

# CITY MULTI™ OUTDOOR UNITS

## R2 SERIES

### R2 SERIES

- 1. SPECIFICATIONS
- 2. CAPACITY TABLES
  - 2.1 Correction by temperature
  - 2.2 Correction by total indoor
  - 2.3 Correction by refrigerant piping length
  - 2.4 Correction at frosting and defrosting
  - 2.5 Temp. range of running
- 3. SOUND LEVELS
- 4. EXTERNAL DIMENSIONS
- 5. ELECTRICAL WIRING DIAGRAMS
- 6. REFRIGERANT CIRCUIT DIAGRAMS AND THERMAL SENSORS

- R2-2
- R2-7
- R2-7
- R2-10
- R2-13
- R2-15
- R2-15
- R2-16
- R2-18
- R2-24
- R2-26

Y

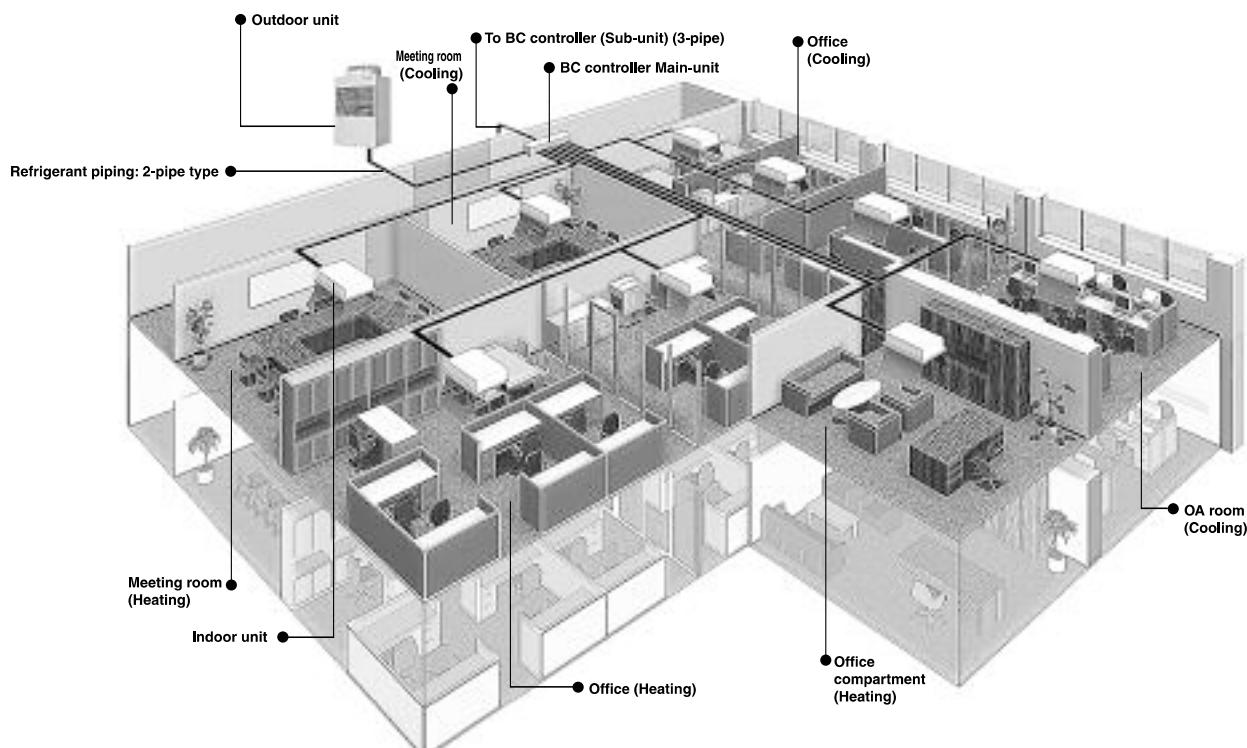
R2

WY

WR2

S

OP



Heat recovery: PURY-P-YGM-A(-BS)

	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
R2 Heat recovery	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

# 1. SPECIFICATIONS

R410A Data G2

Model		PURY-P200YGM-A(-BS)		PURY-P250YGM-A(-BS)	
Power source		3-phase 4-wire 380-400-415V 50 / 60Hz			
Cooling capacity (Nominal)	*1 kW	22.4		28.0	
	*1 kcal / h	19,300		24,100	
	*1 Btu / h	76,400		95,500	
	*2 kcal / h	20,000		25,000	
	Power input kW	6.14		7.72	
	Current input A	10.3 / 9.8 / 9.4		13.0 / 12.3 / 11.9	
	COP (kW / kW)	3.65		3.63	
	Temp. range of cooling	Indoor W.B. Outdoor D.B.	15 ~ 24°C (59 ~ 75°F) - 5 ~ 43°C (23 ~ 109°F)		
Heating capacity (Nominal)	*3 kW	25.0		31.5	
	*3 kcal / h	21,500		27,100	
	*3 Btu / h	85,300		107,500	
	Power input kW	5.98		7.62	
	Current input A	10.0 / 9.5 / 9.2		12.8 / 12.2 / 11.7	
	COP (kW / kW)	4.18		4.13	
	Temp. range of heating	Indoor temp. D.B. Outdoor temp. W.B.	15 ~ 27°C (59 ~ 81°F) - 20 ~ 15.5°C (-4 ~ 60°F)		
	Indoor unit connectable	Total capacity Model / Quantity	50 ~ 150% of outdoor unit capacity P20 ~ P250 / 1 ~ 15	P20 ~ P250 / 1 ~ 16	
Noise level (measured in anechoic room)		dB <A>	56 / 56	57 / 57	
Diameter of refrigerant pipe	Liquid (High press.) mm (in.)	ø15.88 (ø5/8") Brazed	ø19.05 (ø3/4") Brazed		
	Gas (Low press.) mm (in.)	ø19.05 (ø3/4") Brazed	ø22.2 (ø7/8") Brazed		

External finish		Pre-coated galvanized sheets (+ powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>			
External dimension H x W x D		1,840 x 990 x 840 72-1/2" x 39" x 33-1/8"			
Net weight		236 (521) kg (lb)			
Heat exchanger		Salt-resistant cross fin & copper tube			
Compressor	Type	Inverter scroll hermetic comp.			
	Manufacturer	AC&R Works, MITSUBISHI ELECTRIC CORPORATION			
	Starting method	Inverter			
	Motor output kW	4.7			
	Case heater kW	0.045 x 1 (240V)			
FAN	Lubricant	MEL56			
	Air flow rate m³ / min	200			
	L / s	3,333			
	cfm	7,063			
	External static press.	0 Pa (0 mmH₂O)			
HIC circuit (HIC: Heat Inter-Changer)		Propeller fan x 1			
Protection	High pressure protection	High pressure sensor, High pressure switch 4.15 MPa (601 psi)			
	Inverter circuit (COMP. / FAN)	Over-current protection, Over-heat protection			
	Compressor	Over-heat protection			
	Fan motor	Thermal switch			
Defrosting method		Auto-defrost mode (Reversed refrigerant circle)			
Refrigerant	Type x Original charge	R410A x 10.5 kg (24 lb)			
	Control	Indoor LEV and BC controller			
Drawing	External	YGM-W656-809 1/2			
	Wiring	YGM-W274-614			
	Refrigerant circle	YGM-rcd-200-400ygm-R2			
Standard attachment	Document	Installation Manual			
	Accessory	Details refer to External Drw YGM-W656-809 1/2			
Optional parts		High static pressure motor : PAC-KBU04MT-F (60 Pa) Joint : CMY-Y102S-G, CMY-R160-J			
		BC controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016-G Main BC controller: CMB-P108, 1010, 1013, 1016-GA Sub BC controller: CMP-P104, 108V-GB			
Remark		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.			

Note :	*1 Nominal cooling conditions Indoor : 27°CDB/19°CWB (81°FDB/66°FWB) Outdoor : 35°CDB (95°FDB) Pipe length : 7.5 m (24-9/16 ft) Level difference : 0 m (0 ft)	*2 Nominal cooling conditions 27°CDB/19.5°CWB (81°FDB/67°FWB) 35°CDB (95°FDB) 5 m (16-3/8 ft) 0 m (0 ft)	*3 Nominal heating conditions 20°CDB (68°FDB) 7°CDB/6°CWB (45°FDB/43°FWB) 7.5 m (24-9/16 ft) 0 m (0 ft)	Unit converter kcal/h = kW x 860 Btu/h = kW x 3,412 cfm = m³/min x 35.31 lb = kg / 0.4536
* Nominal conditions *1, *3 are subject to JIS B8615-1.				
* Due to continuing improvement, above specifications may be subject to change without notice.				

# 1. SPECIFICATIONS

R410A Data G2

Model		PURY-P300YGM-A(-BS)		PURY-P350YGM-A(-BS)	
Power source		3-phase 4-wire 380-400-415V 50 / 60Hz			
Cooling capacity (Nominal)	*1 kW	33.5		40.0	
	*1 kcal / h	28,800		34,400	
	*1 Btu / h	114,300		136,500	
	*2 kcal / h	30,000		35,000	
	Power input kW	9.57		11.39	
	Current input A	16.1 / 15.3 / 14.7		19.2 / 18.2 / 17.6	
COP (kW / kW)		3.50		3.51	
Temp. range of cooling	Indoor	W.B.	15 ~ 24°C (59 ~ 75°F)		
	Outdoor	D.B.	- 5 ~ 43°C (23 ~ 109°F)		
Heating capacity (Nominal)	*3 kW	37.5		45.0	
	*3 kcal / h	32,300		38,700	
	*3 Btu / h	128,000		153,500	
	Power input kW	9.10		11.02	
	Current input A	15.3 / 14.5 / 14.0		18.6 / 17.6 / 17.0	
	COP (kW / kW)	4.12		4.08	
Temp. range of heating	Indoor temp.	D.B.	15 ~ 27°C (59 ~ 81°F)		
	Outdoor temp.	W.B.	- 20 ~ 15.5°C (- 4 ~ 60°F)		
Indoor unit connectable	Total capacity		50 ~ 150% of outdoor unit capacity		
	Model / Quantity		P20 ~ P250 / 1 ~ 16	P20 ~ P250 / 1 ~ 20	
Noise level (measured in anechoic room)		dB <A>	59 / 59	60 / 60	
Diameter of refrigerant pipe	Liquid (High press.)	mm (in.)	ø19.05 (ø3/4") Brazed	ø19.05 (ø3/4") Brazed	
	Gas (Low press.)	mm (in.)	ø22.2 (ø7/8") Brazed	ø28.58 (ø1-1/8") Brazed	

External finish			Pre-coated galvanized sheets (+ powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>				
External dimension H x W x D		mm	1,840 x 990 x 840				
		in.	72-1/2" x 39" x 33-1/8"				
Net weight		kg (lb)	251 (554)				
Heat exchanger			Salt-resistant cross fin & copper tube				
Compressor	Type		Inverter scroll hermetic comp.	Inverter scroll hermetic comp.			
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION				
	Starting method		Inverter				
	Motor output	kW	8.0	9.6			
	Case heater	kW	0.045 x 1 (240V)	0.045 x 1 (240V)			
	Lubricant		MEL32	MEL32			
FAN	Air flow rate	m³ / min	200	200			
		L / s	3,333	3,333			
		cfm	7,063	7,063			
	External static press.		0 Pa (0 mmH₂O)	0 Pa (0 mmH₂O)			
	Type x Quantity		Propeller fan x 1	Propeller fan x 1			
	Control, Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor			
HIC circuit (HIC: Heat Inter-Changer)	Motor output	kW	0.38	0.38			
	High pressure protection		-				
	Inverter circuit (COMP. / FAN)		High pressure sensor, High pressure switch 4.15 MPa (601 psi)				
	Compressor		Over-current protection, Over-heat protection				
Protection	Fan motor		Over-heat protection				
			Thermal switch				
	Defrosting method		Auto-defrost mode (Reversed refrigerant circle)				
Refrigerant	Type x Original charge		R410A x 13.0 kg (29 lb)	R410A x 13.0 kg (29 lb)			
	Control		Indoor LEV and BC controller				
Drawing	External		YGM-W656-809 1/2				
	Wiring		YGM-W274-614				
	Refrigerant circle		YGM-rcd-200-400ygm-R2				
Standard attachment	Document		Installation Manual				
	Accessory		Details refer to External Drw YGM-W656-809 1/2				
Optional parts			High static pressure motor : PAC-KBU04MT-F (60 Pa) Joint : CMY-Y102S-G, CMY-R160-J				
			BC controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016-G Main BC controller: CMB-P108, 1010, 1013, 1016-GA Sub BC controller: CMP-P104, 108V-GB				
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.				

Note :	*1 Nominal cooling conditions Indoor : 27°CDB/19°CWB (81°FDB/66°FWB) Outdoor : 35°CDB (95°FDB) Pipe length : 7.5 m (24-9/16 ft) Level difference : 0 m (0 ft)	*2 Nominal cooling conditions 27°CDB/19.5°CWB (81°FDB/67°FWB) 35°CDB (95°FDB) 5 m (16-3/8 ft) 0 m (0 ft)	*3 Nominal heating conditions 20°CDB (68°FDB) 7°CDB/6°CWB (45°FDB/43°FWB) 7.5 m (24-9/16 ft) 0 m (0 ft)	Unit converter kcal/h = kW x 860 Btu/h = kW x 3,412 cfm = m³/min x 35.31 lb = kg / 0.4536
* Nominal conditions *1, *3 are subject to JIS B8615-1. * Due to continuing improvement, above specifications may be subject to change without notice.				
* Above specification data is subject to rounding variation.				

# 1. SPECIFICATIONS

R410A Data G2

Model	PURY-P400YGM-A(-BS)			PURY-P450YGM-A(-BS)				
Power source	3-phase 4-wire 380-400-415V 50 / 60Hz							
Cooling capacity (Nominal)	*1 kW	45.0		50.0				
	*1 kcal / h	38,700		43,000				
	*1 Btu / h	153,500		170,600				
	*2 kcal / h	40,000		45,000				
	Power input kW	13.42		13.61				
	Current input A	22.6 / 21.5 / 20.7		22.9 / 21.8 / 21.0				
COP (kW / kW)		3.35		3.67				
Temp. range of cooling	Indoor	W.B.	15 ~ 24°C (59 ~ 75°F)					
	Outdoor	D.B.	- 5 ~ 43°C (23 ~ 109°F)					
Heating capacity (Nominal )	*3 kW	50.0		56.0				
	*3 kcal / h	43,000		48,200				
	*3 Btu / h	170,600		191,100				
	Power input kW	12.43		13.86				
	Current input A	20.9 / 19.9 / 19.2		23.3 / 22.2 / 21.4				
	COP (kW / kW)	4.02		4.04				
Temp. range of heating	Indoor temp.	D.B.	15 ~ 27°C (59 ~ 81°F)					
	Outdoor temp.	W.B.	- 20 ~ 15.5°C (- 4 ~ 60°F)					
Indoor unit connectable	Total capacity		50 ~ 150% of outdoor unit capacity					
	Model / Quantity		P20 ~ P250 / 1 ~ 24		P20 ~ P250 / 1 ~ 24			
Noise level (measured in anechoic room)		dB <A>	61 / 61		60 / 61			
Diameter of refrigerant pipe	Liquid (High press.)	mm (in.)	ø22.2 (ø7/8") Brazed		ø22.2 (ø7/8") Brazed			
	Gas (Low press.)	mm (in.)	ø28.58 (ø1-1/8") Brazed		ø28.58 (ø1-1/8") Brazed			

External finish	Pre-coated galvanized sheets (+ powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>									
External dimension H x W x D	mm	1,840 x 1,290 x 840		1,840 x 1,990 x 840						
	in.	72-1/2" x 50-13/16" x 33-1/8"		72-1/2" x 78-3/8" x 33-1/8"						
Net weight	kg (lb)	291 (642)		481 (1061)						
Heat exchanger	Salt-resistant cross fin & copper tube									
Compressor	Type	Inverter scroll hermetic comp.		Inverter scroll hermetic comp. + Scroll hermetic comp.						
	Manufacturer	AC&R Works, MITSUBISHI ELECTRIC CORPORATION								
	Starting method	Inverter		Inverter + Direct						
	Motor output kW	9.7		6.8 + 5.3						
	Case heater kW	0.045 x 1 (240V)		0.045 x 2 (240V)						
	Lubricant	MEL32								
FAN	Air flow rate m³ / min	240		400						
	L / s	4,000		6,667						
	cfm	8,476		14,126						
	External static press.	0 Pa (0 mmH₂O)		0 Pa (0 mmH₂O)						
	Type x Quantity	Propeller fan x 1		Propeller fan x 1						
	Control, Driving mechanism	Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor						
	Motor output kW	0.64		0.38 x 2						
HIC circuit (HIC: Heat Inter-Changer)	-									
Protection	High pressure protection	High pressure sensor, High pressure switch 4.15 MPa (601 psi)								
	Inverter circuit (COMP. / FAN)	Over-current protection, Over-heat protection								
	Compressor	Over-heat protection								
	Fan motor	Thermal switch								
Defrosting method	Auto-defrost mode (Reversed refrigerant circle)									
Refrigerant	Type x Original charge	R410A x 16.0 kg (36 lb)		R410A x 22.0 kg (49 lb)						
	Control	Indoor LEV and BC controller								
Drawing	External	YGM-W656-810 1/2		YGM-W656-811 1/2						
	Wiring	YGM-W274-614		YGM-W274-616						
	Refrigerant circle	YGM-rcd-200-400ygm-R2		YGM-rcd-450-650ygm-R2						
Standard attachment	Document	Installation Manual		Installation Manual						
	Accessory	Details refer to External Drw YGM-W656-810 1/2		Details refer to External Drw YGM-W656-811 1/2						
Optional parts	High static pressure motor : PAC-KBU04MT-F (60 Pa) Joint : CMY-Y102S-G,CMY-R160-J Main BC controller: CMB-P108, 1010, 1013, 1016-GA Sub BC controller: CMP-P104, 108V-GB									
Remark	Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.									

Note :	**1 Nominal cooling conditions Indoor : 27°CDB/19°CWB (81°FDB/66°FWB) Outdoor : 35°CDB (95°FDB) Pipe length : 7.5 m (24-9/16 ft) Level difference : 0 m (0 ft)	**2 Nominal cooling conditions 27°CDB/19.5°CWB (81°FDB/67°FWB) 35°CDB (95°FDB) 5 m (16-3/8 ft) 0 m (0 ft)	**3 Nominal heating conditions 20°CDB (68°FDB) 7°CDB/6°CWB (45°FDB/43°FWB) 7.5 m (24-9/16 ft) 0 m (0 ft)	Unit converter kcal/h = kW x 860 Btu/h = kW x 3,412 cfm = m³/min x 35.31 lb = kg / 0.4536
* Nominal conditions **1, **3 are subject to JIS B8615-1. * Due to continuing improvement, above specifications may be subject to change without notice.				
* Above specification data is subject to rounding variation.				

# 1. SPECIFICATIONS

R410A Data G2

Model		PURY-P500YGM-A(-BS)		PURY-P550YGM-A(-BS)	
Power source		3-phase 4-wire 380-400-415V 50 / 60Hz			
Cooling capacity (Nominal)	*1 kW	56.0		63.0	
	*1 kcal / h	48,200		54,200	
	*1 Btu / h	191,100		215,000	
	*2 kcal / h	50,000		55,000	
	Power input kW	15.59		17.08	
	Current input A	26.3 / 25.0 / 24.0		28.8 / 27.3 / 26.4	
COP (kW / kW)		3.59		3.69	
Temp. range of cooling	Indoor	W.B.	15 ~ 24°C (59 ~ 75°F)		
	Outdoor	D.B.	- 5 ~ 43°C (23 ~ 109°F)		
Heating capacity (Nominal)	*3 kW	63.0		67.0	
	*3 kcal / h	54,200		57,600	
	*3 Btu / h	215,000		228,600	
	Power input kW	15.89		16.37	
	Current input A	26.8 / 25.4 / 24.5		27.6 / 26.2 / 25.3	
	COP (kW / kW)	3.96		4.09	
Temp. range of heating	Indoor temp.	D.B.	15 ~ 27°C (59 ~ 81°F)		
	Outdoor temp.	W.B.	- 20 ~ 15.5°C (- 4 ~ 60°F)		
Indoor unit connectable	Total capacity		50 ~ 150% of outdoor unit capacity		
	Model / Quantity		P20 ~ P250 / 1 ~ 24	P20 ~ P250 / 2 ~ 24	
Noise level (measured in anechoic room)		dB <A>	60 / 61	61 / 62	
Diameter of refrigerant pipe	Liquid (High press.)	mm (in.)	ø22.2 (ø7/8") Brazed	ø28.58 (ø1-1/8") Brazed	
	Gas (Low press.)	mm (in.)	ø28.58 (ø1-1/8") Brazed	ø28.58 (ø1-1/8") Brazed	

External finish			Pre-coated galvanized sheets (+ powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>				
External dimension H x W x D		mm	1,840 x 1,990 x 840				
		in.	72-1/2" x 78-3/8" x 33-1/8"				
Net weight		kg (lb)	481 (1061)				
Heat exchanger			Salt-resistant cross fin & copper tube				
Compressor	Type		Inverter scroll hermetic comp. + Scroll hermetic comp.	Inverter scroll hermetic comp. + Scroll hermetic comp.			
	Manufacturer		AC&R Works, MITSUBISHI ELECTRIC CORPORATION				
	Starting method		Inverter + Direct				
	Motor output	kW	8.2 + 5.3	9.3 + 5.3			
	Case heater	kW	0.045 x 2 (240V)	0.045 x 2 (240V)			
	Lubricant		MEL32	MEL32			
FAN	Air flow rate	m³ / min	400	400			
		L / s	6,667	6,667			
		cfm	14,126	14,126			
	External static press.		0 Pa (0 mmH₂O)	0 Pa (0 mmH₂O)			
	Type x Quantity		Propeller fan x 2	Propeller fan x 2			
	Control, Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor			
HIC circuit (HIC: Heat Inter-Changer)	Motor output	kW	0.38 x 2	0.38 x 2			
	High pressure protection		-				
	Inverter circuit (COMP. / FAN)		High pressure sensor, High pressure switch 4.15 MPa (601 psi)				
	Compressor		Over-current protection, Over-heat protection				
Defrosting method	Fan motor		Over-heat protection				
	High pressure protection		Thermal switch				
	Inverter circuit (COMP. / FAN)		-				
	Compressor		Auto-defrost mode (Reversed refrigerant circle)				
Refrigerant	Type x Original charge		R410A x 22.0 kg (49 lb)	R410A x 22.0 kg (49 lb)			
	Control		Indoor LEV and BC controller				
Drawing	External		YGM-W656-811 1/2				
	Wiring		YGM-W274-616				
	Refrigerant circle		YGM-rcd-450-650ygm-R2				
Standard attachment	Document		Installation Manual				
	Accessory		Details refer to External Drw YGM-W656-811 1/2				
Optional parts			High static pressure motor : PAC-KBU04MT-F (60 Pa) Joint : CMY-Y102S-G, CMY-R160-J Main BC controller: CMB-P108, 1010, 1013, 1016-GA Sub BC controller: CMP-P104, 108V-GB				
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.				

Note :	*1 Nominal cooling conditions Indoor : 27°CDB/19°CWB (81°FDB/66°FWB) Outdoor : 35°CDB (95°FDB) Pipe length : 7.5 m (24.9/16 ft) Level difference : 0 m (0 ft)	*2 Nominal cooling conditions 27°CDB/19.5°CWB (81°FDB/67°FWB) 35°CDB (95°FDB) 5 m (16-3/8 ft) 0 m (0 ft)	*3 Nominal heating conditions 20°CDB (68°FDB) 7°CDB/6°CWB (45°FDB/43°FWB) 7.5 m (24.9/16 ft) 0 m (0 ft)	Unit converter kcal/h = kW x 860 Btu/h = kW x 3,412 cfm = m³/min x 35.31 lb = kg / 0.4536
* Nominal conditions *1, *3 are subject to JIS B8615-1. * Due to continuing improvement, above specifications may be subject to change without notice.				

# 1. SPECIFICATIONS

R410A Data G2

Model		PURY-P600YGM-A(-BS)		PURY-P650YGM-A(-BS)			
Power source		3-phase 4-wire 380-400-415V 50 / 60Hz					
Cooling capacity (Nominal)	*1 kW	67.4 58,000 230,000	73.0 62,800 249,100				
	*1 kcal / h						
	*1 Btu / h						
	*2 kcal / h	60,000	65,000				
	Power input kW	17.59	19.65				
	Current input A	29.6 / 28.2 / 27.1	33.1 / 31.5 / 30.3				
COP (kW / kW)		3.83	3.72				
Temp. range of cooling	Indoor	W.B.	15 ~ 24°C (59 ~ 75°F)				
	Outdoor	D.B.	- 5 ~ 43°C (23 ~ 109°F)				
Heating capacity (Nominal)	*3 kW	75.0 64,500 255,900	81.5 70,100 278,100				
	*3 kcal / h						
	*3 Btu / h						
	Power input kW	17.73	19.82				
	Current input A	29.9 / 28.4 / 27.4	33.4 / 31.7 / 30.6				
	COP (kW / kW)	4.23	4.11				
Temp. range of heating	Indoor temp.	D.B.	15 ~ 27°C (59 ~ 81°F)				
	Outdoor temp.	W.B.	- 20 ~ 15.5°C (-4 ~ 60°F)				
Indoor unit connectable	Total capacity		50 ~ 150% of outdoor unit capacity				
	Model / Quantity		P20 ~ P250 / 2 ~ 32	P20 ~ P250 / 2 ~ 32			
Noise level (measured in anechoic room)		dB <A>	61 / 62	62 / 62.5			
Diameter of refrigerant pipe	Liquid (High press.)	mm (in.)	ø28.58 (ø1-1/8") Brazed				
	Gas (Low press.)	mm (in.)	ø28.58 (ø1-1/8") Brazed				

External finish			Pre-coated galvanized sheets (+ powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>					
External dimension H x W x D		mm	1,840 x 1,990 x 840					
		in.	72-1/2" x 78-3/8" x 33-1/8"					
Net weight		kg (lb)	481 (1061)					
Heat exchanger			Salt-resistant cross fin & copper tube					
Compressor	Type	Inverter scroll hermetic comp. + Scroll hermetic comp.			Inverter scroll hermetic comp. + Scroll hermetic comp.			
	Manufacturer	AC&R Works, MITSUBISHI ELECTRIC CORPORATION						
	Starting method	Inverter + Direct						
	Motor output kW	10.1 + 5.3			10.9 + 5.3			
	Case heater kW	0.045 x 2 (240V)			0.045 x 2 (240V)			
FAN	Lubricant	MEL32						
	Air flow rate m³ / min	400			400			
	L / s	6,667			6,667			
	cfm	14,126			14,126			
	External static press.	0 Pa (0 mmH₂O)			0 Pa (0 mmH₂O)			
Type x Quantity		Propeller fan x 2			Propeller fan x 2			
Control, Driving mechanism		Inverter-control, Direct-driven by motor			Inverter-control, Direct-driven by motor			
Motor output kW		0.38 x 2			0.38 x 2			
HIC circuit (HIC: Heat Inter-Changer)			-					
Protection	High pressure protection	High pressure sensor, High pressure switch 4.15 MPa (601 psi)						
	Inverter circuit (COMP. / FAN)	Over-current protection, Over-heat protection						
	Compressor	Over-heat protection						
	Fan motor	Thermal switch						
Defrosting method			Auto-defrost mode (Reversed refrigerant circle)					
Refrigerant	Type x Original charge	R410A x 22.0 kg (49 lb)			R410A x 22.0 kg (49 lb)			
	Control	Indoor LEV and BC controller						
Drawing	External	YGM-W656-811 1/2						
	Wiring	YGM-W274-616						
	Refrigerant circle	YGM-rcd-450-650ygm-R2						
Standard attachment	Document	Installation Manual						
	Accessory	Details refer to External Drw YGM-W656-811 1/2						
Optional parts			High static pressure motor : PAC-KBU04MT-F (60 Pa) Joint : CMY-Y102S/L-G, CMY-Y202/302-G Main BC controller: CMB-P108, 1010, 1013, 1016-GA Sub BC controller: CMP-P104, 108V-GB					
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.					

Note :	*1 Nominal cooling conditions Indoor : 27°CDB/19°CWB (81°FDB/66°FWB) Outdoor : 35°CDB (95°FDB) Pipe length : 7.5 m (24-9/16 ft) Level difference : 0 m (0 ft)	*2 Nominal cooling conditions 27°CDB/19.5°CWB (81°FDB/67°FWB) 35°CDB (95°FDB) 5 m (16-3/8 ft) 0 m (0 ft)	*3 Nominal heating conditions 20°CDB (68°FDB) 7°CDB/6°CWB (45°FDB/43°FWB) 7.5 m (24-9/16 ft) 0 m (0 ft)	Unit converter kcal/h = kW x 860 Btu/h = kW x 3,412 cfm = m³/min x 35.31 lb = kg / 0.4536
* Nominal conditions *1, *3 are subject to JIS B8615-1. * Due to continuing improvement, above specifications may be subject to change without notice.				

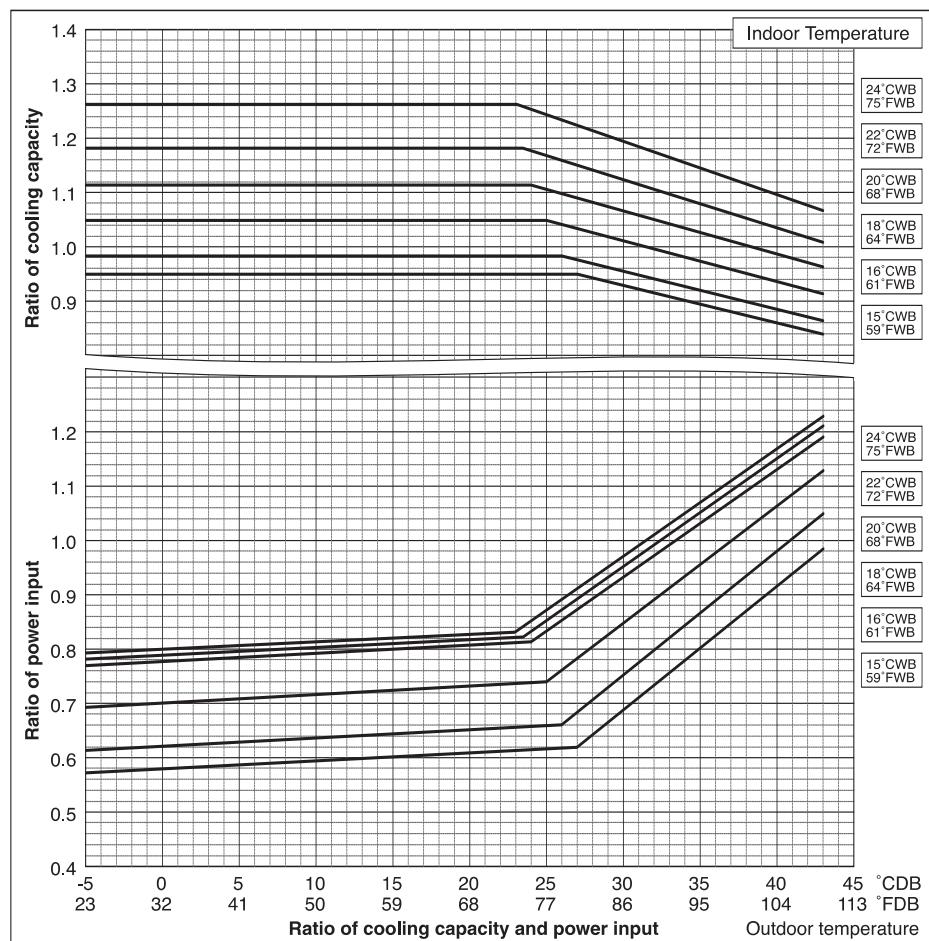
## 2. CAPACITY TABLES

R410A Data G2

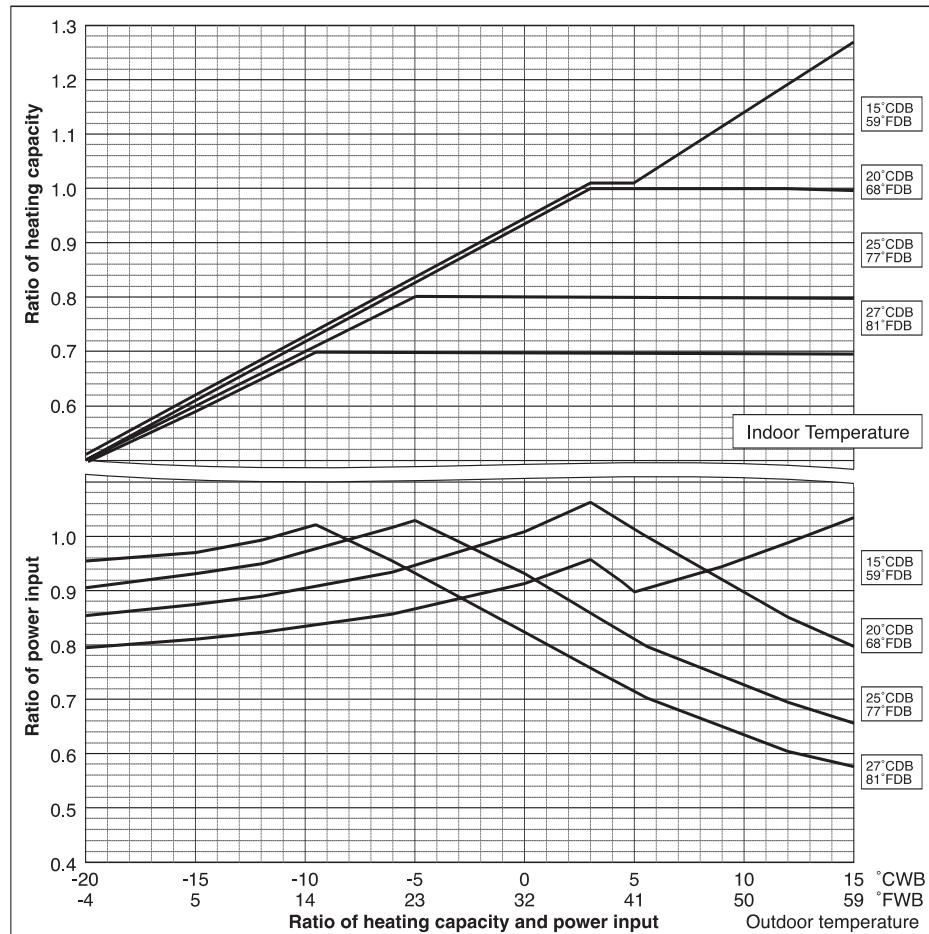
### 2-1. Correction by temperature

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

PURY-	P200YGM	P250YGM
Nominal	kW	22.4
Cooling	kcal/h	19,300
Capacity	Btu/h	76,400
Input	kW	6.14
		7.72



PURY-	P200YGM	P250YGM
Nominal	kW	25.0
Heating	kcal/h	21,500
Capacity	Btu/h	85,300
Input	kW	5.98
		7.62



## 2. CAPACITY TABLES

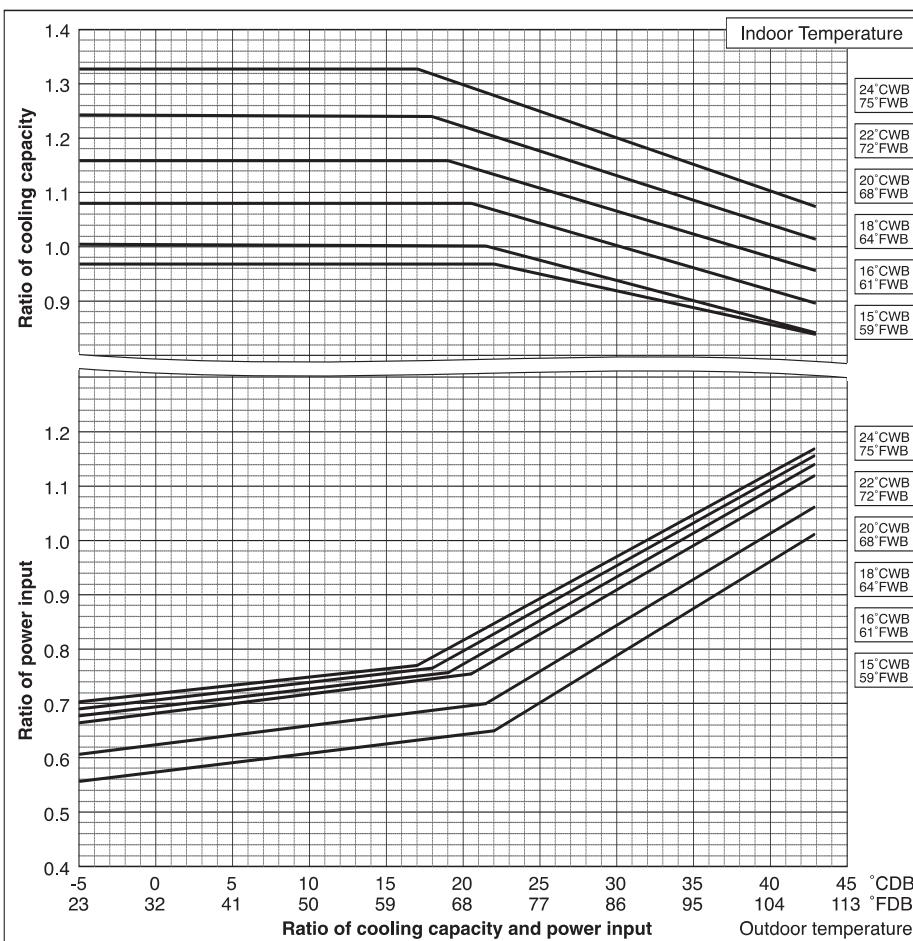
R410A Data G2

### 2-1. Correction by temperature

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

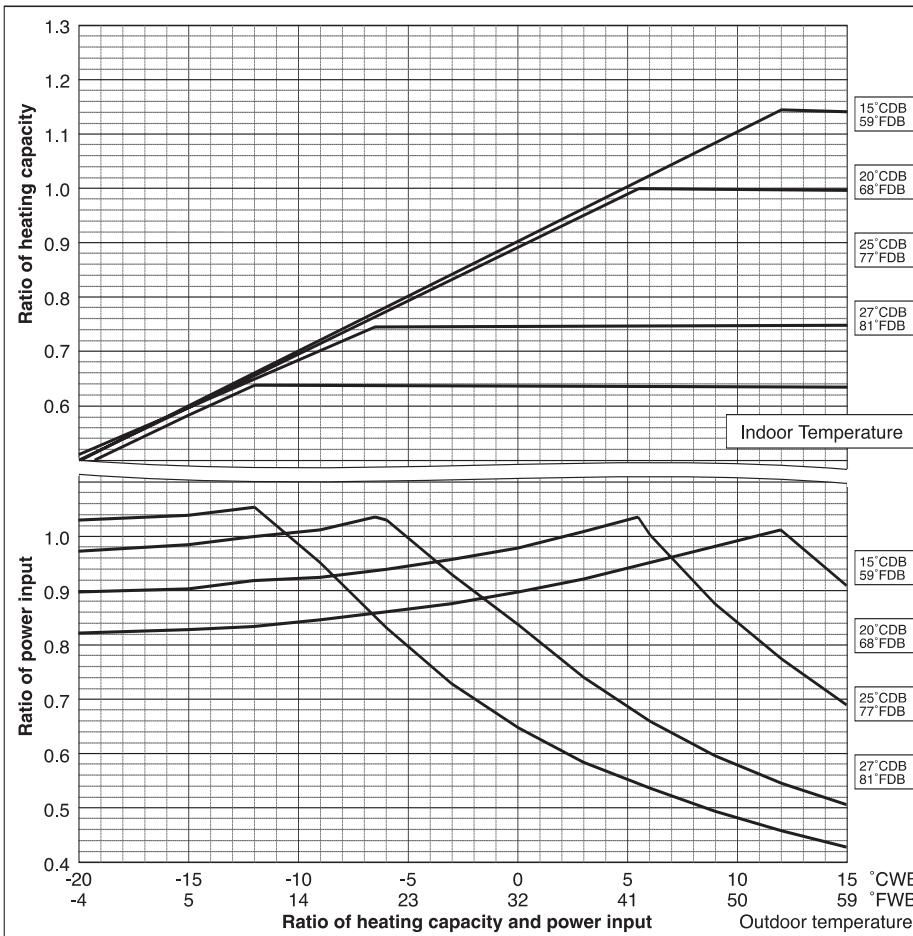
PURY-	P300YGM	P350YGM
Nominal Cooling Capacity	kW	33.5
	kcal/h	28,800
	Btu/h	114,300
Input	kW	9.57

PURY-	P400YGM	
Nominal Cooling Capacity	kW	45.0
	kcal/h	38,700
	Btu/h	153,500
Input	kW	13.42



PURY-	P300YGM	P350YGM
Nominal Heating Capacity	kW	37.5
	kcal/h	32,300
	Btu/h	128,000
Input	kW	9.10

PURY-	P400YGM	
Nominal Heating Capacity	kW	50.0
	kcal/h	43,000
	Btu/h	170,600
Input	kW	12.43



## 2. CAPACITY TABLES

R410A Data G2

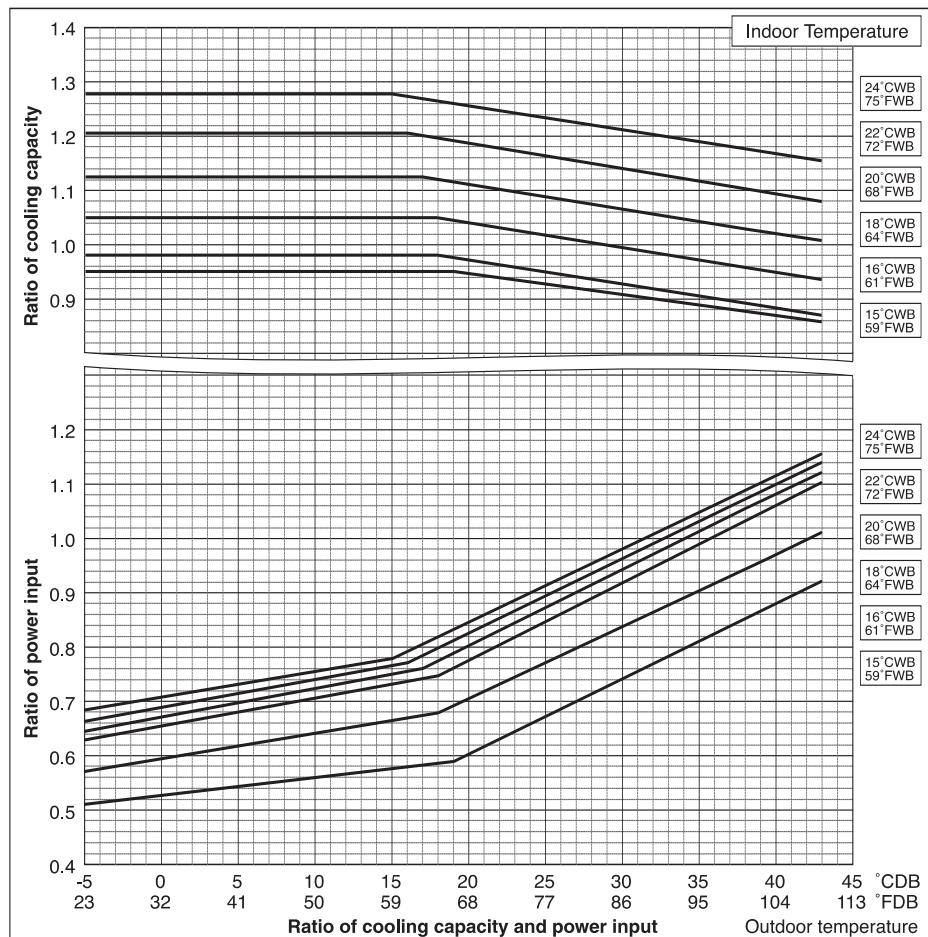
### 2-1. Correction by temperature

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

PURY-	P450YGM	P500YGM
Nominal	kW	50.0
Cooling	kcal/h	43,000
Capacity	Btu/h	170,600
Input	kW	13.61

PURY-	P550YGM	P600YGM
Nominal	kW	63.0
Cooling	kcal/h	54,200
Capacity	Btu/h	215,000
Input	kW	17.08

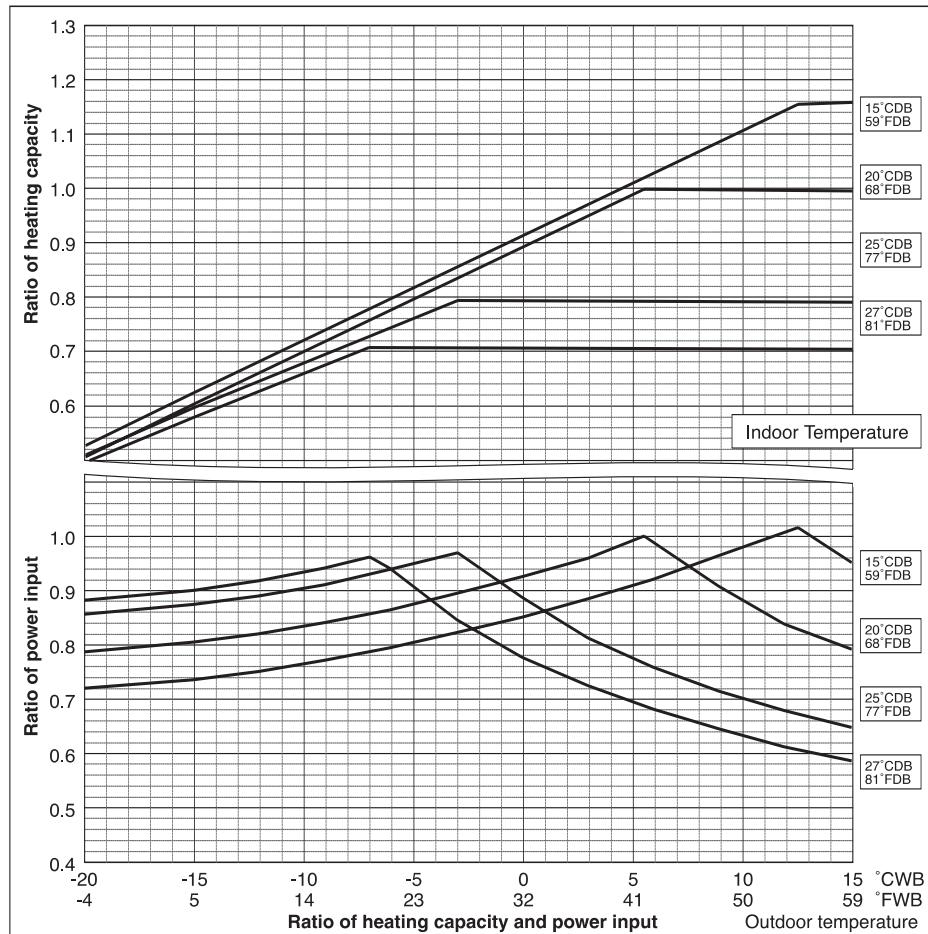
PURY-	P650YGM	
Nominal	kW	73.0
Cooling	kcal/h	62,800
Capacity	Btu/h	249,100
Input	kW	19.65



PURY-	P450YGM	P500YGM
Nominal	kW	56.0
Heating	kcal/h	48,200
Capacity	Btu/h	191,100
Input	kW	13.86

PURY-	P550YGM	P600YGM
Nominal	kW	67.0
Heating	kcal/h	57,600
Capacity	Btu/h	228,600
Input	kW	16.37

PURY-	P650YGM	
Nominal	kW	81.5
Heating	kcal/h	70,100
Capacity	Btu/h	278,100
Input	kW	19.82

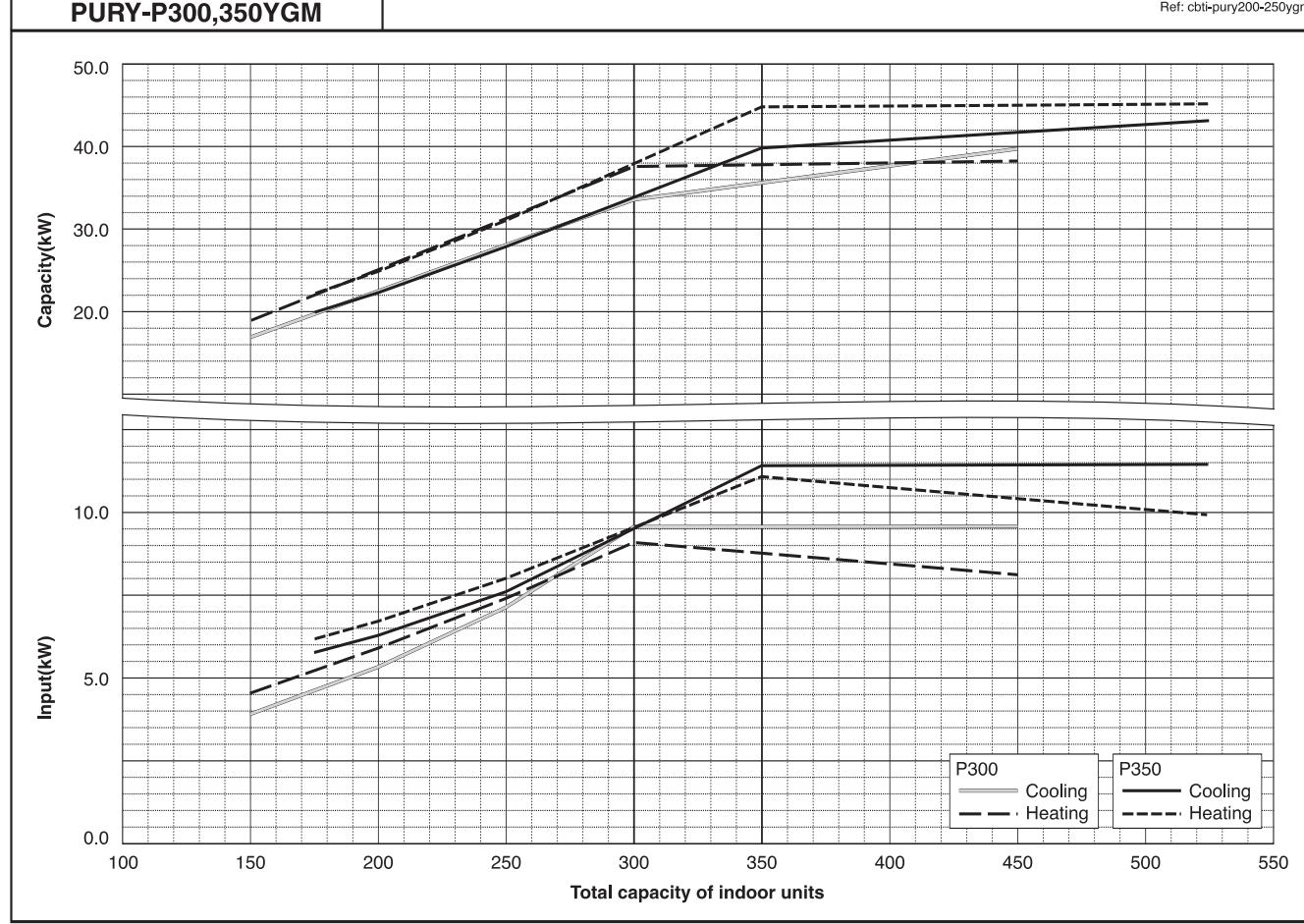
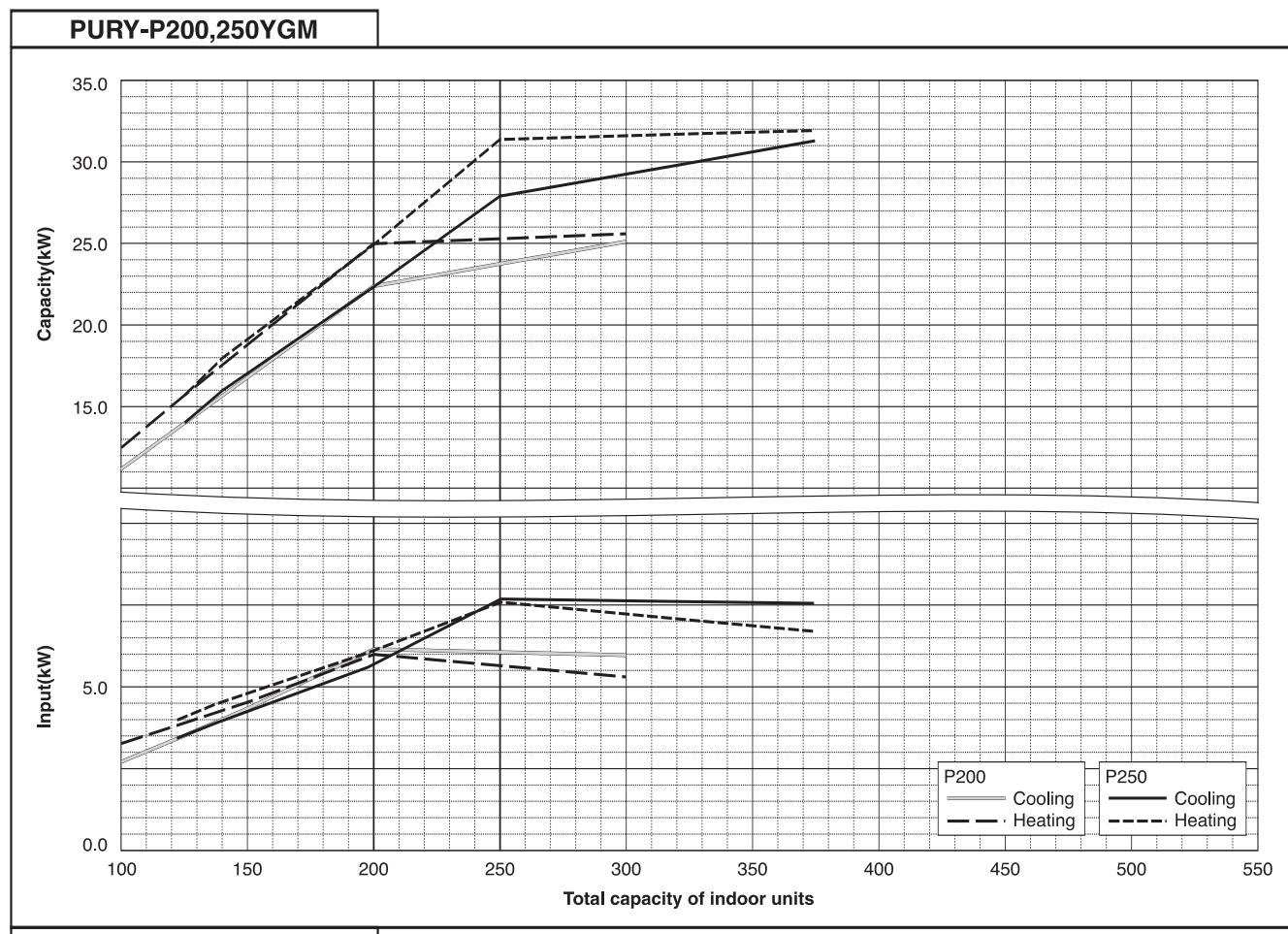


## 2. CAPACITY TABLES

R410A Data G2

### 2-2. Correction by total indoor

CITY MULTI™ system has different capacity and input at different total capacity of indoor unit connected. Using following tables, the maximum capacity can be observed so as to ensure the system having enough capacity.

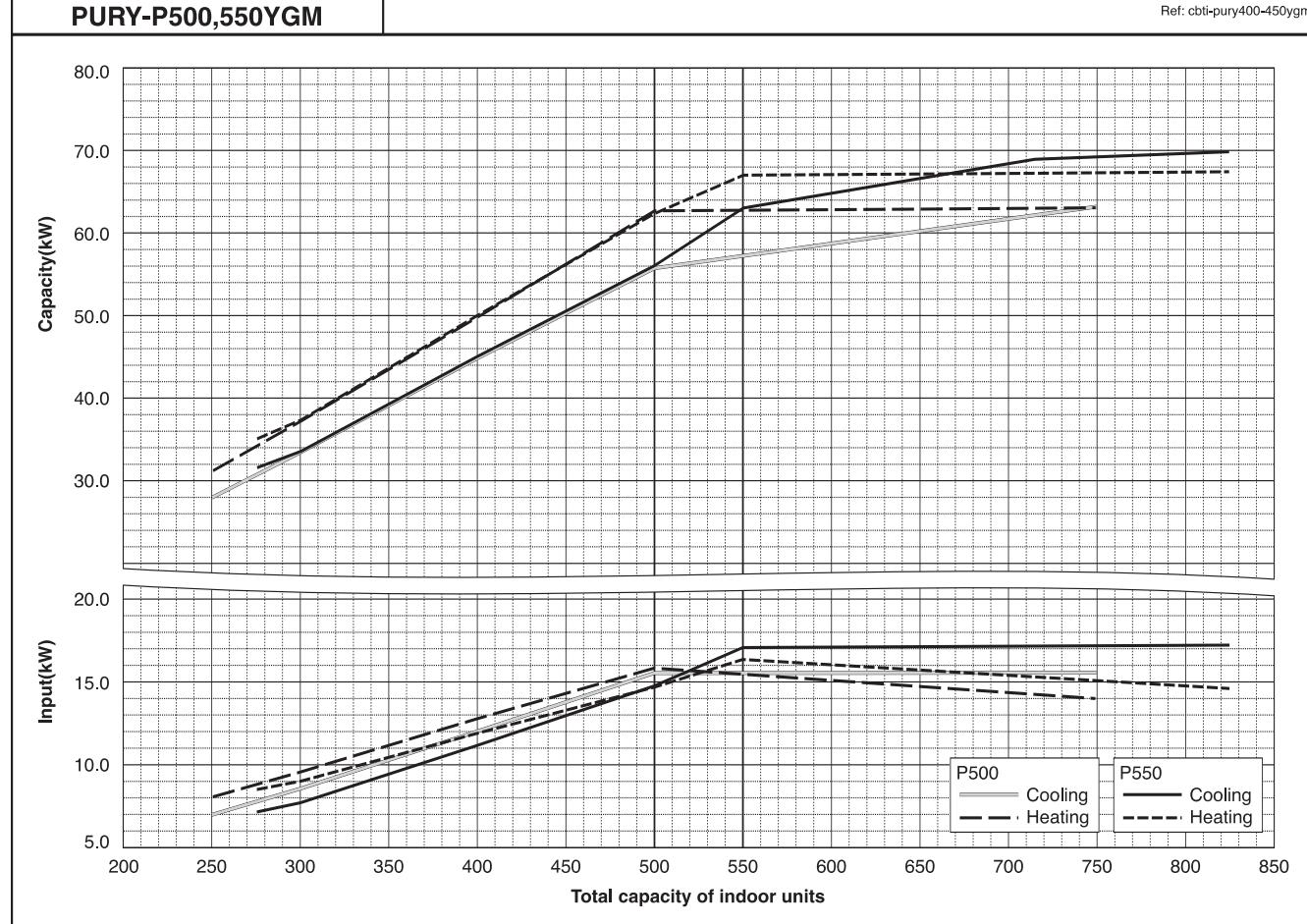
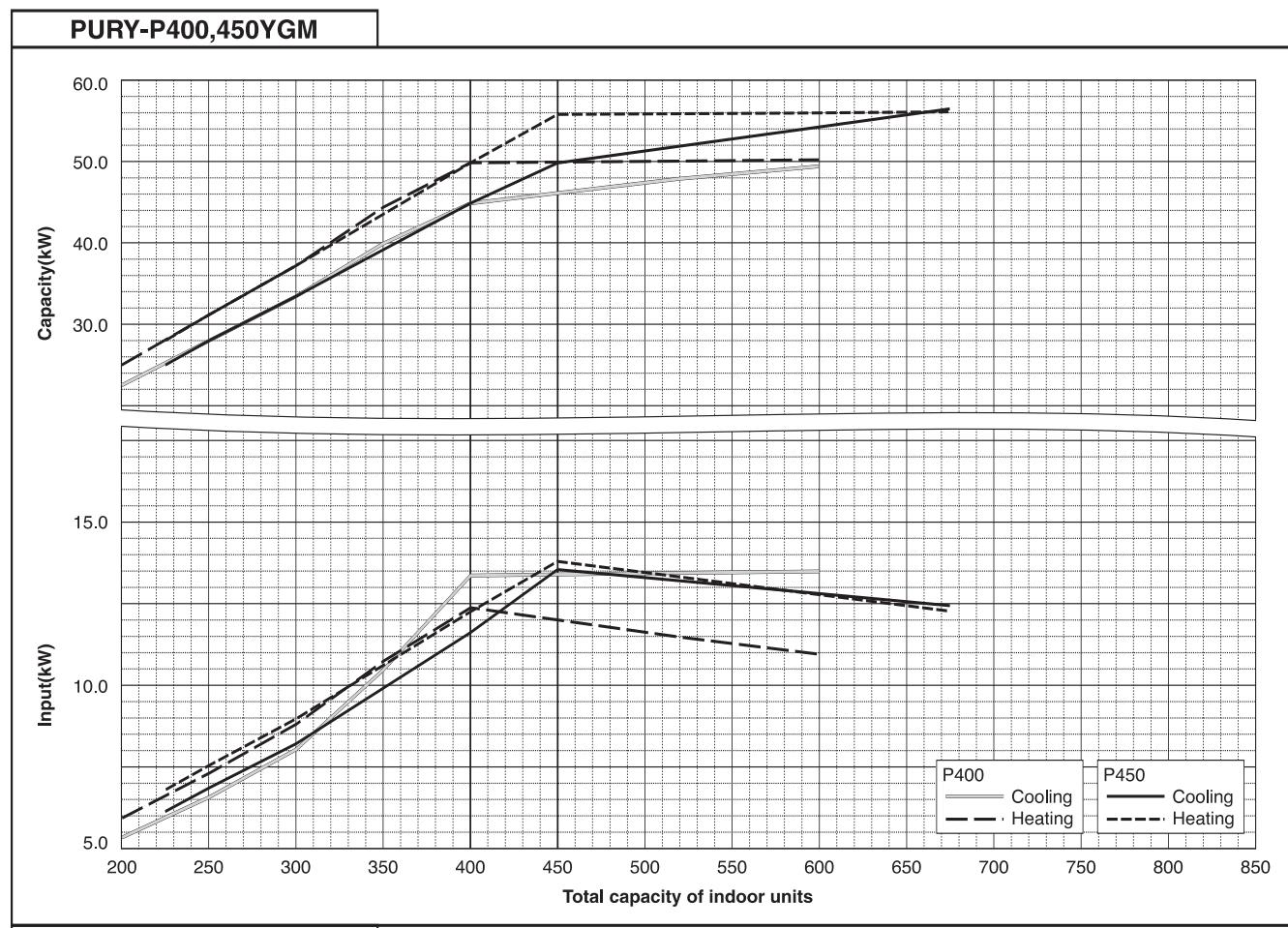


## 2. CAPACITY TABLES

R410A Data G2

### 2-2. Correction by total indoor

CITY MULTI™ system has different capacity and input at different total capacity of indoor unit connected. Using following tables, the maximum capacity can be observed so as to ensure the system having enough capacity.

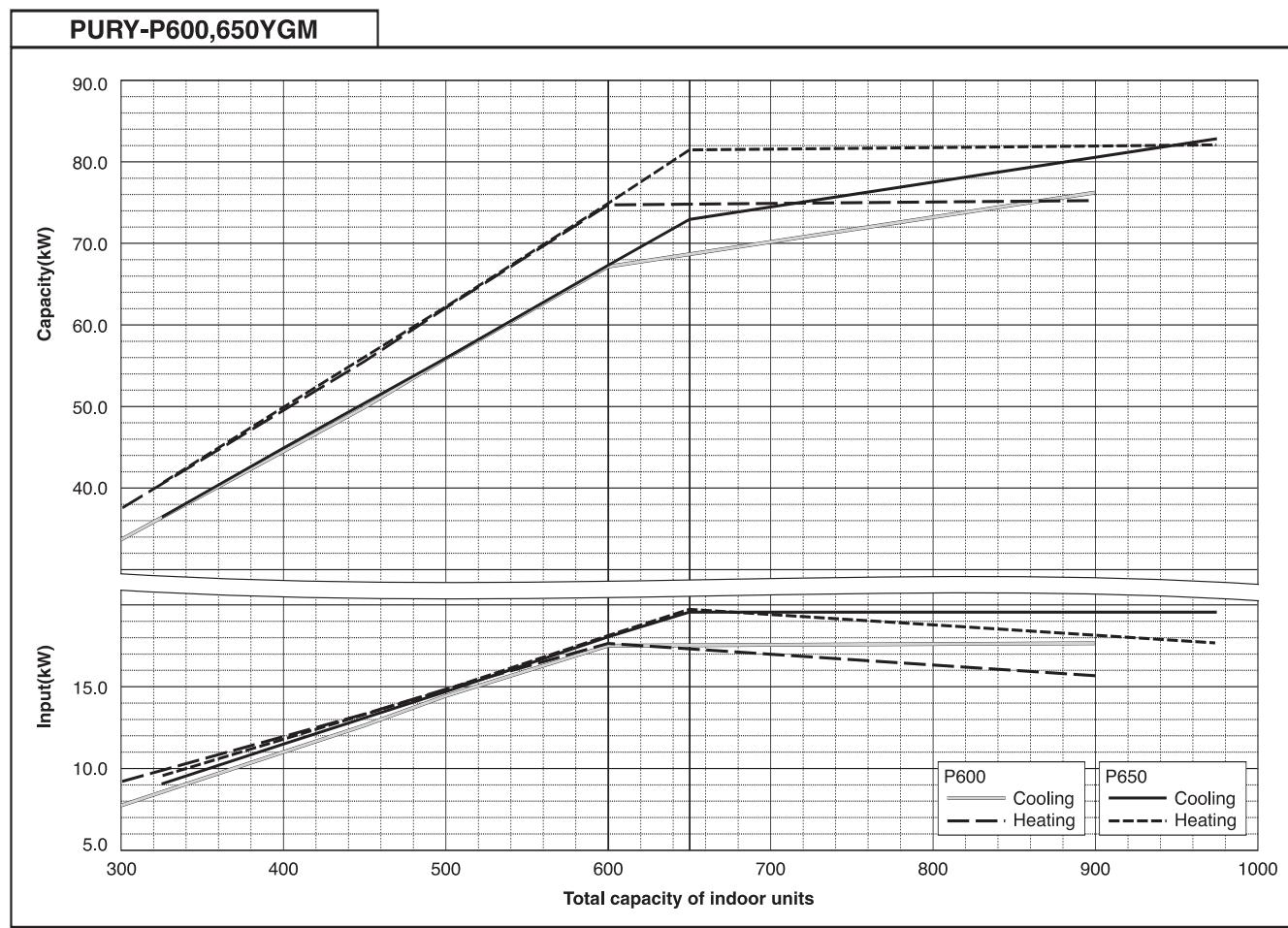


## 2. CAPACITY TABLES

R410A Data G2

### 2-2. Correction by total indoor

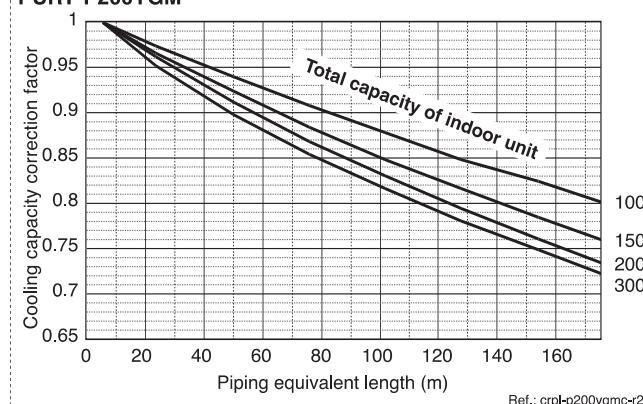
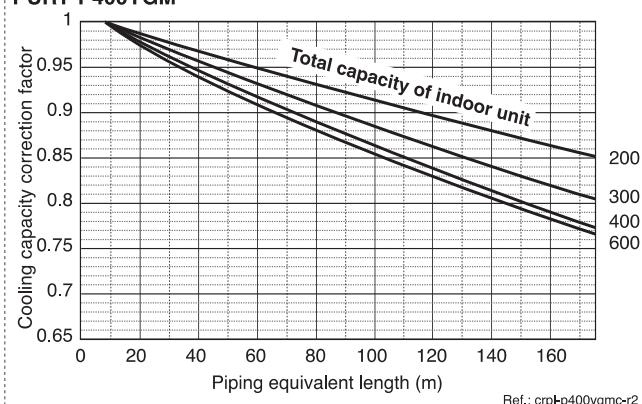
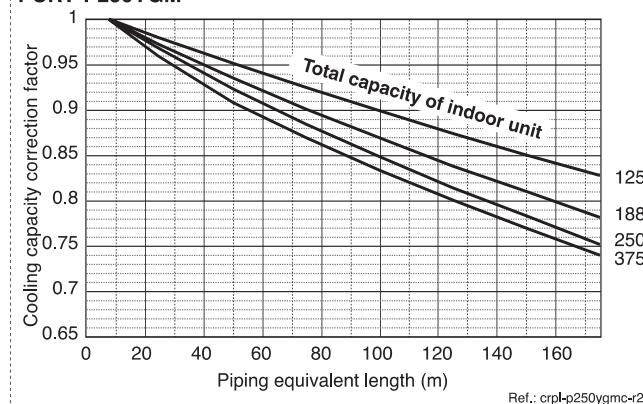
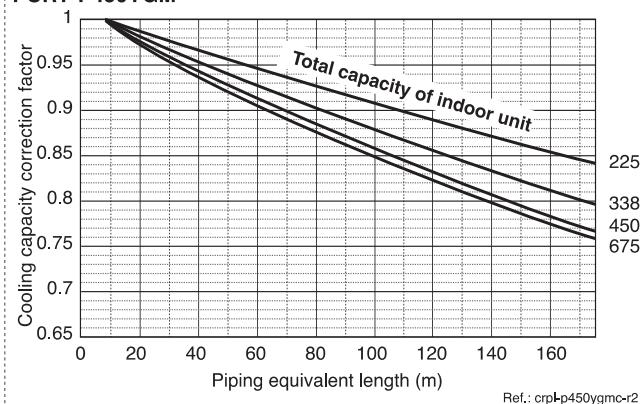
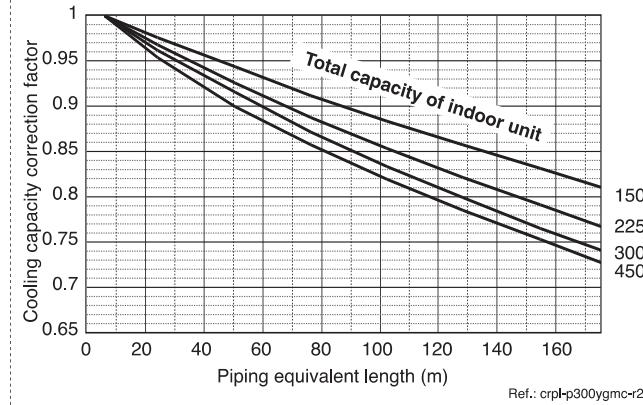
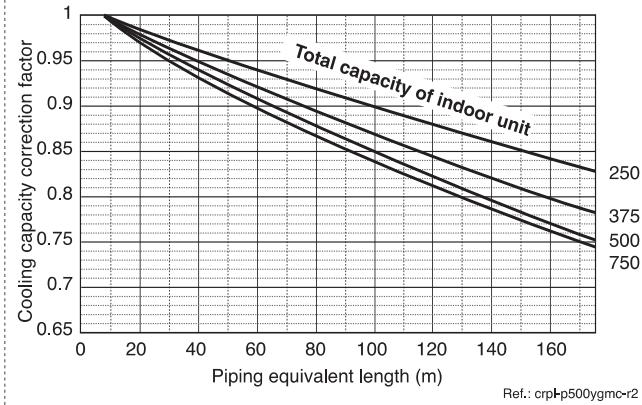
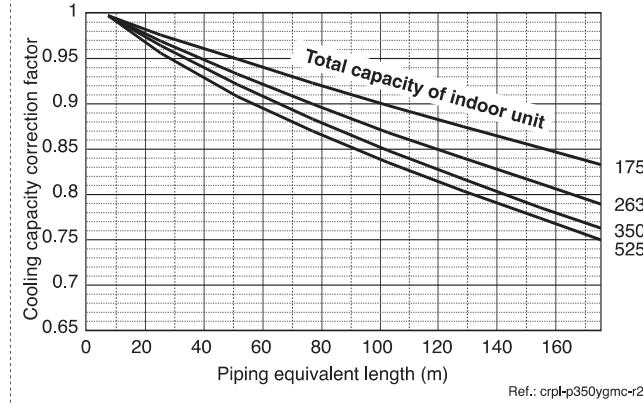
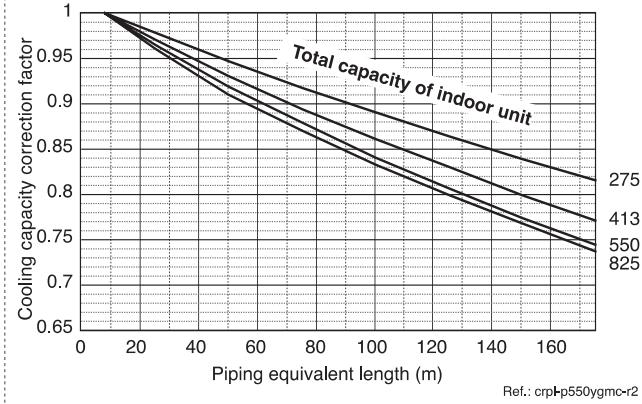
CITY MULTI™ system has different capacity and input at different total capacity of indoor unit connected. Using following tables, the maximum capacity can be observed so as to ensure the system having enough capacity.



### 2-3. Correction by refrigerant piping length

CITY MULTI™ system can extend the piping flexibly within its limitation for the actual situation. Yet, a decrease of cooling/heating capacity could happen correspondently. Using following correction factor according to the equivalent length of the piping shown at 2.3a and 2.3b, the capacity can be observed. 2.3c shows how to obtain the equivalent length of piping.

#### 2-3a. Cooling capacity correction

**PURY-P200YGM**

**PURY-P400YGM**

**PURY-P250YGM**

**PURY-P450YGM**

**PURY-P300YGM**

**PURY-P500YGM**

**PURY-P350YGM**

**PURY-P550YGM**


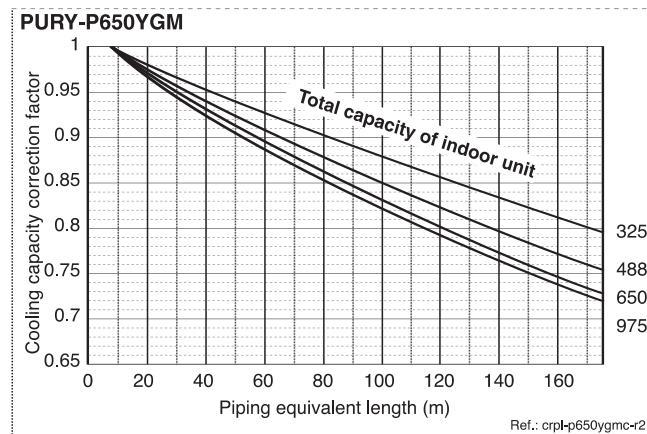
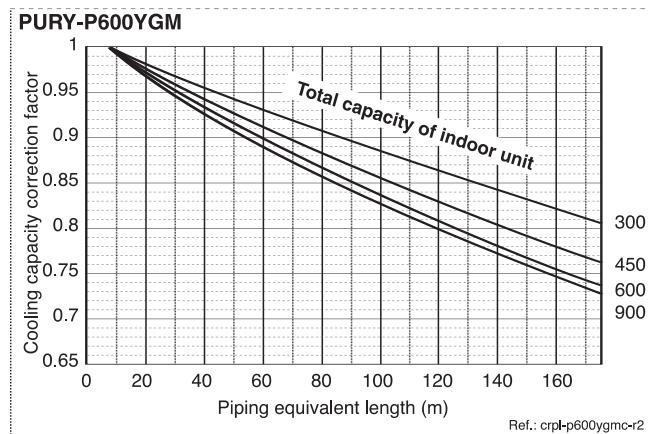
## 2. CAPACITY TABLES

R410A Data G2

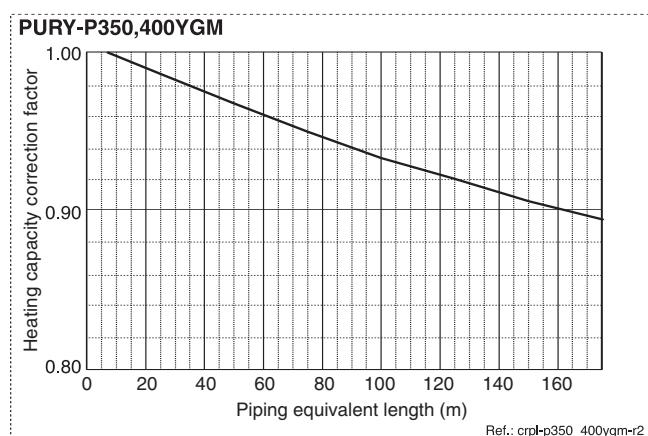
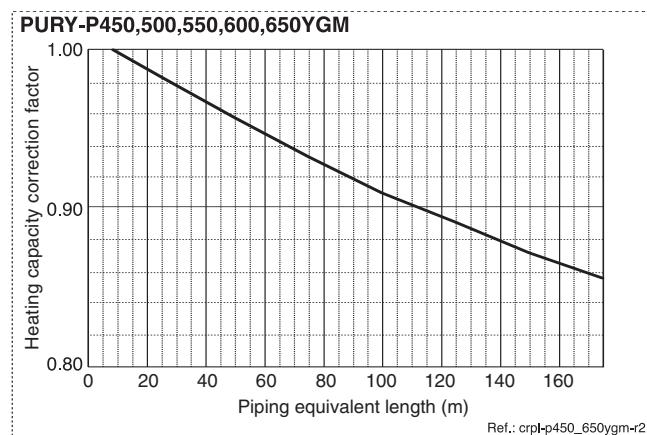
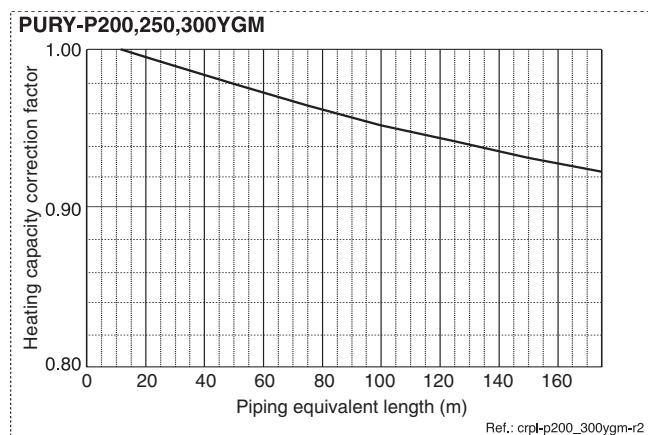
### 2-3. Correction by refrigerant piping length

CITY MULTI™ system can extend the piping flexibly within its limitation for the actual situation. Yet, a decrease of cooling/heating capacity could happen correspondently. Using following correction factor according to the equivalent length of the piping shown at 2.3a and 2.3b, the capacity can be observed. 2.3c shows how to obtain the equivalent length of piping.

#### 2-3a. Cooling capacity correction



#### 2-3b. Heating capacity correction



#### 2-3c. How to obtain the equivalent length of piping

##### 1 PU(H)Y, PURY-P200YGM

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

##### 2 PU(H)Y, PURY-P250,300YGM

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

##### 3 PU(H)Y, PURY-P350YGM

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.47 x number of bent on the piping) m

##### 4 PUHY, PURY-P400,450,500,550,600,650YGM

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

##### 5 PUHY-P700,750,800YSGM

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

##### 6 PUHY-P850,900,950,1000,1050,1100,1150,1200,1250YSGM

Equivalent length = (Actual piping length to the farthest indoor unit) + (0.95 x number of bent on the piping) m

## 2-4. Correction at frosting and defrosting

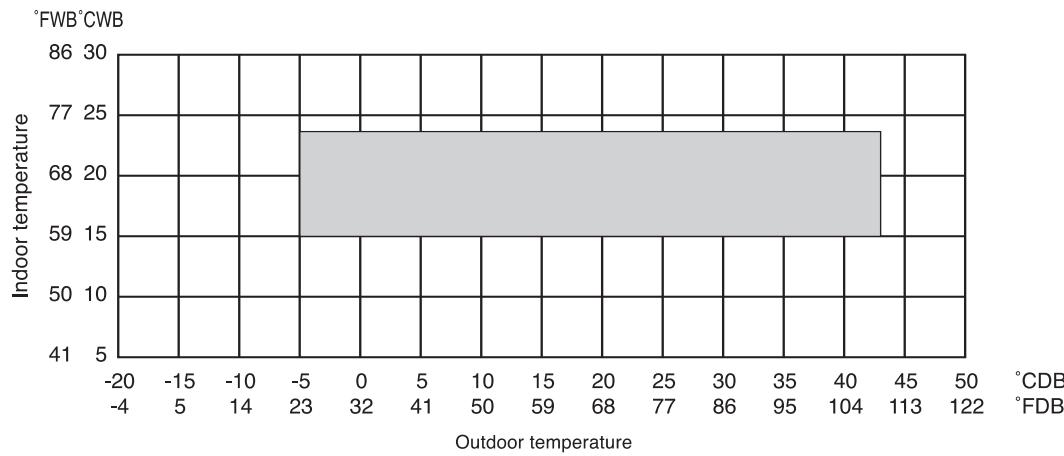
Due to frosting at the outdoor heat exchanger and the automatical defrosting operation, the heating capacity of the outdoor unit should be considered by multiplying the correction factor which shown in the table below.

Table of correction factor at frosting and defrosting

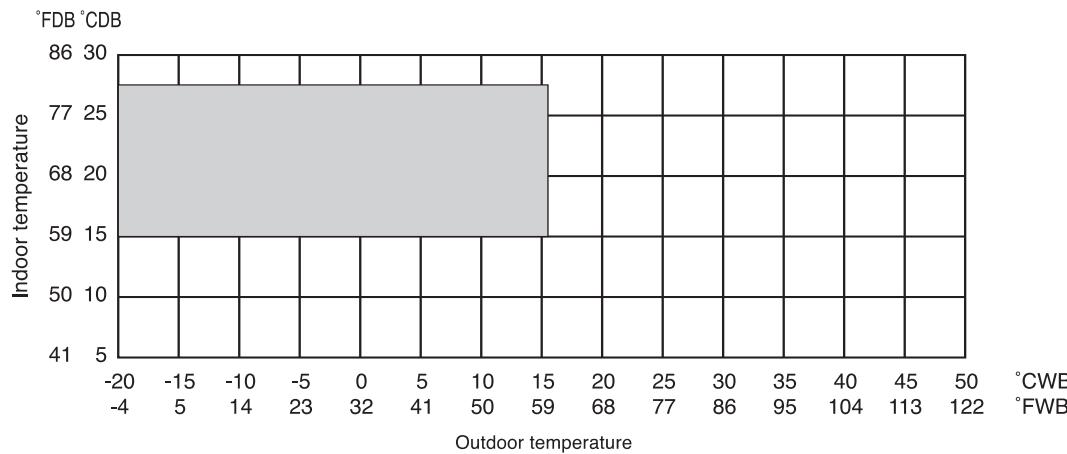
Outdoor inlet air temp. °C	6	4	2	1	0	-2	-4	-6	-8	-10	-20
Outdoor inlet air temp. °F	43	39	36	34	32	28	25	21	18	14	-4
PUHY,PUY,PURY-P200,250YGM	1.0	0.95	0.84	0.83	0.83	0.87	0.90	0.95	0.95	0.95	0.95
PUHY,PUY,PURY-P300YGM	1.0	0.93	0.82	0.80	0.82	0.86	0.90	0.90	0.95	0.95	0.95
PUHY,PUY,PURY-P350YGM	1.0	0.93	0.85	0.83	0.84	0.86	0.90	0.90	0.95	0.95	0.95
PUHY,PURY-P400YGM	1.0	0.95	0.90	0.87	0.88	0.89	0.90	0.95	0.95	0.95	0.95
PUHY,PURY-P450,500YGM	1.0	0.98	0.89	0.86	0.89	0.90	0.92	0.95	0.95	0.95	0.95
PUHY,PURY-P550,600,650YGM	1.0	0.94	0.87	0.86	0.87	0.88	0.90	0.90	0.93	0.93	0.93
PUHY,PURY-P700,750,800YSGM	1.0	0.98	0.89	0.879	0.89	0.90	0.92	0.95	0.95	0.95	0.95
PUHY-P850,900,950,1000YSGM	1.0	0.94	0.87	0.86	0.87	0.88	0.90	0.90	0.93	0.93	0.93
PUHY-P1050,1100,1150,1200,1250YSGM	1.0	0.94	0.87	0.86	0.87	0.88	0.90	0.90	0.93	0.93	0.93

## 2-5. Temp. range of running

- Cooling



- Heating

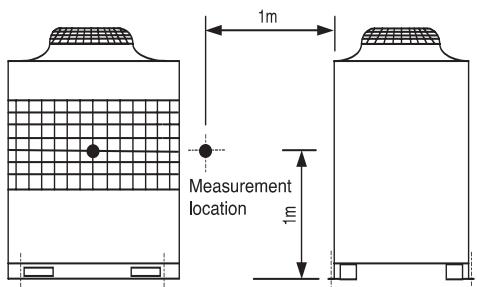


Ref.: tr-ygm-r2

### 3. SOUND LEVELS

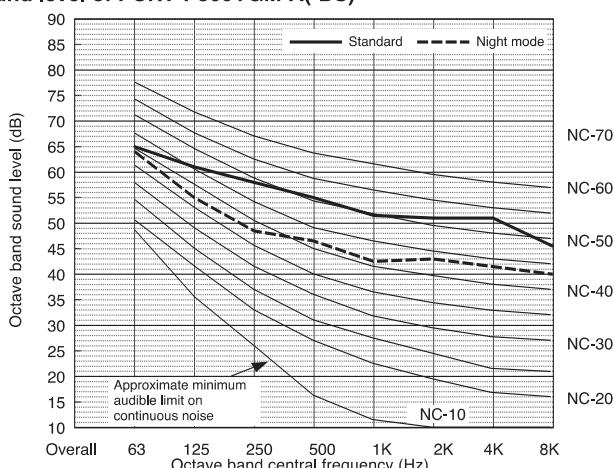
R410A Data G2

#### Measurement condition PURY-P200,250,300,350,400YGM



#### Sound level of PURY-P300YGM-A(-BS)

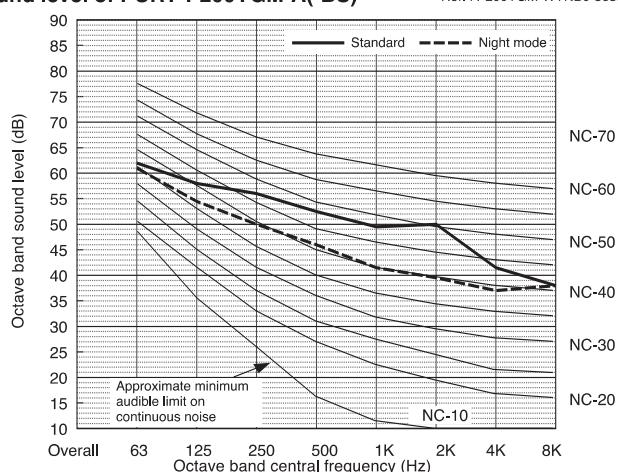
Ref. : P300YGM-WYNB0-3635



Overall 63 125 250 500 1K 2K 4K 8K Octave band central frequency (Hz)

#### Sound level of PURY-P200YGM-A(-BS)

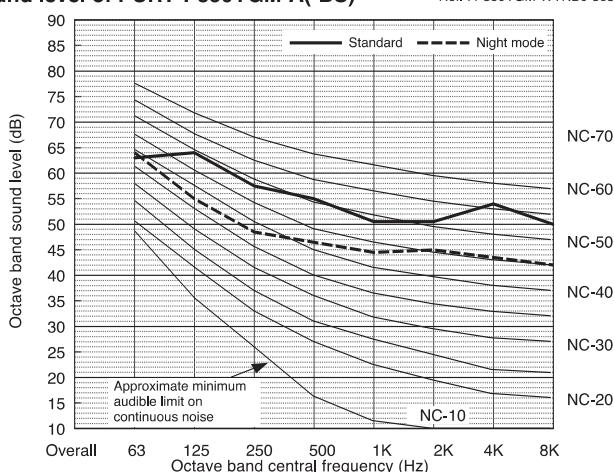
Ref. : P200YGM-WYNB0-3633



Overall 63 125 250 500 1K 2K 4K 8K Octave band central frequency (Hz)

#### Sound level of PURY-P350YGM-A(-BS)

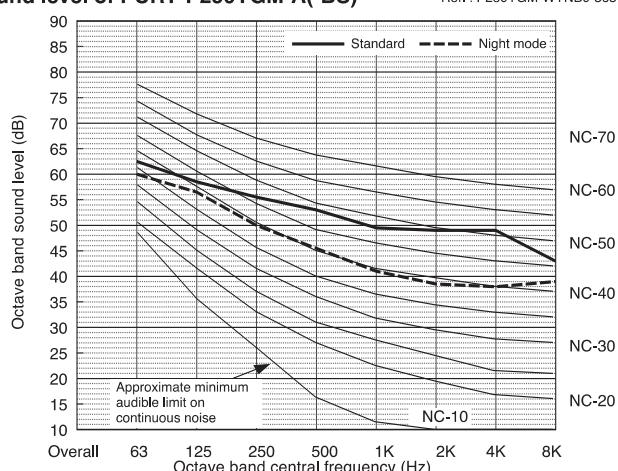
Ref. : P350YGM-WYNB0-3636



Overall 63 125 250 500 1K 2K 4K 8K Octave band central frequency (Hz)

#### Sound level of PURY-P250YGM-A(-BS)

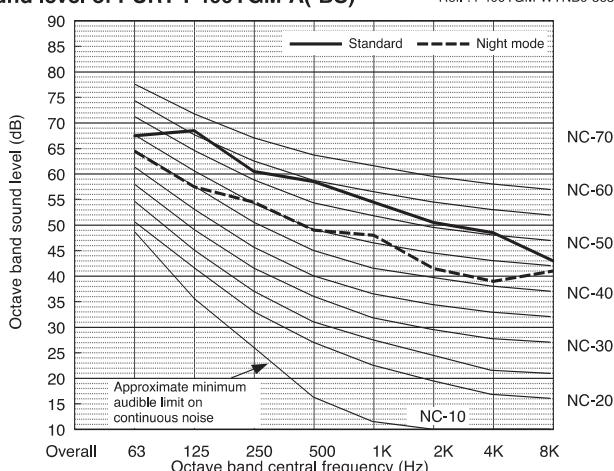
Ref. : P250YGM-WYNB0-3634



Overall 63 125 250 500 1K 2K 4K 8K Octave band central frequency (Hz)

#### Sound level of PURY-P400YGM-A(-BS)

Ref. : P400YGM-WYNB0-3637



Overall 63 125 250 500 1K 2K 4K 8K Octave band central frequency (Hz)

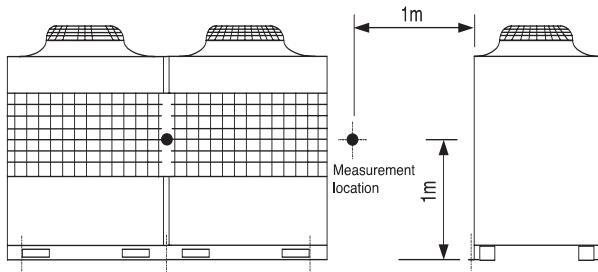
\* When Night Mode is set, the A/C system's capacity is limited. The system could return to normal operation from Night Mode automatically in the case that the operation condition is severe.

\* When Night Mode is set, the A/C system's capacity is limited. The system could return to normal operation from Night Mode automatically in the case that the operation condition is severe.

### 3. SOUND LEVELS

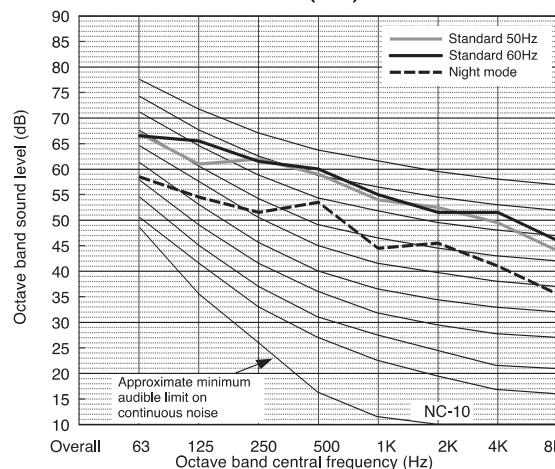
R410A Data G2

#### Measurement condition PURY-P450,500,550,600,650YGM



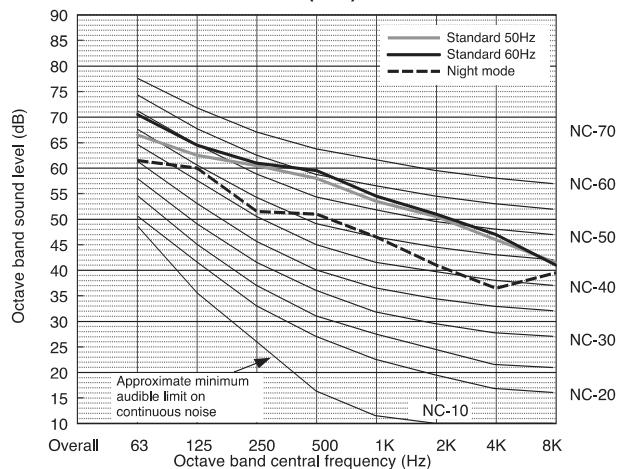
#### Sound level of PURY-P550YGM-A(-BS)

Ref. : P550YGM-WYNB0-3640



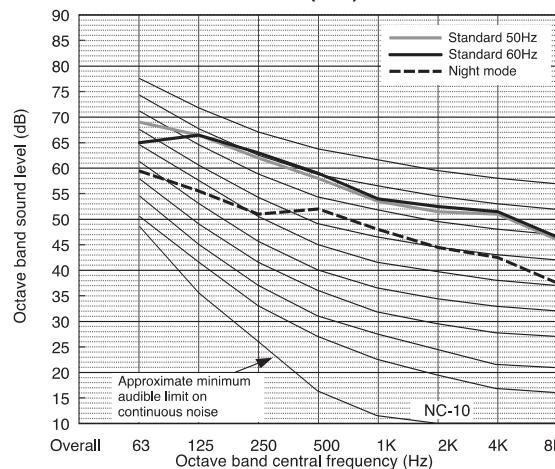
#### Sound level of PURY-P450YGM-A(-BS)

Ref. : P450YGM-WYNB0-3638



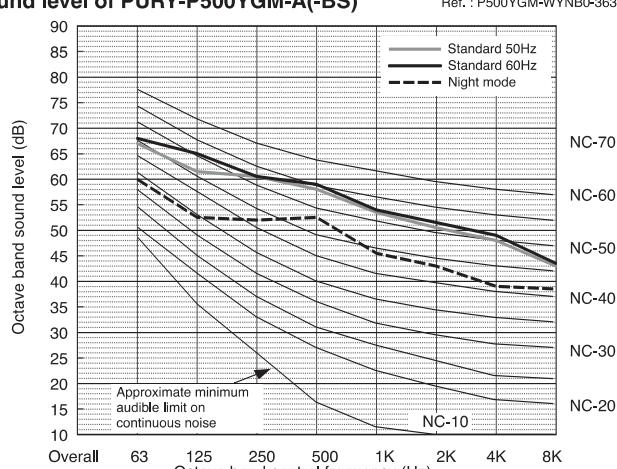
#### Sound level of PURY-P600YGM-A(-BS)

Ref. : P600YGM-WYNB0-3641



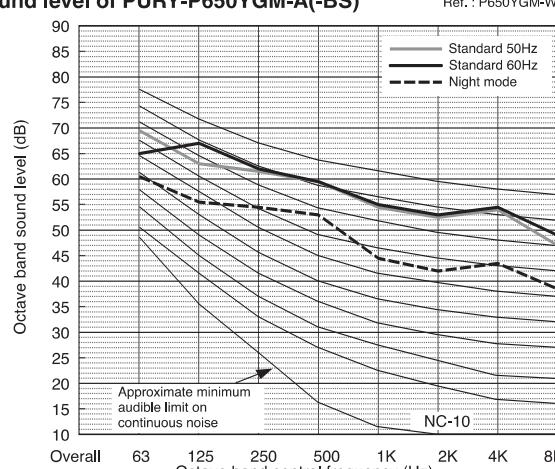
#### Sound level of PURY-P500YGM-A(-BS)

Ref. : P500YGM-WYNB0-3639



#### Sound level of PURY-P650YGM-A(-BS)

Ref. : P650YGM-WYNB0-3642



\* When Night Mode is set, the A/C system's capacity is limited. The system could return to normal operation from Night Mode automatically in the case that the operation condition is severe.

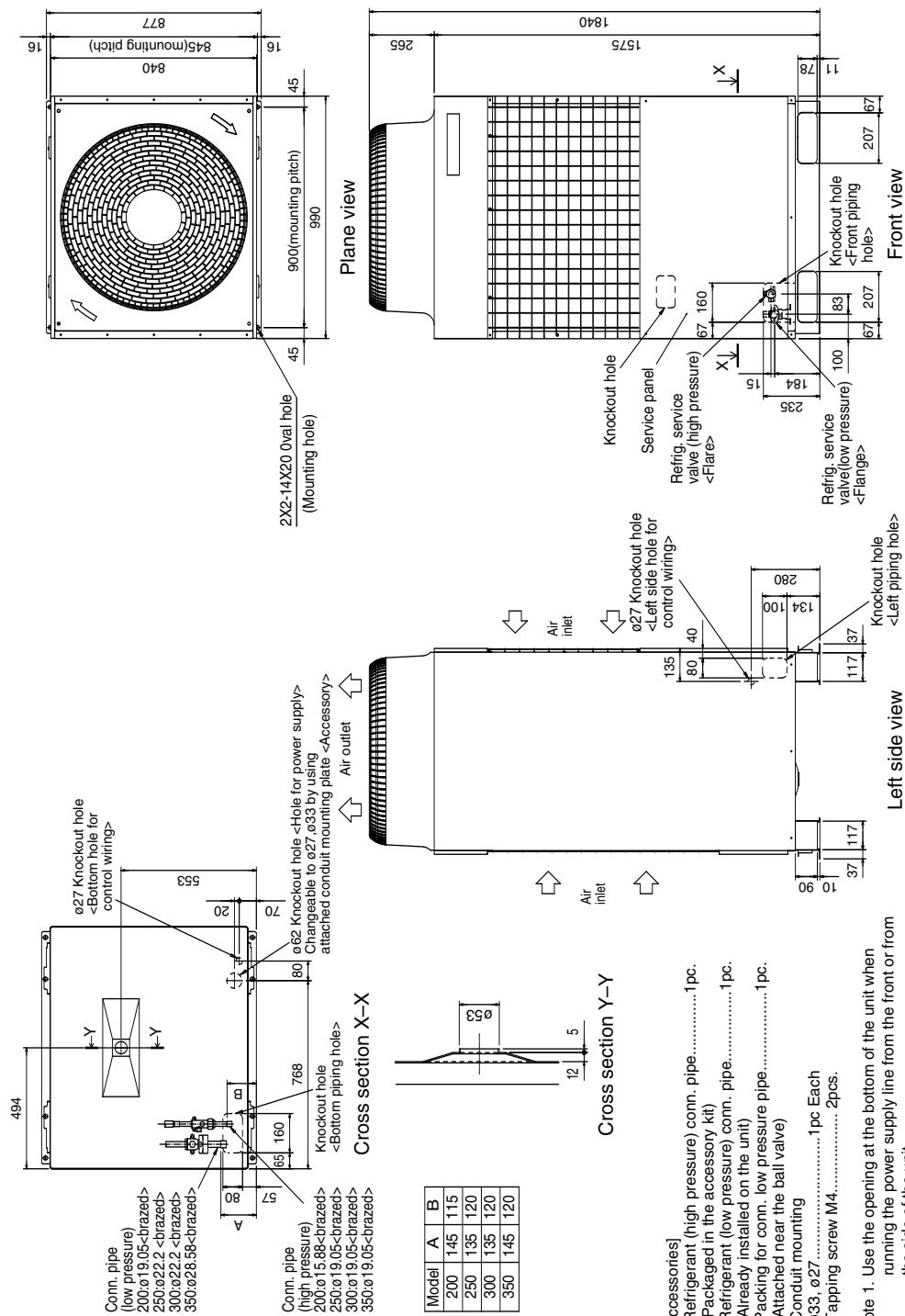
#### **4. EXTERNAL DIMENSIONS**

R410A Data G2

PURY-P200,250,300,350YGM-A(-BS)

Drw. : YGM-W656-809 1/2

Unit : mm



Model	A	B
200	145	115
250	135	120
300	135	120
350	145	120

- [Accessories]
    - Refrigerant (high pressure) conn. pipe.....1pc.
    - (Packaged in the accessory kit)
    - Refrigerant (low pressure) conn. pipe.....1pc.
    - (Already installed on the unit)
    - Packing for conn. low pressure pipe.....1pc.
    - (Attached near the ball valve)
    - Condenser mounting
      - o S33, Ø27 .....1pc Each
      - o Tapping screw M4.....2pcs.

**Note 1.** Use the opening at the bottom of the unit when running the power supply line from the front or from the side of the unit.

**Note 2.** Please refer to the next page for information regarding necessary spacing around the unit and foundation work.

### Spacing PURY-P200,250,300,350YGM-A(-BS)

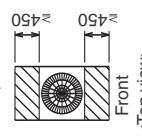
Drw. : YGM-W656-809 2/2  
Unit : mm

#### 1. Space required around unit

##### \* In case of single installation

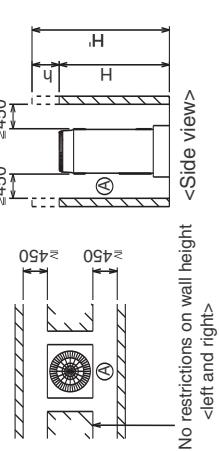
###### [Basic rules for spacing the unit]

- ① Since the service from the back of unit is required, provide the back space 450 mm or above as the front.



##### [When inlet air enters from right and left sides of unit]

- ① Wall heights <H> of the front and the back sides shall be within total height of unit.
- ② When wall height <H> exceeds total height of unit, add <H> dimension to 450 of the following figure.  
 $h = \text{wall height } <H> - \text{total height of unit}$



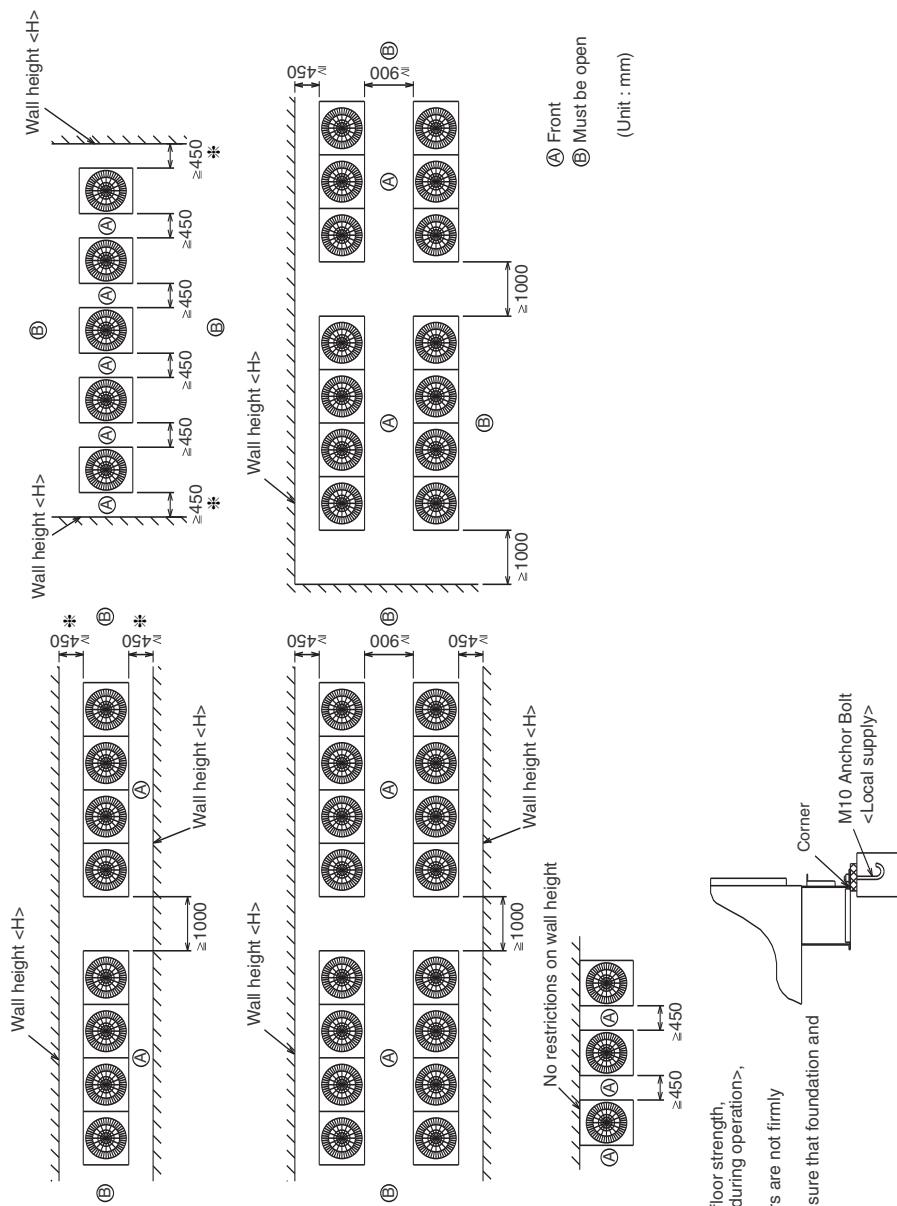
##### \* In case of collective installation and continuous installation

① Space required for collective installation and continuous installation:

- ② Open in two directions.

③ In case of wall height <H> exceeds total height of unit, add <H> dimension

④ If there is a wall at both the front and the rear of the unit, install up to four units consecutively in the side direction and provide a space of 1000 mm or more as inlet space/passage space for each four units.

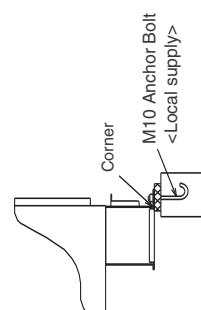


#### 2. Foundation work

- ① When building the foundation, give full attention to the floor strength, drain water disposal <drain water flows out of the unit during operation>, piping and wiring routes.

② Be sure that the corners are firmly seated. If the corners are not firmly seated, the installation feet may be bent.

③ When down piping and down wiring are performed, be sure that foundation and base work does not block the base through holes.



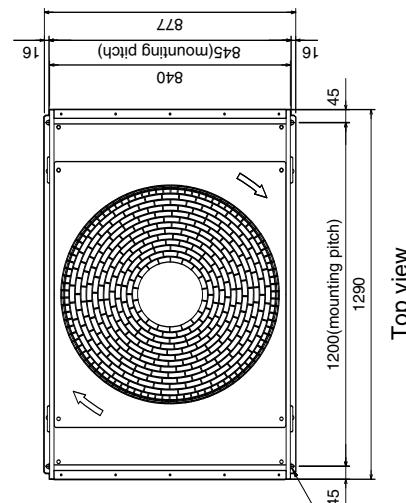
## 4. EXTERNAL DIMENSIONS

R410A Data G2

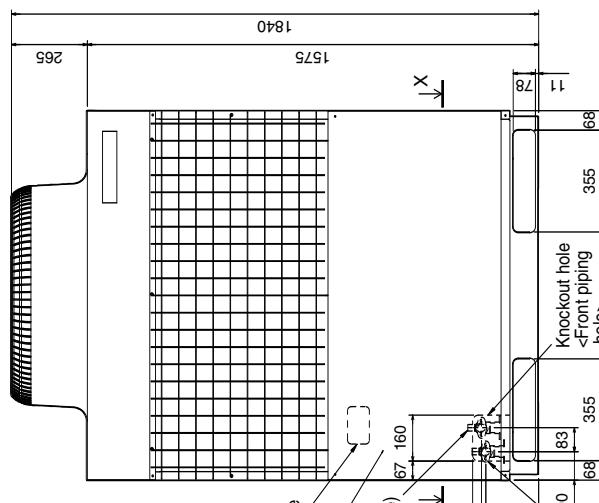
PURY-P400YGM-A(-BS)

Drw. : YGM-W656-810 1/2

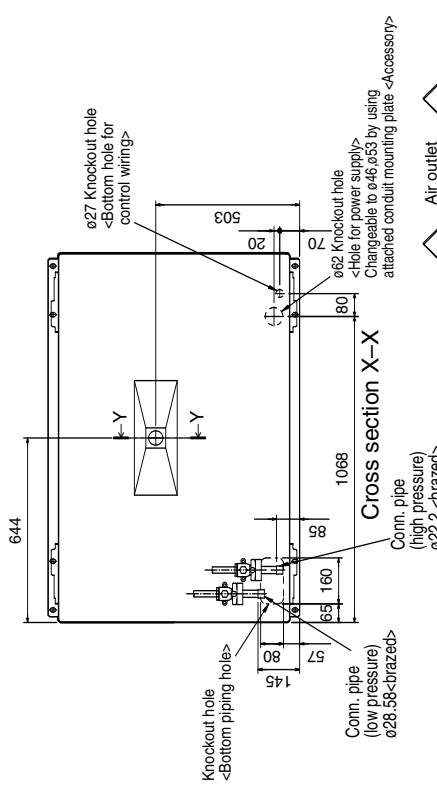
Unit : mm



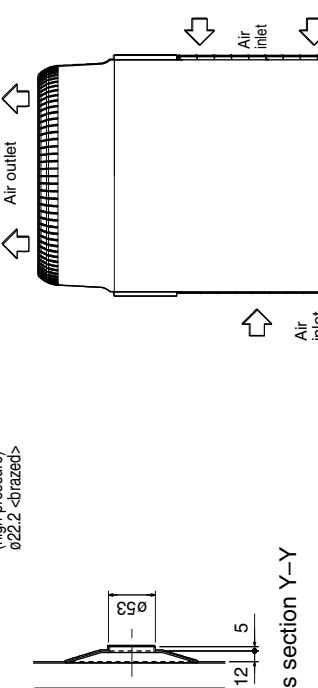
Top view



Front view



high pressure) → 22.2 (brated) Air outlet



Cross section Y-Y

[Accessories]

- Refrigerant (high pressure) conn. pipe..... 2pc.  
(Conn. pipe for front piping.....1pc.  
: Already installed on the unit)
  - Conn. pipe for bottom piping.....1pc.  
(Conn. pipe for the accessory kit)
  - Refrigerant (low pressure) conn. pipe..... 1pc.  
(Already installed on the unit)
  - Packing for conn. high pressure pipe..... 1pc.  
(Packing near the ball valve)
  - Packing for conn. low pressure pipe..... 1pc.  
(Attached near the ball valve)
  - Conduit mounting plate
  - Ø53, Ø46 ..... 1pc. Each
  - Tapping screw M4 ..... 2pc.s.

**Notes 1.** Use the opening at the bottom of the unit when running the power supply line from the front or from the side of the unit.

**Notes2.** Please refer to the next page for information regarding necessary spacing around the unit and foundation work.

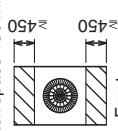
## Spacing PURY-P400YGM-A(-BS)

Drw. : YGM-W656-810 2/2  
Unit : mm

## 1. Space required around unit

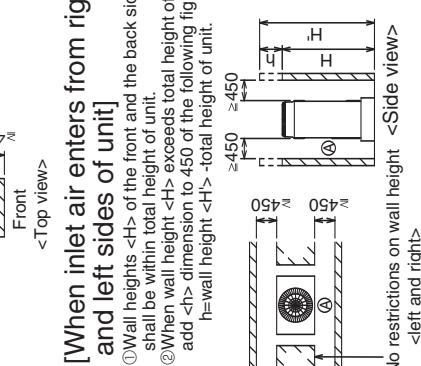
## \* In case of single installation

[Basic rules for spacing the unit]  
 ① Since the service from the back of unit is required, provide the back space 450 mm or above as the front.



## [When inlet air enters from right and left sides of unit]

① Wall heights <H> of the front and the back sides shall be within total height of unit.  
 ② When wall height <H> exceeds total height of unit, add <H> dimension to 450 of the following figure.  
 $h = \text{wall height } <H> - \text{total height of unit}$



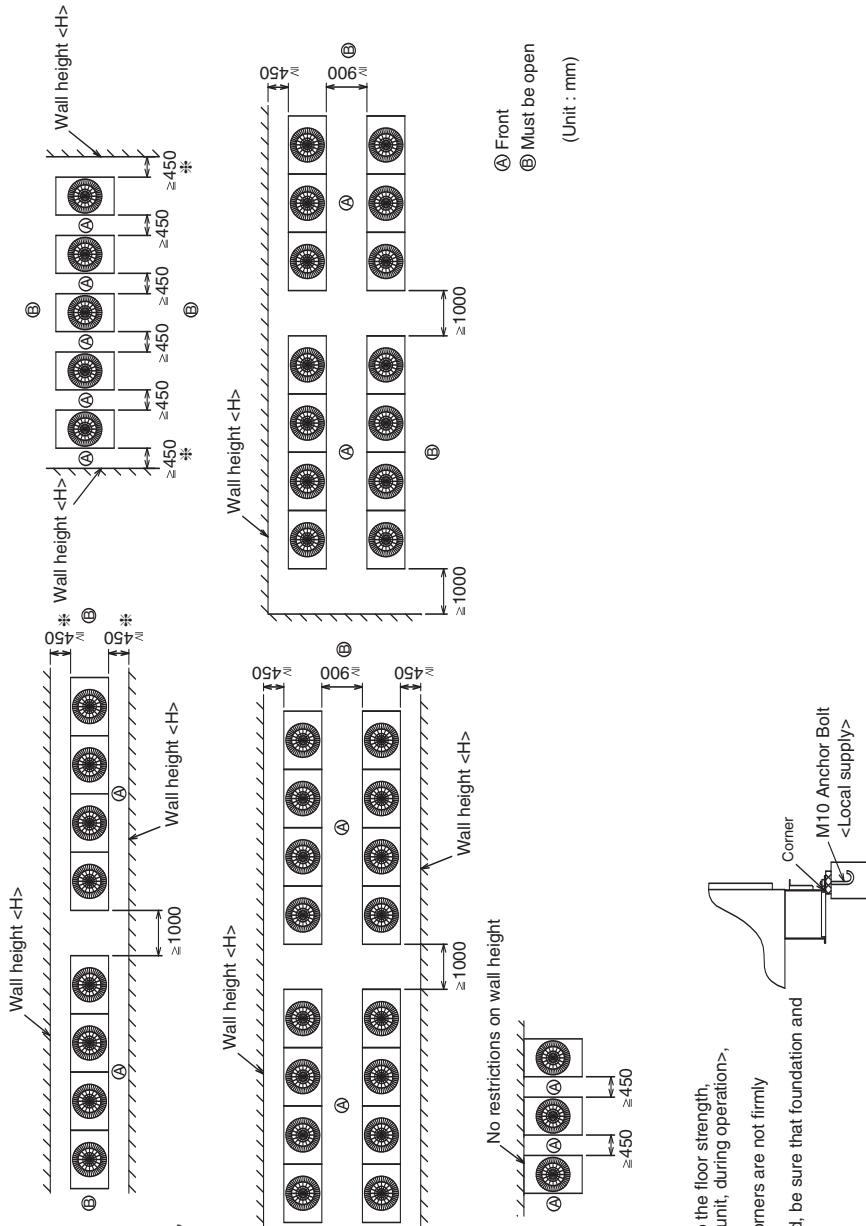
## \* In case of collective installation and continuous installation

① Space required for collective installation and continuous installation:  
 When installing several units, provide the space between each block considering passage for air and people.

② Open in two directions.

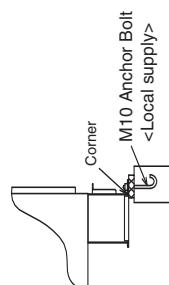
③ In case of wall height <H> exceeds total height of unit, add <h> dimension  
 $(h = \text{wall height } <H> - \text{total height of unit})$  to <H> marked dimension.

④ If there is a wall at both the front and the rear of the unit, install up to four units consecutively in the side direction and provide a space of 1000 mm or more as inlet space/passage space for each four units.



## 2. Foundation work

- ① When building the foundation, give full attention to the floor strength, drain water disposal <drain water flows out of the unit, during operation>, piping and wiring routes.
- ② Be sure that the corners are firmly seated. If the corners are not firmly seated, the installation feet may be bent.
- ③ When down piping and down wiring are performed, be sure that foundation and base work does not block the base through holes.



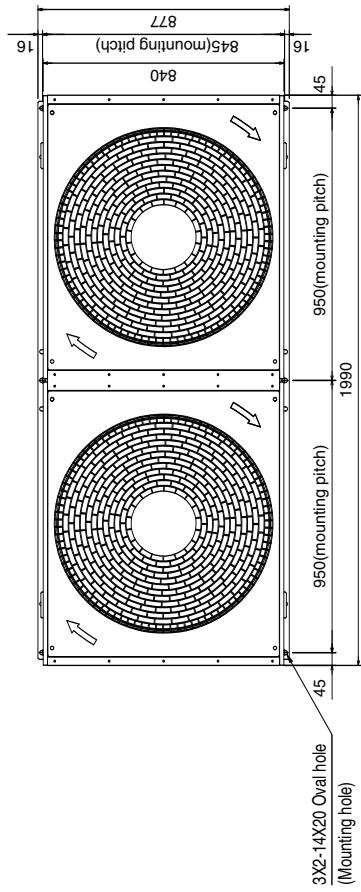
## 4. EXTERNAL DIMENSIONS

R410A Data G2

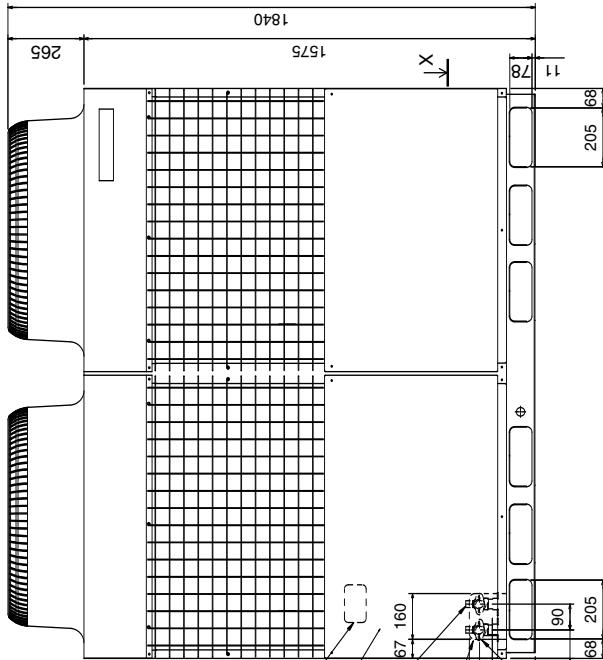
PURY-P450,500,550,600,650YGM-A(-BS)

Drw. : YGM-W656-811 1/2

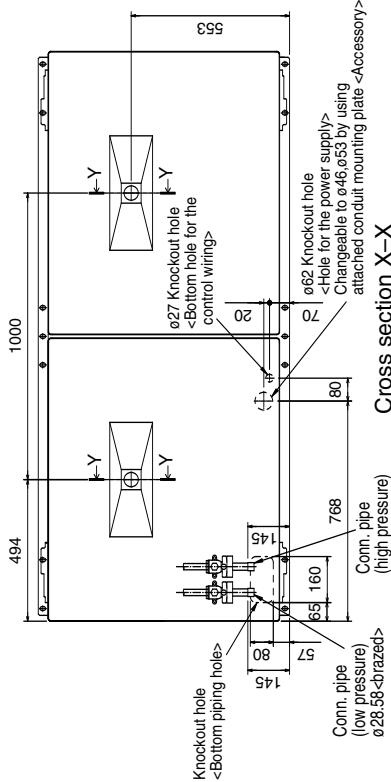
Unit : mm



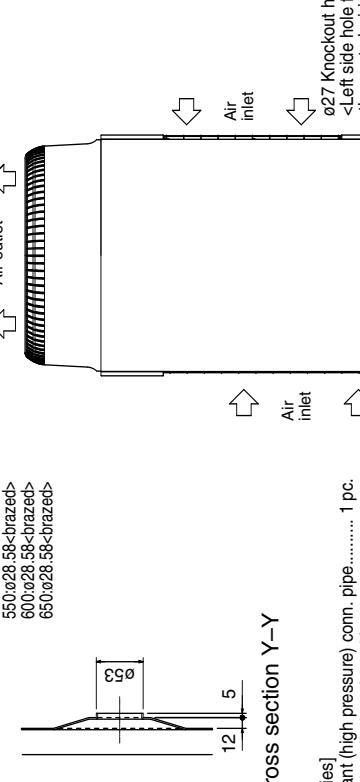
Top view



Front view



Cross section X-X



Cross section Y-Y

[Accessories]

- Refrigerant (high pressure) conn. pipe..... 1 pc.  
(Already installed on the unit)
- Refrigerant (low pressure) conn. pipe..... 1 pc.  
(Already installed on the unit)
- Packing for conn. high pressure pipe..... 1 pc.  
(Attached near the ball valve)
- Packing for conn. low pressure pipe..... 1 pc.  
(Attached near the ball valve)
- Conduit mounting plate..... 1 pc. Each  
ø53.ø46..... 1 pc. Each  
• Tapping screw M4..... 2 pcs.

Notes1. Use the opening at the bottom of the unit when running the power supply line from the front or from the side of the unit.  
Notes2. Please refer to the next page for information regarding necessary spacing around the unit and foundation work.

Left side view

### Spacing PURY-P450,500,550,600,650YGM-A(-BS)

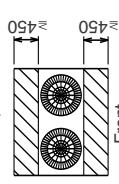
Drw. : YGM-W656-811 2/2  
Unit : mm

#### 1. Space required around unit

##### \* In case of single installation

###### [Basic rules for spacing the unit]

- ① Since the service from the back of unit is required, provide the back space 450 mm or above as the front.

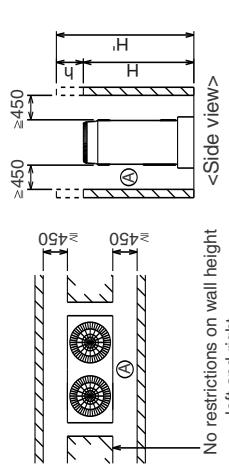
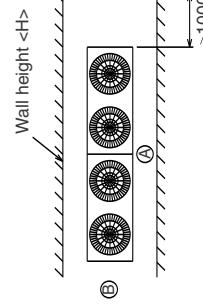


Front

<Top view>

##### [When inlet air enters from right and left sides of unit]

- ① Wall heights <H> of the front and the back sides shall be within total height of unit.
- ② When wall height <H> exceeds total height of unit, add <h> dimension to 450 of the following figure.  
 $h = \text{wall height } <H> - \text{total height of unit}$ .

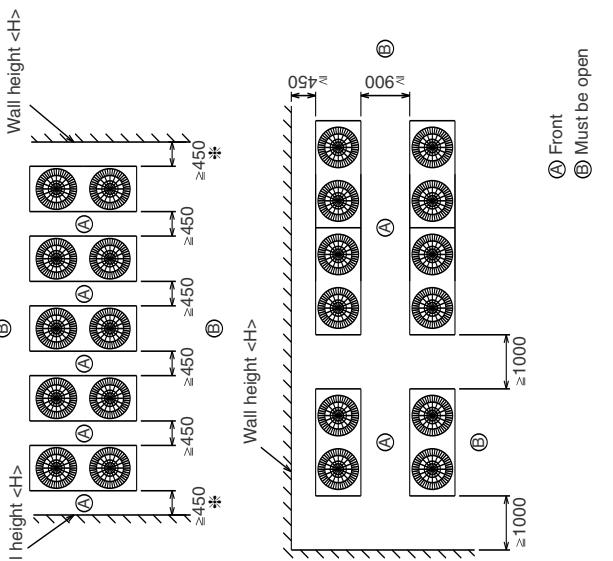


No restrictions on wall height  
<left and right>

##### \* In case of collective installation and continuous installation

① Space required for collective installation and continuous installation:

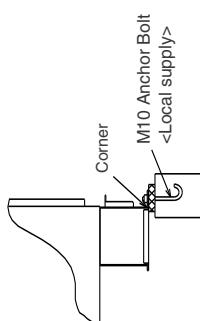
- When installing several units, provide the space between each block considering passage for air and people.
- ② Open in two directions.
- ③ In case of wall height <H> exceeds total height of unit, add <h> dimension
- ( $h = \text{wall height } <H> - \text{total height of unit}$ ) to \* marked dimension.
- ④ If there is a wall at both the front and the rear of the unit, install up to three units consecutively in the side direction and provide a space of 1000 mm or more as inlet space/passage space for each three units.



(Unit : mm)

#### 2. Foundation work

- ① When building the foundation, give full attention to the floor strength, drain water disposal <drain water flows out of the unit, during operation>, piping and wiring routes.
- ② Be sure that the corners are firmly seated. If the corners are not firmly seated, the installation feet may be bent.
- ③ When down piping and down wiring are performed, be sure that foundation and base work does not block the base through holes.



## **5. ELECTRICAL WIRING DIAGRAMS**

R410A Data G2

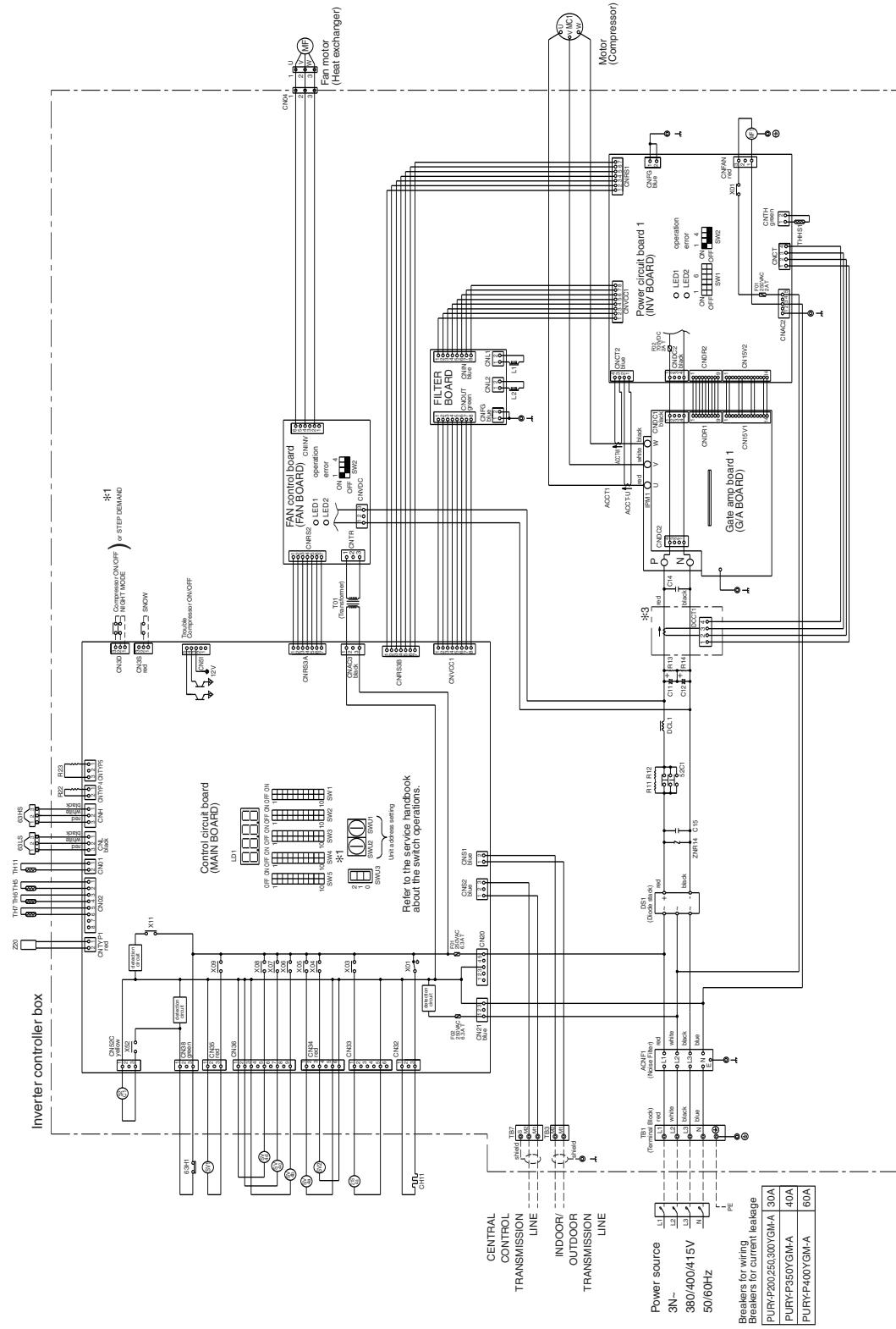
PURY-P200,250,300,350,400YGM-A(-BS)

Drw. : YGM-W274-614

Symbol	Name
ACCT1	AC Current Sensor
DCCT1	DC Current Sensor
DCL1	DC reactor (power factor improvement)
SCS1	Magnetic controller (inverter main circuit)
MF1	Fan motor (Radiation panel)
CH11	Crank case heater (Compressor)
21S4a	4-way valve
SV1, 2	Solenoid valve (Discharge-suction bypass)
SV4/a-d	Solenoid valve (Heat exchanger capacity control)
TH11	Discharge pipe temp. detect
TH5	Pipe temp.detect (Hx outlet)
TH6	OA temp.detect
TH7	Humid outlet temp.detect at Sub-cool coil detect
THHS1	Radiator panel temp. detect
63H1	High pressure switch
63HS	High pressure sensor
63LS	Low pressure sensor
L1, L2	Choke coil (Transmission)
Z20	Function device
1	Earth terminal

< Difference of appliance >	
Model name	Appliance
PURY-P200YGM-A	">3% do not exist
PURY-P250, 300, 350, 400YGM-A	All exists

**NOTE:**The broken lines indicate field wiring.



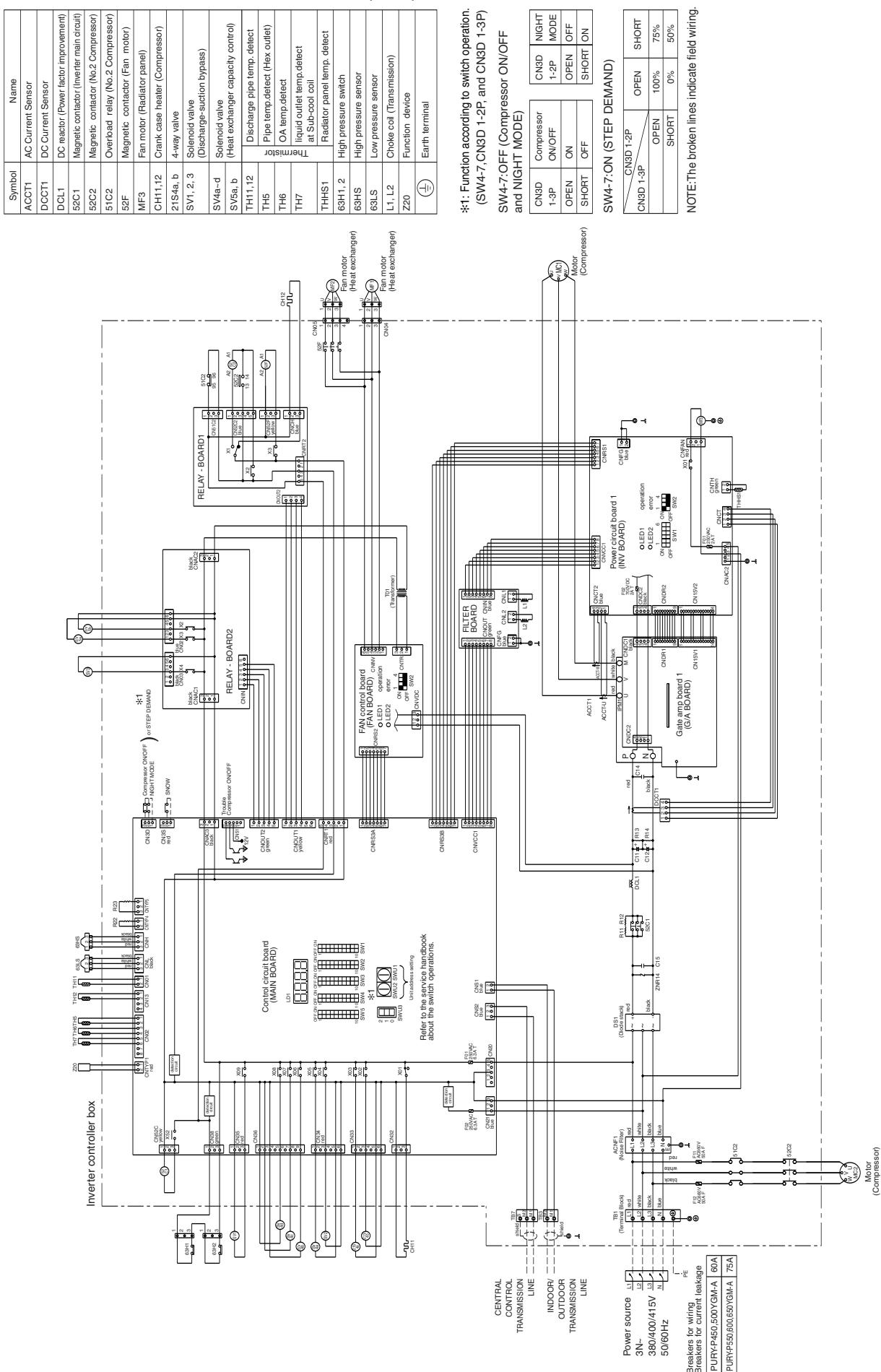
## 5. ELECTRICAL WIRING DIAGRAMS

R410A Data G2

PURY-P450,500,550,600,650YGM-A(-BS)

Drw. : YGM-W274-616

< Symbol explanation >

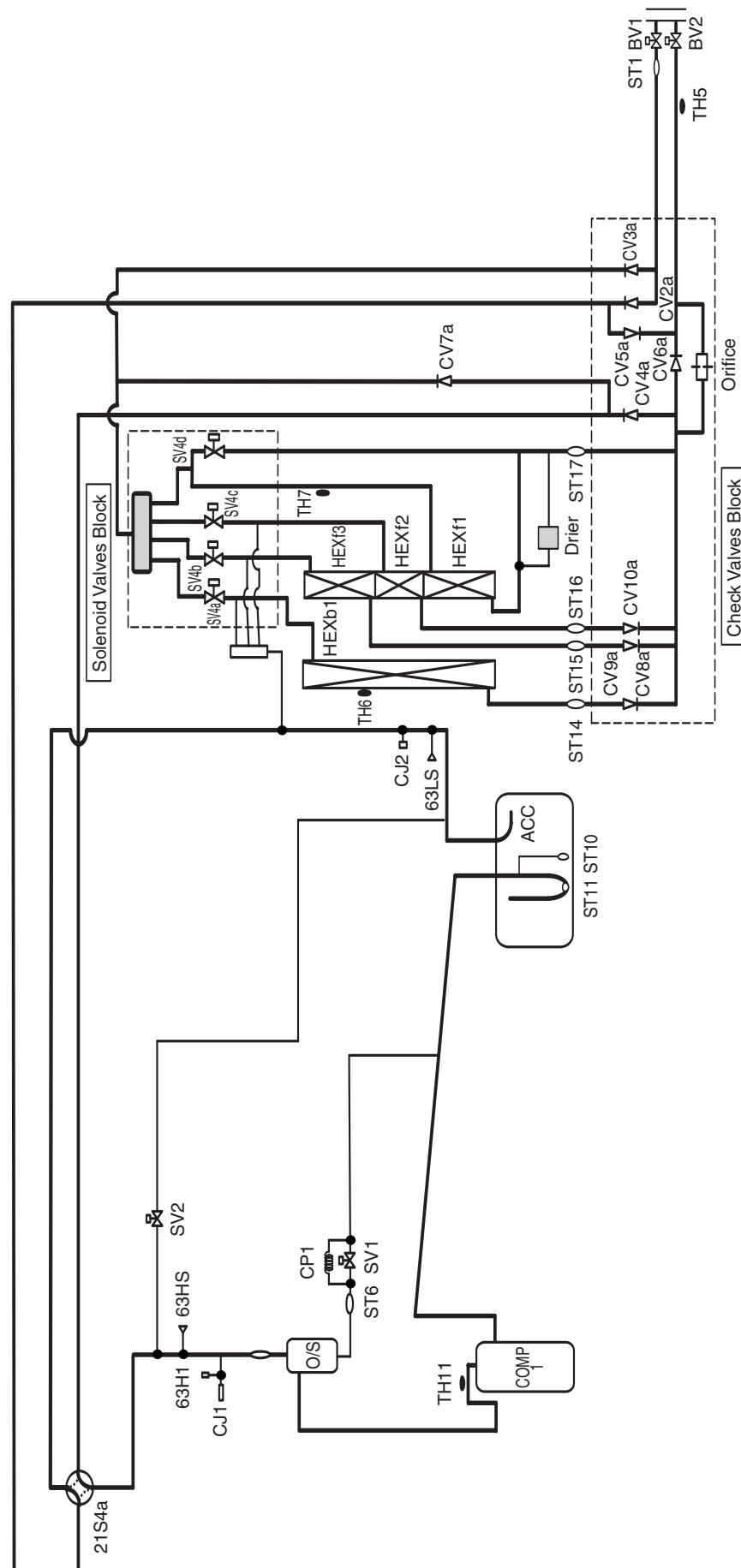


## 6. REFRIGERANT CIRCUIT DIAGRAMS AND THERMAL SENSORS

R410A Data G2

PURY-P200,250,300,350,400YGM-A(-BS)

Drw. : YGM-rcd-200-400ygm\_R2

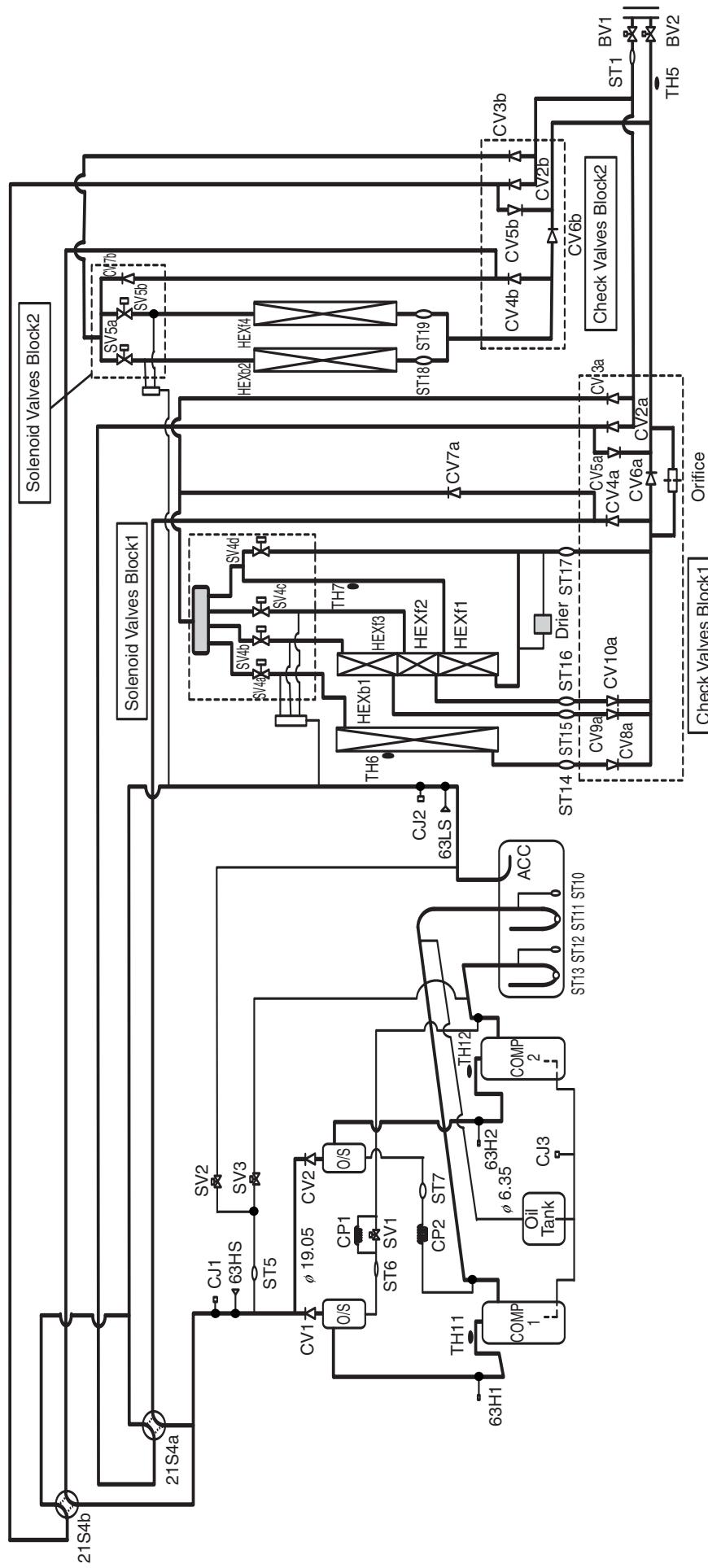


## 6. REFRIGERANT CIRCUIT DIAGRAMS AND THERMAL SENSORS

R410A Data G2

PURY-P450,500,550,600,650YGM-A(-BS)

Drw. : YGM-rcd-450-650ygm\_R2



Y

R2

WY

WR2

S

OP