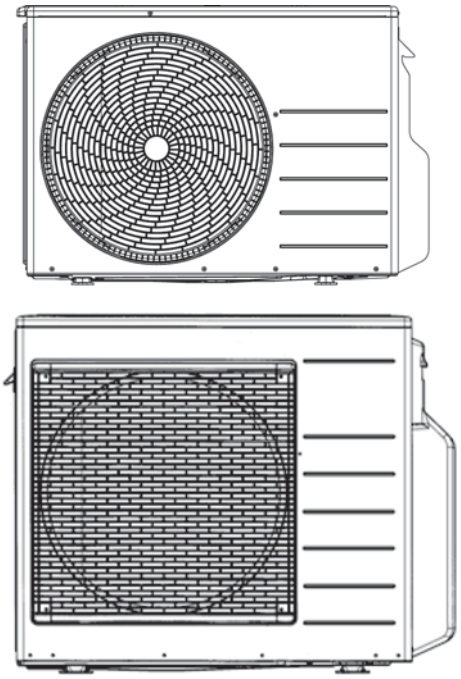
Order No: PAPAMY1301048CE

Service Manual

Air Conditioner



Outdoor Unit
CU-2E15PBE
CU-2E18PBE
CU-3E18PBE
CU-4E23PBE

Destination
Europe

Please file and use this manual together with the service manual for Model No. CS-ME5PKE CS-E7PKEW CS-E9PKEW CS-E12PKEW CS-E15PKEW CS-E18PKEW CS-E21PKEW CS-XE7PKEW CS-XE9PKEW CS-XE12PKEW CS-XE15PKEW CS-XE18PKEW CS-XE21PKEW CS-ME9PD3EA CS-ME12PD3EA CS-ME18PD3EA CS-ME9PB4EA CS-ME12PB4EA CS-ME18PB4EA CS-ME21PB4EA CS-E9GFEW CS-E12GFEW CS-E18GFEW CS-E9GFEW-2 CS-E12GFEW-2 CS-E18GFEW-2, Order No. PAPAMY1301090CE PAPAMY1212045CE PAPAMY1301096CE PAPAMY1301095CE RAC0704001C2 MAC0804027A2

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

⚠ PRECAUTION OF LOW TEMPERATURE

In order to avoid frostbite, be assured of no refrigerant leakage during the installation or repairing of refrigerant circuit.

Panasonic®

2. Specifications

2.1 CU-2E15PBE

Item			Unit	OUTDOOR UNIT
Indoor Unit Combination				2.0kW + 2.5kW
Power Source				1 Phase, 230V, 50Hz (Power supply from outdoor unit)
Cooling Operation	Capacity		kW	4.5 (1.5 ~ 5.2)
			BTU/h	15300 (5120 ~ 17700)
	Electrical Data	Running Current	A	5.75
		Power Input	kW	1.23 (0.25 ~ 1.52)
		EER	W/W	3.66 (6.00 ~ 3.42)
	Noise	Sound Pressure Level	dB-A (H/L)	47 / -
		Sound Power Level	dB (H/L)	62 / -
Heating Operation	Capacity		kW	5.4 (1.1 ~ 7.0)
			BTU/h	18400 (3750 ~ 23900)
	Electrical Data	Running Current	A	5.20
		Power Input	kW	1.17 (0.21 ~ 1.67)
		COP	W/W	4.62 (5.24 ~ 4.19)
	Noise	Sound Pressure Level	dB-A (H/L)	49 / -
		Sound Power Level	dB (H/L)	64 / -
Maximum Current			A	12.0
Starting Current			A	5.75
Circuit Breaker Capacity			A	15
Dimension	Height		mm	619
	Width		mm	824 (+70)
	Depth		mm	299
Net Weight			kg	39
Connection Cable				3 + 1 (Earth) ø1.5 mm^2
Pipe Length Range (1 room)			m	3 ~ 20
Maximum Pipe Length (Total Room)			m	30
Refrigerant Pipe Diameter	Liquid Side		mm (inch)	6.35 (1/4)
	Gas Side		mm (inch)	9.52 (3/8)
Compressor	Type			Hermetic Motor / Rotary
	Motor Type			Brushless (6-poles)
	Rated Output		W	900
Air Circulation	Type			Propeller Fan
	Motor Type			DC Motor (8-poles)
	Rated Output		W	40
Fan Speed	High (Cooling / Heating)		RPM	800 / 930
Heat Exchanger	Type			Plate fin configuration forced draft type
	Tube Material			Copper
	Fin Material			Aluminum (Pre Coat)
	Row / Stage			2 / 28
	FPI			17
Air Volume	High (Cooling / Heating)		m^3/min	32.7 / 36.9
Refrigerant Control Device				Expansion Valve
Refrigerant Oil				RB68A / Freol Alpha68M
Refrigerant (R410A)			g	1.40k

Item			Unit	OUTDOOR UNIT	
				Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum	°C	32	23
		Minimum	°C	16	11
	Heating	Maximum	°C	30	—
		Minimum	°C	16	—
Outdoor Operation Range	Cooling	Maximum	°C	46	26
		Minimum	°C	-10	—
	Heating	Maximum	°C	24	18
		Minimum	°C	-15	-16

Note

- Specifications are subject to change without notice for further improvement.

2.2 CU-2E18PBE

Item			Unit	OUTDOOR UNIT
Indoor Unit Combination				2.0kW + 3.2kW
Power Source				1 Phase, 230V, 50Hz (Power supply from outdoor unit)
Cooling Operation	Capacity		kW	5.2 (1.5 ~ 5.4)
			BTU/h	17700 (5120 ~ 18400)
	Electrical Data	Running Current	A	7.10
		Power Input	kW	1.52 (0.25 ~ 1.58)
		EER	W/W	3.42 (6.00 ~ 3.42)
	Noise	Sound Pressure Level	dB-A (H/L)	49 / -
		Sound Power Level	dB (H/L)	64 / -
Heating Operation	Capacity		kW	5.6 (1.1 ~ 7.2)
			BTU/h	19100 (3750 ~ 24600)
	Electrical Data	Running Current	A	5.35
		Power Input	kW	1.21 (0.21 ~ 1.70)
		COP	W/W	4.63 (5.24 ~ 4.24)
	Noise	Sound Pressure Level	dB-A (H/L)	51 / -
		Sound Power Level	dB (H/L)	66 / -
Maximum Current			A	12.0
Starting Current			A	7.1
Circuit Breaker Capacity			A	15
Dimension	Height		mm	619
	Width		mm	824 (+70)
	Depth		mm	299
Net Weight			kg	39
Connection Cable				3 + 1 (Earth) ø1.5 mm^2
Pipe Length Range (1 room)			m	3 ~ 20
Maximum Pipe Length (Total Room)			m	30
Refrigerant Pipe Diameter	Liquid Side		mm (inch)	6.35 (1/4)
	Gas Side		mm (inch)	9.52 (3/8)
Compressor	Type			Hermetic Motor / Rotary
	Motor Type			Brushless (6-poles)
	Rated Output		W	900
Air Circulation	Type			Propeller Fan
	Motor Type			DC Motor (8-poles)
	Rated Output		W	40
Fan Speed	High (Cooling / Heating)		RPM	900 / 1000
Heat Exchanger	Type			Plate fin configuration forced draft type
	Tube Material			Copper
	Fin Material			Aluminum (Pre Coat)
	Row / Stage			2 / 28
	FPI			17
Air Volume	High (Cooling / Heating)		m^3/min	36.9 / 41.1
Refrigerant Control Device				Expansion Valve
Refrigerant Oil				RB68A / Freol Alpha68M
Refrigerant (R410A)			g	1.40k

Item			Unit	OUTDOOR UNIT	
				Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum	°C	32	23
		Minimum	°C	16	11
	Heating	Maximum	°C	30	—
		Minimum	°C	16	—
Outdoor Operation Range	Cooling	Maximum	°C	46	26
		Minimum	°C	-10	—
	Heating	Maximum	°C	24	18
		Minimum	°C	-15	-16

Note

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2.3 CU-3E18PBE

Item			Unit	OUTDOOR UNIT
Indoor Unit Combination				1.6kW + 1.6kW + 2.0kW
Power Source				1 Phase, 230V, 50Hz (Power supply from outdoor unit)
Cooling Operation	Capacity		kW	5.2 (1.8 ~ 7.3)
			BTU/h	17700 (6140 ~ 24900)
	Electrical Data	Running Current	A	5.3
		Power Input	kW	1.20 (0.36 ~ 2.18)
		EER	W/W	4.33 (5.00 ~ 3.35)
	Noise	Sound Pressure Level	dB-A (H/L)	46 / -
		Sound Power Level	dB (H/L)	60 / -
Heating Operation	Capacity		kW	6.8 (1.6 ~ 8.3)
			BTU/h	23200 (5460 ~ 28300)
	Electrical Data	Running Current	A	6.7
		Power Input	kW	1.45 (0.32 ~ 2.11)
		COP	W/W	4.69 (5.00 ~ 3.93)
	Noise	Sound Pressure Level	dB-A (H/L)	47 / -
		Sound Power Level	dB (H/L)	61 / -
Maximum Current			A	15.2
Starting Current			A	6.7
Circuit Breaker Capacity			A	16
Dimension	Height		mm	795
	Width		mm	875 (+95)
	Depth		mm	320
Net Weight			kg	71
Connection Cable				3 + 1 (Earth) ø1.5 mm^2
Pipe Length Range (1 room)			m	3 ~ 25
Maximum Pipe Length (Total Room)			m	50
Refrigerant Pipe Diameter	Liquid Side		mm (inch)	6.35 (1/4)
	Gas Side		mm (inch)	9.52 (3/8)
Compressor	Type			Hermetic Motor / Rotary
	Motor Type			Brushless (4-poles)
	Rated Output		W	1.30k
Air Circulation	Type			Propeller Fan
	Motor Type			DC Motor (8-poles)
	Rated Output		W	60
Fan Speed	High (Cooling / Heating)		RPM	580 / 580
Heat Exchanger	Type			Plate fin configuration forced draft type
	Tube Material			Copper
	Fin Material			Aluminum (Pre Coat)
	Row / Stage			2 / 36
	FPI			19
Air Volume	High		m^3/min	41.7
Refrigerant Control Device				Expansion Valve
Refrigerant Oil				FV50S
Refrigerant (R410A)			g	2.64k

Item			Unit	OUTDOOR UNIT	
				Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum	°C	32	23
		Minimum	°C	16	11
	Heating	Maximum	°C	30	—
		Minimum	°C	16	—
Outdoor Operation Range	Cooling	Maximum	°C	46	26
		Minimum	°C	-10	—
	Heating	Maximum	°C	24	18
		Minimum	°C	-15	-16

Note

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2.4 CU-4E23PBE

Item			Unit	OUTDOOR UNIT
Indoor Unit Combination				1.6kW + 1.6kW + 1.6kW + 2.0kW
Power Source				1 Phase, 230V, 50Hz (Power supply from outdoor unit)
Cooling Operation	Capacity		kW	6.8 (1.9 ~ 8.8)
			BTU/h	23200 (6480 ~ 30000)
	Electrical Data	Running Current	A	7.5
		Power Input	kW	1.68 (0.34 ~ 2.47)
		EER	W/W	4.05 (5.59 ~ 3.56)
	Noise	Sound Pressure Level	dB-A (H/L)	48 / -
		Sound Power Level	dB (H/L)	62 / -
Heating Operation	Capacity		kW	8.5 (3.0 ~ 10.6)
			BTU/h	29000 (10200 ~ 36100)
	Electrical Data	Running Current	A	8.8
		Power Input	kW	1.90 (0.58 ~ 2.60)
		COP	W/W	4.47 (5.17 ~ 4.08)
	Noise	Sound Pressure Level	dB-A (H/L)	49 / -
		Sound Power Level	dB (H/L)	63 / -
Maximum Current			A	15.6
Starting Current			A	8.8
Circuit Breaker Capacity			A	20
Dimension	Height		mm	795
	Width		mm	875 (+95)
	Depth		mm	320
Net Weight			kg	72
Connection Cable				3 + 1 (Earth) ø1.5 mm^2
Pipe Length Range (1 room)			m	3 ~ 25
Maximum Pipe Length (Total Room)			m	60
Refrigerant Pipe Diameter	Liquid Side		mm (inch)	6.35 (1/4)
	Gas Side		mm (inch)	9.52 (3/8) (E21:12.7(1/2))
Compressor	Type			Hermetic Motor / Rotary
	Motor Type			Brushless (4-poles)
	Rated Output		W	1.30k
Air Circulation	Type			Propeller Fan
	Motor Type			DC Motor (8-poles)
	Rated Output		W	60
Fan Speed	High (Cooling / Heating)		RPM	600 / 620
Heat Exchanger	Type			Plate fin configuration forced draft type
	Tube Material			Copper
	Fin Material			Aluminum (Pre Coat)
	Row / Stage			2 / 36
	FPI			19
Air Volume	High (Cooling / Heating)		m^3/min	42.5 / 44.1
Refrigerant Control Device				Expansion Valve
Refrigerant Oil				FV50S
Refrigerant (R410A)			g	2.64k

Item			Unit	OUTDOOR UNIT	
				Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum	°C	32	23
		Minimum	°C	16	11
	Heating	Maximum	°C	30	—
		Minimum	°C	16	—
Outdoor Operation Range	Cooling	Maximum	°C	46	26
		Minimum	°C	-10	—
	Heating	Maximum	°C	24	18
		Minimum	°C	-15	-16

Note

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- **Multi Split Combination Possibility:**
  - A single outdoor unit enables air conditioning of up to two separate rooms for CU-2E15PBE, CU-2E18PBE.
  - A single outdoor unit enables air conditioning of up to three separate rooms for CU-3E18PBE.
  - A single outdoor unit enables air conditioning of up to four separate rooms for CU-4E23PBE.

CONNECTABLE INDOOR UNIT			OUTDOOR UNIT										
			CU-2E15PBE		CU-2E18PBE		CU-3E18PBE			CU-4E23PBE			
Type \ ROOM			A	B	A	B	A	B	C	A	B	C	D
Wall	1.6kW	CS-ME5PKE	●	●	●	●	●	●	●	●	●	●	●
	2.0kW	CS-E7PKEW CS-XE7PKEW	●	●	●	●	●	●	●	●	●	●	●
	2.5kW	CS-E9PKEW CS-XE9PKEW CS-ME9PD3EA CS-ME9PB4EA CS-E9GFEW CS-E9GFEW-2	●	●	●	●	●	●	●	●	●	●	●
	3.2kW	CS-E12PKEW CS-XE12PKEW CS-ME12PD3EA CS-ME12PB4EA CS-E12GFEW CS-E12GFEW-2	●	●	●	●	●	●	●	●	●	●	●
	4.0kW	CS-E15PKEW CS-XE15PKEW	–	–	–	–	●	●	●	●	●	●	●
	5.0kW	CS-E18PKEW CS-XE18PKEW CS-ME18PD3EA CS-ME18PB4EA CS-E18GFEW CS-E18GFEW-2	–	–	–	–	●	●	●	●	●	●	●
	6.0kW	CS-E21PKEW CS-XE21PKEW CS-ME21PB4EA	–	–	–	–	–	–	–	●	●	●	●

Capacity range of connectable indoor units		From 3.2kW to 5.6kW	From 3.2kW to 6.4kW	From 4.5kW to 9.0kW	From 4.5kW to 11.0kW
Pipe length	1-room maximum pipe length (m)	20	20	25	25
	Allowable elevation (m)	10	10	15	15
	Total allowable pipe length (m)	30	30	50	60
	Total pipe length for maximum chargeless length (m)	20	20	30	30
	Additional gas amount over chargeless length (g/m)	15	15	20	20

Note: " ● " : Available

Remarks for CU-2E15PBE / CU-2E18PBE
1. At least two indoor units must be connected.
2. The total nominal cooling capacity of indoor units that will be connected to outdoor unit must be within connectable capacity range of indoor unit. (as shown in the table above)
   Example: The indoor units' combination below is possible to connect to CU-2E15PBE. (Total nominal capacity of indoor units is between 3.2kW to 5.6kW)
   1) Two CS-E7PKEW only (Total nominal cooling capacity is 4.0kW)
   2) One CS-E7PKEW and one CS-E9PKEW. (Total nominal cooling capacity is 4.5kW)

Remarks for CU-3E18PBE / CU-4E23PBE
1. At least two indoor units must be connected.
2. The total nominal cooling capacity of indoor units that will be connected to outdoor unit must be within connectable capacity range of indoor unit. (as shown in the table above)
   Example: The indoor units' combination below is possible to connect to CU-3E18PBE. (Total nominal capacity of indoor units is between 4.5kW to 9.0kW)
   1) Two CS-E9PKEW only (Total nominal cooling capacity is 5.0kW)
   2) Three CS-E12PKEW. (Total nominal cooling capacity is 9.6kW)

- Indoor Unit : CS-ME5PKE, CS-E7/9/12PKEW, CS-E9/12GFEW, CS-ME9/12PB4EA, CS-ME9/12PD3EA
- Outdoor Unit : CU-2E15PBE

2 Room		1 Room	
Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)
16 + 16	32	16	16
16 + 20	36	20	20
16 + 25	41	25	25
16 + 28	44	28	28
16 + 32	48	32	32
20 + 20	40		
20 + 25	45		
20 + 28	48		
20 + 32	52		
25 + 25	50		
25 + 28	53		
28 + 28	56		

- Indoor Unit : CS-ME5PKE, CS-E7/9/12PKEW, CS-E9/12GFEW, CS-ME9/12PB4EA, CS-ME9/12PD3EA
- Outdoor Unit : CU-2E18PBE

2 Room		1 Room	
Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)
16 + 16	32	16	16
16 + 20	36	20	20
16 + 25	41	25	25
16 + 28	44	28	28
16 + 32	48	32	32
20 + 20	40		
20 + 25	45		
20 + 28	48		
20 + 32	52		
25 + 25	50		
25 + 28	53		
25 + 32	57		
28 + 28	56		
28 + 32	60		
32 + 32	64		

- Indoor Unit : CS-ME5PKE, CS-E7/9/12/15/18PKEW, CS-E9/12/18GFEW, CS-ME9/12/18PB4EA, CS-ME9/12/18PD3EA
- Outdoor Unit : CU-3E18PBE

3 Room		2 Room		1 Room	
Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)
16 + 16 + 16	48	16 + 32	48	16	16
16 + 16 + 20	52	16 + 40	56	20	20
16 + 16 + 25	57	16 + 50	66	25	25
16 + 16 + 28	60	20 + 25	45	28	28
16 + 16 + 32	64	20 + 28	48	32	32
16 + 16 + 40	72	20 + 32	52	40	40
16 + 16 + 50	82	20 + 40	60	50	50
16 + 20 + 20	56	20 + 50	70		
16 + 20 + 25	61	25 + 25	50		
16 + 20 + 28	64	25 + 28	53		
16 + 20 + 32	68	25 + 32	57		
16 + 20 + 40	76	25 + 40	65		
16 + 20 + 50	86	25 + 50	75		
16 + 25 + 25	66	28 + 28	56		
16 + 25 + 28	69	28 + 32	60		
16 + 25 + 32	73	28 + 40	68		
16 + 25 + 40	81	28 + 50	78		
16 + 28 + 28	72	32 + 32	64		
16 + 28 + 32	76	32 + 40	72		
16 + 28 + 40	84	32 + 50	82		
16 + 32 + 32	80	40 + 40	80		
16 + 32 + 40	88	40 + 50	90		
20 + 20 + 20	60				
20 + 20 + 25	65				
20 + 20 + 28	68				
20 + 20 + 32	72				
20 + 20 + 40	80				
20 + 20 + 50	90				
20 + 25 + 25	70				
20 + 25 + 28	73				
20 + 25 + 32	77				
20 + 25 + 40	85				
20 + 28 + 28	76				
20 + 28 + 32	80				
20 + 28 + 40	88				
20 + 32 + 32	84				
25 + 25 + 25	75				
25 + 25 + 28	78				
25 + 25 + 32	82				
25 + 25 + 40	90				
25 + 28 + 28	81				
25 + 28 + 32	85				
25 + 32 + 32	89				
28 + 28 + 28	84				
28 + 28 + 32	88				

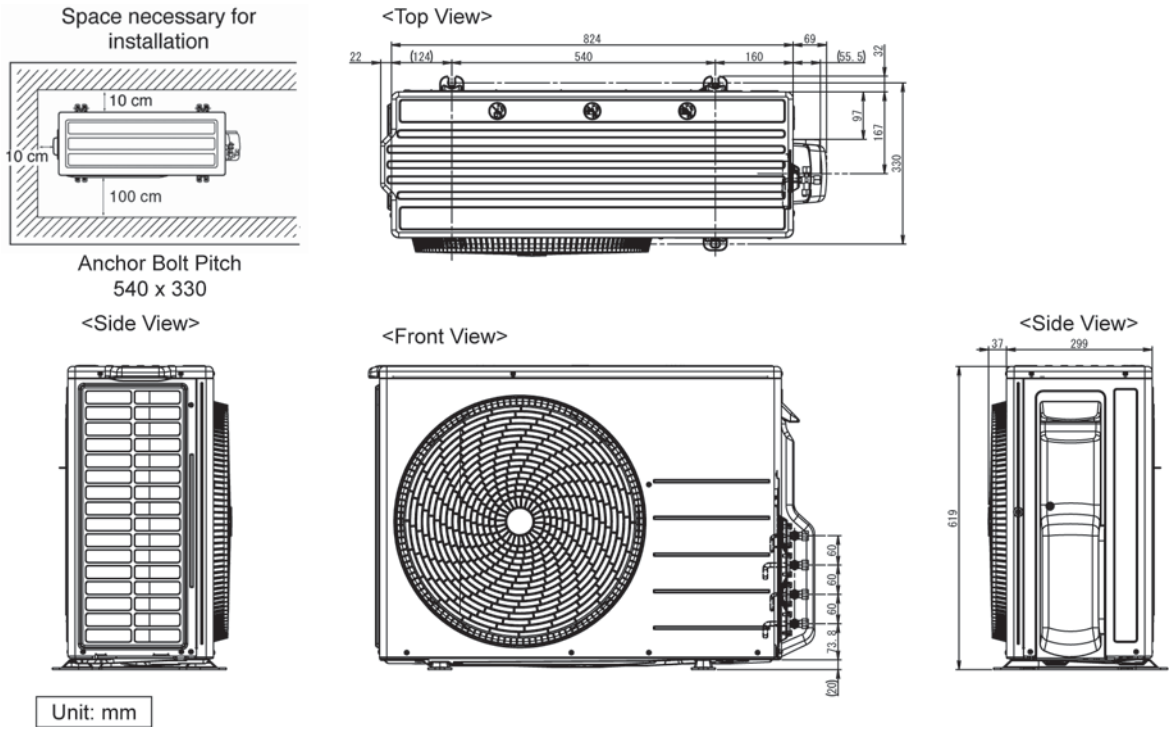
- Indoor Unit : CS-ME5PKE, CS-E7/9/12/15/18/21PKEW, CS-E9/12/18GFEW, CS-ME9/12/18/21PB4EA, CS-ME9/12/18PD3EA
- Outdoor Unit : CU-4E23PBE

4 Room		3 Room		2 Room		1 Room	
Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)
16 + 16 + 16 + 16	64	16 + 16 + 16	48	16 + 32	48	16	16
16 + 16 + 16 + 20	68	16 + 16 + 20	52	16 + 40	56	20	20
16 + 16 + 16 + 25	73	16 + 16 + 25	57	16 + 50	66	25	25
16 + 16 + 16 + 28	76	16 + 16 + 28	60	16 + 60	76	28	28
16 + 16 + 16 + 32	80	16 + 16 + 32	64	20 + 25	45	32	32
16 + 16 + 16 + 40	88	16 + 16 + 40	72	20 + 28	48	40	40
16 + 16 + 16 + 50	98	16 + 16 + 50	82	20 + 32	52	50	50
16 + 16 + 16 + 60	108	16 + 16 + 60	92	20 + 40	60	60	60
16 + 16 + 20 + 20	72	16 + 20 + 20	56	20 + 50	70		
16 + 16 + 20 + 25	77	16 + 20 + 25	61	20 + 60	80		
16 + 16 + 20 + 28	80	16 + 20 + 28	64	25 + 25	50		
16 + 16 + 20 + 32	84	16 + 20 + 32	68	25 + 28	53		
16 + 16 + 20 + 40	92	16 + 20 + 40	76	25 + 32	57		
16 + 16 + 20 + 50	102	16 + 20 + 50	86	25 + 40	65		
16 + 16 + 25 + 25	82	16 + 20 + 60	96	25 + 50	75		
16 + 16 + 25 + 28	85	16 + 25 + 25	66	25 + 60	85		
16 + 16 + 25 + 32	89	16 + 25 + 28	69	28 + 28	56		
16 + 16 + 25 + 40	97	16 + 25 + 32	73	28 + 32	60		
16 + 16 + 25 + 50	107	16 + 25 + 40	81	28 + 40	68		
16 + 16 + 28 + 28	88	16 + 25 + 50	91	28 + 50	78		
16 + 16 + 28 + 32	92	16 + 25 + 60	101	28 + 60	88		
16 + 16 + 28 + 40	100	16 + 28 + 28	72	32 + 32	64		
16 + 16 + 28 + 50	110	16 + 28 + 32	76	32 + 40	72		
16 + 16 + 32 + 32	96	16 + 28 + 40	84	32 + 50	82		
16 + 16 + 32 + 40	104	16 + 28 + 50	94	32 + 60	92		
16 + 20 + 20 + 20	76	16 + 28 + 60	104	40 + 40	80		
16 + 20 + 20 + 25	81	16 + 32 + 32	80	40 + 50	90		
16 + 20 + 20 + 28	84	16 + 32 + 40	88	40 + 60	100		
16 + 20 + 20 + 32	88	16 + 32 + 50	98	50 + 50	100		
16 + 20 + 20 + 40	96	16 + 32 + 60	108	50 + 60	110		
16 + 20 + 20 + 50	106	16 + 40 + 40	96				
16 + 20 + 25 + 25	86	16 + 40 + 50	106				
16 + 20 + 25 + 28	89	20 + 20 + 20	60				
16 + 20 + 25 + 32	93	20 + 20 + 25	65				
16 + 20 + 25 + 40	101	20 + 20 + 28	68				
16 + 20 + 28 + 28	92	20 + 20 + 32	72				
16 + 20 + 28 + 32	96	20 + 20 + 40	80				
16 + 20 + 28 + 40	104	20 + 20 + 50	90				
16 + 20 + 32 + 32	100	20 + 20 + 60	100				
16 + 20 + 32 + 40	108	20 + 25 + 25	70				
16 + 25 + 25 + 25	91	20 + 25 + 28	73				
16 + 25 + 25 + 28	94	20 + 25 + 32	77				
16 + 25 + 25 + 32	98	20 + 25 + 40	85				
16 + 25 + 25 + 40	106	20 + 25 + 50	95				
16 + 25 + 28 + 28	97	20 + 25 + 60	105				
16 + 25 + 28 + 32	101	20 + 28 + 28	76				
16 + 25 + 28 + 40	109	20 + 28 + 32	80				
16 + 25 + 32 + 32	105	20 + 28 + 40	88				
16 + 28 + 28 + 28	100	20 + 28 + 50	98				
16 + 28 + 28 + 32	104	20 + 28 + 60	108				
16 + 28 + 32 + 32	108	20 + 32 + 32	84				
20 + 20 + 20 + 20	80	20 + 32 + 40	92				
20 + 20 + 20 + 25	85	20 + 32 + 50	102				
20 + 20 + 20 + 28	88	20 + 40 + 40	100				
20 + 20 + 20 + 32	92	20 + 40 + 50	110				
20 + 20 + 20 + 40	100	25 + 25 + 25	75				
20 + 20 + 20 + 50	110	25 + 25 + 28	78				
20 + 20 + 25 + 25	90	25 + 25 + 32	82				

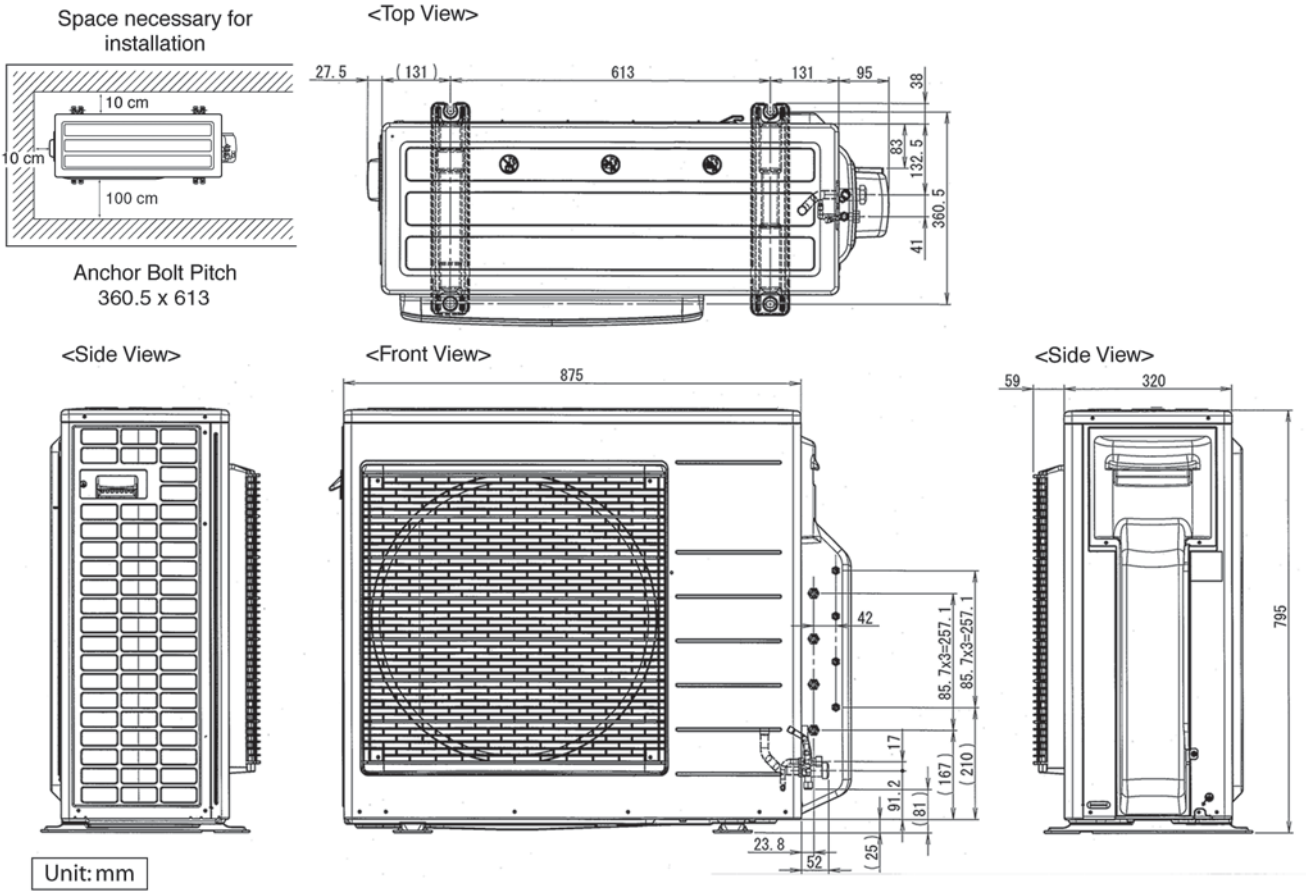
4 Room		3 Room		2 Room		1 Room	
Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)	Indoor Unit Capacity (kW)	Total Indoor Capacity (kW)
20 + 20 + 25 + 28	93	25 + 25 + 40	90				
20 + 20 + 25 + 32	97	25 + 25 + 50	100				
20 + 20 + 25 + 40	105	25 + 25 + 60	110				
20 + 20 + 28 + 28	96	25 + 28 + 28	81				
20 + 20 + 28 + 32	100	25 + 28 + 32	85				
20 + 20 + 28 + 40	108	25 + 28 + 40	93				
20 + 20 + 32 + 32	104	25 + 28 + 50	103				
20 + 25 + 25 + 25	95	25 + 32 + 32	89				
20 + 25 + 25 + 28	98	25 + 32 + 40	97				
20 + 25 + 25 + 32	102	25 + 32 + 50	107				
20 + 25 + 25 + 40	110	25 + 40 + 40	105				
20 + 25 + 28 + 28	101	28 + 28 + 28	84				
20 + 25 + 28 + 32	105	28 + 28 + 32	88				
20 + 25 + 32 + 32	109	28 + 28 + 40	96				
20 + 28 + 28 + 28	104	28 + 28 + 50	106				
20 + 28 + 28 + 32	108	28 + 32 + 32	92				
25 + 25 + 25 + 25	100	28 + 32 + 40	100				
25 + 25 + 25 + 28	103	28 + 32 + 50	110				
25 + 25 + 25 + 32	107	28 + 40 + 40	108				
25 + 25 + 28 + 28	106	32 + 32 + 32	96				
25 + 25 + 28 + 32	110	32 + 32 + 40	104				
25 + 28 + 28 + 28	109						

3. Dimensions

3.1 CU-2E15PBE CU-2E18PBE

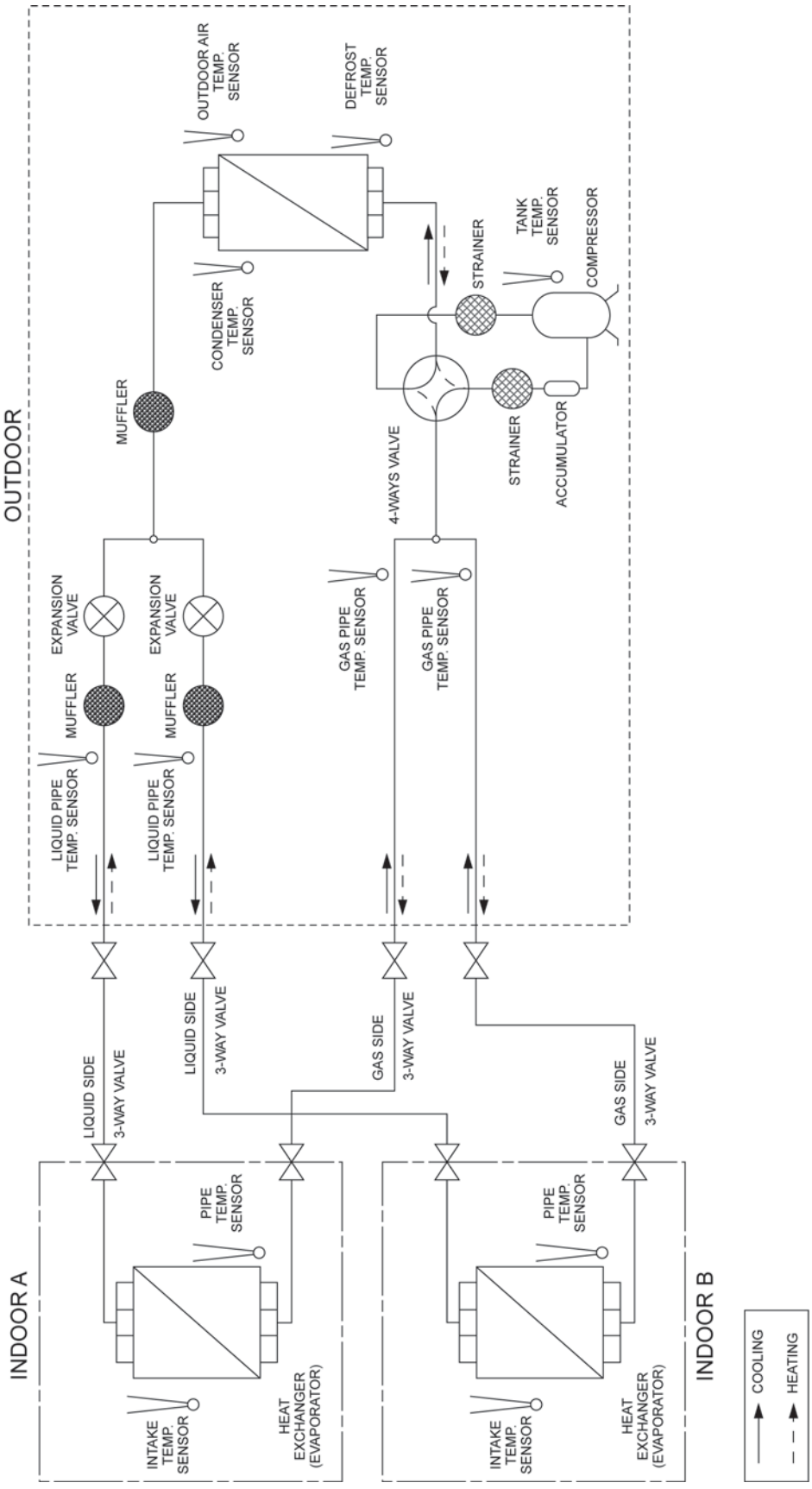


3.2 CU-3E18PBE CU-4E23PBE

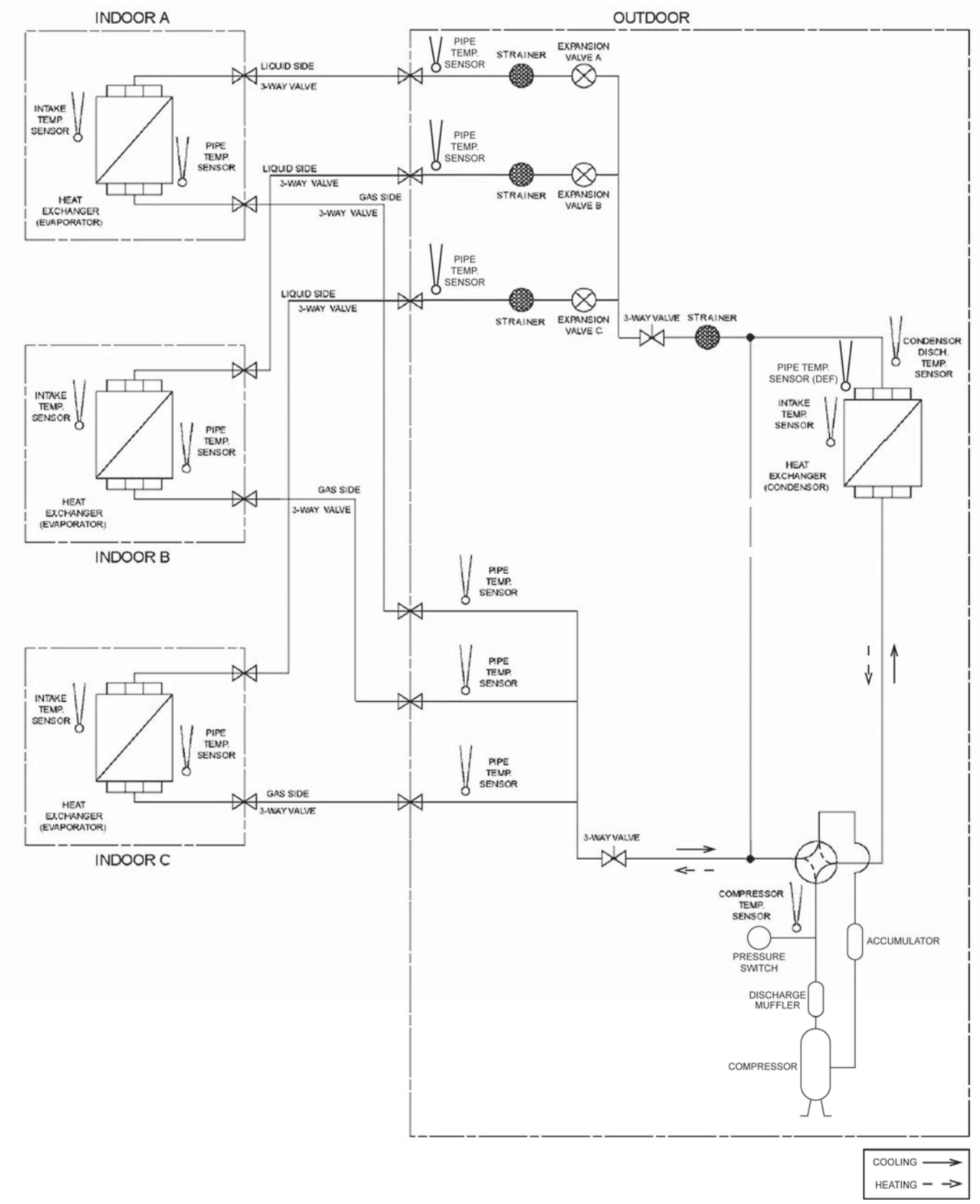


4. Refrigeration Cycle Diagram

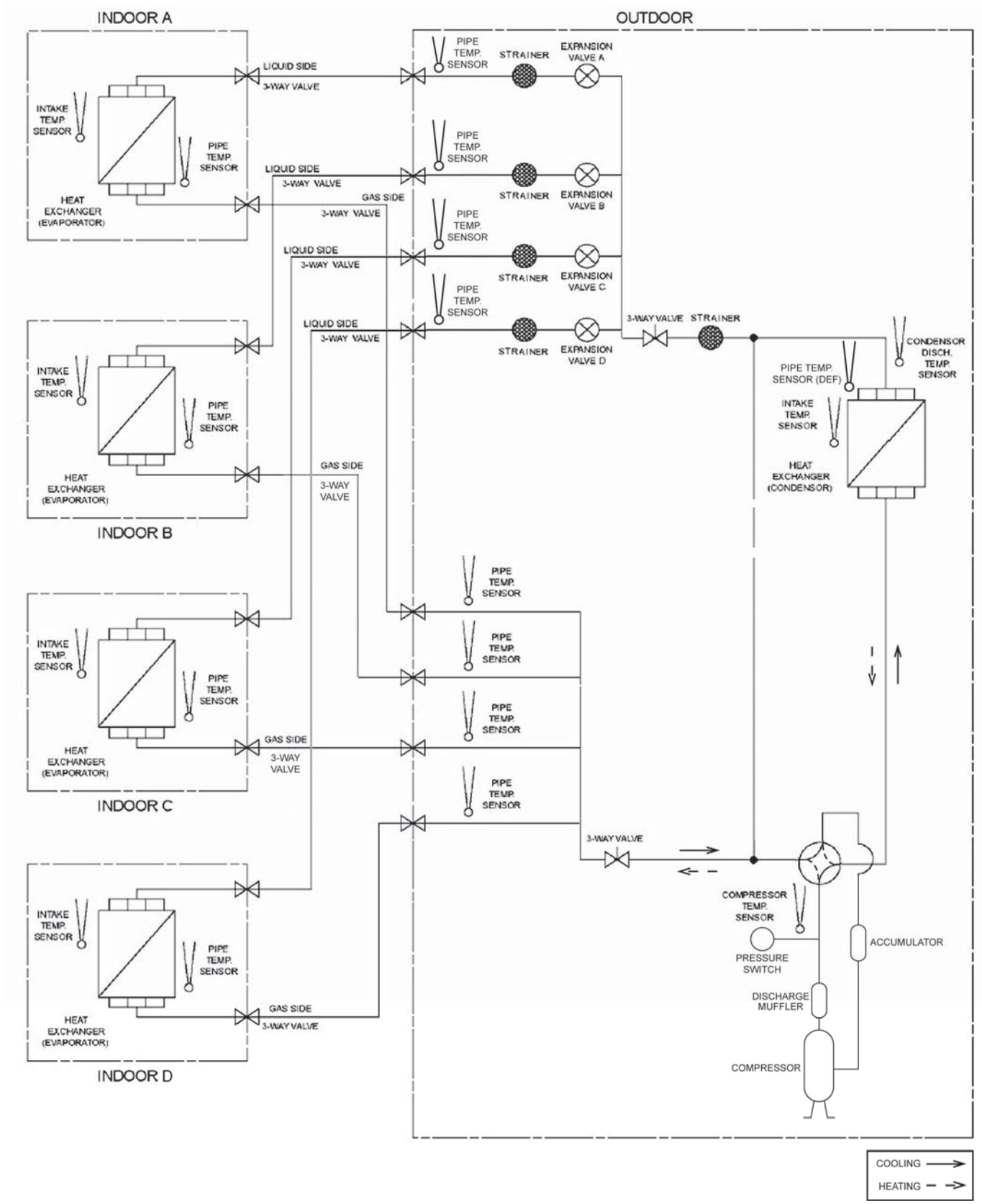
4.1 CU-2E15PBE CU-2E18PBE



4.2 CU-3E18PBE



4.3 CU-4E23PBE

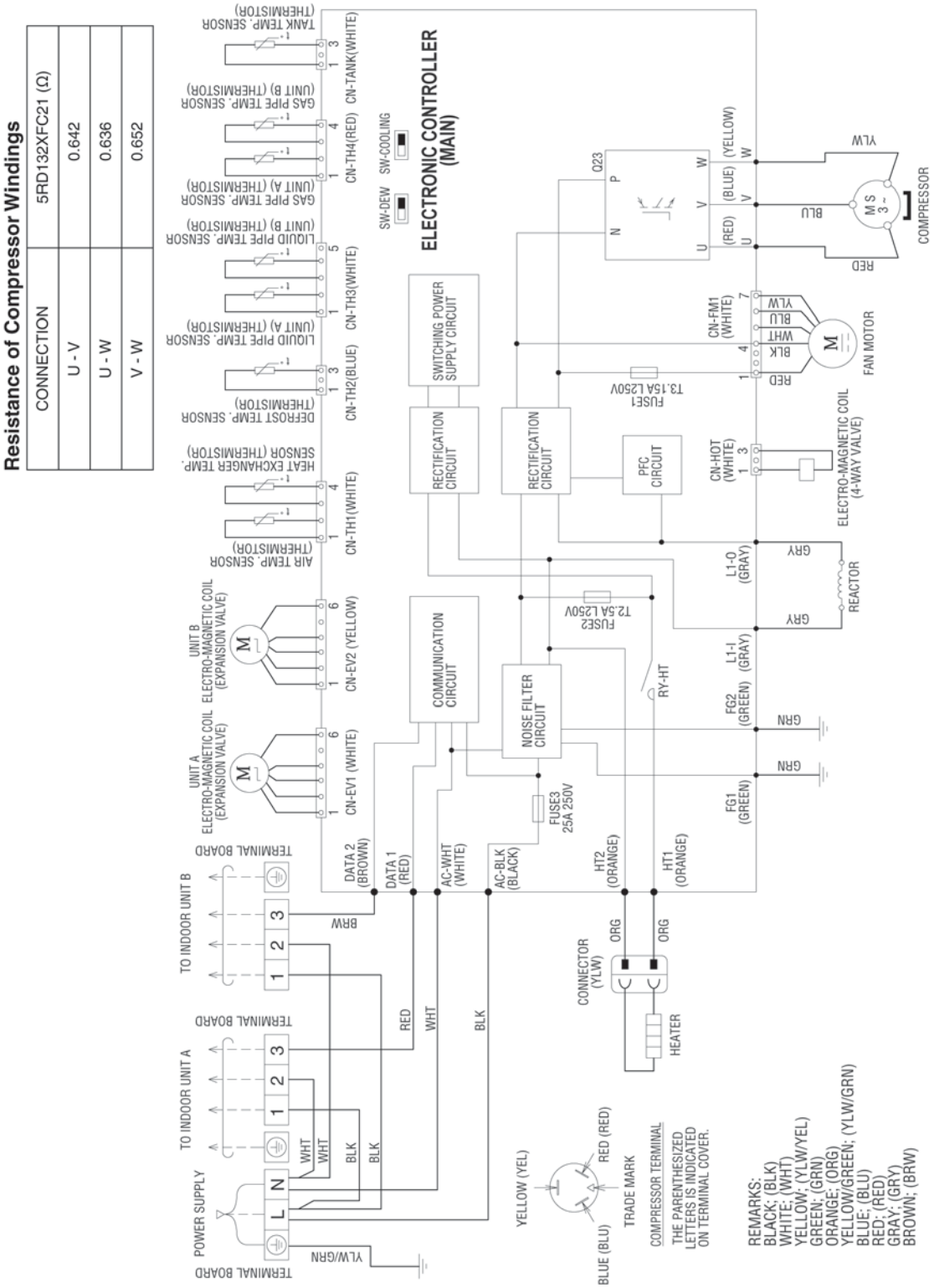


6. Wiring Connection Diagram

6.1 CU-2E15PBE CU-2E18PBE

Resistance of Compressor Windings

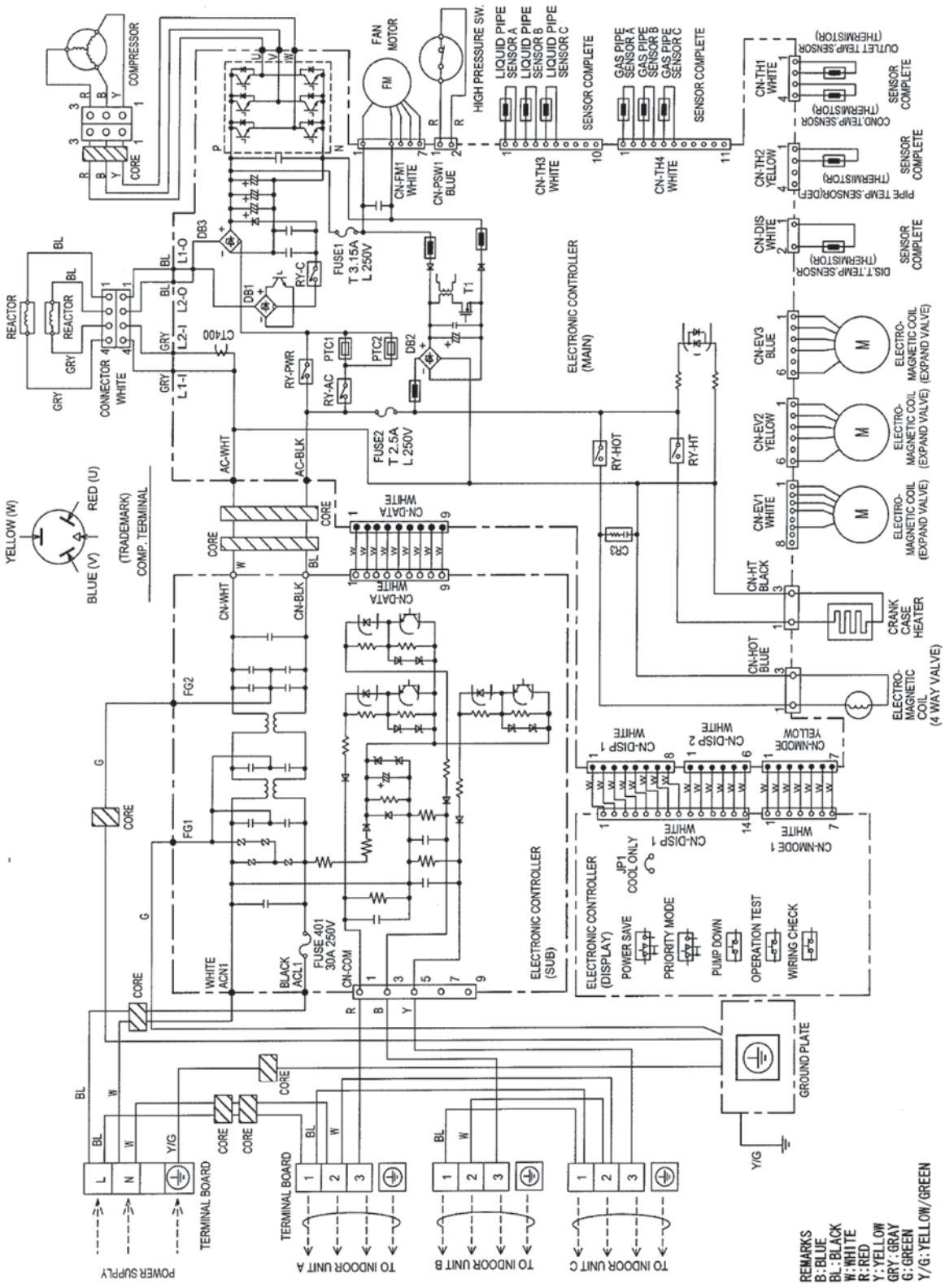
CONNECTION	5RD132XFC21 (Ω)
U - V	0.642
U - W	0.636
V - W	0.652



6.2 CU-3E18PBE

Resistance of Compressor Windings

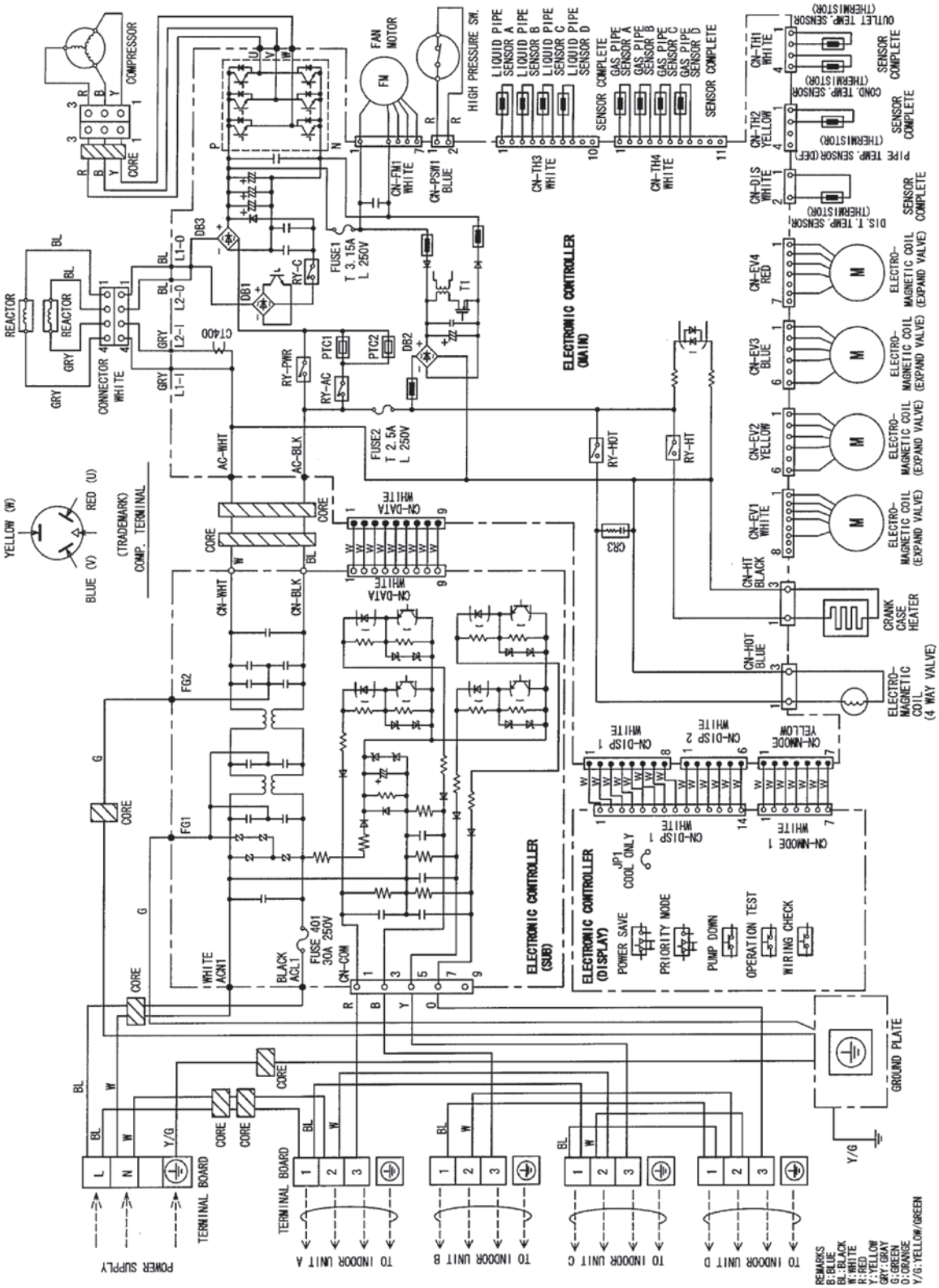
CONNECTION	5KD184XAB21 (Ω)
U - V	0.72
U - W	0.73
V - W	0.71



6.3 CU-4E23PBE

Resistance of Compressor Windings

CONNECTION	5KD184XAB21 (Ω)
U - V	0.72
U - W	0.73
V - W	0.71



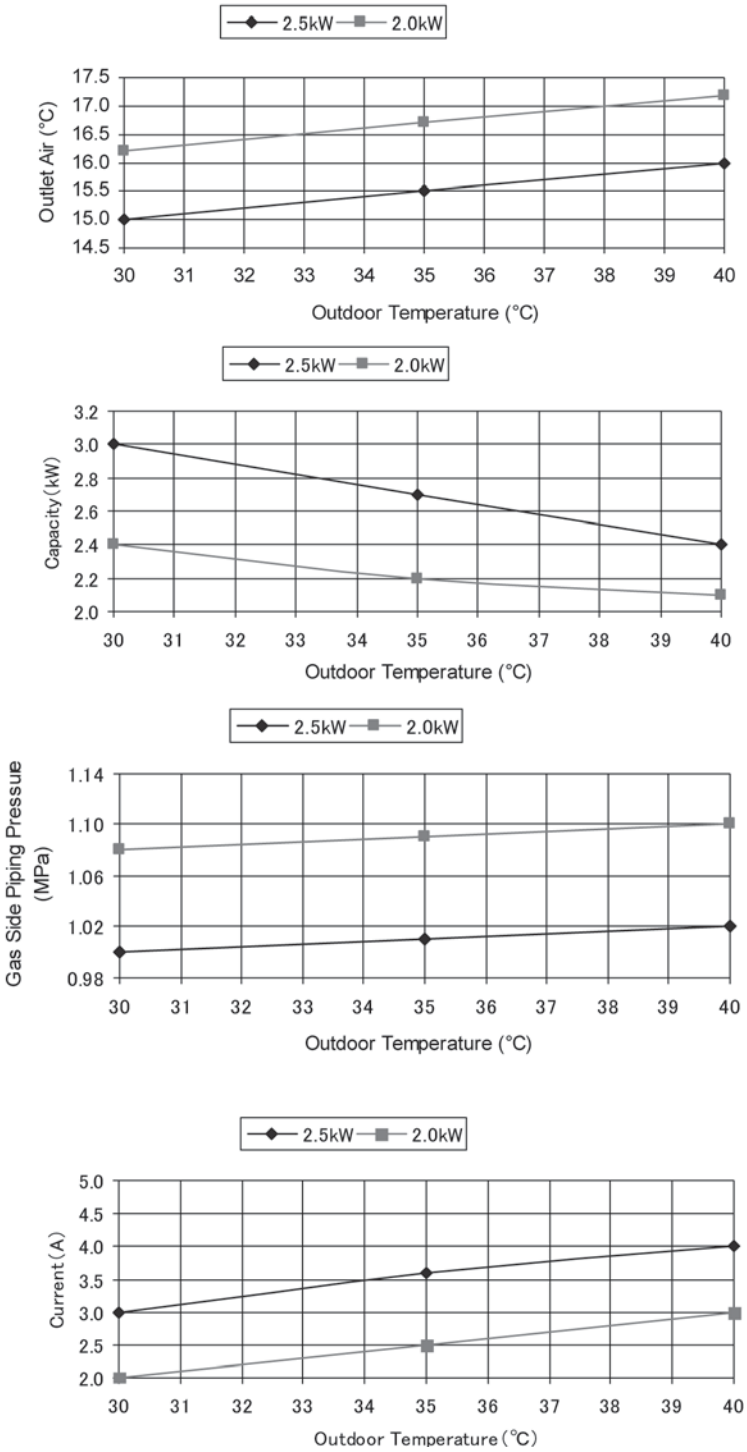
17. Technical Data

17.1 Operation Characteristics (CU-2E15PBE)

17.1.1 One Indoor Unit Operation

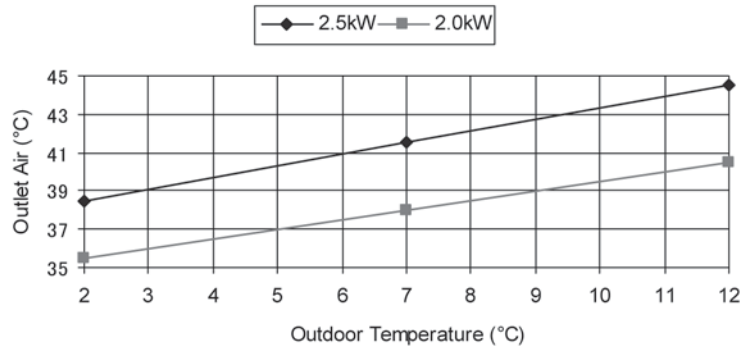
• Cooling Characteristic

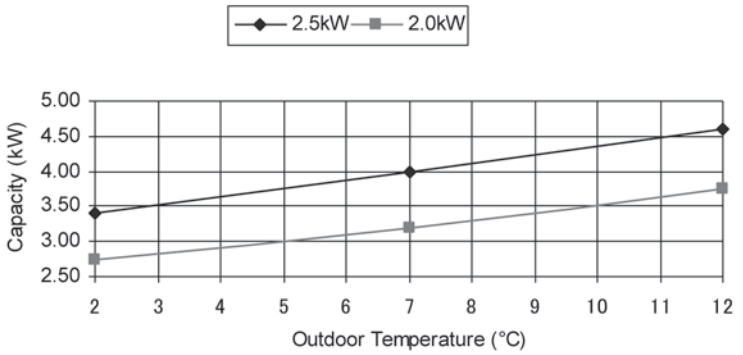
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m

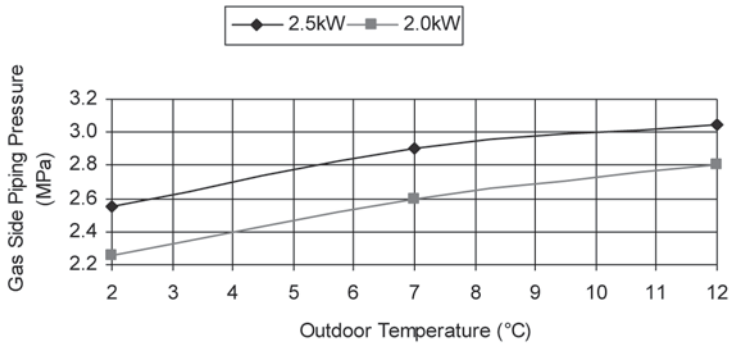


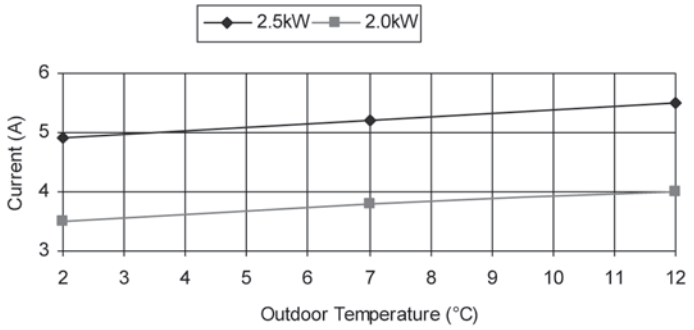
• Heating Characteristic

[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m





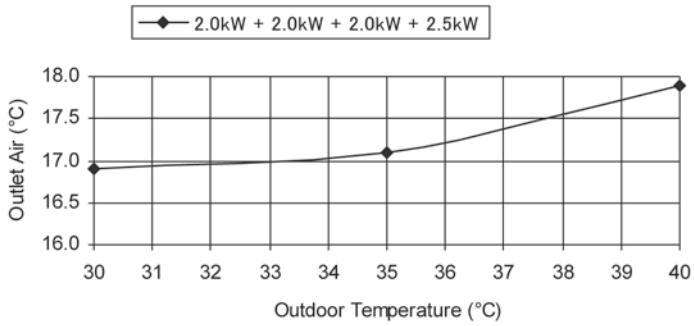


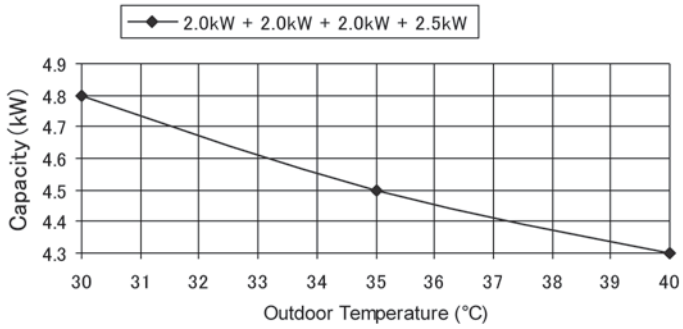


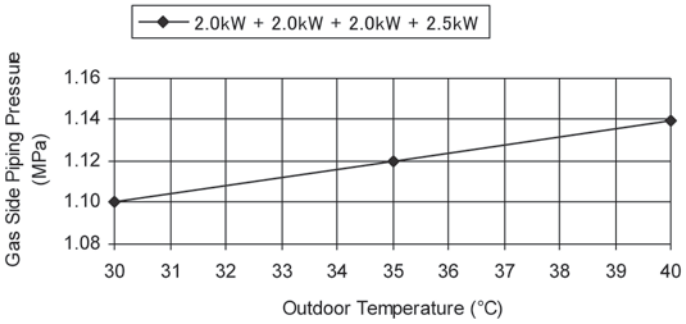
17.1.2 Two Indoor Unit Operation

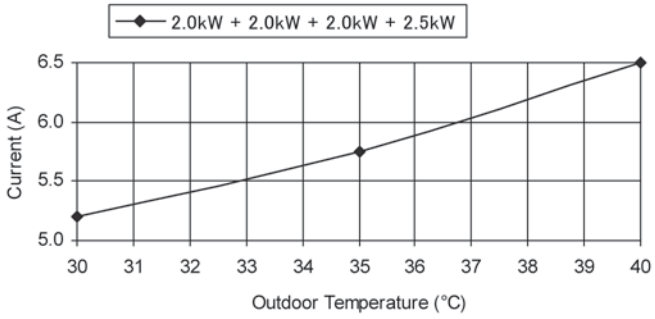
• Cooling Characteristic

[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping Length: 5m



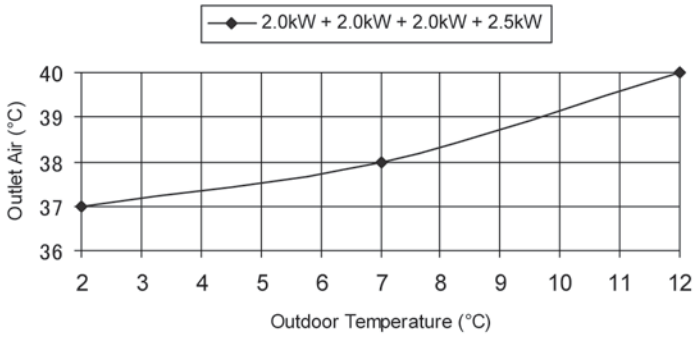


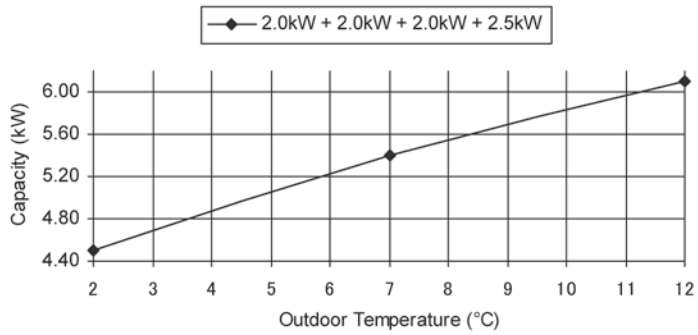


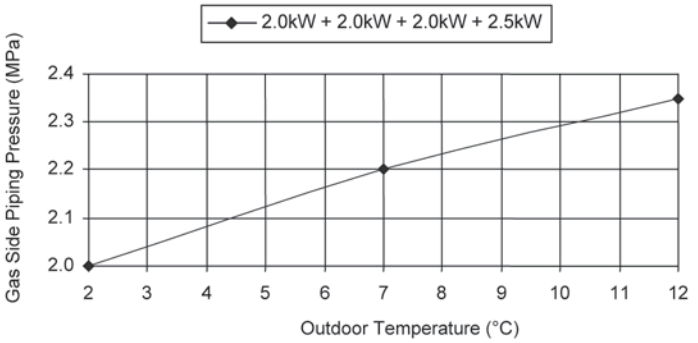


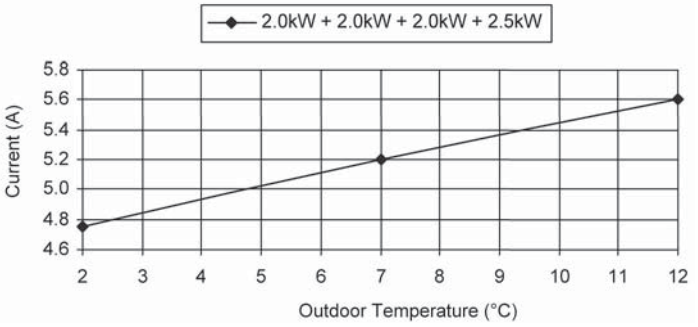
• Heating Characteristic

[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m







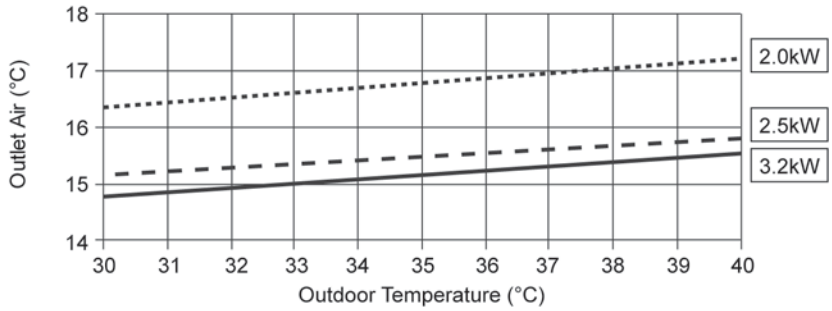


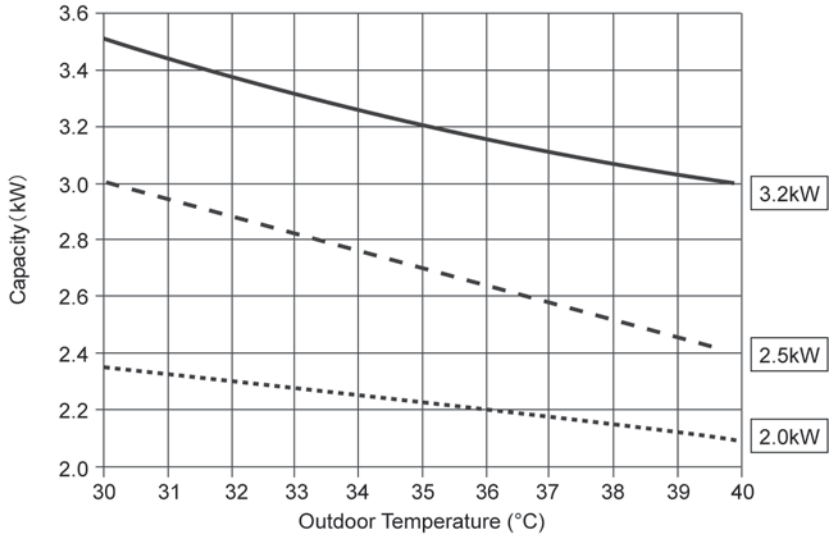
17.2 Operation Characteristics (CU-2E18PBE)

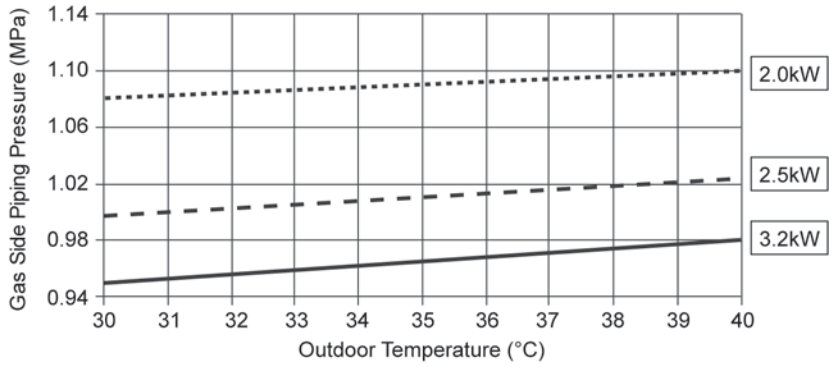
17.2.1 One Indoor Unit Operation

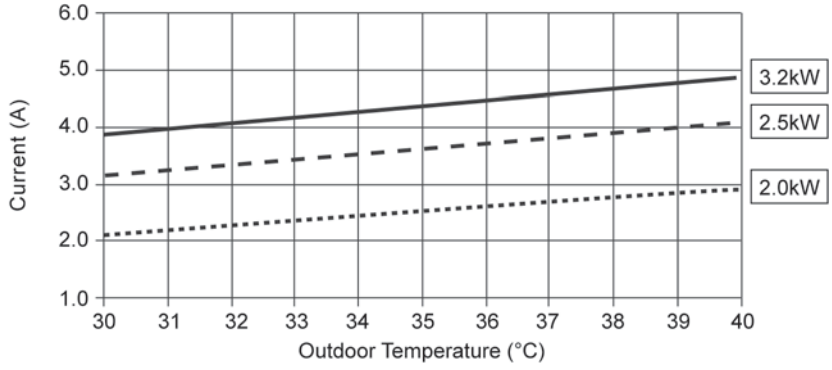
• Cooling Characteristic

[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m



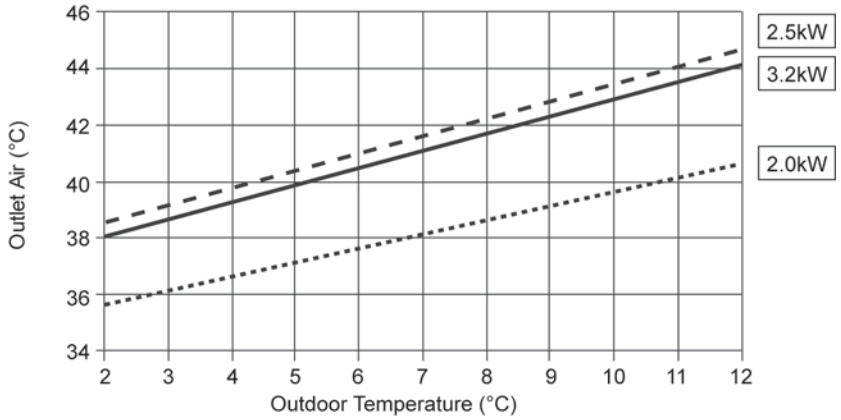


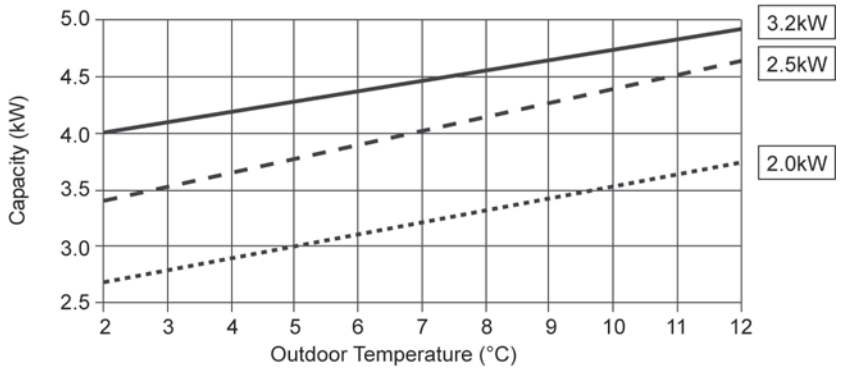


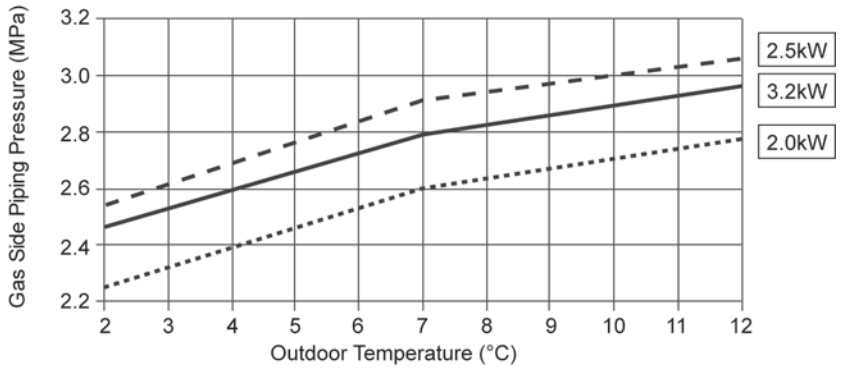


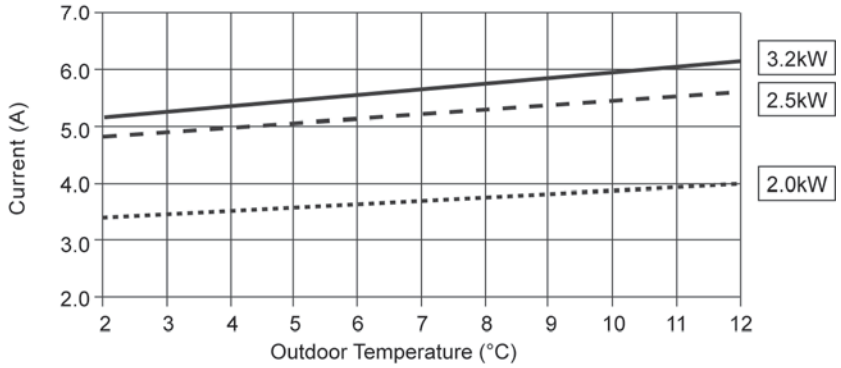
• Heating Characteristic

[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: At high fan
Piping length: 5m





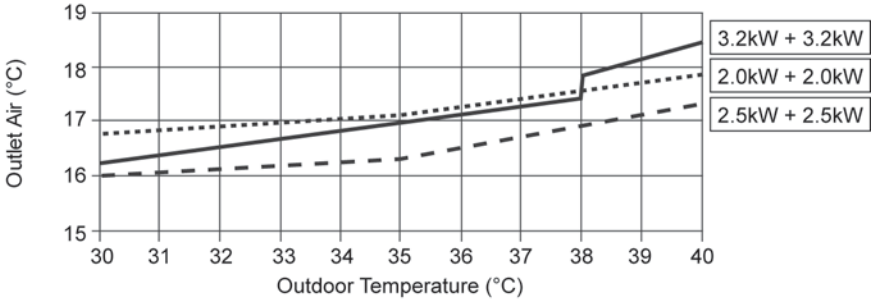


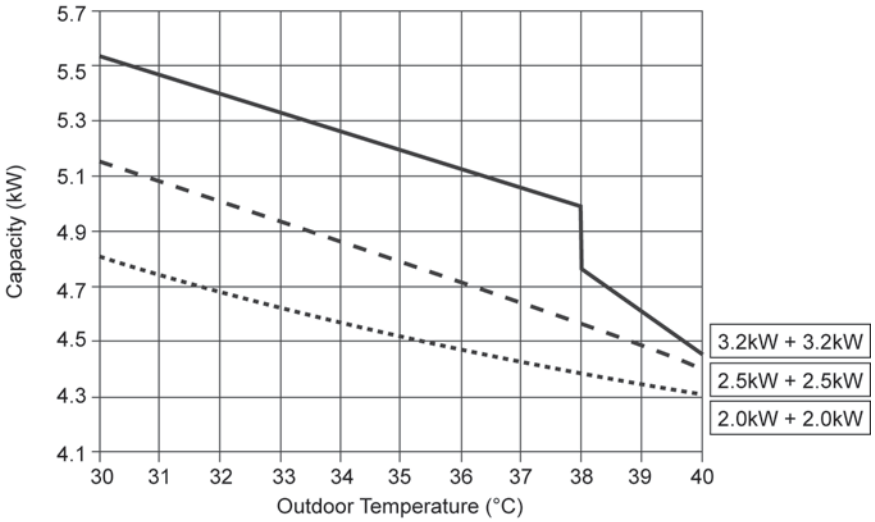


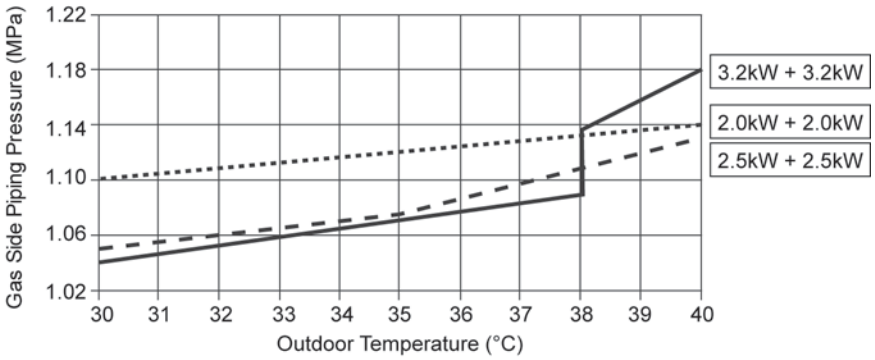
17.2.2 Two Indoor Unit Operation

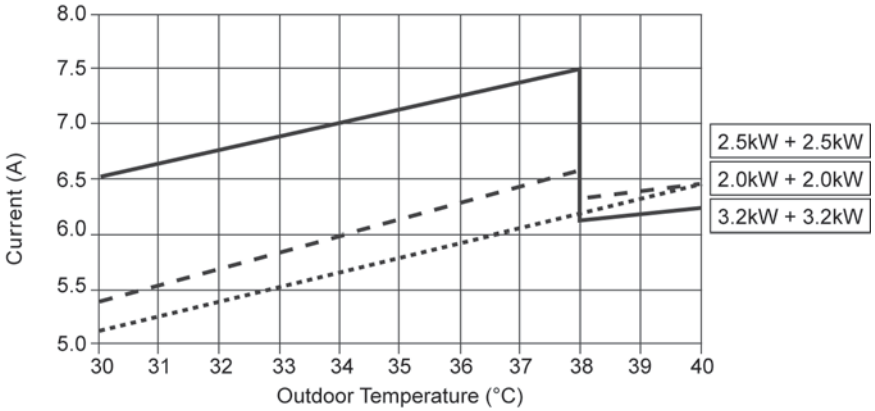
• Cooling Characteristic

[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m



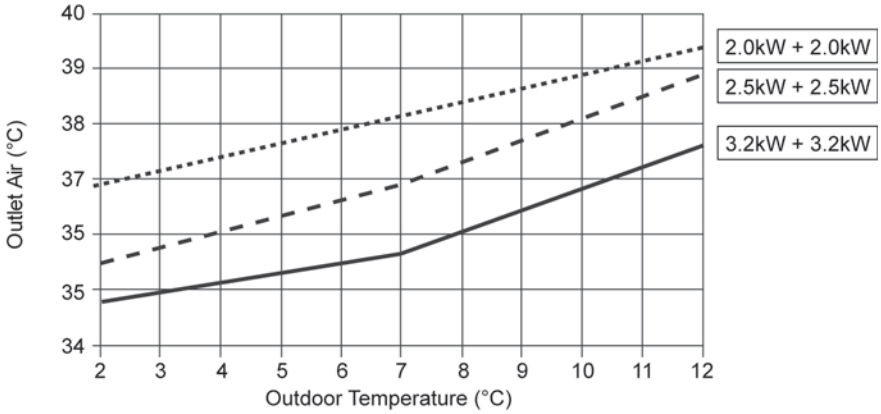


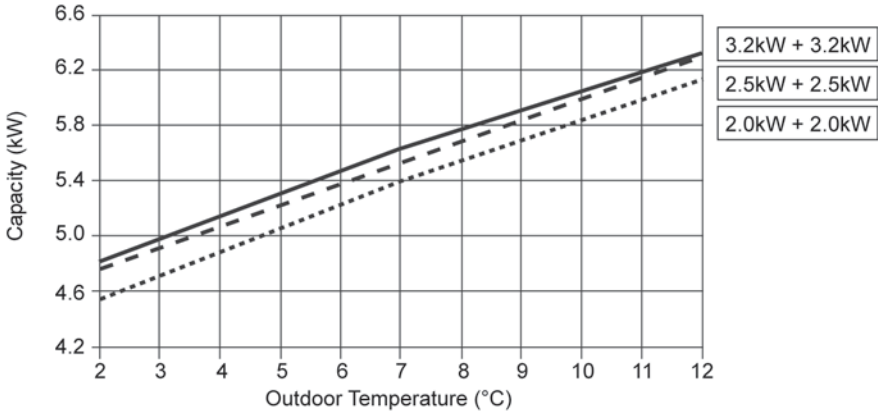


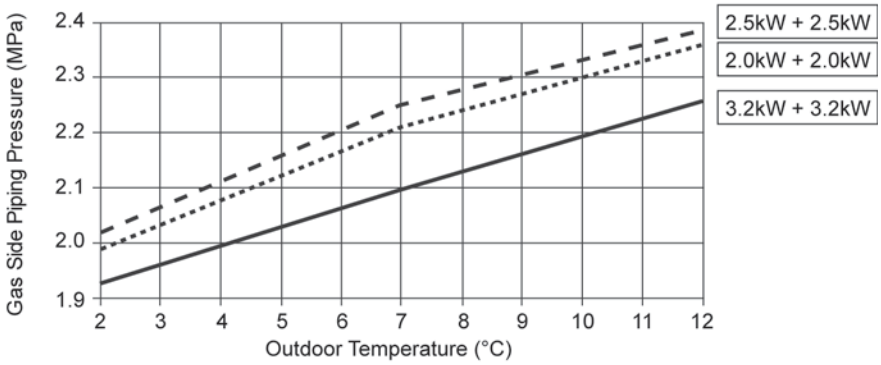


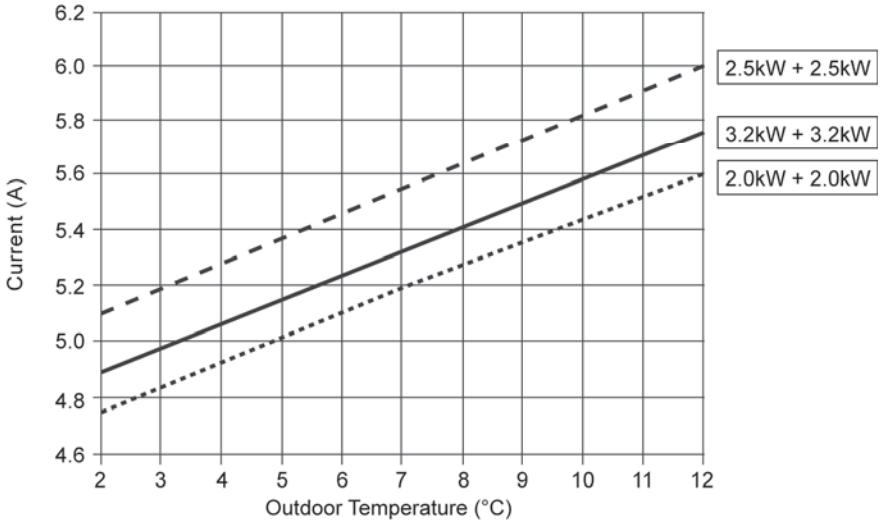
• Heating Characteristic

[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: At high fan
Piping length: 5m









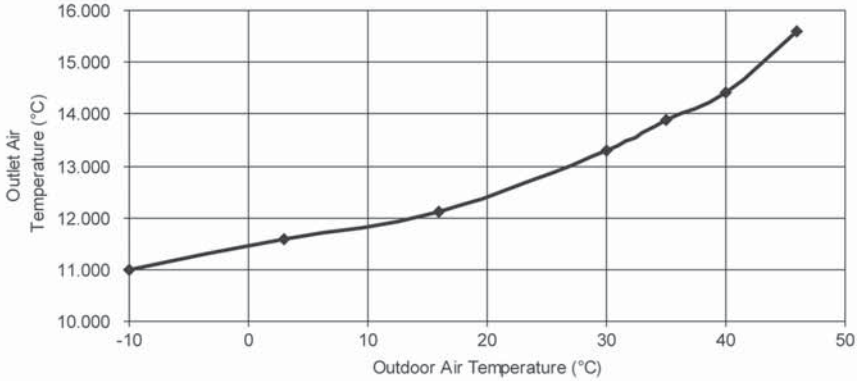
17.3 Operation Characteristics (CU-3E18PBE)

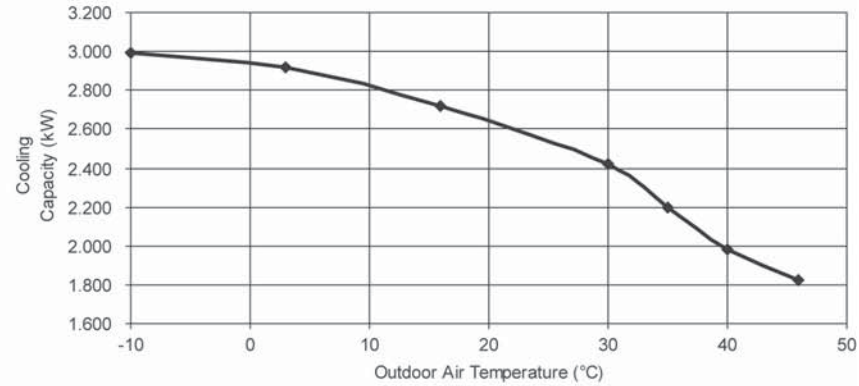
17.3.1 One Indoor Unit Operation

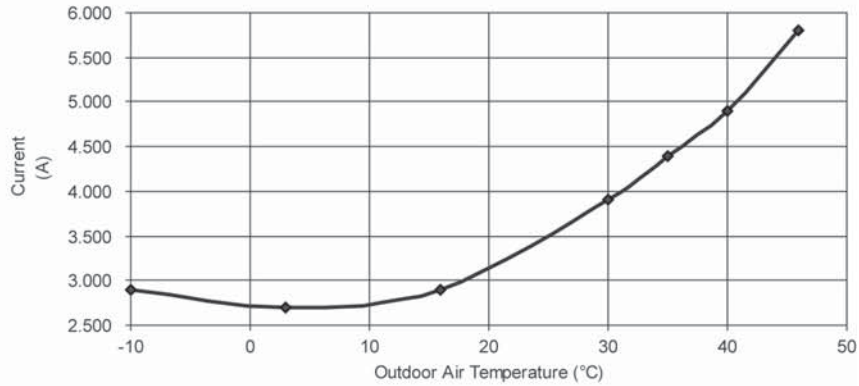
• Cooling Characteristic

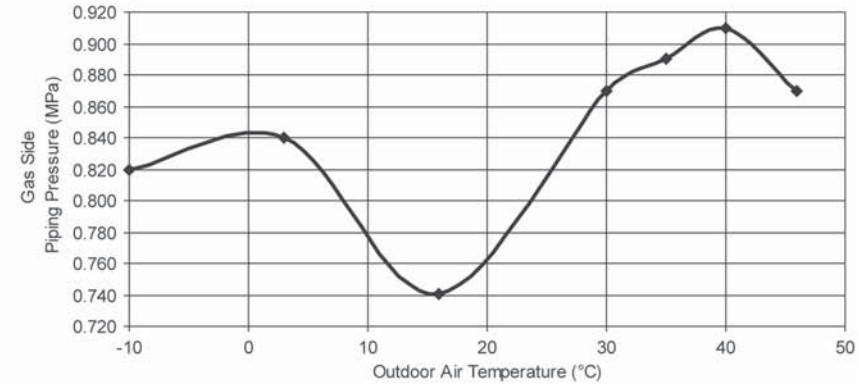
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Cooling (2.0: CS-E7PKEW), service mode frequency = 32 Hz





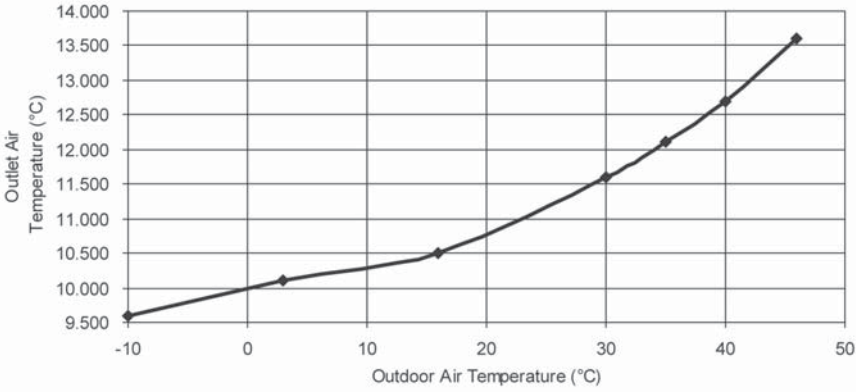


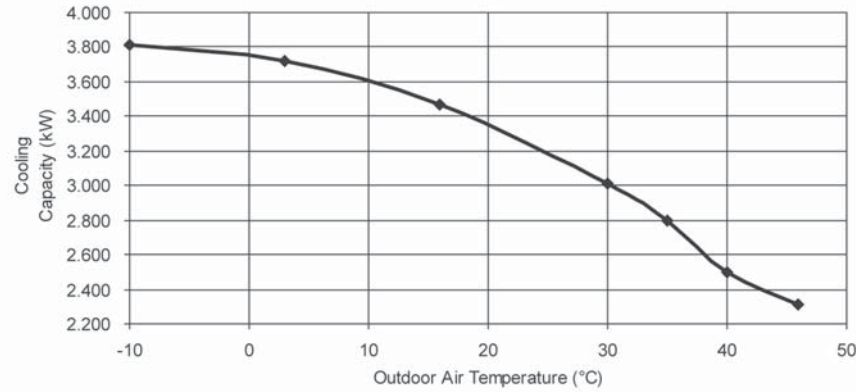


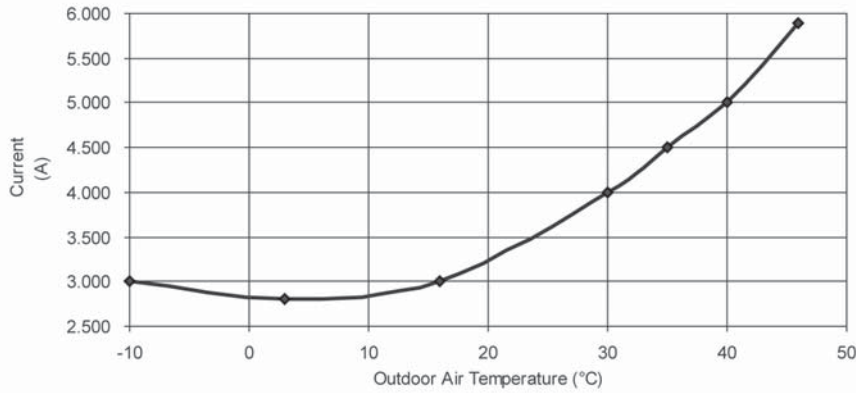
• Cooling Characteristic

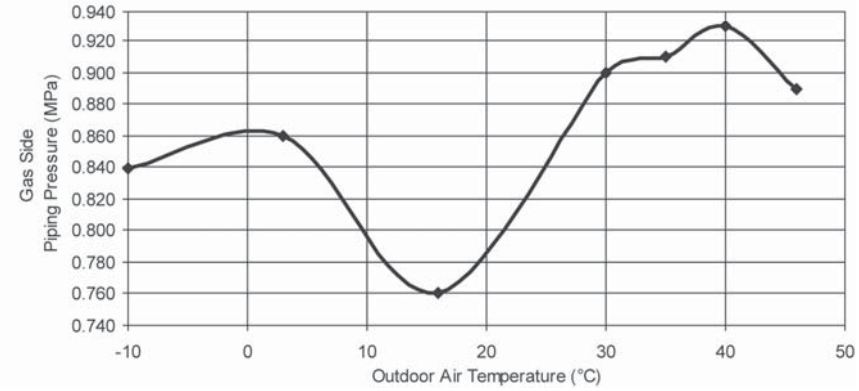
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

B) Indoor unit capacity: Cooling (2.5: CS-E9PKEW), service mode frequency = 32 Hz





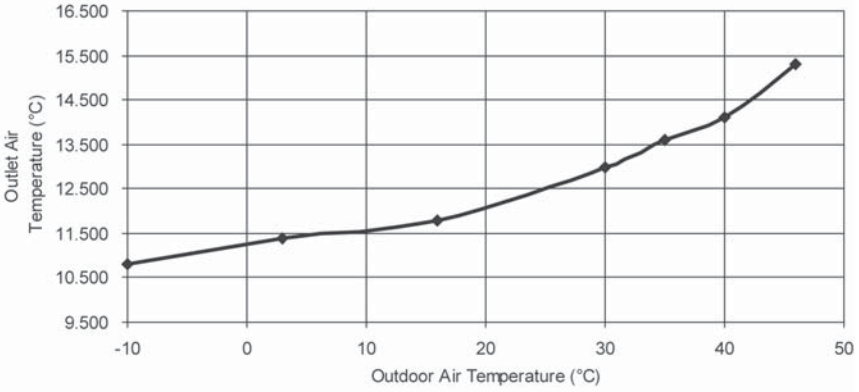


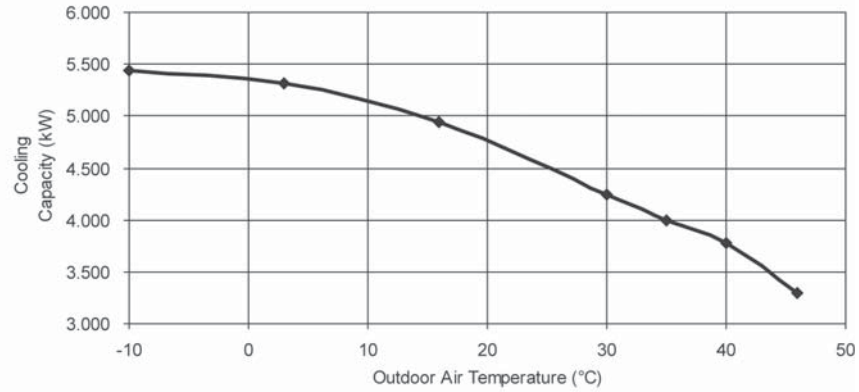


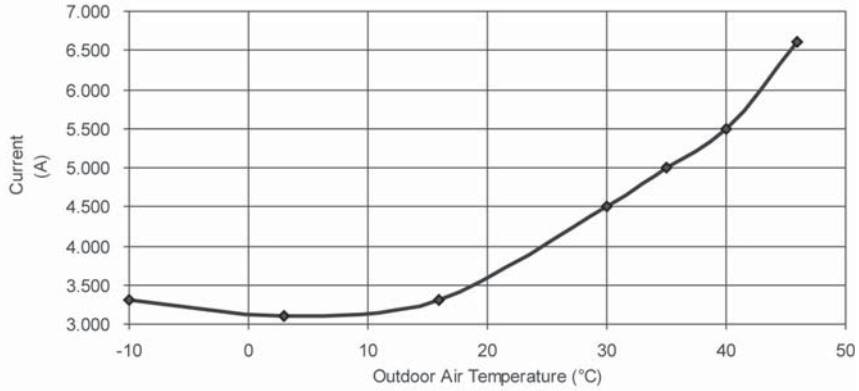
• Cooling Characteristic

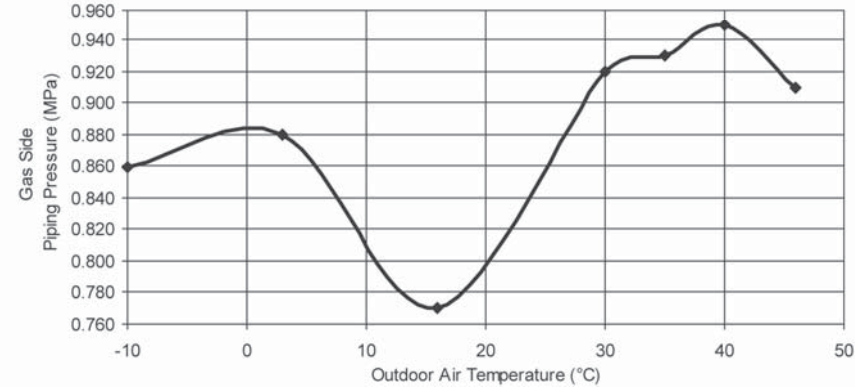
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

C) Indoor unit capacity: Cooling (4.0: CS-E15PKEW), service mode frequency = 35 Hz





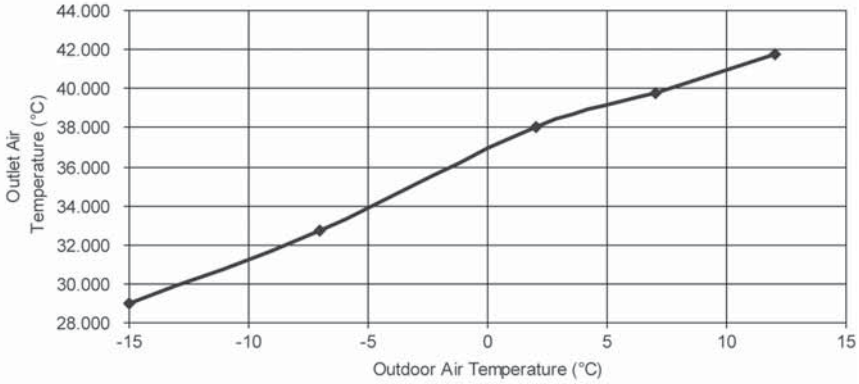


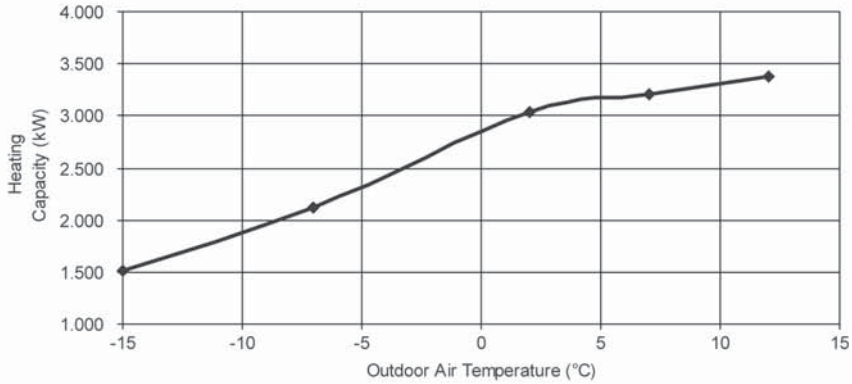


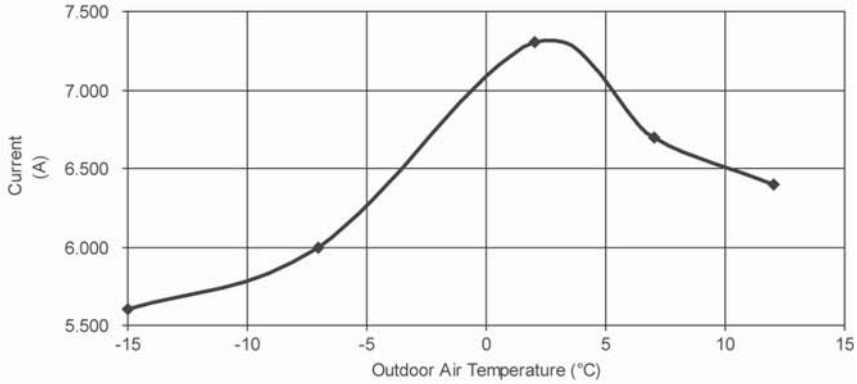
• Heating Characteristic

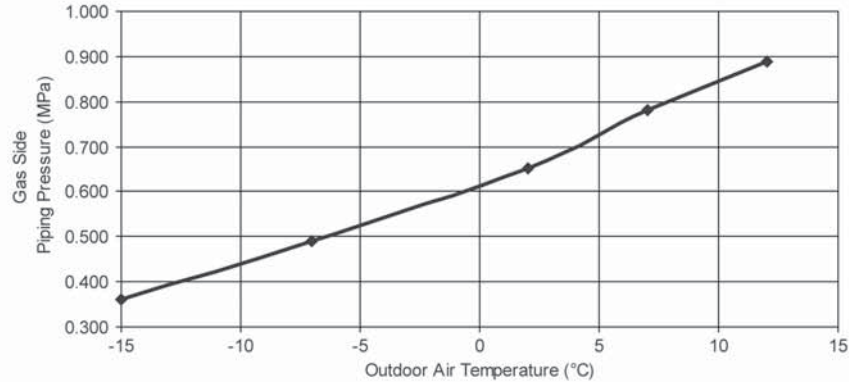
[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Heating (2.0: CS-E7PKEW), service mode frequency = 43 Hz





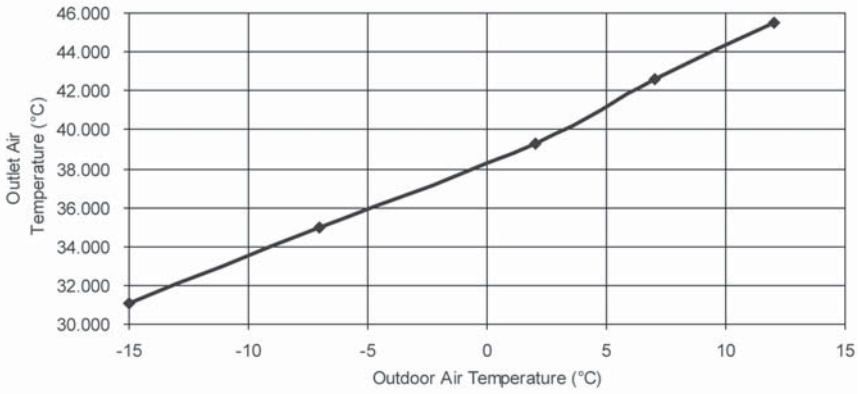


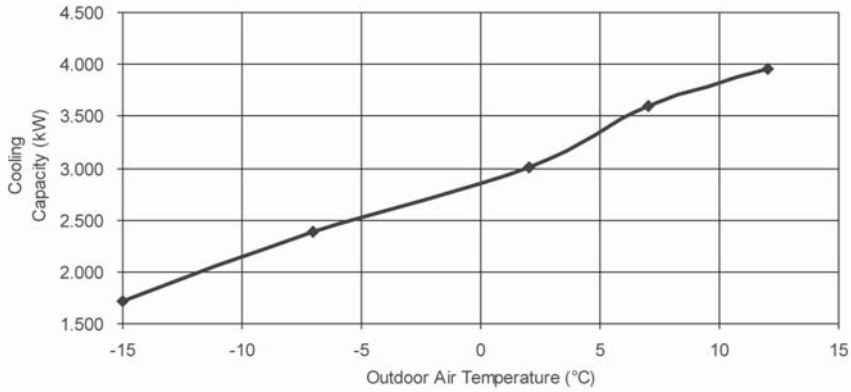


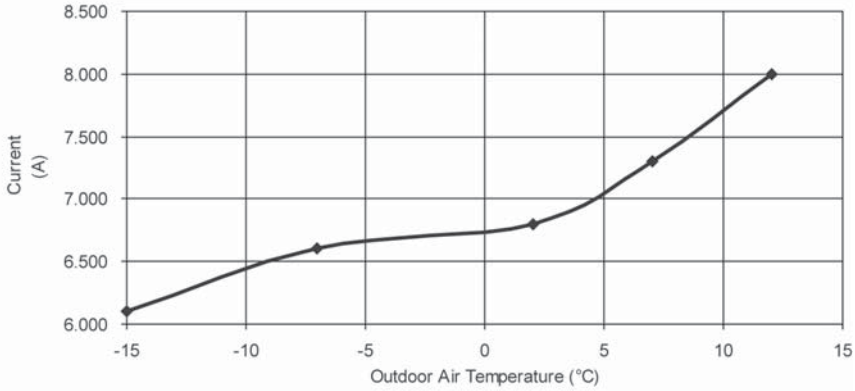
• Heating Characteristic

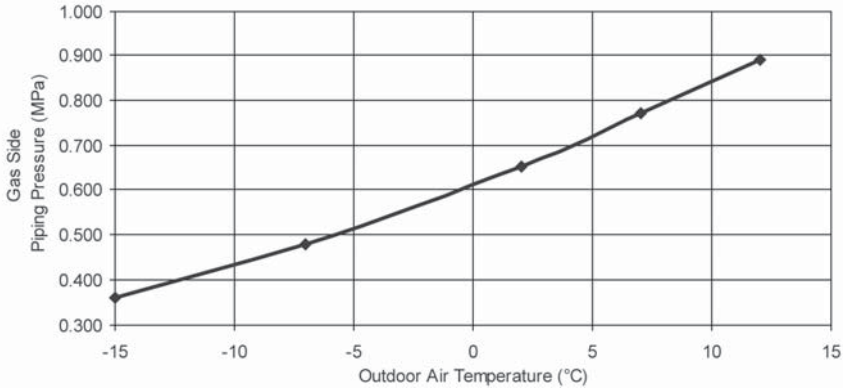
[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

B) Indoor unit capacity: Heating (2.5: CS-E9PKEW), service mode frequency = 49 Hz





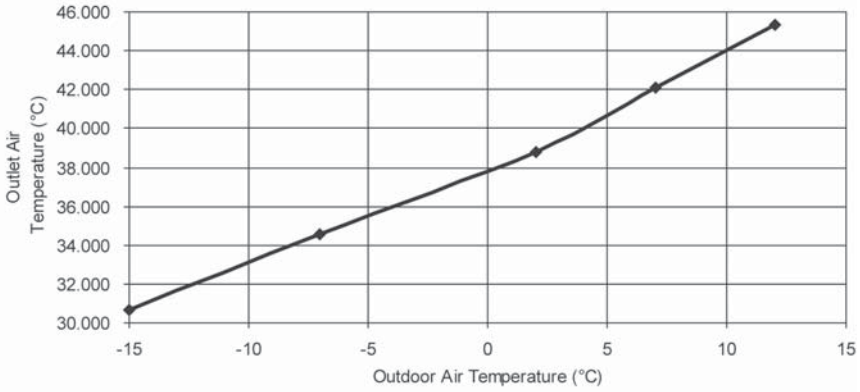


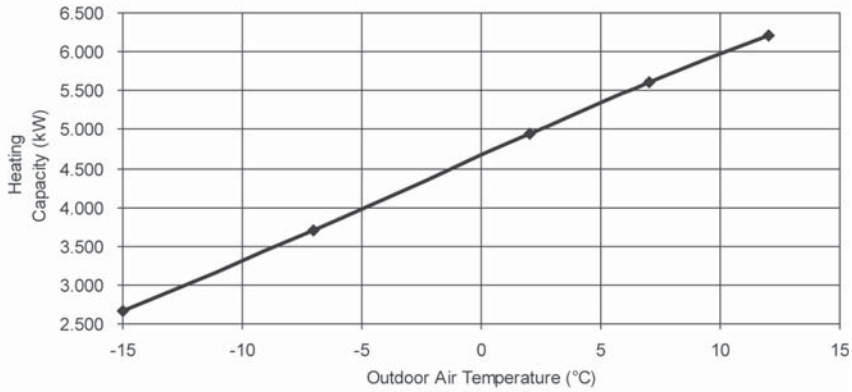


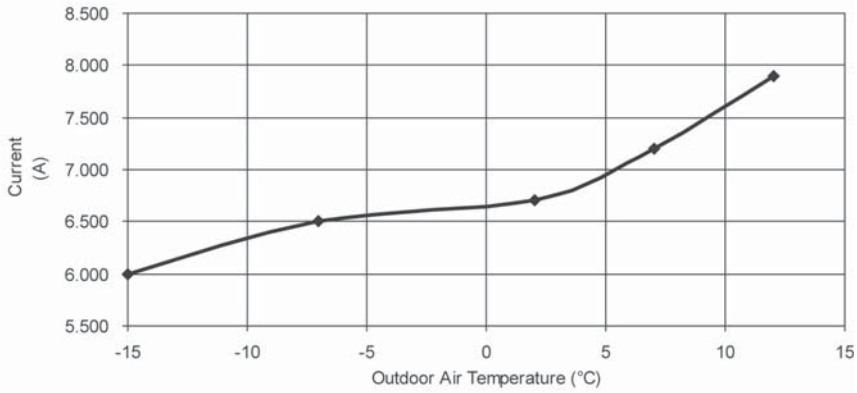
• Heating Characteristic

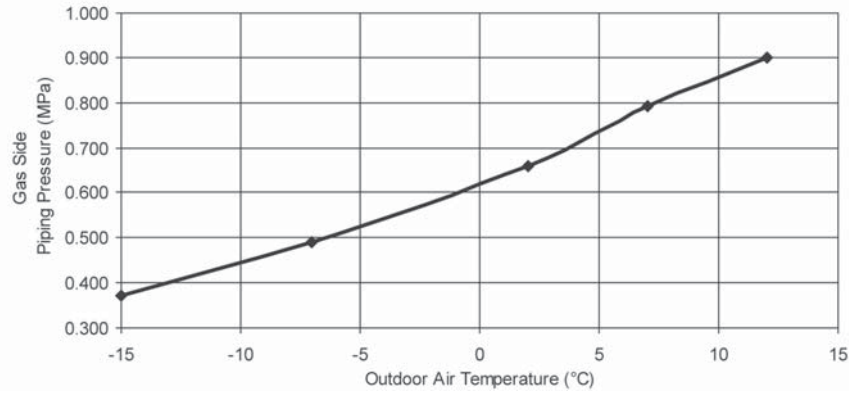
[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

C) Indoor unit capacity: Heating (4.0: CS-E15PKEW), service mode frequency = 49 Hz







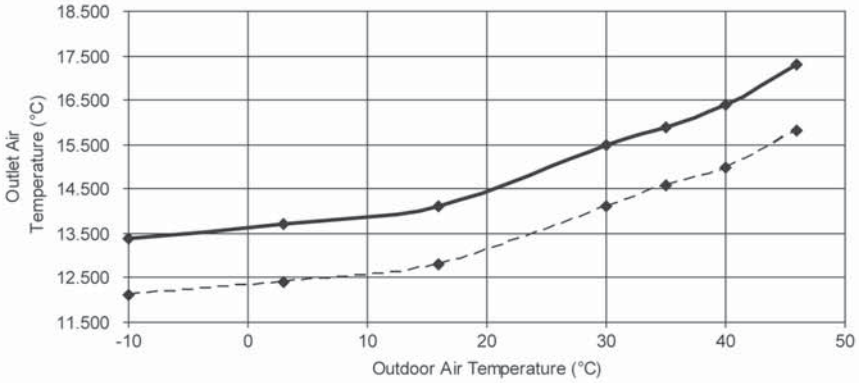


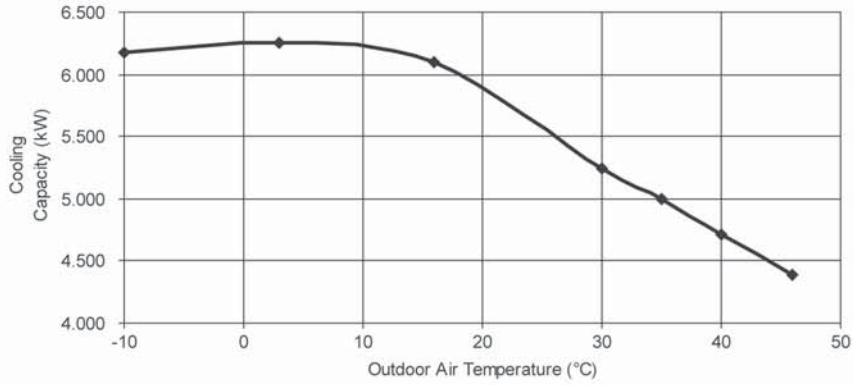
17.3.2 Two Indoor Unit Operation

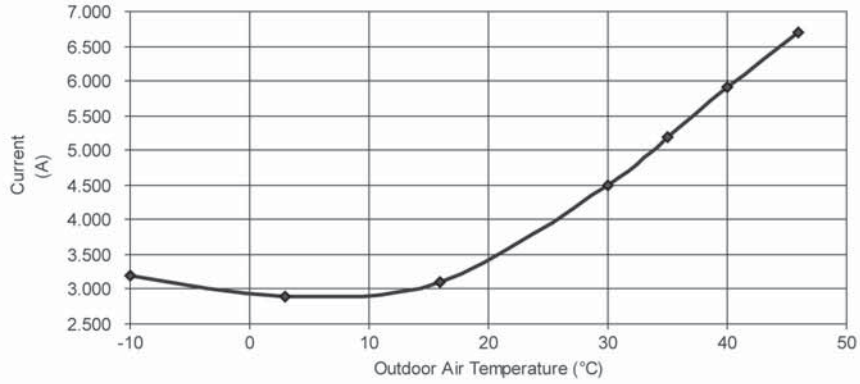
• Cooling Characteristic

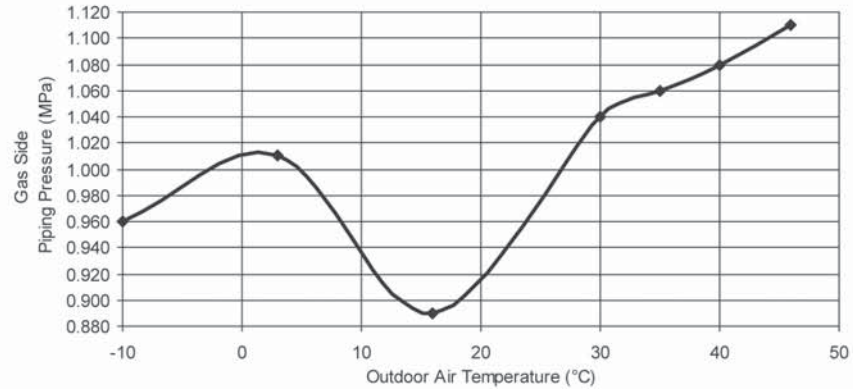
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Cooling (2.0 + 2.5: CS-E7PKEW + CS-E9PKEW), service mode frequency = 38 Hz





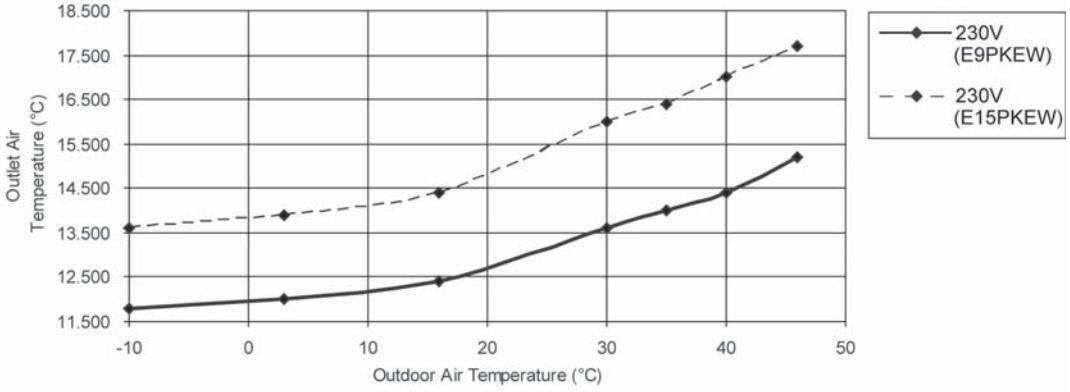


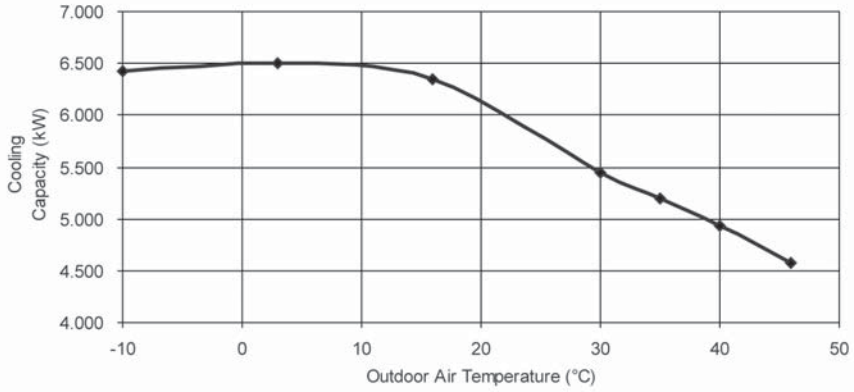


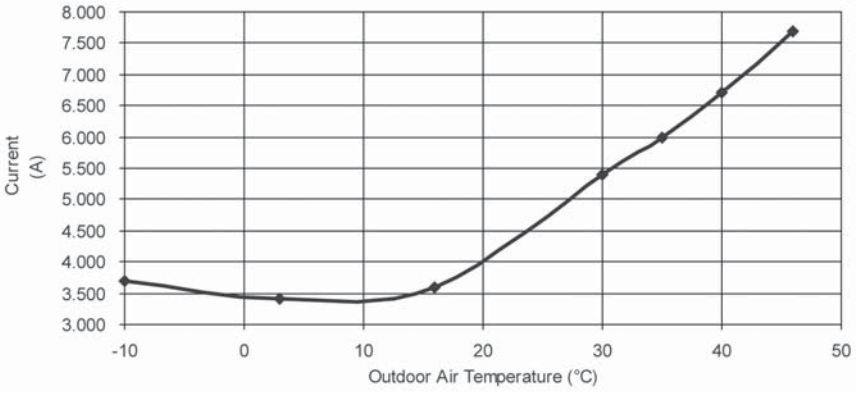
• Cooling Characteristic

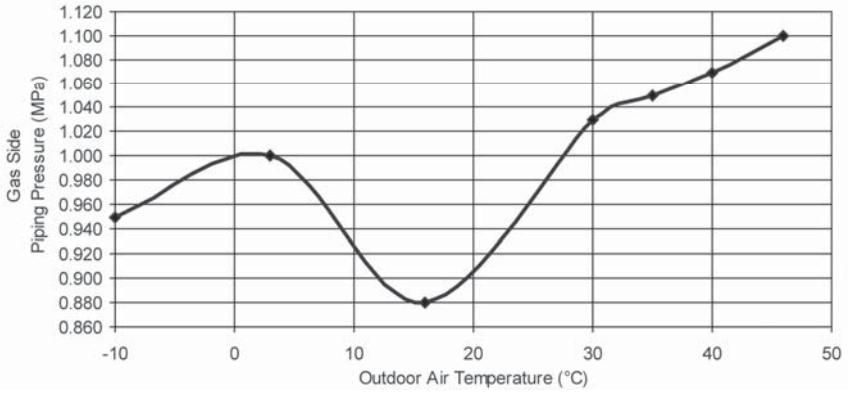
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

B) Indoor unit capacity: Cooling (2.5 + 4.0: CS-E9PKEW + CS-E15PKEW), service mode frequency = 42 Hz





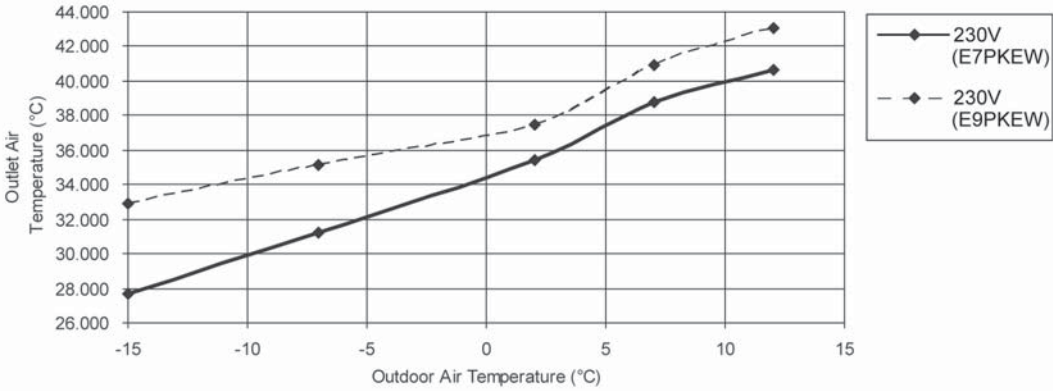


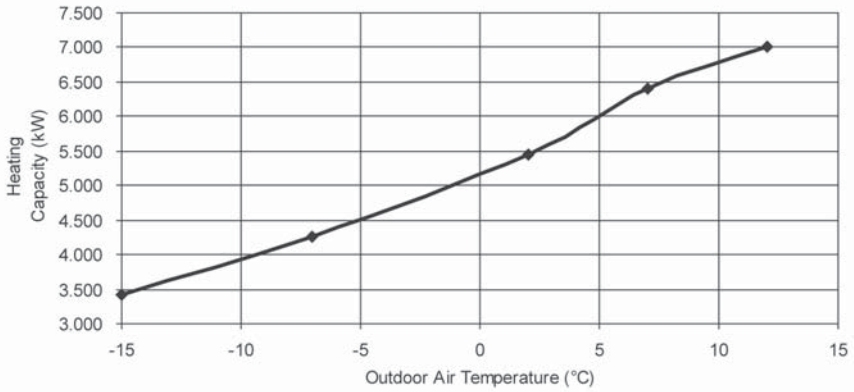


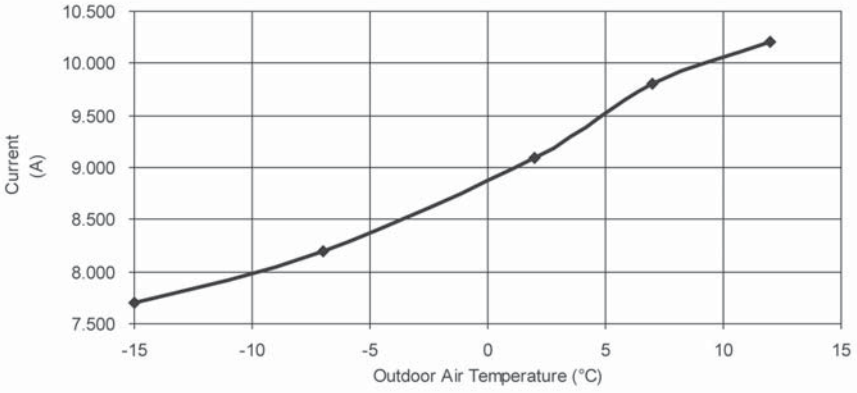
• Heating Characteristic

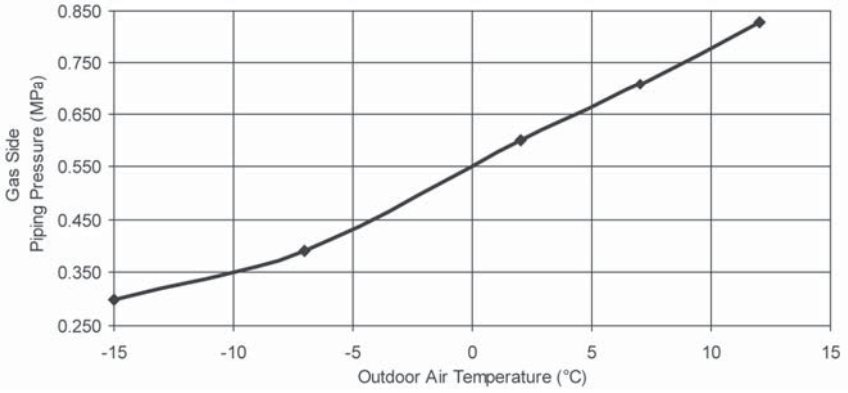
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Heating (2.0 + 2.5: CS-E7PKEW + CS-E9PKEW), service mode frequency = 70 Hz





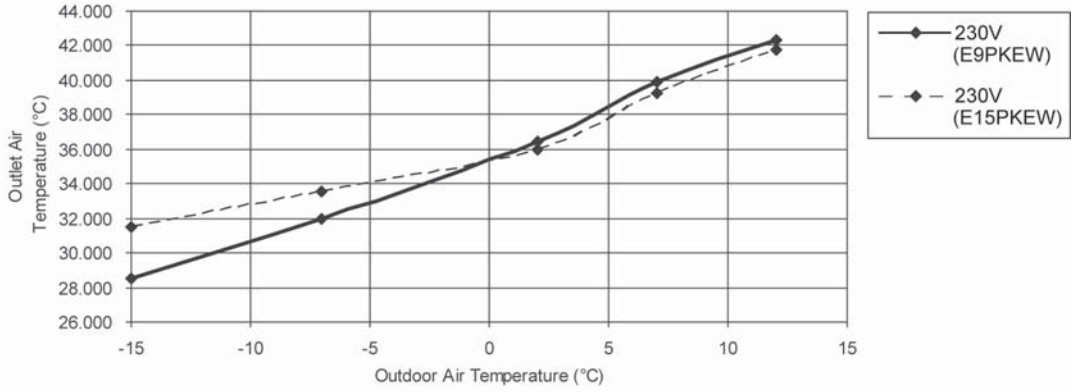


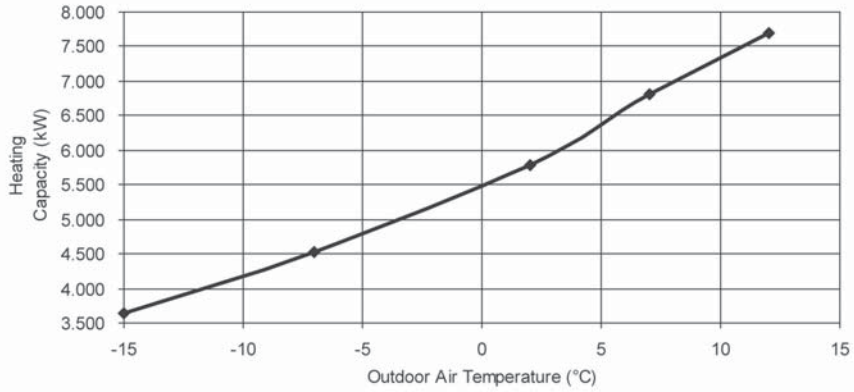


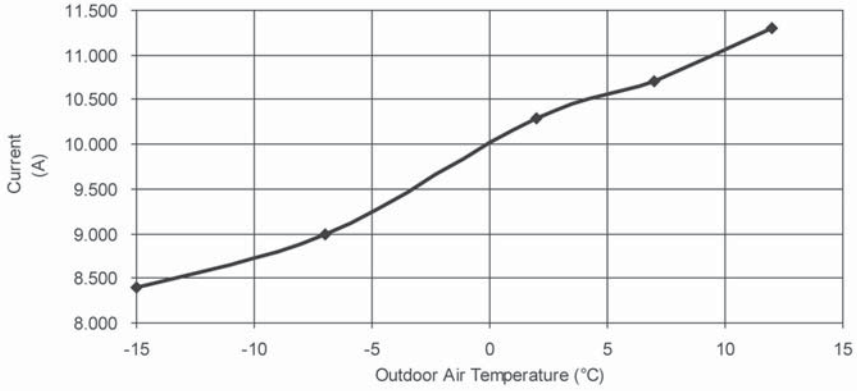
• Heating Characteristic

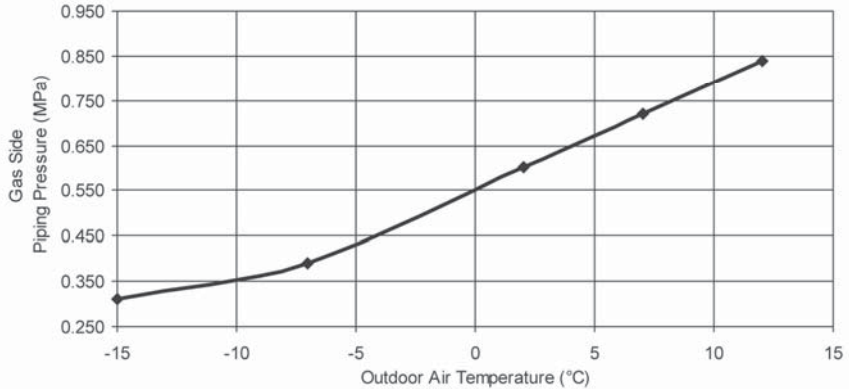
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

B) Indoor unit capacity: Heating (2.5 + 4.0: CS-E9PKEW + CS-E15PKEW), service mode frequency = 75 Hz







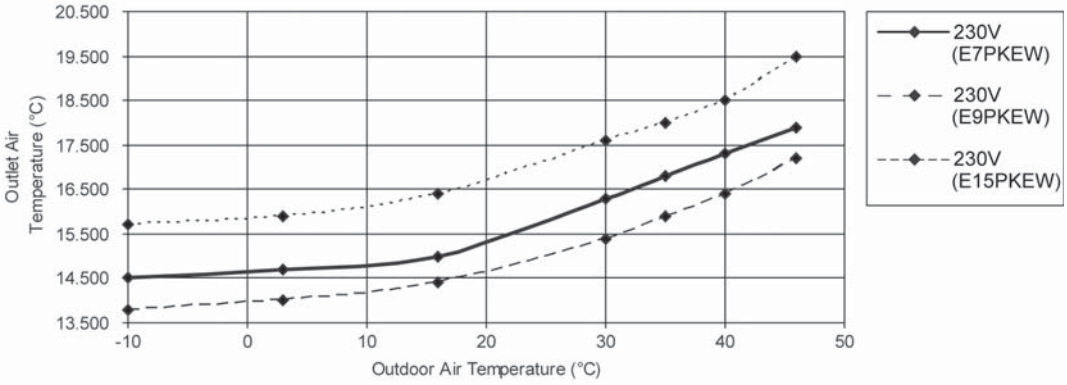


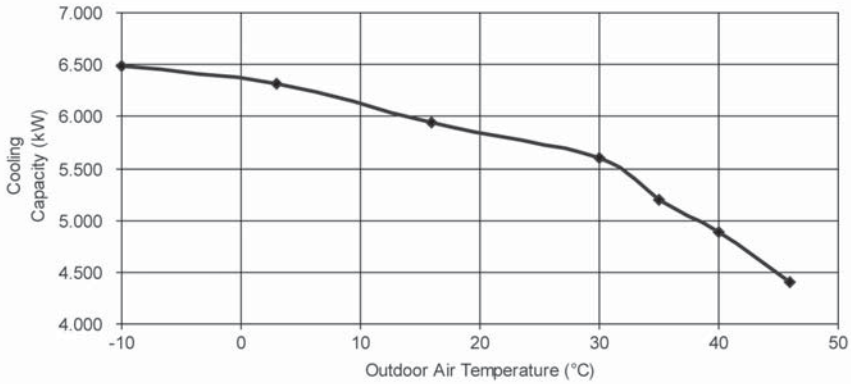
17.3.3 Three Indoor Unit Operation

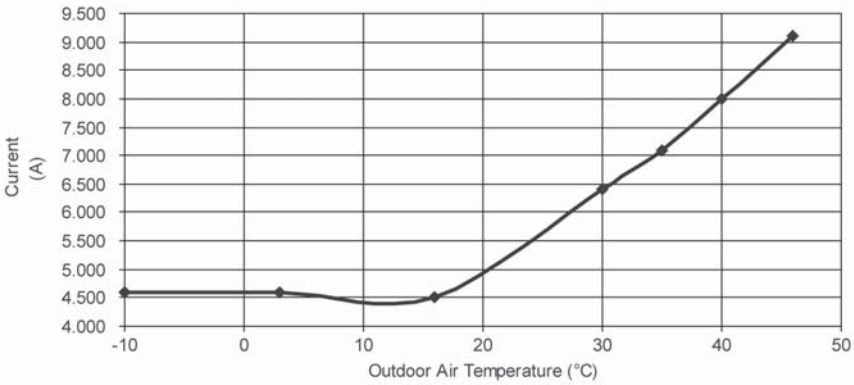
• Cooling Characteristic

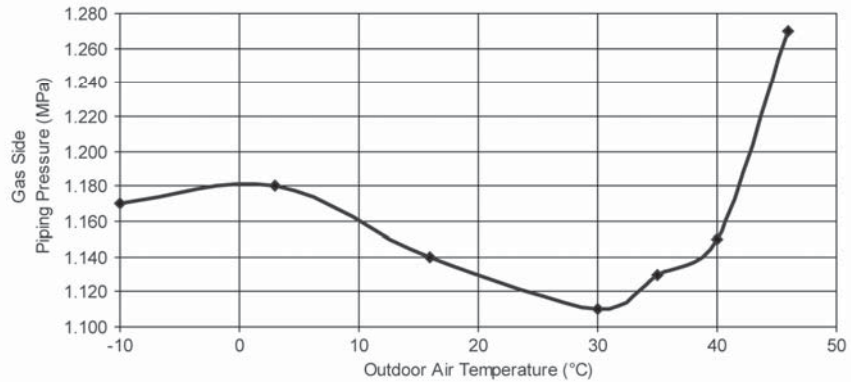
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

C) Indoor unit capacity: Cooling (2.0 + 2.5 + 4.0: CS-E7PKEW + CS-E9PKEW + CS-E15PKEW), service mode frequency = 49 Hz





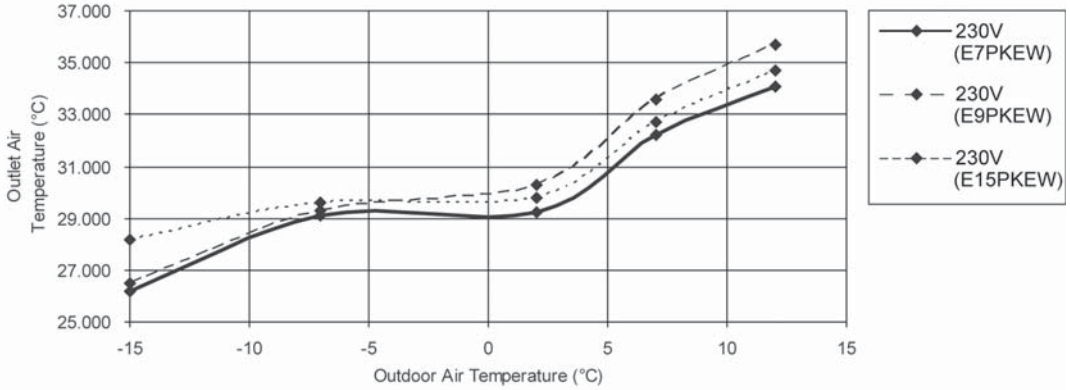


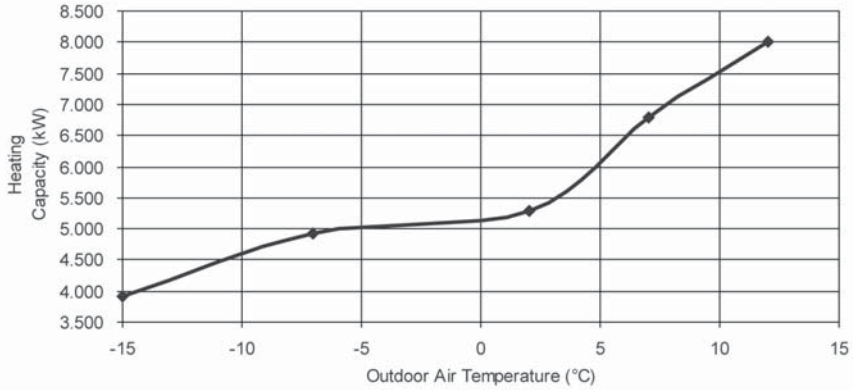


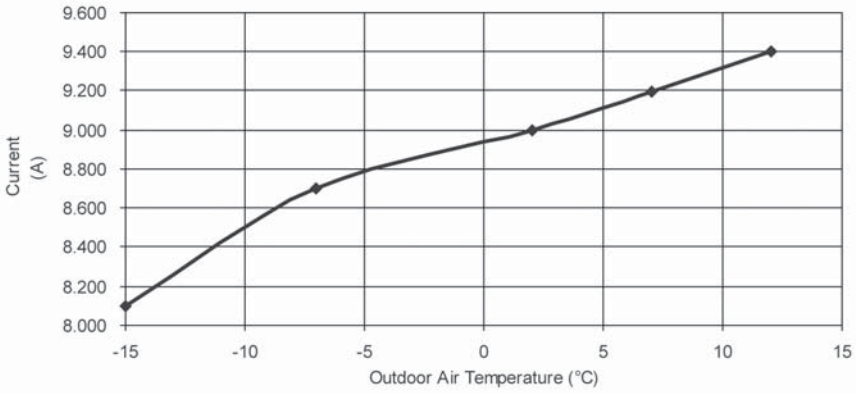
• Heating Characteristic

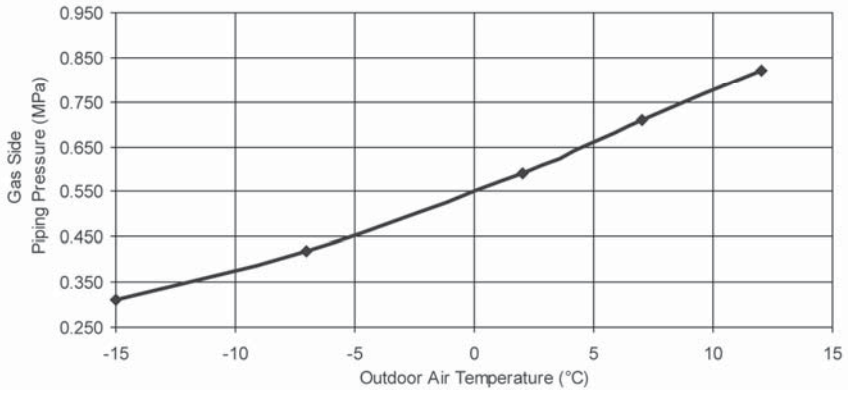
[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Heating (2.0 + 2.5 + 4.0: CS-E7PKEW + CS-E9PKEW + CS-E15PKEW), service mode frequency = 75 Hz









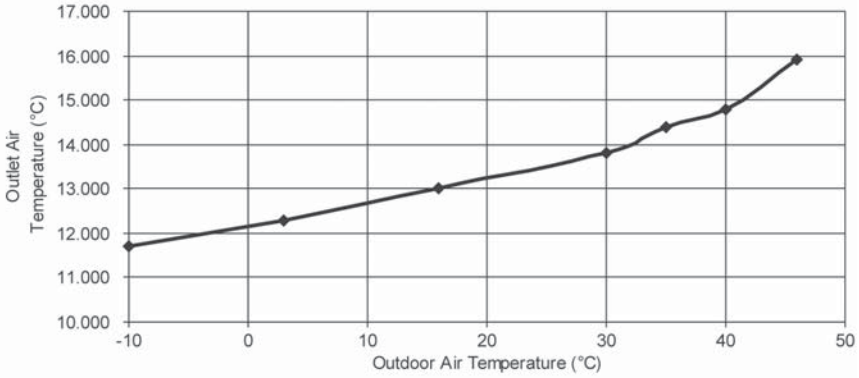
17.4 Operation Characteristics (CU-4E23PBE)

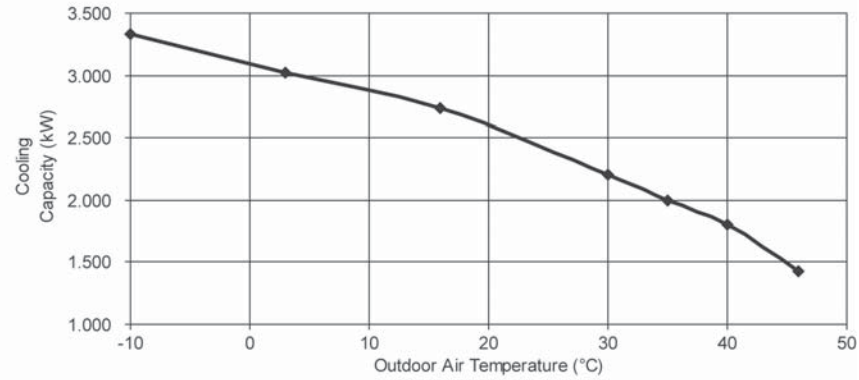
17.4.1 One Indoor Unit Operation

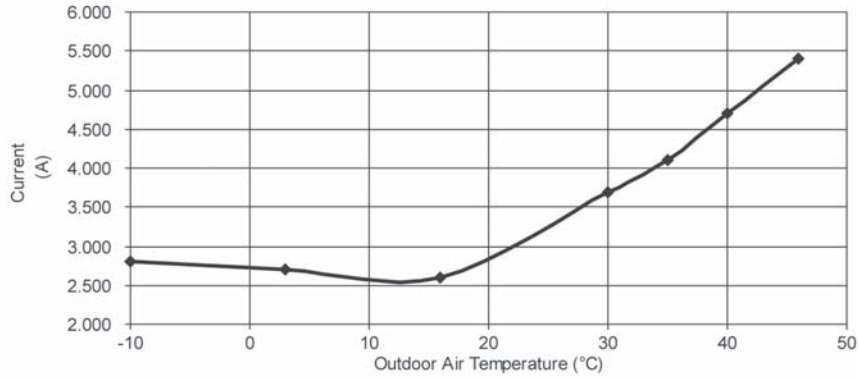
• Cooling Characteristic

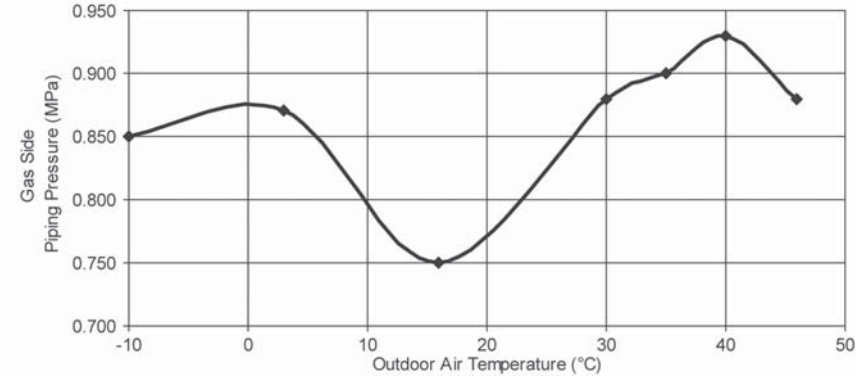
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Cooling (2.0: CS-E7PKEW), service mode frequency = 32 Hz





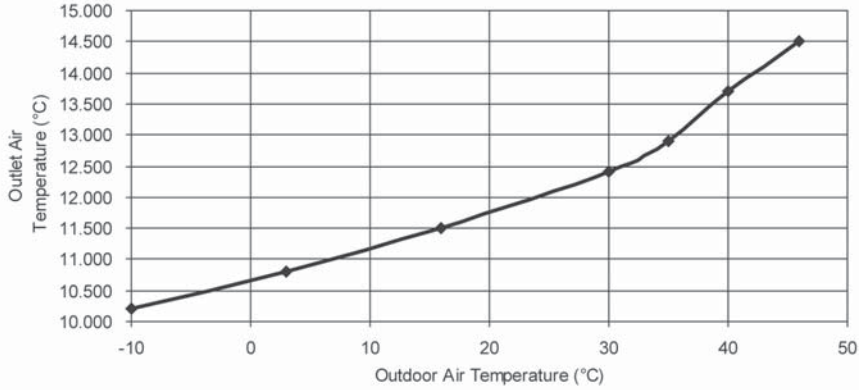


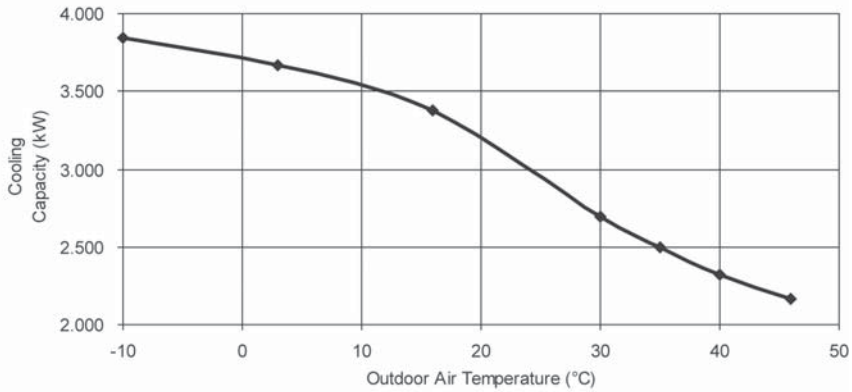


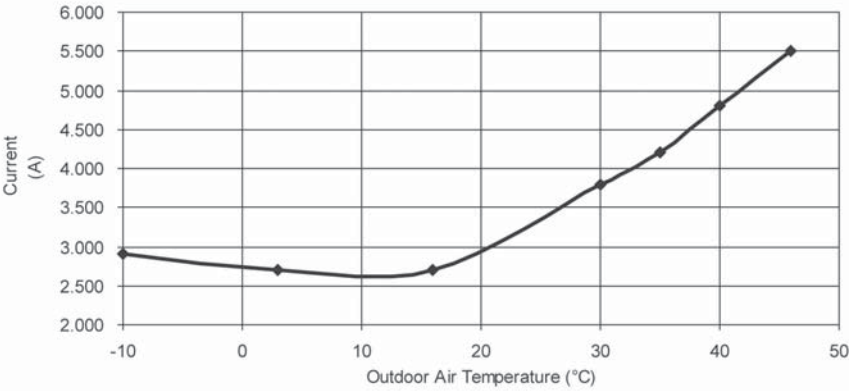
• Cooling Characteristic

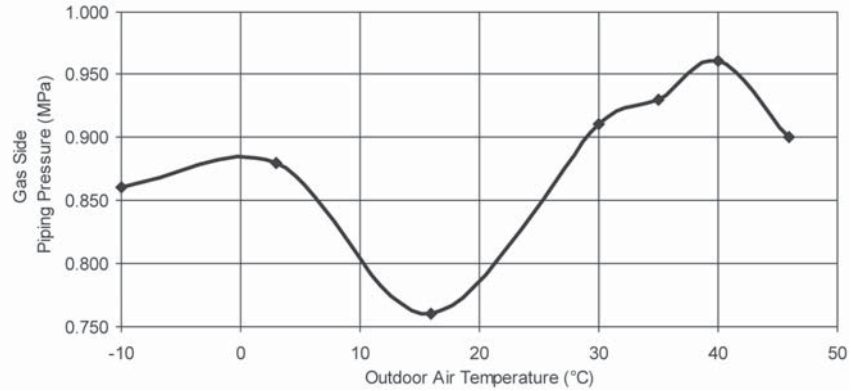
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

B) Indoor unit capacity: Cooling (2.5: CS-E9PKEW), service mode frequency = 32 Hz





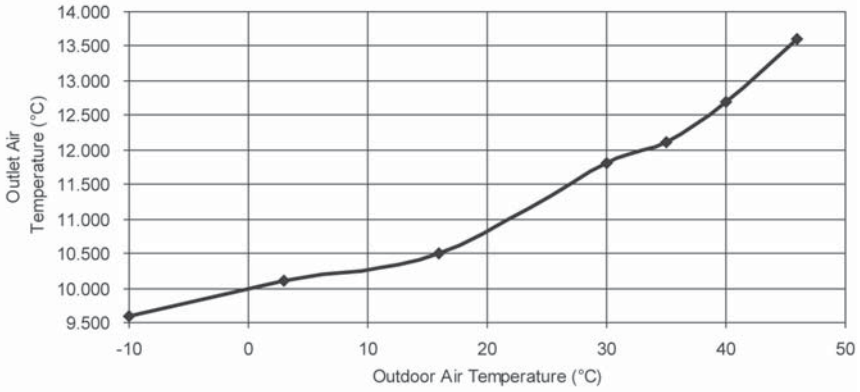


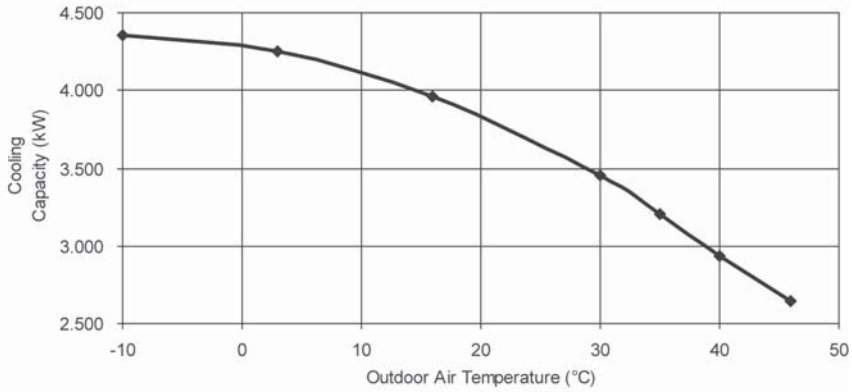


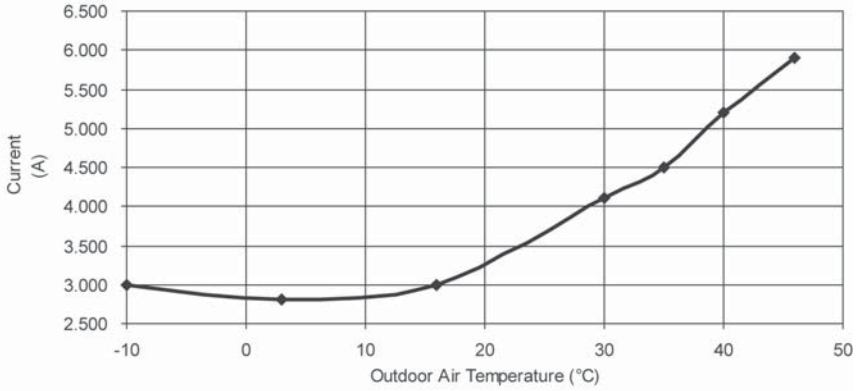
• Cooling Characteristic

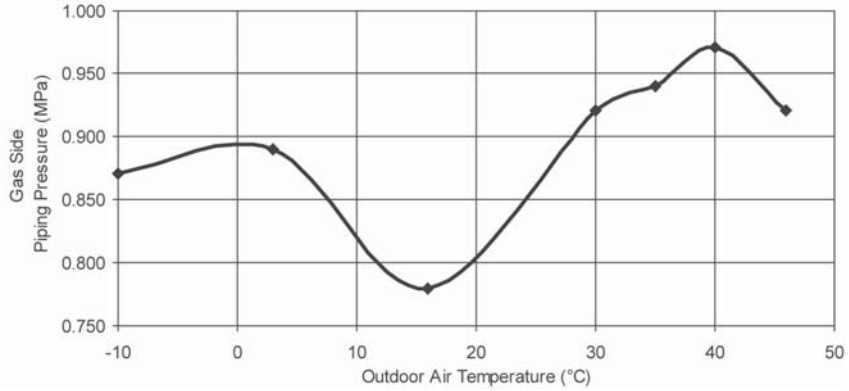
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

C) Indoor unit capacity: Cooling (3.2: CS-E12PKEW), service mode frequency = 35 Hz





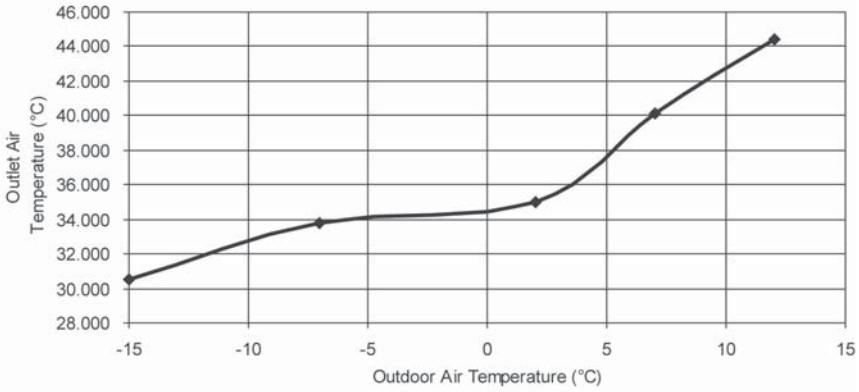


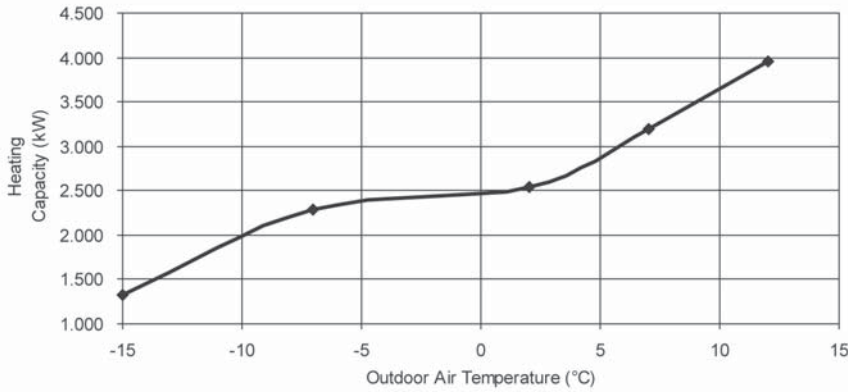


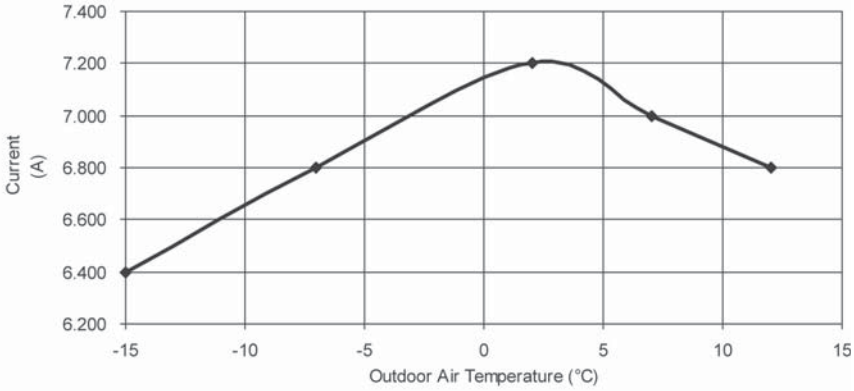
• Heating Characteristic

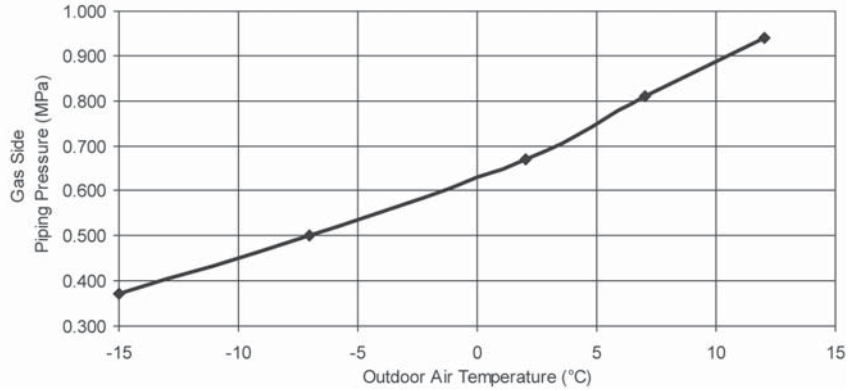
[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Heating (2.0: CS-E7PKEW), service mode frequency = 49 Hz





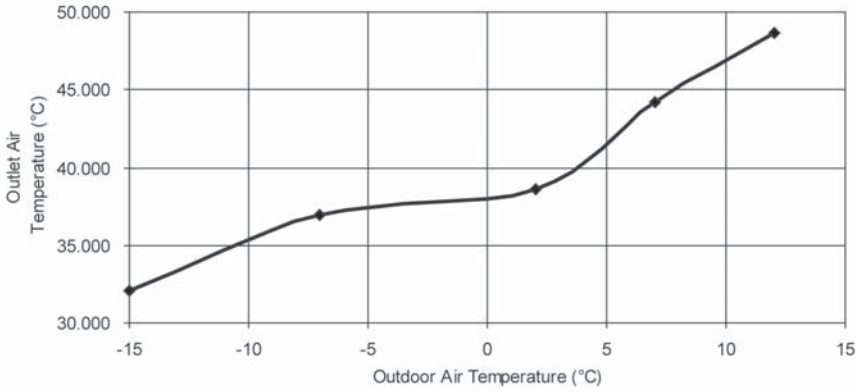


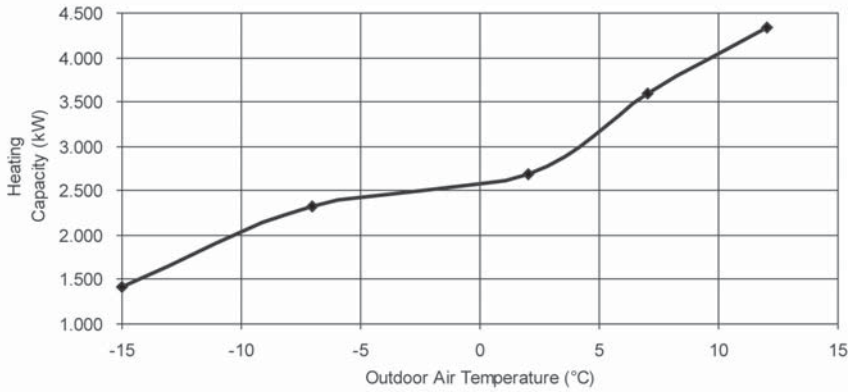


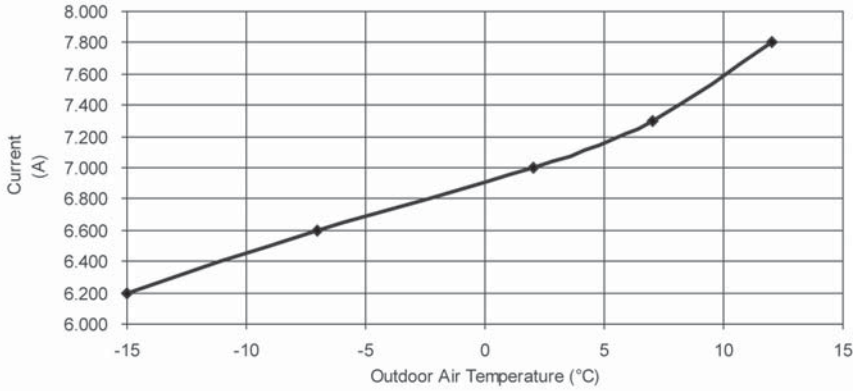
• Heating Characteristic

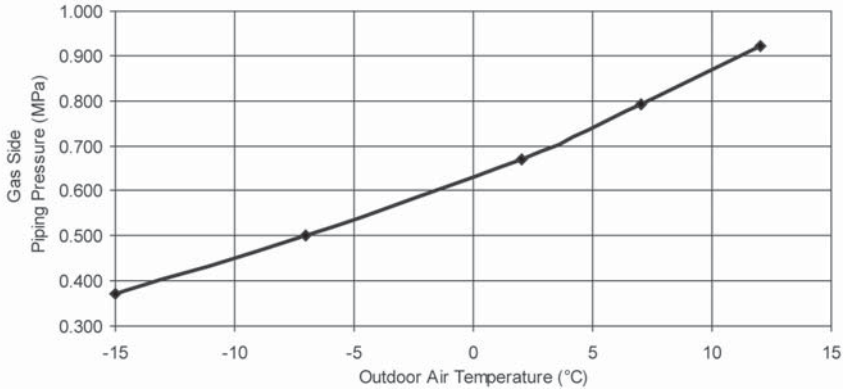
[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

B) Indoor unit capacity: Heating (2.5: CS-E9PKEW), service mode frequency = 49 Hz





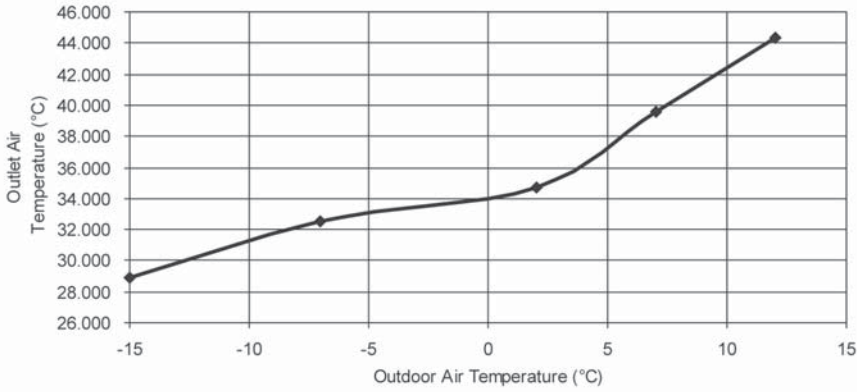


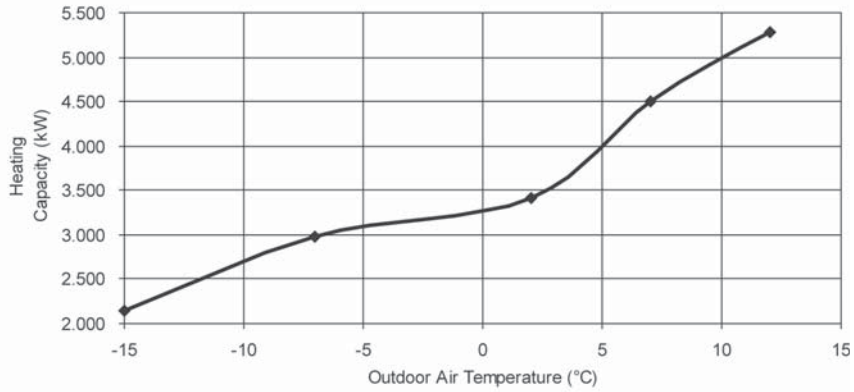


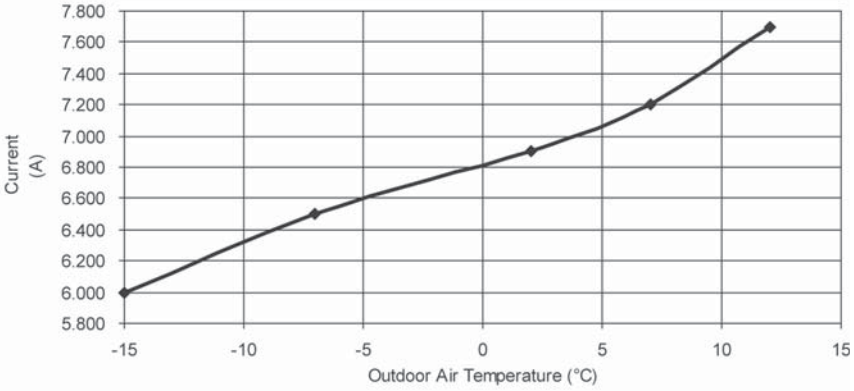
• Heating Characteristic

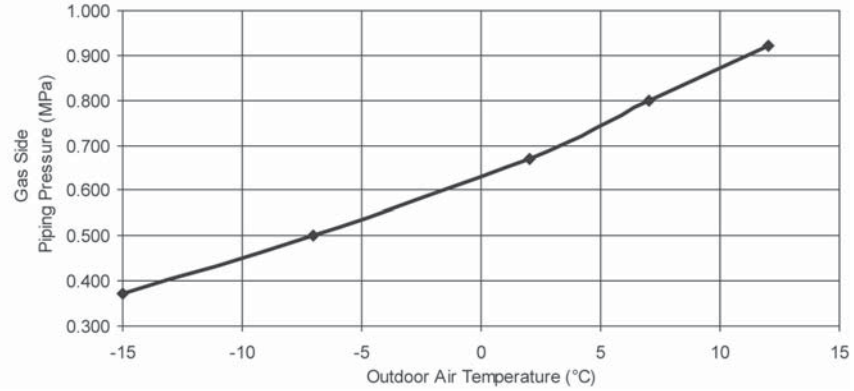
[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

C) Indoor unit capacity: Heating (3.2: CS-E12PKEW), service mode frequency = 49 Hz







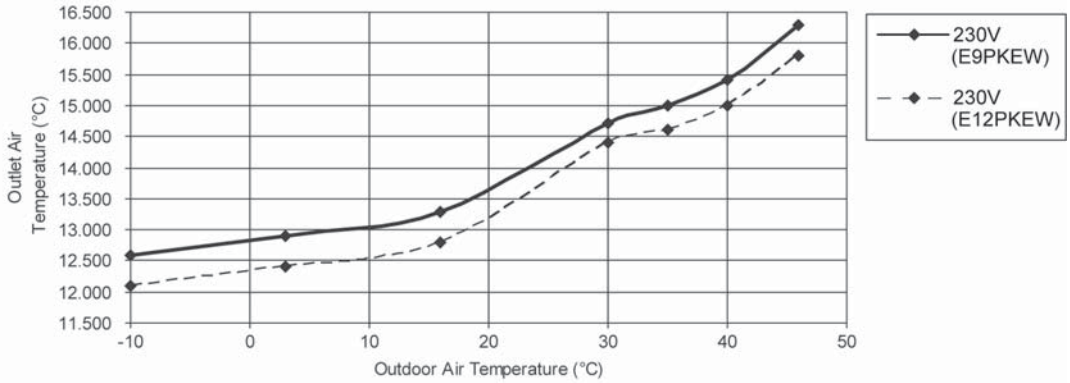


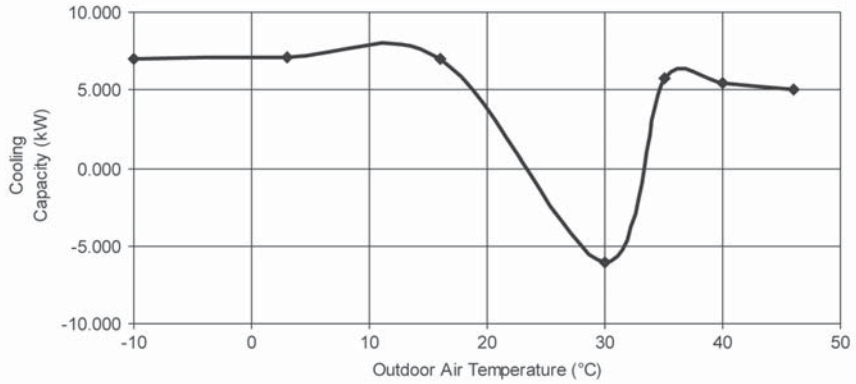
17.4.2 Two Indoor Unit Operation

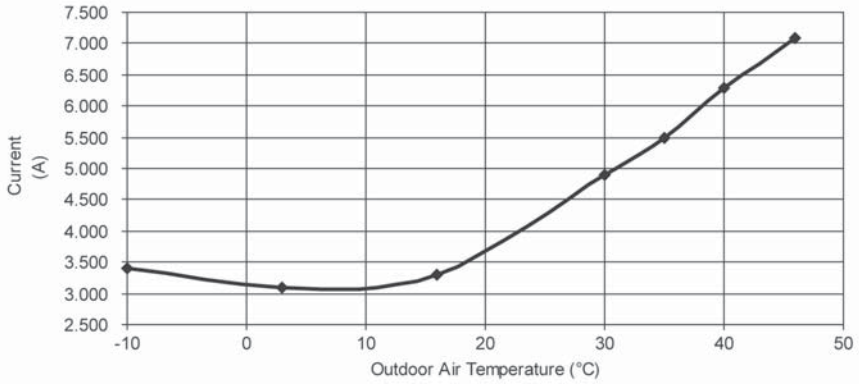
• Cooling Characteristic

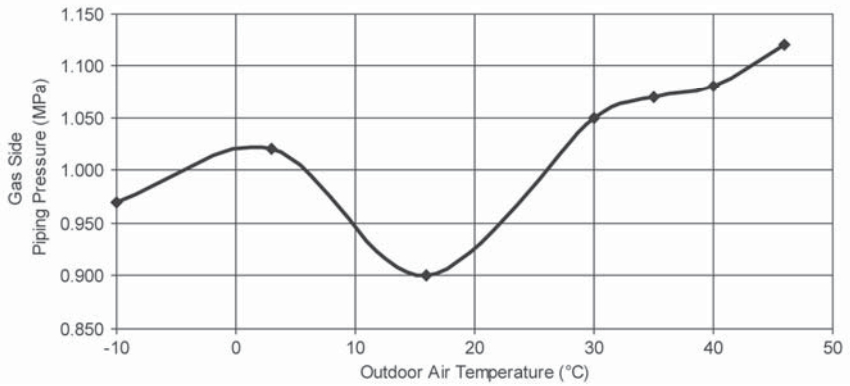
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Cooling (2.5 + 3.2: CS-E9PKEW + CS-E12PKEW), service mode frequency = 42 Hz





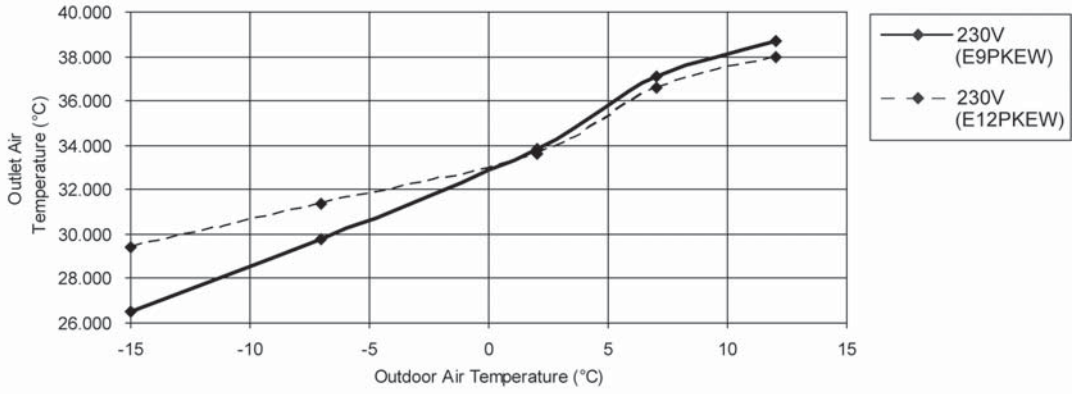


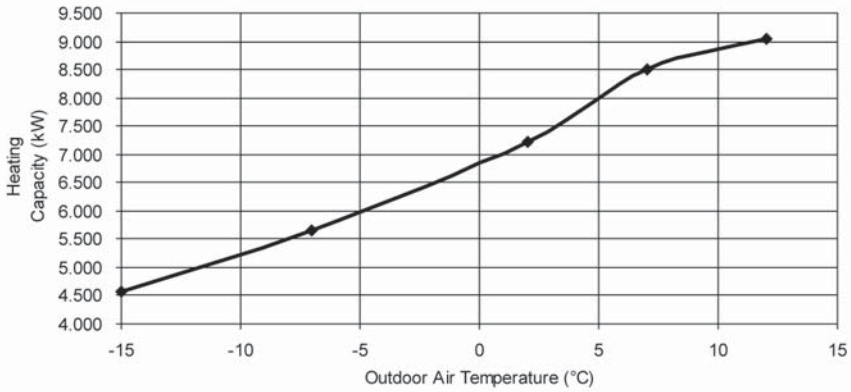


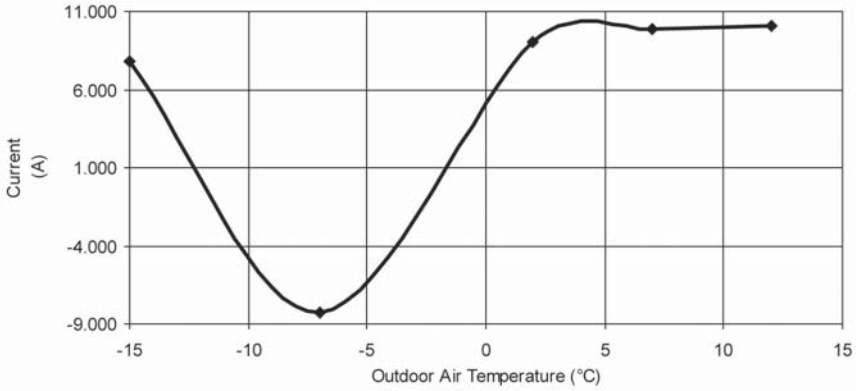
• Heating Characteristic

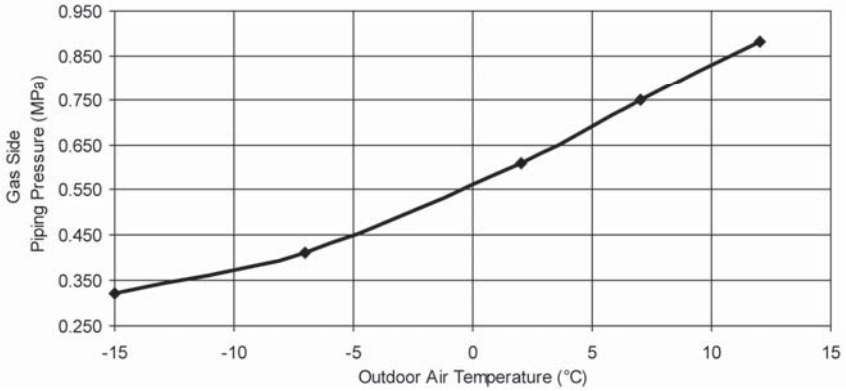
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Heating (2.5 + 3.2: CS-E9PKEW + CS-E12PKEW), service mode frequency = 75 Hz







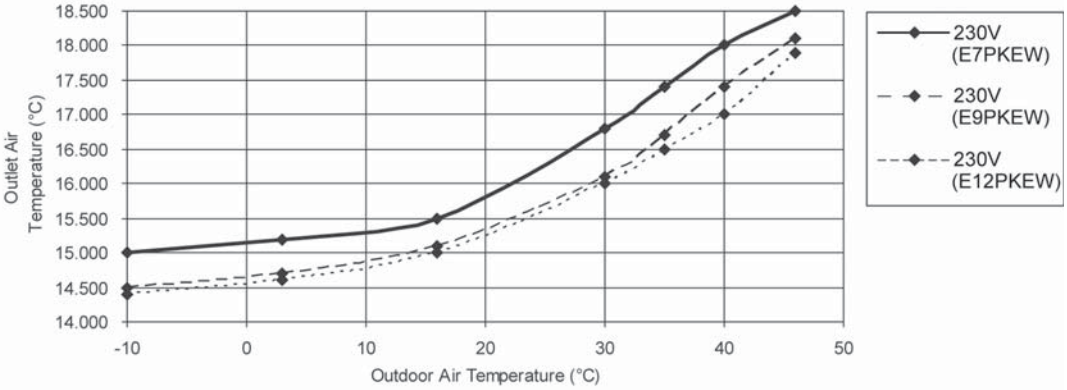


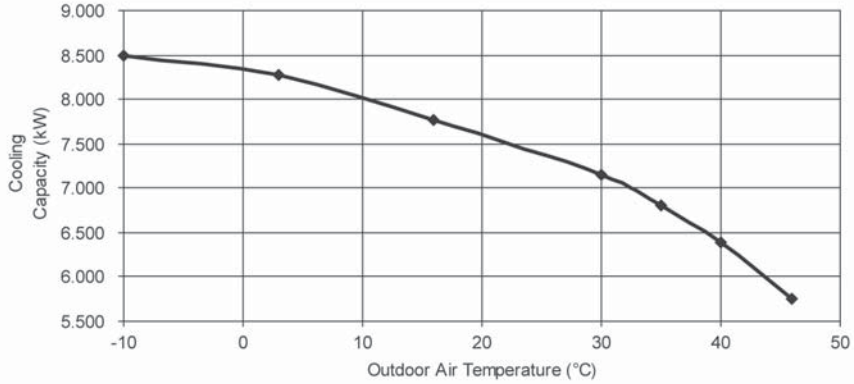
17.4.3 Three Indoor Unit Operation

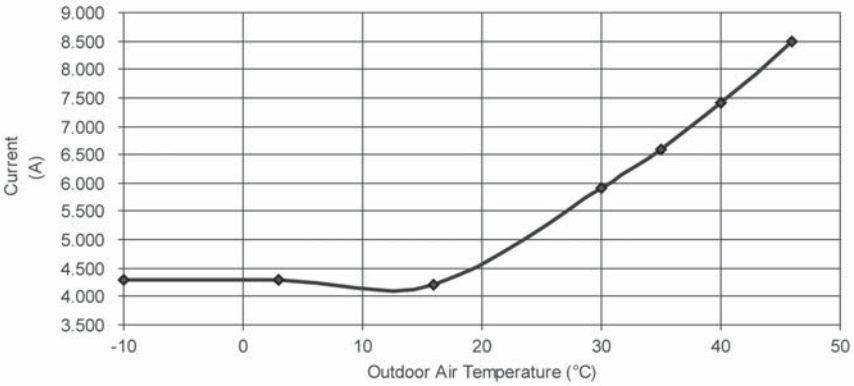
• Cooling Characteristic

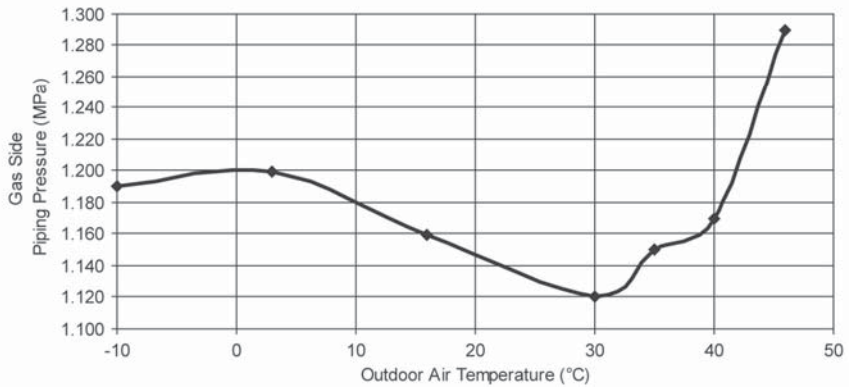
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Cooling (2.0 + 2.5 + 3.2: CS-E7PKEW + CS-E9PKEW + CS-E12PKEW), service mode frequency = 49 Hz





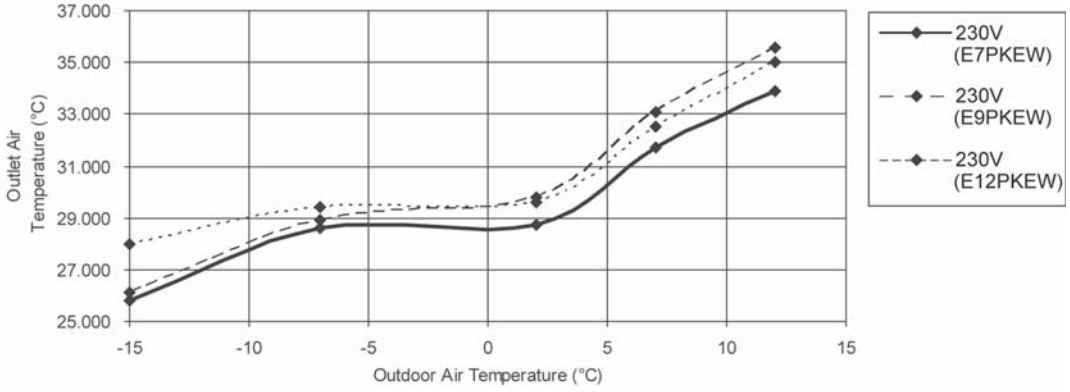


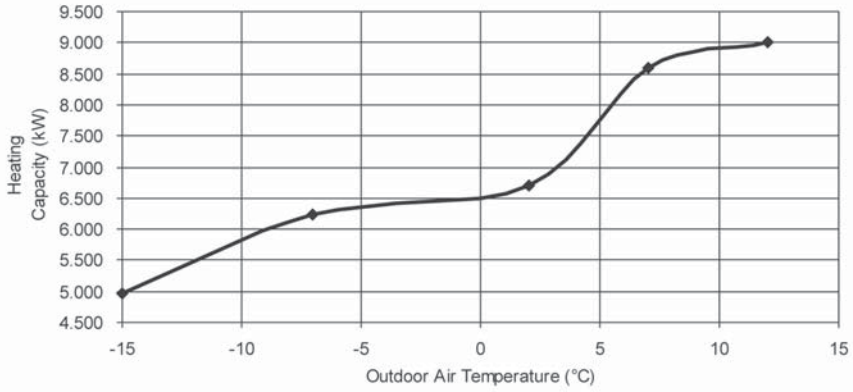


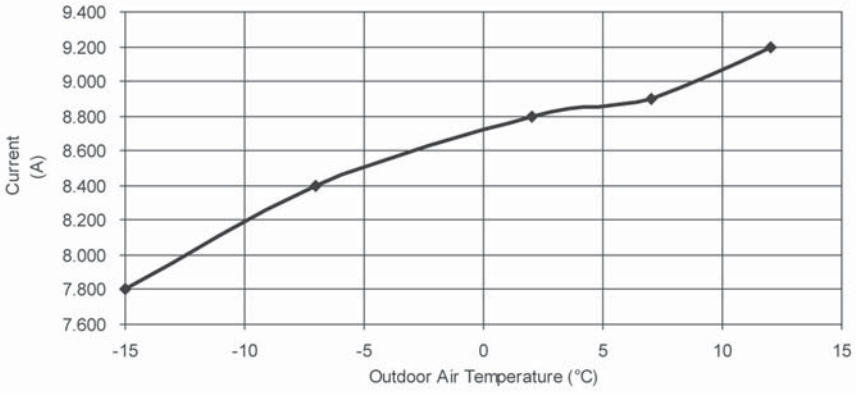
• Heating Characteristic

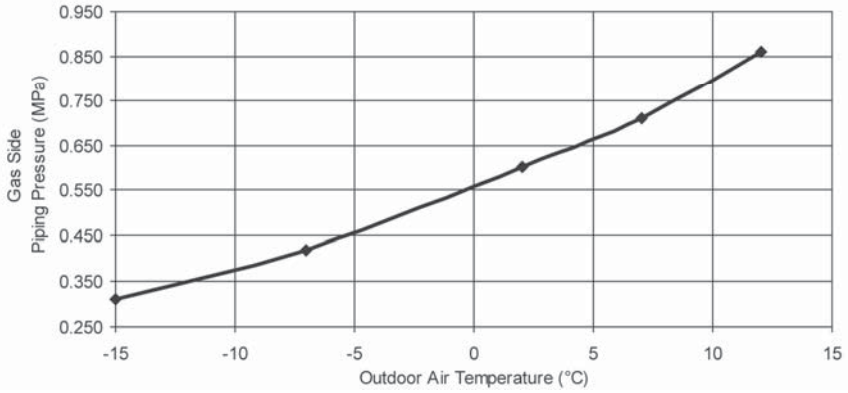
[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Heating (2.0 + 2.5 + 3.2: CS-E7PKEW + CS-E9PKEW + CS-E12PKEW), service mode frequency = 75 Hz







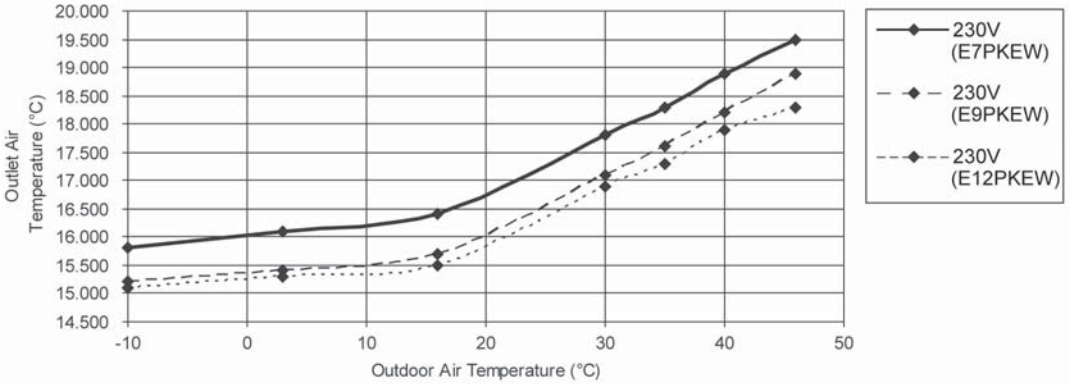


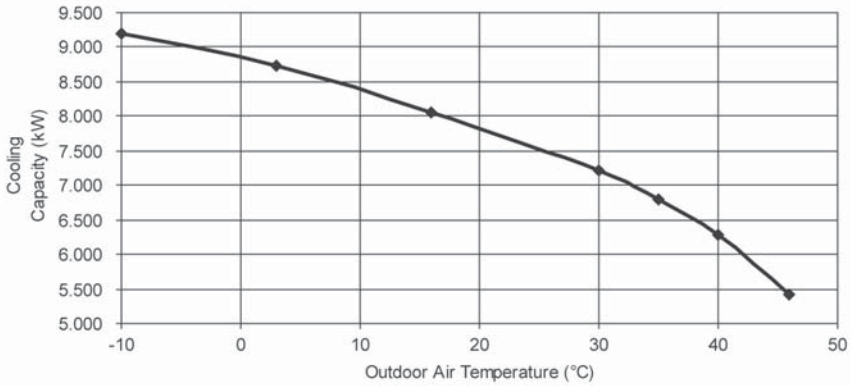
17.4.4 Four Indoor Unit Operation

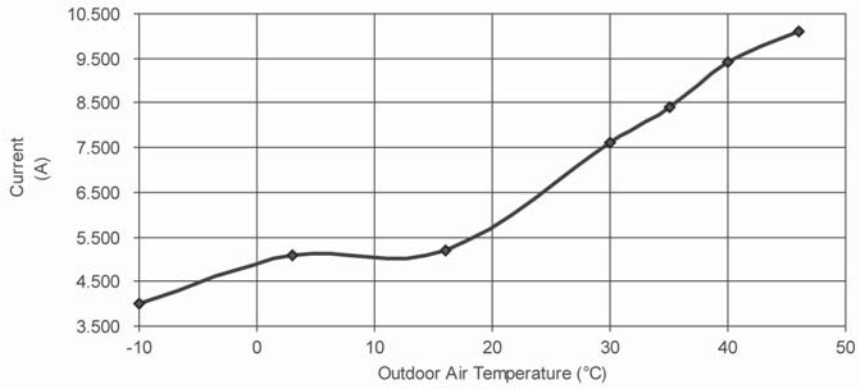
• Cooling Characteristic

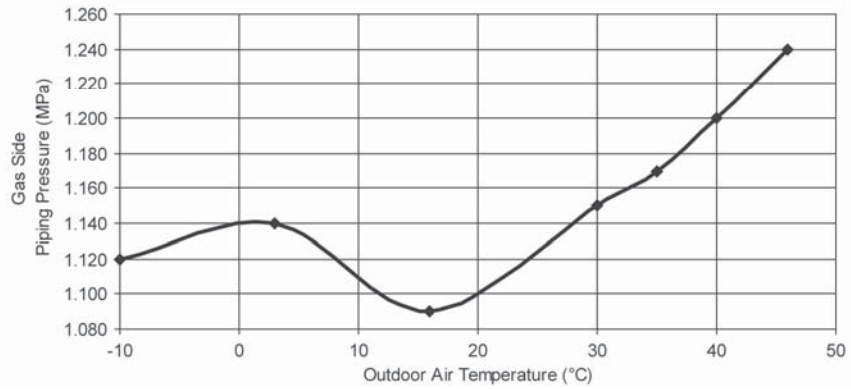
[Condition] Room temperature: 27°C (DBT), 19°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Cooling (2.0 + 2.5 + 2.5 + 3.2: CS-E7PKEW + CS-E9PKEW x 2 + CS-E12PKEW), service mode frequency = 59 Hz









• Heating Characteristic

[Condition] Room temperature: 20°C (DBT), 12°C (WBT)
Operation condition: High fan speed
Piping length: 5m
230V 50Hz

A) Indoor unit capacity: Heating (2.0 + 2.5 + 2.5 + 3.2: CS-E7PKEW + CS-E9PKEW x 2 + CS-E12PKEW), service mode frequency = 90 Hz