motor output	kW	0.92	
*4 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	4.7	
	Case heater	kW	-	
	Lubricant		MEL32	
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D	in.	64-31/32 x 48-1/16 x 29-5/32		
	mm	1,650 x 1,220 x 740		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection	
	Fan motor		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller	
Net weight		lbs (kg)	534 (242)	
Heat exchanger	Salt-resistant cross fin & copper tube			
HIC circuit (HIC: Heat Inter-Changer)	-			
Defrosting method	Auto-defrost mode (Reversed refrigerant cycle)			
Drawing	External	KD94R361		
	Wiring	KE94C648		
Standard attachment	Document	Installation Manual		
	Accessory	Details refer to External Drw		
Optional parts	joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 BC controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016NU-G1 Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1			
Remarks	Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.			

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg / 0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P96YKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 460 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	96,000	
		kW	28.1	
	(460)	Power input	7.05	
		Current input	9.8	
	(Rated)	*1	BTU/h	92,000
			kW	27.0
(460)	Power input	6.24	6.81	
	Current input	8.7	9.4	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	108,000	
		kW	31.7	
	(460)	Power input	8.28	
		Current input	11.5	
	(Rated)	*2	BTU/h	103,000
			kW	30.2
(460)	Power input	7.80	7.75	
	Current input	10.8	10.8	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	*3 Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06-P96/1~24		
Sound pressure level (measured in anechoic room)	dB <A>	58.0		
Refrigerant piping diameter	High pressure	in. (mm)	3/4 (19.05) Brazed	
	Low pressure	in. (mm)	7/8 (22.2) Brazed	
Minimum Circuit Ampacity	A	15		
Maximum Overcurrent Protection	A	26		
FAN	Type x Quantity	Propeller fan x 1		
	Airflow rate	cfm	6,200	
		m ³ /min	175	
		L/s	2,920	
	Control, Driving mechanism	Inverter-control, Brushless DC motor		
	Motor output	kW	0.92	
*4 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	-	
	Lubricant	MEL32		
External finish	Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>			
External dimension H x W x D	in.	64-31/32 x 48-1/16 x 29-5/32		
	mm	1,650 x 1,220 x 740		
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)	Over heat protection, Over-current protection		
	Fan motor	-		
Refrigerant	Type x original charge	R410A x 26 lbs + 1 oz (11.8 kg)		
	Control	Indoor LEV and BC controller		
Net weight	lbs (kg)	574 (260)		
Heat exchanger	Salt-resistant cross fin & copper tube			
HIC circuit (HIC: Heat Inter-Changer)	-			
Defrosting method	Auto-defrost mode (Reversed refrigerant cycle)			
Drawing	External	KD94R361		
	Wiring	KE94C642		
Standard attachment	Document	Installation Manual		
	Accessory	Details refer to External Drw		
Optional parts	joint: CMY-Y102SS-G2,CMY-Y102LS-G2,CMY-R160-J1 BC controller: CMB-P104,105,106,108,1010,1013,1016NU-G1 Main BC controller: CMB-P108,1010,1013,1016NU-GA1,108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1			
Remarks	Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.			

R2 (K)

Notes:

- Cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)
- Heating conditions (Test conditions are based on AHRI 1230)
Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

* Due to continuing improvement, above specifications may be subject to change without notice.

Unit converter

BTU/h =kW x 3.412
cfm =m³/min x 35.31
lbs =kg /0.4536

*Above specification data is subject to rounding variation.

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P120YKMU-A (-BS)	
Indoor Model		Non-Ducted	Ducted
Power source		3-phase 3-wire 460 V ±10% 60 Hz	
Cooling capacity (Nominal)	*1	BTU/h	120,000
		kW	35.2
	(460)	Power input	9.44
		Current input	13.1
	(Rated)	BTU/h	114,000
		kW	33.4
(460)	Power input	8.78	8.71
	Current input	12.2	12.1
	Temp. range of cooling	Indoor	W.B.
	Outdoor	D.B.	59~75°F (15~24°C) 23~115°F (-5~46°C)
Heating capacity (Nominal)	*2	BTU/h	135,000
		kW	39.6
	(460)	Power input	10.86
		Current input	15.1
	(Rated)	BTU/h	129,000
		kW	37.8
(460)	Power input	10.10	10.23
	Current input	14.0	14.2
	Temp. range of heating	Indoor	D.B.
	Outdoor	W.B.	59~81°F (15~27°C) -13~60°F (-25~15.5°C)
Indoor unit	Total capacity		50~150% of outdoor unit capacity
	Model/Quantity		P06~P96/1~30
Sound pressure level (measured in anechoic room)		dB <A>	60.0
Refrigerant piping diameter	High pressure	in. (mm)	3/4 (19.05) Brazed
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed
Minimum Circuit Ampacity		A	21
Maximum Overcurrent Protection		A	34
FAN	Type x Quantity		Propeller fan x 2
	Airflow rate	cfm	11,300
		m ³ /min	320
		L/s	5,330
	Control, Driving mechanism		Inverter-control, Brushless DC motor
	Motor output	kW	0.92+0.92
*4	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	8.2
	Case heater	kW	-
	Lubricant		MEL32
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>	
External dimension H x W x D		in.	64-31/32 x 68-29/32 x 29-5/32
		mm	1,650 x 1,750 x 740
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection
	Fan motor		-
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)
	Control		Indoor LEV and BC controller
Net weight	lbs (kg)	743 (337)	
Heat exchanger		Salt-resistant cross fin & copper tube	
HIC circuit (HIC: Heat Inter-Changer)		-	
Defrosting method		Auto-defrost mode (Reversed refrigerant cycle)	
Drawing	External		KD94R362
	Wiring		KE94C644
Standard attachment	Document		Installation Manual
	Accessory		Details refer to External Drw
Optional parts		joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 BC controller: CMB-P104,105,106,108,1010,1013,1016NU-G1 Main BC controller: CMB-P108,1010,1013,1016NU-GA1,108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1	
Remarks		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.	

Notes:	Unit converter
1.Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2.Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3.When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg /0.4536
4.External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	*Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P144YKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 460 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	144,000	
		kW	42.2	
	(460)	Power input	11.20	
		Current input	15.6	
	(Rated)	*1	BTU/h	137,000
			kW	40.2
(460)	Power input	10.14	10.60	
	Current input	14.1	14.7	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	160,000	
		kW	46.9	
	(460)	Power input	13.54	
		Current input	18.8	
	(Rated)	*2	BTU/h	152,000
			kW	44.5
(460)	Power input	13.13	12.22	
	Current input	18.3	17.0	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	*3 Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06-P96/1~36		
Sound pressure level (measured in anechoic room)	dB <A>	61.0		
Refrigerant piping diameter	High pressure	in. (mm)	7/8 (22.2) Brazed	
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed	
Minimum Circuit Ampacity	A	24		
Maximum Overcurrent Protection	A	40		
FAN	Type x Quantity		Propeller fan x 2	
	Airflow rate	cfm	11,300	
		m ³ /min	320	
		L/s	5,330	
	Control, Driving mechanism		Inverter-control, Brushless DC motor	
	Motor output	kW	0.92±0.92	
*4 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	9.5	
	Case heater	kW	-	
	Lubricant	MEL32		
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D	in.	64-31/32 x 68-29/32 x 29-5/32		
	mm	1,650 x 1,750 x 740		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection	
	Fan motor		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller	
Net weight	lbs (kg)	743 (337)		
Heat exchanger		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)		-		
Defrosting method		Auto-defrost mode (Reversed refrigerant cycle)		
Drawing	External	KD94R362		
	Wiring	KE94C644		
Standard attachment	Document	Installation Manual		
	Accessory	Details refer to External Drw		
Optional parts		joint: CMY-Y102SS-G2,CMY-Y102LS-G2,CMY-R160-J1 Main BC controller: CMB-P108,1010,1013,1016NU-GA1,108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1		
Remarks		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.		

R2 (K)

Notes:

- Cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)
- Heating conditions (Test conditions are based on AHRI 1230)
Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

* Due to continuing improvement, above specifications may be subject to change without notice.

Unit converter	
BTU/h	=kW x 3.412
cfm	=m ³ /min x 35.31
lbs	=kg /0.4536
*Above specification data is subject to rounding variation.	

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P144YSKMU-A (-BS)			
Indoor Model			Non-Ducted		Ducted	
Power source			3-phase 3-wire 460 V ±10% 60 Hz			
Cooling capacity (Nominal)	*1	BTU/h	144,000			
		kW	42.2			
	(460)	Power input	10.31			
		Current input	14.3			
	(Rated)	*2	BTU/h	137,000		
			kW	40.2		
(460)	Power input	8.87	10.23			
	Current input	12.3	14.2			
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)			
	Outdoor	D.B.	23~115°F (-5~46°C)			
Heating capacity (Nominal)	*2	BTU/h	160,000			
		kW	46.9			
	(460)	Power input	12.54			
		Current input	17.4			
	(Rated)	*3	BTU/h	152,000		
			kW	44.5		
(460)	Power input	11.73	11.74			
	Current input	16.3	16.3			
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)			
	Outdoor	W.B.	-13~60°F (-25~15.5°C)			
Indoor unit	Total capacity	50~150% of outdoor unit capacity				
	Model/Quantity	P06~P96/1~36				
Sound pressure level (measured in anechoic room)		dB <A>	64.0			
Refrigerant piping diameter	High pressure	in. (mm)	7/8 (22.2) Brazed			
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed			

Set Model			PURY-P72YKMU-A(-BS)		PURY-P72YKMU-A(-BS)		
Model			PURY-P72YKMU-A(-BS)		PURY-P72YKMU-A(-BS)		
Minimum Circuit Ampacity			A	11	11		
Maximum Overcurrent Protection			A	17	17		
FAN	Type x Quantity		Propeller fan x 1		Propeller fan x 1		
	Airflow rate	cfm	6,200		6,200		
		m ³ /min	175		175		
		L/s	2,920		2,920		
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor		
	Motor output	kW	0.92		0.92		
*4 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	4.7		4.7		
	Case heater	kW	-		-		
	Lubricant		MEL32		MEL32		
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D			in.	64-31/32 x 48-1/16 x 29-5/32		64-31/32 x 48-1/16 x 29-5/32	
			mm	1,650 x 1,220 x 740		1,650 x 1,220 x 740	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection		
	Fan motor		-		-		
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)		
	Control		Indoor LEV and BC controller				
Net weight			lbs (kg)	534 (242)		534 (242)	
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)			-		-		
Pipe between unit and distributor	High pressure	in. (mm)	5/8 (15.88) Brazed		5/8 (15.88) Brazed		
	Low pressure	in. (mm)	-		3/4 (19.05) Brazed		
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)				
Drawing	External		KD94R355				
	Wiring		KE94C648		KE94C648		
Standard attachment	Document		Installation Manual				
	Accessory		Details refer to External Drw				
Optional parts			Outdoor Twinning kit: CMY-R100CBK2 joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1				
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.				

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg / 0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P168YSKMU-A (-BS)			
Indoor Model			Non-Ducted		Ducted	
Power source			3-phase 3-wire 460 V ±10% 60 Hz			
Cooling capacity (Nominal)	*1	BTU/h	168,000			
		kW	49.2			
		Power input	12.80			
	(460)	Current input	17.8			
		(Rated)	BTU/h	161,000		
			kW	47.2		
Power input	11.80		11.90			
(460)	Current input	16.4	16.5			
	Temp. range of cooling		Indoor	W.B.		
		Outdoor	D.B.			
				59~75°F (15~24°C)		
				23~115°F (-5~46°C)		
Heating capacity (Nominal)	*2	BTU/h	188,000			
		kW	55.1			
		Power input	14.91			
	(460)	Current input	20.7			
		(Rated)	BTU/h	179,000		
			kW	52.5		
Power input	14.43		13.44			
(460)	Current input	20.1	18.7			
	Temp. range of heating		Indoor	D.B.		
		Outdoor	W.B.			
				59~81°F (15~27°C)		
				-13~60°F (-25~15.5°C)		
Indoor unit			Total capacity			
			50~150% of outdoor unit capacity			
			Model/Quantity			
			P06-P96/1-42			
Sound pressure level (measured in anechoic room)			dB <A>		61.0	
Refrigerant piping diameter			High pressure	in. (mm)		
			Low pressure	in. (mm)		
			7/8 (22.2) Brazed			
			1-1/8 (28.58) Brazed			

Set Model			PURY-P96YKMU-A(-BS)			PURY-P72YKMU-A(-BS)		
Model			PURY-P96YKMU-A(-BS)			PURY-P72YKMU-A(-BS)		
Minimum Circuit Ampacity			A			15		
Maximum Overcurrent Protection			A			26		
FAN			Type x Quantity			Propeller fan x 1		
			Airflow rate			Propeller fan x 1		
			cfm			6,200		
			m ³ /min			175		
			L/s			2,920		
			Control, Driving mechanism			Inverter-control, Brushless DC motor		
			Motor output			kW		
			*4			0.92		
			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		
			Case heater			kW		
			Lubricant			MEL32		
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type)			Pre-coated galvanized steel sheet (+powder coating for -BS type)		
			<MUNSELL 5Y 8/1>			<MUNSELL 5Y 8/1>		
External dimension H x W x D			in.			64-31/32 x 48-1/16 x 29-5/32		
			mm			1,650 x 1,220 x 740		
Protection devices			High pressure protection			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
			Inverter circuit (COMP./FAN)			Over heat protection, Over-current protection		
			Fan motor			-		
Refrigerant			Type x original charge			R410A x 26 lbs + 1 oz (11.8 kg)		
			Control			Indoor LEV and BC controller		
Net weight			lbs (kg)			574 (260)		
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)			-			-		
Pipe between unit and distributor			High pressure			in. (mm)		
			Low pressure			in. (mm)		
			3/4 (19.05) Brazed			5/8 (15.88) Brazed		
			-			3/4 (19.05) Brazed		
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)					
Drawing			External			KD94R355		
			Wiring			KE94C642		
Standard attachment			Document			Installation Manual		
			Accessory			Details refer to External Drw		
Optional parts			Outdoor Twinning kit: CMY-R100CBK2					
			joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1					
			Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1					
			Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1					
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.					
			Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s.					
			The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.					

Notes:

- Cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)
- Heating conditions (Test conditions are based on AHRI 1230)
Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

Unit converter	
BTU/h	=kW x 3.412
cfm	=m ³ /min x 35.31
lbs	=kg /0.4536

*Above specification data is subject to rounding variation

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P192YSKMU-A (-BS)			
Indoor Model			Non-Ducted		Ducted	
Power source			3-phase 3-wire 460 V ±10% 60 Hz			
Cooling capacity (Nominal)	*1	BTU/h	192,000			
		kW	56.3			
	(460)	Power input	15.61			
		Current input	21.7			
	(Rated)	*2	BTU/h	183,000		
			kW	53.6		
(460)	Power input	14.61	14.30			
	Current input	20.3	19.9			
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)			
	Outdoor	D.B.	23~115°F (-5~46°C)			
Heating capacity (Nominal)	*2	BTU/h	215,000			
		kW	63.0			
	(460)	Power input	17.20			
		Current input	23.9			
	(Rated)	*3	BTU/h	205,000		
			kW	60.1		
(460)	Power input	16.73	15.34			
	Current input	23.3	21.3			
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)			
	Outdoor	W.B.	-13~60°F (-25~15.5°C)			
Indoor unit	Total capacity	50~150% of outdoor unit capacity				
	Model/Quantity	P06~P96/1~48				
Sound pressure level (measured in anechoic room)		dB <A>	61.0			
Refrigerant piping diameter	High pressure	in. (mm)	7/8 (22.2) Brazed			
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed			

Set Model			PURY-P96YKMU-A(-BS)		PURY-P96YKMU-A(-BS)		
Model			PURY-P96YKMU-A(-BS)		PURY-P96YKMU-A(-BS)		
Minimum Circuit Ampacity			A	15	15		
Maximum Overcurrent Protection			A	26	26		
FAN	Type x Quantity		Propeller fan x 1		Propeller fan x 1		
	Airflow rate	cfm	6,200		6,200		
		m ³ /min	175		175		
		L/s	2,920		2,920		
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor		
	Motor output	kW	0.92		0.92		
*4 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	-		-		
	Lubricant		MEL32		MEL32		
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D			in.	64-31/32 x 48-1/16 x 29-5/32		64-31/32 x 48-1/16 x 29-5/32	
			mm	1,650 x 1,220 x 740		1,650 x 1,220 x 740	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection		
	Fan motor		-		-		
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)		
	Control		Indoor LEV and BC controller				
Net weight			lbs (kg)	574 (260)		574 (260)	
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)			-		-		
Pipe between unit and distributor	High pressure	in. (mm)	3/4 (19.05) Brazed		3/4 (19.05) Brazed		
	Low pressure	in. (mm)	-		7/8 (22.2) Brazed		
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)				
Drawing	External		KD94R355				
	Wiring		KE94C642		KE94C642		
Standard attachment	Document		Installation Manual				
	Accessory		Details refer to External Drw				
Optional parts			Outdoor Twinning kit: CMY-R100CBK2 joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1				
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.				

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg / 0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P216YSKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 460 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	216,000	
		kW	63.3	
	(460)	Power input	18.22	
		Current input	25.4	
	(Rated)		BTU/h	206,000
			kW	60.4
(460)		Power input	17.43	16.31
		Current input	24.3	22.7
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	243,000	
		kW	71.2	
	(460)	Power input	19.89	
		Current input	27.7	
	(Rated)		BTU/h	232,000
			kW	68.0
(460)		Power input	19.20	17.86
		Current input	26.7	24.9
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	*3 Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06~P96/2~50 (Connectable branch pipe number is max. 48.)		
Sound pressure level (measured in anechoic room)	dB <A>	62.5		
Refrigerant piping diameter	High pressure	in. (mm)	1-1/8 (28.58) Brazed	
	Low pressure	in. (mm)	1-1/8 (28.58) Brazed	

Set Model		PURY-P120YKMU-A(-BS)		PURY-P96YKMU-A(-BS)		
Minimum Circuit Ampacity		A	21	15		
Maximum Overcurrent Protection		A	34	26		
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 1	
	Airflow rate	cfm	11,300	6,200		
		m ³ /min	320	175		
		L/s	5,330	2,920		
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor	
	*4	Motor output	kW	0.92+0.92	0.92	
External static press.		0 in.WG (0 Pa)		0 in.WG (0 Pa)		
Compressor		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	8.2	6.7		
Case heater		kW	-	-		
Lubricant		MEL32		MEL32		
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D		in.	64-31/32 x 68-29/32 x 29-5/32	64-31/32 x 48-1/16 x 29-5/32		
		mm	1,650 x 1,750 x 740	1,650 x 1,220 x 740		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection	
	Fan motor		-		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller			
Net weight	lbs (kg)	743 (337)		574 (260)		
Heat exchanger		Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Change)		-		-		
Pipe between unit and distributor	High pressure	in. (mm)	3/4 (19.05) Brazed	3/4 (19.05) Brazed		
	Low pressure	in. (mm)	-	7/8 (22.2) Brazed		
Defrosting method		Auto-defrost mode (Reversed refrigerant cycle)				
Drawing	External	KD94R356				
	Wiring	KE94C644		KE94C642		
Standard attachment	Document	Installation Manual				
	Accessory	Details refer to External Drw				
Optional parts		Outdoor Twinning kit: CMY-R100XLCBK joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1				
Remarks		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.				

R2 (K)

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg / 0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P240YSKMU-A (-BS)			
Indoor Model			Non-Ducted		Ducted	
Power source			3-phase 3-wire 460 V ±10% 60 Hz			
Cooling capacity (Nominal)	*1	BTU/h	240,000			
		kW	70.3			
	(460)	Power input	kW	21.11		
		Current input	A	29.4		
	(Rated)	*1	BTU/h	228,000		
			kW	66.8		
(460)	Power input	kW	20.03		19.06	
	Current input	A	27.9		26.5	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)			
	Outdoor	D.B.	23~115°F (-5~46°C)			
Heating capacity (Nominal)	*2	BTU/h	270,000			
		kW	79.1			
	(460)	Power input	kW	22.73		
		Current input	A	31.6		
	(Rated)	*2	BTU/h	258,000		
			kW	75.6		
(460)	Power input	kW	21.43		20.92	
	Current input	A	29.8		29.1	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)			
	Outdoor	W.B.	-13~60°F (-25~15.5°C)			
Indoor unit	Total capacity		50~150% of outdoor unit capacity			
	Model/Quantity		P06~P96/2~50 (Connectable branch pipe number is max. 48.)			
Sound pressure level (measured in anechoic room)		dB <A>	63.0			
Refrigerant piping diameter	High pressure	in. (mm)	1-1/8 (28.58) Brazed			
	Low pressure	in. (mm)	1-3/8 (34.93) Brazed			

Set Model			PURY-P120YKMU-A(-BS)		PURY-P120YKMU-A(-BS)		
Model			PURY-P120YKMU-A(-BS)		PURY-P120YKMU-A(-BS)		
Minimum Circuit Ampacity		A	21		21		
Maximum Overcurrent Protection		A	34		34		
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 2		
	Airflow rate	cfm	11,300		11,300		
		m ³ /min	320		320		
		L/s	5,330		5,330		
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor		
	*4 Motor output		kW	0.92+0.92		0.92+0.92	
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	8.2		8.2	
	Case heater		kW	-		-	
	Lubricant			MEL32		MEL32	
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D		in.	64-31/32 x 68-29/32 x 29-5/32		64-31/32 x 68-29/32 x 29-5/32		
		mm	1,650 x 1,750 x 740		1,650 x 1,750 x 740		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection		
	Fan motor		-		-		
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)		
	Control		Indoor LEV and BC controller				
Net weight		lbs (kg)	743 (337)		743 (337)		
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)			-				
Pipe between unit and distributor	High pressure	in. (mm)	3/4 (19.05) Brazed		3/4 (19.05) Brazed		
	Low pressure	in. (mm)	-		1-1/8 (28.58) Brazed		
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)				
Drawing	External		KD94R357				
	Wiring		KE94C644		KE94C644		
Standard attachment	Document		Installation Manual				
	Accessory		Details refer to External Drw				
Optional parts			Outdoor Twinning kit: CMY-R100XLCBK joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1013, 1016NU-GA1, 108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1				
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor units. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.				

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg /0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

R2 (K)

1. SPECIFICATIONS

Outdoor units

Outdoor Model		PURY-P264YSKMU-A (-BS)		
Indoor Model		Non-Ducted	Ducted	
Power source		3-phase 3-wire 460 V ±10% 60 Hz		
Cooling capacity (Nominal)	*1	BTU/h	264,000	
		kW	77.4	
	(460)	Power input	kW	23.05
		Current input	A	32.1
		(Rated)	BTU/h	251,000
	kW		73.6	
(460)	Power input	kW	21.89	
	Current input	A	20.79	
			28.9	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)	
	Outdoor	D.B.	23~115°F (-5~46°C)	
Heating capacity (Nominal)	*2	BTU/h	295,000	
		kW	86.5	
	(460)	Power input	kW	25.37
		Current input	A	35.3
		(Rated)	BTU/h	281,000
	kW		82.4	
(460)	Power input	kW	24.65	
	Current input	A	22.64	
			31.5	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Outdoor	W.B.	-13~60°F (-25~15.5°C)	
Indoor unit	Total capacity	50~150% of outdoor unit capacity		
	Model/Quantity	P06~P96/2~50 (Connectable branch pipe number is max. 48.)		
Sound pressure level (measured in anechoic room)	dB <A>	63.5		
Refrigerant piping diameter	High pressure	in. (mm)	1-1/8 (28.58) Brazed	
	Low pressure	in. (mm)	1-3/8 (34.93) Brazed	
Set Model				

Model		PURY-P144YKMU-A(-BS)		PURY-P120YKMU-A(-BS)		
Minimum Circuit Ampacity		A	24	21		
Maximum Overcurrent Protection		A	40	34		
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 2	
	Airflow rate	cfm	11,300	11,300		
		m ³ /min	320	320		
		L/s	5,330	5,330		
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor	
	Motor output	kW	0.92+0.92	0.92+0.92		
*4	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	9.5	8.2		
	Case heater	kW	-	-		
	Lubricant		MEL32		MEL32	
External finish		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D		in.	64-31/32 x 68-29/32 x 29-5/32	64-31/32 x 68-29/32 x 29-5/32		
		mm	1,650 x 1,750 x 740	1,650 x 1,750 x 740		
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection	
	Fan motor		-		-	
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)	
	Control		Indoor LEV and BC controller			
Net weight	lbs (kg)	743 (337)		743 (337)		
Heat exchanger		Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)		-		-		
Pipe between unit and distributor	High pressure	in. (mm)	7/8 (22.2) Brazed	3/4 (19.05) Brazed		
	Low pressure	in. (mm)	-	1-1/8 (28.58) Brazed		
Defrosting method		Auto-defrost mode (Reversed refrigerant cycle)				
Drawing	External	KD94R357				
	Wiring	KE94C644		KE94C644		
Standard attachment	Document	Installation Manual				
	Accessory	Details refer to External Drw				
Optional parts		Outdoor Twinning kit: CMY-R100XLCBK joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108,1010,1016NU-HA1 Sub BC controller: CMB-P104,108NU-GB1,CMB-P1016NU-HB1				
Remarks		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor unit/s. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.				

R2 (K)

Notes:

- Cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)
- Heating conditions (Test conditions are based on AHRI 1230)
Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)
- When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).

* Due to continuing improvement, above specifications may be subject to change without notice.

Unit converter	
BTU/h	=kW x 3.412
cfm	=m ³ /min x 35.31
lbs	=kg /0.4536

*Above specification data is subject to rounding variation.

1. SPECIFICATIONS

Outdoor units

Outdoor Model			PURY-P288YSKMU-A (-BS)			
Indoor Model			Non-Ducted		Ducted	
Power source			3-phase 3-wire 460 V ±10% 60 Hz			
Cooling capacity (Nominal)	*1	BTU/h	288,000			
		kW	84.4			
		Power input kW	24.57			
	(460)	(Rated)	Current input A	34.2		
			BTU/h	274,000		
			kW	80.3		
(460)	(Rated)	Power input kW	23.24	22.26		
		Current input A	32.4	31.0		
		D.B.	59~75°F (15~24°C)			
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24°C)			
	Outdoor	D.B.	23~115°F (-5~46°C)			
Heating capacity (Nominal)	*2	BTU/h	320,000			
		kW	93.8			
		Power input kW	27.62			
	(460)	(Rated)	Current input A	38.5		
			BTU/h	304,000		
			kW	89.1		
(460)	(Rated)	Power input kW	26.83	24.40		
		Current input A	37.4	34.0		
		D.B.	59~81°F (15~27°C)			
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)			
	Outdoor	W.B.	-13~60°F (-25~15.5°C)			
Indoor unit	Total capacity		50~150% of outdoor unit capacity			
	Model/Quantity		P06~P96/2~50 (Connectable branch pipe number is max. 48.)			
Sound pressure level (measured in anechoic room)		dB <A>	64.0			
Refrigerant piping diameter	High pressure		1-1/8 (28.58) Brazed			
	Low pressure		1-3/8 (34.93) Brazed			

Set Model			PURY-P144YKMU-A(-BS)		PURY-P144YKMU-A(-BS)		
Model			PURY-P144YKMU-A(-BS)		PURY-P144YKMU-A(-BS)		
Minimum Circuit Ampacity			A	24	24		
Maximum Overcurrent Protection			A	40	40		
FAN	Type x Quantity		Propeller fan x 2		Propeller fan x 2		
	Airflow rate	cfm	11,300		11,300		
		m ³ /min	320		320		
		L/s	5,330		5,330		
	Control, Driving mechanism		Inverter-control, Brushless DC motor		Inverter-control, Brushless DC motor		
	Motor output		kW	0.92+0.92		0.92+0.92	
*4 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	9.5		9.5	
	Case heater		kW	-		-	
	Lubricant		MEL32		MEL32		
External finish			Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		Pre-coated galvanized steel sheet (+powder coating for -BS type) <MUNSELL 5Y 8/1>		
External dimension H x W x D			in.	64-31/32 x 68-29/32 x 29-5/32		64-31/32 x 68-29/32 x 29-5/32	
			mm	1,650 x 1,750 x 740		1,650 x 1,750 x 740	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over heat protection, Over-current protection		Over heat protection, Over-current protection		
	Fan motor		-		-		
Refrigerant	Type x original charge		R410A x 26 lbs + 1 oz (11.8 kg)		R410A x 26 lbs + 1 oz (11.8 kg)		
	Control		Indoor LEV and BC controller				
Net weight			lbs (kg)	743 (337)		743 (337)	
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		
HIC circuit (HIC: Heat Inter-Changer)			-		-		
Pipe between unit and distributor	High pressure		in. (mm)	7/8 (22.2) Brazed		7/8 (22.2) Brazed	
	Low pressure		in. (mm)	-		1-1/8 (28.58) Brazed	
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)				
Drawing	External		KD94R357				
	Wiring		KE94C644		KE94C644		
Standard attachment	Document		Installation Manual				
	Accessory		Details refer to External Drw				
Optional parts			Outdoor Twinning kit: CMY-R100XLCBK joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-R160-J1 Main BC controller: CMB-P108, 1010, 1016NU-HA1 Sub BC controller: CMB-P104, 108NU-GB1, CMB-P1016NU-HB1				
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. Systems with considerably long pipe runs, in heating mode, may be subject to slightly louder than normal noise from the outdoor units. The outdoor twinning kit (low pressure) should be connected to the low pressure side of the outdoor unit. If the connected units are of different capacities, the outdoor twinning kit (low pressure) should be installed in the unit with the largest capacity.				

Notes:	Unit converter
1. Cooling conditions (Test conditions are based on AHRI 1230) Indoor: 80°F D.B./67°F W.B. (26.7°C D.B./19.4°C W.B.), Outdoor: 95°F D.B. (35°C D.B.)	BTU/h = kW x 3.412
2. Heating conditions (Test conditions are based on AHRI 1230) Indoor: 70°F D.B. (21.1°C D.B.), Outdoor: 47°F D.B./43°F W.B. (8.3°C D.B./6.1°C W.B.)	cfm = m ³ /min x 35.31
3. When applying product below -4°F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.	lbs = kg / 0.4536
4. External static pressure option is available (0.12 in.WG, 0.24 in.WG/30 Pa, 60 Pa).	
* Due to continuing improvement, above specifications may be subject to change without notice.	* Above specification data is subject to rounding variation.

R2 (K)

PURY-P72,96TKMU-A(-BS)

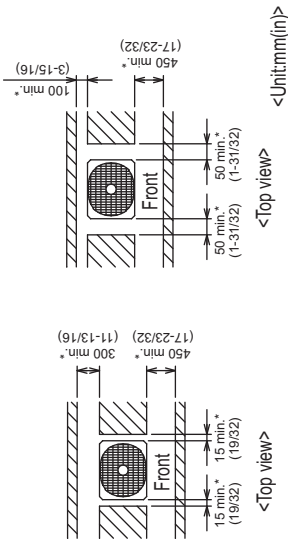
R2 (K)

1.Required space around the unit

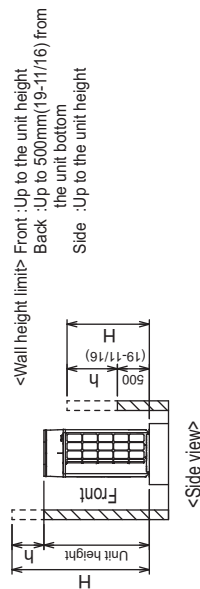
● In case of single installation

- 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



- 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.

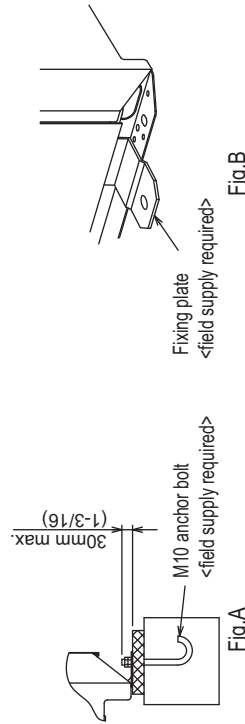
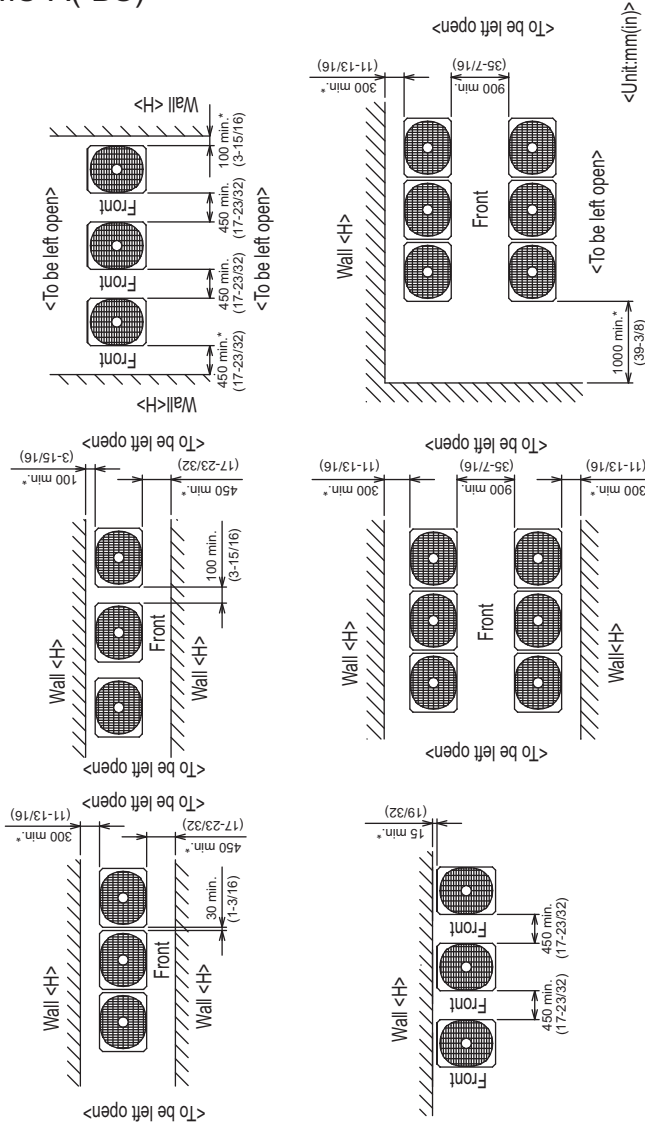


2.Foundation work

- 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 >
- 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.
- The protrusion length of the anchor bolt must not exceed 30mm(1-3/16). (Fig.A)
- Use four fixing plates as shown in the right figure <field supply required> when using post-installed anchor bolts. (Fig.B)
- 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>.
- 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.
- Refer to the Installation Manual when installing units on an installation base.

● In case of collective installation

- 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.
- At least two sides must be left open.
- As with the single installation, add the height that exceeds the height limit <h> to the figures that are marked with an asterisk.
- 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.)

PURY-P120,144TKMU-A(-BS)

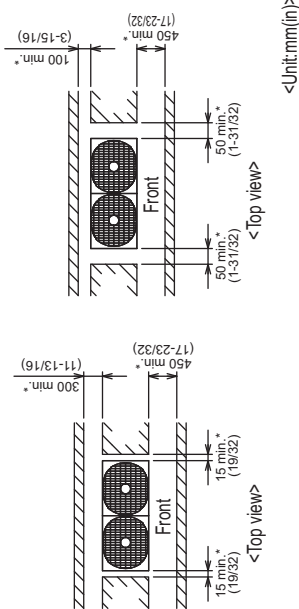
Unit : mm(in.)

R2 (K)

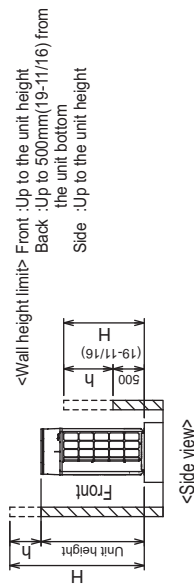
1. Required space around the unit

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



- 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.



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.

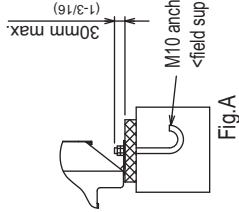


Fig.A

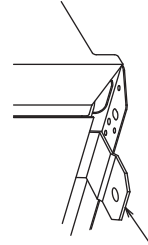


Fig.B

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 three units consecutively in the side direction and provide a space of 1000mm or more as inlet space/ passage space for each three units.

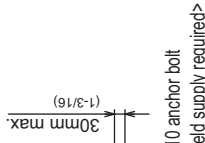
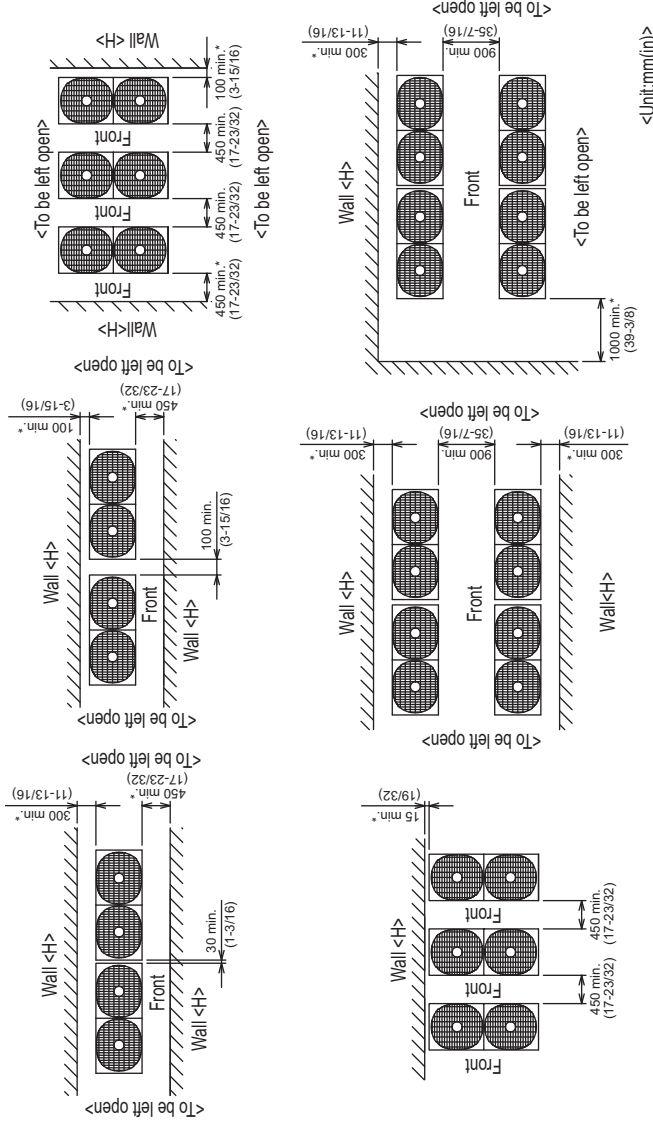


Fig.A

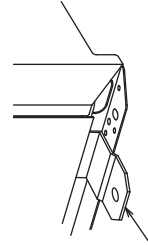


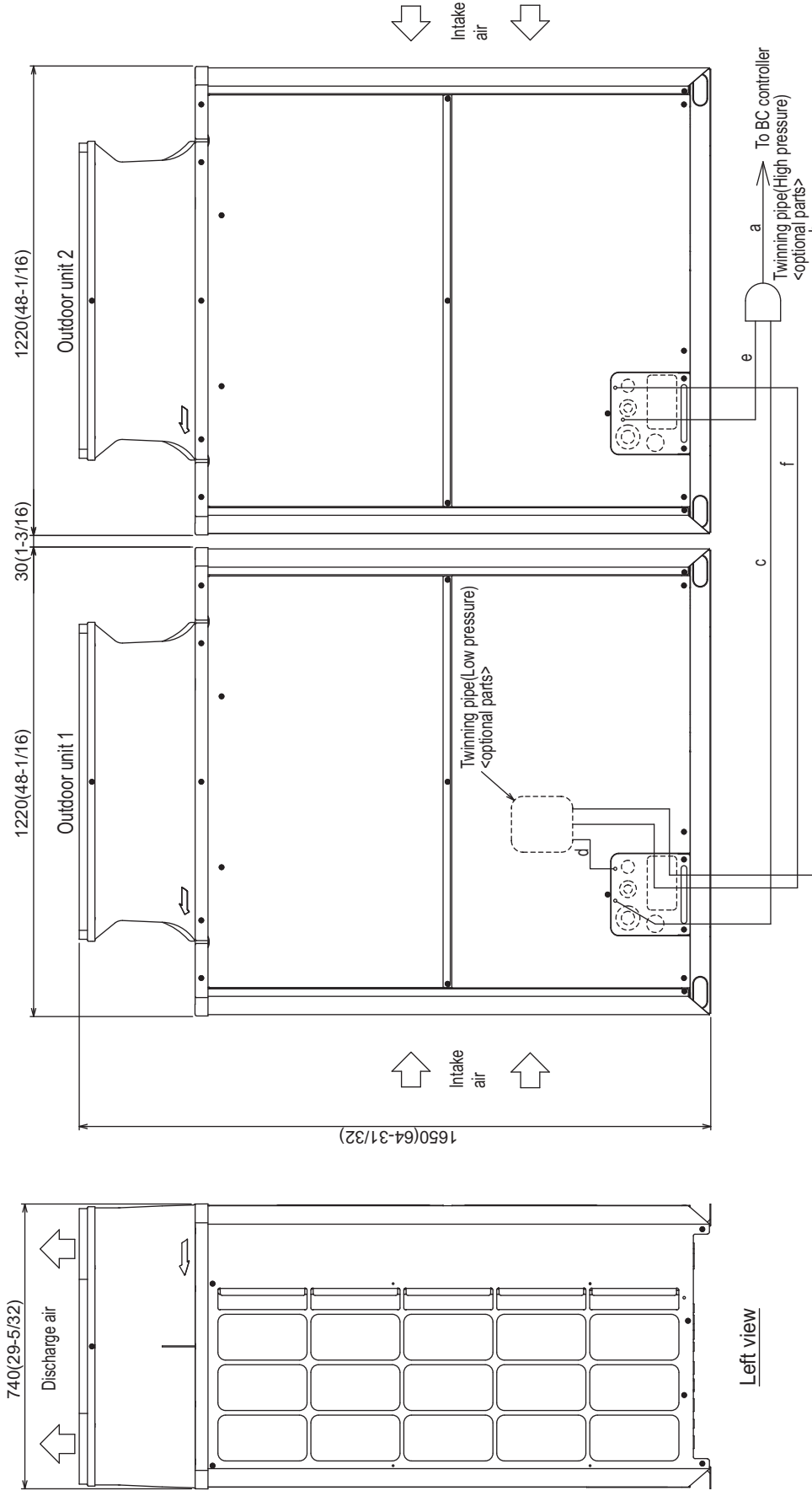
Fig.B

2. EXTERNAL DIMENSIONS

Outdoor units

PURY-P168,192TSKMU-A(-BS)

Unit : mm(in.)



Front view

Left view

Twinning pipe connection size

Package unit name	PURY-P168TSKMU-A(-BS)	PURY-P192TSKMU-A(-BS)
Outdoor unit 1	PURY-P96TKMU-A(-BS)	PURY-P96TKMU-A(-BS)
Outdoor unit 2	PURY-P72TKMU-A(-BS)	PURY-P96TKMU-A(-BS)
Outdoor Twinning Kit(optional parts)	CMY-R100CBK2	
BC controller~Twinning pipe	High pressure	a
	Low pressure	b
		ø22.2(7/8)
		ø28.58(1-1/8)

Unit model	P168	P192
Component unit model	P96	P96
Twinning Kit ~Outdoor unit	High pressure	c
	Low pressure	d
	e	e
	f	f

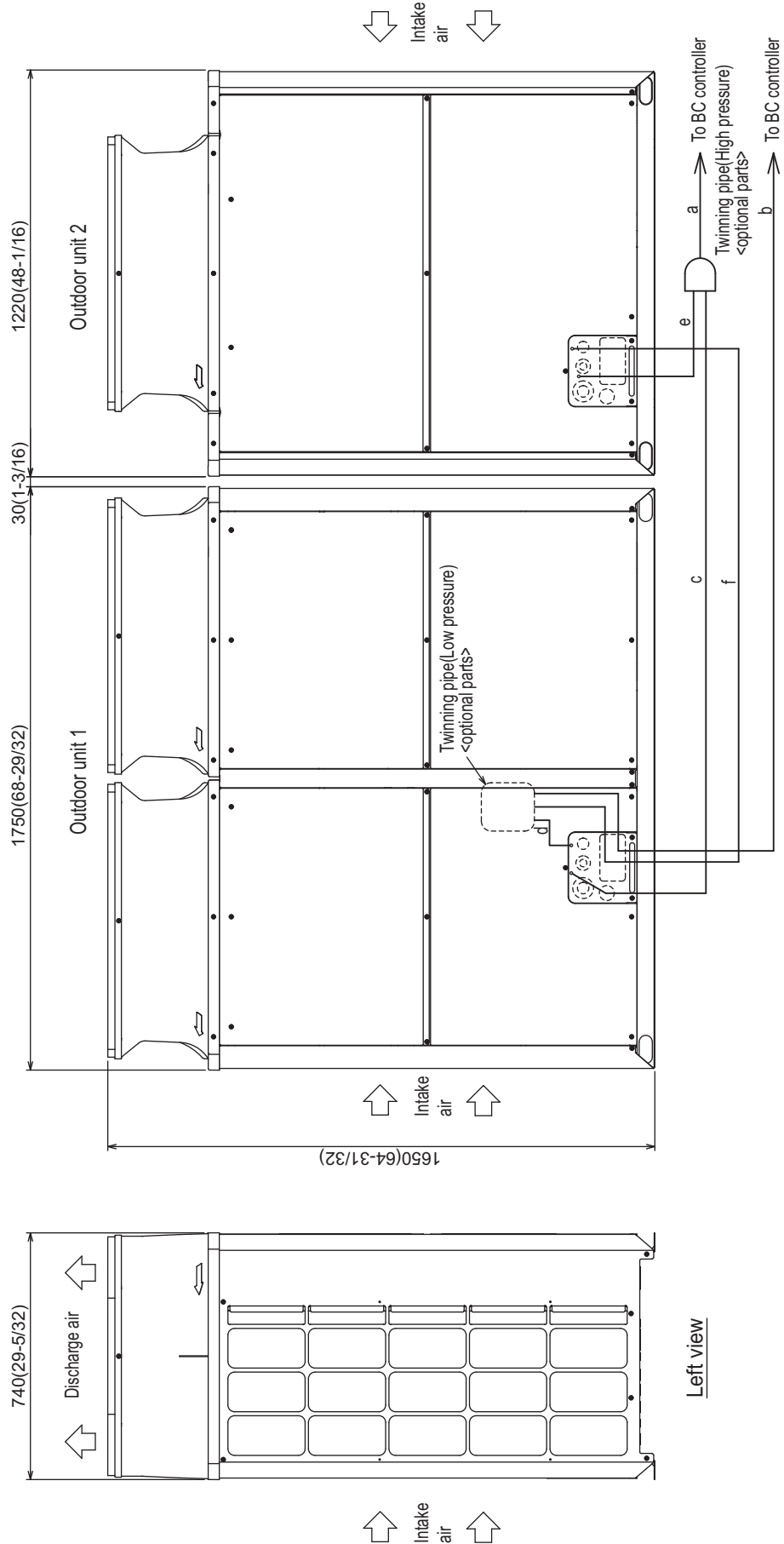
- Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.
 2. Twinning pipe (High pressure) should not be tilted more than 15 degrees from the horizontal plane.
 Be sure to see the Installation Manual for details of Twinning pipe installation.
 3. The pipe section before the Twinning pipe (section "a" 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).
 5. Connect the outdoor unit 1 with the Twinning pipe (Low pressure) (section "d" in the figure).

2. EXTERNAL DIMENSIONS

Outdoor units

PURY-P216TSKMU-A(-BS)

Unit : mm(in.)



Front view

Left view

Twinning pipe connection size

Package unit name	PURY-P216TSKMU-A(-BS)	P216	
Component unit name	Outdoor unit 1 Outdoor unit 2	P120	P96
Outdoor Twinning Kit(optional parts)	CMY-R100XLCBK	c	e
BC controller~ Twinning pipe	High pressure Low pressure	ø19.05(3/4)	ø19.05(3/4)
	ø28.58(1-1/8)	d	f
	ø28.58(1-1/8)	- (Note 5)	ø22.2(7/8)

Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.

2. Twinning pipe (High pressure) 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 (section "a" 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).

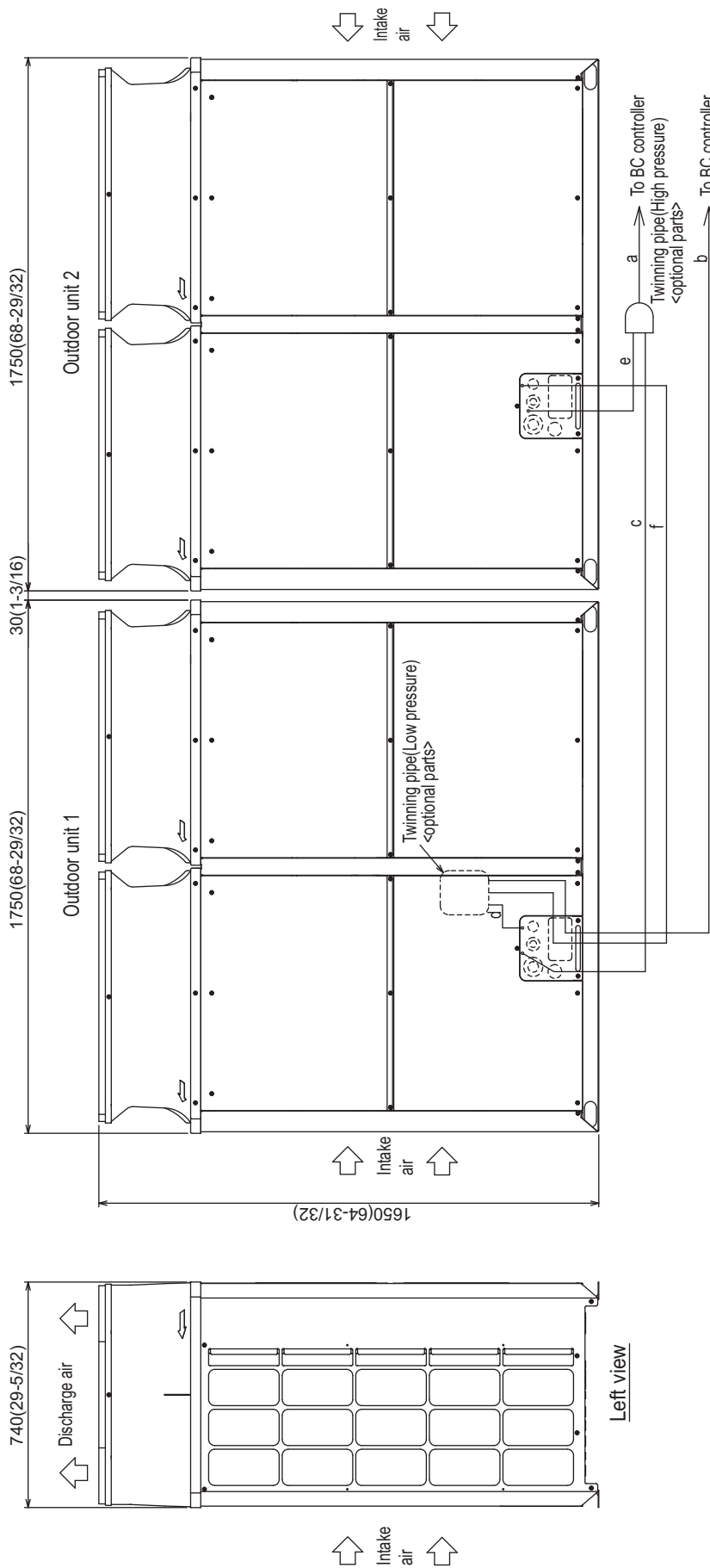
5. Connect the outdoor unit 1 with the Twinning pipe (Low pressure) (section "d" in the figure).

2. EXTERNAL DIMENSIONS

Outdoor units

PURY-P240,264,288TSKMU-A(-BS)

Unit : mm(in.)



Front view

Twinning pipe connection size

Package unit name	PURY-P240T(SKMU-A(-BS))	PURY-P264T(SKMU-A(-BS))	PURY-P288T(SKMU-A(-BS))
Outdoor unit 1	PURY-P120T(KMU-A(-BS))	PURY-P144T(KMU-A(-BS))	PURY-P144T(KMU-A(-BS))
Outdoor unit 2	PURY-P120T(KMU-A(-BS))	PURY-P144T(KMU-A(-BS))	PURY-P144T(KMU-A(-BS))
Outdoor Twinning Kit(optional parts)	CMY-R100XLCBK		
BC controller~Twinning pipe	High pressure	a	b
	Low pressure	c	d

- Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.
 2. Twinning pipe (High pressure) 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 (section "a" 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).
 5. Connect the outdoor unit 1 with the Twinning pipe (Low pressure) (section "d" in the figure).

2. EXTERNAL DIMENSIONS

Outdoor units

PURY-P72,96YKMU-A(-BS)

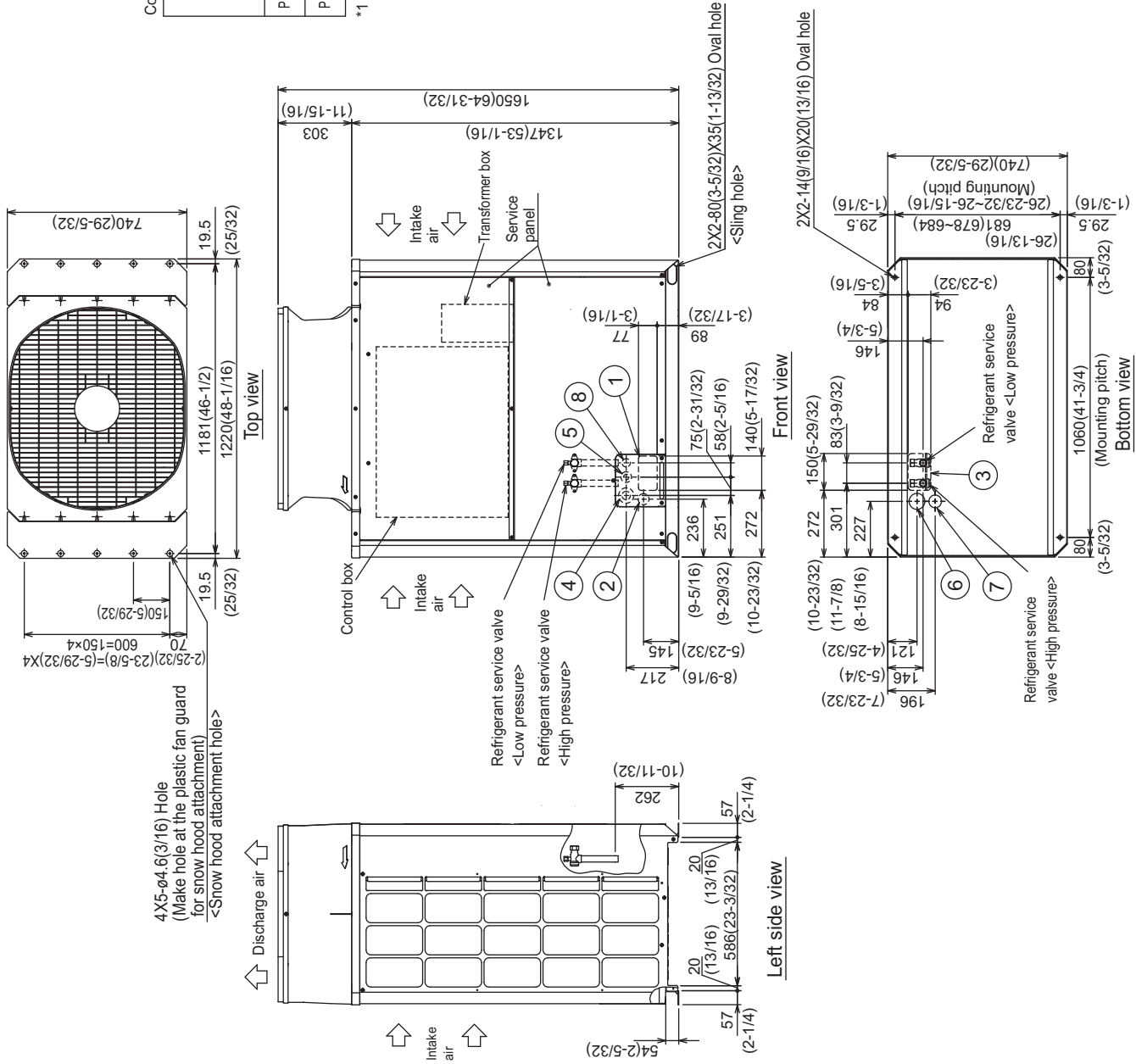
Note 1. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.
 2. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).

Connecting pipe specifications

Model	Diameter			
	High pressure	Low pressure	High pressure	Low pressure
PURY-P72YKMU	ø15.88 Braze (5/8) *1	ø19.05 Braze (3/4) *1	ø25.4 (1)	ø25.4 (1)
PURY-P96YKMU	ø19.05 Braze (3/4) *1	ø22.2 Braze (7/8) *1	ø25.4 (1)	ø25.4 (1)

*1 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

R2 (K)



Unit : mm(in.)

NO.	Usage	Specifications
①	Front through hole	140 x 77 Knockout hole (5-17/32)(3-1/16)
②	Front through hole (Uses when twinning kit (optional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 x 94 Knockout hole (5-29/32)(3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32)(1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4)(7/8)
⑥	Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	Front through hole	ø34 Knockout hole (1-11/32)

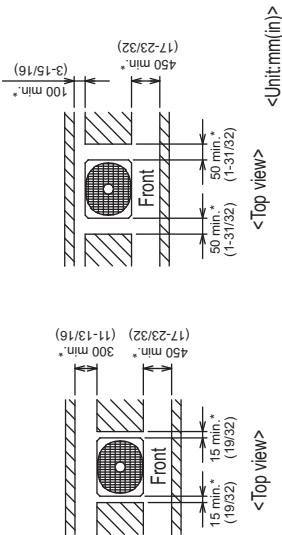
PURY-P72,96YKMU-A(-BS)

Unit : mm(in.)

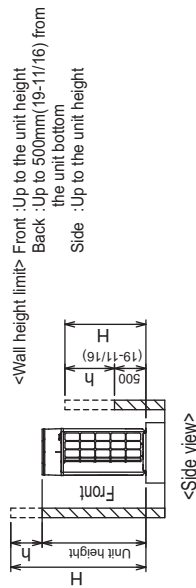
1. Required space around the unit

● In case of single installation

- 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



- 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.



2. Foundation work

- 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.>
- 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.
- The protrusion length of the anchor bolt must not exceed 30mm(1-3/16).(Fig.A)
- Use four fixing plates as shown in the right figure <field supply required> when using post-installed anchor bolts.(Fig.B)
- 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>.
- 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.
- Refer to the Installation Manual when installing units on an installation base.

● In case of collective installation

- 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.
- At least two sides must be left open.
- As with the single installation, add the height that exceeds the height limit <h> to the figures that are marked with an asterisk.
- 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.

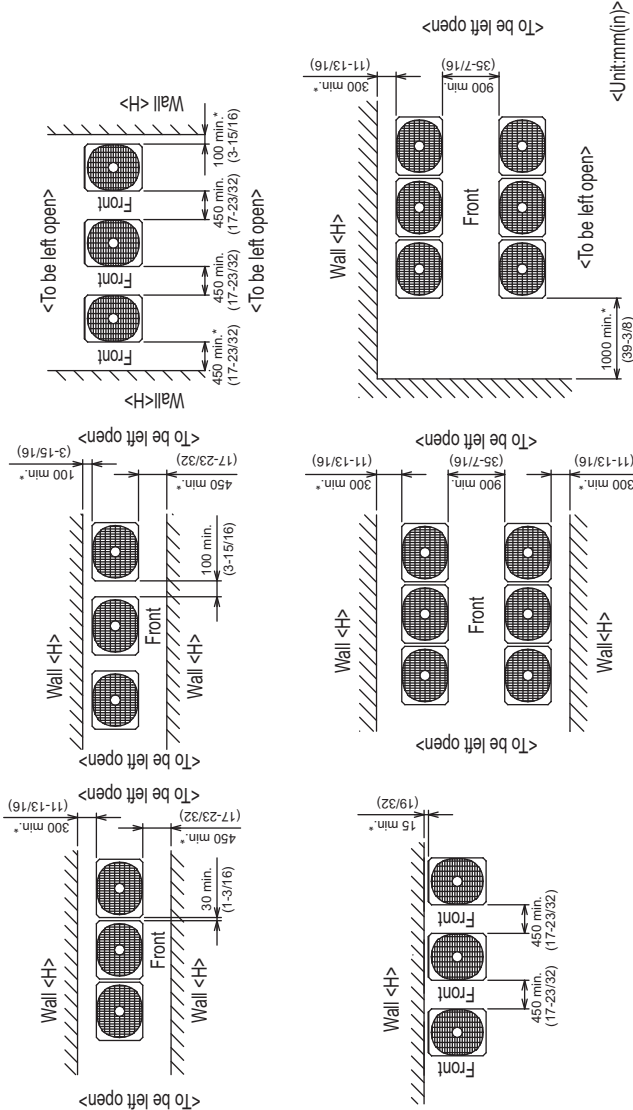


Fig.B

2. EXTERNAL DIMENSIONS

Outdoor units

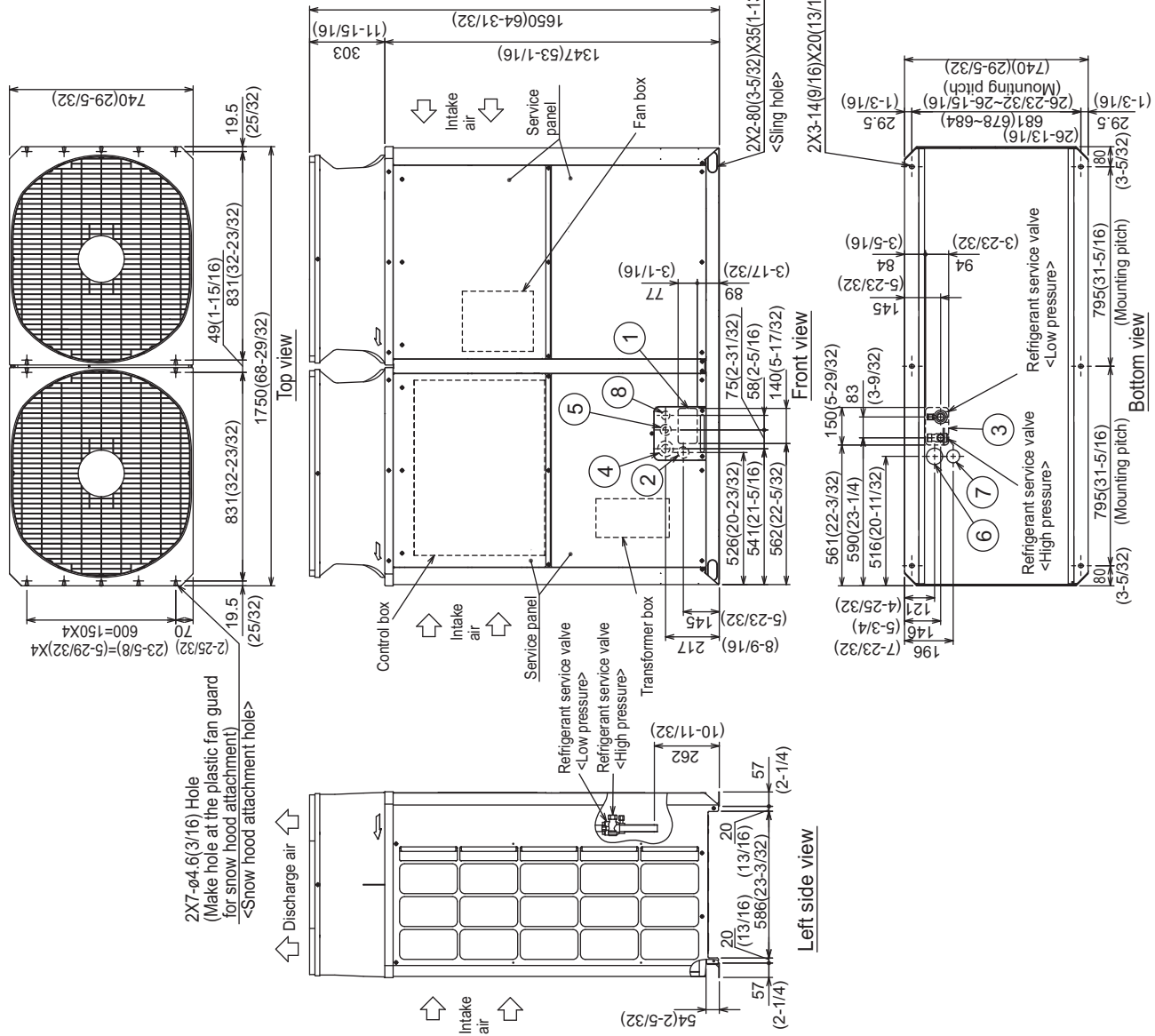
PURY-P120,144YKMU-A-(BS)

Note 1. 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).

Connecting pipe specifications

Model	Diameter			
	High pressure	Low pressure	High pressure	Low pressure
PURY-P120YKMU	ø19.05 Brazed (3/4) *2	ø28.58 Brazed (1-1/8) *1	ø25.4 (1)	ø28.58 (1-1/8)
PURY-P144YKMU	ø22.2 Brazed (7/8) *2	ø28.58 Brazed (1-1/8) *1	ø25.4 (1)	ø28.58 (1-1/8)

*1 Expand the on-site piping and connect to the refrigerant service valve piping.
 *2 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.



Unit : mm(in.)

NO.	Usage	Specifications
①	Front through hole	140 x 77 Knockout hole (5-17/32)(3-1/16)
②	Front through hole (Uses when twinning kit (optional parts) is mounted.)	ø45 Knockout hole (1-25/32)
③	Bottom through hole	150 x 94 Knockout hole (5-29/32)(3-23/32)
④	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32)(1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4)(7/8)
⑥	Bottom through hole	ø65 Knockout hole (2-9/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	Front through hole	ø34 Knockout hole (1-11/32)

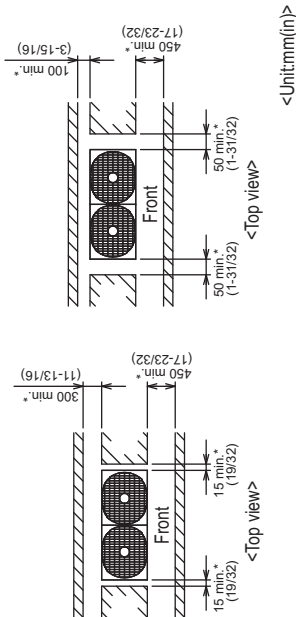
PURY-P120,144YKMU-A(-BS)

Unit : mm(in.)

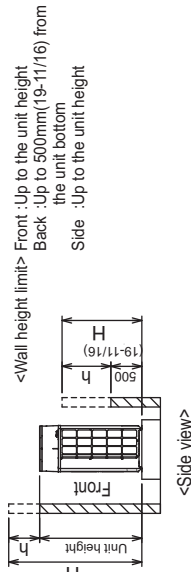
1.Required space around the unit

● 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



- 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.



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.

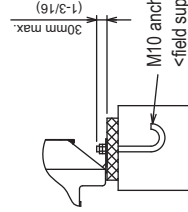


Fig.A

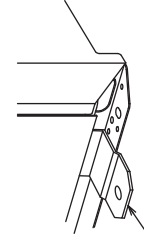
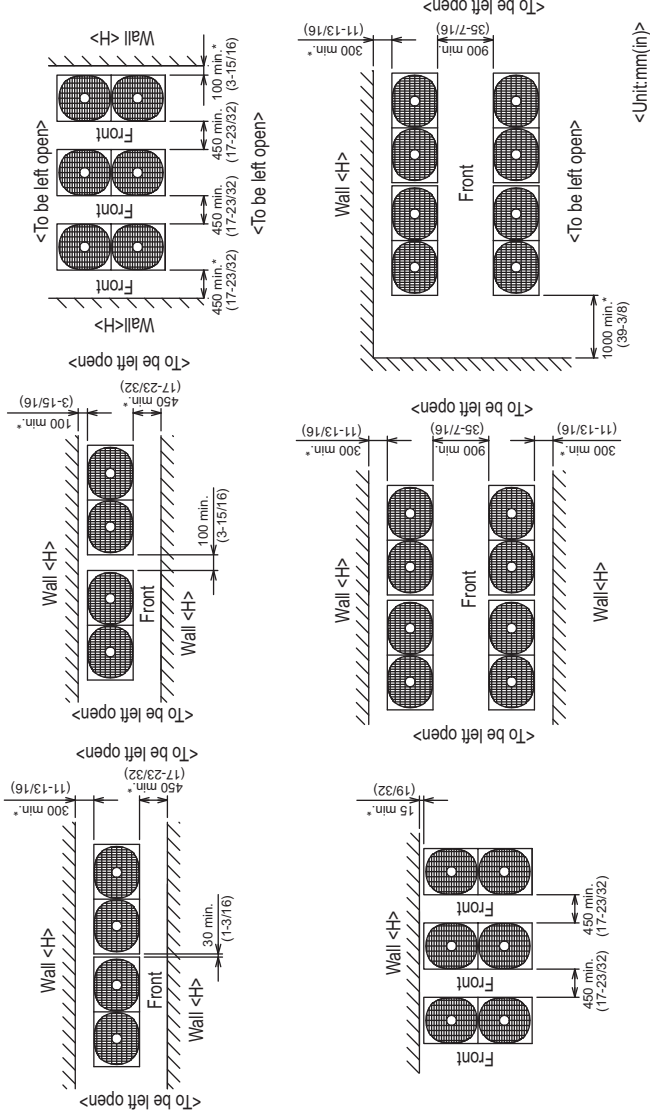


Fig.B

● In case of collective installation

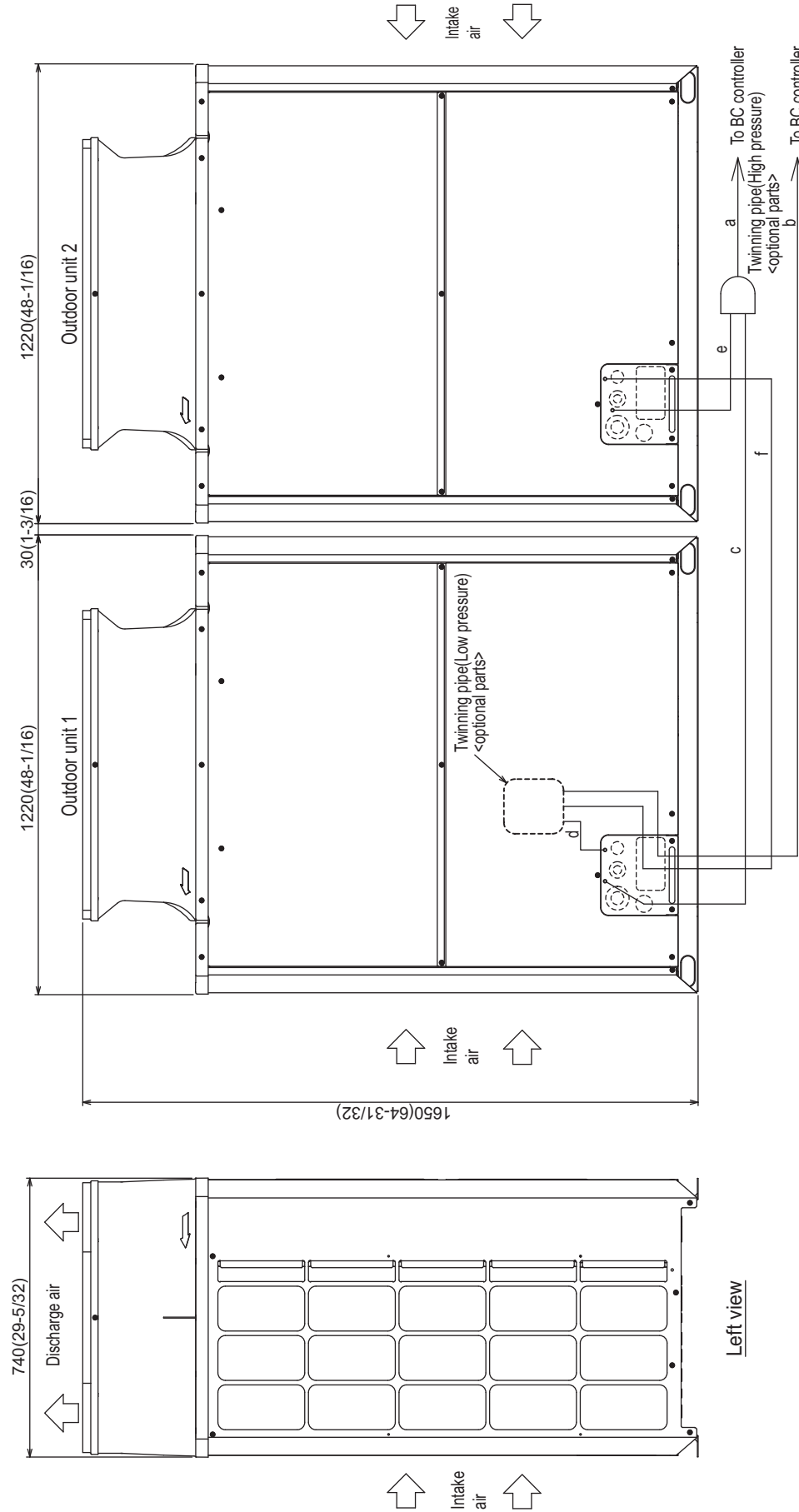
- ① When multiple units are installed adjacent to each other, secure enough space to allow for air circulation and walkway between groups of units as shown in the figures below.
- ② At least two sides must be left open.
- ③ As with the single installation, add the height that exceeds the height limit <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 three units consecutively in the side direction and provide a space of 1000mm or more as inlet space/ passage space for each three units.



2. EXTERNAL DIMENSIONS

Outdoor units

PURY-P144,168,192YSKMU-A(-BS)



Twining pipe connection size

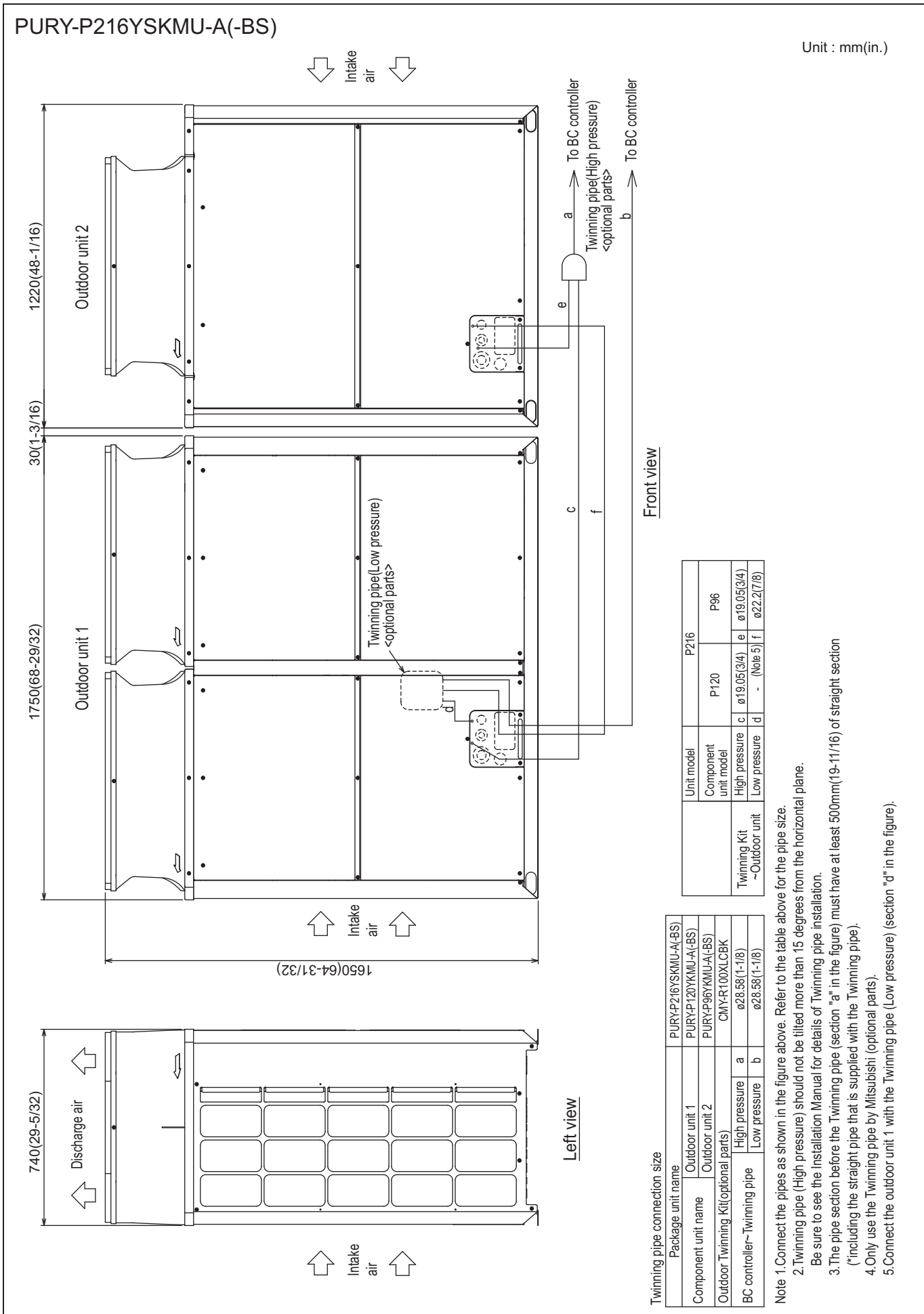
Package unit name	PURY-P144YSKMU-A(-BS)	PURY-P168YSKMU-A(-BS)	PURY-P192YSKMU-A(-BS)
Component unit name	Outdoor unit 1	Outdoor unit 2	Outdoor unit 2
Outdoor Twining Kit(optional parts)	CMY-R100CBK2		
BC controller~ Twining pipe	ø22.2(7/8)		
High pressure	a	b	c
Low pressure	d	e	f

Unit model	P144	P168	P192
Component unit model	P72	P72	P96
High pressure	c ø15.88(5/8)	e ø15.88(5/8)	c ø15.88(5/8)
Low pressure	d - (Note 5)	f ø19.05(3/4)	d - (Note 5)

Unit : mm(in.)

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

2. EXTERNAL DIMENSIONS

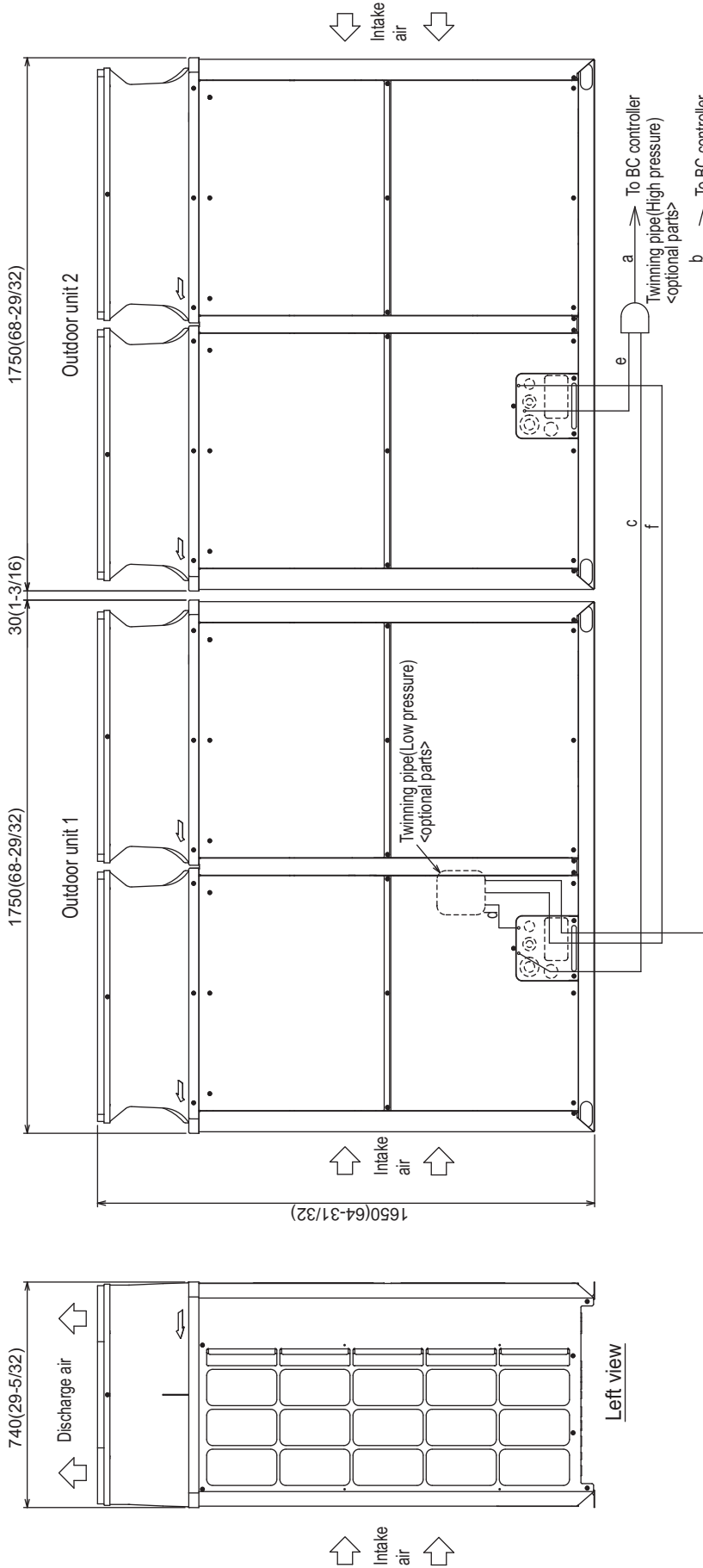


2. EXTERNAL DIMENSIONS

Outdoor units

PURY-P240,264,288YSKMU-A(-BS)

Unit : mm(in.)



Front view

Twinning pipe connection size

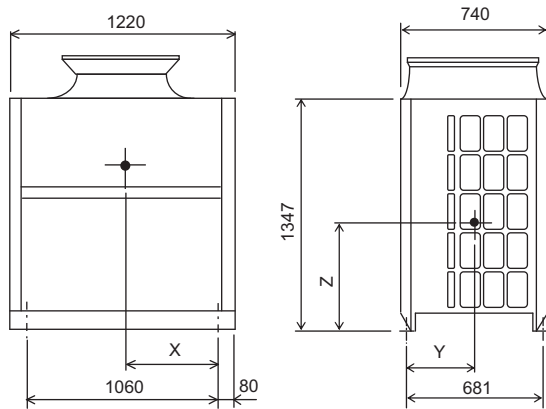
Package unit name	PURY-P240YSKMU-A(-BS)	PURY-P264YSKMU-A(-BS)	PURY-P288YSKMU-A(-BS)
Outdoor unit 1	PURY-P120YKMU-A(-BS)	PURY-P144YKMU-A(-BS)	PURY-P144YKMU-A(-BS)
Outdoor unit 2	PURY-P120YKMU-A(-BS)	PURY-P144YKMU-A(-BS)	PURY-P144YKMU-A(-BS)
Outdoor Twinning Kit(optional parts)	CMY-R100XL CBK		
BC controller-Twinning pipe	High pressure	a	ø28.58(1-1/8)
	Low pressure	b	ø34.93(1-3/8)

Twinning Kit ~Outdoor unit	P240		P264		P288	
	Component unit model	Unit model	Component unit model	Unit model	Component unit model	Unit model
High pressure	c	ø19.05(3/4)	e	ø19.05(3/4)	c	ø19.05(3/4)
Low pressure	d	- (Note 5)	f	ø28.58(1-1/8)	d	- (Note 5)

- Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.
 2. Twinning pipe (High pressure) 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 (section "a" 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).
 5. Connect the outdoor unit 1 with the Twinning pipe (Low pressure) (section "d" in the figure).

3. CENTER OF GRAVITY

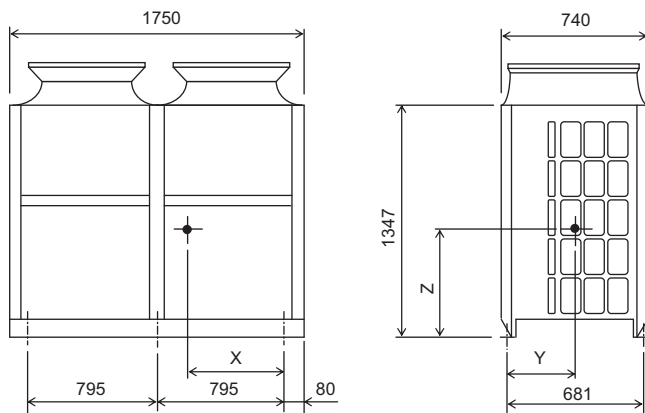
PURY-P72, 96TKMU-A (-BS)
 PURY-P72, 96YKMU-A (-BS)



Unit : mm[in.]

Model	X	Y	Z
PURY-P72TKMU-A	460[18-1/8]	320[12-5/8]	609[23]
PURY-P96TKMU-A	447[17-5/8]	311[12-1/4]	595[23-7/16]
PURY-P72YKMU-A	447[17-5/8]	310[12-7/32]	623[24-17/32]
PURY-P96YKMU-A	435[17-5/32]	302[11-29/32]	610[24-1/32]

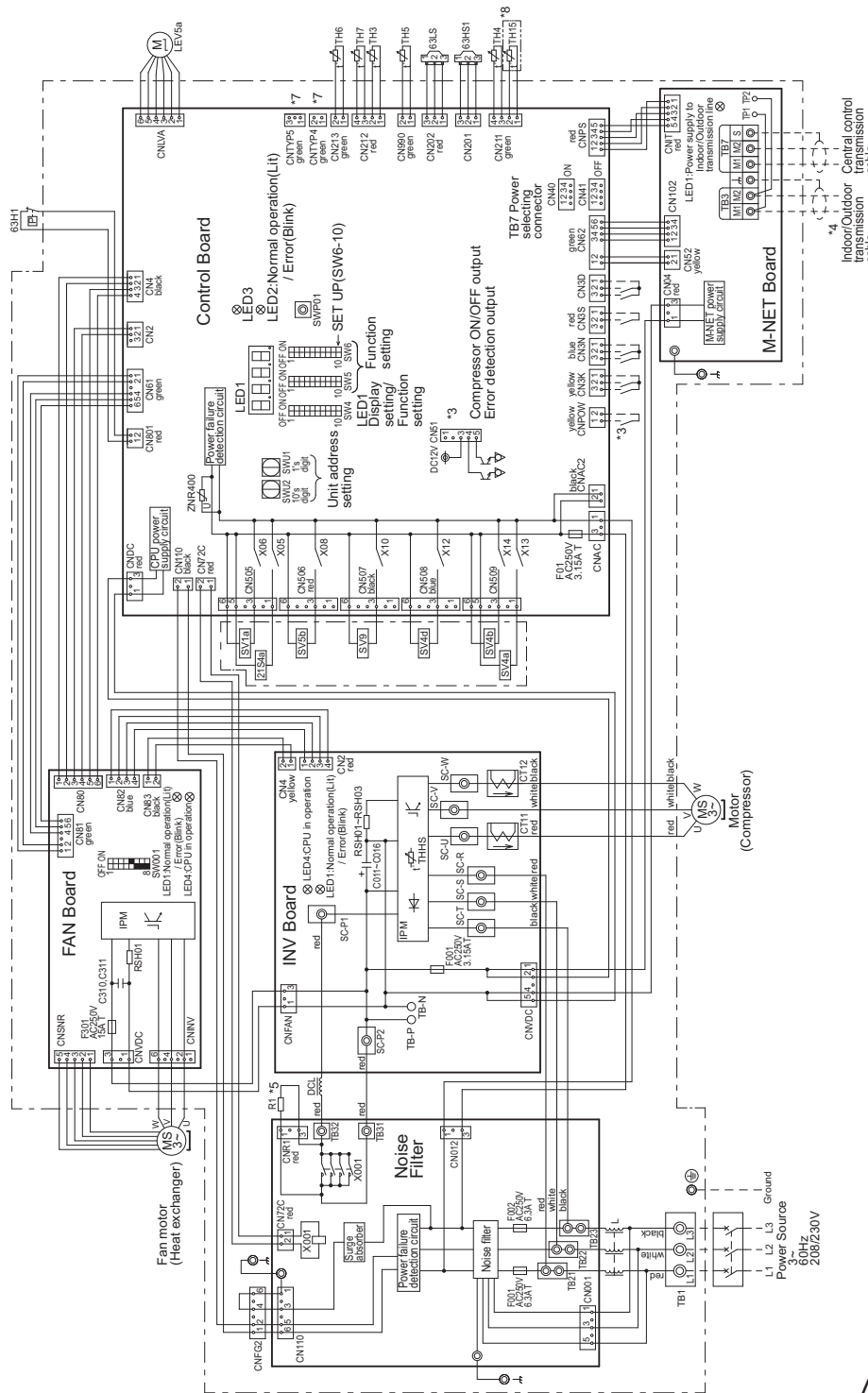
PURY-P120, 144TKMU-A (-BS)
 PURY-P120, 144YKMU-A (-BS)



Unit : mm[in.]

Model	X	Y	Z
PURY-P120TKMU-A	702[27-21/32]	327[12-7/8]	657[25-7/8]
PURY-P144TKMU-A	702[27-21/32]	327[12-7/8]	657[25-7/8]
PURY-P120YKMU-A	735[28-15/16]	318[12-17/32]	643[25-11/32]
PURY-P144YKMU-A	735[28-15/16]	318[12-17/32]	643[25-11/32]

PURY-P72TKMU-A-(BS)



Indoor/Outdoor control transmission cable

Indoor/Outdoor transmission cable

LED1: Power supply to indoor/outdoor control transmission cable

LED2: Power supply to indoor/outdoor transmission cable

LED3: Power supply to indoor/outdoor control transmission cable

- if the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, a register (Z24/Z25) is connected to the control board.
- if the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, a thermistor (TH15) is not connected to the control board.

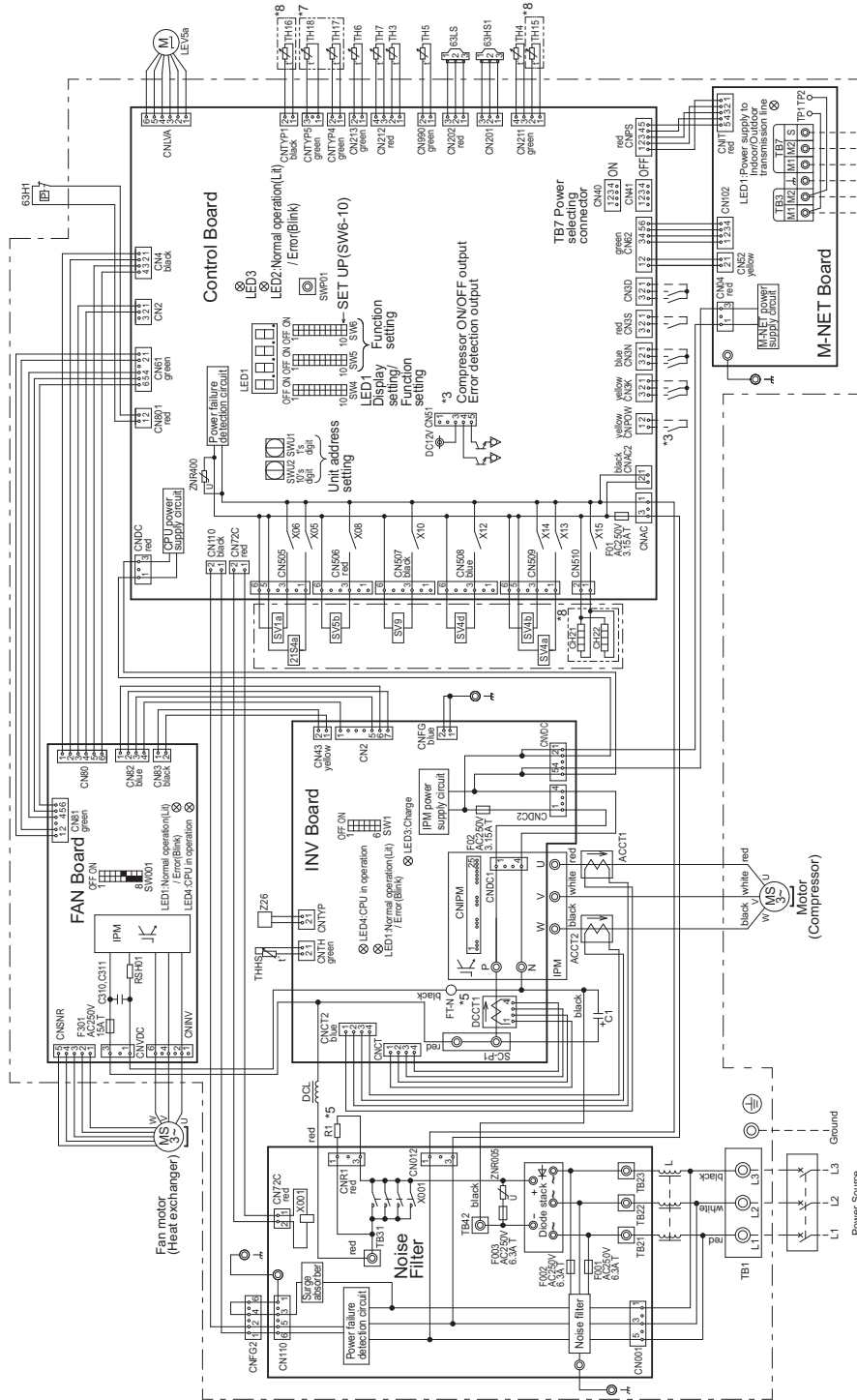
R2 (K)

- *1. Single-dotted lines indicate wiring not supplied with the unit.
- *2. Dot-dash lines indicate the control box boundaries.
- *3. Refer to the Data book for connecting input/output signal connectors.
- *4. Daisy-chain terminals (TB3) on the outdoor units in the same refrigerant system together.
- *5. Faston terminals have a locking function. Make sure the terminals are securely locked in place after insertion. Press the tab on the terminals to removed them.
- *6. Control box houses high-voltage parts. Before inspecting the inside of the control box, turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage between TB-P and TB-N on INV Board has dropped to DC20V or less.
- *7. There may be cause where the resistors (Z24, Z25) are connected to the control board depending on date of production.
- *8. There may be cases where the thermistor (TH15) is not connected to the control board depending on date of production.

<Symbol explanation>

Symbol	Explanation	Symbol	Explanation
21S4a	4-way valve (Cooling/Heating switching)	SV4a,b,d	Heat exchanger capacity control
63H1	Pressure switch	SV5b	Outdoor unit heat exchanger capacity control
63HS1	Pressure sensor	SV9	For opening/closing the bypass circuit
63LS	Low pressure	TB1	Power supply
X001	Magnetic relay (inverter main circuit)/ZC	TB3	Indoor/Outdoor transmission cable
C011~C016	Capacitor (inverter main circuit)	TB7	Control control transmission cable
CT11, 12	Current sensor (AC)		
DCL	D.C. reactor	TH3	Pipe temperature
LEV5a	Choke coil (for high frequency noise reduction)	TH4	Discharge pipe temperature
	Linear expansion valve (for the control of evaporating temperature)	TH5	ACC inlet pipe temperature
R1	Resistor	TH6	Subcooled liquid refrigerant temperature
RSH01~RSH03 (INV Board)	For inrush current prevention	TH7	OA temperature
RSH01~RSH03 (INV Board)	For current detection	TH15	Compressor shell bottom temperature
SV1a	Solenoid valve	THHS	IPM temperature
	For opening/closing the bypass circuit under the O/S	Z24, Z25	*7 Function setting connector

PURY-P96TKMU-A(-BS)



<Symbol explanation>

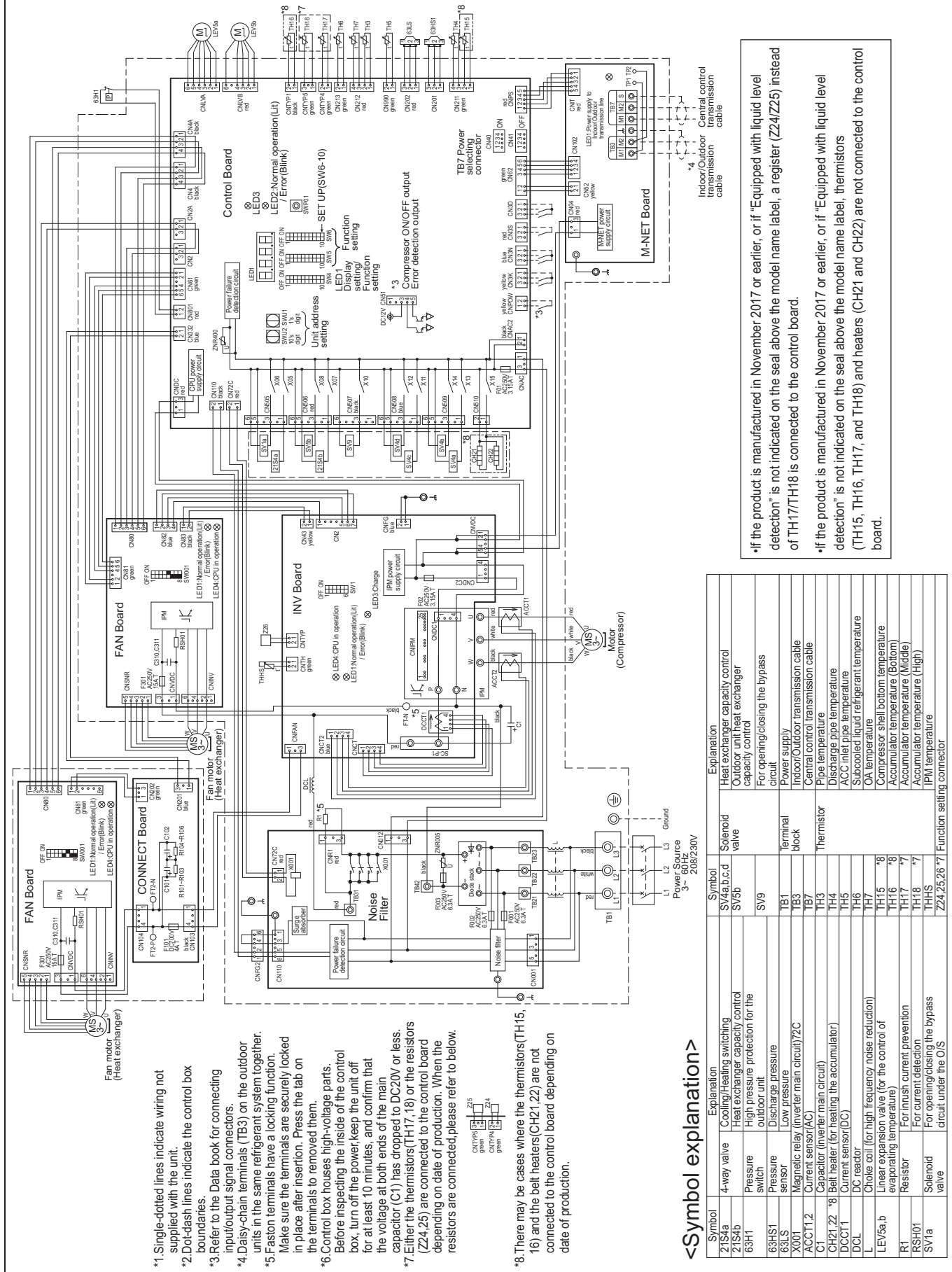
Symbol	Explanation	Symbol	Explanation
21S4a	4-way valve (Cooling/Heating switching)	SV9	For opening/closing the bypass circuit
63H1	Pressure switch	TB1	Solenoid valve terminal block
63HS1	Pressure sensor	TB3	Terminal block
63LS	Low pressure sensor	TB7	Thermistor
X001	Magnetic relay (inverter main circuit)ZC	TH3	Pipe temperature
ACCT1.2	Current sensor(AC)	TH4	Discharge pipe temperature
C1	Capacitor (inverter main circuit)	TH5	ACC inlet pipe temperature
CH21.22 *8	Heater (for heating the accumulator)	TH6	Subcooling liquid refrigerant temperature
DCCT1	Current sensor(DC)	TH7	OA temperature
DCL	DC reactor	TH15 *8	Compressor shell bottom temperature
L	Choke coil (for high frequency noise reduction)	TH16 *9	Accumulator temperature (bottom)
LEV5a	Linear expansion valve (for the control of evaporating temperature)	TH17 *7	Accumulator temperature (middle)
R1	Resistor	TH18 *7	IPM temperature
RS401	For inrush current prevention	Z24.Z5.Z6 *7	Function setting connector
SV1a	Solenoid valve		
SV4a.b.d	For opening/closing the bypass circuit under the O/S		
SV5b	Solenoid valve		

- *1. Single-dotted lines indicate wiring not supplied with the unit.
- *2. Dot-dash lines indicate the control box boundaries.
- *3. Refer to the Data book for connecting input/output signal connectors.
- *4. Daisy-chain terminals (TB3) on the outdoor units in the same refrigerant system together.
- *5. Fanion terminals have a locking function. Make sure the terminals are securely locked in place after insertion. Press the tab on the terminals to removed them.
- *6. Control box houses high-voltage parts. Before inspecting the inside of the control box, turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage at both ends of the main capacitor (C1) has dropped to DC20V or less.
- *7. Either the thermistors (TH17, 18) or the resistors (Z24, 25) are connected to the control board depending on date of production. When the resistors are connected, please refer to below.

*8. There may be cases where the thermistors (TH15, 16) and the heat heaters (CH21, 22) are not connected to the control board depending on date of production.

- * If the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, a register (Z24/Z25) instead of TH17/TH18 is connected to the control board.
- * If the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, thermistors (TH15, TH16, TH17, and TH18) and heaters (CH21 and CH22) are not connected to the control board.

PURY-P120, 144TKMU-A-(BS)



- *1. Single-dotted lines indicate wiring not supplied with the unit.
- *2. Dot-dash lines indicate the control box boundaries.
- *3. Refer to the Data book for connecting input/output signal connectors.
- *4. Daisy-chain terminals (TB3) on the outdoor units in the same refrigerant system together.
- *5. Faston terminals have a locking function. Make sure the terminals are securely locked in place after insertion. Press the tab on the terminals to removed them.
- *6. Control box houses high-voltage parts. Before inspecting the inside of the control box, turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage at both ends of the main capacitor (C1) has dropped to DC20V or less.
- *7. Either the thermistors (TH17, 18) or the resistors (Z24-25) are connected to the control board depending on date of production. When the resistors are connected, please refer to below.
- *8. There may be cases where the thermistors (TH15, 16) and the belt heaters (CH21, 22) are not connected to the control board depending on date of production.

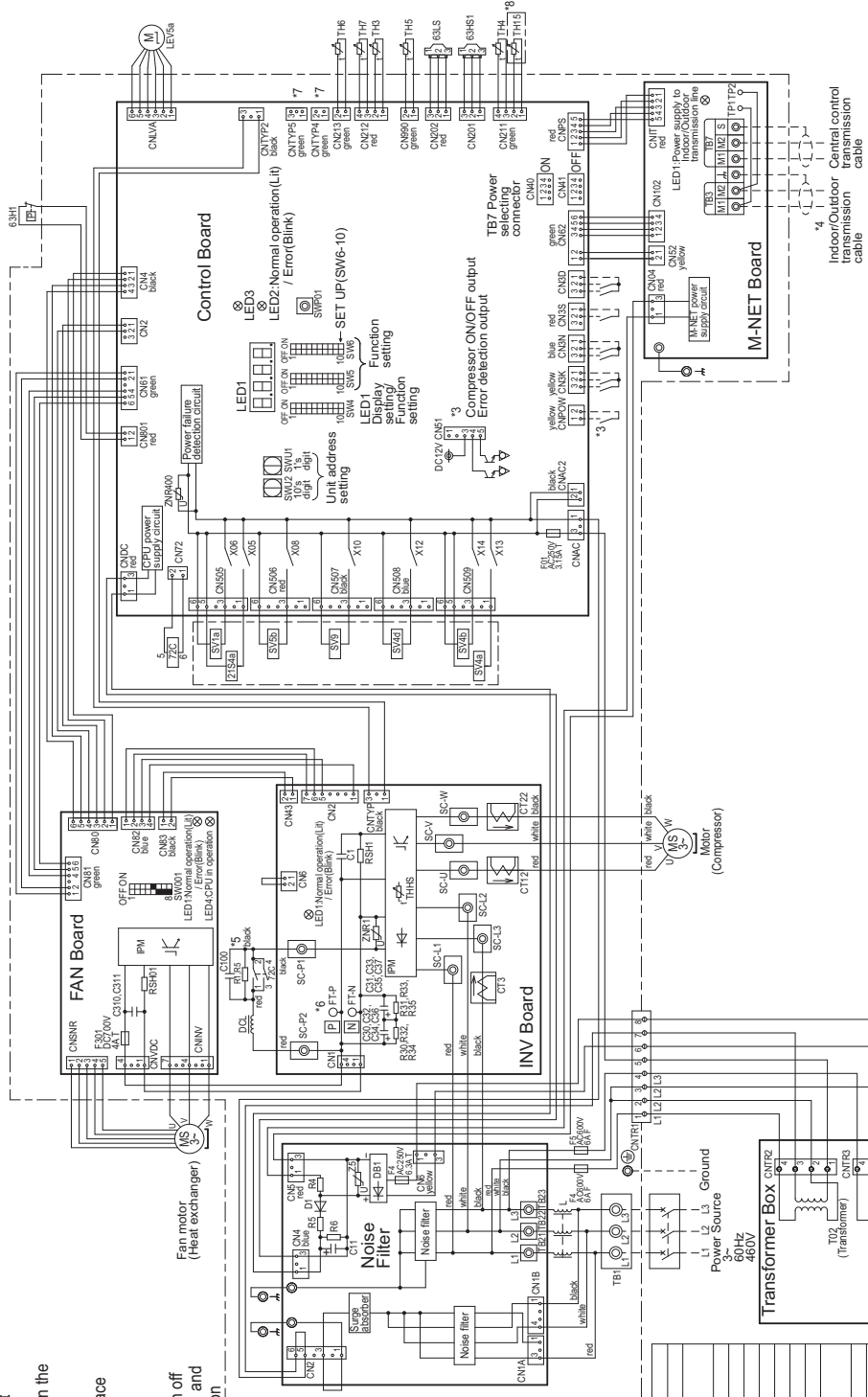
<Symbol explanation>

Symbol	Explanation	Symbol	Explanation
Z1S4a	Cooling/Heating switching	SV5b	Heat exchanger capacity control
Z1S4b	Heat exchanger capacity control	SV9	For opening/closing the bypass circuit
63H1	High pressure protection for the outdoor unit	TB1	Terminal block
63H51	Pressure switch	TB3	Terminal block
63LS	Discharge pressure sensor	TH3	Thermistor
X001	Low pressure	TH4	Pipe temperature
ACCT1.2	Magnetic relay (inverter main circuit)/ZC	TH5	Discharge pipe temperature
C1	Current sensor(AC)	TH6	ACC inlet pipe temperature
CH21, 22	Capacitor (inverter main circuit)	TH7	Subcooled liquid refrigerant temperature
DCCT1	Belt heater (for heating the accumulator)	TH8	OA temperature
DCL	Current sensor(DC)	TH9	Compressor shell bottom temperature
L	DC reactor	TH15	Accumulator temperature (Bottom)
LE15a, b	Choke coil (for high frequency noise reduction)	TH16	Accumulator temperature (Middle)
LH	Linear expansion valve (for the control of evaporating)	TH17	Accumulator temperature (High)
R1	For inrush current prevention	TH8	IPMI temperature
RSW1a	For current detection	Z24, 25	Function setting connector
SV1a	Solenoid valve		

• If the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, a register (Z24/Z25) instead of TH17/TH18 is connected to the control board.

• If the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, thermistors (TH15, TH16, TH17, and TH18) and heaters (CH21 and CH22) are not connected to the control board.

PURY-P72YKMU-A(-BS)



•if the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, a register (Z24/Z25) is connected to the control board.

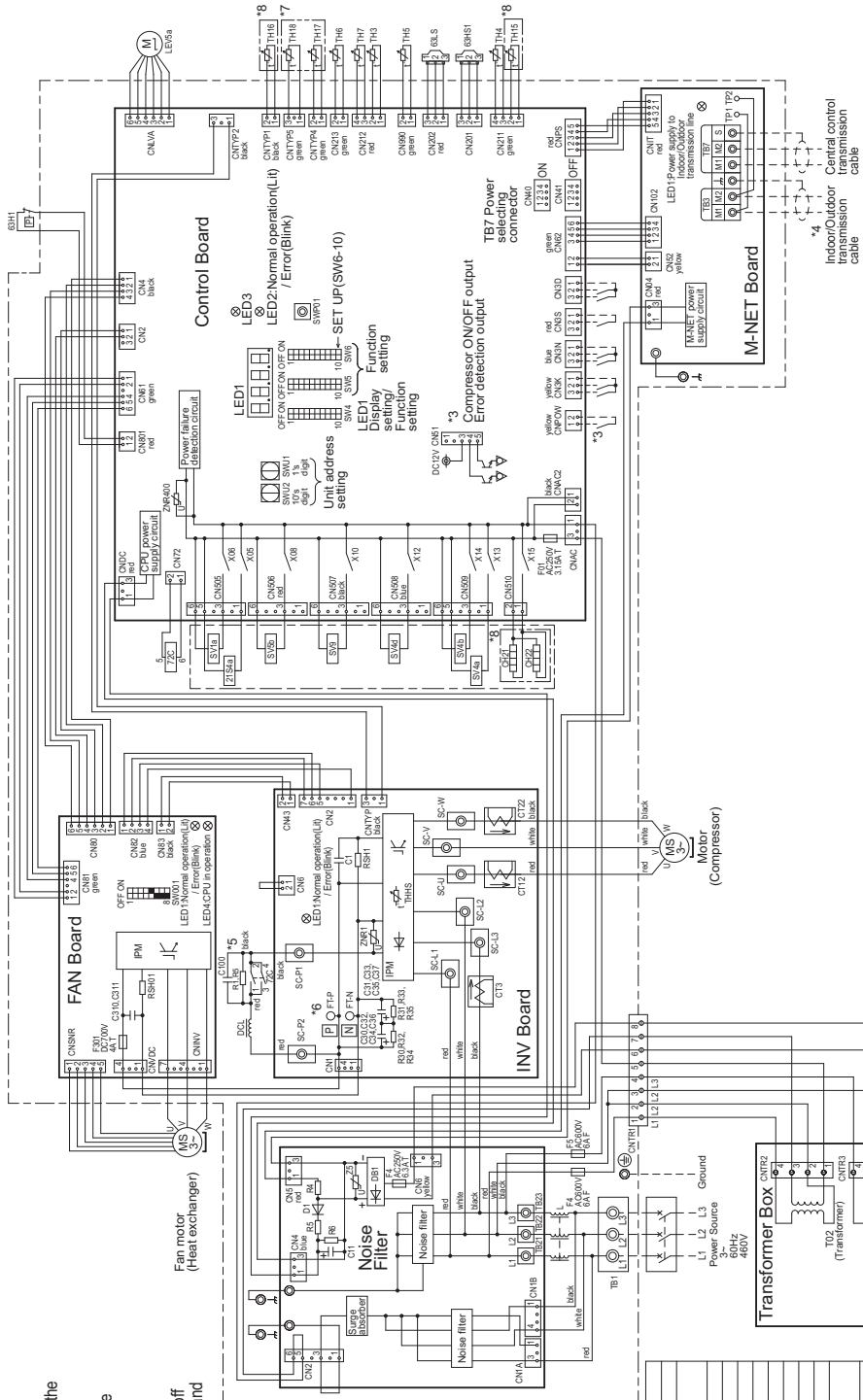
•if the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, a thermistor (TH15) is not connected to the control board.

- *1. Single-dotted lines indicate wiring not supplied with the unit.
- *2. Dot-dash lines indicate the control box boundaries.
- *3. Refer to the Data book for connecting input/output signal connectors.
- *4. Daisy-chain terminals (TB3) on the outdoor units in the same refrigerant system together.
- *5. Faston terminals have a locking function. Make sure the terminals are securely locked in place after insertion. Press the tab on the terminals to removed them.
- *6. Control box houses high-voltage parts. Before inspecting the inside of the control box, turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage between FT-P and FT-N on INV Board has dropped to DC20V or less.
- *7. There may be cause where the resistors (Z24, Z25) are connected to the control board depending on date of production.
- *8. There may be cases where the thermistor (TH15) is not connected to the control board depending on date of production.

<Symbol explanation>

Symbol	Explanation
Z1SA4	4-way valve(Cooling/Heating switching)
63H1	High pressure protection for the outdoor unit
63HS1	Discharge pressure sensor
73C	Low pressure sensor
G30-C37	Magnetic relay(inverter main circuit)
CT12,Z23	Capacitor (inverter main circuit)
DCL	DC reactor
LEV5a	Choke coil (for high frequency noise reduction)
R1.5	Linear expansion valve (for the control of evaporating temperature)
RS401,RS41	Resistor
SV1a	For inrush current prevention
SV4a,b,d	For opening/closing the bypass circuit under the O/S
SV5b	Heat exchanger capacity control
SV9	Outdoor unit heat exchanger capacity control
SV9	For opening/closing the bypass circuit
TB1	Power supply
TB3	Indoor/Outdoor transmission cable
TB7	Central control transmission cable
TH3	Pipe temperature
TH4	Discharge pipe temperature
TH5	ACC inlet pipe temperature
TH6	Subcooled liquid refrigerant temperature
TH7	OA temperature
TH15	Compressor shell bottom temperature
THHS	IPM temperature
Z24,Z5	IPM temperature
Z24,Z5	*7 Function setting connector

PURY-P96YKMU-A(-BS)



• If the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, a register (Z24/Z25) instead of TH17/TH18 is connected to the control board.

• If the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, thermistors (TH15, TH16, TH17, and TH18) and heaters (CH21 and CH22) are not connected to the control board.

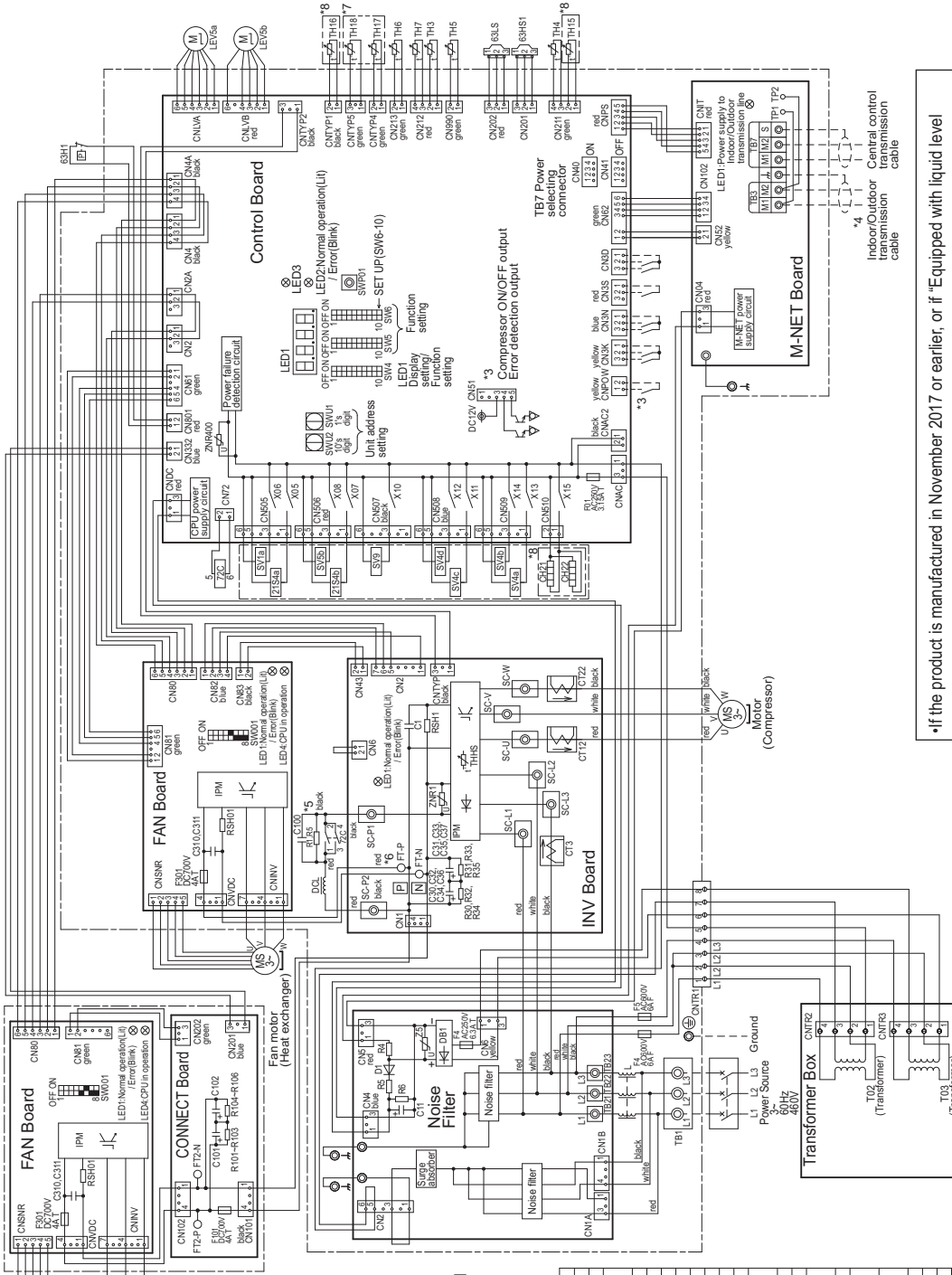
R2 (K)

- *1 Single-dotted lines indicate wiring not supplied with the unit.
- *2 Dot-dash lines indicate the control box boundaries.
- *3 Refer to the Data book for connecting input/output signal connectors.
- *4 Daisy-chain terminals (TB3) on the outdoor units in the same refrigerant system together.
- *5 Faston terminals have a locking function. Make sure the terminals are securely locked in place after insertion. Press the tab on the terminals to remove them.
- *6 Control box houses high-voltage parts. Before inspecting the inside of the control box turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage between F-P and F-N on INV Board has dropped to DC20V or less.
- *7 Either the thermistors (TH17, 18) or the resistors (Z24, 25) are connected to the control board depending on date of production. When the resistors are connected, please refer to below.
- *8 There may be cases where the thermistors (TH15, 16) and the belt heaters (CH21, 22) are not connected to the control board depending on date of production.

<Symbol explanation>

Symbol	Explanation
Z1S4a	4-way valve (Cooling/Heating switching)
63H1	Pressure switch
63HS1	High pressure protection for the outdoor unit
63LS	Pressure sensor
63LS	Discharge pressure sensor
ZC	Magnetic relay (inverter main circuit)
C30-C37	Capacitor (inverter main circuit)
CH21-Z2	Belt heater (for heating the accumulator)
CH22-Z2	Belt heater (for heating the accumulator)
CT1Z-Z2.3	Current sensor (AC)
DCL	DC reactor
L	Linear expansion valve (for the control of evaporating temperature)
LEV5a	Choice coil (for high frequency noise reduction)
RL5	Resistor
RS40, RSH1	For inrush current prevention
SV1a	Solenoid valve
SV4a, b, d	For opening/closing the bypass
SV5b	Heat exchanger capacity control capacity control heat exchanger capacity control
SV9	For opening/closing the bypass
TB1	Power supply
TB3	Indoor/Outdoor transmission cable
TB7	Central control transmission cable
TH3	Pipe temperature
TH4	Discharge pipe temperature
TH5	ACC inlet pipe temperature
TH6	Subcooled liquid refrigerant temperature
TH7	OA temperature
TH15	Compressor shell bottom temperature
TH16	Accumulator temperature (Bottom)
TH17	Accumulator temperature (Middle)
TH18	Accumulator temperature (High)
THHS	IPM temperature
Z24, 25	Function setting connector

PURY-P120, 144YKMU-A(-BS)



*1. Single-dotted lines indicate wiring not supplied with the unit.
 *2. Dot-dash lines indicate the control box boundaries.
 *3. Refer to the Data book for connecting input/output signal connectors.
 *4. Daisy-chain terminals (TB3) on the outdoor units in the same refrigerant system together.
 *5. F-astion terminals have a locking function. Make sure the terminals are securely locked in place after insertion. Press the tab on the terminals to removed them.
 *6. Control box noises high-voltage parts. Before inspecting the inside of the control box, turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage between FT-P and FT-N on INV Board has dropped to DC20V or less.
 *7. Either the thermistors (TH17, 18) or the resistors (Z24, 25) are connected to the control board depending on date of production. When the resistors are connected, please refer to below.
 *8. There may be cases where the thermistors (TH15, 16) and the belt heaters (CH21, 22), are not connected to the control board depending on date of production.

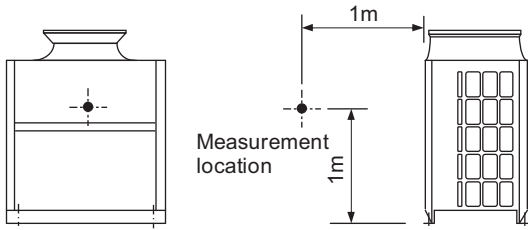
• If the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, a register (Z24/Z25) instead of TH17/TH18 is connected to the control board.
 • If the product is manufactured in November 2017 or earlier, or if "Equipped with liquid level detection" is not indicated on the seal above the model name label, thermistors (TH15, TH16, TH17, and TH18) and heaters (CH21 and CH22) are not connected to the control board.

<Symbol explanation>

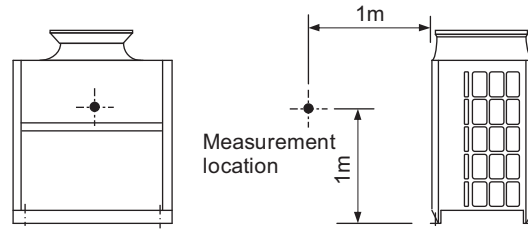
Symbol	Explanation
Z1SA/B	4-way valve
Z1SB	Coil/Heating switching
Z1SC	Heat exchanger capacity control
63HT	High pressure protection for the compressor
63HS1	Pressure switch
63LS	Pressure sensor
63LS	Low discharge pressure sensor
72LS	Low pressure sensor
C30-C37	Magnetic relay (inverter circuit)
CH1, 22	Belt heater (for heating the accumulator)
CT1, Z22, 3	Current sensor (AC)
L	DC reactor
LEV5a,b	Throttle coil (for high frequency noise reduction)
R1, 5	near expansion valve (for the control of evaporating temperature)
RS/H01, RS/H1	Resistor
SV1a	Solenoid valve
SV4a,b,c,d	For opening/closing the bypass circuit under the O/S
SV5	Outdoor unit heat exchanger capacity control
SV9	For opening/closing the bypass circuit
TB1	Power supply
TB3	Indoor/Outdoor transmission cable terminal block
TB7	Central control transmission cable
TH3	Pipe temperature
TH4	Discharge pipe temperature
TH5	A/C inlet pipe temperature
TH6	Subcooled liquid refrigerant temperature
TH7	O/A temperature
TH15	Compressor shell bottom temperature
TH16	Accumulator temperature (bottom)
TH19	Accumulator temperature (middle)
TH18	Accumulator temperature (high)
TH1S	IPM temperature
Z24, 25	Function setting connector

5. SOUND LEVELS

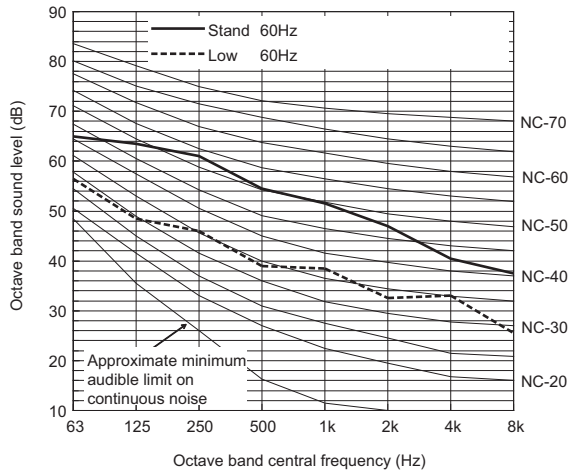
**Measurement condition
PURY-P72TKMU/YKMU**



**Measurement condition
PURY-P96TKMU/YKMU**



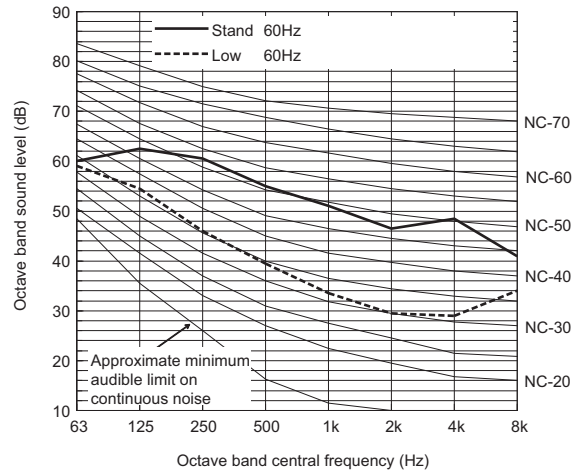
Sound level of PURY-P72T/YKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	65.0	63.5	61.0	54.5	51.5	47.0	40.5	37.5	58.0
Low noise mode	60Hz	56.5	48.5	46.0	39.0	38.5	32.5	33.0	25.5	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 PURY-P96T/YKMU-A(-BS)

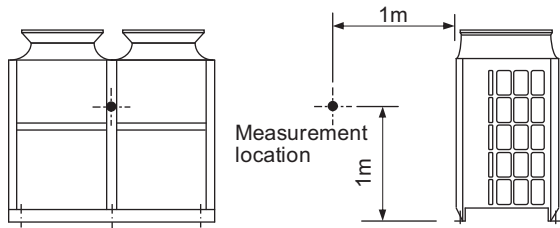


		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	60.0	62.5	60.5	55.0	51.0	46.5	48.5	41.0	58.0
Low noise mode	60Hz	59.0	54.5	46.0	39.5	33.5	29.5	29.0	34.0	44.0

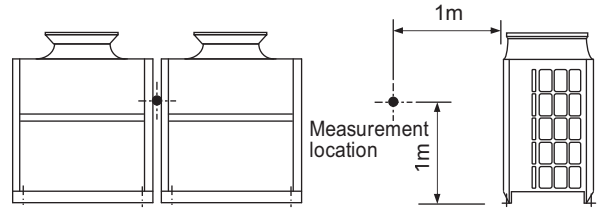
When Low noise mode is set the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

5. SOUND LEVELS

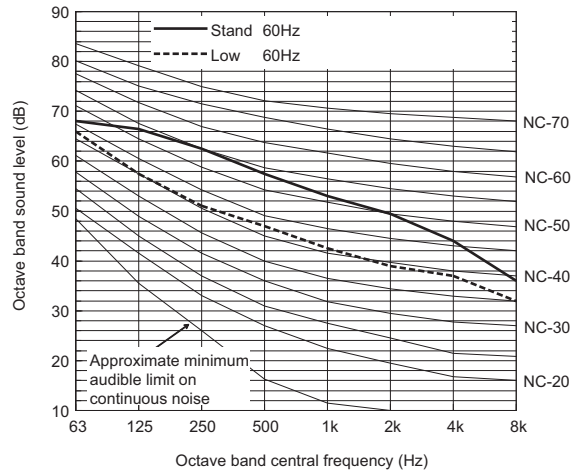
**Measurement condition
PURY-P120,144TKMU/YKMU**



**Measurement condition
PURY-P144YSKMU,168TSKMU/YSKMU**



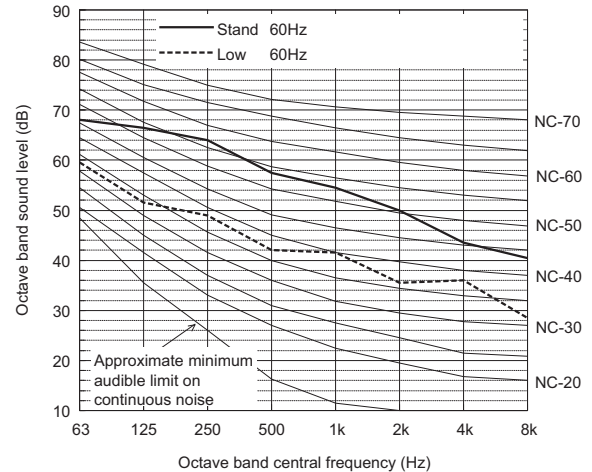
Sound level of PURY-P120T/YKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	68.0	66.5	62.5	57.5	53.0	49.5	44.0	36.0	60.0
Low noise mode	60Hz	66.0	57.5	51.0	47.0	42.5	39.0	37.0	32.0	50.0

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.

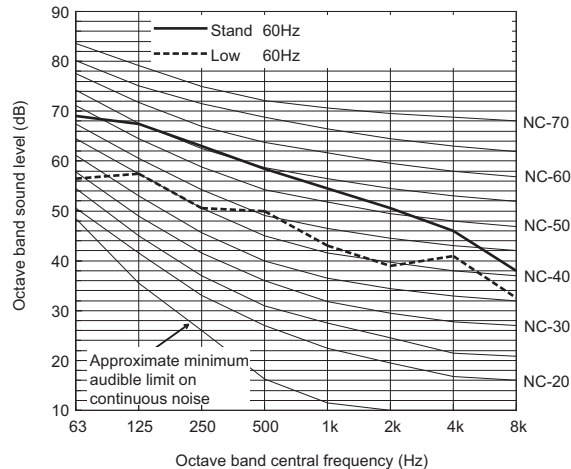
Sound level of PURY-P144YSKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	68.0	66.5	64.0	57.5	54.5	50.0	43.5	40.5	61.0
Low noise mode	60Hz	59.5	51.5	49.0	42.0	41.5	35.5	36.0	28.5	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.

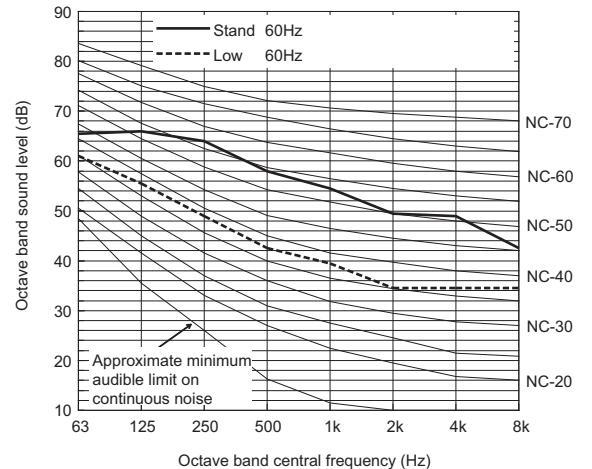
Sound level of PURY-P144T/YKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	69.0	67.5	63.0	58.5	54.5	50.5	46.0	38.0	61.0
Low noise mode	60Hz	56.5	57.5	50.5	50.0	43.0	39.0	41.0	32.5	51.0

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 PURY-P168T/YSKMU-A(-BS)



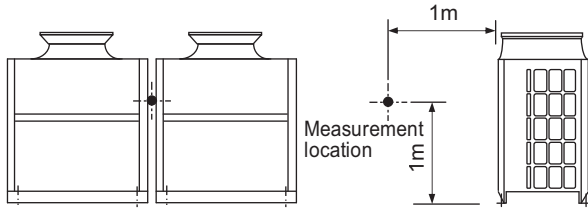
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	65.5	66.0	64.0	58.0	54.5	49.5	49.0	42.5	61.0
Low noise mode	60Hz	61.0	55.5	49.0	42.5	39.5	34.5	34.5	34.5	47.0

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.

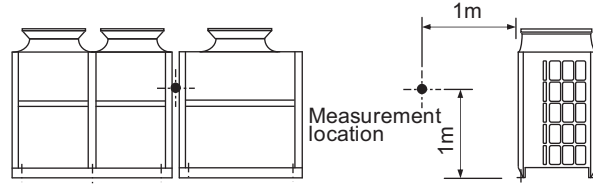
5. SOUND LEVELS

Outdoor units

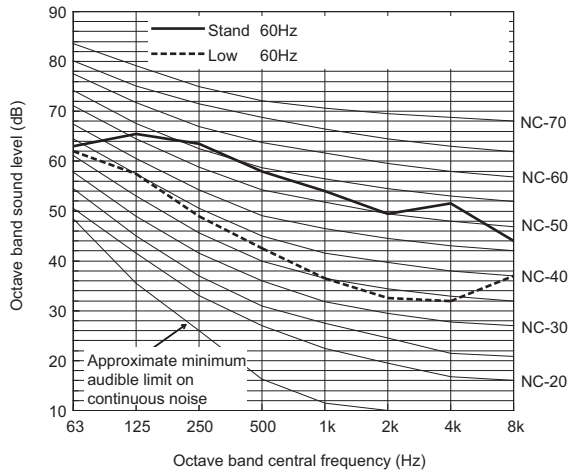
Measurement condition PURY-P192TSKMU/YSKMU



Measurement condition PURY-P216TSKMU/YSKMU



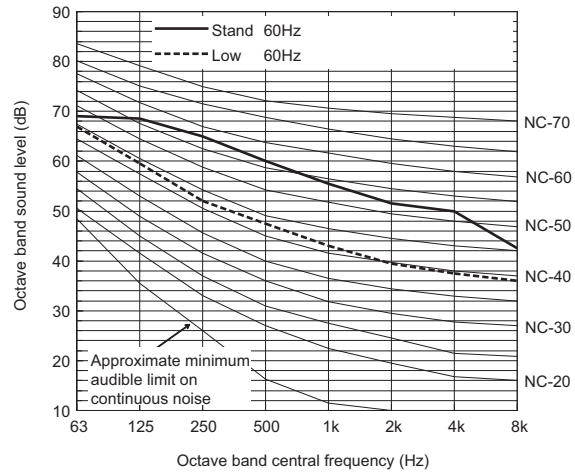
Sound level of PURY-P192T/YSKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	63.0	65.5	63.5	58.0	54.0	49.5	51.5	44.0	61.0
Low noise mode	60Hz	62.0	57.5	49.0	42.5	36.5	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 PURY-P216T/YSKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	69.0	68.5	65.0	60.0	55.5	51.5	50.0	42.5	62.5
Low noise mode	60Hz	67.0	59.5	52.0	47.5	43.0	39.5	37.5	36.0	51.0

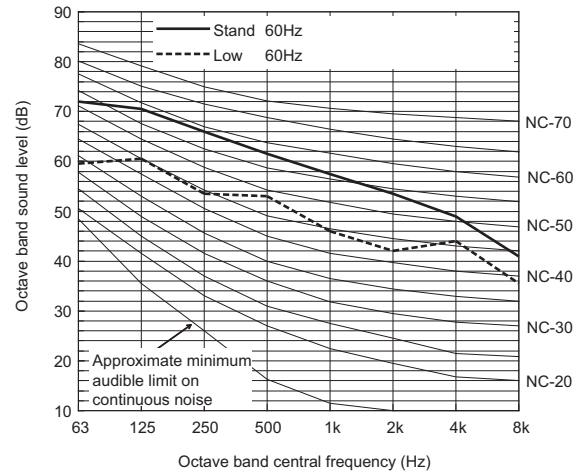
When Low noise mode is set the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

5. SOUND LEVELS

Measurement condition PURY-P240,264,288TSKMU/YSKMU



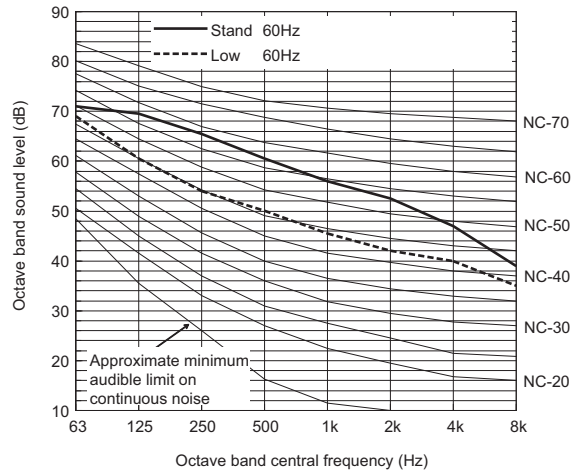
Sound level of PURY-P288T/YSKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	72.0	70.5	66.0	61.5	57.5	53.5	49.0	41.0	64.0
Low noise mode	60Hz	59.5	60.5	53.5	53.0	46.0	42.0	44.0	35.5	54.0

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.

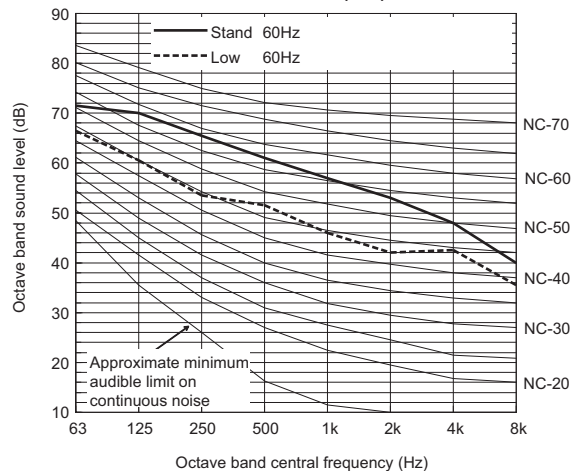
Sound level of PURY-P240T/YSKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	71.0	69.5	65.5	60.5	56.0	52.5	47.0	39.0	63.0
Low noise mode	60Hz	69.0	60.5	54.0	50.0	45.5	42.0	40.0	35.0	53.0

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 PURY-P264T/YSKMU-A(-BS)



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	71.5	70.0	65.5	61.0	57.0	53.0	48.0	40.0	63.5
Low noise mode	60Hz	66.5	60.5	53.5	51.5	46.0	42.0	42.5	35.5	53.5

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. VIBRATION LEVEL

Outdoor units

[PURY-P72-144T/YKMU, PURY-P144-288T/YSKMU]

Measurement condition

Measurement frequency: 1 Hz-80 Hz

Measurement point: Ground surface 20 cm away from the unit leg

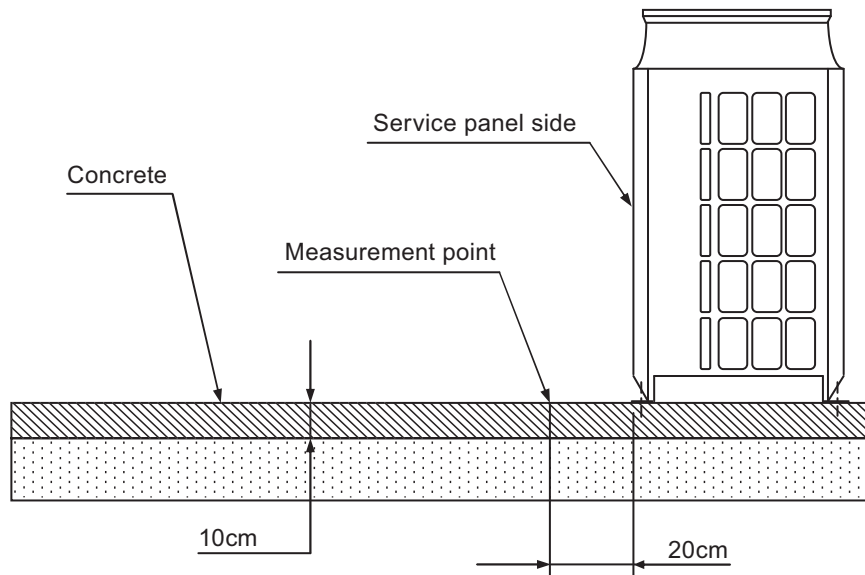
Installation condition: Direct installation on the concrete floor

Power source: 3-phase 3-wire 208 V-230 V 60 Hz: For TKMU-Series

3-phase 3-wire 460 V 60 Hz: For YKMU-Series

Operation condition: JIS condition (cooling, heating)

Measurement device: Vibration level meter for vibration pollution VM-1220C (JIS-compliant product)



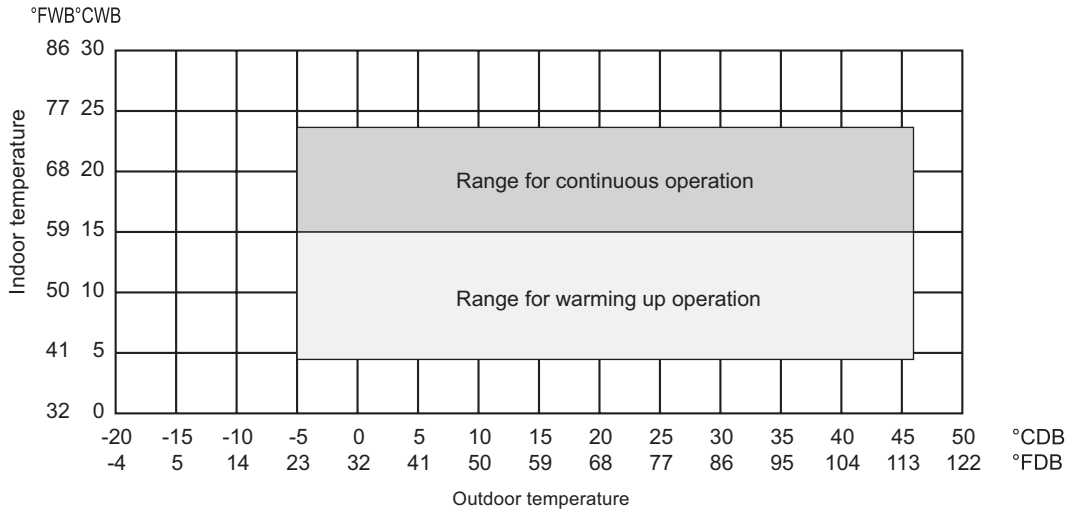
Vibration level

Model	Vibration level (dB)
PURY-P72T(Y)KMU-A(-BS)	47
PURY-P96T(Y)KMU-A(-BS)	47
PURY-P120T(Y)KMU-A(-BS)	47
PURY-P144T(Y)KMU-A(-BS)	47
PURY-P144YSKMU-A(-BS)	50
PURY-P168T(Y)SKMU-A(-BS)	50
PURY-P192T(Y)SKMU-A(-BS)	50
PURY-P216T(Y)SKMU-A(-BS)	50
PURY-P240T(Y)SKMU-A(-BS)	50
PURY-P264T(Y)SKMU-A(-BS)	50
PURY-P288T(Y)SKMU-A(-BS)	50

* Vibration level varies depending on the conditions of actual installation site.

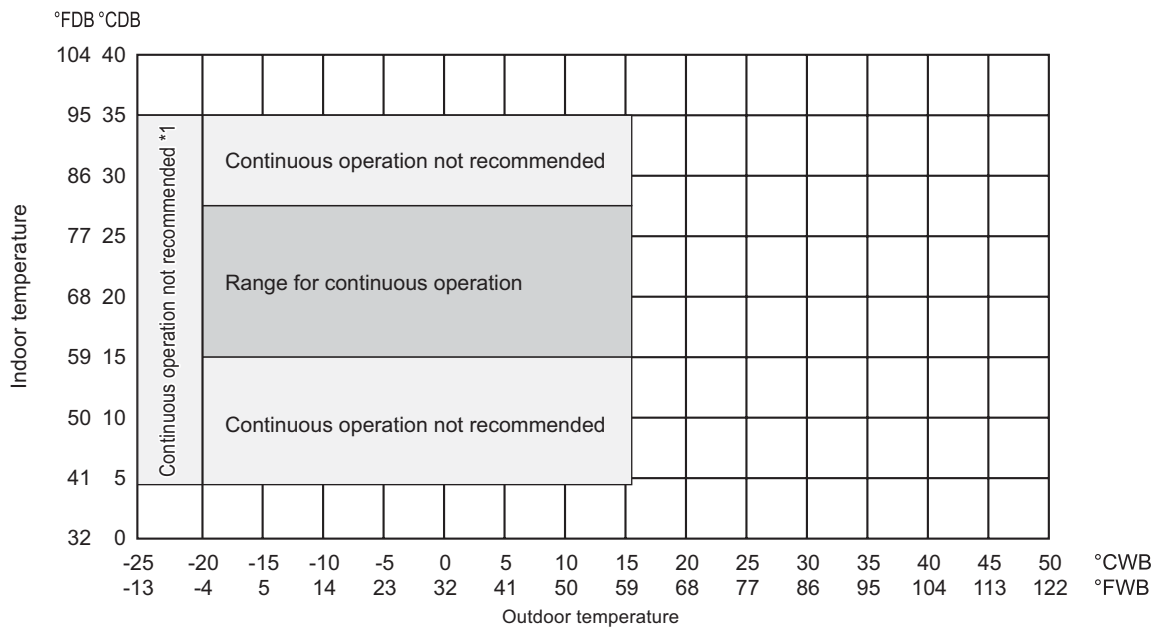
7. OPERATION TEMPERATURE RANGE

• 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



R2 (K)

• Combination of cooling/heating operation (Cooling main or Heating main)

Outdoor temperature	Indoor temperature	
	Cooling	Heating
14 to 70°FDB (-10 to 21°CDB)	—	59 to 81°FDB (15 to 27°CDB)
12 to 60°FWB (-11 to 15.5°CWB)	59 to 75°FWB (15 to 24°CWB)	—

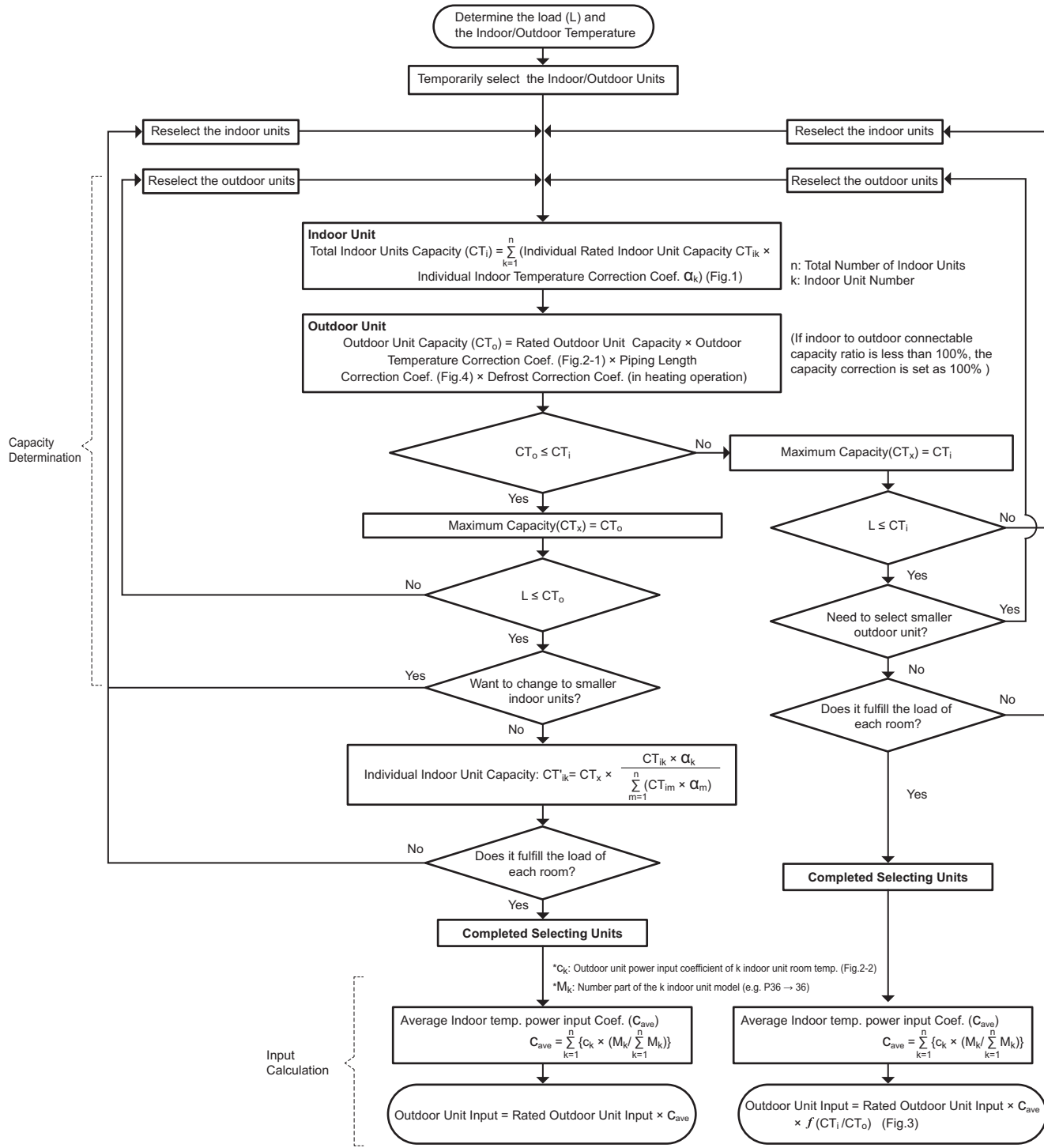
Installation of the low ambient kit is recommended to operate in cooling and cooling main mode in conditions under 50°F [10°C].

*1 When applying product below -4°FWB, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

8-1. Selection of Cooling/Heating Units

How to determine the capacity when less than or equal 100% indoor model size units are connected in total:

The purpose of this flow chart is to select the indoor and outdoor units. For other purposes, this flow chart is intended only for reference.



R2 (K)

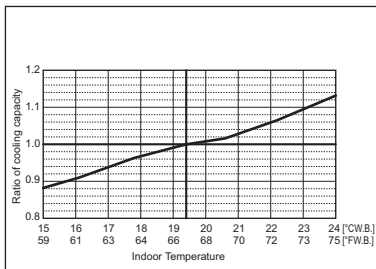


Fig.1 Indoor unit temperature correction

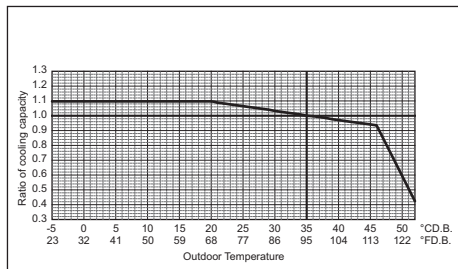


Fig.2-1 Outdoor unit temperature correction (capacity)

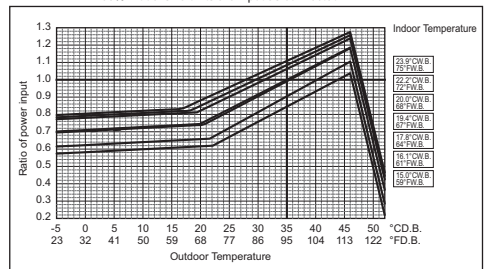
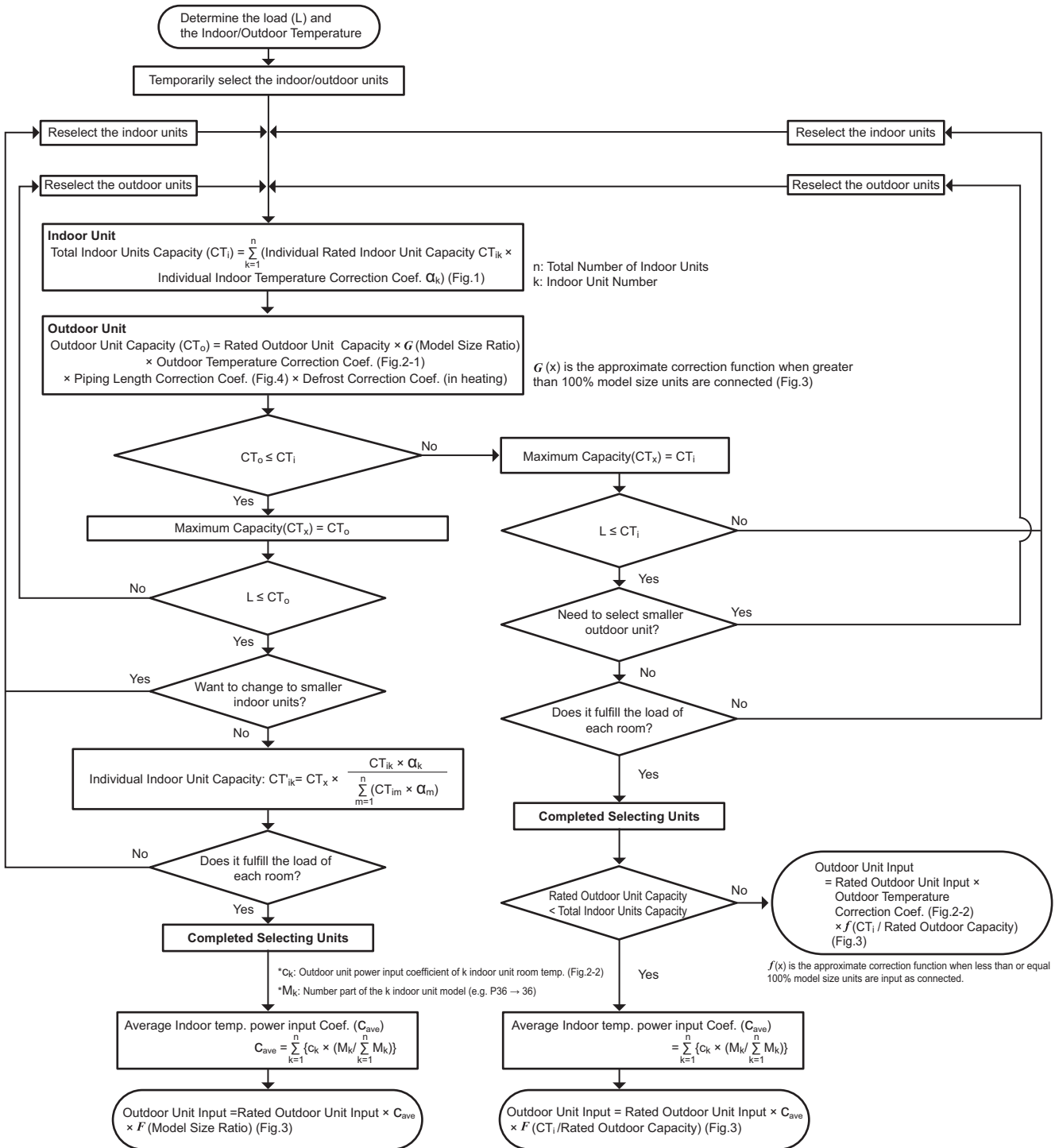


Fig.2-2 Outdoor unit temperature correction (power input)

How to determine the capacity when greater than 100% indoor model size units are connected in total:

The purpose of this flow chart is to select the indoor and outdoor units. For other purposes, this flow chart is intended only for reference.



R2 (K)

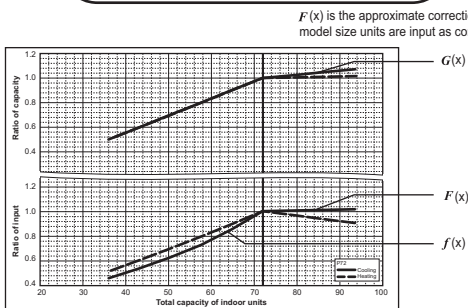


Fig.3 Correction by total indoor

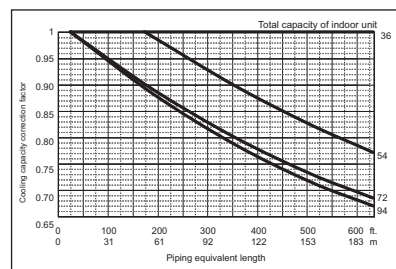


Fig.4 Correction of refrigerant piping length

<Cooling>

Design Condition	
Outdoor Design Dry Bulb Temperature	37 °C
Total Cooling Load	18.5 kW
Room1	
Indoor Design Dry Bulb Temperature	27 °C
Indoor Design Wet Bulb Temperature	20 °C
Cooling Load	9.0 kW
Room2	
Indoor Design Dry Bulb Temperature	24 °C
Indoor Design Wet Bulb Temperature	17.8 °C
Cooling Load	9.5 kW
<Other>	
Indoor/Outdoor Equivalent Piping Length	30 m

1. Cooling Calculation

(1) Temporary Selection of Indoor Units

Room1	PEFY-P36	10.6 kW (Rated)
Room2	PEFY-P36	10.6 kW (Rated)

(2) Total Indoor Units Capacity

$$P36 + P36 = P72$$

(3) Selection of Outdoor Unit

The P72 outdoor unit is selected as total indoor units capacity is P72

PUHY-P72	21.1 kW
----------	---------

(4) Total Indoor Units Capacity Correction Calculation

Room1	Indoor Design Wet Bulb Temperature Correction (20°C)	1.02 (Refer to Fig.1)
Room2	Indoor Design Wet Bulb Temperature Correction (18°C)	0.96 (Refer to Fig.1)

Total Indoor Units Capacity (CTi)

$$\begin{aligned}
 CTi &= \Sigma (\text{Indoor Unit Rating} \times \text{Indoor Design Temperature Correction}) \\
 &= 10.6 \times 1.02 + 10.6 \times 0.96 \\
 &= 20.9 \text{ kW}
 \end{aligned}$$

(5) Outdoor Unit Correction Calculation

Outdoor Design Dry Bulb Temperature Correction (37°C)	0.99 (Refer to Fig.2)
Piping Length Correction (30 m)	0.95 (Refer to Fig.3)

Total Outdoor Unit Capacity (CTo)

$$\begin{aligned}
 CTo &= \text{Outdoor Rating} \times \text{Outdoor Design Temperature Correction} \times \text{Piping Length Correction} \\
 &= 21.1 \times 0.99 \times 0.95 \\
 &= 19.8 \text{ kW}
 \end{aligned}$$

(6) Determination of Maximum System Capacity (CTx)

Comparison of Capacity between Total Indoor Units Capacity (CTi) and Total Outdoor Unit Capacity (CTo)

$$\begin{aligned}
 CTi &= 20.9 > CTo = 19.8, \text{ thus, select } CTo. \\
 CTx &= CTo = 19.8 \text{ kW}
 \end{aligned}$$

(7) Comparison with Essential Load

Against the essential load 18.5kW, the maximum system capacity is 19.8kW: Proper outdoor units have been selected.

(8) Calculation of Maximum Indoor Unit Capacity of Each Room

CTx = CTo, thus, calculate by the calculation below

Room1

$$\begin{aligned}
 &\text{Maximum Capacity} \times \text{Room1 Capacity after the Temperature Correction} / (\text{Room1,2 Total Capacity after the Temperature Correction}) \\
 &= 19.8 \times (10.6 \times 1.02) / (10.6 \times 1.02 + 10.6 \times 0.96) \\
 &= 10.2 \text{ kW} \quad \text{OK: fulfills the load 9.0kW}
 \end{aligned}$$

Room2

$$\begin{aligned}
 &\text{Maximum Capacity} \times \text{Room2 Capacity after the Temperature Correction} / (\text{Room1,2 Total Capacity after the Temperature Correction}) \\
 &= 19.8 \times (10.6 \times 0.96) / (10.6 \times 1.02 + 10.6 \times 0.96) \\
 &= 9.6 \text{ kW} \quad \text{OK: fulfills the load 9.5kW}
 \end{aligned}$$

Go on to the heating trial calculation since the selected units fulfill the cooling loads of Room 1, 2.

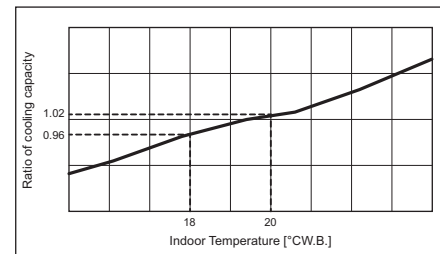


Fig.1 Indoor unit temperature correction
To be used to correct indoor unit only

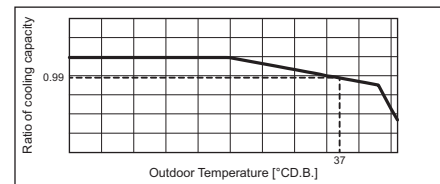


Fig.2 Outdoor unit temperature correction
To be used to correct outdoor unit only

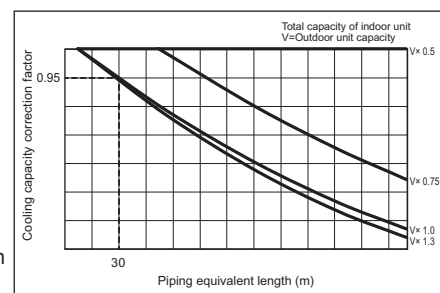


Fig.3 Correction of refrigerant piping length

<Heating>

Design Condition	
Outdoor Design Wet Bulb Temperature	2 °C
Total Heating Load	18.2 kW
Room1	
Indoor Design Dry Bulb Temperature	25 °C
Heating Load	9.2 kW
Room2	
Indoor Design Dry Bulb Temperature	25 °C
Heating Load	9.0 kW
<Other>	
Indoor/Outdoor Equivalent Piping Length	30 m

2. Heating Calculation

(1) Temporary Selection of Indoor Units

Room1	PEFY-P36	11.7 kW (Rated)
Room2	PEFY-P36	11.7 kW (Rated)

(2) Total Indoor Units Capacity

$$P36 + P36 = P72$$

(3) Selection of Outdoor Unit

The P72 outdoor unit is selected as total indoor units capacity is P72

PUHY-P72	23.4 kW
----------	---------

(4) Total Indoor Units Capacity Correction Calculation

Room1	Indoor Design Dry Bulb Temperature Correction (25°C)	0.80 (Refer to Fig.4)
Room2	Indoor Design Dry Bulb Temperature Correction (25°C)	0.80 (Refer to Fig.4)

Total Indoor Units Capacity (CTi)

$$CTi = \sum (\text{Indoor Unit Rating} \times \text{Indoor Design Temperature Correction})$$

$$= 11.7 \times 0.80 + 11.7 \times 0.80$$

$$= 18.7 \text{ kW}$$

(5) Outdoor Unit Correction Calculation

Outdoor Design Wet Bulb Temperature Correction (2°C)	0.98 (Refer to Fig.5)
Piping Length Correction (30 m)	0.98 (Refer to Fig.6)
Defrost Correction	0.84 (Refer to Tbl.1)

Total Outdoor Unit Capacity (CTo)

$$CTo = \text{Outdoor Unit Rating} \times \text{Outdoor Design Temperature Correction} \times \text{Piping Length Correction} \times \text{Defrost Correction}$$

$$= 23.4 \times 0.98 \times 0.98 \times 0.84$$

$$= 18.8 \text{ kW}$$

(6) Determination of Maximum System Capacity (CTx)

Comparison of Capacity between Total Indoor Units Capacity (CTi) and Total Outdoor Unit Capacity (CTo)

$$CTi = 18.7 < CTo = 18.8, \text{ thus, select } CTi.$$

$$CTx = CTi = 18.7 \text{ kW}$$

(7) Comparison with Essential Load

Against the essential load 18.2kW, the maximum system capacity is 18.7kW: Proper outdoor units have been selected.

(8) Calculation of Maximum Indoor Unit Capacity of Each Room

CTx = CTi, thus, calculate by the calculation below

Room1	Indoor Unit Rating × Indoor Design Temperature Correction	
	$= 11.7 \times 0.80$	
	$= 9.4 \text{ kW}$	OK: fulfills the load 9.2kW

Room2	Indoor Unit Rating × Indoor Design Temperature Correction	
	$= 11.7 \times 0.80$	
	$= 9.4 \text{ kW}$	OK: fulfills the load 9.0kW

Completed selecting units since the selected units fulfill the heating loads of Room 1, 2.

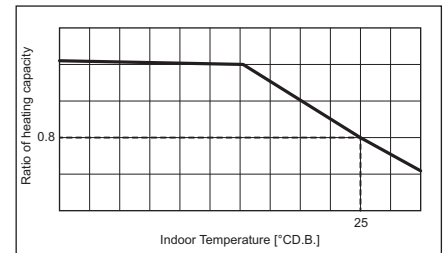


Fig.4 Indoor unit temperature correction
To be used to correct indoor unit only

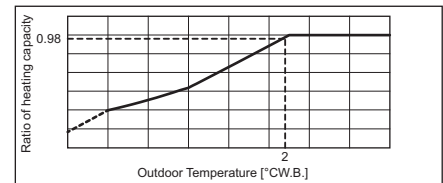


Fig.5 Outdoor unit temperature correction
To be used to correct outdoor unit only

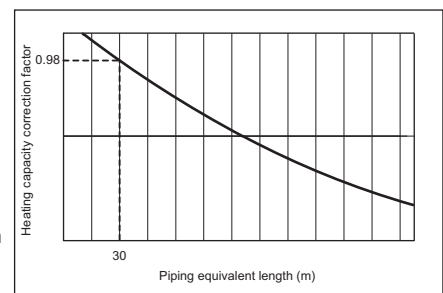


Fig.6 Correction of refrigerant piping length

R2 (K)

Tbl.1 Table of correction factor at frost and defrost

Outdoor inlet air temp. °CWB	6	4	2	1	0	-2	-4	-6	-8	-10	-20
Outdoor inlet air temp. °FWB	43	39	36	34	32	28	25	21	18	14	-4
PUHY-P72	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.95	0.95	0.95	0.95
PUHY-P96	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.95	0.95	0.95	0.95
PUHY-P120	1.00	0.93	0.82	0.80	0.82	0.86	0.90	0.90	0.95	0.95	0.95
PUHY-P144	1.00	0.93	0.82	0.80	0.82	0.86	0.90	0.90	0.95	0.95	0.95
PUHY-P168	1.00	0.93	0.82	0.80	0.82	0.86	0.90	0.90	0.95	0.95	0.95

3. Power input of outdoor unit

<Cooling>

(1) Rated power input of outdoor unit **4.55 kW (Nominal)****(2) Calculation of the average indoor temperature power input coefficient**Coefficient of the outdoor unit for indoor unit 1 (Outdoor temp. 37 °CD.B., Indoor temp. 20 °CW.B.)
1.09Coefficient of the outdoor unit for indoor unit 2 (Outdoor temp. 37 °CD.B., Indoor temp. 17.8 °CW.B.)
1.03

$$\text{Average indoor temp. power input coefficient (C}_{\text{ave}}) = \sum_{k=1}^n \{c_k \times (M_k / \sum_{k=1}^n M_k)\}$$

n: Total number of the indoor units

k: Number of the indoor unit

c_k: Outdoor unit power input coefficient of k indoor unit room temp.M_k: Number part of the k indoor unit model (e.g. P36 → 36)

$$= 1.09 \times 36 / (36 + 36) + 1.03 \times 36 / (36 + 36)$$

$$= 1.06$$

(3) No need to consider Coefficient of the partial load f(CTi/CTo) -**(4) Outdoor power input (P_{lo})**Maximum System Capacity (CT_x) = Total Outdoor unit Capacity (CT_o), so use the following formula

$$P_{lo} = \text{Outdoor unit Cooling Rated Power Input} \times \text{Correction Coefficient of Indoor temperature}$$

$$= 4.55 \times 1.06$$

$$= 4.82 \text{ kW}$$

<Heating>

(1) Rated power input of outdoor unit **5.48 kW (Nominal)****(2) Calculation of the average indoor temperature power input coefficient**Coefficient of the outdoor unit for indoor unit 1 (Outdoor temp. 2 °CW.B., Indoor temp. 25 °CD.B.)
0.80Coefficient of the outdoor unit for indoor unit 2 (Outdoor temp. 2 °CW.B., Indoor temp. 25 °CD.B.)
0.80Average indoor temp. power input coefficient (C_{ave}) = $\sum_{k=1}^n \{C_k \times (M_k / \sum_{k=1}^n M_k)\}$

n: Total number of the indoor units

k: Number of the indoor unit

 C_k : Outdoor unit power input coefficient of k indoor unit room temp. M_k : Number part of the k indoor unit model (e.g. P36 → 36)

$$= 0.8 \times 36 / (36 + 36) + 0.8 \times 36 / (36 + 36)$$

$$= 0.80$$

(3) Coefficient of the partial load f (CTi/CTo) **0.94****(4) Outdoor power input (Plo)**

Maximum System Capacity (CTx) = Total Indoor unit Capacity (CTi), so use the following formula

$$Plo = \text{Outdoor unit Heating Rated Power Input} \times \text{Correction Coefficient of Indoor temperature} \times f(CTi/CTo)$$

$$= 5.48 \times 0.8 \times 0.94$$

$$= 4.10 \text{ kW}$$

<Cooling>

Design Condition	
Outdoor Design Dry Bulb Temperature	99 °F
Total Cooling Load	63,000 BTU/h
Room1	
Indoor Design Dry Bulb Temperature	81 °F
Indoor Design Wet Bulb Temperature	68 °F
Cooling Load	31,000 BTU/h
Room2	
Indoor Design Dry Bulb Temperature	75 °F
Indoor Design Wet Bulb Temperature	64 °F
Cooling Load	32,000 BTU/h
<Other>	
Indoor/Outdoor Equivalent Piping Length	100 ft.

1. Cooling Calculation

(1) Temporary Selection of Indoor Units

Room1	PEFY-P36	36,000 BTU/h (Rated)
Room2	PEFY-P36	36,000 BTU/h (Rated)

(2) Total Indoor Units Capacity

$$P36 + P36 = P72$$

(3) Selection of Outdoor Unit

The P72 outdoor unit is selected as total indoor units capacity is P72

PUHY-P72	72,000 BTU/h
----------	--------------

(4) Total Indoor Units Capacity Correction Calculation

Room1	Indoor Design Wet Bulb Temperature Correction (68°F)	1.02 (Refer to Fig.1)
Room2	Indoor Design Wet Bulb Temperature Correction (64°F)	0.96 (Refer to Fig.1)

Total Indoor Units Capacity (CTi)

$$\begin{aligned} CT_i &= \sum (\text{Indoor Unit Rating} \times \text{Indoor Design Temperature Correction}) \\ &= 36,000 \times 1.02 + 36,000 \times 0.96 \\ &= 71,200 \text{ BTU/h} \end{aligned}$$

(5) Outdoor Unit Correction Calculation

Outdoor Design Dry Bulb Temperature Correction (99°F)	0.99 (Refer to Fig.2)
Piping Length Correction (100 ft.)	0.95 (Refer to Fig.3)

Total Outdoor Unit Capacity (CTo)

$$\begin{aligned} C_{T_o} &= \text{Outdoor Rating} \times \text{Outdoor Design Temperature Correction} \times \text{Piping Length Correction} \\ &= 72,000 \times 0.99 \times 0.95 \\ &= 67,700 \text{ BTU/h} \end{aligned}$$

(6) Determination of Maximum System Capacity (CTx)

Comparison of Capacity between Total Indoor Units Capacity (CTi) and Total Outdoor Unit Capacity (CTo)

$$CT_i = 71,200 > C_{T_o} = 67,700, \text{ thus, select } C_{T_o}.$$

$$C_{T_x} = C_{T_o} = 67,700 \text{ BTU/h}$$

(7) Comparison with Essential Load

Against the essential load 63,000BTU/h, the maximum system capacity is 67,700BTU/h: Proper outdoor units have been selected.

(8) Calculation of Maximum Indoor Unit Capacity of Each Room

CTx = CTo, thus, calculate by the calculation below

Room1

$$\begin{aligned} &\text{Maximum Capacity} \times \text{Room1 Capacity after the Temperature Correction} / (\text{Room1,2 Total Capacity after the Temperature Correction}) \\ &= 67,700 \times (36,000 \times 1.02) / (36,000 \times 1.02 + 36,000 \times 0.96) \\ &= 34,800 \text{ BTU/h} \quad \text{OK: fulfills the load 31,000BTU/h} \end{aligned}$$

Room2

$$\begin{aligned} &\text{Maximum Capacity} \times \text{Room2 Capacity after the Temperature Correction} / (\text{Room1,2 Total Capacity after the Temperature Correction}) \\ &= 67,700 \times (36,000 \times 0.96) / (36,000 \times 1.02 + 36,000 \times 0.96) \\ &= 32,800 \text{ BTU/h} \quad \text{OK: fulfills the load 32,000BTU/h} \end{aligned}$$

Go on to the heating trial calculation since the selected units fulfill the cooling loads of Room 1, 2.

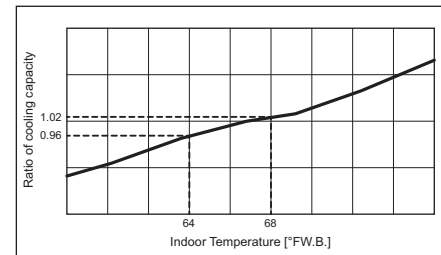


Fig.1 Indoor unit temperature correction
To be used to correct indoor unit only

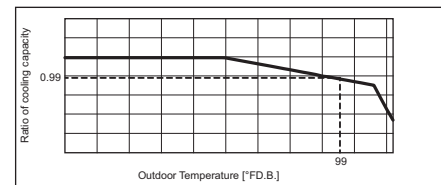


Fig.2 Outdoor unit temperature correction
To be used to correct outdoor unit only

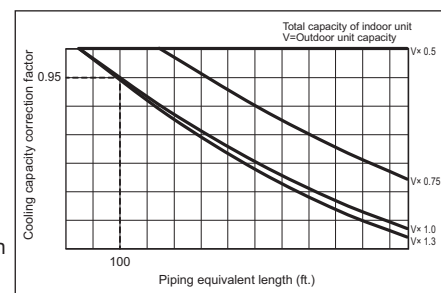


Fig.3 Correction of refrigerant piping length

<Heating>

Design Condition	
Outdoor Design Wet Bulb Temperature	37 °F
Total Heating Load	62,000 BTU/h
Room1	
Indoor Design Dry Bulb Temperature	77 °F
Heating Load	31,000 BTU/h
Room2	
Indoor Design Dry Bulb Temperature	77 °F
Heating Load	31,000 BTU/h
<Other>	
Indoor/Outdoor Equivalent Piping Length	100 ft.

2. Heating Calculation

(1) Temporary Selection of Indoor Units

Room1	PEFY-P36	40,000 BTU/h (Rated)
Room2	PEFY-P36	40,000 BTU/h (Rated)

(2) Total Indoor Units Capacity

$$P36 + P36 = P72$$

(3) Selection of Outdoor Unit

The P72 outdoor unit is selected as total indoor units capacity is P72

PUHY-P72	80,000 BTU/h
----------	--------------

(4) Total Indoor Units Capacity Correction Calculation

Room1	Indoor Design Dry Bulb Temperature Correction (77°F)	0.80 (Refer to Fig.4)
Room2	Indoor Design Dry Bulb Temperature Correction (77°F)	0.80 (Refer to Fig.4)

Total Indoor Units Capacity (CTi)

$$\begin{aligned}
 CTi &= \sum (\text{Indoor Unit Rating} \times \text{Indoor Design Temperature Correction}) \\
 &= 40,000 \times 0.80 + 40,000 \times 0.80 \\
 &= 64,000 \text{ BTU/h}
 \end{aligned}$$

(5) Outdoor Unit Correction Calculation

Outdoor Design Wet Bulb Temperature Correction (37°F)	0.99 (Refer to Fig.5)
Piping Length Correction (100 ft.)	0.98 (Refer to Fig.6)
Defrost Correction	0.87 (Refer to Tbl.1)

Total Outdoor Unit Capacity (CTo)

$$\begin{aligned}
 CTo &= \text{Outdoor Unit Rating} \times \text{Outdoor Design Temperature Correction} \times \text{Piping Length} \\
 &\quad \text{Correction} \times \text{Defrost Correction} \\
 &= 80,000 \times 0.99 \times 0.98 \times 0.87 \\
 &= 67,000 \text{ BTU/h}
 \end{aligned}$$

(6) Determination of Maximum System Capacity (CTx)

Comparison of Capacity between Total Indoor Units Capacity (CTi) and Total Outdoor Unit Capacity (CTo)

$$\begin{aligned}
 CTi &= 64,000 < CTo = 67,000, \text{ thus, select } CTi. \\
 CTx &= CTi = 64,000 \text{ BTU/h}
 \end{aligned}$$

(7) Comparison with Essential Load

Against the essential load 62,000BTU/h, the maximum system capacity is 64,000BTU/h: Proper outdoor units have been selected.

(8) Calculation of Maximum Indoor Unit Capacity of Each Room

CTx = CTi, thus, calculate by the calculation below

Room1	Indoor Unit Rating × Indoor Design Temperature Correction	
	= 40,000 × 0.80	
	= 32,000 BTU/h	OK: fulfills the load 31,000BTU/h

Room2	Indoor Unit Rating × Indoor Design Temperature Correction	
	= 40,000 × 0.80	
	= 32,000 BTU/h	OK: fulfills the load 31,000BTU/h

Completed selecting units since the selected units fulfill the heating loads of Room 1, 2.

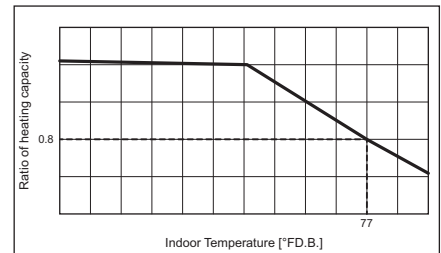


Fig.4 Indoor unit temperature correction
To be used to correct indoor unit only

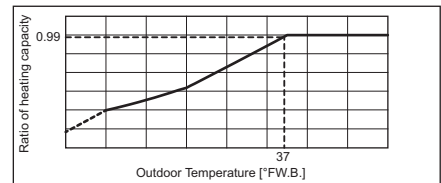


Fig.5 Outdoor unit temperature correction
To be used to correct outdoor unit only

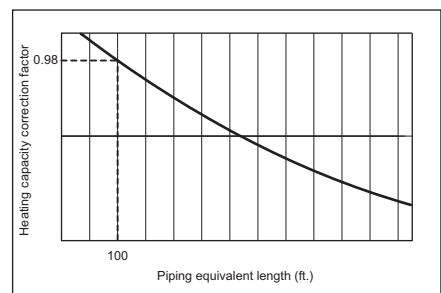


Fig.6 Correction of refrigerant piping length

R2 (K)

Tbl.1 Table of correction factor at frost and defrost

Outdoor inlet air temp. °CWB	6	4	2	1	0	-2	-4	-6	-8	-10	-20
Outdoor inlet air temp. °FWB	43	39	36	34	32	28	25	21	18	14	-4
PUHY-P72	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.95	0.95	0.95	0.95
PUHY-P96	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.95	0.95	0.95	0.95
PUHY-P120	1.00	0.93	0.82	0.80	0.82	0.86	0.90	0.90	0.95	0.95	0.95
PUHY-P144	1.00	0.93	0.82	0.80	0.82	0.86	0.90	0.90	0.95	0.95	0.95
PUHY-P168	1.00	0.93	0.82	0.80	0.82	0.86	0.90	0.90	0.95	0.95	0.95

3. Power input of outdoor unit

<Cooling>

(1) Rated power input of outdoor unit **4.55 kW (Nominal)**

(2) Calculation of the average indoor temperature power input coefficient

Coefficient of the outdoor unit for indoor unit 1 (Outdoor temp. 99 °FD.B., Indoor temp. 68 °FW.B.)
1.09

Coefficient of the outdoor unit for indoor unit 2 (Outdoor temp. 99 °FD.B., Indoor temp. 64 °FW.B.)
1.03

$$\text{Average indoor temp. power input coefficient } (C_{ave}) = \sum_{k=1}^n \{c_k \times (M_k / \sum_{k=1}^n M_k)\}$$

n: Total number of the indoor units

k: Number of the indoor unit

c_k: Outdoor unit power input coefficient of k indoor unit room temp.

M_k: Number part of the k indoor unit model (e.g. P36 → 36)

$$= 1.09 \times 36 / (36 + 36) + 1.03 \times 36 / (36 + 36)$$

$$= 1.06$$

(3) No need to consider Coefficient of the partial load f(CTi/CTo) -

(4) Outdoor power input (P_{lo})

Maximum System Capacity (CT_x) = Total Outdoor unit Capacity (CT_o), so use the following formula

$$P_{lo} = \text{Outdoor unit Cooling Rated Power Input} \times \text{Correction Coefficient of Indoor temperature}$$

$$= 4.55 \times 1.06$$

$$= 4.82 \text{ kW}$$

<Heating>

(1) Rated power input of outdoor unit**5.48 kW (Nominal)****(2) Calculation of the average indoor temperature power input coefficient**Coefficient of the outdoor unit for indoor unit 1 (Outdoor temp. 35.6 °FW.B., Indoor temp. 77 °FD.B.)
0.80Coefficient of the outdoor unit for indoor unit 2 (Outdoor temp. 35.6 °FW.B., Indoor temp. 77 °FD.B.)
0.80

$$\text{Average indoor temp. power input coefficient } (C_{ave}) = \sum_{k=1}^n \{C_k \times (M_k / \sum_{k=1}^n M_k)\}$$

n: Total number of the indoor units

k: Number of the indoor unit

c_k: Outdoor unit power input coefficient of k indoor unit room temp.M_k: Number part of the k indoor unit model (e.g. P36 → 36)

$$= 0.8 \times 36 / (36 + 36) + 0.8 \times 36 / (36 + 36)$$

$$= 0.80$$

(3) Coefficient of the partial load f (CTi/CTo)**0.92****(4) Outdoor power input (P_{lo})**Maximum System Capacity (CT_x) = Total Indoor unit Capacity (CT_i), so use the following formula

$$P_{lo} = \text{Outdoor unit Heating Rated Power Input} \times \text{Correction Coefficient of Indoor temperature} \times f(CT_i/CT_o)$$

$$= 5.48 \times 0.8 \times 0.92$$

$$= 4.04 \text{ kW}$$

8. CAPACITY TABLES

Outdoor units

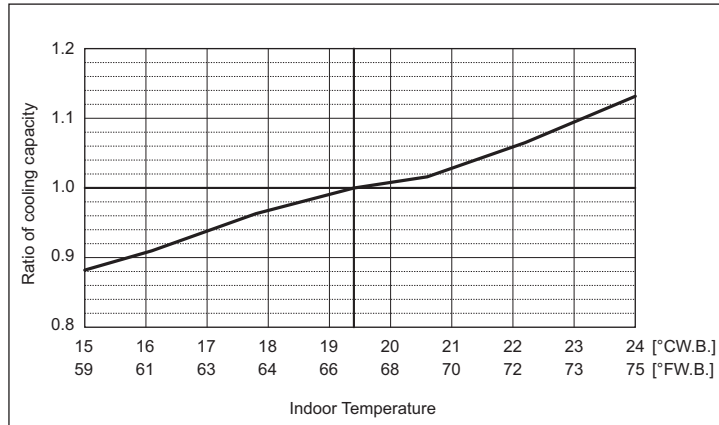
8-2. Correction by temperature

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.

PURY-		P72TKMU/YKMU		P96TKMU/YKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	72,000		96,000	
	kW	21.1		28.1	
	Input kW	4.40		7.05	
Rated cooling capacity	BTU/h	69,000		92,000	
	kW	20.2		27.0	
	Input kW	4.10	4.05	6.24	6.81

Indoor unit temperature correction

To be used to correct indoor unit capacity only

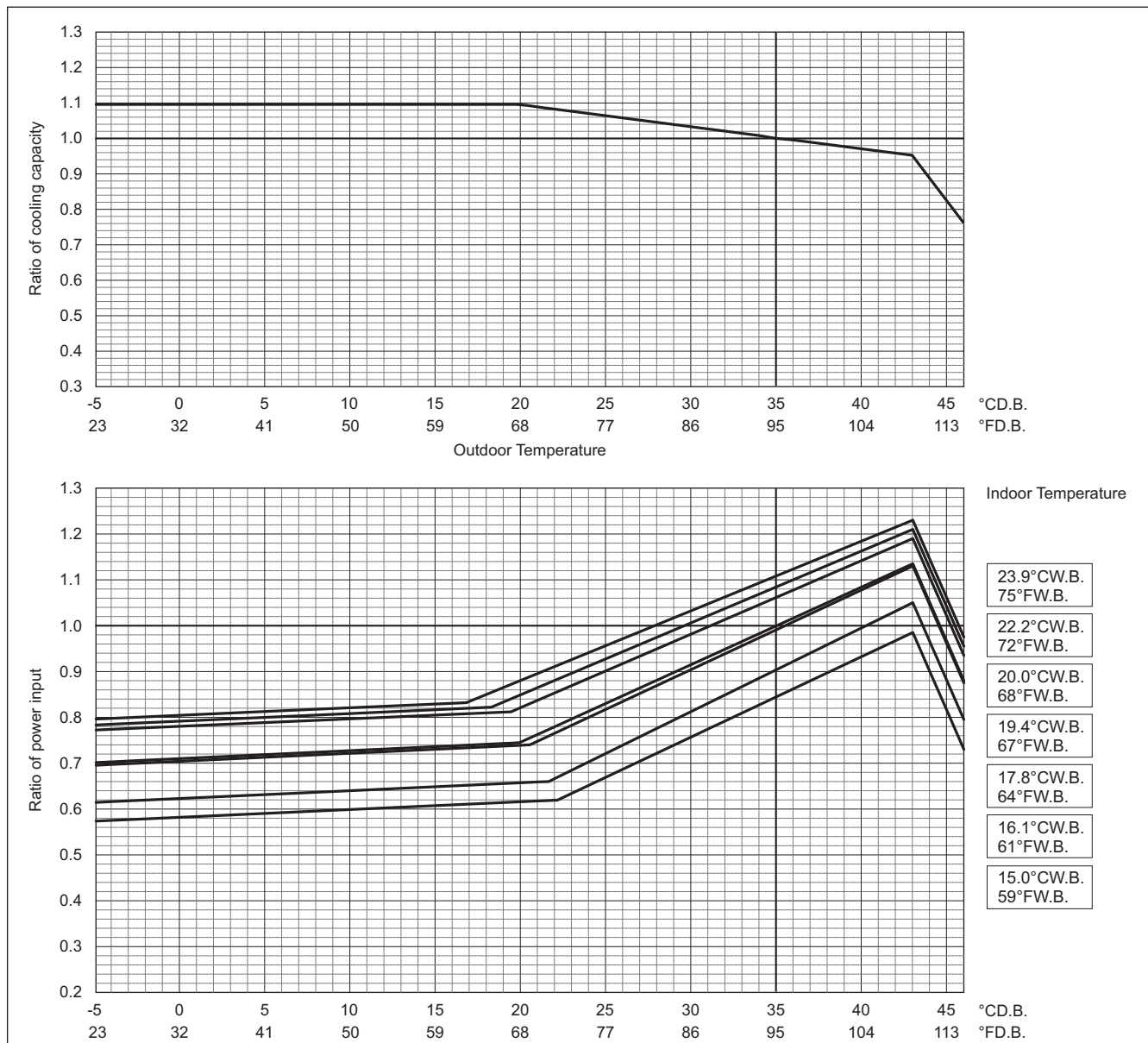


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



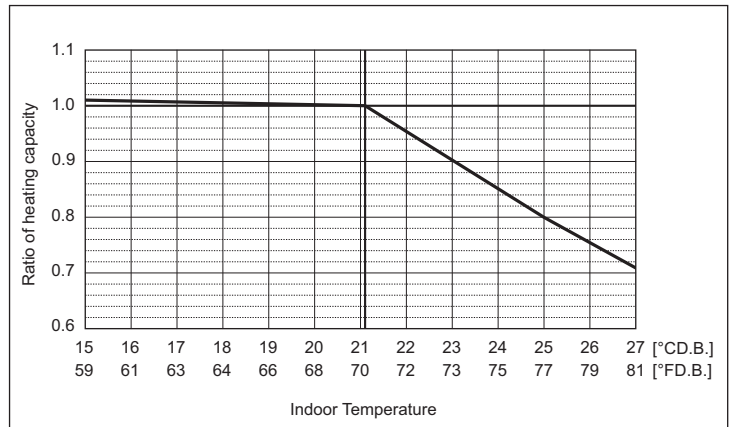
R2 (K)

8. CAPACITY TABLES

PURY-		P72TKMU/YKMU		P96TKMU/YKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	80,000		108,000	
	kW	23.4		31.7	
Input	kW	5.92		8.28	
	BTU/h	76,000		103,000	
Rated Heating capacity	kW	22.3		30.2	
	Input	kW	5.79	5.37	7.80

Indoor unit temperature correction

To be used to correct indoor unit capacity only

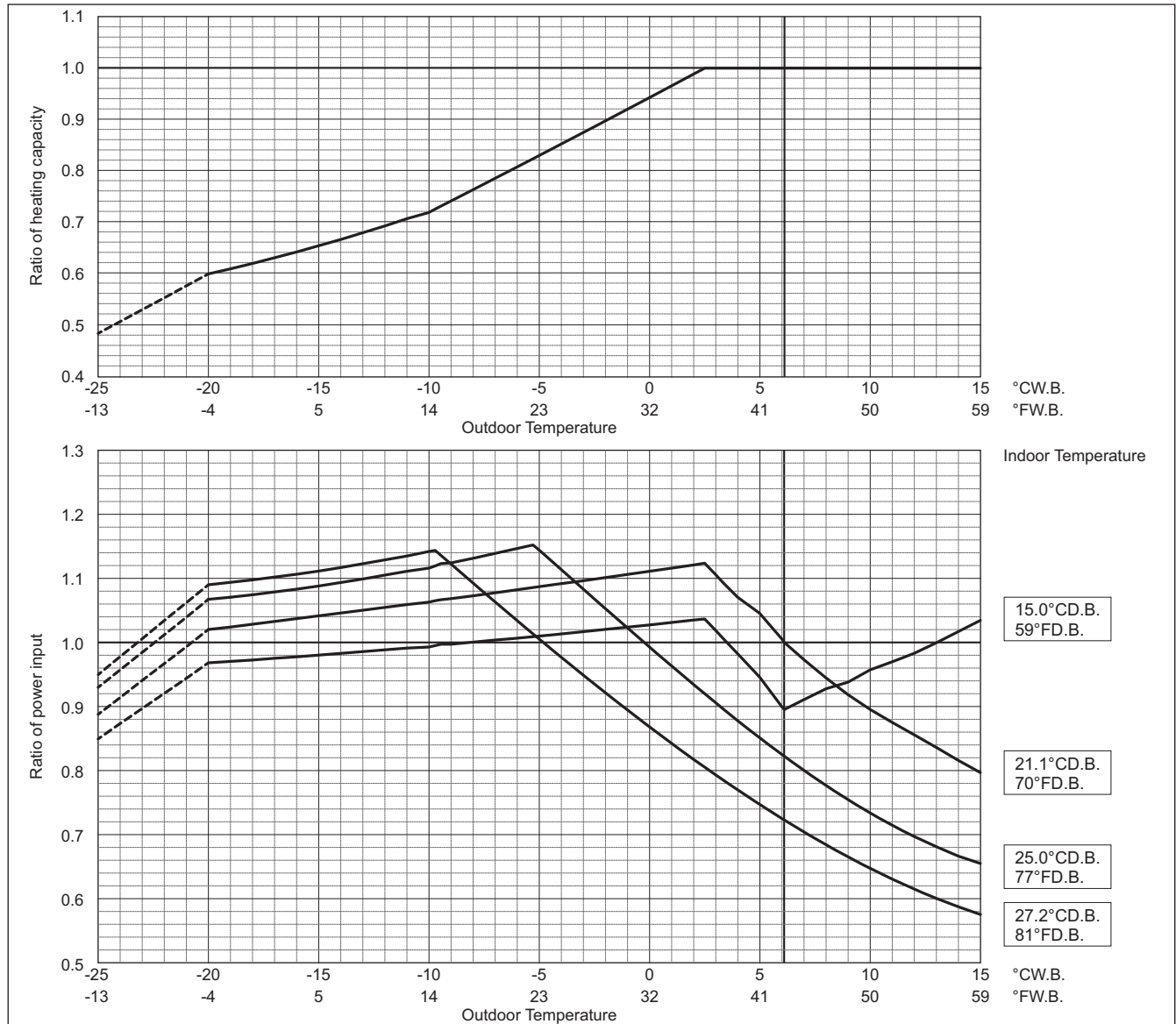


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

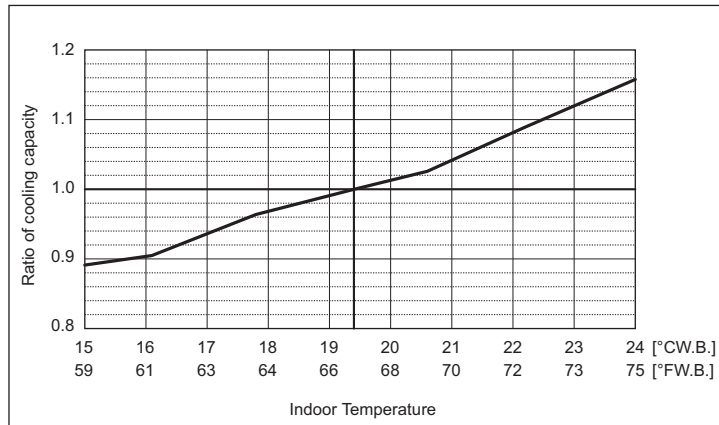
8. CAPACITY TABLES

Outdoor units

PURY-		P120TKMU/YKMU	
		Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	12,000	
	kW	35.2	
Input	kW	9.44	
	BTU/h	114,000	
Rated cooling capacity	kW	33.4	
	Input kW	8.78	8.71

Indoor unit temperature correction

To be used to correct indoor unit capacity only

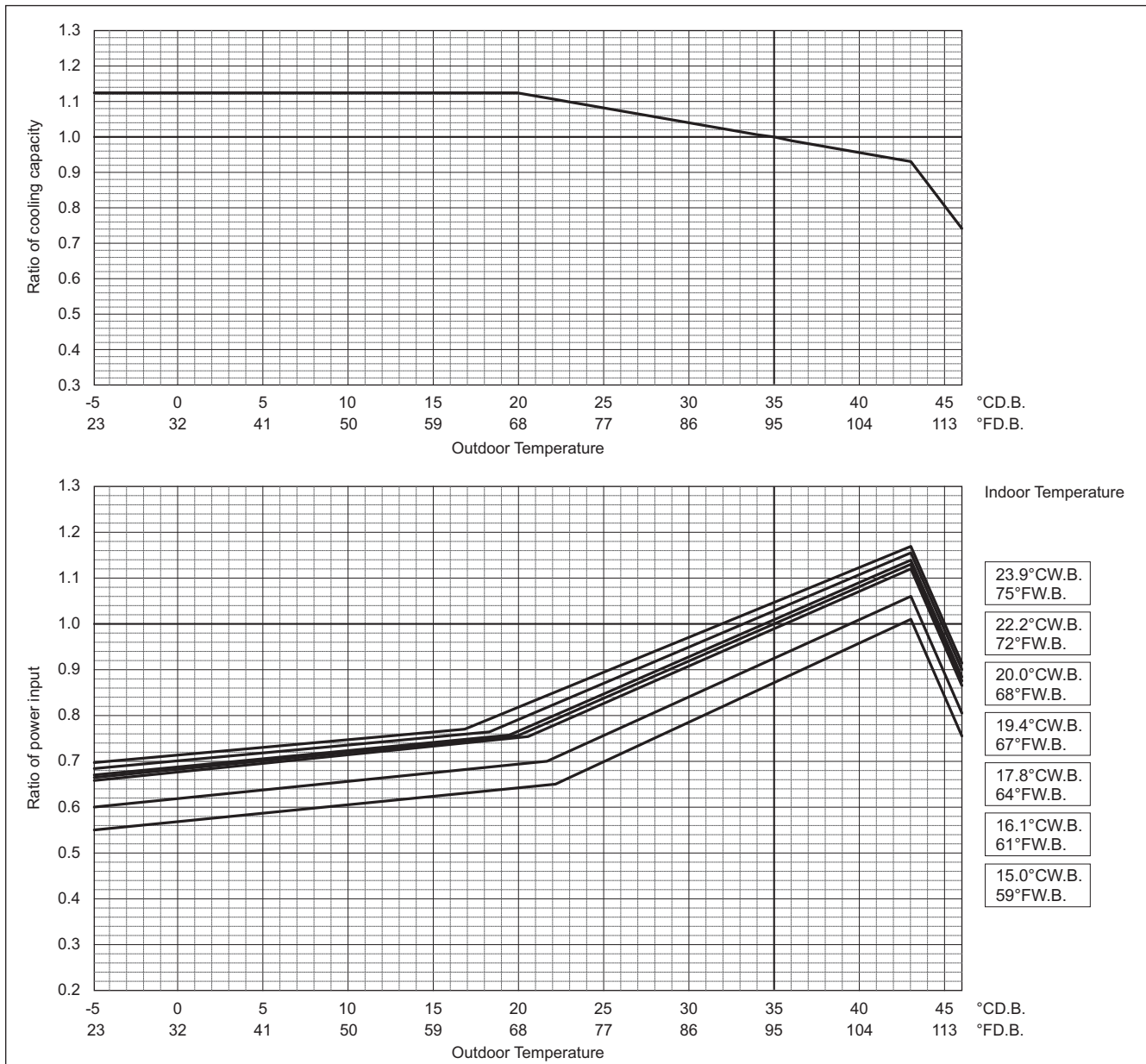


Outdoor unit temperature correction

To be used to correct outdoor unit only

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Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



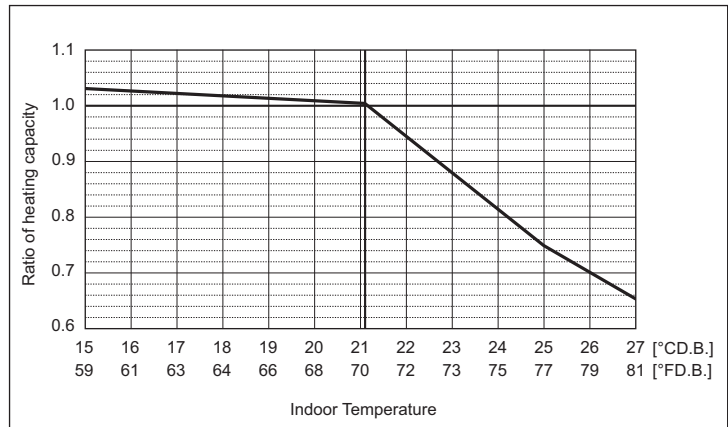
R2 (K)

8. CAPACITY TABLES

PURY-		P120TKMU/YKMU	
		Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	135,000	
	kW	39.6	
	Input kW	10.86	
Rated Heating capacity	BTU/h	129,000	
	kW	37.8	
	Input kW	10.10	10.23

Indoor unit temperature correction

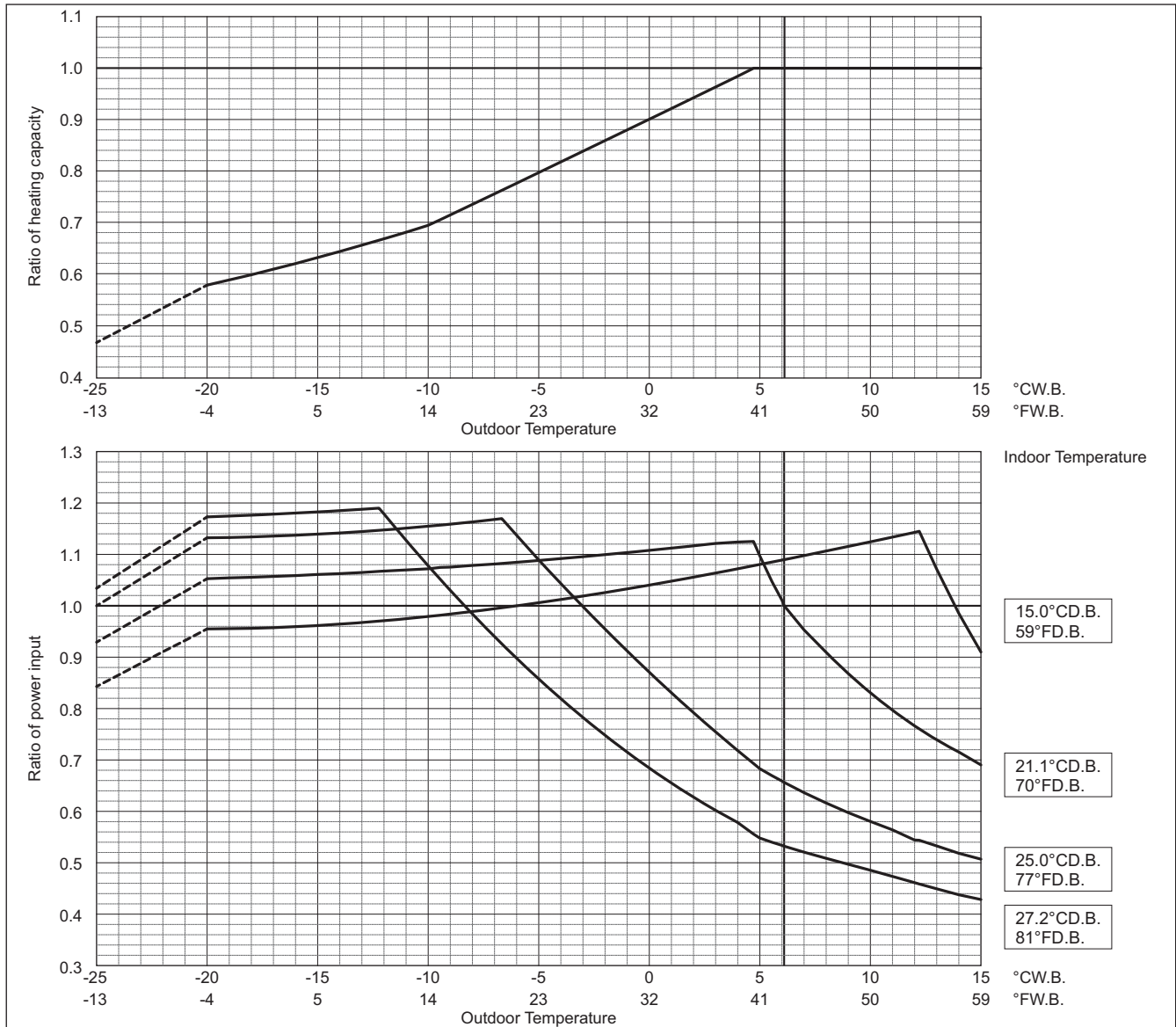
To be used to correct indoor unit capacity only



Outdoor unit temperature correction

To be used to correct outdoor unit only
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R2 (K)

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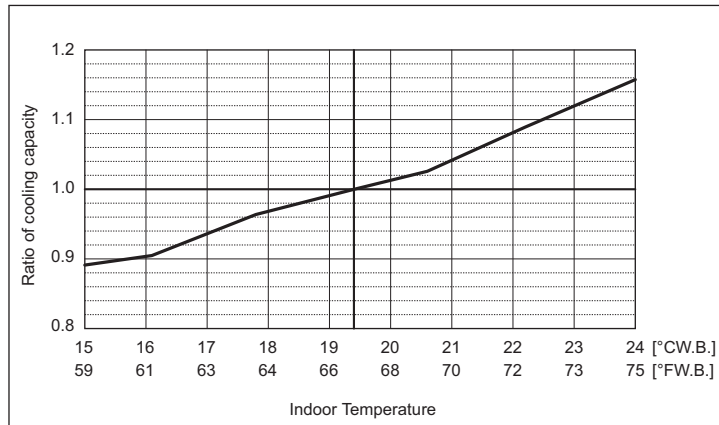
8. CAPACITY TABLES

Outdoor units

PURY-		P144TKMU/YKMU	
		Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	144,000	
	kW	42.2	
Input	kW	11.20	
	BTU/h	137,000	
Rated cooling capacity	kW	40.2	
	Input kW	10.14	10.60

Indoor unit temperature correction

To be used to correct indoor unit capacity only

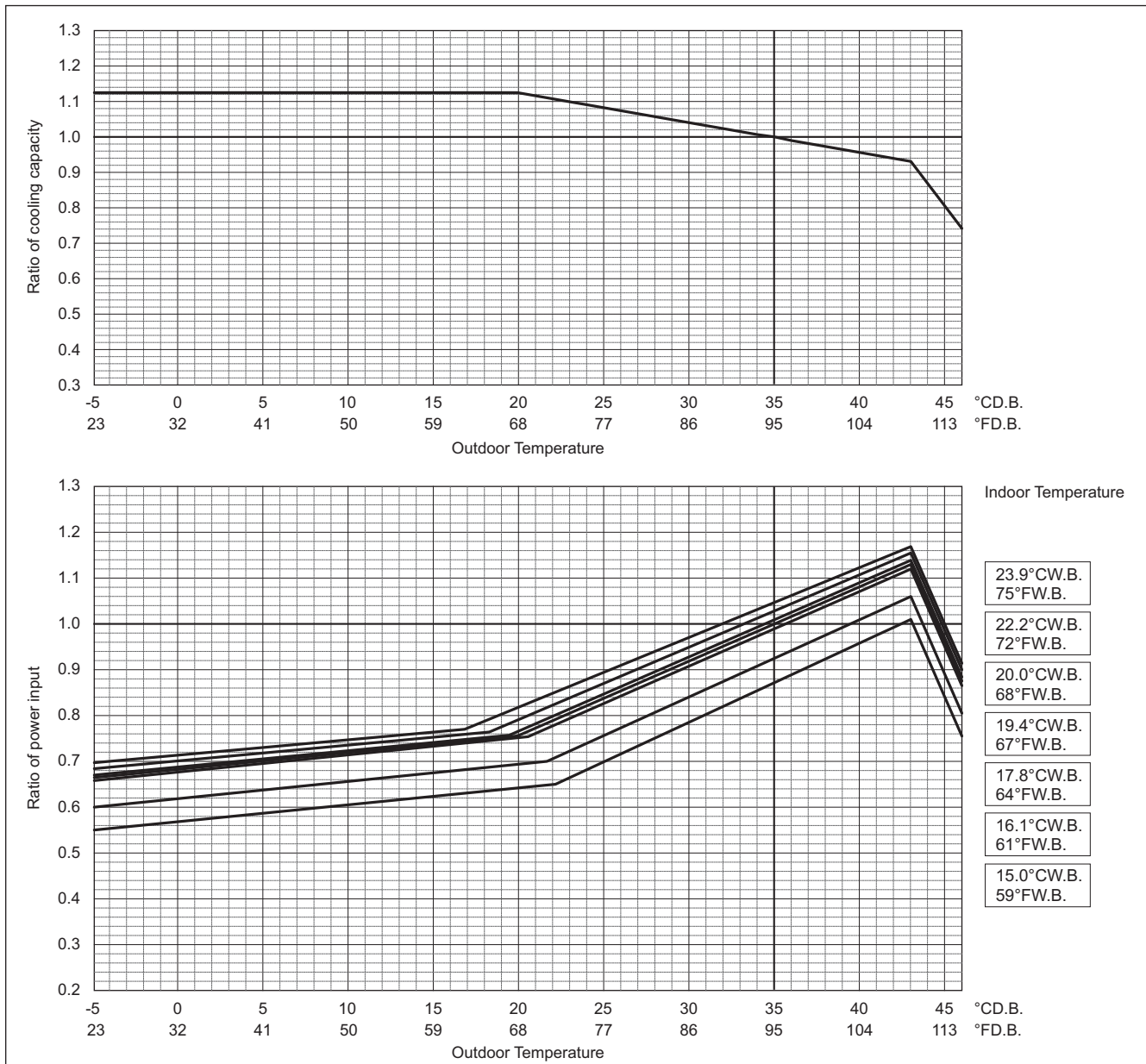


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



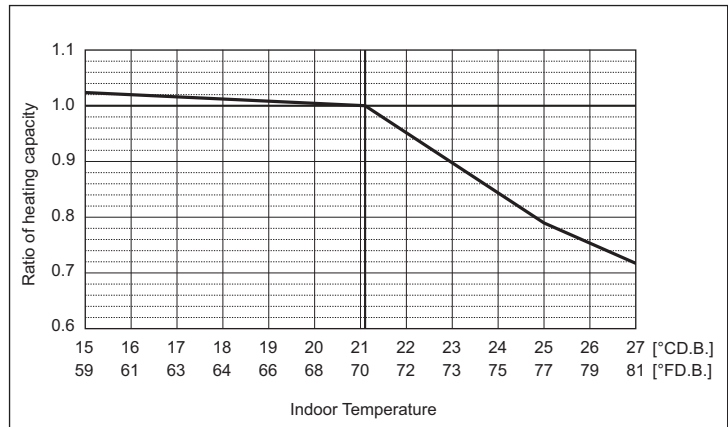
R2 (K)

8. CAPACITY TABLES

PURY-		P144TKMU/YKMU	
		Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	160,000	
	kW	46.9	
	Input kW	13.54	
Rated Heating capacity	BTU/h	152,000	
	kW	44.5	
	Input kW	13.13	12.22

Indoor unit temperature correction

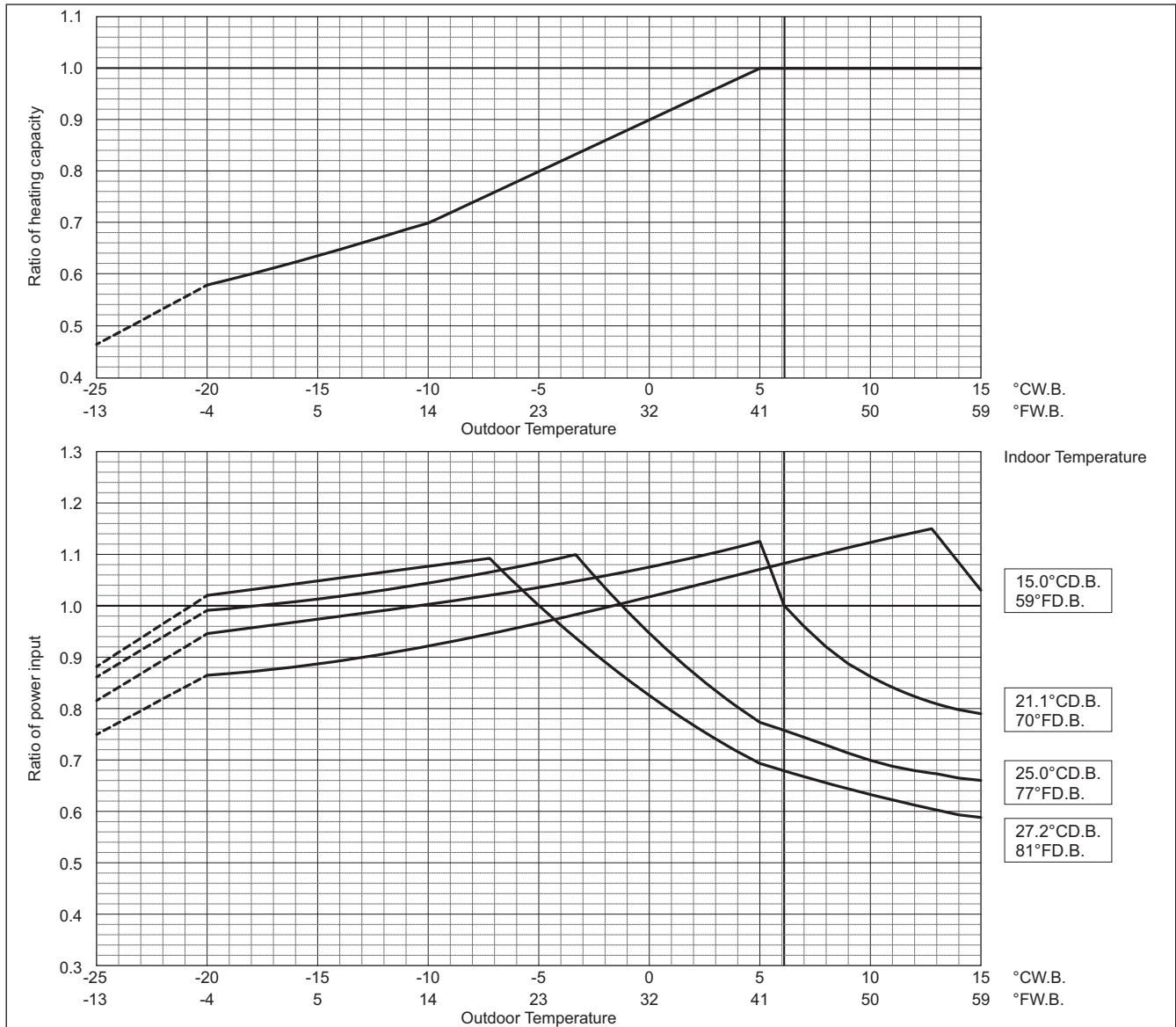
To be used to correct indoor unit capacity only



Outdoor unit temperature correction

To be used to correct outdoor unit only
 Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

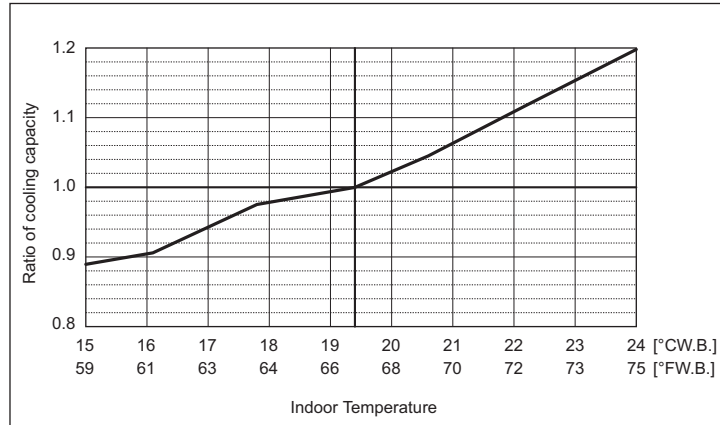
8. CAPACITY TABLES

Outdoor units

PURY-		P144YSKMU		P168TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	144,000		168,000	
	kW	42.2		49.2	
Input	kW	10.31		12.80	
	BTU/h	137,000		161,000	
Rated cooling capacity	kW	40.2		47.2	
	Input kW	8.87	10.23	11.80	11.90

Indoor unit temperature correction

To be used to correct indoor unit capacity only



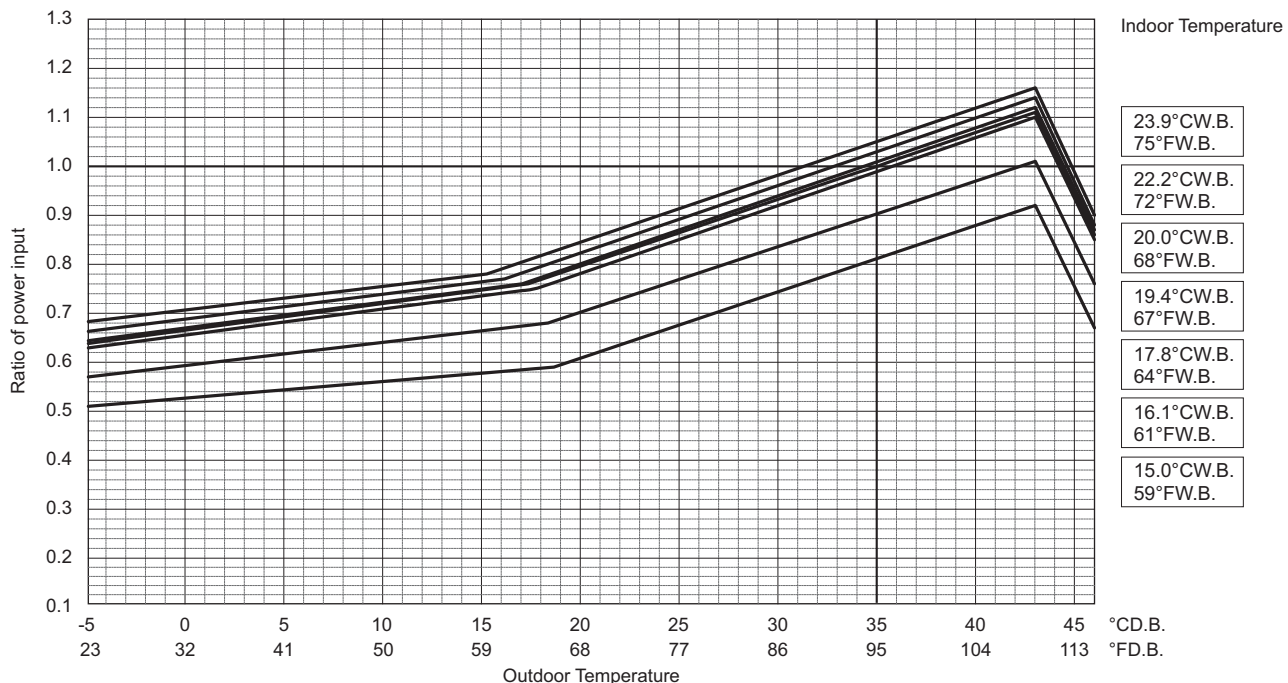
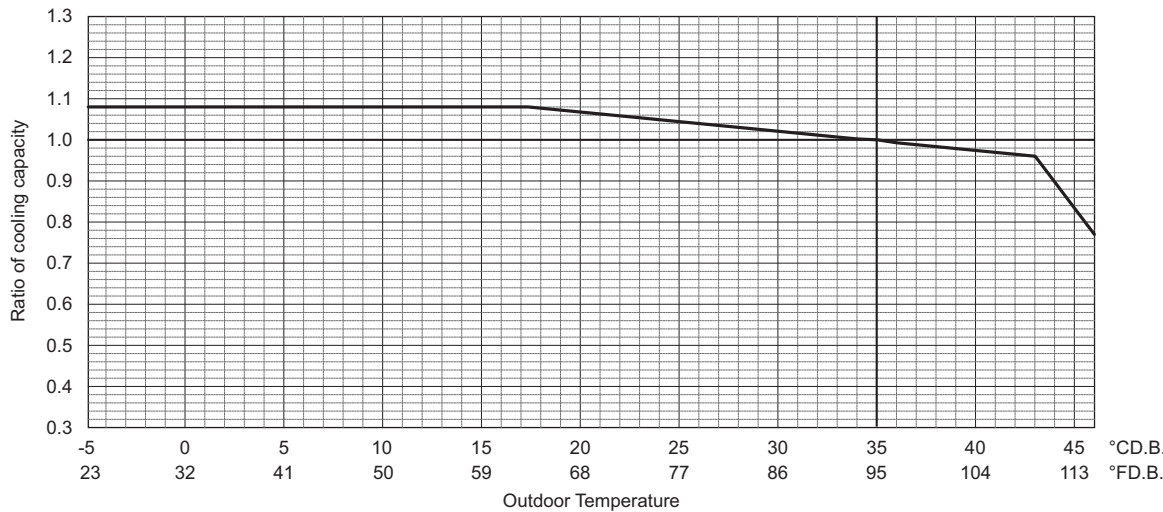
PURY-		P192TSKMU/YSKMU	
		Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	192,000	
	kW	56.3	
Input	kW	15.61	
	BTU/h	183,000	
Rated cooling capacity	kW	53.6	
	Input kW	14.61	14.30

Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

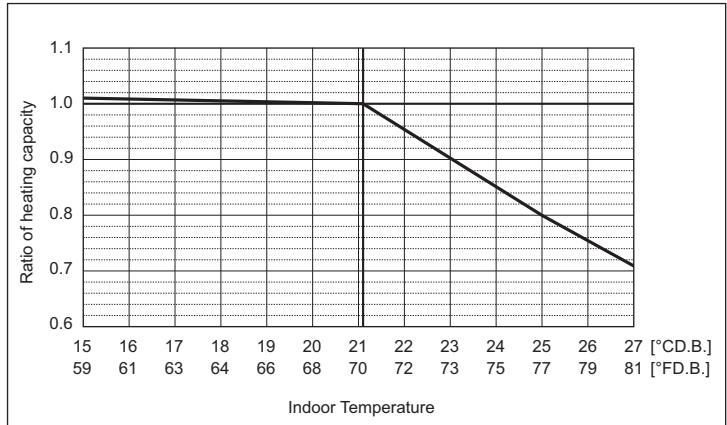
8. CAPACITY TABLES

PURY-		P144YSKMU		P168TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	160,000		188,000	
	kW	46.9		55.1	
	Input kW	12.54		14.91	
Rated Heating capacity	BTU/h	152,000		179,000	
	kW	44.5		52.5	
	Input kW	11.73	11.74	14.43	13.44

PURY-		P192TSKMU/YSKMU	
		Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	215,000	
	kW	63.0	
	Input kW	17.20	
Rated Heating capacity	BTU/h	205,000	
	kW	60.1	
	Input kW	16.73	15.34

Indoor unit temperature correction

To be used to correct indoor unit capacity only

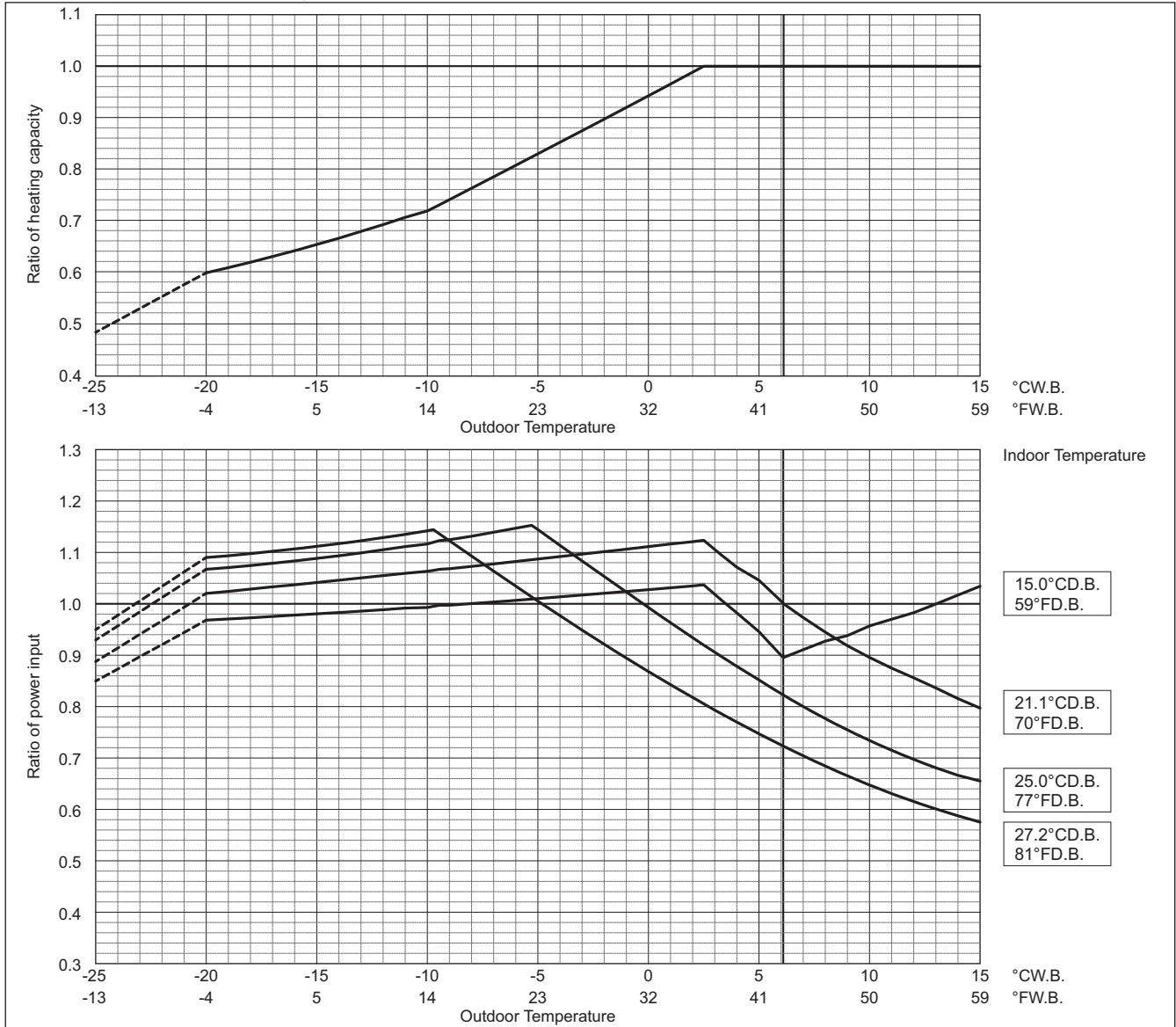


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

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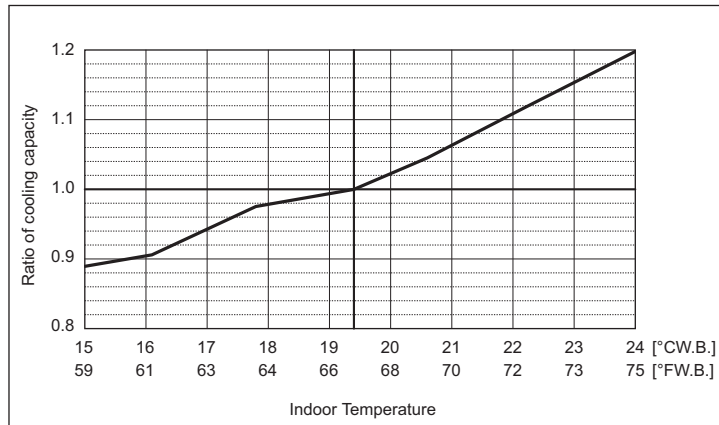
8. CAPACITY TABLES

Outdoor units

PURY-		P216TSKMU/YSKMU		P240TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	216,000		240,000	
	kW	63.3		70.3	
Input	kW	18.22		21.11	
	BTU/h	206,000		228,000	
Rated cooling capacity	kW	60.4		66.8	
	Input kW	17.43	16.31	20.03	19.06

Indoor unit temperature correction

To be used to correct indoor unit capacity only

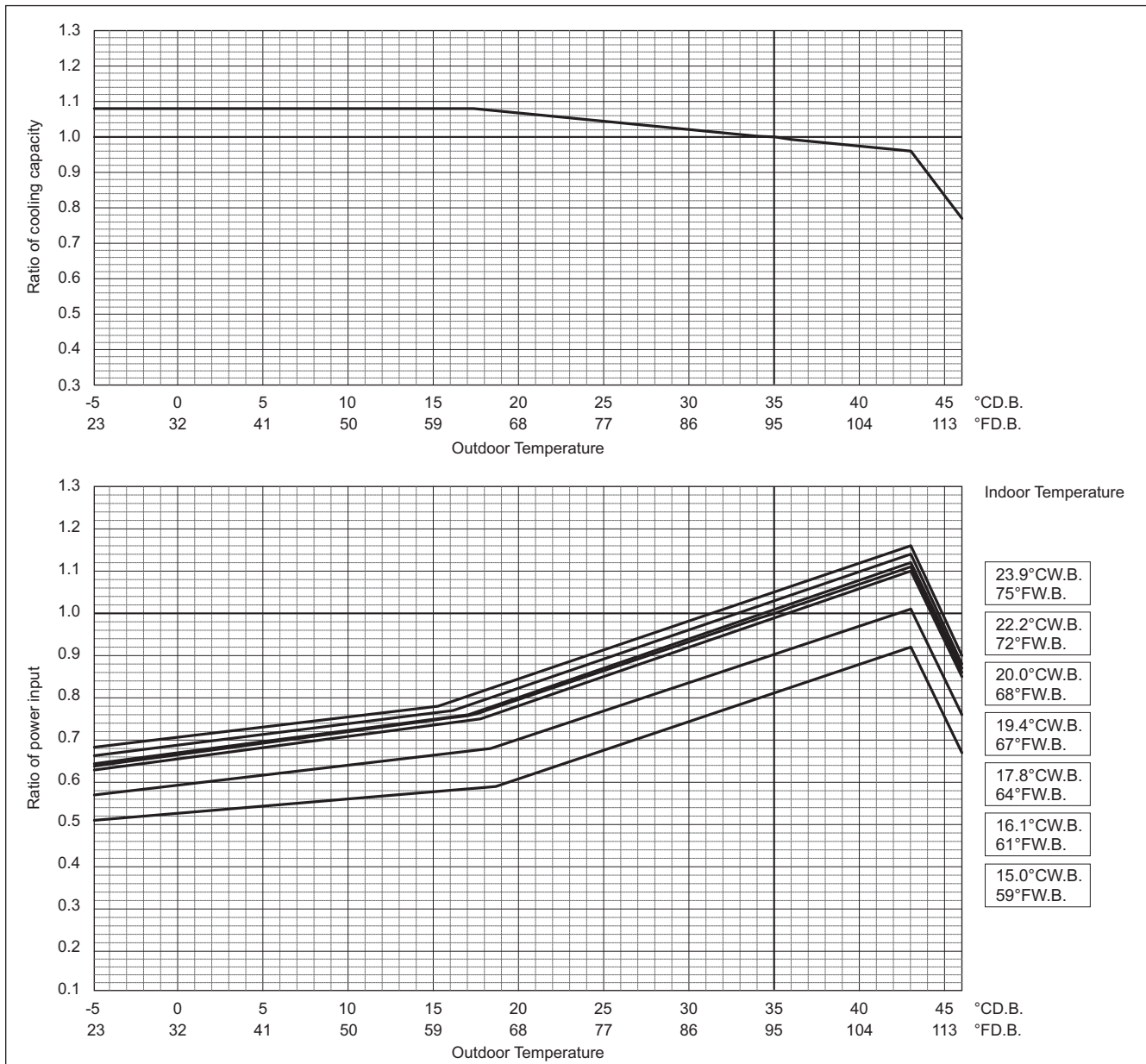


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



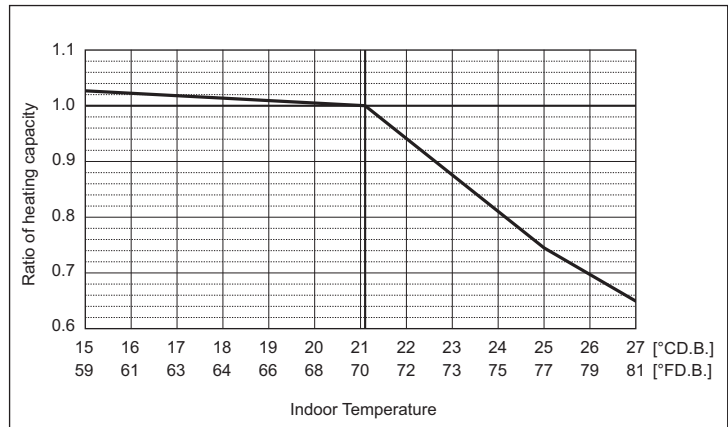
R2 (K)

8. CAPACITY TABLES

PURY-		P216TSKMU/YSKMU		P240TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	243,000		270,000	
	kW	71.2		79.1	
	Input	19.89		22.73	
Rated Heating capacity	BTU/h	232,000		258,000	
	kW	68.0		75.6	
	Input	19.20	17.86	21.43	20.92

Indoor unit temperature correction

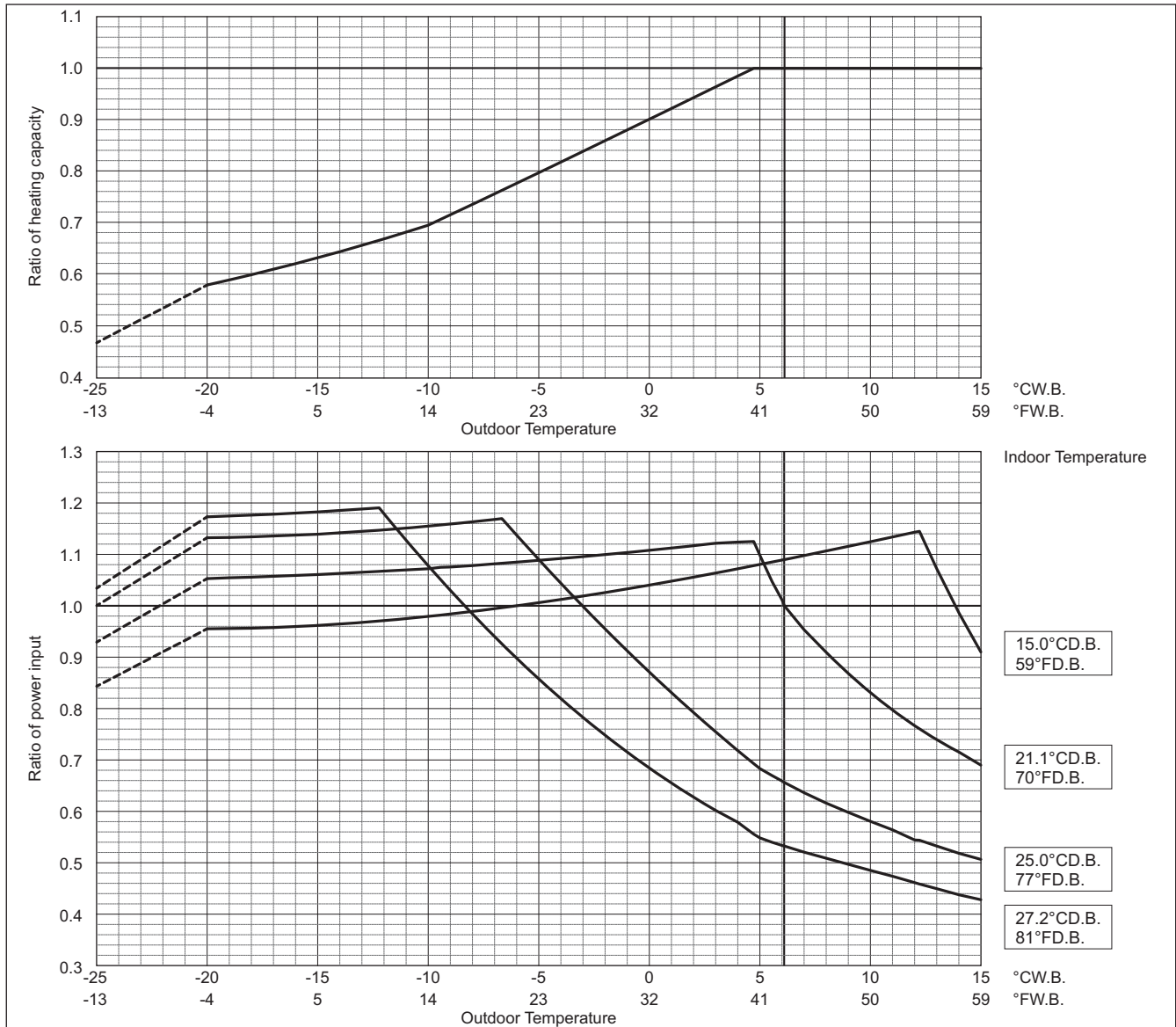
To be used to correct indoor unit capacity only



Outdoor unit temperature correction

To be used to correct outdoor unit only
 Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

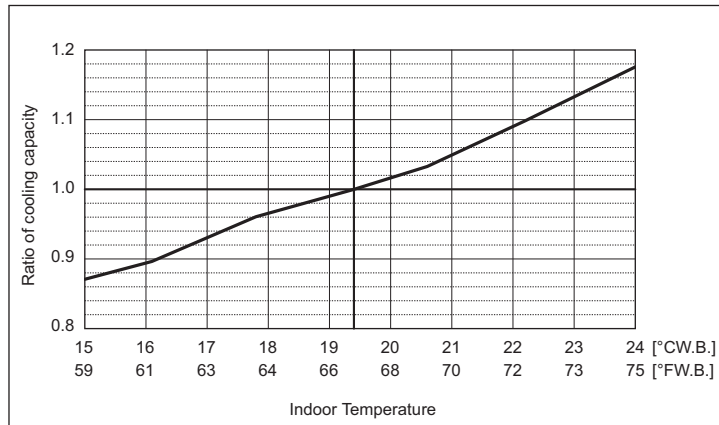
8. CAPACITY TABLES

Outdoor units

PURY-		P264TSKMU/YSKMU		P288TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	264,000		288,000	
	kW	77.4		84.4	
Input	kW	23.05		24.57	
Rated cooling capacity	BTU/h	251,000		274,000	
	kW	73.6		80.3	
Input	kW	21.89	20.79	23.24	22.26

Indoor unit temperature correction

To be used to correct indoor unit capacity only

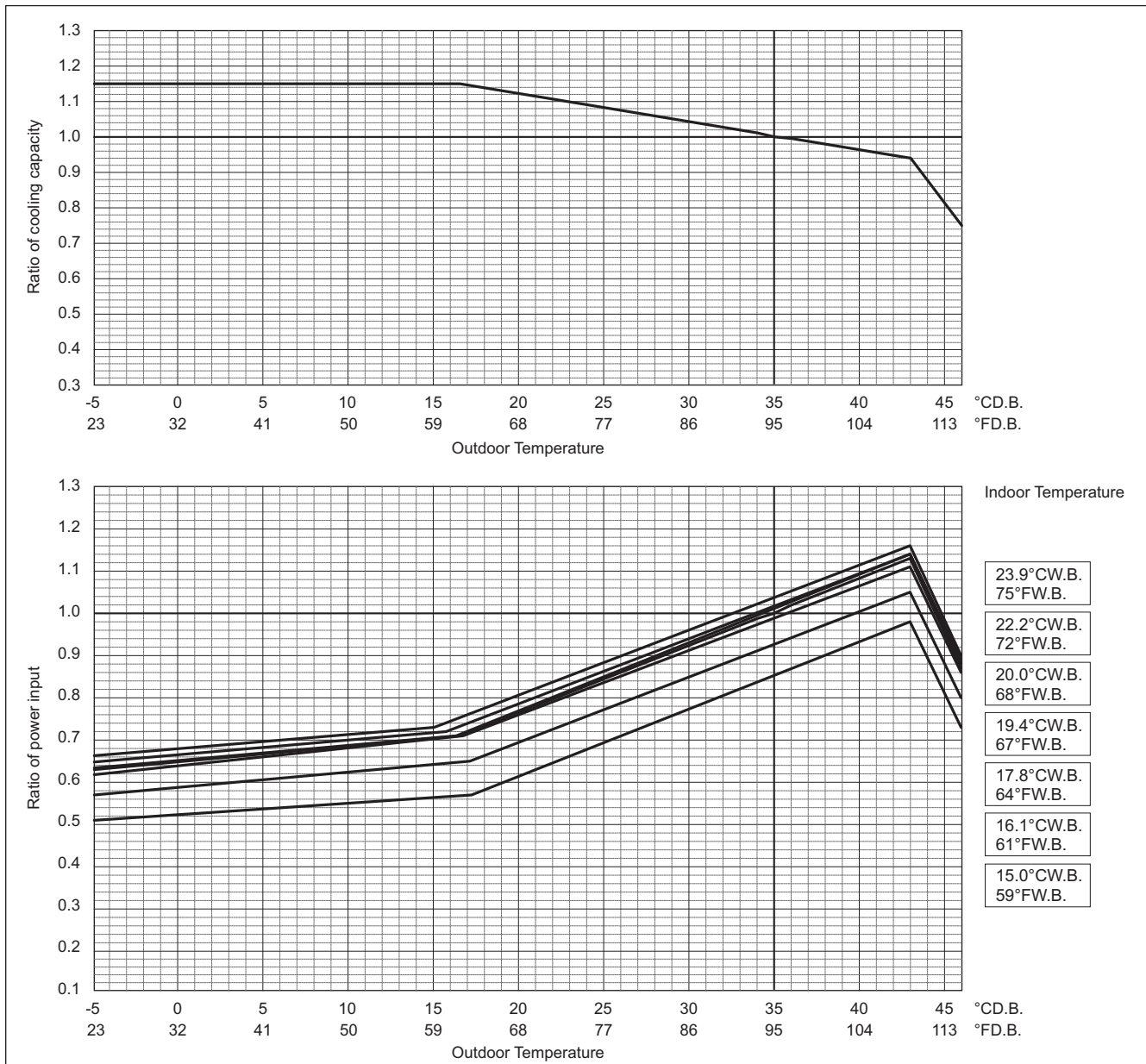


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



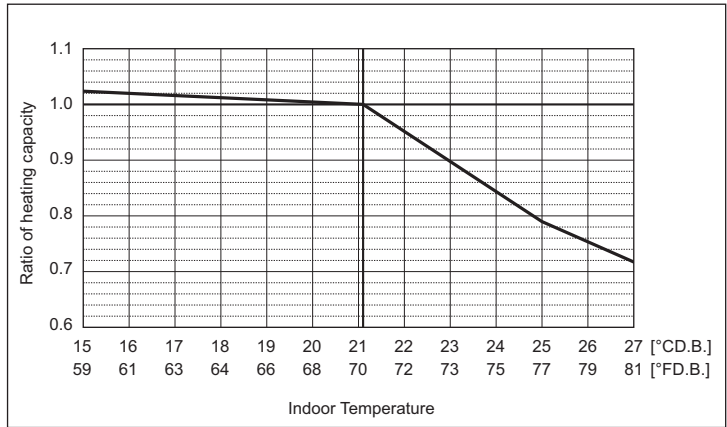
R2 (K)

8. CAPACITY TABLES

PURY-		P264TSKMU/YSKMU		P288TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	295,000		320,000	
	kW	86.5		93.8	
	Input	25.37		27.62	
Rated Heating capacity	BTU/h	281,000		304,000	
	kW	82.4		89.1	
	Input	24.65	22.64	26.83	24.40

Indoor unit temperature correction

To be used to correct indoor unit capacity only

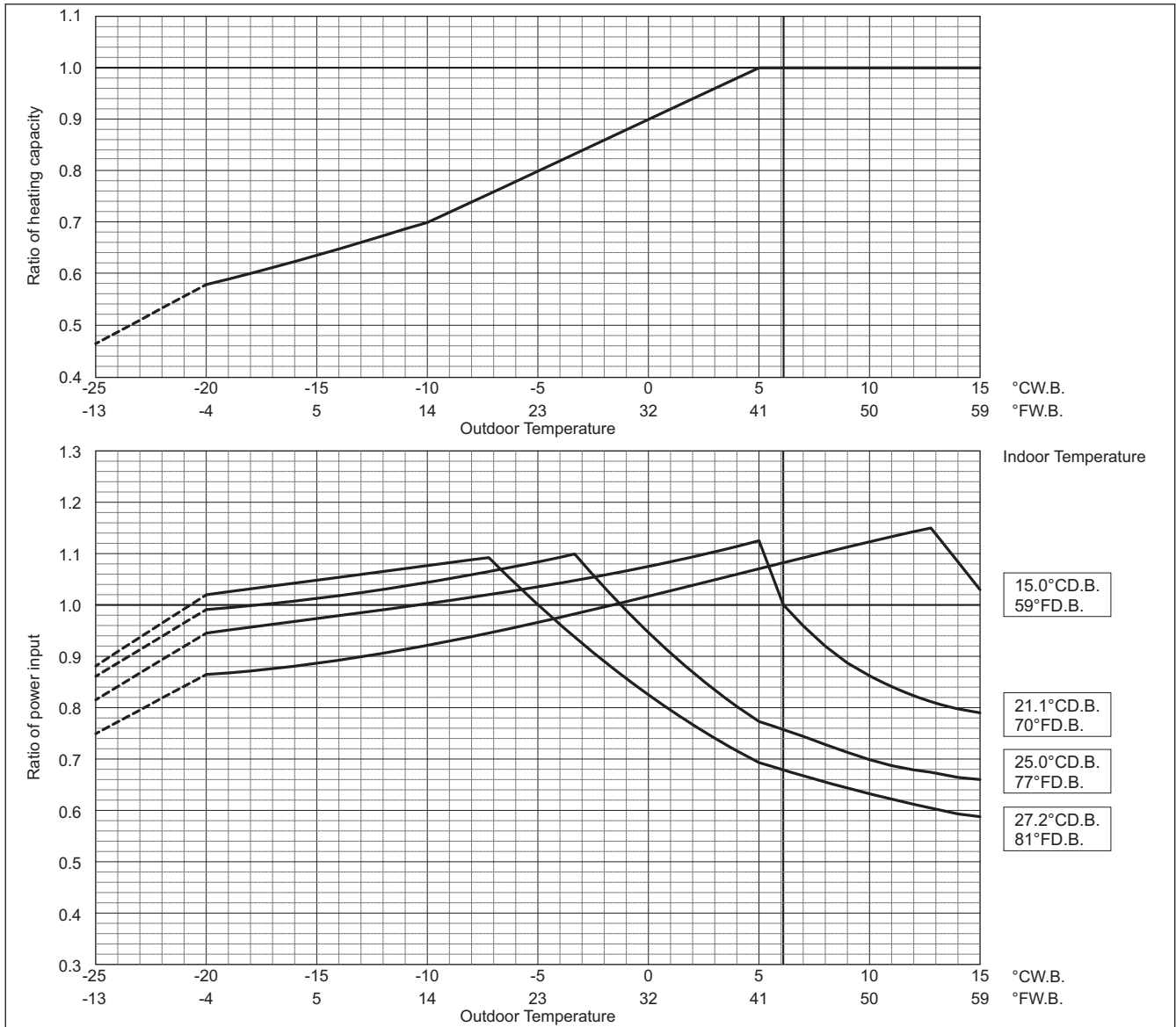


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

8. CAPACITY TABLES

Outdoor units

Correction by temperature (High Heating Performance Mode)

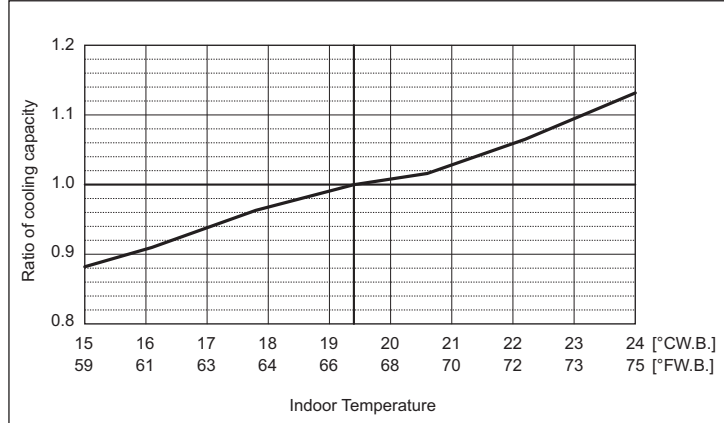
CITY MULTI could have various capacities at different designing temperatures. Using the nominal cooling/heating capacity values and the ratios below, the capacity can be found for various temperatures.

To select high heating performance mode, DipSW 6-2 must be set to ON. (In the low ambient temperature, heating capacity and power input become higher than those under standard mode.)

PURY-		P72TKMU/YKMU		P96TKMU/YKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	72,000		96,000	
	kW	21.1		28.1	
Input	kW	4.40	4.05	6.24	6.81
	BTU/h	69,000		92,000	
Rated cooling capacity	kW	20.2		27.0	
	kW	4.10	4.05	6.24	6.81

Indoor unit temperature correction

To be used to correct indoor unit capacity only

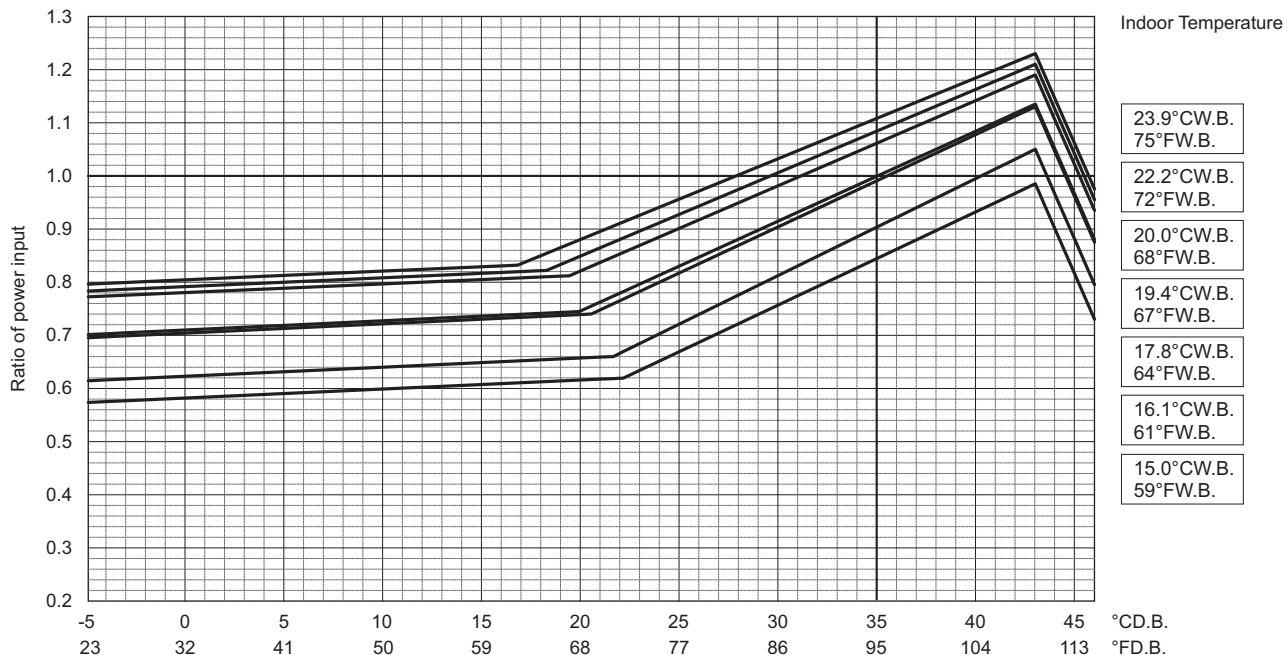
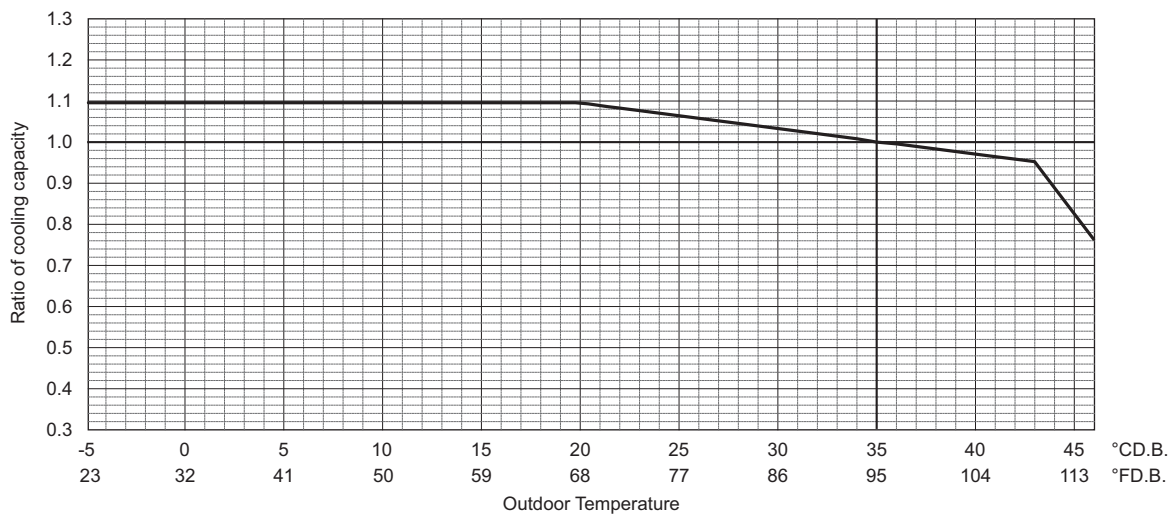


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

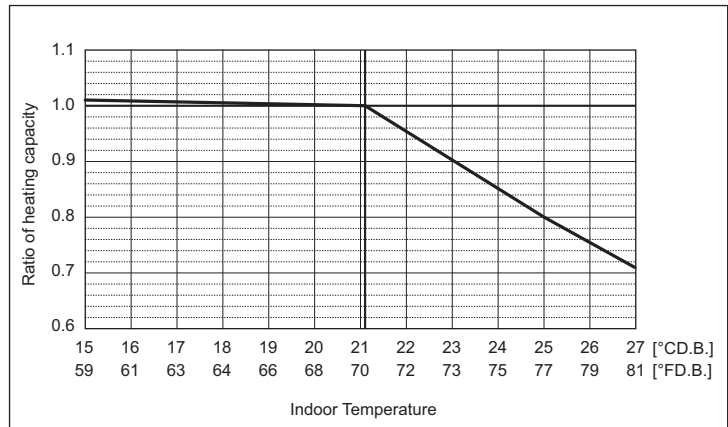
8. CAPACITY TABLES

High Heating Performance Mode

PURY-		P72TKMU/YKMU		P96TKMU/YKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	80,000		108,000	
	kW	23.4		31.7	
Input	kW	5.92		8.28	
	BTU/h	76,000		103,000	
Rated Heating capacity	kW	22.3		30.2	
	Input kW	5.79	5.37	7.80	7.75

Indoor unit temperature correction

To be used to correct indoor unit capacity only

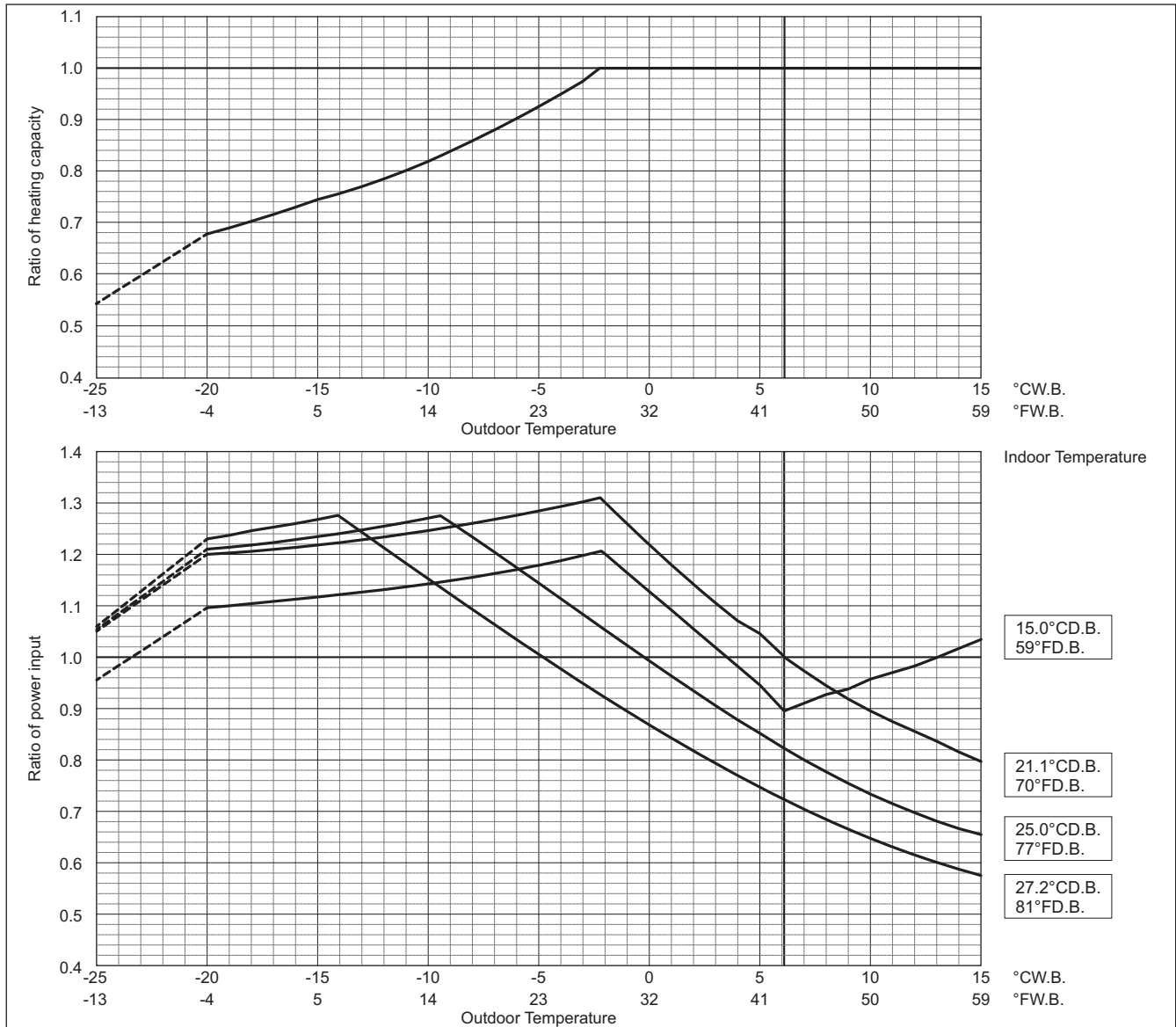


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

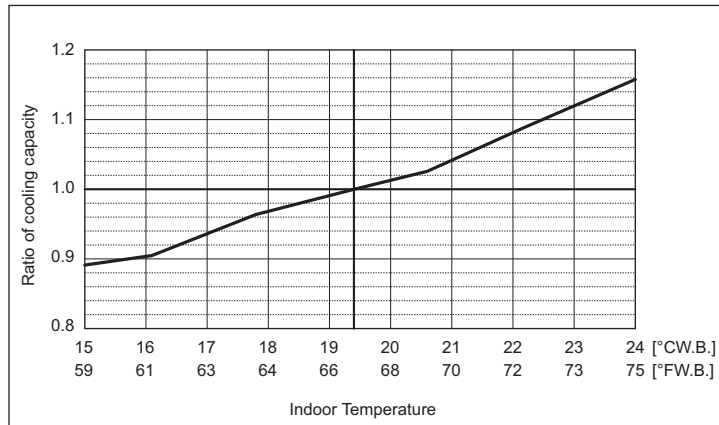
8. CAPACITY TABLES

Outdoor units

PURY-		P120TKMU/YKMU	
		Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	12,000	
	kW	35.2	
Input	kW	9.44	
	BTU/h	114,000	
Rated cooling capacity	kW	33.4	
	Input kW	8.78	8.71

Indoor unit temperature correction

To be used to correct indoor unit capacity only

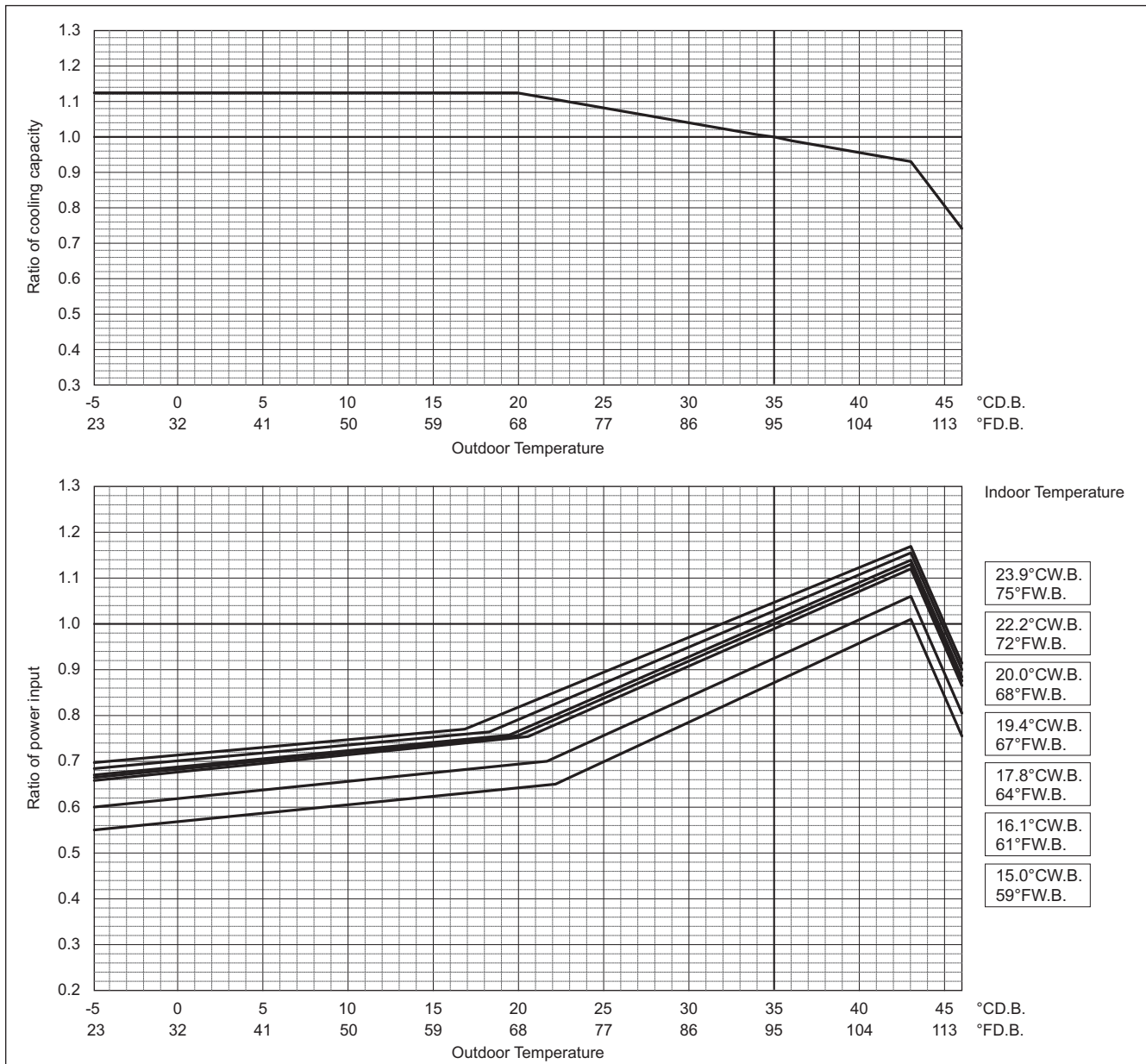


Outdoor unit temperature correction

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Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

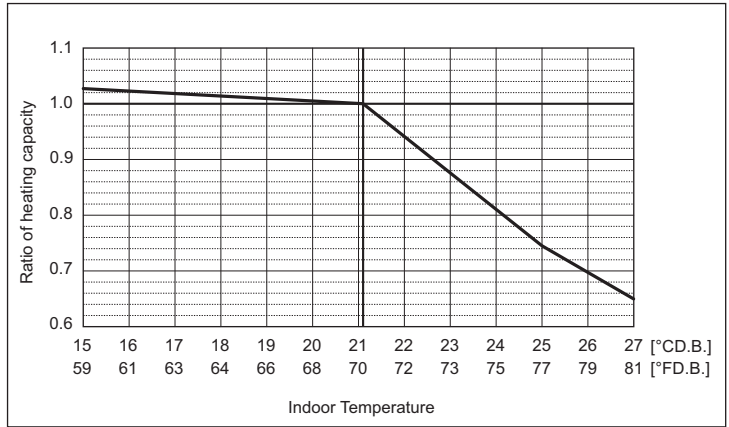
8. CAPACITY TABLES

High Heating Performance Mode

PURY-		P120TKMU/YKMU	
		Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	135,000	
	kW	39.6	
Input	kW	10.86	
	BTU/h	129,000	
Rated Heating capacity	kW	37.8	
	Input	kW	10.10 10.23

Indoor unit temperature correction

To be used to correct indoor unit capacity only

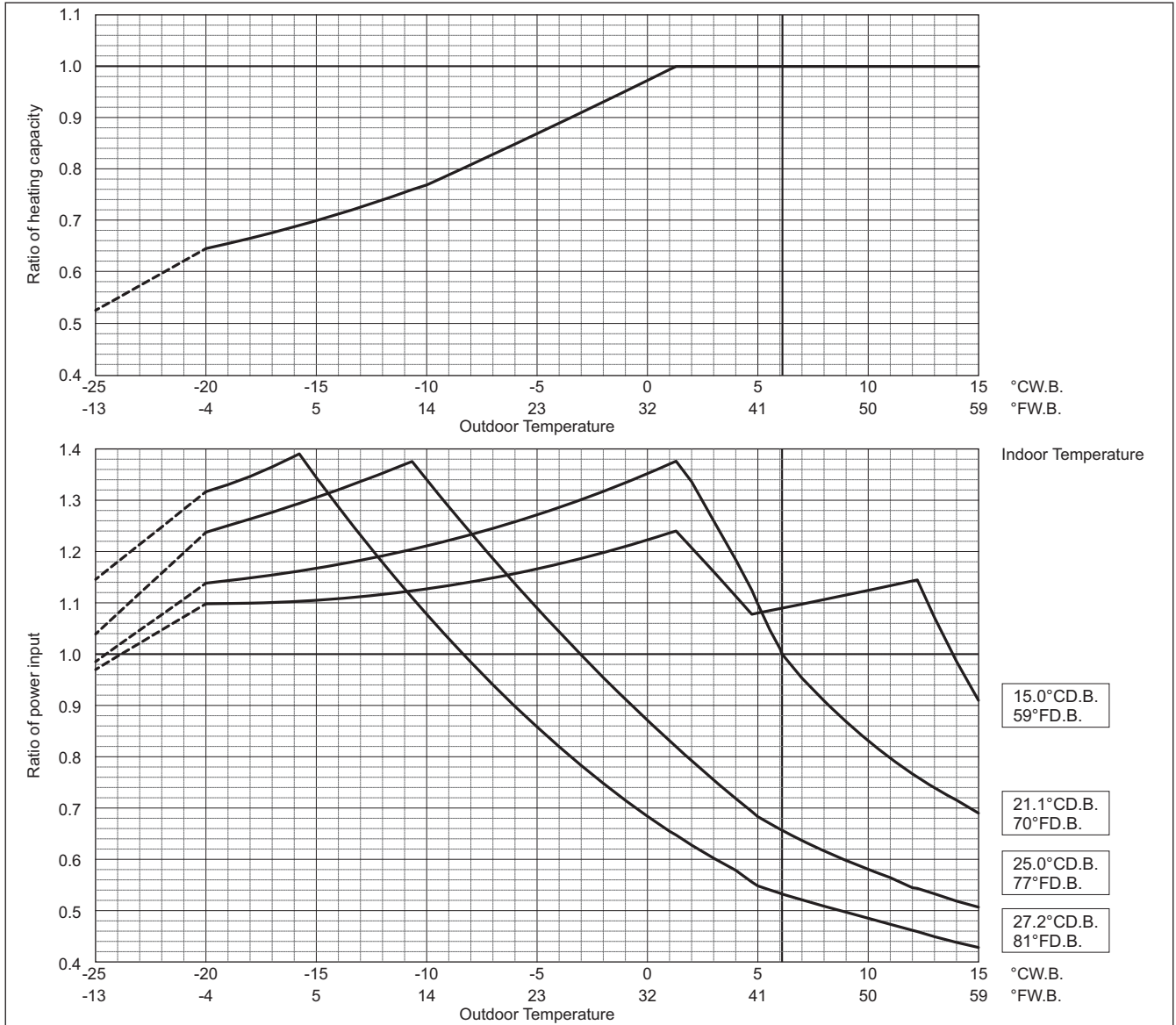


Outdoor unit temperature correction

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Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

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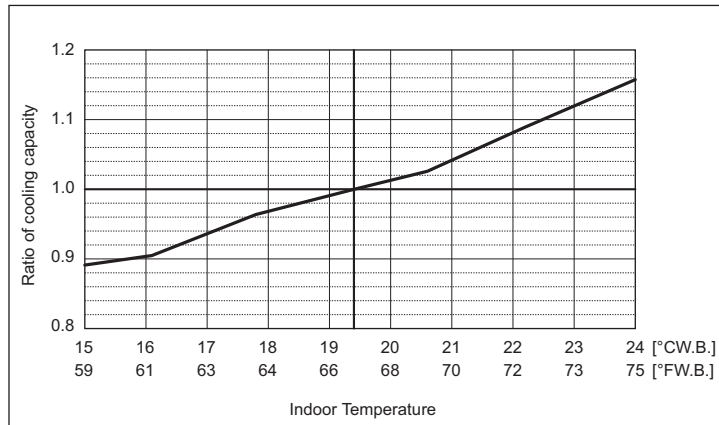
8. CAPACITY TABLES

Outdoor units

PURY-		P144TKMU/YKMU	
		Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	144,000	
	kW	42.2	
Input	kW	11.20	
	BTU/h	137,000	
Rated cooling capacity	kW	40.2	
	Input kW	10.14	10.60

Indoor unit temperature correction

To be used to correct indoor unit capacity only

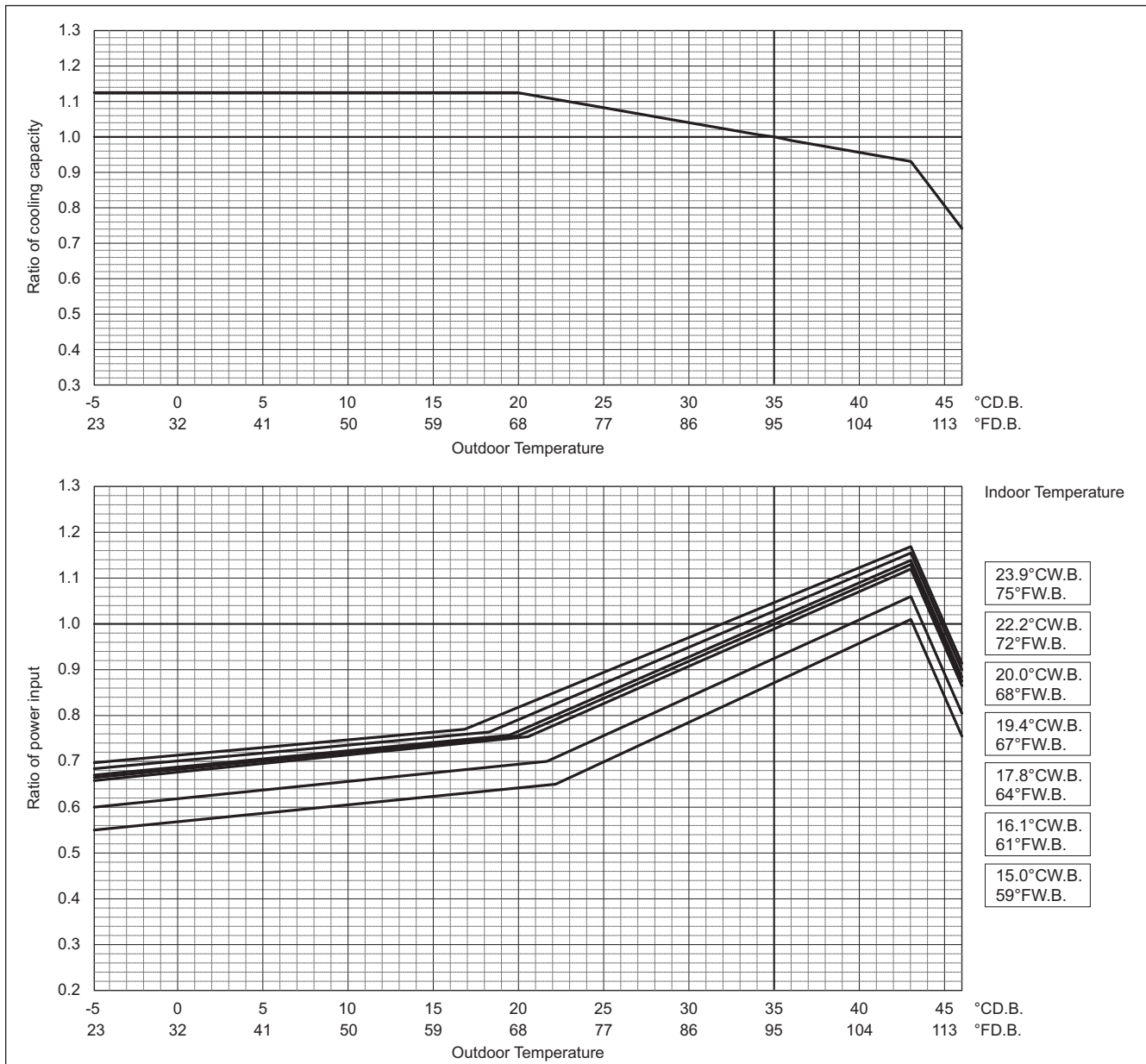


Outdoor unit temperature correction

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Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

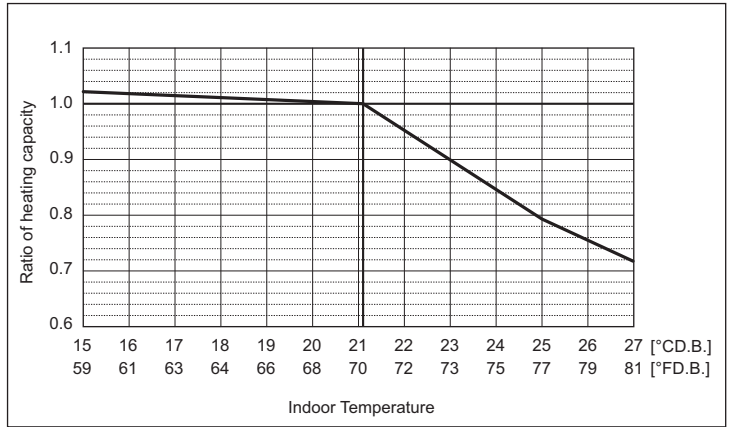
8. CAPACITY TABLES

High Heating Performance Mode

PURY-		P144TKMU/YKMU	
		Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	160,000	
	kW	46.9	
Input	kW	13.54	
	BTU/h	152,000	
Rated Heating capacity	kW	44.5	
	Input	kW	12.22
		13.13	

Indoor unit temperature correction

To be used to correct indoor unit capacity only

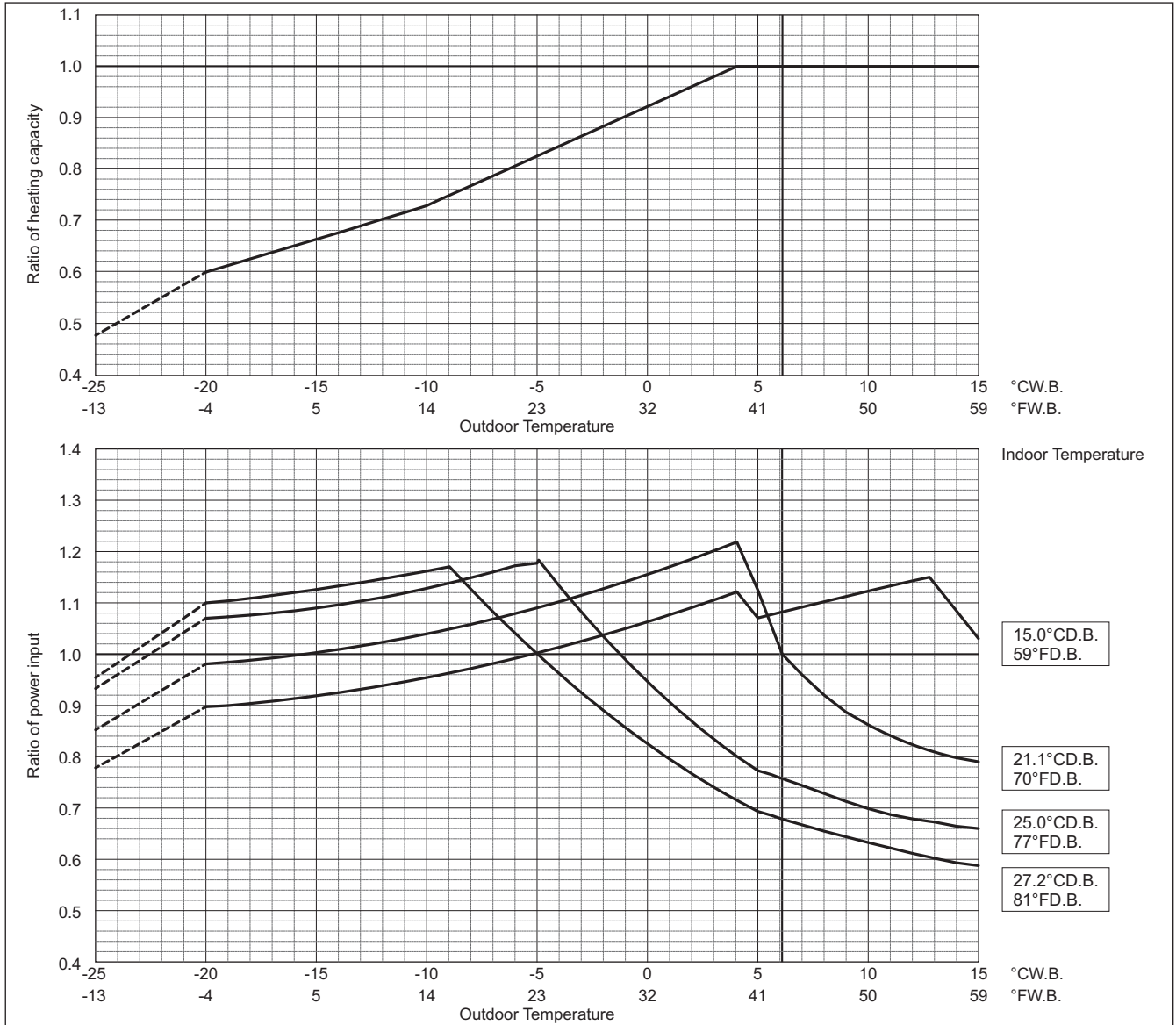


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

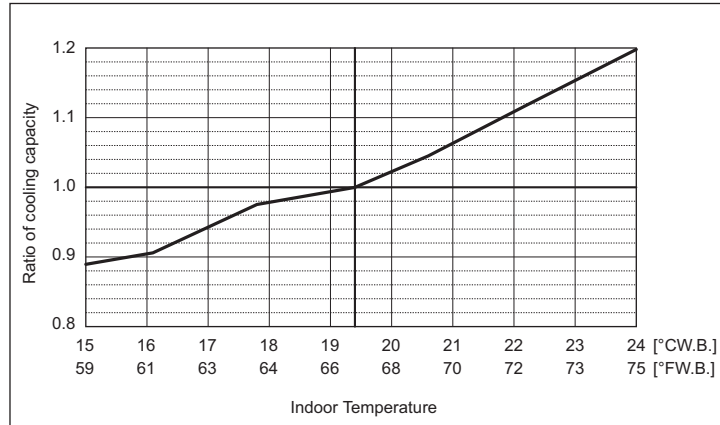
8. CAPACITY TABLES

Outdoor units

PURY-		P144YSKMU		P168TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	144,000		168,000	
	kW	42.2		49.2	
Input	kW	10.31		12.80	
	BTU/h	137,000		161,000	
Rated cooling capacity	kW	40.2		47.2	
	Input kW	8.87	10.23	11.80	11.90

Indoor unit temperature correction

To be used to correct indoor unit capacity only



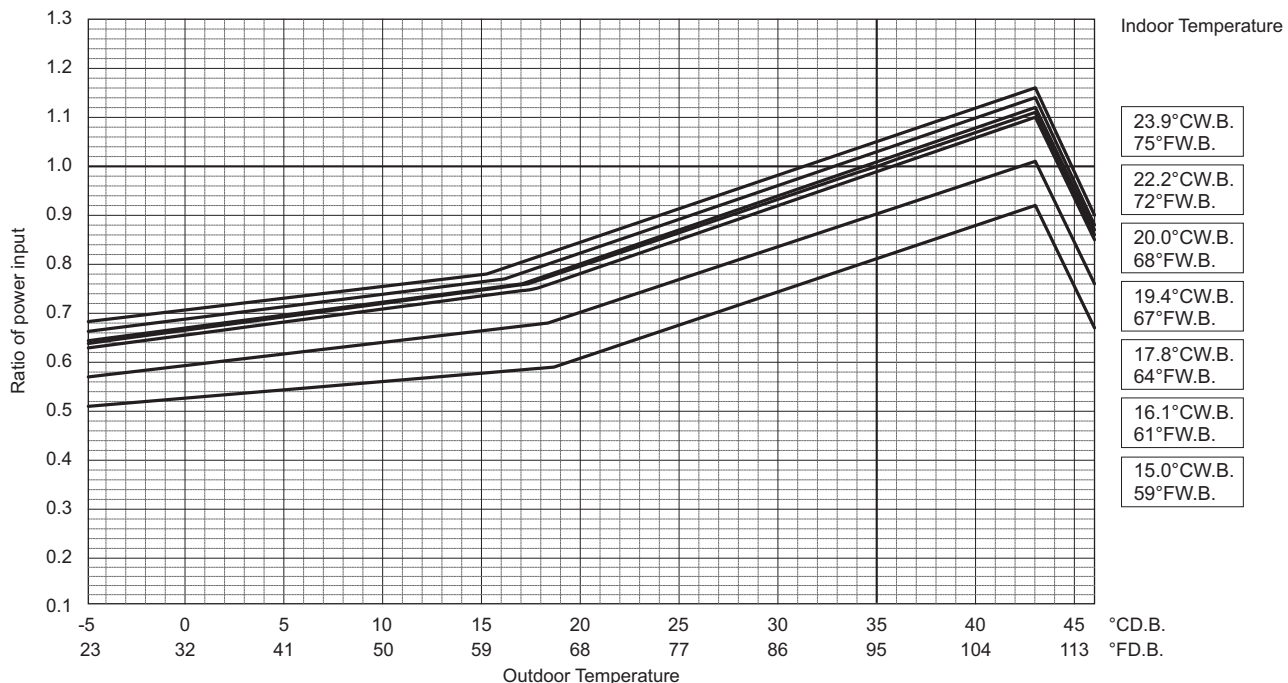
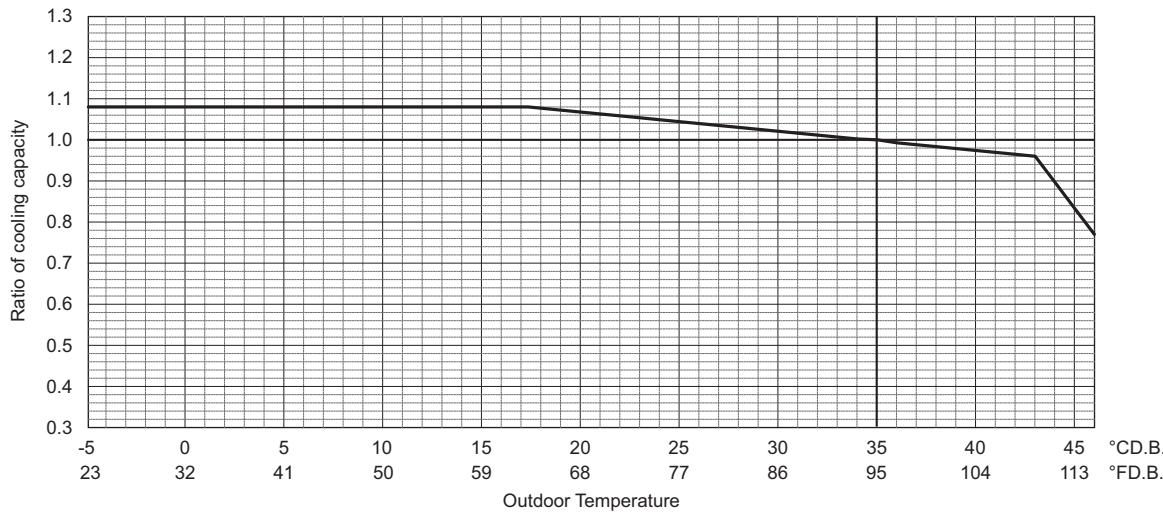
PURY-		P192TSKMU/YSKMU	
		Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	192,000	
	kW	56.3	
Input	kW	15.61	
	BTU/h	183,000	
Rated cooling capacity	kW	53.6	
	Input kW	14.61	14.30

Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

8. CAPACITY TABLES

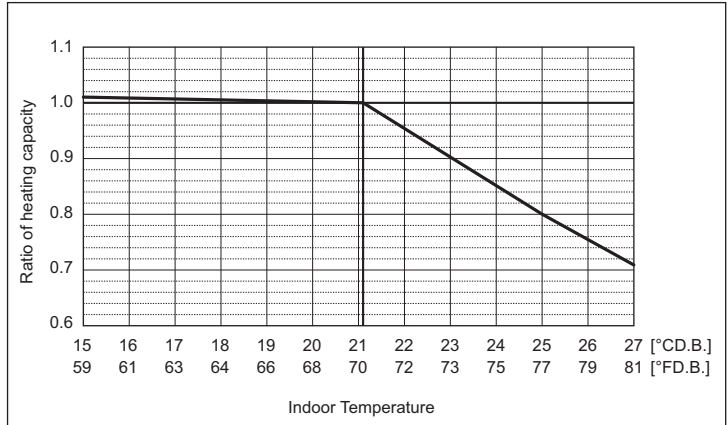
High Heating Performance Mode

PURY-		P144YSKMU		P168TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	160,000		188,000	
	kW	46.9		55.1	
Input	kW	12.54		14.91	
	BTU/h	152,000		179,000	
Rated Heating capacity	kW	44.5		52.5	
	Input kW	11.73	11.74	14.43	13.44

PURY-		P192TSKMU/YSKMU	
		Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	215,000	
	kW	63.0	
Input	kW	17.20	
	BTU/h	205,000	
Rated Heating capacity	kW	60.1	
	Input kW	16.73	15.34

Indoor unit temperature correction

To be used to correct indoor unit capacity only

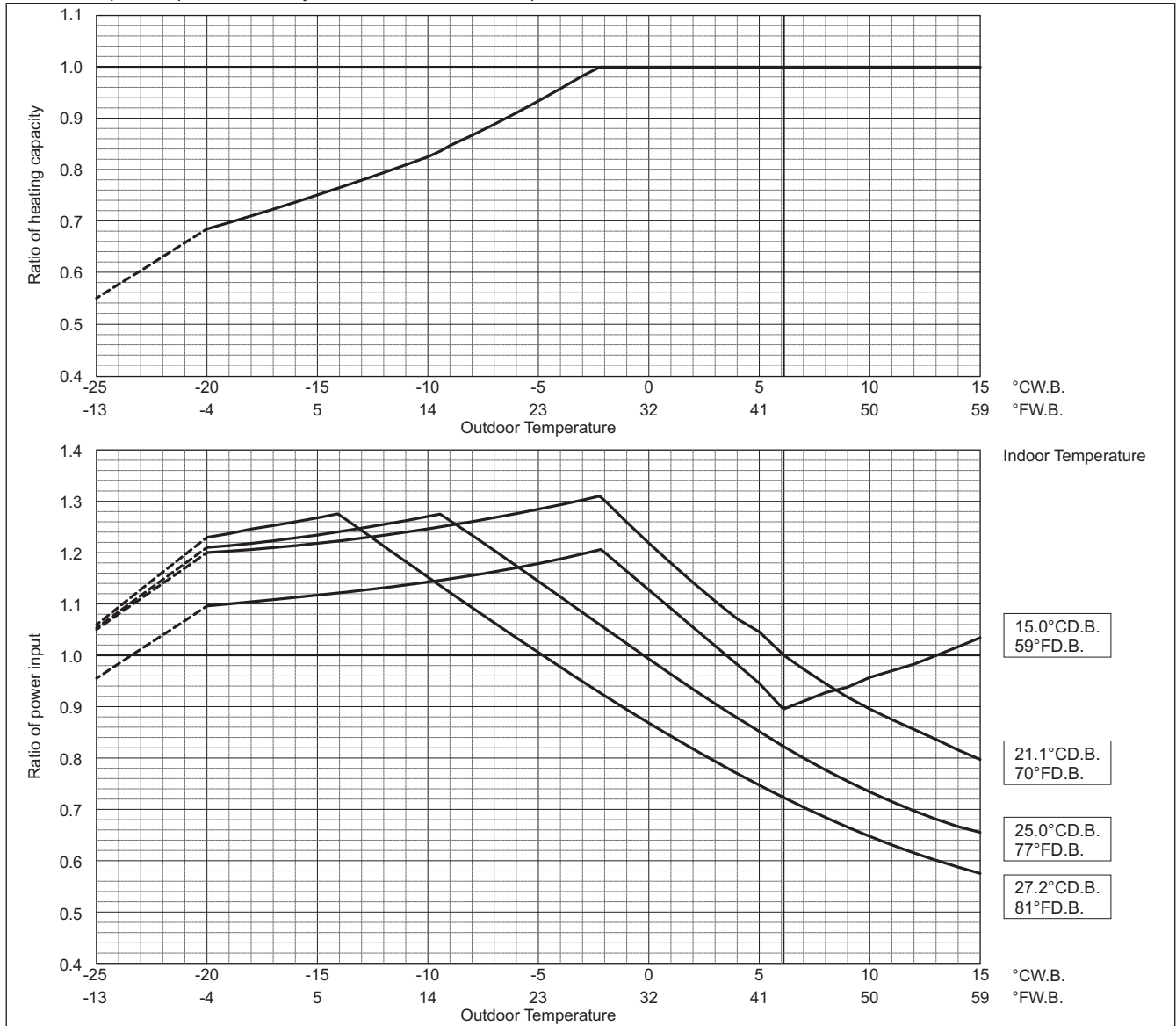


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

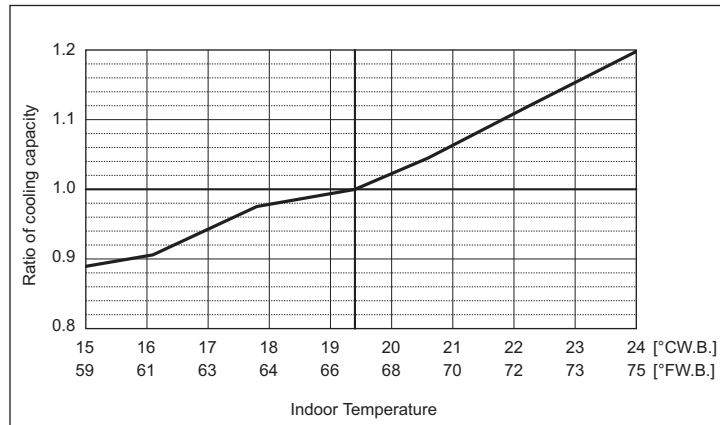
8. CAPACITY TABLES

Outdoor units

PURY-		P216TSKMU/YSKMU		P240TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	216,000		240,000	
	kW	63.3		70.3	
Input	kW	18.22		21.11	
	BTU/h	206,000		228,000	
Rated cooling capacity	kW	60.4		66.8	
	Input	kW	17.43	16.31	20.03

Indoor unit temperature correction

To be used to correct indoor unit capacity only

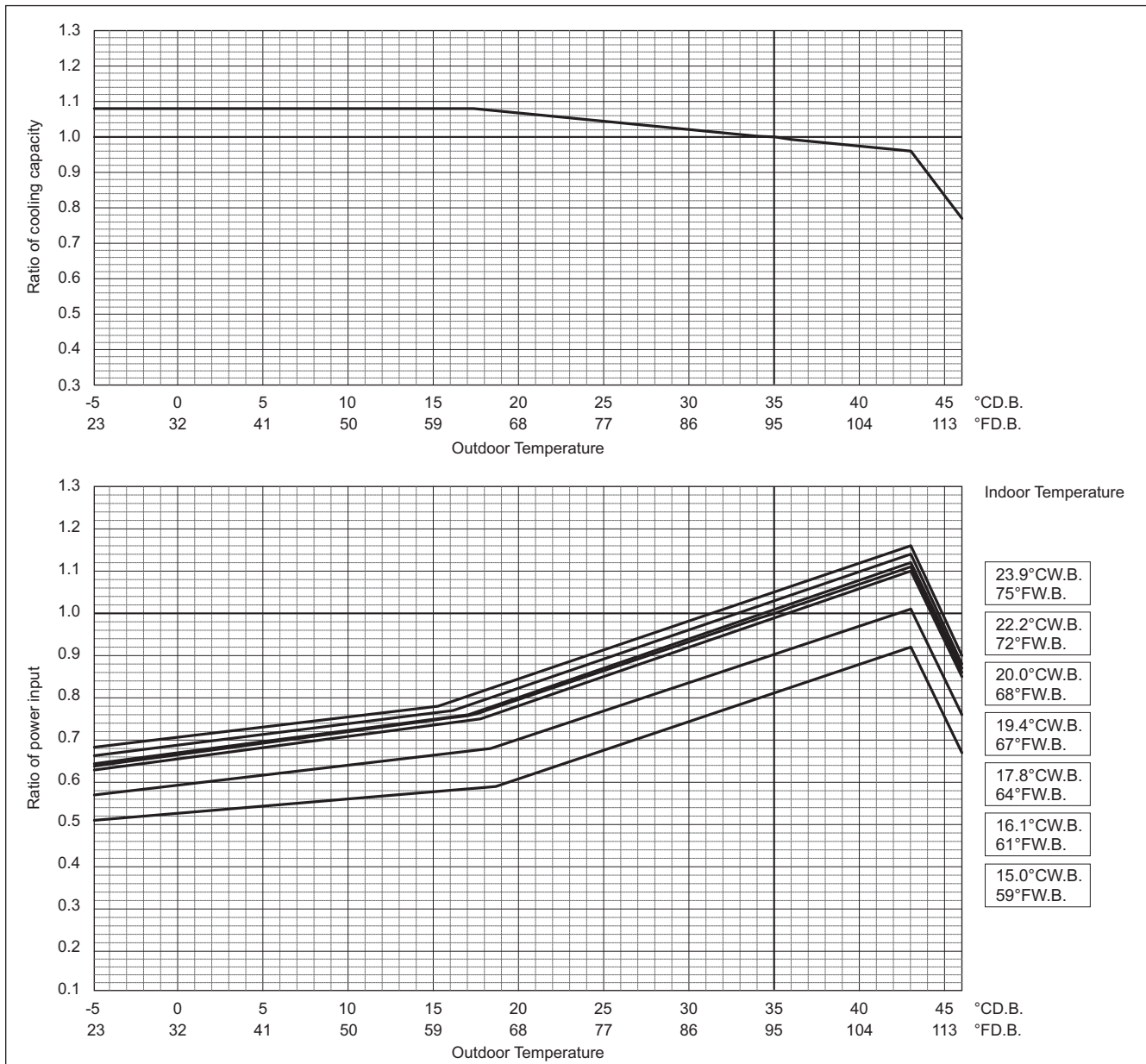


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

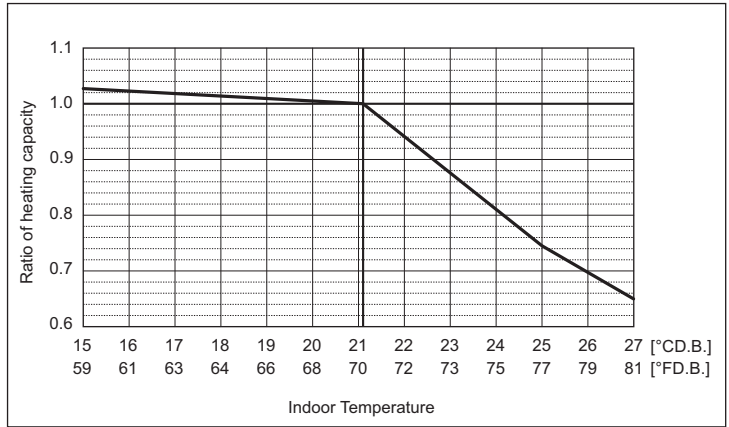
8. CAPACITY TABLES

High Heating Performance Mode

PURY-		P216TSKMU/YSKMU		P240TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	243,000		270,000	
	kW	71.2		79.1	
	Input kW	19.89		22.73	
Rated Heating capacity	BTU/h	232,000		258,000	
	kW	68.0		75.6	
	Input kW	19.20	17.86	21.43	20.92

Indoor unit temperature correction

To be used to correct indoor unit capacity only

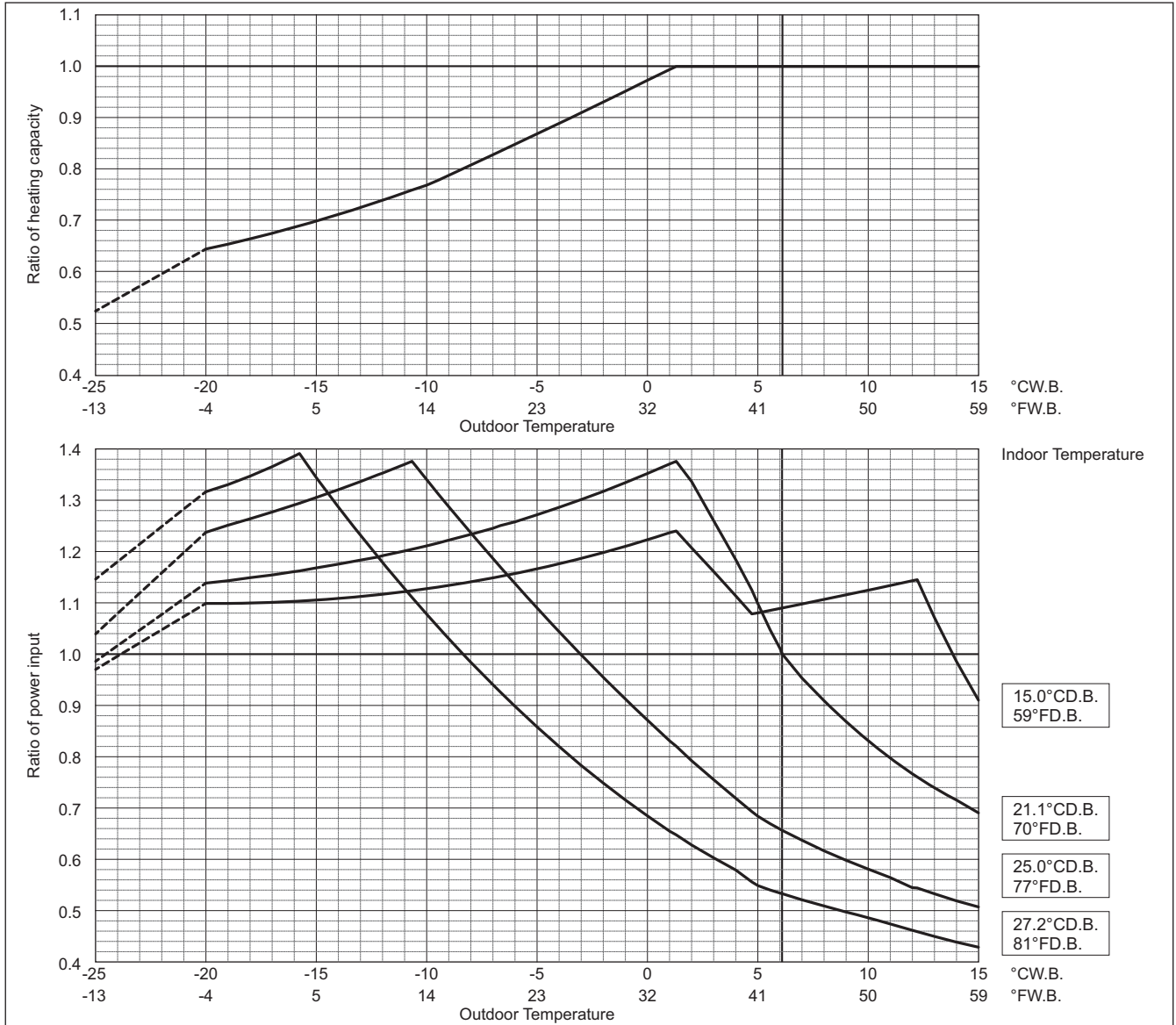


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.

When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

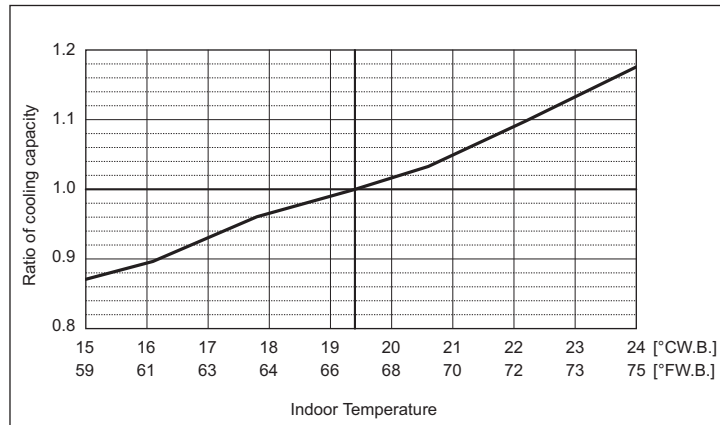
8. CAPACITY TABLES

Outdoor units

PURY-		P264TSKMU/YSKMU		P288TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal cooling capacity	BTU/h	264,000		288,000	
	kW	77.4		84.4	
Input	kW	23.05		24.57	
	BTU/h	251,000		274,000	
Rated cooling capacity	kW	73.6		80.3	
	Input	kW	21.89	20.79	23.24

Indoor unit temperature correction

To be used to correct indoor unit capacity only

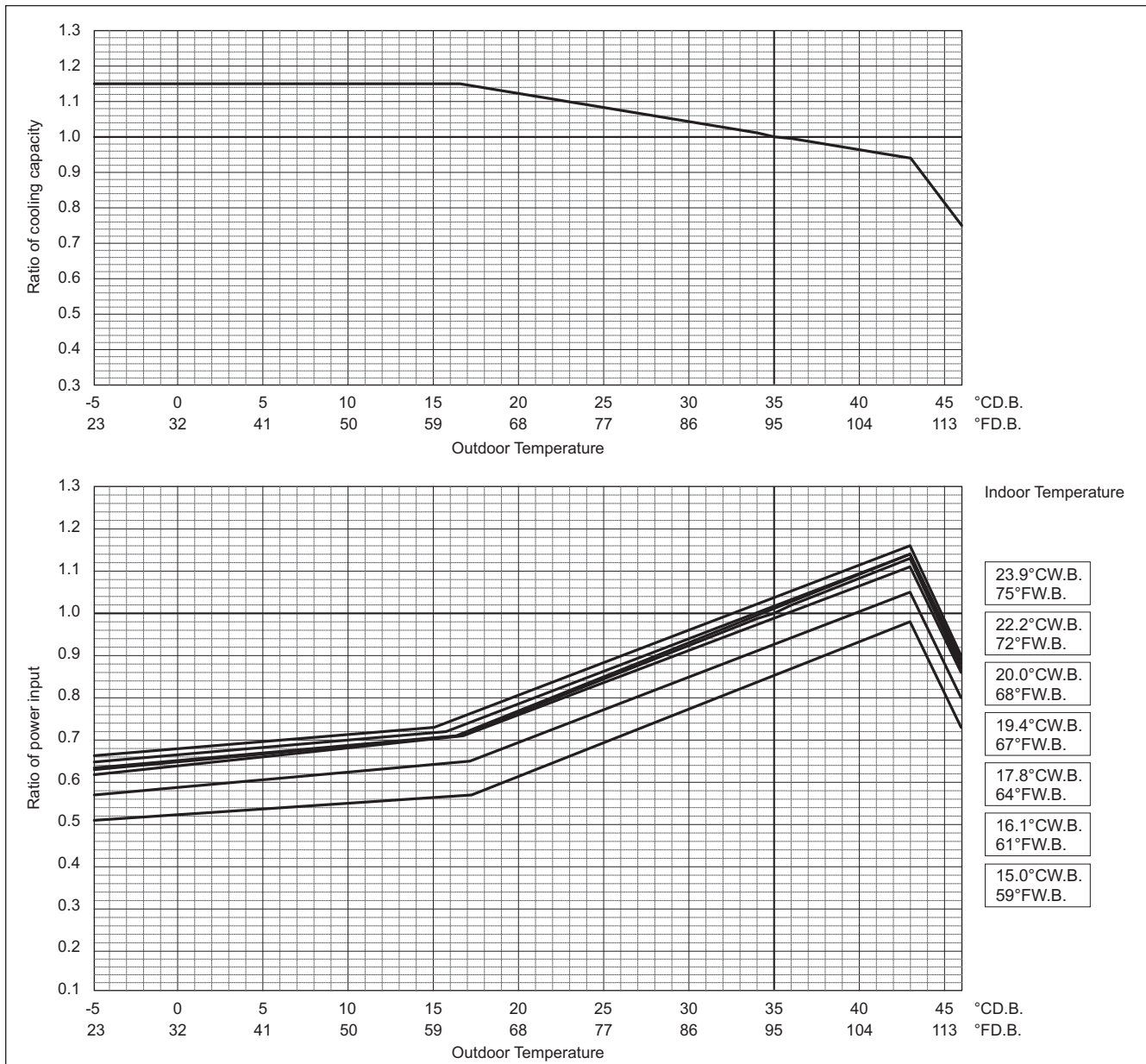


Outdoor unit temperature correction

To be used to correct outdoor unit only

Outdoor unit capacity is NOT affected by the indoor temperature.

Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



R2 (K)

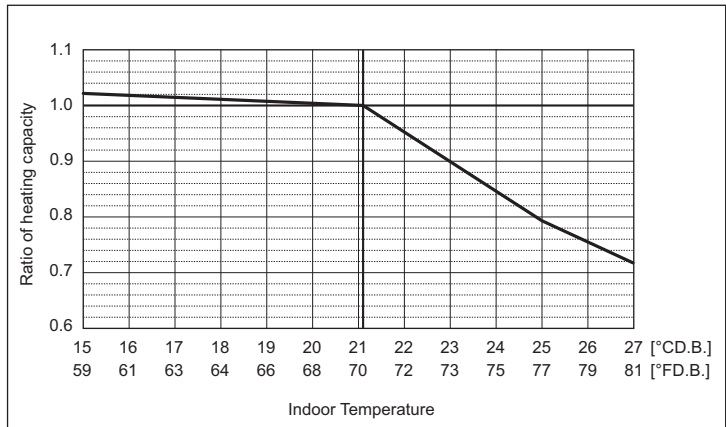
8. CAPACITY TABLES

High Heating Performance Mode

PURY-		P264TSKMU/YSKMU		P288TSKMU/YSKMU	
		Non-Ducted	Ducted	Non-Ducted	Ducted
Nominal Heating capacity	BTU/h	295,000		320,000	
	kW	86.5		93.8	
	Input kW	25.37		27.62	
Rated Heating capacity	BTU/h	281,000		304,000	
	kW	82.4		89.1	
	Input kW	24.65	22.64	26.83	24.40

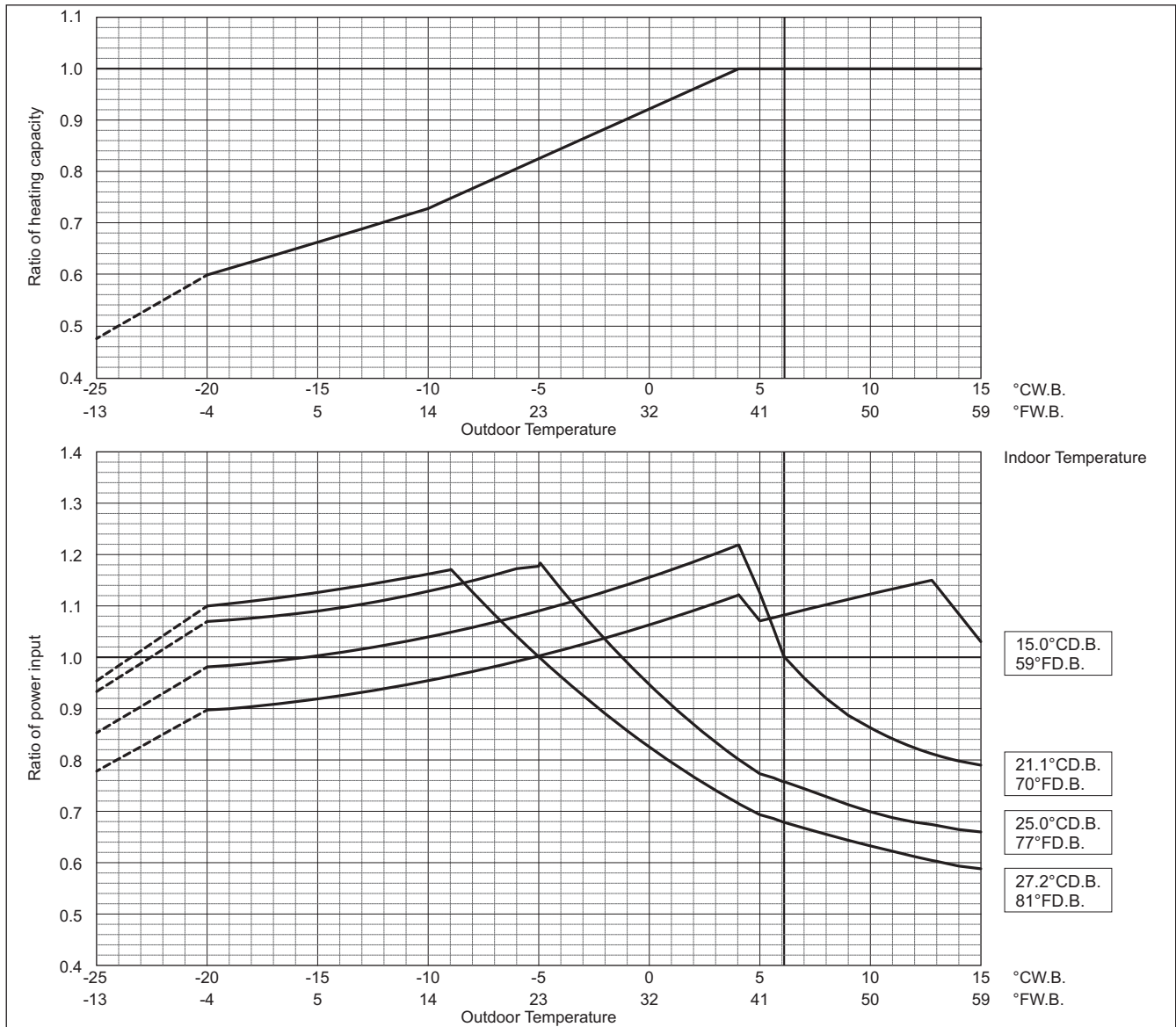
Indoor unit temperature correction

To be used to correct indoor unit capacity only



Outdoor unit temperature correction

To be used to correct outdoor unit only
 Outdoor unit capacity is NOT affected by the indoor temperature.
 Outdoor unit power input is affected by the indoor and outdoor temperatures. Please consult the sales office for details.



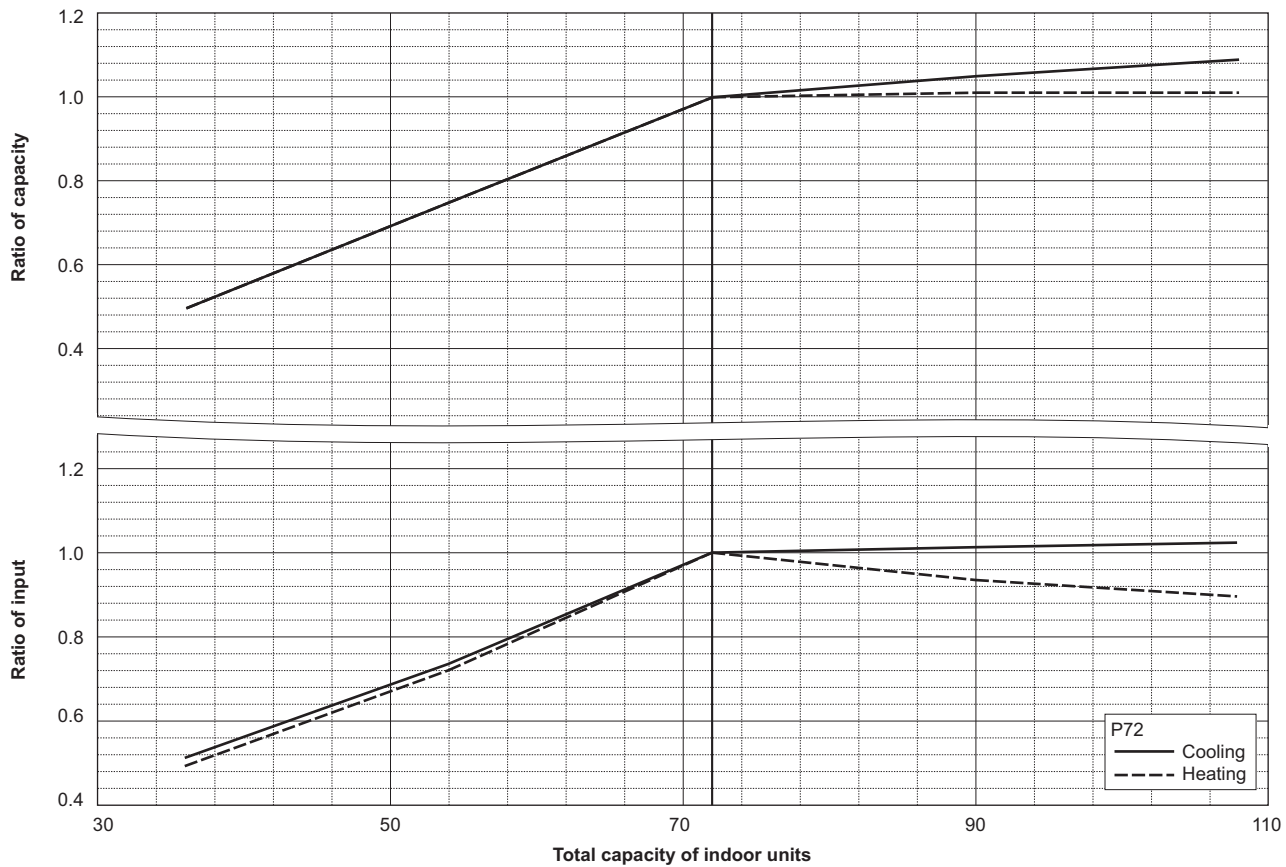
R2 (K)

Values in the heating temperature correction diagram in the range below -20°C (-4°F) are reference values and not guaranteed values. Do not use these reference values for selecting outdoor unit models.
 When applying product below -20°C (-4°F), consult your design engineer for cold climate application best practices, including the use of a backup source for heating.

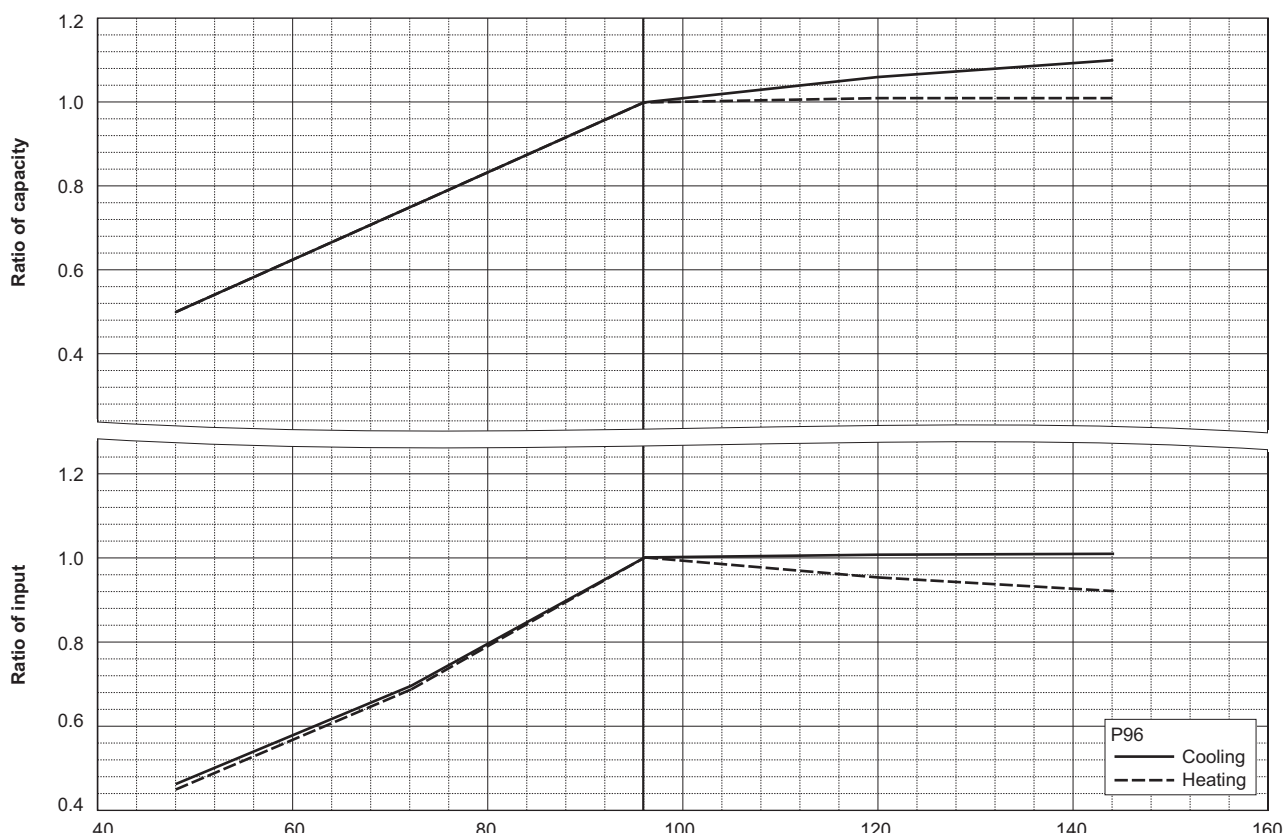
8-3. Correction by total indoor

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.

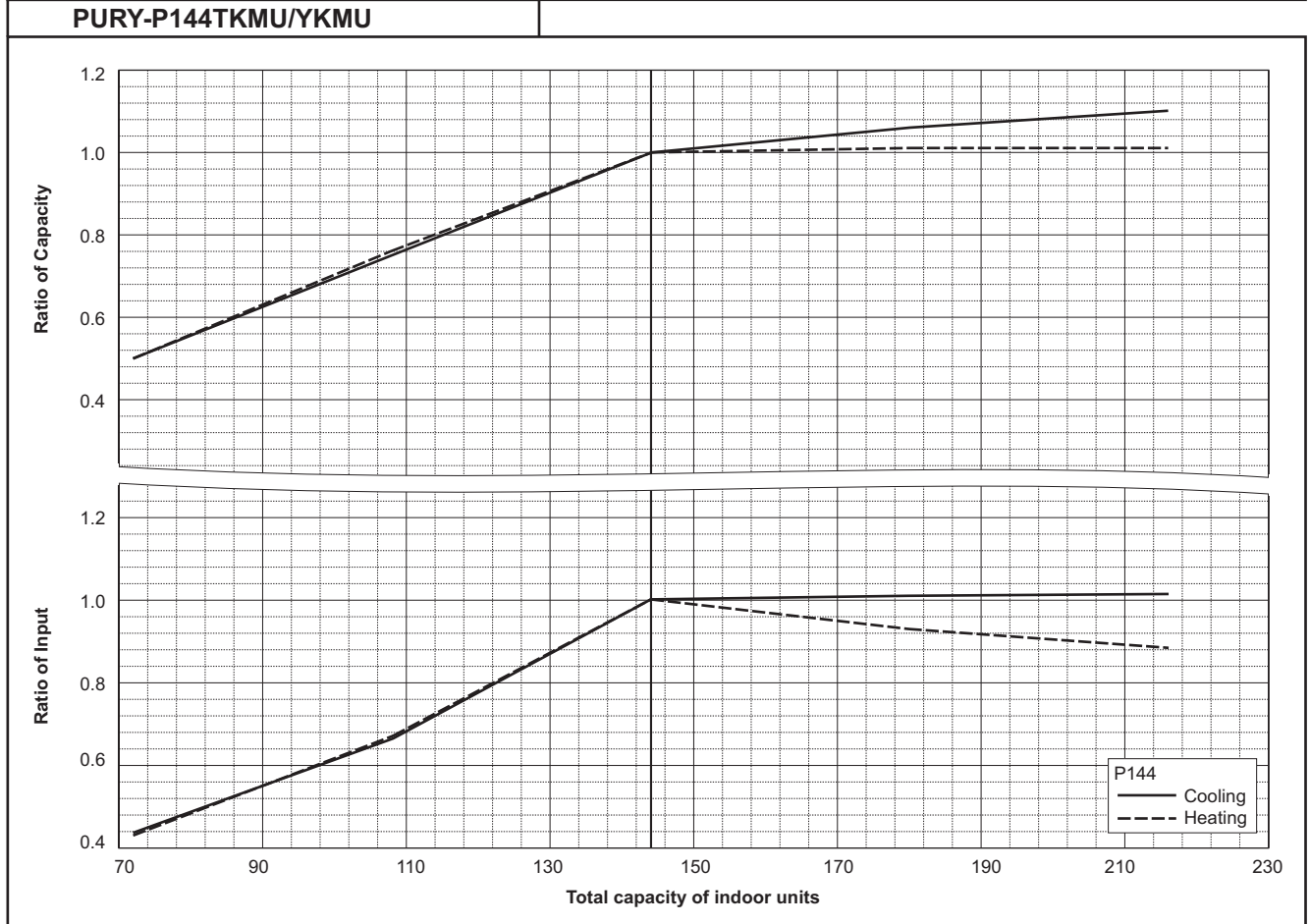
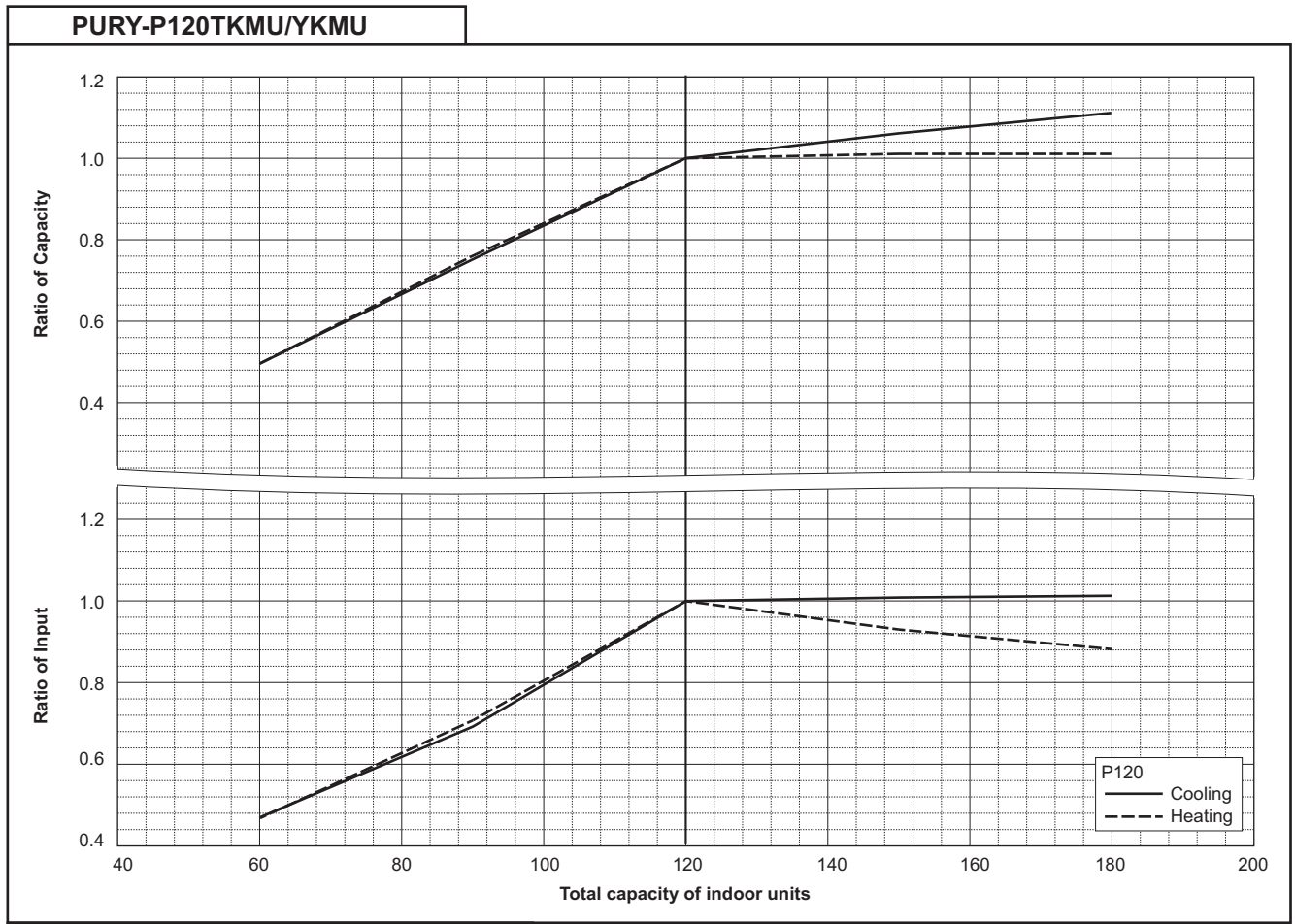
PURY-P72TKMU/YKMU



PURY-P96TKMU/YKMU



8. CAPACITY TABLES

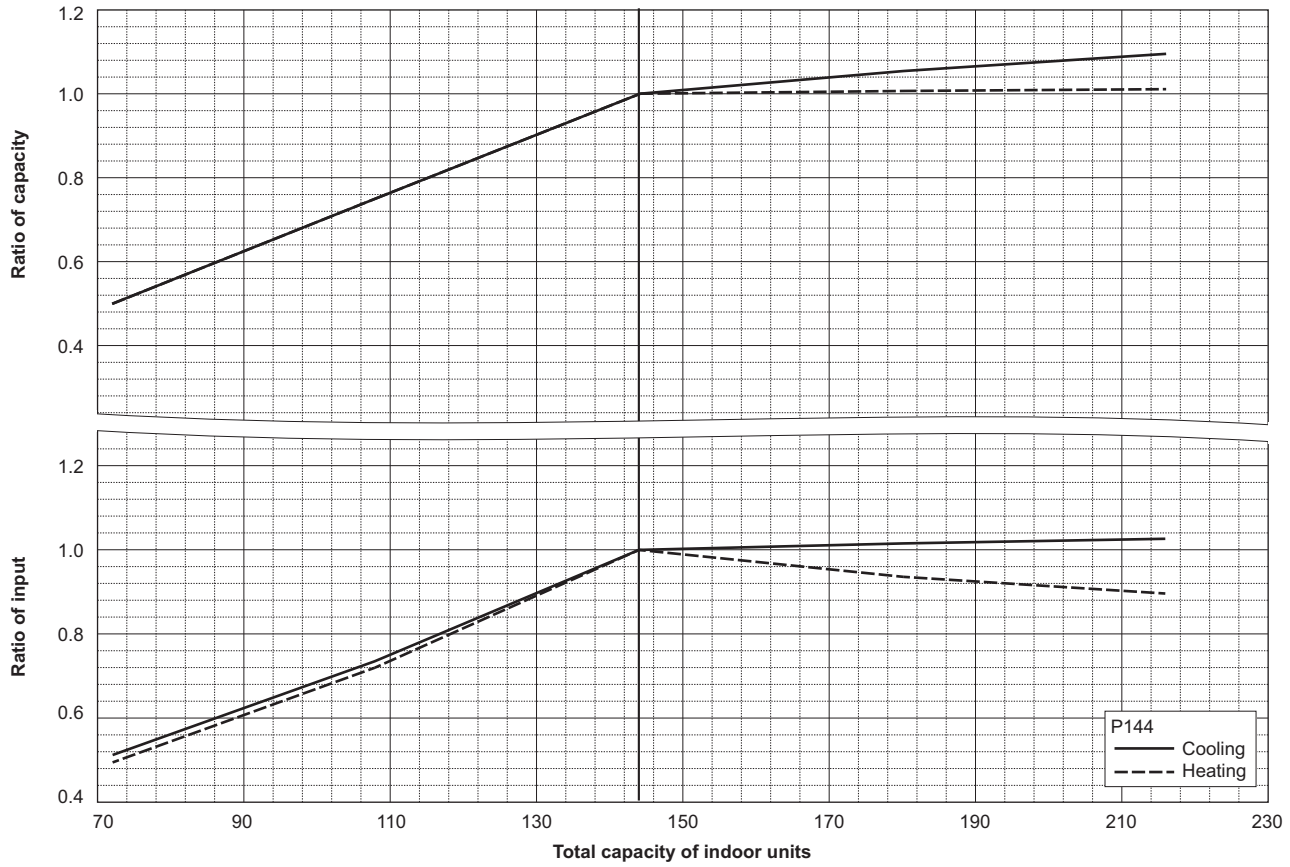


R2 (K)

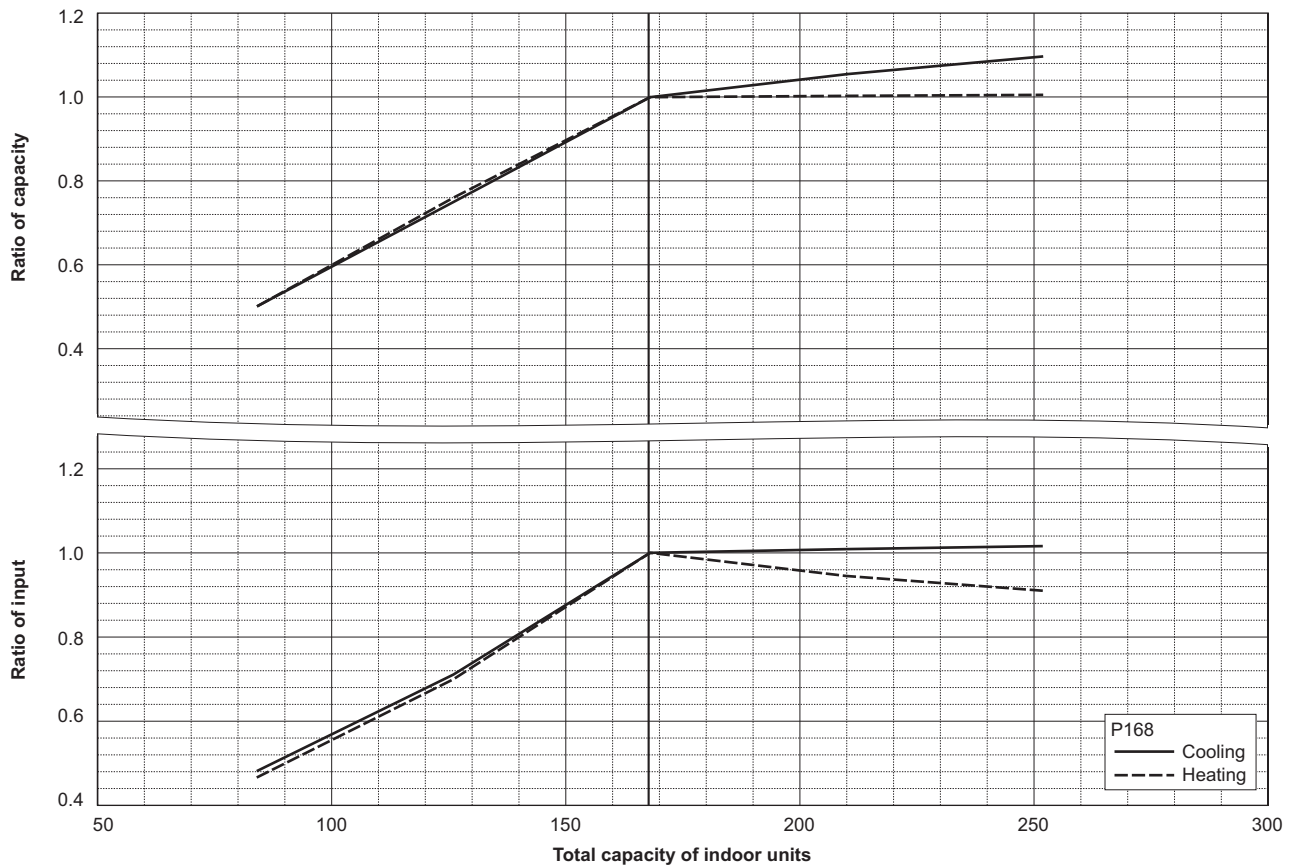
8. CAPACITY TABLES

Outdoor units

PURY-P144YSKMU

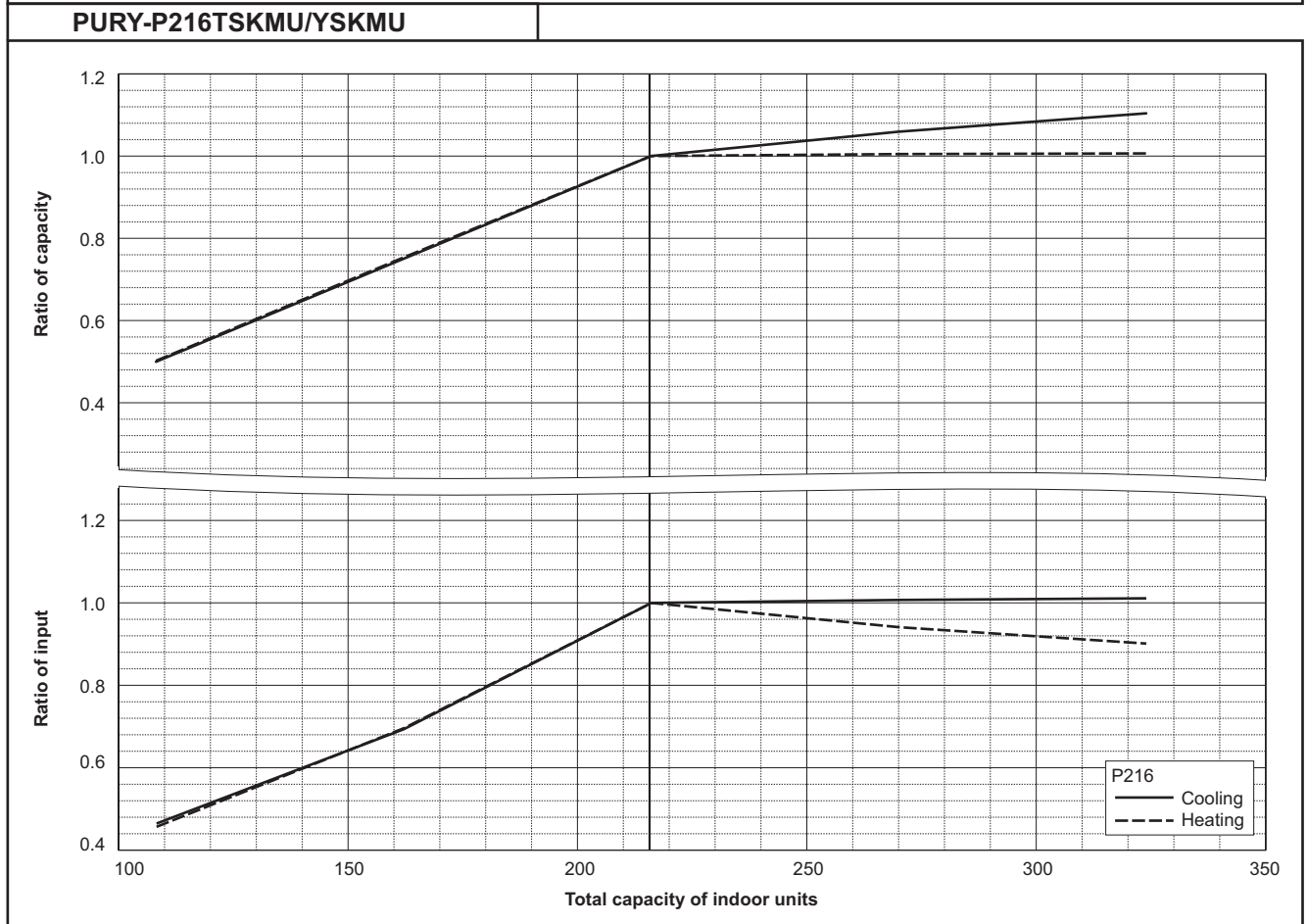
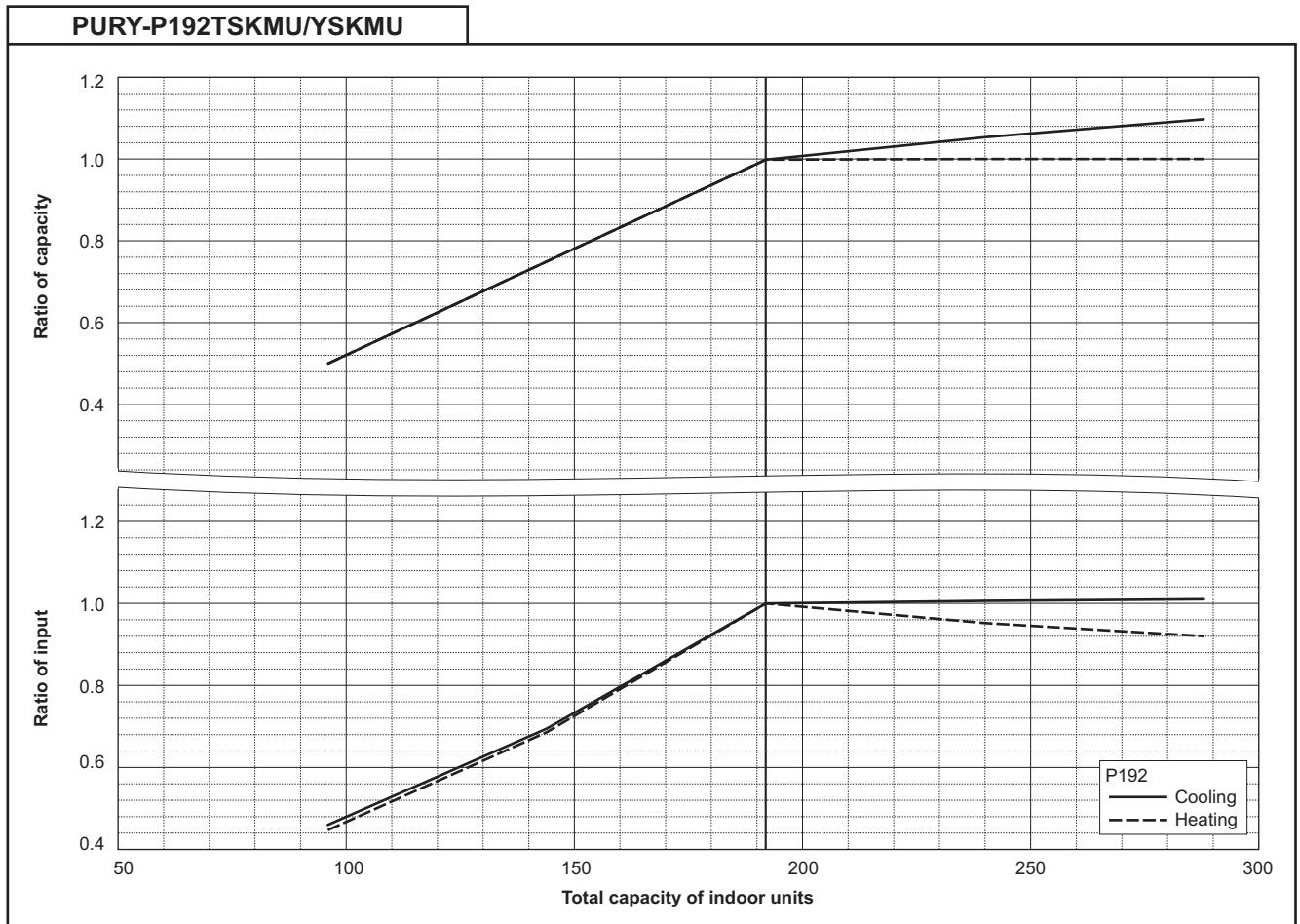


PURY-P168TSKMU/YSKMU



R2 (K)

8. CAPACITY TABLES

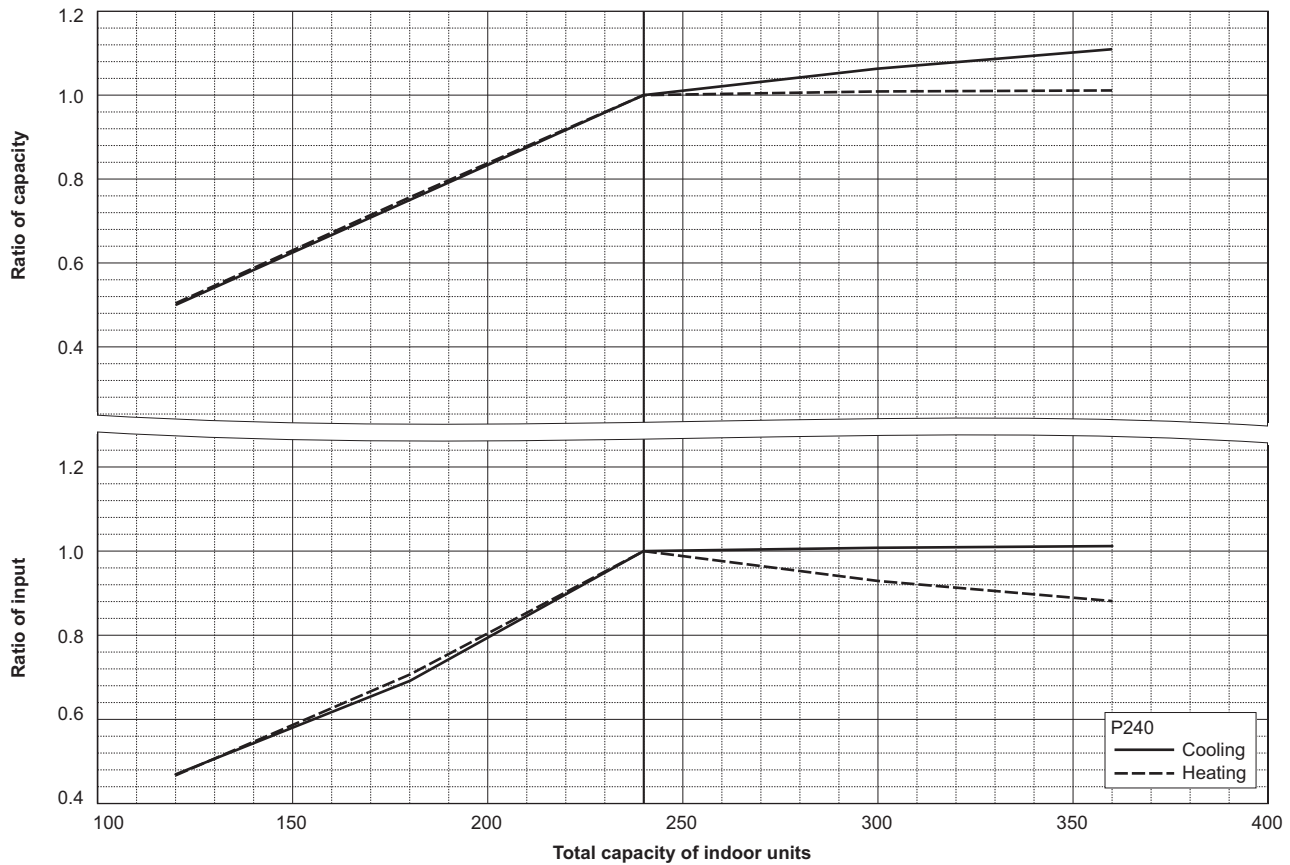


R2 (K)

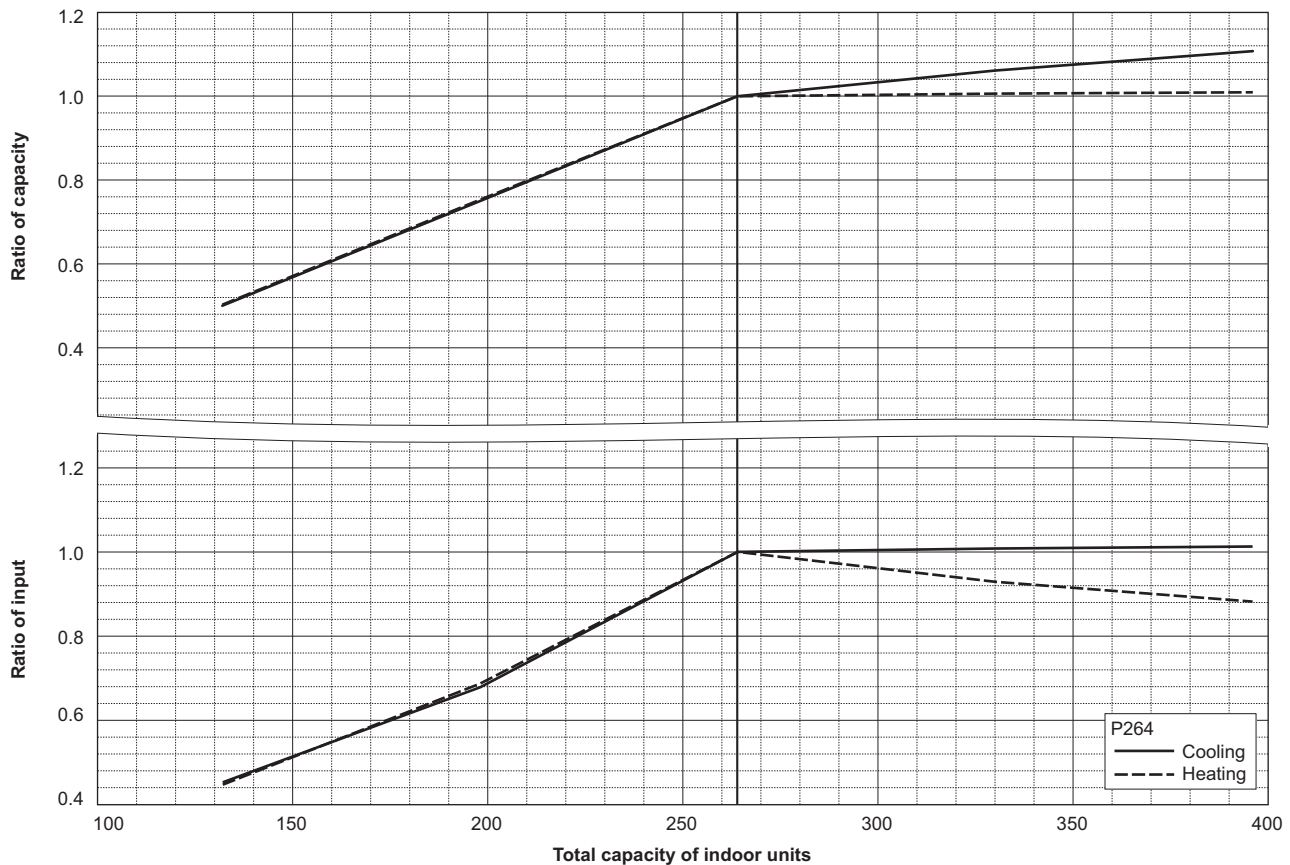
8. CAPACITY TABLES

Outdoor units

PURY-P240TSKMU/YSKMU



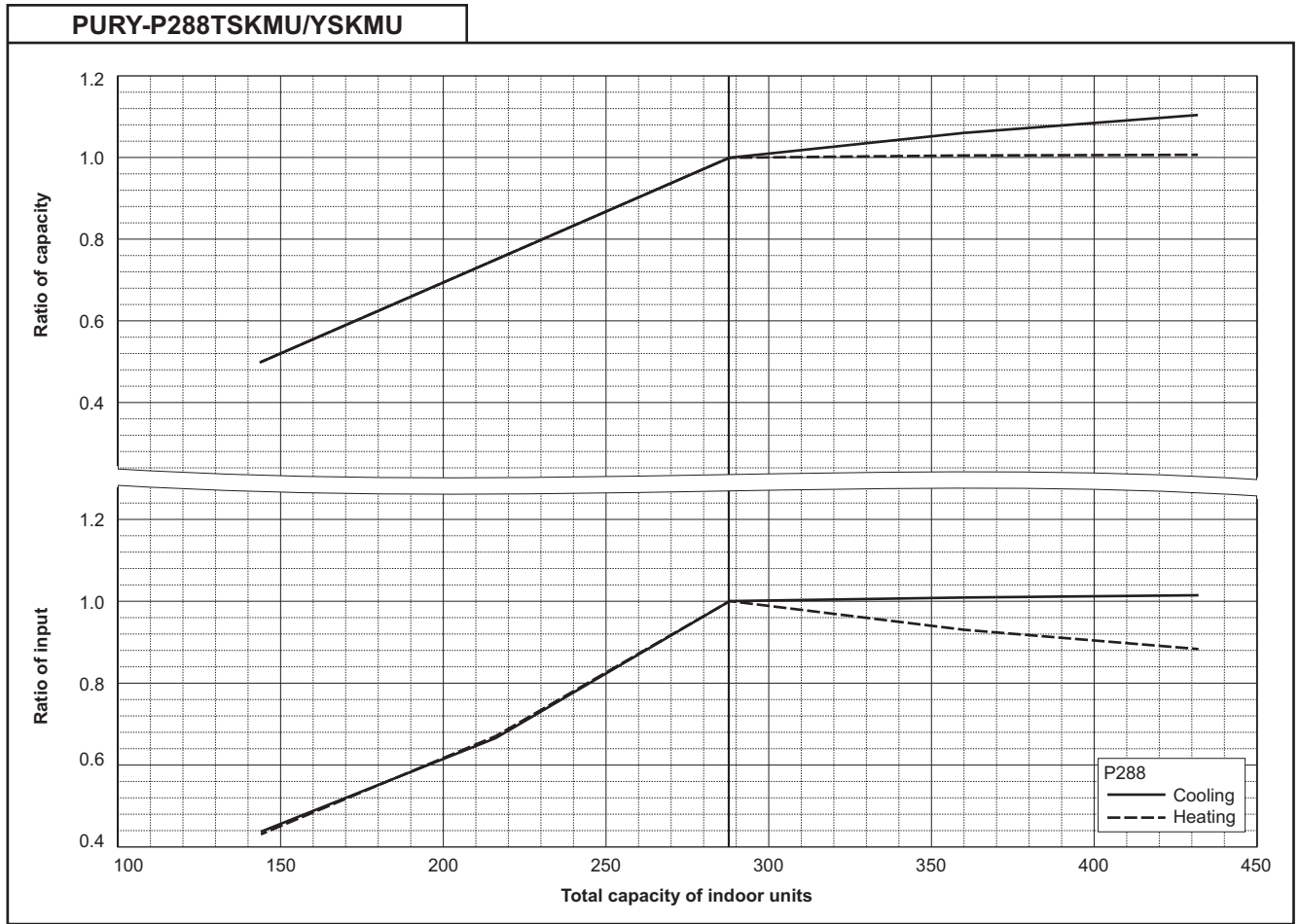
PURY-P264TSKMU/YSKMU



R2 (K)

8. CAPACITY TABLES

Outdoor units



R2 (K)

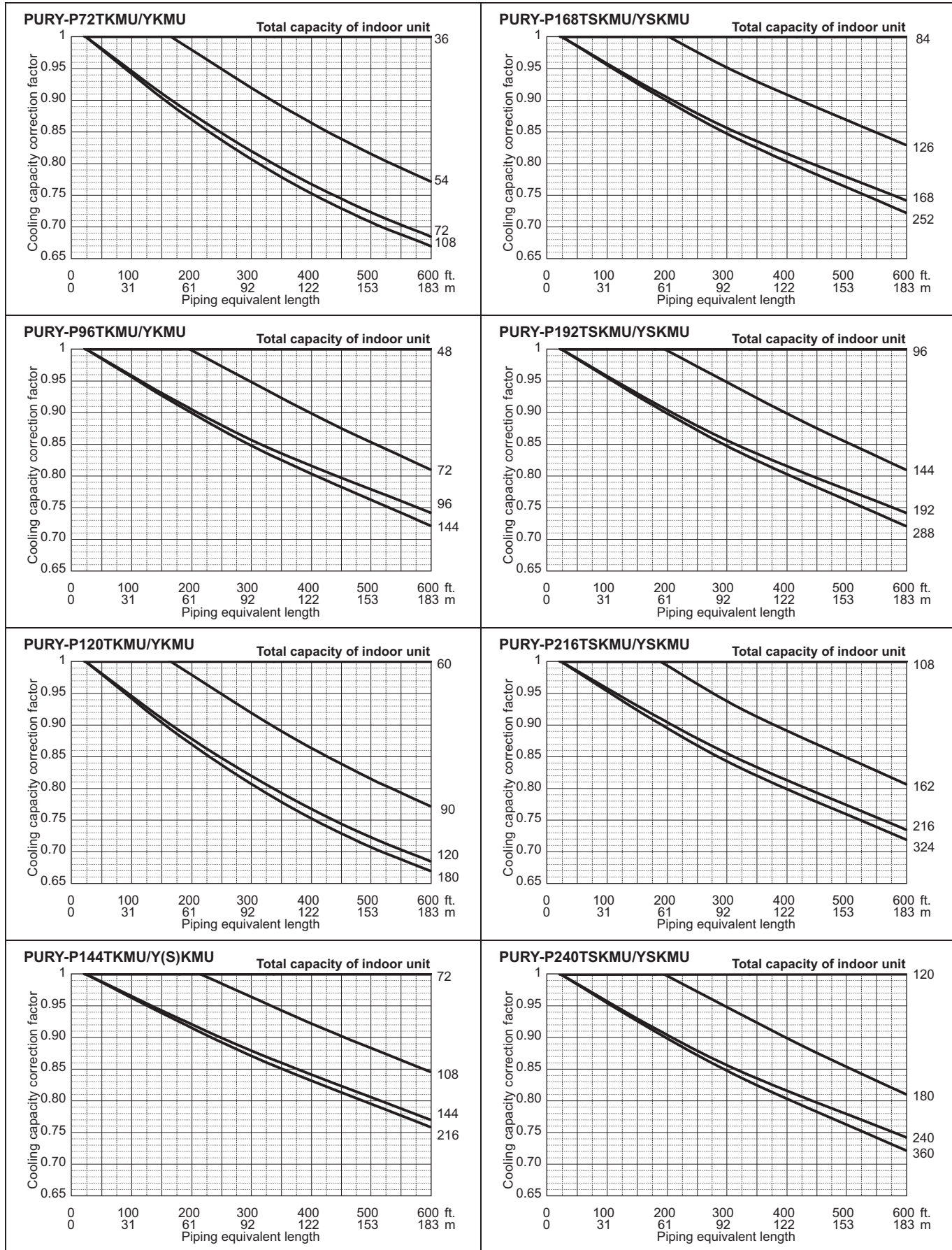
8. CAPACITY TABLES

Outdoor units

8-4. Correction by refrigerant piping length

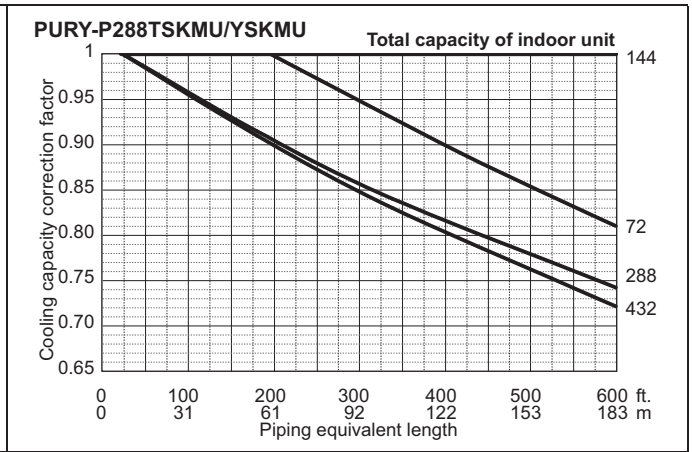
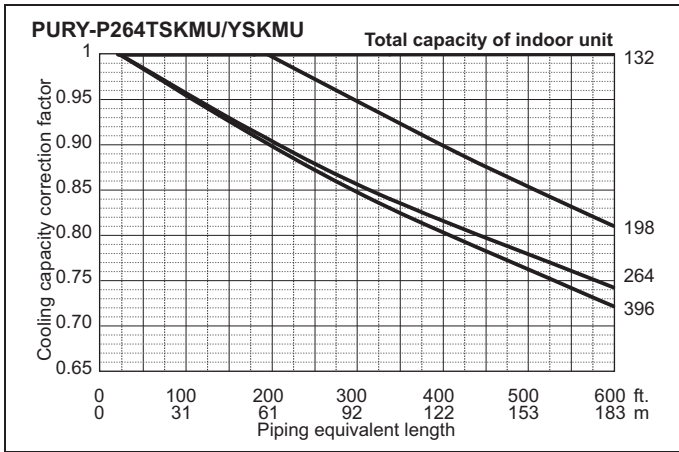
CITY MULTI systems can have extended piping lengths if certain limitations are followed, but cooling/heating capacity could be reduced. Using following correction factor by equivalent piping length shown at 8-4-1 and 8-4-2, capacity can be found. 8-4-3 shows how to obtain the equivalent piping length.

8-4-1. Cooling capacity correction



R2 (K)

8. CAPACITY TABLES

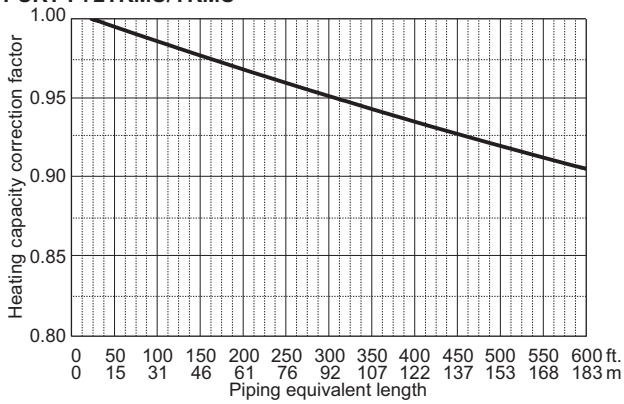


8. CAPACITY TABLES

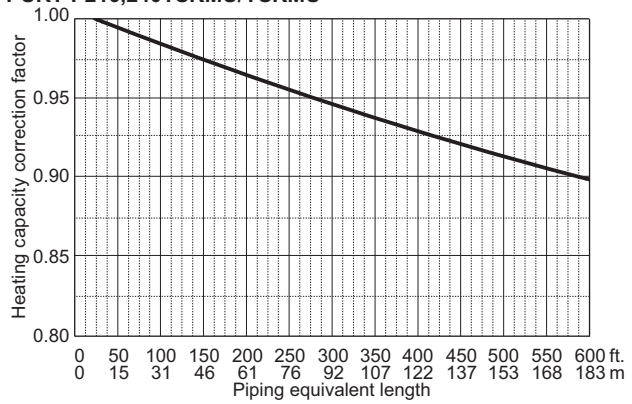
Outdoor units

8-4-2. Heating capacity correction

PURY-P72TKMU/YKMU



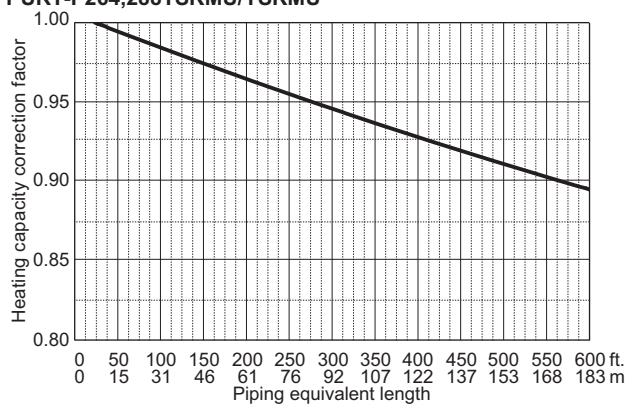
PURY-P216,240TSKMU/YSKMU



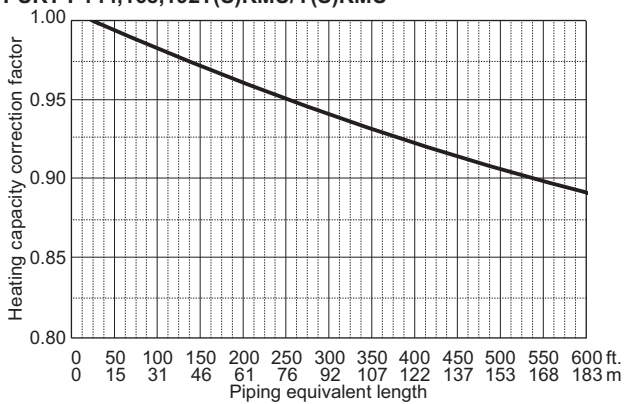
PURY-P96,120TKMU/YKMU



PURY-P264,288TSKMU/YSKMU



PURY-P144,168,192T(S)KMU/Y(S)KMU



R2 (K)

8-4-3. How to obtain the equivalent piping length**1. PURY-P72TKMU/YKMU**

Equivalent length = (Actual piping length to the farthest indoor unit) + (1.15 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.35 x number of bent on the piping) [m]

2. PURY-P96TKMU/YKMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (1.38 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.42 x number of bent on the piping) [m]

3. PURY-P120TKMU/YKMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (1.64 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.50 x number of bent on the piping) [m]

4. PURY-P144TKMU/Y(S)KMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (1.64 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.50 x number of bent on the piping) [m]

5. PURY-P168TSKMU/YSKMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (1.64 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.50 x number of bent on the piping) [m]

6. PURY-P192TSKMU/YSKMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (1.64 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.50 x number of bent on the piping) [m]

7. PURY-P216TSKMU/YSKMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (1.64 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.50 x number of bent on the piping) [m]

8. PURY-P240TSKMU/YSKMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (1.64 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.50 x number of bent on the piping) [m]

9. PURY-P264TSKMU/YSKMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (2.30 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.70 x number of bent on the piping) [m]

10. PURY-P288TSKMU/YSKMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (2.30 x number of bent on the piping) [ft.]

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.70 x number of bent on the piping) [m]

8. CAPACITY TABLES

Outdoor units

8-5. 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	-20
Outdoor inlet air temp. °FWB	43	39	36	34	32	28	25	21	18	14	-4
PURY-P72TKMU-A (-BS)	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.93	0.93	0.95	0.95
PURY-P96TKMU-A (-BS)	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.93	0.93	0.95	0.95
PURY-P120TKMU-A (-BS)	1.00	0.93	0.85	0.83	0.84	0.86	0.90	0.90	0.92	0.95	0.95
PURY-P144TKMU-A (-BS)	1.00	0.93	0.85	0.83	0.84	0.86	0.90	0.90	0.92	0.95	0.95
PURY-P168TSKMU-A (-BS)	1.00	0.98	0.89	0.87	0.89	0.90	0.91	0.92	0.92	0.95	0.95
PURY-P192TSKMU-A (-BS)	1.00	0.98	0.89	0.86	0.88	0.90	0.91	0.92	0.92	0.95	0.95
PURY-P216TSKMU-A (-BS)	1.00	0.94	0.87	0.86	0.87	0.88	0.90	0.90	0.92	0.95	0.95
PURY-P240TSKMU-A (-BS)	1.00	0.94	0.84	0.86	0.87	0.88	0.90	0.90	0.92	0.95	0.95
PURY-P264TSKMU-A (-BS)	1.00	0.98	0.89	0.88	0.89	0.90	0.92	0.95	0.92	0.95	0.95
PURY-P288TSKMU-A (-BS)	1.00	0.98	0.89	0.88	0.89	0.90	0.92	0.95	0.92	0.95	0.95
PURY-P72YKMU-A (-BS)	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.93	0.93	0.95	0.95
PURY-P96YKMU-A (-BS)	1.00	0.95	0.84	0.83	0.83	0.87	0.90	0.93	0.93	0.95	0.95
PURY-P120YKMU-A (-BS)	1.00	0.93	0.85	0.83	0.84	0.86	0.90	0.90	0.92	0.95	0.95
PURY-P144YKMU-A (-BS)	1.00	0.93	0.85	0.83	0.84	0.86	0.90	0.90	0.92	0.95	0.95
PURY-P144YSKMU-A (-BS)	1.00	0.93	0.85	0.83	0.84	0.86	0.90	0.90	0.92	0.95	0.95
PURY-P168YSKMU-A (-BS)	1.00	0.98	0.89	0.87	0.89	0.90	0.91	0.92	0.92	0.95	0.95
PURY-P192YSKMU-A (-BS)	1.00	0.98	0.89	0.86	0.88	0.90	0.91	0.92	0.92	0.95	0.95
PURY-P216YSKMU-A (-BS)	1.00	0.94	0.87	0.86	0.87	0.88	0.90	0.90	0.92	0.95	0.95
PURY-P240YSKMU-A (-BS)	1.00	0.94	0.84	0.86	0.87	0.88	0.90	0.90	0.92	0.95	0.95
PURY-P264YSKMU-A (-BS)	1.00	0.98	0.89	0.88	0.89	0.90	0.92	0.95	0.92	0.95	0.95
PURY-P288YSKMU-A (-BS)	1.00	0.98	0.89	0.88	0.89	0.90	0.92	0.95	0.92	0.95	0.95

* 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

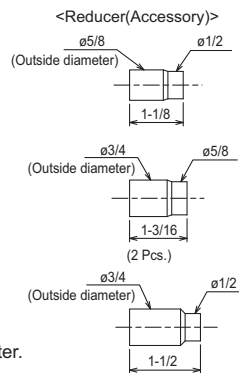
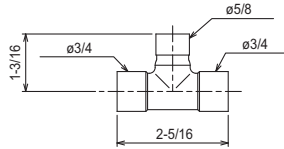
$$K = 1 - (1 - K_0) \times A$$

9-1. JOINT

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

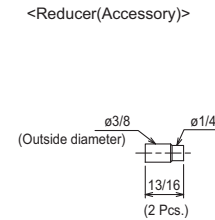
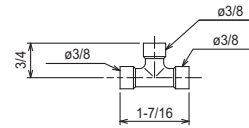
CMY-Y102SS-G2

For Gas pipe:



*Pipe diameter is indicated by inside diameter.

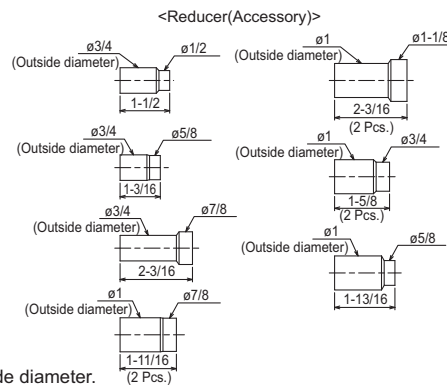
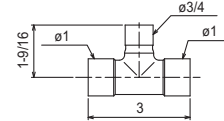
For Liquid pipe:



in.

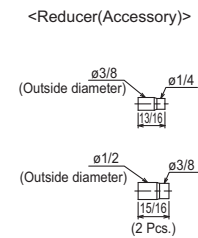
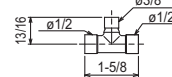
CMY-Y102LS-G2

For Gas pipe:



*Pipe diameter is indicated by inside diameter.

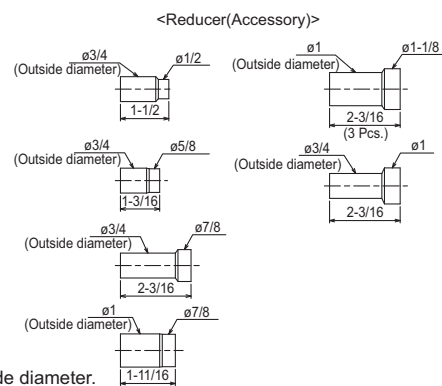
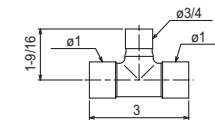
For Liquid pipe:



in.

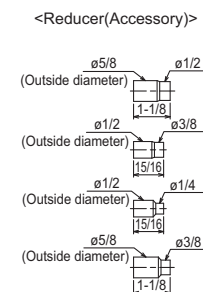
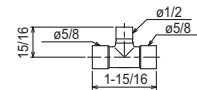
CMY-Y202S-G2

For Gas pipe:



*Pipe diameter is indicated by inside diameter.

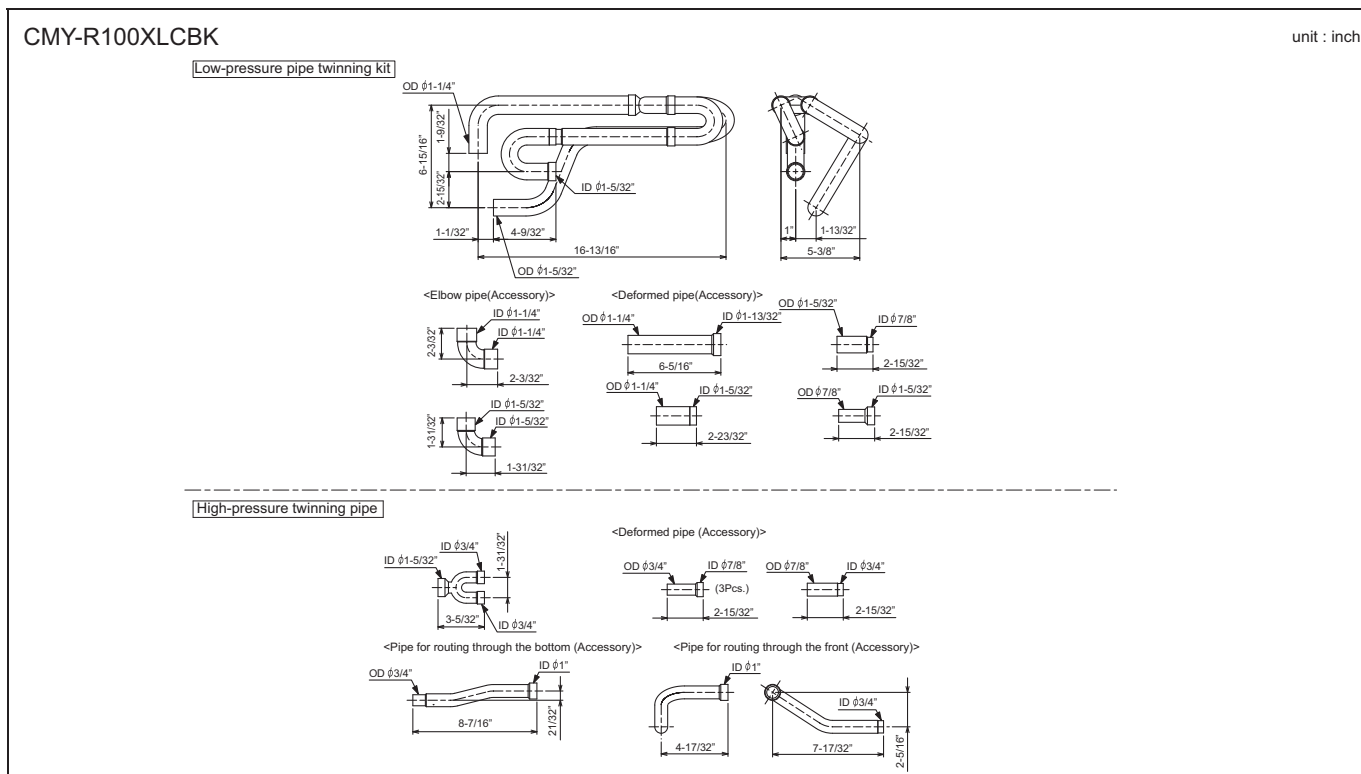
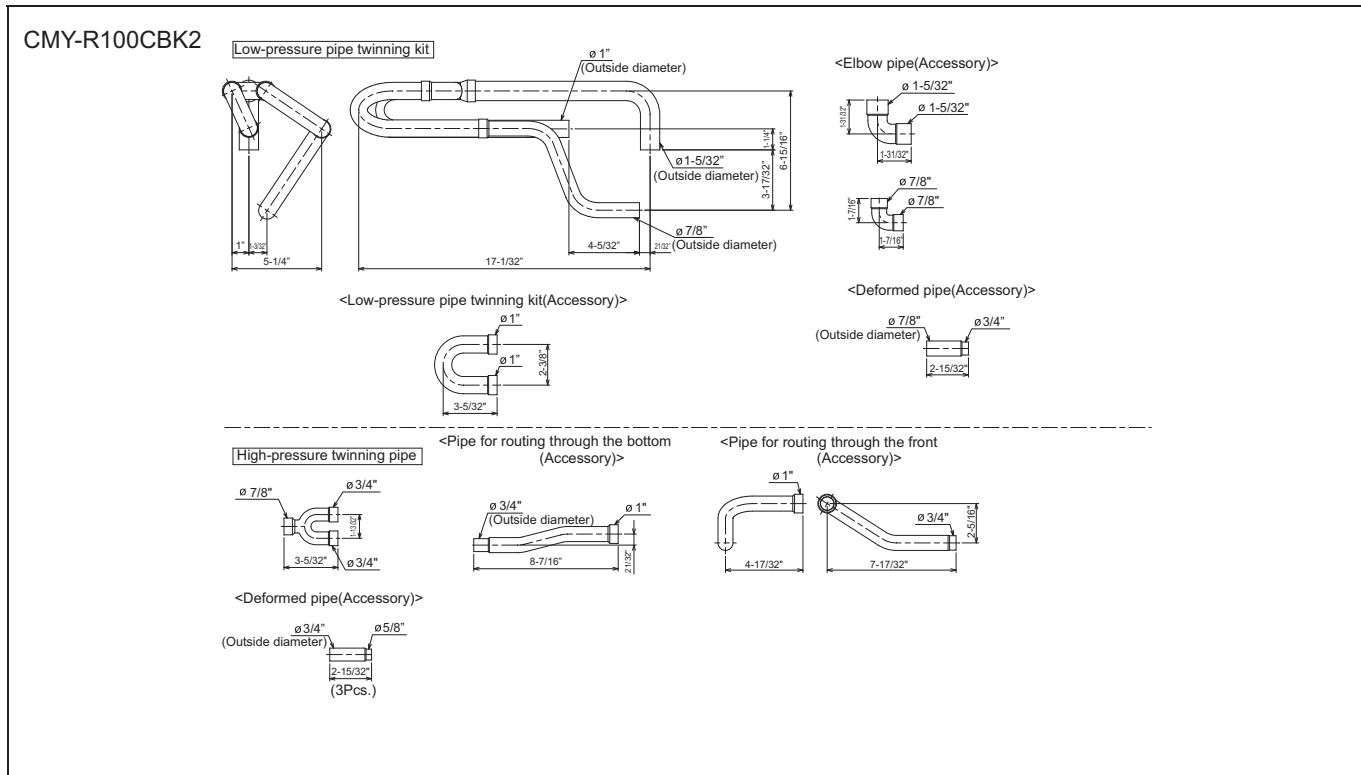
For Liquid pipe:



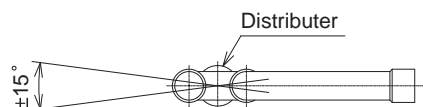
in.

9-2. OUTDOOR TWINNING KIT

The following optional Outdoor Twinning Kit is needed to use to combine multiple refrigerant pipes. Refer to section "Piping Design" for the details of selecting a proper twinning kit.



Note 1. Reference the attitude angle of the branch pipe below the fig.







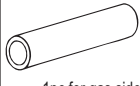

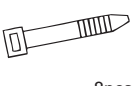

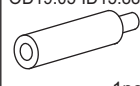
The angle of the branch pipe for high pressure is within $\pm 15^\circ$ against the horizontal plane.

2. Use the attached pipe to braze the port-opening of the distributor.
3. Pipe diameter is indicated by inside diameter.

9-3. JOINT KIT "CMY-R160-J1" FOR BC CONTROLLER

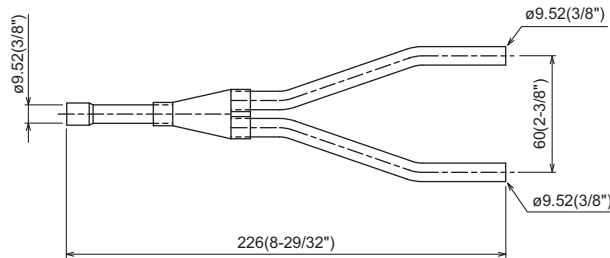
Joint kit "CMY-R160-J1" for BC controller is used to combine 2 ports of the BC controller at a PURY/PQRY system so as to enable down-stream Indoor capacity above P54 as shown in Fig. 1.

The Joint kit include following items:

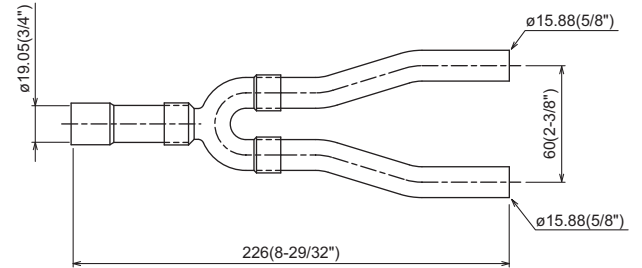
① Instruction	② Joint pipe(Small)	③ Joint pipe(Large)	④ Cover 1	⑤ Cover 2	⑥ Cover 3	⑦ Band	⑧ Reducer 1	⑨ Reducer 2
								
This sheet 1pc	1pc	1pc	2pcs	1pc for gas side	1pc for liquid side	8pcs	1pc	1pc

Please prepare the following items in the field. ①Tape for insulation material sealing ②Extension pipe for refrigerant circuit

② Joint pipe (for liquid side)



③ Joint pipe (for gas side)



mm (in.)

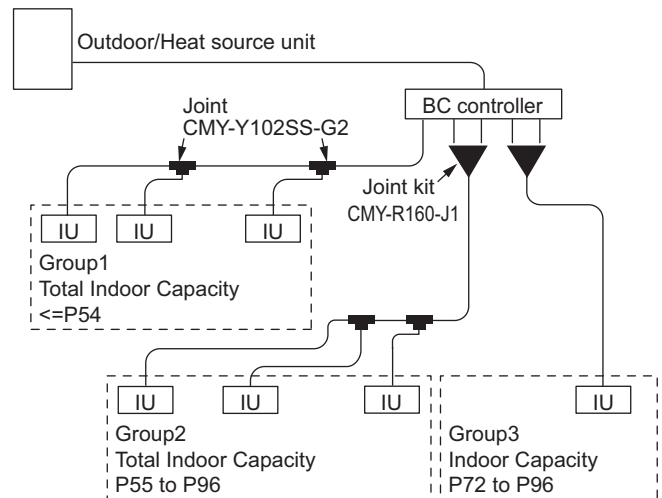
1. Designing CMY-R160-J1 to a PURY/PQRY system

The maximum down-stream Indoor capacity for 1 port of BC controller is P54. When the down-stream Indoor capacity is above P54, Joint kit CMY-R160-J1 is needed to combined 2 ports of BC controller to enlarge the capacity, like Group 2 and 3 in Fig. 1.

Maximum 3 Indoor units are allowed to connect to 1 port of BC controller or 2 combined ports of BC controller using CMY-R160-J1.

When connecting Indoor units to 1 port of BC controller or 2 combined ports of BC controller using CMY-R160-J1 or CMY-Y102SS-G2 is applicable, like Group 1 and 2 in Fig. 1

Caution: Mixed cooling and heating mode at the same time for Indoor units connecting to 1 port or 2 combined ports is not available.



R2 (K)

Fig.1. CMY-R160-J1 applying scheme

2. Piping at the installation site

The connection of CMY-R160-J1 to BC controller and pipe leading to Indoor units is referable to Fig. 2. Non-oxidized brazing is necessary. All piping must be careful to avoid foreign material getting inside.

After piping and air-tight testing, insulation work to the Joint and pipe should be done. Details is available at the Installation Manual.

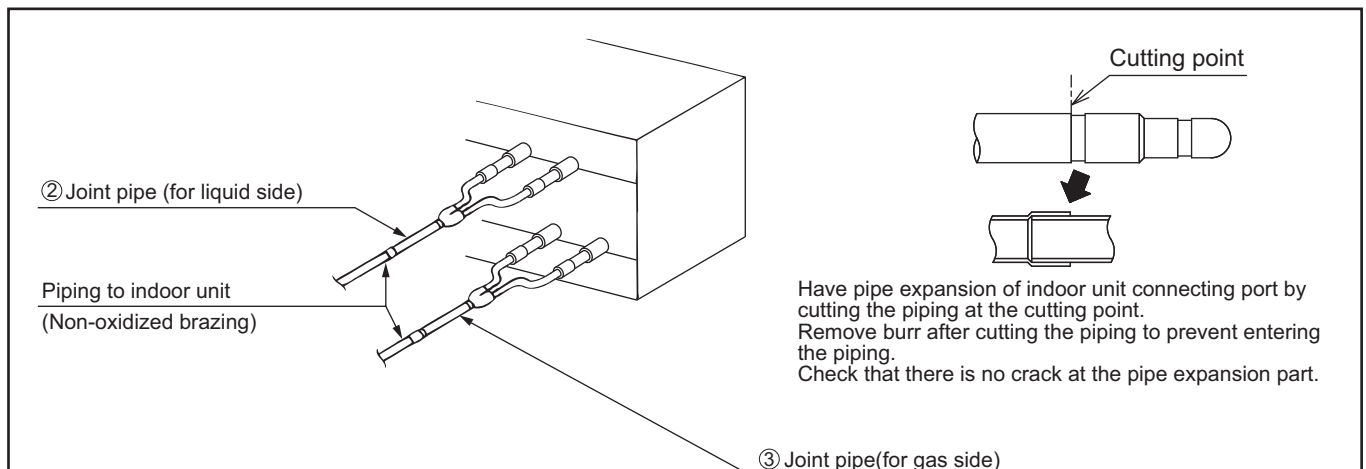


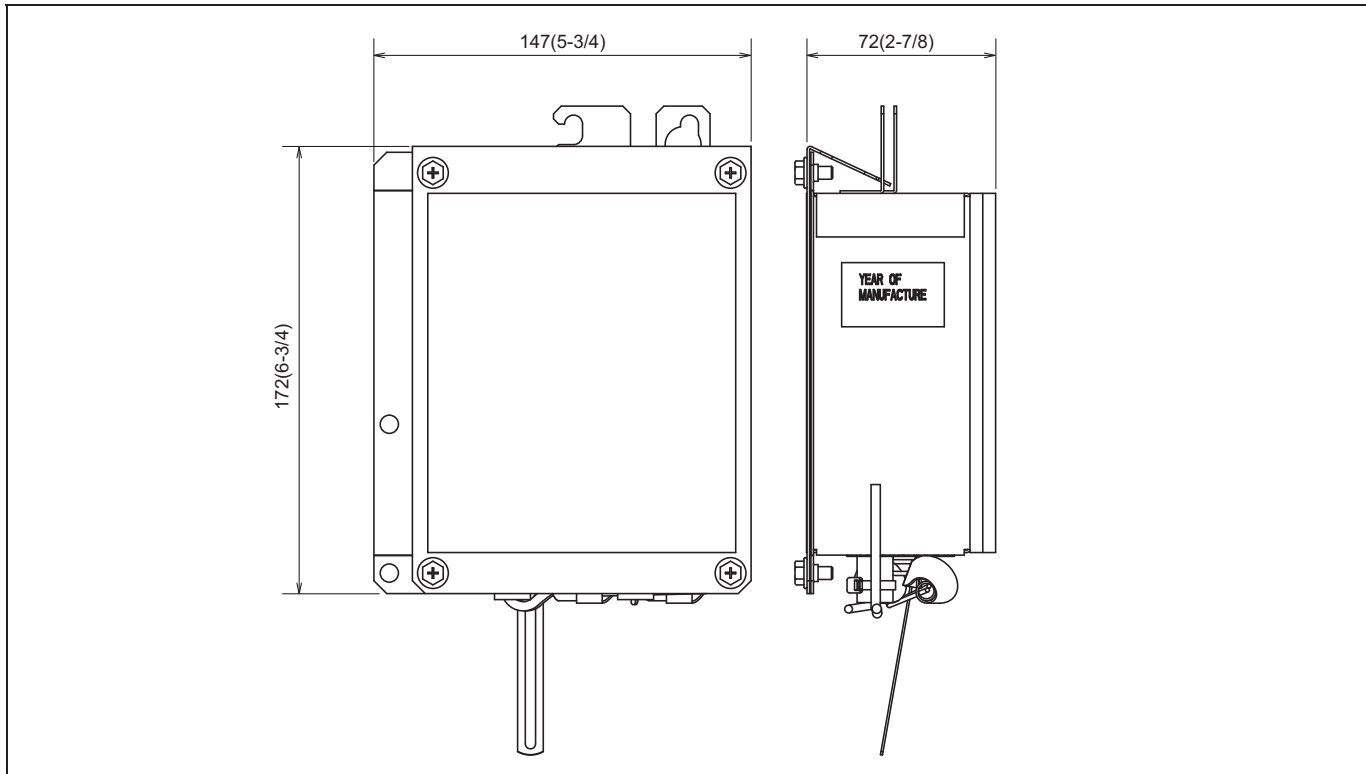
Fig.2. Connecting CMY-R160-J1

9. OPTIONAL PARTS

Outdoor units

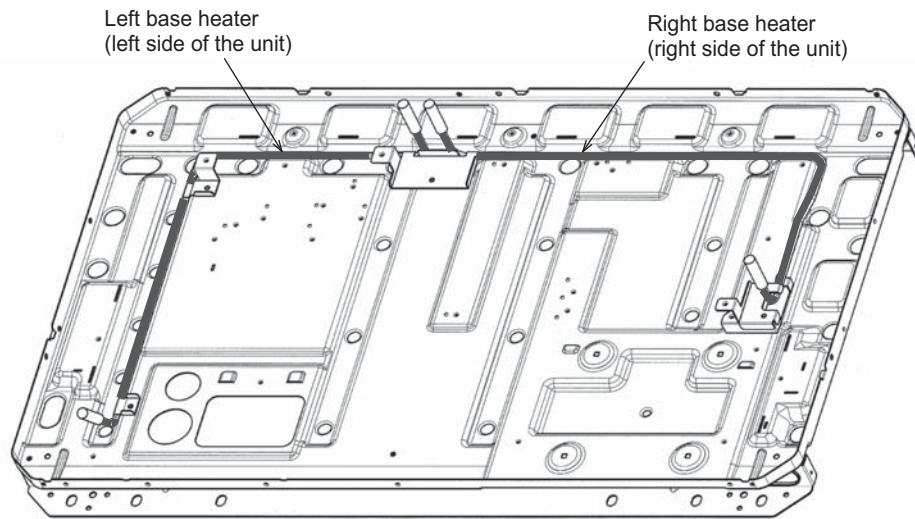
9-4. RELAY BOX

If there is a risk that the drain water will freeze inside the outdoor unit, the installation of a base heater is recommended. PAC-BH01KTT-E/KTY-E is a relay box for controlling the electric base heater. For details, refer to the relay box Installation Manual.

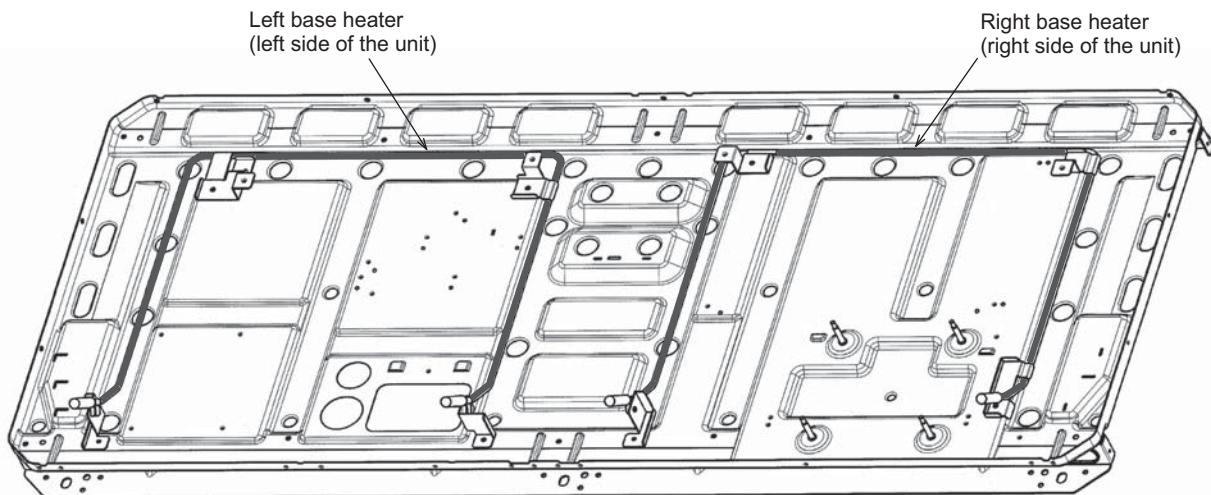


9-5. BASE HEATER

PAC-BH05EHT-E (for L module)



PAC-BH06EHT-E (for XL module)



If there is a risk that the drain water will freeze inside the outdoor unit, the installation of a base heater is recommended. The base heaters described below are for exclusive use with the TKMU model. Base heaters for the YKMU model are field-supplied. For details, refer to the base heater Installation Manual.

INSTALLATION INFORMATION

1. Installation information.....	Ua-1-2
1-1. General precautions	Ua-1-2
1-2. Precautions for Indoor unit and BC controller.....	Ua-1-3
1-3. Precautions for Outdoor unit/Heat source unit.....	Ua-1-4
1-4. Precautions for Control-related items	Ua-1-5

1. Installation information

1-1. General precautions

1-1-1. Usage

- ♦The air-conditioning system described in this Data Book is designed for human comfort.
- ♦This product is not designed for preservation of food, animals, plants, precision equipment, or art objects. To prevent quality loss, do not use the product for purposes other than what it is designed for.
- ♦To reduce the risk of water leakage and electric shock, do not use the product for air-conditioning vehicles or vessels.

1-1-2. Installation environment

- ♦Do not install any unit other than the dedicated unit in a place where the voltage changes a lot, large amounts of mineral oil (e.g., cutting oil) are present, cooking oil may splash, or a large quantity of steam can be generated such as a kitchen.
- ♦Do not install the unit in acidic or alkaline environment.
- ♦Installation should not be performed in the locations exposed to chlorine or other corrosive gases. Avoid near a sewer.
- ♦To reduce the risk of fire, do not install the unit in a place where flammable gas may be leaked or inflammable material is present.
- ♦This air conditioning unit has a built-in microcomputer. Take the noise effects into consideration when deciding the installation position. Especially in a place where antenna or electronic device are installed, it is recommended that the air conditioning unit be installed away from them.
- ♦Install the unit on a solid foundation according to the local safety measures against typhoons, wind gusts, and earthquakes to prevent the unit from being damaged, toppling over, and falling.

1-1-3. Backup system

- ♦In a place where air conditioner's malfunctions may exert crucial influence, it is recommended to have two or more systems of single outdoor/heat source units with multiple indoor units.

1-1-4. Unit characteristics

- ♦Heat pump efficiency of outdoor unit depends on outdoor temperature. In the heating mode, performance drops as the outside air temperature drops. In cold climates, performance can be poor. Warm air would continue to be trapped near the ceiling and the floor level would continue to stay cold. In this case, heat pumps require a supplemental heating system or air circulator. Before purchasing them, consult your local distributor for selecting the unit and system.
- ♦When the outdoor temperature is low and the humidity is high, the heat exchanger on the outdoor unit side tends to collect frost, which reduces its heating performance. To remove the frost, Auto-defrost function will be activated and the heating mode will temporarily stop for 3-10 minutes. Heating mode will automatically resume upon completion of defrost process.
- ♦Air conditioner with a heat pump requires time to warm up the whole room after the heating operation begins, because the system circulates warm air in order to warm up the whole room.
- ♦The sound levels were obtained in an anechoic room. The sound levels during actual operation are usually higher than the simulated values due to ambient noise and echoes. Refer to the section on "SOUND LEVELS" for the measurement location.
- ♦Depending on the operation conditions, the unit generates noise caused by valve actuation, refrigerant flow, and pressure changes even when operating normally. Please consider to avoid location where quietness is required. For BC/HBC controller, it is recommended to unit to be installed in places such as ceilings of corridor, restrooms and plant rooms.
- ♦The total capacity of the connected indoor units can be greater than the capacity of the outdoor/heat source unit. However, when the connected indoor units operate simultaneously, each unit's capacity may become smaller than the rated capacity.
- ♦When the unit is started up for the first time within 12 hours after power on or after power failure, it performs initial startup operation (capacity control operation) to prevent damage to the compressor. The initial startup operation requires 90 minutes maximum to complete, depending on the operation load.

1-1-5. Relevant equipment

- ♦Use an earth leakage breaker (ELB) with medium sensitivity, and an activation speed of 0.1 second or less.
- ♦Consult your local distributor or a qualified technician when installing an earth leakage breaker.
- ♦If the unit is inverter type, select an earth leakage breaker for handling high harmonic waves and surges.
- ♦Leakage current is generated not only through the air conditioning unit but also through the power wires. Therefore, the leakage current of the main power supply is greater than the total leakage current of each unit. Take into consideration the capacity of the earth leakage breaker or leakage alarm when installing one at the main power supply. To measure the leakage current simply on site, use a measurement tool equipped with a filter, and clamp all the four power wires together. The leakage current measured on the ground wire may not accurate because the leakage current from other systems may be included to the measurement value.
- ♦Do not install a phase advancing capacitor on the unit connected to the same power system with an inverter type unit and its equipment.
- ♦If a large current flows due to the product malfunctions or faulty wiring, both the earth leakage breaker on the product side and the upstream overcurrent breaker may trip almost at the same time. Separate the power system or coordinate all the breakers depending on the system's priority level.

1. Installation information

1-1-6. Unit installation

- ♦Your local distributor or a qualified technician must read the Installation Manual that is provided with each unit carefully before performing installation work.
- ♦Consult your local distributor or a qualified technician when installing the unit. Improper installation by an unqualified person may result in water leakage, electric shock, or fire.
- ♦Ensure there is enough space around each unit.

1-1-7. Optional accessories

- ♦Only use accessories recommended by Mitsubishi Electric. Consult your local distributor or a qualified technician when installing them. Improper installation by an unqualified person may result in water leakage, electric leakage, system breakdown, or fire.
- ♦Some optional accessories may not be compatible with the air conditioning unit to be used or may not be suitable for the installation conditions. Check the compatibility when considering any accessories.
- ♦Note that some optional accessories may affect the air conditioner's external form, appearance, weight, operating sound, and other characteristics.

1-1-8. Operation/Maintenance

- ♦Read the Instruction Book that is provided with each unit carefully prior to use.
- ♦Maintenance or cleaning of each unit may be risky and require expertise. Read the Instruction Book to ensure safety. Consult your local distributor or a qualified technician when special expertise is required such as when the indoor unit needs to be cleaned.

1-2. Precautions for Indoor unit and BC controller

1-2-1. Operating environment

- ♦The refrigerant (R410A) used for air conditioner is non-toxic and nonflammable. However, if the refrigerant leaks, the oxygen level may drop to harmful levels. If the air conditioner is installed in a small room, measures must be taken to prevent the refrigerant concentration from exceeding the safety limit even if the refrigerant should leak.
- ♦If the units operate in the cooling mode at the humidity above 80%, condensation may collect and drip from the indoor units.

1-2-2. Unit characteristics

- ♦The return air temperature display on the remote controller may differ from the ones on the other thermometers.
- ♦The clock on the remote controller may be displayed with a time lag of approximately one minute every month.
- ♦The temperature using a built-in temperature sensor on the remote controller may differ from the actual room temperature due to the effect of the wall temperature.
- ♦Use a built-in thermostat on the remote controller or a separately-sold thermostat when indoor units installed on or in the ceiling operate the automatic cooling/heating switchover.
- ♦The room temperature may rise drastically due to Thermo OFF in the places where the air conditioning load is large such as computer rooms.
- ♦Be sure to use a regular filter. If an irregular filter is installed, the unit may not operate properly, and the operation noise may increase.
- ♦The room temperature may rise over the preset temperature in the environment where the heating air conditioning load is small.

1-2-3. Unit installation

- ♦For simultaneous cooling/heating operation type air conditioners (R2, H2i R2, WR2 series), the G-type BC controller cannot be connected to the P144 outdoor/heat source unit model or above, and the G- and GA-type BC controllers cannot be connected to the P264 model or above. The GB- and HB-type BC controllers (sub) cannot be connected to the outdoor/heat source unit directly, and be sure to use them with GA- and HA-type BC controllers (main).
- ♦The insulation for low pressure pipe between the BC controller and outdoor/heat source unit shall be at least 20 mm thick. If the unit is installed on the top floor or in a high-temperature, high-humidity environment, thicker insulation may be necessary.
- ♦Do not have any branching points on the downstream of the refrigerant pipe header.
- ♦When a field-supplied external thermistor is installed or when a device for the demand control is used, abnormal stop of the unit or damage of the electromagnetic contactor may occur. Consult your local distributor for details.
- ♦When indoor units operate a fresh air intake, install a filter in the duct (field-supplied) to remove the dust from the air.
- ♦The 4-way or 2-way Airflow Ceiling Cassette Type units that have an outside air inlet can be connected to the duct, but need a booster fan to be installed at site. Refer to the chapter "Indoor Unit" for the available range for fresh air intake volume.
- ♦Operating fresh air intake on the indoor unit may increase the sound pressure level.

1. Installation information

1-3. Precautions for Outdoor unit/Heat source unit

1-3-1. Installation environment

- ♦Outdoor/heat source unit with salt-resistant specification is recommended to use in a place where it is subject to salt air.
- ♦Even when the unit with salt-resistant specification is used, it is not completely protected against corrosion. Be sure to follow the directions or precautions described in Instructions Book and Installation Manual for installation and maintenance. The salt-resistant specification is referred to the guidelines published by JRAIA (JRA9002).
- ♦Install the unit in a place where the flow of discharge air is not obstructed. If not, the short-cycling of discharge air may occur.
- ♦Provide proper drainage around the unit base, because the condensation may collect and drip from the outdoor/heat source units. Provide water-proof protection to the floor when installing the units on the rooftop.
- ♦In a region where snowfall is expected, install the unit so that the outlet faces away from the direction of the wind, and install a snow guard to protect the unit from snow. Install the unit on a base approximately 50 cm higher than the expected snowfall. Close the openings for pipes and wiring, because the ingress of water and small animals may cause equipment damage. If SUS snow guard is used, refer to the Installation Manual that comes with the snow guard and take caution for the installation to avoid the risk of corrosion.
- ♦When the unit is expected to operate continuously for a long period of time at outside air temperatures of below 0°C, take appropriate measures, such as the use of a unit base heater, to prevent icing on the unit base. (Not applicable to the PUMY-P-NHMU series)
- ♦Install the snow guard so that the outlet/inlet faces away from the direction of the wind.
- ♦When the snow accumulates approximately 50 cm or more on the snow guard, remove the snow from the guard. Install a roof that is strong enough to withstand snow loads in a place where snow accumulates.
- ♦Provide proper protection around the outdoor/heat source units in places such as schools to avoid the risk of injury.
- ♦A cooling tower and heat source water circuit should be a closed circuit that water is not exposed to the atmosphere. When a tank is installed to ensure that the circuit has enough water, minimize the contact with outside air so that the oxygen from being dissolved in the water should be 1 mg/L or less.
- ♦Install a strainer (50 mesh or more recommended) on the water pipe inlet on the heat source unit.
- ♦Interlock the heat source unit and water circuit pump.
- ♦Note the followings to prevent the freeze bursting of pipe when the heat source unit is installed in a place where the ambient temperature can be 0°C or below.
- ♦Keep the water circulating to prevent it from freezing when the ambient temperature is 0°C or below.
- ♦Before a long period of non use, be sure to purge the water out of the unit.
- ♦Salt-resistant unit is resistant to salt corrosion, but not salt-proof.
Please note the following when installing and maintaining outdoor units in marine atmosphere.
 1. Install the salt-resistant unit out of direct exposure to sea breeze, and minimize the exposure to salt water mist.
 2. Avoid installing a sun shade over the outdoor unit, so that rain will wash away salt deposits off the unit.
 3. Install the unit horizontally to ensure proper water drainage from the base of the unit. Accumulation of water in the base of the outdoor unit will significantly accelerate corrosion.
 4. Periodically wash salt deposits off the unit, especially when the unit is installed in a coastal area.
 5. Repair all noticeable scratches after installation and during maintenance.
 6. Periodically check the unit, and apply anti-rust agent and replace corroded parts as necessary.

1-3-2. Circulating water

- ♦Follow the guidelines published by JRAIA (JRA-GL02-1994) to check the water quality of the water in the heat source unit regularly.
- ♦A cooling tower and heat source water circuit should be a closed circuit that water is not exposed to the atmosphere. When a tank is installed to ensure that the circuit has enough water, minimize the contact with outside air so that the oxygen from being dissolved in the water should be 1 mg/L or less.

1-3-3. Unit characteristics

- ♦When the Thermo ON and OFF is frequently repeated on the indoor unit, the operation status of outdoor/heat source units may become unstable.

1-3-4. Relevant equipment

- ♦Provide grounding in accordance with the local regulations.

1. Installation information

1-4. Precautions for Control-related items

1-4-1. Product specification

- ♦To introduce the MELANS system, a consultation with us is required in advance. Especially to introduce the electricity charge apportioning function or energy-save function, further detailed consultation is required. Consult your local distributor for details.
- ♦Billing calculation for AE-200A/AE-50A/EW-50A/AG-150A-A/EB-50GU-A/TG-2000A, or the billing calculation unit is unique and based on our original method. (Backup operation is included.) It is not based on the metering method, and do not use it for official business purposes. It is not the method that the amount of electric power consumption (input) by air conditioner is calculated. Note that the electric power consumption by air conditioner is apportioned by using the ratio corresponding to the operation status (output) for each air conditioner (indoor unit) in this method.
- ♦In the apportioned billing function for AE-200A/AE-50A/EW-50A/AG-150A-A and EB-50GU-A, use separate watt-hour meters for A-control units, K-control units^{*1}, and packaged air conditioner for City Multi air conditioners. It is recommended to use an individual watt-hour meter for the large-capacity indoor unit (with two or more addresses).
- ♦When using the peak cut function on the AE-200A/AE-50A/EW-50A/AG-150A-A or EB-50GU-A, note that the control is performed once every minute and it takes time to obtain the effect of the control. Take appropriate measures such as lowering the criterion value. Power consumption may exceed the limits if AE-200A/AE-50A/EW-50A/AG-150A-A or EB-50GU-A malfunctions or stops. Provide a back-up remedy as necessary.
- ♦The controllers cannot operate while the indoor unit is OFF. (No error)
Turn ON the power to the indoor unit when operating the controllers.
- ♦When using the interlocked control function on the AE-200A/AE-50A/EW-50A/AG-150A-A/EB-50GU-A/PAC-YG66DCA or PAC-YG63MCA, do not use it for the control for the fire prevention or security. (This function should never be used in the way that would put people's lives at risk.) Provide any methods or circuit that allow ON/OFF operation using an external switch in case of failure.

1-4-2. Installation environment

- ♦The surge protection for the transmission line may be required in areas where lightning strikes frequently occur.
- ♦A receiver for a wireless remote controller may not work properly due to the effect of general lighting. Leave a space of at least 1 m between the general lighting and receiver.
- ♦When the Auto-elevating panel is used and the operation is made by using a wired remote controller, install the wired remote controller to the place where all air conditioners controlled (at least the bottom part of them) can be seen from the wired remote controller. If not, the descending panel may cause damage or injury, and be sure to use a wireless remote controller designed for use with elevating panel (sold separately).
- ♦Install the wired remote controller (switch box) to the place where the following conditions are met.
 - ♦Where installation surface is flat
 - ♦Where the remote controller can detect an accurate room temperature
The temperature sensors that detect a room temperature are installed both on the remote controller and indoor unit. When a room temperature is detected using the sensor on the remote controller, the main remote controller is used to detect a room temperature. In this case, follow the instructions below.
 - ♦ Install the controller in a place where it is not subject to the heat source.
(If the remote controller faces direct sunlight or supply air flow direction, the remote controller cannot detect an accurate room temperature.)
 - ♦ Install the controller in a place where an average room temperature can be detected.
 - ♦ Install the controller in a place where no other wires are present around the temperature sensor.
(If other wires are present, the remote controller cannot detect an accurate room temperature.)
- ♦To prevent unauthorized access, always use a security device such as a VPN router when connecting AE-200A/AE-50A/EW-50A/AG-150A/EB-50GU-A or TG-2000A to the Internet.



CAUTION FOR REFRIGERANT LEAKAGE

1. Caution for refrigerant leakage	Ub-1-2
1-1. Refrigerant property	Ub-1-2
1-2. Confirm the Critical concentration and take countermeasure	Ub-1-2

1. Caution for refrigerant leakage

The installer and/or air conditioning system specialist shall secure safety against refrigerant leakage according to local regulations or standards. The following standard may be applicable if no local regulation or standard is available.

1-1. Refrigerant property

R410A refrigerant is harmless and incombustible. The R410A is heavier than the indoor air in density. Leakage of the refrigerant in a room has possibility to lead to a hypoxia situation. Therefore, the critical concentration specified below shall not be exceeded even if the leakage happens.

• Critical concentration

Critical concentration hereby is the refrigerant concentration in which no human body would be hurt if immediate measures can be taken when refrigerant leakage happens.

Critical concentration of R410A: 0.44kg/m³
(The weight of refrigeration gas per 1 m³ air conditioning space.);

* The Critical concentration is subject to ISO5149, EN378-1.

For the CITY MULTI system, the concentration of refrigerant leaked should not have a chance to exceed the critical concentration in any situation.

1-2. Confirm the Critical concentration and take countermeasure

The maximum refrigerant leakage concentration (Rmax) is defined as the result of the possible maximum refrigerant weight (Wmax) leaked into a room divided by its room capacity (V). It is referable to Fig.1-1. The refrigerant of Outdoor/Heat source unit here includes its original charge and additional charge at the site.

The additional charge is calculated according to the refrigerant charging calculation of each kind of Outdoor/Heat source unit, and shall not be over charged at the site. Procedure 1-2-1~3 tells how to confirm maximum refrigerant leakage concentration (Rmax) and how to take countermeasures against a possible leakage.

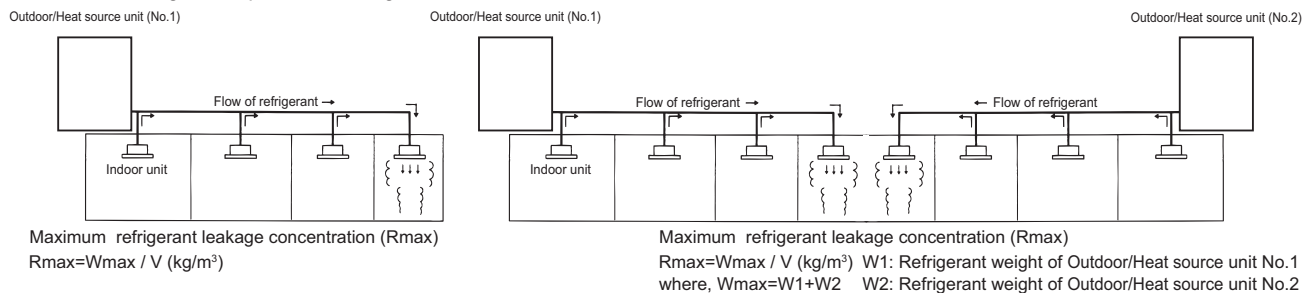


Fig. 1-1 The maximum refrigerant leakage concentration

1-2-1. Find the room capacity (V),

If a room having total opening area more than 0.15% of the floor area at a low position with another room/space, the two rooms/space are considered as one. The total space shall be added up.

1-2-2. Find the possible maximum leakage (Wmax) in the room. If a room has Indoor unit(s) from more than 1 Outdoor/Heat source unit, add up the refrigerant of the Outdoor/Heat source units.

1-2-3. Divide (Wmax) by (V) to get the maximum refrigerant leakage concentration (Rmax).

1-2-4. Find if there is any room in which the maximum refrigerant leakage concentration (Rmax) is over 0.44kg/m³.

If no, then the CITY MULTI is safe against refrigerant leakage.

If yes, following countermeasure is recommended to do at site.

Countermeasure 1: Let-out (making V bigger)

Design an opening of more than 0.15% of the floor area at a low position of the wall to let out the refrigerant whenever leaked.

e.g. make the upper and lower seams of door big enough.

Countermeasure 2: Smaller total charge (making Wmax smaller)

e.g. Avoid connecting more than 1 Outdoor/Heat source unit to one room.

e.g. Using smaller model size but more Outdoor/Heat source units.

e.g. Shorten the refrigerant piping as much as possible.

Countermeasure 3: Fresh air in from the ceiling (Ventilation)

As the density of the refrigerant is bigger than that of the air. Fresh air supply from the ceiling is better than air exhausting from the ceiling.

Fresh air supply solution refers to Fig.1-2~4.

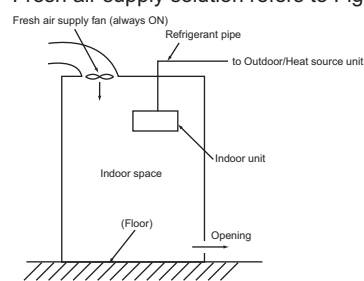


Fig. 1-2. Fresh air supply always ON

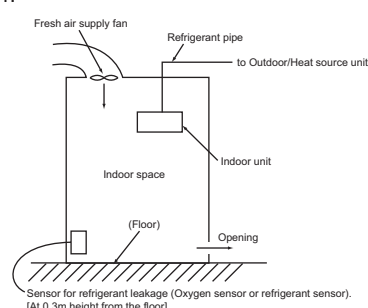


Fig. 1-3. Fresh air supply upon sensor action

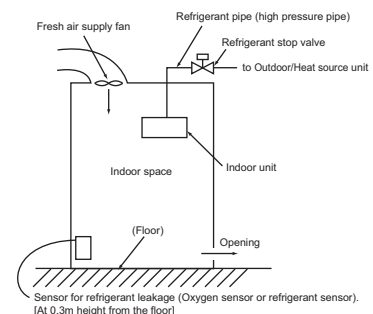


Fig. 1-4. Fresh air supply and refrigerant shut-off upon sensor action

Note 1. Countermeasure 3 should be done in a proper way in which the fresh air supply shall be on whenever the leakage happens.

Note 2. In principle, MITSUBISHI ELECTRIC requires proper piping design, installation and air-tight testing after installation to avoid leakage happening.

In the area should earthquake happen, anti-vibration measures should be fully considered.

The information should be used with caution. The information is subject to change without notice.

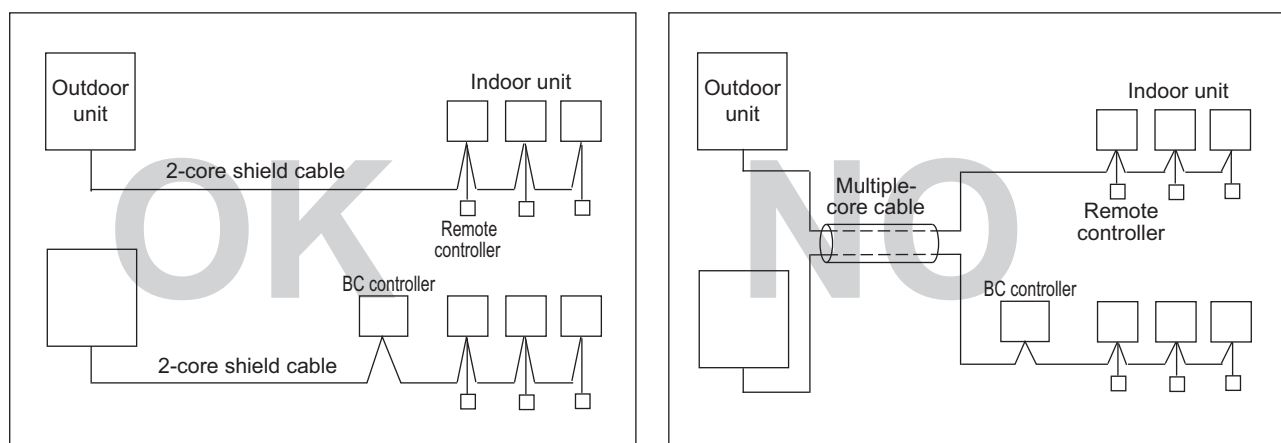
CITY MULTI

SYSTEM DESIGN R2-SERIES

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1-1. General cautions

- ① Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations, and guidance of each electric power company.
- ② Wiring for control (hereinafter referred to as transmission cable) shall be (50mm[1-5/8in] or more) apart from power source wiring so that it is not influenced by electric noise from power source wiring. (Do not insert transmission cable and power source wire in the same conduit.)
- ③ Be sure to provide designated grounding work to outdoor unit.
- ④ Give some allowance to wiring for electrical part box of indoor and outdoor units, because the box is sometimes removed at the time of service work.
- ⑤ Never connect 100V, 208~230, 460V power source to terminal block of transmission cable. If connected, electrical parts will be damaged.
- ⑥ Use 2-core shield cable for transmission cable. If transmission cables of different systems are wired with the same multiple-core cable, the resultant poor transmitting and receiving will cause erroneous operations.
- ⑦ When extending the transmission line, make sure to extend the shield cable as well.



- ⑧ When the System controller is connected to TB7 side and TLMU/TKMU outdoor unit model is used, connect a PAC-SC51KUA to TB7 side. If a PAC-SC51KUA cannot be used, connect the System controller to TB3 side.
 - When YLMU/YKMU outdoor unit model is used, the male power supply connector can be connected to CN40, and the System controller can be connected to TB7 side.
 - When the male power supply connector is connected from TLMU/TKMU outdoor unit to CN40, the power is supplied to TB7 side even when the main power of the TLMU/TKMU outdoor unit is switched off, and the System controller may store an error in the error history and emit an alarm signal.
 - If only LOSSNAY units or outdoor units in different refrigerant circuits are connected to TB7 side, the male power supply connector can be connected from TLMU/TKMU outdoor unit to CN40.
 - Up to three System controllers can be connected to TB3 side.

For the details, refer to 2-3 "System configuration restrictions".

1-2. Power supply for Outdoor unit

1-2-1. Electrical characteristics of Outdoor unit at cooling mode

Symbols: MCA: Minimum Circuit Ampacity

SC: Starting Current

MOP: Maximum Overcurrent Protection

PURY-P-TKMU

Model	Unit combination	Outdoor units						Compressor		Fan
		Hz	Volts	Voltage range	MCA(A)	Max.CKT. BKR(A)	MOCP(A)	Output(kW)	SC(A)	Output(kW)
PURY-P72TKMU-A(-BS)	-	60Hz	208/230V	188 to 253V	23 / 21	30	38 / 35	4.7	15	0.92
PURY-P96TKMU-A(-BS)	-				34 / 31	40	57 / 52	6.7	15	0.92
PURY-P120TKMU-A(-BS)	-				45 / 42	50	74 / 68	8.2	15	0.92+0.92
PURY-P144TKMU-A(-BS)	-				53 / 48	60	87 / 80	9.5	15	0.92+0.92
PURY-P168TSKMU-A(-BS)	PURY-P72TKMU-A(-BS)				23 / 21	30	38 / 35	4.7	15	0.92
	PURY-P96TKMU-A(-BS)				34 / 31	40	57 / 52	6.7	15	0.92
PURY-P192TSKMU-A(-BS)	PURY-P96TKMU-A(-BS)				34 / 31	40	57 / 52	6.7	15	0.92
	PURY-P96TKMU-A(-BS)				34 / 31	40	57 / 52	6.7	15	0.92
PURY-P216TSKMU-A(-BS)	PURY-P96TKMU-A(-BS)				34 / 31	40	57 / 52	6.7	15	0.92
	PURY-P120TKMU-A(-BS)				45 / 42	50	74 / 68	8.2	15	0.92+0.92
PURY-P240TSKMU-A(-BS)	PURY-P120TKMU-A(-BS)				45 / 42	50	74 / 68	8.2	15	0.92+0.92
	PURY-P120TKMU-A(-BS)				45 / 42	50	74 / 68	8.2	15	0.92+0.92
PURY-P264TSKMU-A(-BS)	PURY-P120TKMU-A(-BS)				45 / 42	50	74 / 68	8.2	15	0.92+0.92
	PURY-P144TKMU-A(-BS)				53 / 48	60	87 / 80	9.5	15	0.92+0.92
PURY-P288TSKMU-A(-BS)	PURY-P144TKMU-A(-BS)				53 / 48	60	87 / 80	9.5	15	0.92+0.92
	PURY-P144TKMU-A(-BS)				53 / 48	60	87 / 80	9.5	15	0.92+0.92

Symbols: MCA: Minimum Circuit Ampacity

SC: Starting Current

MOP: Maximum Overcurrent Protection

PURY-P-YKMU

Model	Unit combination	Outdoor units						Compressor		Fan
		Hz	Volts	Voltage range	MCA(A)	Max.CKT. BKR(A)	MOCP(A)	Output(kW)	SC(A)	Output(kW)
PURY-P72YKMU-A(-BS)	-	60Hz	460V	414 to 506V	11	15	17	4.7	7	0.92
PURY-P96YKMU-A(-BS)	-				15	20	26	6.7	7	0.92
PURY-P120YKMU-A(-BS)	-				21	25	34	8.2	7	0.92+0.92
PURY-P144YKMU-A(-BS)	-				24	30	40	9.5	7	0.92+0.92
PURY-P144YSKMU-A(-BS)	PURY-P72YKMU-A(-BS)				11	15	17	4.7	7	0.92
	PURY-P72YKMU-A(-BS)				11	15	17	4.7	7	0.92
PURY-P168YSKMU-A(-BS)	PURY-P72YKMU-A(-BS)				11	15	17	4.7	7	0.92
	PURY-P96YKMU-A(-BS)				15	20	26	6.7	7	0.92
PURY-P192YSKMU-A(-BS)	PURY-P96YKMU-A(-BS)				15	20	26	6.7	7	0.92
	PURY-P96YKMU-A(-BS)				15	20	26	6.7	7	0.92
PURY-P216YSKMU-A(-BS)	PURY-P96YKMU-A(-BS)				15	20	26	6.7	7	0.92
	PURY-P120YKMU-A(-BS)				21	25	34	8.2	7	0.92+0.92
PURY-P240YSKMU-A(-BS)	PURY-P120YKMU-A(-BS)				21	25	34	8.2	7	0.92+0.92
	PURY-P120YKMU-A(-BS)				21	25	34	8.2	7	0.92+0.92
PURY-P264YSKMU-A(-BS)	PURY-P120YKMU-A(-BS)				21	25	34	8.2	7	0.92+0.92
	PURY-P144YKMU-A(-BS)				24	30	40	9.5	7	0.92+0.92
PURY-P288YSKMU-A(-BS)	PURY-P144YKMU-A(-BS)				24	30	40	9.5	7	0.92+0.92
	PURY-P144YKMU-A(-BS)				24	30	40	9.5	7	0.92+0.92

1-3. Power cable specifications

PURY-P-TKMU/YKMU

Thickness of wire for main power supply, capacities of the switch and system impedance

3-phase 3-wire, 208/230V, 60Hz		Minimum wire thickness (mm ² /AWG)			Switch (A)		Breaker for wiring (NFB)	Breaker for current leakage
		Main cable	Branch	Ground	Capacity	Fuse		
PURY-P-TKMU-A	P72	5.3/10	-	5.3/10	30	30	30	30A 30mA or 100mA 0.1sec. or less
	P96	8.4/8	-	8.4/8	40	40	40	40A 100mA 0.1sec. or less
	P120	13.3/6	-	13.3/6	50	50	50	50A 100mA 0.1sec. or less
	P144	21.2/4	-	21.2/4	60	60	60	60A 100mA 0.1sec. or less
Total operating current of the indoor unit	F0 = 15 or less *1	2.1/14	2.1/14	2.1/14	15	15	15	15A current sensitivity *2
	F0 = 20 or less *1	3.3/12	3.3/12	3.3/12	20	20	20	20A current sensitivity *2
	F0 = 30 or less *1	5.3/10	5.3/10	5.3/10	30	30	30	30A current sensitivity *2

3-phase 3-wire , 460V , 60Hz		Minimum wire thickness (mm ² /AWG)			Switch (A)		Breaker for wiring (NFB)	Breaker for current leakage
		Main cable	Branch	Ground	Capacity	Fuse		
PURY-P-YKMU-A	P72	2.1/14	-	2.1/14	15	15	15	15A 30mA or 100mA 0.1sec. or less
	P96	3.3/12	-	3.3/12	20	20	20	20A 30mA or 100mA 0.1sec. or less
	P120	5.3/10	-	5.3/10	25	25	25	25A 30mA or 100mA 0.1sec. or less
	P144	5.3/10	-	5.3/10	30	30	30	30A 30mA or 100mA 0.1sec. or less
Total operating current of the indoor unit	F0 = 15 or less *1	2.1/14	2.1/14	2.1/14	15	15	15	15A current sensitivity *2
	F0 = 20 or less *1	3.3/12	3.3/12	3.3/12	20	20	20	20A current sensitivity *2
	F0 = 30 or less *1	5.3/10	5.3/10	5.3/10	30	30	30	30A current sensitivity *2

*1 Please take the larger of F1 or F2 as the value for F0.

F1 = Total operating maximum current of the indoor units × 1.2

F2 = {V1 × (Quantity of Type1)/C} + {V1 × (Quantity of Type2)/C} + {V1 × (Quantity of Type3)/C} + {V1 × (Quantity of Type4)/C} + {V1 × (Quantity of Type5)/C} + {V1 × (Quantity of Type6)/C} + {V1 × (Quantity of Others)/C}

Indoor unit		V1	V2
Type1	PEFY-NMSU	18.6	2.4
Type2	PEFY-NMAU, PVFY-NAMU	38.0	1.6
Type3	PEFY-NMHSU	13.8	4.8
Type4	PLFY-NBMU, PCFY-NKMU	19.8	2.4
Type5	PKFY-NHMMU, PKFY-NKMU, PMFY-NBMU	9.9	2.4
Type6	PLFY-NEMU, PLFY-NFMU	17.1	2.4
Others	Other indoor unit	0	0

C : Multiple of tripping current at tripping time 0.01s

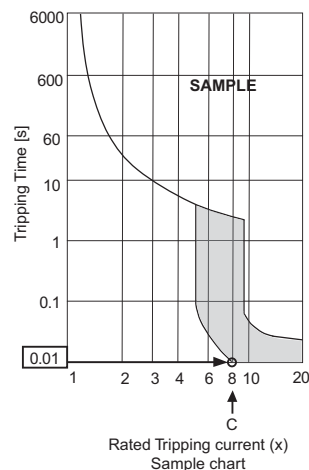
Please pick up "C" from the tripping characteristic of the breaker.

<Example of "F2" calculation>

*Condition PEFY-NMSU × 4 + PEFY-NMAU × 1, C = 8 (refer to right sample chart)

F2 = 18.6 × 4/8 + 38 × 1/8
= 14.05

→16 A breaker (Tripping current = 8 × 16 A at 0.01s)



*2 Current sensitivity is calculated using the following formula.

G1 = (V2 × Quantity of Type1) + (V2 × Quantity of Type2) + (V2 × Quantity of Type3) + (V2 × Quantity of Type4) + (V2 × Quantity of Type5) + (V2 × Quantity of Type6) + (V2 × Quantity of Others) + (V3 × Wire length [km])

G1	Current sensitivity
30 or less	30 mA 0.1sec or less
100 or less	100 mA 0.1sec or less

Wire thickness	V3
1.5 mm ²	48
2.5 mm ²	56
4.0 mm ²	66

1. Use dedicated power supplies for the outdoor unit and indoor unit. Ensure OC and OS are wired individually.
2. Bear in mind ambient conditions (ambient temperature, direct sunlight, rain water, etc.) when proceeding with the wiring and connections.
3. The wire size is the minimum value for metal conduit wiring. If the voltage drops, use a wire that is one rank thicker in diameter. Make sure the power-supply voltage does not drop more than 10%. Make sure that the voltage imbalance between the phases is 2% or less.
4. Specific wiring requirements should adhere to the wiring regulations of the region.
5. Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord (design 245 IEC57). For example, use wiring such as YZW.
6. A switch with at least 3 mm [1/8 in.] contact separation in each pole shall be provided by the Air Conditioner installer.

⚠ WARNING

- ◆ Be sure to use specified wires for connections and ensure no external force is imparted to terminal connections. If connections are not fixed firmly, heating or fire may result.
- ◆ Be sure to use the appropriate type of overcurrent protection switch. Note that generated overcurrent may include some amount of direct current.

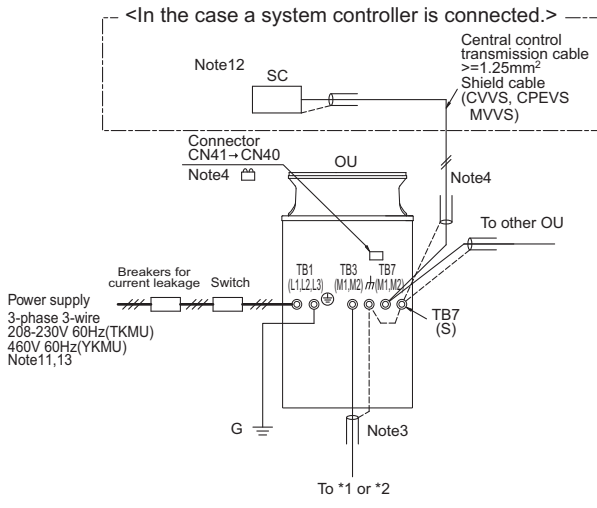
⚠ CAUTION

- ◆ The breakers for current leakage should support Inverter circuit. (e.g. Mitsubishi Electric's NV-C-Series or equivalent). If no earth leakage breaker is installed, it may cause an electric shock.
- ◆ Breakers for current leakage should combine using of switch.
- ◆ Do not use anything other than a breaker with the correct capacity. Using a breaker of too large capacity may cause malfunction or fire.
- ◆ If a large electric current flows due to malfunction or faulty wiring, earth-leakage breakers on the unit side and on the upstream side of the power supply system may both operate. Depending on the importance of the system, separate the power supply system or take protective coordination of breakers.

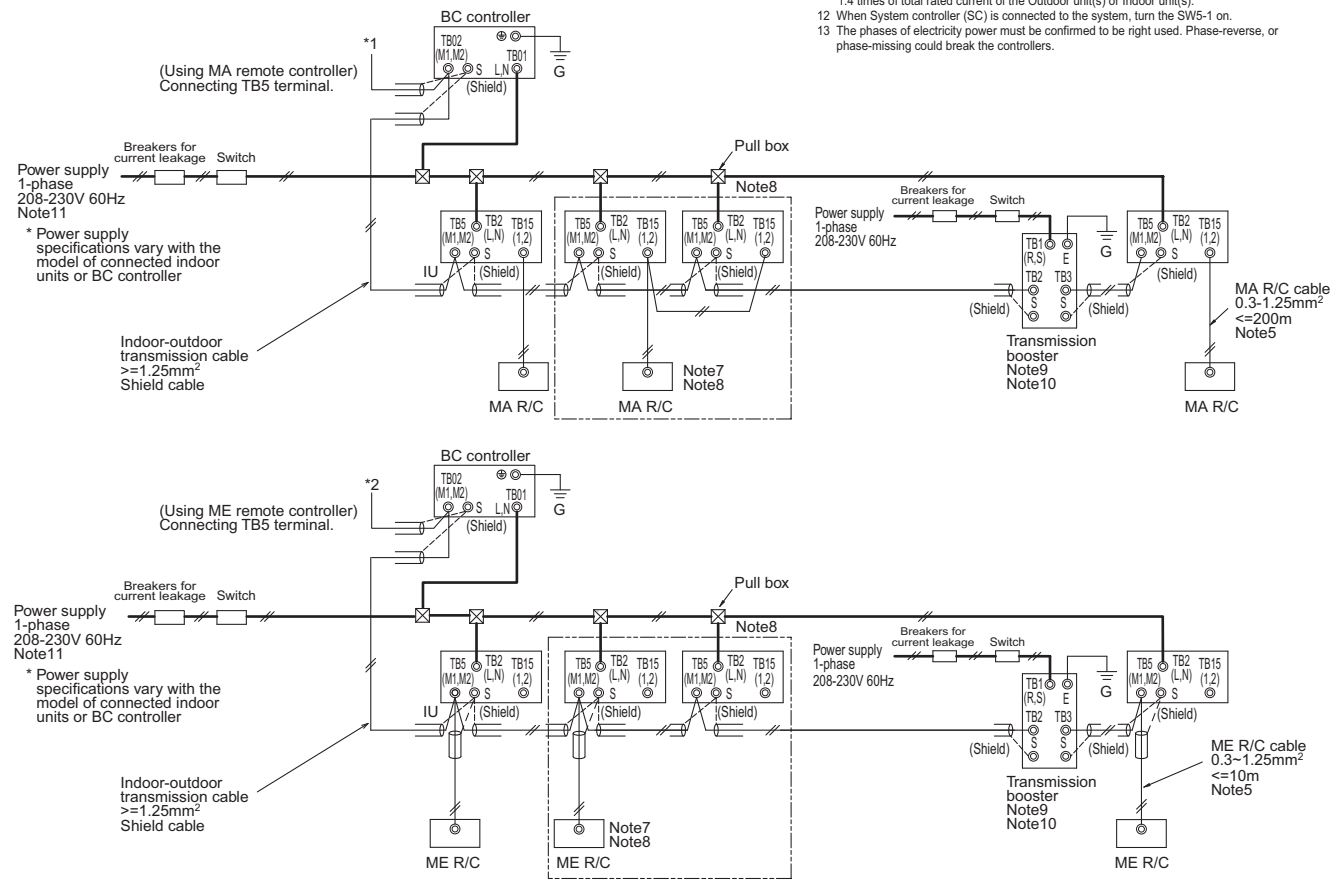
1-4. Power supply examples

The local standards and/or regulations is applicable at a higher priority.

1-4-1. PURY-P72, 96, 120, 144TKMU/YKMU



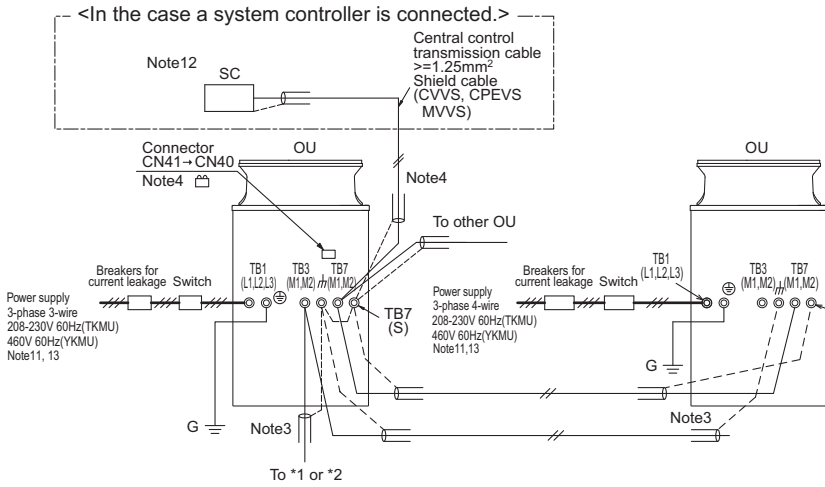
- Note:
- The transmission cable is not-polarity double-wire.
 - Symbol © means a screw terminal for wiring.
 - The shield wire of transmission cable should be connected to the grounding terminal at Outdoor unit. All shield wire of M-Net transmission cable among Indoor units should be connected to the S terminal at Indoor unit or all shield wire should be connected together. The broken line at the scheme means shield wire.
 - The connector change from CN41 to CN40 at one of the outdoor units will enable the outdoor unit to supply power to TB7 (except TKMU model). The transmission cable (above 1.25mm² shielded, CVVS/CPEVS/MVVS) among Outdoor units and system controllers is called central control transmission cable. The shield wire of the central control transmission cable must be grounded at the Outdoor unit whose CN41 is changed to CN40. When the power supply unit PAC-SC51KUA is used, connect the shielded cable to the ground terminal on the PAC-SC51KUA.
 - MA R/C transmission cable (0.3-1.25mm²) must be less than 200m in length, while ME R/C transmission cable (0.3-1.25mm²) must be less than 10m in length. But transmission cable to the ME R/C can be extend using a M-NET cable (>=1.25mm²) when the length is counted in the M-Net length.
 - To wire PAC-YT53CRAU, use a wire with a diameter of 0.3mm² [AWG 22].
 - MA remote controller and ME remote controller should not be grouped together. When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.
 - If using 1 or 2 (main/sub) MA remote controller to control more than 1 Indoor unit, use MA transmission cable to connect all the TB15 terminals of the Indoor units. It is called "Grouping". If using 1 or 2 (main/sub) ME remote controller control more than 1 indoor unit, set address to Indoor unit and ME remote controller. For the method, refer to 2-4. "Address setting".
 - Indoor board consumes power from TB3. The power balance should be considered according to System Design 2-3 "System configuration restrictions".
 - If Transmission booster is needed, be sure to connect the shield wires to the both sides to the booster.
 - The critical current for choosing power source equipment is approximate 1.4 times of total rated current of the Outdoor unit(s) or Indoor unit(s).
 - When System controller (SC) is connected to the system, turn the SW5-1 on.
 - The phases of electricity power must be confirmed to be right used. Phase-reverse, or phase-missing could break the controllers.



Symbol	Model	Breakers for current leakage *1, *2, *4	Switch		Minimum Wire thickness		
			BKC <A>	OCP*3, *4 <A>	Switch*4 (NFB) <A>	Power wire <mm²/AWG>	G wire <mm²/AWG>
BKC	Breaker capacity	PURY-P72TKMU 30 A 30 mA or 100 mA 0.1 sec. or less	30	30	30	5.3/10	5.3/10
OCP	Over-current protector	PURY-P96TKMU 40 A 100 mA 0.1 sec. or less	40	40	40	8.4/8	8.4/8
NFB	Non-fuse breaker	PURY-P120TKMU 50 A 100 mA 0.1 sec. or less	50	50	50	13.3/6	13.3/6
OU	Outdoor unit	PURY-P144TKMU 60 A 100 mA 0.1 sec. or less	60	60	60	21.2/4	21.2/4
IU	Indoor unit	PURY-P72YKMU 15 A 30 mA or 100 mA 0.1 sec. or less	15	15	15	2.1/14	2.1/14
SC	System controller	PURY-P96YKMU 20 A 30 mA or 100 mA 0.1 sec. or less	20	20	20	3.3/12	3.3/12
MA R/C	MA remote controller	PURY-P120YKMU 25 A 30 mA or 100 mA 0.1 sec. or less	25	25	25	5.3/10	5.3/10
ME R/C	ME remote controller	PURY-P144YKMU 30 A 30 mA or 100 mA 0.1 sec. or less	30	30	30	5.3/10	5.3/10

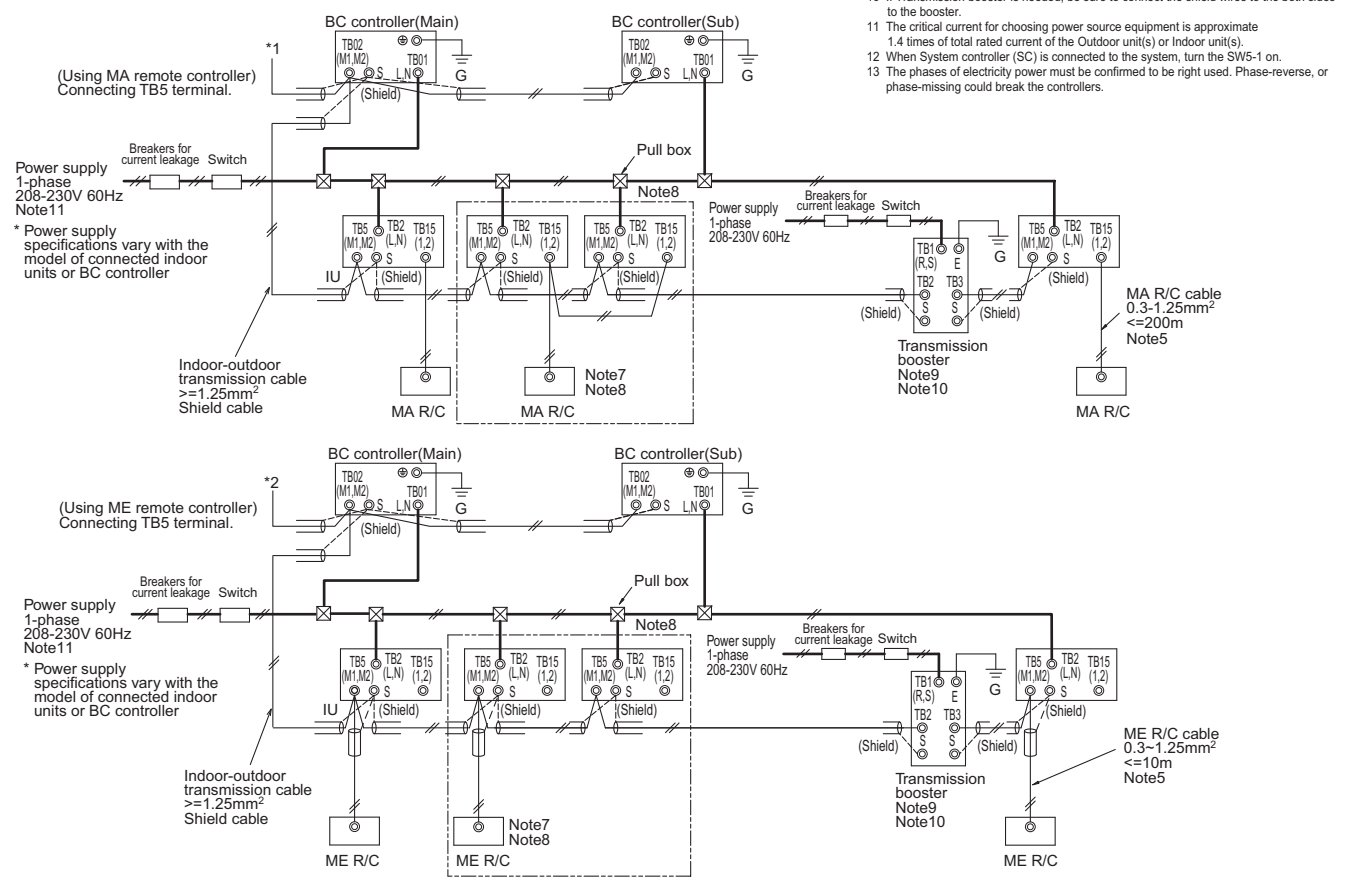
*1 The breakers for current leakage should support Inverter circuit. (e.g. Mitsubishi Electric's NV-C-Series or equivalent).
 *2 Breakers for current leakage should combine using of switch.
 *3 It shows data for B-type fuse of the breaker for current leakage.
 *4 If a large electric current flows due to malfunction or faulty wiring, earth-leakage breakers on the unit side and on the centralized controller side may both operate.
 Depending on the importance of the system, separate the power supply system or take protective coordination of breakers.

The local standards and/or regulations is applicable at a higher priority.
 1-4-2. PURY-P144, 168, 192, 216, 240, 264, 288TSKMU/YSKMU



- Note:
- The transmission cable is not-polarity double-wire.
 - Symbol Ⓞ means a screw terminal for wiring.
 - The shield wire of transmission cable should be connected to the grounding terminal at Outdoor unit. All shield wire of M-Net transmission cable among Outdoor units should be connected to the S terminal at Indoor unit or all shield wire should be connected together.
The broken line at the scheme means shield wire.
 - The connector change from CN41 to CN40 at one of the outdoor units will enable the outdoor unit to supply power to TB7 (except TKMU model). The transmission cable (above 1.25mm², shielded, CVVS/CPEVS/MVVS) among Outdoor units and system controllers is called central control transmission cable. The shield wire of the central control transmission cable must be grounded at the Outdoor unit whose CN41 is changed to CN40. When the power supply unit PAC-SC51KUA is used, connect the shielded cable to the ground terminal on the PAC-SC51KUA.
 - MA R/C transmission cable (0.3-1.25mm²) must be less than 200m in length, while ME R/C transmission cable (0.3-1.25mm²) must be less than 10m in length. But transmission cable to the ME R/C can be extended using a M-Net cable (>=1.25mm²) when the length is counted in the M-Net length.
 - To wire PAC-YT53CRAU, use a wire with a diameter of 0.3mm² [AWG 22].
 - MA remote controller and ME remote controller should not be grouped together. When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.
 - If using 1 or 2 (main/sub) MA remote controller to control more than 1 Indoor unit, use MA transmission cable to connect all the TB15 terminals of the Indoor units. It is called "Grouping".
If using 1 or 2 (main/sub) ME remote controller control more than 1 indoor unit, set address to Indoor unit and ME remote controller. For the method, refer to 2-4, "Address setting".
 - Indoor board consumes power from TB3. The power balance should be considered according to System Design 2-3 "System configuration restrictions".
 - If Transmission booster is needed, be sure to connect the shield wires to the both sides to the booster.
 - The critical current for choosing power source equipment is approximate 1.4 times of total rated current of the Outdoor unit(s) or Indoor unit(s).
 - When System controller (SC) is connected to the system, turn the SW5-1 on.
 - The phases of electricity power must be confirmed to be right used. Phase-reverse, or phase-missing could break the controllers.

S.D. R2



Symbol	Model	Breakers for current leakage *1, *2, *4	Switch			Minimum Wire thickness				
			BKC <A>	OCF*3, *4 <A>	Switch*4 (NFB)	Power wire <mm²/AWG>	G wire <mm²/AWG>			
BKC	Breaker capacity	PURY-P72TKMU	30 A	30 mA	or 100 mA	0.1 sec. or less	30	30	5.3/10	5.3/10
OCF	Over-current protector	PURY-P96TKMU	40 A	100 mA	0.1 sec. or less		40	40	8.4/8	8.4/8
NFB	Non-fuse breaker	PURY-P120TKMU	50 A	100 mA	0.1 sec. or less		50	50	13.3/6	13.3/6
OU	Outdoor unit	PURY-P144TKMU	60 A	100 mA	0.1 sec. or less		60	60	21.2/4	21.2/4
IU	Indoor unit	PURY-P72YKMU	15 A	30 mA	or 100 mA	0.1 sec. or less	15	15	2.1/14	2.1/14
SC	System controller	PURY-P96YKMU	20 A	30 mA	or 100 mA	0.1 sec. or less	20	20	3.3/12	3.3/12
MA R/C	MA remote controller	PURY-P120YKMU	25 A	30 mA	or 100 mA	0.1 sec. or less	25	25	5.3/10	5.3/10
ME R/C	ME remote controller	PURY-P144YKMU	30 A	30 mA	or 100 mA	0.1 sec. or less	30	30	5.3/10	5.3/10

*1 The breakers for current leakage should support Inverter circuit. (e.g. Mitsubishi Electric's NV-C-Series or equivalent).
 *2 Breakers for current leakage should combine using of switch.
 *3 It shows data for B-type fuse of the breaker for current leakage.
 *4 If a large electric current flows due to malfunction or faulty wiring, earth-leakage breakers on the unit side and on the centralized controller side may both operate.
 Depending on the importance of the system, separate the power supply system or take protective coordination of breakers.

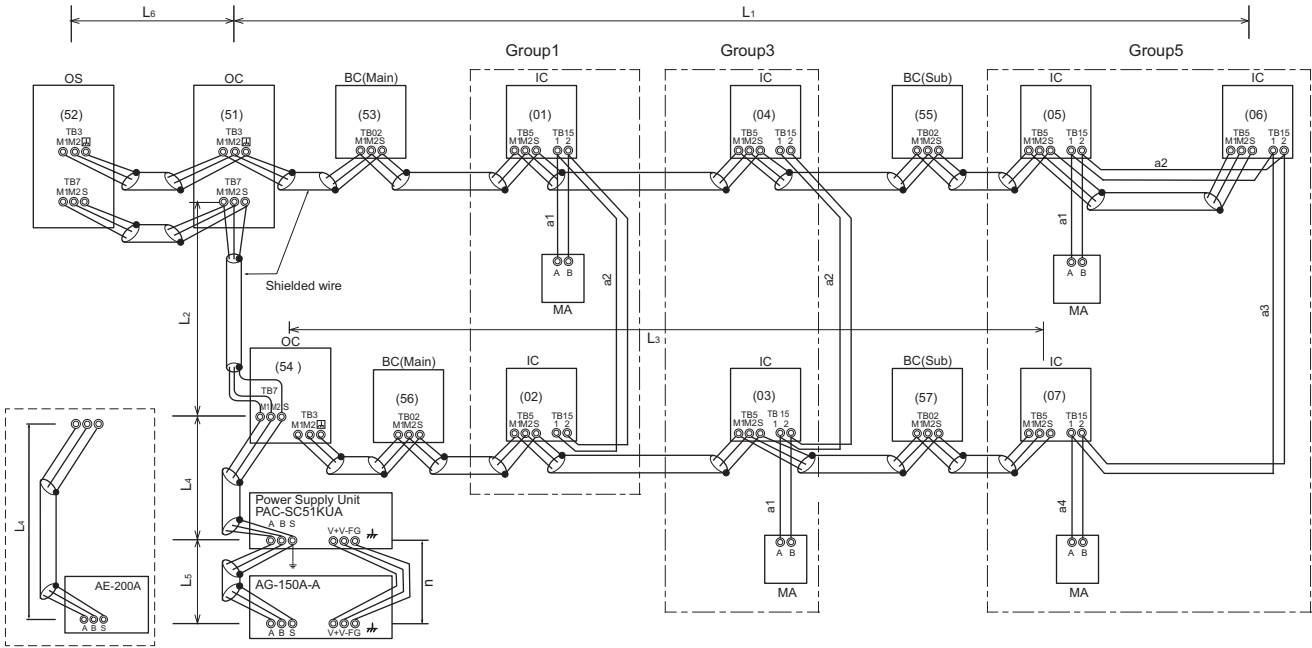
2-1. Transmission cable length limitation

2-1-1. Using MA Remote controller

MA remote controller refers to Simple MA remote controller and wireless remote controller.

Long transmission cable causes voltage down, therefore, the length limitation should be obeyed to secure proper transmission.

Max. length via Outdoor (M-NET cable)	$L_1+L_2+L_3, L_1+L_2+L_4+L_5, L_3+L_4+L_5, L_6+L_2+L_3, L_6+L_2+L_4+L_5$	$\leq 500\text{m}[1640\text{ft.}]$	1.25mm ² [AWG16] or thicker
Max. length to Outdoor (M-NET cable)	$L_1+L_6, L_3, L_2+L_4+L_6, L_5$	$\leq 200\text{m}[656\text{ft.}]$	1.25mm ² [AWG16] or thicker
Max. length from MA to Indoor for each group	$a_1+a_2, a_1+a_2+a_3+a_4$	$\leq 200\text{m}[656\text{ft.}]$	0.3-1.25 mm ² [AWG22-16]
24VDC to AG-150A-A	n	$\leq 50\text{m}[164\text{ft.}]$	0.75-2.0 mm ² [AWG18-14]



OC, OS : Outdoor unit controller; IC: Indoor unit controller; MA: MA remote controller

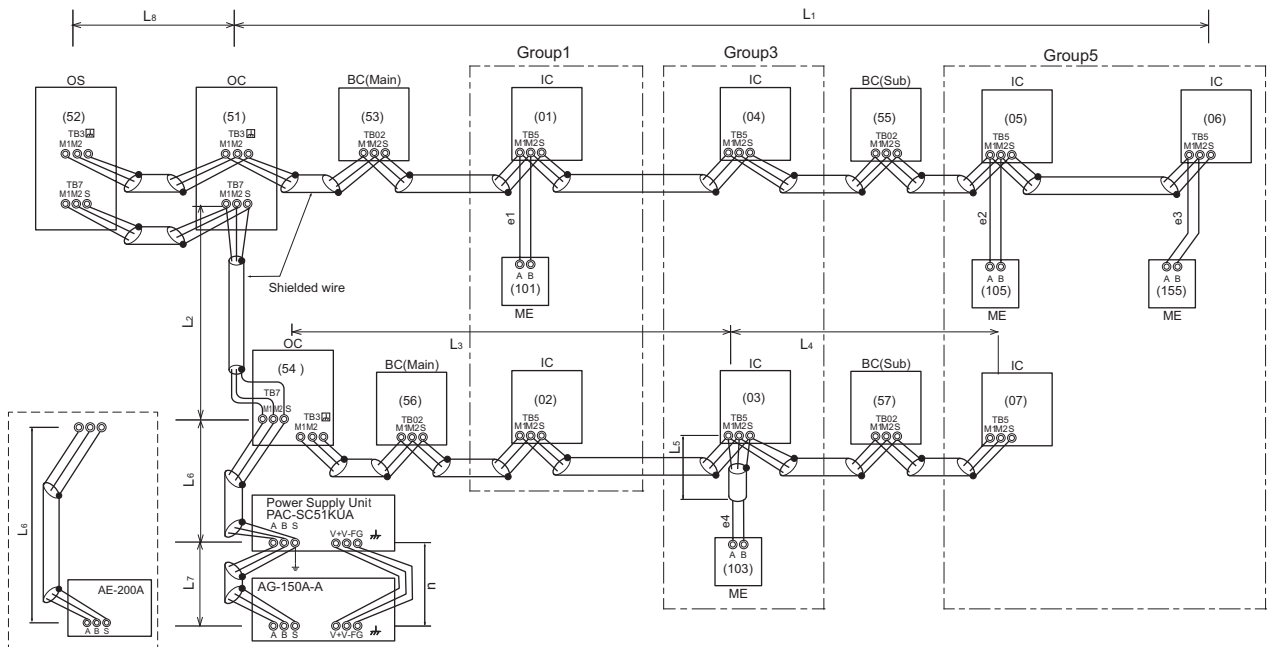
2-1-2. Using ME Remote controller

ME remote controller refers to Smart ME Controller.

Long transmission cable causes voltage down, therefore, the length limitation should be obeyed to secure proper transmission.

Max. length via Outdoor (M-NET cable)	$L_1+L_2+L_3+L_4, L_1+L_2+L_6+L_7, L_1+L_2+L_3+L_5, L_3+L_4+L_6+L_7, L_8+L_2+L_3+L_4, L_8+L_2+L_3+L_5, L_8+L_2+L_6+L_7, L_3+L_5+L_6+L_7$	$\leq 500\text{m}[1640\text{ft.}]$	1.25mm ² [AWG16] or thicker
Max. length to Outdoor (M-NET cable)	$L_1+L_8, L_3+L_4, L_2+L_6+L_8, L_7, L_3+L_5$	$\leq 200\text{m}[656\text{ft.}]$	1.25mm ² [AWG16] or thicker
Max. length from ME to Indoor	e_1, e_2, e_3, e_4	$\leq 10\text{m}[32\text{ft.}]^*1$	0.3-1.25 mm ² [AWG22-16] *1
24VDC to AG-150A-A	n	$\leq 50\text{m}[164\text{ft.}]$	0.75-2.0 mm ² [AWG18-14]

*1. If the length from ME to Indoor exceed 10m, use 1.25 mm² [AWG16] shielded cable, but the total length should be counted into Max. length via Outdoor.



OC, OS: Outdoor unit controller; IC: Indoor unit controller; ME: ME remote controller

S.D. R2

2-2. Transmission cable specifications

	Transmission cables (Li)	ME Remote controller cables	MA Remote controller cables
Type of cable	Shielding wire (2-core) CVVS, CPEVS or MVVS	Sheathed 2-core cable (unshielded) CVV	
Cable size	More than 1.25mm ² [AWG16]	0.3~1.25mm ² [AWG22~16]	0.3 ~1.25mm ² [AWG22~16]*1
Remarks	—	When 10m [32ft] is exceeded, use cables with the same specification as transmission cables.	Max length : 200m [656ft]

*1 To wire PAR-CT01MAU and PAC-YT53CRAU, use a wire with a diameter of 0.3 mm² [AWG22]

CVVS, MVVS: PVC insulated PVC sheathed shielded control cable
CPEVS: PE insulated PVC sheathed shielded communication cable
CVV: PVC insulated PVC sheathed control cable

2-3. System configuration restrictions

2-3-1. Common restrictions for the CITYMULTI system

For each Outdoor/Heat source unit, the maximum connectable quantity of Indoor unit is specified at its Specifications table.

- A) 1 Group of Indoor units can have 1-16 Indoor units;
- B) Maximum 2 remote controllers for 1 group;
 - *MA/ME remote controllers cannot be present together in 1group.
 - *When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.
 - *To wire PAR-CT01MAU and PAC-YT53CRAU, use a wire with a diameter of 0.3 mm² [AWG22]
- C) 1 LOSSNAY unit can interlock maximum 16 Indoor units; 1 Indoor unit can interlock only 1 LOSSNAY unit.
- D) Maximum 3 System controllers are connectable when connecting to TB3 of the Outdoor/Heat source unit.
- E) A maximum of 6 system controller are connectable to TB3 and TB7 of Outdoor/Heat source unit.
- F) 4 System controllers or more are connectable when connecting to TB7 of the Outdoor/Heat source unit, if the transmission power is supplied by the power supply unit PAC-SC51KUA.
 - *System controller connected as described in D) would have a risk that the failure of connected Outdoor/Heat source unit would stop power supply to the System controller.

2-3-2. Ensuring proper communication power and the number of connected units for M-NET

In order to ensure proper communication among Outdoor/Heat source unit, Indoor unit, LOSSNAY, and Controllers, the transmission power situation for the M-NET should be observed. In some cases, Transmission booster should be used. Taking the power consumption of Indoor unit as 1, the equivalent power consumption or supply of others are listed at Table 1 and Table 2.

Both the transmission line for centralized controller and indoor-outdoor transmission line must meet the conditions listed below. (Both conditions a) and b) must be met.)

- a) [Total equivalent power consumption] ≤ [The equivalent power supply]
- b) [Total equivalent number of units] ≤ [40]

Table 1 The equivalent power consumption and the equivalent number of units

Category	Model	The equivalent power consumption	The equivalent number of units
Indoor unit	Sized P06-P96, PEFY-AF1200CFM-E	1	1
	PEFY-AF1200CFMR-E	2	2
BC controller	CMB	2	1
PWFY *1	P36NMU-E-BU	6	1
	P36NMU-E2-AU	1	1
	P72NMU-E2-AU	5	1
MA remote controller/LOSSNAY	PAR-CT01MAU PAC-YT53CRAU PAR-FA32MA LGH-F-RX ₅ -E1 PZ-60DR-E PZ-43SMF-E	0	0
ME remote controller	PAR-U01MEDU	0.5	1
System controller	AE-200A AE-50A EW-50A LM-AP	0	0
	AG-150A-A EB-50GU-A PAC-IF01AHC-J	0.5	1
	TC-24B	1.5	5
	PAC-YG60MCA PAC-YG66DCA PAC-YG63MCA	0.25	1
ON/OFF controller	PAC-YT40ANRA	1	1
MN converter	CMS-MNG-E	2	1
Outdoor/Heat source unit	TB7 power consumption	0	0
System control interface	MAC-333IF-E	0	0
A-M converter	PAC-IF01MNT-E	1	2

*1 PWFY cannot be connected to PUMY model.

Table 2 The equivalent power supply

Category	Model	The equivalent power supply		
		TB3 and TB7 total	TB7 only	TB3 only
Transmission Booster	PAC-SF46EPA	25 *1		
Power supply unit	PAC-SC51KUA	5		
Expansion controller	PAC-YG50ECA	6		
BM ADAPTER	BAC-HD150	6		
System controller	AE-200A/AE-50A	0.75		
	EW-50A	1.5		
	LM-AP	0		
Outdoor/Heat source unit	Outdoor unit other than the following units *2	32 *1	6	32 *1 - equivalent power supplied to TB7
	S-Series outdoor unit	12 *1	0	12 *1
	TLMU/TKMU outdoor unit	32 *1	- *3	32 *1

*1 When one or more indoor units listed below is connected, subtract 3 from the equivalent power supply.

Table 3

Category	Model
Indoor unit	Sized P72, P96 PEFY-AF1200CFM(R)-E

*2 If PAC-SC51KUA is used to supply power at TB7 side, no power supply need from Outdoor/Heat source unit at TB7, Connector TB3 itself will therefore have 32.

*3 Do not supply power to TB7 from TLMU/TKMU outdoor units.
Use PAC-SC51KUA or PAC-SF46EPA when connecting an M-NET device to TB7.

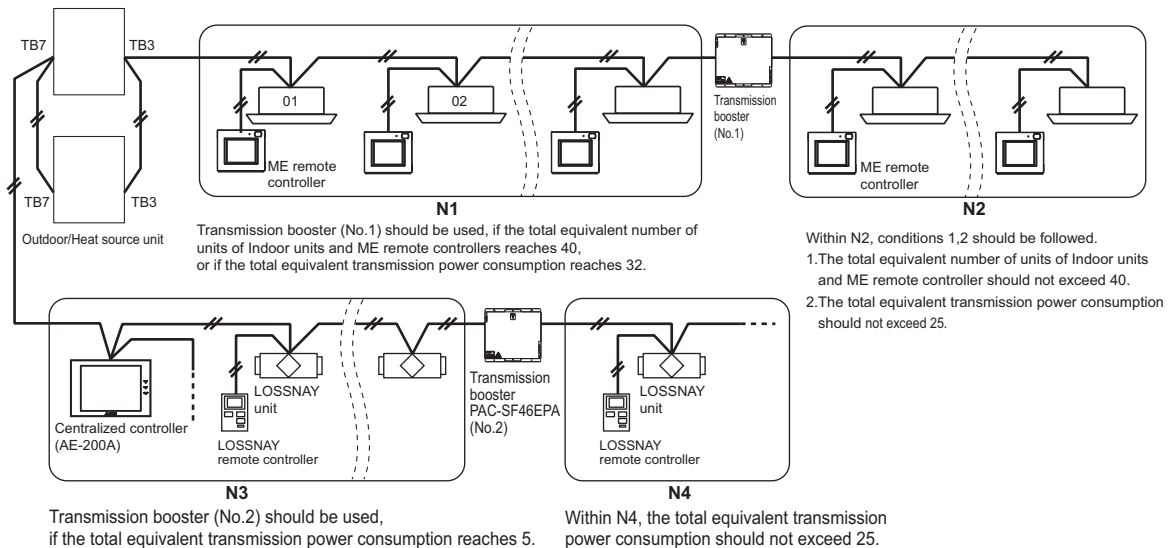
With the equivalent power consumption values and the equivalent number of units in Table 1 and Table 2, PAC-SF46EPA can be designed into the air-conditioner system to ensure proper system communication according to (A), (B), (C).

- (A) Firstly, count from TB3 at TB3 side the total equivalent number of units of Indoor units, ME remote controller, and System controllers. If the total equivalent number of units reaches 40, a PAC-SF46EPA should be set.
- (B) Secondly, count from TB7 side to TB3 side the total transmission power consumption. If the total equivalent power supply reaches 32, a PAC-SF46EPA should be set. Yet, if a PAC-SC51KUA or another controller with a built-in power supply, such as PAC-YG50ECA, is used to supply power at TB7 side, count from TB3 side only.
- (C) Thirdly, count from TB7 at TB7 side the total transmission power consumption, If the total equivalent power supply for only TB7 reaches 6, a PAC-SF46EPA should be set. Also, count from TB7 at TB7 side the total equivalent number of units of System controllers, and so on. If the total equivalent number of units reaches 40, a PAC-SF46EPA should be set.

* The equivalent power supply of S-Series outdoor unit is 12.

* When one or more indoor units listed in Table 3 is connected, subtract 3 from the equivalent power supply.

■ System example



2-3-3. Ensuring proper power supply to System controller

The power to System controller (excluding AE-200A, AE-50A, EW-50A, BAC-HD150, LM-AP) is supplied via M-NET transmission line. M-NET transmission line at TB7 side is called Centralized control transmission line while one at TB3 side is called Indoor-Outdoor/Heat source transmission line. There are 3 ways to supply power to the System controller .

A) Connecting to TB3 of the Outdoor/Heat source unit and receiving power from the Outdoor/Heat source unit.

B) Connecting to TB7 of the Outdoor/Heat source unit and receiving power from the Outdoor/Heat source unit.

(Not applicable to the PUMY model and PUHY/PURY-TLMU/TKMU model)

C) Connecting to TB7 of the Outdoor/Heat source unit but receiving power from power supply unit PAC-SC51KUA.

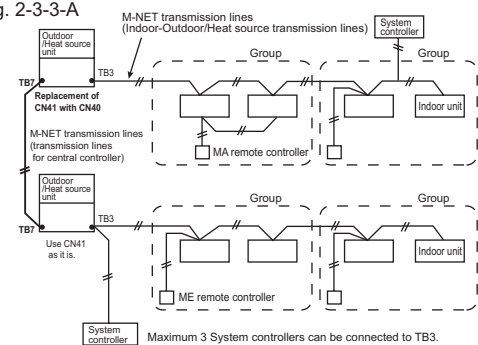
* System controllers (AE-200A, AE-50A, EW-50A, BAC-HD150, LM-AP) have a built-in function to supply power to the M-NET transmission lines, so no power needs to be supplied to the M-NET transmission lines from the Outdoor/Heat source units or from PAC-SC51KUA.

2-3-3-A. When connecting to TB3 of the Outdoor/Heat source unit and receiving power from the Outdoor/Heat source unit.

Maximum 3 System controllers can be connected to TB3.

If there is more than 1 Outdoor/Heat source unit, it is necessary to replace power supply switch connector CN41 with CN40 on one Outdoor/Heat source unit.

Fig. 2-3-3-A



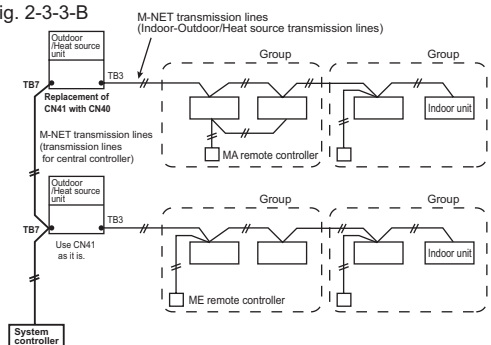
2-3-3-B. When connecting to TB7 of the Outdoor/Heat source unit and receiving power from the Outdoor/Heat source unit. (Not applicable to the PUMY model and PUHY/PURY-TLMU/TKMU model)

A maximum of 6 system controller are connectable to TB3 and TB7 of Outdoor/Heat source unit.

(Not applicable to the PUMY model and PUHY/PURY-TLMU/TKMU model)

It is necessary to replace power supply switch connector CN41 with CN40 on one Outdoor/Heat source unit.

Fig. 2-3-3-B



Note (only for PUHY/PURY model)

- When YLMU/YKMU Outdoor unit model is used, the male power supply connector can be connected to CN40, and the System controller can be connected to TB7 side.
- When the male power supply connector is connected from TLMU/TKMU Outdoor unit to CN40, the power is supplied to TB7 side even when the main power of the TLMU/TKMU outdoor unit is switched off, and the System controller may store an error in the error history and emit an alarm signal.
- If only LOSSNAY units or outdoor units in different refrigerant circuits are connected to TB7 side, the male power supply connector can be connected from TLMU/TKMU outdoor unit to CN40.

2-3-3-C. When connecting to TB7 of the Outdoor/Heat source unit but receiving power from PAC-SC51KUA.

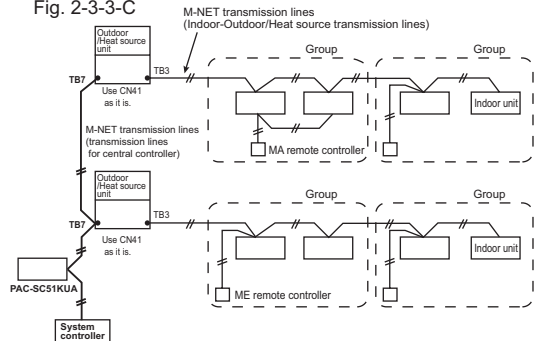
When using PAC-SC51KUA to supply transmission power, the power supply connector CN41 on the Outdoor/Heat source units should be kept as it is. It is also a factory setting.

1 PAC-SC51KUA supports maximum 1 AG-150A-A or 1 EB-50GU-A unit due to the limited power 24VDC at its TB3.

However, 1 PAC-SC51KUA supplies transmission power at its TB2 equal to 5 Indoor units, which is referable at Table 2.

If System controller, ON/OFF controller connected to TB7 consume transmission power more than 5 (Indoor units), Transmission booster PAC-SF46EPA is needed. PAC-SF46EPA supplies transmission power equal to 25 Indoor units.

Fig. 2-3-3-C



CAUTION

■AG-150A-A/EB-50GU-A*1 are recommended to connect to TB7 because it performs back-up to a number of data.

In an air conditioner system has more than 1 Outdoor/Heat source units, AG-150A-A/EB-50GU-A receiving transmission power through TB3 or TB7 on one of the Outdoor/Heat source units would have a risk that the connected Outdoor/Heat source unit failure would stop power supply to AG-150A-A/EB-50GU-A and disrupt the whole system.

When applying apportioned electric power function, AG-150A-A/EB-50GU-A are necessary to connected to TB7 and has its own power supply unit PAC-SC51KUA.

Note: Power supply unit PAC-SC51KUA is for AG-150A-A/EB-50GU-A.

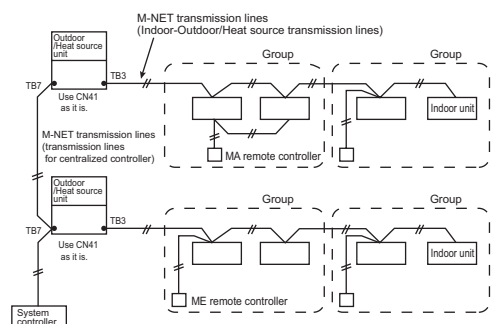
*1: AG-150A-A is an example model of system controllers.

■How to connect system controllers (AE-200A, AE-50A, EW-50A, BAC-HD150, LM-AP) to a given system System controllers (AE-200A, AE-50A, EW-50A, BAC-HD150, LM-AP) have a built-in function to supply power to the M-NET transmission lines, so no power needs to be supplied to the M-NET transmission lines from the Outdoor/Heat source units or from PAC-SC51KUA.

Leave the power supply connector on the Outdoor/Heat source unit connected to CN41 as it is.

Refer to 2-3-2 for information about the power-supply capacity of each system controller (EW-50A, BAC-HD150, LM-AP) to the low-level system controllers.

Fig. 2-3-3-D



2-3-4. Power supply to LM-AP

1-phase 208-230V AC power supply is needed.

The power supply unit PAC-SC51KUA is not necessary when connecting only the LM-AP. Yet, make sure to change the power supply changeover connector CN41 to CN40 on the LM-AP.

2-3-5. Power supply to expansion controller

1-phase 100-240VAC power supply is needed.

The power supply unit PAC-SC51KUA is not necessary.

The expansion controller supplies power through TB3, which equals 6 indoor units. (refer to Table 2)

2-3-6. Power supply to BM ADAPTER

1-phase 100-240VAC power supply is needed.

The power supply unit PAC-SC51KUA is not necessary when only BM ADAPTER is connected.

Yet, make sure to move the power jumper from CN41 to CN40 on the BM ADAPTER.

2-3-7. Power supply to AE-200A/AE-50A/EW-50A

1-phase 100-240VAC power supply is needed.

The power supply unit PAC-SC51KUA is not necessary when connecting only the AE-200A/AE-50A/EW-50A.

2-4. Address setting

2-4-1. Switch operation

In order to constitute CITY MULTI in a complete system, switch operation for setting the unit address No. and connection No. is required.

① Address No. of outdoor unit, indoor unit and ME remote controller.

The address No. is set at the address setting board.

In the case of R2 system, it is necessary to set the same No. at the branch No. switch of indoor unit as that of the BC controller connected. (When connecting two or more branches, use the lowest branch No.)

② Caution for switch operations

- Be sure to shut off power source before switch setting. If operated with power source on, switch can not operate properly.
- No units with identical unit address shall exist in one whole air conditioner system. If set erroneously, the system can not operate.

③ MA remote controller

- When connecting only one remote controller to one group, it is always the main remote controller. When connecting two remote controllers to one group, set one remote controller as the main remote controller and the other as the sub remote controller.
- The factory setting is "Main".

PAR-CT01MAU

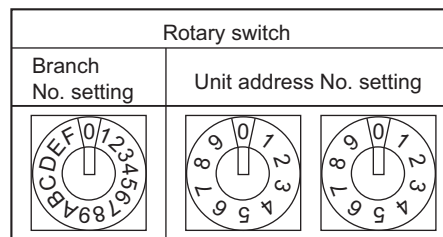
The MA remote controller does not have the switches listed above. Refer to the installation manual for the function setting.

PAC-YT53CRAU





































Setting the dip switches

There are switches on the back of the top case. Remote controller Main/Sub and other function settings are performed using these switches. Ordinarily, only change the Main/Sub setting of SW1. (The factory settings are ON for SW1, 3, and 4 and OFF for SW2.)

SW No	SW contents Main	ON	OFF	Comment
1	Remote controller Main/Sub setting	Main	Sub	Set one of the two remote controllers at one group to "ON".
2	Temperature display units setting	Celsius	Fahrenheit	When the temperature is displayed in [Fahrenheit], set to "OFF".
3	Cooling/heating display in AUTO mode	Yes	No	When you do not want to display "Cooling" and "Heating" in the AUTO mode, set to "OFF".
4	Indoor temperature display	Yes	No	When you do not want to display the indoor temperature, set to "OFF".



2-4-2. Rule of setting address

Unit	Address setting	Example	Note
Indoor unit System control interface (MAC-333IF-E) A-M converter (PAC-IF01MNT-E)	01 ~ 50	 	Use the most recent address within the same group of indoor units. Make the indoor units address connected to the BC controller (Sub) larger than the indoor units address connected to the BC controller (Main). If applicable, set the sub BC controllers in an PURY system in the following order: (1) Indoor unit to be connected to the BC controller (Main) (2) Indoor unit to be connected to the BC controller (No.1 Sub) (3) Indoor unit to be connected to the BC controller (No.2 Sub) Set the address so that (1)<(2)<(3)
Outdoor unit	51 ~ 99, 100 (Note1)	 	The smallest address of indoor unit in same refrigerant system + 50 Assign sequential address numbers to the outdoor units in one refrigerant circuit system. OC and OS are automatically detected. (Note 2) *Please reset one of them to an address between 51 and 99 when two addresses overlap. *The address automatically becomes "100" if it is set as "01~ 50"
BC controller (Main)	52 ~ 99, 100	 	The address of outdoor unit + 1 *Please reset one of them to an address between 51 and 99 when two addresses overlap. *The address automatically becomes "100" if it is set as "01~ 50"
BC controller (Sub)	52 ~ 99, 100	 	Lowest address within the indoor units connected to the BC controller (Sub) plus 50.
Local remote controller	ME, LOSSNAY Remote controller (Main)	1 Fixed  	The smallest address of indoor unit in the group + 100 *The place of "100" is fixed to "1"
	ME, LOSSNAY Remote controller (Sub)	1 Fixed  	The address of main remote controller + 50 *The address automatically becomes "200" if it is set as "00"
System controller	ON/OFF remote controller	  	The smallest group No. to be managed + 200 *The smallest group No. to be managed is changeable.
	AE-200A/AE-50A AG-150A-A EB-50GU-A EW-50A TC-24B	  	* TC-24B cannot be set to "000".
	PAC-YG50ECA	  	* Settings are made on the initial screen of AG-150A-A.
	BAC-HD150	  	* Settings are made with setting tool of BM ADAPTER.
	LMAP04U-E	2 Fixed  	
PI, AI, DIDO	PAC-YG60MCA	 	
	PAC-YG63MCA	 	
	PAC-YG66DCA	 	
LOSSNAY	01 ~ 50	 	After setting the addresses of all the indoor units, assign an arbitrary address.
PAC-IF01AHC-J	201 ~ 250	2 Fixed  	

Note1: To set the address to "100", set it to "50"

Note2: Outdoor units OC and OS in one refrigerant circuit system are automatically detected.

OC and OS are ranked in descending order of capacity. If units are the same capacity, they are ranked in ascending order of their address.

2-4-3. System examples

Factory setting

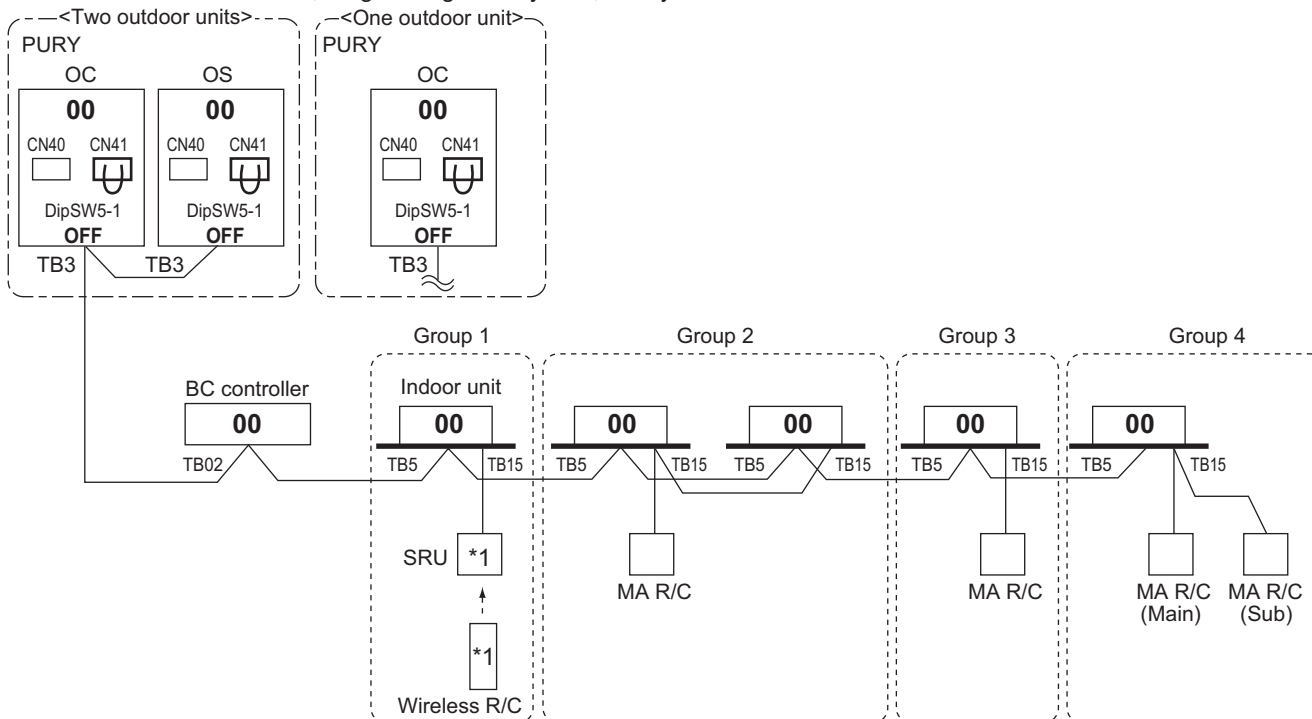
Original switch setting of the outdoors, indoors, controllers, LM-AP, and BM ADAPTER at shipment is as follows.

- Outdoor unit : Address: 00, CN41: ON (Jumper), DipSW5-1: OFF
- Indoor unit : Address: 00
- BC controller : Address: 00
- ME remote controller : Address: 101
- LM-AP : Address: 247, CN41: ON (Jumper), DipSW1-2: OFF
- BM ADAPTER : Address: 000, CN41: ON (Jumper)

Setting at the site

- DipSW5-1(Outdoor) : When the System Controller is used, all the Dip SW5-1 at the outdoor units should be set to "ON". * Dip SW5-1 remains OFF when only LM-AP is used.
- DipSW1-2(LM-AP) : When the LM-AP is used together with System Controller, DipSW1-2 at the LM-AP should be set to "ON".
- CN40/CN41 : Change jumper from CN41 to CN 40 at outdoor control board will activate central transmission power supply to TB7;
(Change jumper at only one outdoor unit when activating the transmission power supply without using a power supply unit.)
Change jumper from CN41 to CN 40 at LM-AP will activate transmission power supply to LM-AP itself;
Power supply unit is recommended to use for a system having more than 1 outdoor unit, because the central transmission power supply from TB7 of one of outdoor units is risking that the outdoor unit failure may let down the whole central control system.

2-4-3-1. MA remote controller, Single-refrigerant-system, No System Controller

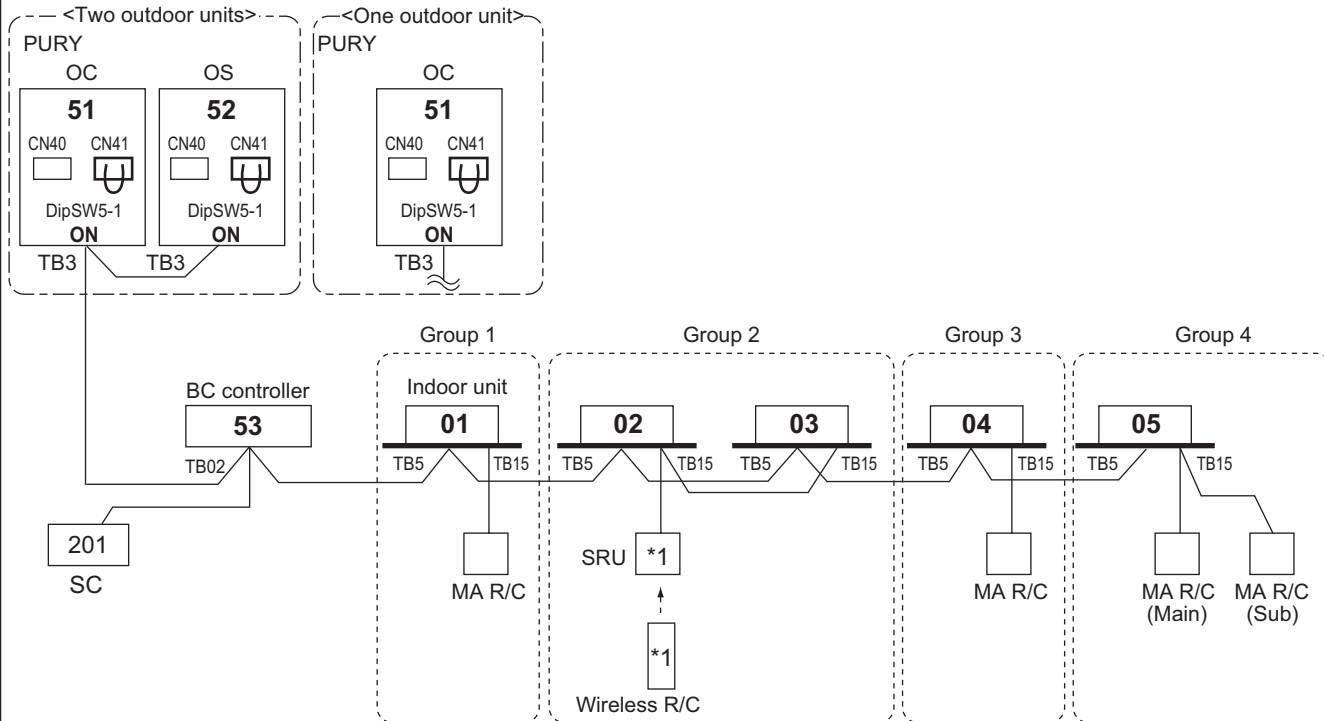


*1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.

NOTE:

1. Outdoor units OC and OS in one refrigerant circuit system are automatically detected.
OC and OS are ranked in descending order of capacity. If units are the same capacity, they are ranked in ascending order of their address.
2. No address setting is needed.
3. For a system having more than 32 indoor unit (P06-P54), confirm the need of Booster at 2-3 "System configuration restrictions".
4. Indoor units should be set with a branch number.
5. Address setting is required if a sub BC controller is connected.
6. When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.

2-4-3-2. MA remote controller, Single-refrigerant-system, System Controller



*1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel

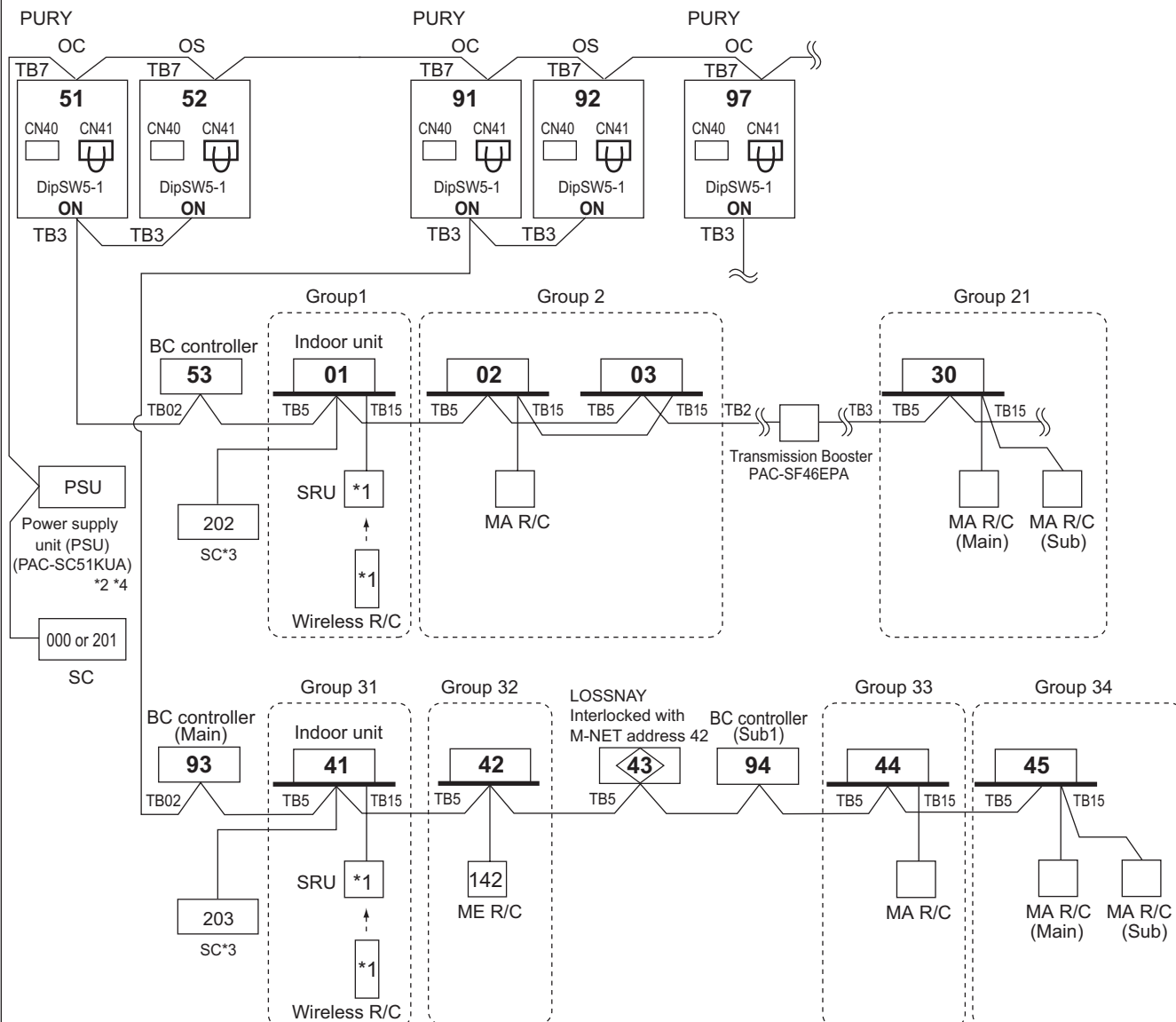
*SC can be connected to TB3 side or TB7 side;

Should SC connected to TB7 side, change Jumper from CN41 to CN40 at the Outdoor unit module (except TLMU/TKMU model) so as to supply power to the SC. When the SC is connected to TB7 side and TLMU/TKMU outdoor unit model is used, connect the PAC-SC51KUA to TB7 side. If a PAC-SC51KUA cannot be used, connect the System controller to TB3 side. Up to three System controllers can be connected to TB3 side.

NOTE:

- Outdoor units OC and OS in one refrigerant circuit system are automatically detected. OC and OS are ranked in descending order of capacity. If units are the same capacity, they are ranked in ascending order of their address.
- Address should be set to Indoor units and central controller.
- For a system having more than 32 indoor unit (P06-P54), confirm the need of Booster at 2-3 "System configuration restrictions".
- Indoor units should be set with a branch number.
- When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.

2-4-3-3. MA remote controller, Multi-refrigerant-system, System Controller at TB7/TB3 side, Booster for long M-NET wiring



*1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.

*2 System controller should connect to TB7 at Outdoor and use power supply unit together in Multi-Refrigerant-System.
For AG-150A-A, 24VDC should be used with the PAC-SC51KUA.

For AE-200A, AE-50A, and EW-50A the power supply unit PAC-SC51KUA is unused.

*3 When multiple system controllers are connected in the system, set the controller with more functions than others as a "main" controller and others as "sub".

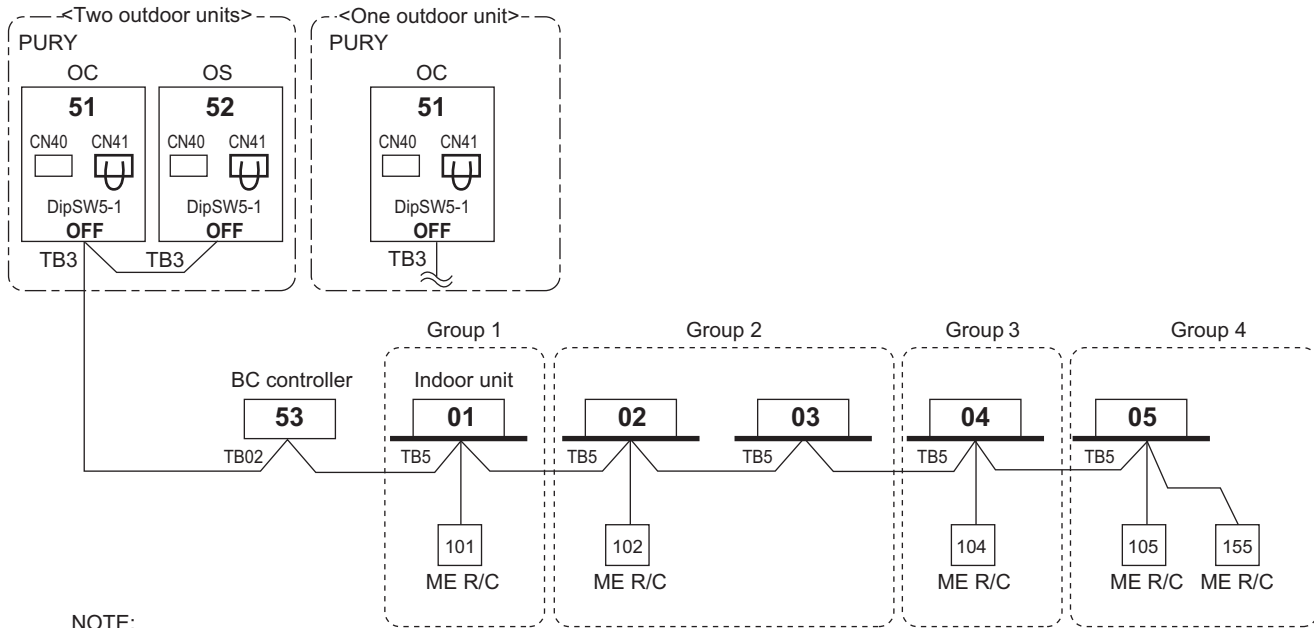
AE-200A, AE-50A, EW-50A, BAC-HD150, and LM-AP are for exclusive use as a "main" system controller and cannot be used as a "sub" system controller. Make the setting to only one of the system controllers for "prohibition of operation from local remote controller".

*4 The power supply unit is not necessary for AE-200A, AE-50A, EW-50A, BAC-HD150, and LM-AP.

NOTE:

- Outdoor units OC and OS in one refrigerant circuit system are automatically detected.
OC and OS are ranked in descending order of capacity. If units are the same capacity, they are ranked in ascending order of their address.
- Address should be set to Indoor units, LOSSNAY and system controller.
- M-NET power is supplied by the Outdoor unit at TB3, while Indoor unit and ME remote controller consume the M-NET power for transmission use. The power balance is needed to consider for long M-NET wiring. Details refer to 2-3 "System configuration restrictions".
- Indoor units should be set with a branch number.
- Assign an address to each of the sub BC controllers which equals the sum of the smallest address of the indoor units that are connected to each sub BC controller and 50.
- When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.

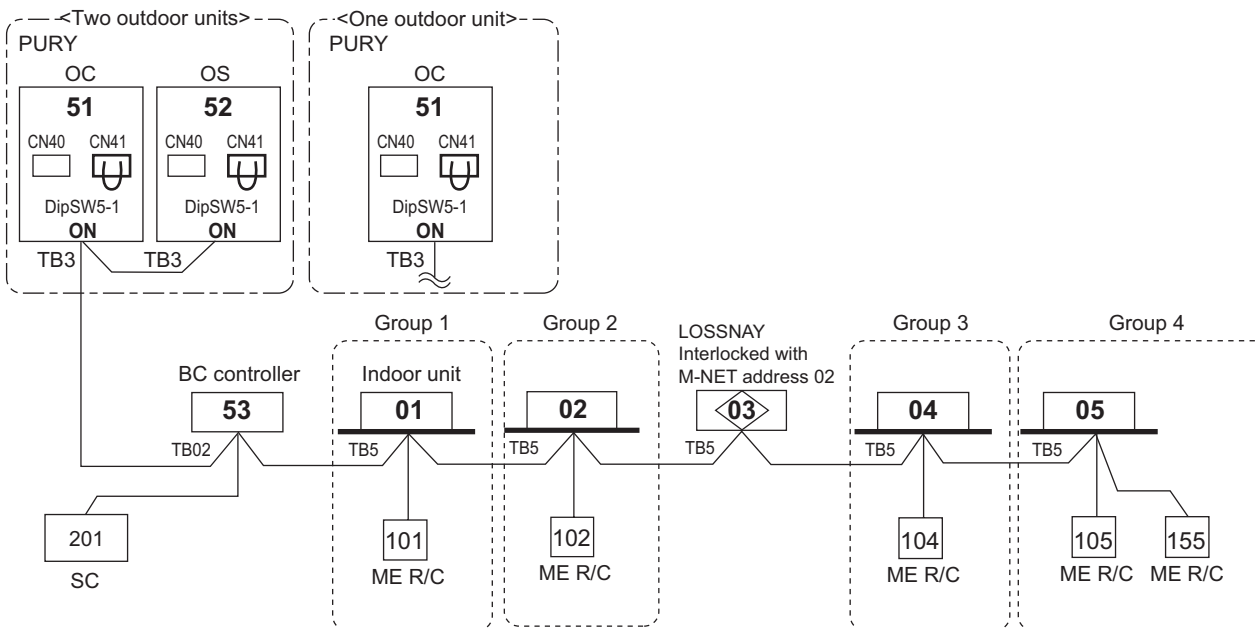
2-4-3-4. ME remote controller, Single-refrigerant-system, No system controller



NOTE:

1. Outdoor units OC and OS in one refrigerant circuit system are automatically detected. OC and OS are ranked in descending order of capacity. If units are the same capacity, they are ranked in ascending order of their address.
2. Address should be set to Indoor units, system controller and ME remote controllers.
3. M-NET power is supplied by the Outdoor unit at TB3, while Indoor unit and ME R/C consume the M-NET power for transmission use. The power balance is needed to consider for long M-NET wiring. Details refer to 2-3 "System configuration restrictions".
4. Indoor units should be set with a branch number.

2-4-3-5. ME remote controller, Single-refrigerant-system, System controller, LOSSNAY

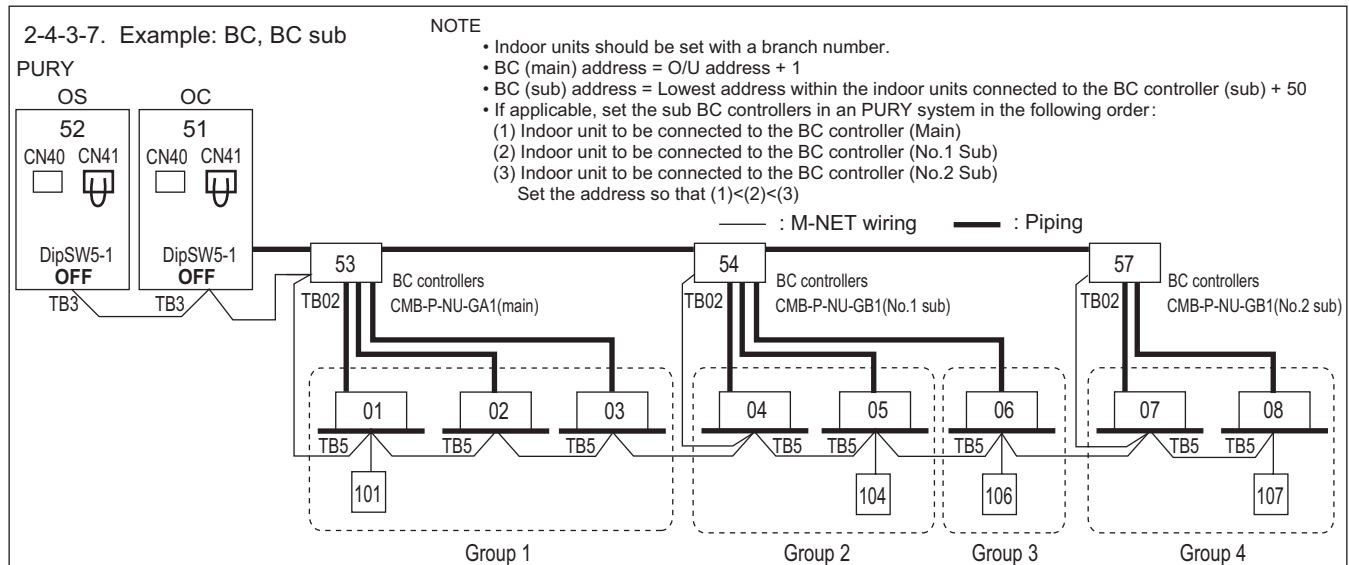
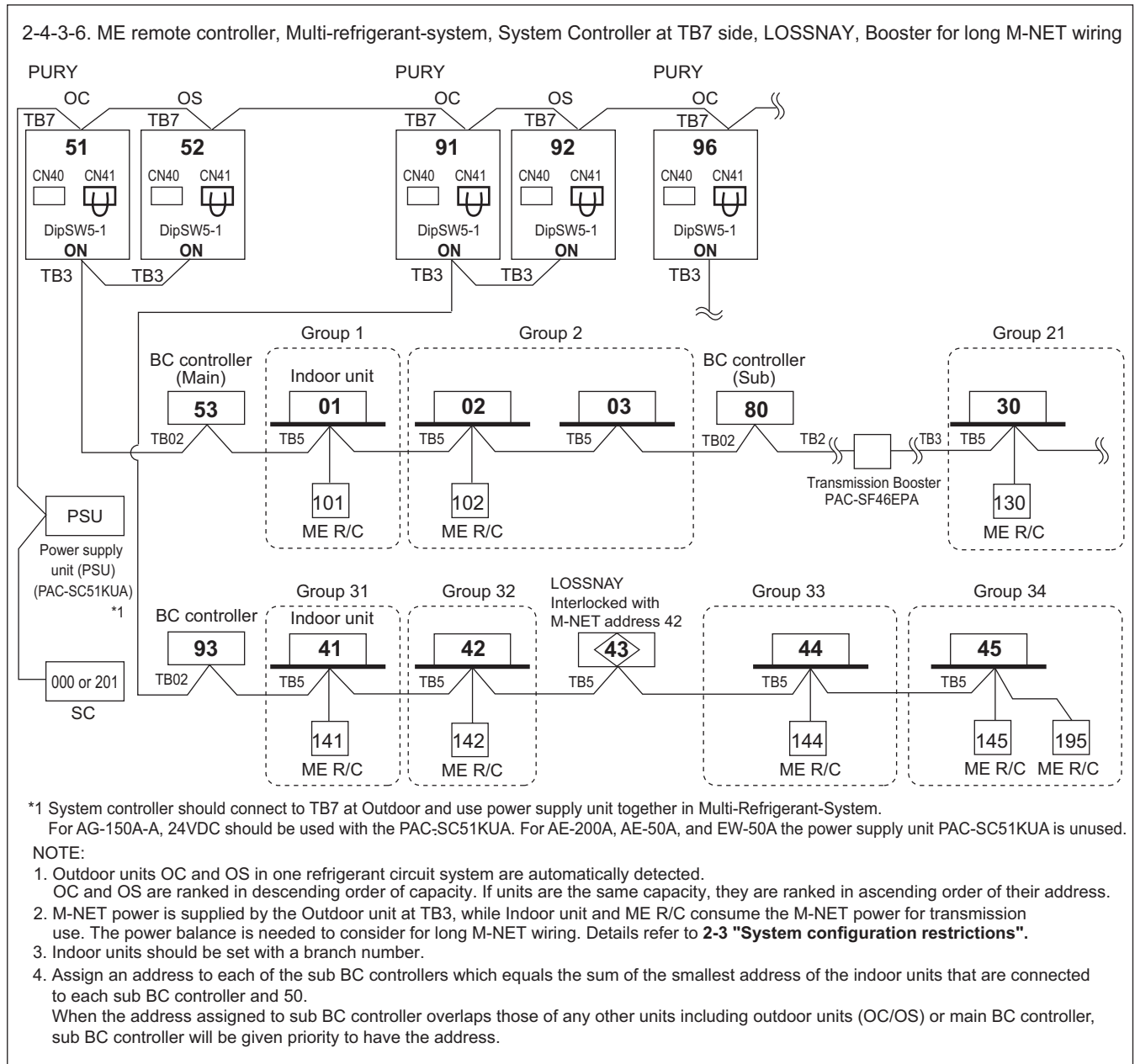


*SC can be connected to TB3 side or TB7 side;

Should SC connected to TB7 side, change Jumper from CN41 to CN40 at the Outdoor unit module (except TLMU/TKMU model) so as to supply power to the SC. When the SC is connected to TB7 side and TLMU/TKMU outdoor unit model is used, connect the PAC-SC51KUA to TB7 side. If a PAC-SC51KUA cannot be used, connect the System controller to TB3 side. Up to three System controllers can be connected to TB3 side.

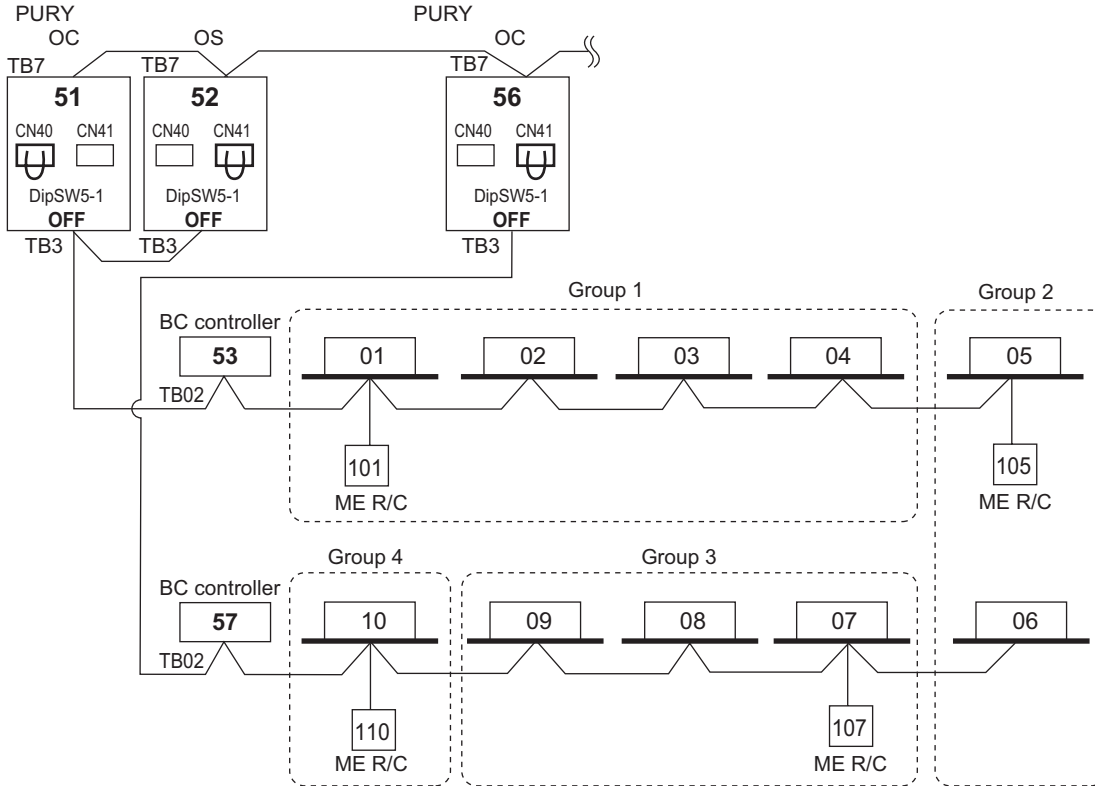
NOTE:

1. Outdoor units OC and OS in one refrigerant circuit system are automatically detected. OC and OS are ranked in descending order of capacity. If units are the same capacity, they are ranked in ascending order of their address.
2. Address should be set to Indoor units, LOSSNAY central controller, ME remote controllers.
3. For a system having more than 32 indoor unit (P06-P54), confirm the need of Booster at 2-3 "System configuration restrictions".
4. Indoor units should be set with a branch number.



S.D. R.2

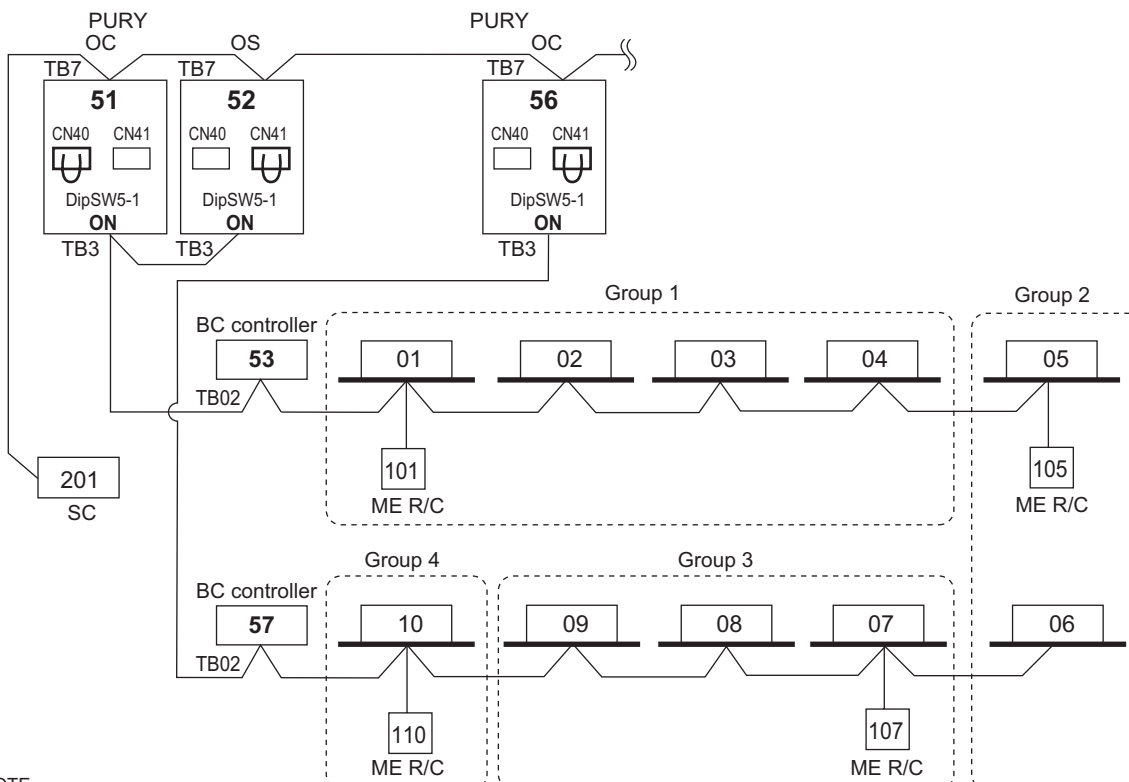
2-4-3-8. ME remote controller, Multi-refrigerant-system, No Power supply unit



NOTE

- It is necessary to change the connector to CN40 on the outdoor unit control board (only one outdoor unit) when the group is set between other refrigerant systems.
- It is necessary to set on the remote controller by manual when group sets on the different refrigerant system. Please refer to remote controller installation manual.

2-4-3-9. ME remote controller, Multi-refrigerant-system, System Controller at TB7 side, No Power supply unit (except TLMU model)



NOTE

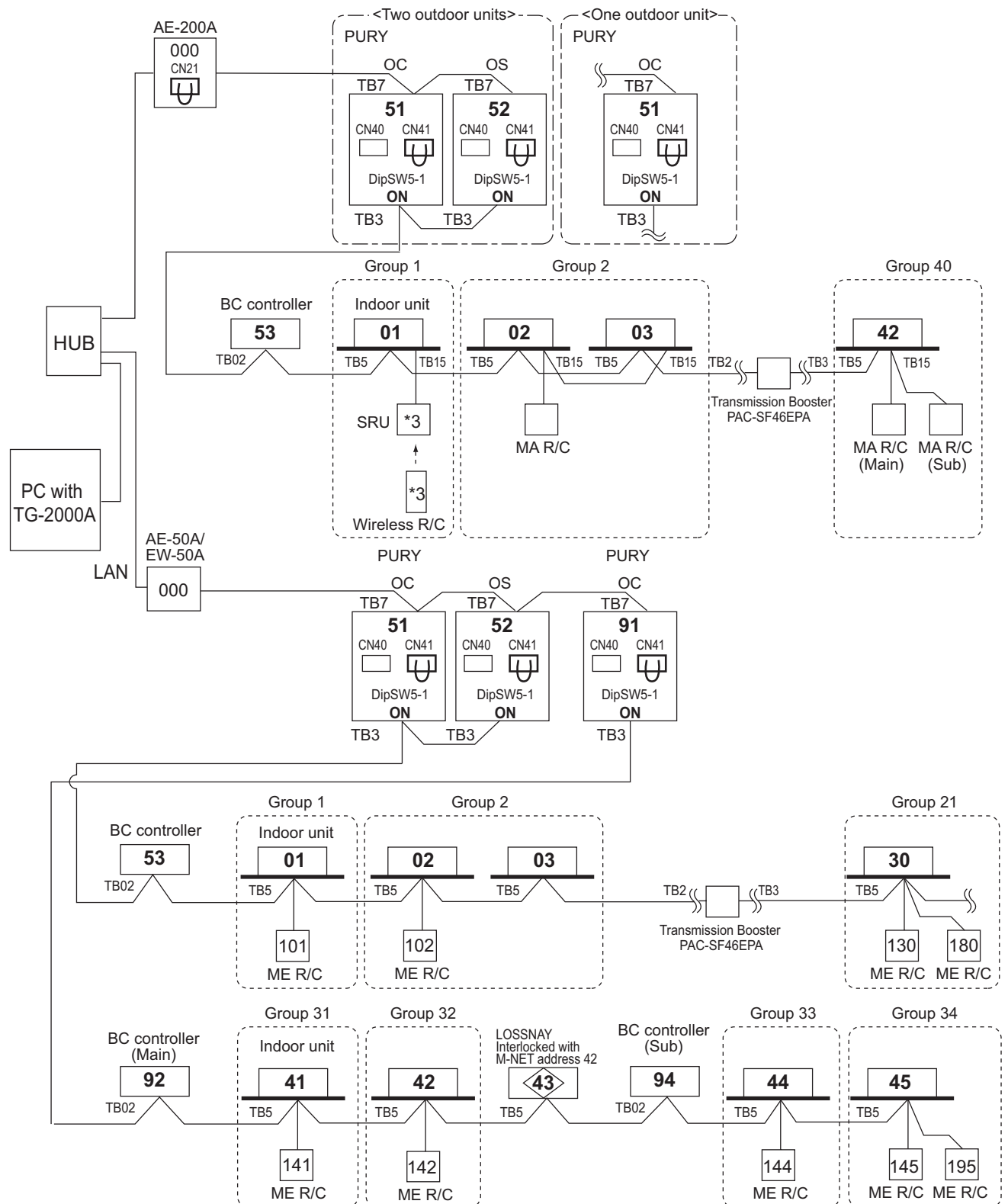
- It is necessary to change the connector to CN40 on the outdoor unit control board (only one outdoor unit) when the group is set between other refrigerant systems.
- When the SC is connected to TB7 side and TLMU outdoor unit model is used, connect the PAC-SC51KUA to TB7 side. If a PAC-SC51KUA cannot be used, connect the System controller to TB3 side. Up to three System controllers can be connected to TB3 side.

2-4-3-10. TG-2000A(*1)+AE-200A/AE-50A/EW-50A

AE-200A can control max. 50 indoor units;

TG-2000A can control max. 40 AE-200A, AE-50A, and EW-50A;*2

TG-2000A can control max. 2000 indoor units.



S.D. R2

*1 TG-2000A (Ver.6.5 or later) supports AE-200A/AE-50A (Ver.7.10 or later).

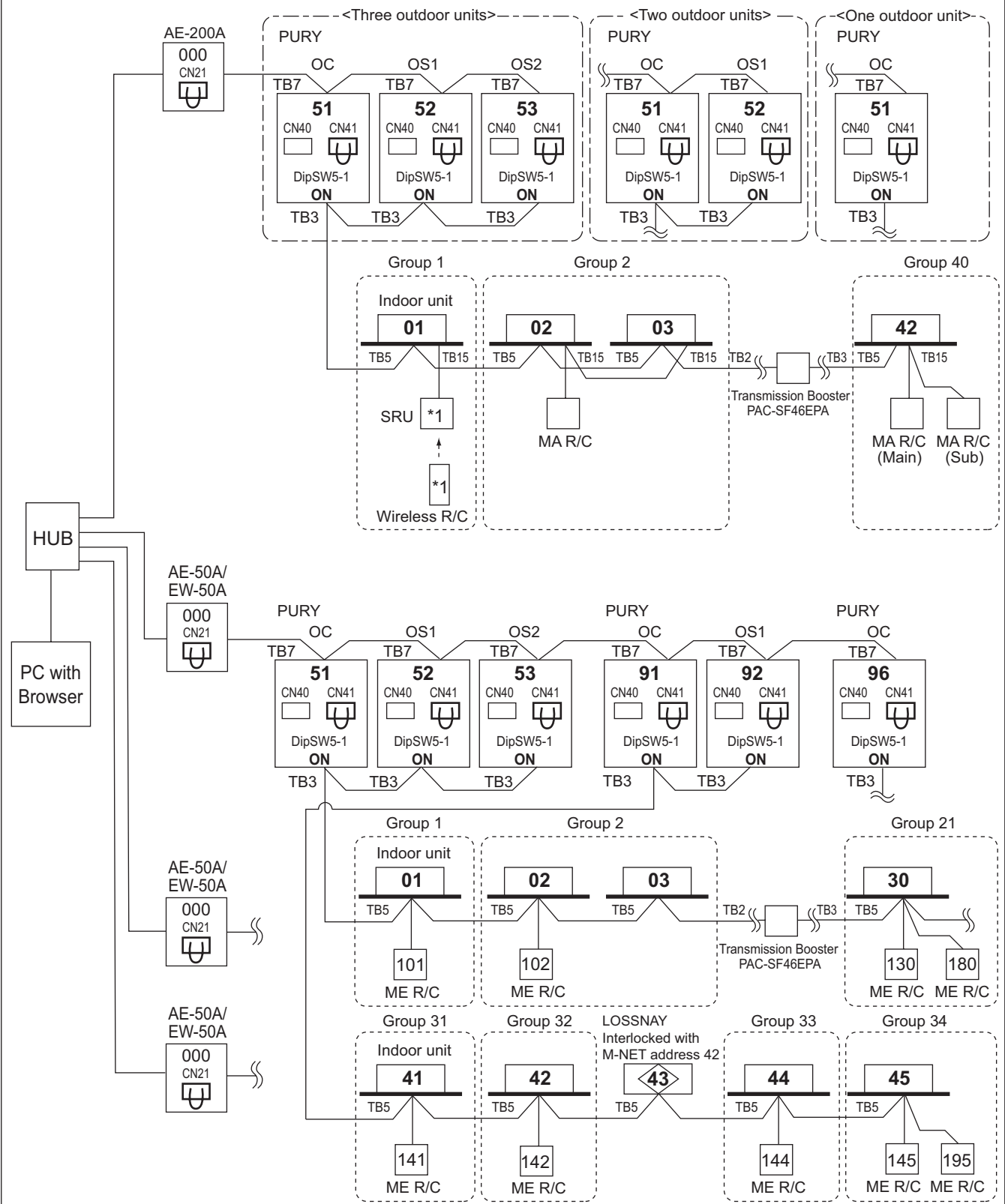
*2 When AE-200A connected with AE-50A is connected, the number of AE-50A will be the maximum controllable number.
TG-2000A can control up to 40 AE-200A/AE-50A or AE-200A without AE-50A connection.

*3 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.

*4 When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.

2-4-3-11. AE-200A + AE-50A/EW-50A
 AE-200A can control max. 200 indoor units/via AE-50A.

S.D. R2



*1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.
 *2 When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.

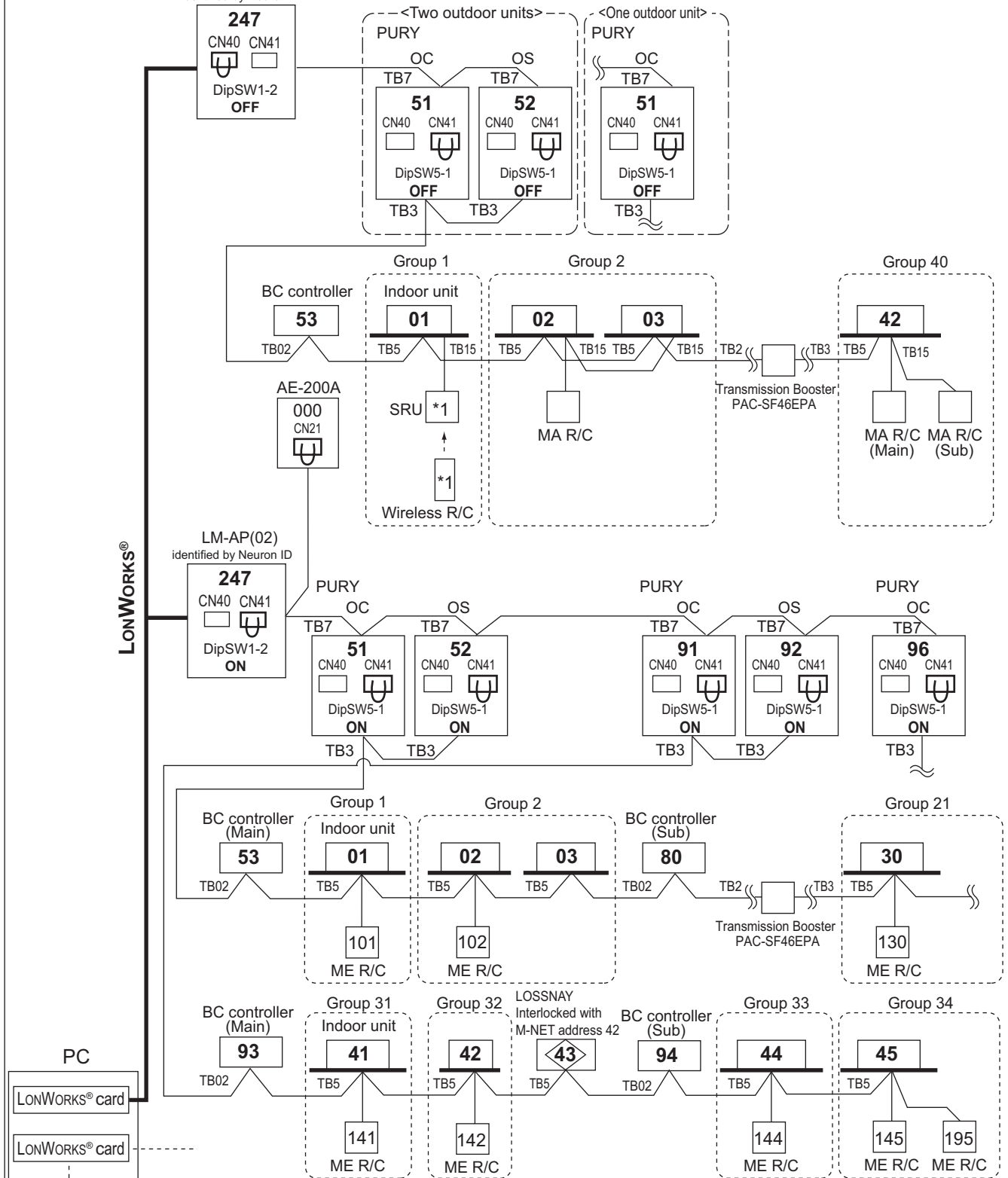
2-4-3-12. LM-AP

LM-AP can transmit max. 50 indoor units;

If system controller (SC) is used, DipSW1-2 at LM-AP and DipSW5-1 at Outdoor unit should set to "ON".

Change Jumper from CN41 to CN40 to activate power supply to LM-AP itself for those LM-AP connected without system controller (SC).

LM-AP can transmit for max. LM-AP(01) 50 indoor units in single-refrigerant-system or multi-refrigerant-system.
identified by Neuron ID

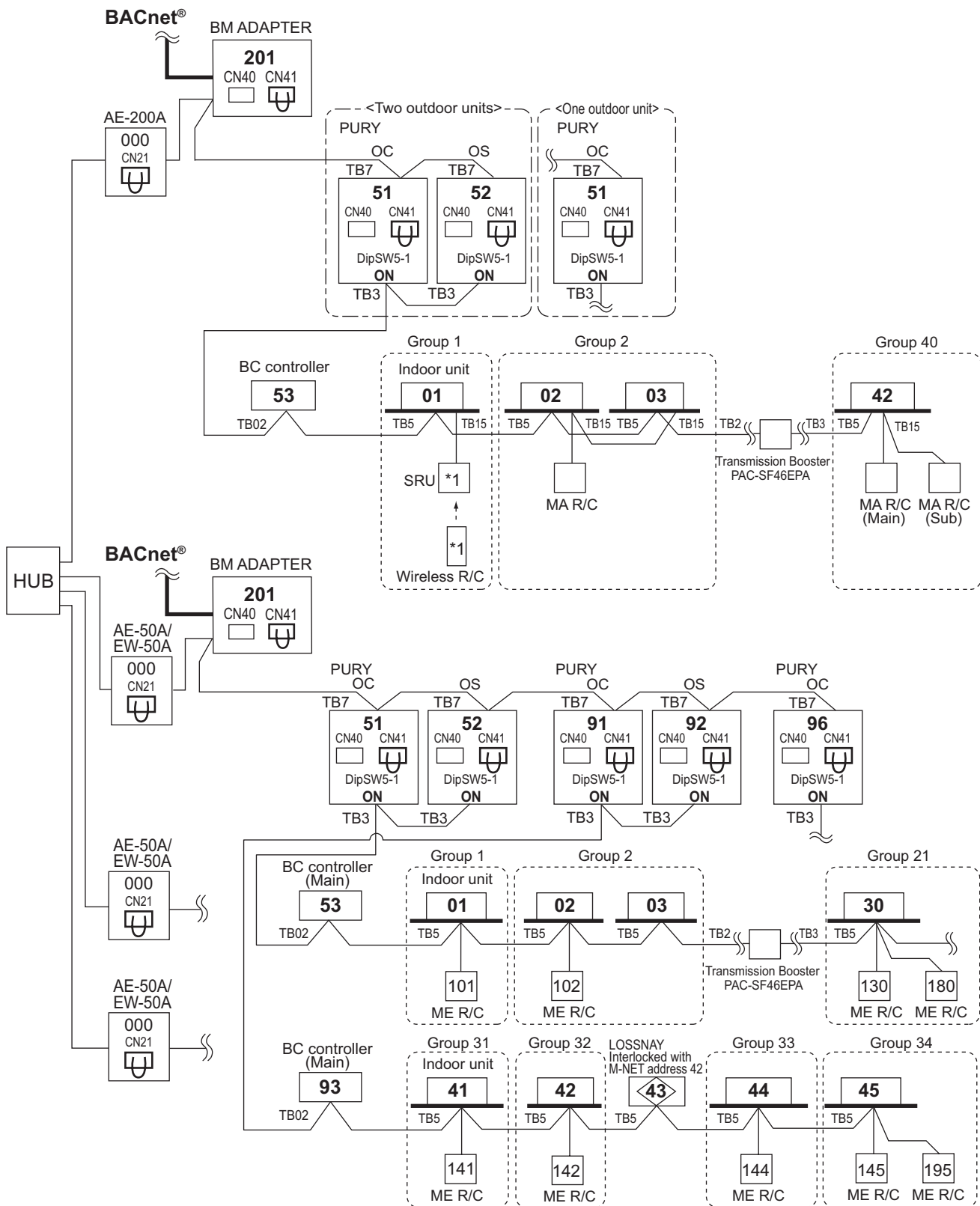


For other equipments (Lighting, security, elevator etc.)

*1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.

*2 When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.

2-4-3-13. BM ADAPTER+AE-200A/AE-50A/EW-50A



NOTE

- It is not necessary to connect the M-NET transmission line to the TB3 on BM ADAPTER. Leave the power jumper of BM ADAPTER connected to CN41.
- *1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.
- *2 Consult your dealer for restrictions when connecting both AE-200A/AE-50A and BM ADAPTER.
- *3 When a PAR-CT01MAU is connected to a group, no other MA remote controllers can be connected to the same group.
- *4 In a system that uses AE-200A and/or AE-50A, each BM-ADAPTER must be connected to the M-NET line.

3-1. R410A Piping material

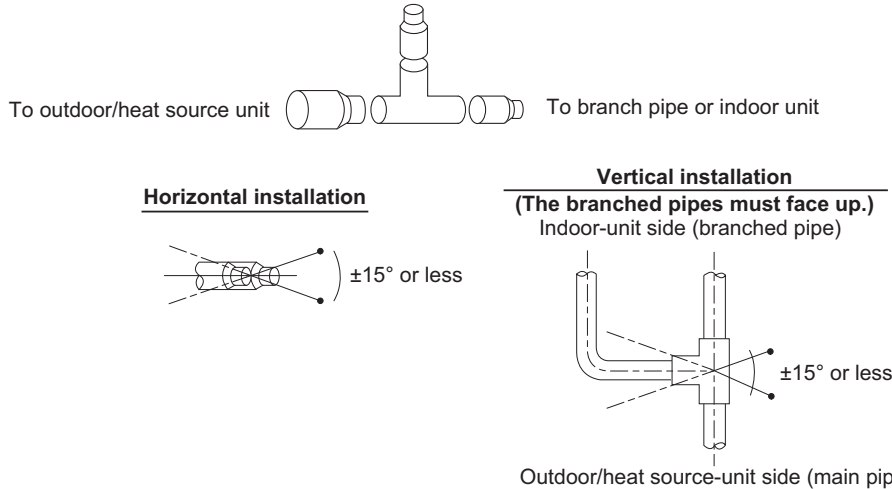
The maximum operation pressure of R410A air conditioner is 4.15 MPa [601 psi]. The refrigerant piping should ensure the safety under the maximum operation pressure. You shall follow the local industrial standard.

Procedures for installing the branched pipes

Refer to the instructions that came with the branched pipe kit (separately sold) for details.

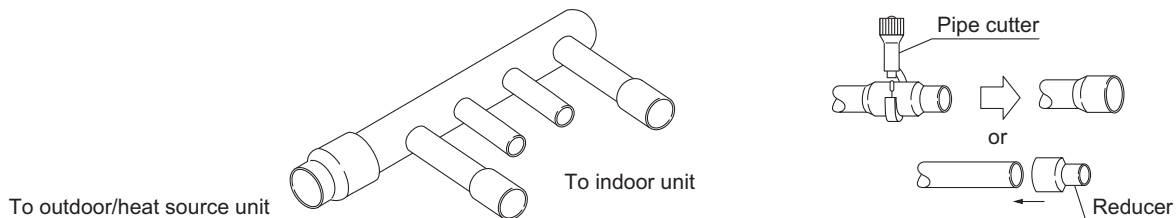
[1] Branches on the indoor-unit side

Joint



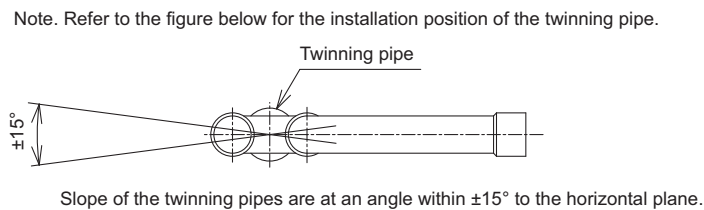
- ♦Restrictions for installing the joint described here only apply to CMY-Y202S-G2 and CMY-Y302S-G2 in the gas line.
- ♦CMY-Y202S-G2 and CMY-Y302S-G2 in the gas line must be installed horizontally (see figure above) or with the branched pipes facing up.
- ♦If the size of the refrigerant pipe that is selected by following the instructions under “Piping Design” section does not match the size of the joint, use a reducer to connect them. A reducer is included in the kit.

Header



- ♦No restrictions apply to the installation of the header.
- ♦If the size of the refrigerant pipe that is selected by following the instructions under “Piping Design” section does not match the size of the header, cut the pipe to an appropriate size using a pipe cutter, or use a reducer to connect them.
- ♦If the number of header branches exceeds the number of pipes to be connected, cap the unused header branches. Caps are included in the kit.

[2] Branches on the outdoor/heat source-unit side



- ♦Inclination of the branched pipes
The inclination of the branched pipes must be $\pm 15^\circ$ or less against the horizontal plane. Excessive inclination of the branched pipes may damage the unit.
- ♦Minimum length of the straight section of the pipe before the branched pipes
Always use the pipes supplied in the branched pipe kit, and make sure the straight section of the pipe immediately before it connects to the branched pipe is at least 500 mm. Failure to do so may damage the unit.

3-2. Piping Design

PURY-P-TKMU/YKMU

3-2-1. IF 16 ports or less are in use, i.e., if only one BC controller is in use with no sub BC controller.

- Note1. PURY systems do not require headers.
- Note2. Indoor units sized P72-P96 should be connected to a BC controller using the Y-shaped CMY-R160-J1 joint adapter. These indoor units cannot use the same BC controller ports as other units. (They must use their own individual BC controller port.)
- Note3. As bends cause pressure loss on transportation of refrigerant, the fewer bends in the system, the better it is. Piping length needs to factor in the actual length and equivalent length in which the bends are counted.
- Note4. Indoor units connected to the BC controller sharing one port cannot operate separately in heating and cooling modes simultaneously; i.e., they must function in either heating or cooling in tandem.
- Note5. Indoor unit capacities are included in the model name. For example, PEFY-P24NMSU-E has a capacity of 24,000 BTUs.
- Note6. Total "downstream indoor capacity" is the total of all the indoor units connected downstream. For example, PEFY-P24NMSU-E + PEFY-P12NMSU-E: Total Indoor Unit Capacity = P24 + P12 = P36.

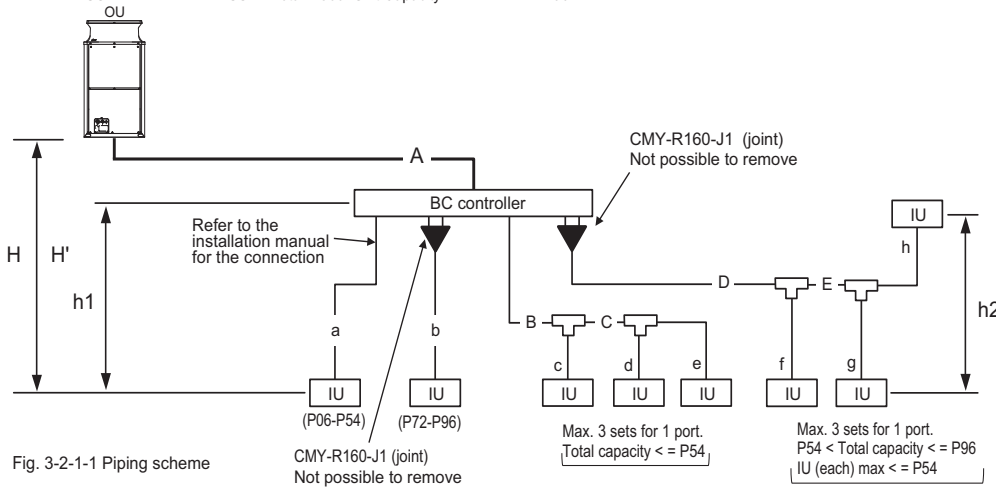


Fig. 3-2-1-1 Piping scheme

Piping length limitation

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	A+B+C+D+E+a+b+c+d+e+f+g+h	*1	-
Farthest IU from OU	A+D+E+h	165 [541]	190 [623]
Distance between OU and BC	A	110 [360] *1	110 [360] *1
Farthest IU from BC controller	D+E+h	40 [131] *2	40 [131] *2
Height between OU and IU (OU above IU)	H	50 [164] *5	-
Height between OU and IU (OU under IU)	H'	40 [131] *6	-
Height between IU and BC	h1	15 [49] (10 [32]) *3	-
Height between IU and IU	h2	30 [98] (20 [65]) *4	-

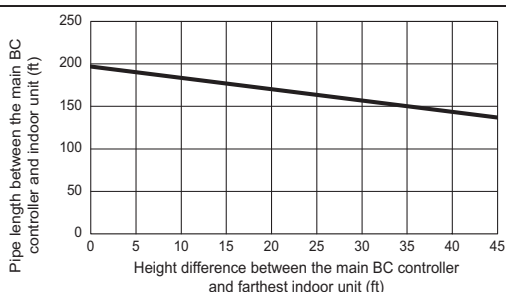
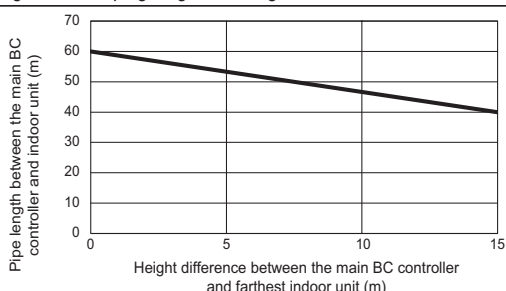
Bent equivalent length "M"

Outdoor Model	M (m/bent [ft./bent])
P72TKMU,YKMU	0.35 [1.15]
P96TKMU,YKMU	0.42 [1.38]
P120TKMU,YKMU	0.50 [1.64]
P144TKMU,YKMU	0.50 [1.64]

OU: Outdoor Unit; IU: Indoor Unit; BC: BC controller

- *1. Please refer to 3-2-4.
- *2. Farthest Indoor from BC controller "D+E+h" can exceed 40 m [131 ft.] till 60 m [197 ft.] if no Indoor sized P72, P96 connected. Depending on the vertical difference between the indoor units and the BC controllers, the refrigerant piping can be extended to a maximum of 60 m [197 ft.]. Details refer to Fig.3-2-1-2
- *3. Height between Indoor sized P72, P96 and BC must be less than 10 m [32 ft.], if any.
- *4. Height between Indoor sized P72, P96 and IU must be less than 20 m [65 ft.], if any.
- *5. 90 m [295 ft.] is available depending on the model and installation conditions. For more detailed information, contact your local distributor.
- *6. 60 m [197 ft.] is available depending on the model and installation conditions. For more detailed information, contact your local distributor.

Fig. 3-2-1-2 Piping length and height between IU and BC controller



Piping "A" size selection rule

Outdoor Model	Pipe(High pressure)	Pipe(Low pressure)
P72TKMU,YKMU	ø15.88 [5/8"]	ø19.05 [3/4"]
P96TKMU,YKMU	ø19.05 [3/4"]	ø22.20 [7/8"]
P120TKMU,YKMU	ø19.05 [3/4"]	ø28.58 [1-1/8"]
P144TKMU,YKMU	ø22.20 [7/8"]	ø28.58 [1-1/8"]

Piping "B", "C", "D", "E" size selection rule

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
P54 or less	ø9.52 [3/8"]	ø15.88 [5/8"]
P55-P72	ø9.52 [3/8"]	ø19.05 [3/4"]
P73-P96	ø9.52 [3/8"]	ø22.20 [7/8"]

Piping "a", "b", "c", "d", "e", "f", "g", "h" size selection rule

Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P06 to P18	ø6.35 [1/4"]	ø12.70 [1/2"]
P24 to P54	ø9.52 [3/8"]	ø15.88 [5/8"]
P72	ø9.52 [3/8"]	ø19.05 [3/4"]
P96	ø9.52 [3/8"]	ø22.20 [7/8"]

3-2-2. IF more than 16 ports are in use, or if there is more than one BC controller in use for one outdoor unit

- Note1. PURY systems do not require headers.
- Note2. Indoor units sized P72-P96 should be connected to a BC controller using the Y-shaped CMY-R160-J1 joint adapter. These indoor units cannot use the same BC controller ports as other units. (They must use their own individual BC controller port.)
- Note3. As bends cause pressure loss on transportation of refrigerant, the fewer bends in the system, the better it is. Piping length needs to factor in the actual length and equivalent length in which the bends are counted.
- Note4. Indoor units connected to the BC controller sharing one port cannot operate separately in heating and cooling modes simultaneously; i.e., they must function in either heating or cooling in tandem.
- Note5. For sub BC controller CMB-P-NU-GB1, the total connectable indoor unit capacity can be 126,000 BTUs or less. If two sub BC controllers are used, the total indoor unit capacity connected to BOTH sub BC controllers also cannot exceed 126,000 BTUs. For sub BC controller CMB-P1016NU-HB1 the total connectable indoor unit capacity can be 126,000 BTUs or less. However, if two sub controllers are used, the total indoor unit capacity connected to BOTH sub controllers must NOT exceed 168,000 BTUs.
- Note6. Indoor unit capacities are included in the model name. For example, PEFY-P24NMSU-E has a capacity of 24,000 BTUs.
- Note7. Total "downstream indoor capacity" is the total of all the indoor units connected downstream. For example, PEFY-P24NMSU-E + PEFY-P12NMSU-E: Total Indoor Unit Capacity = P24 + P12 = P36.

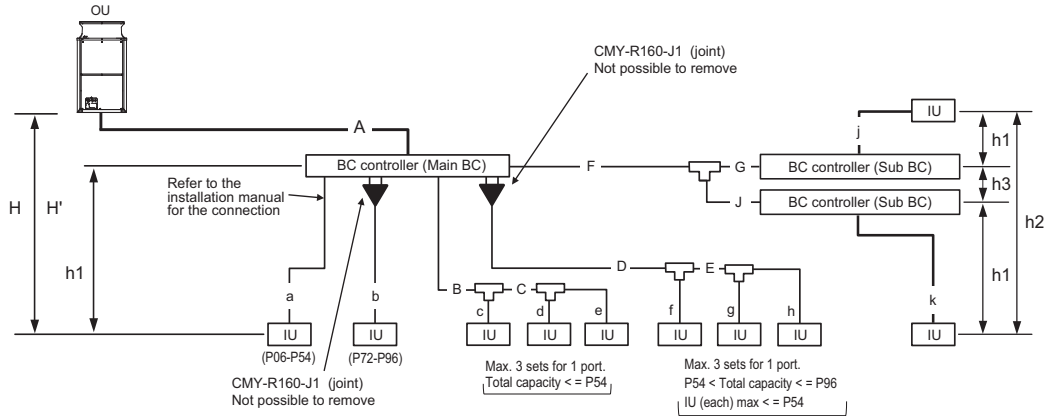


Fig. 3-2-2-1 Piping scheme

OU: Outdoor unit, IU: Indoor unit

Piping length limitation

Item	Piping in the figure	Max. length (m)	Max. equivalent length (ft.)
Total piping length	A+B+C+D+E+F+G+J+a+b+c+d+e+f+g+h+i+j+k *1		-
Farthest IU from OU	A+F+J+k	165 [541']	190 [623']
Distance between OU and BC	A	110 [360'] *1	110 [360'] *1
Farthest IU from BC controller	D+E+h or F+J+k	40 [131'] *2	40 [131'] *2
Height between OU and IU (OU above IU)	H	50 [164'] *6	
Height between OU and IU (OU under IU)	H'	40 [131'] *7	
Height between IU and BC	h1	15 [49'] (10 [32']) *3	-
Height between IU and IU	h2	30 [98'] (20 [65']) *4	-
Height between BC(Main or Sub) and BC(Sub)	h3	15 [49'] (10 [32']) *5	-

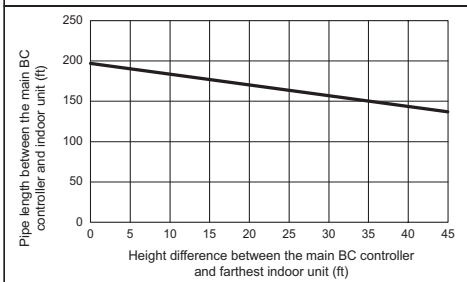
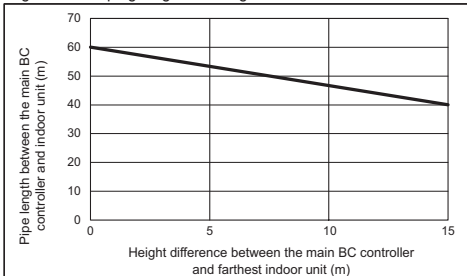
Bent equivalent length "M"

Outdoor Model	M (m/bent [ft./bent])
P72TKMU,YKMU	0.35 [1.15']
P96TKMU,YKMU	0.42 [1.38']
P120TKMU,YKMU	0.50 [1.64']
P144TKMU,YKMU	0.50 [1.64']

OU: Outdoor Unit; IU: Indoor Unit; BC: BC controller

- *1. Please refer to 3-2-4.
- *2. Farthest Indoor from BC controller "D+E+h or F+J+k" can exceed 40 m [131 ft.] till 60 m [197 ft.] if no Indoor sized P72, P96 connected. Depending on the vertical difference between the indoor units and the BC controllers, the refrigerant piping can be extended to a maximum of 60 m [197 ft.]. Details refer to Fig.3-2-2-2
- *3. Height between Indoor sized P72, P96 and BC must be less than 10 m [32 ft.], if any.
- *4. Height between Indoor sized P72, P96 and IU must be less than 20 m [65 ft.], if any.
- *5. Height between BC (Main or Sub) and BC (Sub) must be less than 10 m [32 ft.] if IU size is P72, P96.
- *6. 90 m [295 ft.] is available depending on the model and installation conditions. For more detailed information, contact your local distributor.
- *7. 60 m [197 ft.] is available depending on the model and installation conditions. For more detailed information, contact your local distributor.

Fig. 3-2-2-2 Piping length and height between IU and BC controller



Piping "A" size selection rule

Outdoor Model	Pipe(High pressure)	Pipe(Low pressure)
P72TKMU,YKMU	ø15.88 [5/8"]	ø19.05 [3/4"]
P96TKMU,YKMU	ø19.05 [3/4"]	ø22.20 [7/8"]
P120TKMU,YKMU	ø19.05 [3/4"]	ø28.58 [1-1/8"]
P144TKMU,YKMU	ø22.2 [7/8"]	ø28.58 [1-1/8"]

Piping "B", "C", "D", "E" size selection rule

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
P54 or less	ø9.52 [3/8"]	ø15.88 [5/8"]
P55-P72	ø9.52 [3/8"]	ø19.05 [3/4"]
P73-P96	ø9.52 [3/8"]	ø22.20 [7/8"]

Piping "F", "G", "J" size selection rule

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(HP Gas)	Pipe(LP Gas)
P72 or less	ø9.52 [3/8"]	ø15.88 [5/8"]	ø19.05 [3/4"]
P73 to P108	ø9.52 [3/8"]	ø19.05 [3/4"]	ø22.20 [7/8"]
P109 to P126	ø12.70 [1/2"]	ø19.05 [3/4"]	ø28.58 [1-1/8"]
P127 to P144	ø12.70 [1/2"]	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P145 to P168	ø15.88 [5/8"]	ø22.20 [7/8"]	ø28.58 [1-1/8"]

HP: High pressure, LP: Low pressure

Piping "a", "b", "c", "d", "e", "f", "g", "h", "j", "k" size selection rule

Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P06 to P18	ø6.35 [1/4"]	ø12.70 [1/2"]
P24 to P54	ø9.52 [3/8"]	ø15.88 [5/8"]
P72	ø9.52 [3/8"]	ø19.05 [3/4"]
P96	ø9.52 [3/8"]	ø22.20 [7/8"]

3-2-3. IF more than 16 ports are in use, or if there is more than one BC controller in use for two outdoor units

- Note1. PURY systems do not require headers.
- Note2. Indoor units sized P72-P96 should be connected to a BC controller using the Y-shaped CMY-R160-J1 joint adapter. These indoor units cannot use the same BC controller ports as other units. (They must use their own individual BC controller port.)
- Note3. As bends cause pressure loss on transportation of refrigerant, the fewer bends in the system, the better it is. Piping length needs to factor in the actual length and equivalent length in which the bends are counted.
- Note4. Indoor units connected to the BC controller sharing one port cannot operate separately in heating and cooling modes simultaneously; i.e., they must function in either heating or cooling in tandem.
- Note5. For sub BC controller CMB-P-NU-GB1, the total connectable indoor unit capacity can be 126,000 BTUs or less. If two sub BC controllers are used, the total indoor unit capacity connected to BOTH sub BC controllers also cannot exceed 126,000 BTUs. For sub BC controller CMB-P1016NU-HB1 the total connectable indoor unit capacity can be 126,000 BTUs or less. However, if two sub controllers are used, the total indoor unit capacity connected to BOTH sub controllers must NOT exceed 168,000 BTUs.
- Note6. Indoor unit capacities are included in the model name. For example, PEFY-P24NMSU-E has a capacity of 24,000 BTUs.
- Note7. Total "downstream indoor capacity" is the total of all the indoor units connected downstream. For example, PEFY-P24NMSU-E + PEFY-P12NMSU-E: Total Indoor Unit Capacity = P24 + P12 = P36.

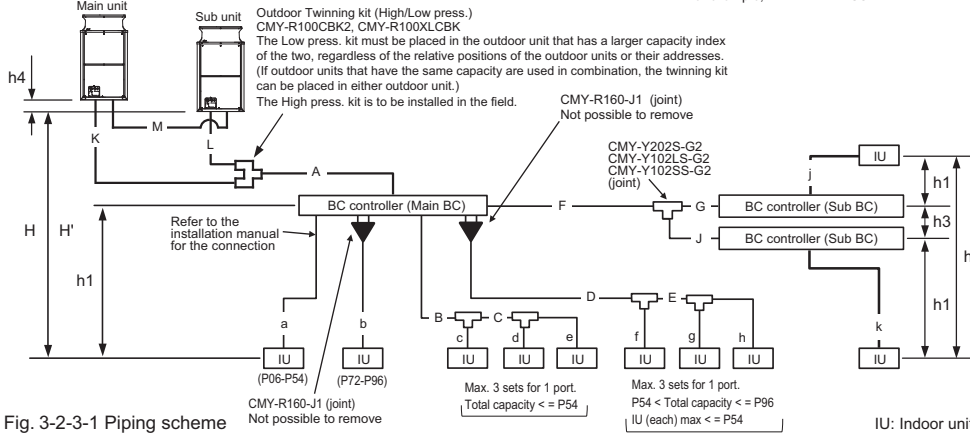


Fig. 3-2-3-1 Piping scheme

Piping length limitation

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	K+L+M+A+B+C+D+E+F+G+J+a+b+c+d+e+f+g+h+i+k	*1	-
Farthest IU from OU	K(L)+A+F+J+k	165 [541]	190 [623]
Distance between OU and BC	K(L)+A	110 [360] *1	110 [360] *1
Farthest IU from BC controller	D+E+h or F+G+j or F+J+k	40 [131] *2	40 [131] *2
Height between OU and IU (OU above IU)	H	50 [164] *6	-
Height between OU and IU (OU under IU)	H'	40 [131] *7	-
Height between IU and BC	h1	15 [49] (10 [32]) *3	-
Height between IU and IU	h2	30 [98] (20 [65]) *4	-
Height between BC(Main or Sub) and BC(Sub)	h3	15 [49] (10 [32]) *5	-
Distance between Main unit and Sub unit	K+L or M	5 [16]	-
Height between Main unit and Sub unit	h4	0.1 [0.3]	-

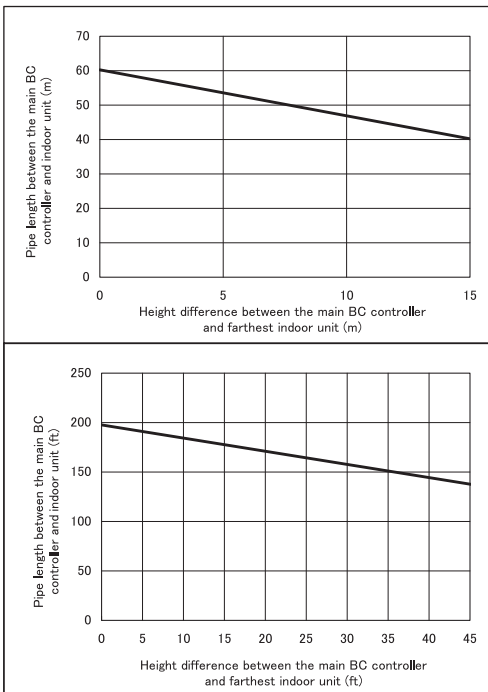
Bent equivalent length "M"

Outdoor Model	M (m/bent [ft./bent])
P144YSKMU	0.50 [1.64]
P168TSKMU,YSKMU	0.50 [1.64]
P192TSKMU,YSKMU	0.50 [1.64]
P216TSKMU,YSKMU	0.50 [1.64]
P240TSKMU,YSKMU	0.50 [1.64]
P264TSKMU,YSKMU	0.70 [2.30]
P288TSKMU,YSKMU	0.70 [2.30]

OU: Outdoor Unit; IU: Indoor Unit; BC: BC controller

- *1. Please refer to 3-2-4.
- *2. Farthest Indoor from BC controller "D+E+h or F+G+j or F+J+k" can exceed 40 m [131 ft.] till 60 m [197 ft.] if no Indoor sized P72, P96 connected. Depending on the vertical difference between the indoor units and the BC controllers, the refrigerant piping can be extended to a maximum of 60 m [197 ft.]. Details refer to Fig.3-2-3-2
- *3. Height between Indoor sized P72, P96 and BC must be less than 10 m [32 ft.], if any.
- *4. Height between Indoor sized P72, P96 and IU must be less than 20 m [65 ft.], if any.
- *5. Height between BC (Main or Sub) and BC (Sub) must be less than 10 m [32 ft.] if IU size is P72, P96.
- *6. 90 m [295 ft.] is available depending on the model and installation conditions. For more detailed information, contact your local distributor.
- *7. 60 m [197 ft.] is available depending on the model and installation conditions. For more detailed information, contact your local distributor.

Fig. 3-2-3-2 Piping length and height between IU and BC controller



Piping "A" size selection rule

Outdoor Model	Pipe(High pressure)	Pipe(Low pressure)
P144YSKMU	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P168TSKMU,YSKMU	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P192TSKMU,YSKMU	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P216TSKMU,YSKMU	ø28.58 [1-1/8"]	ø28.58 [1-1/8"]
P240TSKMU,YSKMU	ø28.58 [1-1/8"]	ø34.93 [1-3/8"]
P264TSKMU,YSKMU	ø28.58 [1-1/8"]	ø34.93 [1-3/8"]
P288TSKMU,YSKMU	ø28.58 [1-1/8"]	ø34.93 [1-3/8"]

Piping "B", "C", "D", "E" size selection rule

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
P54 or less	ø9.52 [3/8"]	ø15.88 [5/8"]
P55-P72	ø9.52 [3/8"]	ø19.05 [3/4"]
P73-P96	ø9.52 [3/8"]	ø22.20 [7/8"]

Piping "F", "G", "J" size selection rule

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(HP Gas)	Pipe(LP Gas)
P72 or less	ø9.52 [3/8"]	ø15.88 [5/8"]	ø19.05 [3/4"]
P73 to P108	ø9.52 [3/8"]	ø19.05 [3/4"]	ø22.20 [7/8"]
P109 to P126	ø12.70 [1/2"]	ø19.05 [3/4"]	ø28.58 [1-1/8"]
P127 to P144	ø12.70 [1/2"]	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P145 to P168	ø15.88 [5/8"]	ø22.20 [7/8"]	ø28.58 [1-1/8"]

HP: High pressure, LP: Low pressure

Piping "K", "L", "M" size selection rule

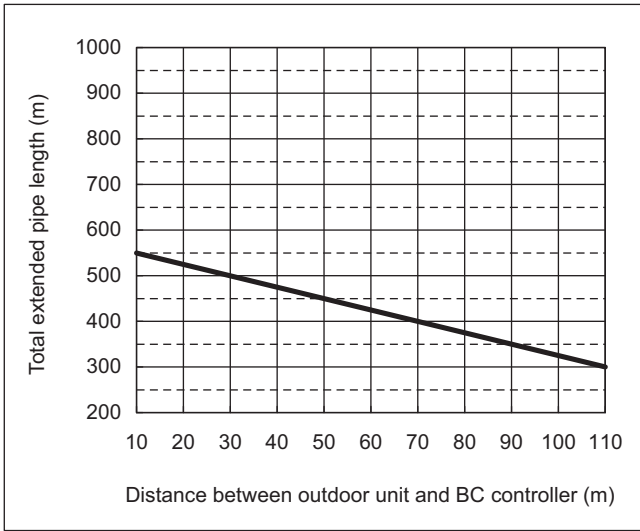
Outdoor Model	Pipe(High pressure)	Pipe(Low pressure)
P72TKMU,YKMU	ø15.88 [5/8"]	ø19.05 [3/4"]
P96TKMU,YKMU	ø19.05 [3/4"]	ø22.20 [7/8"]
P120TKMU,YKMU	ø19.05 [3/4"]	ø28.58 [1-1/8"]
P144TKMU,YKMU	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P168TKMU,YKMU	ø22.20 [7/8"]	ø28.58 [1-1/8"]

Piping "a", "b", "c", "d", "e", "f", "g", "h", "j", "k" size selection rule

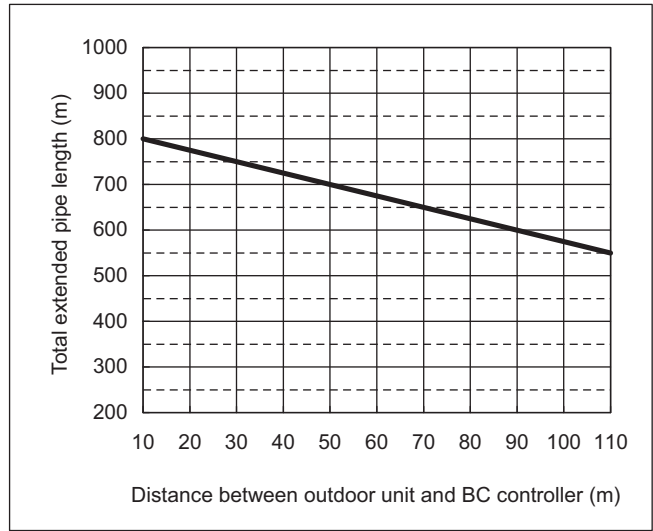
Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P06 to P18	ø6.35 [1/4"]	ø12.70 [1/2"]
P24 to P54	ø9.52 [3/8"]	ø15.88 [5/8"]
P72	ø9.52 [3/8"]	ø19.05 [3/4"]
P96	ø9.52 [3/8"]	ø22.20 [7/8"]

3-2-4. Total piping length restrictions(m)

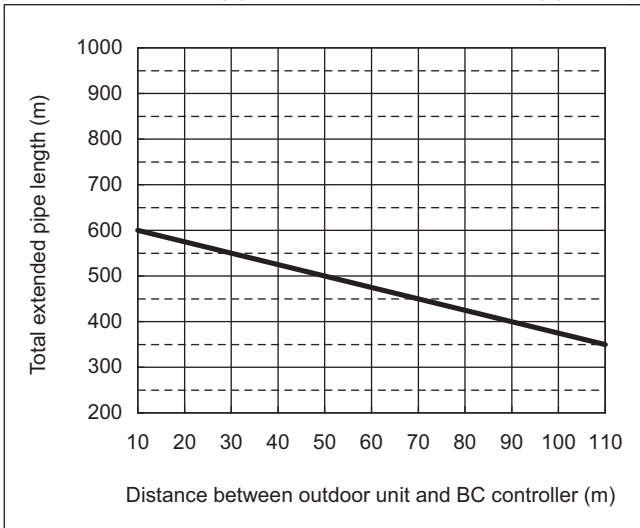
[PURY-P72, 96TKMU-A, PURY-P72, 96YKMU-A]



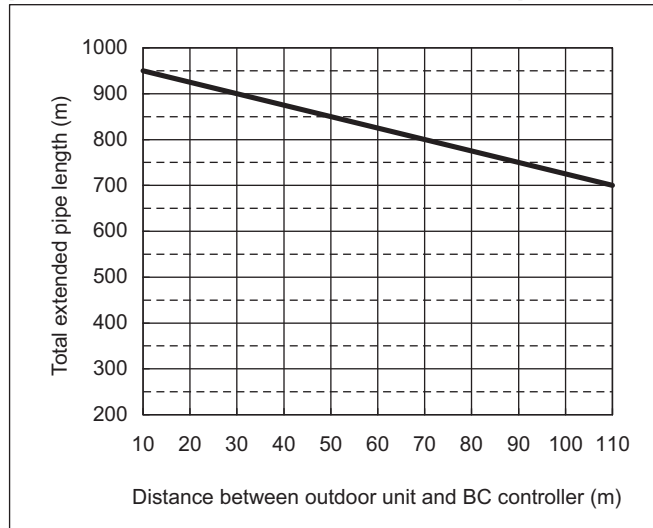
[PURY-P216, 240TSKMU-A, PURY-P216, 240YSKMU-A]



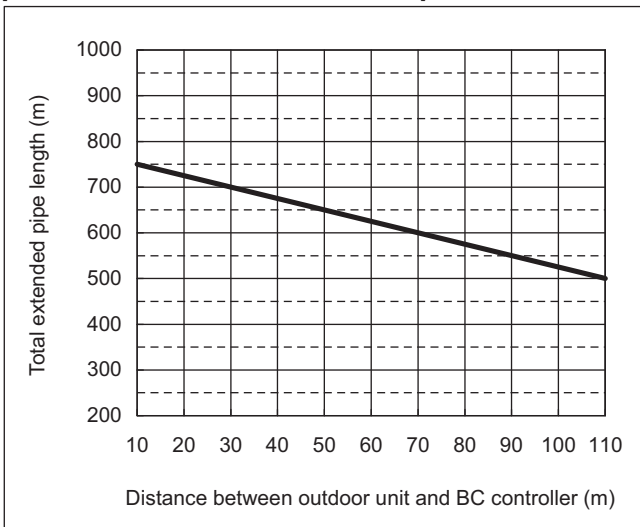
[PURY-P120, 144, 168T(S)KMU-A, PURY-P120, 144, 168Y(S)KMU-A]



[PURY-P264, 288TSKMU-A, PURY-P264, 288YSKMU-A]

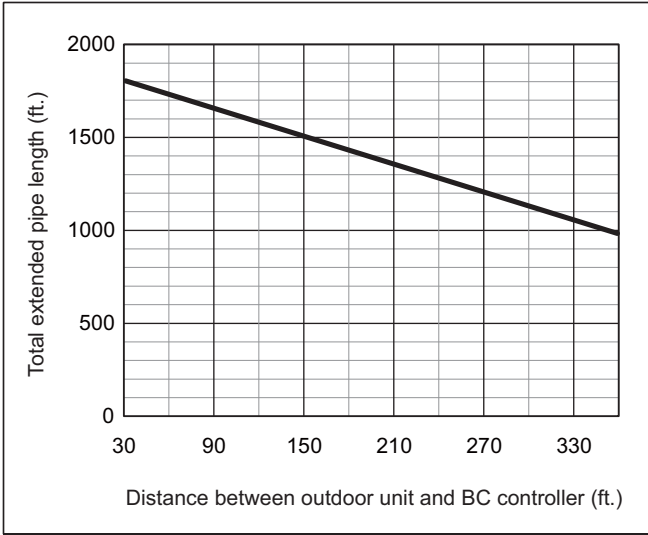


[PURY-P192TSKMU-A, PURY-P192YSKMU-A]

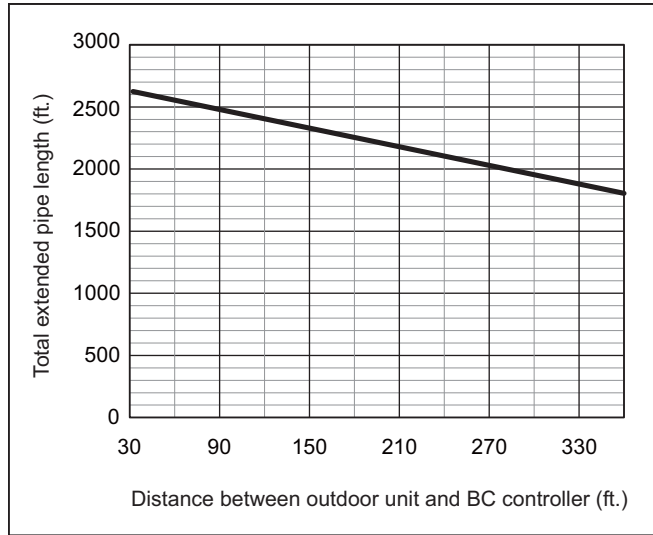


Total piping length restrictions(ft.)

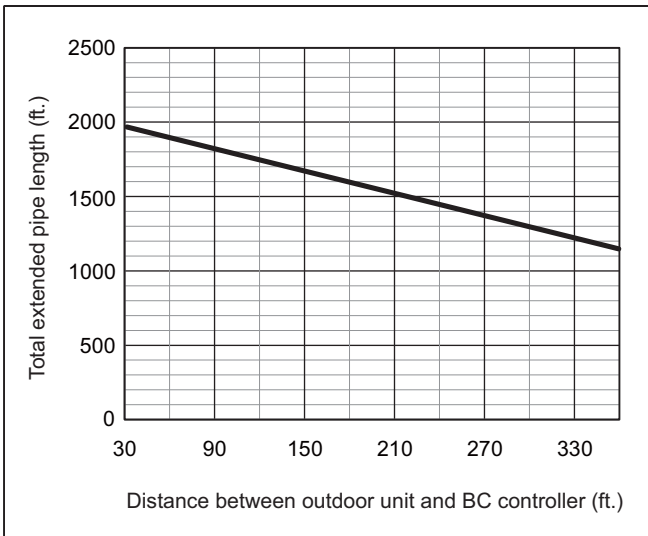
[PURY-P72, 96TKMU-A, PURY-P72, 96YKMU-A]



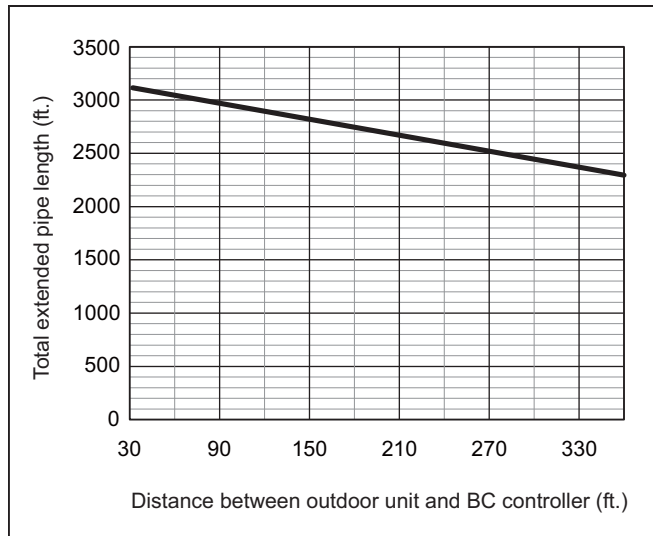
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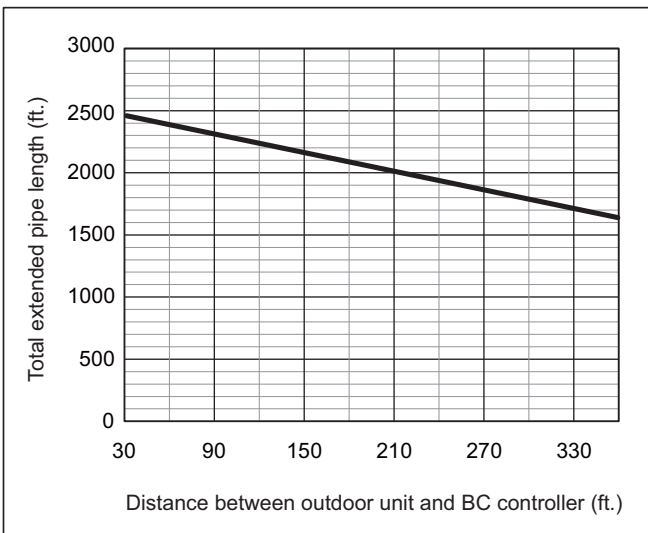
[PURY-P120, 144, 168T(S)KMU-A, PURY-P120, 144, 168Y(S)KMU-A]



[PURY-P264, 288TSKMU-A, PURY-P264, 288YSKMU-A]



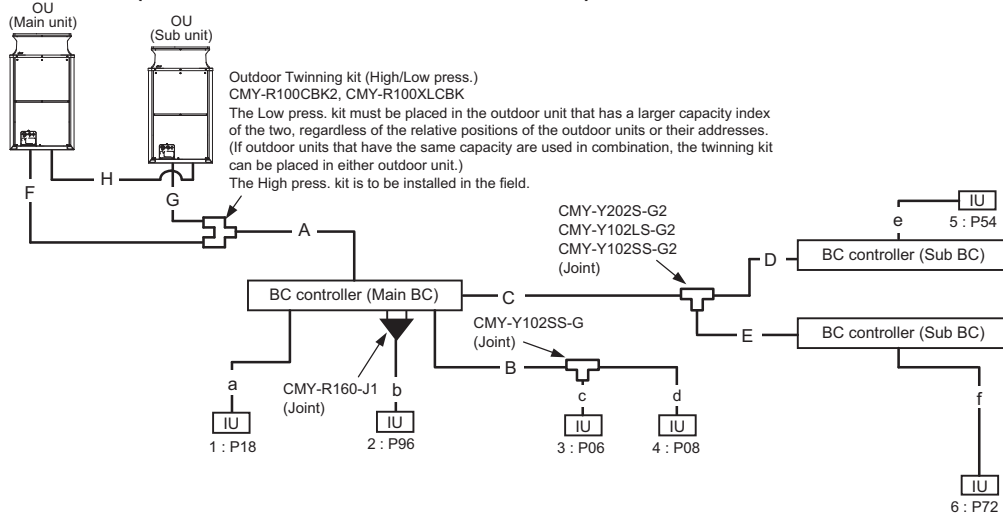
[PURY-P192TSKMU-A, PURY-P192YSKMU-A]



3-3. Refrigerant charging calculation

PURY-P-TKMU/YKMU

Sample connection (with 3 BC controller and 6 indoor units)



Amount of additional refrigerant to be charged

Refrigerant for extended pipes (field piping) is not factory-charged to the outdoor unit. Add an appropriate amount of refrigerant for each pipe on site. Record the size of each high pressure pipe and liquid pipe, and the amount of refrigerant that was charged on the outdoor unit for future reference.

Calculating the amount of additional refrigerant to be charged

The amount of refrigerant to be charged is calculated with the size of the on-site-installed high pressure pipes and liquid pipes, and their length. Calculate the amount of refrigerant to be charged according to the formula below.

* When connecting PLFY-P08NBMU-E2, add 0.3kg [11oz] of refrigerant per indoor unit.

* When connecting PLFY-EP08NEMU-E, add 0.3kg [11oz] of refrigerant per indoor unit.

Round up the calculation result to the nearest 0.1kg[4oz]. (i.e., 16.08 kg = 16.1 kg)

<Amount of additional refrigerant to be charged>

Calculating the amount of additional refrigerant to be charged

• When the piping length from the outdoor unit to the farthest indoor unit is 30.5 m (100 ft) or shorter

Additional refrigerant charge (kg)[oz]	=	High pressure pipe size Total length of ø 28.58mm[1-1/8 in] (m) × 0.36(kg/m) (ft) × 3.88(oz/ft)	+	High pressure pipe size Total length of ø 22.2mm[7/8 in] (m) × 0.23(kg/m) (ft) × 2.48(oz/ft)	+	High pressure pipe size Total length of ø 19.05mm[3/4 in] (m) × 0.16(kg/m) (ft) × 1.73(oz/ft)	+	High pressure pipe size Total length of ø 15.88mm[5/8 in] (m) × 0.11(kg/m) (ft) × 1.19(oz/ft)
	+	Liquid Piping size Total length of ø 15.88mm[5/8 in] (m) × 0.2(kg/m) (ft) × 2.16(oz/ft)	+	Liquid Piping size Total length of ø 12.7mm[1/2 in] (m) × 0.12(kg/m) (ft) × 1.30(oz/ft)	+	Liquid Piping size Total length of ø 9.52mm[3/8 in] (m) × 0.06(kg/m) (ft) × 0.65(oz/ft)	+	Liquid Piping size Total length of ø 6.35mm[1/4 in] (m) × 0.024(kg/m) (ft) × 0.26(oz/ft)

Total Outdoor Unit Model Name	Charged amount per BC controller (Standard / Main)	+	BC controller (Main) HA-Type	+	BC controller (Sub) Total Units	BC controller (Sub) Per Unit	+	Total Capacity of Connected Indoor Units	Charged amount
P72	3.0 kg [106 oz]		2.0 kg [71 oz]		1	1.0 kg [36 oz]		Models ~ 27	2.0 kg [71 oz]
P96	4.5 kg [160 oz]				2	2.0 kg [71 oz]		Models 28 ~ 54	2.5 kg [89 oz]
P120	6.0 kg [212 oz]							Models 55 ~ 126	3.0 kg [106 oz]
P144								Models 127 ~ 144	3.5 kg [124 oz]
P168								Models 145 ~ 180	4.5 kg [159 oz]
P192								Models 181 ~ 234	5.0 kg [177 oz]
P216								Models 235 ~ 273	6.0 kg [212 oz]
P240								Models 274 ~ 307	8.0 kg [283 oz]
P264								Models 308 ~ 342	9.0 kg [318 oz]
P288							Models 343 ~ 411	10.0 kg [353 oz]	
								Models 412 ~	12.0 kg [424 oz]

Total Outdoor Unit Model Name	Charged amount for outdoor unit (s)	
Single	P72	0.0 kg [0 oz]
	P96	1.0 kg [36 oz]
	P120	5.5 kg [195 oz]
	P144	5.5 kg [195 oz]
Combination	P144	0.0 kg [0 oz]
	P168	1.0 kg [36 oz]
	P192	2.0 kg [71 oz]
	P216	6.5 kg [230 oz]
	P240	11.0 kg [389 oz]
	P264	11.0 kg [389 oz]
P288	11.0 kg [389 oz]	

• When the piping length from the outdoor unit to the farthest indoor unit is longer than 30.5 m (100 ft)

Additional refrigerant charge (kg)[oz]	=	High pressure pipe size Total length of \varnothing 28.58mm[1-1/8 in] (m) \times 0.33(kg/m) (ft) \times 3.55(oz/ft)	+	High pressure pipe size Total length of \varnothing 22.2mm[7/8 in] (m) \times 0.21(kg/m) (ft) \times 2.26(oz/ft)	+	High pressure pipe size Total length of \varnothing 19.05mm[3/4 in] (m) \times 0.14(kg/m) (ft) \times 1.51(oz/ft)	+	High pressure pipe size Total length of \varnothing 15.88mm[5/8 in] (m) \times 0.1(kg/m) (ft) \times 1.08(oz/ft)
	+	Liquid Piping size Total length of \varnothing 15.88mm[5/8 in] (m) \times 0.18(kg/m) (ft) \times 1.94(oz/ft)	+	Liquid Piping size Total length of \varnothing 12.7mm[1/2 in] (m) \times 0.11(kg/m) (ft) \times 1.19(oz/ft)	+	Liquid Piping size Total length of \varnothing 9.52mm[3/8 in] (m) \times 0.054(kg/m) (ft) \times 0.59(oz/ft)	+	Liquid Piping size Total length of \varnothing 6.35mm[1/4 in] (m) \times 0.021(kg/m) (ft) \times 0.23(oz/ft)

Total Outdoor Unit Model Name	Charged amount per BC controller (Standard / Main)	+	BC controller (Main) HA-Type	+	BC controller (Sub) Total Units	BC controller (Sub) Per Unit	+	Total Capacity of Connected Indoor Units	Charged amount
P72	3.0 kg [106 oz]		2.0 kg [71 oz]		1	1.0 kg [36 oz]		Models ~ 27	2.0 kg [71 oz]
P96	4.5 kg [160 oz]			2	2.0 kg [71 oz]		Models 28 ~ 54	2.5 kg [89 oz]	
P120						Models 55 ~ 126	3.0 kg [106 oz]		
P144	6.0 kg [212 oz]					Models 127 ~ 144	3.5 kg [124 oz]		
P168						Models 145 ~ 180	4.5 kg [159 oz]		
P192						Models 181 ~ 234	5.0 kg [177 oz]		
P216						Models 235 ~ 273	6.0 kg [212 oz]		
P240						Models 274 ~ 307	8.0 kg [283 oz]		
P264						Models 308 ~ 342	9.0 kg [318 oz]		
P288						Models 343 ~ 411	10.0 kg [353 oz]		
						Models 412 ~	12.0 kg [424 oz]		

Total Outdoor Unit Model Name	Charged amount for outdoor unit (s)
Single	P72 0.0 kg [0 oz]
	P96 1.0 kg [36 oz]
	P120 5.5 kg [195 oz]
	P144 5.5 kg [195 oz]
Combination	P144 0.0 kg [0 oz]
	P168 1.0 kg [36 oz]
	P192 2.0 kg [71 oz]
	P216 6.5 kg [230 oz]
	P240 11.0 kg [389 oz]
	P264 11.0 kg [389 oz]
P288 11.0 kg [389 oz]	

■ Limitation of the amount of refrigerant to be charged

The above calculation result of the amount of refrigerant to be charged must become below the value in the table below.

Total index of the outdoor units	P72 T/YKMU	P96 T/YKMU	P120 T/YKMU	P144 T/YKMU	P144 YSKMU	P168 T/YSKMU	P192 T/YSKMU	P216 T/YSKMU	P240 T/YSKMU	P264 T/YSKMU	P288 T/YSKMU
Maximum refrigerant charge	Factory charged	11.8kg	11.8kg	11.8kg	11.8kg	23.6kg	23.6kg	23.6kg	23.6kg	23.6kg	23.6kg
	Charged on site	27.2kg	35.5kg	41.0kg	46.7kg	34.9kg	49.4kg	62.7kg	75.4kg	75.4kg	75.4kg
	Total for system	39.0kg	47.3kg	52.8kg	58.5kg	58.5kg	73.0kg	86.3kg	99.0kg	99.0kg	99.0kg
	Factory charged	26 lbs 1 oz	26 lbs 1 oz	26 lbs 1 oz	26 lbs 1 oz	52 lbs 1 oz	52 lbs 1 oz	52 lbs 1 oz	52 lbs 1 oz	52 lbs 1 oz	52 lbs 1 oz
	Charged on site	60 lbs 0 oz	78 lbs 5 oz	90 lbs 7 oz	103 lbs 0 oz	77 lbs 0 oz	108 lbs 15 oz	138 lbs 4 oz	166 lbs 4 oz	166 lbs 4 oz	166 lbs 4 oz
	Total for system	86 lbs 0 oz	104 lbs 5 oz	116 lbs 7 oz	129 lbs 0 oz	129 lbs 0 oz	161 lbs 0 oz	190 lbs 5 oz	218 lbs 5 oz	218 lbs 5 oz	218 lbs 5 oz

4-1. General requirements for installation

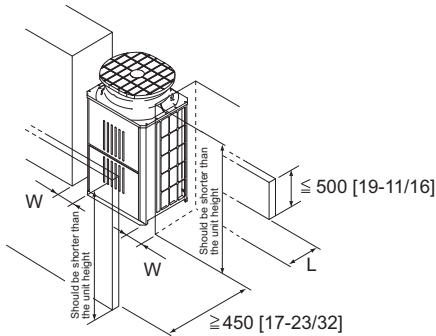
1. If possible, locate the unit to reduce the direct thermal radiation to the unit.
2. Consider the amount of noise the unit produces when choosing an installation location.
Valves and refrigerant flow on the outdoor/heat source unit may generate noise.
3. Avoid sites that may encounter strong winds.
4. Ensure the installation site can bear the weight of the unit.
5. Condensation should be moved away from the unit, particularly in heating mode.
6. Provide enough space for installation and service as shown in section 4-2. Spacing.
7. Avoid sites where acidic solutions or chemical sprays (such as sulfur sprays) are used frequently.
8. The unit should be provided from combustible gas, oil, steam, chemical gas like acidic solution, sulfur gas and so on.

4-2. Spacing

In case of single installation

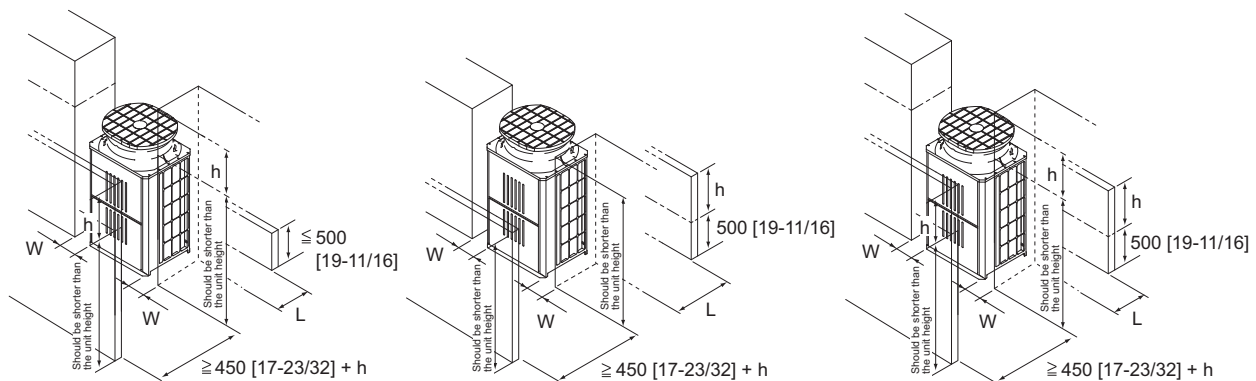
- Secure enough space around the unit as shown in the figure.
- If the wall height exceeds the height limit, widen the space labeled "L" and "W" by the amount that exceeds the limit (labeled h in the figure).
- Clearance shown in this section are proper airflow, installation, and service. Additional spacing maybe required depending on load code.

(1) Walls are lower than the height limit.



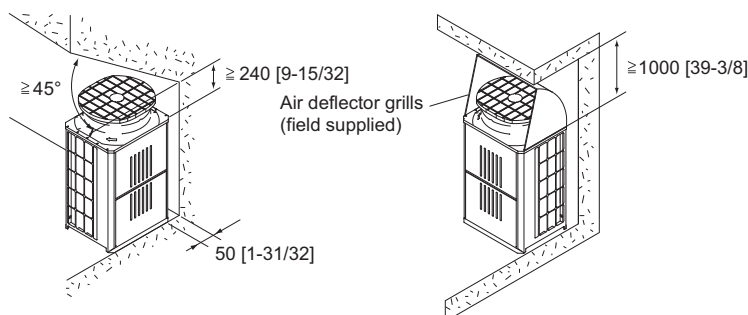
Condition	L	W
Minimum space behind the unit	≥ 100 [3-15/16]	≥ 50 [1-31/32]
Minimum space on both sides of the unit	≥ 300 [11-13/16]	≥ 15 [19/32]

(2) If the wall height (H) of the front, rear or side exceeds the wall height restriction



Condition	L	W
Minimum space behind the unit	≥ 100 [3-15/16] + h	≥ 50 [1-31/32] + h
Minimum space on both sides of the unit	≥ 300 [11-13/16] + h	≥ 15 [19/32] + h

(3) If there are obstacles at the upper part of the unit

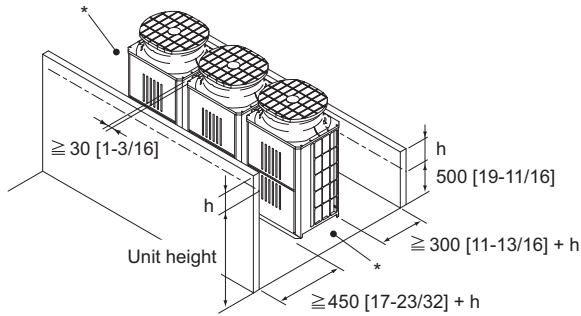


In case of collective installation and continuous installation

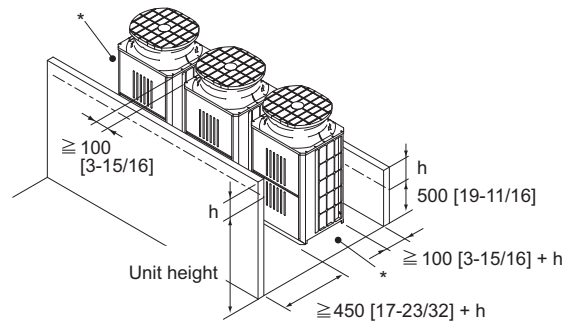
- When multiple units are installed adjacent to each other, secure enough space to allow for air circulation and passageways between groups of units as shown in the figures.
 - * Leave both sides of each group of units open.
- As with single installation, if the wall height exceeds the height limit, widen the space in the front and the back of a given group of units by the amount that exceeds the limit (labeled h in the figure).
- If there is a wall at both the front and the rear of the unit, install up to six units (three units : P120, 144 for TKMU/YKMU) consecutively in the side direction and provide a space of 1000mm or more as inlet space/passage space for each six units (three units : P120, 144 for TKMU/YKMU).
- Clearance shown in this section are proper airflow, installation, and service. Additional spacing maybe required depending on load code.

(1) Side-by-side installation

<The space on both sides of a given group of units is minimum.>

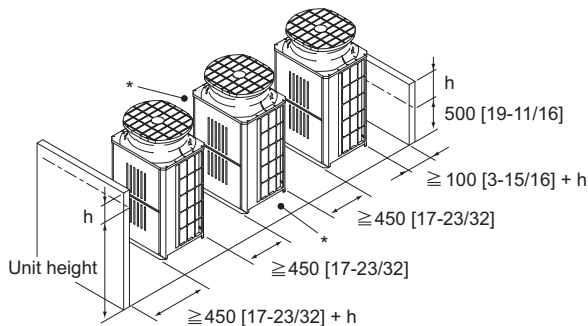


<The space on both sides of a given group of units is minimum.>

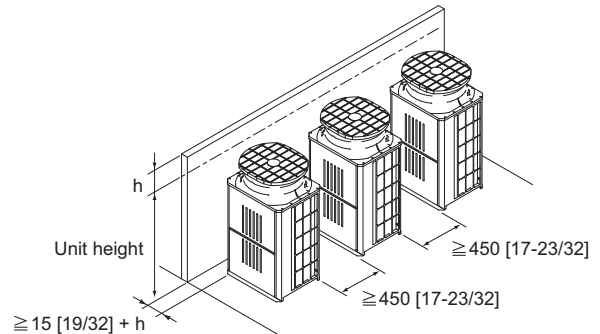


(2) Face-to-face installation

<There are walls in the front and the back of a given group of units.>

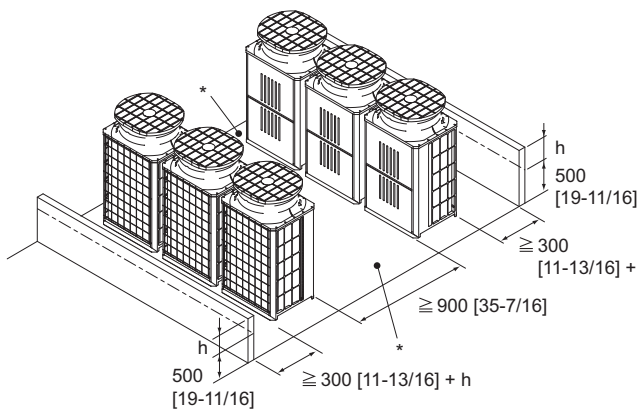


<There is a wall on one side.>

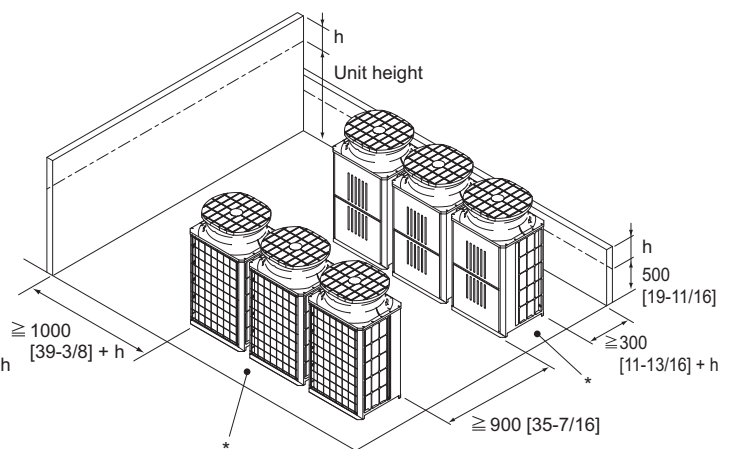


(3) Combination of face-to-face and side-by-side installations

<There are walls in the front and the back of a given group of units.>



<There is a wall on one side and either the front or the back of a given group of unit.>



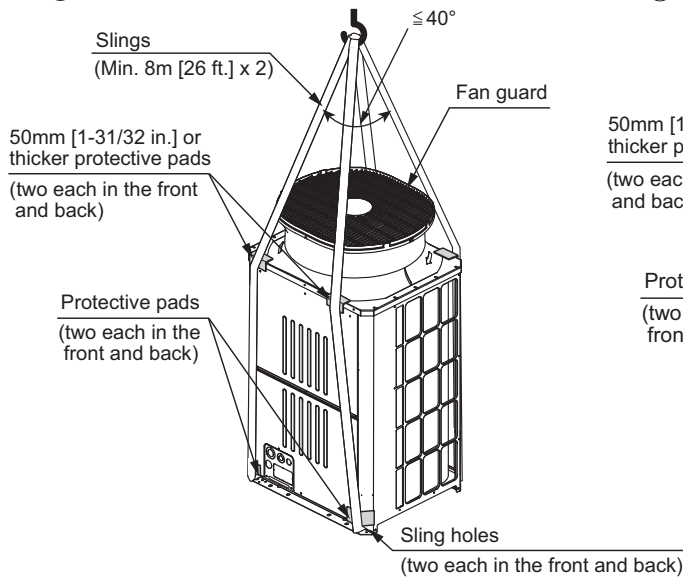
(Unit : mm [in.])

4-3. Piping direction

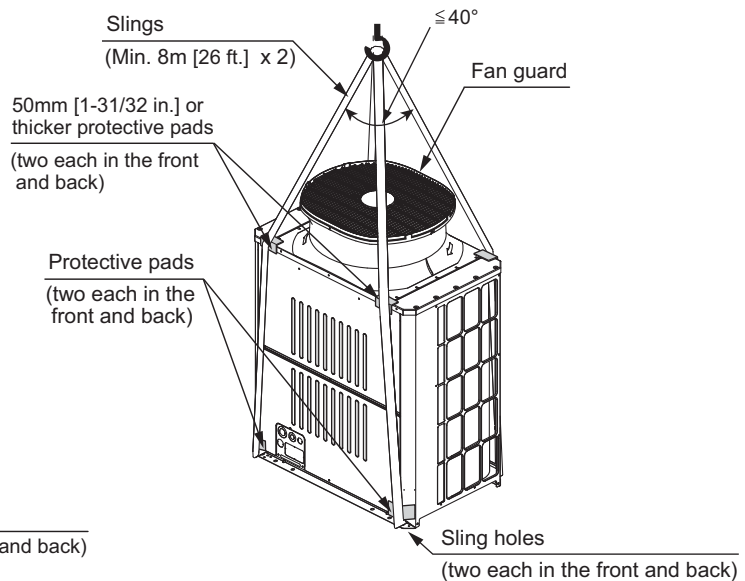
4-3-1. Lifting method

- When lifting the unit with ropes, run the ropes under the unit and use the lifting hole.
- Support the unit at four points with two ropes, and avoid giving mechanical shock.
- Suspension rope angle must be 40° or less, so as to avoid compressing fan guard.
- Use two ropes, each at least 8m [26 ft.] in length
- Use ropes strong enough to support the weight of the unit.
- Always suspend the unit from four corners. (It is dangerous to suspend a unit from two corners and must not be attempted.)
- Use protective pads to keep the ropes from scratching the panels on the unit.
- Use a 50mm [1-31/32 in.] or thicker cardboard or cloth as a protective pad on the top of the unit to prevent contact between the fan guard and slings.

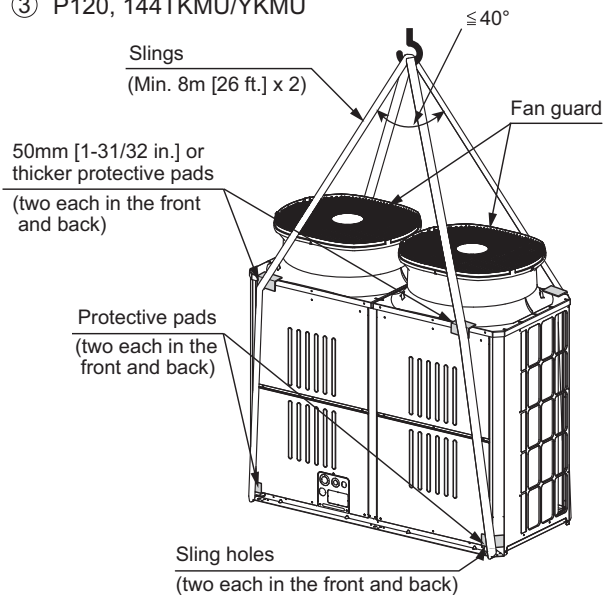
① P72TKMU/YKMU



② P96TKMU/YKMU



③ P120, 144TKMU/YKMU



CAUTION

Exercise caution when transporting products.

- Products weighing more than 20 kg [45 LBS] should not be carried alone.
- Do not carry the product by the PP bands.
- To avoid the risk of injury, do not touch the heat exchanger fins.
- Plastic bags may pose a risk of choking hazard to children. Tear plastic bags into pieces before disposing of them.
- When lifting and transporting outdoor units with ropes, run the ropes through lifting hole at the unit base. Securely fix the unit so that the ropes will not slide off, and always lift the unit at four points to prevent the unit from falling.

4-3-2. Installation

- Secure the unit with anchor bolts as shown in the figure below so that the unit will not topple over with strong wind or during an earthquake.
- Install the unit on a durable base made of such materials as concrete or angle steel.
- Take appropriate anti-vibration measures (e.g., vibration damper pad, vibration isolation base) to keep vibrations and noise from being transmitted from the unit through walls and floors.
- When using a rubber cushion, install it so that the cushion covers the entire width of the unit leg.
- Install the unit in such a way that the corner of the angle bracket at the base of the unit shown in the figure below is securely supported.
- Install the anchor bolt in such a way that the top end of the anchor bolt do not stick out more than 30 mm [1-3/16 in.].
- This unit is not designed to be anchored with post-installation-type anchor bolts, although by adding fixing brackets anchoring with such type of anchor bolts becomes possible.

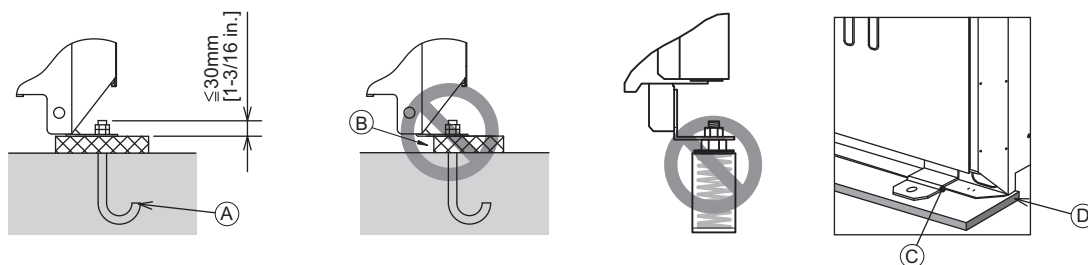
- Ⓐ : M10 anchor bolt procured at the site.
- Ⓑ : Corner is not seated.
- Ⓒ : Fixing bracket for hole-in anchor bolt (3 locations to fix with screws).
- Ⓓ : Anti-vibration rubber
Install it so that the rubber covers the entire width of the unit leg.

⚠ WARNING

Properly install the unit on a surface that can withstand the weight of the unit. Unit installed on an unstable surface may fall and cause injury.

⚠ WARNING

Take appropriate safety measures against strong winds and earthquakes to prevent the unit from falling.

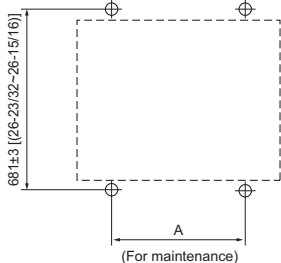


Take into consideration the durability of the base, water drainage route (Drain water is discharged from outdoor units during operation.), piping route, and wiring route when performing foundation work.

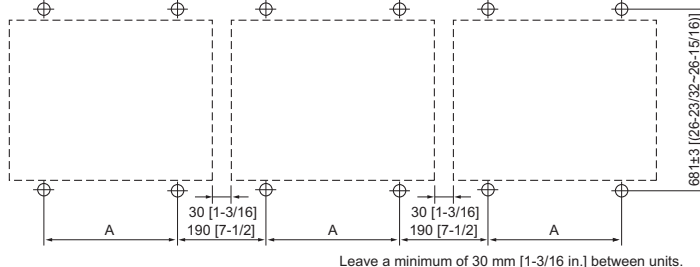
4-3-3. Anchor bolt positions

<P72, 96TKMU/YKMU>

• Individual installation



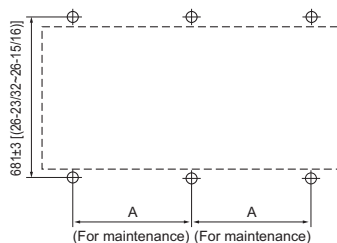
• Collective installation



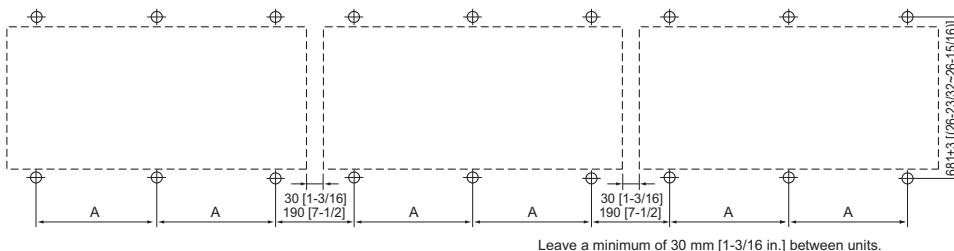
(Unit : mm [in.])

<P120, 144TKMU/YKMU>

• Individual installation



• Collective installation



PURY	P72, 96TKMU/YKMU	P120, 144TKMU/YKMU
A	1060±2 [41-3/4(41-21/32~41-13/16)]	795±2 [31-5/16(31-1/4~31-13/32)]

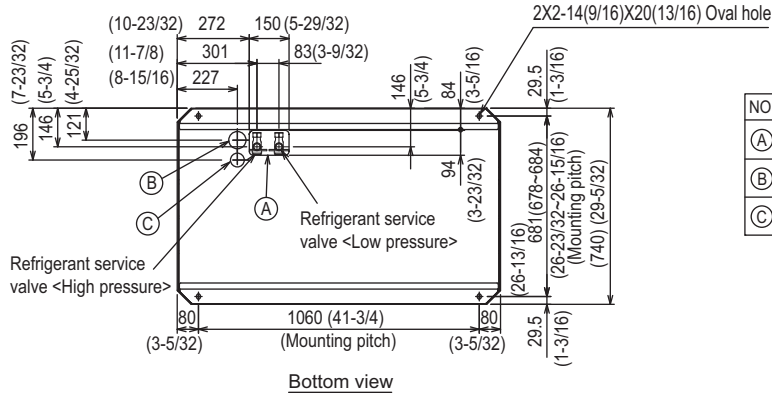
4-3-4. Installation

When the pipes and/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.

When the pipes are routed at the bottom of the unit, the base should be at least 100 mm [3-15/16 in.] in height. For the position of the service valve (High pressure, Low pressure), refer to the external dimensions.

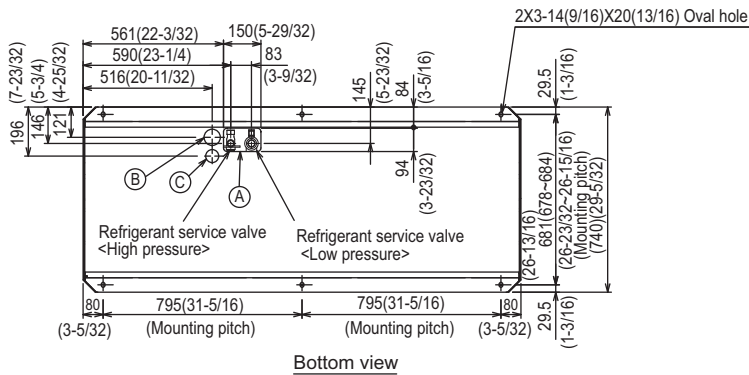
· P72, 96TKMU/YKMU

(Unit : mm [in.])

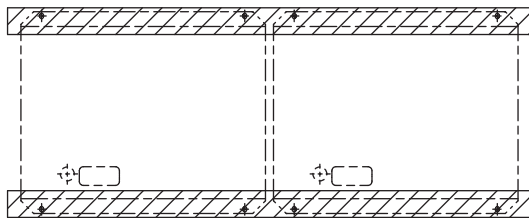


NO.	Usage	Specifications
(A)	For pipes	Bottom through hole 150 × 94 Knockout hole (5-29/32) (3-23/32)
(B)	For wires	Bottom through hole Ø65 Knockout hole (2-9/16)
(C)		Bottom through hole Ø52 Knockout hole (2-1/16)

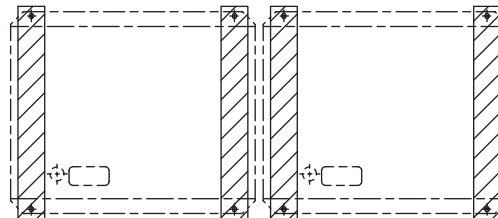
· P120, 144TKMU/YKMU



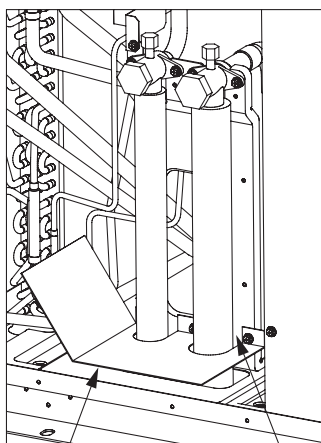
Installation base parallel to the unit's front panel



Installation base perpendicular to the unit's front panel



4-3-5. Refrigerant pipe routing



The gaps around the edges of through holes for pipes and wires on the unit allow water or mice to enter the unit and damage its parts. Close these gaps with filler plates.

This unit allows two types of pipe routing:

- Bottom piping
- Front piping

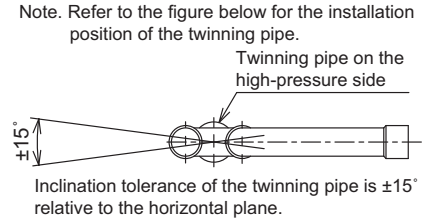
CAUTION

To prevent small animals, water and snow from entering the unit and damage its parts, close the gap around the edges of through holes for pipes and wires with filler plates.

Example of closure materials (field supply) Fill the gap at the site

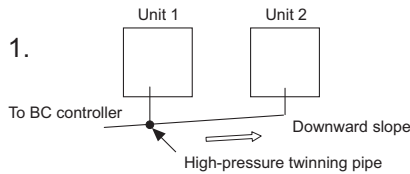
4-3-6. Twinning on the outdoor unit side

- The tilt angle of the twinning pipe
 - The tilt angle of the twinning pipe must be within $\pm 15^\circ$ with the horizontal plane.
 - Tilting the twinning pipe more than specified will cause damage to the unit.
- The length of the straight part of the pipe before the branching (high-pressure side)
 - For the twinning kit, always use the accessory piping parts.
 - The length of the straight part of pipe connected in front of the twinning pipe must be 500 mm [19-11/16 in.] or longer.
 - (Connect the field piping so that the length of the straight part of pipe connected in front of the twinning pipe can be 500 mm [19-11/16 in.] or longer.)
 - If the length is less than 500 mm [19-11/16 in.], it will cause damage to the unit.

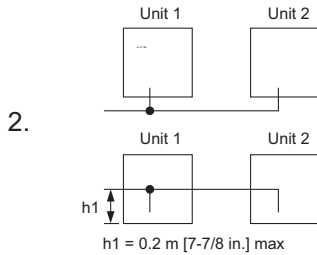
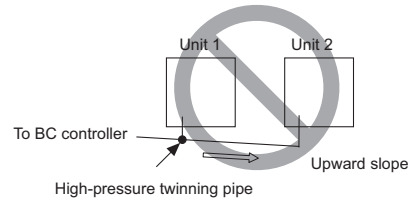


• Precautions for outdoor unit combinations

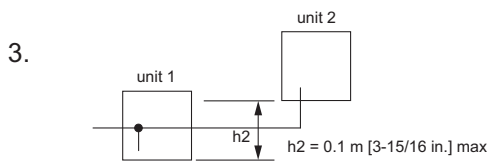
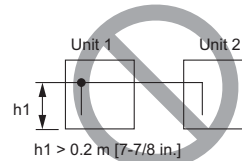
- Install the piping so that oil will not accumulate in the stopped outdoor unit. (high pressure side only)



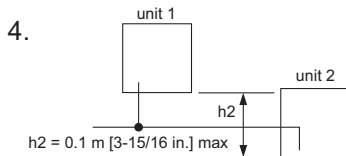
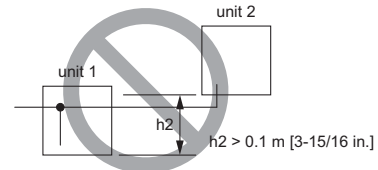
The NG example shows that oil accumulates because the units are installed on a reverse gradient while unit 1 is in operation, and unit 2 is stopped.



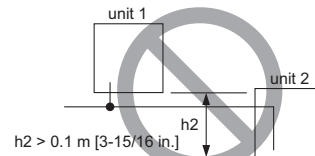
The NG example shows that oil accumulates into unit 1 while unit 2 is in operation, and unit 1 is stopped. Vertical pipe height (h) should be 0.2 m [7-7/8 in.] or below.



The NG example shows that oil accumulates into unit 1 while unit 2 is in operation, and unit 1 is stopped. Vertical pipe height (h) should be 0.1 m [3-15/16 in.] or below.

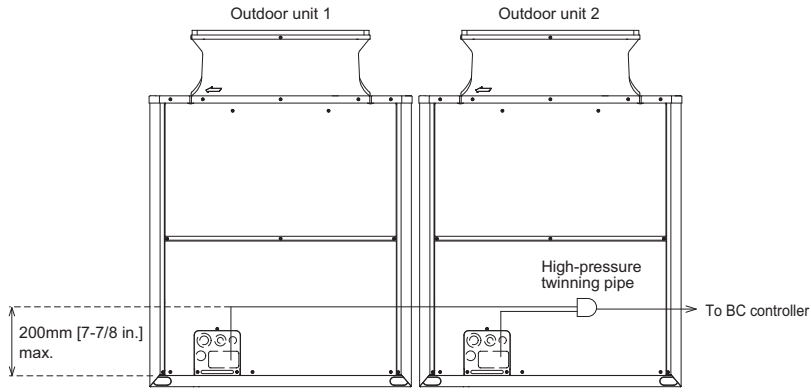


The NG example shows that oil accumulates into unit 2 while unit 1 is in operation, and unit 2 is stopped. Vertical pipe height (h) should be 0.1 m [3-15/16 in.] or below.



⚠ Caution:

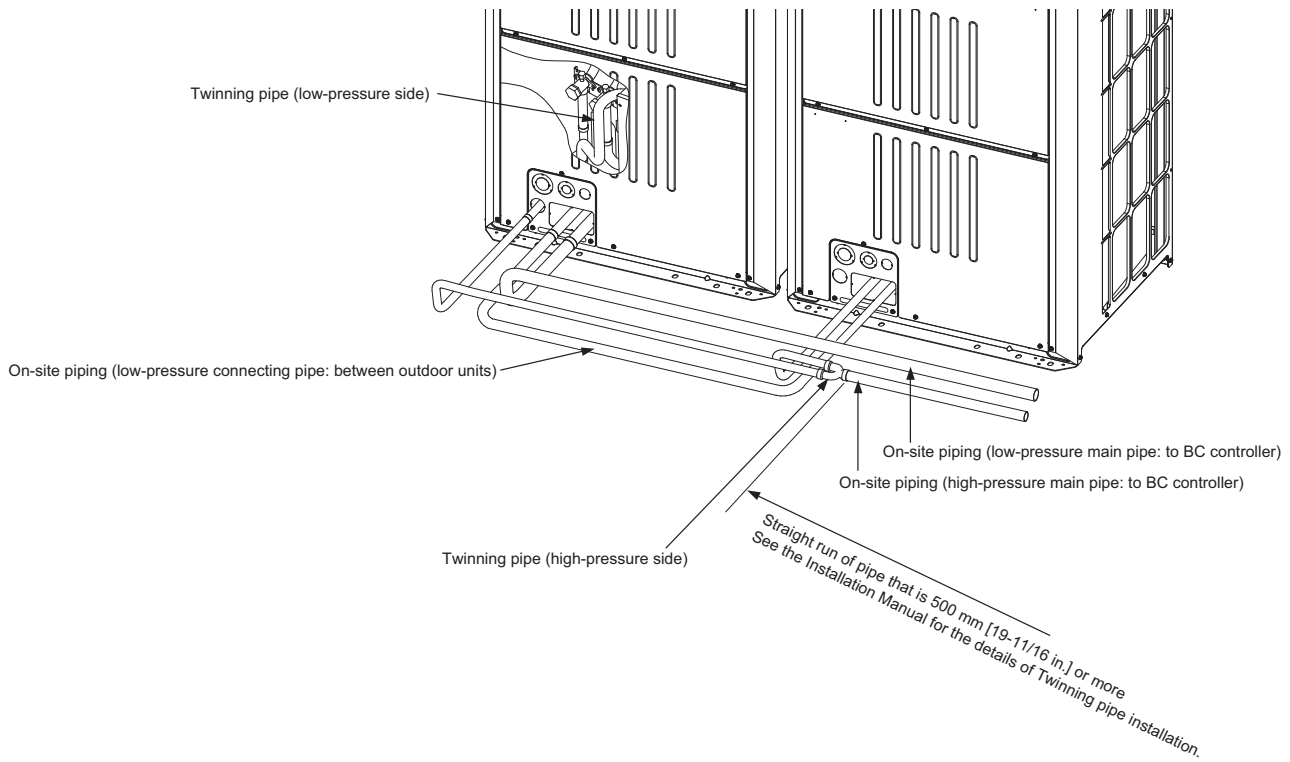
- Do not install traps to prevent oil backflow and compressor start-up failure.
 - Do not install solenoid valves to prevent oil backflow and compressor start-up failure.
 - Do not install a sight glass because it may show improper refrigerant flow.
- If a sight glass is installed, inexperienced technicians that use the glass may overcharge the refrigerant.



4-3-7. Twinning on the outdoor unit side

See the following drawing for connecting the pipes between the outdoor units.

S.D. R2



4-4. Weather countermeasure

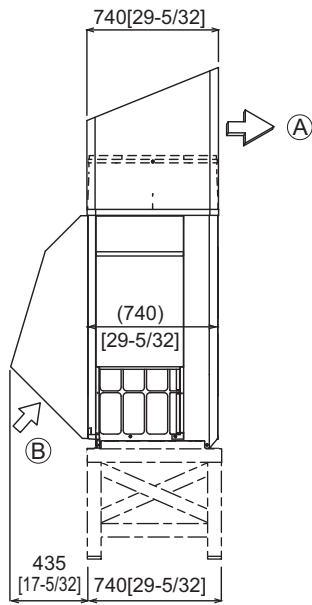
In cold and/or snowy areas, sufficient countermeasures to wind and snow damages should be taken for operating unit in normal and good condition in winter time. Surround the units with snow nets or fences to protect them from snow. Even in the other areas, full consideration is required for installation of unit in order to prevent abnormal operations caused by wind or snow. **When rain and snow directly fall on unit in the case of air-conditioning operations in 10 or less degrees centigrade outdoor air (50 or less degrees fahrenheit outdoor air) , mount inlet and outlet ducts on unit for assuring stable operations.**

Countermeasure to snow and wind

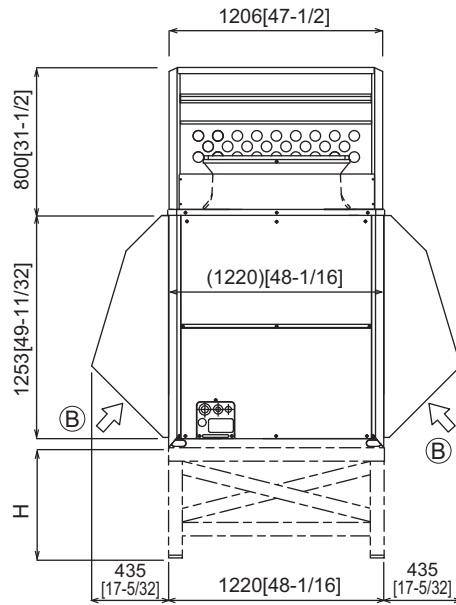
Prevention the Outdoor unit from wind and snow damages in cold or snowy areas, snow hood shown below is recommended and helpful.

*Do not use a snow hood made of stainless steel, which may cause the unit to rust. If the use of a stainless snow hood is the only option, contact the sales office before installing it.

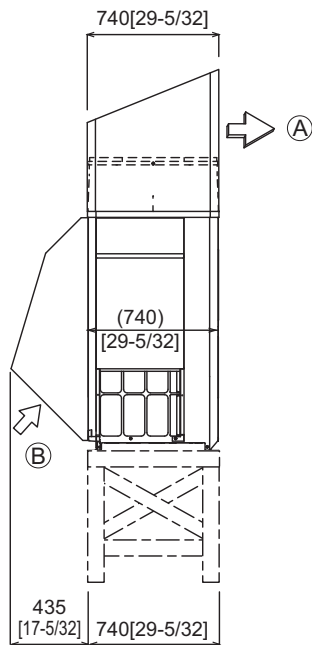
- Snow hood



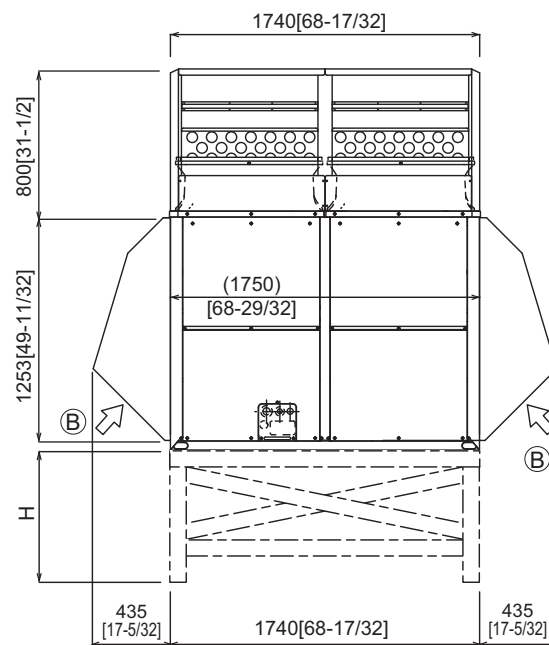
<Side view>



<Front view>



<Side view>



<Front view>

(A) Outlet (B) Inlet

(Unit : mm[in.])

S.D. R2

Note:

1. Height of frame base for snow damage prevention (H) shall be twice as high as expected snowfall. Width of frame base shall not exceed that of the unit. The frame base shall be made of angle steel, etc., and designed so that snow and wind slip through the structure. (If frame base is too wide, snow will be accumulated on it.)
2. Install unit so that wind will not directly lash against openings of inlet and outlet ducts.
3. Build frame base at customer referring to this figure.
 Material : Galvanized steel plate 1.2T [1/16 in. T]
 Painting : Overall painting with polyester powder
 Color : Munsell 5Y8/1 (same as that of unit)
4. To install units side by side, install a filler plate between the fan guard and the outlet-side snow food as shown in Figure A.
 (The filler plate provided accommodates the installation pitch of between 30-80 mm [1-3/16~3-5/32 in.])
5. When the unit is used in a cold region and the heating operation is continuously performed for a long time when the outside air temperature is below freezing, install a heater to the unit base or take other appropriate measures to prevent water from freezing on the base.

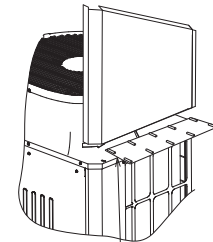
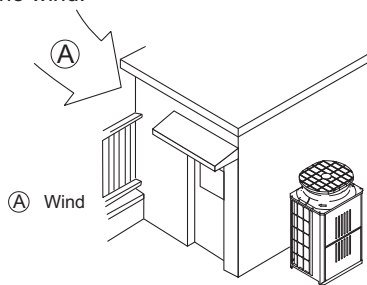


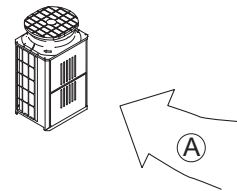
Figure A Filler plate

Countermeasure to wind

Referring to the figure shown below, take appropriate measures which will suit the actual situation of the place for installation. A unit installed alone is vulnerable to strong winds. Select the installation site carefully to minimize the effect of winds. To install a unit in a place where the wind always blows from the same direction, install the unit so that the outlet faces away from the direction of the wind.



Install the outdoor unit where seasonal winds do not blow directly against the unit, such as behind a building.



Install the outdoor unit to avoid having seasonal winds against the front of air outlet/inlet on the unit.



for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

⚠ Warning

- Do not use refrigerant other than the type indicated in the manuals provided with the unit and on the nameplate.
 - Doing so may cause the unit or pipes to burst, or result in explosion or fire during use, repair, or at the time of disposal of the unit.
 - It may also be in violation of applicable laws.
 - MITSUBISHI ELECTRIC CORPORATION cannot be held responsible for malfunctions or accidents resulting from the use of the wrong type of refrigerant.
- Our air conditioning equipment and heat pumps contain a fluorinated greenhouse gas, R410A.

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