

Service Manual

Air Conditioner



Indoor Unit
 CS-E7QKEW
 CS-E9QKEW
 CS-E12QKEW
 CS-E15QKEW
 CS-E18QKEW
 CS-E21QKEW
 CS-E24QKEW
 CS-XE7QKEW
 CS-XE9QKEW
 CS-XE12QKEW
 CS-XE18QKEW
 CS-E28QKES

Outdoor Unit
 CU-E7QKE
 CU-E9QKE
 CU-E12QKE
 CU-E15QKE
 CU-E18QKE
 CU-E21QKE
 CU-E24QKE
 CU-E7QKE
 CU-E9QKE
 CU-E12QKE
 CU-E18QKE
 CU-E28QKE

Destination
 EU
 E.Europe
 L.America
 Turkey
 Croatia
 S.Africa

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 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.

2. Specifications

Model			Indoor	CS-E7QKEW, CS-XE7QKEW			CS-E9QKEW, CS-XE9QKEW		
			Outdoor	CU-E7QKE			CU-E9QKE		
Performance Test Condition				EUROVENT			EUROVENT		
Power Supply			Phase, Hz	Single, 50			Single, 50		
			V	230			230		
				Min.	Mid.	Max.	Min.	Mid.	Max.
Cooling	Capacity		kW	0.75	2.05	2.40	0.85	2.50	3.00
			BTU/h	2560	6990	8180	2900	8530	10200
			Kcal/h	650	1760	2060	730	2150	2580
	Running Current		A	—	2.20	—	—	2.35	—
	Input Power		W	240	460	565	245	525	715
	Annual Consumption		kWh	—	230	—	—	263	—
	EER		W/W	3.13	4.46	4.25	3.47	4.76	4.20
			BTU/hW	10.67	15.20	14.48	11.84	16.25	14.27
			Kcal/hW	2.71	3.83	3.65	2.98	4.10	3.61
	ErP	Pdesign	kW	2.1			2.5		
		SEER	(W/W)	6.9			6.9		
		Annual Consumption	kWh	107			127		
		Class		A++			A++		
	Power Factor		%	—	91	—	—	97	—
	Indoor Noise (H / L / QLo)		dB-A	37 / 24 / 20			39 / 25 / 20		
			Power Level dB	53 / —			55 / —		
	Outdoor Noise (H / L)		dB-A	45 / —			46 / —		
			Power Level dB	60 / —			61 / —		
Heating	Capacity		kW	0.70	2.80	4.00	0.80	3.40	5.00
			BTU/h	2390	9550	13600	2730	11600	17100
			Kcal/h	600	2410	3440	690	2920	4300
	Running Current		A	—	2.80	—	—	3.20	—
	Input Power		W	180	625	1.00k	190	720	1.27k
	COP		W/W	3.89	4.48	4.00	4.21	4.72	3.94
			BTU/hW	13.89	15.28	13.60	14.37	16.11	13.46
			Kcal/hW	3.33	3.86	3.44	3.63	4.06	3.39
	ErP	Pdesign	kW	2.1			2.7		
		Tbivalent	°C	-10			-10		
		SCOP	(W/W)	4.4			4.7		
		Annual Consumption	kWh	668			804		
		Class		A+			A++		
	Power Factor		%	—	97	—	—	98	—
	Indoor Noise (H / L / QLo)		dB-A	38 / 25 / 20			40 / 27 / 20		
			Power Level dB	54 / —			56 / —		
	Outdoor Noise (H / L)		dB-A	46 / —			47 / —		
			Power Level dB	61 / —			62 / —		
Low Temp. : Capacity (kW) / I.Power (W) / COP				2.90 / 880 / 3.30			3.62 / 1.12k / 3.23		
Extr Low Temp. : Capacity (kW) / I.Power (W) / COP				2.38 / 890 / 2.67			2.95 / 1.15k / 2.57		
Max Current (A) / Max Input Power (W)				4.40 / 1.00k			5.6 / 1.27k		
Starting Current (A)				2.80			3.20		

Model				Indoor	CS-E7QKEW, CS-XE7QKEW	CS-E9QKEW, CS-XE9QKEW
				Outdoor	CU-E7QKE	CU-E9QKE
Compressor	Type				Hermetic Motor (Rotary)	Hermetic Motor (Rotary)
	Motor Type				Brushless (6 poles)	Brushless (6 poles)
	Output Power			W	650	700
Indoor Fan	Type				Cross-Flow Fan	Cross-Flow Fan
	Material				ASG33	ASG33
	Motor Type				DC / Transistor (8-poles)	DC / Transistor (8-poles)
	Input Power			W	44.9	44.9
	Output Power			W	40	40
	Speed	QLo	Cool	rpm	610	570
			Heat	rpm	630	630
		Lo	Cool	rpm	670	680
			Heat	rpm	730	800
		Me	Cool	rpm	840	880
			Heat	rpm	900	990
		Hi	Cool	rpm	1010	1080
			Heat	rpm	1070	1180
		SHi	Cool	rpm	1040	1110
			Heat	rpm	1100	1210
Outdoor Fan	Type				Propeller Fan	Propeller Fan
	Material				PP	PP
	Motor Type				DC (8-poles)	DC (8-poles)
	Input Power			W	—	—
	Output Power			W	40	40
	Speed	Hi	Cool	rpm	720	770
			Heat	rpm	720	750
	Moisture Removal			L/h (Pt/h)	1.3 (2.7)	1.5 (3.2)
Indoor Airflow	QLo	Cool	m³/min (ft³/min)	6.64 (234)	6.45 (228)	
		Heat	m³/min (ft³/min)	6.59 (233)	6.55 (231)	
	Lo	Cool	m³/min (ft³/min)	7.46 (263)	7.85 (277)	
		Heat	m³/min (ft³/min)	7.89 (279)	8.52 (301)	
	Me	Cool	m³/min (ft³/min)	9.77 (345)	10.39 (367)	
		Heat	m³/min (ft³/min)	10.09 (356)	10.70 (378)	
	Hi	Cool	m³/min (ft³/min)	12.10 (425)	12.80 (450)	
		Heat	m³/min (ft³/min)	12.30 (435)	12.90 (455)	
	SHi	Cool	m³/min (ft³/min)	12.49 (441)	13.32 (470)	
		Heat	m³/min (ft³/min)	12.78 (451)	13.24 (468)	
Outdoor Airflow	Hi	Cool	m³/min (ft³/min)	33.9 (1195)	29.8 (1050)	
		Heat	m³/min (ft³/min)	33.9 (1195)	29.8 (1050)	
Refrigeration Cycle	Control Device			Expansion Valve	Expansion Valve	
	Refrigerant Oil		cm³	FV50S (320)	FV50S (320)	
	Refrigerant Type		g (oz)	R410A, 850 (30.0)	R410A, 1.02k (36.0)	
Dimension	Height (I/D / O/D)		mm (inch)	295 (11-5/8) / 542 (21-11/32)	295 (11-5/8) / 542 (21-11/32)	
	Width (I/D / O/D)		mm (inch)	870 (34-9/32) / 780 (30-23/32)	870 (34-9/32) / 780 (30-23/32)	
	Depth (I/D / O/D)		mm (inch)	255 (10-1/16) / 289 (11-13/32)	255 (10-1/16) / 289 (11-13/32)	
Weight	Net (I/D / O/D)		kg (lb)	10 (22) / 31 (68)	10 (22) / 33 (73)	

Model		Indoor	CS-E7QKEW, CS-XE7QKEW		CS-E9QKEW, CS-XE9QKEW	
		Outdoor	CU-E7QKE		CU-E9QKE	
Piping	Pipe Diameter (Liquid / Gas)	mm (inch)	6.35 (1/4) / 9.52 (3/8)		6.35 (1/4) / 9.52 (3/8)	
	Standard length	m (ft)	5.0 (16.4)		5.0 (16.4)	
	Length range (min – max)	m (ft)	3 (9.8) ~ 15 (49.2)		3 (9.8) ~ 15 (49.2)	
	I/D & O/D Height different	m (ft)	15.0 (49.2)		15.0 (49.2)	
	Additional Gas Amount	g/m (oz/ft)	20 (0.2)		20 (0.2)	
	Length for Additional Gas	m (ft)	7.5 (24.6)		7.5 (24.6)	
Drain Hose	Inner Diameter	mm	16.7		16.7	
	Length	mm	650		650	
Indoor Heat Exchanger	Fin Material		Aluminium (Pre Coat)		Aluminium (Pre Coat)	
	Fin Type		Slit Fin		Slit Fin	
	Row × Stage × FPI		2 × 17 × 17, 2 × 17 × 21 (XE7QKEW)		2 × 17 × 17, 2 × 17 × 21 (XE9QKEW)	
	Size (W × H × L)	mm	636.5 × 357 × 25.4		636.5 × 357 × 25.4	
Outdoor Heat Exchanger	Fin Material		Aluminium		Aluminium	
	Fin Type		Corrugated Fin		Corrugated Fin	
	Row × Stage × FPI		1 × 20 × 19		2 × 24 × 17	
	Size (W × H × L)	mm	22 × 508 × 708.4		36.4 × 504 × 713:684	
Air Filter	Material		Polypropelene		Polypropelene	
	Type		One-touch		One-touch	
Power Supply			Indoor		Indoor	
Power Supply Cord		A	Nil		Nil	
Thermostat			Electronic Contol		Electronic Contol	
Protection Device			Electronic Contol		Electronic Contol	
			Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum °C	32	23	32	23
		Minimum °C	16	11	16	11
	Heating	Maximum °C	30	–	30	–
		Minimum °C	16	–	16	–
Outdoor Operation Range	Cooling	Maximum °C	43	26	43	26
		Minimum °C	-10	–	-10	–
	Heating	Maximum °C	24	18	24	18
		Minimum °C	-15	-16	-15	-16

- Cooling capacities are based on indoor temperature of 27°C Dry Bulb (80.6°F Dry Bulb), 19.0°C Wet Bulb (66.2°F Wet Bulb) and outdoor air temperature of 35°C DRY BULB (95°F Dry Bulb), 24°C Wet Bulb (75.2°F Wet Bulb)
- Heating capacities are based on indoor temperature of 20°C Dry Bulb (68°F Dry Bulb) and outdoor air temperature of 7°C Dry Bulb (44.6°F Dry Bulb), 6°C Wet Bulb (42.8°F Wet Bulb)
- Heating low temperature capacity, Input Power and COP measured at 230 V, indoor temperature 20°C, outdoor 2/1°C
- Heating extreme low temperature capacity, Input Power and COP measured at 230 V, indoor temperature 20°C, outdoor -7/-8°C
- Standby power consumption ≤10.0w (when switched OFF by remote control, except under self protection control).
- Specifications are subjected to change without prior notice for further improvement.

Model			Indoor	CS-E12QKEW, CS-XE12QKEW			CS-E15PKEW		
			Outdoor	CU-E12QKE			CU-E15QKE		
Performance Test Condition				EUROVENT			EUROVENT		
Power Supply			Phase, Hz	Single, 50			Single, 50		
			V	230			230		
				Min.	Mid.	Max.	Min.	Mid.	Max.
Cooling	Capacity		kW	0.85	3.50	4.00	0.85	4.20	5.00
			BTU/h	2900	11900	13600	2900	14300	17100
			Kcal/h	730	3010	3440	730	3610	4300
	Running Current		A	—	3.8	—	—	5.5	—
	Input Power		W	250	835	1.05k	260	1.24k	1.54k
	Annual Consumption		kWh	-	418	—	—	620	—
	EER		W/W	3.40	4.19	3.81	3.27	3.39	3.25
			BTU/hW	11.60	14.25	12.95	11.15	11.53	11.10
			Kcal/hW	2.92	3.60	3.28	2.81	2.91	2.79
	ErP	Pdesign	kW	3.5			4.2		
		SEER	(W/W)	7.6			6.6		
		Annual Consumption	kWh	161			223		
		Class		A++			A++		
	Power Factor		%	—	96	—	—	98	—
	Indoor Noise (H / L / QLo)		dB-A	42 / 28 / 20			43 / 31 / 25		
			Power Level dB	58 / —			59 / —		
	Outdoor Noise (H / L)		dB-A	48 / —			49 / —		
			Power Level dB	63 / —			64 / —		
Heating	Capacity		kW	0.80	4.00	6.00	0.80	5.30	6.80
			BTU/h	2730	13600	20500	2730	18100	23200
			Kcal/h	690	3440	5160	690	4560	5850
	Running Current		A	—	3.9	—	—	6.3	—
	Input Power		W	190	840	1.60k	190	1.42k	1.92k
	COP		W/W	4.21	4.76	3.75	4.21	3.73	3.54
			BTU/hW	14.37	16.19	12.81	14.37	12.75	12.08
			Kcal/hW	3.63	4.10	3.23	3.63	3.21	3.05
	ErP	Pdesign	kW	3.2			3.6		
		Tbivalent	°C	-10			-10		
		SCOP	(W/W)	4.8			4.0		
		Annual Consumption	kWh	933			1260		
		Class		A++			A+		
	Power Factor		%	—	94	—	—	98	—
	Indoor Noise (H / L / QLo)		dB-A	42 / 33 / 20			43 / 35 / 29		
			Power Level dB	58 / —			59 / —		
	Outdoor Noise (H / L)		dB-A	50 / —			51 / —		
			Power Level dB	65 / —			66 / —		
Low Temp. : Capacity (kW) / I.Power (W) / COP				4.47 / 1.42k / 3.15			4.93 / 1.70k / 2.90		
Extr Low Temp. : Capacity (kW) / I.Power (W) / COP				3.45 / 1.40k / 2.46			4.11 / 1.71k / 2.40		
Max Current (A) / Max Input Power (W)				7.4 / 1.60k			8.5 / 1.92k		
Starting Current (A)				3.9			6.3		

Model				Indoor	CS-E12QKEW, CS-XE12QKEW	CS-E15PKEW
				Outdoor	CU-E12QKE	CU-E15QKE
Compressor	Type				Hermetic Motor (Rotary)	Hermetic Motor (Rotary)
	Motor Type				Brushless (6 poles)	Brushless (6 poles)
	Output Power			W	700	700
Indoor Fan	Type				Cross-Flow Fan	Cross-Flow Fan
	Material				ASG33	ASG33
	Motor Type				DC / Transistor (8-poles)	DC / Transistor (8-poles)
	Input Power			W	44.9	44.9
	Output Power			W	40	40
	Speed	QLo	Cool	rpm	570	690
			Heat	rpm	630	820
		Lo	Cool	rpm	740	810
			Heat	rpm	970	980
		Me	Cool	rpm	930	1010
			Heat	rpm	1090	1110
		Hi	Cool	rpm	1130	1210
			Heat	rpm	1210	1250
		SHi	Cool	rpm	1160	1250
			Heat	rpm	1240	1290
Outdoor Fan	Type				Propeller Fan	Propeller Fan
	Material				PP	PP
	Motor Type				DC (8-poles)	DC (8-poles)
	Input Power			W	—	—
	Output Power			W	40	40
	Speed	Hi	Cool	rpm	870	900
			Heat	rpm	890	910
	Moisture Removal			L/h (Pt/h)	2.0 (4.2)	2.4 (5.1)
Indoor Airflow	QLo	Cool	m³/min (ft³/min)	6.45 (228)	7.42 (262)	
		Heat	m³/min (ft³/min)	6.77 (239)	9.04 (319)	
	Lo	Cool	m³/min (ft³/min)	8.61 (304)	8.98 (317)	
		Heat	m³/min (ft³/min)	10.84 (383)	11.11 (392)	
	Me	Cool	m³/min (ft³/min)	11.09 (392)	11.59 (409)	
		Heat	m³/min (ft³/min)	12.01 (424)	12.86 (454)	
	Hi	Cool	m³/min (ft³/min)	13.40 (475)	14.20 (500)	
		Heat	m³/min (ft³/min)	13.70 (485)	14.60 (515)	
	SHi	Cool	m³/min (ft³/min)	13.96 (493)	14.72 (520)	
		Heat	m³/min (ft³/min)	14.07 (497)	15.12 (534)	
Outdoor Airflow	Hi	Cool	m³/min (ft³/min)	35.1 (1240)	33.3 (1175)	
		Heat	m³/min (ft³/min)	36.0 (1270)	33.3 (1175)	
Refrigeration Cycle	Control Device			Expansion Valve	Expansion Valve	
	Refrigerant Oil		cm³	FV50S (320)	FV50S (320)	
	Refrigerant Type		g (oz)	R410A, 1.15k (40.6)	R410A, 1.02k (36.0)	
Dimension	Height (I/D / O/D)		mm (inch)	295 (11-5/8) / 619 (24-3/8)	295 (11-5/8) / 619 (24-3/8)	
	Width (I/D / O/D)		mm (inch)	870 (34-9/32) / 824 (32-15/32)	870 (34-9/32) / 824 (32-15/32)	
	Depth (I/D / O/D)		mm (inch)	255 (10-1/16) / 299 (11-25/32)	255 (10-1/16) / 299 (11-25/32)	
Weight	Net (I/D / O/D)		kg (lb)	10 (22) / 35 (77)	10 (22) / 33 (73)	

Model		Indoor	CS-E12QKEW, CS-XE12QKEW		CS-E15PKEW	
		Outdoor	CU-E12QKE		CU-E15QKE	
Piping	Pipe Diameter (Liquid / Gas)	mm (inch)	6.35 (1/4) / 9.52 (3/8)		6.35 (1/4) / 12.70 (1/2)	
	Standard length	m (ft)	5.0 (16.4)		5.0 (16.4)	
	Length range (min – max)	m (ft)	3 (9.8) ~ 15 (49.2)		3 (9.8) ~ 15 (49.2)	
	I/D & O/D Height different	m (ft)	15.0 (49.2)		15.0 (49.2)	
	Additional Gas Amount	g/m (oz/ft)	20 (0.2)		20 (0.2)	
	Length for Additional Gas	m (ft)	7.5 (24.6)		7.5 (24.6)	
Drain Hose	Inner Diameter	mm	16.7		16.7	
	Length	mm	650		650	
Indoor Heat Exchanger	Fin Material		Aluminium (Pre Coat)		Aluminium (Pre Coat)	
	Fin Type		Slit Fin		Slit Fin	
	Row × Stage × FPI		2 × 17 × 21		2 × 17 × 21	
	Size (W × H × L)	mm	636.5 × 357 × 25.4		636.5 × 357 × 25.4	
Outdoor Heat Exchanger	Fin Material		Aluminium		Aluminium	
	Fin Type		Corrugated Fin		Corrugated Fin	
	Row × Stage × FPI		2 × 28 × 17		2 × 28 × 17	
	Size (W × H × L)	mm	36.38 × 588 × 781.3:752.7		36.38 × 588 × 606.6	
Air Filter	Material		Polypropelene		Polypropelene	
	Type		One-touch		One-touch	
Power Supply			Indoor		Indoor	
Power Supply Cord		A	Nil		Nil	
Thermostat			Electronic Contol		Electronic Contol	
Protection Device			Electronic Contol		Electronic Contol	
			Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum °C	32	23	32	23
		Minimum °C	16	11	16	11
	Heating	Maximum °C	30	–	30	–
		Minimum °C	16	–	16	–
Outdoor Operation Range	Cooling	Maximum °C	43	26	43	26
		Minimum °C	-10	–	-10	–
	Heating	Maximum °C	24	18	24	18
		Minimum °C	-15	-16	-15	-16

1. Cooling capacities are based on indoor temperature of 27°C Dry Bulb (80.6°F Dry Bulb), 19.0°C Wet Bulb (66.2°F Wet Bulb) and outdoor air temperature of 35°C DRY BULB (95°F Dry Bulb), 24°C Wet Bulb (75.2°F Wet Bulb)
2. Heating capacities are based on indoor temperature of 20°C Dry Bulb (68°F Dry Bulb) and outdoor air temperature of 7°C Dry Bulb (44.6°F Dry Bulb), 6°C Wet Bulb (42.8°F Wet Bulb)
3. Heating low temperature capacity, Input Power and COP measured at 230 V, indoor temperature 20°C, outdoor 2/1°C
4. Heating extreme low temperature capacity, Input Power and COP measured at 230 V, indoor temperature 20°C, outdoor -7/-8°C
5. Standby power consumption ≤10.0w (when switched OFF by remote control, except under self protection control).
6. Specifications are subjected to change without prior notice for further improvement.

Model			Indoor	CS-E18QKEW, CS-XE18QKEW			CS-E21QKEW		
			Outdoor	CU-E18QKE			CU-E21QKE		
Performance Test Condition				EUROVENT			EUROVENT		
Power Supply			Phase, Hz	Single, 50			Single, 50		
			V	230			230		
				Min.	Mid.	Max.	Min.	Mid.	Max.
Cooling	Capacity		kW	0.98	5.00	6.00	0.98	6.30	7.10
			BTU/h	3340	17100	20500	3340	21500	24200
			Kcal/h	840	4300	5160	840	5420	6110
	Running Current		A	—	6.4	—	—	9.7	—
	Input Power		W	280	1.44k	1.99k	280	2.18k	2.50k
	Annual Consumption		kWh	—	720	—	—	1090	—
	EER		W/W	3.50	3.47	3.02	3.50	2.89	2.84
			BTU/hW	11.93	11.88	10.30	11.93	9.86	9.68
			Kcal/hW	3.00	2.99	2.59	3.00	2.49	2.44
	ErP	Pdesign	kW	5.0			6.3		
		SEER	(W/W)	6.9			6.5		
		Annual Consumption	kWh	254			339		
		Class		A++			A++		
	Power Factor		%	—	98	—	—	98	—
	Indoor Noise (H / L / QLo)		dB-A	44 / 37 / 34			45 / 37 / 34		
			Power Level dB	60 / —			61 / —		
	Outdoor Noise (H / L)		dB-A	47 / —			48 / —		
			Power Level dB	61 / —			62 / —		
Heating	Capacity		kW	0.98	5.80	8.00	0.98	7.20	8.50
			BTU/h	3340	19800	27300	3340	24600	29000
			Kcal/h	840	4990	6880	840	6190	7310
	Running Current		A	—	6.8	—	—	9.4	—
	Input Power		W	340	1.52k	2.57k	340	2.09k	2.73k
	COP		W/W	2.88	3.82	3.11	2.88	3.44	3.11
			BTU/hW	9.82	13.03	10.62	9.82	11.77	10.62
			Kcal/hW	2.47	3.28	2.68	2.47	2.96	2.68
	ErP	Pdesign	kW	4.4			4.6		
		Tbivalent	°C	-10			-10		
		SCOP	(W/W)	4.2			4.0		
		Annual Consumption	kWh	1467			1610		
		Class		A+			A+		
	Power Factor		%	—	97	—	—	97	—
	Indoor Noise (H / L / QLo)		dB-A	44 / 37 / 34			45 / 37 / 34		
			Power Level dB	60 / —			61 / —		
	Outdoor Noise (H / L)		dB-A	47 / —			49 / —		
			Power Level dB	61 / —			63 / —		
Low Temp. : Capacity (kW) / I.Power (W) / COP				5.80 / 2.27k / 2.56			6.16 / 2.42k / 2.55		
Extr Low Temp. : Capacity (kW) / I.Power (W) / COP				4.98 / 2.39k / 2.08			5.24 / 2.52k / 2.08		
Max Current (A) / Max Input Power (W)				11.3 / 2.57k			11.9 / 2.73k		
Starting Current (A)				6.8			9.7		

Model				Indoor	CS-E18QKEW, CS-XE18QKEW		CS-E21QKEW	
				Outdoor				
Compressor	Type				Hermetic Motor (Rotary)		Hermetic Motor (Rotary)	
	Motor Type				Brushless (4 poles)		Brushless (4 poles)	
	Output Power			W	900		900	
Indoor Fan	Type				Cross-Flow Fan		Cross-Flow Fan	
	Material				ASG33		ASG33	
	Motor Type				DC / Transistor (8-poles)		DC / Transistor (8-poles)	
	Input Power			W	80.0		80.0	
	Output Power			W	40		40	
	Speed	QLo	Cool	rpm	880		880	
			Heat	rpm	860		860	
		Lo	Cool	rpm	940		940	
			Heat	rpm	970		970	
		Me	Cool	rpm	1030		1050	
			Heat	rpm	1100		1170	
		Hi	Cool	rpm	1130		1160	
			Heat	rpm	1240		1380	
		SHi	Cool	rpm	1260		1290	
			Heat	rpm	1300		1420	
Outdoor Fan	Type				Propeller Fan		Propeller Fan	
	Material				PP		PP	
	Motor Type				DC (8-poles)		DC (8-poles)	
	Input Power			W	—		—	
	Output Power			W	40		40	
	Speed	Hi	Cool	rpm	640		700	
			Heat	rpm	640		680	
Moisture Removal				L/h (Pt/h)	2.8 (5.9)		3.5 (7.4)	
Indoor Airflow	QLo	Cool	m³/min (ft³/min)	14.03 (495)		14.03 (495)		
		Heat	m³/min (ft³/min)	13.68 (483)		12.01 (424)		
	Lo	Cool	m³/min (ft³/min)	15.08 (532)		15.08 (532)		
		Heat	m³/min (ft³/min)	15.60 (551)		13.70 (484)		
	Me	Cool	m³/min (ft³/min)	16.83 (594)		17.00 (600)		
		Heat	m³/min (ft³/min)	17.53 (619)		16.85 (595)		
	Hi	Cool	m³/min (ft³/min)	17.9 (630)		18.9 (670)		
		Heat	m³/min (ft³/min)	19.3 (680)		20.0 (705)		
	SHi	Cool	m³/min (ft³/min)	19.00 (671)		21.20 (749)		
		Heat	m³/min (ft³/min)	20.30 (717)		20.61 (728)		
Outdoor Airflow	Hi	Cool	m³/min (ft³/min)	39.2 (1385)		41.7 (1470)		
		Heat	m³/min (ft³/min)	37.9 (1340)		40.4 (1425)		
Refrigeration Cycle	Control Device				Expansion Valve		Expansion Valve	
	Refrigerant Oil			cm³	FV50S (450)		FV50S (450)	
	Refrigerant Type			g (oz)	R410A, 1.24k (43.8)		R410A, 1.32k (46.6)	
Dimension	Height (I/D / O/D)			mm (inch)	295 (11-5/8) / 695 (27-3/8)		295 (11-5/8) / 695 (27-3/8)	
	Width (I/D / O/D)			mm (inch)	1070 (42-5/32) / 875 (34-15/32)		1070 (42-5/32) / 875 (34-15/32)	
	Depth (I/D / O/D)			mm (inch)	255 (10-1/16) / 320 (12-5/8)		255 (10-1/16) / 320 (12-5/8)	
Weight	Net (I/D / O/D)			kg (lb)	13 (29) / 46 (101)		13 (29) / 47 (104)	

Model		Indoor	CS-E18QKEW, CS-XE18QKEW		CS-E21QKEW	
		Outdoor	CU-E18QKE		CU-E21QKE	
Piping	Pipe Diameter (Liquid / Gas)	mm (inch)	6.35 (1/4) / 12.70 (1/2)		6.35 (1/4) / 12.70 (1/2)	
	Standard length	m (ft)	5.0 (16.4)		5.0 (16.4)	
	Length range (min – max)	m (ft)	3 (9.8) ~ 20 (65.6)		3 (9.8) ~ 20 (65.6)	
	I/D & O/D Height different	m (ft)	15.0 (49.2)		15.0 (49.2)	
	Additional Gas Amount	g/m (oz/ft)	20 (0.2)		20 (0.2)	
	Length for Additional Gas	m (ft)	7.5 (24.6)		7.5 (24.6)	
Drain Hose	Inner Diameter	mm	16.7		16.7	
	Length	mm	650		650	
Indoor Heat Exchanger	Fin Material		Aluminium (Pre Coat)		Aluminium (Pre Coat)	
	Fin Type		Slit Fin		Slit Fin	
	Row × Stage × FPI		2 × 17 × 17		2 × 17 × 17	
	Size (W × H × L)	mm	836.5 × 357 × 25.4		836.5 × 357 × 25.4	
Outdoor Heat Exchanger	Fin Material		Aluminium		Aluminium	
	Fin Type		Corrugated Fin (Pre Coat)		Corrugated Fin (Pre Coat)	
	Row × Stage × FPI		2 × 31 × 19		2 × 31 × 19	
	Size (W × H × L)	mm	36.4 × 651 × 854.5:824.5		36.4 × 651 × 854.5:824.5	
Air Filter	Material		Polypropelene		Polypropelene	
	Type		One-touch		One-touch	
Power Supply			Indoor		Indoor	
Power Supply Cord		A	Nil		Nil	
Thermostat			Electronic Contol		Electronic Contol	
Protection Device			Electronic Contol		Electronic Contol	
			Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum °C	32	23	32	23
		Minimum °C	16	11	16	11
	Heating	Maximum °C	30	–	30	–
		Minimum °C	16	–	16	–
Outdoor Operation Range	Cooling	Maximum °C	43	26	43	26
		Minimum °C	-10	–	-10	–
	Heating	Maximum °C	24	18	24	18
		Minimum °C	-15	-16	-15	-16

- Cooling capacities are based on indoor temperature of 27°C Dry Bulb (80.6°F Dry Bulb), 19.0°C Wet Bulb (66.2°F Wet Bulb) and outdoor air temperature of 35°C DRY BULB (95°F Dry Bulb), 24°C Wet Bulb (75.2°F Wet Bulb)
- Heating capacities are based on indoor temperature of 20°C Dry Bulb (68°F Dry Bulb) and outdoor air temperature of 7°C Dry Bulb (44.6°F Dry Bulb), 6°C Wet Bulb (42.8°F Wet Bulb)
- Heating low temperature capacity, Input Power and COP measured at 230 V, indoor temperature 20°C, outdoor 2/1°C
- Heating extreme low temperature capacity, Input Power and COP measured at 230 V, indoor temperature 20°C, outdoor -7/-8°C
- Standby power consumption ≤10.0w (when switched OFF by remote control, except under self protection control).
- Specifications are subjected to change without prior notice for further improvement.

Model			Indoor	CS-E24QKEW			CS-E28QKES		
			Outdoor	CU-E24QKE			CU-E28QKE		
Performance Test Condition				EUROVENT			EUROVENT		
Power Supply			Phase, Hz	Single, 50			Single, 50		
			V	230			230		
				Min.	Mid.	Max.	Min.	Mid.	Max.
Cooling	Capacity		kW	0.98	6.80	8.10	0.98	7.65	8.60
			BTU/h	3340	23200	27600	3340	26100	29300
			Kcal/h	840	5850	6970	840	6580	7400
	Running Current		A	-	9.5	-	-	11.5	-
	Input Power		W	380	2.08k	2.65k	380	2.52k	2.92k
	Annual Consumption		kWh	-	1040	-	-	1260	-
	EER		W/W	2.58	3.27	3.06	2.58	3.04	2.95
			BTU/hW	8.79	11.15	10.42	8.79	10.36	10.03
			Kcal/hW	2.21	2.81	2.63	2.21	2.61	2.53
	ErP	Pdesign	kW	6.8			7.7		
		SEER	(W/W)	6.1			6.0		
		Annual Consumption	kWh	390			449		
		Class		A++			A+		
	Power Factor		%	-	95	-	-	95	-
	Indoor Noise (H / L / QLo)		dB-A	47 / 38 / 35			49 / 38 / 35		
			Power Level dB	63 / -			65 / -		
	Outdoor Noise (H / L)		dB-A	52 / -			53 / -		
			Power Level dB	66 / -			67 / -		
Heating	Capacity		kW	0.98	8.60	9.90	0.98	9.60	11.00
			BTU/h	3340	29300	33800	3340	32700	37500
			Kcal/h	840	7400	8510	840	8260	9460
	Running Current		A	-	11.7	-	-	14.5	-
	Input Power		W	450	2.58k	3.10k	450	3.24k	3.65k
	COP		W/W	2.18	3.33	3.19	2.18	2.96	3.01
			BTU/hW	7.42	11.36	10.90	7.42	10.09	10.27
			Kcal/hW	1.87	2.87	2.75	1.87	2.55	2.59
	ErP	Pdesign	kW	5.5			6.0		
		Tbivalent	°C	-10			-10		
		SCOP	(W/W)	3.9			3.8		
		Annual Consumption	kWh	1974			2211		
		Class		A			A		
	Power Factor		%	-	96	-	-	97	-
	Indoor Noise (H / L / QLo)		dB-A	47 / 38 / 35			48 / 38 / 35		
			Power Level dB	63 / -			64 / -		
	Outdoor Noise (H / L)		dB-A	52 / -			53 / -		
			Power Level dB	66 / -			67 / -		
Low Temp. : Capacity (kW) / I.Power (W) / COP				7.17 / 2.74k / 2.62			7.97 / 3.23k / 2.47		
Extr Low Temp. : Capacity (kW) / I.Power (W) / COP				6.13 / 2.76k / 2.22			6.77 / 3.36k / 2.01		
Max Current (A) / Max Input Power (W)				14.4 / 3.10k			15.5 / 3.65k		
Starting Current (A)				11.70			14.50		

Model				Indoor	CS-E24QKEW	CS-E28QKES
				Outdoor	CU-E24QKE	CU-E28QKE
Compressor	Type				Hermetic Motor (Rotary)	Hermetic Motor (Rotary)
	Motor Type				Brushless (4 poles)	Brushless (4 poles)
	Output Power			W	1.7k	1.7k
Indoor Fan	Type				Cross-Flow Fan	Cross-Flow Fan
	Material				ASG33	ASG33
	Motor Type				DC / Transistor (8-poles)	DC / Transistor (8-poles)
	Input Power			W	104.0	104.0
	Output Power			W	40	40
	Speed	QLo	Cool	rpm	880	880
			Heat	rpm	990	990
		Lo	Cool	rpm	1020	1020
			Heat	rpm	1100	1100
		Me	Cool	rpm	1140	1180
			Heat	rpm	1230	1250
		Hi	Cool	rpm	1270	1350
			Heat	rpm	1360	1400
		SHi	Cool	rpm	1340	1390
			Heat	rpm	1400	1430
Outdoor Fan	Type				Propeller Fan	Propeller Fan
	Material				PP	PP
	Motor Type				DC (8-poles)	DC (8-poles)
	Input Power			W	—	—
	Output Power			W	60	60
	Speed	Hi	Cool	rpm	660	690
			Heat	rpm	640	650
	Moisture Removal			L/h (Pt/h)	3.9 (8.2)	4.5 (9.5)
Indoor Airflow	QLo	Cool	m³/min (ft³/min)	13.13 (464)	13.40 (473)	
		Heat	m³/min (ft³/min)	15.20 (537)	15.20 (537)	
	Lo	Cool	m³/min (ft³/min)	15.52 (548)	15.70 (554)	
		Heat	m³/min (ft³/min)	17.00 (600)	17.00 (600)	
	Me	Cool	m³/min (ft³/min)	17.66 (624)	18.50 (653)	
		Heat	m³/min (ft³/min)	19.10 (674)	19.40 (685)	
	Hi	Cool	m³/min (ft³/min)	19.8 (700)	21.1 (745)	
		Heat	m³/min (ft³/min)	21.2 (750)	21.9 (775)	
	SHi	Cool	m³/min (ft³/min)	21.00 (742)	21.7 (767)	
		Heat	m³/min (ft³/min)	21.90 (775)	22.4 (790)	
Outdoor Airflow	Hi	Cool	m³/min (ft³/min)	50.2 (1770)	54.5 (1925)	
		Heat	m³/min (ft³/min)	50.2 (1770)	54.5 (1925)	
Refrigeration Cycle	Control Device			Expansion Valve	Expansion Valve	
	Refrigerant Oil		cm³	FV50S (800)	FV50S (800)	
	Refrigerant Type		g (oz)	R410A, 1.80k (63.5)	R410A, 1.80k (63.5)	
Dimension	Height (I/D / O/D)		mm (inch)	295 (11-5/8) / 795 (31-5/16)	295 (11-5/8) / 795 (31-5/16)	
	Width (I/D / O/D)		mm (inch)	1070 (42-5/32) / 875 (34-15/32)	1070 (42-5/32) / 875 (34-15/32)	
	Depth (I/D / O/D)		mm (inch)	255 (10-1/16) / 320 (12-5/8)	255 (10-1/16) / 320 (12-5/8)	
Weight	Net (I/D / O/D)		kg (lb)	13 (29) / 67 (148)	13 (29) / 67 (148)	

Model		Indoor	CS-E24QKEW		CS-E28QKES	
		Outdoor	CU-E24QKE		CU-E28QKE	
Piping	Pipe Diameter (Liquid / Gas)	mm (inch)	6.35 (1/4) / 15.88 (5/8)		6.35 (1/4) / 15.88 (5/8)	
	Standard length	m (ft)	5.0 (16.4)		5.0 (16.4)	
	Length range (min – max)	m (ft)	3 (9.8) ~ 30 (98.4)		3 (9.8) ~ 30 (98.4)	
	I/D & O/D Height different	m (ft)	20.0 (65.6)		20.0 (65.6)	
	Additional Gas Amount	g/m (oz/ft)	30 (0.3)		30 (0.3)	
	Length for Additional Gas	m (ft)	10 (32.8)		10 (32.8)	
Drain Hose	Inner Diameter	mm	16.7		16.7	
	Length	mm	650		650	
Indoor Heat Exchanger	Fin Material		Aluminium (Pre Coat)		Aluminium (Pre Coat)	
	Fin Type		Slit Fin		Slit Fin	
	Row × Stage × FPI		2 × 17 × 21		2 × 17 × 21	
	Size (W × H × L)	mm	836.5 × 357 × 25.4		836.5 × 357 × 25.4	
Outdoor Heat Exchanger	Fin Material		Aluminium (Pre Coat)		Aluminium (Pre Coat)	
	Fin Type		Corrugated Fin		Corrugated Fin	
	Row × Stage × FPI		2 × 30 × 19		2 × 30 × 19	
	Size (W × H × L)	mm	38.1 × 762 × 895.8:865.8		38.1 × 762 × 895.8:865.8	
Air Filter	Material		Polypropelene		Polypropelene	
	Type		One-touch		One-touch	
Power Supply			Indoor		Indoor	
Power Supply Cord		A	Nil		Nil	
Thermostat			Electronic Contol		Electronic Contol	
Protection Device			Electronic Contol		Electronic Contol	
			Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum °C	32	23	32	23
		Minimum °C	16	11	16	11
	Heating	Maximum °C	30	–	30	–
		Minimum °C	16	–	16	–
Outdoor Operation Range	Cooling	Maximum °C	43	26	43	26
		Minimum °C	-10	–	-10	–
	Heating	Maximum °C	24	18	24	18
		Minimum °C	-15	-16	-15	-16

1. Cooling capacities are based on indoor temperature of 27°C Dry Bulb (80.6°F Dry Bulb), 19.0°C Wet Bulb (66.2°F Wet Bulb) and outdoor air temperature of 35°C DRY BULB (95°F Dry Bulb), 24°C Wet Bulb (75.2°F Wet Bulb)
2. Heating capacities are based on indoor temperature of 20°C Dry Bulb (68°F Dry Bulb) and outdoor air temperature of 7°C Dry Bulb (44.6°F Dry Bulb), 6°C Wet Bulb (42.8°F Wet Bulb)
3. Heating low temperature capacity, Input Power and COP measured at 230 V, indoor temperature 20°C, outdoor 2/1°C
4. Heating extreme low temperature capacity, Input Power and COP measured at 230 V, indoor temperature 20°C, outdoor -7/-8°C
5. Standby power consumption ≤10.0w (when switched OFF by remote control, except under self protection control).
6. Specifications are subjected to change without prior notice for further improvement.

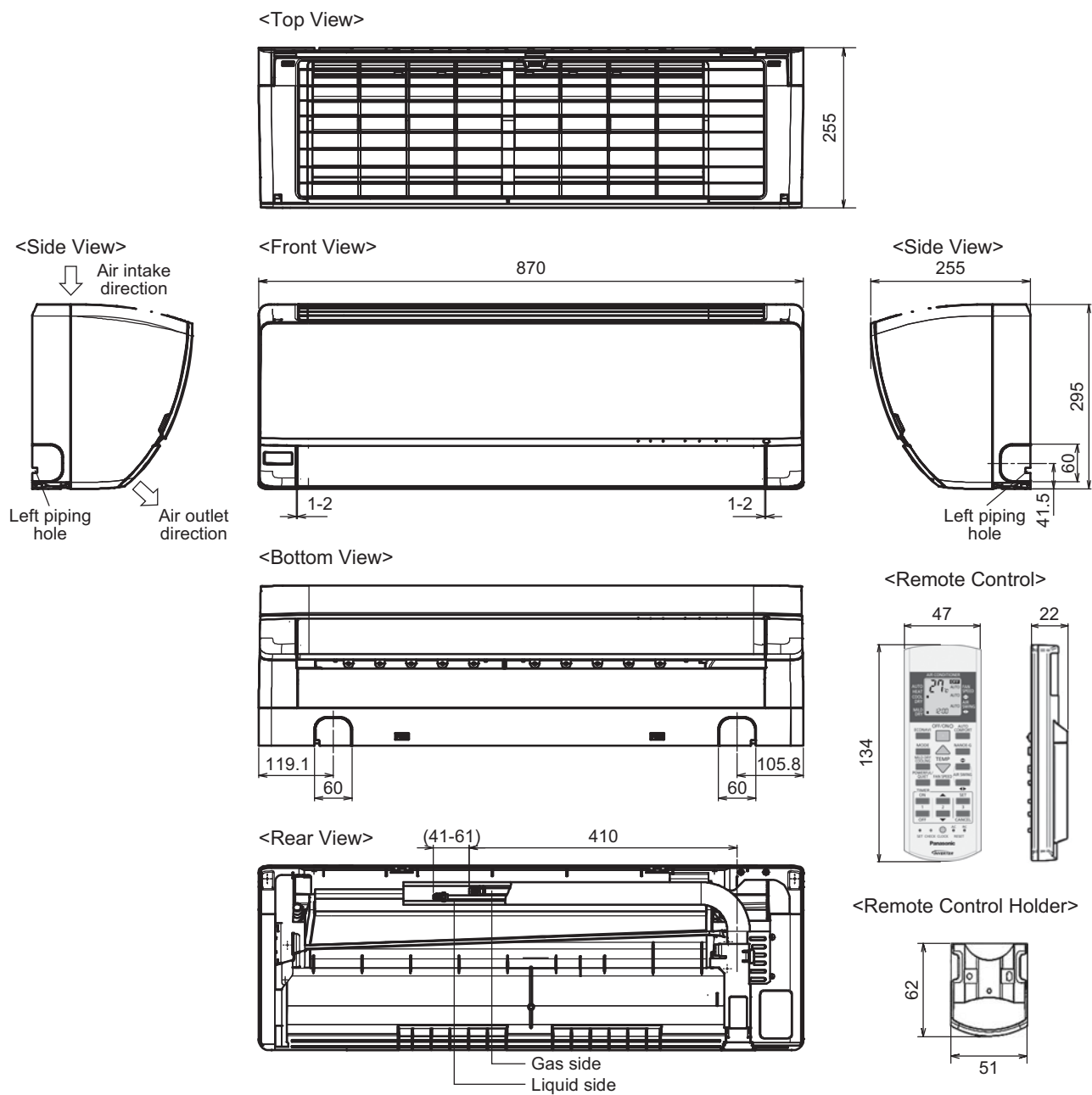
3. Features

- **Inverter Technology**
 - Wider output power range
 - Energy saving
 - Quick Cooling
 - Quick Heating
 - More precise temperature control
- **Environment Protection**
 - Non-ozone depletion substances refrigerant (R410A)
- **Long Installation Piping**
 - Long piping up to 15 meters (0.75 ~ 1.75HP) and 20 meters (2.0 ~ 2.25HP) during single split connection only
 - CS/CU-E24/28QK, long piping up to 30 meter
- **Easy to use remote control**
- **Quality Improvement**
 - Random auto restart after power failure for safety restart operation
 - Gas leakage protection
 - Prevent compressor reverse cycle
 - Inner protector to protect compressor
 - Noise prevention during soft dry operation
- **Operation Improvement**
 - Quiet mode to reduce the indoor unit operating sound
 - Powerful mode to reach the desired room temperature quickly
 - 24-hour timer setting
- **Serviceability Feature**
 - Activation and Deactivation Method for Heating Only Mode
 - Breakdown Self Diagnosis function

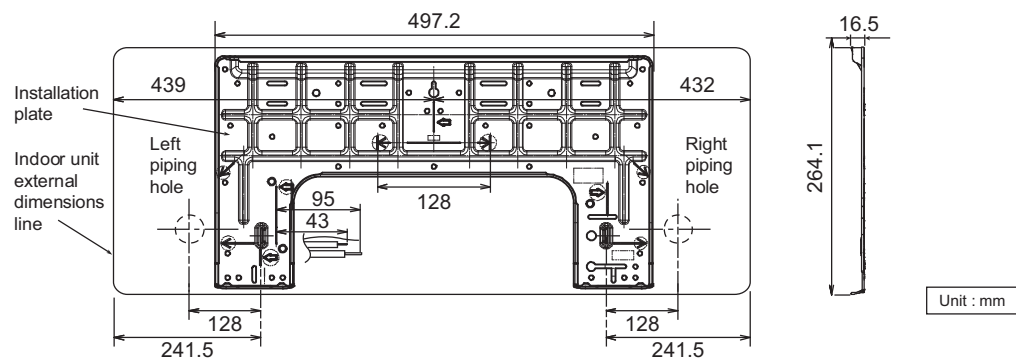
5. Dimensions

5.1 Indoor Unit

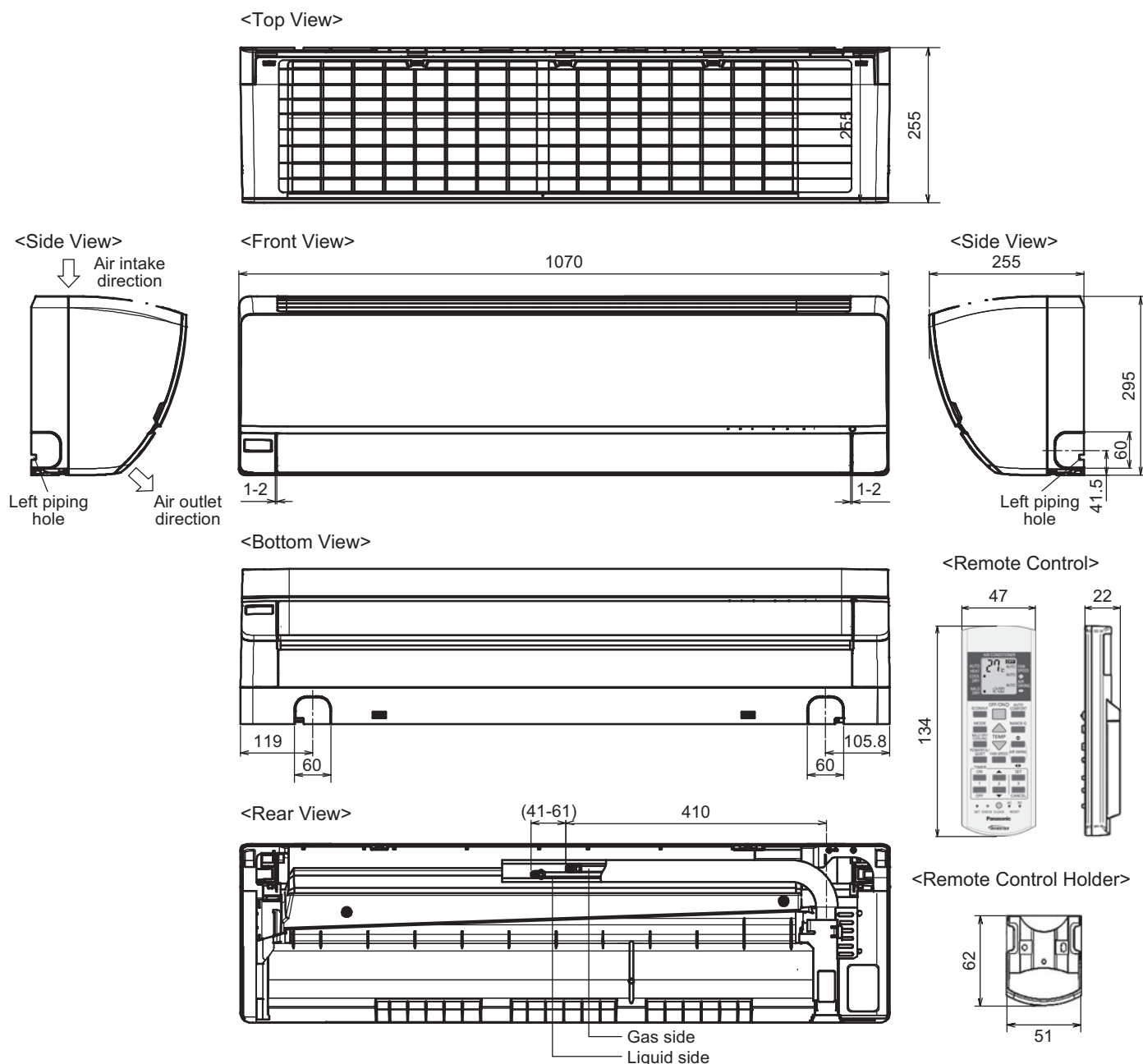
5.1.1 CS-E7QK CS-E9QK CS-E12QK CS-E15QK CS-XE7QK CS-XE9QK CS-XE12QK



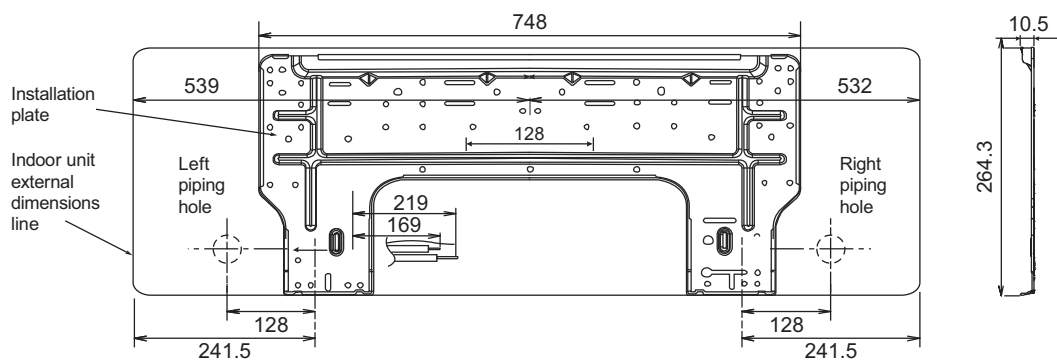
Relative position between the indoor unit and the installation plate <Front View>



5.1.2 CS-E18QK CS-E21QK CS-E24QK CS-E28QK CS-XE18QK

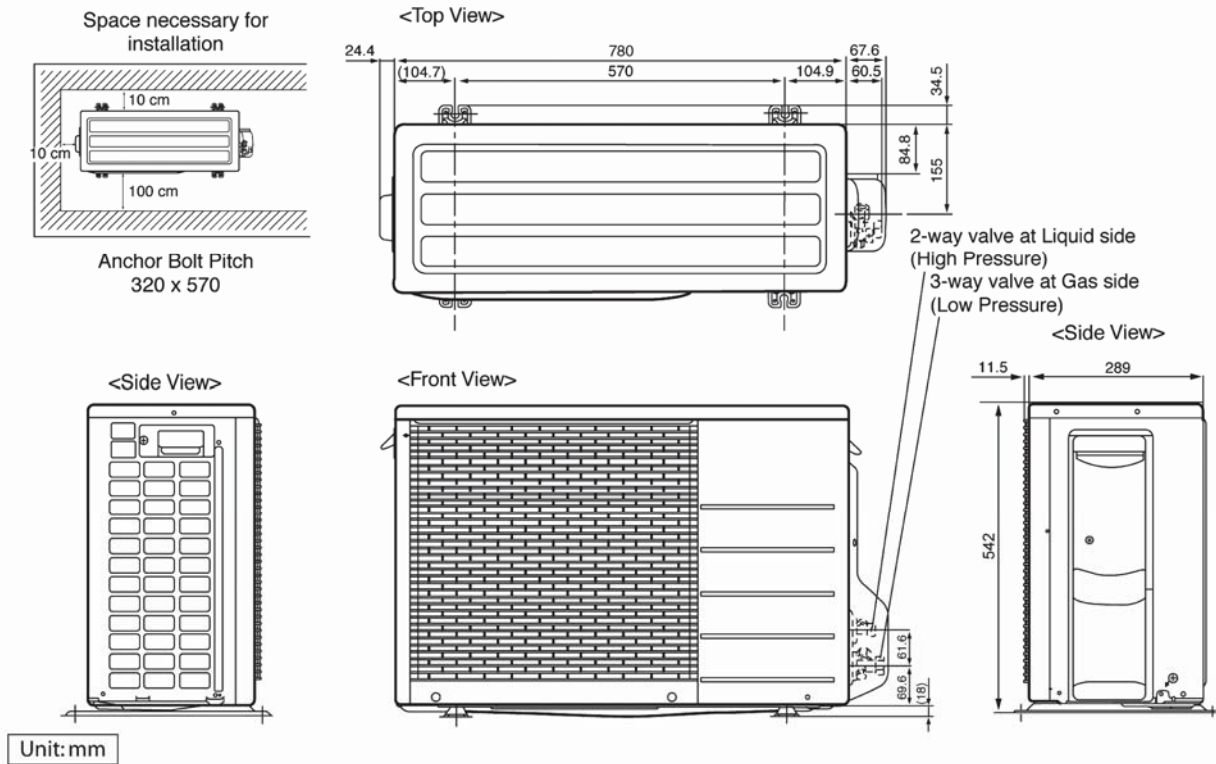


Relative position between the indoor unit and the installation plate <Front View>

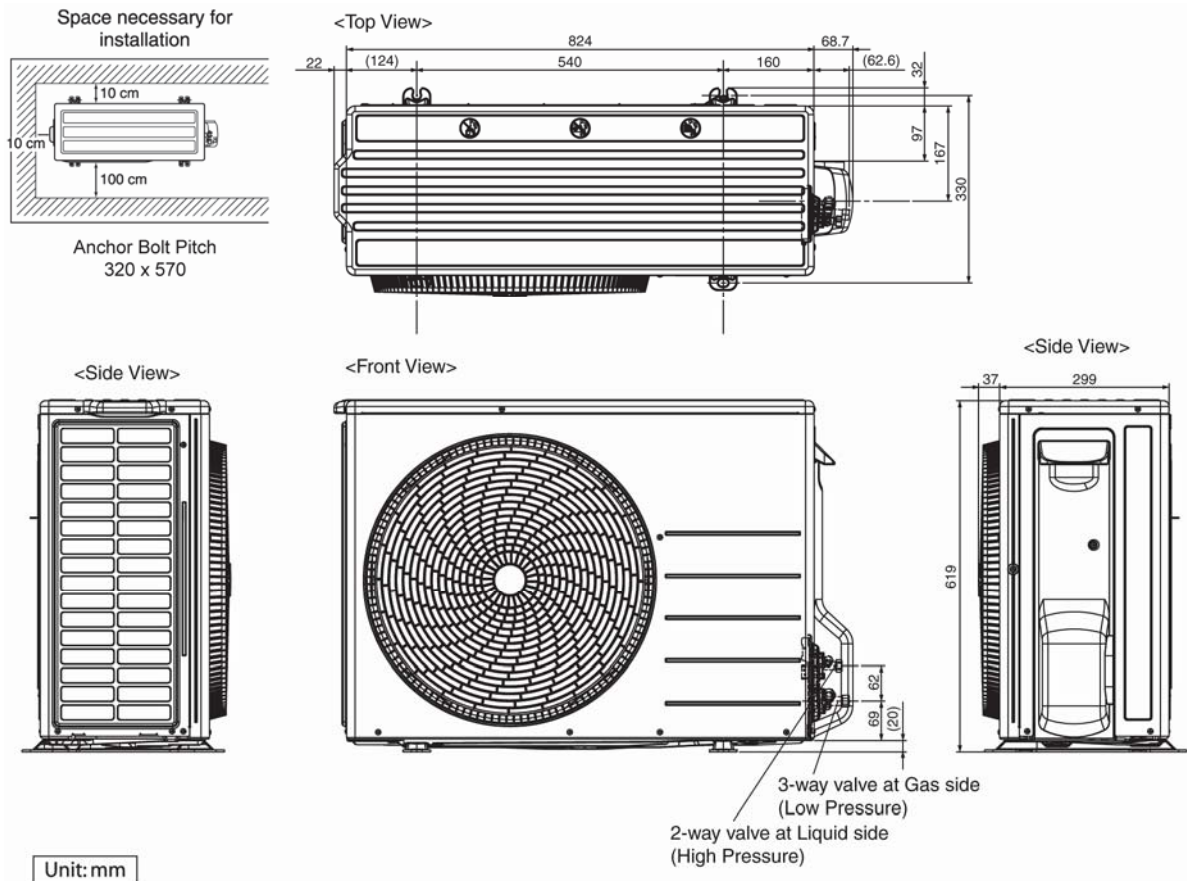


5.2 Outdoor Unit

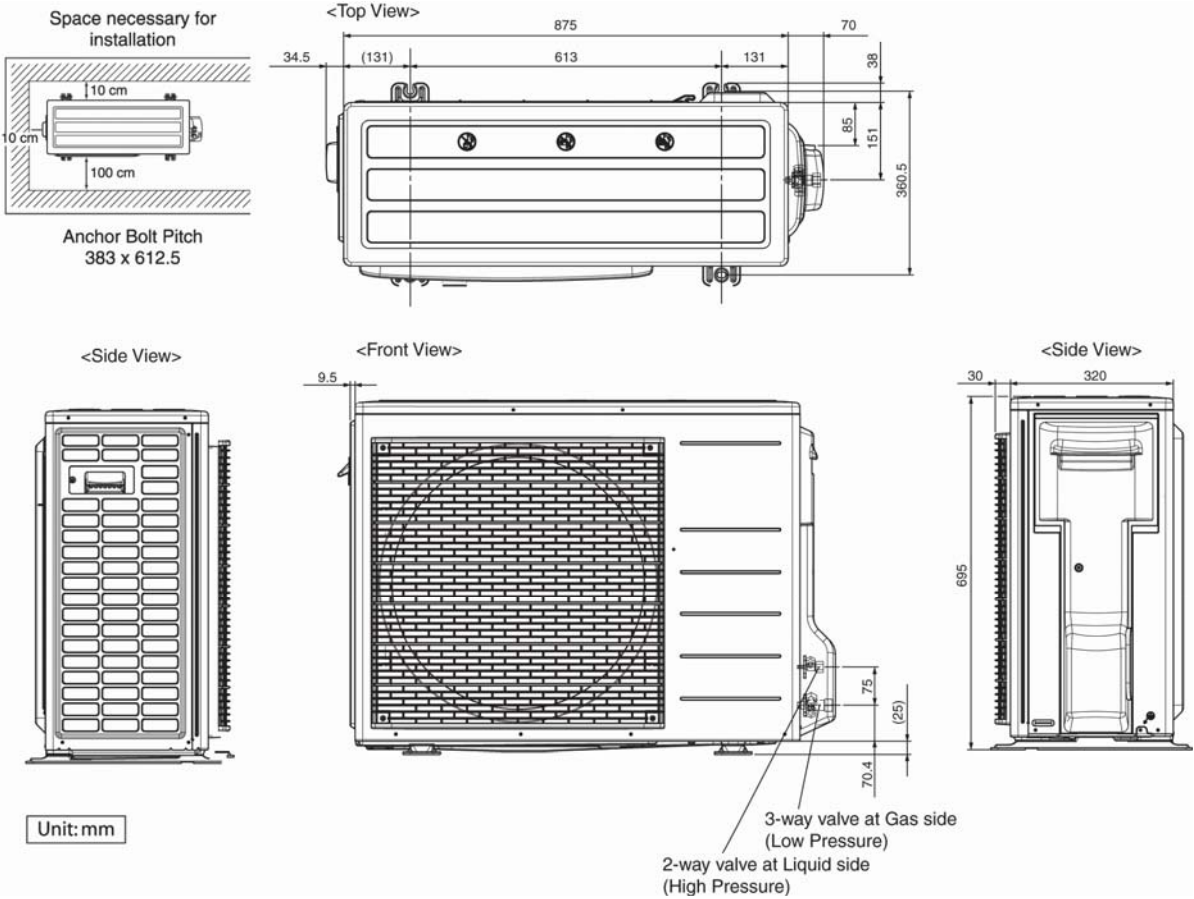
5.2.1 CU-E7QKE CU-E9QKE



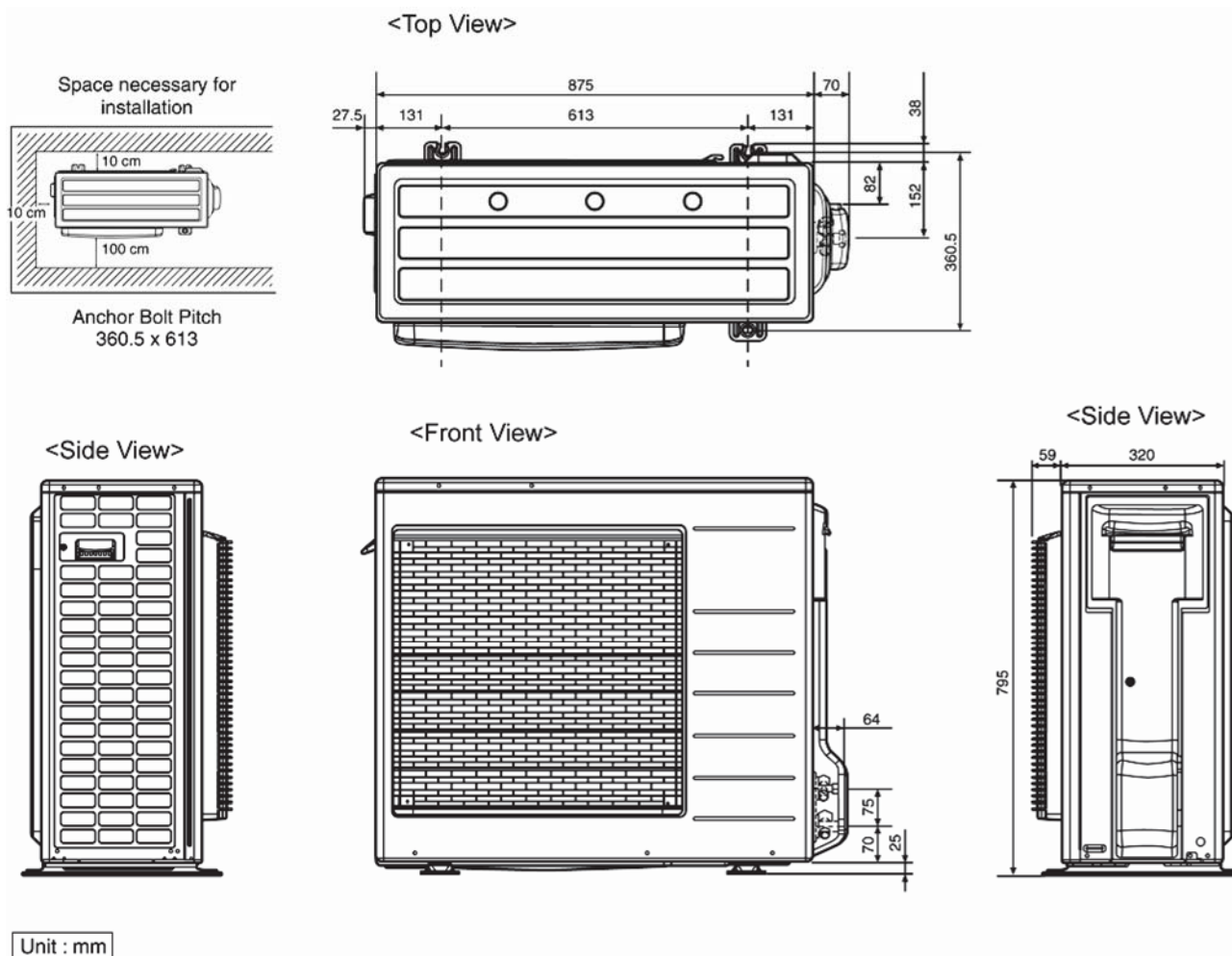
5.2.2 CU-E12QKE CU-E15QKE



5.2.3 CU-E18QKE CU-E21QKE

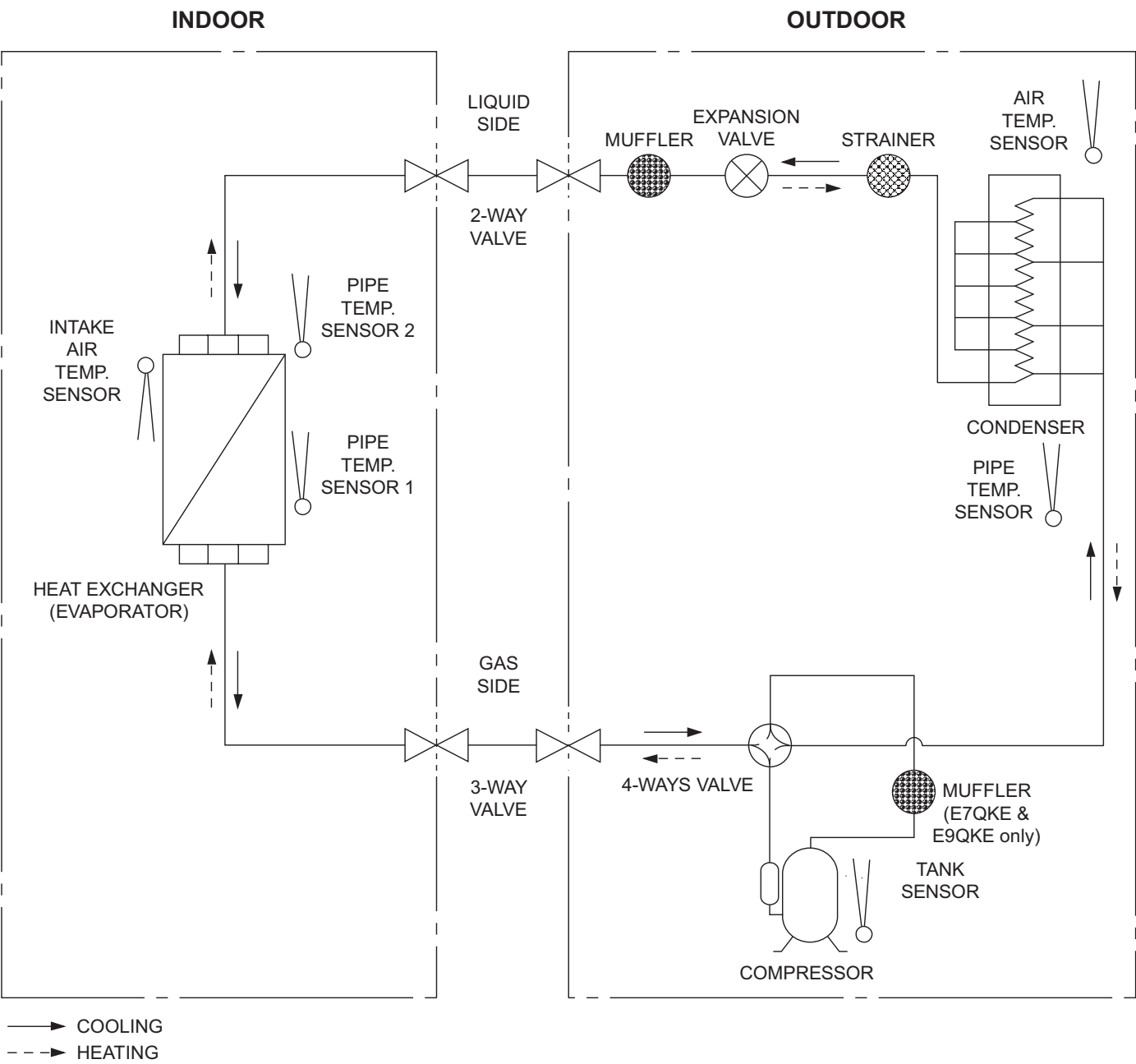


5.2.4 CU-E24QKE CU-E28QKE

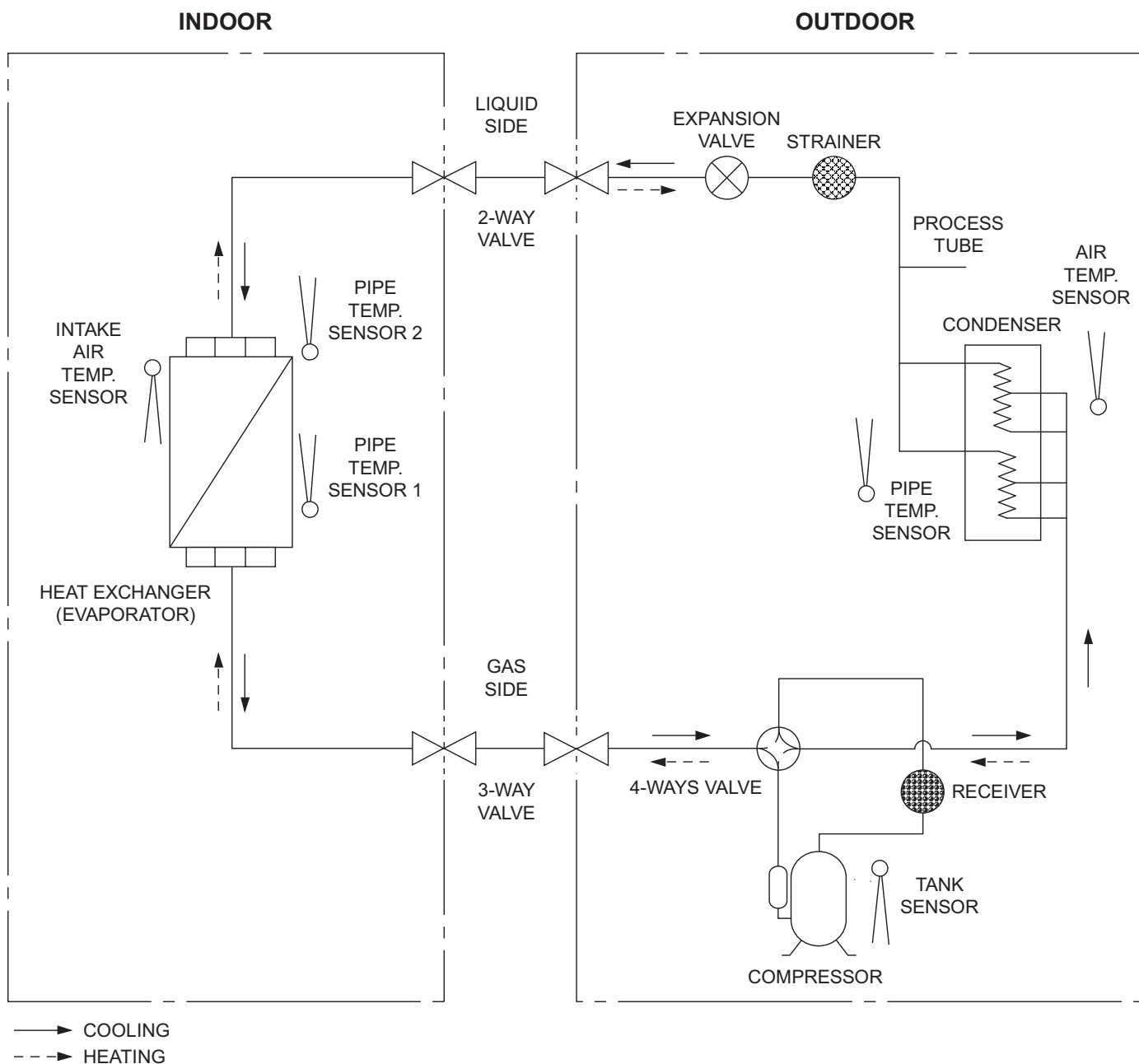


6. Refrigeration Cycle Diagram

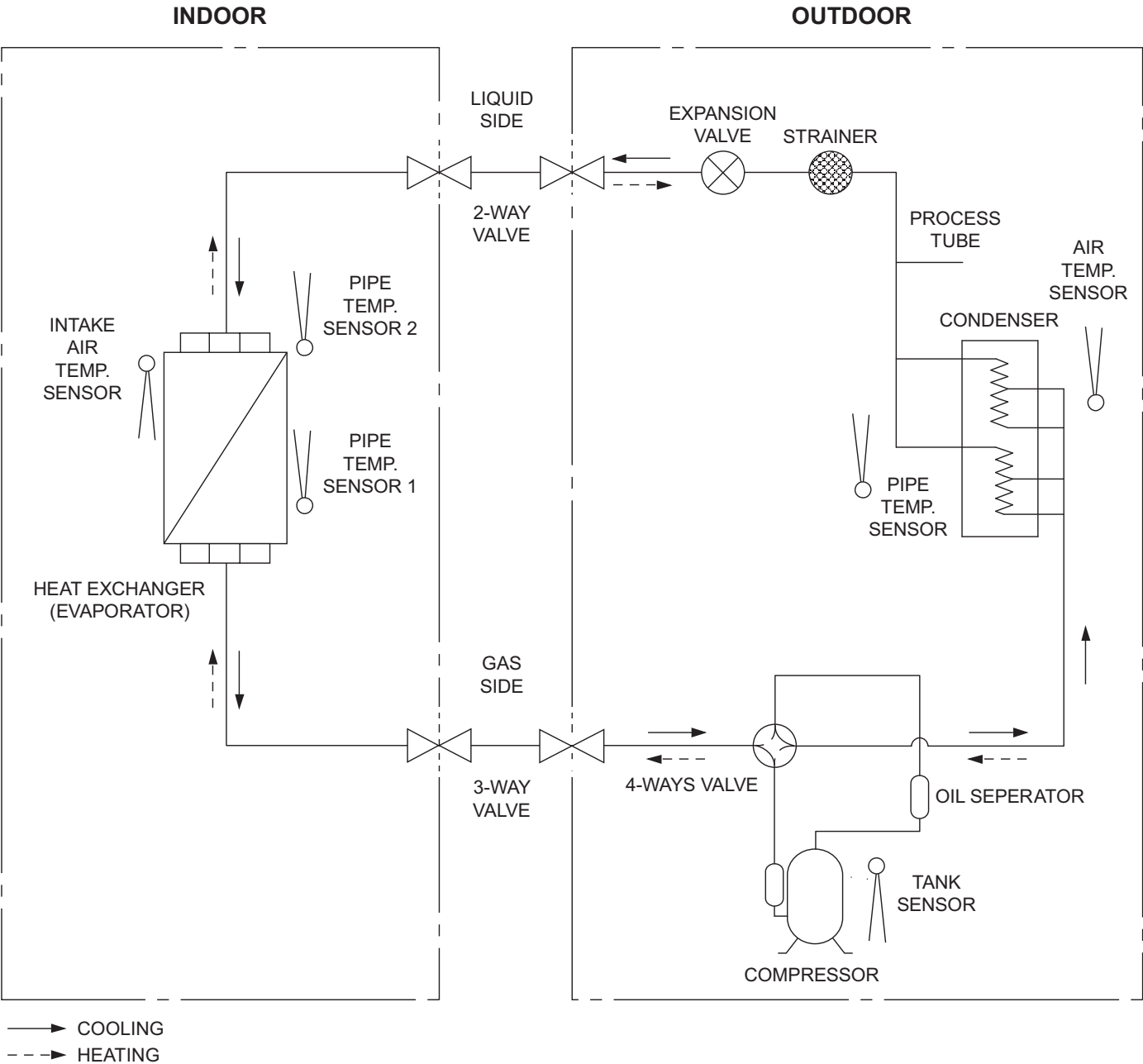
6.1 CU-E7QKE CU-E9QKE CU-E12QKE CU-E15QKE



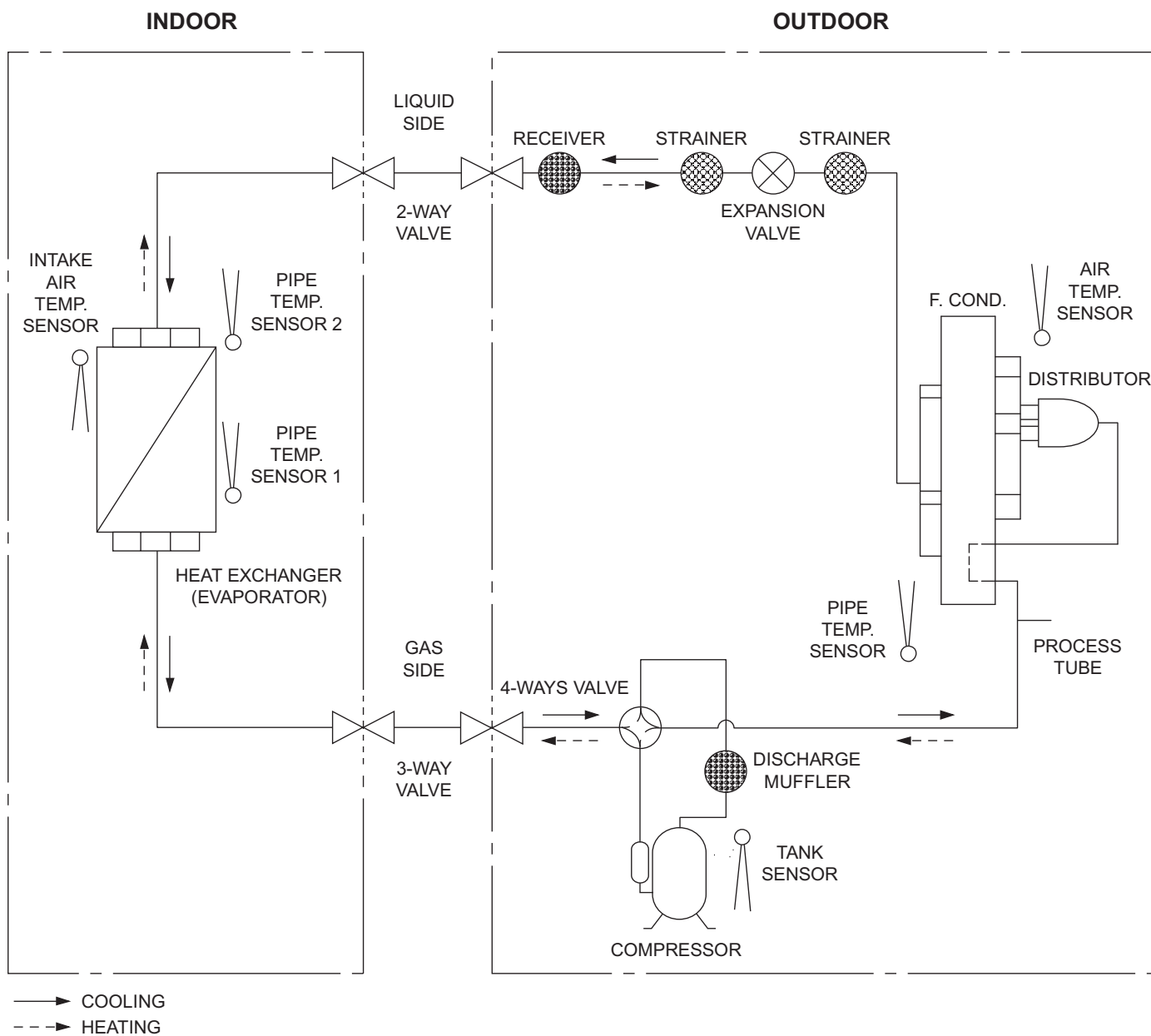
6.2 CU-E18QKE



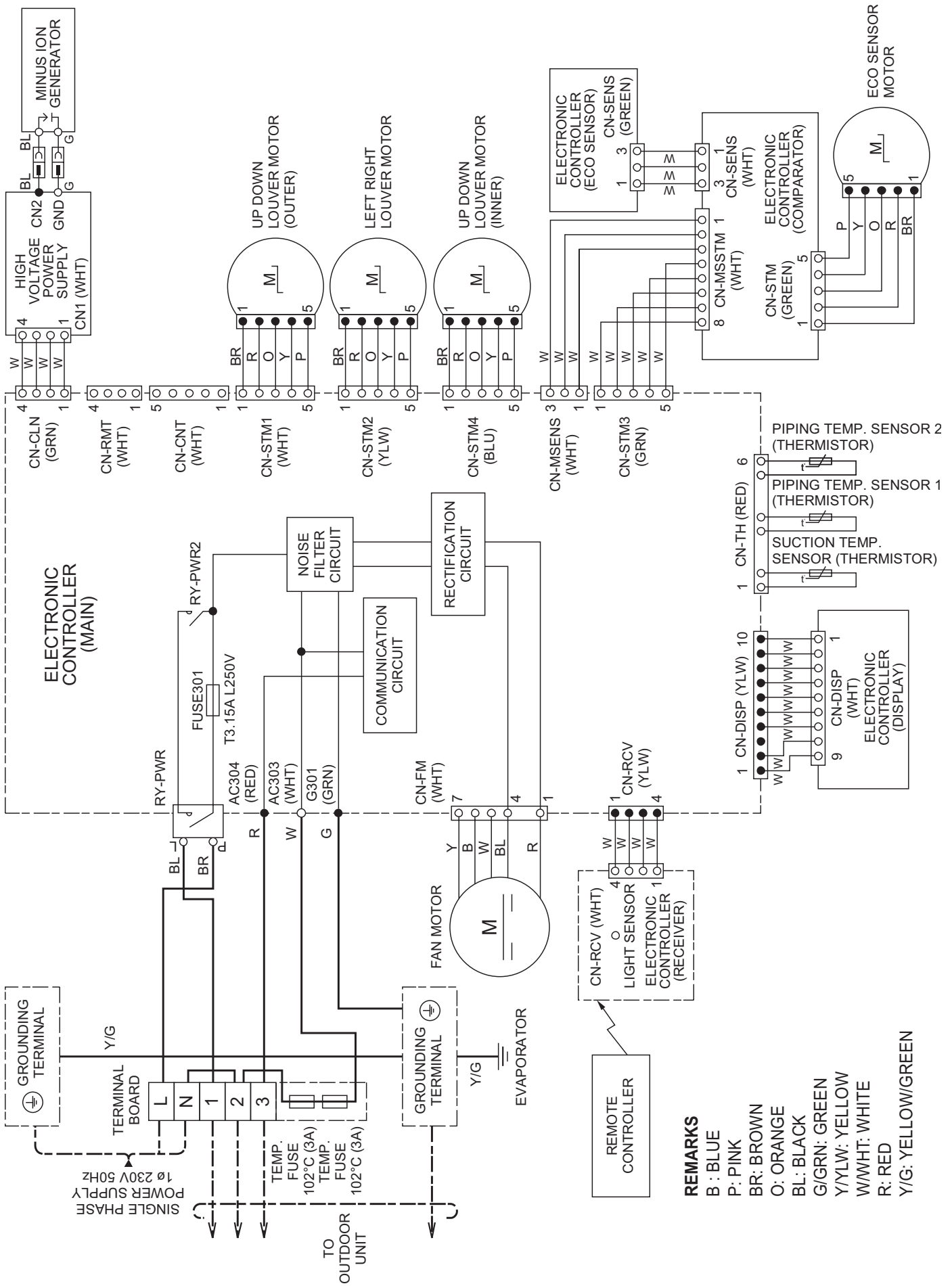
6.3 CU-E21QKE



6.4 CU-E24QKE CU-E28QKE

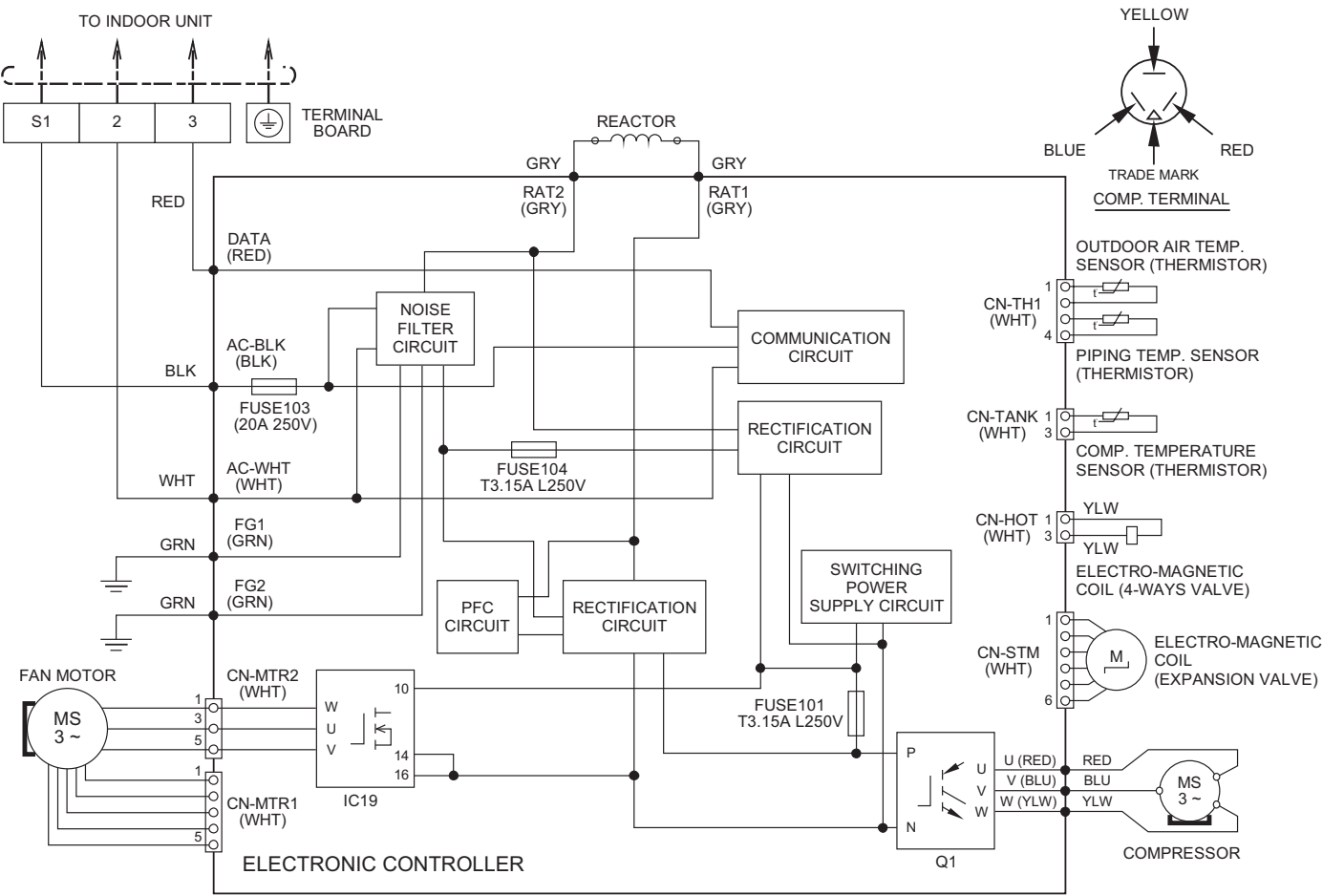


8.1.2 CS-E28QKES



8.2 Outdoor Unit

8.2.1 CU-E7QKE

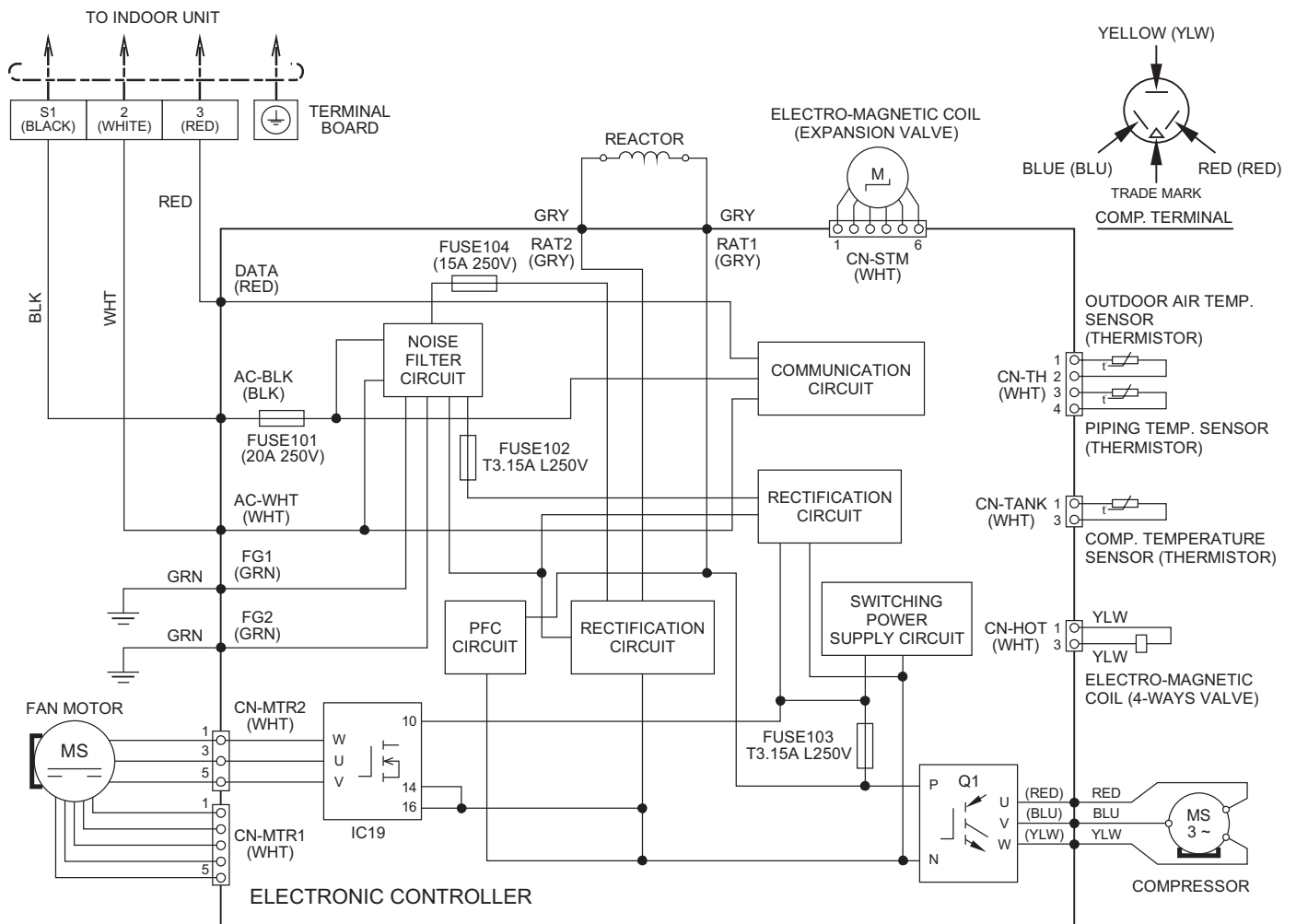


REMARKS
BLUE: (BLU) BLACK: (BLK) WHITE: (WHT) RED: (RED)
YELLOW: (YLW) GRAY: (GRY) GREEN: (GRN) ORANGE: (ORG)

Resistance of Compressor Windings	
MODEL	CU-E7QKE
CONNECTION	5RS092XCD21 (Ω)
U-V	1.152
U-W	1.152
V-W	1.152

Note: Resistance at 20°C of ambient temperature.

8.2.2 CU-E9QKE CU-E12QKE CU-E15QKE



REMARKS

BLACK: (BLK) WHITE: (WHT) YELLOW: (YLW) ORANGE: (ORG)
YELLOW/GREEN: (YLW/GRN) BLUE: (BLU) RED: (R) BROWN: (BRW)

Resistance of Compressor Windings

MODEL	CU-E9QKE
CONNECTION	5RS102XBC21 (Ω)
U-V	0.858
U-W	0.858
V-W	0.858

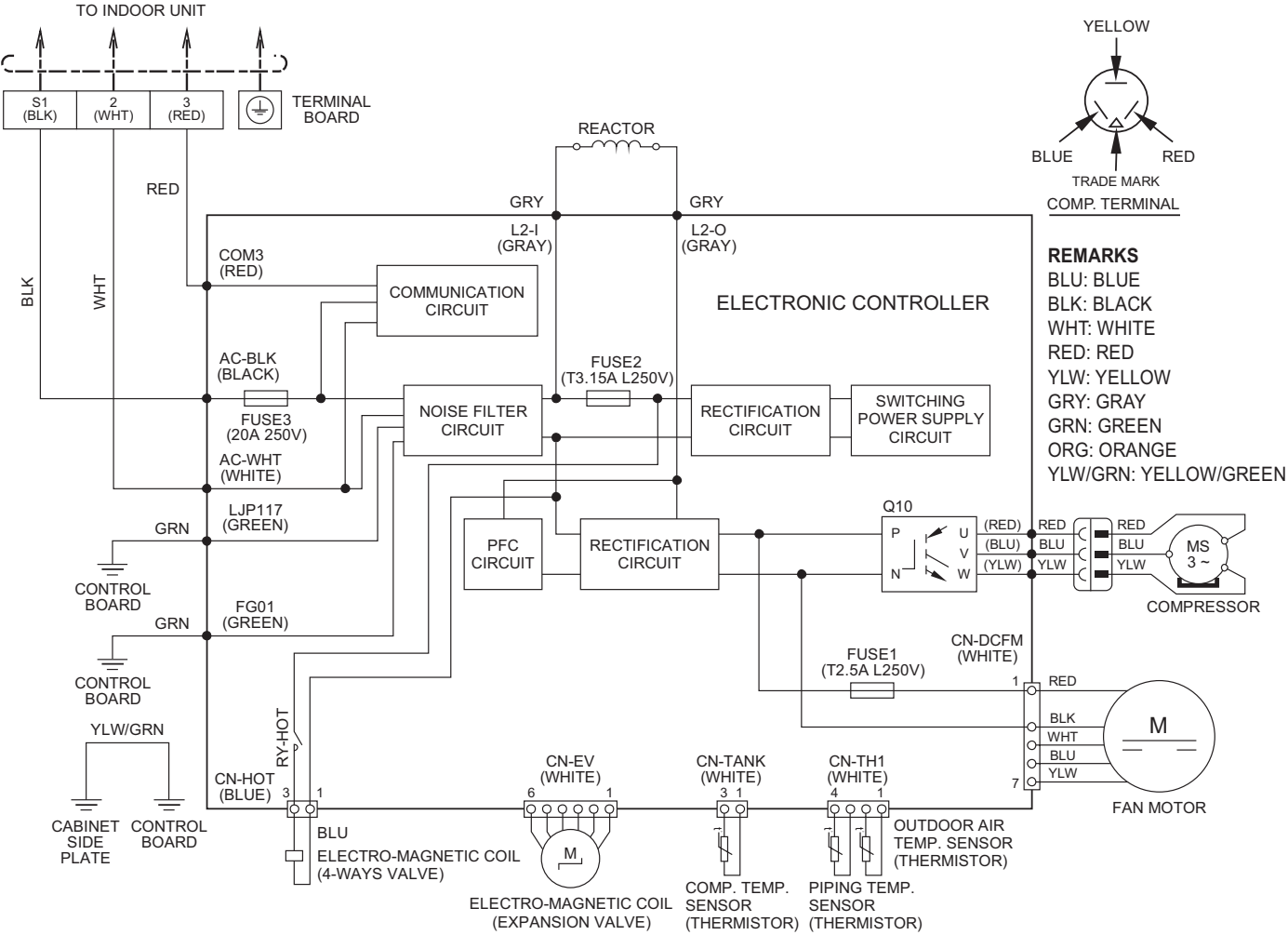
Note: Resistance at 20°C of ambient temperature.

Resistance of Compressor Windings

MODEL	CU-E12QKE / CU-E15QKE
CONNECTION	5RS102XNA21 (Ω)
U-V	1.211
U-W	1.211
V-W	1.211

Note: Resistance at 20°C of ambient temperature.

8.2.3 CU-E18QKE CU-E21QKE

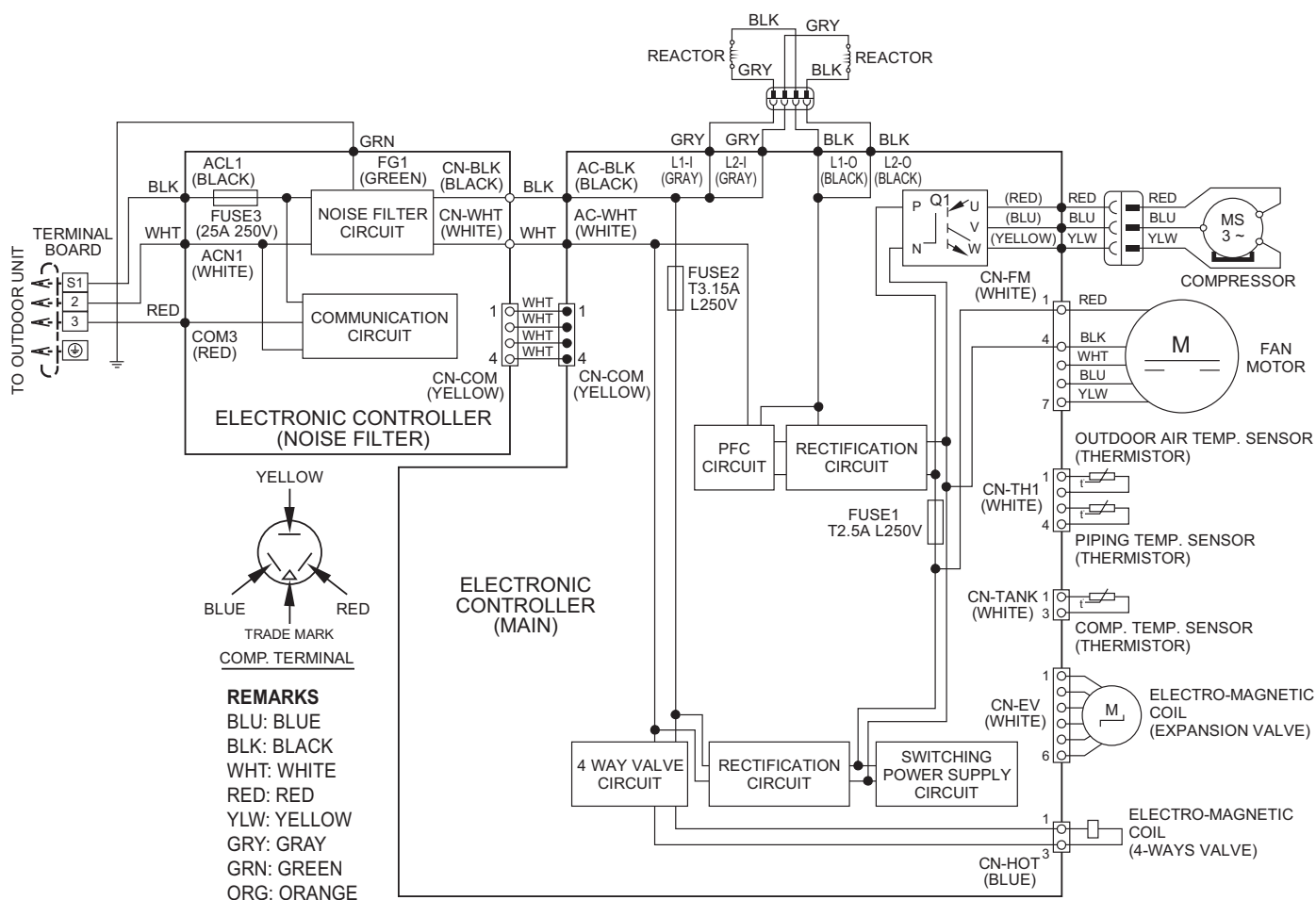


Resistance of Compressor Windings

MODEL	CU-E18QKE / CU-E21QKE
CONNECTION	5RD132XBA21 (Ω)
U-V	1.897
U-W	1.907
V-W	1.882

Note: Resistance at 20°C of ambient temperature.

8.2.4 CU-E24QKE

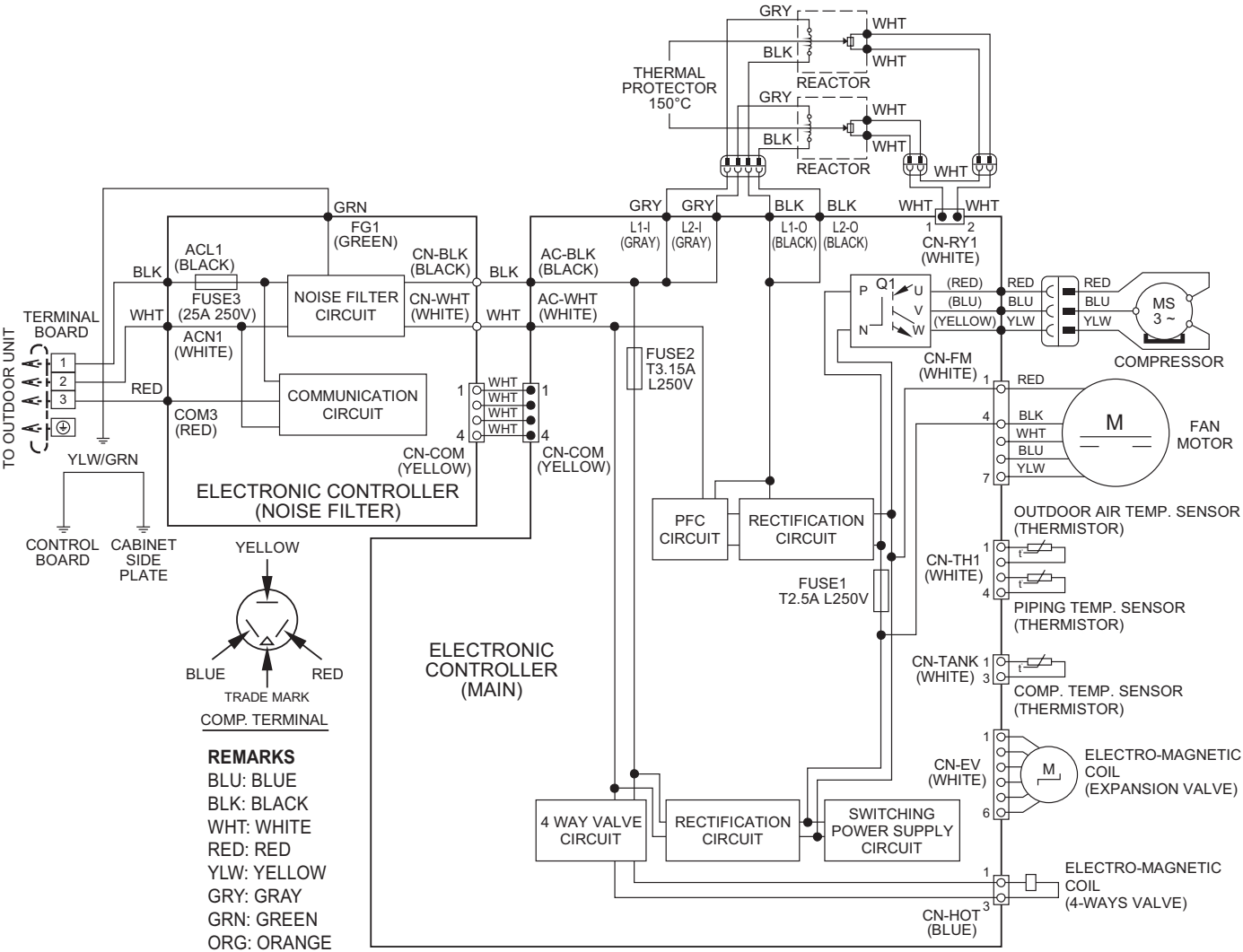


Resistance of Compressor Windings

MODEL	CU-E24QKE
CONNECTION	5KD240XAF21 (Ω)
U-V	0.720
U-W	0.726
V-W	0.708

Note: Resistance at 20°C of ambient temperature.

8.2.5 CU-E28QKE



Resistance of Compressor Windings

MODEL	CU-E28QKE
CONNECTION	5KD240XAF21 (Ω)
U-V	0.720
U-W	0.726
V-W	0.708

Note: Resistance at 20°C of ambient temperature.

19. Technical Data

Technical data provided are based on the air conditioner running under free frequency.

19.1 Cool Mode Performance Data

Unit setting: Standard piping length, Hi Fan, Cool mode at 16°C

Voltage: 230V

19.1.1 CS-E7QKEW/CU-E7QKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-10			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19.0	2298	2167	322	2237	2110	359	2277	2177	324	2251	2152	349	2417	2164	260	2269	2119	349	2050	2030	460
	22.0	2428	1540	342	2562	1583	274	2433	1556	333	2543	1601	283	2496	1547	258	2476	1488	334	2183	1409	452
23	15.7	2150	2129	307	2106	2085	343	2070	2049	340	2270	2247	311	2143	2122	291	2055	2035	358	1889	1870	466
	18.4	2262	1535	315	2192	1510	354	2182	1502	341	2232	1530	328	2267	1531	281	2258	1500	348	1938	1455	460
20	13.3	2043	2023	332	1954	1935	362	1962	1943	352	1741	1724	275	1403	1389	129	1588	1572	271	1736	1719	468
	15.8	2106	1526	339	2066	1507	334	2103	1509	338	1833	1378	261	1821	1349	247	2012	1468	357	1764	1396	463

(Dry bulb value based on 46% humidity)

19.1.2 CS-E9QKEW/CU-E9QKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-10			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19.0	2802	2658	367	2728	2588	410	2777	2671	370	2745	2639	398	2947	2654	296	2767	2599	398	2500	2490	525
	22.0	2961	1889	390	3124	1941	313	2967	1909	380	3102	1964	323	3043	1897	295	3020	1825	381	2662	1729	516
23	15.7	2622	2596	350	2568	2542	392	2524	2499	388	2768	2741	355	2614	2587	332	2507	2481	409	2304	2281	532
	18.4	2758	1882	359	2673	1852	404	2661	1843	390	2722	1877	374	2764	1878	320	2754	1840	398	2363	1784	525
20	13.3	2492	2467	379	2383	2359	413	2393	2369	402	2124	2103	314	1711	1694	147	1937	1918	309	2117	2096	534
	15.8	2568	1872	386	2519	1849	381	2564	1850	386	2235	1690	297	2221	1655	282	2453	1801	407	2151	1713	529

(Dry bulb value based on 46% humidity)

19.1.3 CS-E12QKEW/CU-E12QKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-10			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19.0	3387	3016	556	3537	3087	508	3655	3138	456	3636	3126	507	4291	3456	555	3917	3279	683	3500	3107	835
	22.0	3886	2466	486	3722	2355	549	4002	2465	476	3724	2355	533	4628	2749	557	4260	2595	690	3862	1941	846
23	15.7	3053	2905	548	3080	2948	549	3020	2885	548	3163	3075	484	3745	3398	551	3419	3212	671	3061	3046	814
	18.4	3414	2342	502	3271	2284	552	3539	2415	477	3418	2342	505	4087	2682	552	3759	2500	678	3369	2345	829
20	13.3	2789	2762	524	2653	2627	578	2725	2698	559	2712	2704	563	2833	2805	339	2881	2840	522	2778	2751	746
	15.8	2782	2112	605	2953	2184	548	2867	2141	581	3199	2306	484	3786	2616	550	3452	2431	669	3104	1250	812

(Dry bulb value based on 46% humidity)

CS-E15QKEW/CU-E15QKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-10			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19.0	4065	3395	826	4245	3474	754	4386	3531	677	4364	3518	753	5149	3889	824	4701	3690	1014	4200	3497	1240
	22.0	4663	2775	722	4466	2650	815	4802	2774	707	4469	2650	791	5554	3093	827	5112	2920	1025	4635	2184	1256
23	15.7	3664	3269	814	3696	3317	815	3624	3247	814	3796	3461	719	4494	3824	818	4103	3615	996	3673	3428	1209
	18.4	4096	2636	745	3925	2570	820	4247	2718	708	4102	2635	750	4905	3018	820	4510	2814	1007	4043	2639	1231
20	13.3	3347	3169	778	3184	3066	859	3270	3111	830	3254	3043	837	3400	3192	504	3457	3196	775	3334	3164	1107
	15.8	3339	2377	898	3543	2458	813	3441	2409	863	3839	2595	718	4543	2944	816	4143	2736	994	3724	1407	1206

(Dry bulb value based on 46% humidity)

CS-E18QKEW/CU-E18QKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-10			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19.0	6007	4597	1007	6273	4705	919	5819	4539	1083	6017	4602	998	5916	4602	992	5504	4350	1247	5000	4205	1440
	22.0	6891	3757	880	6600	3589	993	6371	3565	1131	6161	3466	1049	6381	3660	995	5986	3443	1261	5517	2627	1459
23	15.7	5286	4386	1111	5332	4451	1112	5451	4419	1025	5388	4407	1057	5486	4431	992	5093	4257	1223	4576	4052	1520
	18.4	5910	3536	1017	5663	3448	1120	6387	3699	892	5823	3356	1103	5987	3497	994	5598	3314	1236	5037	3119	1548
20	13.3	4654	4157	1102	4426	4022	1216	4485	4037	812	4482	4058	902	4796	4217	830	4770	4212	1222	4219	3897	1494
	15.8	4652	3117	1272	4926	3224	1152	4718	3126	844	5288	3460	774	6408	3890	1346	5716	3605	1569	4713	1733	1627

(Dry bulb value based on 46% humidity)

CS-E21QKEW/CU-E21QKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-10			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19.0	6919	4967	1329	7254	5104	1196	6682	4890	1380	7581	5440	1511	7454	5440	1502	6936	5143	1888	6300	4971	2180
	22.0	7287	3728	966	6983	3562	1098	6666	3500	1181	7763	4097	1588	8040	4327	1507	7542	4070	1908	6952	3105	2209
23	15.7	5489	4272	1166	5566	4359	1208	5660	4304	1066	6789	5210	1600	6912	5238	1502	6417	5032	1852	5765	4790	2302
	18.4	6207	3484	1042	5948	3398	1218	6734	3659	897	7337	3967	1670	7544	4133	1505	7054	3917	1872	6347	3687	2344
20	13.3	4760	3989	1155	4518	3852	1433	4550	3842	884	5647	4797	1365	6043	4985	1257	6010	4979	1851	5316	4606	2262
	15.8	5046	3180	1379	5096	3130	1350	4818	2994	925	6662	4090	1172	8073	4599	2037	7202	4262	2375	5938	2048	2463

(Dry bulb value based on 46% humidity)

CS-E24QKEW/CU-E24QKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-10			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19.0	8169	5631	1454	8531	5763	1328	7914	5560	1565	8183	5637	1441	8046	5637	1433	7486	5329	1801	6800	5151	2080
	22.0	9371	4603	1271	8976	4396	1435	8665	4367	1634	8380	4246	1515	8678	4484	1437	8140	4217	1821	7504	3218	2107
23	15.7	7189	5372	1604	7252	5452	1607	7414	5413	1481	7328	5399	1526	7461	5428	1433	6926	5215	1767	6223	4963	2196
	18.4	8037	4332	1469	7701	4224	1618	8687	4531	1289	7919	4111	1593	8143	4283	1436	7614	4059	1786	6850	3821	2236
20	13.3	6329	5092	1592	6019	4927	1757	6099	4945	1172	6095	4971	1303	6522	5165	1199	6487	5159	1766	5738	4773	2158
	15.8	6312	3819	1838	6699	3950	1664	6416	3829	1219	7191	4239	1119	8714	4765	1944	7774	4416	2266	6410	2122	2350

(Dry bulb value based on 46% humidity)

CS-E28QKEW/CU-E28QKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-10			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19.0	9191	6255	1762	9598	6402	1608	8904	6177	1896	9206	6262	1746	9052	6262	1736	8422	5920	2182	7650	5722	2520
	22.0	10543	5113	1539	10099	4883	1738	9748	4852	1979	9427	4716	1835	9763	4981	1742	9158	4685	2206	8442	3575	2553
23	15.7	8088	5968	1944	8158	6056	1946	8340	6014	1794	8244	5997	1849	8393	6030	1736	7792	5793	2141	7001	5514	2661
	18.4	9042	4812	1779	8664	4692	1960	9772	5034	1562	8909	4567	1930	9161	4758	1740	8565	4509	2164	7707	4245	2709
20	13.3	7120	5657	1928	6772	5473	2129	6862	5494	1420	6857	5522	1578	7337	5738	1453	7298	5732	2139	6455	5303	2614
	15.8	7102	4242	2226	7536	4388	2016	7218	4254	1477	8090	4709	1355	9804	5294	2355	8746	4906	2746	7211	2358	2848

(Dry bulb value based on 46% humidity)

19.2 Heat Mode Performance Data

Unit setting: Standard piping length, Hi Fan, Heat mode at 30°C
Voltage: 230V

19.2.1 CS- E7QKEW/CU-E7QKE

Indoor (°C)		Outdoor WB (°C)									
DB		-10		-7		2		7		12	
		TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24		1617	784	2226	893	2819	897	2811	630	3052	649
20		1704	773	2380	890	2900	880	2800	625	3226	635
16		1376	754	2445	881	3137	887	3005	641	3148	624

19.2.2 CS- E9QKEW/CU-E9QKE

Indoor (°C)		Outdoor WB (°C)									
DB		-10		-7		2		7		12	
		TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24		2272	1020	2759	1154	3519	1142	3414	726	3707	747
20		2394	1006	2950	1150	3620	1120	3400	720	3918	731
16		1933	981	3031	1138	3916	1129	3649	739	3822	719

19.2.3 CS- E12QKEW/CU-E12QKE

Indoor (°C)		Outdoor WB (°C)									
DB		-10		-7		2		7		12	
		TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24		2683	1192	3439	1455	4406	1481	3897	888	4289	946
20		2762	1149	3450	1400	4470	1420	4000	840	4460	908
16		2579	1098	3480	1338	4518	1360	4099	794	4579	860

19.2.4 CS- E15QKEW/CU-E15QKE

Indoor (°C)		Outdoor WB (°C)									
DB		-10		-7		2		7		12	
		TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24		3011	1466	4097	1777	4859	1774	5163	1501	5683	1600
20		3100	1413	4110	1710	4930	1700	5300	1420	5909	1535
16		2895	1350	4146	1635	4983	1628	5432	1342	6068	1454

19.2.5 CS- E18QKEW/CU-E18QKE

Indoor (°C)	Outdoor WB (°C)									
DB	-10		-7		2		7		12	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	3760	1916	4965	2484	5717	2368	5650	1607	6219	1712
20	3871	1846	4980	2390	5800	2270	5800	1520	6466	1643
16	3615	1764	5023	2285	5862	2174	5944	1437	6640	1556

19.2.6 CS- E21QKEW/CU-E21QKE

Indoor (°C)	Outdoor WB (°C)									
DB	-10		-7		2		7		12	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	3963	2113	5224	2619	6072	2525	7014	2209	7720	2355
20	4080	2036	5240	2520	6160	2420	7200	2090	8027	2259
16	3810	1946	5285	2409	6226	2318	7379	1976	8243	2139

19.2.7 CS- E24QKEW/CU-E24QKE

Indoor (°C)	Outdoor WB (°C)									
DB	-10		-7		2		7		12	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	4734	2320	6111	2868	7067	2858	8378	2727	9221	2907
20	4873	2236	6130	2760	7170	2740	8600	2580	9588	2789
16	4550	2137	6183	2638	7247	2624	8814	2439	9845	2641

19.2.8 CS- E28QKEW/CU-E28QKE

Indoor (°C)	Outdoor WB (°C)									
DB	-15/-10		-7		2		7		12	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	5459	3122	6749	3492	7856	3370	9352	3425	10293	3650
20	5620	3009	6770	3360	7970	3230	9600	3240	10703	3503
16	5248	2876	6829	3212	8056	3093	9838	3063	10990	3317

TC - Total Cooling Capacity (kW)

SHC - Sensible Heat Capacity (kW)

IP - Input Power (kW)

20. Service Data

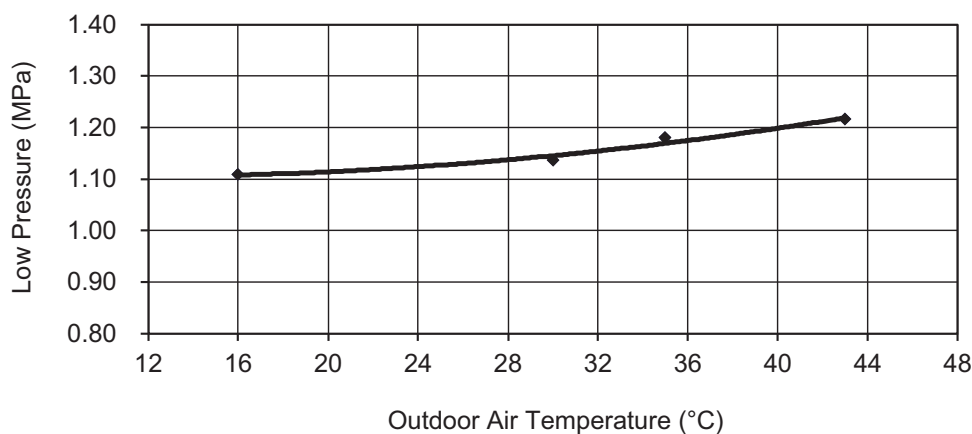
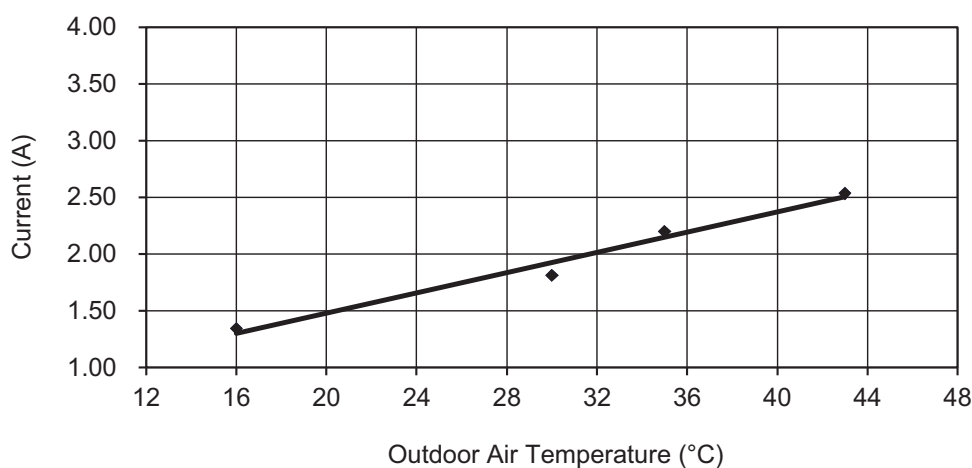
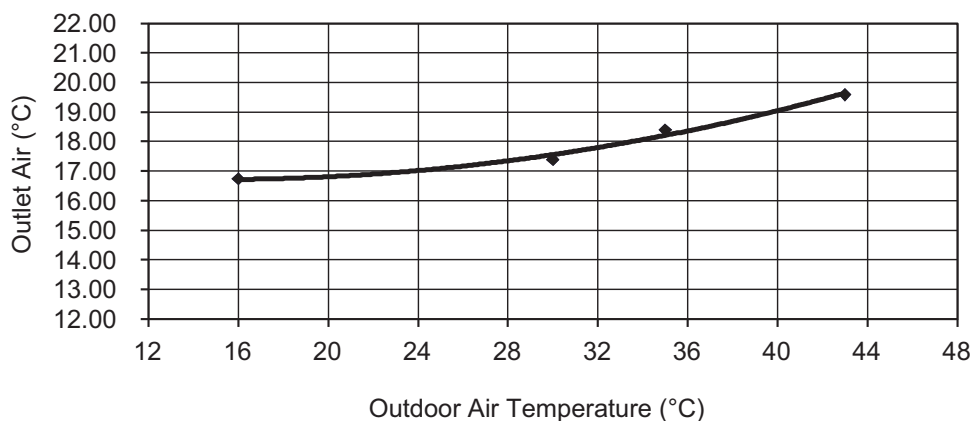
Service data provided are based on the air conditioner running under rated frequency during forced cooling / forced heating mode.

20.1 Cool Mode Outdoor Air Temperature Characteristic

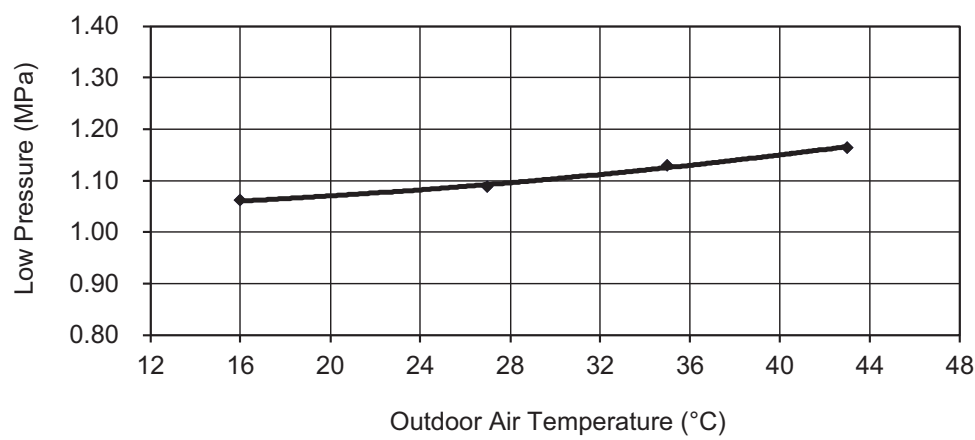
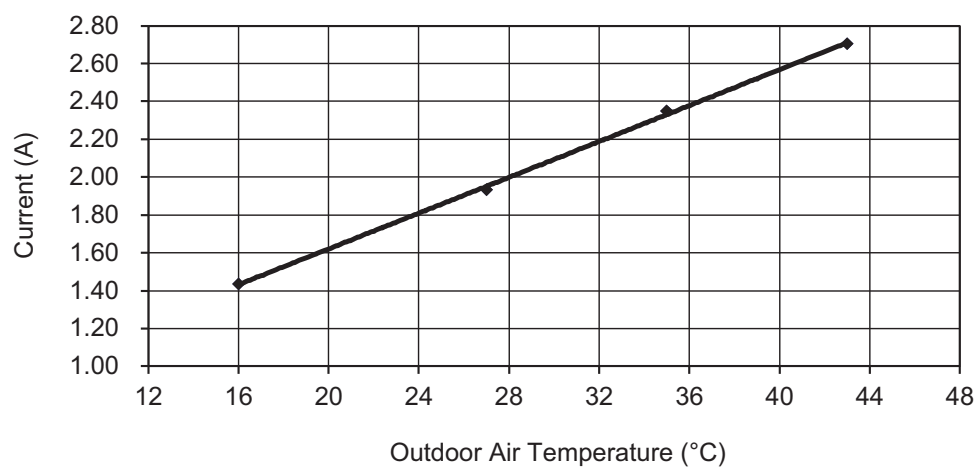
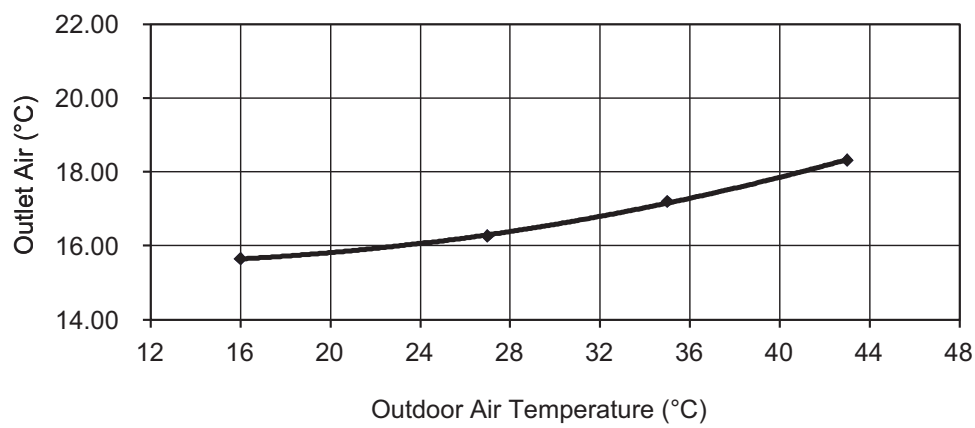
Condition

- Indoor room temperature: 27°C DryBulb/19°C Wet Bulb
- Unit setting: Standard piping length, forced cooling at 16°C, Hi fan
- Compressor frequency: Rated for cooling operation
- Piping length: 5m
- Voltage: 230V

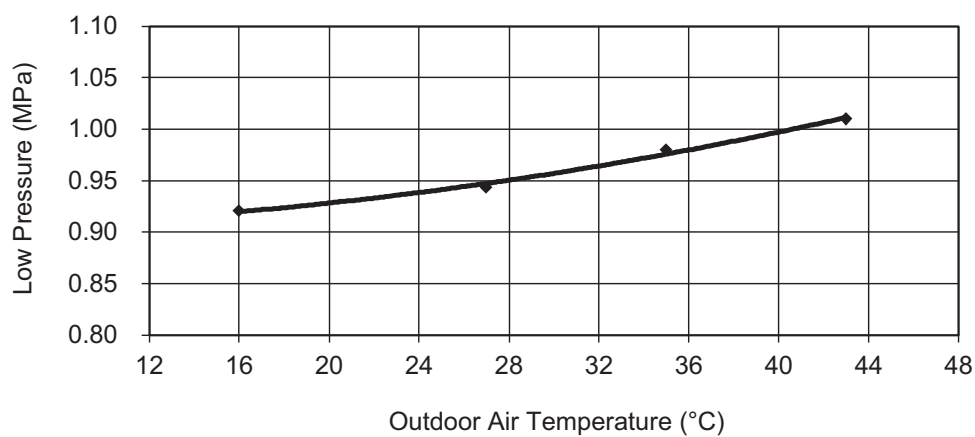
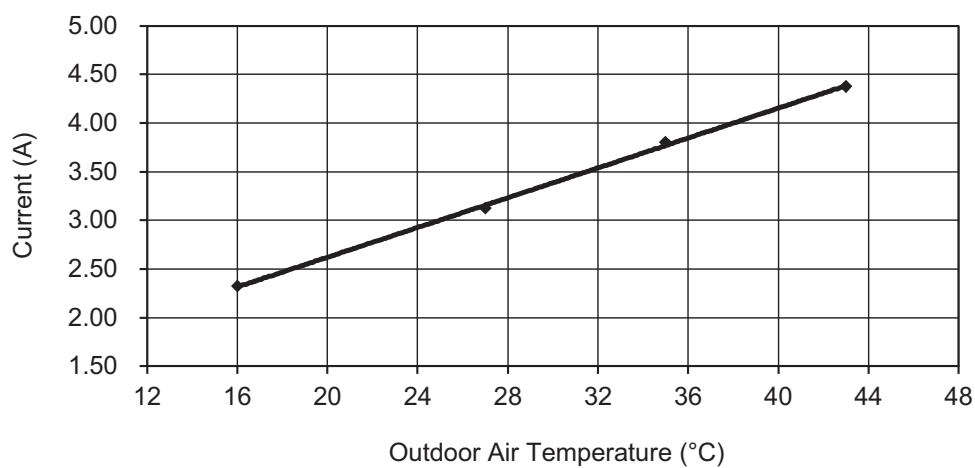
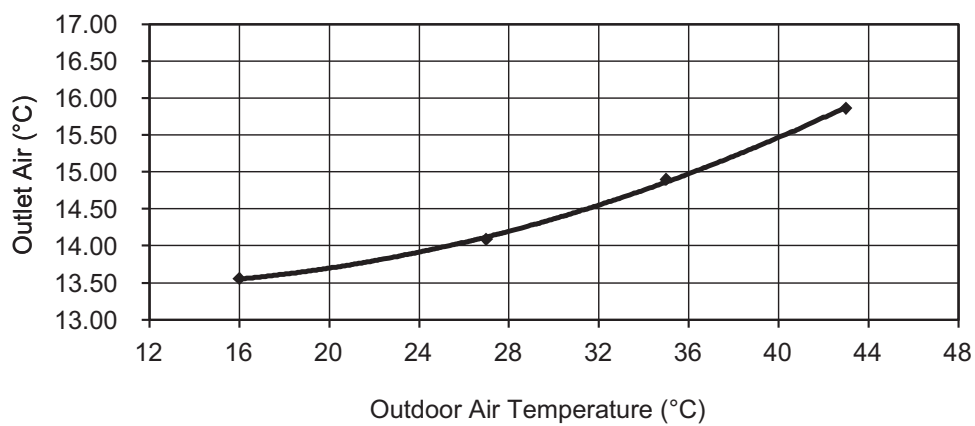
20.1.1 CS/CU-E7QKE



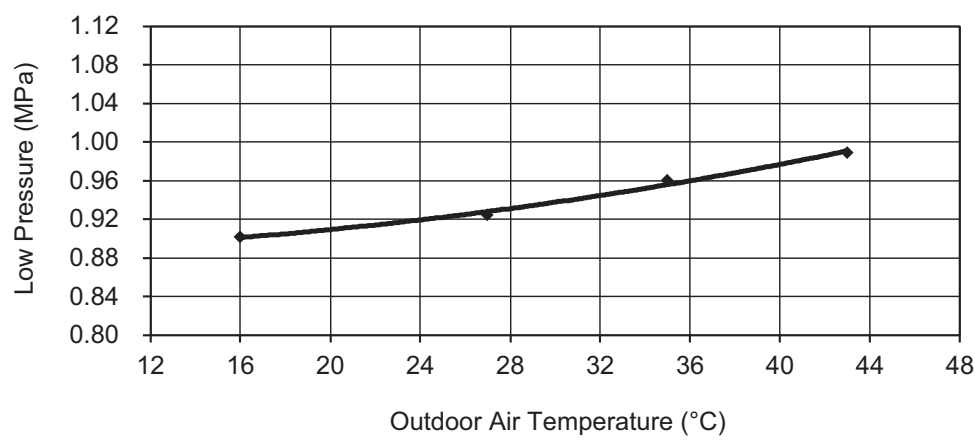
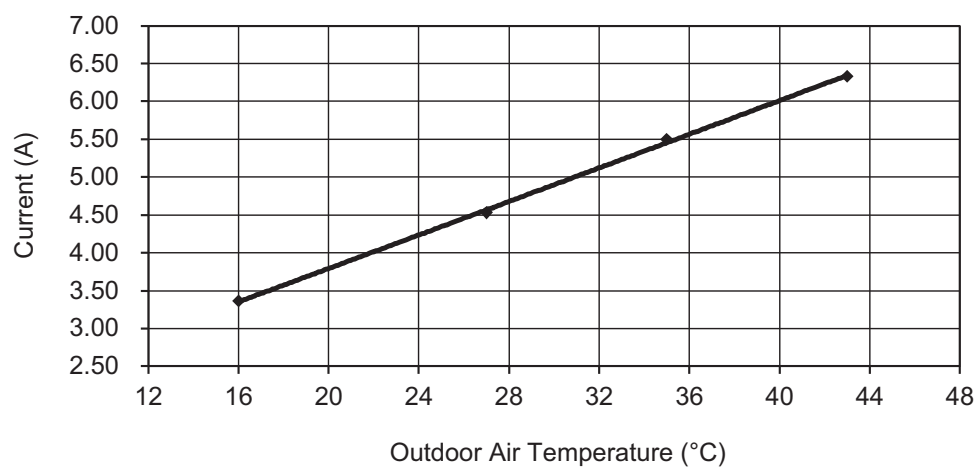
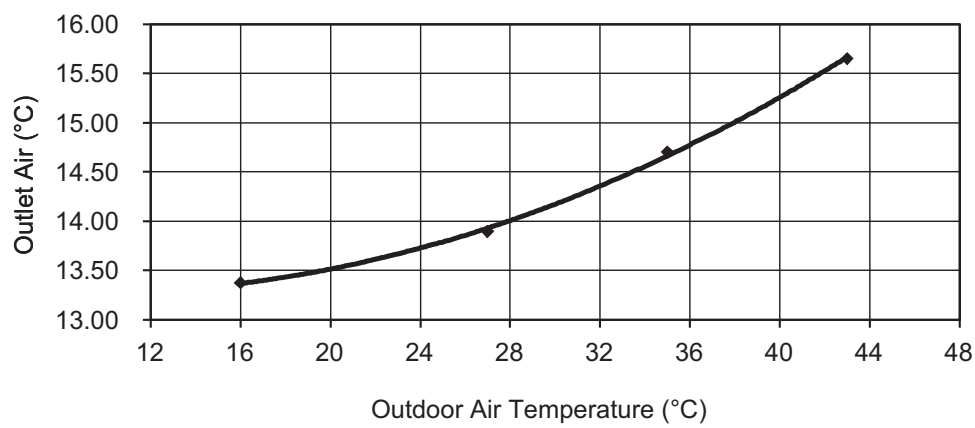
20.1.2 CS/CU-E9QKE



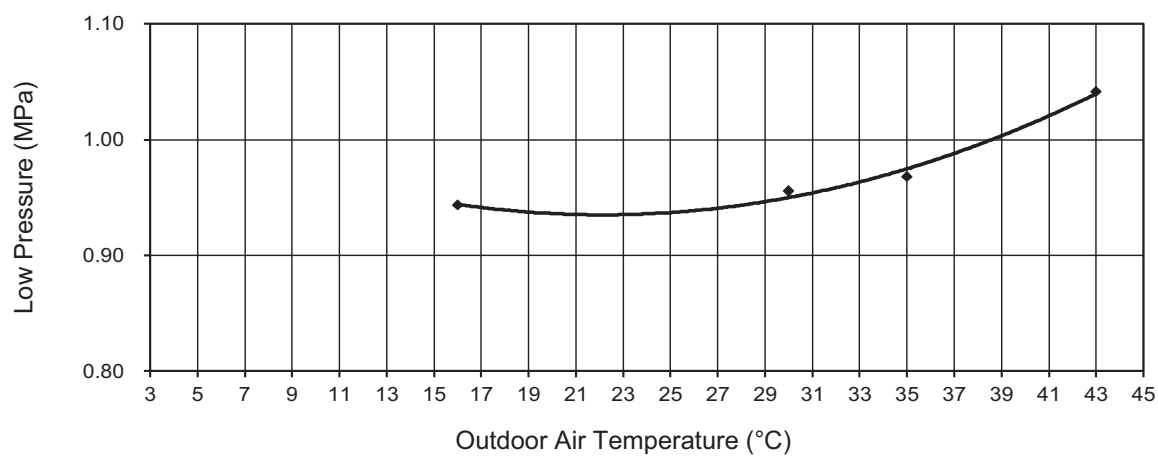
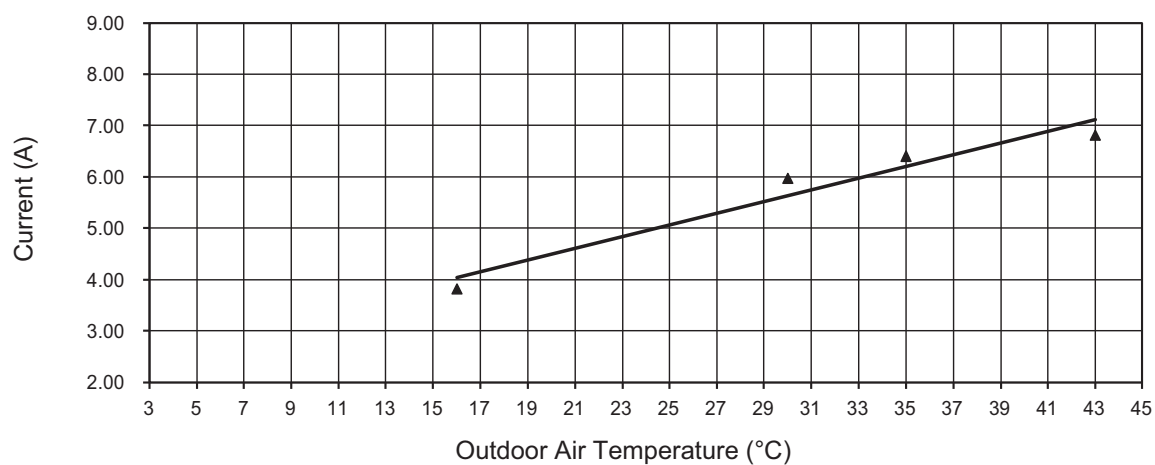
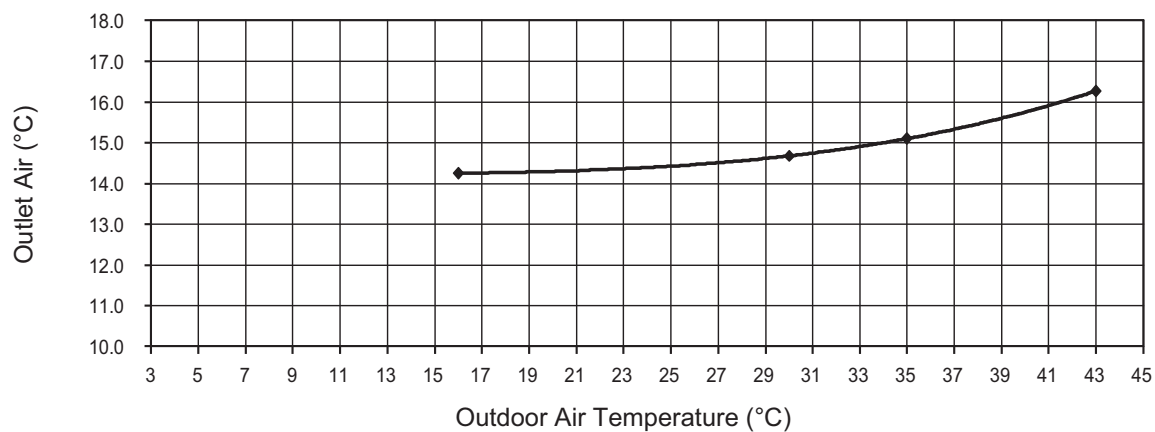
20.1.3 CS/CU-E12QKE



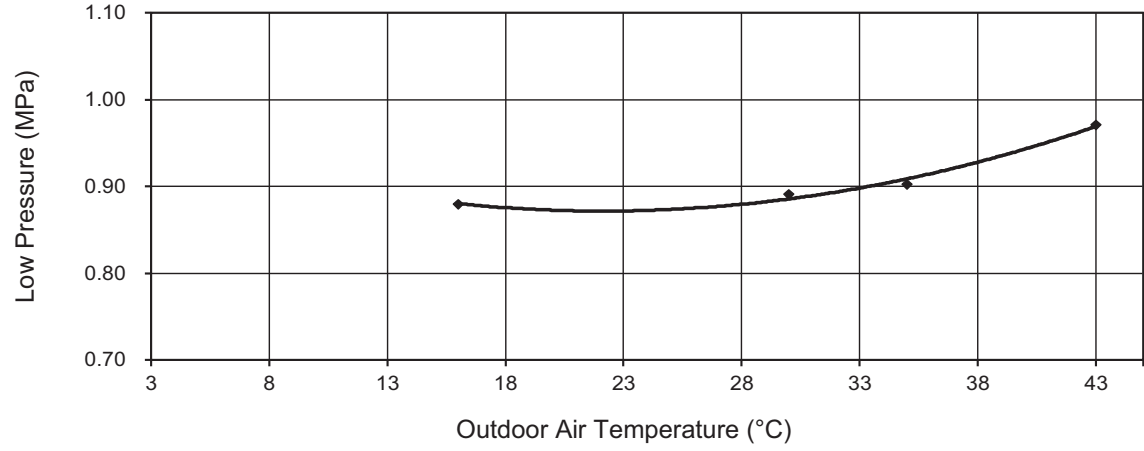
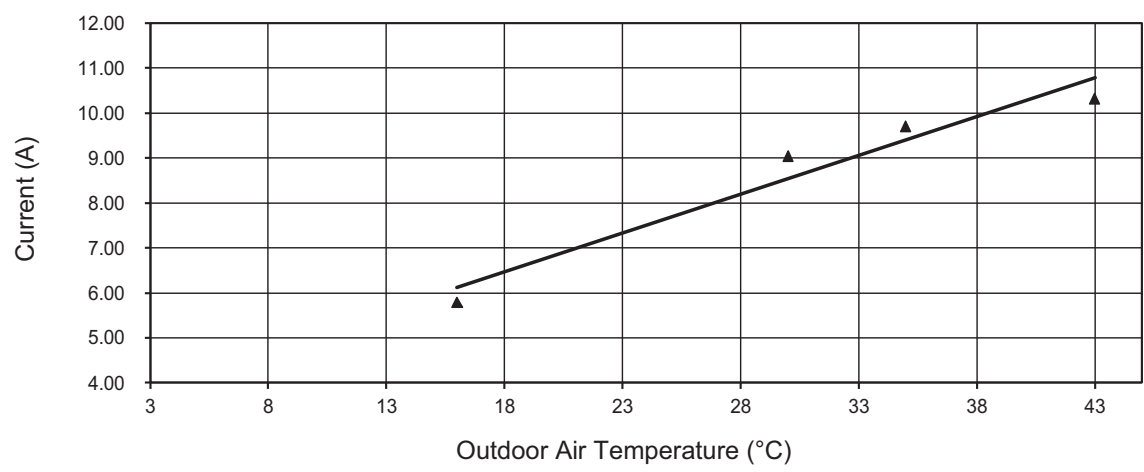
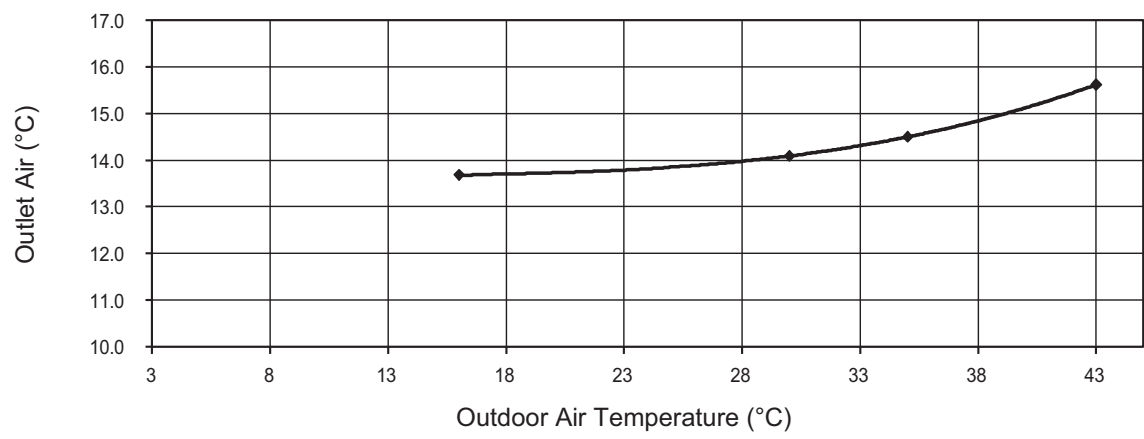
20.1.4 CS/CU-E15QKE



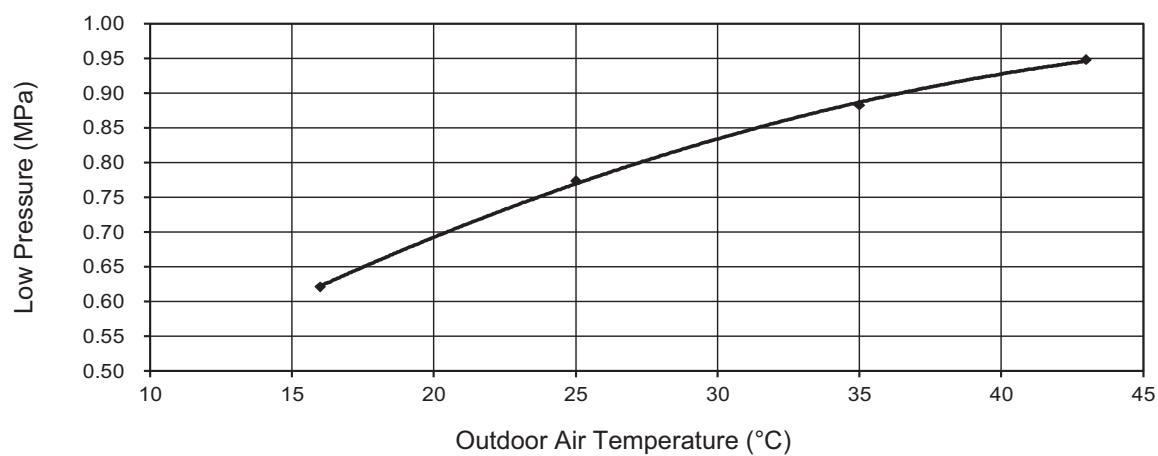
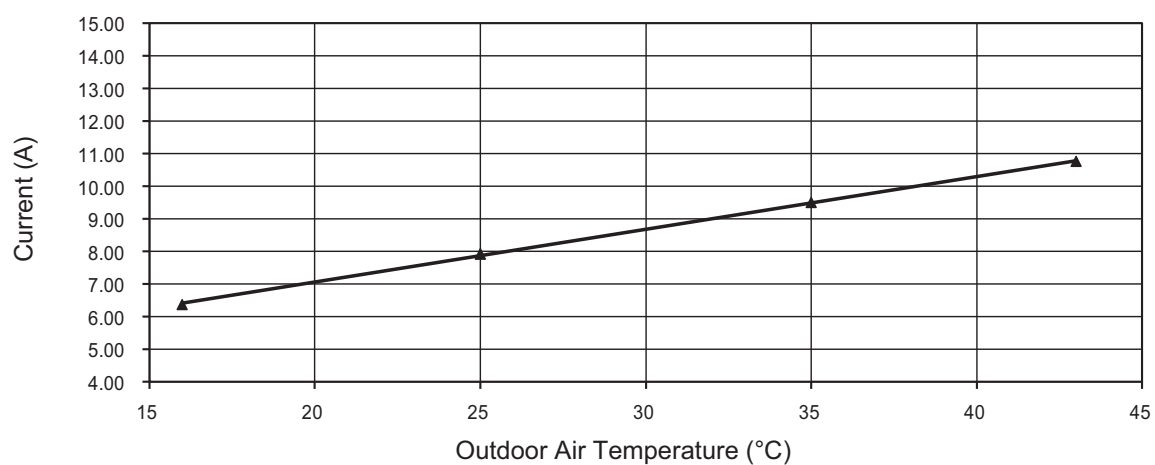
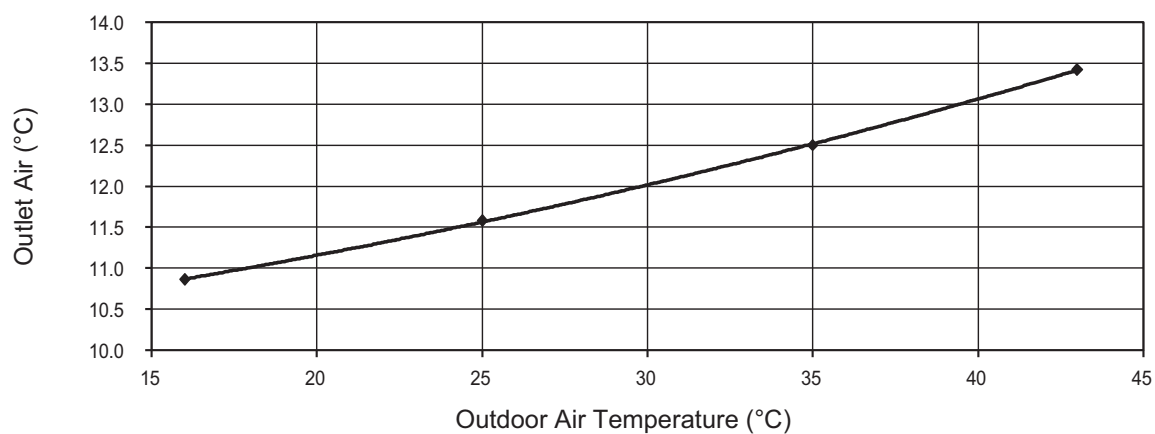
20.1.5 CS/CU-E18QKE



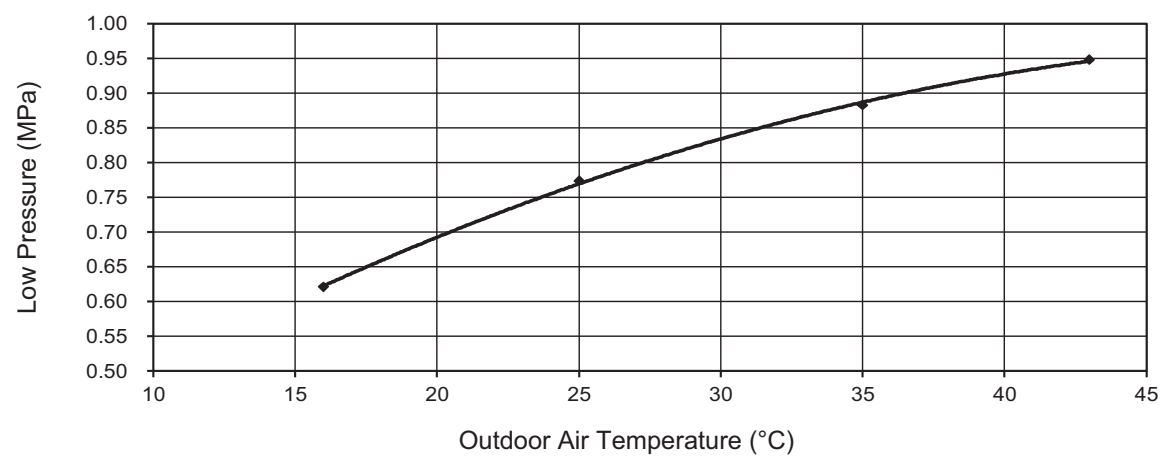
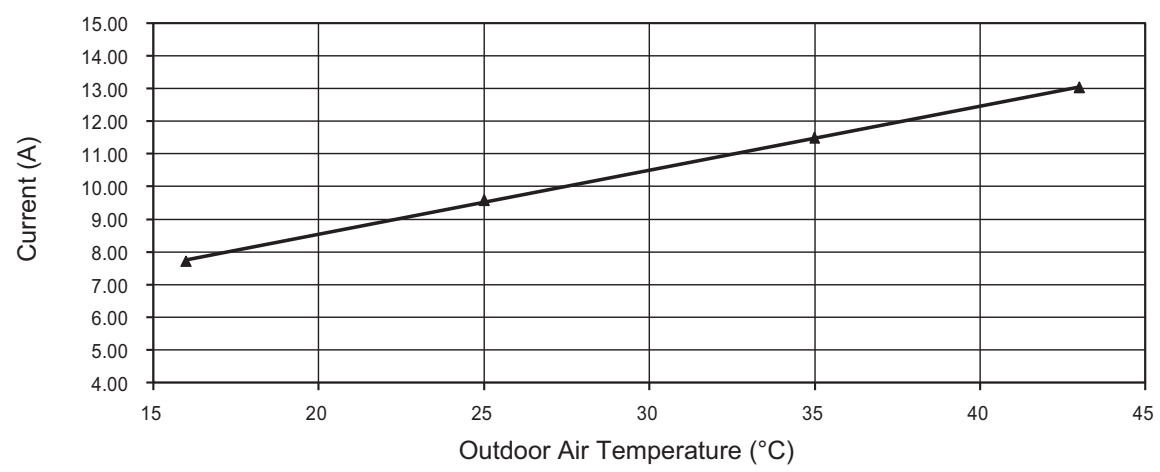
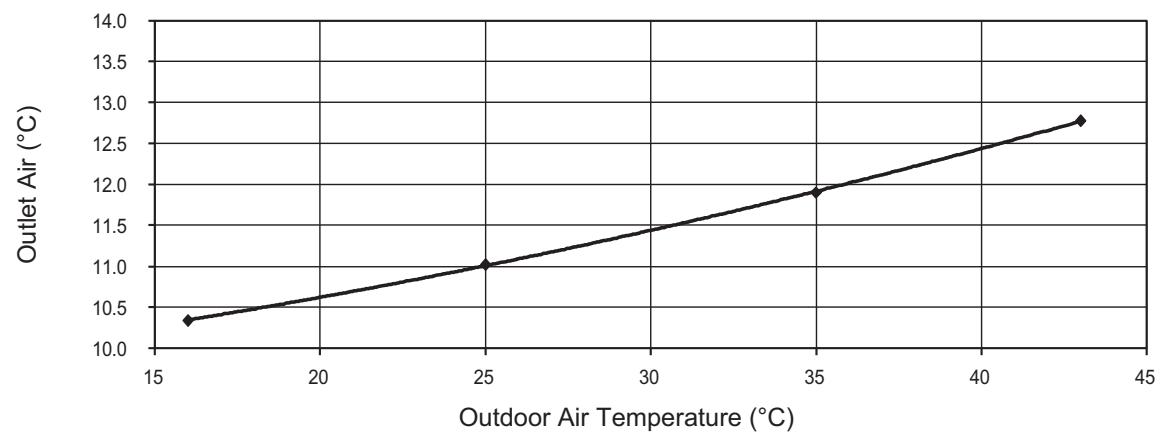
20.1.6 CS/CU-E21QKE



20.1.7 CS/CU-E24QKE



20.1.8 CS/CU-E28QKE

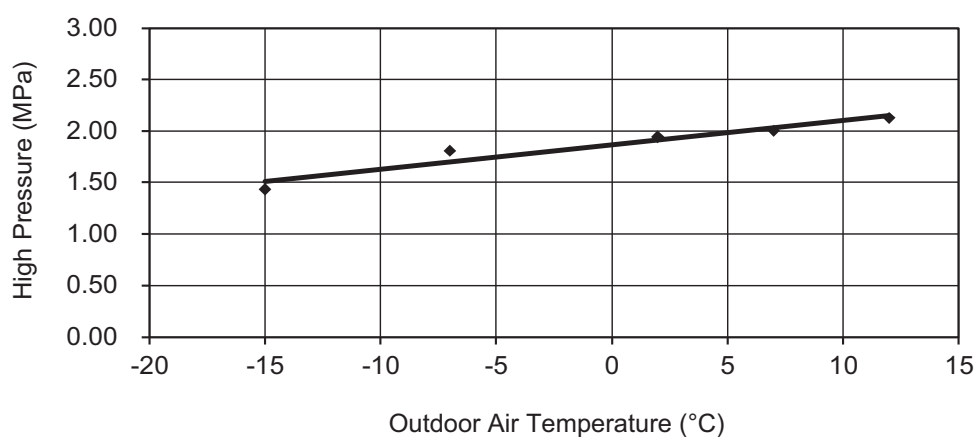
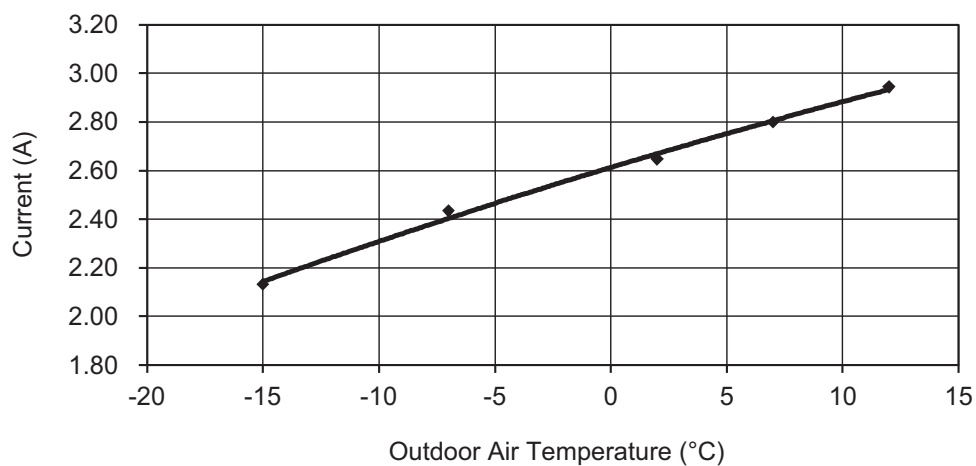
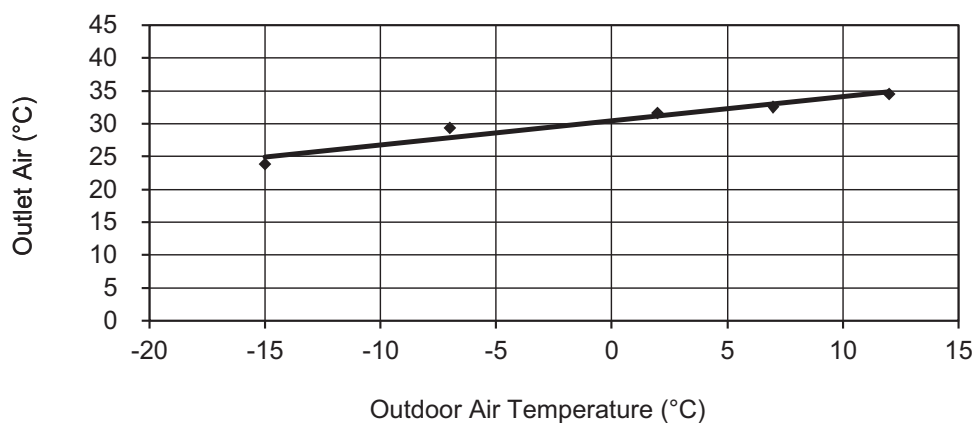


20.2 Heat Mode Outdoor Air Temperature Characteristic

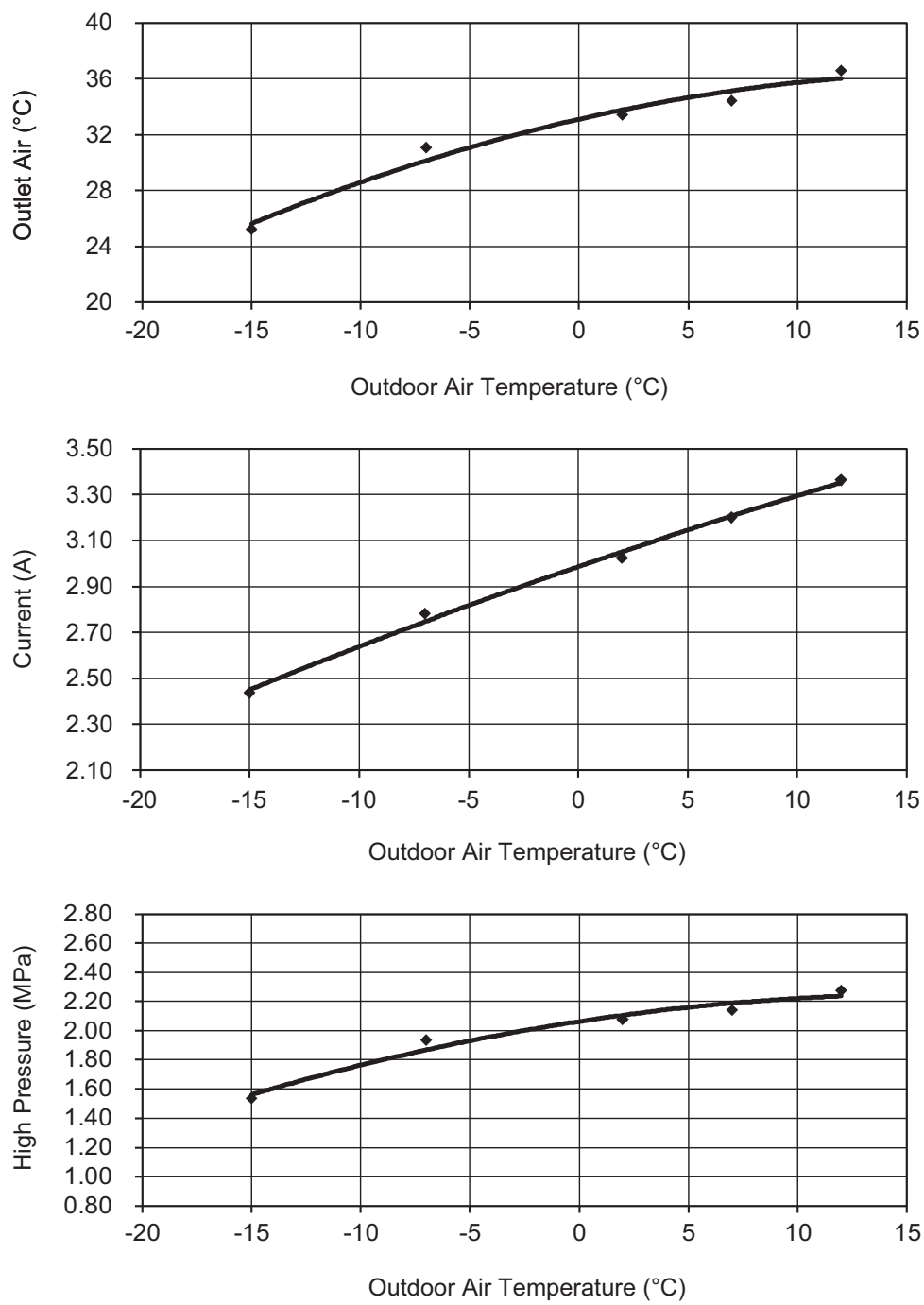
Condition

- Indoor room temperature: 20°C DryBulb/ -°C Wet Bulb
- Unit setting: Standard piping length, forced heating at 30°C, Hi fan
- Compressor frequency: Rated for Heating operation
- Piping length: 5m
- Voltage: 230V

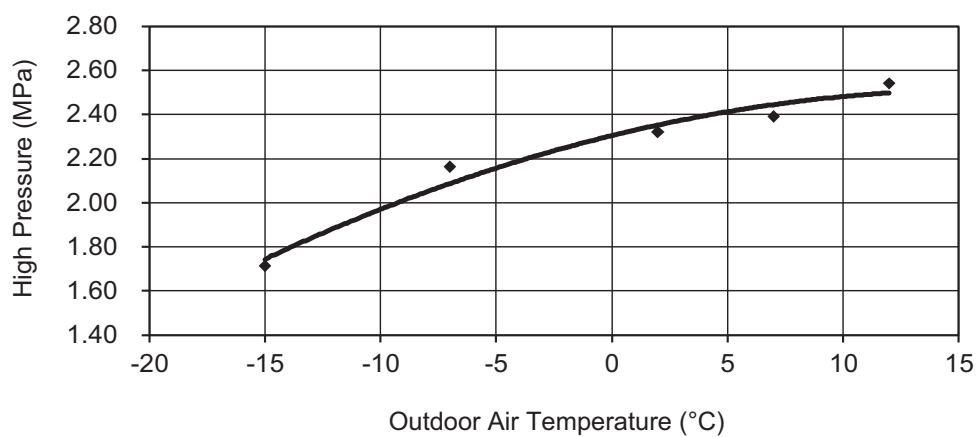
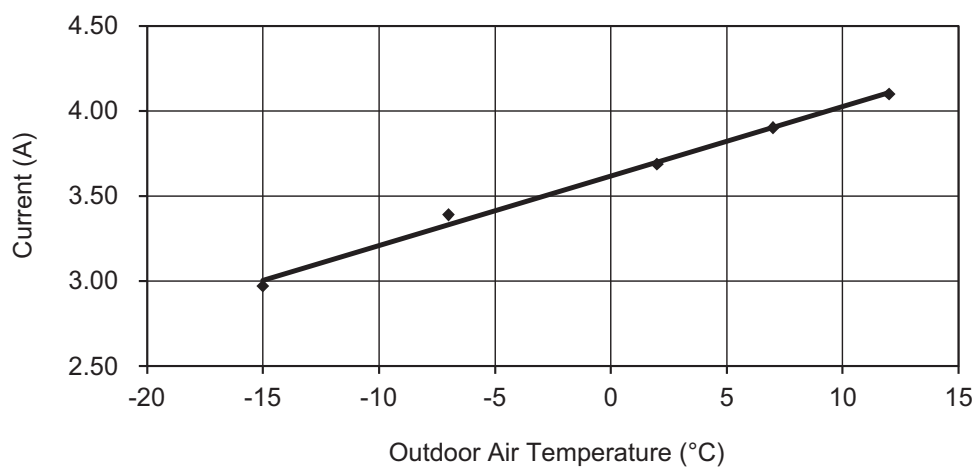
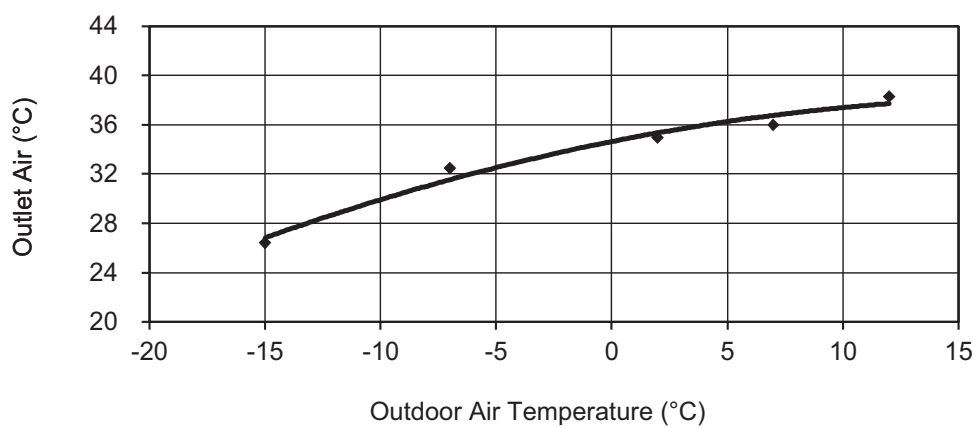
20.2.1 CS/CU-E7QKE



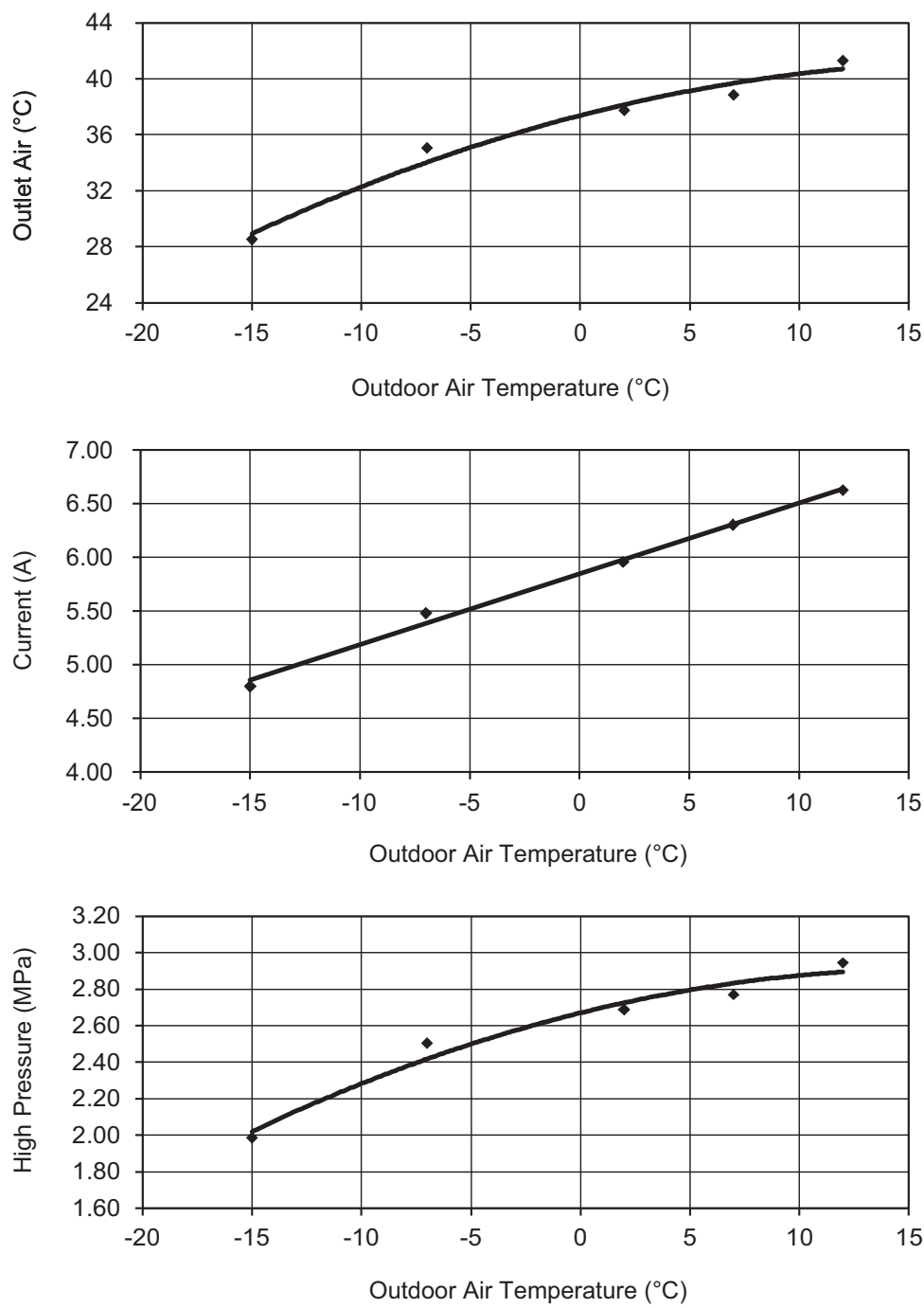
20.2.2 CS/CU-E9QKE



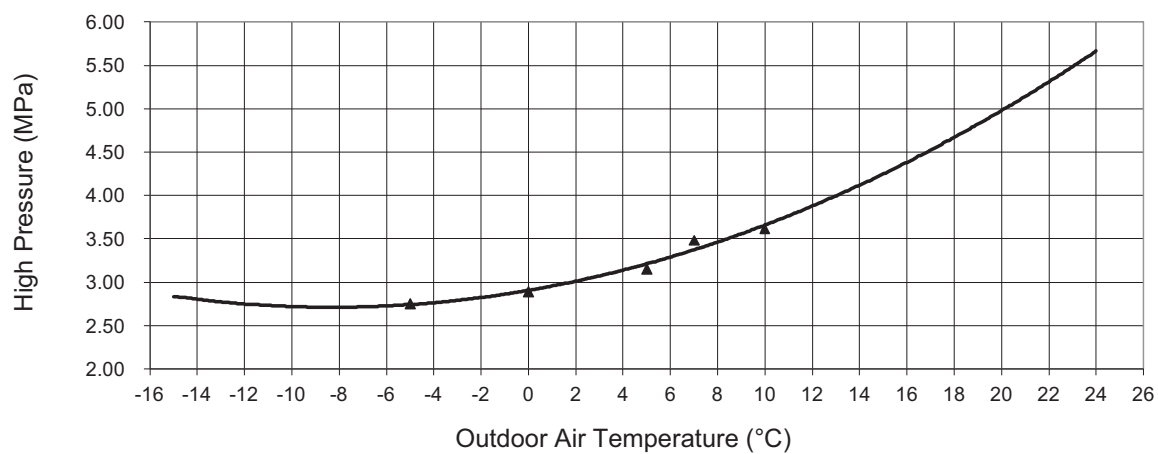
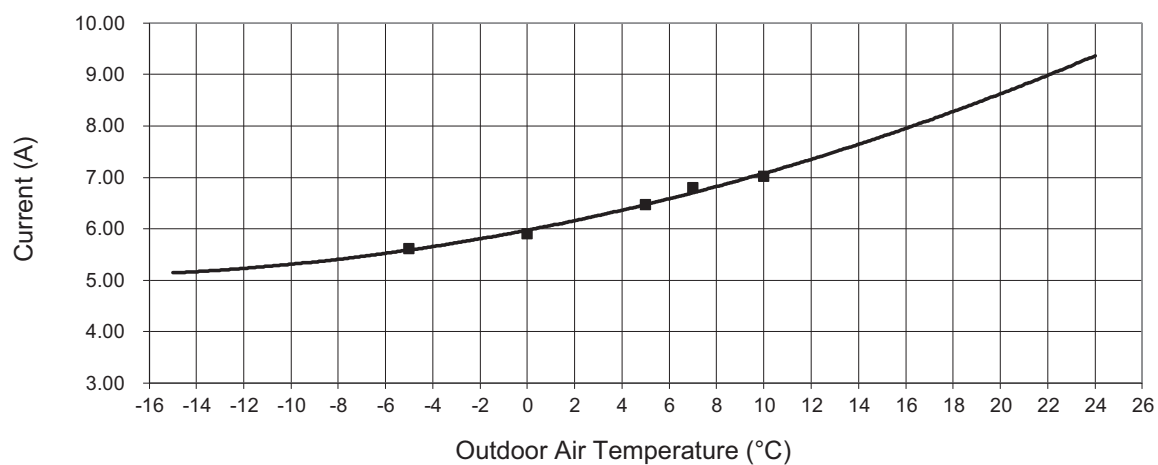
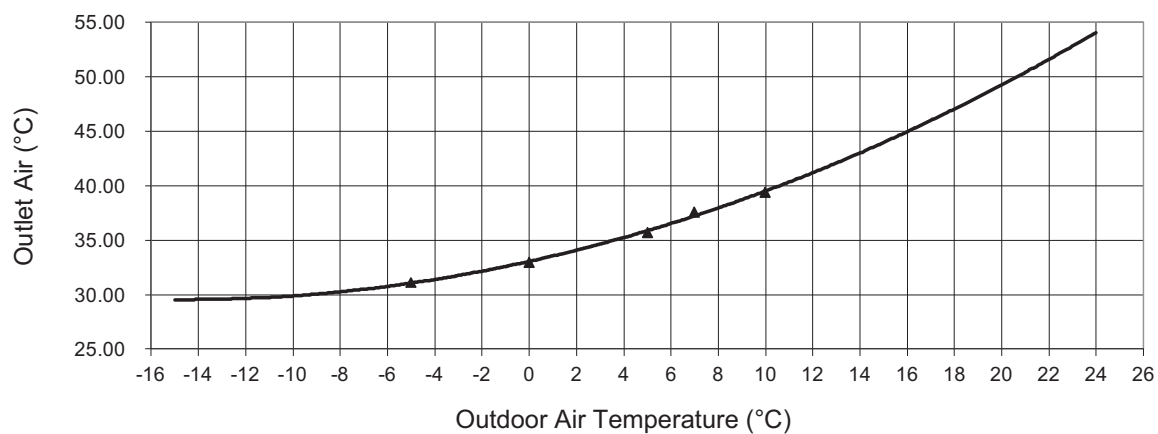
20.2.3 CS/CU-E12QKE



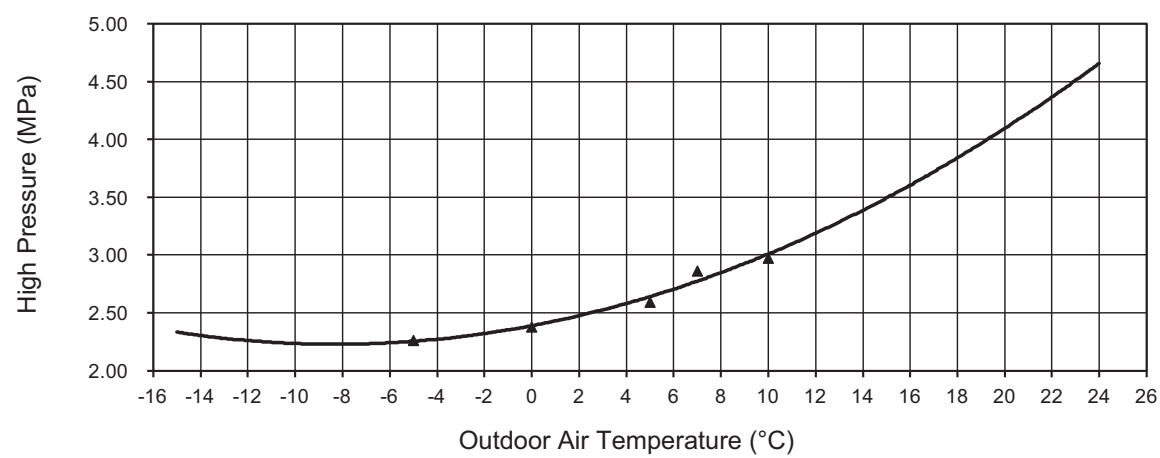
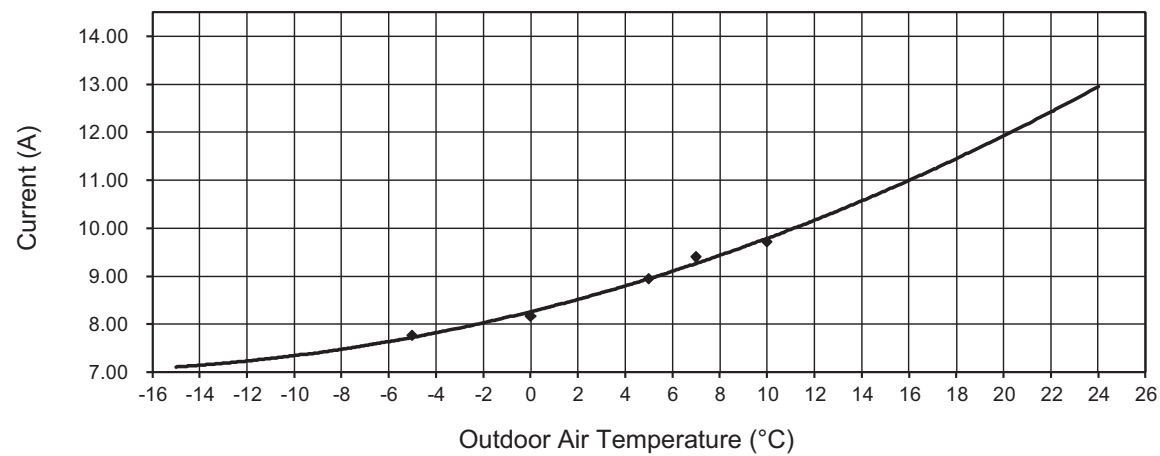
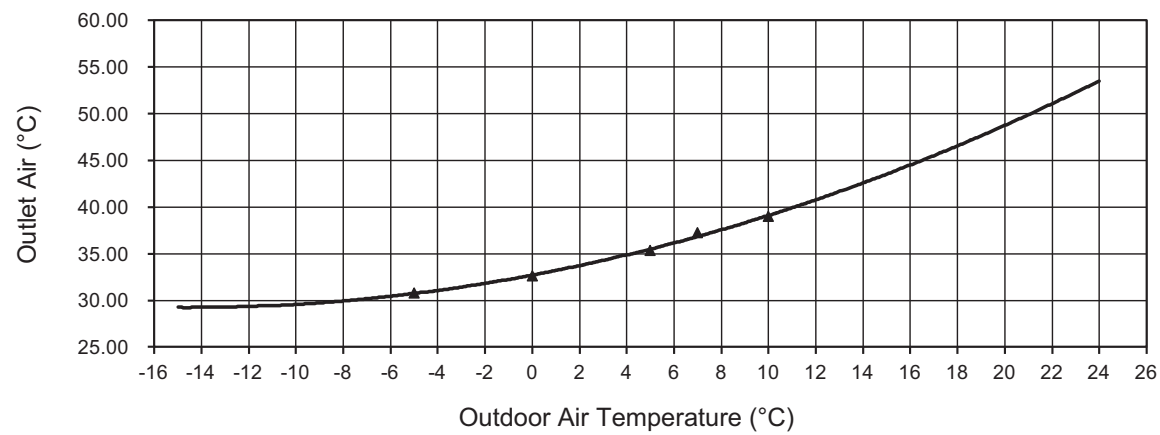
20.2.4 CS/CU-E15QKE



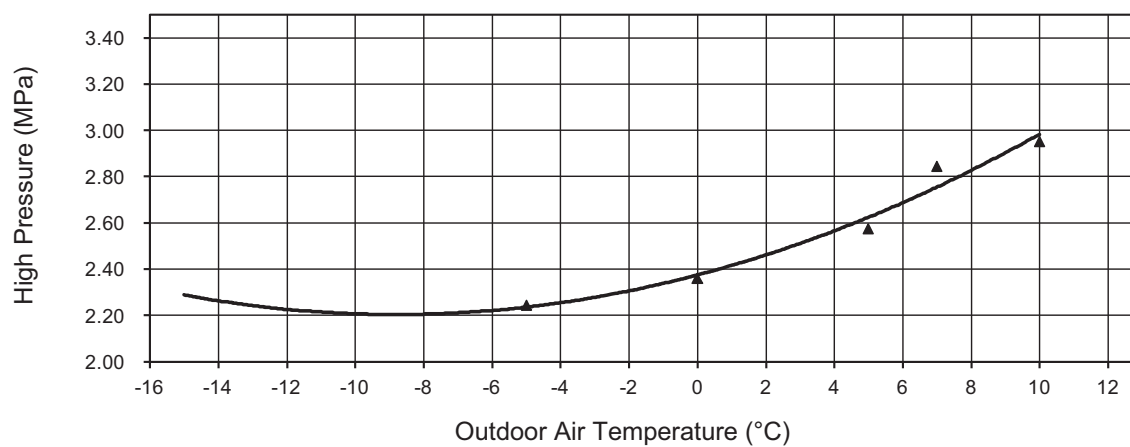
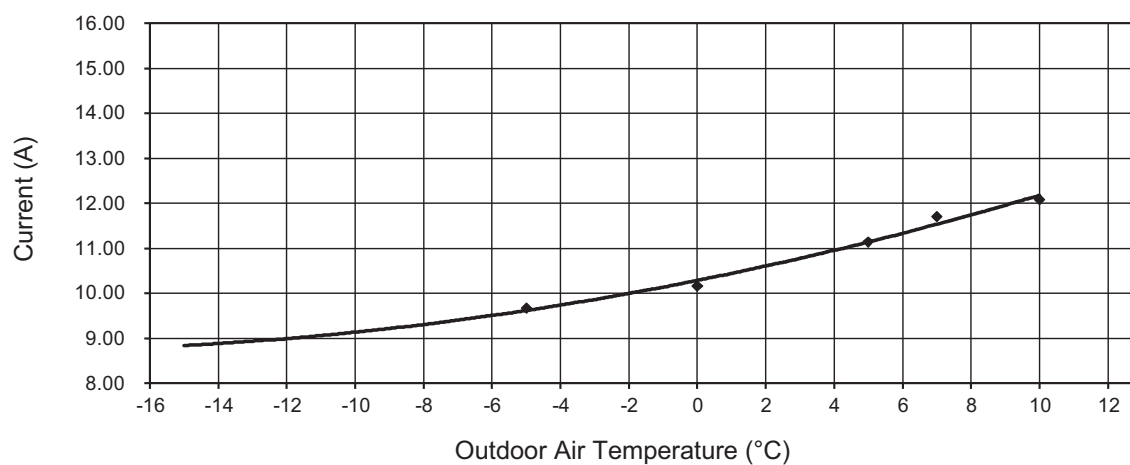
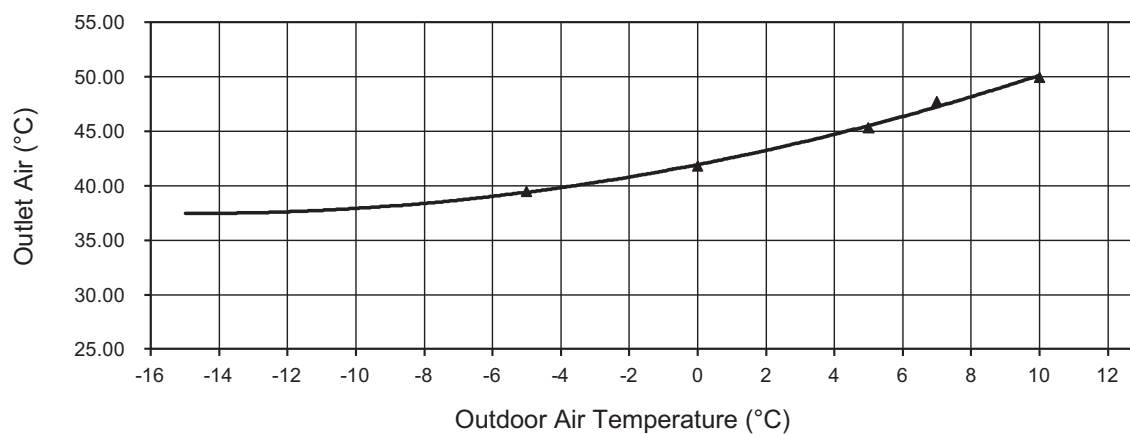
20.2.5 CS/CU-E18QKE



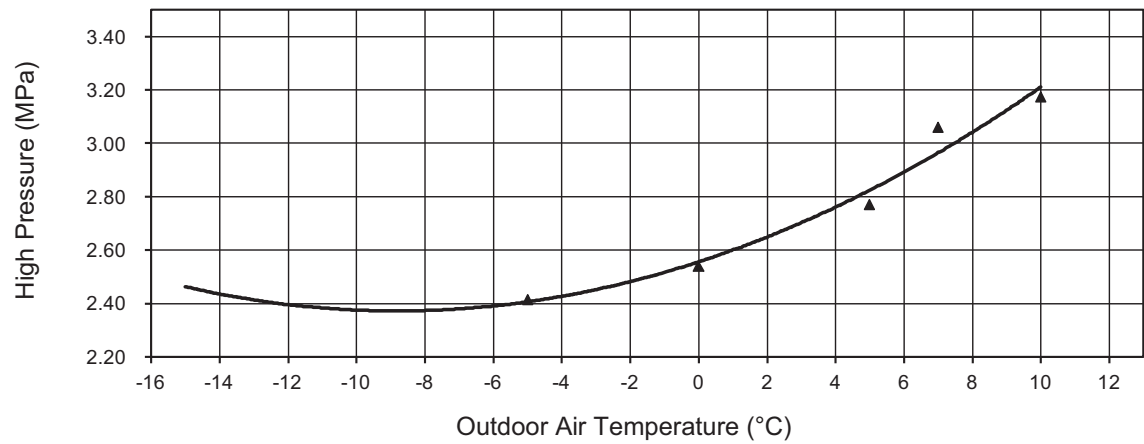
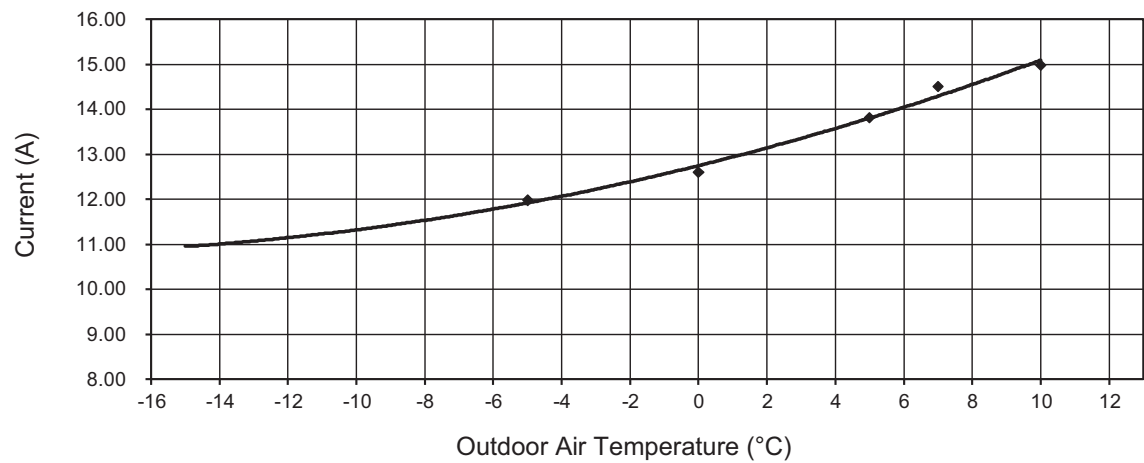
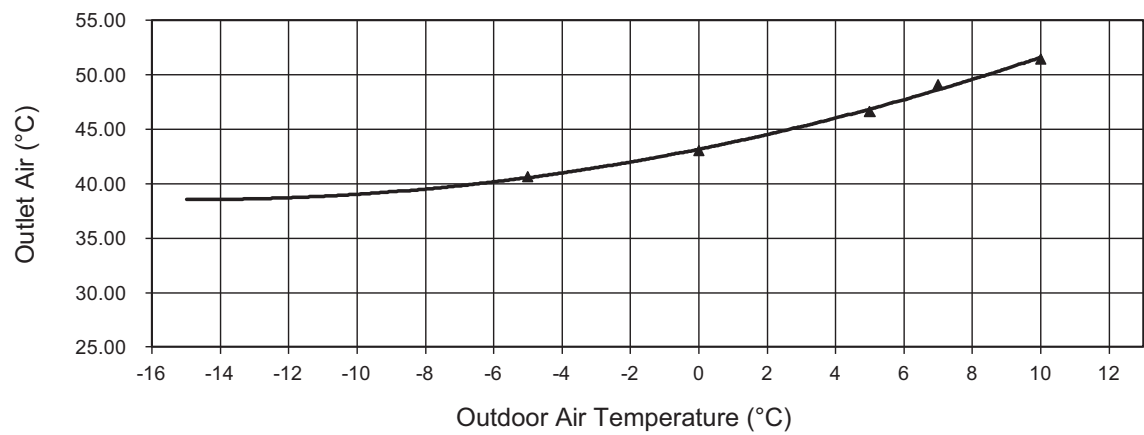
20.2.6 CS/CU-E21QKE



20.2.7 CS/CU-E24QKE



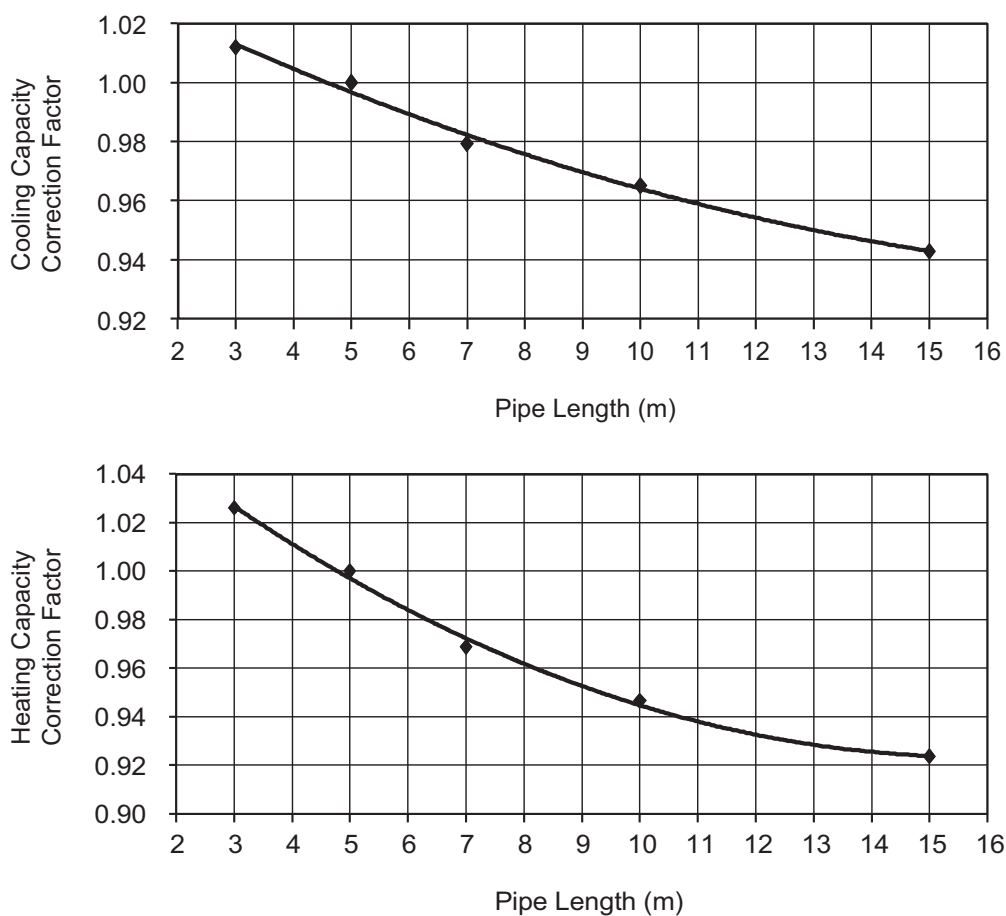
20.2.8 CS/CU-E28QKE



20.3 Piping Length Correction Factor

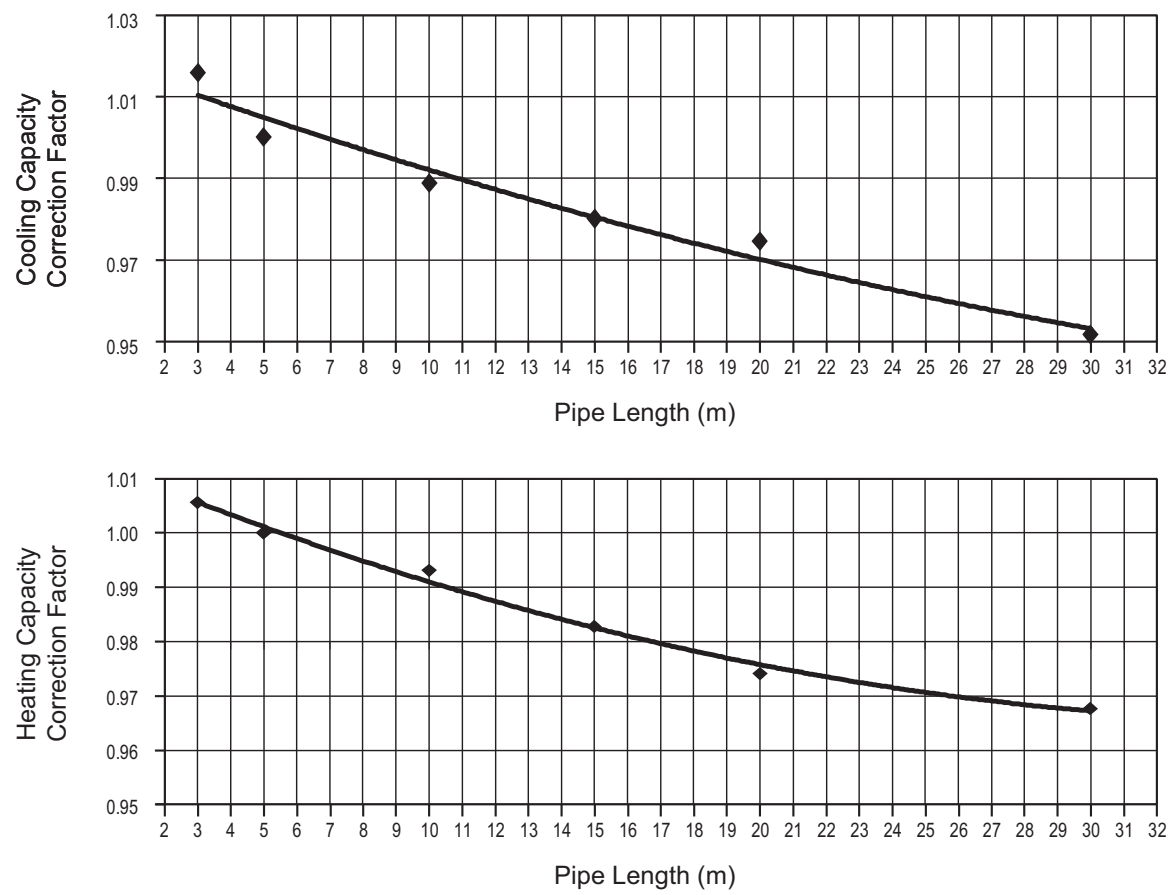
The characteristic of the unit has to be corrected in accordance with the piping length.

20.3.1 CS/CU-E7QKE CS/CU-E9QKE CS/CU-E12QKE CS/CU-E15QKE



Note: The graphs show the factor after added right amount of additional refrigerant.

20.3.2 CS/CU-E18QKE CS/CU-E21QKE CS/CU-E24QKE CS/CU-E28QKE



Note: The graphs show the factor after added right amount of additional refrigerant.