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1. SPECIFICATIONS

1-1. PQHY-P72~360T(S)LMU-A Specifications

Model			PQHY-P72TLMU-A	PQHY-P96TLMU-A
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	3-phase 3-wire 208 / 230 ±10% 60Hz
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	72,000	96,000
		kW	21.1	28.1
	Power input	kW	3.23	4.65
	Current input	A	9.9 / 9.0	14.3 / 12.9
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	59~75° F (15~24° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Heating capacity (Nominal) *2 (208/230V)		Btu/h	80,000	108,000
		kW	23.4	31.7
	Power input	kW	3.63	5.05
	Current input	A	11.1 / 10.1	15.5 / 14.0
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	59~81° F (15~27° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	50~130% of heat source unit capacity
	Model / Quantity		P06~P96/1~15	P06~P96/1~20
Sound pressure level (measured in anechoic room)		dB <A>	46	48
Refrigerant piping diameter	High pressure	in.(mm)	3/8 (9.52) Brazed	3/8 (9.52) Brazed (1/2 (12.7) Brazed, total length >= 90 m)
	Low pressure	in.(mm)	3/4 (19.05) Brazed	7/8 (22.2) Brazed
External finish			Galvanized steel sheets	Galvanized steel sheets
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	384 (174)	384 (174)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	4.3	6.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522	1,522
		G/min(gpm)	25.4	25.4
		m^3 / h	5.76	5.76
		L/min	96	96
		cfm	3.4	3.4
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 ~ 1,902	793 ~ 1,902
		G/min(gpm)	13.2 ~ 31.7	13.2 ~ 31.7
		m^3 / h	3.0 ~ 7.2	3.0 ~ 7.2
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	Copper pipe, tube-in-tube structure
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity (MCA)		A	13 / 12	19 / 17
Maximum Overcurrent Protection (MOCP)		A	20 / 20	30 / 25
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC circuit	LEV and HIC circuit
Drawing	External		KJ94T131	KJ94T131
	Wiring		KE94C966	KE94C966
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Details refer to External Drw	Details refer to External Drw
Optional parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2
			Header: CMY-Y104/108/1010C-G	Header: CMY-Y104/108/1010C-G
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 meshes) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P120TLMU-A	PQHY-P144TLMU-A
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	3-phase 3-wire 208 / 230 ±10% 60Hz
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	120,000	144,000
		kW	35.2	42.2
	Power input	kW	7.24	8.78
	Current input	A	22.3 / 20.1	27.0 / 24.4
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	59~75° F (15~24° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Heating capacity (Nominal) *2 (208/230V)		Btu/h	135,000	160,000
		kW	39.6	46.9
	Power input	kW	6.83	8.11
	Current input	A	21.0 / 19.0	25.0 / 22.6
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	59~81° F (15~27° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	50~130% of heat source unit capacity
	Model / Quantity		P06~P96/1~26	P06~P96/1~31
Sound pressure level (measured in anechoic room)		dB <A>	54	54
Refrigerant piping diameter	High pressure	in.(mm)	3/8 (9.52) Brazed (1/2 (12.7) Brazed, total length >= 40 m)	1/2 (12.7) Brazed
	Low pressure	in.(mm)	7/8 (22.2) Brazed	1-1/8 (28.58) Brazed
External finish			Galvanized steel sheets	Galvanized steel sheets
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	384 (174)	481 (218)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	7.7	9.5
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522	1,902
		G/min(gpm)	25.4	31.7
		m^3 / h	5.76	7.2
		L/min	96	120
		cfm	3.4	4.2
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 ~ 1,902	1,189 ~ 3,054
		G/min(gpm)	13.2 ~ 31.7	19.8 ~ 50.9
		m^3 / h	3.0 ~ 7.2	4.5 ~ 11.6
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	Copper pipe, tube-in-tube structure
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity (MCA)		A	29 / 26	35 / 32
Maximum Overcurrent Protection (MOCP)		A	50 / 45	60 / 50
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC circuit	LEV and HIC circuit
Drawing	External		KJ94T131	KJ94T132
	Wiring		KE94C966	KE94C968
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Details refer to External Drw	Details refer to External Drw
Optional parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2
			Header: CMY-Y104/108/1010C-G	Header: CMY-Y104/108/1010C-G
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 meshes) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P168TLMU-A	PQHY-P192TLMU-A
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	3-phase 3-wire 208 / 230 ±10% 60Hz
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	168,000	192,000
		kW	49.2	56.3
	Power input	kW	12.05	15.05
	Current input	A	37.1 / 33.6	46.4 / 41.9
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	59~75° F (15~24° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Heating capacity (Nominal) *2 (208/230V)		Btu/h	188,000	215,000
		kW	55.1	63
	Power input	kW	9.86	11.9
	Current input	A	30.4 / 27.5	36.7 / 33.1
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	59~81° F (15~27° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	50~130% of heat source unit capacity
	Model / Quantity		P06~P96/1~36	P06~P96/1~41
Sound pressure level (measured in anechoic room)		dB <A>	56	58
Refrigerant piping diameter	High pressure	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
	Low pressure	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
External finish			Galvanized steel sheets	Galvanized steel sheets
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	481 (218)	481 (218)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	11.0	12.4
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902	1,902
		G/min(gpm)	31.7	31.7
		m^3 / h	7.2	7.2
		L/min	120	120
		cfm	4.2	4.2
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	1,189 ~ 3,054	1,189 ~ 3,054
		G/min(gpm)	19.8 ~ 50.9	19.8 ~ 50.9
		m^3 / h	4.5 ~ 11.6	4.5 ~ 11.6
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	Copper pipe, tube-in-tube structure
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity (MCA)		A	44 / 39	54 / 49
Maximum Overcurrent Protection (MOCP)		A	70 / 70	90 / 80
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC circuit	LEV and HIC circuit
Drawing	External		KJ94T132	KJ94T132
	Wiring		KE94C968	KE94C968
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Details refer to External Drw	Details refer to External Drw
Optional parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2
			Header: CMY-Y104/108/1010C-G	Header: CMY-Y104/108/1010C-G
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 meshes) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P216TLMU-A	PQHY-P240TLMU-A
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	3-phase 3-wire 208 / 230 ±10% 60Hz
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	216,000	240,000
		kW	63.3	70.3
	Power input	kW	19.23	21.14
	Current input	A	59.3 / 53.6	65.1 / 58.9
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	59~75° F (15~24° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Heating capacity (Nominal) *2 (208/230V)		Btu/h	243,000	270,000
		kW	71.2	79.1
	Power input	kW	13.04	15.12
	Current input	A	40.2 / 36.3	46.6 / 42.1
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	59~81° F (15~27° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	50~130% of heat source unit capacity
	Model / Quantity		P06~P96/2~46	P06~P96/2~50
Sound pressure level (measured in anechoic room)		dB <A>	58	58
Refrigerant piping diameter	High pressure	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
	Low pressure	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
External finish			Galvanized steel sheets	Galvanized steel sheets
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	558 (253)	558 (253)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	2.64	2.64
		l	10	10
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	14.5	16.1
	Case heater	kW	0.045 (240 V)	0.045 (240 V)
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	3,044	3,044
		G/min(gpm)	50.7	50.7
		m^3 / h	11.52	11.52
		L/min	192	192
		cfm	6.8	6.8
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	1,585 ~ 3,804	1,585 ~ 3,804
		G/min(gpm)	26.4 ~ 63.4	26.4 ~ 63.4
		m^3 / h	6.0 ~ 14.4	6.0 ~ 14.4
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	Copper pipe, tube-in-tube structure
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity (MCA)		A	69 / 63	79 / 71
Maximum Overcurrent Protection (MOCP)		A	110 / 110	125 / 125
Refrigerant	Type x original charge		R410A x 25 lbs + 13 oz (11.7 kg)	R410A x 25 lbs + 13 oz (11.7 kg)
	Control		LEV and HIC circuit	LEV and HIC circuit
Drawing	External		KJ94T132	KJ94T132
	Wiring		KE94G037	KE94G037
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Details refer to External Drw	Details refer to External Drw
Optional parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2
			Header: CMY-Y104/108/1010C-G	Header: CMY-Y104/108/1010C-G
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 meshes) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

System			PQHY-P144TSLMU-A	
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	144,000	
		kW	42.2	
	Power input	kW	7.11	
	Current input	A	21.9 / 19.8	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	160,000	
		kW	46.9	
	Power input	kW	7.45	
	Current input	A	22.9 / 20.7	
Temp. range of heating	Indoor	D.B.	59~81°F (15~27°C)	
	Circulating water*3		50~113°F (10~45°C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/1~31	
Sound pressure level (measured in anechoic room)		dB <A>	49	
Refrigerant piping diameter	High pressure	in.(mm)	1/2 (12.7) Brazed	
	Low pressure	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P72TLMU-A**	**PQHY-P72TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	384 (174)	384 (174)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	4.3	4.3
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity (MCA)		A	13 / 12	13 / 12
Maximum Overcurrent Protection (MOCP)		A	20 / 20	20 / 20
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	3/8 (9.52) Brazed	3/8 (9.52) Brazed
	Gas pipe	in.(mm)	3/4 (19.05) Brazed	3/4 (19.05) Brazed
Drawing	External		KJ94T155	
	Wiring		KE94C966	KE94C966
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 meshes) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

System			PQHY-P168TSLMU-A	
Power source			3-phase 3-wire 208-230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	168,000	
		kW	49.2	
	Power input	kW	9.33	
	Current input	A	28.7 / 26.0	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	188,000	
		kW	55.1	
	Power input	kW	9.34	
	Current input	A	28.8 / 26.0	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/1~36	
Sound pressure level (measured in anechoic room)		dB <A>	50	
Refrigerant piping diameter	High pressure	in.(mm)	5/8 (15.88) Brazed	
	Low pressure	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P96TLMU-A**	**PQHY-P72TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	384 (174)	384 (174)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	6.0	4.3
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	19 / 17	13 / 12
Maximum Overcurrent Protection(MOP)		A	30 / 25	20 / 20
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	3/8 (9.52) Brazed	3/8 (9.52) Brazed
	Gas pipe	in.(mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed
Drawing	External		KJ94T155	
	Wiring		KE94C966	KE94C966
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 meshes) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

System			PQHY-P192TSLMU-A	
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	192,000	
		kW	56.3	
	Power input	kW	11.3	
	Current input	A	34.8 / 31.5	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	215,000	
		kW	63	
	Power input	kW	11.02	
	Current input	A	33.9 / 30.7	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/1~41	
Sound pressure level (measured in anechoic room)		dB <A>	51	
Refrigerant piping diameter	High pressure	in.(mm)	5/8 (15.88) Brazed	
	Low pressure	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P96TLMU-A**	**PQHY-P96TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	384 (174)	384 (174)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	6.0	6.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity (MCA)		A	19 / 17	19 / 17
Maximum Overcurrent Protection (MOCP)		A	30 / 25	30 / 25
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	3/8 (9.52) Brazed	3/8 (9.52) Brazed
	Gas pipe	in.(mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed
Drawing	External		KJ94T155	
	Wiring		KE94C966	KE94C966
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. Factory furnished field installed interlocking for the unit operation and water circuit. Install the supplied insulation material to the unused drain-socket. When installing insulation material around both water and refrigerant piping, follow the installation manual. *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

System			PQHY-P216TSLMU-A	
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	216,000	
		kW	63.3	
	Power input	kW	14.03	
	Current input	A	43.2 / 39.1	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	243,000	
		kW	71.2	
	Power input	kW	12.88	
	Current input	A	39.7 / 35.9	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~46	
Sound pressure level (measured in anechoic room)		dB <A>	55	
Refrigerant piping diameter	High pressure	in.(mm)	5/8 (15.88) Brazed	
	Low pressure	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P120TLMU-A**	**PQHY-P96TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	384 (174)	384 (174)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	7.7	6.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity (MCA)		A	29 / 26	19 / 17
Maximum Overcurrent Protection (MOCP)		A	50 / 45	30 / 25
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	1/2 (12.7) Brazed	1/2 (12.7) Brazed
	Gas pipe	in.(mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed
Drawing	External		KJ94T155	
	Wiring		KE94C966	KE94C966
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

System			PQHY-P240TSLMU-A	
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	240,000	
		kW	70.3	
	Power input	kW	16.89	
	Current input	A	52.0 / 47.1	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	270,000	
		kW	79.1	
	Power input	kW	14.58	
	Current input	A	44.9 / 40.6	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	57	
Refrigerant piping diameter	High pressure	in.(mm)	5/8 (15.88) Brazed	
	Low pressure	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P120TLMU-A**	**PQHY-P120TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	384 (174)	384 (174)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	7.7	7.7
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	29 / 26	29 / 26
Maximum Overcurrent Protection(MOP)		A	50 / 45	50 / 45
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	1/2 (12.7) Brazed	1/2 (12.7) Brazed
	Gas pipe	in.(mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed
Drawing	External		KJ94T155	
	Wiring		KE94C966	KE94C966
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P288TSLMU-A	
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	288,000	
		kW	84.4	
	Power input	kW	20.42	
	Current input	A	62.9 / 56.9	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	323,000	
		kW	94.7	
	Power input	kW	17.5	
	Current input	A	53.9 / 48.8	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	57	
Refrigerant piping diameter	High pressure	in.(mm)	3/4 (19.05) Brazed	
	Low pressure	in.(mm)	1-3/8 (34.93) Brazed	
Module Set				
Module			**PQHY-P144TLMU-A**	**PQHY-P144TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	481 (218)	481 (218)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	9.5	9.5
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902 + 1,902	
		G/min(gpm)	31.7 + 31.7	
		m^3 / h	7.20 + 7.20	
		L/min	120 + 120	
		cfm	4.2 + 4.2	
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 + 1,189 ~ 3,054 + 3,054	
		G/min(gpm)	19.8 + 19.8 ~ 50.9 + 50.9	
		m^3 / h	4.5 + 4.5 ~ 11.6 + 11.6	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	35 / 32	35 / 32
Maximum Overcurrent Protection(MOP)		A	60 / 50	60 / 50
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control			LEV and HIC Circuit
Pipe between unit and distributor	Liquid pipe	in.(mm)	1/2 (12.7) Brazed	1/2 (12.7) Brazed
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
Drawing	External		KJ94T157	
	Wiring		KE94C968	KE94C968
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y200CBK2	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P312TSLMU-A	
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	312,000	
		kW	91.4	
	Power input	kW	23.41	
	Current input	A	72.1 / 65.2	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	350,000	
		kW	102.6	
	Power input	kW	19.11	
	Current input	A	58.9 / 53.3	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	58	
Refrigerant piping diameter	High pressure	in.(mm)	3/4 (19.05) Brazed	
	Low pressure	in.(mm)	1-3/8 (34.93) Brazed	
Module Set				
Module			**PQHY-P168TLMU-A**	**PQHY-P144TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	481 (218)	481 (218)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	11.0	9.5
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902 + 1,902	
		G/min(gpm)	31.7 + 31.7	
		m^3 / h	7.20 + 7.20	
		L/min	120 + 120	
		cfm	4.2 + 4.2	
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 + 1,189 ~ 3,054 + 3,054	
		G/min(gpm)	19.8 + 19.8 ~ 50.9 + 50.9	
		m^3 / h	4.5 + 4.5 ~ 11.6 + 11.6	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity (MCA)		A	44 / 39	35 / 32
Maximum Overcurrent Protection (MOCP)		A	70 / 70	60 / 50
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
Drawing	External		KJ94T157	
	Wiring		KE94C968	KE94C968
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y200CBK2	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4).. *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P336TSLMU-A	
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	336,000	
		kW	98.5	
	Power input	kW	26.84	
	Current input	A	82.7 / 74.8	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	378,000	
		kW	110.8	
	Power input	kW	20.77	
	Current input	A	64.0 / 57.9	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	59	
Refrigerant piping diameter	High pressure	in.(mm)	3/4 (19.05) Brazed	
	Low pressure	in.(mm)	1-5/8 (41.28) Brazed	
Module Set				
Module			**PQHY-P168TLMU-A**	**PQHY-P168TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	1,100 x 880 x 550	1,100 x 880 x 550
		mm	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
Net weight		lbs(kg)	481 (218)	481 (218)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	11.0	11.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902 + 1,902	
		G/min(gpm)	31.7 + 31.7	
		m^3 / h	7.20 + 7.20	
		L/min	120 + 120	
		cfm	4.2 + 4.2	
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 + 1,189 ~ 3,054 + 3,054	
		G/min(gpm)	19.8 + 19.8 ~ 50.9 + 50.9	
		m^3 / h	4.5 + 4.5 ~ 11.6 + 11.6	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	44 / 39	44 / 39
Maximum Overcurrent Protection(MOP)		A	70 / 70	70 / 70
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
Drawing	External		KJ94T157	
	Wiring		KE94C968	KE94C968
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y200CBK2	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P360TSLMU-A	
Power source			3-phase 3-wire 208 / 230 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	360,000	
		kW	105.5	
	Power input	kW	29.43	
	Current input	A	90.7 / 82.0	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	405,000	
		kW	118.7	
	Power input	kW	22.85	
	Current input	A	70.4 / 63.7	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)			60	
Refrigerant piping diameter	Liquid pipe	in.(mm)	3/4 (19.05) Brazed	
	Gas pipe	in.(mm)	1-5/8 (41.28) Brazed	
Module Set				
Module			**PQHY-P192TLMU-A**	**PQHY-P168TLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight	lbs(kg)		481 (218)	481 (218)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	12.4	11.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902 + 1,902	
		G/min(gpm)	31.7 + 31.7	
		m^3 / h	7.20 + 7.20	
		L/min	120 + 120	
		cfm	4.2 + 4.2	
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 + 1,189 ~ 3,054 + 3,054	
		G/min(gpm)	19.8 + 19.8 ~ 50.9 + 50.9	
		m^3 / h	4.5 + 4.5 ~ 11.6 + 11.6	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	54 / 49	44 / 39
Maximum Overcurrent Protection(MOP)		A	90 / 80	70 / 70
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
Drawing	External		KJ94T157	
	Wiring		KE94C968	KE94C968
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y200CBK2	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1-2. PQHY-P72~360Y(S)LMU-A Specifications

Model			PQHY-P72YLMU-A	PQHY-P96YLMU-A
Power source			3-phase 3-wire 460 ±10% 60Hz	3-phase 3-wire 460 ±10% 60Hz
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	72,000	96,000
		kW	21.1	28.1
	Power input	kW	3.23	4.65
	Current input	A	4.5	6.4
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	59~75° F (15~24° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Heating capacity (Nominal) *2 (208/230V)		Btu/h	80,000	108,000
		kW	23.4	31.7
	Power input	kW	3.63	5.05
	Current input	A	5	7
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	59~81° F (15~27° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	50~130% of heat source unit capacity
	Model / Quantity		P06~P96/1~15	P06~P96/1~20
Sound pressure level (measured in anechoic room)		dB <A>	46	48
Refrigerant piping diameter	Liquid pipe	in.(mm)	3/8 (9.52) Brazed	3/8 (9.52) Brazed (1/2 (12.7) Brazed, total length >= 90 m)
	Gas pipe	in.(mm)	3/4 (19.05) Brazed	7/8 (22.2) Brazed
External finish			Galvanized steel sheets	Galvanized steel sheets
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	408 (185)	408 (185)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	4.3	6.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522	1,522
		G/min(gpm)	25.4	25.4
		m^3 / h	5.76	5.76
		L/min	96	96
		cfm	3.4	3.4
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 ~ 1,902	793 ~ 1,902
		G/min(gpm)	13.2 ~ 31.7	13.2 ~ 31.7
		m^3 / h	3.0 ~ 7.2	3.0 ~ 7.2
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	Copper pipe, tube-in-tube structure
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)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Minimum Circuit Ampacity(MCA)		A	7	10
Maximum Overcurrent Protection(MOP)		A	15	15
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC circuit	LEV and HIC circuit
Drawing	External		KJ94T133	KJ94T133
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Details refer to External Drw	Details refer to External Drw
Optional parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2
			Header: CMY-Y104/108/1010C-G	Header: CMY-Y104/108/1010C-G
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P120YLMU-A	PQHY-P144YLMU-A
Power source			3-phase 3-wire 460 ±10% 60Hz	3-phase 3-wire 460 ±10% 60Hz
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	120,000	144,000
		kW	35.2	42.2
	Power input	kW	7.24	8.78
	Current input	A	10	12.2
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	59~75° F (15~24° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Heating capacity (Nominal) *2 (208/230V)		Btu/h	135,000	160,000
		kW	39.6	46.9
	Power input	kW	6.83	8.11
	Current input	A	9.5	11.3
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	59~81° F (15~27° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	50~130% of heat source unit capacity
	Model / Quantity		P06~P96/1~26	P06~P96/1~31
Sound pressure level (measured in anechoic room)		dB <A>	54	54
Refrigerant piping	Liquid pipe	in.(mm)	3/8 (9.52) Brazed (1/2 (12.7) Brazed, total length >= 40 m)	1/2 (12.7) Brazed
diameter	Gas pipe	in.(mm)	7/8 (22.2) Brazed	1-1/8 (28.58) Brazed
External finish			Galvanized steel sheets	Galvanized steel sheets
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	408 (185)	508 (230)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	7.7	9.5
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522	1,902
		G/min(gpm)	25.4	31.7
		m^3 / h	5.76	7.2
		L/min	96	120
		cfm	3.4	4.2
	Pressure drop	psi	3.48	6.38
		kPa	24	44
	Operating volume range	G/h	793 ~ 1,902	1,189 ~ 3,054
		G/min(gpm)	13.2 ~ 31.7	19.8 ~ 50.9
		m^3 / h	3.0 ~ 7.2	4.5 ~ 11.6
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	Copper pipe, tube-in-tube structure
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)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Minimum Circuit Ampacity(MCA)		A	13	13
Maximum Overcurrent Protection(MOP)		A	20	20
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC circuit	LEV and HIC circuit
Drawing	External		KJ94T133	KJ94T134
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Details refer to External Drw	Details refer to External Drw
Optional parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2
			Header: CMY-Y104/108/1010C-G	Header: CMY-Y104/108/1010C-G
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P168YLMU-A	PQHY-P192YLMU-A
Power source			3-phase 3-wire 460 ±10% 60Hz	3-phase 3-wire 460 ±10% 60Hz
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	168,000	192,000
		kW	49.2	56.3
	Power input	kW	12.05	15.05
	Current input	A	16.8	20.9
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24° C)	59~75°F (15~24° C)
	Circulating water*3		50~113°F (10~45° C)	50~113°F (10~45° C)
Heating capacity (Nominal) *2 (208/230V)		Btu/h	188,000	215,000
		kW	55.1	63
	Power input	kW	9.86	11.9
	Current input	A	13.7	16.5
Temp. range of heating	Indoor	D.B.	59~81°F (15~27° C)	59~81°F (15~27° C)
	Circulating water*3		50~113°F (10~45° C)	50~113°F (10~45° C)
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	50~130% of heat source unit capacity
	Model / Quantity		P06~P96/1~36	P06~P96/1~41
Sound pressure level (measured in anechoic room)		dB <A>	56	58
Refrigerant piping	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
diameter	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
External finish			Galvanized steel sheets	Galvanized steel sheets
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	508 (230)	508 (230)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	11.0	12.4
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902	1,902
		G/min(gpm)	31.7	31.7
		m^3 / h	7.2	7.2
		L/min	120	120
		cfm	4.2	4.2
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 ~ 3,054	1,189 ~ 3,054
		G/min(gpm)	19.8 ~ 50.9	19.8 ~ 50.9
		m^3 / h	4.5 ~ 11.6	4.5 ~ 11.6
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	Copper pipe, tube-in-tube structure
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)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Minimum Circuit Ampacity(MCA)		A	20	25
Maximum Overcurrent Protection(MOP)		A	35	40
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC circuit	LEV and HIC circuit
Drawing	External		KJ94T134	KJ94T134
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Details refer to External Drw	Details refer to External Drw
Optional parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2
			Header: CMY-Y104/108/1010C-G	Header: CMY-Y104/108/1010C-G
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P216YLMU-A	PQHY-P240YLMU-A
Power source			3-phase 3-wire 460 ±10% 60Hz	3-phase 3-wire 460 ±10% 60Hz
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	216,000	240,000
		kW	63.3	70.3
	Power input	kW	19.23	21.14
	Current input	A	26.8	29.4
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	59~75° F (15~24° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Heating capacity (Nominal) *2 (208/230V)		Btu/h	243,000	270,000
		kW	71.2	79.1
	Power input	kW	13.04	15.12
	Current input	A	18.1	21
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	59~81° F (15~27° C)
	Circulating water*3		50~113° F (10~45° C)	50~113° F (10~45° C)
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	50~130% of heat source unit capacity
	Model / Quantity		P06~P96/2~46	P06~P96/2~50
Sound pressure level (measured in anechoic room)		dB <A>	58	58
Refrigerant piping	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
diameter	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
External finish			Galvanized steel sheets	Galvanized steel sheets
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	574 (260)	574 (260)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	2.64	2.64
		l	10	10
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	14.5	16.1
	Case heater	kW	0.045 (240 V)	0.045 (240 V)
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	3,044	3,044
		G/min(gpm)	50.7	50.7
		m^3 / h	11.52	11.52
		L/min	192	192
		cfm	6.8	6.8
	Pressure drop	psi	6.53	6.53
		kPa	45	45
	Operating volume range	G/h	1,585 ~ 3,804	1,585 ~ 3,804
		G/min(gpm)	26.4 ~ 63.4	26.4 ~ 63.4
		m^3 / h	6.0 ~ 14.4	6.0 ~ 14.4
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	Copper pipe, tube-in-tube structure
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)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Minimum Circuit Ampacity(MCA)		A	13	13
Maximum Overcurrent Protection(MOP)		A	20	20
Refrigerant	Type x original charge		R410A x 25 lbs + 13 oz (11.7 kg)	R410A x 25 lbs + 13 oz (11.7 kg)
	Control		LEV and HIC circuit	LEV and HIC circuit
Drawing	External		KJ94T134	KJ94T134
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	Installation Manual
	Accessory		Details refer to External Drw	Details refer to External Drw
Optional parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2
			Header: CMY-Y104/108/1010C-G	Header: CMY-Y104/108/1010C-G
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P144YSLMU-A	
Power source			3-phase 3-wire 460 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	144,000	
		kW	42.2	
	Power input	kW	7.11	
	Current input	A	9.9	
Temp. range of cooling	Indoor	W.B.	59~75°F (15~24° C)	
	Circulating water*3		50~113°F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	160,000	
		kW	46.9	
	Power input	kW	7.89	
	Current input	A	11.0	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/1~31	
Sound pressure level (measured in anechoic room)		dB <A>	49	
Refrigerant piping diameter	Liquid pipe	in.(mm)	1/2 (12.7) Brazed	
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P72YLMU-A**	**PQHY-P72YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	408 (185)	408 (185)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	4.3	4.3
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	6	6
Maximum Overcurrent Protection(MOP)		A	15	15
Refrigerant	Type x original charge		R410A x (11 lbs + 1 oz) (5 kg)	R410A x (11 lbs + 1 oz) (5 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	3/8 (9.52) Brazed	3/8 (9.52) Brazed
	Gas pipe	in.(mm)	3/4 (19.05) Brazed	3/4 (19.05) Brazed
Drawing	External		KJ94T158	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P168YSLMU-A	
Power source			3-phase 3-wire 460±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	168,000	
		kW	49.2	
	Power input	kW	9.33	
	Current input	A	13	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	188,000	
		kW	55.1	
	Power input	kW	9.34	
	Current input	A	13	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/1~36	
Sound pressure level (measured in anechoic room)		dB <A>	50	
Refrigerant piping diameter	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P96YLMU-A**	**PQHY-P72YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	408 (185)	408 (185)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	6.0	4.3
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	9	6
Maximum Overcurrent Protection(MOP)		A	15	15
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	3/8 (9.52) Brazed	3/8 (9.52) Brazed
	Gas pipe	in.(mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed
Drawing	External		KJ94T158	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P192YSLMU-A	
Power source			3-phase 3-wire 460 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	192,000	
		kW	56.3	
	Power input	kW	11.3	
	Current input	A	15.7	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	215,000	
		kW	63	
	Power input	kW	11.02	
	Current input	A	15.3	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/1~41	
Sound pressure level (measured in anechoic room)		dB <A>	51	
Refrigerant piping diameter	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P96YLMU-A**	**PQHY-P96YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	408 (185)	408 (185)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	6.0	6.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	17	17
		kPa	2.47	2.47
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	9	9
Maximum Overcurrent Protection(MOP)		A	15	15
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	3/8 (9.52) Brazed	3/8 (9.52) Brazed
	Gas pipe	in.(mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed
Drawing	External		KJ94T158	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P216YSLMU-A	
Power source			3-phase 3-wire 460 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	216,000	
		kW	63.3	
	Power input	kW	14.03	
	Current input	A	19.5	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	243,000	
		kW	71.2	
	Power input	kW	12.88	
	Current input	A	17.9	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~46	
Sound pressure level (measured in anechoic room)		dB <A>	55	
Refrigerant piping	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	
diameter	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P120YLMU-A**	**PQHY-P96YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	408 (185)	408 (185)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	7.7	6.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	13	10
Maximum Overcurrent Protection(MOP)		A	20	15
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	1/2 (12.7) Brazed	1/2 (12.7) Brazed
	Gas pipe	in.(mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed
Drawing	External		KJ94T158	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P240YSLMU-A	
Power source			3-phase 3-wire 460 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	240,000	
		kW	70.3	
	Power input	kW	16.89	
	Current input	A	23.5	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	270,000	
		kW	79.1	
	Power input	kW	14.58	
	Current input	A	20.3	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	57	
Refrigerant piping diameter	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	
Module Set				
Module			**PQHY-P120YLMU-A**	**PQHY-P120YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
		mm	1,100 x 880 x 550	1,100 x 880 x 550
Net weight		lbs(kg)	408 (185)	408 (185)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	7.7	7.7
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,522 + 1,522	
		G/min(gpm)	25.4 + 25.4	
		m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	psi	3.48	3.48
		kPa	24	24
	Operating volume range	G/h	793 + 793 ~ 1,902 + 1,902	
		G/min(gpm)	13.2 + 13.2 ~ 31.7 + 31.7	
		m^3 / h	3.0 + 3.0 ~ 7.2 + 7.2	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	13	13
Maximum Overcurrent Protection(MOP)		A	20	20
Refrigerant	Type x original charge		R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	1/2 (12.7) Brazed	1/2 (12.7) Brazed
	Gas pipe	in.(mm)	7/8 (22.2) Brazed	7/8 (22.2) Brazed
Drawing	External		KJ94T158	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y100CBK3	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P288YSLMU-A	
Power source			3-phase 3-wire 460 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	288,000	
		kW	84.4	
	Power input	kW	20.42	
	Current input	A	28.4	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	323,000	
		kW	94.7	
	Power input	kW	17.5	
	Current input	A	24.4	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	57	
Refrigerant piping diameter	Liquid pipe	in.(mm)	3/4 (19.05) Brazed	
	Gas pipe	in.(mm)	1-3/8 (34.93) Brazed	
Module Set				
Module			**PQHY-P144YLMU-A**	**PQHY-P144YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	508 (230)	508 (230)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	9.5	9.5
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902 + 1,902	
		G/min(gpm)	31.7 + 31.7	
		m^3 / h	7.20 + 7.20	
		L/min	120 + 120	
		cfm	4.2 + 4.2	
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 + 1,189 ~ 3,054 + 3,054	
		G/min(gpm)	19.8 + 19.8 ~ 50.9 + 50.9	
		m^3 / h	4.5 + 4.5 ~ 11.6 + 11.6	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	16	16
Maximum Overcurrent Protection(MOP)		A	25	25
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	1/2 (12.7) Brazed	1/2 (12.7) Brazed
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
Drawing	External		KJ94T160	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y200CBK2	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P312YSLMU-A	
Power source			3-phase 3-wire 460 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	312,000	
		kW	91.4	
	Power input	kW	23.41	
	Current input	A	32.6	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	350,000	
		kW	102.6	
	Power input	kW	19.11	
	Current input	A	26.6	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	58	
Refrigerant piping diameter	Liquid pipe	in.(mm)	3/4 (19.05) Brazed	
	Gas pipe	in.(mm)	1-3/8 (34.93) Brazed	
Module Set				
Module			**PQHY-P168YLMU-A**	**PQHY-P144YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	508 (230)	508 (230)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	11.0	9.5
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902 + 1,902	
		G/min(gpm)	31.7 + 31.7	
		m^3 / h	7.20 + 7.20	
		L/min	120 + 120	
		cfm	4.2 + 4.2	
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 + 1,189 ~ 3,054 + 3,054	
		G/min(gpm)	19.8 + 19.8 ~ 50.9 + 50.9	
		m^3 / h	4.5 + 4.5 ~ 11.6 + 11.6	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	20	16
Maximum Overcurrent Protection(MOP)		A	35	25
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
Drawing	External		KJ94T160	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y200CBK2	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P336YSLMU-A	
Power source			3-phase 3-wire 460 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	336,000	
		kW	98.5	
	Power input	kW	26.84	
	Current input	A	37.4	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		50~113° F (10~45° C)	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	378,000	
		kW	110.8	
	Power input	kW	20.77	
	Current input	A	28.9	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heat source unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	59	
Refrigerant piping diameter	Liquid pipe	in.(mm)	3/4 (19.05) Brazed	
	Gas pipe	in.(mm)	1-5/8 (41.28) Brazed	
Module Set				
Module			**PQHY-P168YLMU-A**	**PQHY-P168YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	508 (230)	508 (230)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	11.0	11.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902 + 1,902	
		G/min(gpm)	31.7 + 31.7	
		m^3 / h	7.20 + 7.20	
		L/min	120 + 120	
		cfm	4.2 + 4.2	
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 + 1,189 ~ 3,054 + 3,054	
		G/min(gpm)	19.8 + 19.8 ~ 50.9 + 50.9	
		m^3 / h	4.5 + 4.5 ~ 11.6 + 11.6	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	20	20
Maximum Overcurrent Protection(MOP)		A	35	35
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
Drawing	External		KJ94T160	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y200CBK2	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4). *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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1. SPECIFICATIONS

Model			PQHY-P360YSLMU-A	
Power source			3-phase 3-wire 460 ±10% 60Hz	
Cooling capacity (Nominal) *1 (208/230V)		Btu/h	360,000	
		kW	105.5	
	Power input	kW	29.43	
	Current input	A	41	
Temp. range of cooling	Indoor	W.B.	59~75° F (15~24° C)	
	Circulating water*3		23~113° F (-5~45° C) *3	
Heating capacity (Nominal) *2 (208/230V)		Btu/h	405,000	
		kW	118.7	
	Power input	kW	22.85	
	Current input	A	31.8	
Temp. range of heating	Indoor	D.B.	59~81° F (15~27° C)	
	Circulating water*3		50~113° F (10~45° C)	
Indoor unit connectable	Total capacity		50~130% of heatsource unit capacity	
	Model / Quantity		P06~P96/2~50	
Sound pressure level (measured in anechoic room)		dB <A>	60	
Refrigerant piping diameter	Liquid pipe	in.(mm)	3/4 (19.05) Brazed	
	Gas pipe	in.(mm)	1-5/8 (41.28) Brazed	
Module Set				
Module			**PQHY-P192YLMU-A**	**PQHY-P168YLMU-A**
External finish			Galvanized steel sheets	
External dimension HxWxD		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
		mm	1,450 x 880 x 550	1,450 x 880 x 550
Net weight		lbs(kg)	508 (230)	508 (230)
Heat exchanger	Type		Plate	Plate
	Water volume in plate	G	1.32	1.32
		l	5	5
	Water pressure Max.	psi	290	290
		MPa	2	2
Compressor	Type		Inverter scroll hermetic compressor	
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	
	Starting method		Inverter	Inverter
	Motor output	kW	12.4	11.0
	Lubricant		MEL32	MEL32
Circulating water*3	Water flow rate	G/h	1,902 + 1,902	
		G/min(gpm)	31.7 + 31.7	
		m^3 / h	7.20 + 7.20	
		L/min	120 + 120	
		cfm	4.2 + 4.2	
	Pressure drop	psi	6.38	6.38
		kPa	44	44
	Operating volume range	G/h	1,189 + 1,189 ~ 3,054 + 3,054	
		G/min(gpm)	19.8 + 19.8 ~ 50.9 + 50.9	
		m^3 / h	4.5 + 4.5 ~ 11.6 + 11.6	
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe, tube-in-tube structure	
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit(comp)		Over-heat protection, Over-current protection	
	Compressor		Over-heat protection	
Minimum Circuit Ampacity(MCA)		A	25	20
Maximum Overcurrent Protection(MOP)		A	40	35
Refrigerant	Type x original charge		R410A x 13 lbs + 4 oz (6.0 kg)	R410A x 13 lbs + 4 oz (6.0 kg)
	Control		LEV and HIC Circuit	
Pipe between unit and distributor	Liquid pipe	in.(mm)	5/8 (15.88) Brazed	5/8 (15.88) Brazed
	Gas pipe	in.(mm)	1-1/8 (28.58) Brazed	1-1/8 (28.58) Brazed
Drawing	External		KJ94T160	
	Wiring		KE94C952	KE94C952
Standard attachment	Document		Installation Manual	
	Accessory		Details refer to External Drw	
Optional parts			Heat Source Twinning kit: CMY-Y200CBK2	
			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2, CMY-Y302S-G2	
			Header: CMY-Y104/108/1010C-G	
Remarks			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual. The ambient temperature of the Heat Source Unit needs to be kept below 104° F DB(40° C DB). The ambient relative humidity of the Heat Source Unit needs to be kept below 80%. The Heat Source Unit should not be installed at outdoor. Mount a strainer (more than 50 mesh) at the water inlet piping of the unit. A field provided flow switch is required for minimum flow protection on each module, field installed and wired to TB8 (terminal 3-4).. *3 If using Circulating water temperatures that are between 23 and 50° F, Dip switch 3-9 must be turned on and glycol must be used in the water loop to prevent freezing down to 5° F.	

Note:	*1 Nominal cooling conditions (subject to JIS B8615-1)	*2 Nominal heating conditions (subject to JIS B8615-1)	Unit converter
Indoor:	81degF D.B./ 66degF W.B. (27degC D.B./ 19degC W.B.)	68degF D.B. (20degC D.B.)	BTU/h =kW x 3,412
Water Temp.:	86degF (30degC)	68degF (20degC)	cfm =m^3/min x 35.31
			lb =kg / 0.4536
Pipe length:	24-9/16ft.(7.5m)	25ft.(7.6m)	* Above specification data is subject to rounding variation.
Level difference:	0ft.(0m)	0ft.(0m)	
* Due to continuing improvement, above specifications may be subject to change without notice.			

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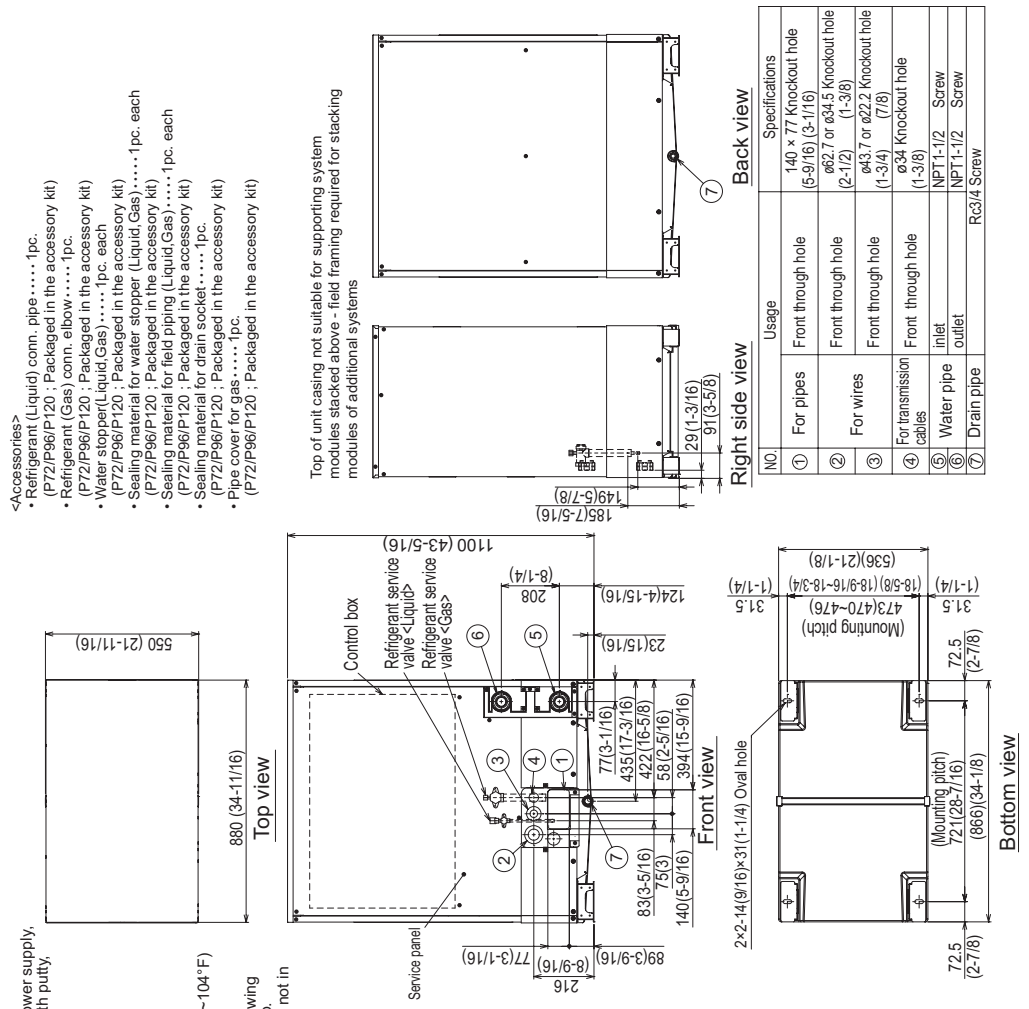
1-3. Efficiency Ratings

Model	IDU Type	EER (95° F) *1	IEER *1	HI COP (68° F) *1
PQHY-P72TLMU-A	Ducted / Non-Ducted	17.4 / 20.7	24.2 / 28.1	5.62 / 6.15
PQHY-P96TLMU-A	Ducted / Non-Ducted	15.3 / 19.4	25.0 / 30.4	5.80 / 6.02
PQHY-P120TLMU-A	Ducted / Non-Ducted	13.5 / 15.9	23.2 / 29.0	5.55 / 5.66
PQHY-P144TLMU-A	Ducted / Non-Ducted	12.1 / 15.6	19.5 / 23.1	4.92 / 5.56
PQHY-P144TSLMU-A	Ducted / Non-Ducted	15.2 / 19	22.5 / 26.1	5.32 / 6.01
PQHY-P168TLMU-A	Ducted / Non-Ducted	12.0 / 13.6	18.0 / 21.8	4.76 / 5.43
PQHY-P168TSLMU-A	Ducted / Non-Ducted	15.0 / 17.3	23.6 / 25.8	5.61 / 5.72
PQHY-P192TLMU-A	Ducted / Non-Ducted	11.5 / 12.5	18.4 / 21.7	4.62 / 5.19
PQHY-P192TSLMU-A	Ducted / Non-Ducted	14.5 / 16.4	24.4 / 26.4	5.80 / 5.57
PQHY-P216TLMU-A	Ducted / Non-Ducted	11.3 / 10.9	19.0 / 21.2	4.77 / 5.26
PQHY-P216TSLMU-A	Ducted / Non-Ducted	13.6 / 15.0	23.5 / 25.9	5.68 / 5.43
PQHY-P240TLMU-A	Ducted / Non-Ducted	10.8 / 11.0	18.8 / 21.2	4.54 / 5.08
PQHY-P240TSLMU-A	Ducted / Non-Ducted	12.5 / 13.9	22.4 / 25.7	5.49 / 5.35
PQHY-P288TSLMU-A	Ducted / Non-Ducted	11.4 / 13.8	18.5 / 20.6	4.92 / 5.27
PQHY-P312TSLMU-A	Ducted / Non-Ducted	11.2 / 13.0	17.6 / 20.4	4.8 / 5.26
PQHY-P336TSLMU-A	Ducted / Non-Ducted	11.1 / 12.3	16.8 / 20.1	4.67 / 5.25
PQHY-P360TSLMU-A	Ducted / Non-Ducted	11.2 / 12.1	17.5 / 20.3	4.64 / 5.14
PQHY-P72YLMU-A	Ducted / Non-Ducted	17.4 / 20.7	24.2 / 28.1	5.62 / 6.15
PQHY-P96YLMU-A	Ducted / Non-Ducted	15.3 / 19.4	25.0 / 30.4	5.80 / 6.02
PQHY-P120YLMU-A	Ducted / Non-Ducted	13.5 / 15.9	23.2 / 29.0	5.55 / 5.66
PQHY-P144YLMU-A	Ducted / Non-Ducted	12.1 / 15.6	19.5 / 23.1	4.92 / 5.56
PQHY-P144YSLMU-A	Ducted / Non-Ducted	15.2 / 19.0	22.5 / 26.1	5.32 / 6.01
PQHY-P168YLMU-A	Ducted / Non-Ducted	12.0 / 13.6	18.0 / 21.8	4.76 / 5.43
PQHY-P168YSLMU-A	Ducted / Non-Ducted	15.0 / 17.3	23.6 / 25.8	5.61 / 5.72
PQHY-P192YLMU-A	Ducted / Non-Ducted	11.5 / 12.5	18.4 / 21.7	4.62 / 5.19
PQHY-P192YSLMU-A	Ducted / Non-Ducted	14.5 / 16.4	24.4 / 26.4	5.80 / 5.57
PQHY-P216YLMU-A	Ducted / Non-Ducted	11.3 / 10.9	19.0 / 21.2	4.77 / 5.26
PQHY-P216YSLMU-A	Ducted / Non-Ducted	13.6 / 15.0	23.5 / 25.9	5.68 / 5.43
PQHY-P240YLMU-A	Ducted / Non-Ducted	10.8 / 11.0	18.8 / 21.2	4.54 / 5.08
PQHY-P240YSLMU-A	Ducted / Non-Ducted	12.5 / 13.9	22.4 / 25.7	5.49 / 5.35
PQHY-P288YSLMU-A	Ducted / Non-Ducted	11.4 / 13.8	18.5 / 20.6	4.92 / 5.27
PQHY-P312YSLMU-A	Ducted / Non-Ducted	11.2 / 13.0	17.6 / 20.4	4.8 / 5.26
PQHY-P336YSLMU-A	Ducted / Non-Ducted	11.1 / 12.3	16.8 / 20.1	4.67 / 5.25
PQHY-P360YSLMU-A	Ducted / Non-Ducted	11.2 / 12.1	17.5 / 20.3	4.64 / 5.14
Note:	*1. Efficiency values based on AHRI 1230 test method.			

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PQHY-P72, 96, 120TLMU-A

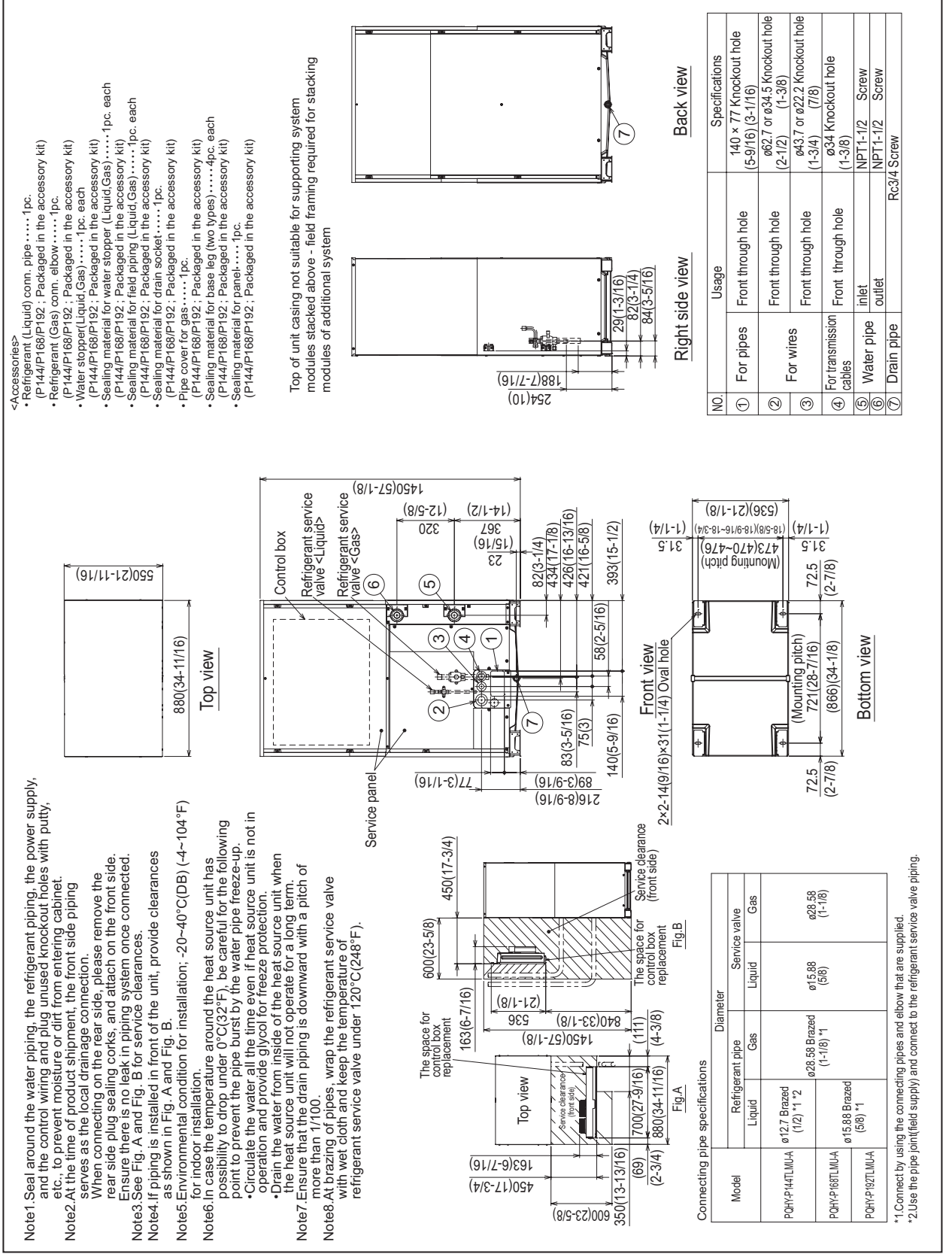
Unit : mm(in)



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PQHY-P144, 168, 192TLMU-A

Unit : mm(in)



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PQHY-P216, 240TLMU-A

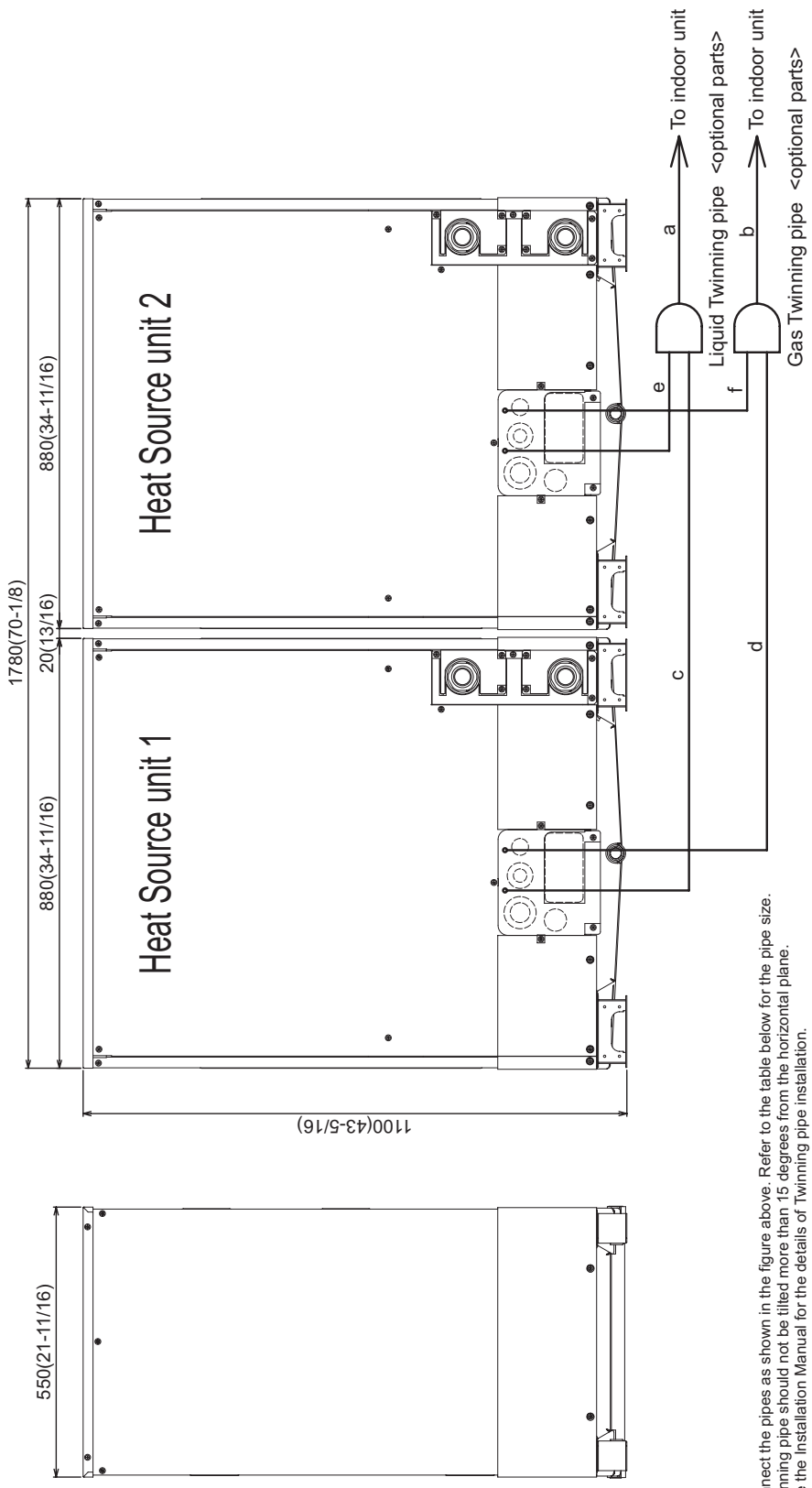
Unit : mm(in)

Note1. Seal around the water piping, the refrigerant piping, the power supply, and the control wiring and plug unused knockout holes with putty, etc., to prevent moisture or dirt from entering cabinet.
Note2. At the time of product shipment, the front side piping serves as the local drainage connection.
When connecting on the rear side, please remove the rear side plug sealing corks, and attach on the front side. Ensure there is no leak in piping system once connected.
Note3. See Fig. A and Fig. B for service clearances.
Note4. If piping is installed in front of the unit, provide clearances as shown in Fig. A and Fig. B.
Note5. Environmental condition for installation; -20~40°C(DB) (-4~104°F) for indoor installation.
Note6. In case the temperature around the heat source unit has possibility to drop under 0°C(32°F), be careful for the following point to prevent the pipe burst by the water pipe freeze-up.
•Circulate the water all the time even if heat source unit is not in operation and provide glycol for freeze protection.
•Drain the water from inside of the heat source unit when the heat source unit will not operate for a long term.
Note7. Ensure that the drain piping is downward with a pitch of more than 1/100.
Note8. 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).

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PQHY-P144, 168, 192, 216, 240TSLMU-A

Unit : mm(in)



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

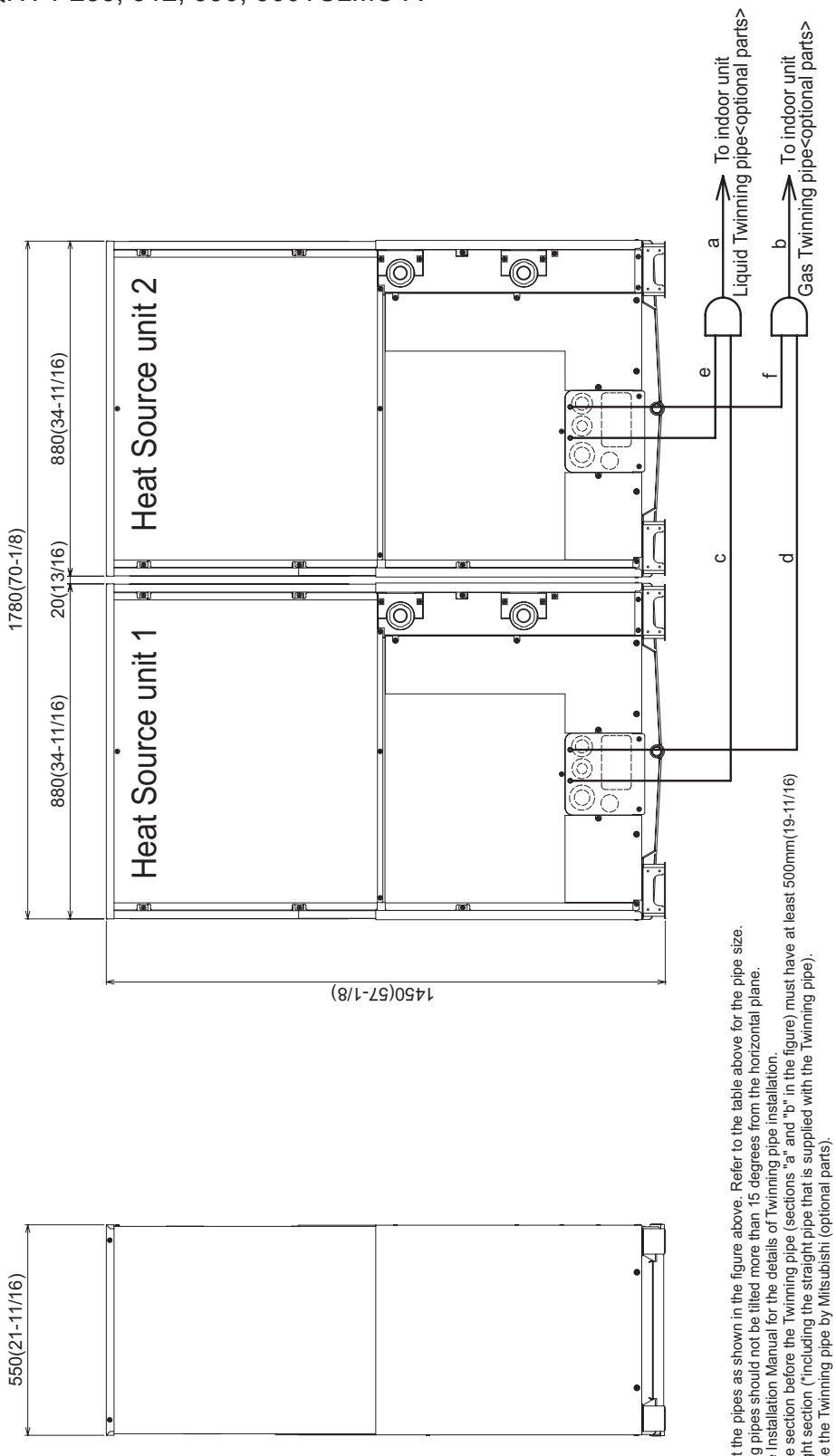
Twinning pipe connection size

Package unit name			PQHY-P144TSLMU-A	PQHY-P168TSLMU-A	PQHY-P192TSLMU-A	PQHY-P216TSLMU-A	PQHY-P240TSLMU-A
Component unit name	Heat Source unit 1		PQHY-P72TLMU-A	PQHY-P96TLMU-A	PQHY-P96TLMU-A	PQHY-P120TLMU-A	PQHY-P120TLMU-A
	Heat Source unit 2		PQHY-P72TLMU-A	PQHY-P72TLMU-A	PQHY-P96TLMU-A	PQHY-P96TLMU-A	PQHY-P120TLMU-A
Twinning pipe Kit(optional parts)			CMY-Y100CBK3				
Indoor unit~Twinning pipe	Liquid	a	ø12.7(1/2)	ø15.88(5/8)			
	Gas	b	ø28.58(1-1/8)				
Twinning pipe~Heat Source unit 1	Liquid	c	ø9.52(3/8)		ø12.7(1/2)		
	Gas	d	ø19.05(3/4)		ø22.2(7/8)		
Twinning pipe~Heat Source unit 2	Liquid	e	ø9.52(3/8)		ø12.7(1/2)		
	Gas	f	ø19.05(3/4)		ø22.2(7/8)		

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PQHY-P288, 312, 336, 360TSLMU-A

Unit : mm(in)



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

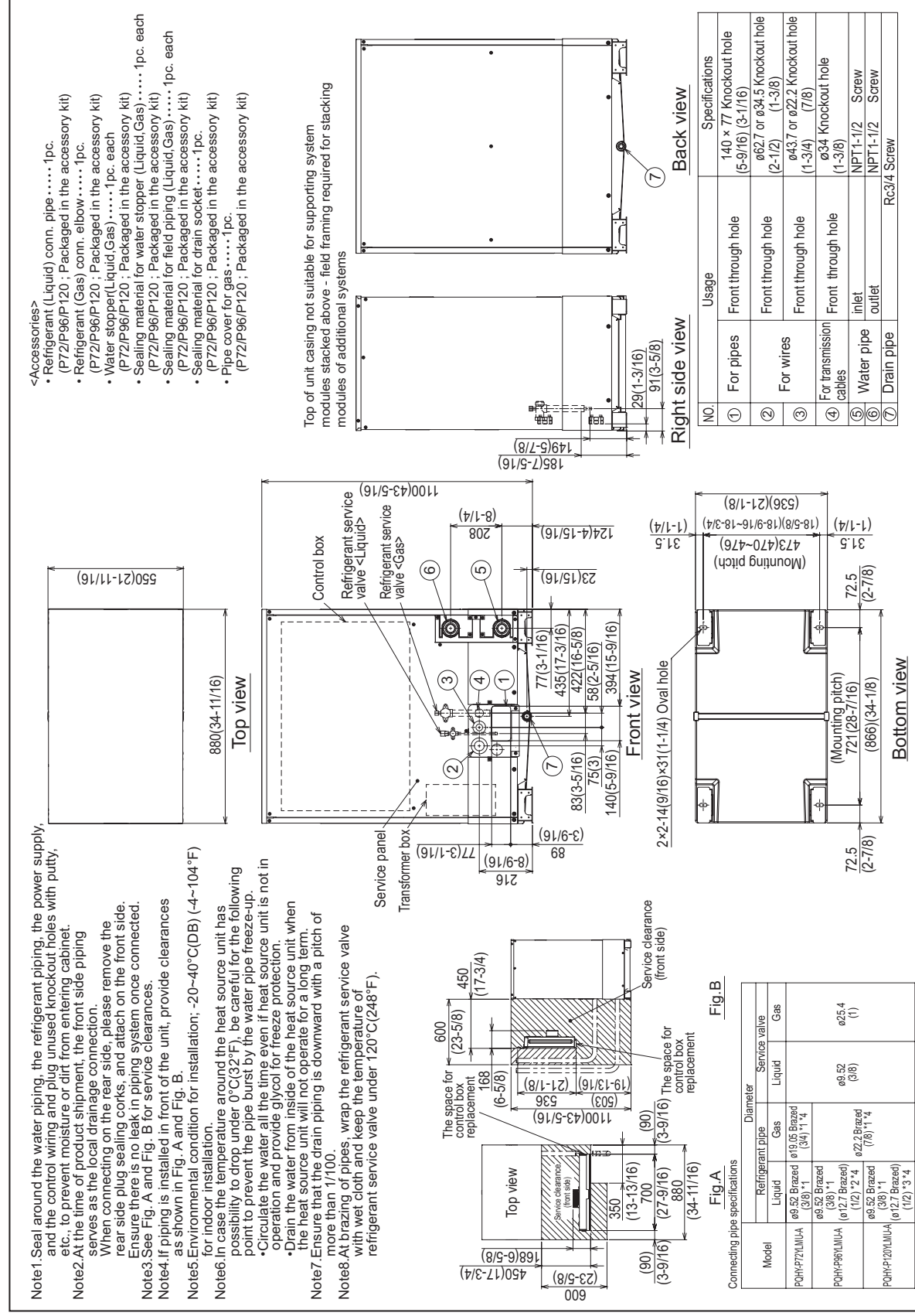
Twinning pipe connection size

Package unit name				PQHY-P288TSLMU-A	PQHY-P312TSLMU-A	PQHY-P336TSLMU-A	PQHY-P360TSLMU-A
Component unit name		Heat Source unit 1		PQHY-P144TLMU-A	PQHY-P168TLMU-A	PQHY-P168TLMU-A	PQHY-P192TLMU-A
		Heat Source unit 2		PQHY-P144TLMU-A	PQHY-P144TLMU-A	PQHY-P168TLMU-A	PQHY-P168TLMU-A
Twinning Kit(optional parts)				CMY-Y200CBK2			
Indoor unit~Twinning pipe			Liquid	a	ø19.05(3/4)		
			Gas	b	ø34.93(1-3/8)		ø41.28(1-5/8)
Twinning pipe~Heat Source unit 1			Liquid	c	ø12.7(1/2)		ø15.88(5/6)
			Gas	d	ø28.58(1-1/8)		
Twinning pipe~Heat Source unit 2			Liquid	e	ø12.7(1/2)		ø15.88(5/6)
			Gas	f	ø28.58(1-1/8)		

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PQHY-P72, 96, 120YLMU-A

Unit : mm(in)



NO.	Usage		Specifications
①	For pipes	Front through hole	140 × 77 Knockout hole (5-9/16) (3-1/16)
②	For wires	Front through hole	ø62.7 or ø34.5 Knockout hole (2-1/2) (1-3/8)
③		Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
④	For transmission cables	Front through hole	ø34 Knockout hole (1-3/8)
⑤	Water pipe	inlet	NPT1-1/2 Screw
⑥		outlet	NPT1-1/2 Screw
⑦	Drain pipe		Rc3/4 Screw

Note1. Seal around the water piping, the refrigerant piping, the power supply, and the control wiring and plug unused knockout holes with putty, etc., to prevent moisture or dirt from entering cabinet.
Note2. At the time of product shipment, the front side piping serves as the local drainage connection.
When connecting on the rear side, please remove the rear side plug sealing corks, and attach on the front side.
Ensure there is no leak in piping system once connected.
Note3. See Fig. A and Fig. B for service clearances.
Note4. If piping is installed in front of the unit, provide clearances as shown in Fig. A and Fig. B.
Note5. Environmental condition for installation; -20~40°C(DB) (-4~104°F) for indoor installation.
Note6. In case the temperature around the heat source unit has possibility to drop under 0°C(32°F), be careful for the following point to prevent the pipe burst by the water pipe freeze-up.
•Circulate the water all the time even if heat source unit is not in operation and provide glycol for freeze protection.
•Drain the water from inside of the heat source unit when the heat source unit will not operate for a long term.
Note7. Ensure that the drain piping is downward with a pitch of more than 1/100.
Note8. 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

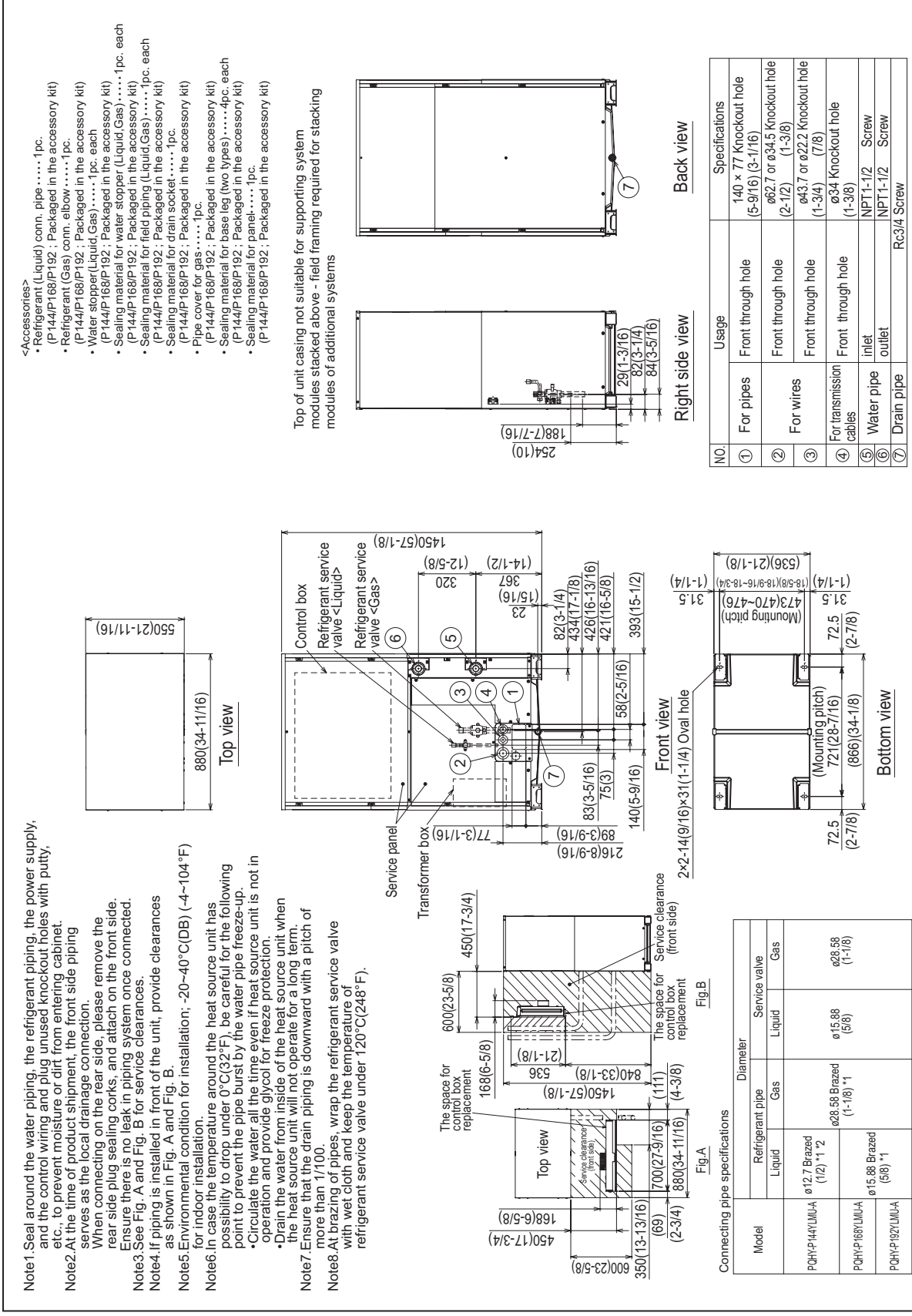
Model	Diameter			
	Refrigerant pipe		Service valve	
	Liquid	Gas	Liquid	Gas
PQHY-P72YLMU-A	ø9.52 Brazed (3/8) *1	ø19.05 Brazed (3/4) *1 *4	ø9.52 (3/8)	ø25.4 (1)
PQHY-P96YLMU-A	ø9.52 Brazed (3/8) *1 (ø12.7 Brazed (1/2) *2 *4	ø22.2 Brazed (7/8) *1 *4		
PQHY-P120YLMU-A	ø9.52 Brazed (3/8) *1 (ø12.7 Brazed (1/2) *3 *4			

*1. Connect by using the connecting pipes and elbow that are supplied.
*2. Total length ≥ 90m(295ft)
*3. Total length ≥ 40m(131ft)
*4. Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

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PQHY-P144, 168, 192YLMU-A

Unit : mm(in)

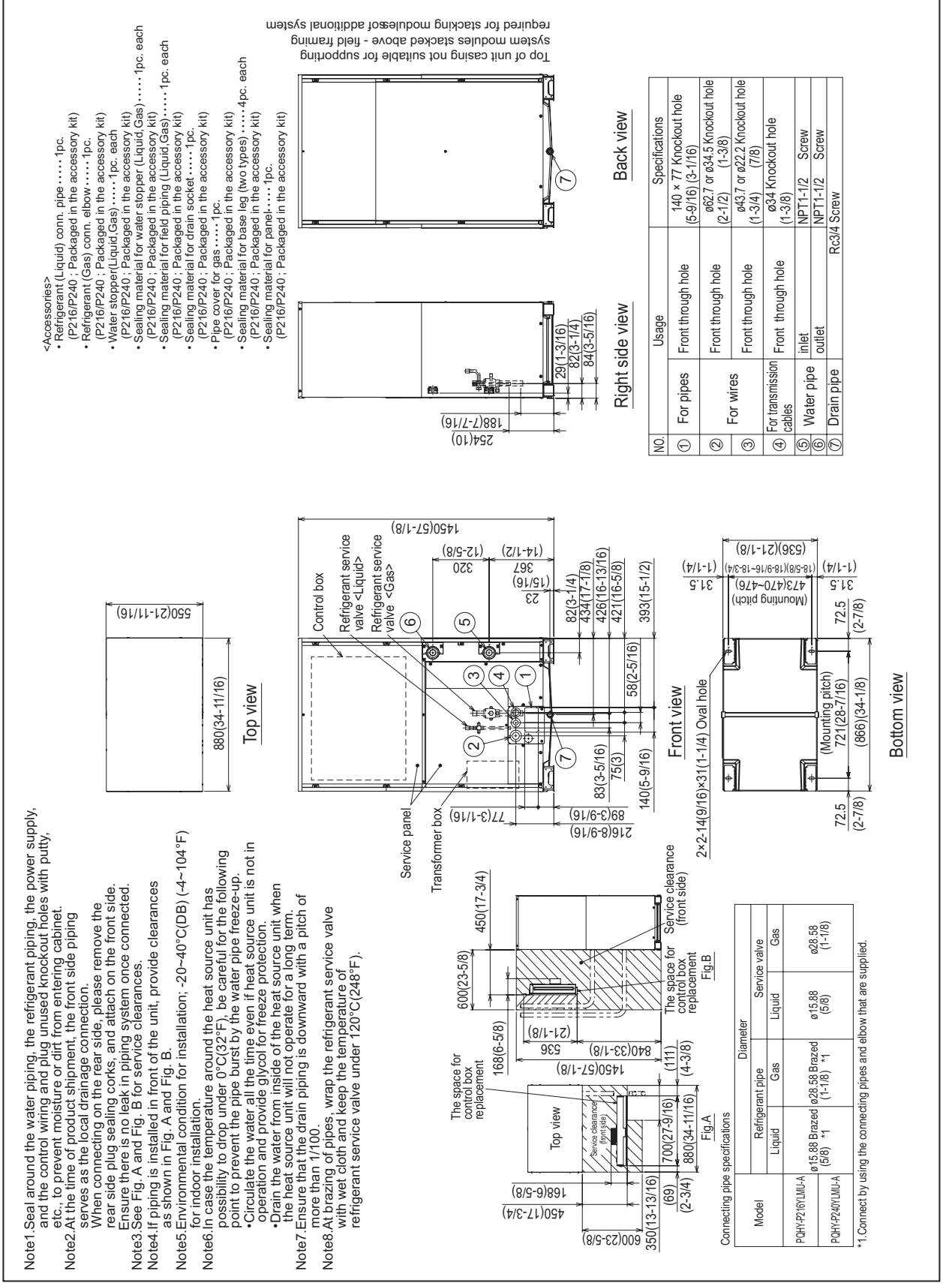


Note1. Seal around the water piping, the refrigerant piping, the power supply, and the control wiring and plug unused knockout holes with putty, etc., to prevent moisture or dirt from entering cabinet.
Note2. At the time of product shipment, the front side piping serves as the local drainage connection.
When connecting on the rear side, please remove the rear side plug sealing corks, and attach on the front side.
Ensure there is no leak in piping system once connected.
Note3. See Fig. A and Fig. B for service clearances.
Note4. If piping is installed in front of the unit, provide clearances as shown in Fig. A and Fig. B.
Note5. Environmental condition for installation; -20~40°C(DB) (-4~104°F) for indoor installation.
Note6. In case the temperature around the heat source unit has possibility to drop under 0°C(32°F), be careful for the following point to prevent the pipe burst by the water pipe freeze-up.
•Circulate the water all the time even if heat source unit is not in operation and provide glycol for freeze protection.
•Drain the water from inside of the heat source unit when the heat source unit will not operate for a long term.
Note7. Ensure that the drain piping is downward with a pitch of more than 1/100.
Note8. 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).

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PQHY-P216, 240YLMU-A

Unit : mm(in)



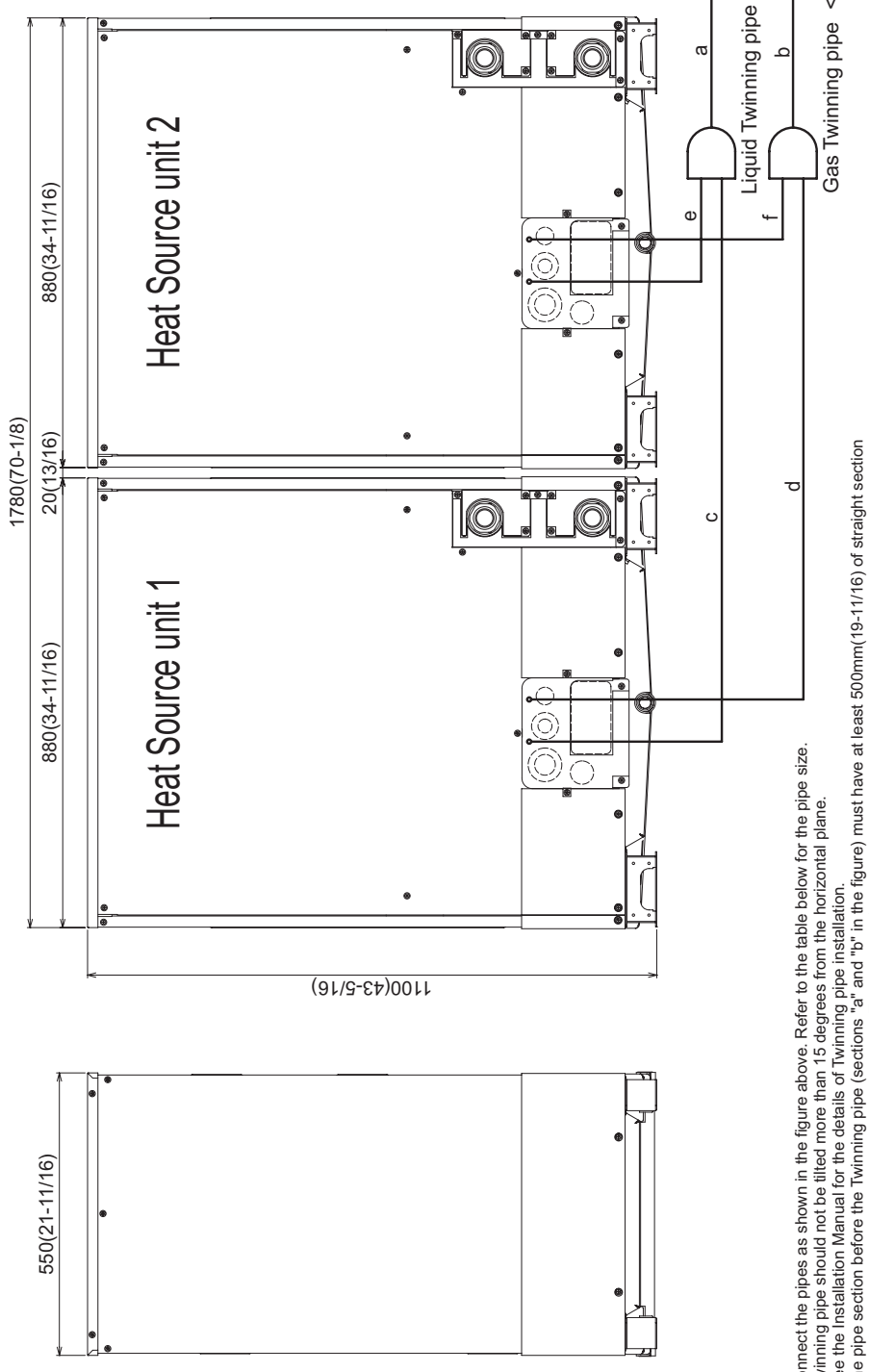
Note1. Seal around the water piping, the refrigerant piping, the power supply, and the control wiring and plug unused knockout holes with putty, etc., to prevent moisture or dirt from entering cabinet.
Note2. At the time of product shipment, the front side piping serves as the local drainage connection.
When connecting on the rear side, please remove the rear side plug sealing corks, and attach on the front side. Ensure there is no leak in piping system once connected.
Note3. See Fig. A and Fig. B for service clearances.
Note4. If piping is installed in front of the unit, provide clearances as shown in Fig. A and Fig. B.
Note5. Environmental condition for installation; -20~40°C(DB) (-4~104°F) for indoor installation.
Note6. In case the temperature around the heat source unit has possibility to drop under 0°C(32°F), be careful for the following point to prevent the pipe burst by the water pipe freeze-up.
•Circulate the water all the time even if heat source unit is not in operation and provide glycol for freeze protection.
•Drain the water from inside of the heat source unit when the heat source unit will not operate for a long term.
Note7. Ensure that the drain piping is downward with a pitch of more than 1/100.
Note8. 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).

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2. EXTERNAL DIMENSIONS

PQHY-P144, 168, 192, 216, 240YSLMU-A

Unit : mm(in)



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

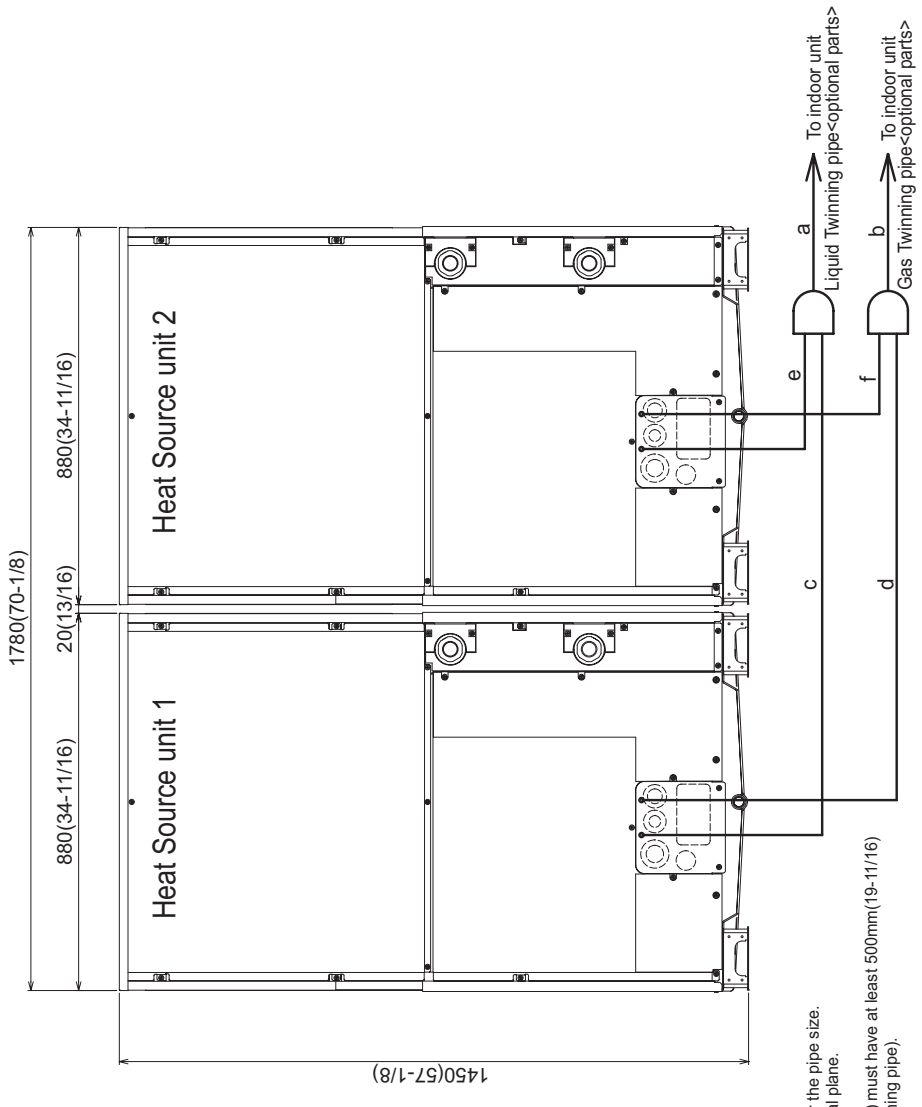
Twinning pipe connection size

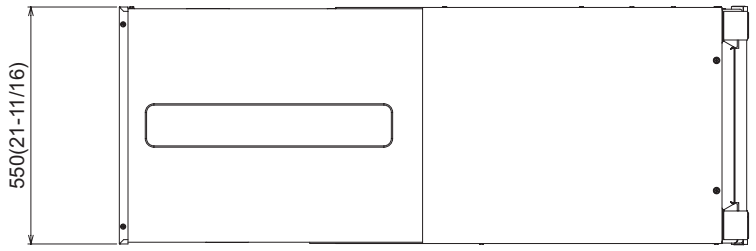
Package unit name			PQHY-P144YSLMU-A	PQHY-P168YSLMU-A	PQHY-P192YSLMU-A	PQHY-P216YSLMU-A	PQHY-P240YSLMU-A
Component unit name	Heat Source unit 1		PQHY-P72YLMU-A	PQHY-P96YLMU-A	PQHY-P96YLMU-A	PQHY-P120YLMU-A	PQHY-P120YLMU-A
	Heat Source unit 2		PQHY-P72YLMU-A	PQHY-P72YLMU-A	PQHY-P96YLMU-A	PQHY-P96YLMU-A	PQHY-P120YLMU-A
Twinning pipe Kit(optional parts)			CMY-Y100CBK3				
Indoor unit~Twinning pipe		Lquid	a	ø12.7(1/2)	ø15.88(5/8)		
		Gas	b	ø28.58(1-1/8)			
Twinning pipe~Heat Source unit 1		Lquid	c	ø9.52(3/8)	ø12.7(1/2)		
		Gas	d	ø19.05(3/4)	ø22.2(7/8)		
Twinning pipe~Heat Source unit 2		Lquid	e	ø9.52(3/8)	ø12.7(1/2)		
		Gas	f	ø19.05(3/4)	ø22.2(7/8)		

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PQHY-P288, 312, 336, 360YSLMU-A

Unit : mm(in)





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

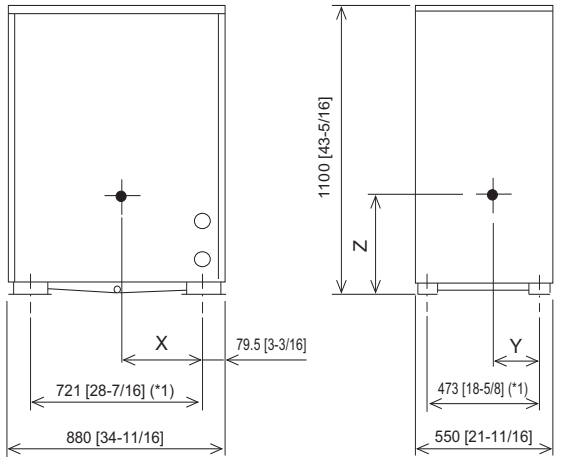
Twinning pipe connection size

Package unit name				PQHY-P288YSLMU-A	PQHY-P312YSLMU-A	PQHY-P336YSLMU-A	PQHY-P360YSLMU-A
Component unit name	Heat Source unit 1			PQHY-P144YLMU-A	PQHY-P168YLMU-A	PQHY-P168YLMU-A	PQHY-P192YLMU-A
	Heat Source unit 2			PQHY-P144YLMU-A	PQHY-P144YLMU-A	PQHY-P168YLMU-A	PQHY-P168YLMU-A
Twinning Kit(optional parts)				CMY-Y200CBK2			
Indoor unit~Twinning pipe		Liquid	a	ø19.05(3/4)			
		Gas	b	ø34.93(1-3/8)		ø41.28(1-5/8)	
Twinning pipe~Heat Source unit 1		Liquid	c	ø12.7(1/2)		ø15.88(5/8)	
		Gas	d	ø28.58(1-1/8)			
Twinning pipe~Heat Source unit 2		Liquid	e	ø12.7(1/2)		ø15.88(5/8)	
		Gas	f	ø28.58(1-1/8)			

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PQHY-P72, 96, 120TLMU-A/YLMU-A

Unit: mm [in.]

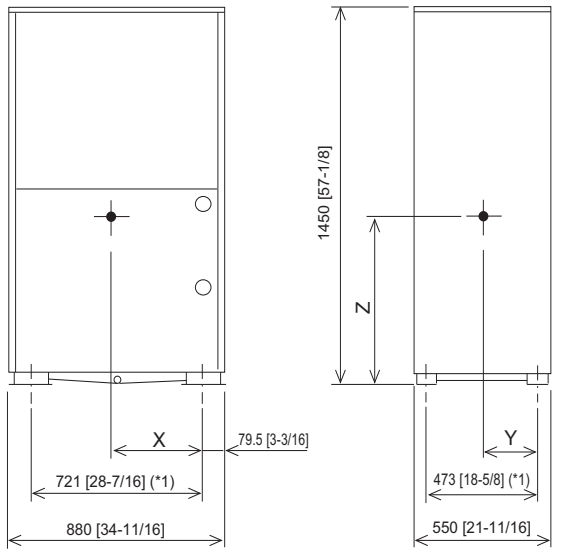


Model	X	Y	Z
PQHY-P72TLMU-A	358 [14-1/8]	233 [9-3/16]	448 [17-11/16]
PQHY-P96TLMU-A	358 [14-1/8]	233 [9-3/16]	448 [17-11/16]
PQHY-P120TLMU-A	358 [14-1/8]	233 [9-3/16]	448 [17-11/16]
PQHY-P72YLMU-A	376 [14-13/16]	223 [8-13/16]	438 [17-1/4]
PQHY-P96YLMU-A	376 [14-13/16]	223 [8-13/16]	438 [17-1/4]
PQHY-P120YLMU-A	376 [14-13/16]	223 [8-13/16]	438 [17-1/4]

*1 Mounting Pitch

PQHY-P144, 168, 192, 216, 240TLMU-A/YLMU-A

Unit: mm [in.]

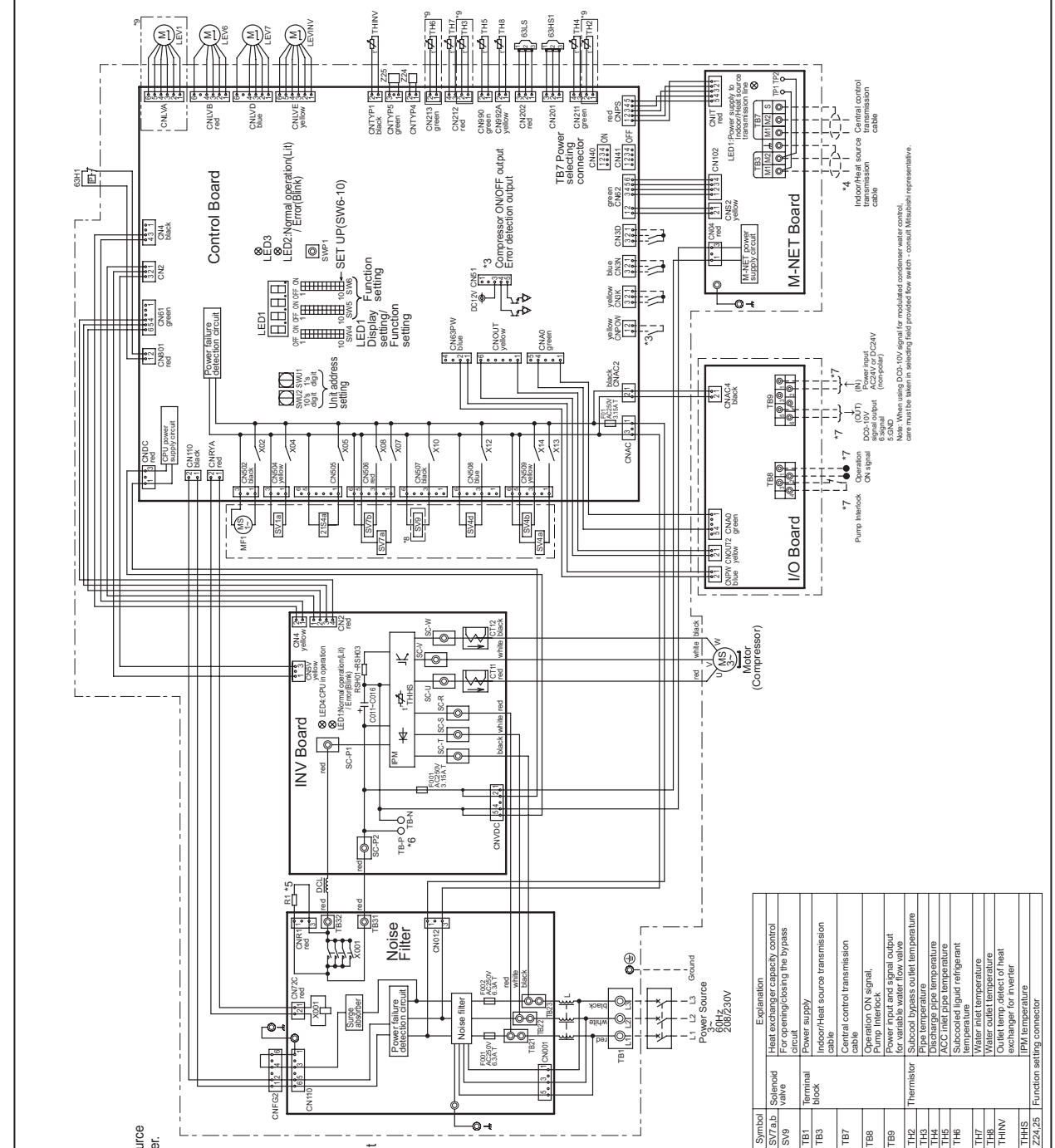


Model	X	Y	Z
PQHY-P144TLMU-A	386 [15-1/4]	231 [9-1/8]	624 [24-5/8]
PQHY-P168TLMU-A	386 [15-1/4]	231 [9-1/8]	624 [24-5/8]
PQHY-P192TLMU-A	386 [15-1/4]	231 [9-1/8]	624 [24-5/8]
PQHY-P216TLMU-A	373 [14-11/16]	230 [9-1/16]	687 [27-1/16]
PQHY-P240TLMU-A	373 [14-11/16]	230 [9-1/16]	687 [27-1/16]
PQHY-P144YLMU-A	402 [15-7/8]	226 [8-15/16]	614 [24-3/16]
PQHY-P168YLMU-A	402 [15-7/8]	226 [8-15/16]	614 [24-3/16]
PQHY-P192YLMU-A	402 [15-7/8]	226 [8-15/16]	614 [24-3/16]
PQHY-P216YLMU-A	383 [15-1/8]	219 [8-5/8]	634 [25]
PQHY-P240YLMU-A	383 [15-1/8]	219 [8-5/8]	634 [25]

*1 Mounting Pitch

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PQHY-P72, 96, 120TLMU-A



*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 heat source 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. Refer to the Data book for wiring terminal block for Pump Interlock, Operation ON signal,DC0-10V signal output and Power input(24V).
*8. Difference of appliance.

Model name	Appliance
PQHY	*8 do not exist
PQRY	*8 exist

*9. Difference of appliance.

Model name	Appliance
PQHY	*9 exist
PQRY	*9 do not exist

<Symbol explanation>

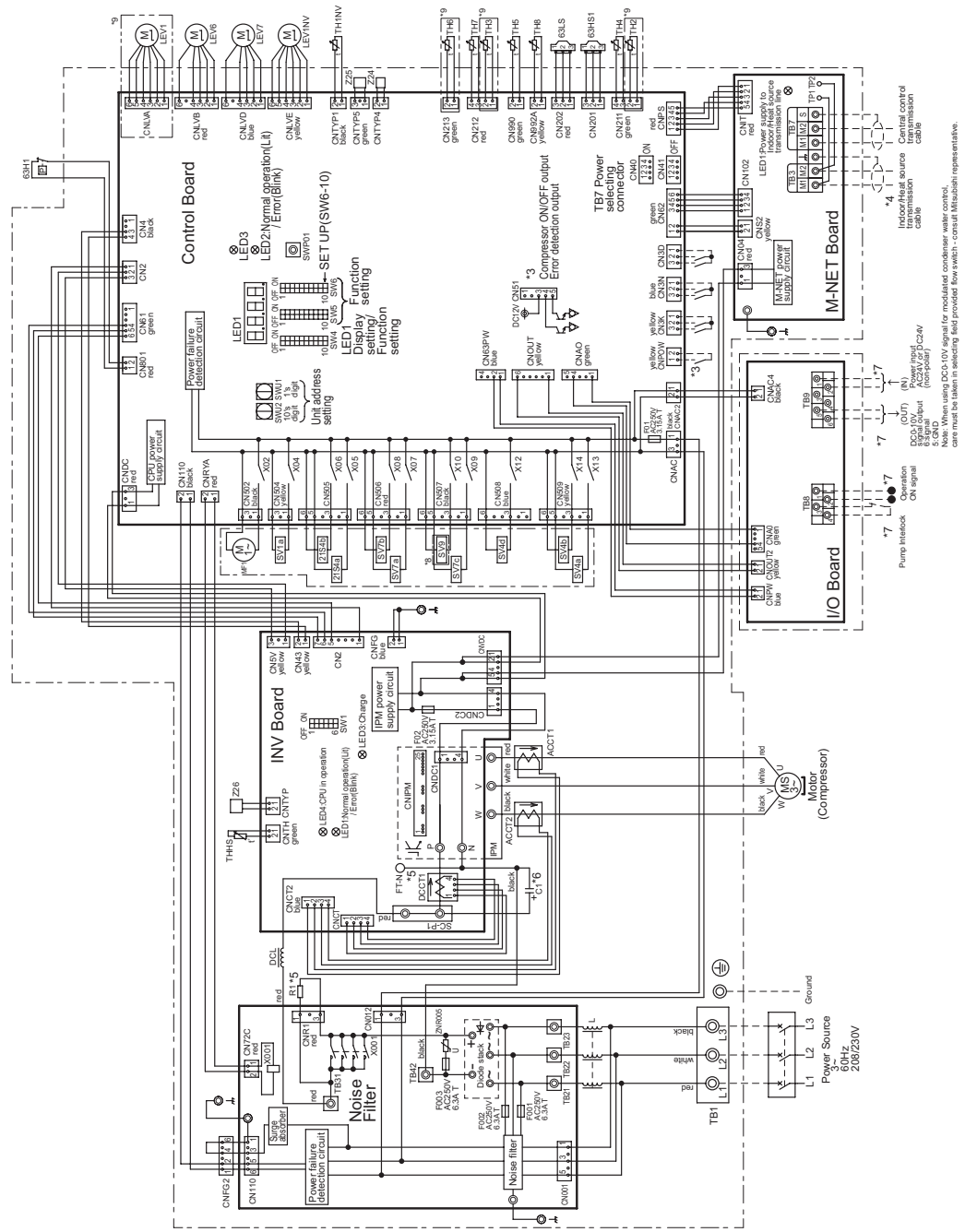
Symbol	Explanation
21S4a	4-way valve
63H1	Pressure switch
63HS1	Pressure sensor
63LS	Low pressure
X001	Magnetic relay(inverter main circuit)
C011~C016	Capacitor(inverter main circuit)
C111,12	Current sensor(AC)
DCL	DC reactor
L	Choke coil(for high frequency noise reduction)
LEV1	Linear expansion valve
LEV6	
LEV7	
LEVINV	
MF1	Fan motor(Radiator panel)
R1	Resistor
RSH01~RSH03	
SV1a	Solenoid valve
SV4a,b,d	

Symbol	Explanation
SV7a,b	Solenoid valve
SV9	
TB1	Terminal block
TB3	
TB7	
TB8	
TB9	
TH2	Thermistor
TH3	
TH4	
TH5	
TH6	
TH7	
TH8	
THINV	
THHS	
Z24,25	Function setting connector

Explanation
Heat exchanger capacity control
For opening/closing the bypass circuit
Power supply
Indoor/Heat source transmission cable
Central control transmission cable
Operation ON signal, Pump Interlock
Power input and signal output for water flow switch
Subcool bypass outlet temperature
Pipe temperature
Discharge pipe temperature
ACC inlet pipe temperature
Subcooled liquid refrigerant temperature
Water inlet temperature
Water outlet temperature
Outlet temp. detect of heat exchanger for inverter
IPM temperature

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PQHY-P144, 168, 192TLMU-A



*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 heat source 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.Refer to the Data book for wiring terminal block for Pump Interlock,Operation ON signal,DC0-10V signal output and Power input(24V).
*8.Difference of appliance.

Model name	Appliance
PQHY	*8 do not exist
PQRY	*8 exist

*9.Difference of appliance.

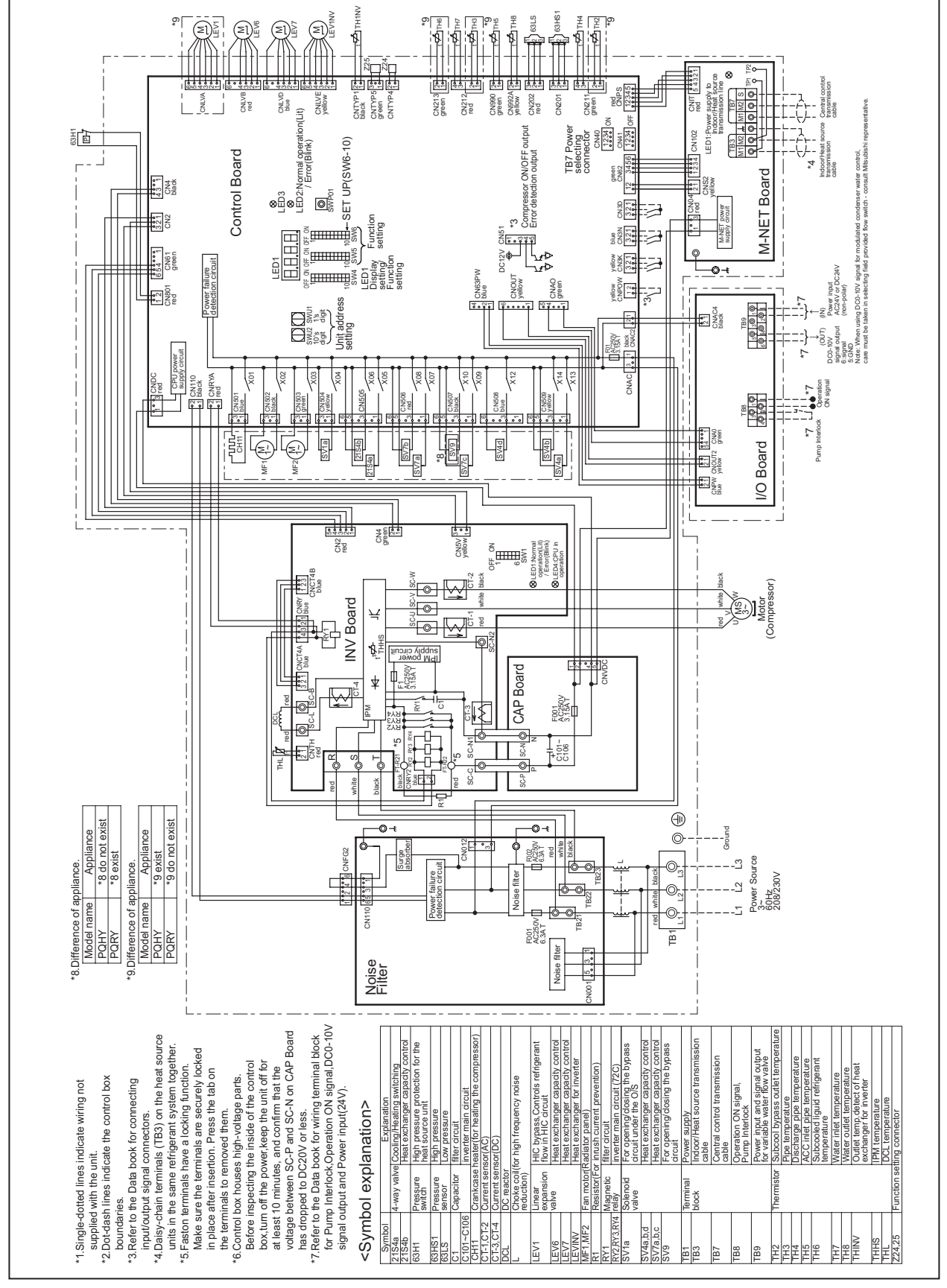
Model name	Appliance
PQHY	*9 exist
PQRY	*9 do not exist

<Symbol explanation>

Symbol		Explanation
21S4a	4-way valve	Cooling/Heating switching
21S4b		Heat exchanger capacity control
63H1	Pressure switch	High pressure protection for the heat source unit
63HS1	Pressure sensor	High pressure
63LS		Low pressure
K001	Magnetic relay	Magnetic relay(Inverter main circuit)
C1	Capacitor	Capacitor(Inverter main circuit)
ACCT1,2	Current sensor	Current sensor(AC)
DCCT1		Current sensor(DC)
DCL	DC reactor	DC reactor
L	Choke coil	Choke coil(for high frequency noise reduction)
LEV1	Linear expansion valve	HIC bypass,Controls refrigerant flow in HIC circuit
LEV6		Heat exchanger capacity control
LEV7		Heat exchanger capacity control
LEV/INV		Heat exchanger for inverter
MF1	Fan motor	Fan motor(Radiator panel)
RT1	Resistor	For overcurrent prevention
SV1a	Solenoid valve	For opening/closing the bypass circuit under the O/S
SV4a,b,d		Heat exchanger capacity control
SV7a,b,c		Heat exchanger capacity control
SV9		For opening/closing the bypass circuit
TB1	Terminal block	Power supply
TB3		Indoor/Heat source transmission cable
TB7		Central control transmission cable
TB8		Operation ON signal, Pump interlock
TB9		Power input and signal output for variable water flow valve
TH2	Thermistor	Subcool bypass outlet temperature
TH3		Pipe temperature
TH4		Discharge pipe temperature
TH5		ACC inlet pipe temperature
TH6		Subcooled liquid refrigerant temperature
TH7		Water inlet temperature
TH8		Water outlet temperature
THINV		Outlet temp. detect of heat sink temp. for inverter
THHS		IPM temperature
Z2a,25,26	Function setting connector	

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PQHY-P216, 240TLMU-A



*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 heat source 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 SC-P and SC-N on CAP Board has dropped to DC20V or less.
*7.Refer to the Data book for wiring terminal block for Pump Interlock,Operation ON signal,DC0-10V signal output and Power input(24V).

*8.Difference of appliance.

Model name	Appliance
PQHY	*8 do not exist
PQRY	*8 exist

*9.Difference of appliance.

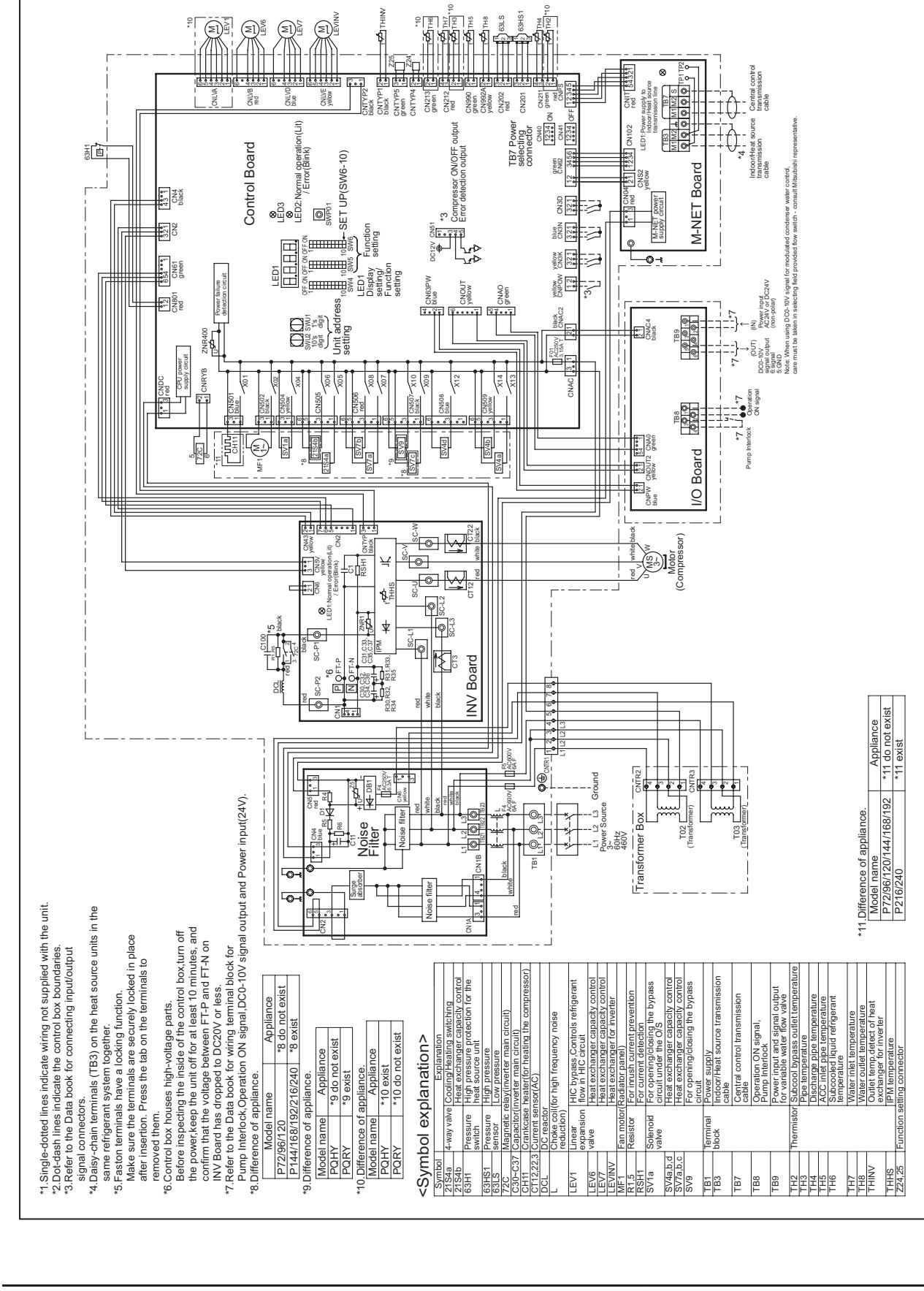
Model name	Appliance
PQHY	*9 exist
PQRY	*9 do not exist

<Symbol explanation>

Symbol	Explanation	
21S4a	4-way valve	Cooling/Heating switching
21S4b		Heat exchanger capacity control
63H1	Pressure switch	High pressure protection for the heat source unit
63HS1	Pressure sensor	High pressure
63LS		Low pressure
C1	Capacitor	filter circuit
C101~C106		inverter main circuit
CH11	Crankcase heater	(for heating the compressor)
CT-1,CT-2	Current sensor	(AC)
CT-3,CT-4		(DC)
DCL	DC reactor	
L	Choke coil	(for high frequency noise reduction)
LEV1	Linear expansion valve	HIC bypass,Controls refrigerant flow in HIC circuit
LEV6		Heat exchanger capacity control
LEV7		Heat exchanger capacity control
LEVINV		Heat exchanger for inverter
MF1,MF2	Fan motor	(Radiator panel)
R1	Resistor	(For inrush current prevention)
RY1	Magnetic relay	Filter circuit
RY2,RY3,RY4		Inverter main circuit (72C)
SV1a	Solenoid valve	For opening/closing the bypass circuit under the O/S
SV4a,b,d		Heat exchanger capacity control
SV7a,b,c		Heat exchanger capacity control
SV9		For opening/closing the bypass circuit
TB1	Terminal block	Power supply
TB3		Indoor/Heat source transmission cable
TB7		Central control transmission cable
TB8		Operation ON signal, Pump Interlock
TB9		Power input and signal output for variable water flow valve
TH2	Thermistor	Subcool bypass outlet temperature
TH3		Pipe temperature
TH4		Discharge pipe temperature
TH5		ACC inlet pipe temperature
TH6		Subcooled liguid refrigerant temperature
TH7		Water inlet temperature
TH8		Water outlet temperature
THINV		Outlet temp. detect of heat exchanger for inverter
THHS		IPM temperature
THL		DCL temperature
Z24,25	Function setting connector	

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PQHY-P72, 96, 120, 144, 168, 192, 216, 240YLMU-A



*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 heat source 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.Refer to the Data book for wiring terminal block for Pump Interlock,Operation ON signal,DC0-10V signal output and Power input(24V).
*8.Difference of appliance.

Model name	Appliance
P72/96/120	*8 do not exist
P144/168/192/216/240	*8 exist

*9.Difference of appliance.

Model name	Appliance
PQHY	*9 do not exist
PQRY	*9 exist

*10.Difference of appliance.

Model name	Appliance
PQHY	*10 exist
PQRY	*10 do not exist

*11.Difference of appliance.

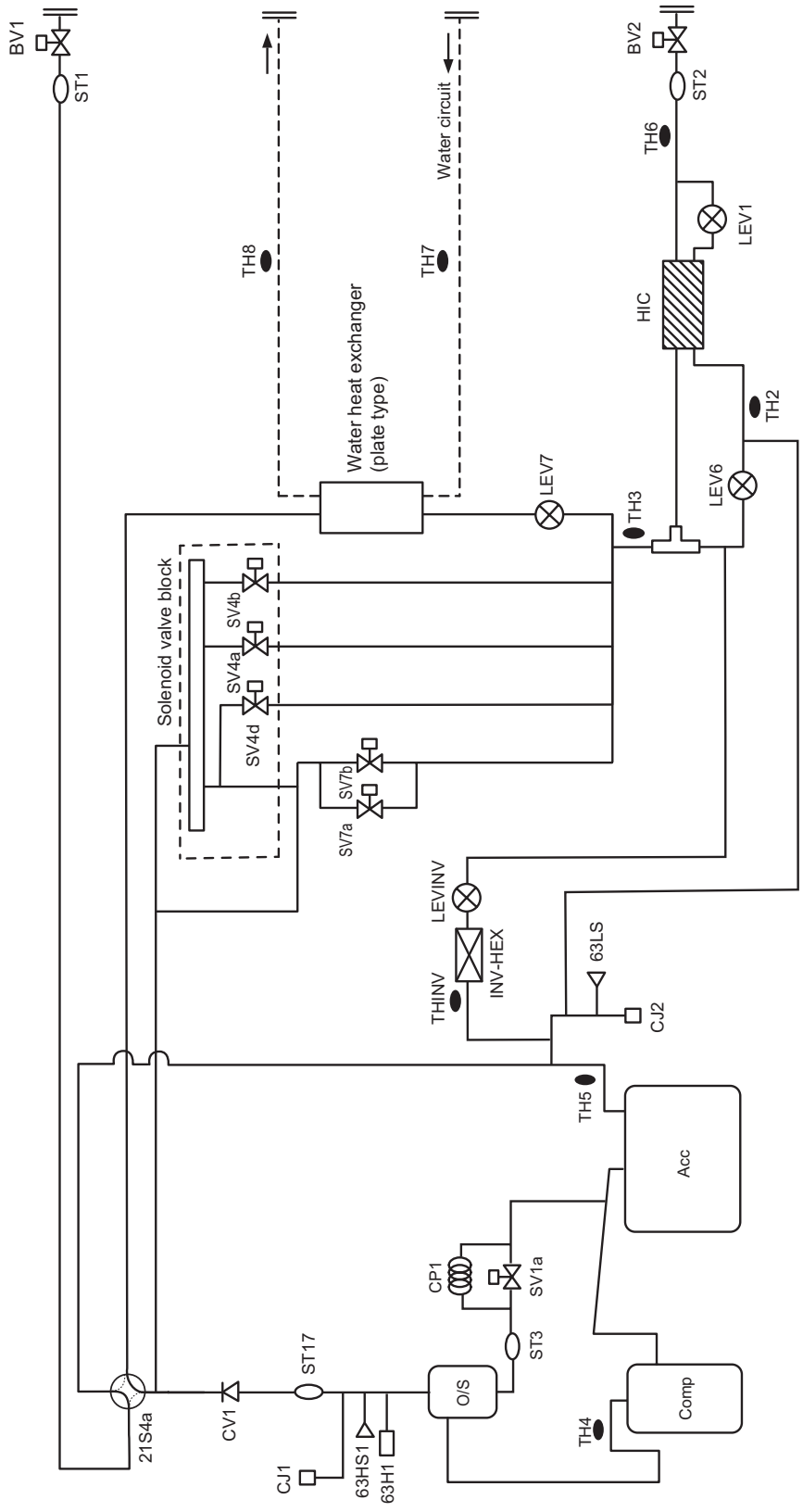
Model name	Appliance
P72/96/120/144/168/192	*11 do not exist
P216/240	*11 exist

<Symbol explanation>

Symbol		Explanation
21S4a	4-way valve	Cooling/Heating switching
21S4b		Heat exchanger capacity control
63H1	Pressure switch	High pressure protection for the heat source unit
63HS1	Pressure sensor	High pressure
63LS		Low pressure
72C	Magnetic relay	(inverter main circuit)
C30~C37	Capacitor	(inverter main circuit)
CH11	Crankcase heater	(for heating the compressor)
CT12,22,3	Current sensor	(AC)
DCL	DC reactor	
L	Choke coil	(for high frequency noise reduction)
LEV1	Linear expansion valve	HIC bypass Controls refrigerant flow in HIC circuit
LEV6		Heat exchanger capacity control
LEV7		Heat exchanger capacity control
LEVINV		Heat exchanger for inverter
MF1	Fan motor	(Radiator panel)
R1,5	Resistor	For inrush current prevention
RSH1		For current detection
SV1a	Solenoid valve	For opening/closing the bypass circuit under the O/S
SV4a,b,d		Heat exchanger capacity control
SV7a,b,c		Heat exchanger capacity control
SV9		For opening/closing the bypass circuit
TB1	Terminal block	Power supply
TB3		Indoor/Heat source transmission cable
TB7		Central control transmission cable
TB8		Operation ON signal, Pump Interlock
TB9		Power input and signal output for variable water flow valve
TH2	Thermistor	Subcool bypass outlet temperature
TH3		Pipe temperature
TH4		Discharge pipe temperature
TH5		ACC inlet pipe temperature
TH6		Subcooled liquid refrigerant temperature
TH7		Water inlet temperature
TH8		Water outlet temperature
THINV		Outlet temp.detect of heat exchanger for inverter
THHS		PCB temperature
Z24,25	Function setting connector	

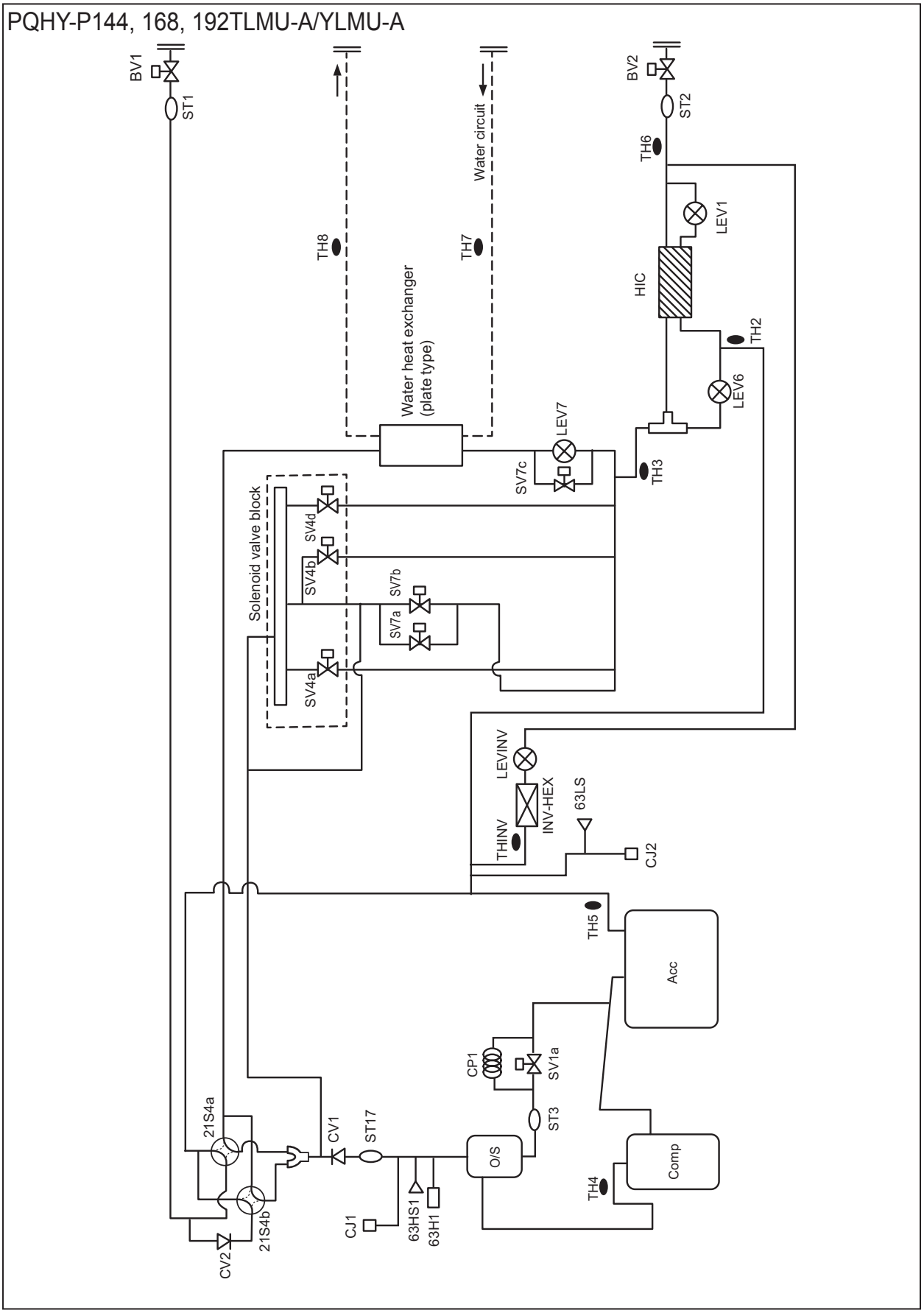
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PQHY-P72, 96, 120TLMU-A/YLMU-A



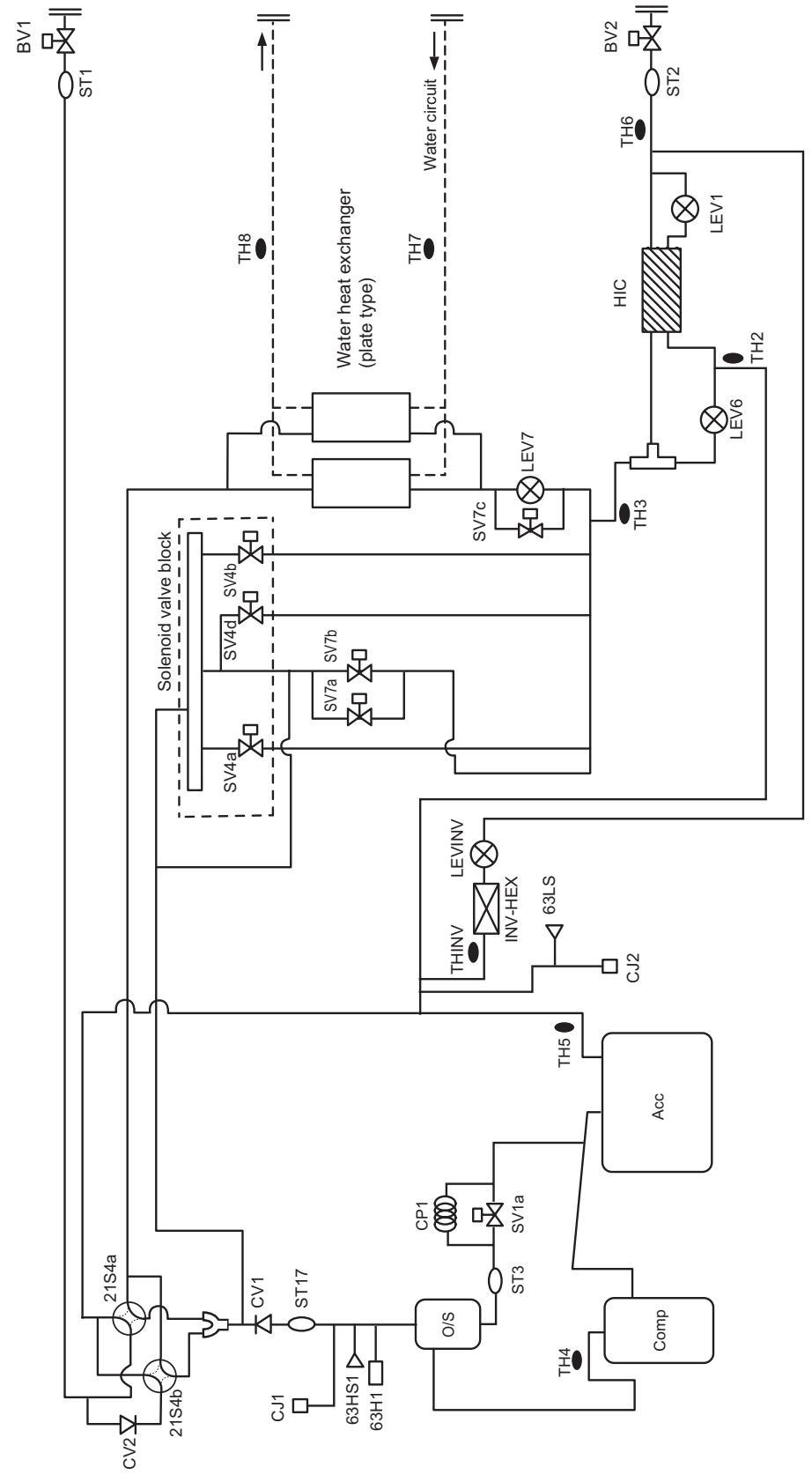
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PQHY-P144, 168, 192TLMU-A/YLMU-A



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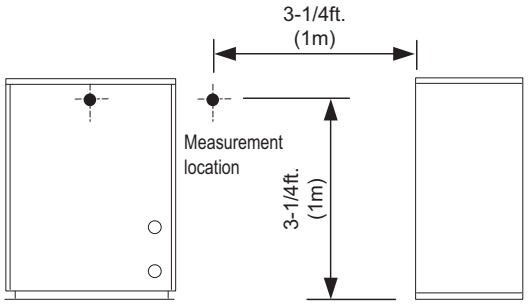
PQHY-P216, 240TLMU-A/YLMU-A



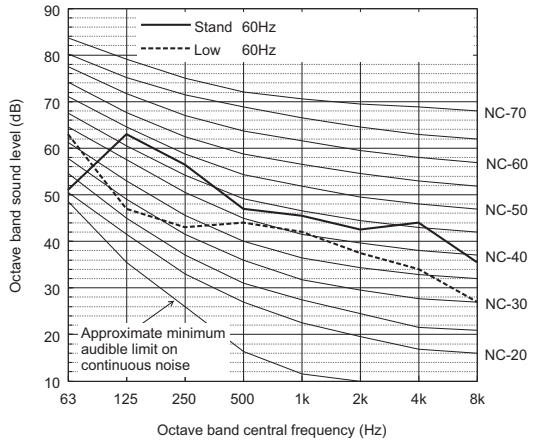
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6. SOUND PRESSURE LEVELS

Measurement condition
PQHY-P72, 96, 120TLMU-A/YLMU-A



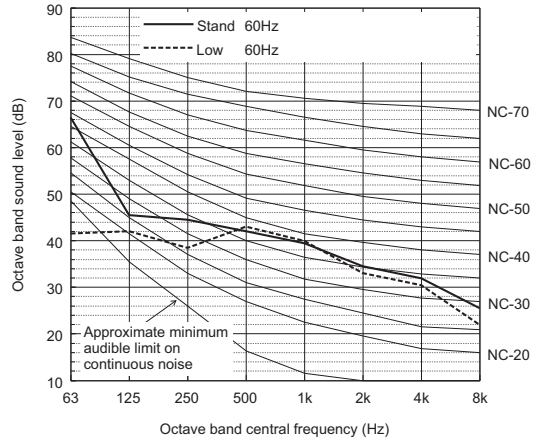
Sound level of PQHY-P120TLMU-A/YLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	51.0	63.0	56.5	47.0	45.5	42.5	44.0	35.5	54.0
Low noise mode	60Hz	63.0	47.0	43.0	44.0	42.0	37.5	34.0	27.0	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.

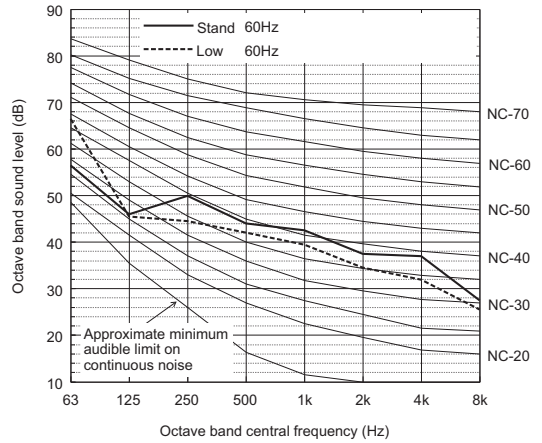
Sound level of PQHY-P72TLMU-A/YLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	66.5	45.5	44.5	42.0	39.5	34.5	32.0	25.5	46.0
Low noise mode	60Hz	41.5	42.0	38.5	43.0	40.0	33.0	30.5	22.0	44.0

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

Sound level of PQHY-P96TLMU-A/YLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	56.5	46.0	50.0	44.0	42.5	37.5	37.0	27.5	48.0
Low noise mode	60Hz	66.5	45.5	44.5	42.0	39.5	34.5	32.0	25.5	46.0

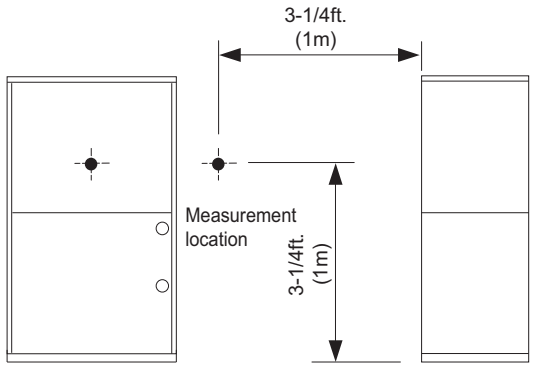
When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

- Depending on the operation conditions, the unit generates noise caused by valve actuation, refrigerant flow, and pressure changes when operating normally. Please consider to avoid location where quietness is required.

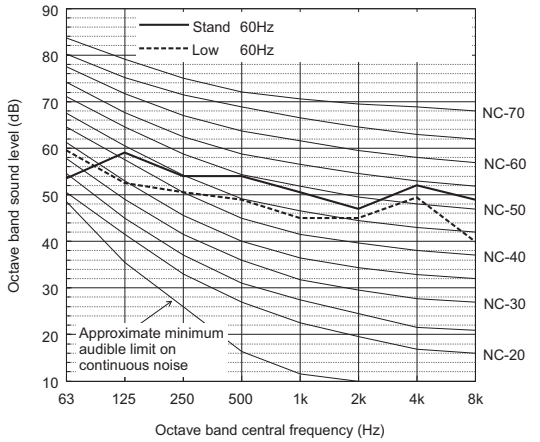
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6. SOUND PRESSURE LEVELS

Measurement condition
PQHY-P144, 168, 192, 216, 240TLMU-A/YLMU-A



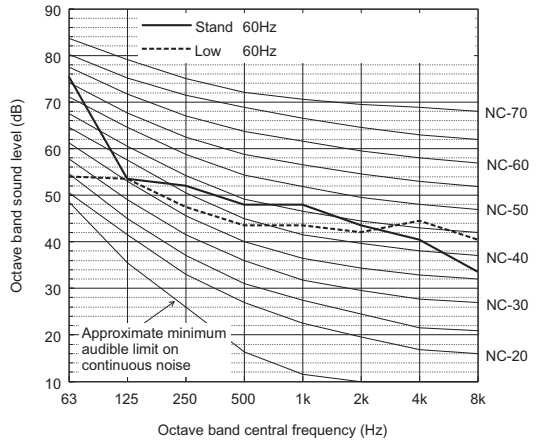
Sound level of PQHY-P192TLMU-A/YLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	53.5	59.0	54.0	54.0	50.5	47.0	52.0	49.0	58.0
Low noise mode	60Hz	59.5	52.5	50.5	49.0	45.0	45.0	49.5	40.0	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.

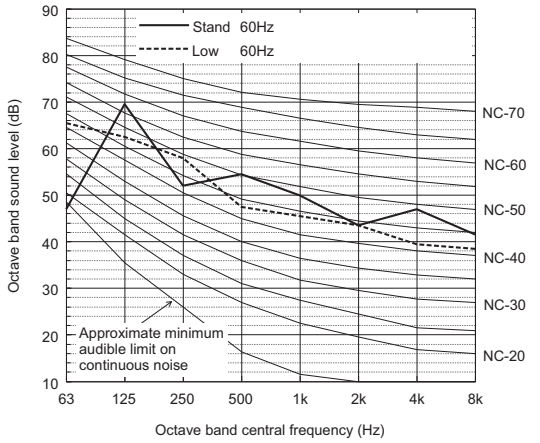
Sound level of PQHY-P144TLMU-A/YLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	75.5	53.5	52.0	48.0	48.0	43.5	40.5	33.5	54.0
Low noise mode	60Hz	54.0	53.5	47.5	43.5	43.5	42.0	44.5	40.5	50.5

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.

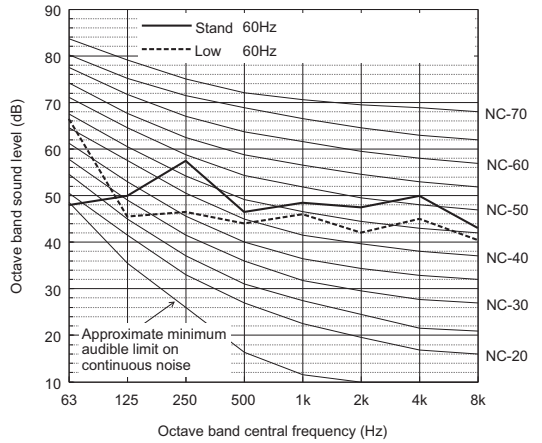
Sound level of PQHY-P216TLMU-A/YLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	47.0	69.5	52.0	54.5	50.0	43.5	47.0	41.5	58.0
Low noise mode	60Hz	65.5	62.5	58.0	47.5	45.5	43.5	39.5	38.5	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.

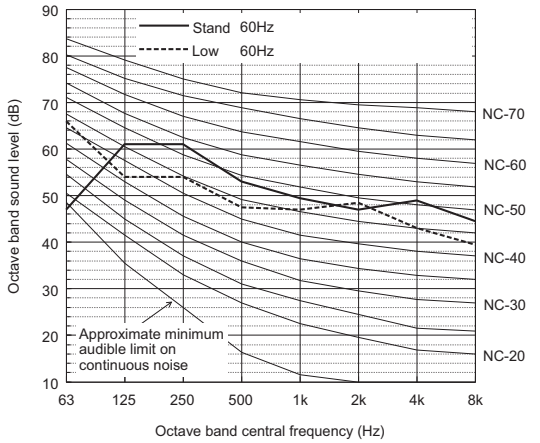
Sound level of PQHY-P168TLMU-A/YLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	48.0	50.0	57.5	46.5	48.5	47.5	50.0	43.0	56.0
Low noise mode	60Hz	66.5	45.5	46.5	44.0	46.0	42.0	45.0	40.5	51.5

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.

Sound level of PQHY-P240TLMU-A/YLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	47.0	61.0	61.0	53.0	49.5	47.0	49.0	44.5	58.0
Low noise mode	60Hz	66.0	54.0	54.0	47.5	47.0	48.5	43.0	39.5	54.0

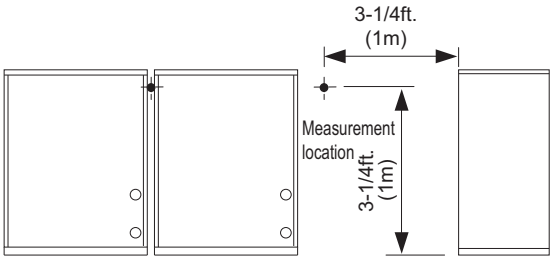
When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

- Depending on the operation conditions, the unit generates noise caused by valve actuation, refrigerant flow, and pressure changes when operating normally. Please consider to avoid location where quietness is required.

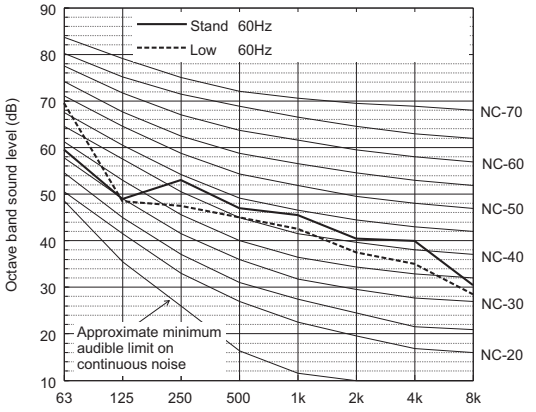
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6. SOUND PRESSURE LEVELS

Measurement condition
PQHY-P144, 168, 192, 216, 240TSLMU-A/YSLMU-A



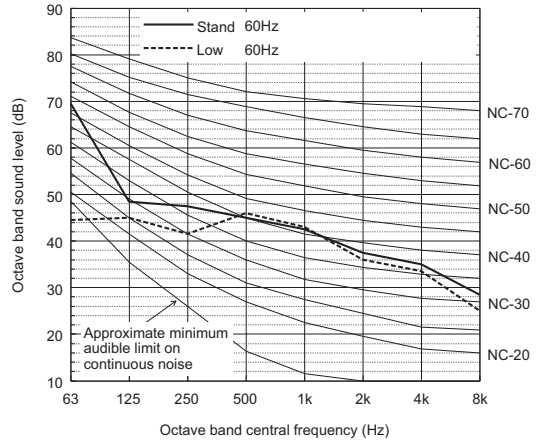
Sound level of PQHY-P192TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	59.5	49.0	53.0	47.0	45.5	40.5	40.0	30.5	51.0
Low noise mode	60Hz	69.5	48.5	47.5	45.0	42.5	37.5	35.0	28.5	49.0

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.

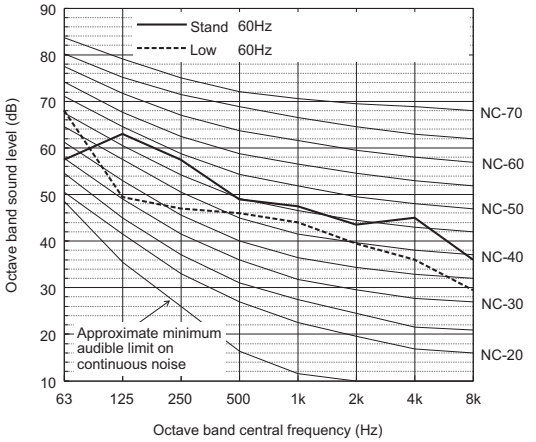
Sound level of PQHY-P144TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	69.5	48.5	47.5	45.0	42.5	37.5	35.0	28.5	49.0
Low noise mode	60Hz	44.5	45.0	41.5	46.0	43.0	36.0	33.5	25.0	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.

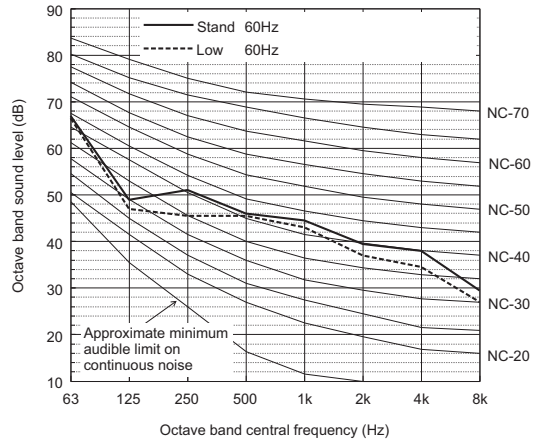
Sound level of PQHY-P216TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	57.5	63.0	57.5	49.0	47.5	43.5	45.0	36.0	55.0
Low noise mode	60Hz	68.0	49.5	47.0	46.0	44.0	39.5	36.0	29.5	49.5

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.

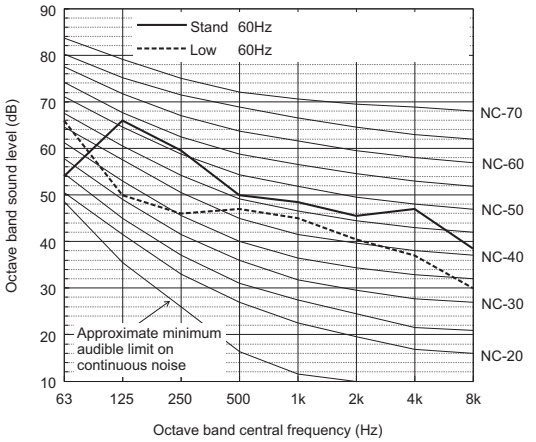
Sound level of PQHY-P168TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	67.0	49.0	51.0	46.0	44.5	39.5	38.0	29.5	50.0
Low noise mode	60Hz	66.5	47.0	45.5	45.5	43.0	37.0	34.5	27.0	48.0

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 PQHY-P240TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	54.0	66.0	59.5	50.0	48.5	45.5	47.0	38.5	57.0
Low noise mode	60Hz	66.0	50.0	46.0	47.0	45.0	40.5	37.0	30.0	50.0

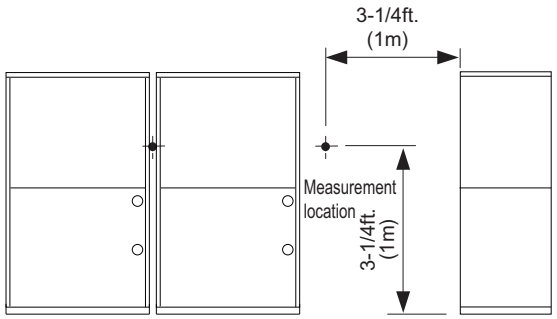
When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

- Depending on the operation conditions, the unit generates noise caused by valve actuation, refrigerant flow, and pressure changes when operating normally. Please consider to avoid location where quietness is required.

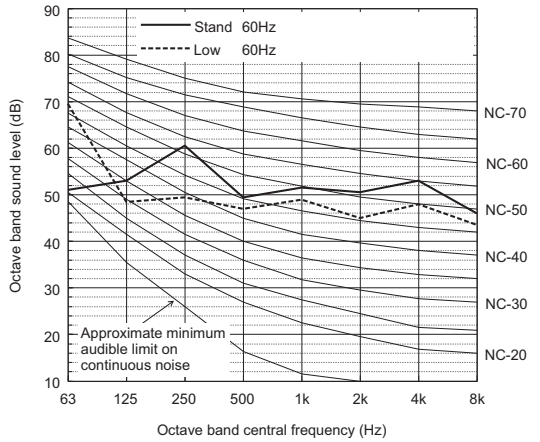
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6. SOUND PRESSURE LEVELS

Measurement condition
PQHY-P288, 312, 336, 360TSLMU-A/YSLMU-A



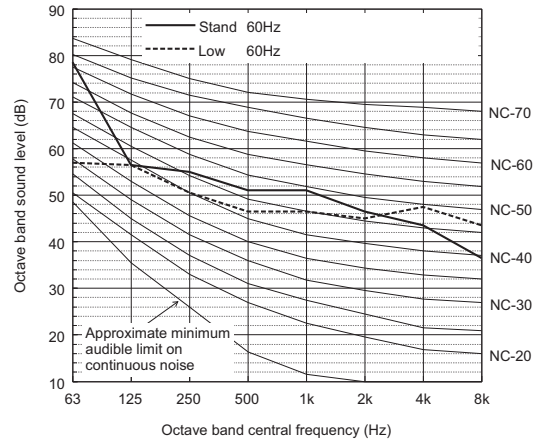
Sound level of PQHY-P336TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	51.0	53.0	60.5	49.5	51.5	50.5	53.0	46.0	59.0
Low noise mode	60Hz	69.5	48.5	49.5	47.0	49.0	45.0	48.0	43.5	54.5

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.

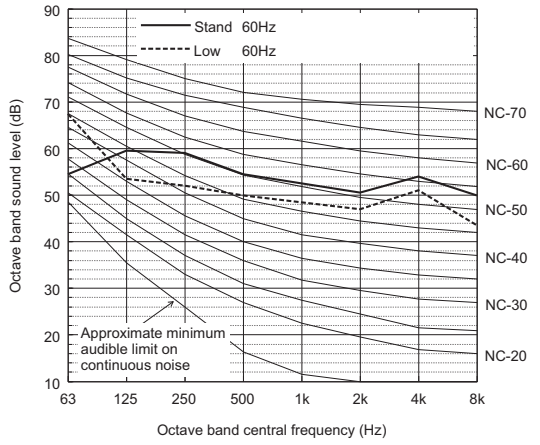
Sound level of PQHY-P288TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	78.5	56.5	55.0	51.0	51.0	46.5	43.5	36.5	57.0
Low noise mode	60Hz	57.0	56.5	50.5	46.5	46.5	45.0	47.5	43.5	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.

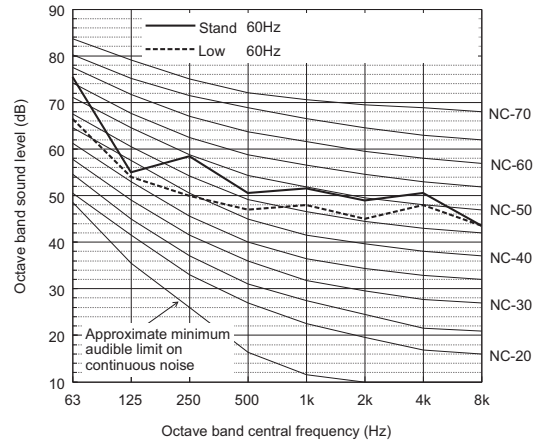
Sound level of PQHY-P360TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	54.5	59.5	59.0	54.5	52.5	50.5	54.0	50.0	60.0
Low noise mode	60Hz	67.5	53.5	52.0	50.0	48.5	47.0	51.0	43.5	56.0

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 PQHY-P312TSLMU-A/YSLMU-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	60Hz	75.5	55.0	58.5	50.5	51.5	49.0	50.5	43.5	58.0
Low noise mode	60Hz	66.5	54.0	50.0	47.0	48.0	45.0	48.0	43.5	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.

- Depending on the operation conditions, the unit generates noise caused by valve actuation, refrigerant flow, and pressure changes when operating normally. Please consider to avoid location where quietness is required.

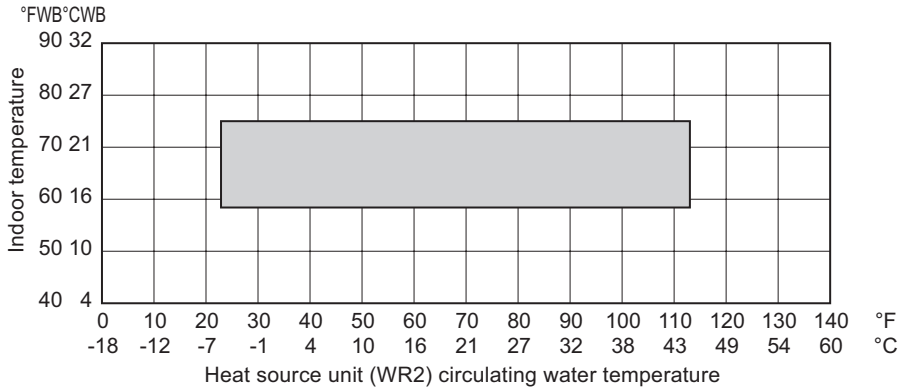
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7. OPERATION TEMPERATURE RANGE

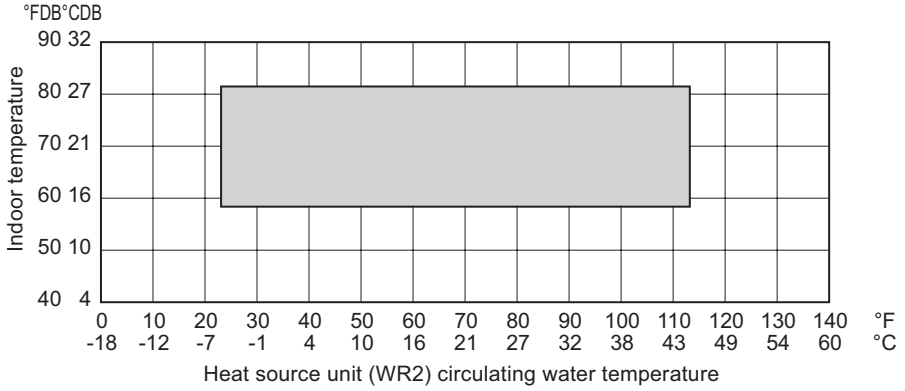
7-1. Connection with standard CITY MULTI indoor units

PQHY-P-T(S)LMU-A/Y(S)LMU-A

Cooling



Heating



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

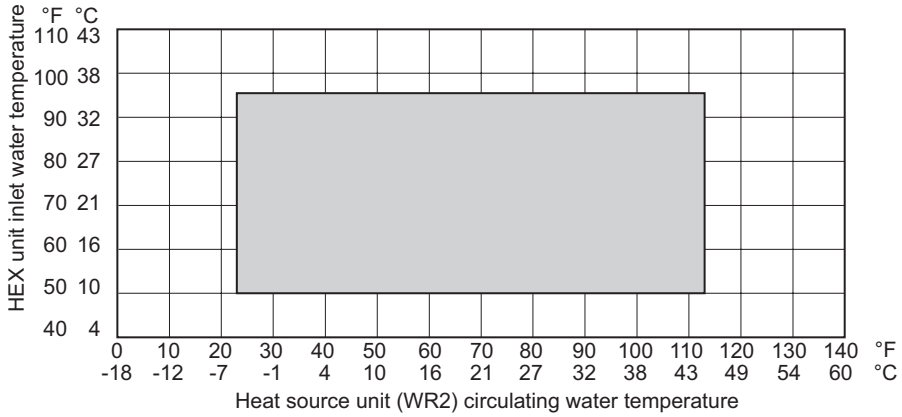
Water temperature	Indoor temperature	
	Cooling	Heating
10 to 45°C (50 to 113°F)	15 to 24°CWB (59 to 75°FWB)	15 to 27°CDB (59 to 81°FDB)

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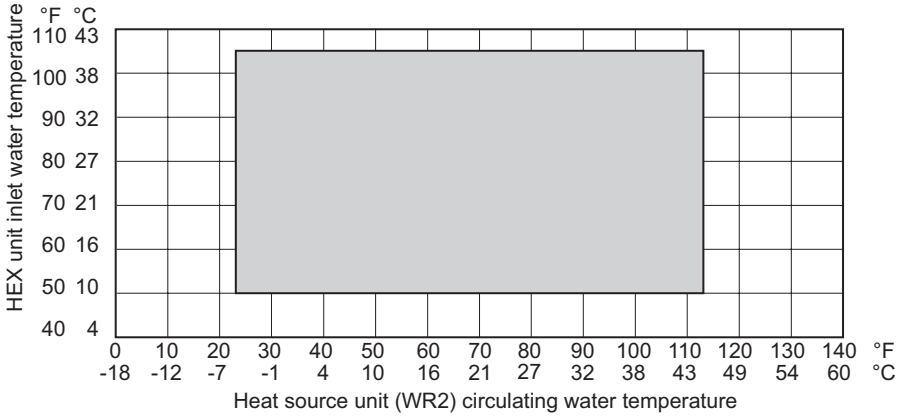
7-2. Connection with PWFY-P36/72NMU-E2-AU (HEX unit)

PQHY-P-T(S)LMU-A/Y(S)LMU-A

Cooling



Heating

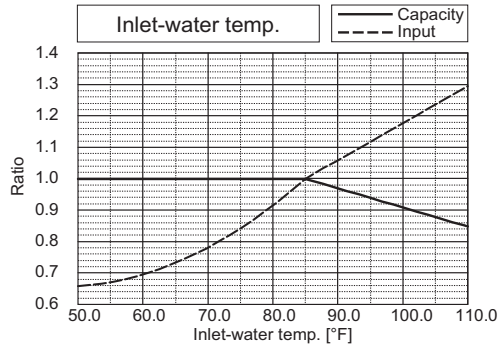


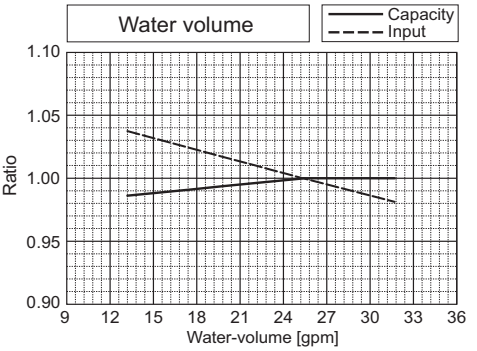
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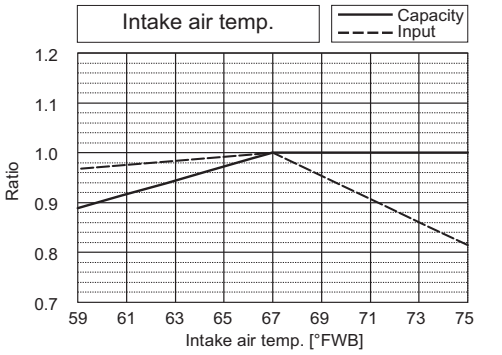
8-1. Correction by Temperature in Fahrenheit

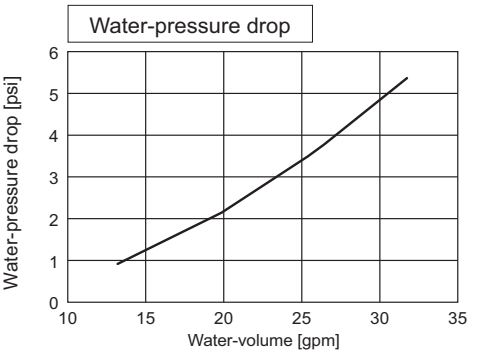
CITY MULTI could have varied capacity at different design temperatures. Using the nominal cooling/heating capacity value and the ratio below, the capacity can be observed at various temperatures.

PQHY-		P72TLMU/YLMU			
Nominal Cooling Capacity	kW	21.1	Rated Cooling Capacity	kW	20.2
	BTU/h	72,000		BTU/h	69,000
Input	kW	3.23	Input	kW	(Non-Ducted) 2.96 (Ducted) 3.12

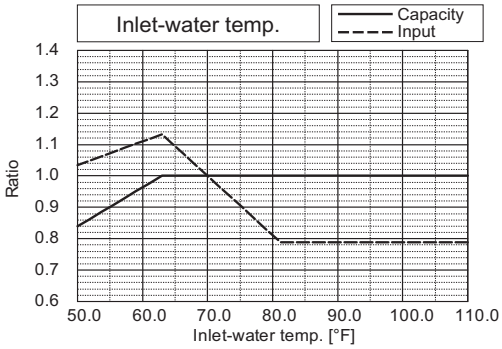


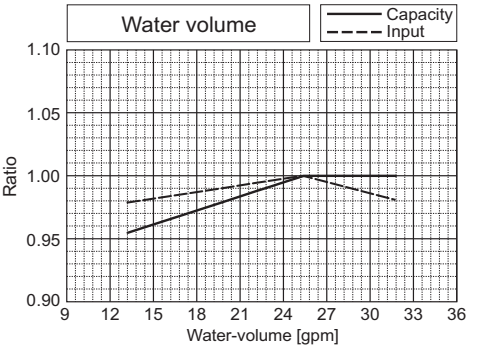


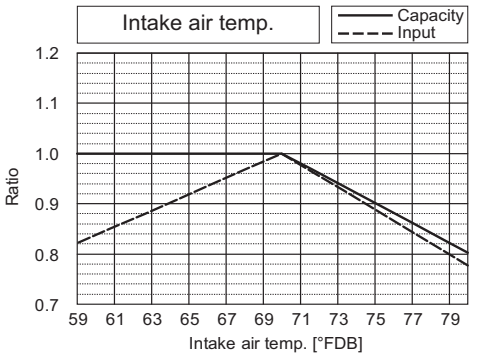


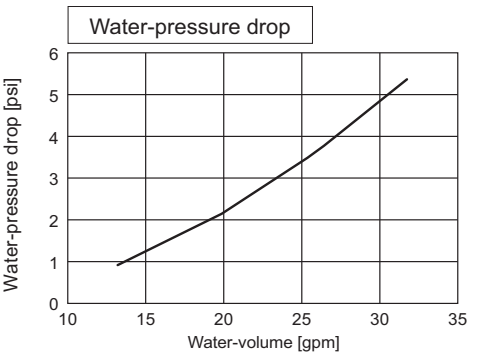


PQHY-		P72TLMU/YLMU			
Nominal Heating Capacity	kW	23.4	Rated Heating Capacity	kW	22.3
	BTU/h	80,000		BTU/h	76,000
Input	kW	3.63	Input	kW	(Non-Ducted) 3.34 (Ducted) 3.36





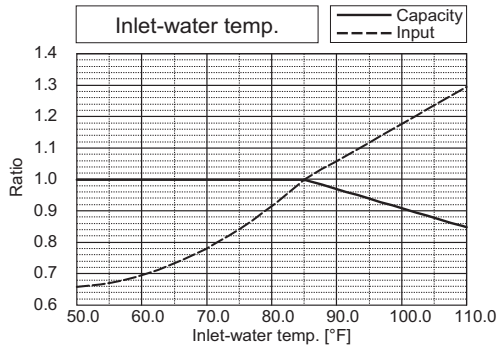


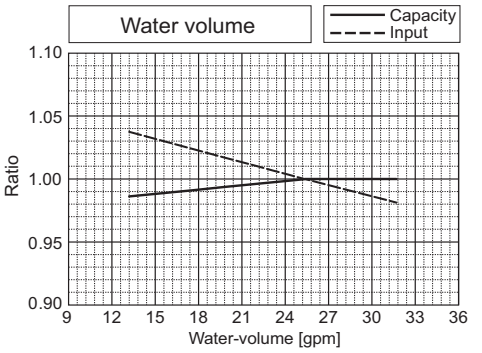


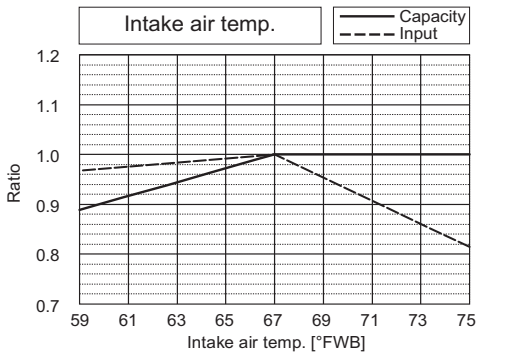
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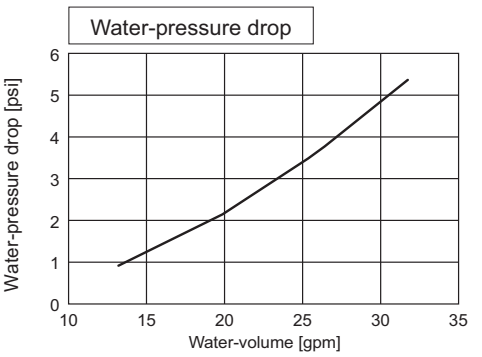
8. CAPACITY TABLES

PQHY-		P96TLMU/YLMU			
Nominal Cooling Capacity	kW	28.1	Rated Cooling Capacity	kW	27.0
	BTU/h	96,000		BTU/h	92,000
Input	kW	4.65	Input	kW	(Non-Ducted) 4.26 (Ducted) 5.19

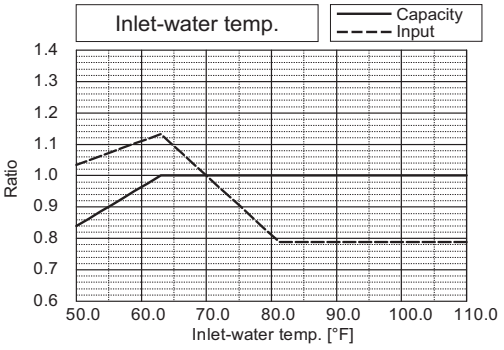


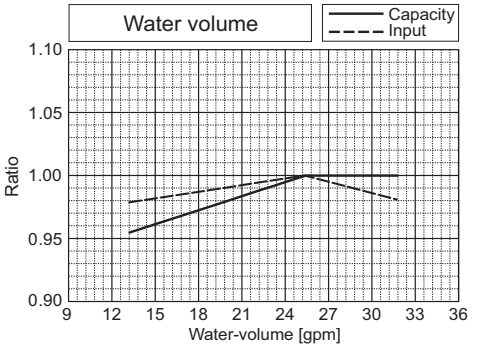


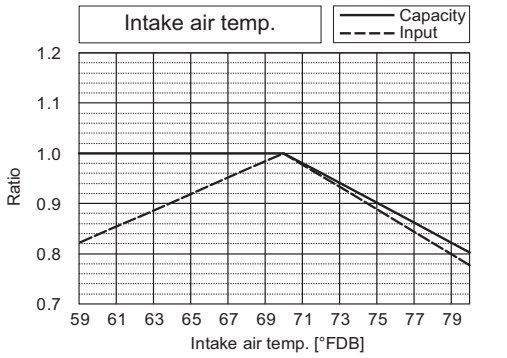


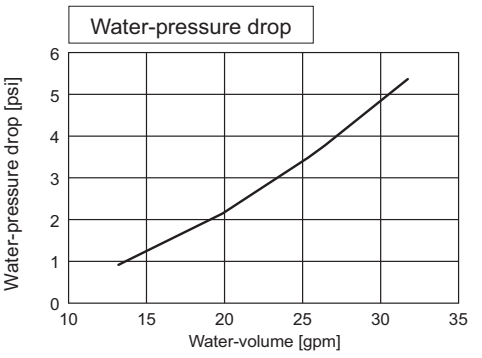


PQHY-		P96TLMU/YLMU			
Nominal Heating Capacity	kW	31.7	Rated Heating Capacity	kW	30.2
	BTU/h	108,000		BTU/h	103,000
Input	kW	5.05	Input	kW	(Non-Ducted) 4.65 (Ducted) 4.48





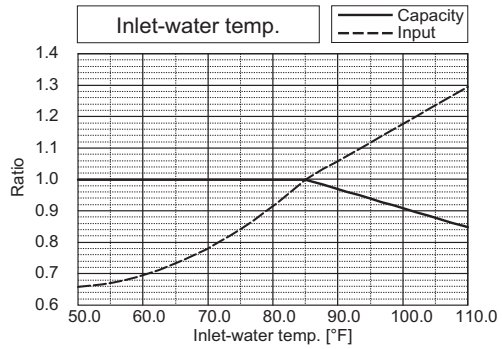


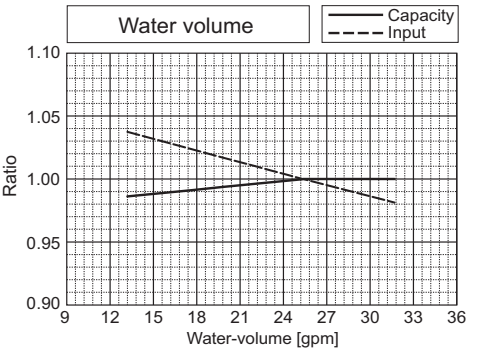


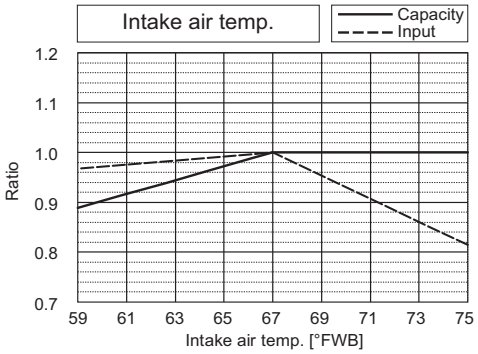
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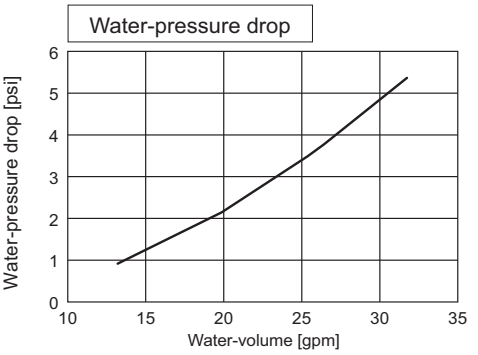
8. CAPACITY TABLES

PQHY-		P120TLMU/YLMU			
Nominal Cooling Capacity	kW	35.2	Rated Cooling Capacity	kW	33.4
	BTU/h	120,000		BTU/h	114,000
Input	kW	7.24	Input	kW	(Non-Ducted) 6.66 (Ducted) 7.35

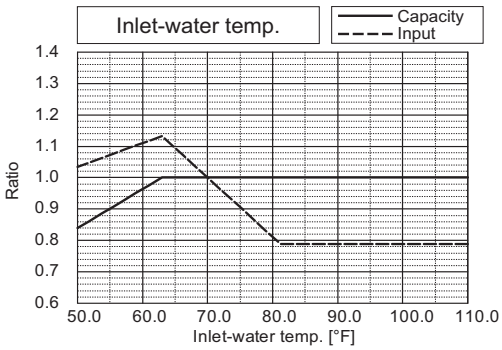


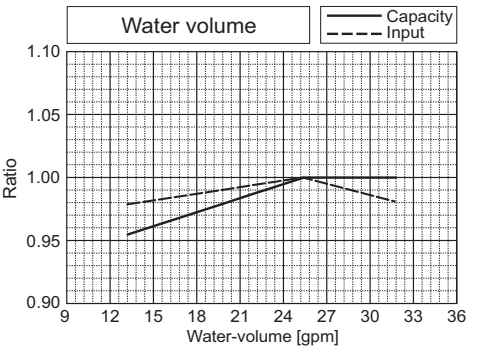


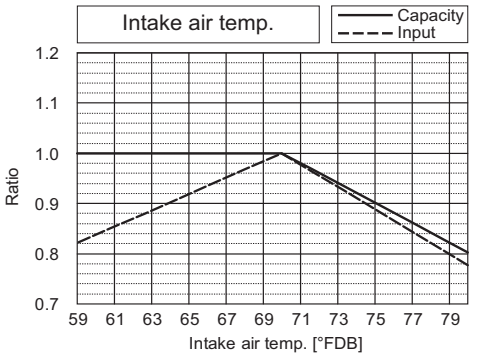


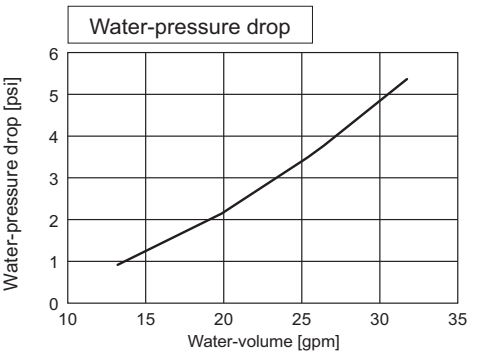


PQHY-		P120TLMU/YLMU			
Nominal Heating Capacity	kW	39.6	Rated Heating Capacity	kW	37.8
	BTU/h	135,000		BTU/h	129,000
Input	kW	6.83	Input	kW	(Non-Ducted) 6.29 (Ducted) 5.92





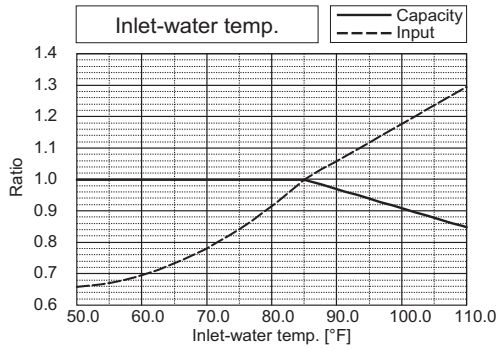


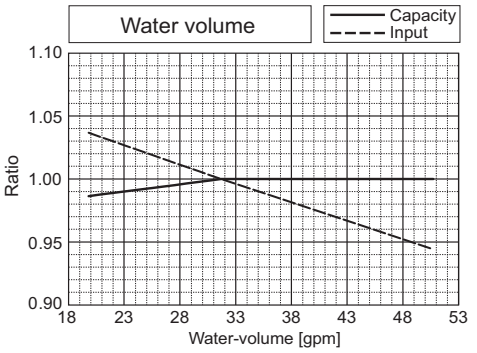


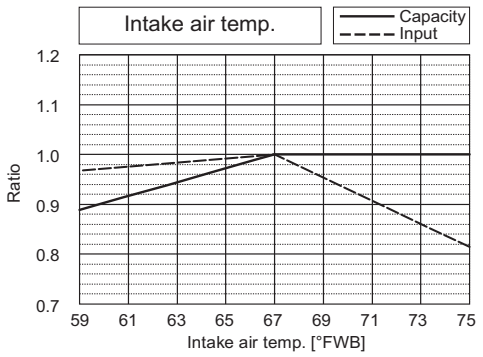
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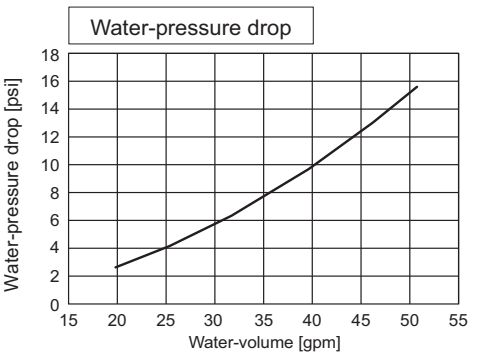
8. CAPACITY TABLES

PQHY-		P144TLMU/YLMU			
Nominal Cooling Capacity	kW	42.2	Rated Cooling Capacity	kW	40.2
	BTU/h	144,000		BTU/h	137,000
Input	kW	8.78	Input	kW	(Non-Ducted) 8.07 (Ducted) 9.98

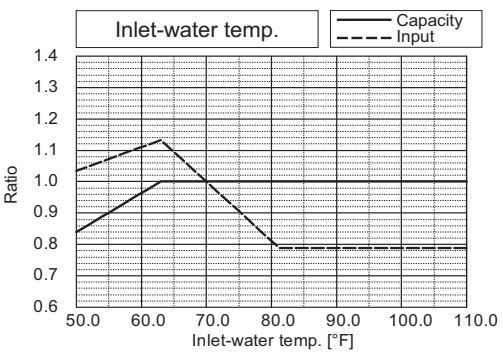


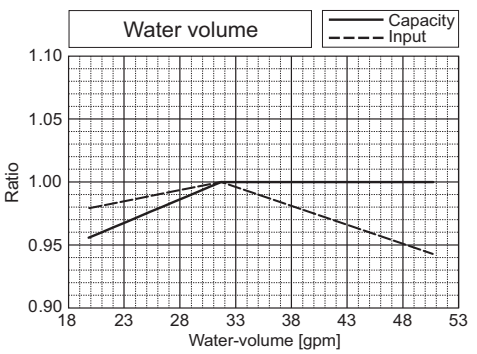


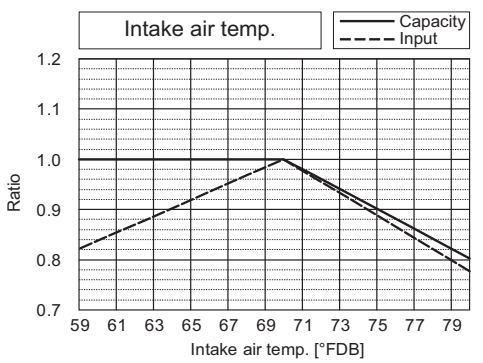


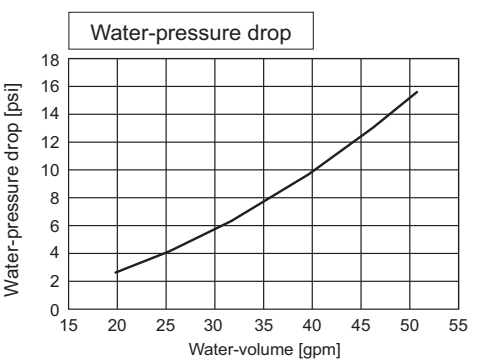


PQHY-		P144TLMU/YLMU			
Nominal Heating Capacity	kW	46.9	Rated Heating Capacity	kW	44.5
	BTU/h	160,000		BTU/h	152,000
Input	kW	8.11	Input	kW	(Non-Ducted) 7.47 (Ducted) 7.90





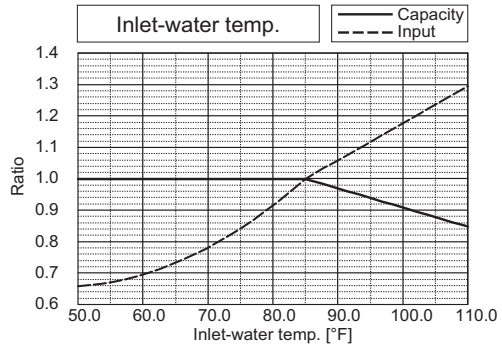


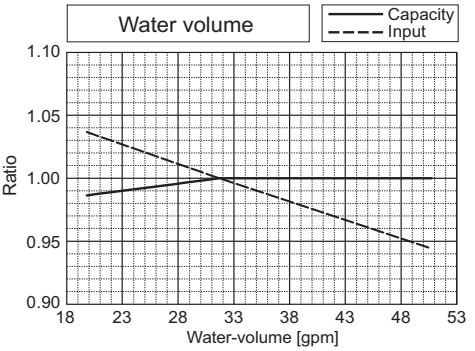


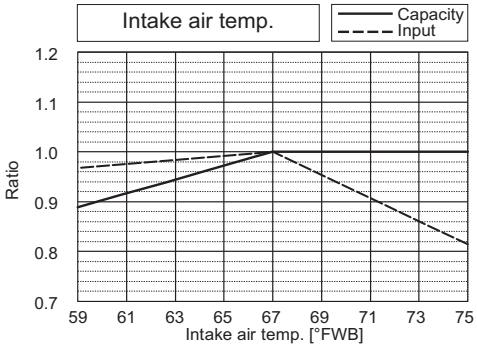
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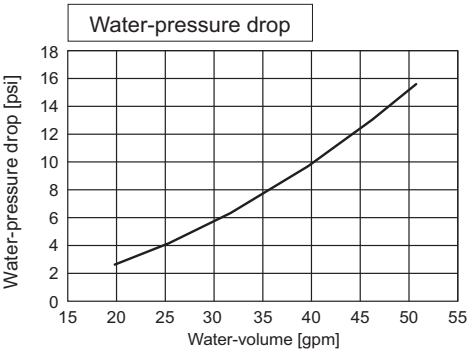
8. CAPACITY TABLES

PQHY-		P168TLMU/YLMU			
Nominal Cooling Capacity	kW	49.2	Rated Cooling Capacity	kW	47.2
	BTU/h	168,000		BTU/h	161,000
Input	kW	12.05	Input	kW	(Non-Ducted) 11.10 (Ducted) 11.88

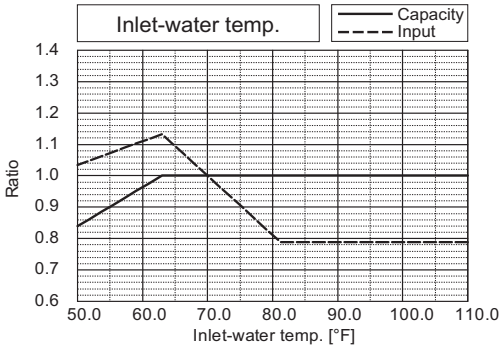


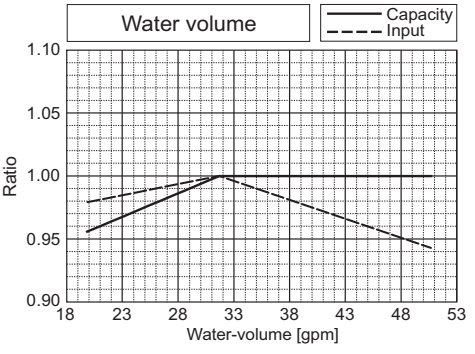


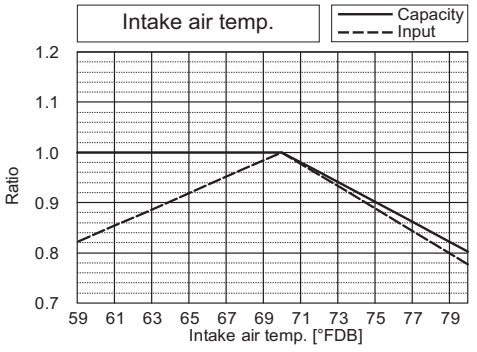


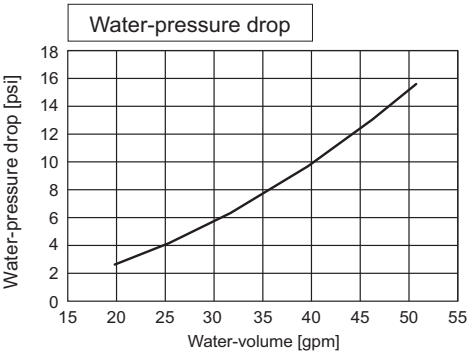


PQHY-		P168TLMU/YLMU			
Nominal Heating Capacity	kW	55.1	Rated Heating Capacity	kW	52.5
	BTU/h	188,000		BTU/h	179,000
Input	kW	9.86	Input	kW	(Non-Ducted) 9.09 (Ducted) 9.72





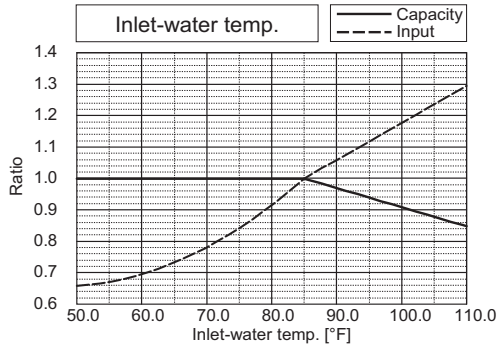


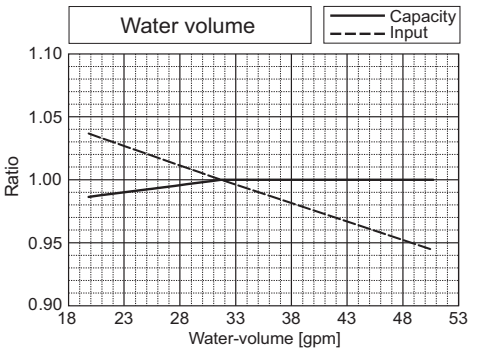


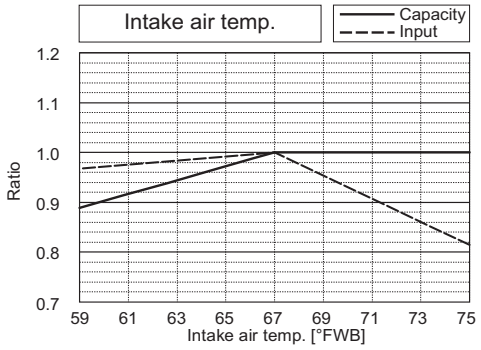
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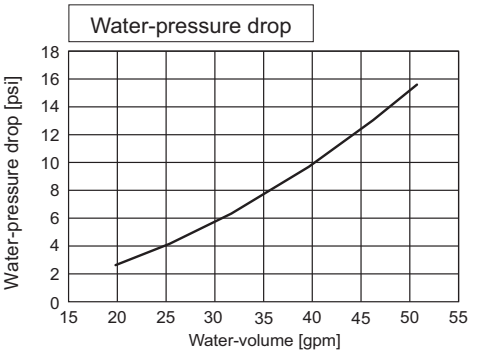
8. CAPACITY TABLES

PQHY-		P192TLMU/YLMU			
Nominal Cooling Capacity	kW	56.3	Rated Cooling Capacity	kW	53.6
	BTU/h	192,000		BTU/h	183,000
Input	kW	15.05	Input	kW	(Non-Ducted) 13.87 (Ducted) 14.19

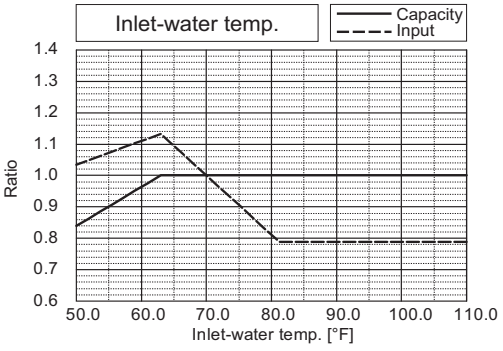


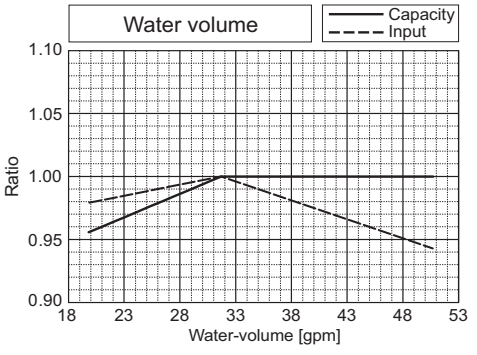


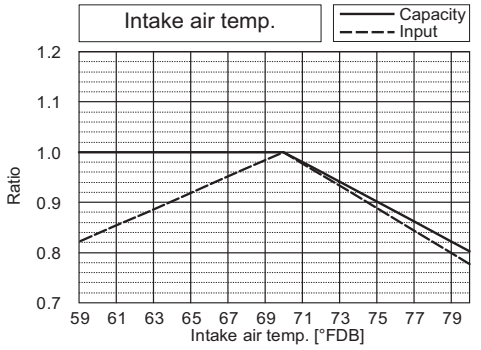


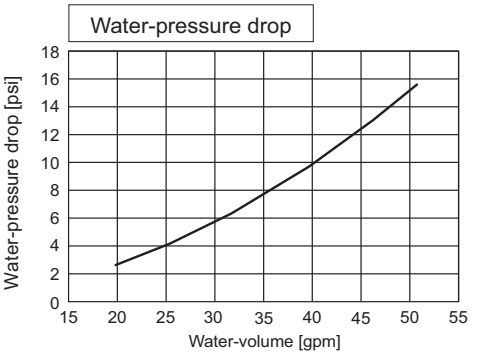


PQHY-		P192TLMU/YLMU			
Nominal Heating Capacity	kW	63.0	Rated Heating Capacity	kW	60.1
	BTU/h	215,000		BTU/h	205,000
Input	kW	11.90	Input	kW	(Non-Ducted) 10.97 (Ducted) 11.56





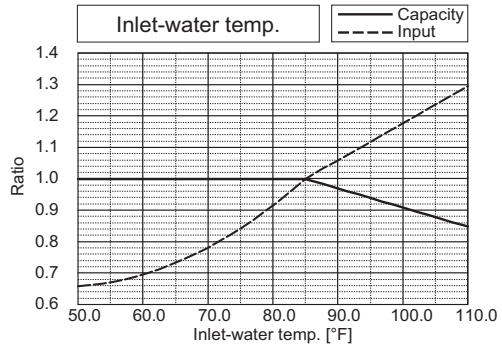


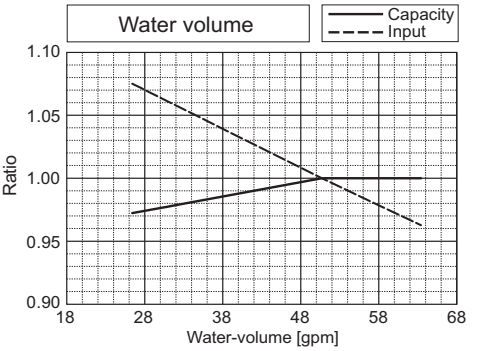


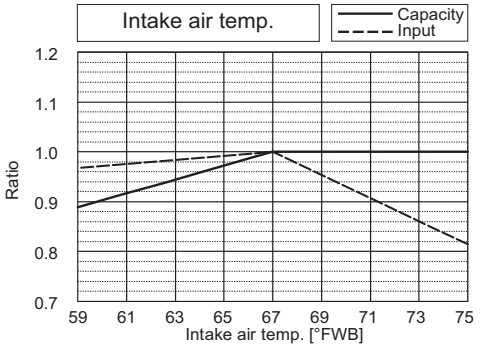
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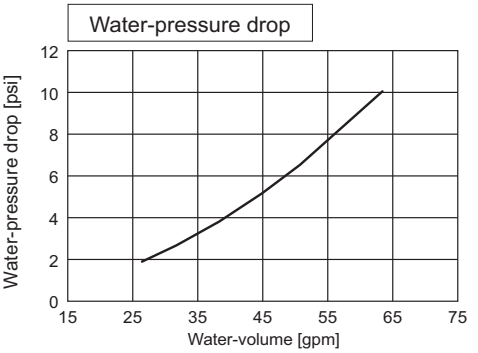
8. CAPACITY TABLES

PQHY-		P216TLMU/YLMU			
Nominal Cooling Capacity	kW	63.3	Rated Cooling Capacity	kW	60.4
	BTU/h	216,000		BTU/h	206,000
Input	kW	19.23	Input	kW	(Non-Ducted) 17.72 (Ducted) 16.10

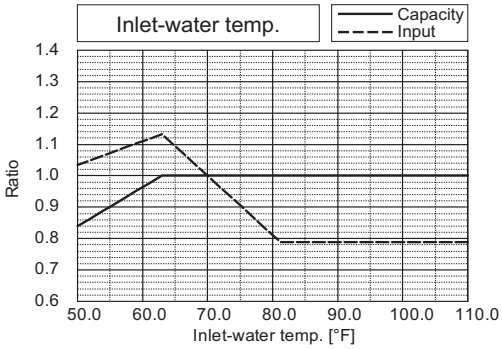


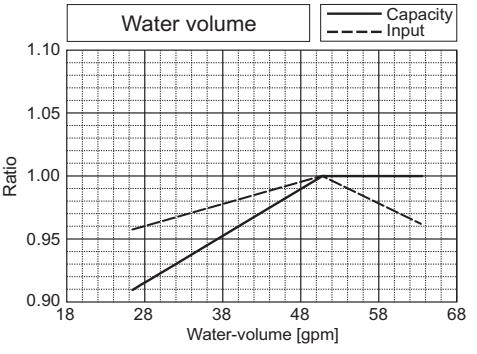


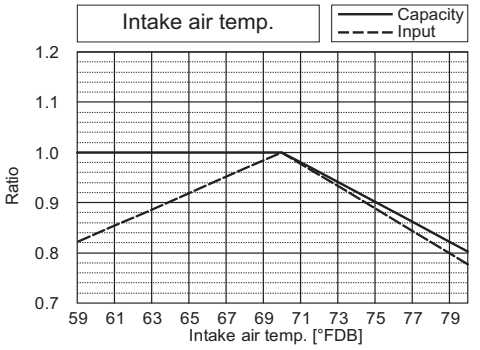


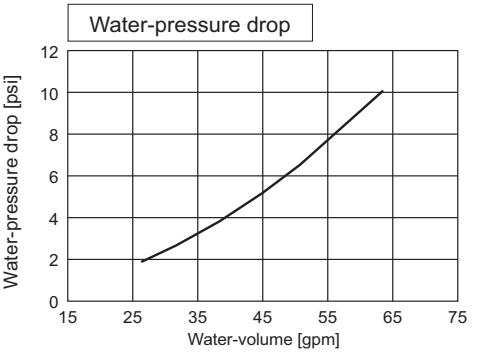


PQHY-		P216TLMU/YLMU			
Nominal Heating Capacity	kW	71.2	Rated Heating Capacity	kW	68.0
	BTU/h	243,000		BTU/h	232,000
Input	kW	13.04	Input	kW	(Non-Ducted) 12.01 (Ducted) 12.34





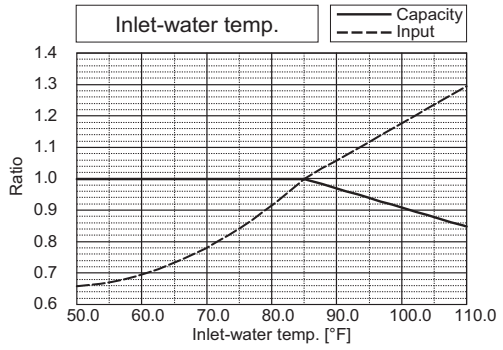


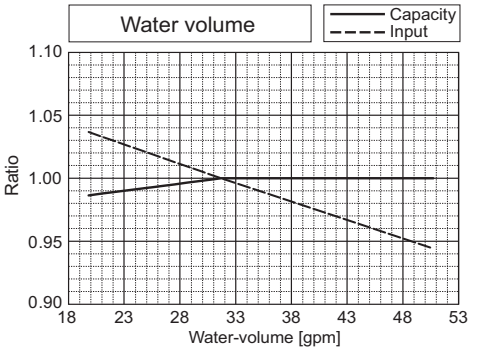


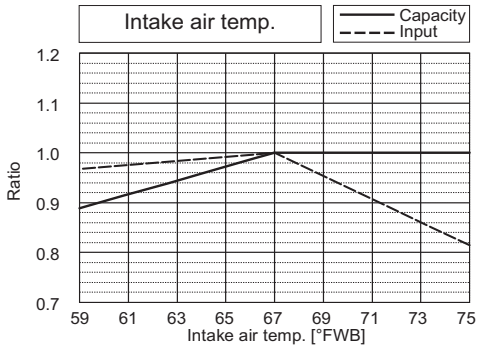
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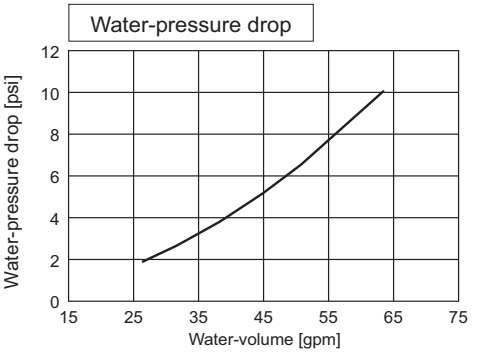
8. CAPACITY TABLES

PQHY-		P240TLMU/YLMU			
Nominal Cooling Capacity	kW	70.3	Rated Cooling Capacity	kW	66.8
	BTU/h	240,000		BTU/h	228,000
Input	kW	21.14	Input	kW	(Non-Ducted) 19.49 (Ducted) 18.74

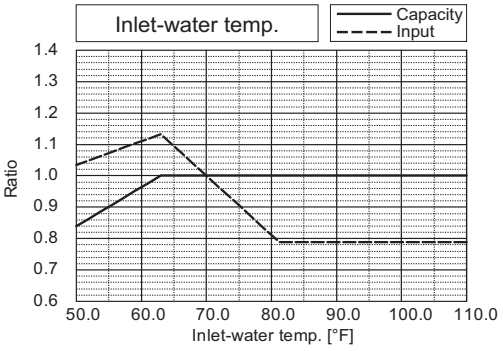


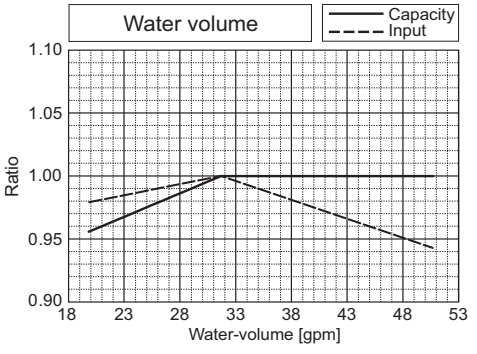


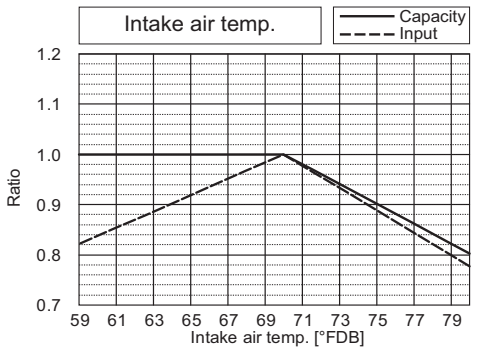


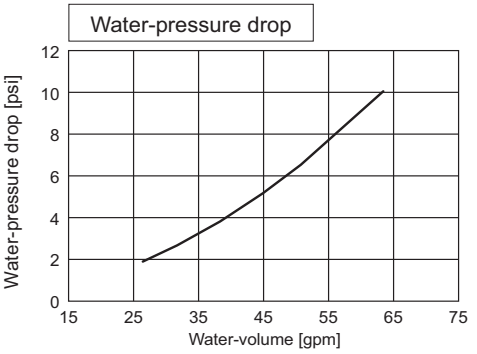


PQHY-		P240TLMU/YLMU			
Nominal Heating Capacity	kW	79.1	Rated Heating Capacity	kW	75.6
	BTU/h	270,000		BTU/h	258,000
Input	kW	15.12	Input	kW	(Non-Ducted) 13.93 (Ducted) 14.62







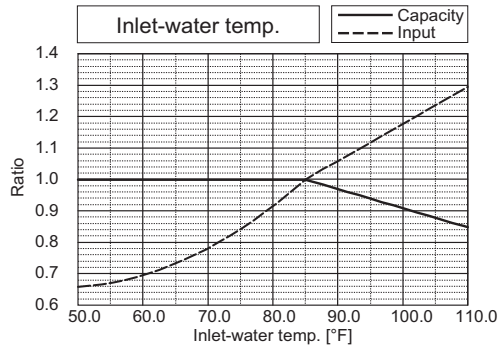


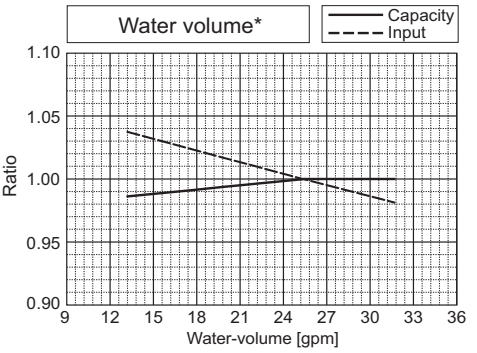
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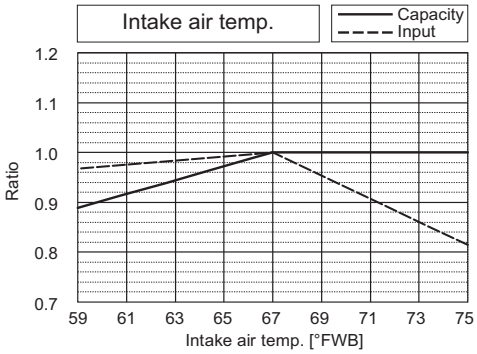
8. CAPACITY TABLES

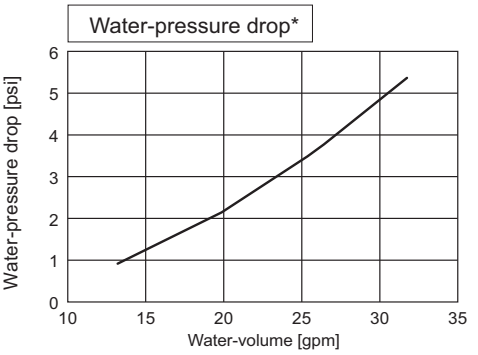
*The drawing indicates characteristic per unit.

PQHY-		P144TSLMU/YSLMU			
Nominal Cooling Capacity	kW	42.2	Rated Cooling Capacity	kW	40.2
	BTU/h	144,000		BTU/h	137,000
Input	kW	7.11	Input	kW	(Non-Ducted) 6.53 (Ducted) 7.72

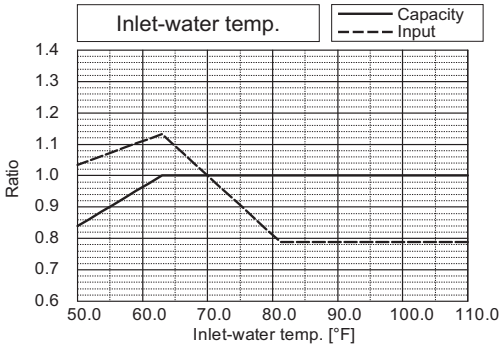


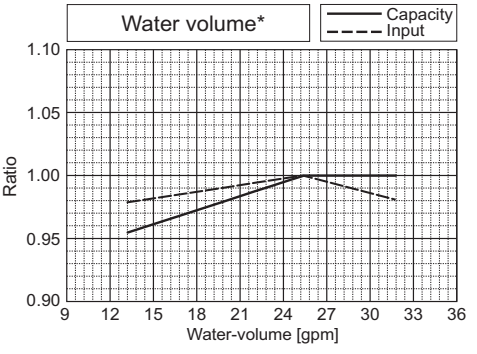


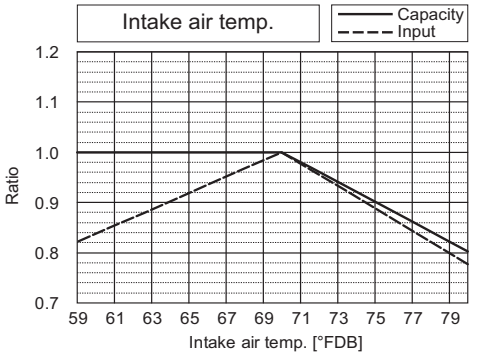


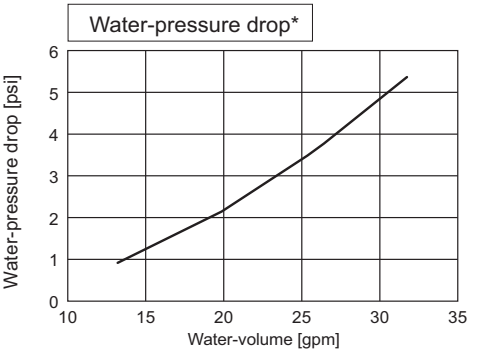


PQHY-		P144TSLMU/YSLMU			
Nominal Heating Capacity	kW	46.9	Rated Heating Capacity	kW	44.5
	BTU/h	160,000		BTU/h	152,000
Input	kW	7.45	Input	kW	(Non-Ducted) 6.86 (Ducted) 7.22







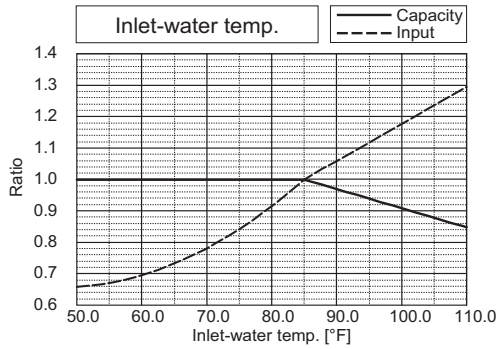


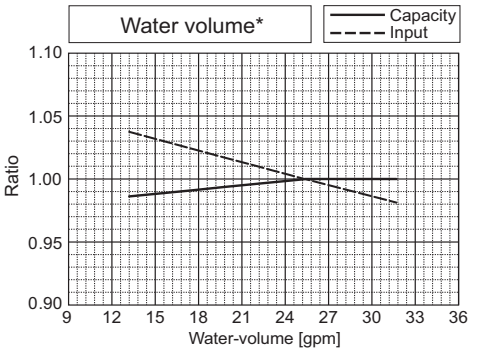
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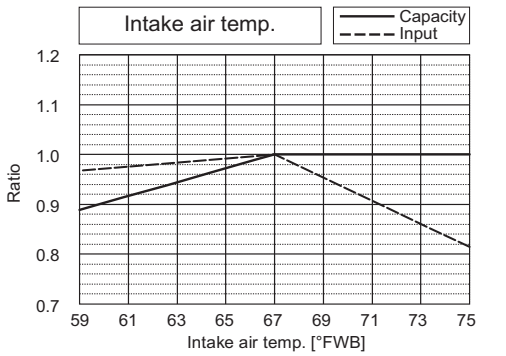
8. CAPACITY TABLES

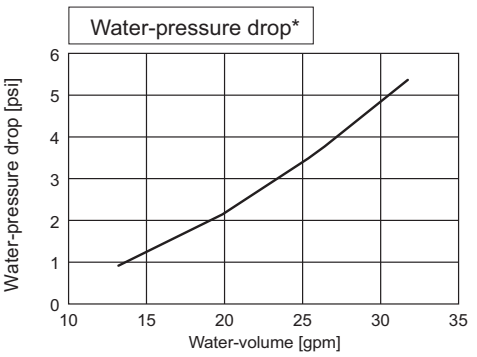
*The drawing indicates characteristic per unit.

PQHY-		P168TSLMU/YSLMU			
Nominal Cooling Capacity	kW	49.2	Rated Cooling Capacity	kW	47.2
	BTU/h	168,000		BTU/h	161,000
Input	kW	9.33	Input	kW	(Non-Ducted) 8.58 (Ducted) 9.22

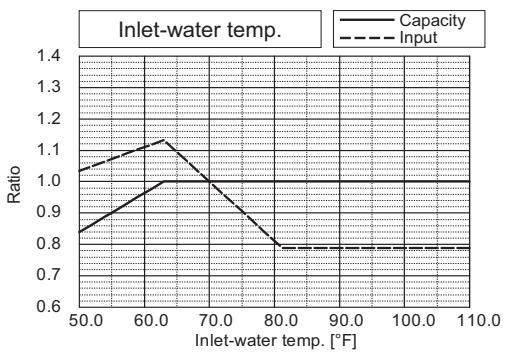


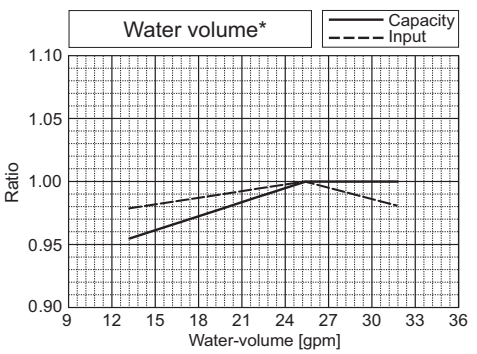


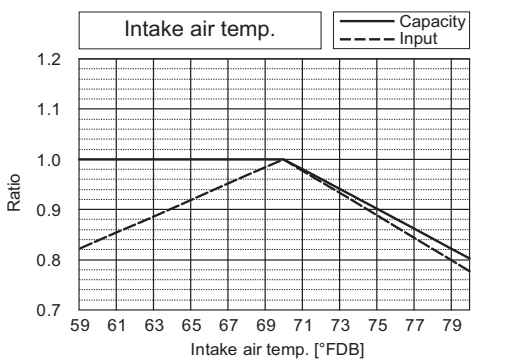


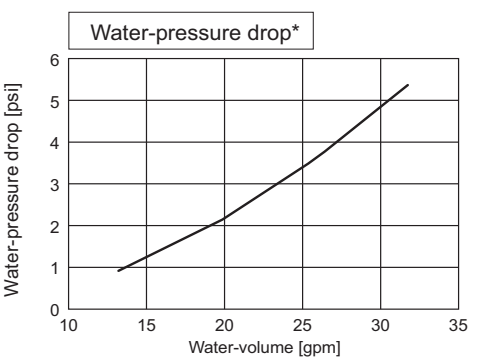


PQHY-		P168TSLMU/YSLMU			
Nominal Heating Capacity	kW	55.1	Rated Heating Capacity	kW	52.5
	BTU/h	188,000		BTU/h	179,000
Input	kW	9.34	Input	kW	(Non-Ducted) 8.60 (Ducted) 8.03







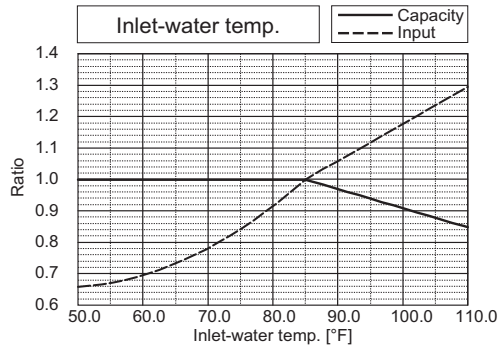


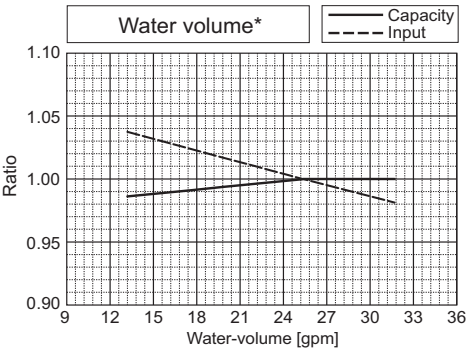
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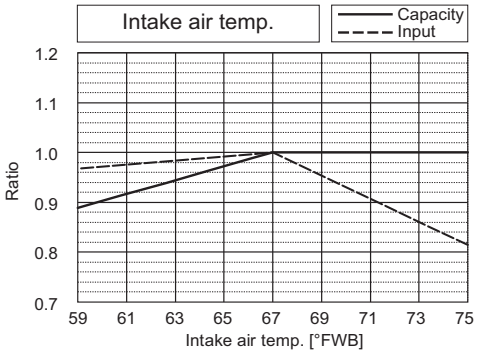
8. CAPACITY TABLES

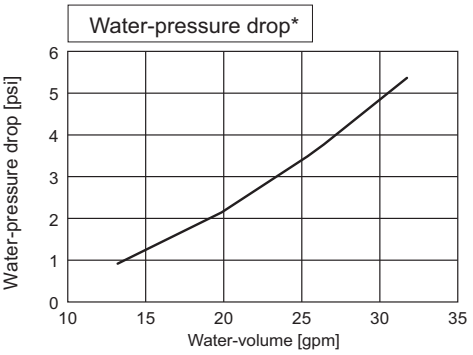
*The drawing indicates characteristic per unit.

PQHY-		P192TSLMU/YSLMU			
Nominal Cooling Capacity	kW	56.3	Rated Cooling Capacity	kW	53.6
	BTU/h	192,000		BTU/h	183,000
Input	kW	11.30	Input	kW	(Non-Ducted) 10.40 (Ducted) 10.98

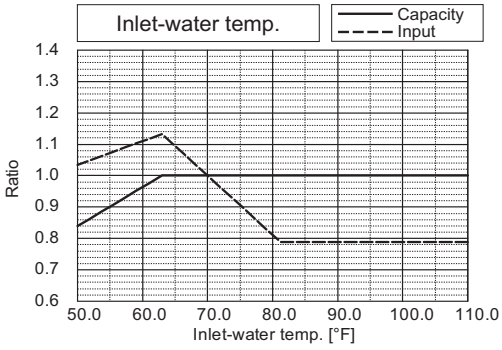


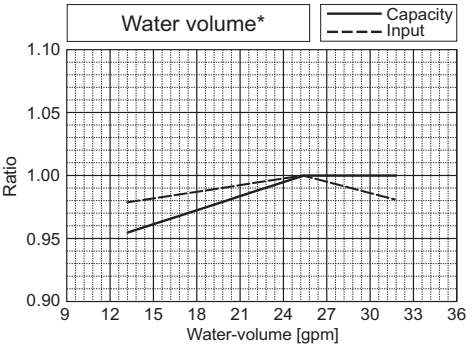


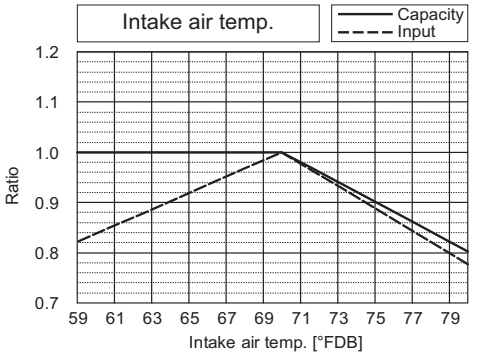


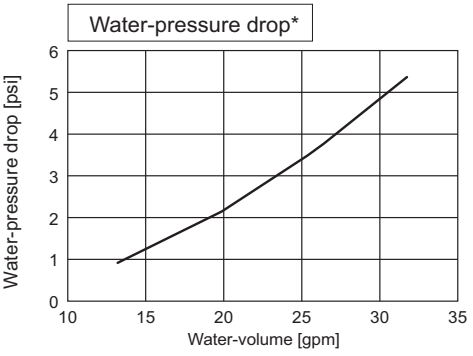


PQHY-		P192TSLMU/YSLMU			
Nominal Heating Capacity	kW	63.0	Rated Heating Capacity	kW	60.1
	BTU/h	215,000		BTU/h	205,000
Input	kW	11.02	Input	kW	(Non-Ducted) 10.16 (Ducted) 8.90







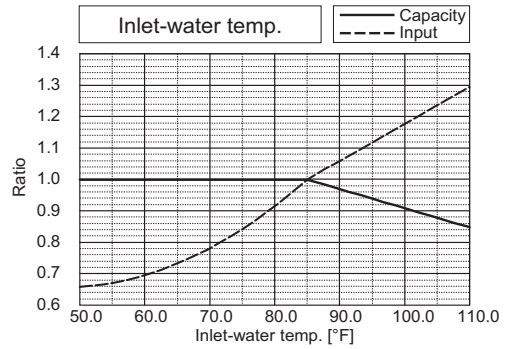


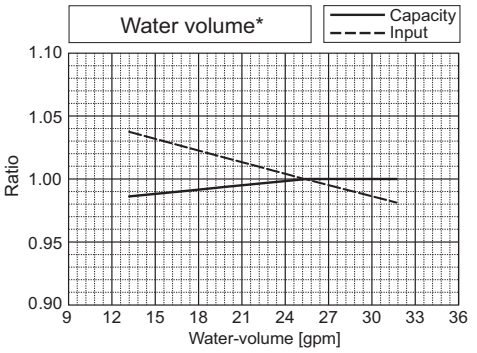
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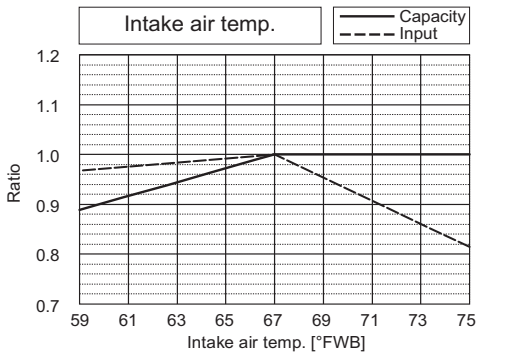
8. CAPACITY TABLES

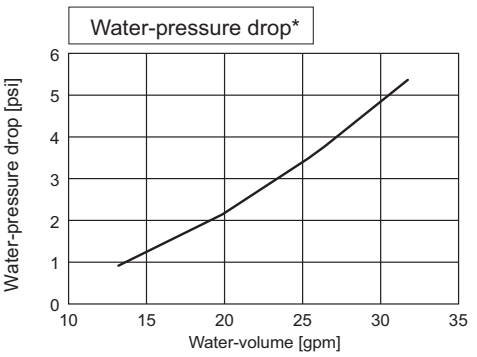
*The drawing indicates characteristic per unit.

PQHY-		P216TSLMU/YSLMU			
Nominal Cooling Capacity	kW	63.3	Rated Cooling Capacity	kW	60.4
	BTU/h	216,000		BTU/h	206,000
Input	kW	14.03	Input	kW	(Non-Ducted) 12.93 (Ducted) 13.24

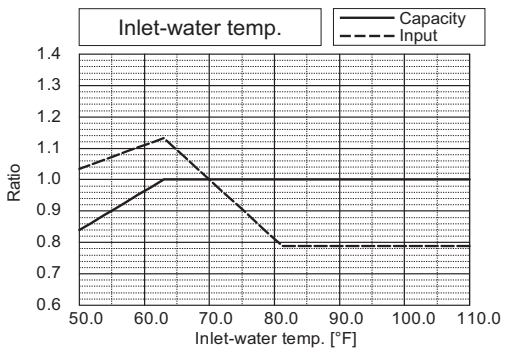


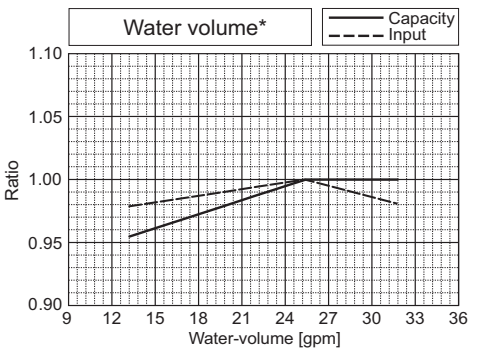


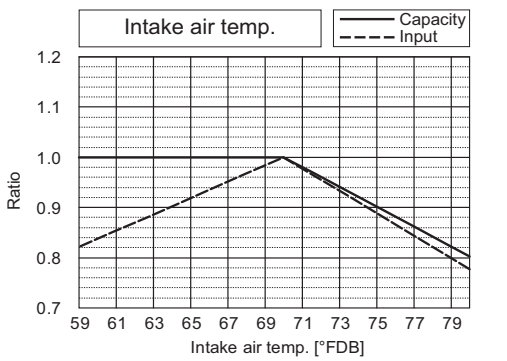


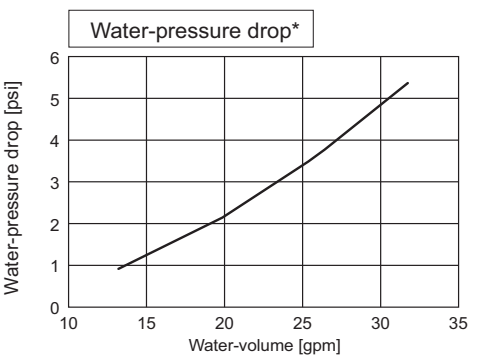


PQHY-		P216TSLMU/YSLMU			
Nominal Heating Capacity	kW	71.2	Rated Heating Capacity	kW	68.0
	BTU/h	243,000		BTU/h	232,000
Input	kW	12.88	Input	kW	(Non-Ducted) 11.88 (Ducted) 10.35







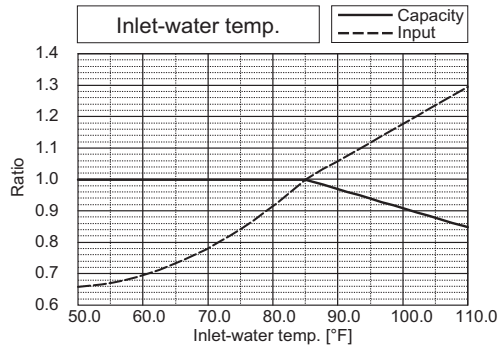


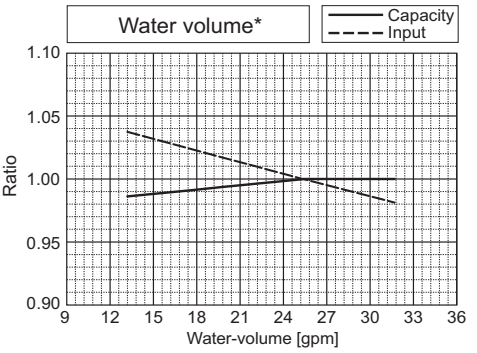
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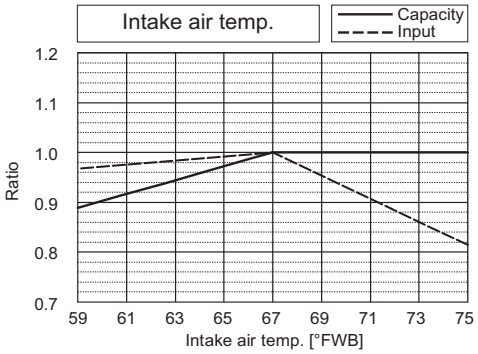
8. CAPACITY TABLES

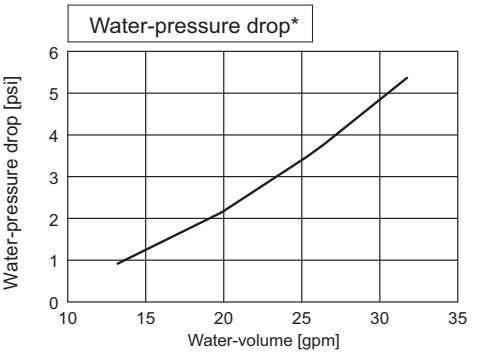
*The drawing indicates characteristic per unit.

PQHY-		P240TSLMU/YSLMU			
Nominal Cooling Capacity	kW	70.3	Rated Cooling Capacity	kW	66.8
	BTU/h	240,000		BTU/h	228,000
Input	kW	16.89	Input	kW	(Non-Ducted) 15.57 (Ducted) 16.15

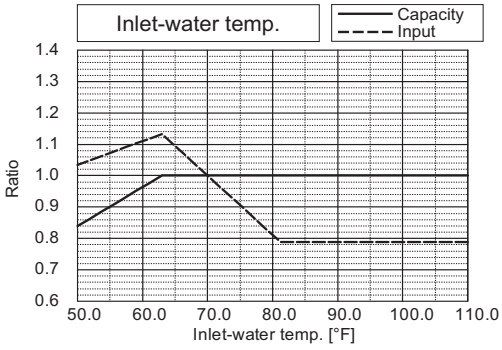


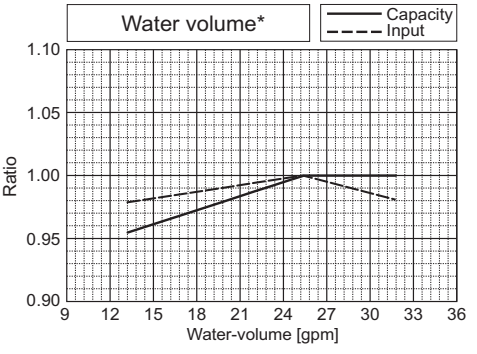


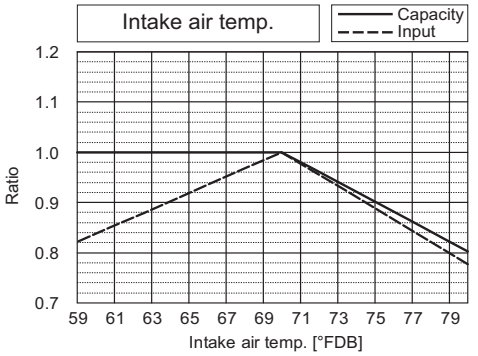


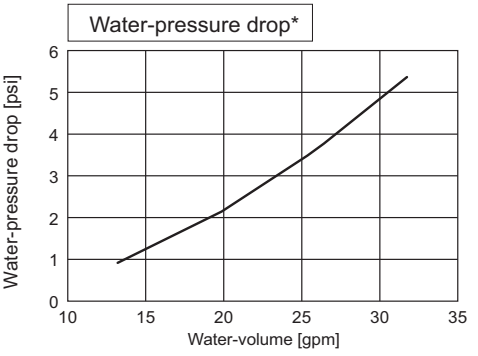


PQHY-		P240TSLMU/YSLMU			
Nominal Heating Capacity	kW	79.1	Rated Heating Capacity	kW	75.6
	BTU/h	270,000		BTU/h	258,000
Input	kW	14.58	Input	kW	(Non-Ducted) 13.45 (Ducted) 12.02







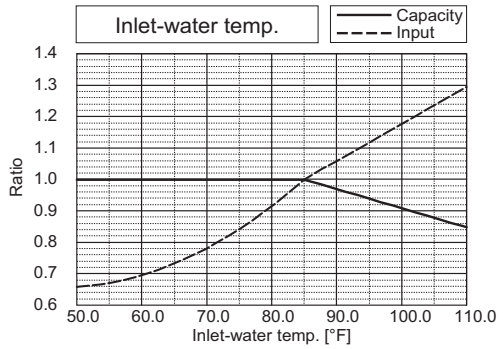


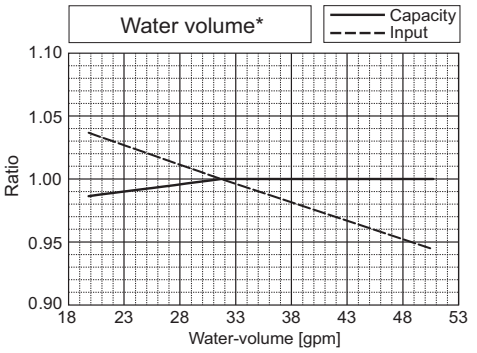
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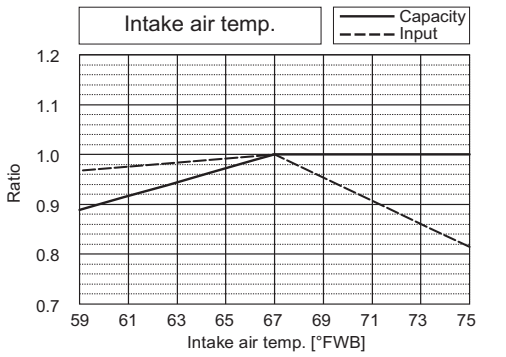
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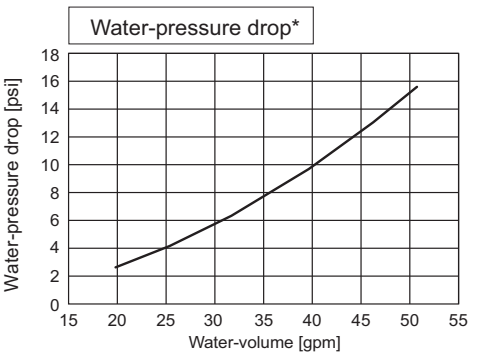
*The drawing indicates characteristic per unit.

PQHY-		P288TSLMU/YSLMU			
Nominal Cooling Capacity	kW	84.4	Rated Cooling Capacity	kW	80.6
	BTU/h	288,000		BTU/h	275,000
Input	kW	20.42	Input	kW	(Non-Ducted) 18.82 (Ducted) 21.43

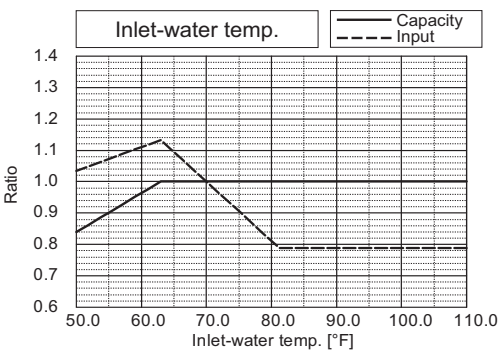


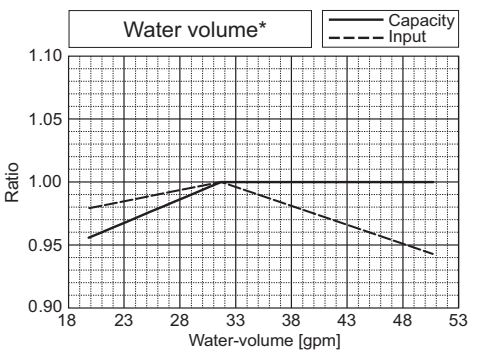


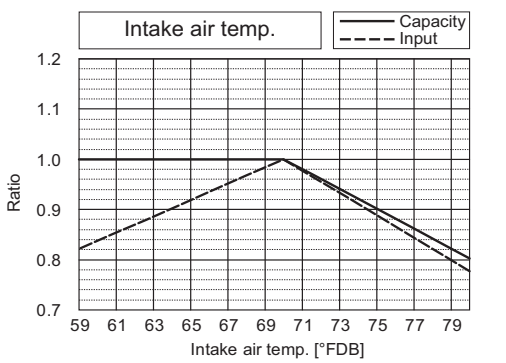


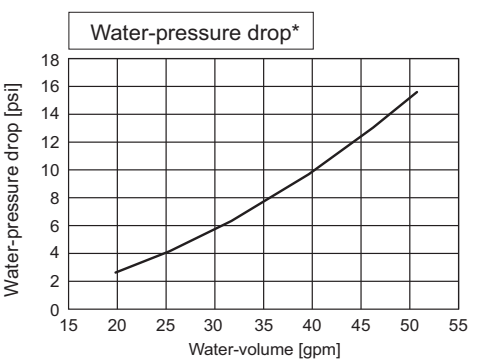


PQHY-		P288TSLMU/YSLMU			
Nominal Heating Capacity	kW	94.7	Rated Heating Capacity	kW	90.3
	BTU/h	323,000		BTU/h	308,000
Input	kW	17.50	Input	kW	(Non-Ducted) 16.13 (Ducted) 16.05







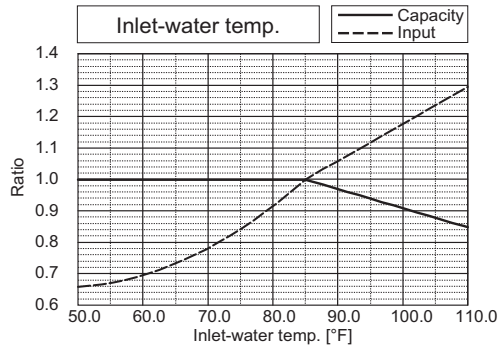


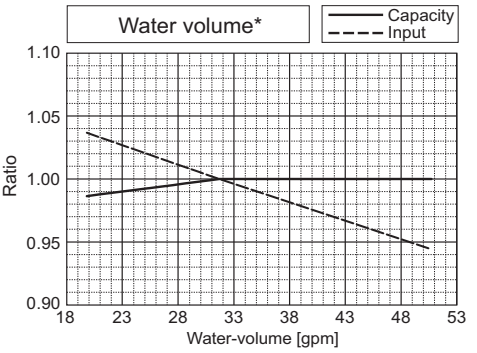
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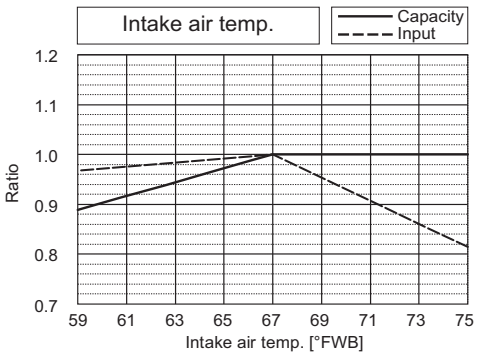
8. CAPACITY TABLES

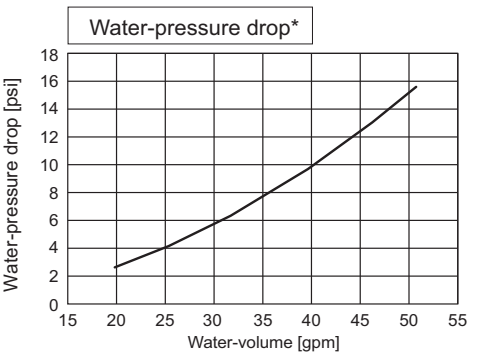
*The drawing indicates characteristic per unit.

PQHY-		P312TSLMU/YSLMU			
Nominal Cooling Capacity	kW	91.4	Rated Cooling Capacity	kW	87.0
	BTU/h	312,000		BTU/h	297,000
Input	kW	23.41	Input	kW	(Non-Ducted) 21.59 (Ducted) 23.67

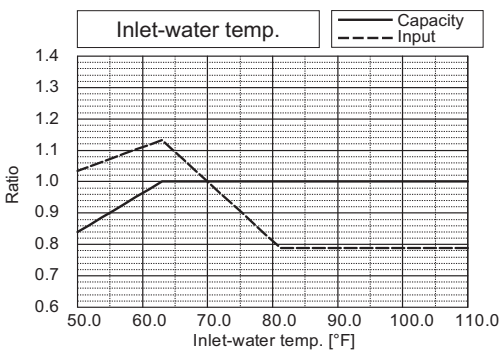


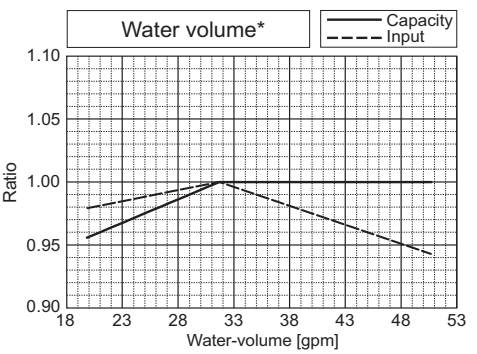


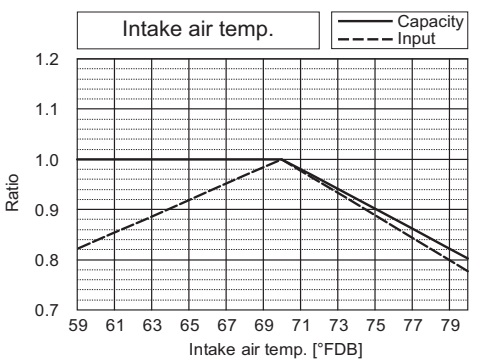


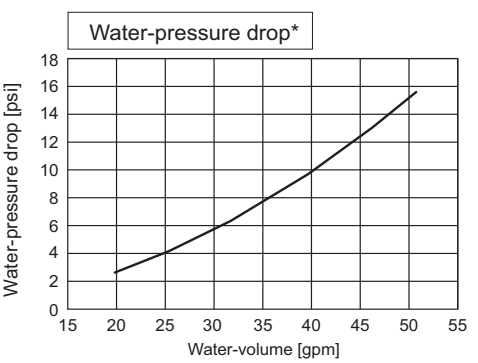


PQHY-		P312TSLMU/YSLMU			
Nominal Heating Capacity	kW	102.6	Rated Heating Capacity	kW	97.9
	BTU/h	350,000		BTU/h	334,000
Input	kW	19.11	Input	kW	(Non-Ducted) 17.62 (Ducted) 17.96







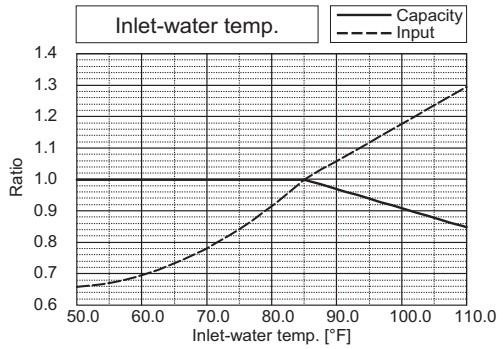


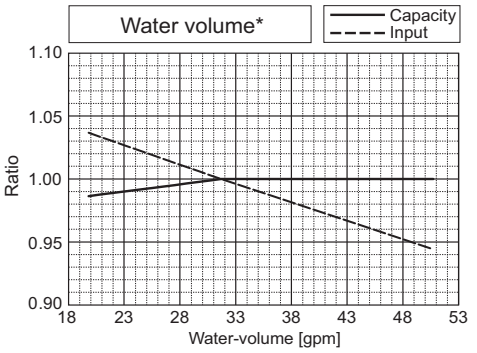
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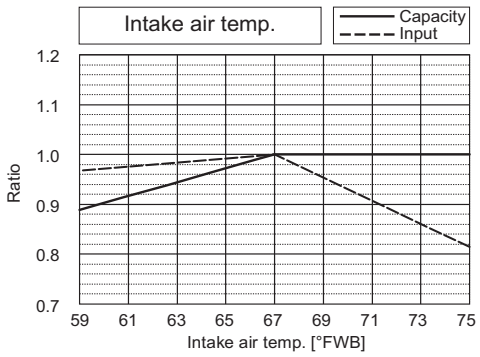
8. CAPACITY TABLES

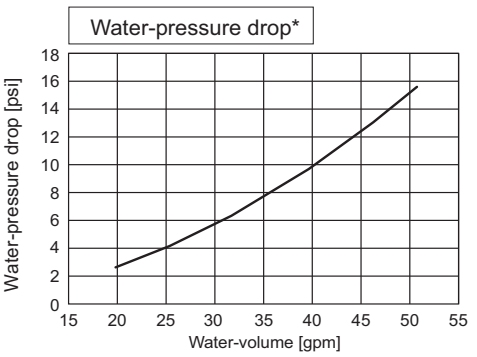
*The drawing indicates characteristic per unit.

PQHY-		P336TSLMU/YSLMU			
Nominal Cooling Capacity	kW	98.5	Rated Cooling Capacity	kW	93.8
	BTU/h	336,000		BTU/h	320,000
Input	kW	26.84	Input	kW	(Non-Ducted) 24.76 (Ducted) 25.85

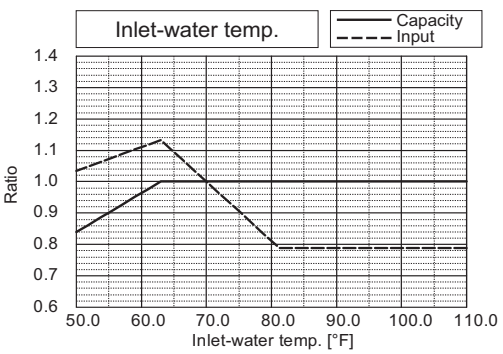


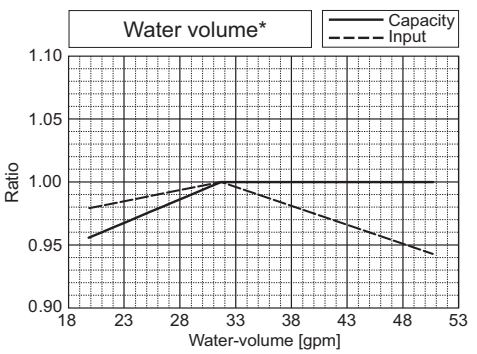


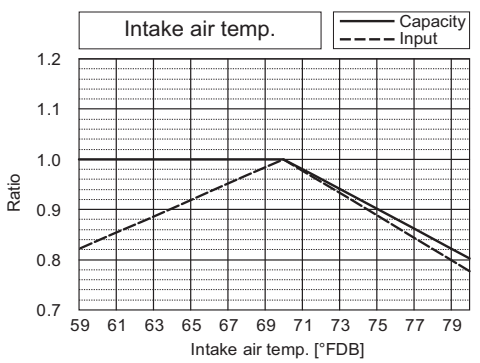


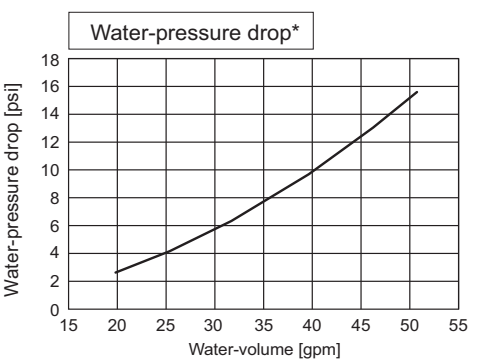


PQHY-		P336TSLMU/YSLMU			
Nominal Heating Capacity	kW	110.8	Rated Heating Capacity	kW	105.8
	BTU/h	378,000		BTU/h	361,000
Input	kW	20.77	Input	kW	(Non-Ducted) 19.16 (Ducted) 20.05







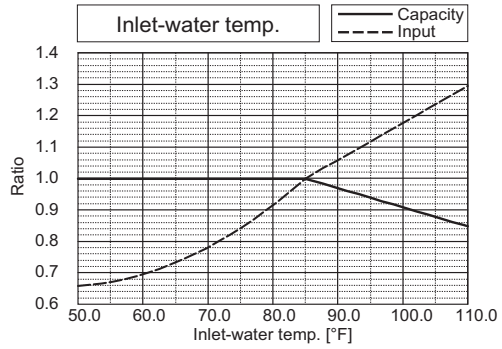


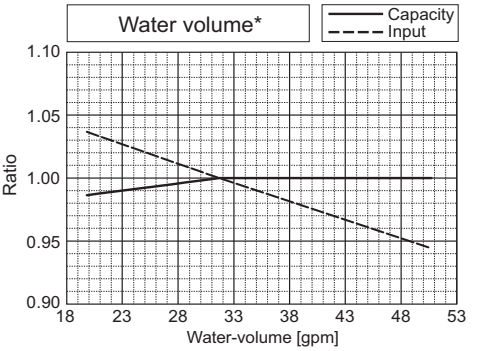
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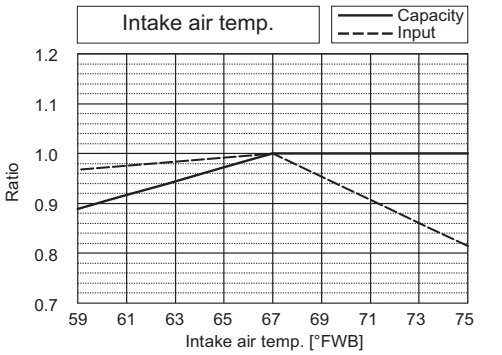
8. CAPACITY TABLES

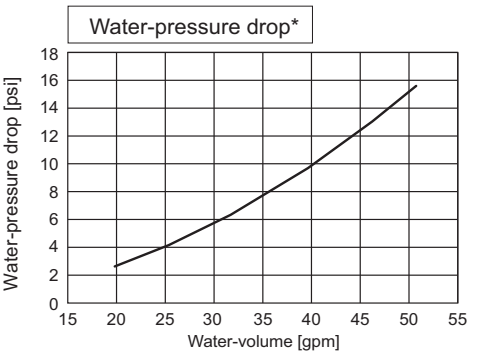
*The drawing indicates characteristic per unit.

PQHY-		P360TSLMU/YSLMU			
Nominal Cooling Capacity	kW	105.5	Rated Cooling Capacity	kW	100.2
	BTU/h	360,000		BTU/h	342,000
Input	kW	29.43	Input	kW	(Non-Ducted) 27.17 (Ducted) 27.41

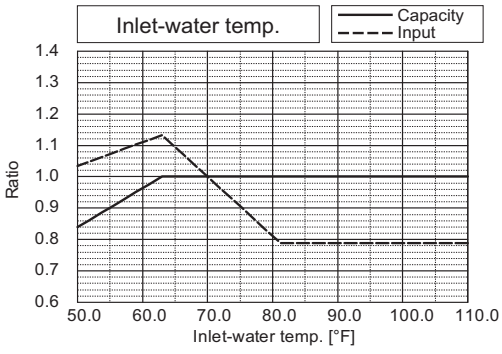


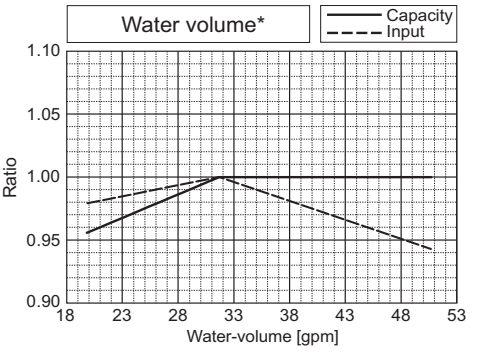


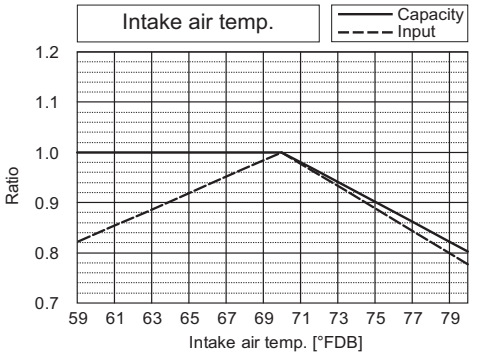


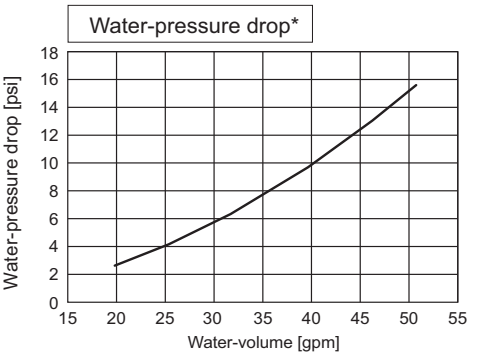


PQHY-		P360TSLMU/YSLMU			
Nominal Heating Capacity	kW	118.7	Rated Heating Capacity	kW	113.4
	BTU/h	405,000		BTU/h	387,000
Input	kW	22.85	Input	kW	(Non-Ducted) 21.09 (Ducted) 21.70







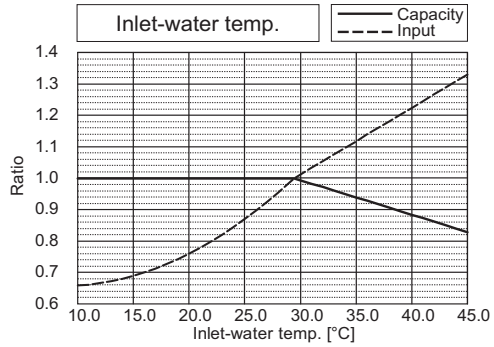


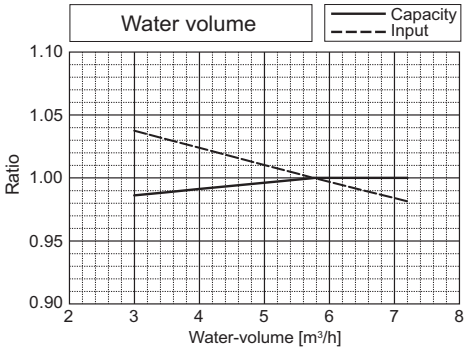
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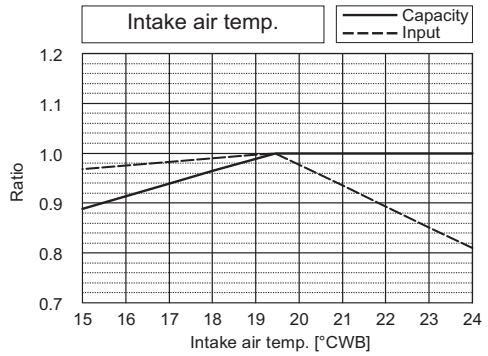
8-2. Correction by Temperature in Celsius

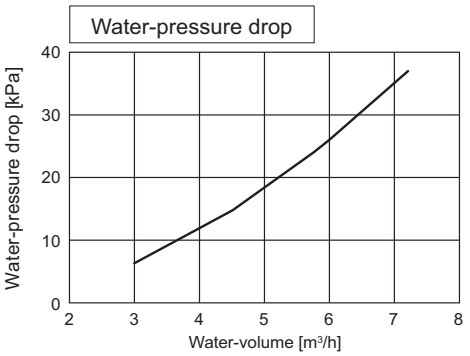
CITY MULTI could have varied capacity at different design temperatures. Using the nominal cooling/heating capacity value and the ratio below, the capacity can be observed at various temperatures.

PQHY-		P72TLMU/YLMU			
Nominal Cooling Capacity	kW	21.1	Rated Cooling Capacity	kW	20.2
	BTU/h	72,000		BTU/h	69,000
Input	kW	3.23	Input	kW	(Non-Ducted) 2.96 (Ducted) 3.12

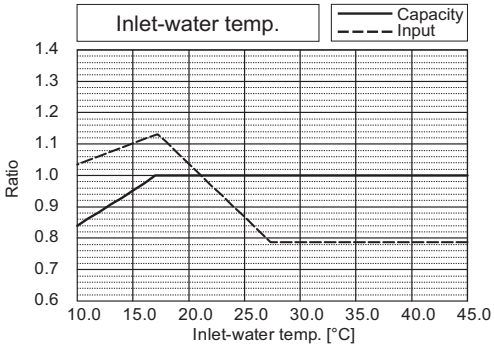


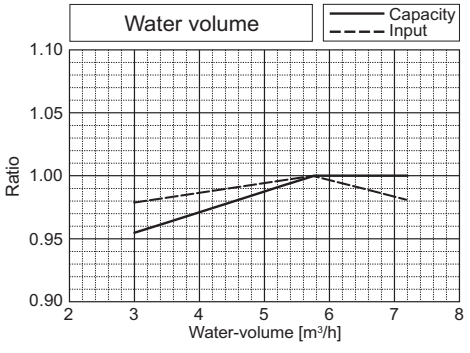


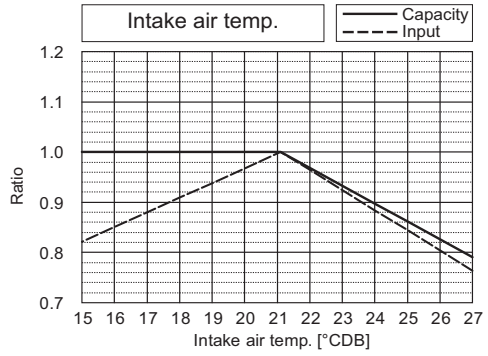


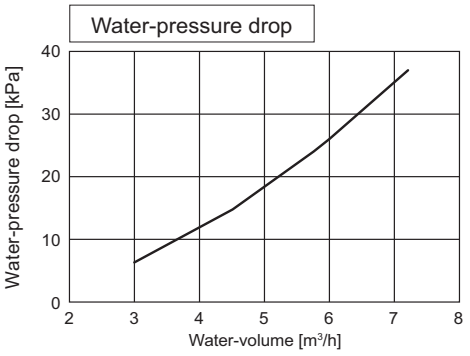


PQHY-		P72TLMU/YLMU			
Nominal Heating Capacity	kW	23.4	Rated Heating Capacity	kW	22.3
	BTU/h	80,000		BTU/h	76,000
Input	kW	3.63	Input	kW	(Non-Ducted) 3.34 (Ducted) 3.36





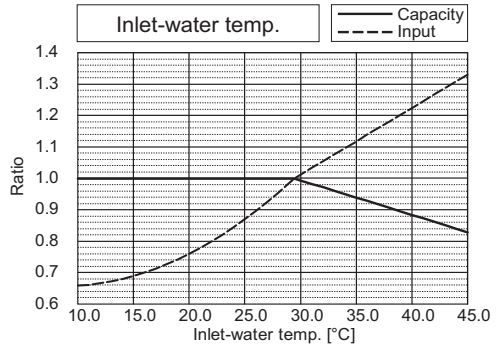


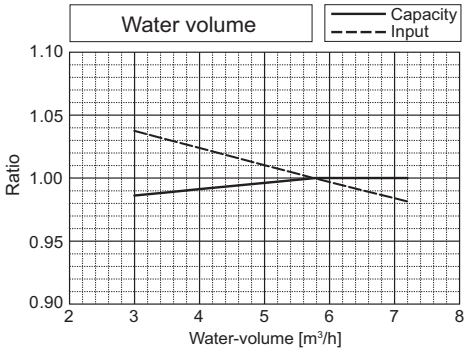


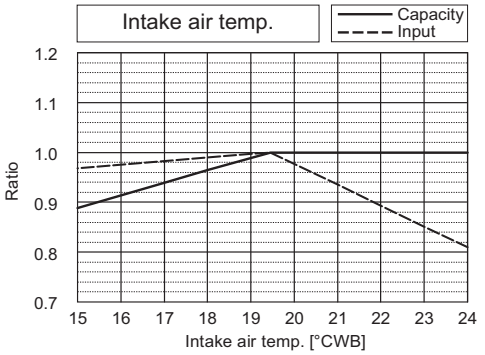
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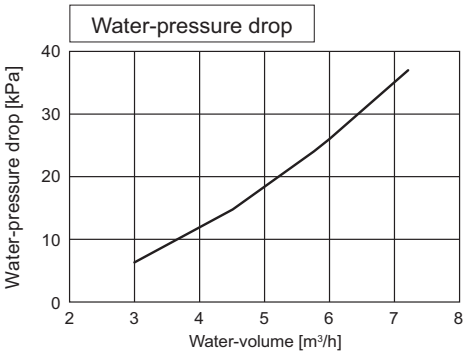
8. CAPACITY TABLES

PQHY-		P96TLMU/YLMU			
Nominal Cooling Capacity	kW	28.1	Rated Cooling Capacity	kW	27.0
	BTU/h	96,000		BTU/h	92,000
Input	kW	4.65	Input	kW	(Non-Ducted) 4.26 (Ducted) 5.19

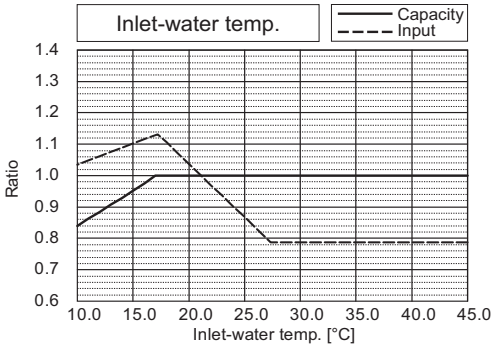


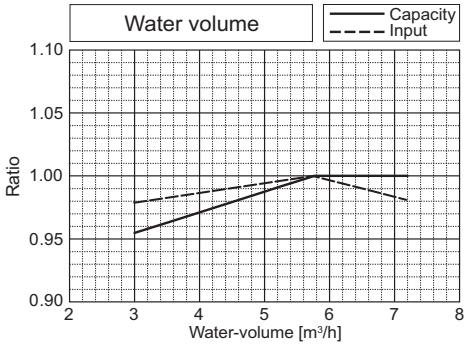


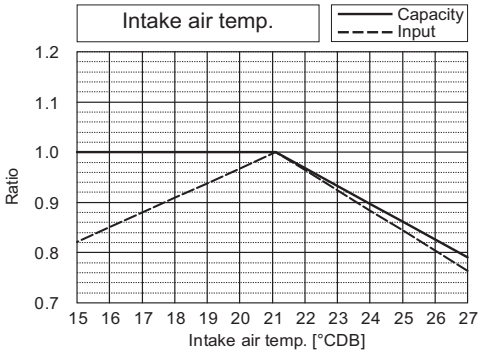


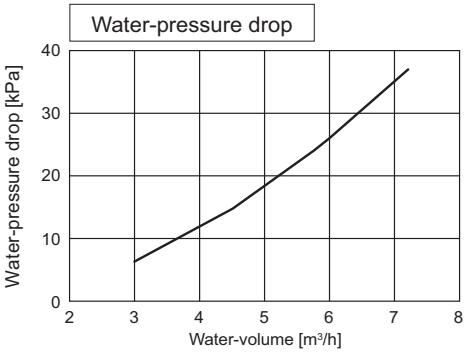


PQHY-		P96TLMU/YLMU			
Nominal Heating Capacity	kW	31.7	Rated Heating Capacity	kW	30.2
	BTU/h	108,000		BTU/h	103,000
Input	kW	5.05	Input	kW	(Non-Ducted) 4.65 (Ducted) 4.48





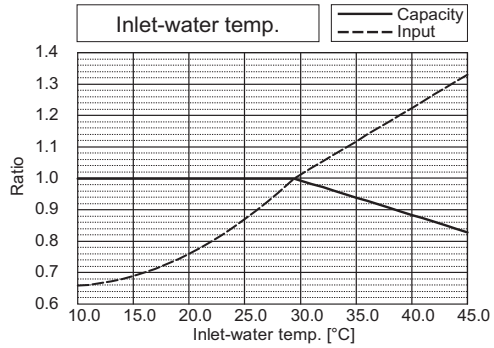


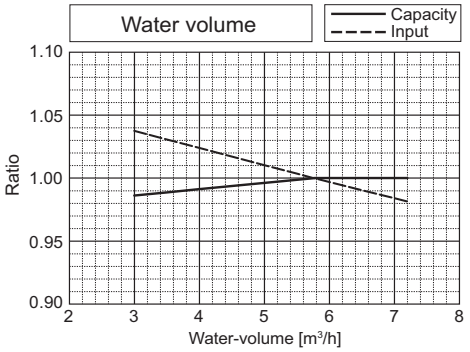


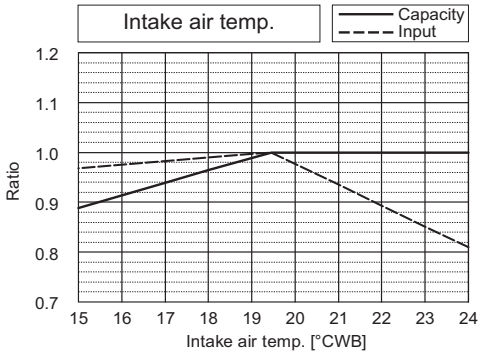
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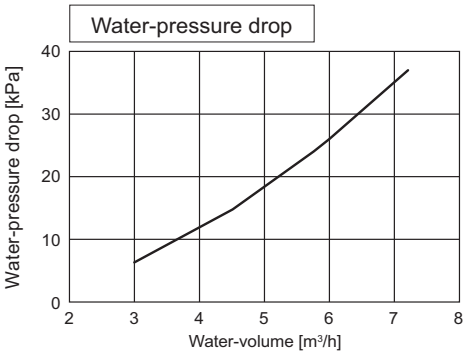
8. CAPACITY TABLES

PQHY-		P120TLMU/YLMU			
Nominal Cooling Capacity	kW	35.2	Rated Cooling Capacity	kW	33.4
	BTU/h	120,000		BTU/h	114,000
Input	kW	7.24	Input	kW	(Non-Ducted) 6.66 (Ducted) 7.35

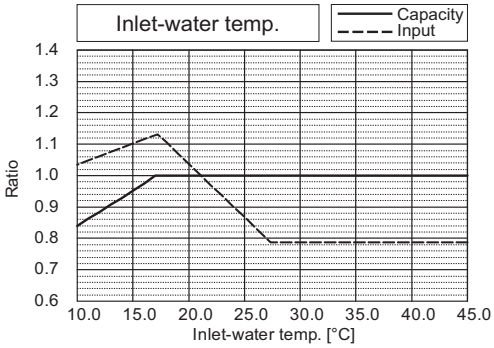


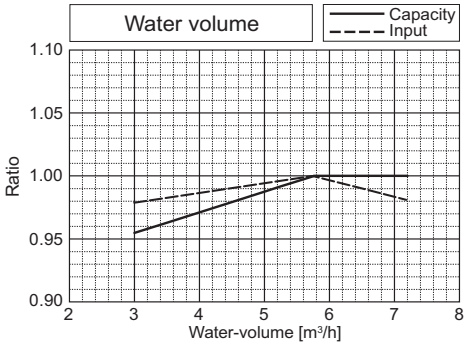


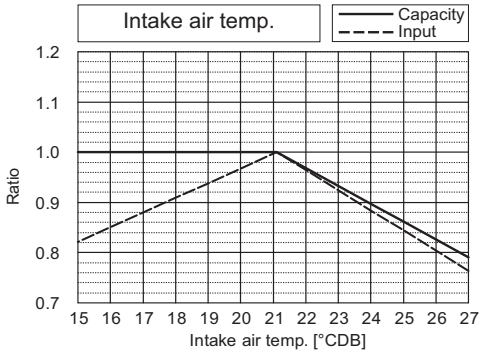


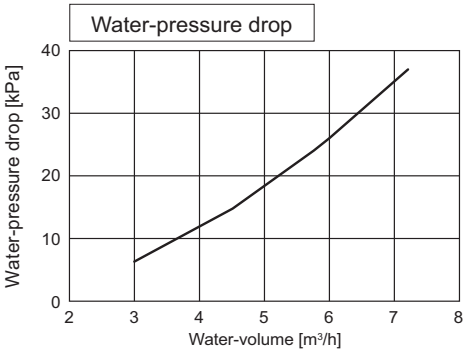


PQHY-		P120TLMU/YLMU			
Nominal Heating Capacity	kW	39.6	Rated Heating Capacity	kW	37.8
	BTU/h	135,000		BTU/h	129,000
Input	kW	6.83	Input	kW	(Non-Ducted) 6.29 (Ducted) 5.92





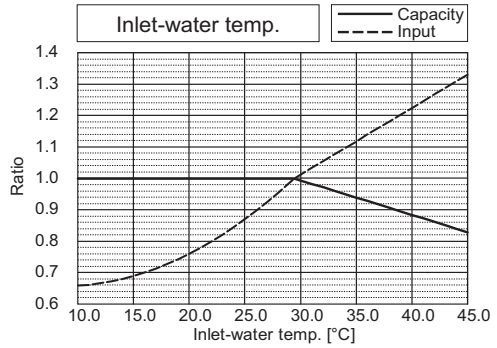


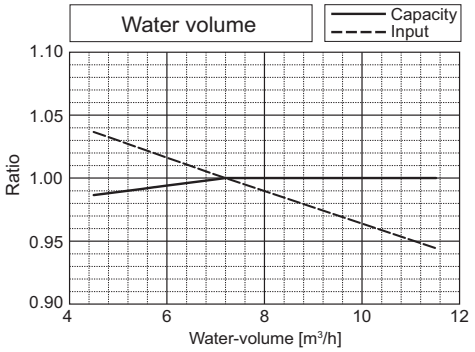


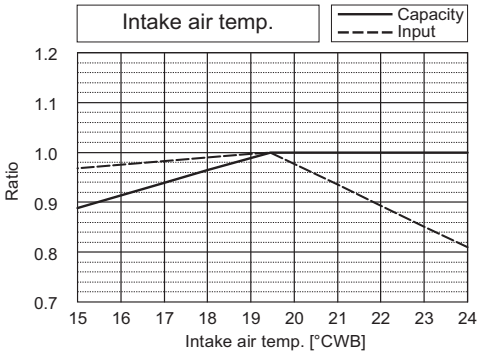
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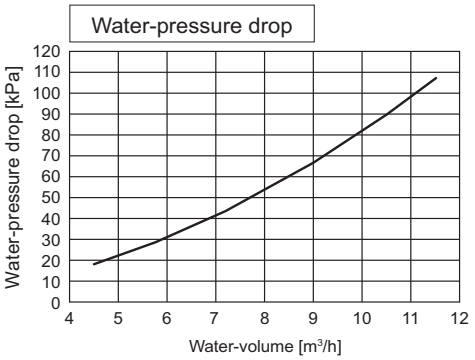
8. CAPACITY TABLES

PQHY-		P144TLMU/YLMU			
Nominal Cooling Capacity	kW	42.2	Rated Cooling Capacity	kW	40.2
	BTU/h	144,000		BTU/h	137,000
Input	kW	8.78	Input	kW	(Non-Ducted) 8.07 (Ducted) 9.98

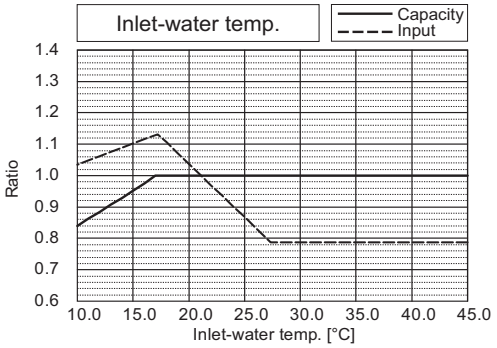


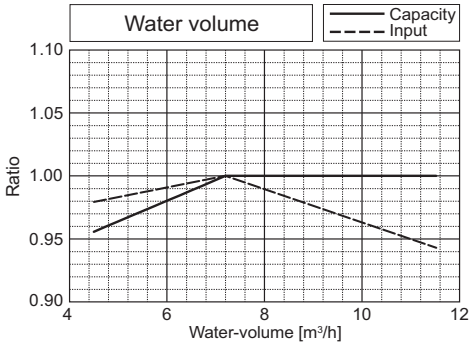


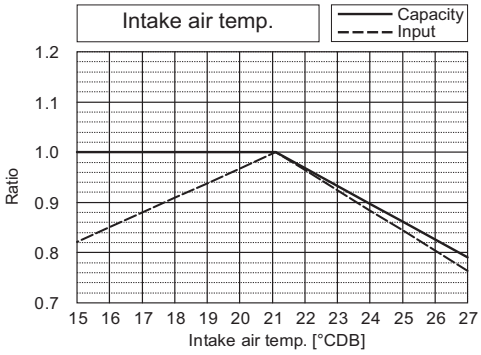


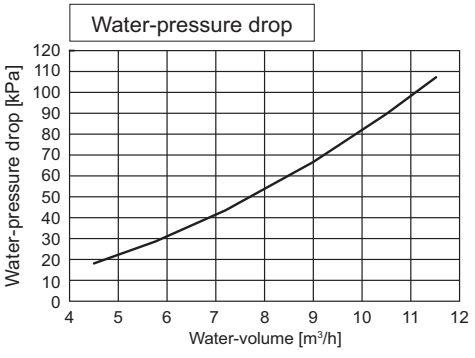


PQHY-		P144TLMU/YLMU			
Nominal Heating Capacity	kW	46.9	Rated Heating Capacity	kW	44.5
	BTU/h	160,000		BTU/h	152,000
Input	kW	8.11	Input	kW	(Non-Ducted) 7.47 (Ducted) 7.90





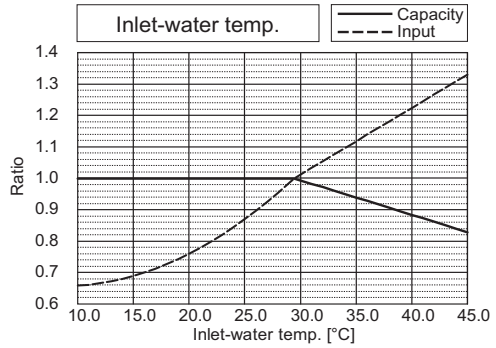


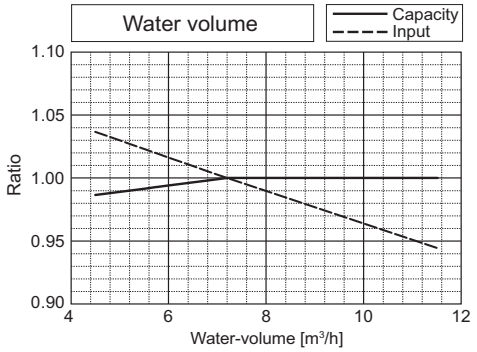


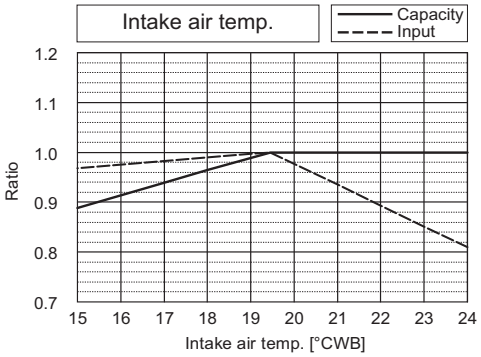
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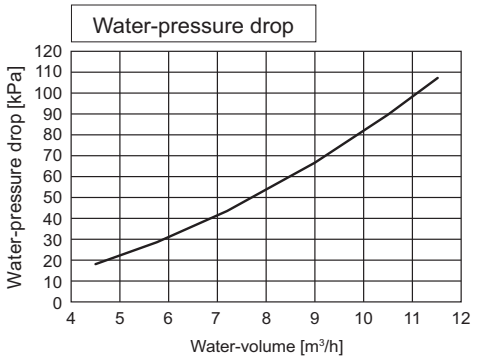
8. CAPACITY TABLES

PQHY-		P168TLMU/YLMU			
Nominal Cooling Capacity	kW	49.2	Rated Cooling Capacity	kW	47.2
	BTU/h	168,000		BTU/h	161,000
Input	kW	12.05	Input	kW	(Non-Ducted) 11.10 (Ducted) 11.88

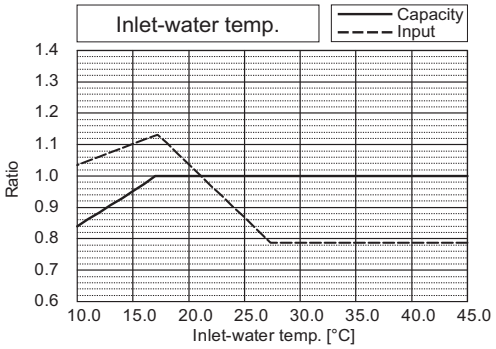


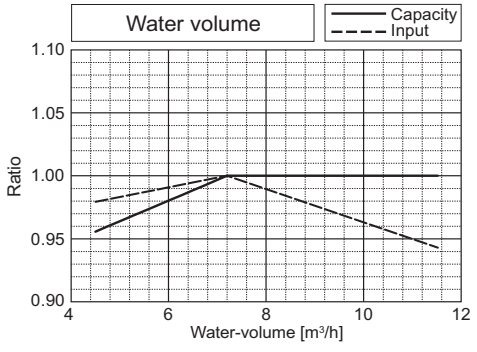


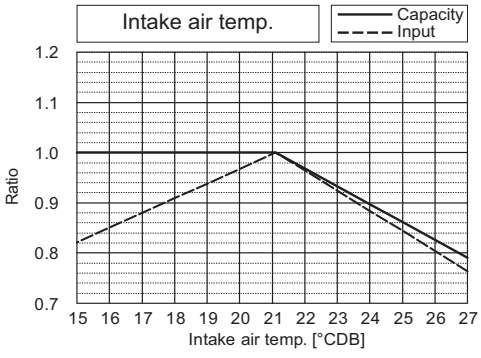


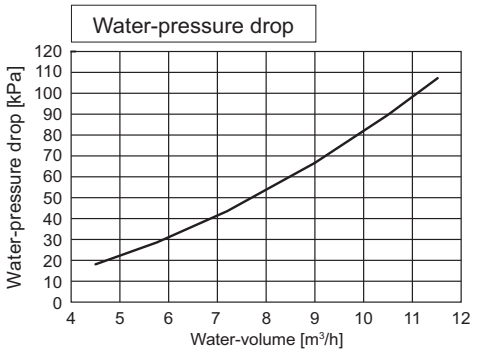


PQHY-		P168TLMU/YLMU			
Nominal Heating Capacity	kW	55.1	Rated Heating Capacity	kW	52.5
	BTU/h	188,000		BTU/h	179,000
Input	kW	9.86	Input	kW	(Non-Ducted) 9.09 (Ducted) 9.72





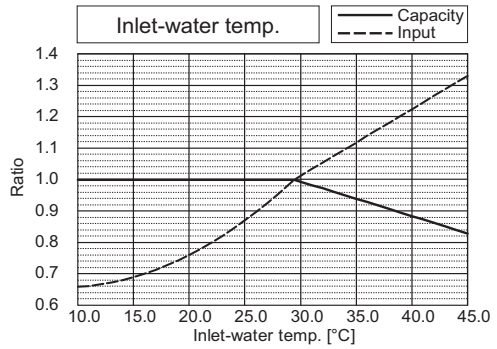


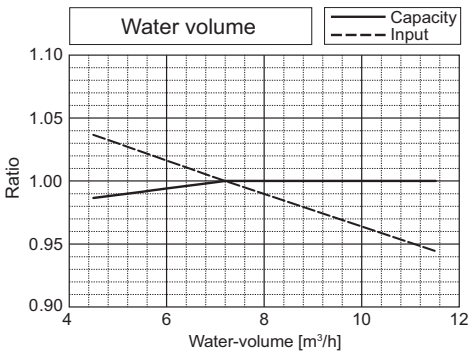


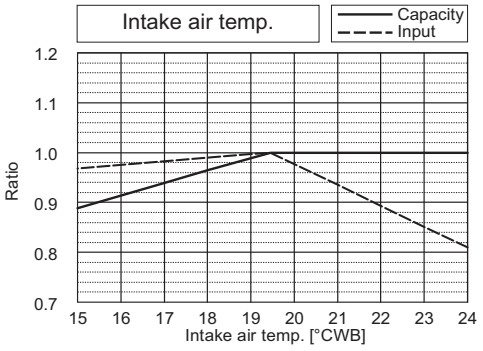
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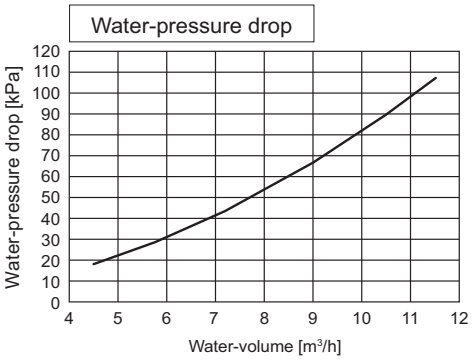
8. CAPACITY TABLES

PQHY-		P192TLMU/YLMU			
Nominal Cooling Capacity	kW	56.3	Rated Cooling Capacity	kW	53.6
	BTU/h	192,000		BTU/h	183,000
Input	kW	15.05	Input	kW	(Non-Ducted) 13.87 (Ducted) 14.19

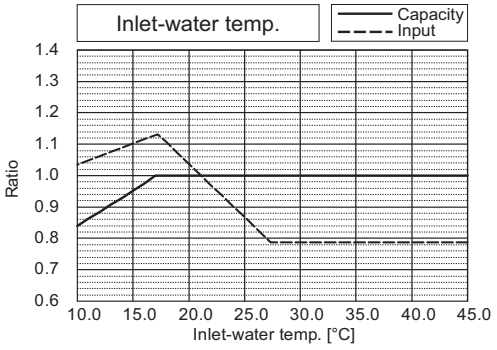


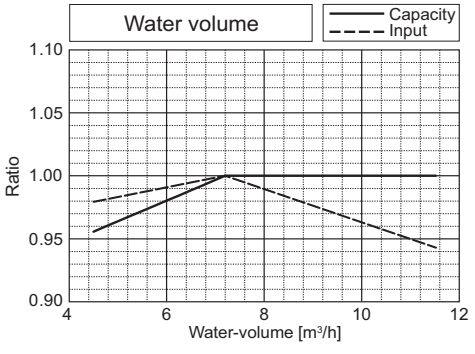


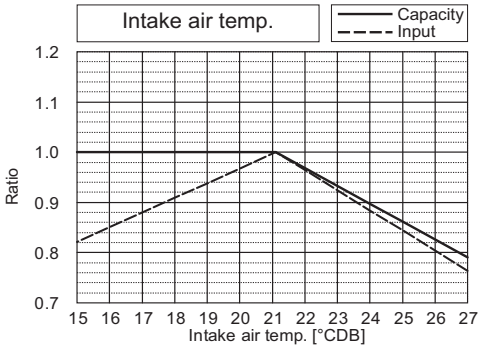


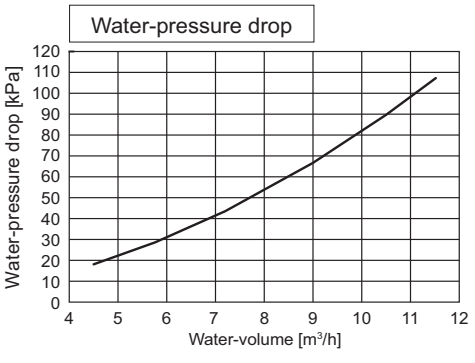


PQHY-		P192TLMU/YLMU			
Nominal Heating Capacity	kW	63.0	Rated Heating Capacity	kW	60.1
	BTU/h	215,000		BTU/h	205,000
Input	kW	11.90	Input	kW	(Non-Ducted) 10.97 (Ducted) 11.56





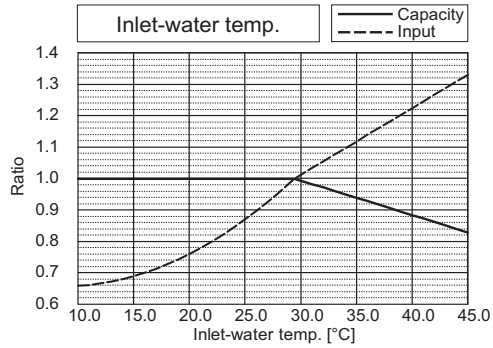


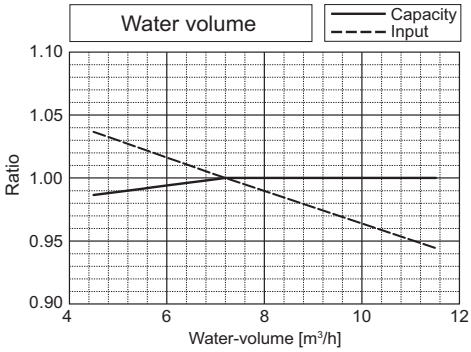


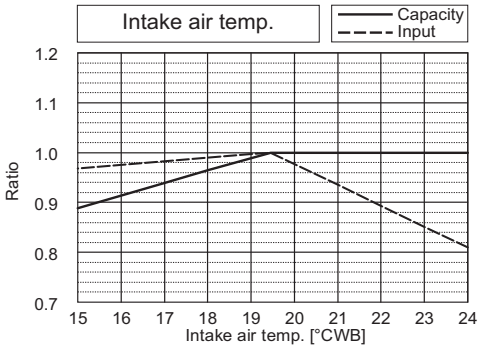
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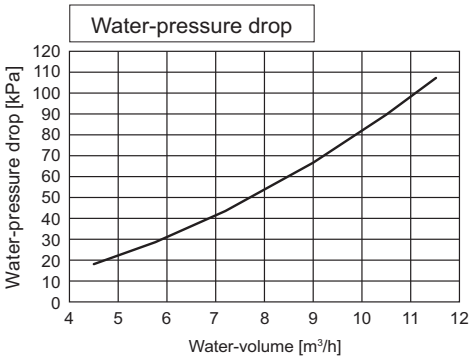
8. CAPACITY TABLES

PQHY-		P192TLMU/YLMU			
Nominal Cooling Capacity	kW	56.3	Rated Cooling Capacity	kW	53.6
	BTU/h	192,000		BTU/h	183,000
Input	kW	15.05	Input	kW	(Non-Ducted) 13.87 (Ducted) 14.19

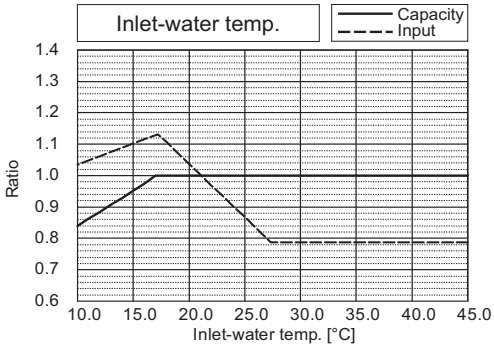


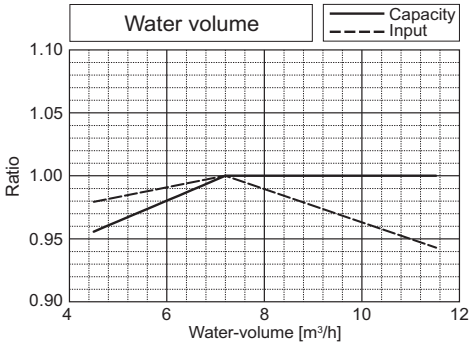


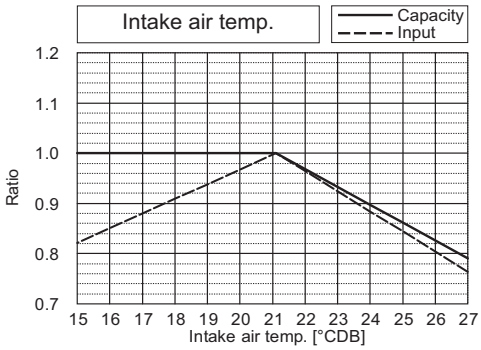


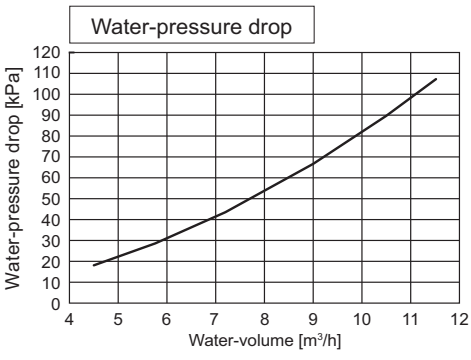


PQHY-		P192TLMU/YLMU			
Nominal Heating Capacity	kW	63.0	Rated Heating Capacity	kW	60.1
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Input	kW	11.90	Input	kW	(Non-Ducted) 10.97 (Ducted) 11.56





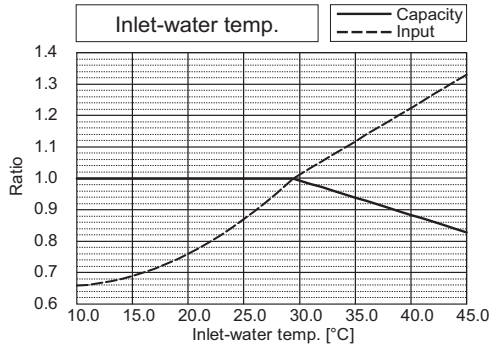


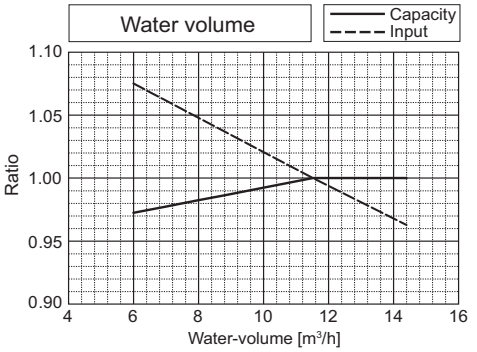


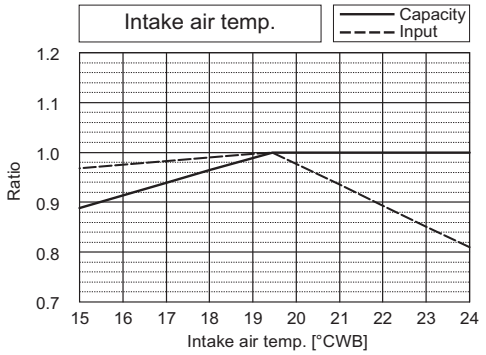
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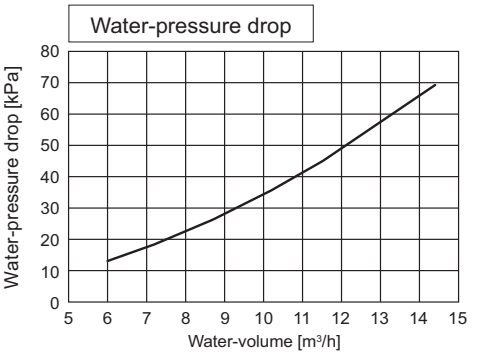
8. CAPACITY TABLES

PQHY-		P216TLMU/YLMU			
Nominal Cooling Capacity	kW	63.3	Rated Cooling Capacity	kW	60.4
	BTU/h	216,000		BTU/h	206,000
Input	kW	19.23	Input	kW	(Non-Ducted) 17.72 (Ducted) 16.10

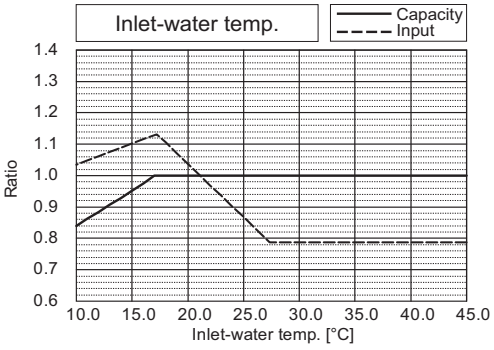


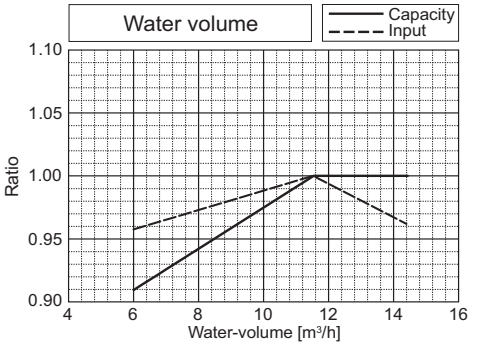


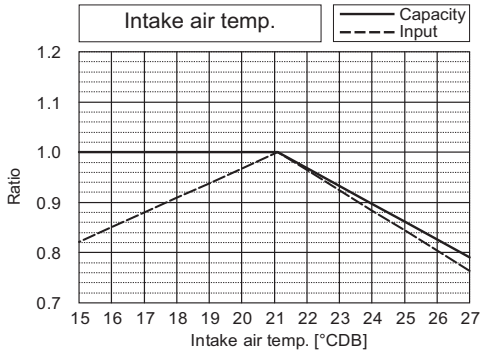


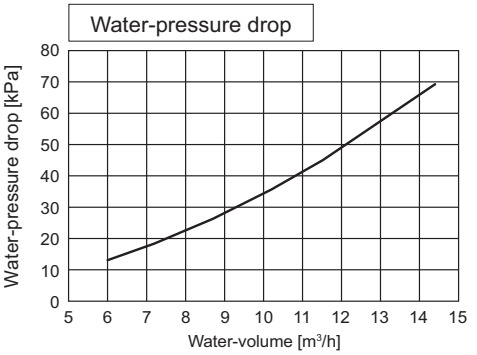


PQHY-		P216TLMU/YLMU			
Nominal Heating Capacity	kW	71.2	Rated Heating Capacity	kW	68.0
	BTU/h	243,000		BTU/h	232,000
Input	kW	13.04	Input	kW	(Non-Ducted) 12.01 (Ducted) 12.34





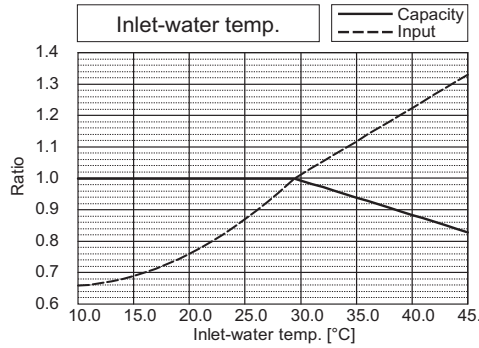


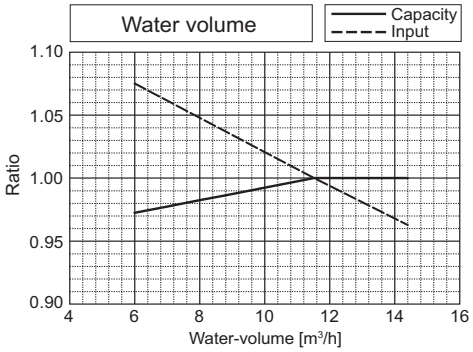


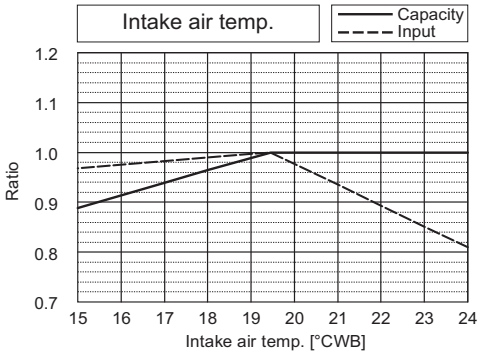
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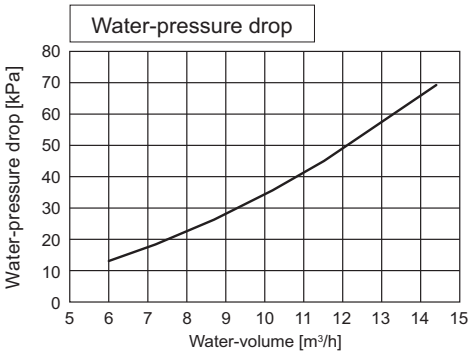
8. CAPACITY TABLES

PQHY-		P240TLMU/YLMU			
Nominal Cooling Capacity	kW	70.3	Rated Cooling Capacity	kW	66.8
	BTU/h	240,000		BTU/h	228,000
Input	kW	21.14	Input	kW	(Non-Ducted) 19.49 (Ducted) 18.74

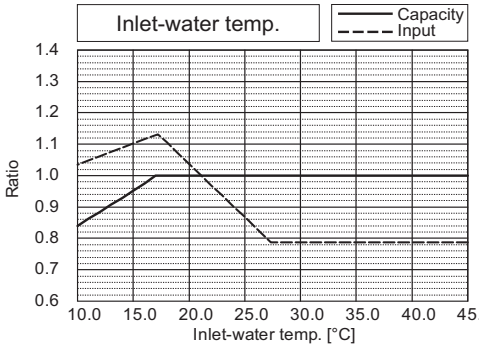


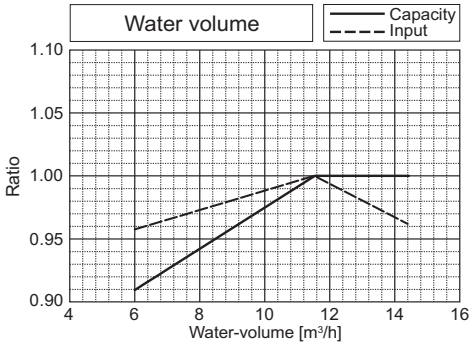


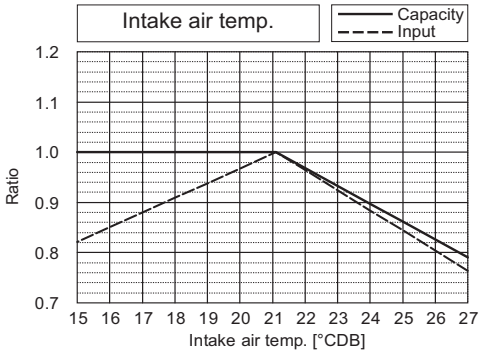


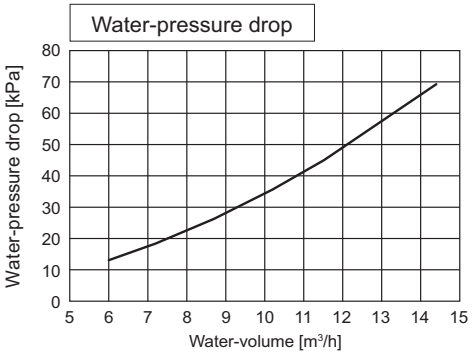


PQHY-		P240TLMU/YLMU			
Nominal Heating Capacity	kW	79.1	Rated Heating Capacity	kW	75.6
	BTU/h	270,000		BTU/h	258,000
Input	kW	15.12	Input	kW	(Non-Ducted) 13.93 (Ducted) 14.62







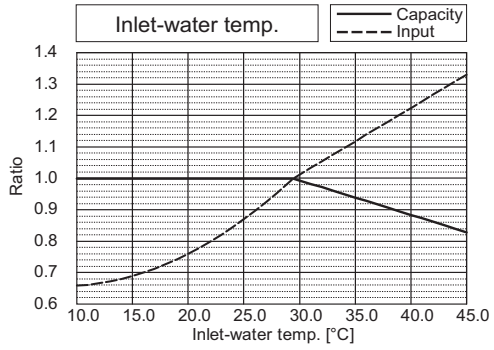


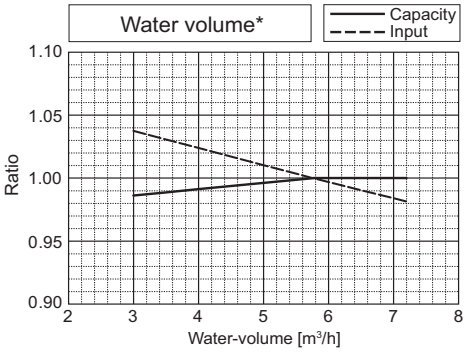
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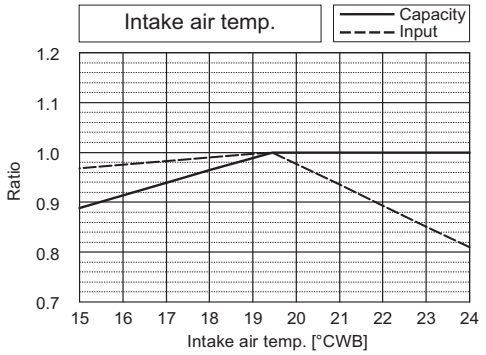
8. CAPACITY TABLES

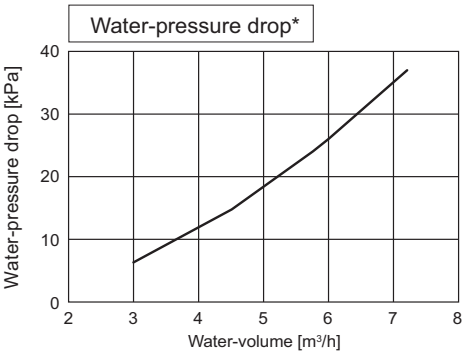
*The drawing indicates characteristic per unit.

PQHY-		P144TSLMU/YSLMU			
Nominal Cooling Capacity	kW	42.2	Rated Cooling Capacity	kW	40.2
	BTU/h	144,000		BTU/h	137,000
Input	kW	7.11	Input	kW	(Non-Ducted) 6.53 (Ducted) 7.72

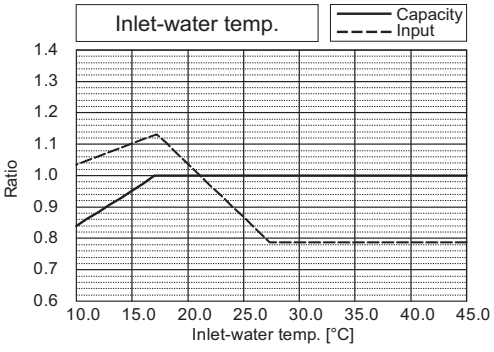


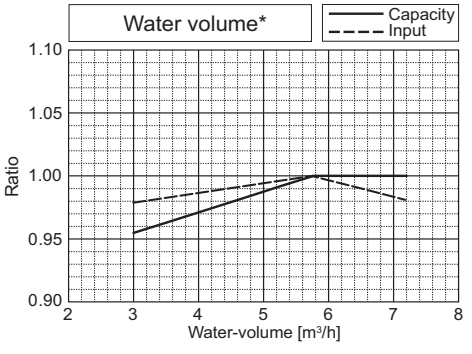


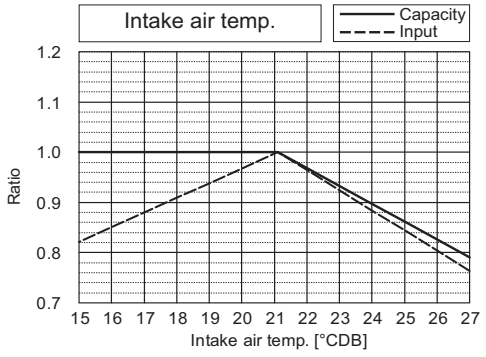


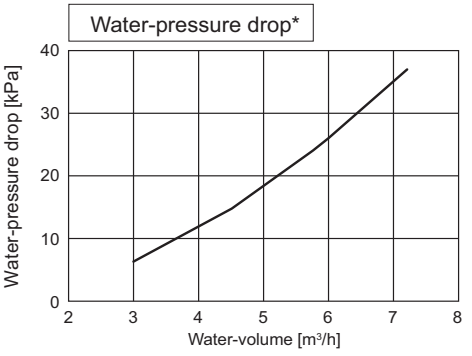


PQHY-		P144TSLMU/YSLMU			
Nominal Heating Capacity	kW	46.9	Rated Heating Capacity	kW	44.5
	BTU/h	160,000		BTU/h	152,000
Input	kW	7.45	Input	kW	(Non-Ducted) 6.86 (Ducted) 7.22







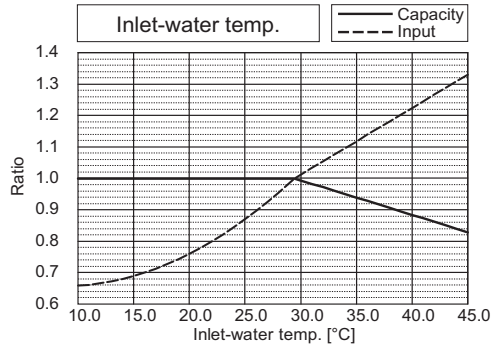


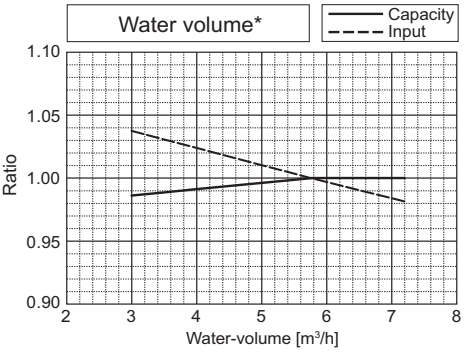
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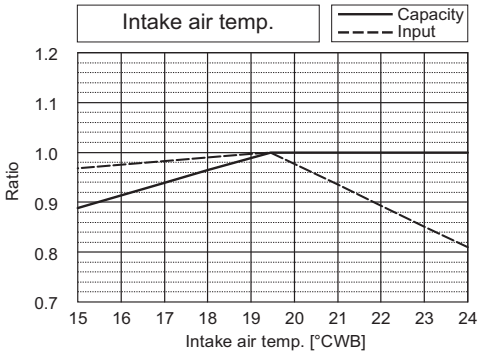
8. CAPACITY TABLES

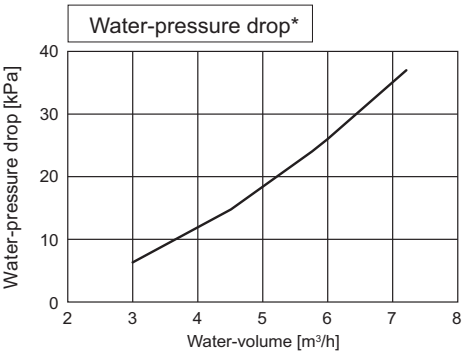
*The drawing indicates characteristic per unit.

PQHY-		P168TSLMU/YSLMU			
Nominal Cooling Capacity	kW	49.2	Rated Cooling Capacity	kW	47.2
	BTU/h	168,000		BTU/h	161,000
Input	kW	9.33	Input	kW	(Non-Ducted) 8.58 (Ducted) 9.22

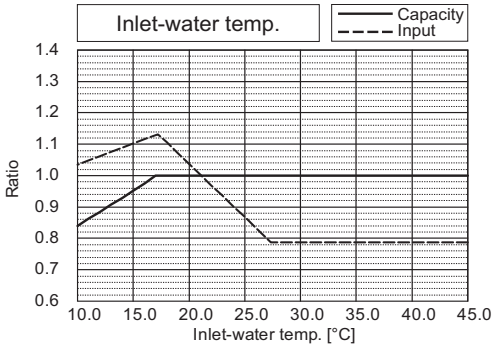


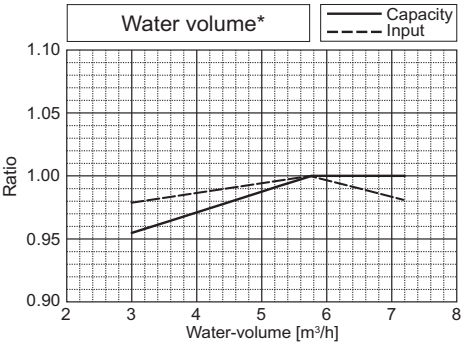


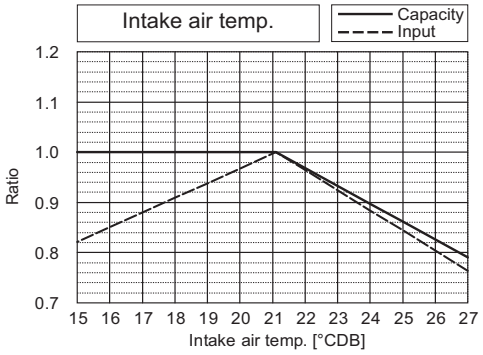


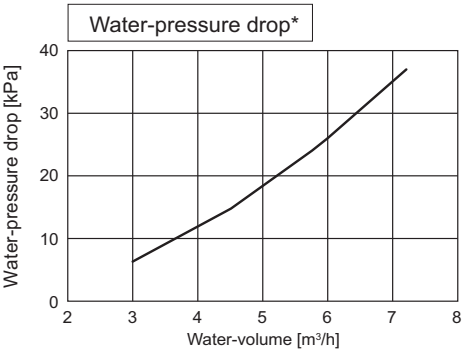


PQHY-		P168TSLMU/YSLMU			
Nominal Heating Capacity	kW	55.1	Rated Heating Capacity	kW	52.5
	BTU/h	188,000		BTU/h	179,000
Input	kW	9.34	Input	kW	(Non-Ducted) 8.60 (Ducted) 8.03







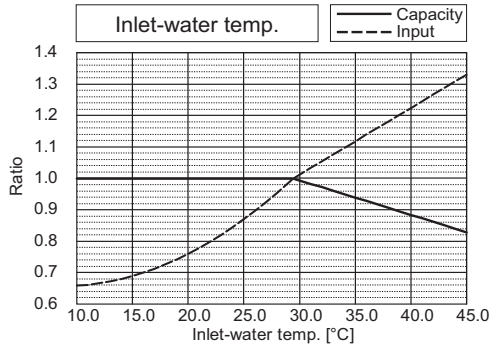


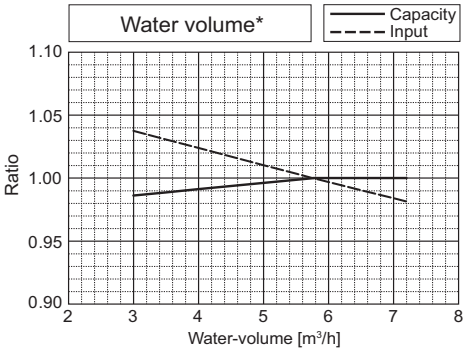
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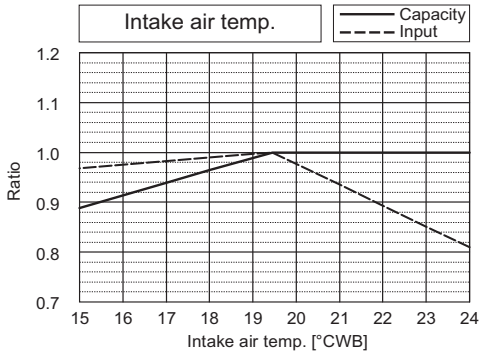
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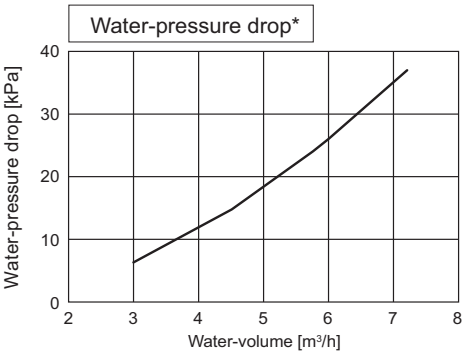
*The drawing indicates characteristic per unit.

PQHY-		P192TSLMU/YSLMU			
Nominal Cooling Capacity	kW	56.3	Rated Cooling Capacity	kW	53.6
	BTU/h	192,000		BTU/h	183,000
Input	kW	11.30	Input	kW	(Non-Ducted) 10.40 (Ducted) 10.98

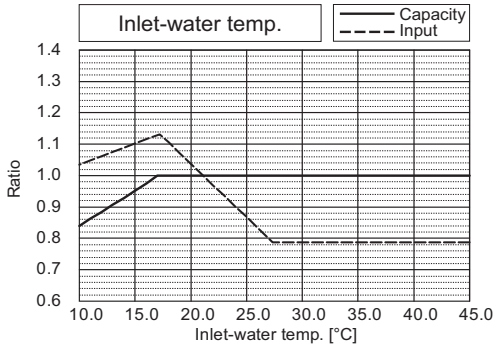


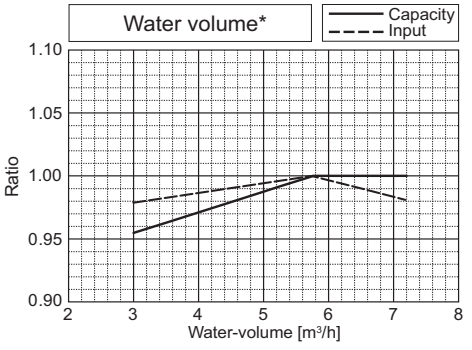


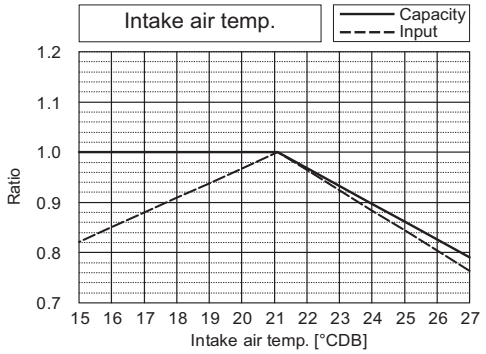


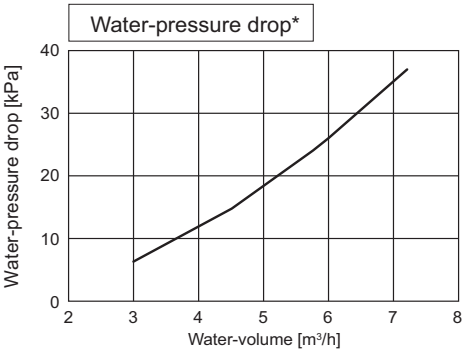


PQHY-		P192TSLMU/YSLMU			
Nominal Heating Capacity	kW	63.0	Rated Heating Capacity	kW	60.1
	BTU/h	215,000		BTU/h	205,000
Input	kW	11.02	Input	kW	(Non-Ducted) 10.16 (Ducted) 8.90







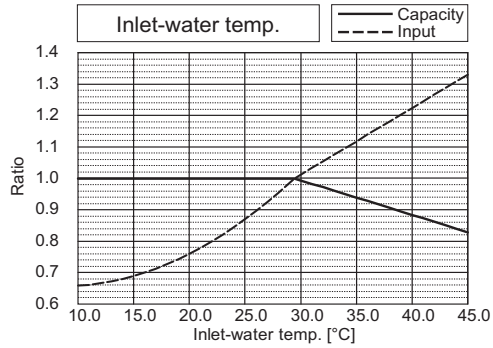


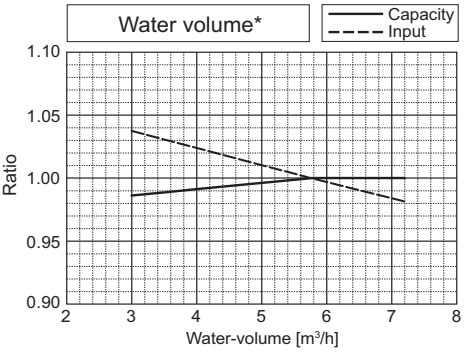
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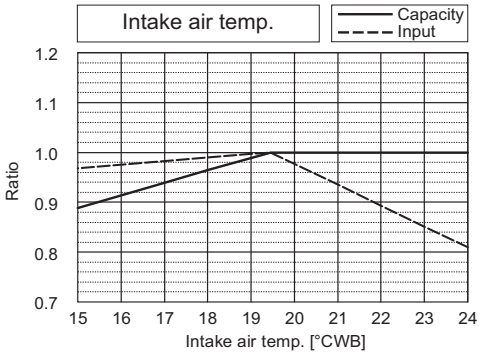
8. CAPACITY TABLES

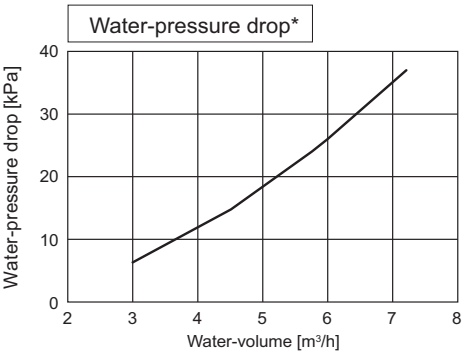
*The drawing indicates characteristic per unit.

PQHY-		P216TSLMU/YSLMU			
Nominal Cooling Capacity	kW	63.3	Rated Cooling Capacity	kW	60.4
	BTU/h	216,000		BTU/h	206,000
Input	kW	14.03	Input	kW	(Non-Ducted) 12.93 (Ducted) 13.24

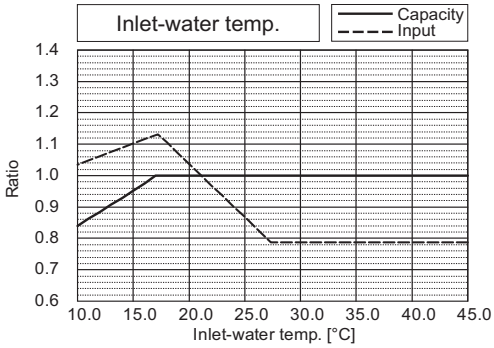


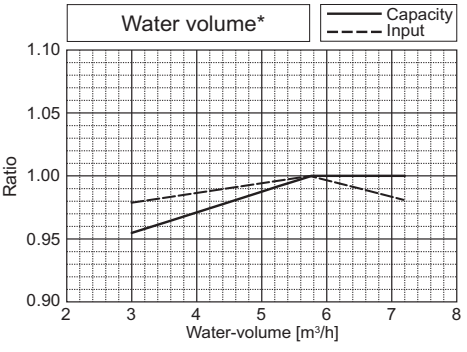


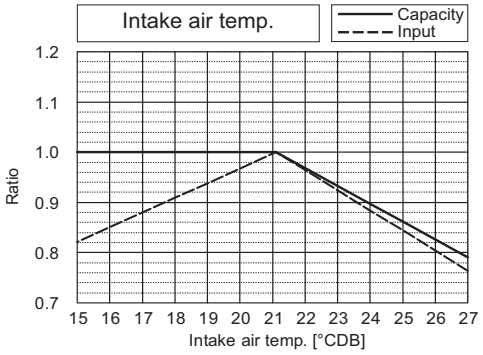


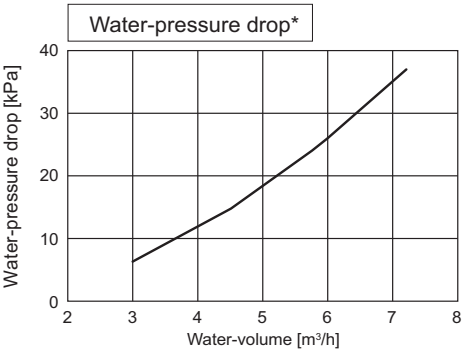


PQHY-		P216TSLMU/YSLMU			
Nominal Heating Capacity	kW	71.2	Rated Heating Capacity	kW	68.0
	BTU/h	243,000		BTU/h	232,000
Input	kW	12.88	Input	kW	(Non-Ducted) 11.88 (Ducted) 10.35







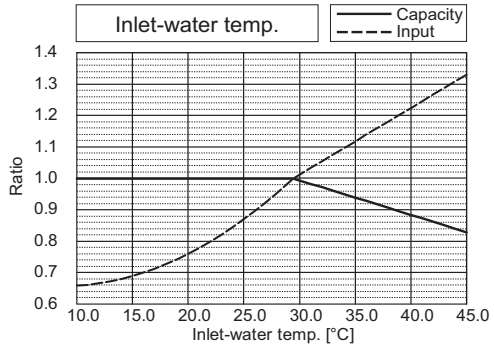


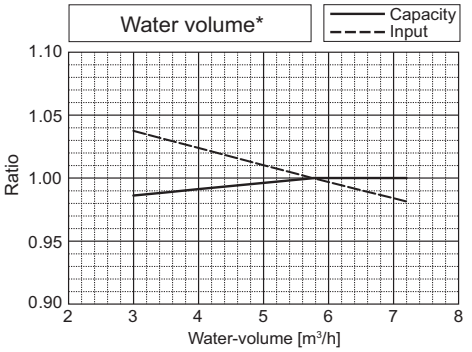
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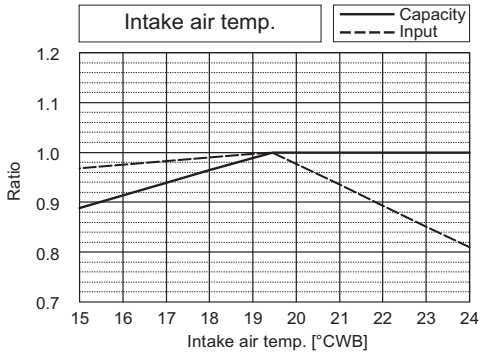
8. CAPACITY TABLES

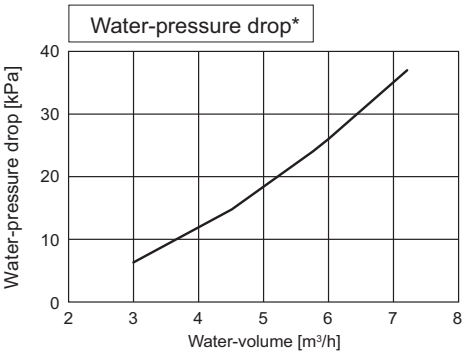
*The drawing indicates characteristic per unit.

PQHY-		P240TSLMU/YSLMU			
Nominal Cooling Capacity	kW	70.3	Rated Cooling Capacity	kW	66.8
	BTU/h	240,000		BTU/h	228,000
Input	kW	16.89	Input	kW	(Non-Ducted) 15.57 (Ducted) 16.15

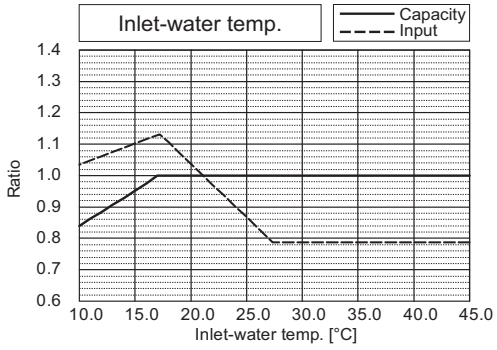


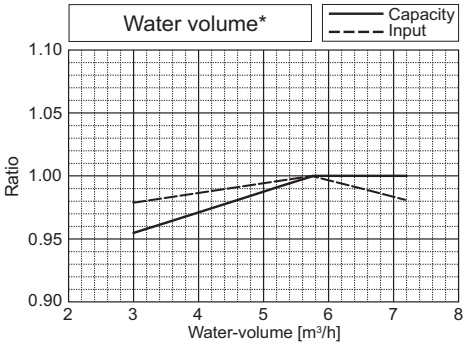


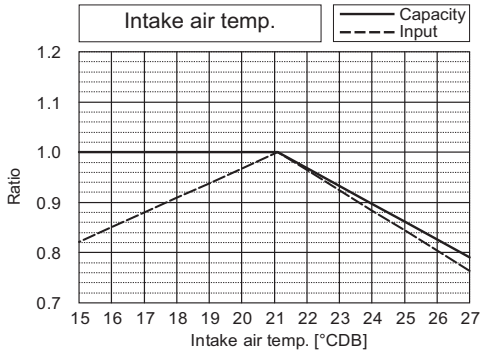


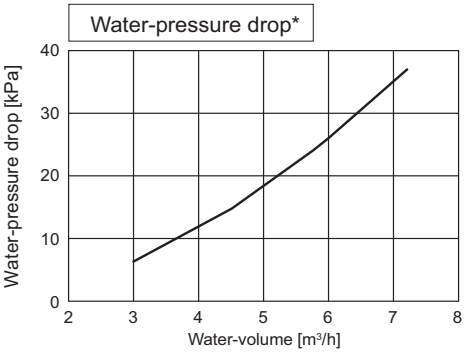


PQHY-		P240TSLMU/YSLMU			
Nominal Heating Capacity	kW	79.1	Rated Heating Capacity	kW	75.6
	BTU/h	270,000		BTU/h	258,000
Input	kW	14.58	Input	kW	(Non-Ducted) 13.45 (Ducted) 12.02







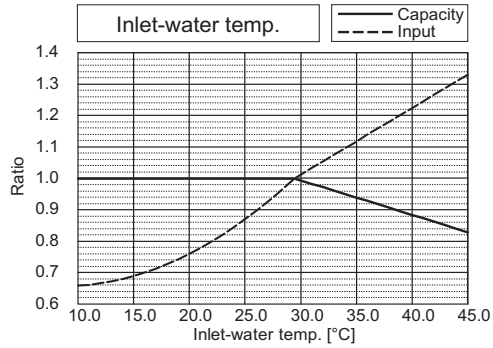


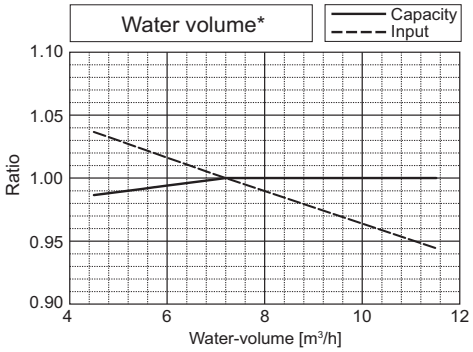
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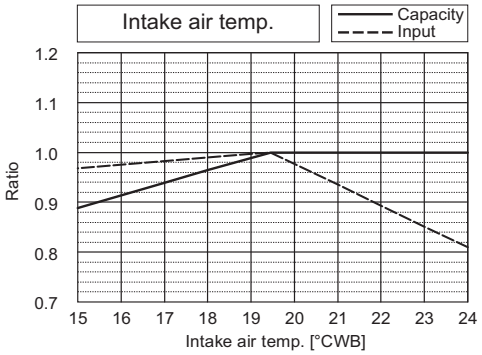
8. CAPACITY TABLES

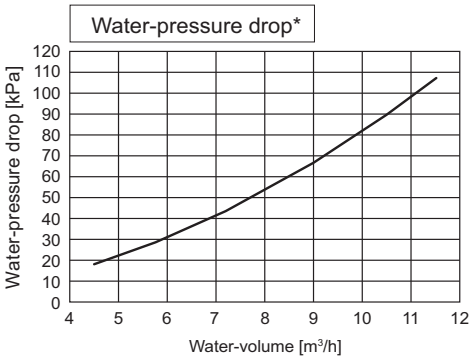
PQHY-		P288TSLMU/YSLMU			
Nominal Cooling Capacity	kW	84.4	Rated Cooling Capacity	kW	80.6
	BTU/h	288,000		BTU/h	275,000
Input	kW	20.42	Input	kW	(Non-Ducted) 18.82 (Ducted) 21.43

*The drawing indicates characteristic per unit.

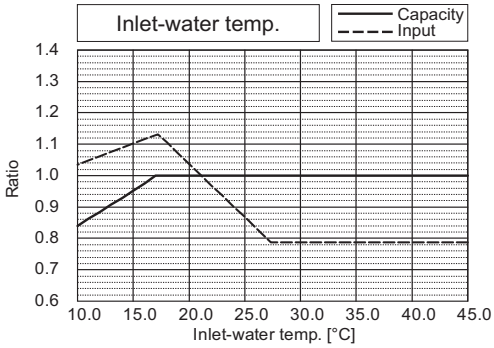


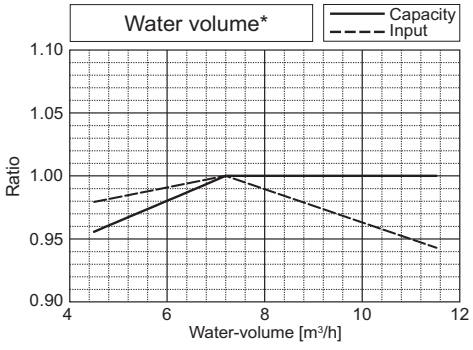


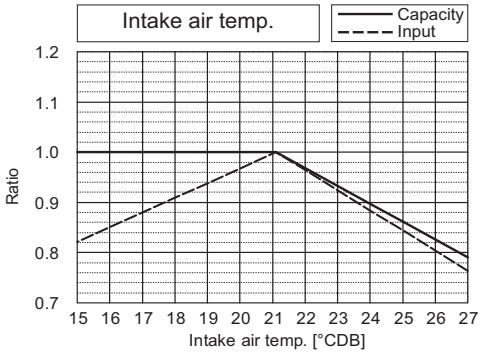


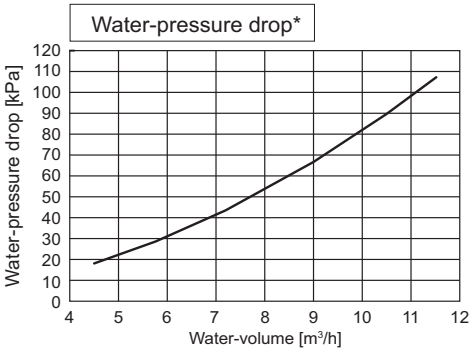


PQHY-		P288TSLMU/YSLMU			
Nominal Heating Capacity	kW	94.7	Rated Heating Capacity	kW	90.3
	BTU/h	323,000		BTU/h	308,000
Input	kW	17.50	Input	kW	(Non-Ducted) 16.13 (Ducted) 16.05







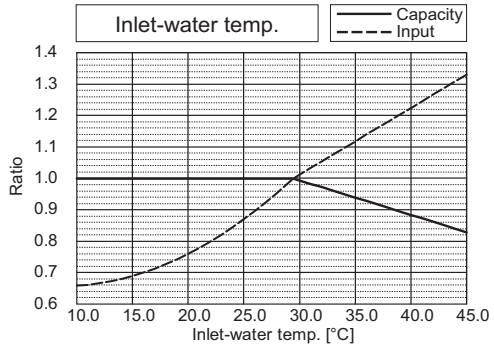


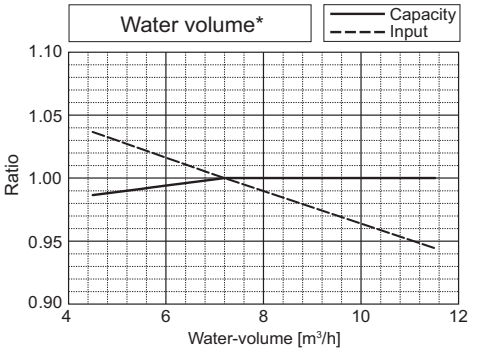
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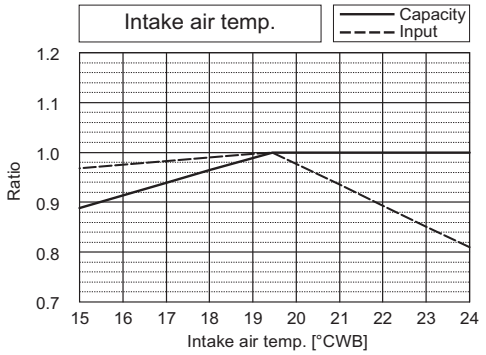
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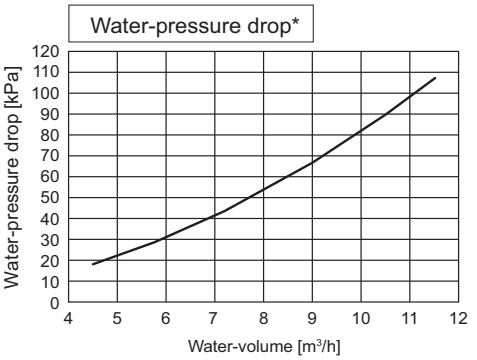
*The drawing indicates characteristic per unit.

PQHY-		P312TSLMU/YSLMU			
Nominal Cooling Capacity	kW	91.4	Rated Cooling Capacity	kW	87.0
	BTU/h	312,000		BTU/h	297,000
Input	kW	23.41	Input	kW	(Non-Ducted) 21.59 (Ducted) 23.67

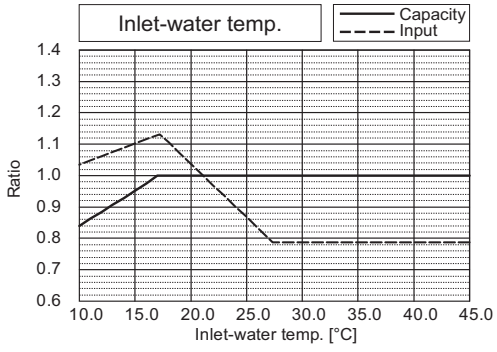


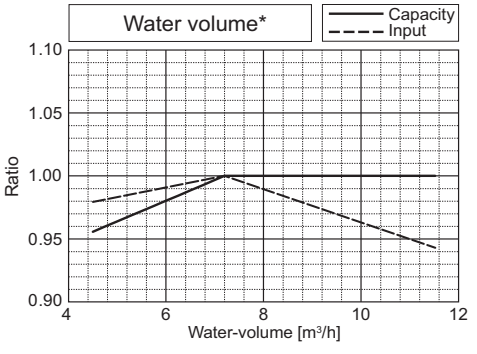


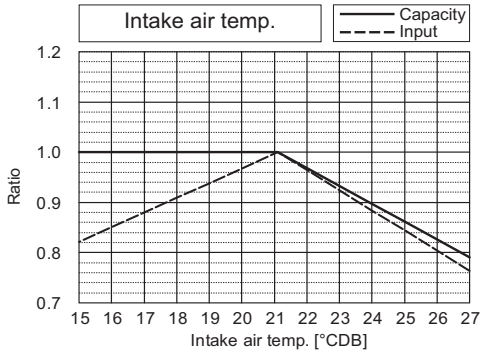


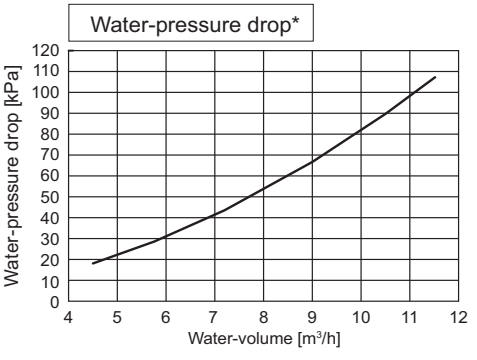


PQHY-		P312TSLMU/YSLMU			
Nominal Heating Capacity	kW	102.6	Rated Heating Capacity	kW	97.9
	BTU/h	350,000		BTU/h	334,000
Input	kW	19.11	Input	kW	(Non-Ducted) 17.62 (Ducted) 17.96







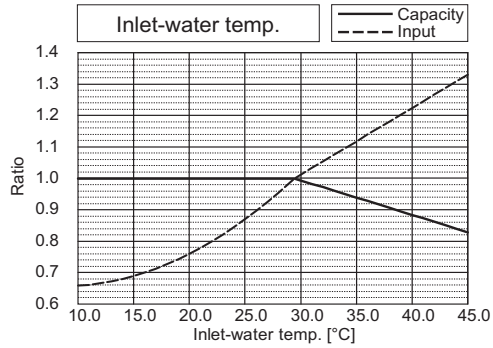


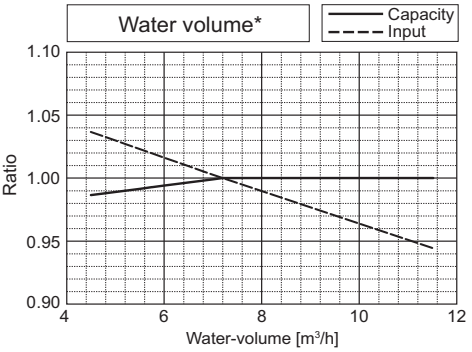
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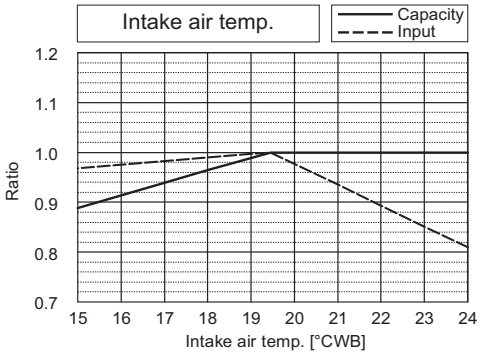
8. CAPACITY TABLES

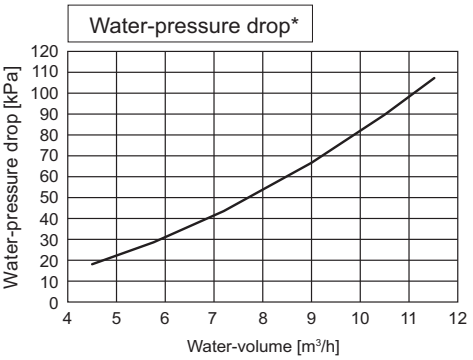
*The drawing indicates characteristic per unit.

PQHY-		P336TSLMU/YSLMU			
Nominal Cooling Capacity	kW	98.5	Rated Cooling Capacity	kW	93.8
	BTU/h	336,000		BTU/h	320,000
Input	kW	26.84	Input	kW	(Non-Ducted) 24.76 (Ducted) 25.85

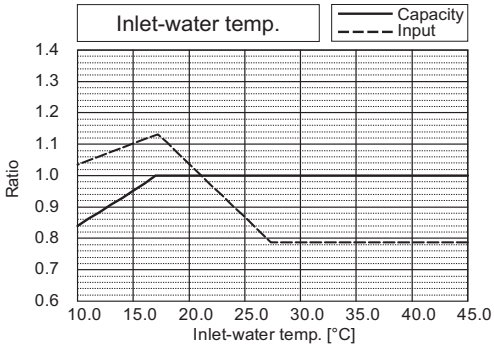


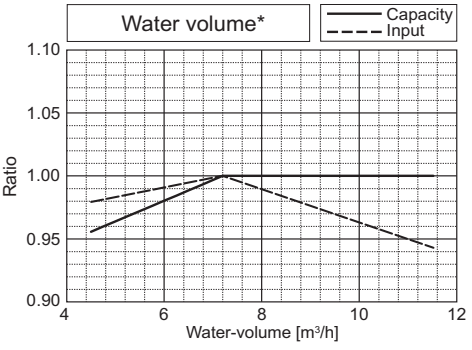


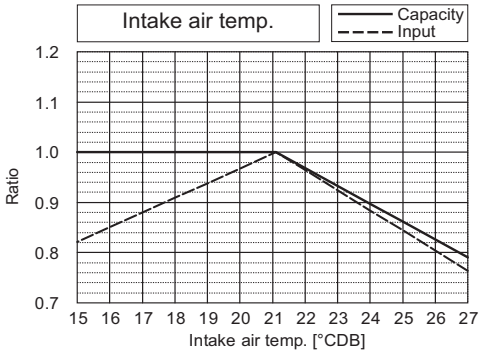


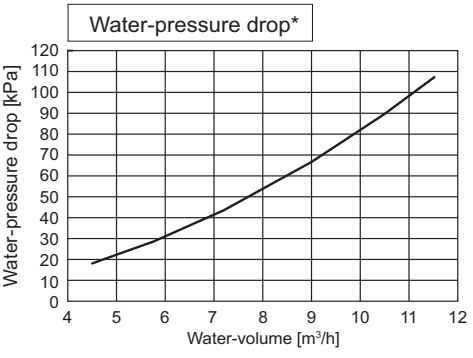


PQHY-		P336TSLMU/YSLMU			
Nominal Heating Capacity	kW	110.8	Rated Heating Capacity	kW	105.8
	BTU/h	378,000		BTU/h	361,000
Input	kW	20.77	Input	kW	(Non-Ducted) 19.16 (Ducted) 20.05







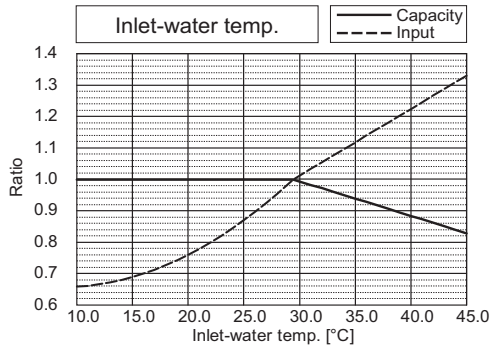


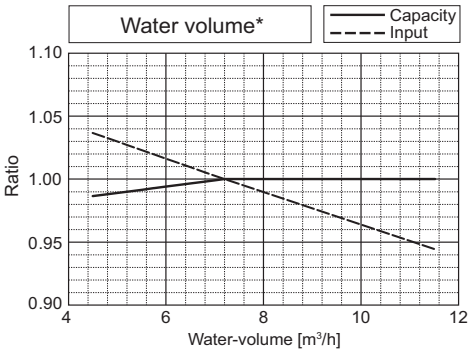
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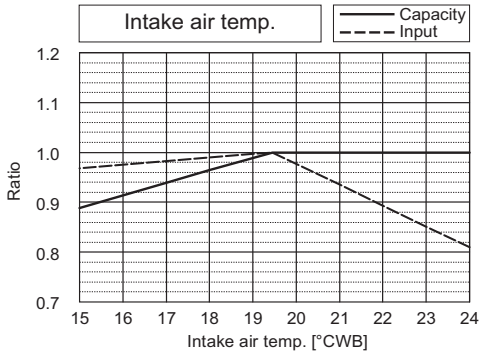
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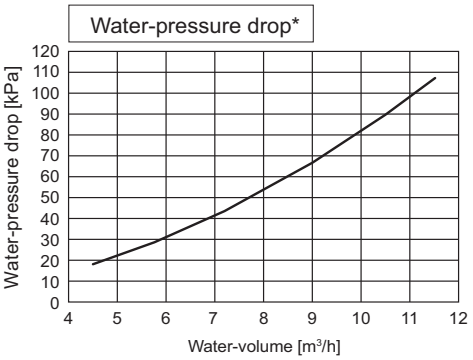
*The drawing indicates characteristic per unit.

PQHY-		P360TSLMU/YSLMU			
Nominal Cooling Capacity	kW	105.5	Rated Cooling Capacity	kW	100.2
	BTU/h	360,000		BTU/h	342,000
Input	kW	29.43	Input	kW	(Non-Ducted) 27.17 (Ducted) 27.41

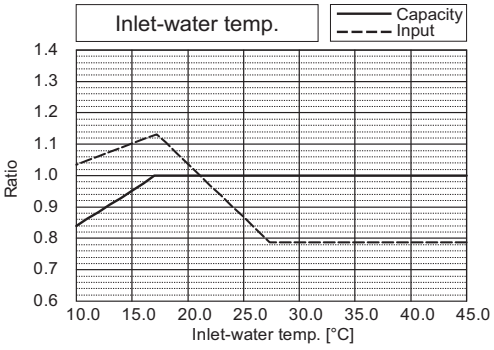


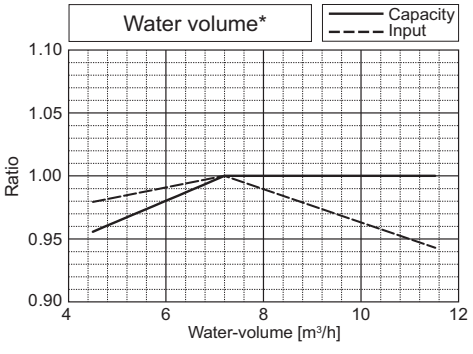


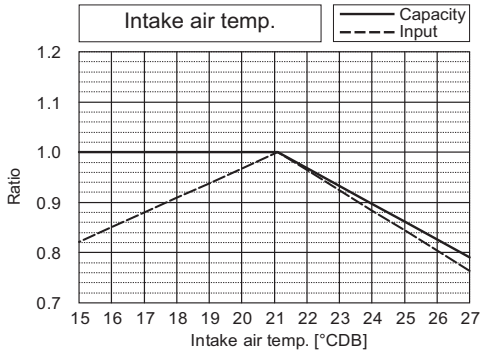


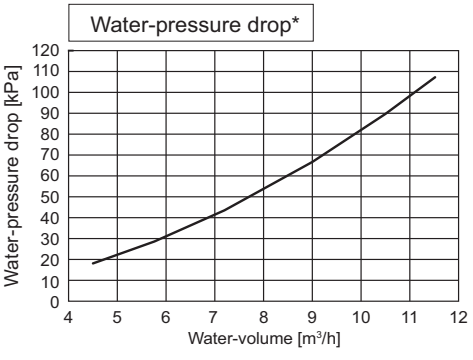


PQHY-		P360TSLMU/YSLMU			
Nominal Heating Capacity	kW	118.7	Rated Heating Capacity	kW	113.4
	BTU/h	405,000		BTU/h	387,000
Input	kW	22.85	Input	kW	(Non-Ducted) 21.09 (Ducted) 21.70







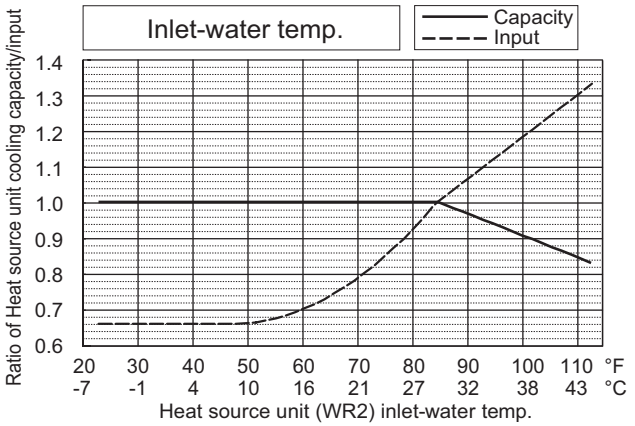


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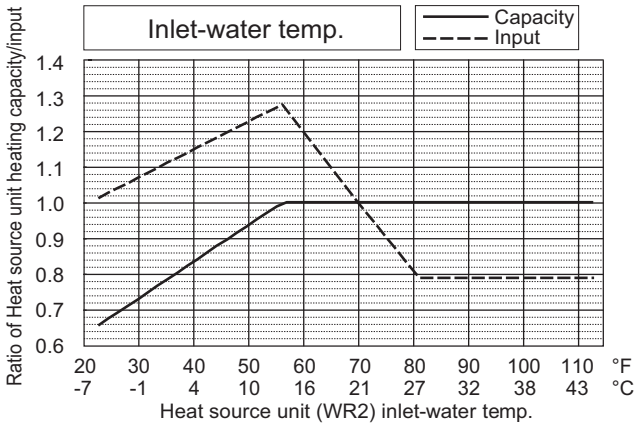
8-3. Water temperature correction factors (Geothermal)

8-3-1. Connection with standard CITY MULTI indoor units

Cooling

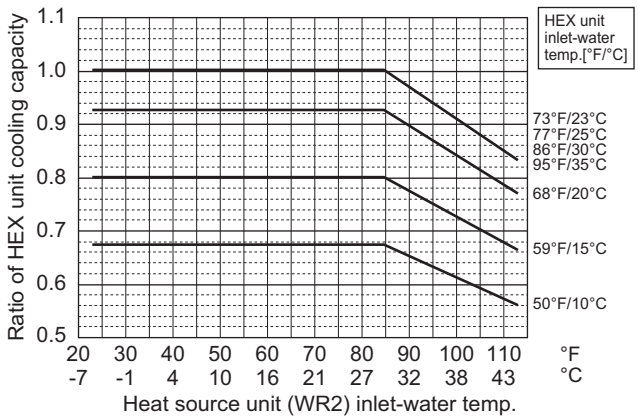


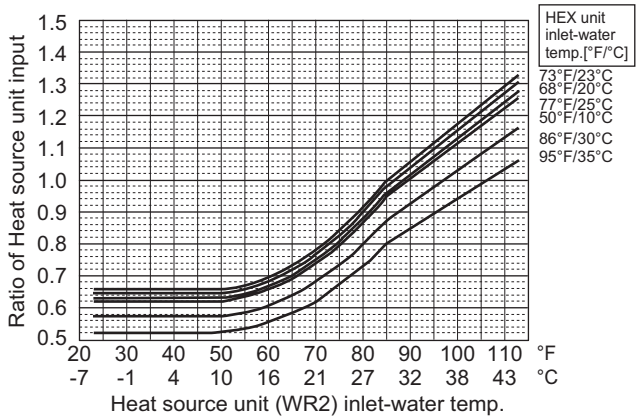
Heating



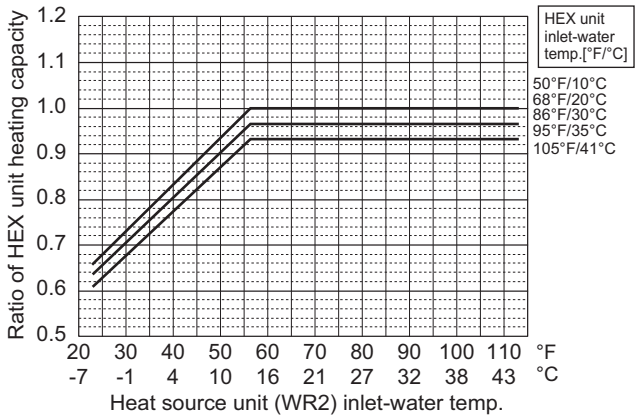
8-3-2. Connection with PWFY-P36/72NMU-E2-AU (HEX unit)

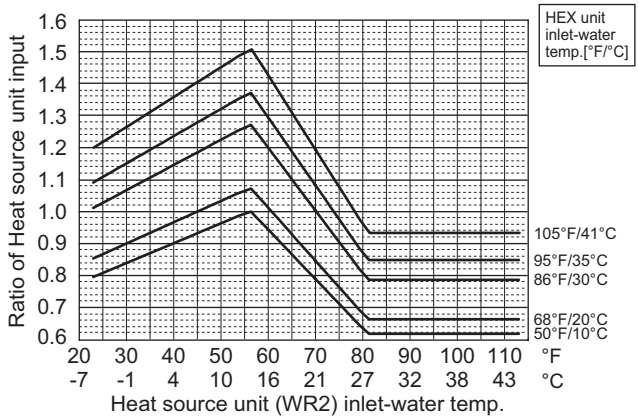
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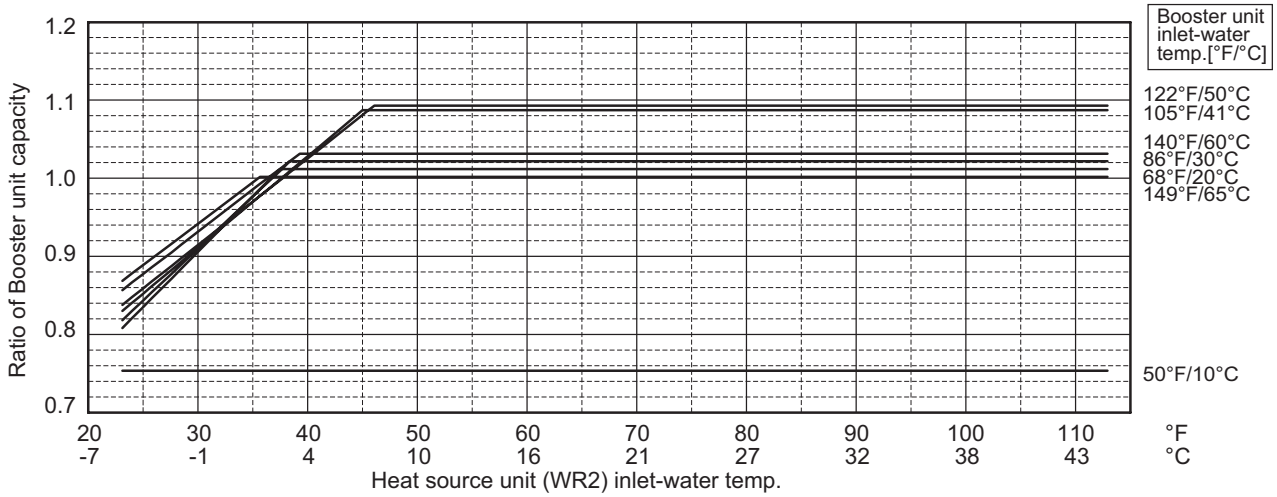
Heating

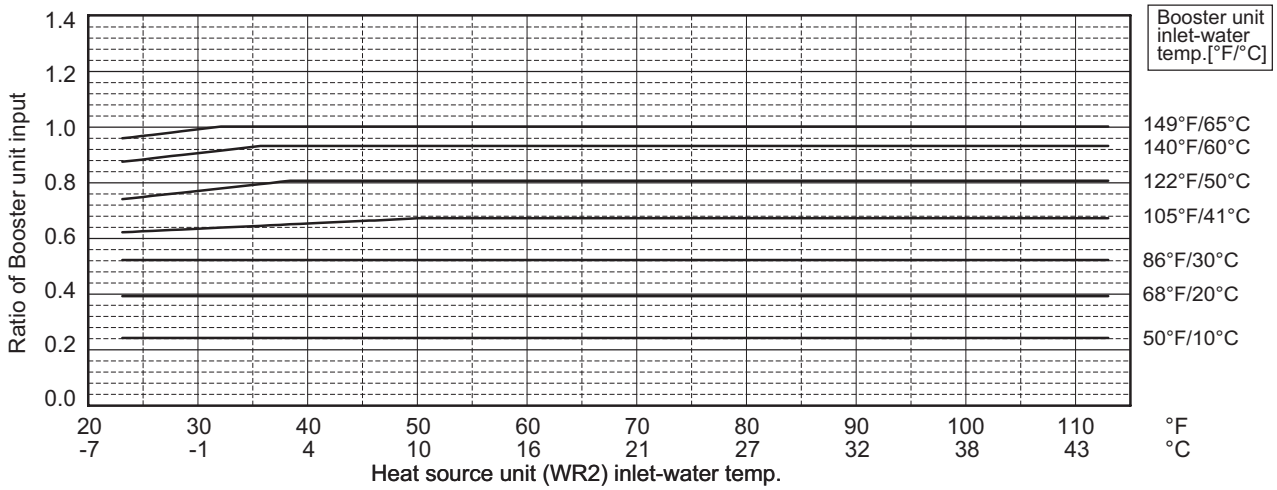


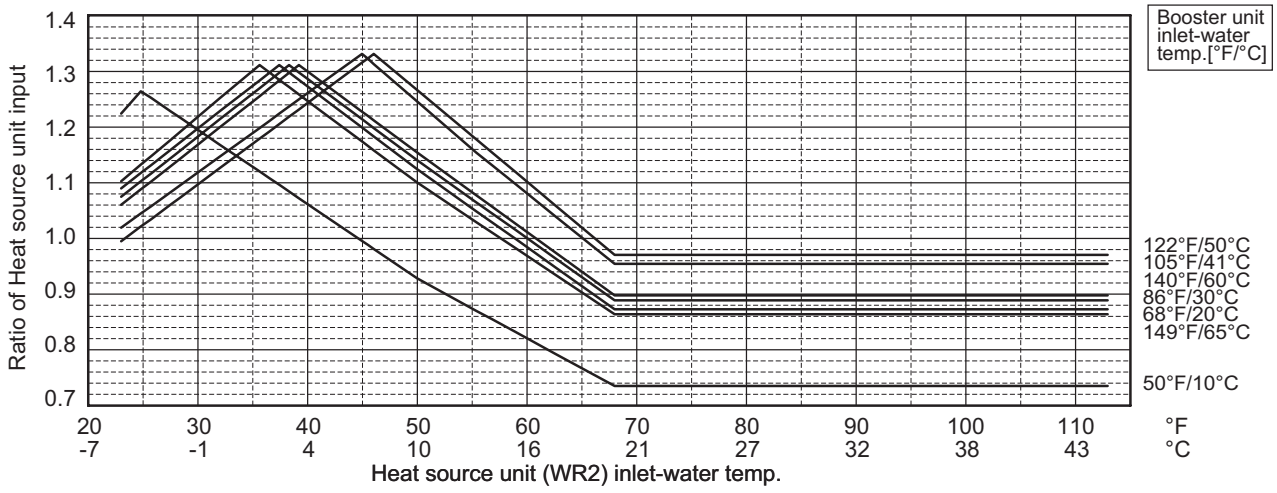


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8-3-2. Connection with PWFY-P36NMU-E-BU (Booster unit)





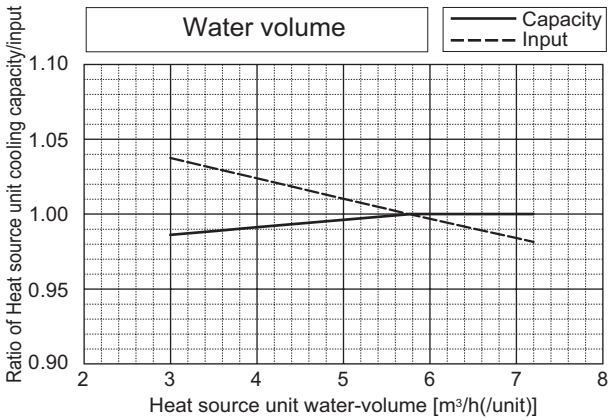


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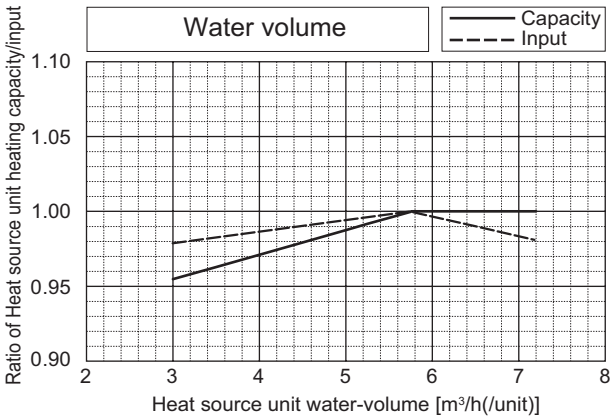
8-4. Water volume correction factors (Geothermal)

PQHY-P72~P120TLMU/YLMU

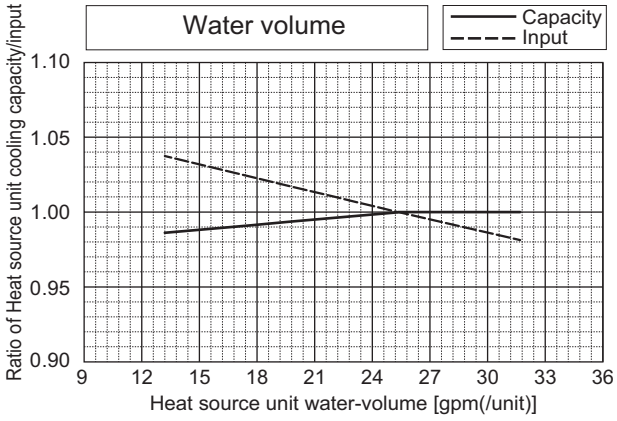
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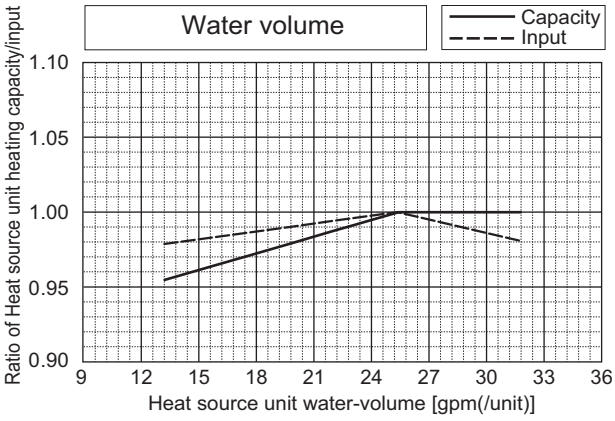
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Cooling



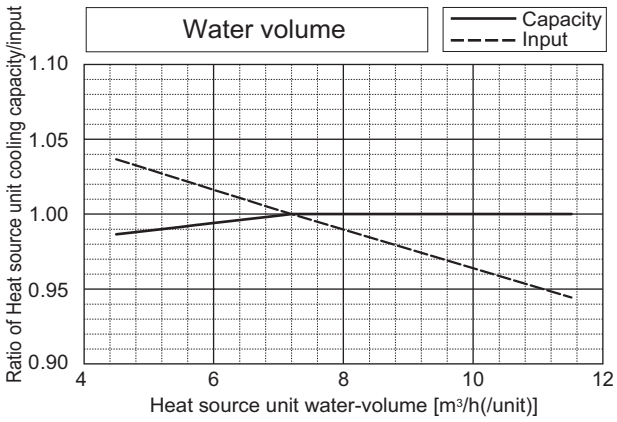
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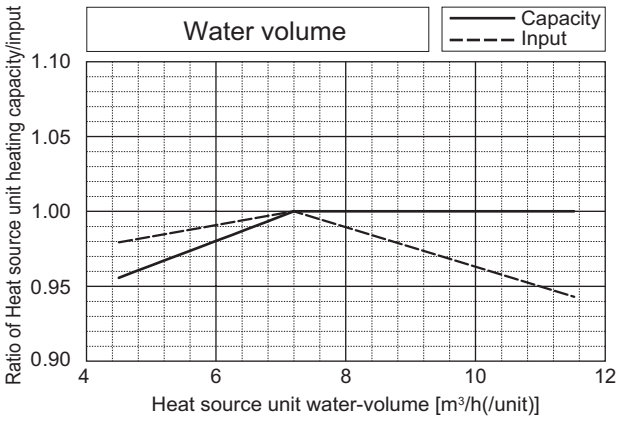
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PQHY-P144~P192TLMU/YLMU

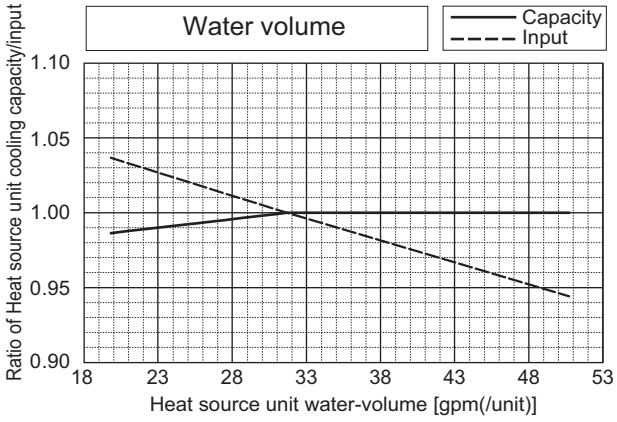
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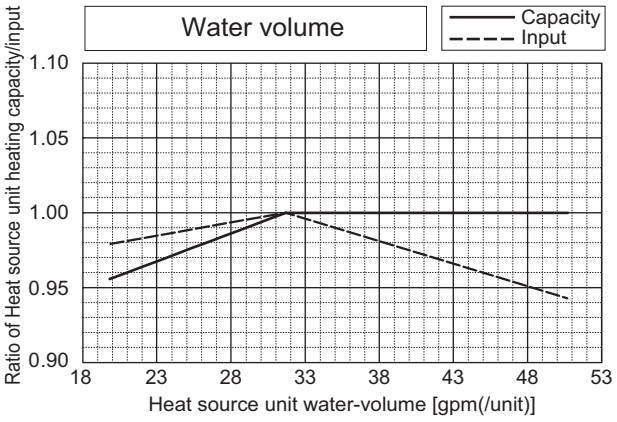
Heating



Cooling



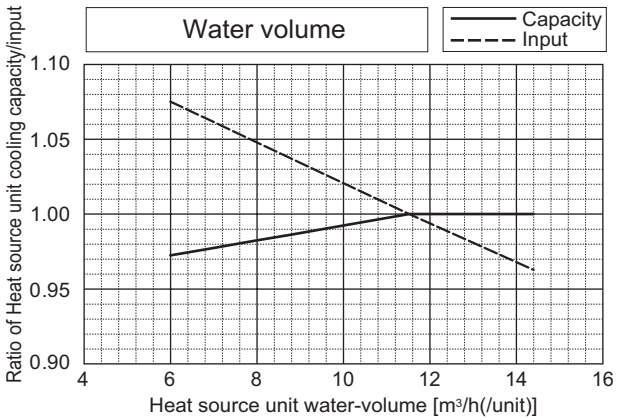
Heating



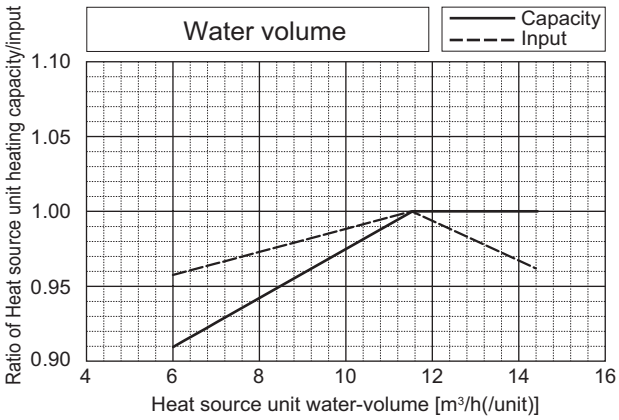
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PQHY-P216~P240TLMU/YLMU

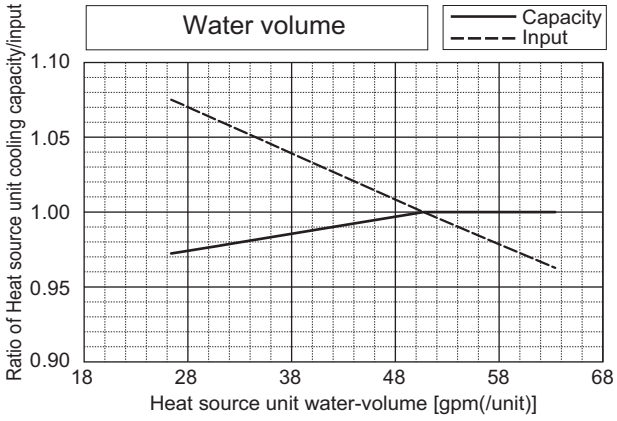
Cooling



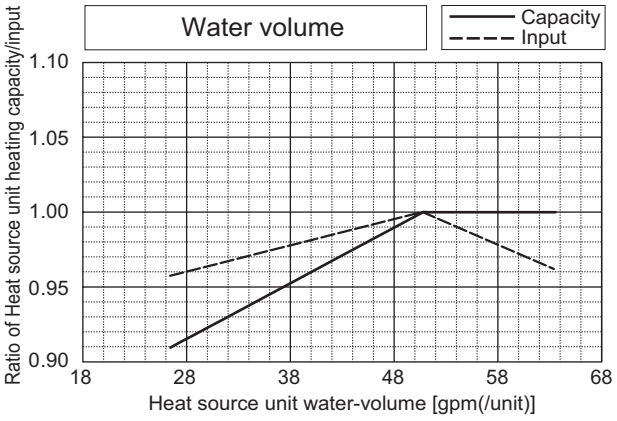
Heating



Cooling



Heating

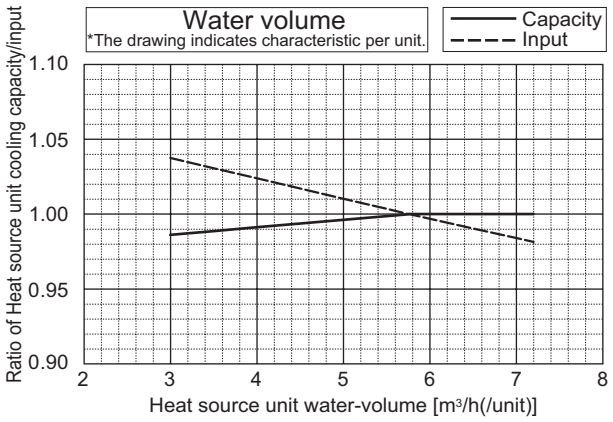


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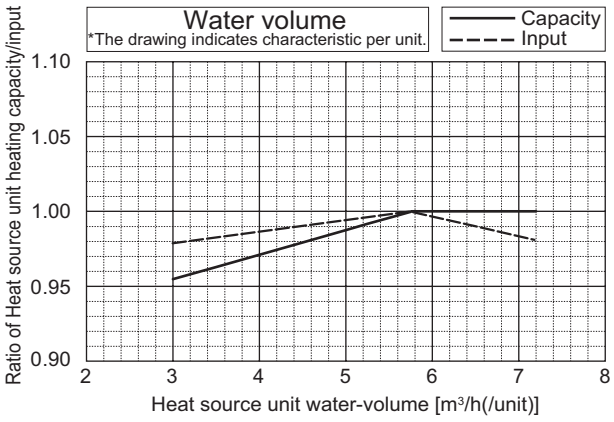
8. CAPACITY TABLES

PQHY-P144~P240TSLMU/YSLMU

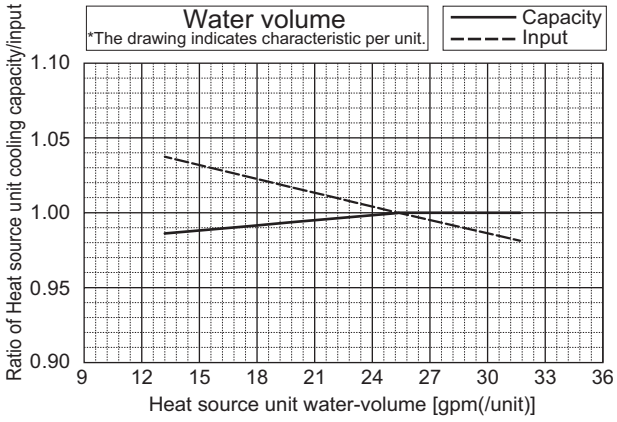
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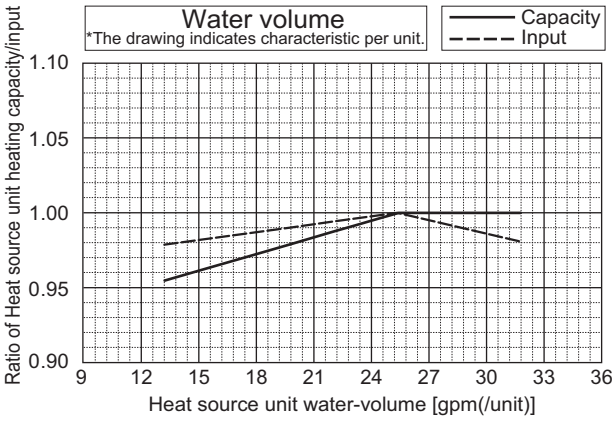
Heating



Cooling



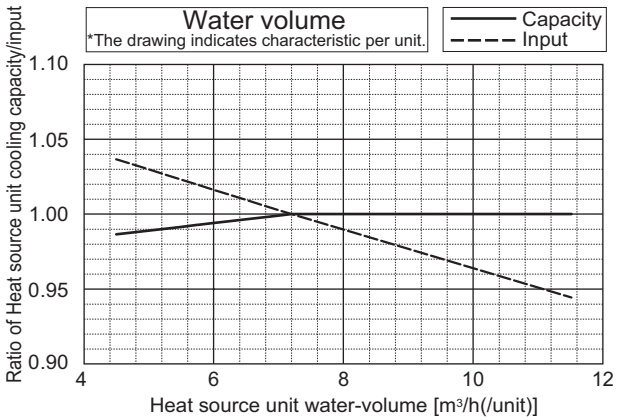
Heating



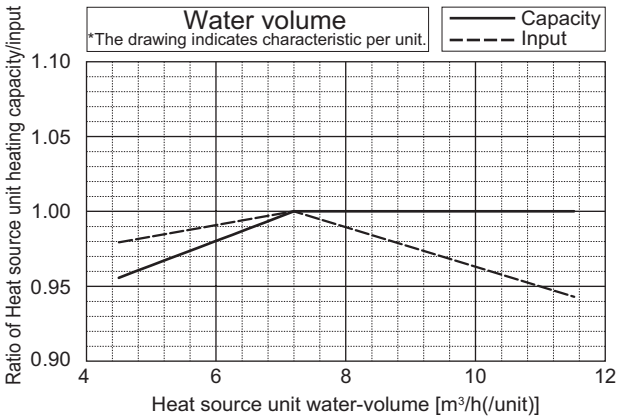
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PQHY-PP288-P336TSLMU/YSLMU

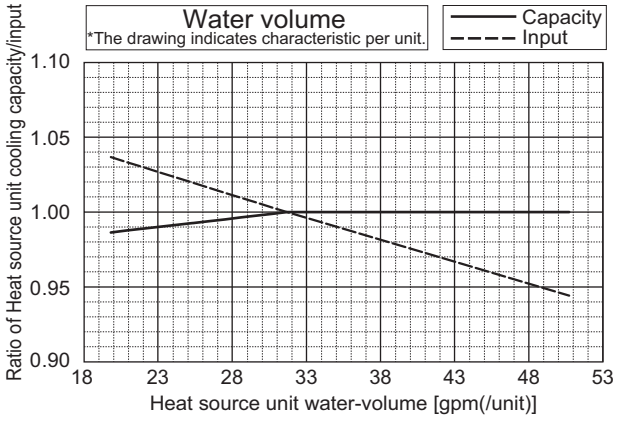
Cooling



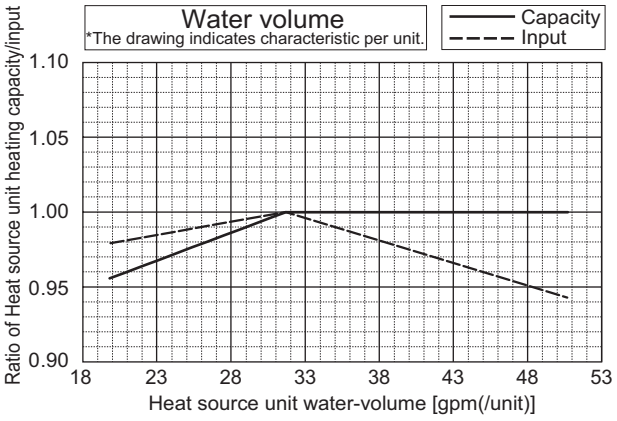
Heating



Cooling



Heating

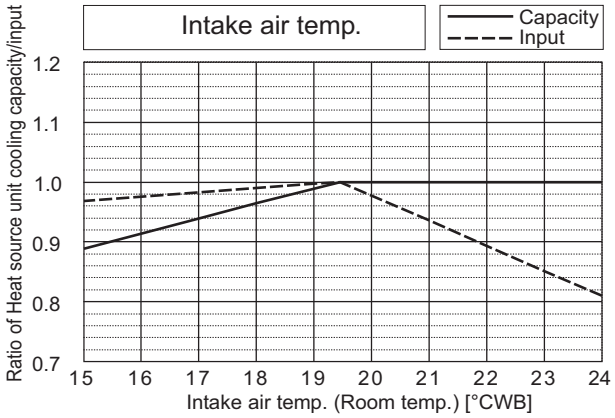


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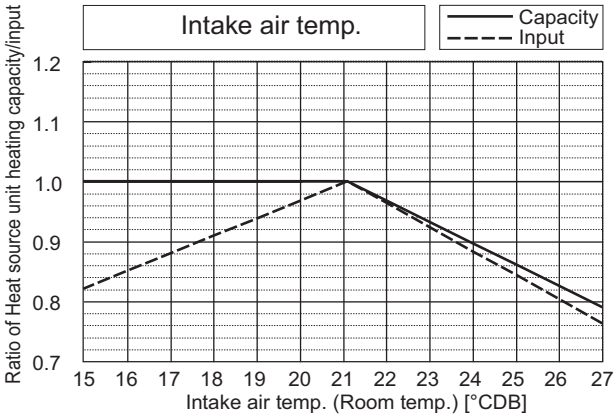
8-5. Indoor temperature correction factors (Geothermal)

8-5-1. Connection with standard CITY MULTI indoor unit

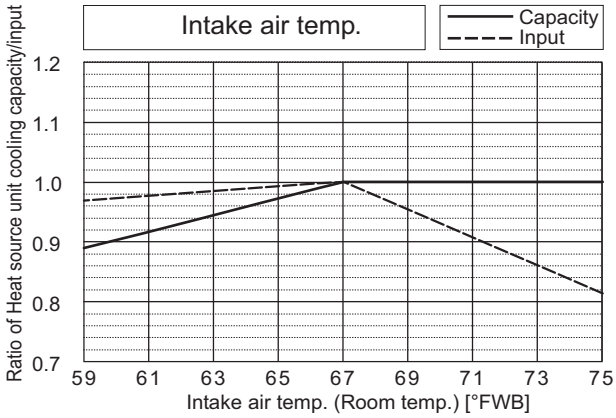
Cooling



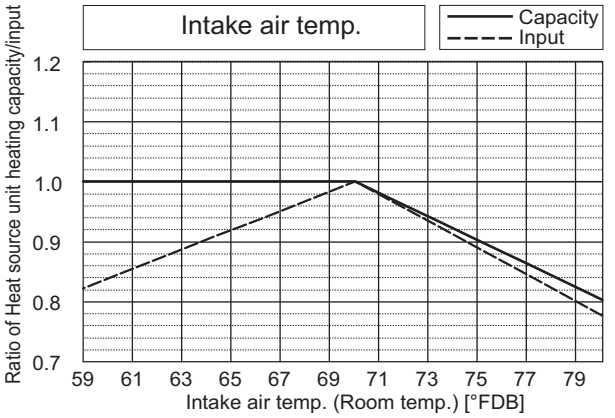
Heating



Cooling



Heating

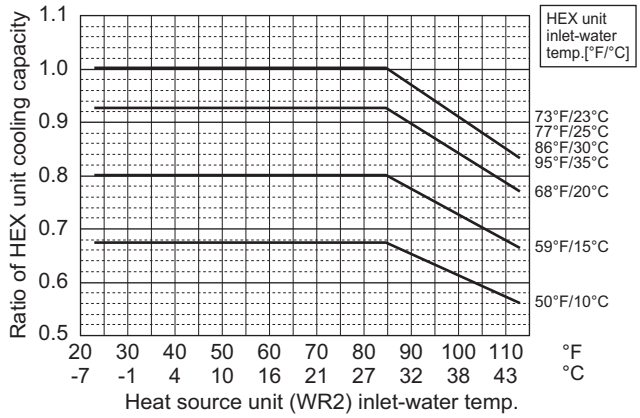


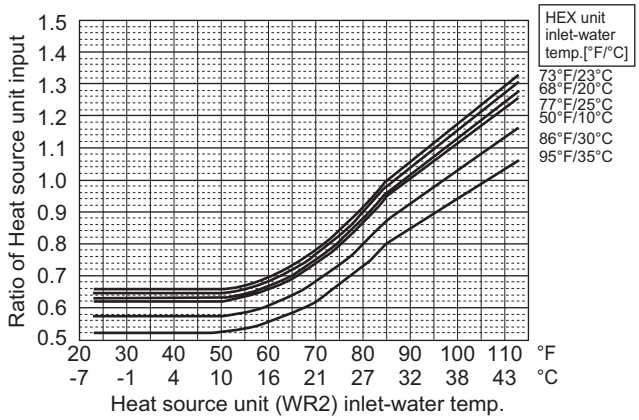
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8-5. Indoor temperature correction factors (Geothermal), cont.

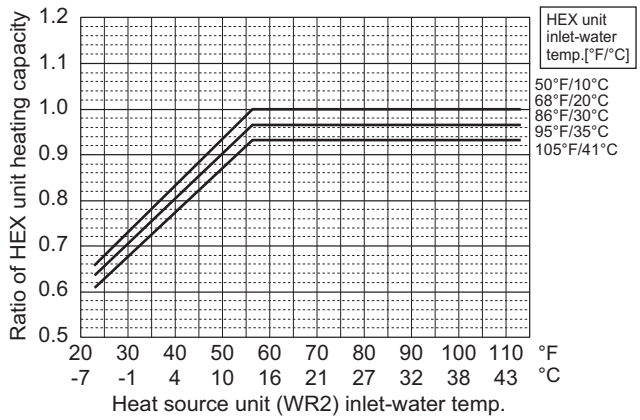
8-5-2. Connection with PWFY-P36/72NMU-E2-AU (HEX unit)

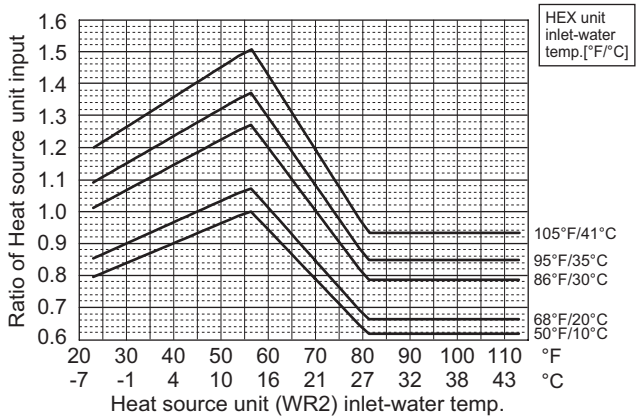
Cooling





Heating

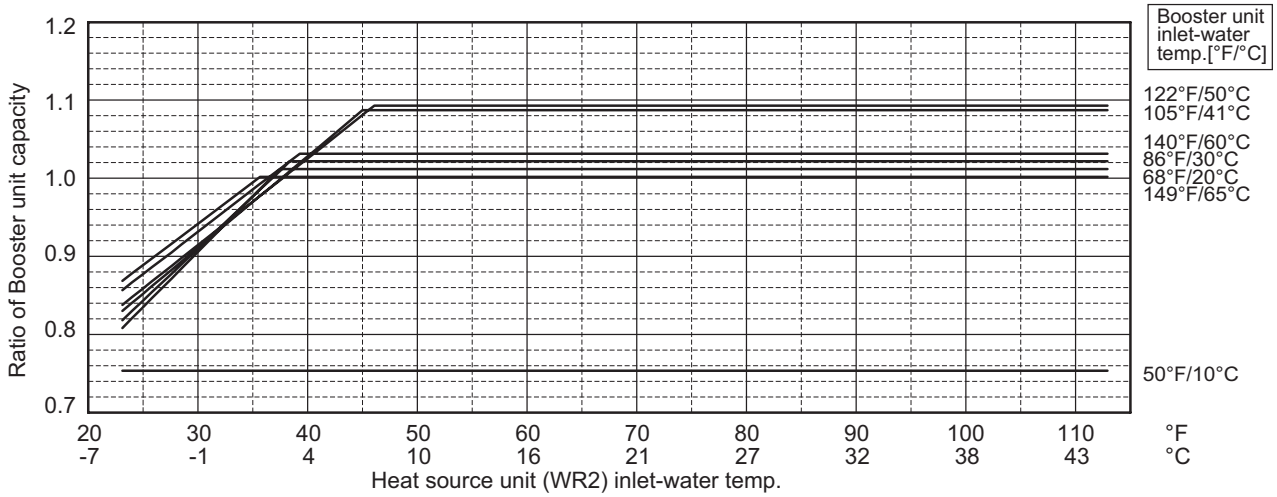


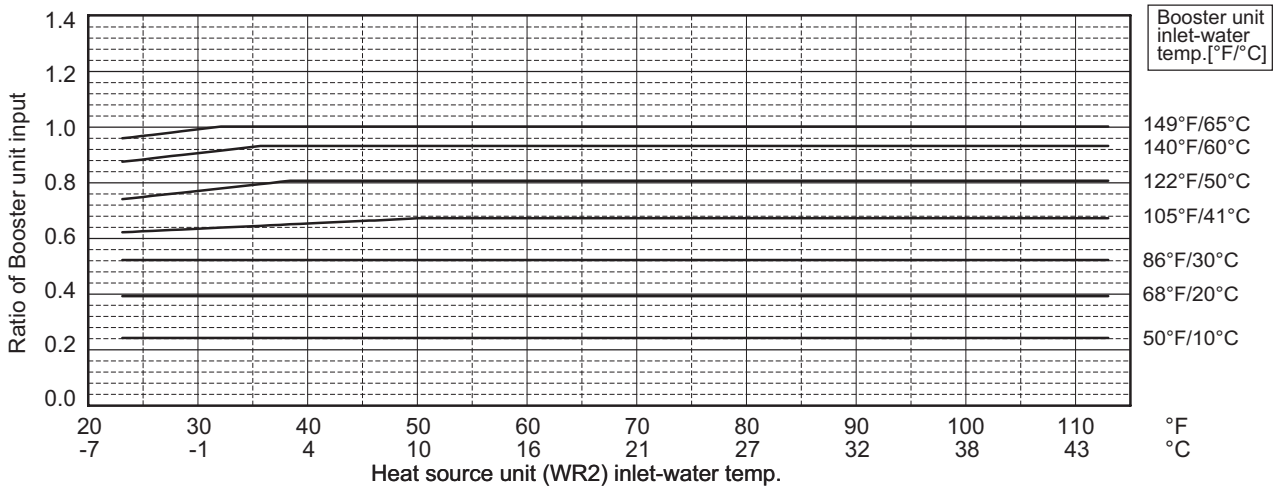


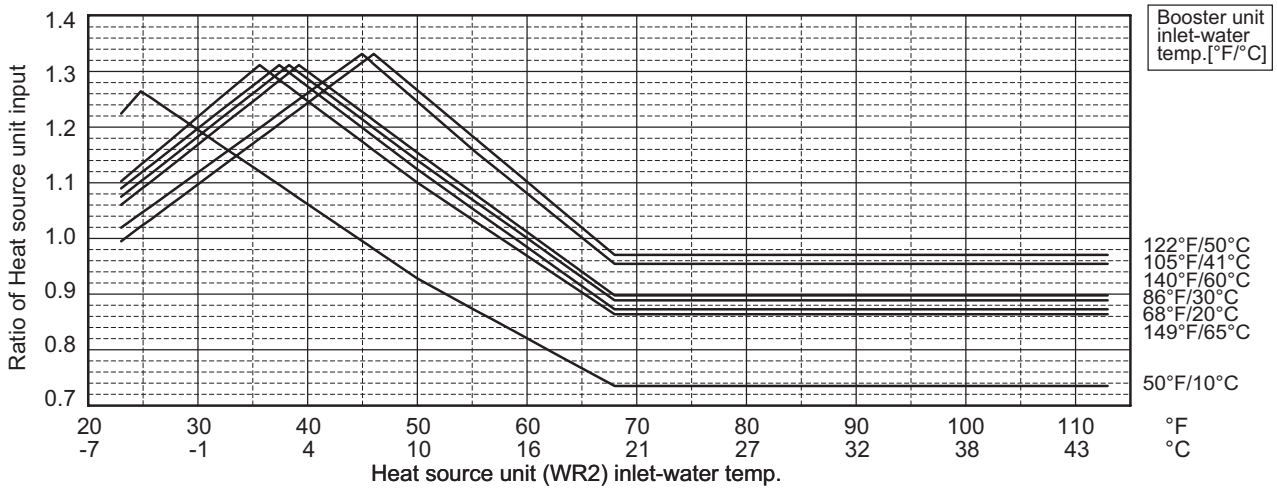
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8-5. Indoor temperature correction factors (Geothermal), cont.

8-5-2. Connection with PWFY-P36NMU-E-BU (Booster unit)





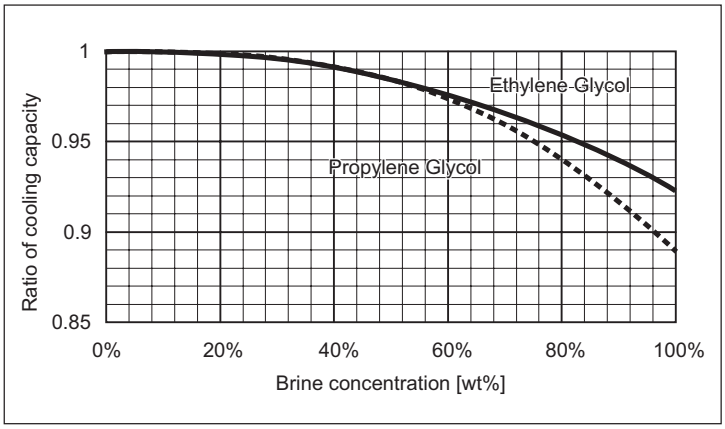


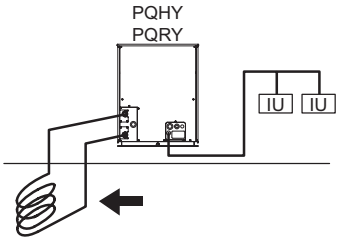
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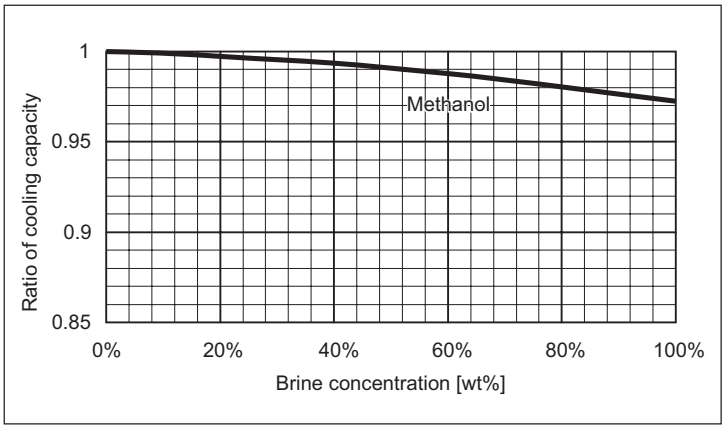
8-6. Glycol correction factors

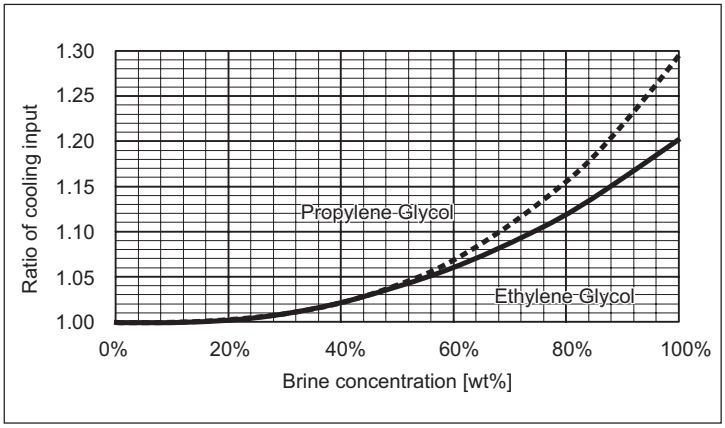
PQHY-P-T(S)LMU-A/Y(S)LMU-A

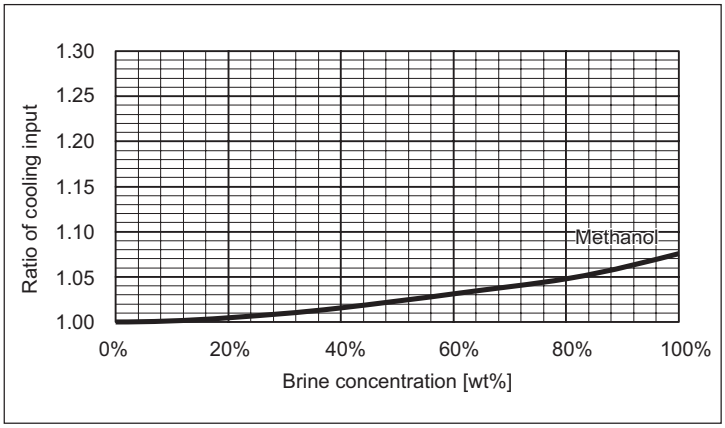
Cooling









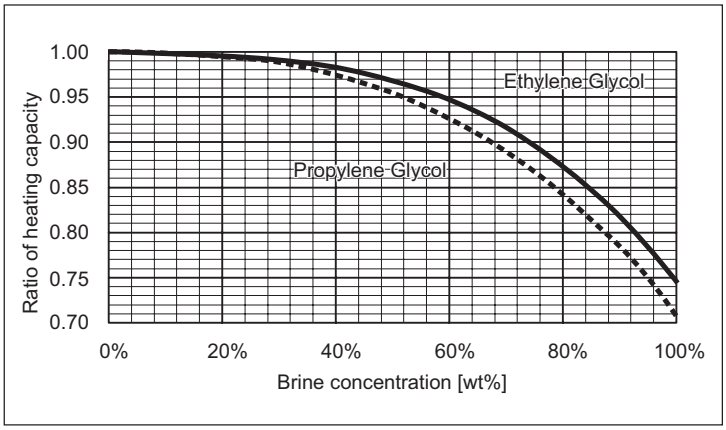


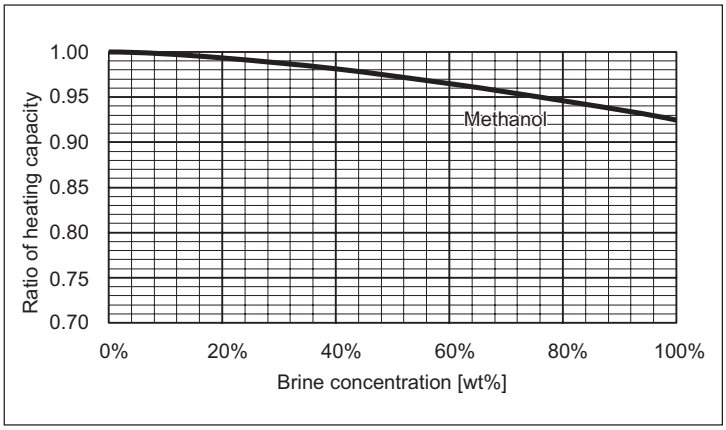
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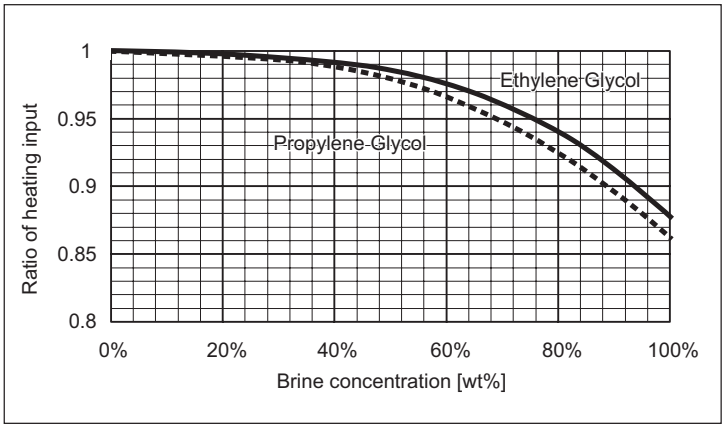
8-6. Glycol correction factors, cont.

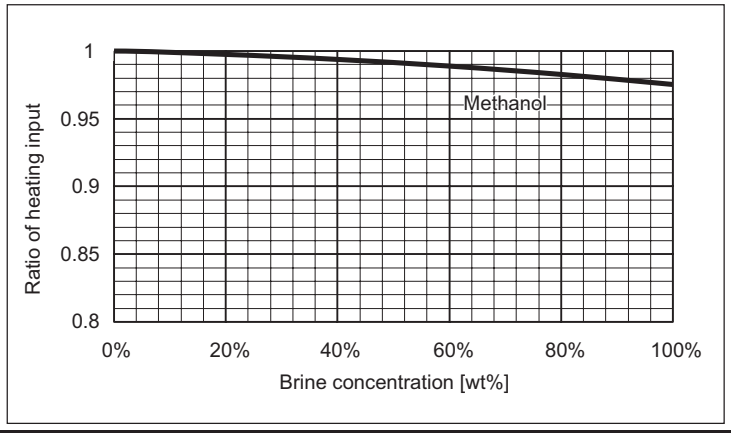
PQHY-P-T(S)LMU-A/Y(S)LMU-A

Heating





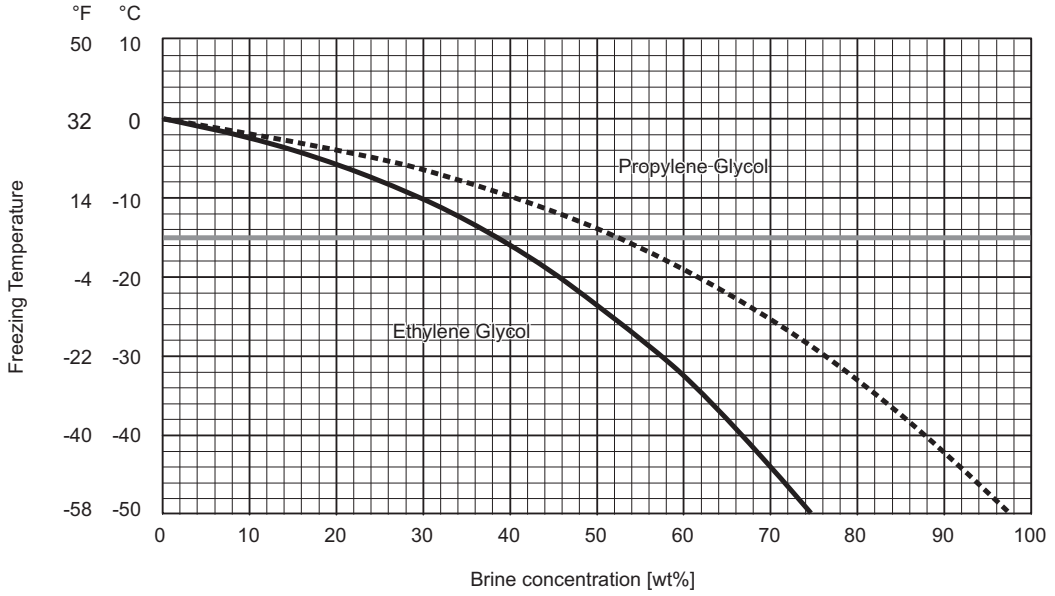


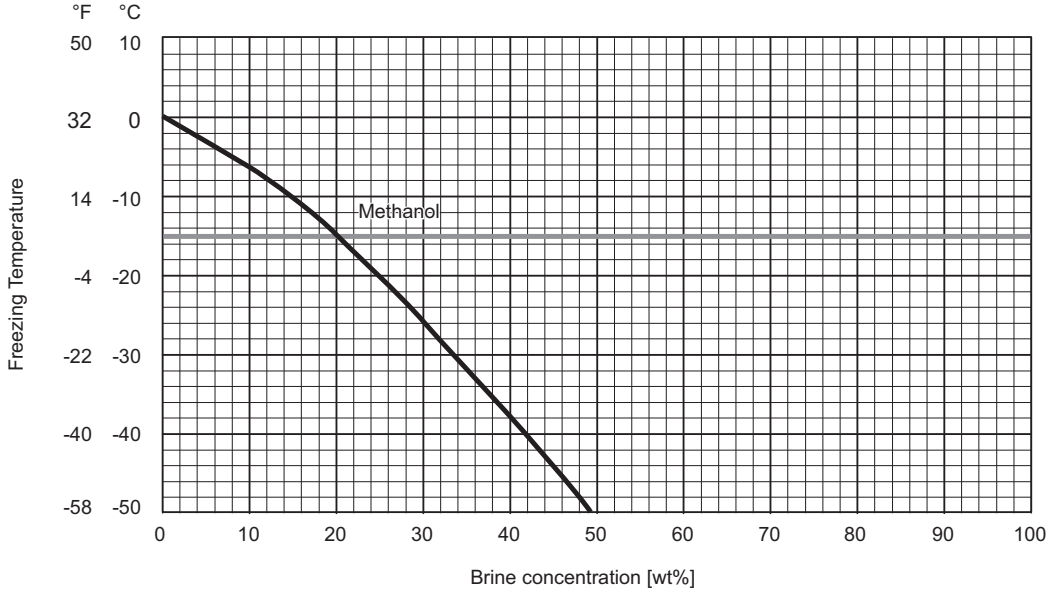


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8-7. Glycol freeze protection %

PQHY-P-T(S)LMU-A/Y(S)LMU-A





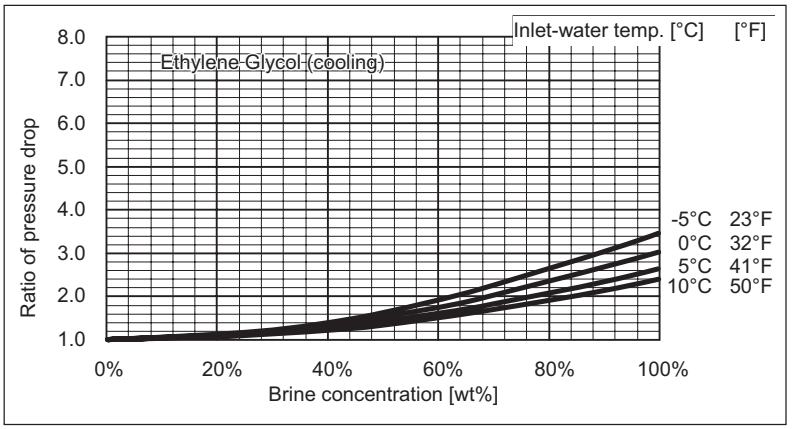
Note;
- The graph was referred from chemical company data.
- But Freezing Temperature condition will be slightly different based on each company.
- Please confirm detail data to the chemical company directly.
- It is recommended to set the brine concentration to a percentage that will keep the freezing temperature at -15deg°C or less.

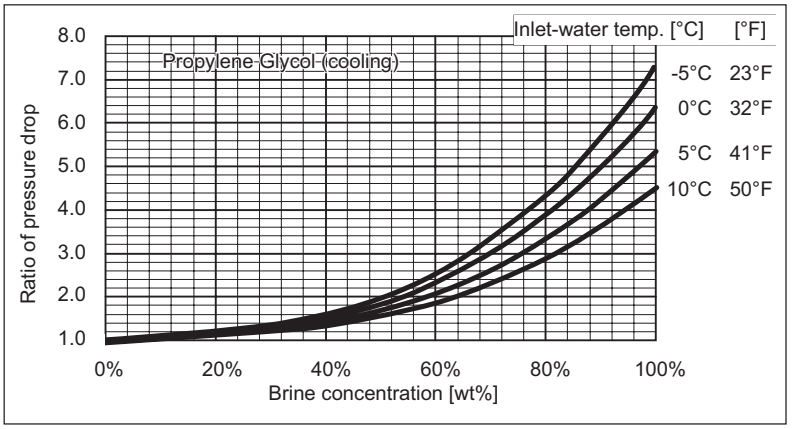
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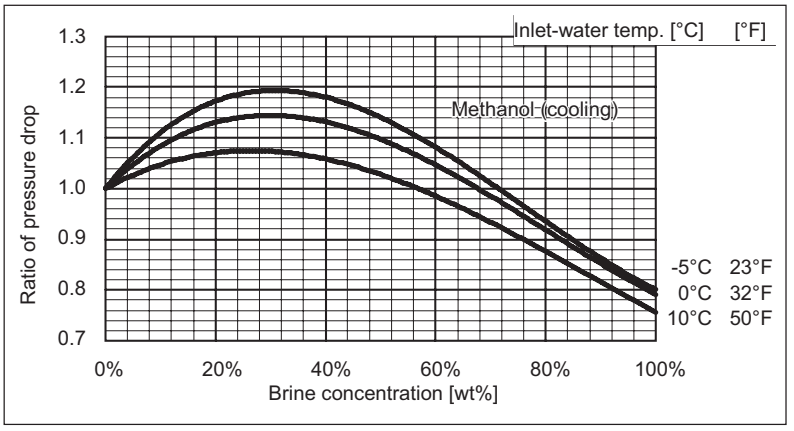
8-7. Glycol freeze protection %, cont.

PQHY-P-T(S)LMU-A/Y(S)LMU-A

Cooling





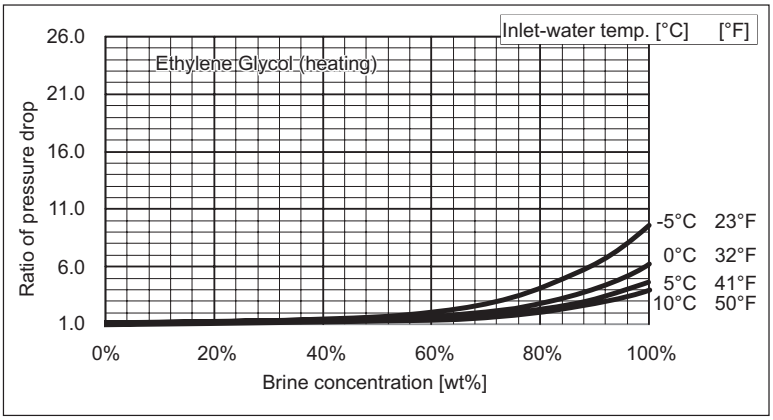


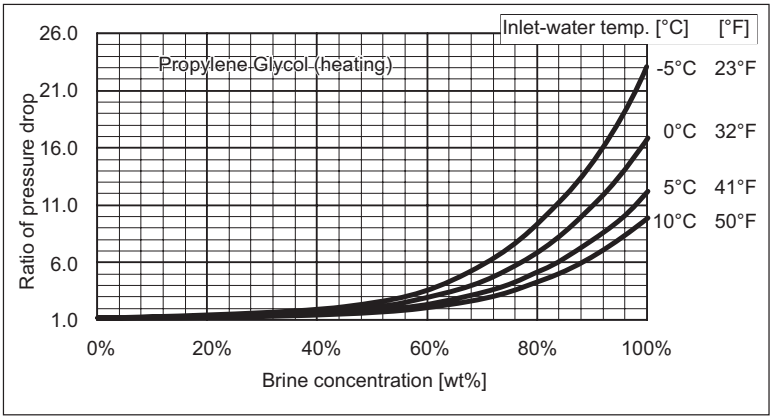
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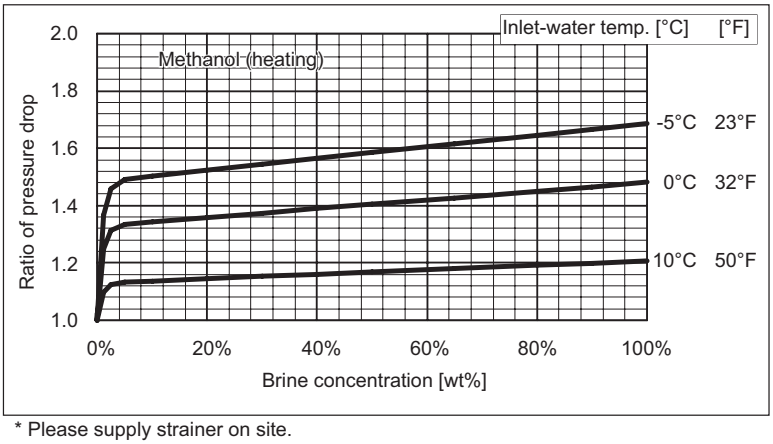
8-7. Glycol freeze protection %, cont.

PQHY-P-T(S)LMU-A/Y(S)LMU-A

Heating







* Please supply strainer on site.

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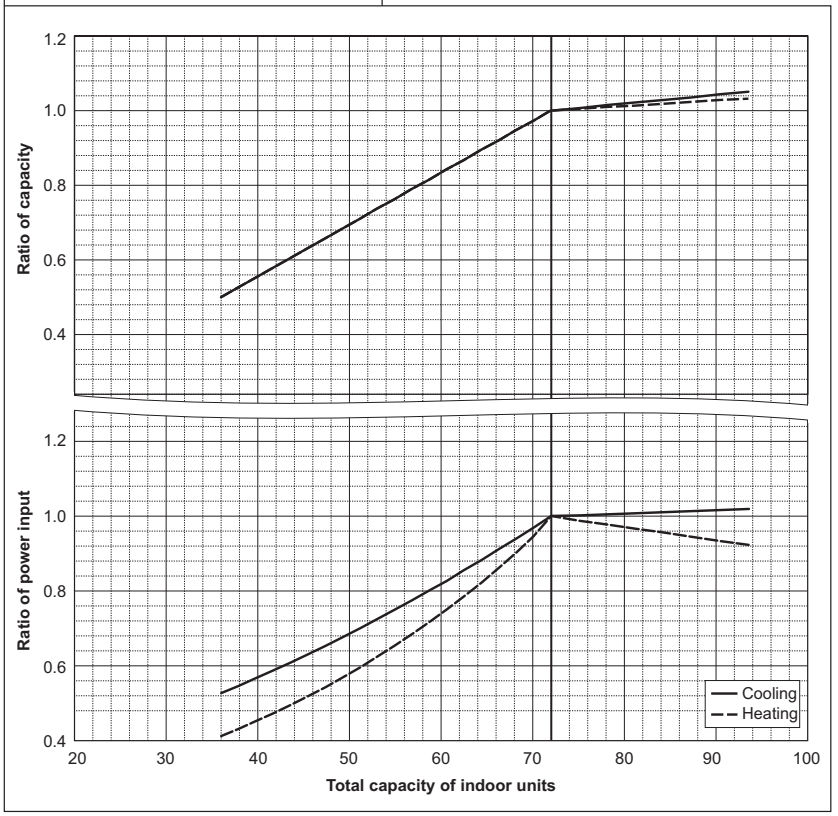
8-8. Correction by Total Indoor

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.

PQHY-			P72TLMU/YLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	72,000	
		kW	21.1	
	Input	kW	3.23	
Rated cooling capacity		BTU/h	69,000	
		kW	20.2	
	Input	kW	2.96	3.12

PQHY-			P72TLMU/YLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	80,000	
		kW	23.4	
	Input	kW	3.63	
Rated Heating capacity		BTU/h	76,000	
		kW	22.3	
	Input	kW	3.34	3.36

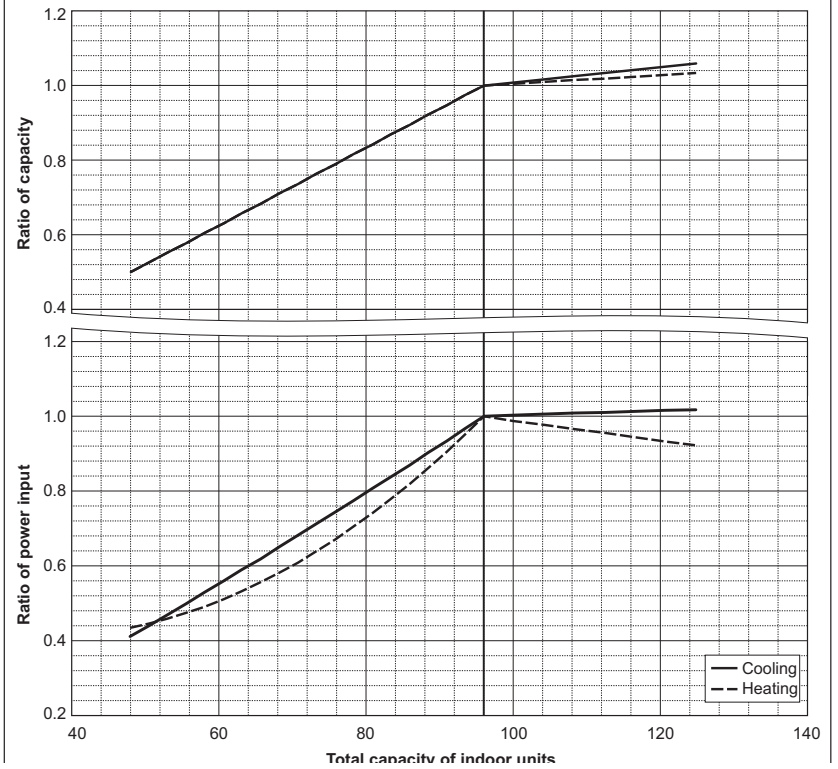
PQHY-P72TLMU/YLMU-A



PQHY-			P96TLMU/YLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	96,000	
		kW	28.1	
	Input	kW	4.65	
Rated cooling capacity		BTU/h	92,000	
		kW	27.0	
	Input	kW	4.26	5.19

PQHY-			P96TLMU/YLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	108,000	
		kW	31.7	
	Input	kW	5.05	
Rated Heating capacity		BTU/h	103,000	
		kW	30.2	
	Input	kW	4.65	4.48

PQHY-P96TLMU/YLMU-A



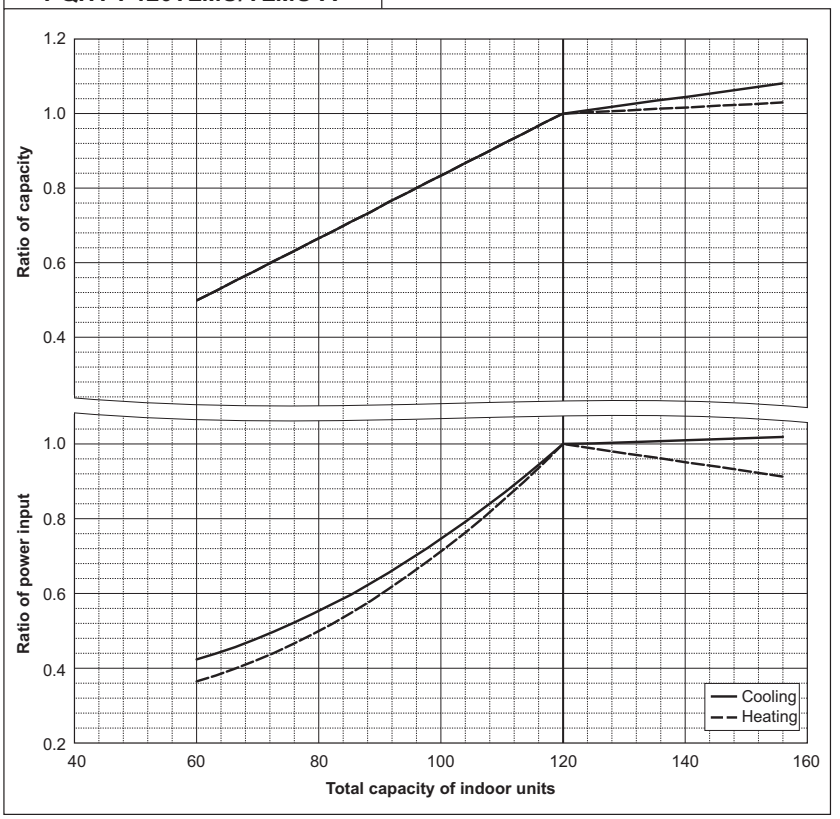
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8. CAPACITY TABLES

PQHY-			P120TLMU/YLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	120,000	
		kW	35.2	
	Input	kW	7.24	
Rated cooling capacity		BTU/h	114,000	
		kW	33.4	
	Input	kW	6.66	7.35

PQHY-			P120TLMU/YLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	135,000	
		kW	39.6	
	Input	kW	6.83	
Rated Heating capacity		BTU/h	129,000	
		kW	37.8	
	Input	kW	6.29	5.92

PQHY-P120TLMU/YLMU-A



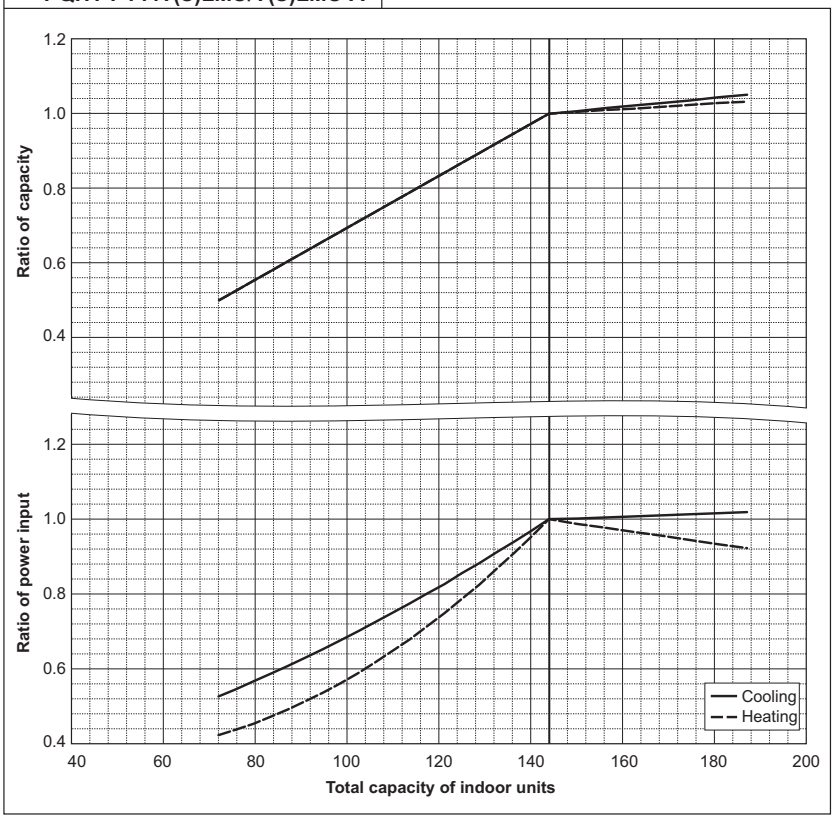
PQHY-			P144TLMU/YLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	144,000	
		kW	42.2	
	Input	kW	8.78	
Rated cooling capacity		BTU/h	137,000	
		kW	40.2	
	Input	kW	8.07	9.98

PQHY-			P144TLMU/YLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	160,000	
		kW	46.9	
	Input	kW	8.11	
Rated Heating capacity		BTU/h	152,000	
		kW	44.5	
	Input	kW	7.47	7.90

PQHY-			P144TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	144,000	
		kW	42.2	
	Input	kW	7.11	
Rated cooling capacity		BTU/h	137,000	
		kW	40.2	
	Input	kW	6.53	7.72

PQHY-			P144TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	160,000	
		kW	46.9	
	Input	kW	7.45	
Rated Heating capacity		BTU/h	152,000	
		kW	44.5	
	Input	kW	6.86	7.22

PQHY-P144T(S)LMU/Y(S)LMU-A



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8. CAPACITY TABLES

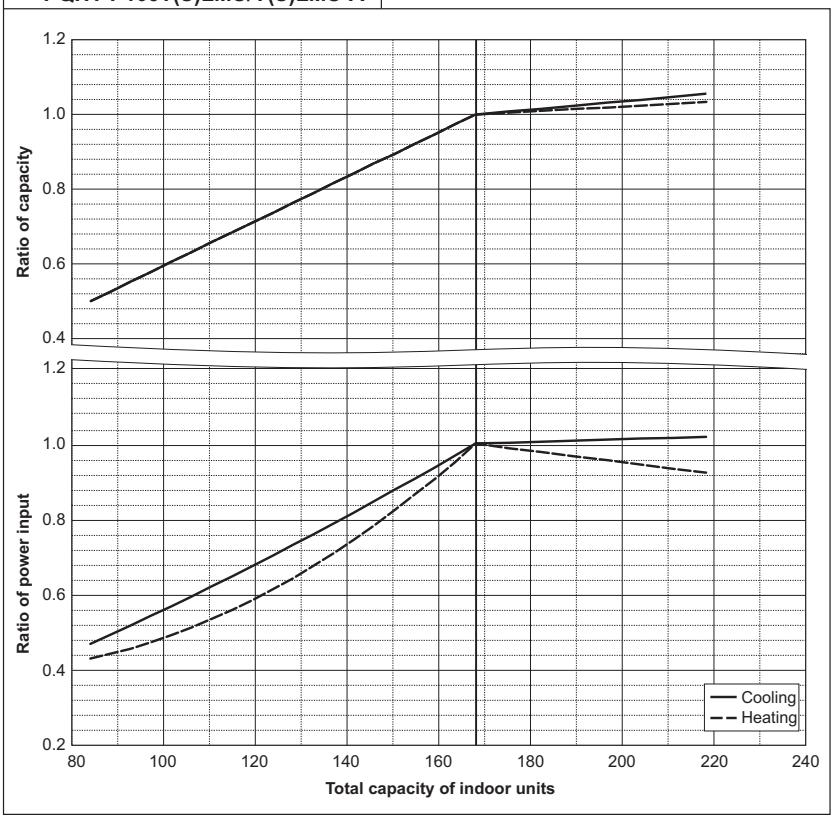
PQHY-			P168TLMU/YLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	168,000	
		kW	49.2	
	Input	kW	12.05	
Rated cooling capacity		BTU/h	161,000	
		kW	47.2	
	Input	kW	11.10	11.88

PQHY-			P168TLMU/YLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	188,000	
		kW	55.1	
	Input	kW	9.86	
Rated Heating capacity		BTU/h	179,000	
		kW	52.5	
	Input	kW	9.09	9.72

PQHY-			P168TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	168,000	
		kW	49.2	
	Input	kW	9.33	
Rated cooling capacity		BTU/h	161,000	
		kW	47.2	
	Input	kW	8.58	9.22

PQHY-			P168TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	188,000	
		kW	55.1	
	Input	kW	9.34	
Rated Heating capacity		BTU/h	179,000	
		kW	52.5	
	Input	kW	8.60	8.03

PQHY-P168T(S)LMU/Y(S)LMU-A



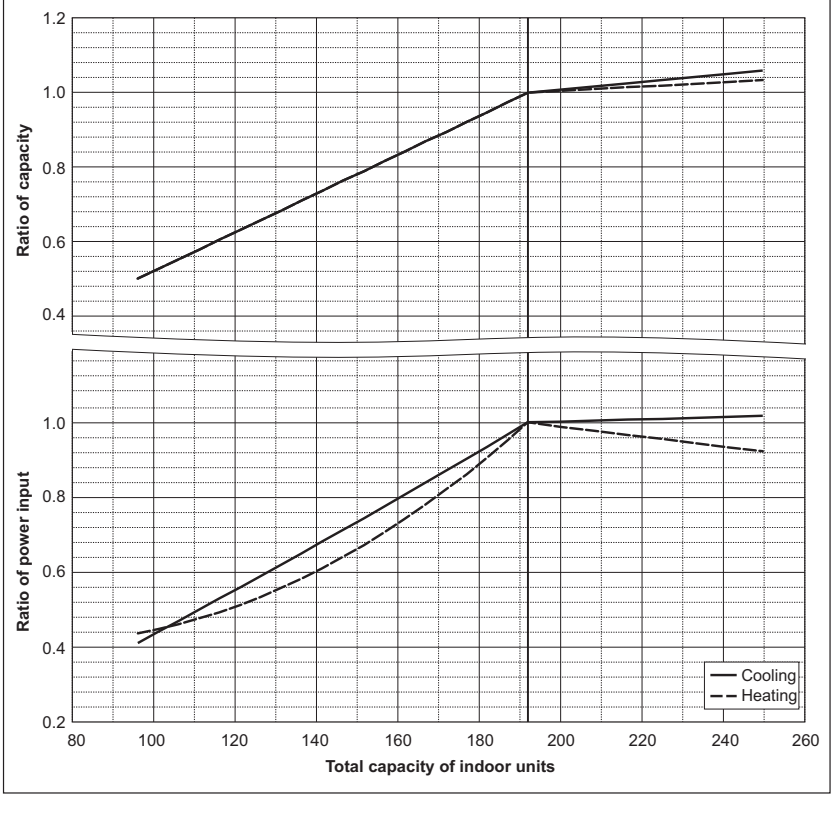
PQHY-			P192TLMU/YLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	192,000	
		kW	56.3	
	Input	kW	15.05	
Rated cooling capacity		BTU/h	183,000	
		kW	53.6	
	Input	kW	13.87	14.19

PQHY-			P192TLMU/YLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	215,000	
		kW	63.0	
	Input	kW	11.90	
Rated Heating capacity		BTU/h	205,000	
		kW	60.1	
	Input	kW	10.97	11.56

PQHY-			P192TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	192,000	
		kW	56.3	
	Input	kW	11.30	
Rated cooling capacity		BTU/h	183,000	
		kW	53.6	
	Input	kW	10.40	10.98

PQHY-			P192TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	215,000	
		kW	63.0	
	Input	kW	11.02	
Rated Heating capacity		BTU/h	205,000	
		kW	60.1	
	Input	kW	10.16	8.90

PQHY-P192T(S)LMU/Y(S)LMU-A



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8. CAPACITY TABLES

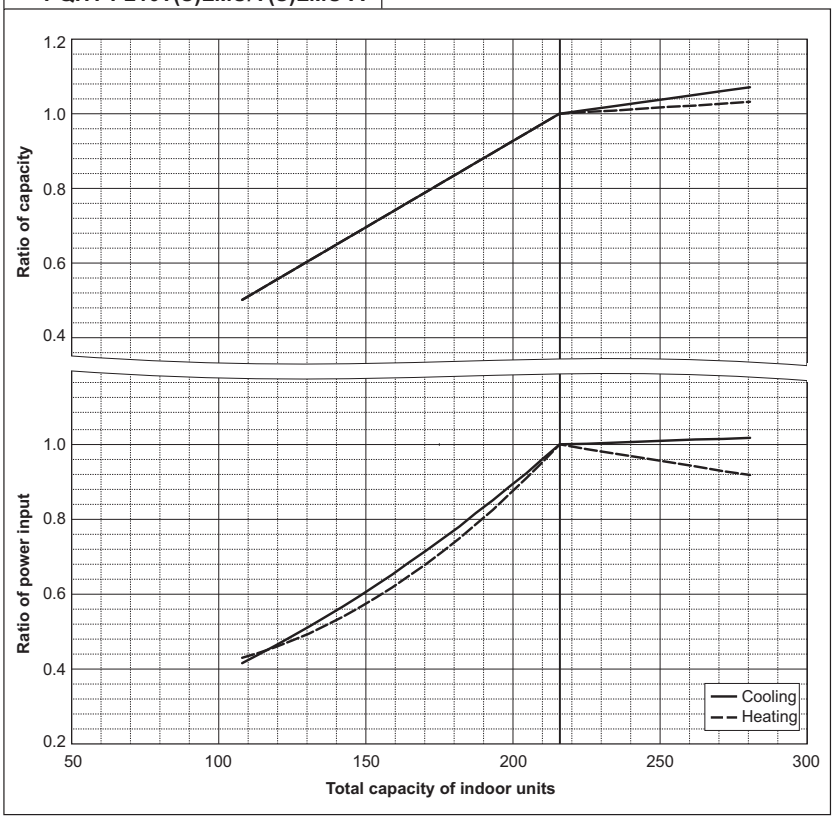
PQHY-			P216TLMU/YLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	216,000	
		kW	63.3	
	Input	kW	19.23	
Rated cooling capacity		BTU/h	206,000	
		kW	60.4	
	Input	kW	17.72	16.10

PQHY-			P216TLMU/YLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	243,000	
		kW	71.2	
	Input	kW	13.04	
Rated Heating capacity		BTU/h	232,000	
		kW	68.0	
	Input	kW	12.01	12.34

PQHY-			P216TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	216,000	
		kW	63.3	
	Input	kW	14.03	
Rated cooling capacity		BTU/h	206,000	
		kW	60.4	
	Input	kW	12.93	13.24

PQHY-			P216TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	243,000	
		kW	71.2	
	Input	kW	12.88	
Rated Heating capacity		BTU/h	232,000	
		kW	68.0	
	Input	kW	11.88	10.35

PQHY-P216T(S)LMU/Y(S)LMU-A



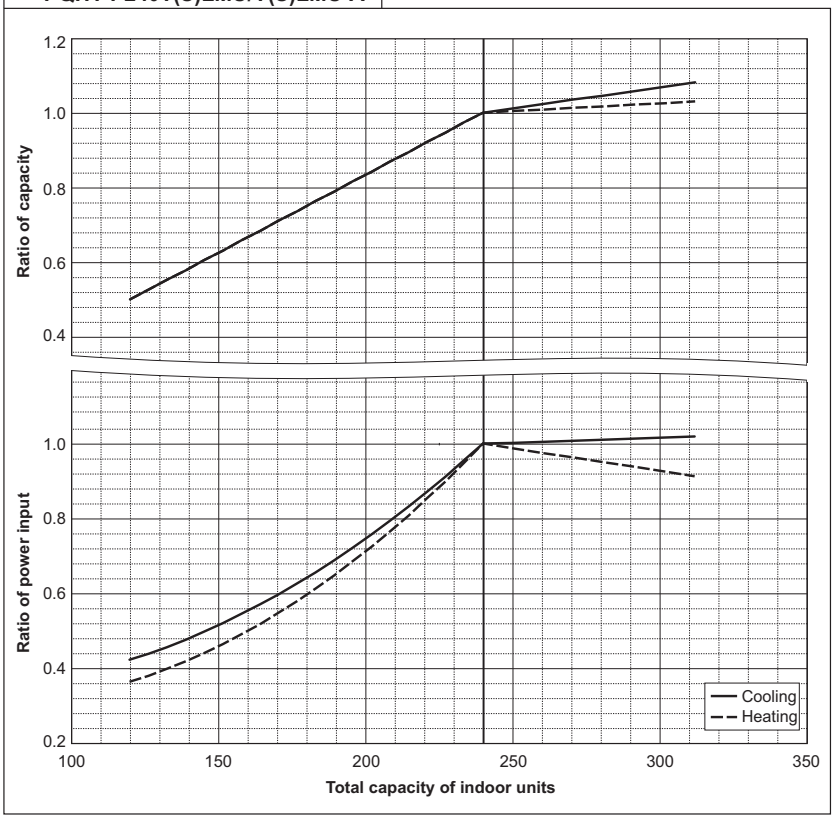
PQHY-			P240TLMU/YLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	240,000	
		kW	70.3	
	Input	kW	21.14	
Rated cooling capacity		BTU/h	228,000	
		kW	66.8	
	Input	kW	19.49	18.74

PQHY-			P240TLMU/YLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	270,000	
		kW	79.1	
	Input	kW	15.12	
Rated Heating capacity		BTU/h	258,000	
		kW	75.6	
	Input	kW	13.93	14.62

PQHY-			P240TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	240,000	
		kW	70.3	
	Input	kW	16.89	
Rated cooling capacity		BTU/h	228,000	
		kW	66.8	
	Input	kW	15.57	16.15

PQHY-			P240TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	270,000	
		kW	79.1	
	Input	kW	14.58	
Rated Heating capacity		BTU/h	258,000	
		kW	75.6	
	Input	kW	13.45	12.02

PQHY-P240T(S)LMU/Y(S)LMU-A



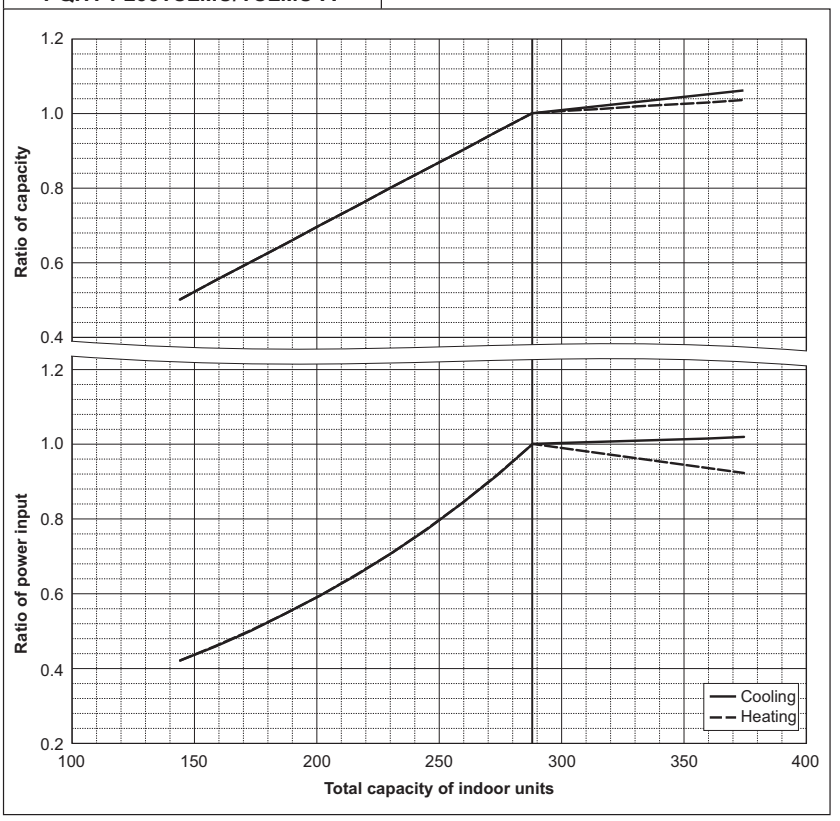
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8. CAPACITY TABLES

PQHY-			P288TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	288,000	
		kW	84.4	
	Input	kW	20.42	
Rated cooling capacity		BTU/h	275,000	
		kW	80.6	
	Input	kW	18.82	21.43

PQHY-			P288TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	323,000	
		kW	94.7	
	Input	kW	17.50	
Rated Heating capacity		BTU/h	308,000	
		kW	90.3	
	Input	kW	16.13	16.05

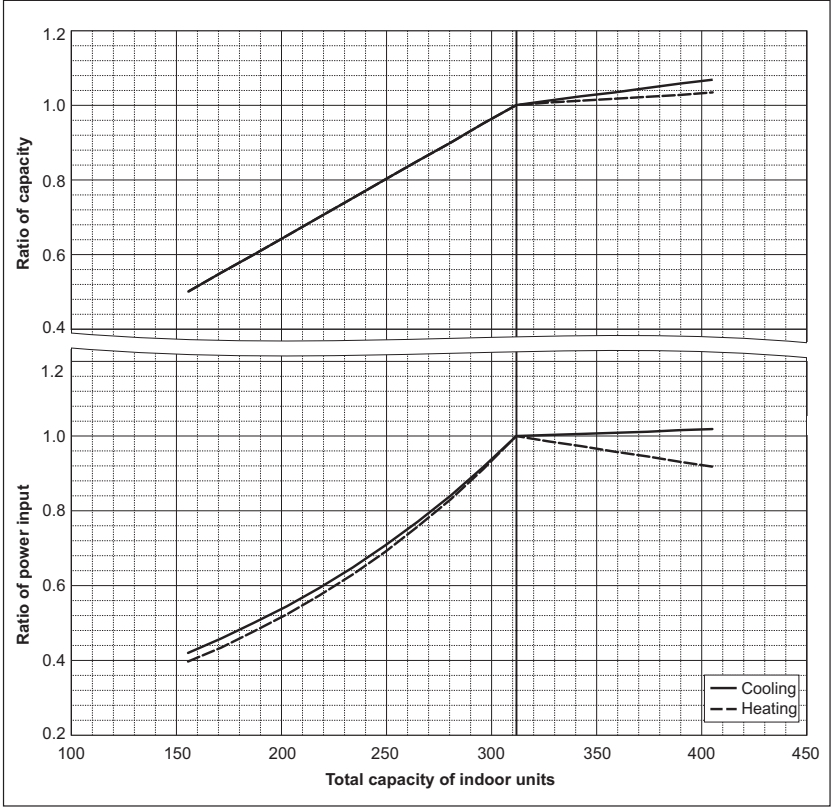
PQHY-P288TSLMU/YSLMU-A



PQHY-			P312TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	312,000	
		kW	91.4	
	Input	kW	23.41	
Rated cooling capacity		BTU/h	297,000	
		kW	87.0	
	Input	kW	21.59	23.67

PQHY-			P312TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	350,000	
		kW	102.6	
	Input	kW	19.11	
Rated Heating capacity		BTU/h	334,000	
		kW	97.9	
	Input	kW	17.62	17.96

PQHY-P312TSLMU/YSLMU-A



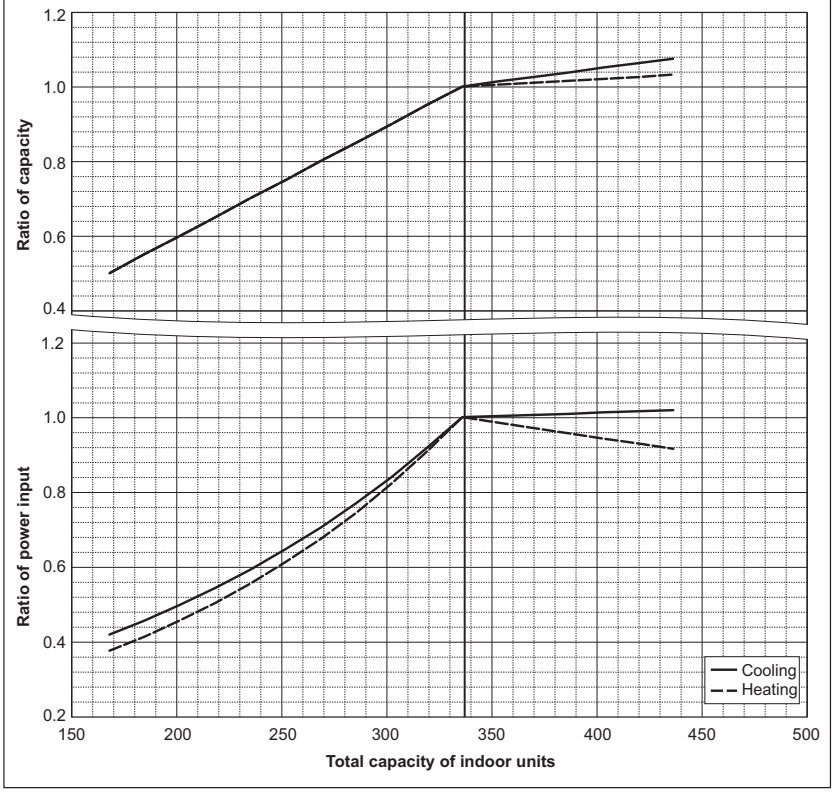
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8. CAPACITY TABLES

PQHY-			P336TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	336,000	
		kW	98.5	
	Input	kW	26.84	
Rated cooling capacity		BTU/h	320,000	
		kW	93.8	
	Input	kW	24.76	25.85

PQHY-			P336TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	378,000	
		kW	110.8	
	Input	kW	20.77	
Rated Heating capacity		BTU/h	361,000	
		kW	105.8	
	Input	kW	19.16	20.05

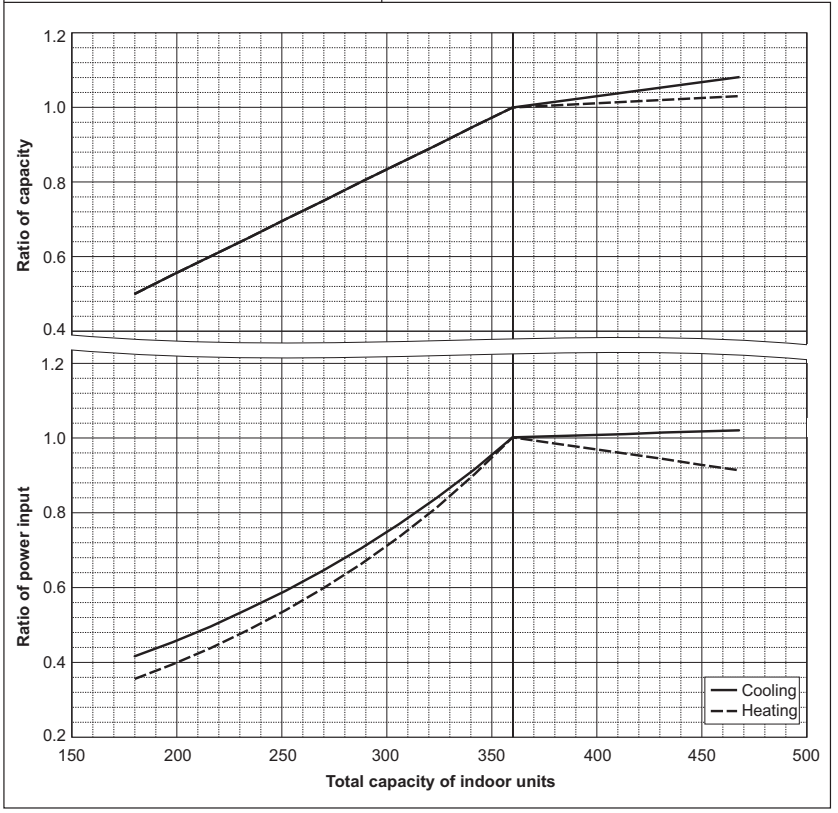
PQHY-P336TSLMU/YSLMU-A



PQHY-			P360TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal cooling capacity		BTU/h	360,000	
		kW	105.5	
	Input	kW	29.43	
Rated cooling capacity		BTU/h	342,000	
		kW	100.2	
	Input	kW	27.17	27.41

PQHY-			P360TSLMU/YSLMU	
			Non-Ducted	Ducted
Nominal Heating capacity		BTU/h	405,000	
		kW	118.7	
	Input	kW	22.85	
Rated Heating capacity		BTU/h	387,000	
		kW	113.4	
	Input	kW	21.09	21.70

PQHY-P360TSLMU/YSLMU-A



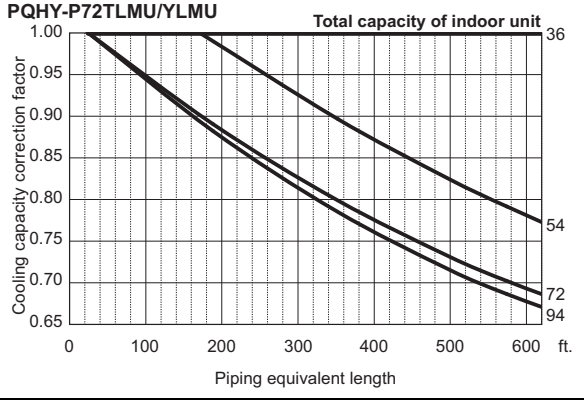
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8-9. Correction by Refrigerant Piping Length

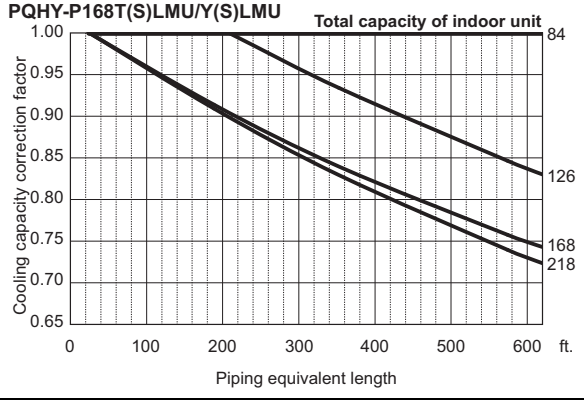
CITY MULTI systems can have extended piping lengths if certain limitations are followed, but cooling/heating capacity could be reduced. Using following correction factor by equivalent piping length shown at 8-9-1 and 8-9-2, capacity can be found. 8-10-3 shows how to obtain the equivalent piping length.

8-9-1. How to obtain the equivalent piping length

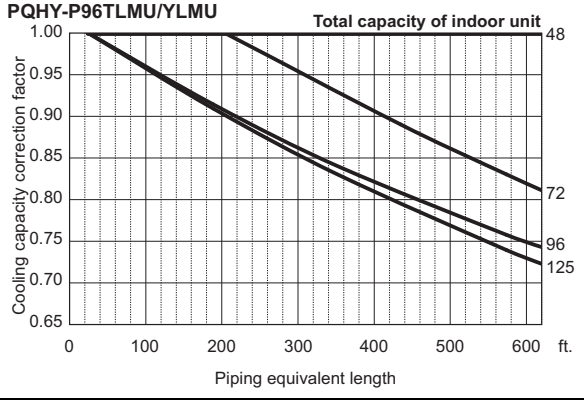
PQHY-P72TLMU/YLMU



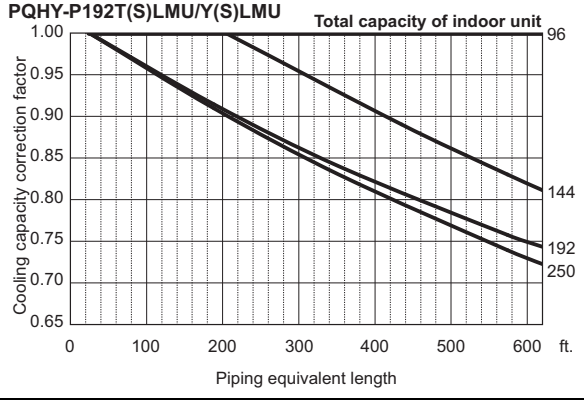
PQHY-P168T(S)LMU/Y(S)LMU



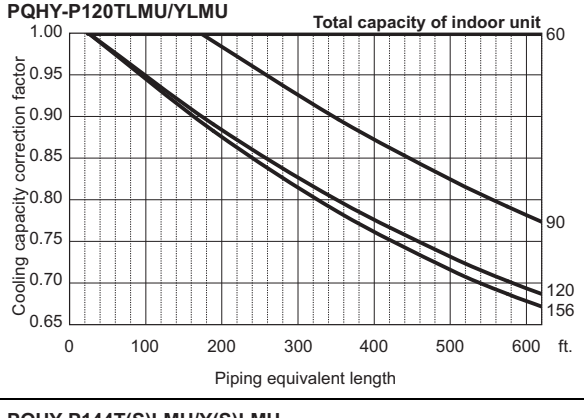
PQHY-P96TLMU/YLMU



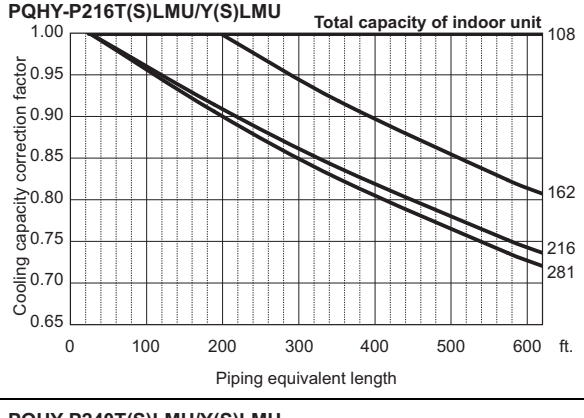
PQHY-P192T(S)LMU/Y(S)LMU



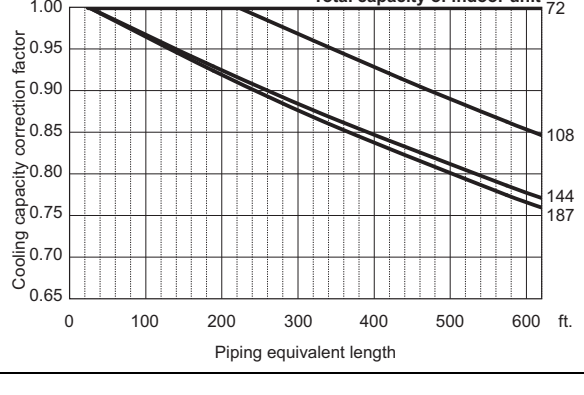
PQHY-P120TLMU/YLMU



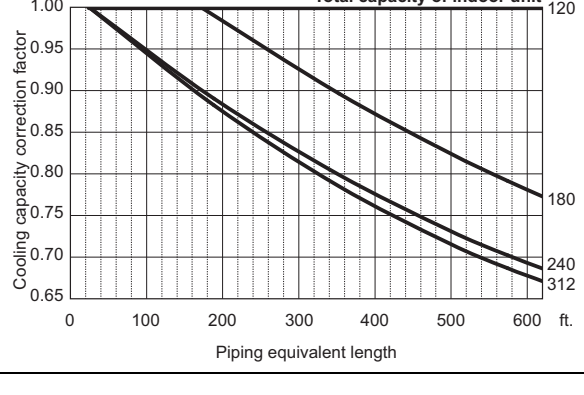
PQHY-P216T(S)LMU/Y(S)LMU



PQHY-P144T(S)LMU/Y(S)LMU

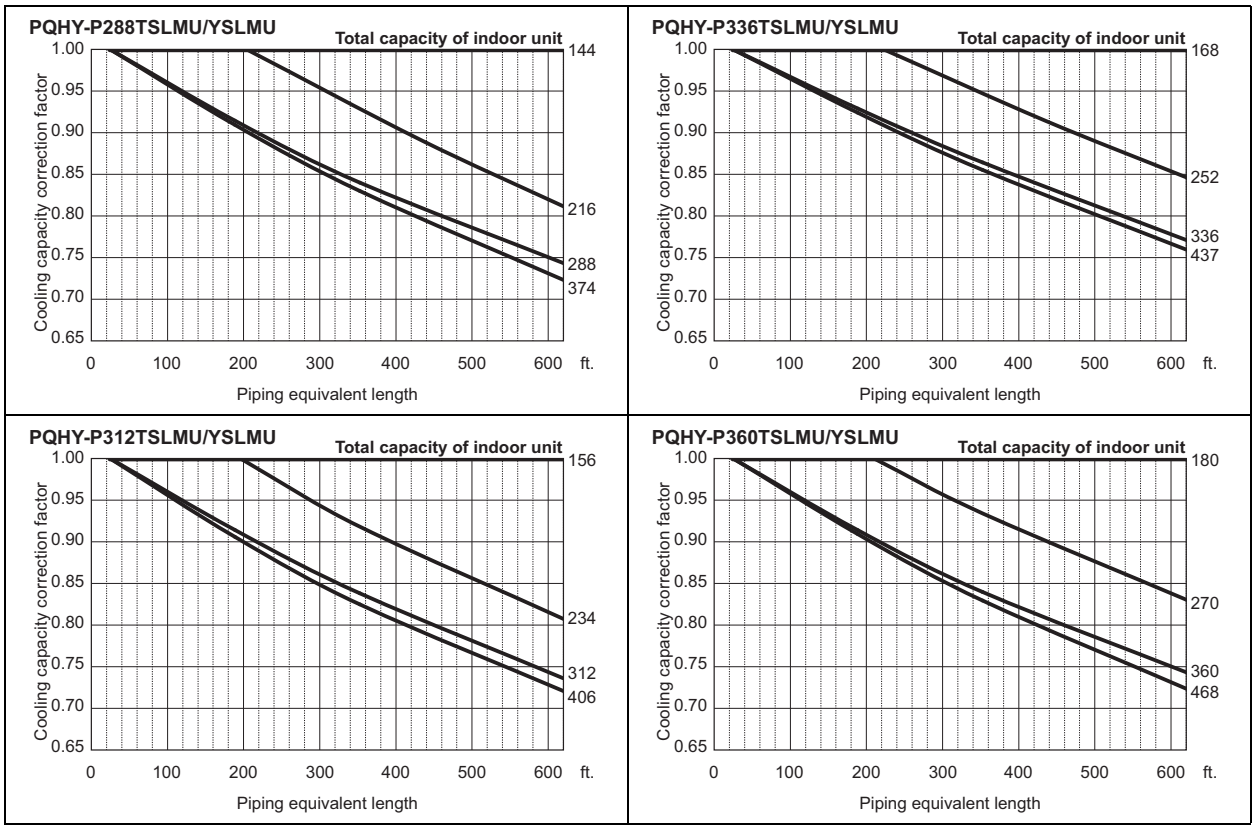


PQHY-P240T(S)LMU/Y(S)LMU



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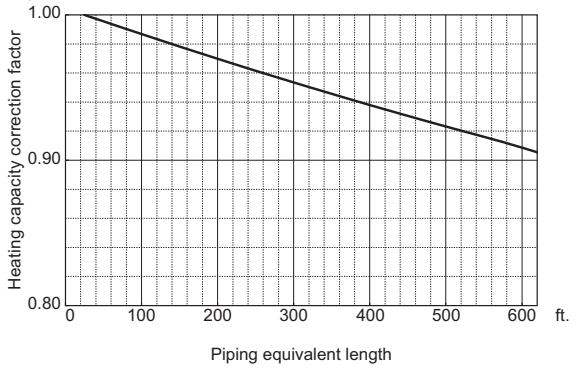
8. CAPACITY TABLES



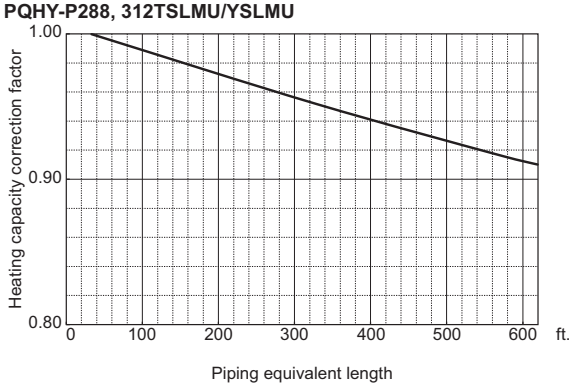
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8-9-1. How to obtain the equivalent piping length

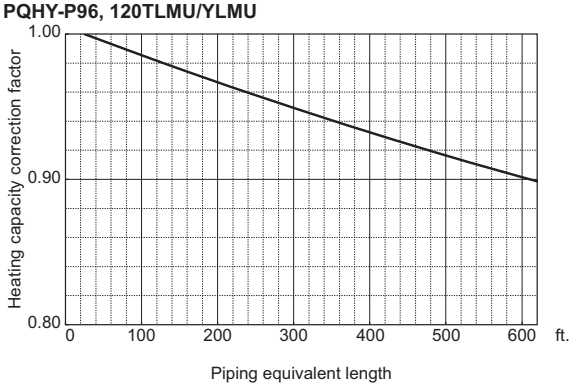
PQHY-P72TLMU/YLMU



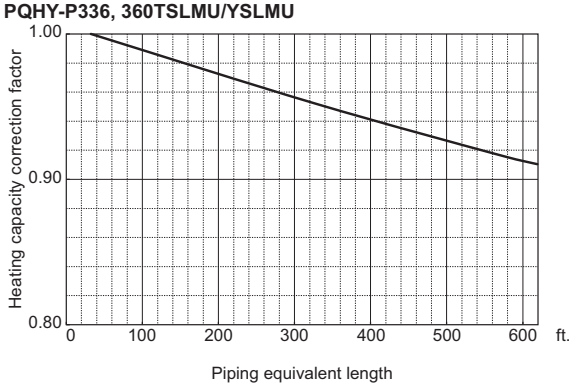
PQHY-P288, 312TSLMU/YSLMU



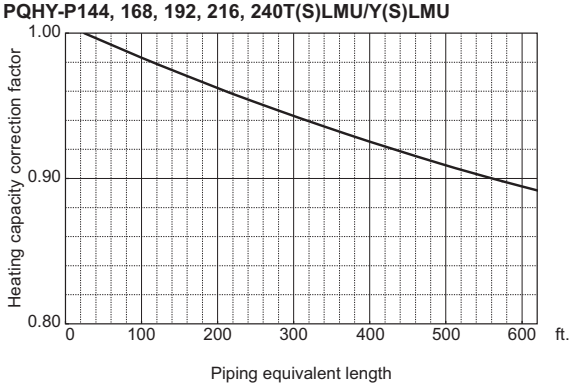
PQHY-P96, 120TLMU/YLMU



PQHY-P336, 360TSLMU/YSLMU



PQHY-P144, 168, 192, 216, 240T(S)LMU/Y(S)LMU



8-10-3. How to obtain the equivalent piping length

1. PQHY-P72TLMU/YLMU

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. PQHY-P96, 120TLMU/YLMU

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. PQHY-P144, 168, 192, 216, 240T(S)LMU/Y(S)LMU

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. PQHY-P288, 312TSLMU/YSLMU

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]

5. PQHY-P336, 360TSLMU/YSLMU

Equivalent length = (Actual piping length to the farthest indoor unit) + (2.63 x number of bent on the piping) [ft.]
Equivalent length = (Actual piping length to the farthest indoor unit) + (0.80 x number of bent on the piping) [m]

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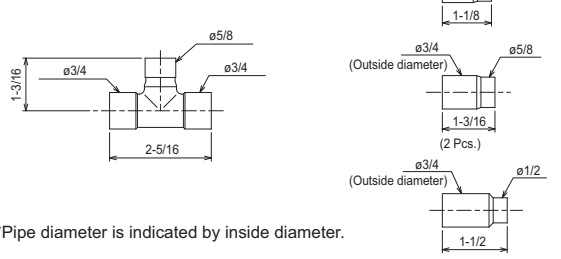
9-1. Branch Joint

CITY MULTI units can be easily connected by using Joint sets and Header sets provided by Mitsubishi Electric. Four kinds of Joint sets are available for use. Refer to section 12 or the Installation Manual that comes with the Joint set.

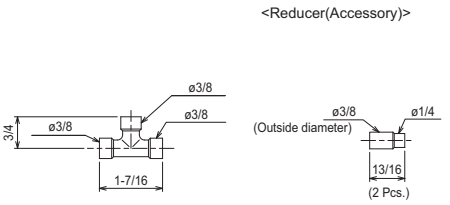
CMY-Y102SS-G2

in.

For Gas pipe:



For Liquid pipe:

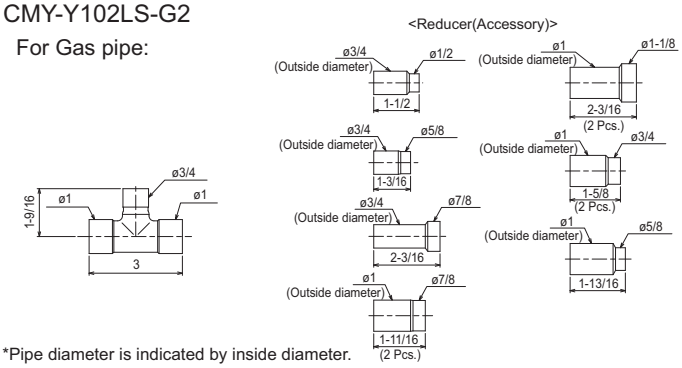


*Pipe diameter is indicated by inside diameter.

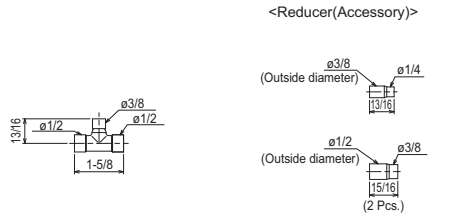
CMY-Y102LS-G2

in.

For Gas pipe:



For Liquid pipe:

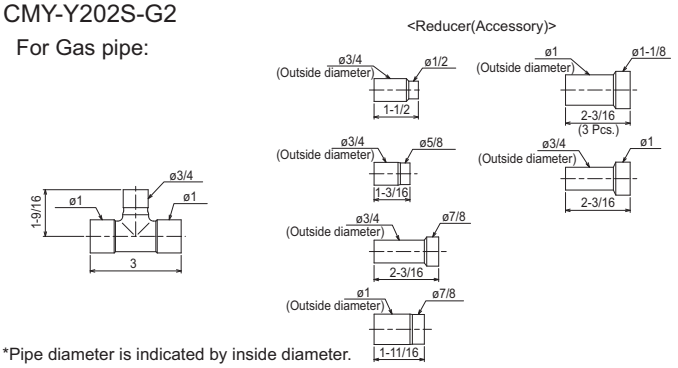


*Pipe diameter is indicated by inside diameter.

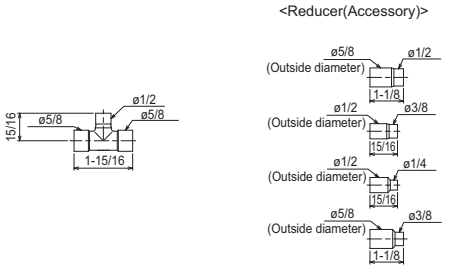
CMY-Y202S-G2

in.

For Gas pipe:



For Liquid pipe:

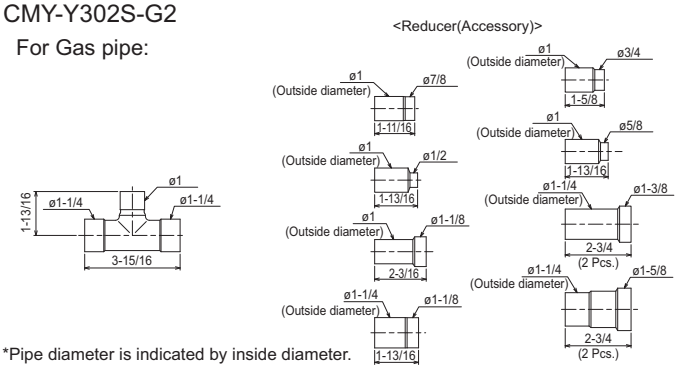


*Pipe diameter is indicated by inside diameter.

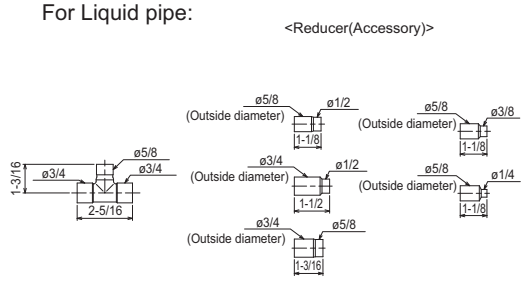
CMY-Y302S-G2

in.

For Gas pipe:



For Liquid pipe:



*Pipe diameter is indicated by inside diameter.

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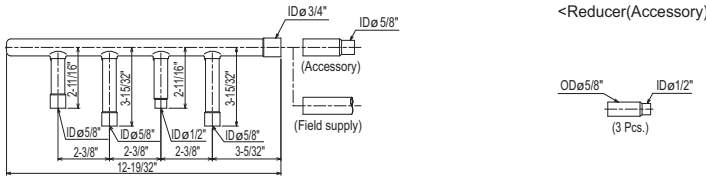
9-2. Headers

CITY MULTI units can be easily connected by using Joint sets and Header sets provided by Mitsubishi Electric. Three kinds of Header sets are available for use. Refer to section 12 or the Installation Manual that comes with the Header set for how to install the Header set.

CMY-Y104C-G

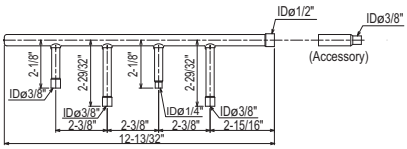
in.

For gas pipe:

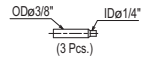


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For liquid pipe:



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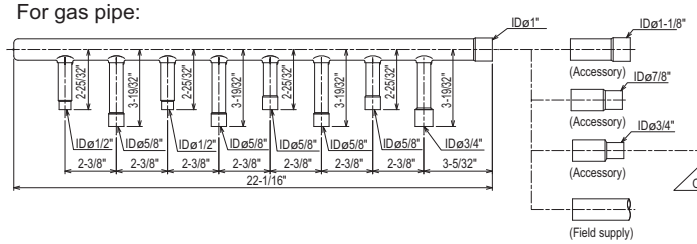


ID: Inner Diameter OD: Outer Diameter
NOTE: Besides above mentioned accessories, caps for ø1/4", ø3/8", ø1/2", ø5/8" pipes (each diameter 1 piece) are included in the Header set.

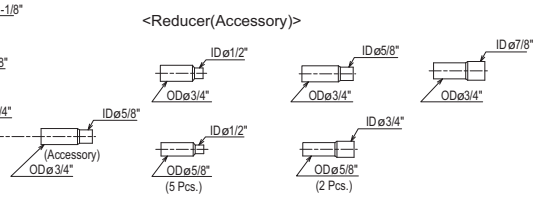
CMY-Y108C-G

in.

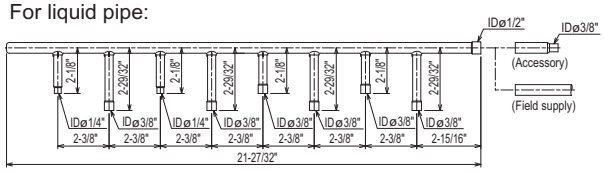
For gas pipe:



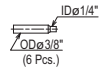
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For liquid pipe:



<Reducer(Accessory)>

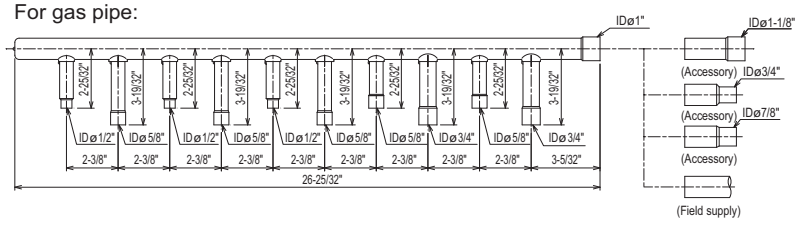


ID: Inner Diameter OD: Outer Diameter
NOTE: Besides above mentioned accessories, caps for ø1/4", ø3/8", ø1/2", ø5/8" pipes (each diameter 2 pieces) and 1 cap for ø3/4" pipe are included in the Header set.

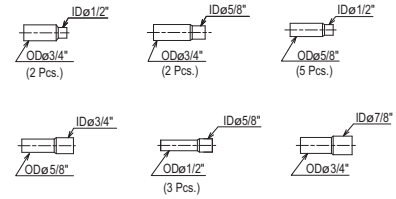
CMY-Y1010C-G

in.

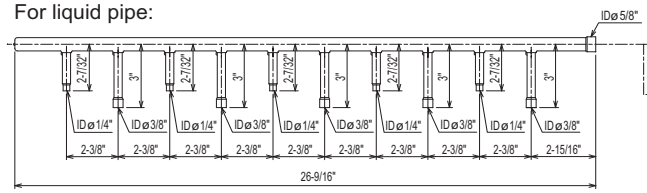
For gas pipe:



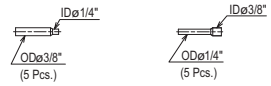
<Reducer(Accessory)>



For liquid pipe:



<Reducer(Accessory)>



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

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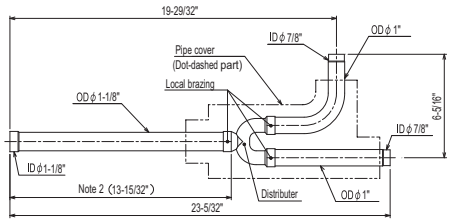
9-3. Water-source Unit Twinning Kit

The water-source unit twinning kit is needed to PQHY-P-TSLMU/YSLMU to combine the refrigerant flows of the PQHY-P-TLMU/YLMU units.

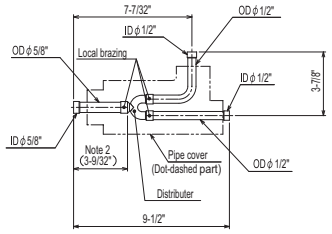
CMY-Y100CBK3

in.

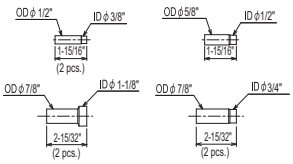
For Gas pipe:



For Liquid pipe:



<Reducer(Accessory)>

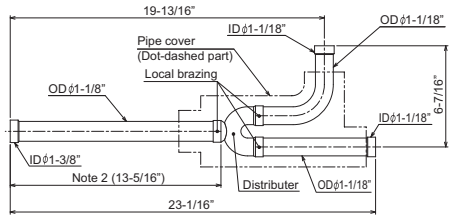


ID: Inner Diameter OD: Outer Diameter

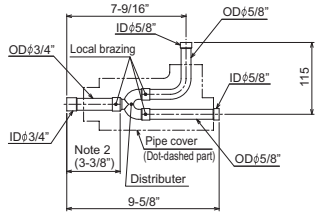
CMY-Y200CBK2

in.

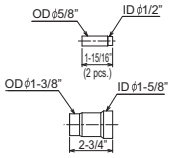
For Gas pipe:



For Liquid pipe:

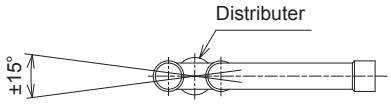


<Deformed pipe(Accessory)>



ID: Inner Diameter OD: Outer Diameter

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



The angle of the branch pipe for hign pressure is within ±15° against the horizontal plane.

2. Use the attached pipe to braze the port-opening of the distributer.
3. Pipe diameter is indicated by inside diameter.
4. Only use the Twinning pipe by Mitsubishi (optional parts) .

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10-1. 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.

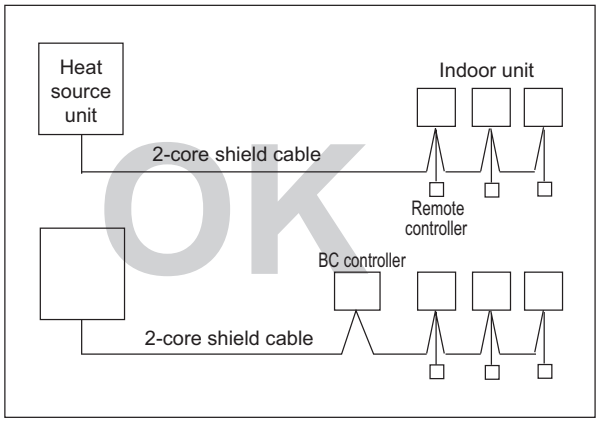
② Wiring for control (hereinafter referred to as transmission cable) shall be (50mm[1-5/8in] or more) apart from power source wiring so that it is not influenced by electric noise from power source wiring. (Do not insert transmission cable and power source wire in the same conduit.)

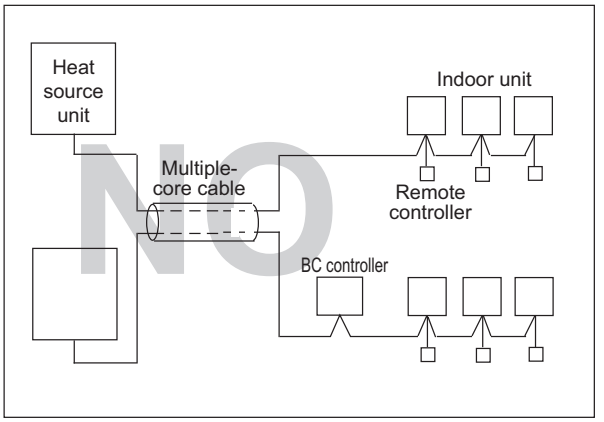
③ Be sure to provide designated grounding work to heat source unit.

④ Give some allowance to wiring for electrical part box of indoor and heat source unit, because the box is sometimes removed at the time of service work.

⑤ Never connect 100V, 208~230V, 460V power source to terminal block of transmission cable. If connected,electrical parts will be burnt out.

⑥ Use 2-core shield cable for transmission cable . If transmission cables of different systems are wired with the same multiplecore cable, the resultant poor transmitting and receiving will cause erroneous operations.





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10-2. Power Supply for Indoor and Outdoor Units

10-2-1. Electrical Characteristics of the Indoor Units

Symbols: MCA : Min.Circuit Amps (=1.25xFLA) FLA : Full Load Amps

IFM :Indoor Fan Motor

Model	Indoor Unit				IFM
	Hz	Volts	Voltage range	MCA(A)	FLA(A)
PLFY-P08NCMU-ER4	60Hz	208 / 230V	198 to 253V	0.29 / 0.29	0.23 / 0.23
PLFY-P12NCMU-ER4				0.35 / 0.35	0.28 / 0.28
PLFY-P15NCMU-ER4				0.35 / 0.35	0.28 / 0.28
PLFY-P08NBMU-E2				0.39 / 0.39	0.31 / 0.31
PLFY-P12NBMU-E2				0.39 / 0.39	0.31 / 0.31
PLFY-P15NBMU-E2				0.39 / 0.39	0.31 / 0.31
PLFY-P18NBMU-E2				0.42 / 0.42	0.33 / 0.33
PLFY-P24NBMU-E2				0.59 / 0.59	0.47 / 0.47
PLFY-P30NBMU-E2				0.63 / 0.63	0.50 / 0.50
PLFY-P36NBMU-E2				1.09 / 1.09	0.87 / 0.87
PMFY-P06NBMU-ER5	60Hz	208 / 230V	188 to 253V	0.25 / 0.25	0.20 / 0.20
PMFY-P08NBMU-ER5				0.25 / 0.25	0.20 / 0.20
PMFY-P12NBMU-ER5				0.26 / 0.26	0.21 / 0.21
PMFY-P15NBMU-ER5				0.33 / 0.33	0.26 / 0.26
PEFY-P06NMAU-E3	60Hz	208 / 230V	188 to 253V	1.05 / 1.05	0.84 / 0.84
PEFY-P08NMAU-E3				1.05 / 1.05	0.84 / 0.84
PEFY-P12NMAU-E3				1.20 / 1.20	0.96 / 0.96
PEFY-P15NMAU-E3				1.45 / 1.45	1.16 / 1.16
PEFY-P18NMAU-E3				1.56 / 1.56	1.25 / 1.25
PEFY-P24NMAU-E3				2.73 / 2.73	2.18 / 2.18
PEFY-P27NMAU-E3				2.73 / 2.73	2.18 / 2.18
PEFY-P30NMAU-E3				2.73 / 2.73	2.18 / 2.18
PEFY-P36NMAU-E3				3.32 / 3.32	2.66 / 2.66
PEFY-P48NMAU-E3				3.41 / 3.41	2.73 / 2.73
PEFY-P54NMAU-E3				3.31 / 3.31	2.65 / 2.65
PEFY-P06NMSU-ER2	60Hz	208 / 230V	188 to 253V	0.47 / 0.50	0.32 / 0.31
PEFY-P08NMSU-ER2				0.47 / 0.50	0.41 / 0.39
PEFY-P12NMSU-ER2				0.68 / 0.74	0.46 / 0.43
PEFY-P15NMSU-ER2				1.20 / 1.33	0.47 / 0.45
PEFY-P18NMSU-ER2				1.20 / 1.33	0.64 / 0.60
PEFY-P24NMSU-ER2				1.57 / 1.73	0.88 / 0.83
PEFY-P15NMHU-E2				1.63 / 1.50	1.30 / 1.20
PEFY-P18NMHU-E2				1.63 / 1.50	1.30 / 1.20
PEFY-P24NMHU-E2				2.11 / 1.83	1.69 / 1.46
PEFY-P27NMHU-E2				2.35 / 2.13	1.88 / 1.70
PEFY-P30NMHU-E2				2.70 / 2.45	2.16 / 1.96
PEFY-P36NMHU-E2				4.16 / 3.67	3.32 / 2.94
PEFY-P48NMHU-E2				4.16 / 3.67	3.32 / 2.94
PEFY-P54NMHU-E2				4.18 / 3.69	3.34 / 2.95
PEFY-P72NMHSU-E			187 to 253V	7.7	6.2
PEFY-P96NMHSU-E				8.2	6.6

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Symbols: MCA : Min.Circuit Amps (=1.25xFLA) FLA : Full Load Amps					
IFM :Indoor Fan Motor					
Model	**Indoor Unit**				**IFM**
	Hz	**Volts**	**Voltage range**	**MCA(A)**	**FLA(A)**
PCFY-P15NKMU-ER1	60Hz	208 / 230V	188 to 253V	0.44 / 0.44	0.35 / 0.35
PCFY-P24NKMU-ER1				0.52 / 0.52	0.41 / 0.41
PCFY-P30NKMU-ER1				1.22 / 1.22	0.97 / 0.97
PCFY-P36NKMU-ER1				1.22 / 1.22	0.97 / 0.97
PKFY-P06NBMU-E2	60Hz	208 / 230V	198 to 253V	0.19 / 0.19	0.15 / 0.15
PKFY-P08NHMU-E2				0.38 / 0.38	0.30 / 0.30
PKFY-P12NHMU-E2				0.38 / 0.38	0.30 / 0.30
PKFY-P15NHMU-E2				0.38 / 0.38	0.30 / 0.30
PKFY-P18NHMU-E2				0.38 / 0.38	0.30 / 0.30
PKFY-P24NKMU-E2.TH				0.63 / 0.63	0.50 / 0.50
PKFY-P30NKMU-E2.TH				0.63 / 0.63	0.50 / 0.50
PFFY-P06NEMU-E	60Hz	208 / 230V	188 to 253V	0.32 / 0.34	0.25 / 0.27
PFFY-P08NEMU-E				0.32 / 0.34	0.25 / 0.27
PFFY-P12NEMU-E				0.34 / 0.38	0.27 / 0.30
PFFY-P15NEMU-E				0.40 / 0.44	0.32 / 0.35
PFFY-P18NEMU-E				0.48 / 0.53	0.38 / 0.42
PFFY-P24NEMU-E				0.59 / 0.64	0.47 / 0.51
PFFY-P06NRMU-E	60Hz	208 / 230V	188 to 253V	0.32 / 0.34	0.25 / 0.27
PFFY-P08NRMU-E				0.32 / 0.34	0.25 / 0.27
PFFY-P12NRMU-E				0.34 / 0.38	0.27 / 0.30
PFFY-P15NRMU-E				0.40 / 0.44	0.32 / 0.35
PFFY-P18NRMU-E				0.48 / 0.53	0.38 / 0.42
PFFY-P24NRMU-E				0.59 / 0.64	0.47 / 0.51
PVFY-P12NAMU-E	60Hz	208 / 230V	188 to 253V	3.00 / 3.00	2.4 / 2.4
PVFY-P18NAMU-E				3.00 / 3.00	2.4 / 2.4
PVFY-P24NAMU-E				3.00 / 3.00	2.4 / 2.4
PVFY-P30NAMU-E				4.13 / 4.13	3.3 / 3.3
PVFY-P36NAMU-E				4.13 / 4.13	3.3 / 3.3
PVFY-P48NAMU-E				5.63 / 5.63	4.5 / 4.5
PVFY-P54NAMU-E				5.63 / 5.63	4.5 / 4.5
PWFY-P36NMU-E-AU	60Hz	208 / 230V	188 to 253V	0.09	-
PWFY-P72NMU-E-AU				0.09	-

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10-2-2. Electrical Characteristics of Water-source Unit

Symbols: MCA : Min.Circuit Amps (=1.25xFLA) FLA : Full Load Amps
SC : Starting Current

PQHY-P-T(S)LMU

Model	Unit Combination	Water-source unit					Compressor
		Hz	Volts	Voltage range	MCA(A)	MOP (A)	SC(A)
PQHY-P72TLMU-A	-	60Hz	208/230V	188 to 253V	13 / 12	20 / 20	15
PQHY-P96TLMU-A	-				19 / 17	30 / 25	15
PQHY-P120TLMU-A	-				29 / 26	50 / 45	15
PQHY-P144TLMU-A	-				35 / 32	60 / 50	15
PQHY-P168TLMU-A	-				44 / 39	70 / 70	15
PQHY-P192TLMU-A	-				54 / 49	90 / 80	15
PQHY-P216TLMU-A	-				69 / 63	110 / 110	15
PQHY-P249TLMU-A	-				79 / 71	125 / 125	15
PQHY-P144TSLMU-A	PQHY-P72TLMU-A				13 / 12	20 / 20	15
	PQHY-P72TLMU-A				13 / 12	20 / 20	15
PQHY-P168TSLMU-A	PQHY-P72TLMU-A				13 / 12	20 / 20	15
	PQHY-P96TLMU-A				19 / 17	30 / 25	15
PQHY-P192TSLMU-A	PQHY-P96TLMU-A				19 / 17	30 / 25	15
	PQHY-P96TLMU-A				19 / 17	30 / 25	15
PQHY-P216TSLMU-A	PQHY-P96TLMU-A				19 / 17	30 / 25	15
	PQHY-P120TLMU-A				29 / 26	50 / 45	15
PQHY-P240TSLMU-A	PQHY-P120TLMU-A				29 / 26	50 / 45	15
	PQHY-P120TLMU-A				29 / 26	50 / 45	15
PQHY-P288TSLMU-A	PQHY-P144TLMU-A				35 / 32	60 / 50	15
	PQHY-P144TLMU-A				35 / 32	60 / 50	15
PQHY-P312TSLMU-A	PQHY-P144TLMU-A				35 / 32	60 / 50	15
	PQHY-P168TLMU-A				44 / 39	70 / 70	15
PQHY-P336TSLMU-A	PQHY-P168TLMU-A				44 / 39	70 / 70	15
	PQHY-P168TLMU-A				44 / 39	70 / 70	15
PQHY-P360TSLMU-A	PQHY-P168TLMU-A				44 / 39	70 / 70	15
	PQHY-P192TLMU-A				54 / 49	90 / 80	15

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10-2-2. Electrical Characteristics of Water-source Unit, cont.

Symbols: MCA : Min.Circuit Amps (=1.25xFLA) FLA : Full Load Amps
SC : Starting Current

PQHY-P-T(S)LMU

Model	Unit Combination	Water-source unit					Compressor
		Hz	Volts	Voltage range	MCA(A)	MOP (A)	SC(A)
PQHY-P72YLMU-A	-	60Hz	460V	414 to 506V	6	15	7
PQHY-P96YLMU-A	-				9	15	7
PQHY-P120YLMU-A	-				13	20	7
PQHY-P144YLMU-A	-				16	25	7
PQHY-P168YLMU-A	-				20	35	7
PQHY-P192YLMU-A	-				25	40	7
PQHY-P216YLMU-A	-				31	50	7
PQHY-P240YLMU-A	-				36	60	7
PQHY-P144YSLMU-A	PQHY-P72YLMU-A				6	15	7
	PQHY-P72YLMU-A				6	15	7
PQHY-P168YSLMU-A	PQHY-P72YLMU-A				6	15	7
	PQHY-P96YLMU-A				9	15	7
PQHY-P192YSLMU-A	PQHY-P96YLMU-A				9	15	7
	PQHY-P96YLMU-A				9	15	7
PQHY-P216YSLMU-A	PQHY-P96YLMU-A				9	15	7
	PQHY-P120YLMU-A				13	20	7
PQHY-P240YSLMU-A	PQHY-P120YLMU-A				13	20	7
	PQHY-P120YLMU-A				13	20	7
PQHY-P288YSLMU-A	PQHY-P144YLMU-A				16	25	7
	PQHY-P144YLMU-A				16	25	7
PQHY-P312YSLMU-A	PQHY-P144YLMU-A				16	35	7
	PQHY-P168YLMU-A				20	25	7
PQHY-P336YSLMU-A	PQHY-P168YLMU-A				20	35	7
	PQHY-P168YLMU-A				20	35	7
PQHY-P360YSLMU-A	PQHY-P168YLMU-A				20	35	7
	PQHY-P192YLMU-A				25	40	7

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10-3. Power Cable Specifications

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

	Model	Minimum wire thickness (mm^2/AWG)		
		Main cable	Branch	Ground
Heat source unit	PQHY-P72TLMU-A	3.3/12	-	3.3/12
	PQHY-P96TLMU-A	5.3/10	-	5.3/10
	PQHY-P120TLMU-A	8.4/8	-	8.4/8
	PQHY-P144TLMU-A	13.3/6	-	13.3/6
	PQHY-P168TLMU-A	13.3/6	-	13.3/6
	PQHY-P192TLMU-A	21.2/4	-	21.2/4
	PQHY-P216TLMU-A	33.6/2	-	33.6/2
	PQHY-P240TLMU-A	33.6/2	-	33.6/2
Total operating current of the indoor unit	F0 = 15 or less *1	2.1/14	2.1/14	2.1/14
	F0 = 20 or less *1	3.3/12	3.3/12	3.3/12
	F0 = 30 or less *1	5.3/10	5.3/10	5.3/10

	Model	Minimum wire thickness (mm^2/AWG)		
		Main cable	Branch	Ground
Heat source unit	PQHY-P72YLMU-A	2.1/14	-	2.1/14
	PQHY-P96YLMU-A	2.1/14	-	2.1/14
	PQHY-P120YLMU-A	3.3/12	-	3.3/12
	PQHY-P144YLMU-A	3.3/12	-	3.3/12
	PQHY-P168YLMU-A	5.3/10	-	5.3/10
	PQHY-P192YLMU-A	5.3/10	-	5.3/10
	PQHY-P216YLMU-A	8.4/8	-	8.4/8
	PQHY-P240YLMU-A	13.3/6	-	13.3/6
Total operating current of the indoor unit	F0 = 15 or less *1	2.1/14	2.1/14	2.1/14
	F0 = 20 or less *1	3.3/12	3.3/12	3.3/12
	F0 = 30 or less *1	5.3/10	5.3/10	5.3/10

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

F1 = Total operating maximum curent 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 Others)/C}

Indoor unit		V1	V2
Type1	PLFY-NBMU, PMFY-NBMU, PEFY-NMSU, PCFY-NKMU, PKFY-NHMU, PKFY-NKMU	18.6	2.4
Type2	PEFY-NMAU	38	1.6
Type3	PEFY-NMHSU	13.8	4.8
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.

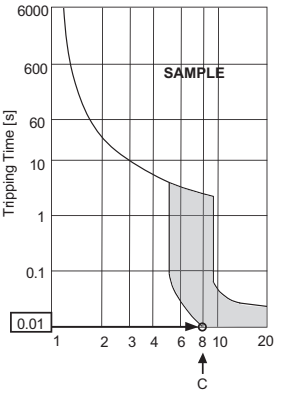
<Example of "F2" calculation>

*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)



Sample chart

*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 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 heat source 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 heat source 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

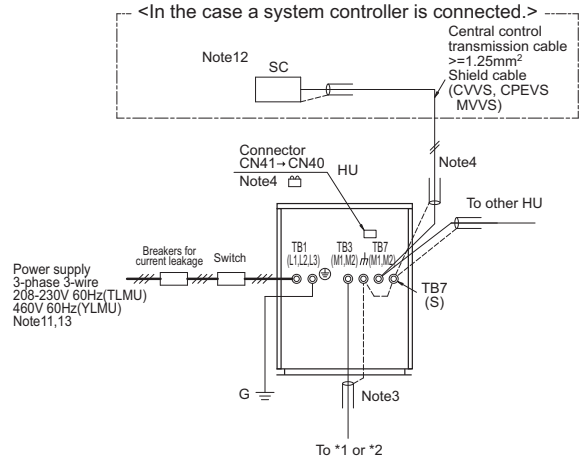
- The breakers for current leakage should support Inverter circuit. (e.g. Mitsubishi Electric's NV-C series or equivalent). If no earth leakage breaker is installed, it may cause an electric shock.
- Breakers for current leakage should combine using of switch.
- Do not use anything other than a breaker 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.

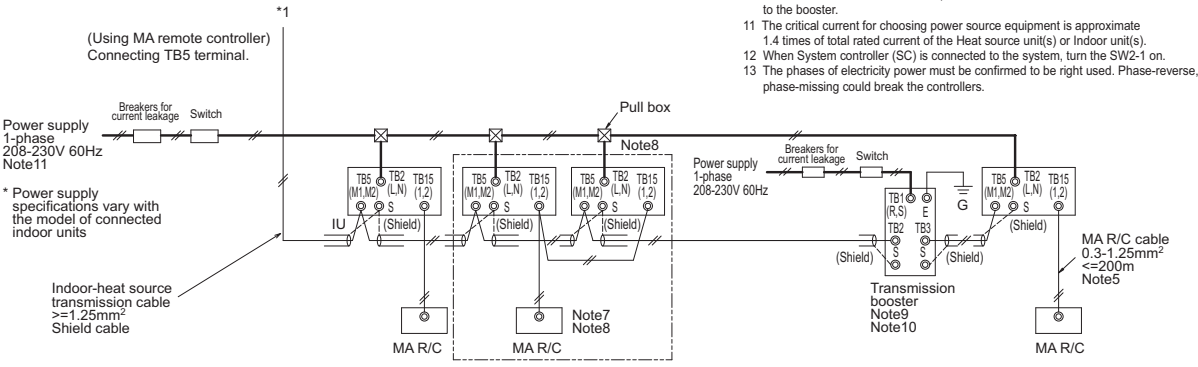
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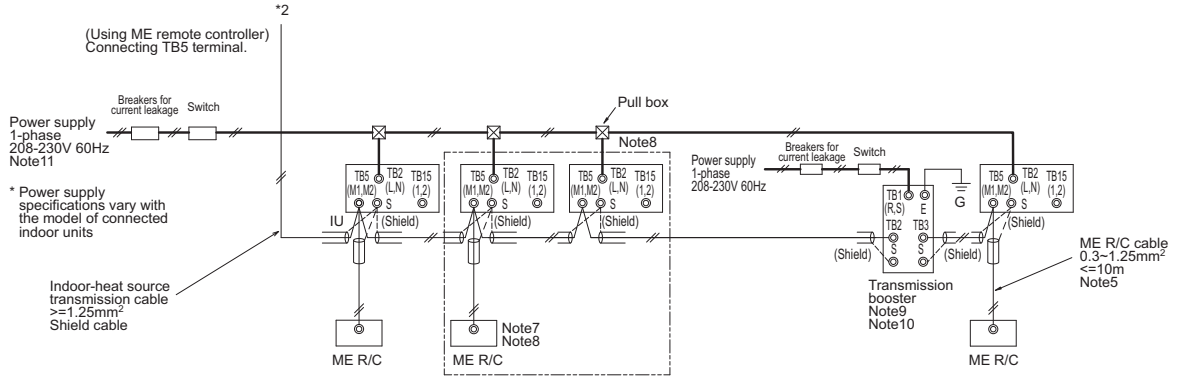
10-4. Power Supply Examples

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

10-4-1. PQHY-P72, 96, 120, 144, 168, 192, 216, 240TLMU/YLMU







Note:
1. The transmission cable is not-polarity double-wire.
2. Symbol ◎ means a screw terminal for wiring.
3. The shield wire of transmission cable should be connected to the grounding terminal at Heat source 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.
4. When the Heat source unit connected with system controller, power-supply to TB7 of the heat source unit(s) is needed. The connector change from CN41 to CN40 at one of the heat source units will enable the heat source unit to supply power to TB7, or an extra power supply unit PAC-SC51KUA should be used. The transmission cable (above 1.25mm², shielded, CVVS/CPEVS/MVVS) among Heat source units and system controllers is called central control transmission cable. The shield wire of the central control transmission cable must be grounded at the Heat source 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.
5. 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.
6. To wire PAC-YT53CRAU, use a wire with a diameter of 0.3mm² [AWG 22].
7. MA remote controller and ME remote controller should not be grouped together.
8. 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".
9. Indoor board consumes power from TB3. The power balance should be considered according to System Design 2-3 "System configuration restrictions".
10. If Transmission booster is needed, be sure to connect the shield wires to the both sides to the booster.
11. The critical current for choosing power source equipment is approximate 1.4 times of total rated current of the Heat source unit(s) or Indoor unit(s).
12. When System controller (SC) is connected to the system, turn the SW2-1 on.
13. The phases of electricity power must be confirmed to be right used. Phase-reverse, or phase-missing could break the controllers.

Symbol	
BKC	Breaker capacity
OCP	Over-current protector
NFB	Non-fuse breaker
HU	Heat source unit
IU	Indoor unit
SC	System controller
MA R/C	MA remote controller
ME R/C	ME remote controller

Model	Minimum Wire thickness	
	Power wire <mm²/AWG>	G wire <mm²/AWG>
PQHY-P72TLMU-A	3.3/12	3.3/12
PQHY-P96TLMU-A	5.3/10	5.3/10
PQHY-P120TLMU-A	8.4/8	8.4/8
PQHY-P144TLMU-A	13.3/6	13.3/6
PQHY-P168TLMU-A	13.3/6	13.3/6
PQHY-P192TLMU-A	21.2/4	21.2/4
PQHY-P216TLMU-A	33.6/2	33.6/2
PQHY-P240TLMU-A	33.6/2	33.6/2
PQHY-P72YLMU-A	2.1/14	2.1/14
PQHY-P96YLMU-A	2.1/14	2.1/14
PQHY-P120YLMU-A	3.3/12	3.3/12
PQHY-P144YLMU-A	3.3/12	3.3/12
PQHY-P168YLMU-A	5.3/10	5.3/10
PQHY-P192YLMU-A	5.3/10	5.3/10
PQHY-P216YLMU-A	8.4/8	8.4/8
PQHY-P240YLMU-A	13.3/6	13.3/6

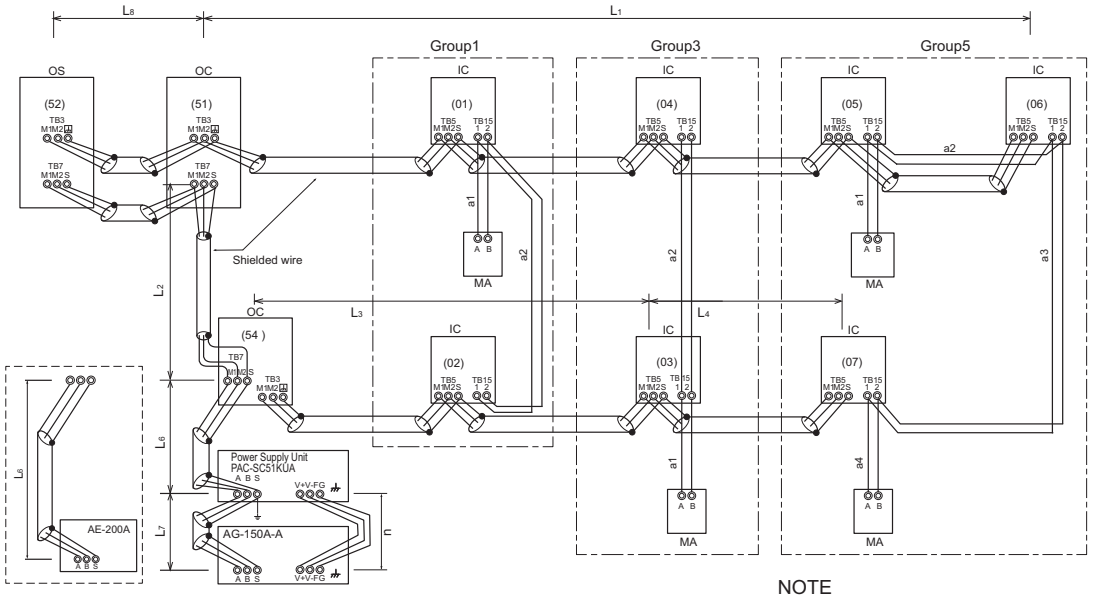
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11-1. Transmission Cable Length Limitation

11-1-1. 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 Heat source (M-NET cable)	L1+L2+L3+L4, L1+L2+L6+L7, L3+L4+L6+L7	<=500m[1640ft.]	1.25mm^2 [AWG16] or thicker
Max. length to Heat source (M-NET cable)	L1+L8, L3+L4, L6, L2+L6+L8, L7	<=200m[656ft.]	1.25mm^2 [AWG16] or thicker
Max. length from MA to Indoor	a1+a2, a1+a2+a3+a4	<=200m[656ft.]	0.3-1.25 mm^2 [AWG22-16]
24VDC to AG-150A-A	n	<=50m[164ft.]	0.75-2.0 mm^2 [AWG18-14]



OC, OS: Heat source unit controller; IC: Indoor unit controller; MA: MA remote controller

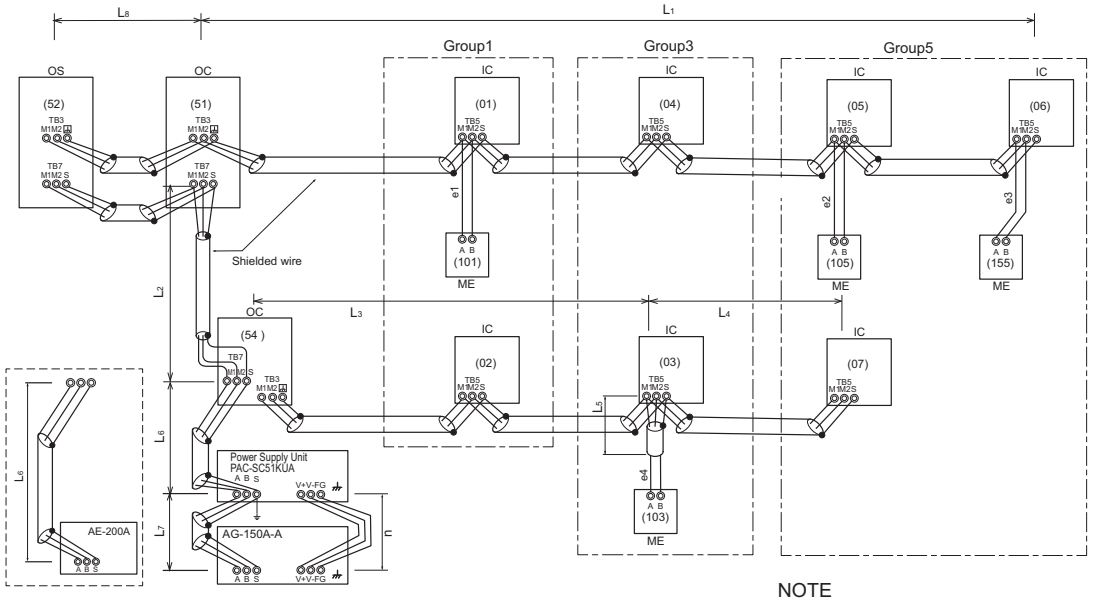
NOTE
Do not daisy-chain remote controllers.

11-1-2. 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 Heat source (M-NET cable)	L1+L2+L3+L4, L1+L2+L6+L7,L1+L2+L3+L5, L3+L4+L6+L7	<=500m[1640ft.]	1.25mm^2 [AWG16] or thicker
Max. length to Heat source (M-NET cable)	L1+L8, L3+L4, L6, L2+L6+L8, L7, L3+L5	<=200m[656ft.]	1.25mm^2 [AWG16] or thicker
Max. length from ME to Indoor	e1, e2+e3, e4	<=10m[32ft.]*1	0.3-1.25 mm^2 [AWG22-16] *1
24VDC to AG-150A-A	n	<=50m[164ft.]	0.75-2.0 mm^2 [AWG18-14]

*1. If the length from ME to Indoor exceed 10m, use 1.25 mm^2 [AWG16] shielded cable, but the total length should be counted into Max. length via Heat source.



OC, OS: Heat source unit controller; IC: Indoor unit controller; ME: ME remote controller

NOTE
Do not daisy-chain remote controllers.

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11-2. 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]*2	0.3～1.25mm^2 [AWG22～16]*1 *2
Remarks	—	When 10m [32ft] is exceeded, use cables with the same specification as transmission cables.	Max length : 200m [656ft]

*1 To wire PAC-YT53CRAU, use a wire with a diameter of 0.3 mm^2 [AWG22]
*2 The use of cables 0.75 mm^2 [AWG18] or greater is recommended for easy handling.

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

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11-3. System Configuration Restrictions

11-3-1. Common restrictions for the CITY MULTI system

For each 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.
*To wire PAC-YT53CRAU, use a wire with a diameter of 0.3 mm^2 [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 Heat source unit.

E) Maximum 6 System controllers are connectable when connecting to TB7 of the Heat source unit, if the transmission power is supplied by the Heat source unit.

F) 4 System controllers or more are connectable when connecting to TB7 of the Heat source unit, if the transmission power is supplied by the power supply unit PAC-SC51KUA. Details refer to 2-3-3-C.
*System controller connected as described in D) and E) would have a risk that the failure of connected Heat source unit would stop power supply to the System controller

11-3-2. Ensuring proper communication power for M-NET

In order to ensure proper communication among 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 index of Indoor unit sized P06-P54 as 1, the equivalent power consumption index and supply capability index of others are listed at Table 2-3-1 and Table 2-3-2.

Table 2-3-1 The equivalent power consumption

Indoor unit			LOSSNAY	BC controller	PWFY			MA RC.	ME Remote controller/Adapter	
Sized P06-P54	Sized P72, 96	PEFY-AF1200 CFMR	LGH-RX-E	CMB	P36NMU-E-BU	P36NMU-E-AU	P72NMU-E-AU	PAC-YT53CRAU PAR-FA32MA PZ-41SLB PZ-60DR-E	PZ-52SF PAC-YG60MCA PAC-YG66DCA PAC-YG63MCA	PAR-U01MEDU PAC-IF01AHC-J
1	7	2	0	2	6	1	5	0	0.25	0.5

Centralized Remote controller					ON/OFF controller	MN Converter	M-NET Interface/Converter	Heat source unit
AE-200A AE-50A	AG-150A-A EB-50GU-A	TC-24B	EW-50A	LMAP04U-E BAC-HD150	PAC-YT40ANRA	CMS-MNG-E	MAC-333 PAC-SF83MA-E	TB7 power consumption
0	0.5	4	0	0	1	2	0	0

*RC: Remote Controller

Table 2-3-2 The equivalent power supply

Transmission Booster	Power supply unit	Expansion controller	BM ADAPTER	System Controller		Heat source unit	Heat source unit (except TLMU)	Heat source unit TLMU
PAC-SF46EPA	PAC-SC51KUA	PAC-YG50ECA	BAC-HD150	AE-200A/AE-50A	EW-50A	Connector TB3 and TB7 total *	Connector TB7 only	Connector TB7 only
25	5	6	6	0*1	1.5	32	6	0

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

*1 AE-200A/AE-50A has a built-in function to supply power to the M-NET transmission line. The amount of power that an AE-200A or an AE-50A can supply is equivalent to the power required by an MN converter (CMS-MNG-E) that is used for maintenance.

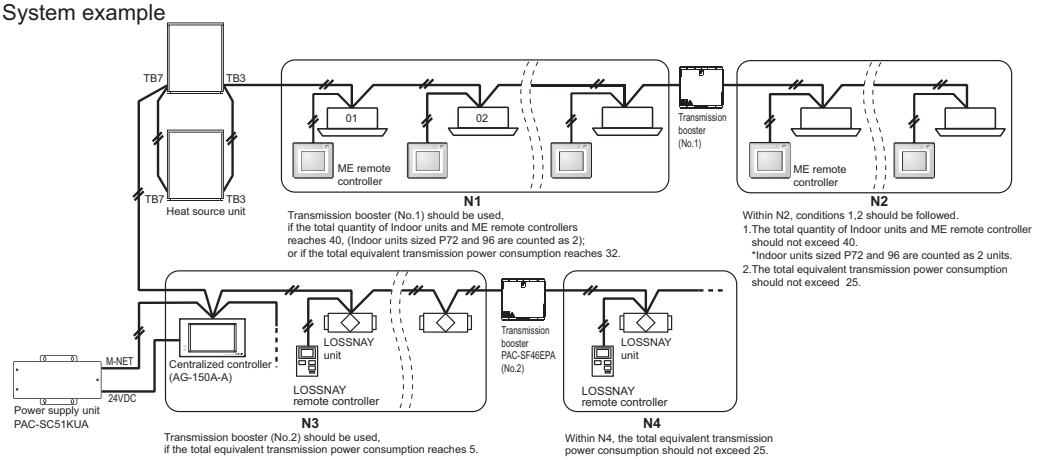
With the equivalent power consumption values in Table 2-3-1 and Table 2-3-2, PAC-SF46EPA can be designed into the air-conditioner system to ensure proper system communication according to 2-3-2-A, B, C.

11-3-2-A) Firstly, count from TB3 at TB3 side the total quantity of Indoor units, ME remote controller, and System controllers. If the total quantity reaches 40, a PAC-SF46EPA should be set. In this case, Indoor units sized P72 and 96 are counted as 2 indoor units, but MA remote controller(s) and PZ-41SLB are NOT counted.

11-3-2-B) Secondly, count from TB7 side to TB3 side the total transmission power consumption index. If the total power consumption 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 index TB3 side only.

11-3-2-C) Thirdly, count from TB7 at TB7 side the total transmission power consumption index, If the total power consumption reaches 6, a PAC-SF46EPA should be set.

■ System example



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11-3-3. 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-Heat source transmission line. There are 3 ways to supply power to the System controller.

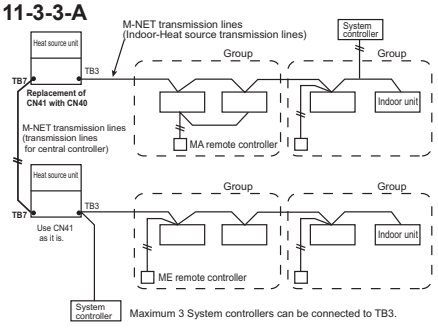
A) Connecting to TB3 of the Heat source unit and receiving power from the Heat source unit.
B) Connecting to TB7 of the Heat source unit and receiving power from the Heat source unit.
C) Connecting to TB7 of the Heat source unit but receiving power from power supply unit PAC-SC51KUA.

* 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 Heat source units or from PAC-SC51KUA.

11-3-3-A. When connecting to TB3 of the Heat source unit and receiving power from the Heat source unit.

Maximum 3 System controllers can be connected to TB3.
If there is more than 1 Heat source unit, it is necessary to replace power supply switch connector CN41 with CN40 on one Heat source unit.

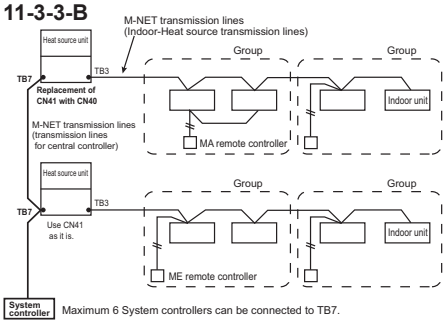
Fig. 11-3-3-A



11-3-3-B. When connecting to TB7 of the Heat source unit and receiving power from the Heat source unit.

Maximum 6 System controllers can be connected to TB7 and receiving power from the Heat source unit.
It is necessary to replace power supply switch connector CN41 with CN40 on one Heat source unit.

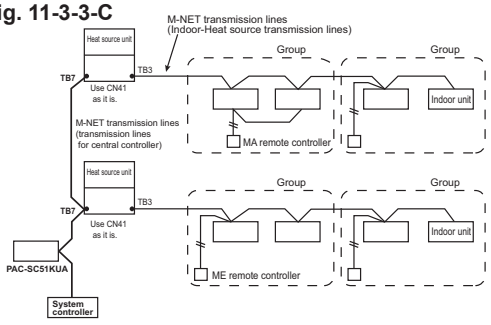
Fig. 11-3-3-B



11-3-3-C. When connecting to TB7 of the Heat source unit but receiving power from PAC-SC51KUA.

When using PAC-SC51KUA to supply transmission power, the power supply connector CN41 on the 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 2-3-2.
If PZ-52SF, 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. 11-3-3-C

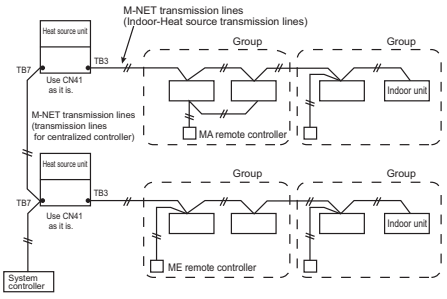


⚠ CAUTION

■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 Heat source units, AG-150A-A/EB-50GU-A receiving transmission power at TB3 or TB7 on one of the Heat source units would have a risk that the connected 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 Heat source units or from PAC-SC51KUA.
Leave the power supply connector on the 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. 10-3-3-D



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11-3-4. 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.

11-3-5. 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 2-3-2)

11-3-6. 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.

11-3-7. Power supply to AE-200A/AE-50A/EW-50A

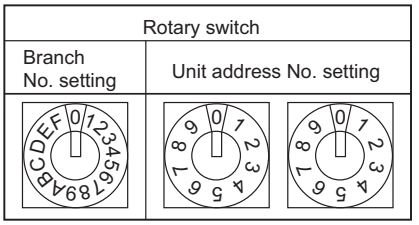
1-phase 100-240VAC power supply is needed.
The power supply unit PAC-SC51KUA is not necessary when connecting only the AE-200A/AE-50A/EW-50A.

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11-4. Address Setting

11-4-1. 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 heat source unit, indoor unit and ME remote controller.
The address No. is set at the address setting board.
In the case of WR2 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".

PAC-YT53CRAU

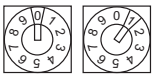
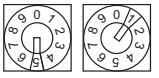
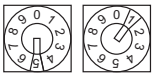
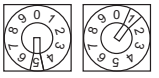
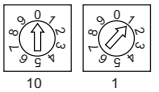
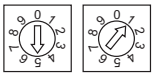
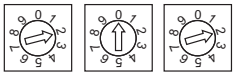
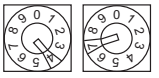
Setting the dip switches

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".

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11-4-2. Rule of setting address

Unit		Address setting	Example	Note
Indoor unit		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 PQRY 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)
Heat source unit		51 ~ 99, 100 (Note1)		The smallest address of indoor unit in same refrigerant system + 50 Assign sequential address numbers to the heat source 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 heat source 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)	101 ~ 150	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)	151 ~ 199, 200	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	000, 201 ~ 250		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	000, 201 ~ 250	0 0 0 100 10 1	
	PAC-YG50ECA	000, 201 ~ 250	0 0 0 100 10 1	* Settings are made on the initial screen of AG-150A-A.
	BAC-HD150	000, 201 ~ 250	0 0 0 100 10 1	* Settings are made with setting tool of BM ADAPTER.
	LMAP04U-E	201 ~ 250	2 Fixed 	

Note1: To set the address to "100", set it to "50"
Note2: Heat source 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.

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11-4-3. System examples

Factory setting

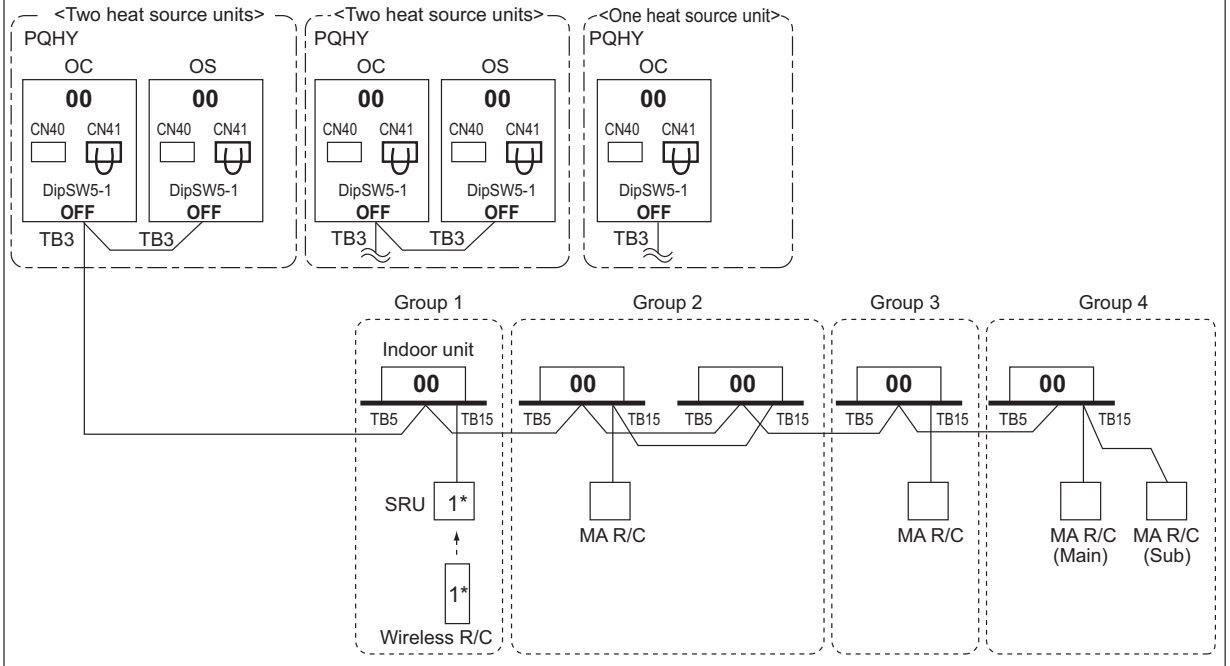
Original switch setting of the heat sources, indoors, controllers, LM-AP, and BM ADAPTER at shipment is as follows.

- Heat source unit : Address: 00, CN41: ON (Jumper), DipSW5-1: OFF
- Indoor unit : Address: 00
- ME remote controller : Address: 101
- LM-AP : Address: 247, CN41: ON (Jumper), DipSW1-2: OFF
- BM ADAPTER : Address: 000, CN41: ON (Jumper)
- AE-200A/AE-50A/EW-50A : Address: 000, CN21: ON (Jumper)

Setting at the site

- DipSW5-1(Heat source) : When the System Controller is used, all the Dip SW5-1 at the heat source 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 heat source control board will activate central transmission power supply to TB7;
  (Change jumper at only one heat source unit when activating the transmission power supply without using a power supply unit.)
  Change jumper from CN41 to CN 40 at LM-AP/BM ADAPTER will activate transmission power supply to LM-AP/BM ADAPTER itself;
  Power supply unit is recommended to use for a system having more than 1 heat source unit, because the central transmission power supply from TB7 of one of heat source units is risking that the heat source unit failure may let down the whole central control system.
- CN21(AE-200A/AE-50A/EW-50A) : Activates the power supply to M-NET transmission line from AE-200A/AE-50A/EW-50A (CN21: ON (power supplied), OFF (power not supplied)

11-4-3-1. MA remote controller, Single-refrigerant-system, No System Controller



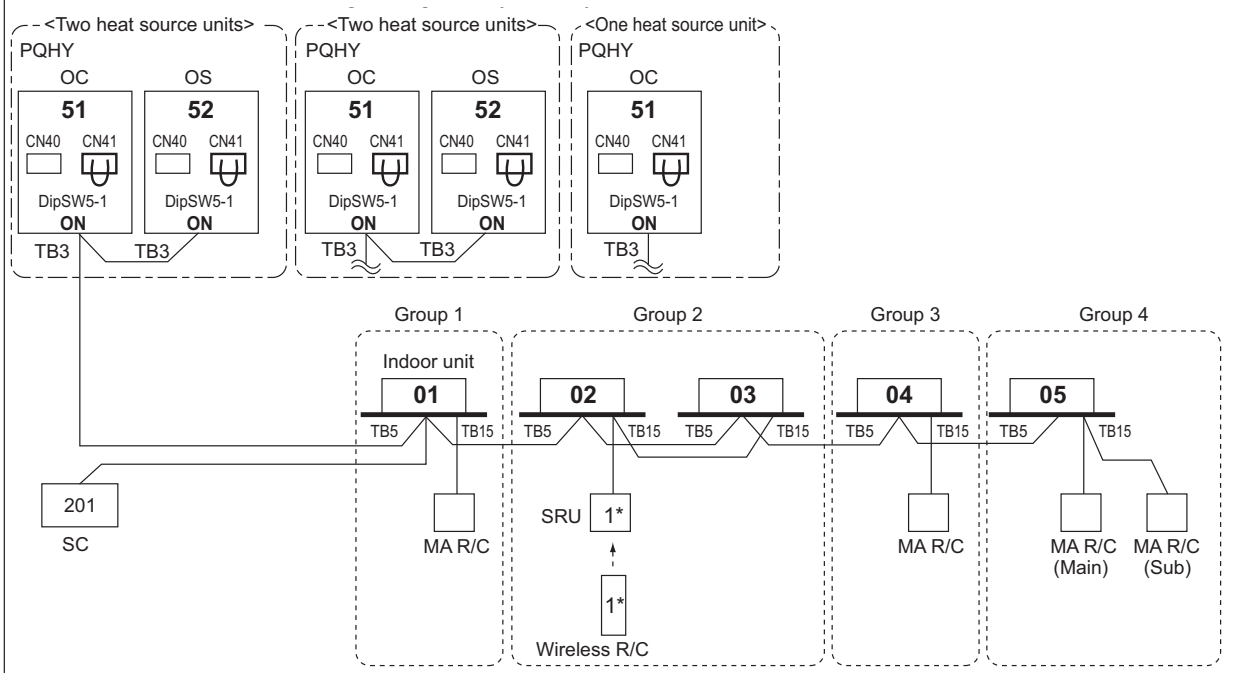
*1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.

NOTE:

1. Heat source 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".**

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11-4-3-2. 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.

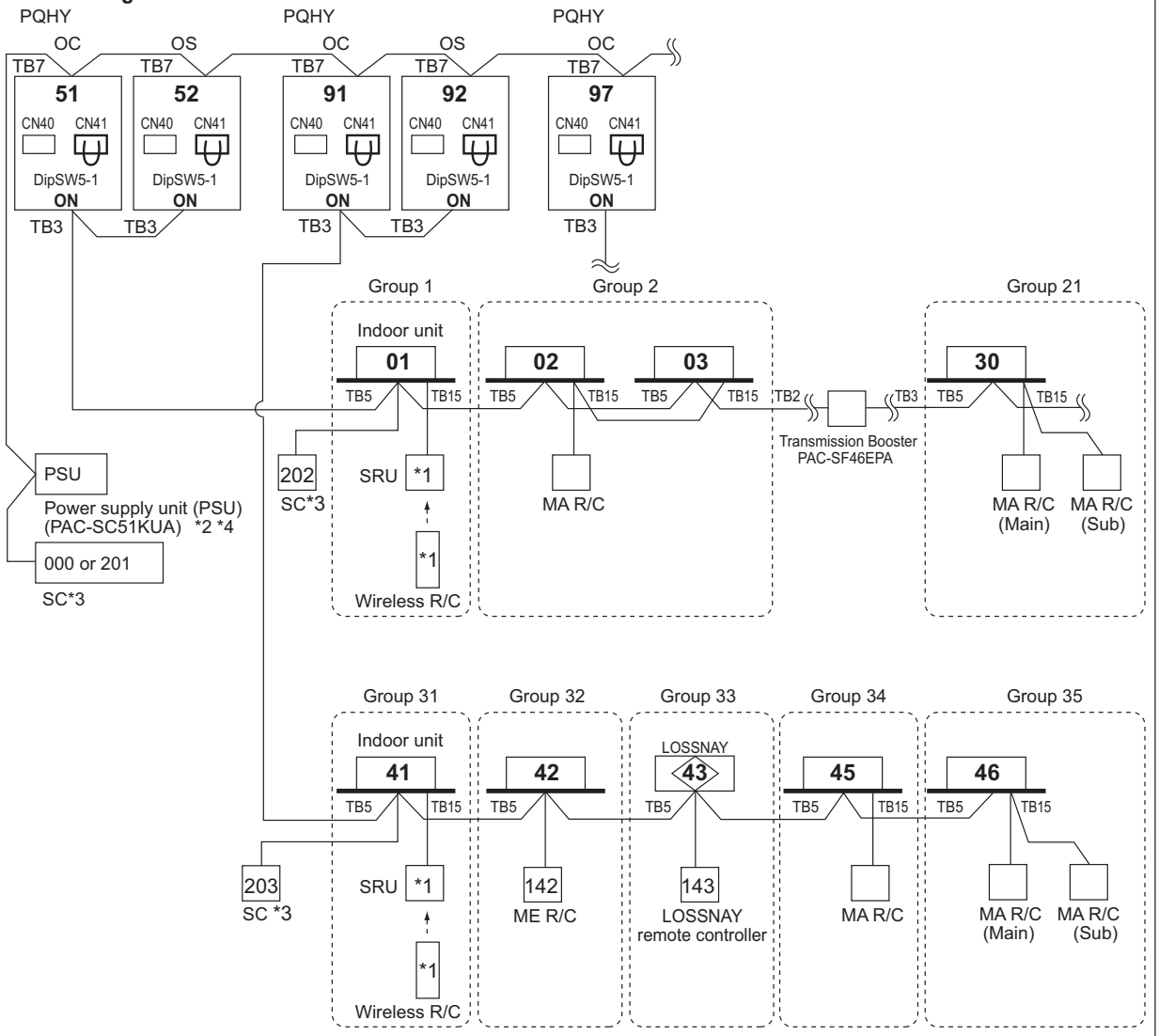
*SC can be connected to TB3 side or TB7 side;
Should SC connected to TB7 side, change Jumper from CN41 to CN40 at the Heat source unit module so as to supply power to the SC.

NOTE:

1. Heat source 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 and central controller.
3. For a system having more than 32 indoor unit (P06-P54), confirm the need of Booster at **2-3 "System configuration restrictions".**

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11-4-3-3. 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 the Heat source unit 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".

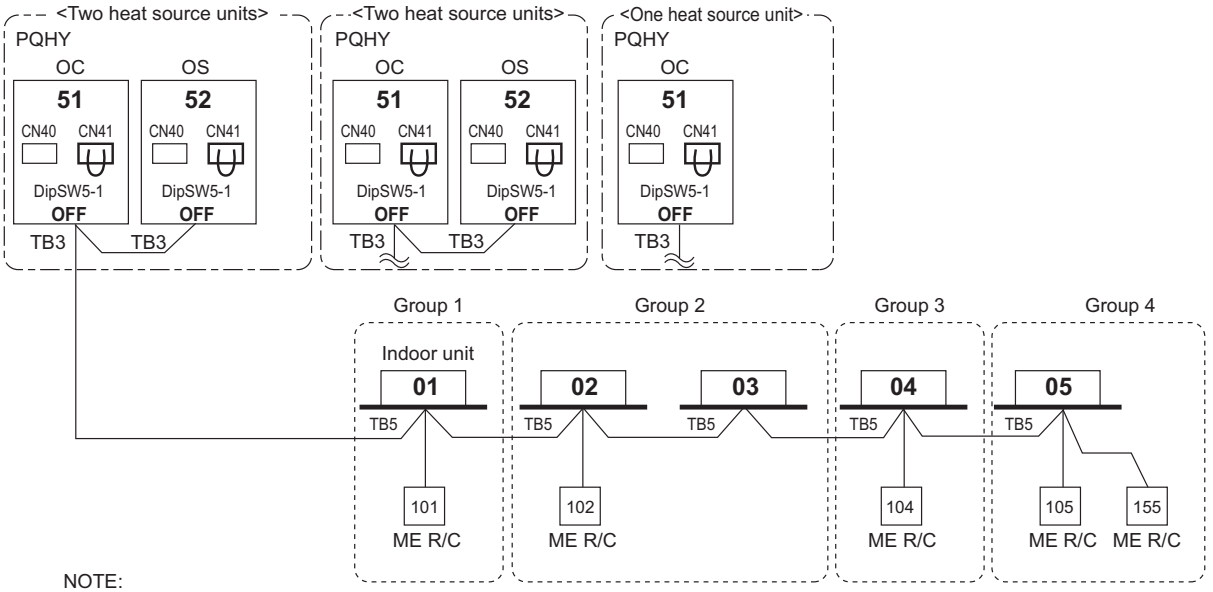
*4 The power supply unit is not necessary for AE-200A, AE-50A, EW-50A, BAC-HD150, and LM-AP.

NOTE:

1. Heat source 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 and system controller.
3. M-NET power is supplied by the Heat source 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".**

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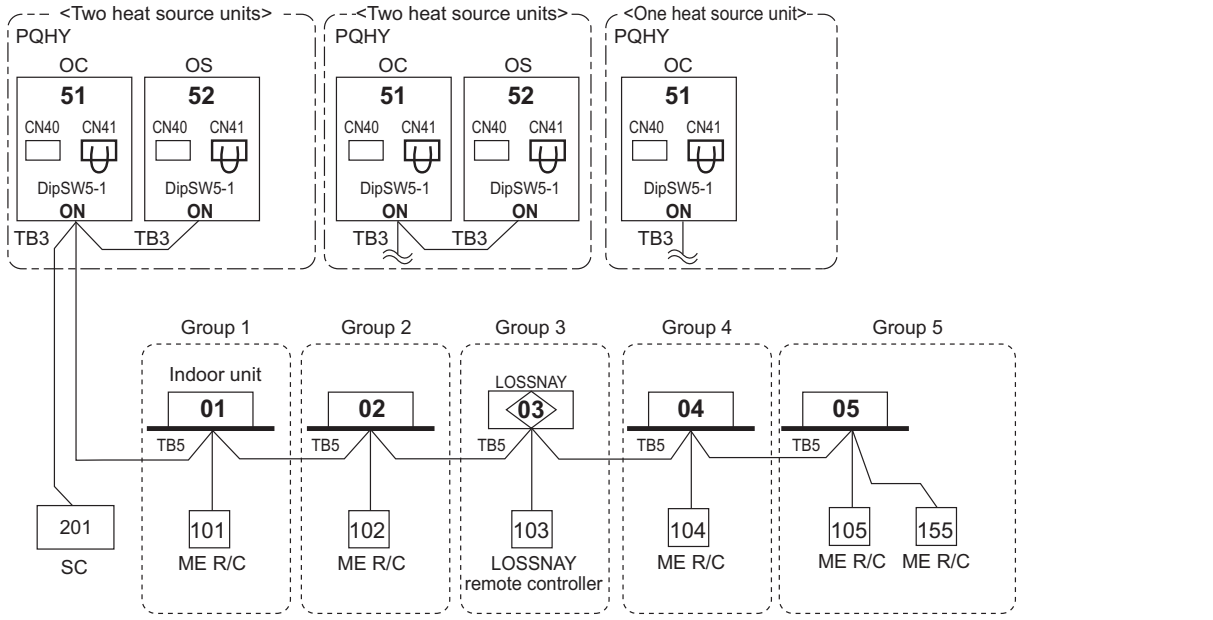
11-4-3-4. ME remote controller, Single-refrigerant-system, No system controller



NOTE:

1. Heat source 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 Heat source 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".**

11-4-3-5. ME remote controller, Single-refrigerant-system, System controller, LOSSNAY



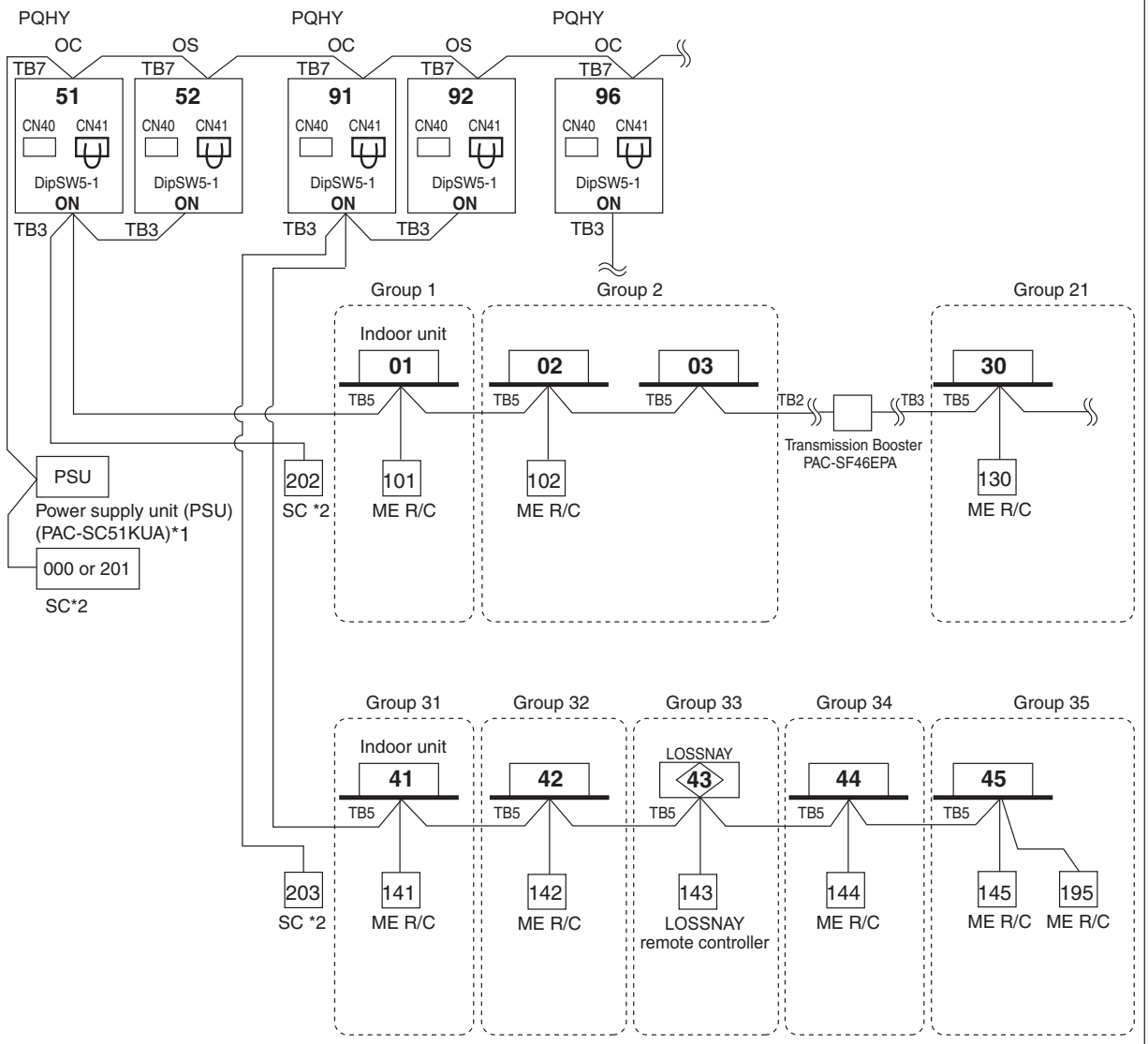
*SC can be connected to TB3 side or TB7 side;
Should SC connected to TB7 side, change Jumper from CN41 to CN40 at the Heat source unit module so as to supply power to the SC.

NOTE:

1. Heat source 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".**

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11-4-3-6. ME remote controller, Multi-refrigerant-system, System Controller at TB 7side, LOSSNAY, Booster for long M-NET wiring



*1 System controller should connect to TB7 at the Heat source unit and use power supply unit together in Multi-Refrigerant-System. For AG-150A-A, 24V DC should be used with the PAC-SC51KUA.

*2 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".
TC-24A, AG-150A-A, 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".

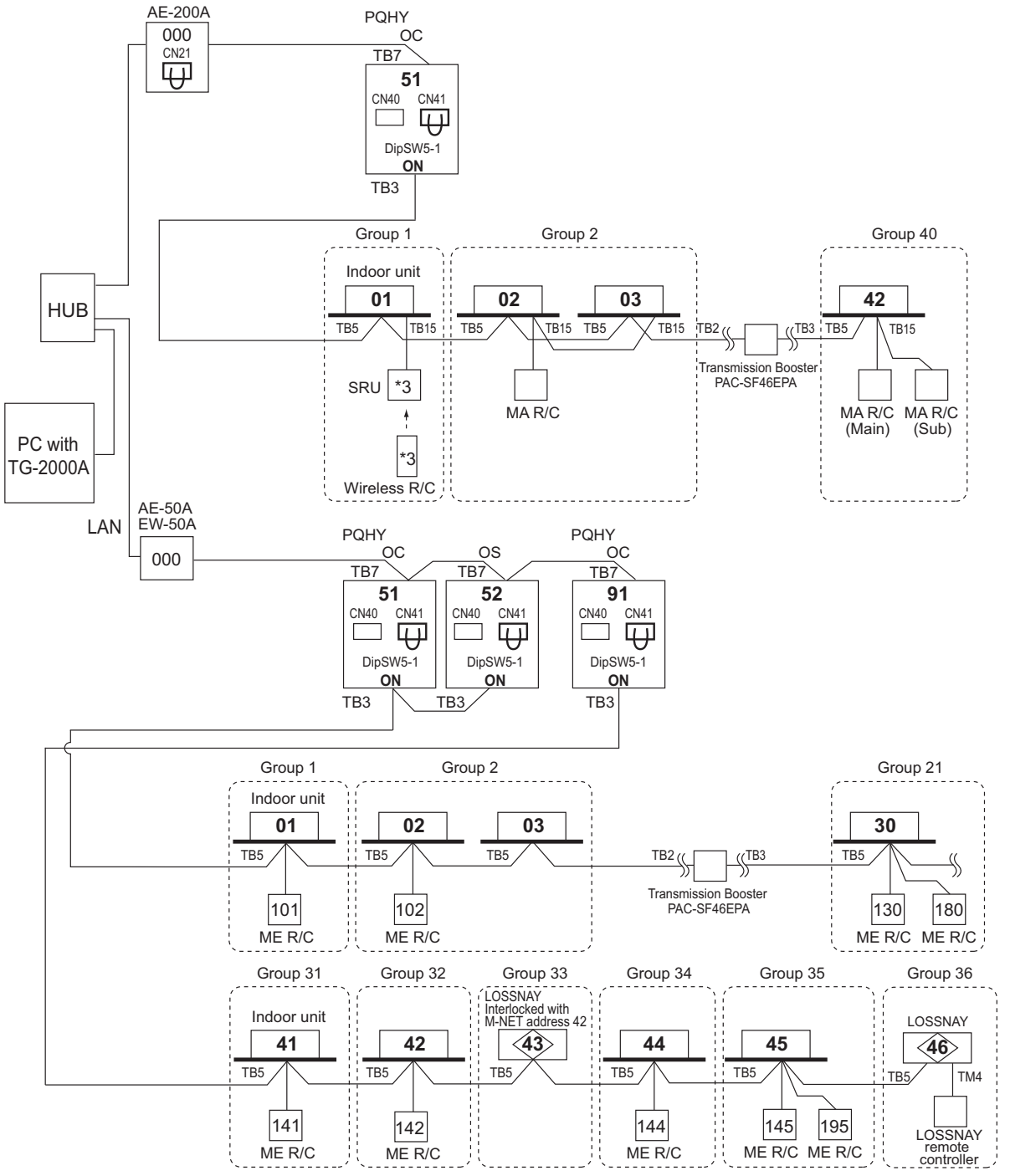
NOTE:

1. Heat source 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. M-NET power is supplied by the Heat source 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".**

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11-4-3-7. TG-2000A(*1)+AE-200A/AE-50A/EW-50A

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



*1 TG-2000A (Ver.6.5 or later) supports AE-200A/AE-50A (Ver.7.10 or later).
TG-2000A (Ver.6.60 or later) supports EW-50A.

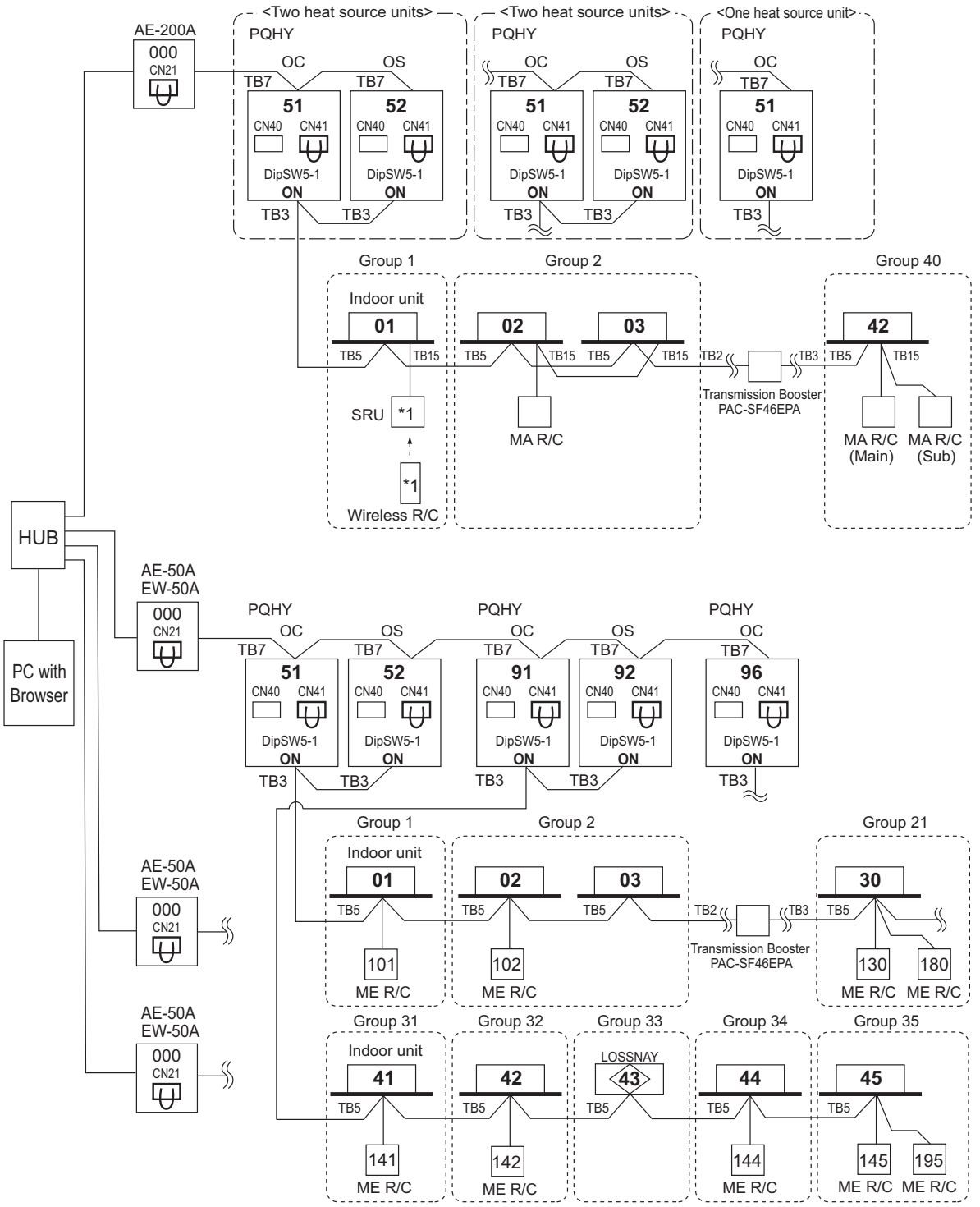
*2 When AE-200A connected with AE-50A is connected, the number of AE-50A will be the maximum controllable number.
TG-2000A can control up to 40 AE-200A/AE-50A or AE-200A without AE-50A connection.

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

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11-4-3-8. AE-200A + AE-50A, EW-50A

AE-200A can control max. 200 indoor units/via AE-50A.

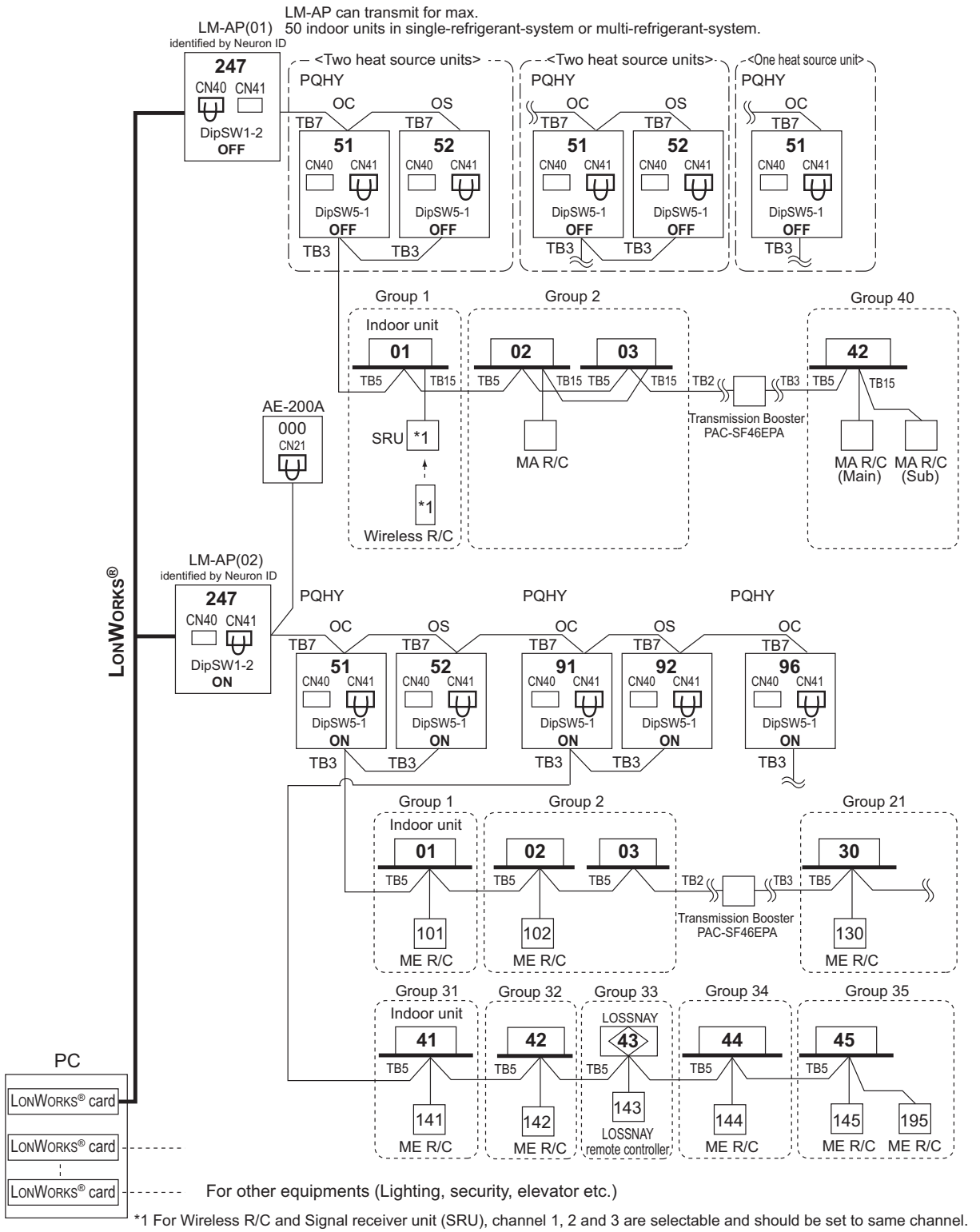


*1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.

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11-4-3-9. LM-AP

LM-AP can transmit for max. 50 indoor units;
If system controller (SC) is used, DipSW1-2 at LM-AP and DipSW5-1 at Heat source 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).

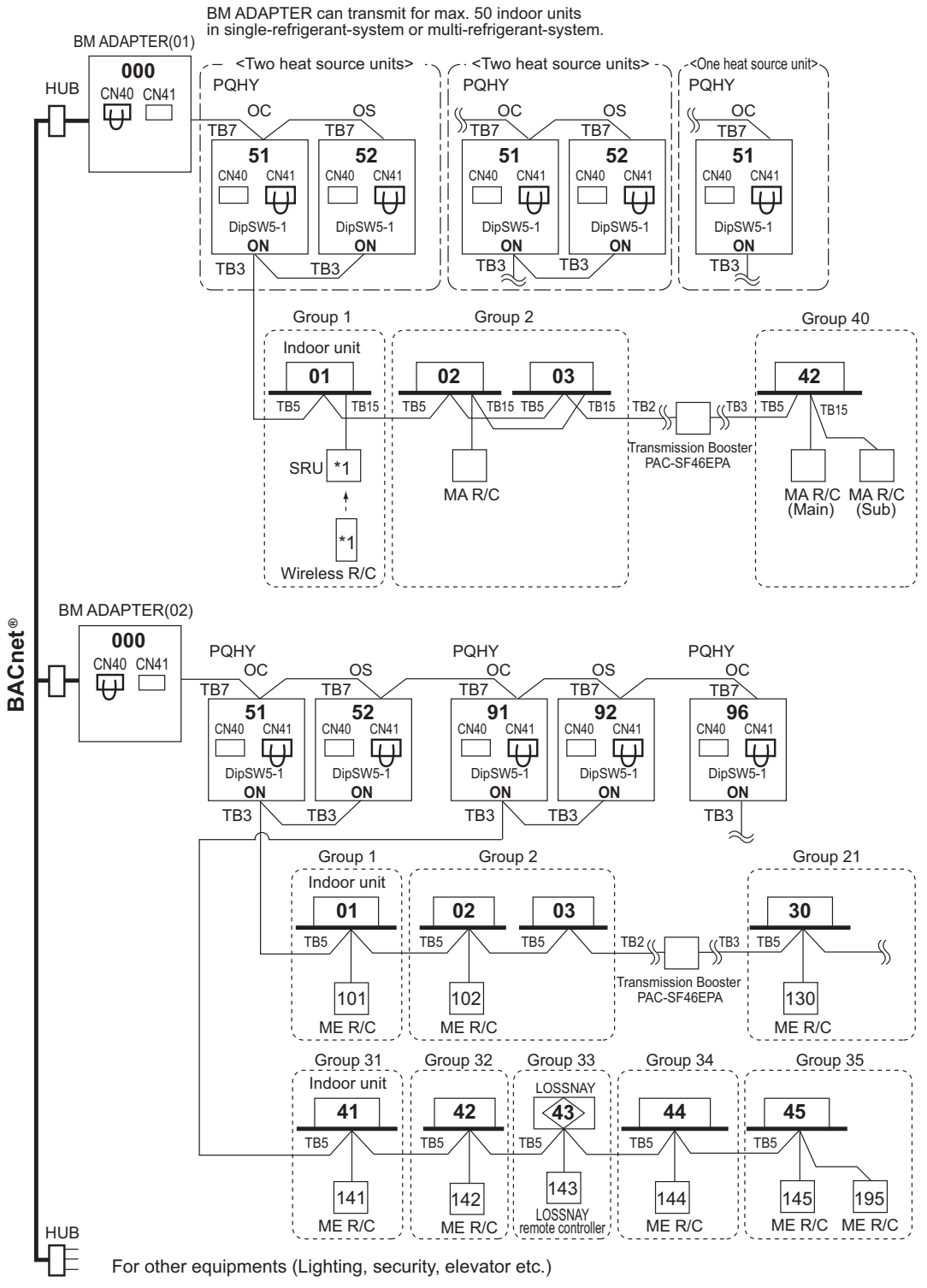


*1 For Wireless R/C and Signal receiver unit (SRU), channel 1, 2 and 3 are selectable and should be set to same channel.

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11-4-3-10. BM ADAPTER

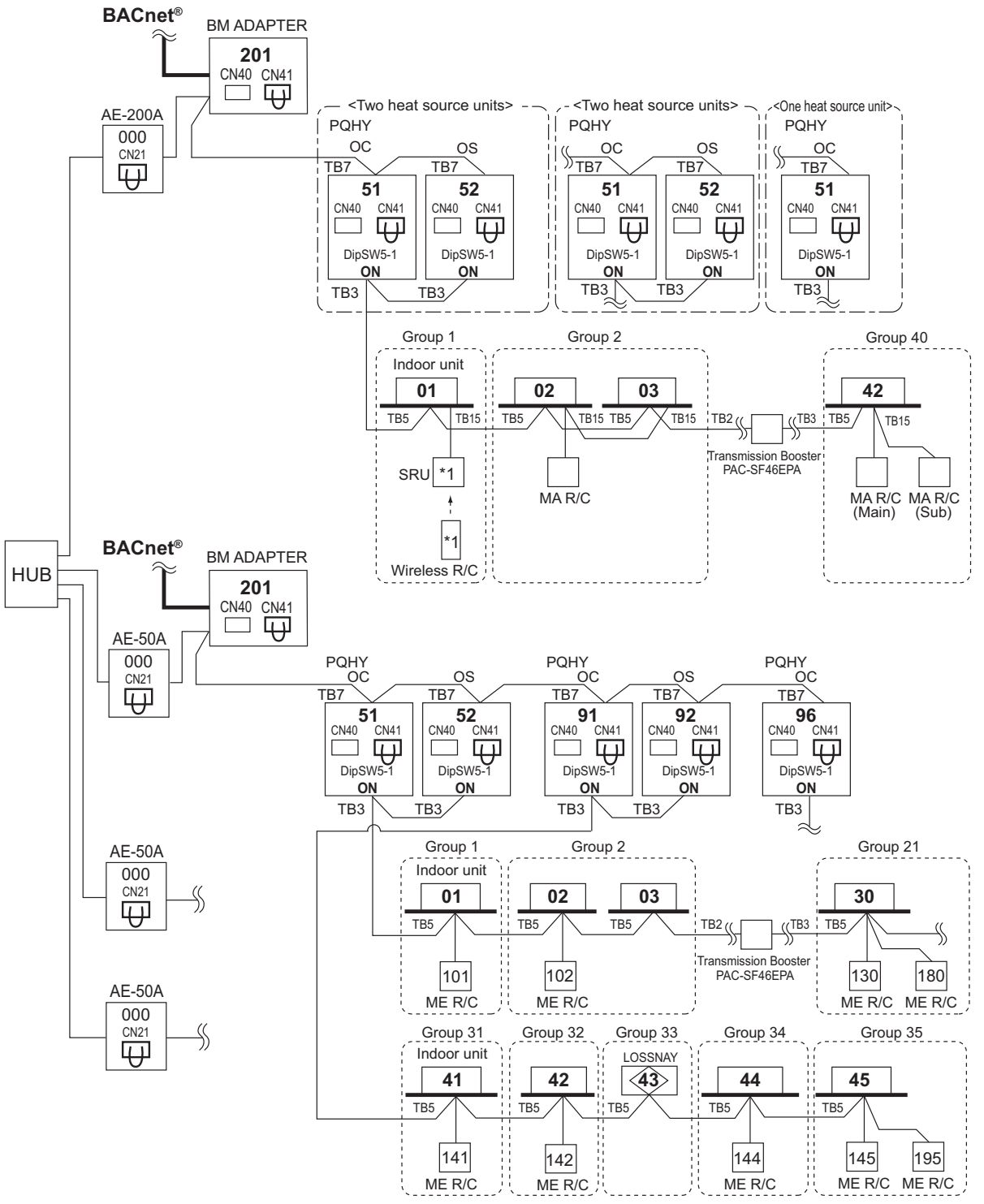
BM ADAPTER can transmit for max. 50 indoor units;
Change Jumper from CN41 to CN40 to activate power supply to BM ADAPTER itself for those BM ADAPTER connected without the power supply unit.



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

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11-4-11. BM ADAPTER+AE-200A/AE-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 In a system that uses AE-200A and/or AE-50A, each BM-ADAPTER must be connected to the M-NET line.

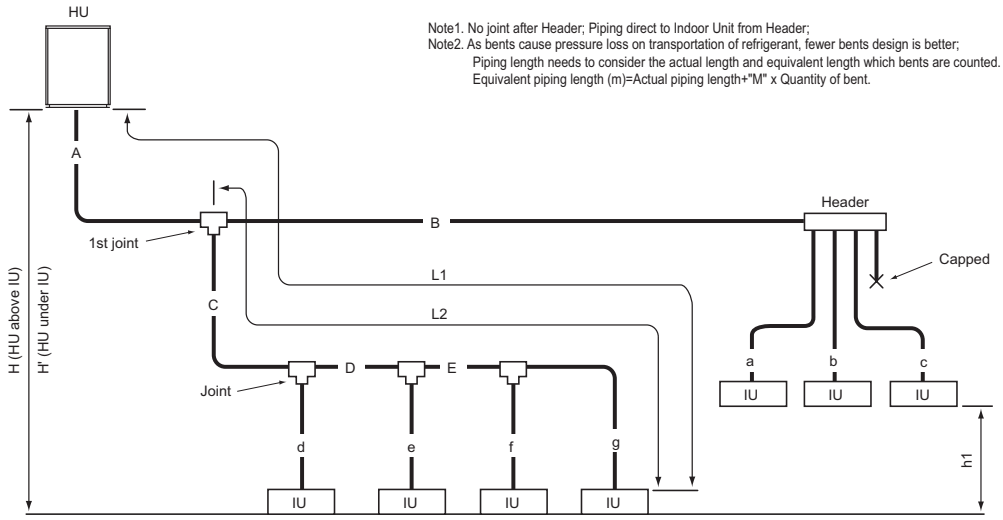
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12-1. R410A Piping Material

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 loca and/or regulations is applicable at a higher priority.

12-2. Piping Design

12-2-1. PQHY-P72-240TLMU/YLMU Piping



Note1. No joint after Header; Piping direct to Indoor Unit from Header;
Note2. As bents cause pressure loss on transportation of refrigerant, fewer bents design is better;
Piping length needs to consider the actual length and equivalent length which bents are counted.
Equivalent piping length (m)=Actual piping length+"M" x Quantity of bent.

Fig. 3-2-1A Piping scheme

IU : Indoor unit , HU : Heat source unit

Table12-2-1-1. Piping length **(m [ft.])**

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	*1	-
Farthest IU from HU (L1)	A+C+D+E+g / A+B+c	165 [541]	190 [623]
Farthest IU from first joint (L2)	C+D+E+g / B+c	40 [131]	40 [131]
Height between HU and IU (HU above IU)	H	50 [164]	-
Height between HU and IU (HU under IU)	H'	40 [131]	-
Height between IU and IU	h1	15 [49]	-

HU: Heat source Unit, IU: Indoor Unit
*1 300 [984] for PQHY-P72-120TLMU/YLMU, 500 [1640] for PQHY-P144-240TLMU/YLMU

Table12-2-1-2. Bent equivalent length "M"

Heat source Model	M (m/bends [ft./bends])
PQHY-P72T/YLMU	0.35 [1.15]
PQHY-P96T/YLMU	0.42 [1.38]
PQHY-P120T/YLMU	0.42 [1.38]
PQHY-P144T/YLMU	0.50 [1.64]
PQHY-P168T/YLMU	0.50 [1.64]
PQHY-P192T/YLMU	0.50 [1.64]
PQHY-P216T/YLMU	0.50 [1.64]
PQHY-P240T/YLMU	0.50 [1.64]

Table12-2-1-3. Piping "A" size selection rule **(mm [in.])**

Heat source unit	Pipe(Liquid)	Pipe(Gas)
PQHY-P72T/YLMU	ø9.52 [3/8]	ø19.05 [3/4]
PQHY-P96T/YLMU	ø9.52 [3/8] *1	ø22.20 [7/8]
PQHY-P120T/YLMU	ø9.52 [3/8] *2	ø22.20 [7/8]
PQHY-P144T/YLMU	ø12.70 [1/2]	ø28.58 [1-1/8]
PQHY-P168-240T/YLMU	ø15.88 [5/8]	ø28.58 [1-1/8]

*1 L1>=90 m [295 ft.], ø12.70 mm [1/2 in.]
*2 L1>=40 m [131 ft.], ø12.70 mm [1/2 in.]

Table12-2-1-4. Piping"B","C","D","E"size selection rule **(mm [in.])**

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
~ P54	ø9.52 [3/8]	ø15.88 [5/8]
P55 ~ P72	ø9.52 [3/8]	ø19.05 [3/4]
P73 ~ P108	ø9.52 [3/8]	ø22.20 [7/8]
P109 ~ P144	ø12.70 [1/2]	ø28.58 [1-1/8]
P145 ~ P240	ø15.88 [5/8]	ø28.58 [1-1/8]
P241 ~ P308	ø19.05 [3/4]	ø34.93 [1-3/8]
P309 ~	ø19.05 [3/4]	ø41.28 [1-5/8]

Table12-2-1-5. Piping "a","b","c","d","e","f","g" size selection rule (mm [in.])

Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P06,P08,P12,P15,P18	ø6.35 [1/4]	ø12.70 [1/2]
P24,P27,P30,P36,P48,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]

Table12-2-1-6. Selection criteria for joints

Total down-stream Indoor capacity	Joint
~ P72	CMY-Y102SS-G2
P73 ~ P144	CMY-Y102LS-G2
P145 ~ P240	CMY-Y202S-G2
P241 ~	CMY-Y302S-G2

*Concerning detailed usage of joint parts, refer to its Installation Manual.

See the table below for the first joint of the heat source unit described below.

heat source unit model	Joint model
P72	CMY-Y102SS-G2
P96 to P120	CMY-Y102LS-G2
P144 to P240	CMY-Y202S-G2

Table12-2-1-7. R410A Header selection rule

	4-branch Header	8-branch Header	10-branch Header
	CMY-Y104C-G	CMY-Y108C-G	CMY-Y1010C-G
otaT down-stream Indoor capacity	<=P72	<=P144	<=P240

* CMY-Y104C-G can directly connect PQHY-P72T/YLMU, but can NOT directly connect PQHY-P96T/YLMU or above;
* CMY-Y108C-G can directly connect PQHY-P72~144T/Y(S)LMU, but can NOT directly connect PQHY-P168T/Y(S)LMU or above;
* CMY-Y1010C-G can directly connect PQHY-P72~240T/Y(S)LMU;
* CMY-Y104C-G can NOT connect P72~P96 Indoor, but CMY-Y108,Y1010C-G can do;
* Concerning detailed usage of Header parts, refer to its Installation Manual.

Note3. Indoor capacity is described as its model size;
For example, PEFY-P06NMAU-E3, its capacity is P06;
Note4. Total down-stream Indoor capacity is the summary of the model size of Indoors downstream.
For example, PEFY-P06NMAU-E3+PEFY-P08NMAU-E3: Total Indoor capacity=P06+P08=P14
Note5. Piping sized determined by the Total down-stream indoor capacity is NOT necessary to be bigger than the up-stream one.
i.e. A>=B; A>=C>=D

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12-2-2. PQHY-P144-360TSLMU/YSLMU Piping

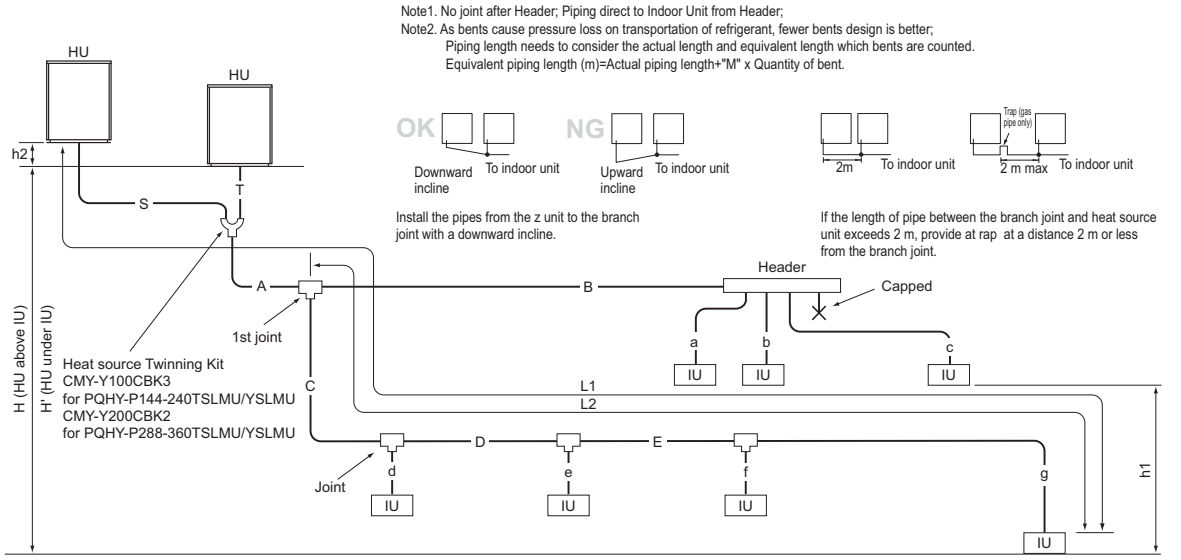


Fig. 3-2-1B Piping scheme

IU: Indoor unit , HU: Heat source unit

Table12-2-2-1. Piping length (m [ft.])

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	S+T+A+B+C+D+E+a+b+c+d+e+f+g	500 [1640]	-
Distance between HU and HU	S+T	10[32]	-
Height between HU and HU	h2	0.1[0.3]	-
Farthest IU from HU (L1)	S(T)+A+C+D+E+g / S(T)+A+B+c	165 [541]	190 [623]
Farthest IU from the first joint (L2)	C+D+E+g / B+c	40 [131]	40 [131]
Height between HU and IU (HU above IU)	H	50 [164]	-
Height between HU and IU (HU under IU)	H'	40 [131]	-
Height between IU and IU	h1	15 [49]	-

HU: Heat source Unit, IU: Indoor Unit

Table12-2-2-2. Bends equivalent length "M"

Heat source Model	M (m/bends [ft./bends])
PQHY-P144T/YSLMU	0.50 [1.64]
PQHY-P168T/YSLMU	0.50 [1.64]
PQHY-P192T/YSLMU	0.50 [1.64]
PQHY-P216T/YSLMU	0.50 [1.64]
PQHY-P240T/YSLMU	0.50 [1.64]
PQHY-P288T/YSLMU	0.70 [2.29]
PQHY-P312T/YSLMU	0.70 [2.29]
PQHY-P336T/YSLMU	0.80 [2.62]
PQHY-P360T/YSLMU	0.80 [2.62]

Table12-2-2-3. Piping "A" size selection rule (mm [in.])

Heat source unit	Pipe(Liquid)	Pipe(Gas)
PQHY-P144T/YSLMU	ø12.70 [1/2]	ø28.58 [1-1/8]
PQHY-P168-240T/YSLMU	ø15.88 [5/8]	ø28.58 [1-1/8]
PQHY-P288-312T/YSLMU	ø19.05 [3/4]	ø34.93 [1-3/8]
PQHY-P336-360T/YSLMU	ø19.05 [3/4]	ø41.28 [1-5/8]

For Piping size "S","T", please refer to specification of the Twinning kit CMY-Y100CBK3, CMY-Y200CBK2 at the Heat source unit's external drawing.

Table12-2-2-4. Piping"B","C","D","E" size selection rule (mm [in.])

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
~ P54	ø9.52 [3/8]	ø15.88 [5/8]
P55 ~ P72	ø9.52 [3/8]	ø19.05 [3/4]
P73 ~ P108	ø9.52 [3/8]	ø22.20 [7/8]
P109 ~ P144	ø12.70 [1/2]	ø28.58 [1-1/8]
P145 ~ P240	ø15.88 [5/8]	ø28.58 [1-1/8]
P241 ~ P308	ø19.05 [3/4]	ø34.93 [1-3/8]
P309 ~	ø19.05 [3/4]	ø41.28 [1-5/8]

Table12-2-2-5. Piping"a","b","c","d","e","f","g" size selection rule (mm [in.])

Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P06,P08,P12,P15,P18	ø6.35 [1/4]	ø12.70 [1/2]
P27,P30,P36,P48,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]

Table12-2-2-6. Selection criteria for joints

Total down-stream Indoor capacity	Joint
~ P72	CMY-Y102SS-G2
P73 ~ P144	CMY-Y102LS-G2
P145 ~ P240	CMY-Y202S-G2
P241 ~	CMY-Y302S-G2

*Concerning detailed usage of joint parts, refer to its Installation Manual.
*The total capacity of the units in the downstream of the branch joint on at least one of the piping lines that are connected to the branch joint should be 240 or below.
If the total capacity of the units in the downstream of the branch joints on both lines is 240 or above use two branch joints (CMY-Y302S-G2).

See the table below for the first joint of the heat source unit described below.

heat source unit model	Joint model
P144 to P240	CMY-Y202S-G2
P288 to P360	CMY-Y302S-G2

Table12-2-2-7. R410A Header selection rule

	4-branch Header	8-branch Header	10-branch Header
	CMY-Y104C-G	CMY-Y108C-G	CMY-Y1010C-G
Total down-stream Indoor capacity	<=P72	<=P144	<=P240

* CMY-Y104C-G can directly connect PQHY-P72T/YLMU, but can NOT directly connect PQHY-P96T/YLMU or above;
* CMY-Y108C-G can directly connect PQHY-P72~144T/Y(S)LMU, but can NOT directly connect PQHY-P168T/Y(S)LMU or above;
* CMY-Y1010C-G can directly connect PQHY-P72~240T/Y(S)LMU;
* CMY-Y104C-G can NOT connect P72~P96 Indoor, but CMY-Y108,Y1010C-G can do;
* Concerning detailed usage of Header parts, refer to its Installation Manual.

Note3. Indoor capacity is described as its model size;
For example, PEFY-P06NMAU-E3, its capacity is P06;
Note4. Total down-stream Indoor capacity is the summary of the model size of Indoors downstream.
For example, PEFY-P06NMAU-E3+PEFY-P08NMAU-E3: Total Indoor capacity=P06+P08=P14
Note5. Piping sized determined by the Total down-stream indoor capacity is NOT necessary to be bigger than the up-stream one.

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12-3. Refrigerant Charging Calculation

At the time of shipping, the heat source unit is charged with the refrigerant. As this charge does not include the amount needed for extended piping, additional charging for each refrigerant line will be required on site. In order that future servicing may be properly provided, always keep a record of the size and length of each refrigerant line and the amount of additional charge by writing it in the space provided on the heat source unit.

(1) Calculation of additional refrigerant charge

- Calculate the amount of additional charge based on the length of the piping extension and the size of the refrigerant line.
- Use the table to the below as a guide to calculating the amount of additional charging and charge the system accordingly.
- If the calculation results in a fraction of less than 0.1kg[1oz], round up to the next 0.1kg[1oz]. For example, if the result of the calculation was 11.89kg[420.0oz], round the result up to 11.9kg[420oz].

<Additional Charge>

- Piping length from heat source unit to the most farthest indoor unit ≤ 30.5m[100ft] use the table [A]
- Piping length from heat source unit to the most farthest indoor unit > 30.5m[100ft] use the table [B]

Additional refrigerant charge	
[A]	(kg) [oz]
[B]	(kg) [oz]

+

Liquid Piping Size Total length of ø19.05mm [3/4in]	
[A]	(m) × 0.29 (kg/m) (ft) × 3.12 (oz/ft)
[B]	(m) × 0.26 (kg/m) (ft) × 2.80 (oz/ft)

+

Liquid Piping Size Total length of ø15.88mm [5/8in]	
[A]	(m) × 0.2 (kg/m) (ft) × 2.16 (oz/ft)
[B]	(m) × 0.18 (kg/m) (ft) × 1.94 (oz/ft)

+

Liquid Piping Size Total length of ø12.7mm [1/2in]	
[A]	(m) × 0.12 (kg/m) (ft) × 1.30 (oz/ft)
[B]	(m) × 0.11 (kg/m) (ft) × 1.19 (oz/ft)

+

Liquid Piping Size Total length of ø9.52mm [3/8in]	
[A]	(m) × 0.06 (kg/m) (ft) × 0.65 (oz/ft)
[B]	(m) × 0.054 (kg/m) (ft) × 0.59 (oz/ft)

+

Liquid Piping Size Total length of ø6.35mm [1/4in]	
[A]	(m) × 0.024 (kg/m) (ft) × 0.26 (oz/ft)
[B]	(m) × 0.021 (kg/m) (ft) × 0.23 (oz/ft)

+

Additional charge		
Heat source unit model		Charged amount
Single	P216	1.0 kg
	P240	1.0 kg

+ α

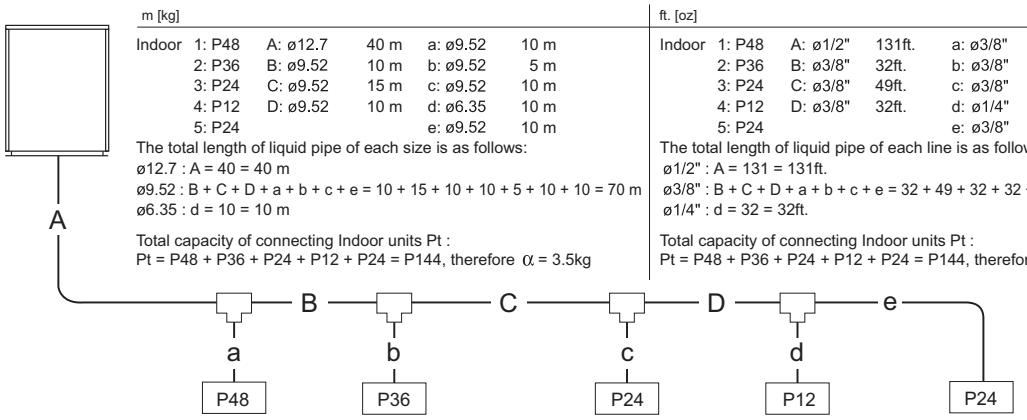
Table3-2-4-1. Value of α

Total capacity of connecting indoor units	α	
Models ~ 27	2.0 kg	[71 oz]
Models 28 ~ 54	2.5 kg	[89 oz]
Models 55 ~ 126	3.0 kg	[106 oz]
Models 127 ~ 144	3.5 kg	[124 oz]
Models 145 ~ 180	4.5 kg	[160 oz]
Models 181 ~ 234	5.0 kg	[177 oz]
Models 235 ~ 273	6.0 kg	[212 oz]
Models 274 ~ 307	8.0 kg	[283 oz]
Models 308 ~ 342	9.0 kg	[318 oz]
Models 343 ~ 411	10.0 kg	[353 oz]
Models 412 ~ 480	12.0 kg	[424 oz]
Models 481 ~	14.0 kg	[494 oz]

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12. PIPING DESIGN

Example: PQHY-P144TLMU/YLMU



m [kg]

Indoor 1: P48 A: ø12.7 40 m a: ø9.52 10 m
2: P36 B: ø9.52 10 m b: ø9.52 5 m
3: P24 C: ø9.52 15 m c: ø9.52 10 m
4: P12 D: ø9.52 10 m d: ø6.35 10 m
5: P24 e: ø9.52 10 m

The total length of liquid pipe of each size is as follows:
ø12.7 : A = 40 = 40 m
ø9.52 : B + C + D + a + b + c + e = 10 + 15 + 10 + 10 + 5 + 10 + 10 = 70 m
ø6.35 : d = 10 = 10 m

Total capacity of connecting Indoor units Pt :
Pt = P48 + P36 + P24 + P12 + P24 = P144, therefore α = 3.5kg

ft. [oz]

Indoor 1: P48 A: ø1/2" 131ft. a: ø3/8" 32ft.
2: P36 B: ø3/8" 32ft. b: ø3/8" 16ft.
3: P24 C: ø3/8" 49ft. c: ø3/8" 32ft.
4: P12 D: ø3/8" 32ft. d: ø1/4" 32ft.
5: P24 e: ø3/8" 32ft.

The total length of liquid pipe of each line is as follows:
ø1/2" : A = 131 = 131ft.
ø3/8" : B + C + D + a + b + c + e = 32 + 49 + 32 + 32 + 16 + 32 + 32 = 225ft.
ø1/4" : d = 32 = 32ft.

Total capacity of connecting Indoor units Pt :
Pt = P48 + P36 + P24 + P12 + P24 = P144, therefore α = 124oz

m [kg]

Additional refrigerant charge (kg)	=	Total length of liquid pipe sized ø19.05 x 0.26 (kg/m)	+	Total length of liquid pipe sized ø15.88 x 0.18 (kg/m)	+	Total length of liquid pipe sized ø12.7 x 0.11 (kg/m)	+	Total length of liquid pipe sized ø9.52 x 0.054 (kg/m)	+	Total length of liquid pipe sized ø6.35 x 0.021 (kg/m)	+ 3.5
		0 (m) x 0.26 (kg/m)		0 (m) x 0.18 (kg/m)		40 (m) x 0.11 (kg/m)		70 (m) x 0.054 (kg/m)		10 (m) x 0.021 (kg/m)	

= 0 + 0 + 40 x 0.11 + 70 x 0.054 + 10 x 0.021 + 3.5
= 11.9 kg

or

ft. [oz]

Additional refrigerant charge (oz)	=	Total length of liquid pipe sized ø3/4" x 2.80 (oz/ft.)	+	Total length of liquid pipe sized ø5/8" x 1.94 (oz/ft.)	+	Total length of liquid pipe sized ø1/2" x 1.19 (oz/ft.)	+	Total length of liquid pipe sized ø3/8" x 0.59 (oz/ft.)	+	Total length of liquid pipe sized ø1/4" x 0.23 (oz/ft.)	+ 124
		0 (ft.) x 2.80 (oz/ft.)		0 (ft.) x 1.94 (oz/ft.)		131 (ft.) x 1.19 (oz/ft.)		225 (ft.) x 0.59 (oz/ft.)		32 (ft.) x 0.23 (oz/ft.)	

= 0 + 0 + 131 x 1.19 + 225 x 0.59 + 32 x 0.23 + 124
= 420 [oz]

■ **Limitation of the amount of refrigerant to be charged**

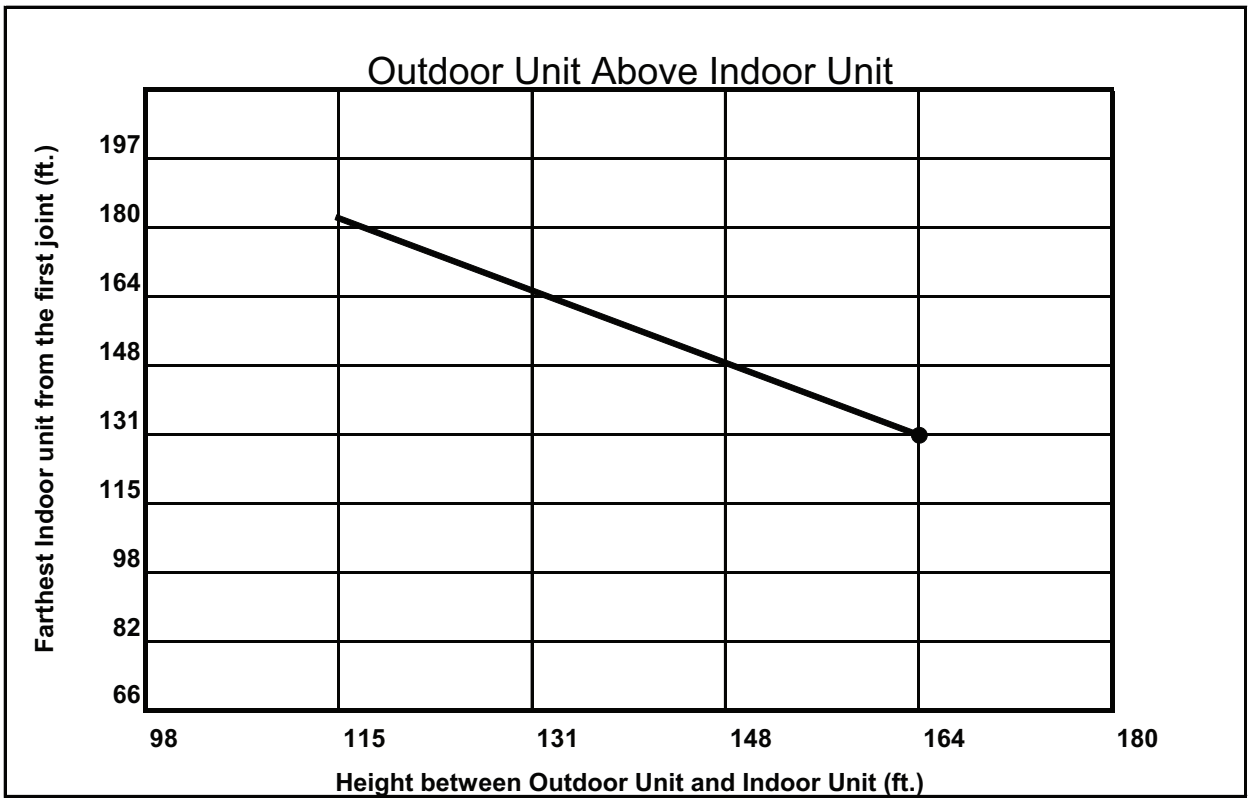
The above calculation result of the amount of refrigerant to be charged must become below the value in the table below.

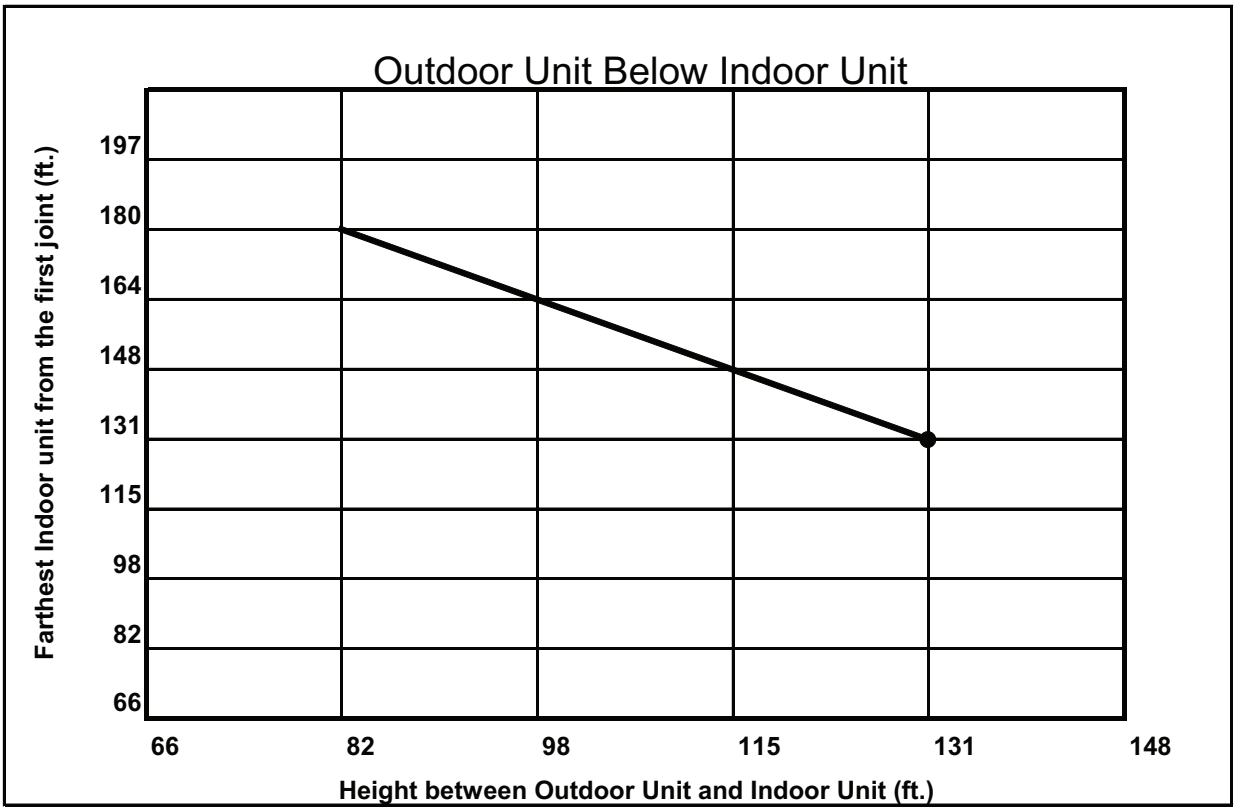
Total index of the heat source units		P72 T/YLMU	P96 T/YLMU	P120 T/YLMU	P144 T/YLMU	P168 T/YLMU	P192 T/YLMU	P216 T/YLMU	P240 T/YLMU	P144 T/YSLMU	P168 T/YSLMU
Maximum refrigerant charge	Factory charged	5.0kg	5.0kg	5.0kg	6.0kg	6.0kg	6.0kg	11.7kg	11.7kg	10.0kg	10.0kg
	Charged on site	22.0kg	28.5kg	29.5kg	42.0kg	51.5kg	53.5kg	56.0kg	57.0kg	42.0kg	51.5kg
	Total for system	27.0kg	33.5kg	34.5kg	48.0kg	57.5kg	59.5kg	67.7kg	68.7kg	52.0kg	61.5kg
	Factory charged	11 lbs 1 oz	11 lbs 1 oz	11 lbs 1 oz	13 lbs 4 oz	13 lbs 4 oz	13 lbs 4 oz	25 lbs 13 oz	25 lbs 13 oz	22 lbs 1 oz	22 lbs 1 oz
	Charged on site	48 lbs 9 oz	62 lbs 14 oz	65 lbs 1 oz	92 lbs 10 oz	113 lbs 9 oz	118 lbs 0 oz	123 lbs 8 oz	125 lbs 11 oz	92 lbs 10 oz	113 lbs 9 oz
	Total for system	59 lbs 9 oz	73 lbs 14 oz	76 lbs 1 oz	105 lbs 14 oz	126 lbs 13 oz	131 lbs 3 oz	149 lbs 5 oz	151 lbs 8 oz	114 lbs 11 oz	135 lbs 10 oz

Total index of the heat source units		P192 T/YSLMU	P216 T/YSLMU	P240 T/YSLMU	P288 T/YSLMU	P312 T/YSLMU	P336 T/YSLMU	P360 T/YSLMU
Maximum refrigerant charge	Factory charged	10.0kg	10.0kg	10.0kg	12.0kg	12.0kg	12.0kg	12.0kg
	Charged on site	53.5kg	55.0kg	56.0kg	67.5kg	67.5kg	67.5kg	70.0kg
	Total for system	63.5kg	65.0kg	66.0kg	79.5kg	79.5kg	79.5kg	82.0kg
	Factory charged	22 lbs 1 oz	22 lbs 1 oz	22 lbs 1 oz	26 lbs 8 oz	26 lbs 8 oz	26 lbs 8 oz	26 lbs 8 oz
	Charged on site	118 lbs 0 oz	121 lbs 5 oz	123 lbs 8 oz	148 lbs 13 oz	148 lbs 13 oz	148 lbs 13 oz	154 lbs 6 oz
	Total for system	140 lbs 0 oz	143 lbs 5 oz	145 lbs 9 oz	175 lbs 5 oz	175 lbs 5 oz	175 lbs 5 oz	180 lbs 13 oz

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12-2-4. Farthest Indoor Unit from First Joint Requirements





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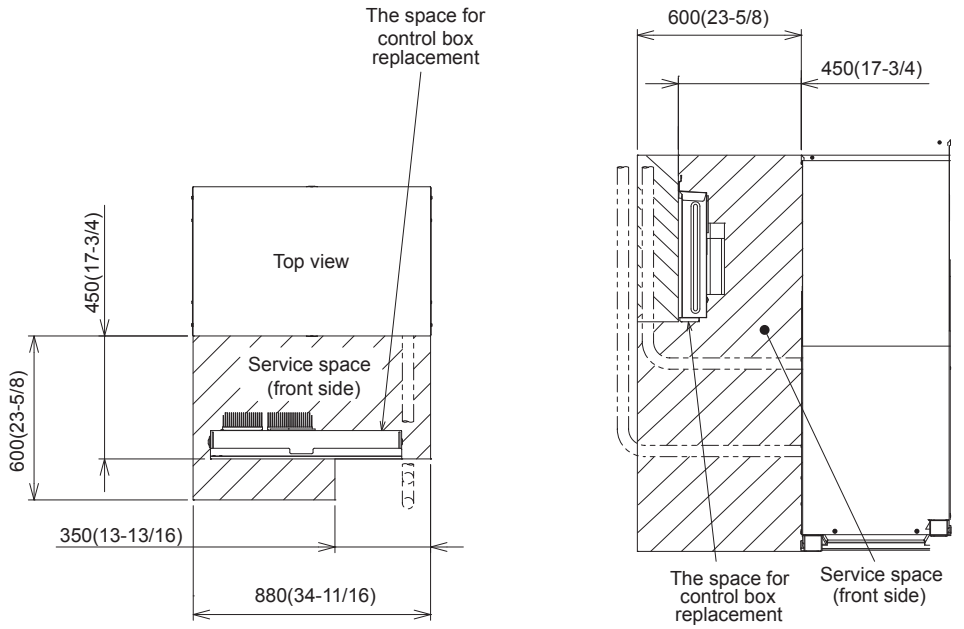
13-1. Requirement on installation site

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.
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 Figure 12-2.
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.

13-2. Installation Space

In case of single installation, 600mm or more of back space as front space makes easier access when servicing the unit from rear side.

Unit: mm (in



13-3. Caution on selecting heat source unit

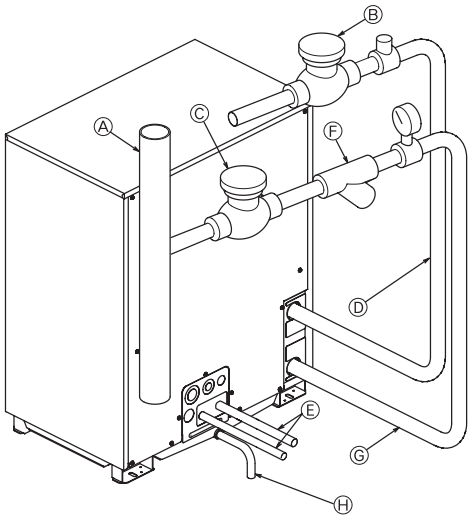
Consult your dealer when the following issues on WY system are the key concern.

- **Warm air** may flow out from the indoor unit during heating Thermo-OFF.
- **Refrigerant flow sound** may occur in the rooms with low background noise such as hotel rooms, hospital rooms, bedrooms, or conference rooms.

To avoid the above issues on WY system, changing board settings on the indoor and outdoor units is required.
Ask AC&R Works for details.

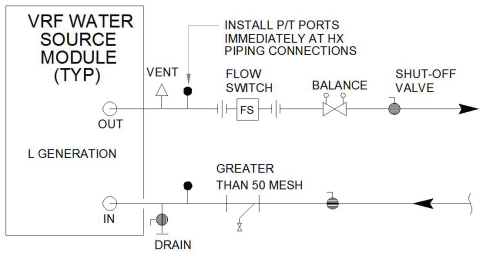
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13-4. Piping Direction



Ⓐ Main circulating water pipe
Ⓑ Shutoff valve
Ⓒ Shutoff valve
Ⓓ Water outlet (upper)
Ⓔ Refrigerant pipes
Ⓕ Y-type strainer
Ⓖ Water inlet (lower)
Ⓗ Drain pipe

Notes:
- Install flow switch and properly wire to TB8-terminal 3-4 for proof of flow proteciton.
- Provide P/T" ports near piping connections to unit on supply and return condenser water pipe.



With City Multi WY/ WR2 Series piping, as long as the temperature range of the circulating water is kept to average temperatures year-round (29.4°C[85°F] in the summer, 21.1°C[70°F] in the winter), there is no need to insulate or otherwise protect indoor piping from exposure. You should use insulation in the following situations:
- Any heat source piping.
- Indoor piping in cold-weather regions where frozen pipes are a problem.
- When air coming from the outside causes condensation to form on piping.
- Any drainage piping.

2. Water processing and water quality control

To preserve water quality, use the closed type of cooling tower for WY/ WR2. When the circulating water quality is poor, the water heat exchanger can develop scales, leading to a reduction in heat-exchange power and possible corrosion of the heat exchanger. Please pay careful attention to water processing and water quality control when installing the water circulation system.
- Removal of foreign objects or impurities within the pipes.
  During installation, be careful that foreign objects, such as welding fragments, sealant particles, or rust, do not enter the pipes.
- Water Quality Processing
  ① Depending on the quality of the cold-temperature water used in the air conditioner, the copper piping of the heat exchanger may become corroded. We recommend regular water quality processing.
  Cold water circulation systems using open heat storage tanks are particularly prone to corrosion.
  When using an open-type heat storage tank, install a water-to-water heat exchanger, and use a closed-loop circuit on the air conditioner side. If a water supply tank is installed, keep contact with air to a minimum, and keep the level of dissolved oxygen in the water no higher than 1mg/ℓ.
  ② Water quality standard

Items			Lower mid-range temperature water system		Tendency	
			Recirculating water [20<T<60°C] [68<T<140°F]	Make-up water	Corrosive	Scale-forming
Standard items	pH (25°C)[77°F]		7.0 ~ 8.0	7.0 ~ 8.0	○	○
	Electric conductivity (mS/m) (25°C)[77°F] (μS/cm) (25°C)[77°F]		30 or less [300 or less]	30 or less [300 or less]	○	○
	Chloride ion	(mg Cl^-/ ℓ)	50 or less	50 or less	○	
	Sulfate ion	(mg SO_4^{2-}/ ℓ)	50 or less	50 or less	○	
	Acid consumption (pH4.8)	(mg $CaCO_3$/ ℓ)	50 or less	50 or less		○
	Total hardness	(mg $CaCO_3$/ ℓ)	70 or less	70 or less		○
	Calcium hardness	(mg $CaCO_3$/ ℓ)	50 or less	50 or less		○
	Ionic silica	(mg SiO_2/ ℓ)	30 or less	30 or less		○
Reference items	Iron	(mg Fe/ ℓ)	1.0 or less	0.3 or less	○	○
	Copper	(mg Cu/ ℓ)	1.0 or less	0.1 or less	○	
	Sulfide ion	(mg S^{2-}/ ℓ)	not to be detected	not to be detected	○	
	Ammonium ion	(mg NH_4^+/ ℓ)	0.3 or less	0.1 or less	○	
	Residual chlorine	(mg Cl/ ℓ)	0.25 or less	0.3 or less	○	
	Free carbon dioxide	(mg CO_2/ ℓ)	0.4 or less	4.0 or less	○	
	Ryzner stability index		–	–	○	○

Reference : Guideline of Water Quality for Refrigeration and Air Conditioning Equipment. (JRA GL02E-1994)

③ Please consult with a water quality control specialist about water quality control methods and water quality calculations before using anti-corrosive solutions for water quality management.
④ When replacing a previously installed air conditioning device (even when only the heat exchanger is being replaced), first conduct a water quality analysis and check for possible corrosion.
Corrosion can occur in cold-water systems even if there has been no prior signs of corrosion. If the water quality level has dropped, please adjust water quality sufficiently before replacing the unit.

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14-1. General Precautions

14-1-1. 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.

14-1-2. 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.

14-1-3. 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 units with multiple indoor units.

14-1-4. Unit Characteristics

- Heat pump efficiency 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 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 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.

14-1-5. 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.

14-1-6. 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.

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14-1-7. 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 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.

14-1-8. 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.

14-2. Precautions for Indoor unit

14-2-1. 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.

14-2-2. 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.

14-2-2. 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 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 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 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.

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14-3. Precautions for Outdoor unit/Heat source unit

14-3-1. Installation environment

- Outdoor 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 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 0ºC, 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 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 0ºC or below.
- Keep the water circulating to prevent it from freezing when the ambient temperature is 0ºC 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.

14-3-2. 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,

14-3-3. Unit characteristics

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

14-3-4. Relevant equipment

- Provide grounding in accordance with the local regulations.

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14-4. Precautions for Control-related items

14-2-1. 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 watthour 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 watthour 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.

14-2-3. 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 AE-200A/AE-50A/EW-50A/AG-150A/EB-50GU-A or TG-2000A to the Internet.

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15. CAUTION FOR REFRIGERANT LEAKAGE

The water-source unit twinning kit is needed to PQHY-P-TSLMU/YSLMU to combine the refrigerant flows of the PQHY-P-TLMU/YLMU units.

15-1. 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/m^3
(The weight of refrigeration gas per 1 m^3 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.

15-2. 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.15-1. The refrigerant of 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 Heat source unit, and shall not be over charge at the site. Procedure 15-2-1~3 tells how to confirm maximum refrigerant leakage concentration (Rmax) and how to take countermeasure against a possible leakage.

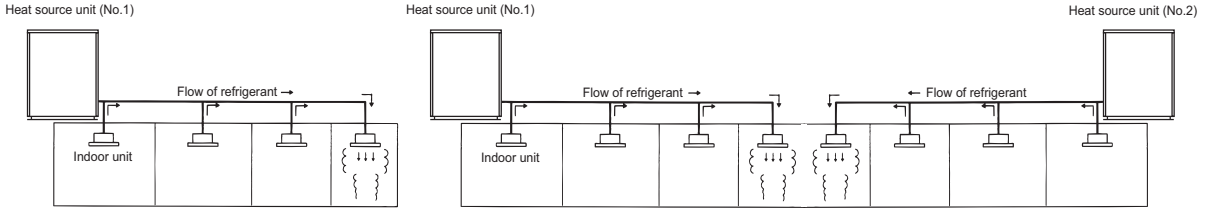


Fig. 15-1 The maximum refrigerant leakage concentration

-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 considered as one.The total space shall be added up.
-2-2.Find the possible maximum leakage (Wmax) in the room.If a room has Indoor unit(s) from more than 1 Heat source unit, add up the refrigerant of the Heat source units.
-2-3.Divide (Wmax) by (V) to get the maximum refrigerant leakage concentration (Rmax).
-2-4.Find if there is any room in which the maximum refrigerant leakage concentration (Rmax) is over 0.44kg/m^3.
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 Heat source unit to one room.
e.g.Using smaller model size but more 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.15-2~4.

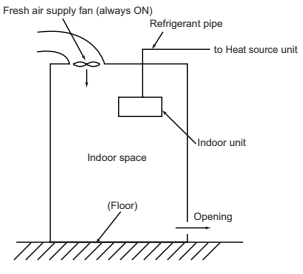


Fig.15-2.Fresh air supply always ON

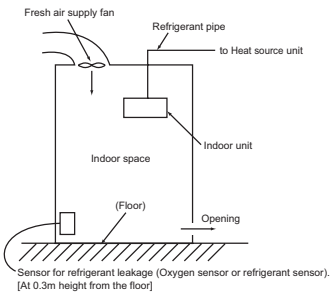


Fig.15-3.Fresh air supply upon sensor action

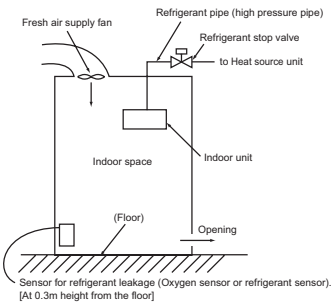


Fig.15-4.Fresh air supply and refrigerant shut-off upon sensor action

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 piping should consider the extension due to the temperature variation.

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