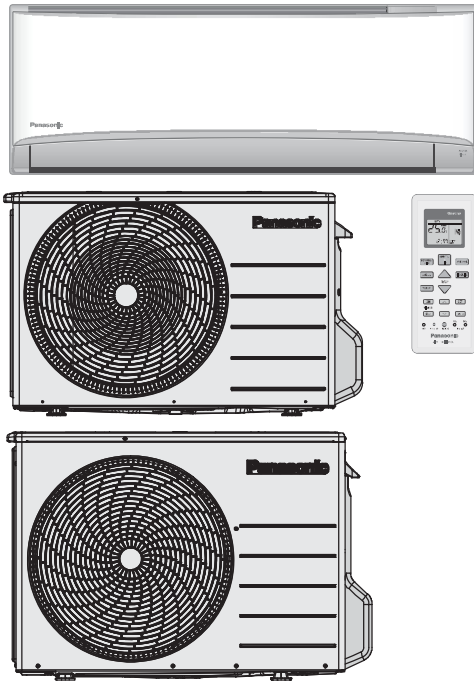


Service Manual

Air Conditioner



Indoor Unit
CS-TZ20TKEW
CS-TZ25TKEW
CS-TZ35TKEW
CS-TZ42TKEW
CS-MTZ16TKE

Outdoor Unit
CU-TZ20TKE
CU-TZ25TKE
CU-TZ35TKE
CU-TZ42TKE

Destination
Europe
Turkey

Please file and use this manual together with the service manual for Model No. CU-2E12SBE, CU-2E15SBE, CU-2E18SBE, CU-3E18PBE, CU-3E23SBE, CU-4E23PBE, CU-4E27PBE, CU-5E34PBE, CU-2RE15SBE, CU-2RE18SBE, CU-3RE18SBE, Order No. PAPAMY1601016CE, PAPAMY1601015CE, PAPAMY1301048CE, PAPAMY1303046CE.

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.

CAUTION

R32 REFRIGERANT – This Air Conditioner contains and operates with refrigerant R32.
THIS PRODUCT MUST ONLY BE INSTALLED OR SERVICED BY QUALIFIED PERSONNEL.

Refer to Commonwealth, State, Territory and local legislation, regulations, codes, installation & operation manuals, before the installation, maintenance and/or service of this product.

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3. Specifications

Model			Indoor	CS-TZ20TKEW			CS-TZ25TKEW		
			Outdoor	CU-TZ20TKE			CU-TZ25TKE		
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	2.00	2.40	0.85	2.50	3.00
			BTU/h	2560	6820	8180	2900	8530	10200
			Kcal/h	650	1720	2060	730	2150	2580
	Running Current		A	–	2.30	–	–	2.95	–
	Input Power		W	250	510	620	250	660	890
	Annual Consumption		kWh	–	255	–	–	330	–
	EER		W/W	3.00	3.92	3.87	3.40	3.79	3.37
			BTU/hW	10.24	13.37	13.19	11.60	12.92	11.46
			Kcal/hW	2.60	3.37	3.32	2.92	3.26	2.90
	ErP	Pdesign	kW	2.0			2.5		
		SEER	(W/W)	6.4			6.4		
		Annual Consumption	kWh	109			137		
		Class		A++			A++		
	Power Factor		%	–	96	–	–	97	–
	Indoor Noise (H / L / QLo)		dB-A	37 / 25 / 20			40 / 26 / 20		
			Power Level dB	53 / 41 / 36			56 / 42 / 36		
	Outdoor Noise (H / L)		dB-A	46 / –			47 / –		
			Power Level dB	61 / –			62 / –		
Heating	Capacity		kW	0.70	2.70	3.60	0.80	3.30	4.10
			BTU/h	2390	9210	12300	2730	11300	14000
			Kcal/h	600	2320	3100	690	2840	3530
	Running Current		A	–	3.00	–	–	3.55	–
	Input Power		W	185	670	1.04k	195	800	1.13k
	COP		W/W	3.78	4.03	3.46	4.10	4.13	3.63
			BTU/hW	12.92	13.75	11.83	14.00	14.13	12.39
			Kcal/hW	3.24	3.46	2.98	3.54	3.55	3.12
	ErP	Pdesign	kW	1.9			2.4		
		Tbivalent	°C	-10			-10		
		SCOP	(W/W)	4.1			4.2		
		Annual Consumption	kWh	649			800		
		Class		A+			A+		
	Power Factor		%	–	97	–	–	98	–
	Indoor Noise (H / L / QLo)		dB-A	38 / 26 / 22			40 / 27 / 22		
			Power Level dB	54 / 42 / 38			56 / 43 / 38		
	Outdoor Noise (H / L)		dB-A	47 / –			48 / –		
			Power Level dB	62 / –			63 / –		
Low Temp. : Capacity (kW) / I.Power (W) / COP				2.61 / 920 / 2.84			2.97 / 1.00k / 2.97		
Extr Low Temp. : Capacity (kW) / I.Power (W) / COP				2.14 / 860 / 2.49			2.70 / 1.05k / 2.57		
Max Current (A) / Max Input Power (W)				4.6 / 1.04k			5.0 / 1.13k		
Starting Current (A)				3.00			3.55		

Model				Indoor	CS-TZ20TKEW	CS-TZ25TKEW
				Outdoor	CU-TZ20TKE	CU-TZ25TKE
Compressor	Type				Hermetic Motor (Rotary)	Hermetic Motor (Rotary)
	Motor Type				Brushless (6 poles)	Brushless (6 poles)
	Output Power			W	500	500
Indoor Fan	Type				Cross-Flow Fan	Cross-Flow Fan
	Material				ASG20K1	ASG20K1
	Motor Type				DC / Transistor (8-poles)	DC / Transistor (8-poles)
	Input Power			W	47.3	47.3
	Output Power			W	30	30
	Speed	QLo	Cool	rpm	630	630
			Heat	rpm	730	730
		Lo	Cool	rpm	770	800
			Heat	rpm	820	850
		Me	Cool	rpm	940	1010
			Heat	rpm	1020	1070
		Hi	Cool	rpm	1120	1220
			Heat	rpm	1220	1290
		SHi	Cool	rpm	1170	1270
			Heat	rpm	1270	1340
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	840	830
			Heat	rpm	800	800
	Moisture Removal			L/h (Pt/h)	1.3 (2.7)	1.5 (3.2)
Indoor Airflow	QLo	Cool	m³/min (ft³/min)	5.27 (186)	5.27 (186)	
		Heat	m³/min (ft³/min)	6.23 (220)	6.23 (220)	
	Lo	Cool	m³/min (ft³/min)	6.62 (234)	6.90 (244)	
		Heat	m³/min (ft³/min)	7.10 (251)	7.38 (261)	
	Me	Cool	m³/min (ft³/min)	8.25 (291)	8.92 (315)	
		Heat	m³/min (ft³/min)	9.02 (319)	9.50 (335)	
	Hi	Cool	m³/min (ft³/min)	10.00 (350)	10.90 (385)	
		Heat	m³/min (ft³/min)	10.90 (385)	11.60 (410)	
	SHi	Cool	m³/min (ft³/min)	10.46 (369)	11.42 (403)	
Heat		m³/min (ft³/min)	11.42 (403)	12.09 (427)		
Outdoor Airflow	Hi	Cool	m³/min (ft³/min)	31.20 (1100)	30.00 (1060)	
		Heat	m³/min (ft³/min)	29.70 (1050)	28.90 (1020)	
Refrigeration Cycle	Control Device			Expansion Valve	Expansion Valve	
	Refrigerant Oil		cm³	FW50S (250)	FW50S (250)	
	Refrigerant Type		g (oz)	R32, 580 (20.5)	R32, 670 (23.7)	
F-Gas	GWP			675	675	
	CO2eq (ton) (Precharged Amount / Maximum Charged Amount)			0.392 / 0.442	0.452 / 0.503	
Dimension	Height (I/D / O/D)		mm (inch)	290 (11-7/16) / 542 (21-11/32)	290 (11-7/16) / 542 (21-11/32)	
	Width (I/D / O/D)		mm (inch)	799 (31-15/32) / 780 (30-23/32)	799 (31-15/32) / 780 (30-23/32)	
	Depth (I/D / O/D)		mm (inch)	197 (7-25/32) / 289 (11-13/32)	197 (7-25/32) / 289 (11-13/32)	
Weight	Net (I/D / O/D)		kg (lb)	8 (18) / 26 (57)	8 (18) / 27 (60)	

Model		Indoor	CS-TZ20TKEW		CS-TZ25TKEW	
		Outdoor	CU-TZ20TKE		CU-TZ25TKE	
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)	10 (0.1)		10 (0.1)	
	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 × 15 × 17		2 × 15 × 17	
	Size (W × H × L)	mm	610 × 315 × 25.4		610 × 315 × 25.4	
Outdoor Heat Exchanger	Fin Material		Aluminium		Aluminium	
	Fin Type		Corrugated Fin (Pre Coat)		Corrugated Fin	
	Row × Stage × FPI		1 × 24 × 17		1 × 24:12 × 17	
	Size (W × H × L)	mm	36.4 × 504 × 710		36.4 × 504 × 713:684	
Air Filter	Material		Polypropelene		Polypropelene	
	Type		One-touch		One-touch	
Power Supply			Outdoor		Outdoor	
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-TZ35TKEW			CS-TZ42TKEW		
			Outdoor	CU-TZ35TKE			CU-TZ42TKE		
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	3.90	0.85	4.20	4.60
			BTU/h	2900	11900	13300	2900	14300	15700
			Kcal/h	730	3010	3350	730	3610	3960
	Running Current		A	–	4.40	–	–	5.60	–
	Input Power		W	255	1.00k	1.19k	265	1.26k	1.65k
	Annual Consumption		kWh	–	500	–	–	630	–
	EER		W/W	3.33	3.50	3.28	3.21	3.33	2.79
			BTU/hW	11.37	11.90	11.18	10.94	11.35	9.52
			Kcal/hW	2.86	3.01	2.82	2.75	2.87	2.40
	ErP	Pdesign	kW	3.5			4.2		
		SEER	(W/W)	6.2			5.8		
		Annual Consumption	kWh	198			253		
		Class		A++			A+		
	Power Factor		%	–	99	–	–	98	–
	Indoor Noise (H / L / QLo)		dB-A	42 / 30 / 20			44 / 31 / 29		
			Power Level dB	58 / 46 / 36			60 / 47 / 45		
	Outdoor Noise (H / L)		dB-A	48 / –			49 / –		
			Power Level dB	63 / –			64 / –		
Heating	Capacity		kW	0.80	4.00	5.10	0.80	5.00	6.80
			BTU/h	2730	13600	17400	2730	17100	23200
			Kcal/h	690	3440	4390	690	4300	5850
	Running Current		A	–	4.60	–	–	6.00	–
	Input Power		W	200	1.05k	1.42k	200	1.35k	2.05k
	COP		W/W	4.00	3.81	3.59	4.00	3.70	3.32
			BTU/hW	13.65	12.95	12.25	13.65	12.67	11.32
			Kcal/hW	3.45	3.28	3.09	3.45	3.19	2.85
	ErP	Pdesign	kW	2.8			3.6		
		Tbivalent	°C	-10			-10		
		SCOP	(W/W)	4.2			3.8		
		Annual Consumption	kWh	933			1326		
		Class		A+			A		
	Power Factor		%	–	99	–	–	98	–
	Indoor Noise (H / L / QLo)		dB-A	42 / 33 / 22			44 / 35 / 28		
			Power Level dB	58 / 49 / 38			60 / 51 / 44		
	Outdoor Noise (H / L)		dB-A	50 / –			51 / –		
			Power Level dB	65 / –			66 / –		
Low Temp. : Capacity (kW) / I.Power (W) / COP				3.70 / 1.26k / 2.94			4.93 / 1.81k / 2.72		
Extr Low Temp. : Capacity (kW) / I.Power (W) / COP				3.30 / 1.35k / 2.44			3.90 / 1.70k / 2.29		
Max Current (A) / Max Input Power (W)				6.3 / 1.42k			9.0 / 2.05k		
Starting Current (A)				4.60			6.00		

Model				Indoor	CS-TZ35TKEW	CS-TZ42TKEW
				Outdoor	CU-TZ35TKE	CU-TZ42TKE
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				ASG20K1	ASG20K1
	Motor Type				DC / Transistor (8-poles)	DC / Transistor (8-poles)
	Input Power			W	47.3	47.3
	Output Power			W	30	30
	Speed	QLo	Cool	rpm	630	870
			Heat	rpm	730	920
		Lo	Cool	rpm	900	930
			Heat	rpm	1020	1100
		Me	Cool	rpm	1100	1170
			Heat	rpm	1200	1280
		Hi	Cool	rpm	1310	1410
			Heat	rpm	1380	1470
		SHi	Cool	rpm	1360	1460
			Heat	rpm	1430	1500
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	830	900
			Heat	rpm	880	910
Moisture Removal			L/h (Pt/h)	2.0 (4.2)	2.4 (5.1)	
Indoor Airflow	QLo	Cool	m ³ /min (ft ³ /min)	5.27 (186)	7.21 (255)	
		Heat	m ³ /min (ft ³ /min)	6.23 (220)	7.69 (272)	
	Lo	Cool	m ³ /min (ft ³ /min)	7.86 (278)	7.78 (275)	
		Heat	m ³ /min (ft ³ /min)	9.02 (319)	9.40 (332)	
	Me	Cool	m ³ /min (ft ³ /min)	9.78 (345)	10.06 (355)	
		Heat	m ³ /min (ft ³ /min)	10.74 (379)	12.11 (428)	
	Hi	Cool	m ³ /min (ft ³ /min)	11.80 (415)	12.30 (435)	
		Heat	m ³ /min (ft ³ /min)	12.50 (440)	12.90 (455)	
	SHi	Cool	m ³ /min (ft ³ /min)	12.28 (434)	12.82 (453)	
		Heat	m ³ /min (ft ³ /min)	12.35 (436)	13.20 (466)	
Outdoor Airflow	Hi	Cool	m ³ /min (ft ³ /min)	28.70 (1015)	33.60 (1185)	
		Heat	m ³ /min (ft ³ /min)	30.40 (1075)	34.00 (1200)	
Refrigeration Cycle	Control Device			Expansion Valve	Expansion Valve	
	Refrigerant Oil		cm ³	FW50S (320)	FW50S (320)	
	Refrigerant Type		g (oz)	R32, 770 (27.2)	R32, 860 (30.4)	
F-Gas	GWP			675	675	
	CO2eq (ton) (Precharged Amount / Maximum Charged Amount)			0.520 / 0.570	0.581 / 0.631	
Dimension	Height (I/D / O/D)		mm (inch)	290 (11-7/16) / 542 (21-11/32)	290 (11-7/16) / 619 (24-3/8)	
	Width (I/D / O/D)		mm (inch)	799 (31-15/32) / 780 (30-23/32)	799 (31-15/32) / 824 (32-15/32)	
	Depth (I/D / O/D)		mm (inch)	197 (7-25/32) / 289 (11-13/32)	197 (7-25/32) / 299 (11-25/32)	
Weight	Net (I/D / O/D)		kg (lb)	8 (18) / 32 (71)	8 (18) / 32 (71)	

Model		Indoor	CS-TZ35TKEW		CS-TZ42TKEW	
		Outdoor	CU-TZ35TKE		CU-TZ42TKE	
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)	10 (0.1)		10 (0.1)	
	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 × 15 × 17		2 × 15 × 21	
	Size (W × H × L)	mm	610 × 315 × 25.4		610 × 315 × 25.4	
Outdoor Heat Exchanger	Fin Material		Aluminium		Aluminium	
	Fin Type		Corrugated Fin		Corrugated Fin	
	Row × Stage × FPI		2 × 24 × 17		2 × 28 × 17	
	Size (W × H × L)	mm	36.4 × 504 × 713:684		36.38 × 588 × 606.6	
Air Filter	Material		Polypropelene		Polypropelene	
	Type		One-touch		One-touch	
Power Supply			Outdoor		Outdoor	
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-MTZ16TKE						
				Outdoor		CU-3RE18SBE						
Performance Test Condition						EUROVENT						
Power Supply				Phase, Hz		Single, 50						
				V		230						
						Min.		Mid.		Max.		
Cooling	Capacity				kW		1.30		1.60		2.30	
					BTU/h		4440		5460		7860	
	Running Current				A		–		2.30		–	
	Input Power				W		250		470		710	
	Annual Consumption				kWh		–		235		–	
	EER				W/W		5.20		3.40		3.24	
	Indoor Noise (H / L / QLo)				dB-A		38 / 27 / 22					
					Power Level dB		54 / – / –					
Heating	Capacity				kW		1.20		2.60		3.20	
					BTU/h		4100		8870		10930	
	Running Current				A		–		3.40		–	
	Input Power				W		300		670		1.03k	
	Annual Consumption				kWh		–		335		–	
	COP				W/W		4.00		3.88		3.11	
	Indoor Noise (H / L / QLo)				dB-A		39 / 28 / 24					
					Power Level dB		55 / – / –					
Indoor Fan	Type						Cross-Flow Fan					
	Material						ASG20K1					
	Motor Type						DC / Transistor (8-poles)					
	Input Power				W		47.3					
	Output Power				W		40					
	Speed		QLo	Cool	rpm		630					
				Heat	rpm		730					
			Lo	Cool	rpm		770					
				Heat	rpm		820					
			Me	Cool	rpm		930					
				Heat	rpm		1000					
			Hi	Cool	rpm		1090					
				Heat	rpm		1190					
	SHi	Cool	rpm		1140							
		Heat	rpm		1240							
	Moisture Removal				L/h (Pt/h)		1.0					
Indoor Airflow		QLo	Cool	m ³ /min (ft ³ /min)		5.27 (185)						
			Heat	m ³ /min (ft ³ /min)		6.23 (220)						
		Lo	Cool	m ³ /min (ft ³ /min)		6.62 (230)						
			Heat	m ³ /min (ft ³ /min)		7.10 (250)						
		Me	Cool	m ³ /min (ft ³ /min)		8.15 (285)						
			Heat	m ³ /min (ft ³ /min)		8.82 (310)						
		Hi	Cool	m ³ /min (ft ³ /min)		9.70 (340)						
			Heat	m ³ /min (ft ³ /min)		10.70 (375)						
		SHi	Cool	m ³ /min (ft ³ /min)		10.17 (355)						
			Heat	m ³ /min (ft ³ /min)		11.13 (390)						

Model		Indoor	CS-MTZ16TKE	
		Outdoor	CU-3RE18SBE	
Dimension	Height (I/D)	mm (inch)	290 (11-7/16)	
	Width (I/D)	mm (inch)	799 (31-15/32)	
	Depth (I/D)	mm (inch)	197 (7-25/32)	
Weight	Net (I/D)	kg (lb)	8 (18)	
Pipe Diameter (Liquid / Gas)		mm (inch)	6.35 (1/4) / 9.52 (3/8)	
Drain Hose	Inner Diameter	mm	16.7	
	Length	mm	650	
Indoor Heat Exchanger	Fin Material		Aluminium (Pre Coat)	
	Fin Type		Slit Fin	
	Row × Stage × FPI		2 × 15 × 17	
	Size (W × H × L)	mm	610 × 315 × 25.4	
Air Filter	Material		Polypropelene	
	Type		One-touch	
Power Supply			Outdoor	
Power Supply Cord		A	Nil	
Thermostat			Electronic Contol	
Protection Device			Electronic Contol	
			Dry Bulb	Wet Bulb
Indoor Operation Range	Cooling	Maximum °C	32	23
		Minimum °C	16	11
	Heating	Maximum °C	30	–
		Minimum °C	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.

• **Multi Split Combination Possibility:**

- A single outdoor unit enables air conditioning of up to two separate rooms for CU-2RE15SBE, CU-2RE18SBE.
- A single outdoor unit enables air conditioning of up to three separate rooms for CU-3RE18SBE.

CONNECTABLE INDOOR UNIT			OUTDOOR UNIT						
			CU-2RE15SBE*		CU-2RE18SBE*		CU-3RE18SBE*		
ROOM			A	B	A	B	A	B	C
TYPE									
Wall	1.6kW	CS-MTZ16TKE	●	●	●	●	●	●	●
	2.0kW	CS-TZ20TKEW	●	●	●	●	●	●	●
	2.5kW	CS-TZ25TKEW	●	●	●	●	●	●	●
	3.5kW	CS-TZ35TKEW	●	●	●	●	●	●	●
	4.2kW	CS-TZ42TKEW	—	—	●	●	●	●	●
	5.0kW	CS-TZ50TKEW	—	—	●	●	●	●	●
Capacity range of connectable indoor units			From 4.0kW to 5.7kW		From 4.0kW to 7.5kW		From 4.5kW to 9.0kW		
Pipe length	1 room maximum pipe length (m)		20		20		25		
	Allowable elevation (m)		10		10		15		
	Total allowable pipe length (m)		30		30		50		
	Total pipe length for maximum chargeless length (m)		20		20		30		
	Additional gas amount over chargeless length (g/m)		15		15		20		
Note: "●": Available									
Remarks for CU-2RE15SBE / CU-2RE18SBE 1. 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-2RE15SBE. (Total nominal capacity of indoor units is between 4.0kW to 5.7kW) 1) Two CS-TZ20TKEW only. (Total nominal cooling capacity is 4.0kW)									
Remarks for CU-3RE18SBE 1. 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-3RE18SBE. (Total nominal capacity of indoor units is between 4.5kW to 9.0kW) 1) Two CS-TZ25TKEW only. (Total nominal cooling capacity is 5.0kW)									

Note*: Above outdoor unit is contains and operates with refrigerant R410A gas.

● **Multi Split Combination Possibility:**

- A single outdoor unit enables air conditioning of up to two separate rooms for CU-2E12SBE, CU-2E15SBE, CU-2E18SBE.
- A single outdoor unit enables air conditioning of up to three separate rooms for CU-3E23SBE.

CONNECTABLE INDOOR UNIT			CU-2E12SBE*		CU-2E15SBE*		CU-2E18SBE*		CU-3E23SBE*		
ROOM			A	B	A	B	A	B	A	B	C
Wall	1.6kW	CS-MTZ16TKE	●	●	●	●	●	●	●	●	●
	2.0kW	CS-TZ20TKEW	●	●	●	●	●	●	●	●	●
	2.5kW	CS-TZ25TKEW	●	●	●	●	●	●	●	●	●
	3.5kW	CS-TZ35TKEW	●	●	●	●	●	●	●	●	●
	4.2kW	CS-TZ42TKEW	—	—	—	—	●	●	●	●	●
	5.0kW	CS-TZ50TKEW	—	—	—	—	●	●	●	●	●
	6.0kW	CS-TZ60TKEW	—	—	—	—	—	—	●	●	●
Capacity range of connectable units			From 3.2kW to 5.7kW		From 3.2kW to 5.7kW		From 3.2kW to 7.5kW		From 4.5kW to 11.0kW		
Pipe length	1 room maximum pipe length (m)		20		20		20		25		
	Allowable elevation (m)		10		10		10		15		
	Total allowable pipe length (m)		30		30		30		60		
	Total pipe length for maximum chargeless length (m)		20		20		20		30		
	Additional gas amount over chargeless length (g/m)		15		15		15		20		
Note: “●” : Available											
Remarks for CU-2E12SBE / CU-2E15SBE / CU-2E18SBE 1. The total nominal cooling capacity of indoor unit 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-2E15SBE. (Total nominal capacity of indoor units is between 3.2kW to 5.7kW) 1) Two CS-TZ20TKEW only. (Total nominal cooling capacity is 4.0kW)											
Remarks for CU-3E23SBE 1. The total nominal cooling capacity of indoor unit 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-3E23SBE. (Total nominal capacity of indoor units is between 4.5kW to 11.0kW) 1) Two CS-TZ25TKEW only. (Total nominal cooling capacity is 5.0kW)											

Note*: Above outdoor unit is contains and operates with refrigerant R410A gas.

● **Multi Split Combination Possibility:**

- 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, CU-4E27PBE.
- A single outdoor unit enables air conditioning of up to five separate rooms for CU-5E34PBE.

CONNECTABLE INDOOR UNIT			CU-3E18PBE*			CU-4E23PBE*				CU-4E27PBE*				CU-5E34PBE*				
ROOM			A	B	C	A	B	C	D	A	B	C	D	A	B	C	D	E
Wall	1.6kW	CS-MTZ16TKE	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	2.0kW	CS-TZ20TKEW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	2.5kW	CS-TZ25TKEW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	3.5kW	CS-TZ35TKEW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	4.2kW	CS-TZ42TKEW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	5.0kW	CS-TZ50TKEW	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	6.0kW	CS-TZ60TKEW	—	—	—	●	●	●	●	●	●	●	●	●	●	●	●	●
	7.1kW	CS-TZ71TKEW	—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	●
Capacity range of connectable units			From 4.5kW to 9.0kW			From 4.5kW to 11.0kW				From 4.5kW to 13.6kW				From 4.5kW to 17.5kW				
Pipe length	1 room maximum pipe length (m)		25			25				25				25				
	Allowable elevation (m)		15			15				15				15				
	Total allowable pipe length (m)		50			60				70				80				
	Total pipe length for maximum chargeless length (m)		30			30				45				45				
	Additional gas amount over chargeless length (g/m)		20			20				20				20				
Note: “●” : Available																		
Remarks for CU-3E18PBE / CU-4E23PBE / CU-4E27PBE / CU-5E34PBE 1. The total nominal cooling capacity of indoor unit 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-4E27PBE. (Total nominal capacity of indoor units is between 4.5kW to 13.6kW) 1) Two CS-TZ25TKEW only. (Total nominal cooling capacity is 5.0kW)																		

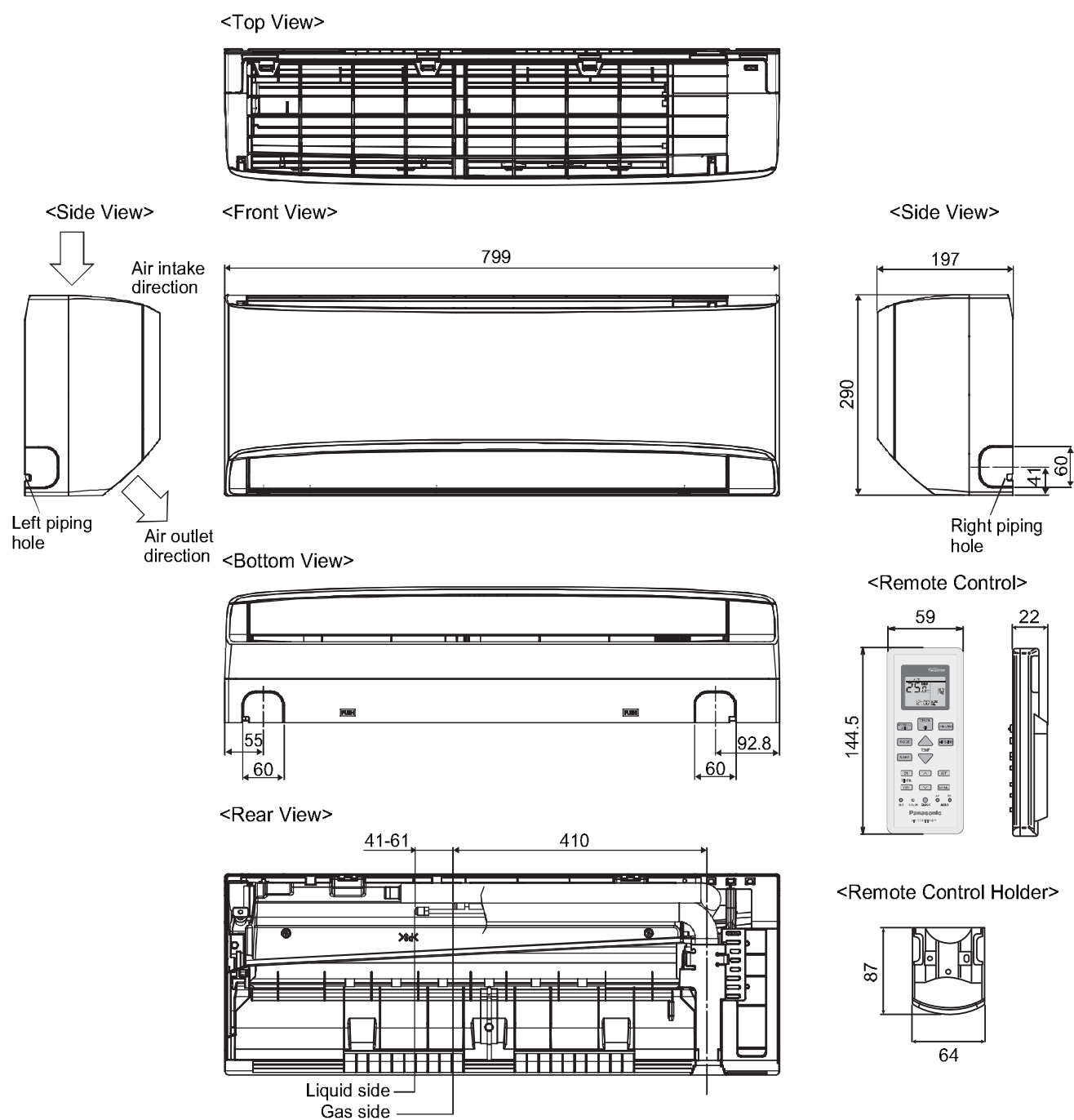
Note*: Above outdoor unit is contains and operates with refrigerant R410A gas.

4. Features

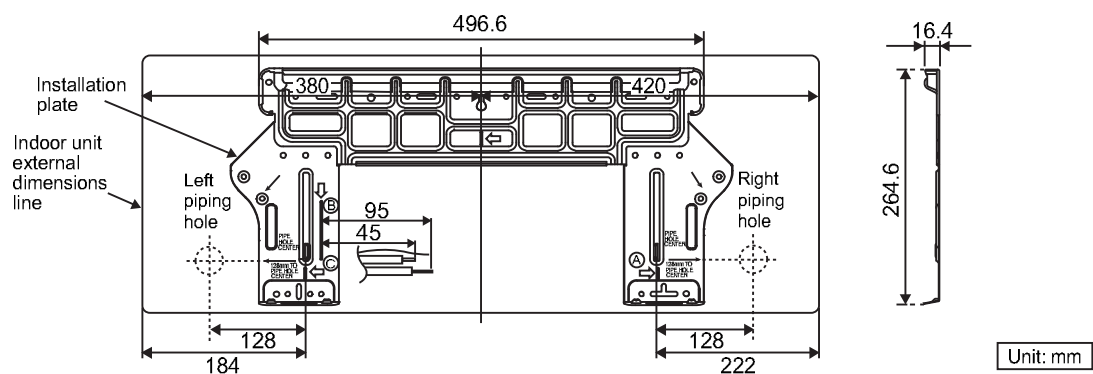
- **Inverter Technology**
 - Wider output power range
 - Energy saving
 - Quick Cooling
 - Quick Heating
 - More precise temperature control
- **Environment Protection**
 - Non-ozone depletion substances refrigerant (R32)
- **Long Installation Piping**
 - Long piping up to 15 meters (3/4 ~ 1.75HP) and 20 meters (2.0HP) during single split connection only
- **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**
 - Breakdown Self Diagnosis function

6. Dimensions

6.1 Indoor Unit

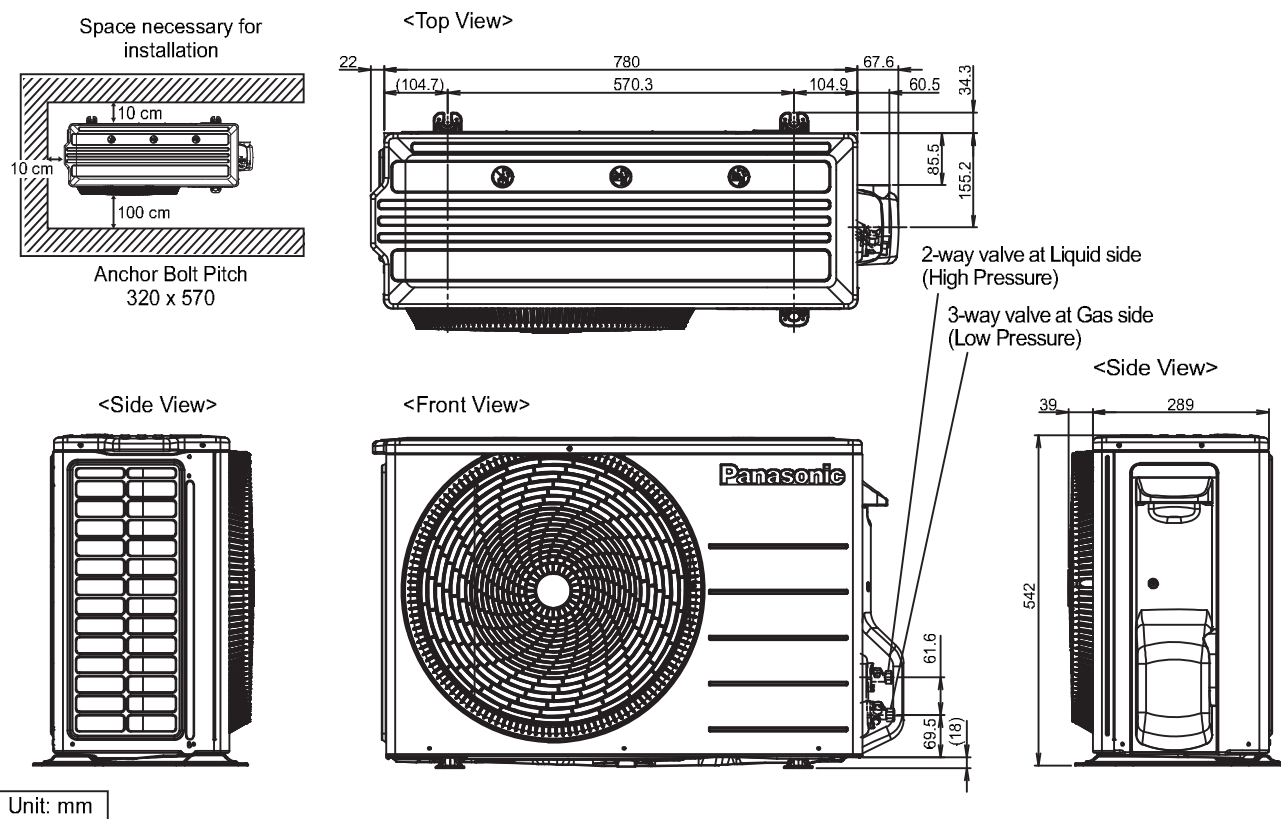


Relative position between the indoor unit and the installation plate <Front View>

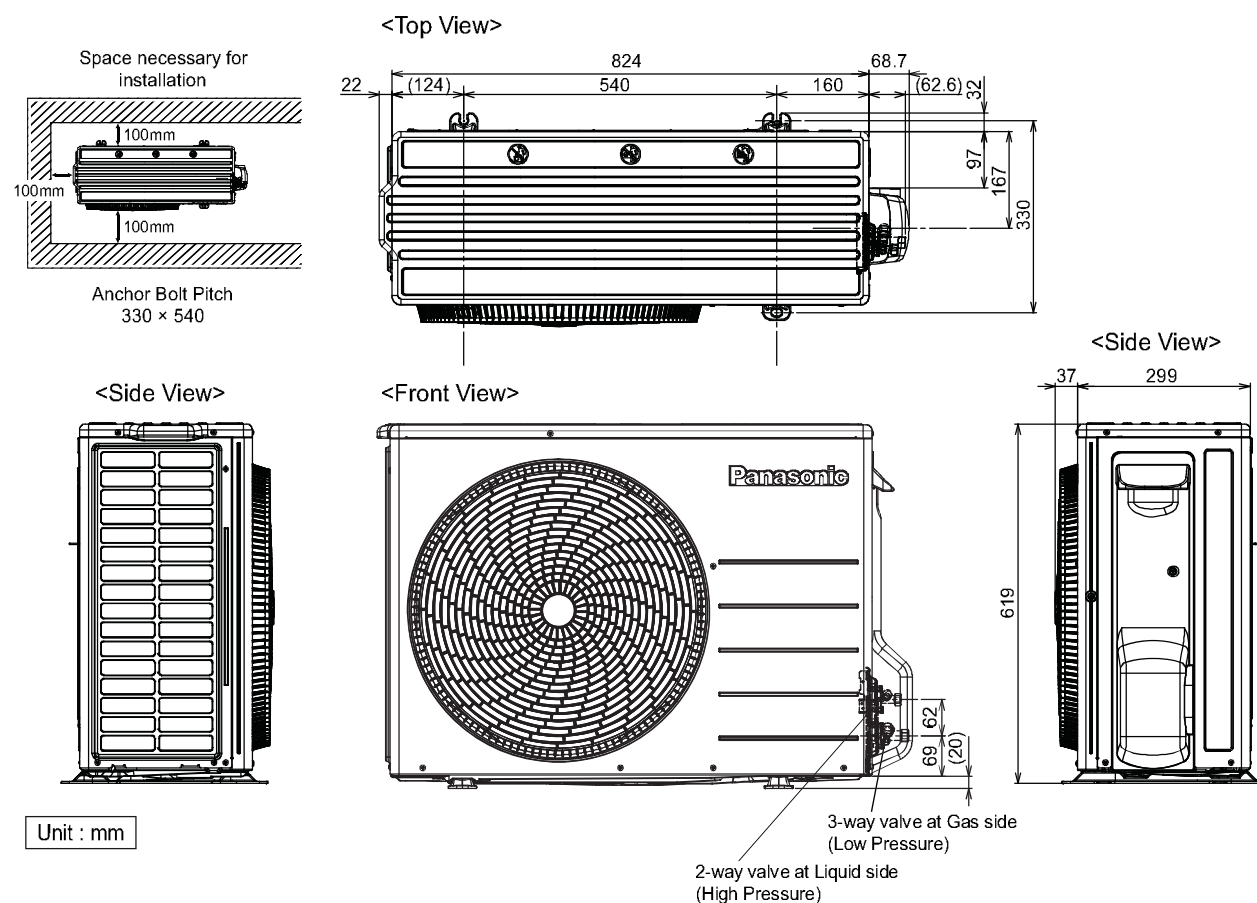


6.2 Outdoor Unit

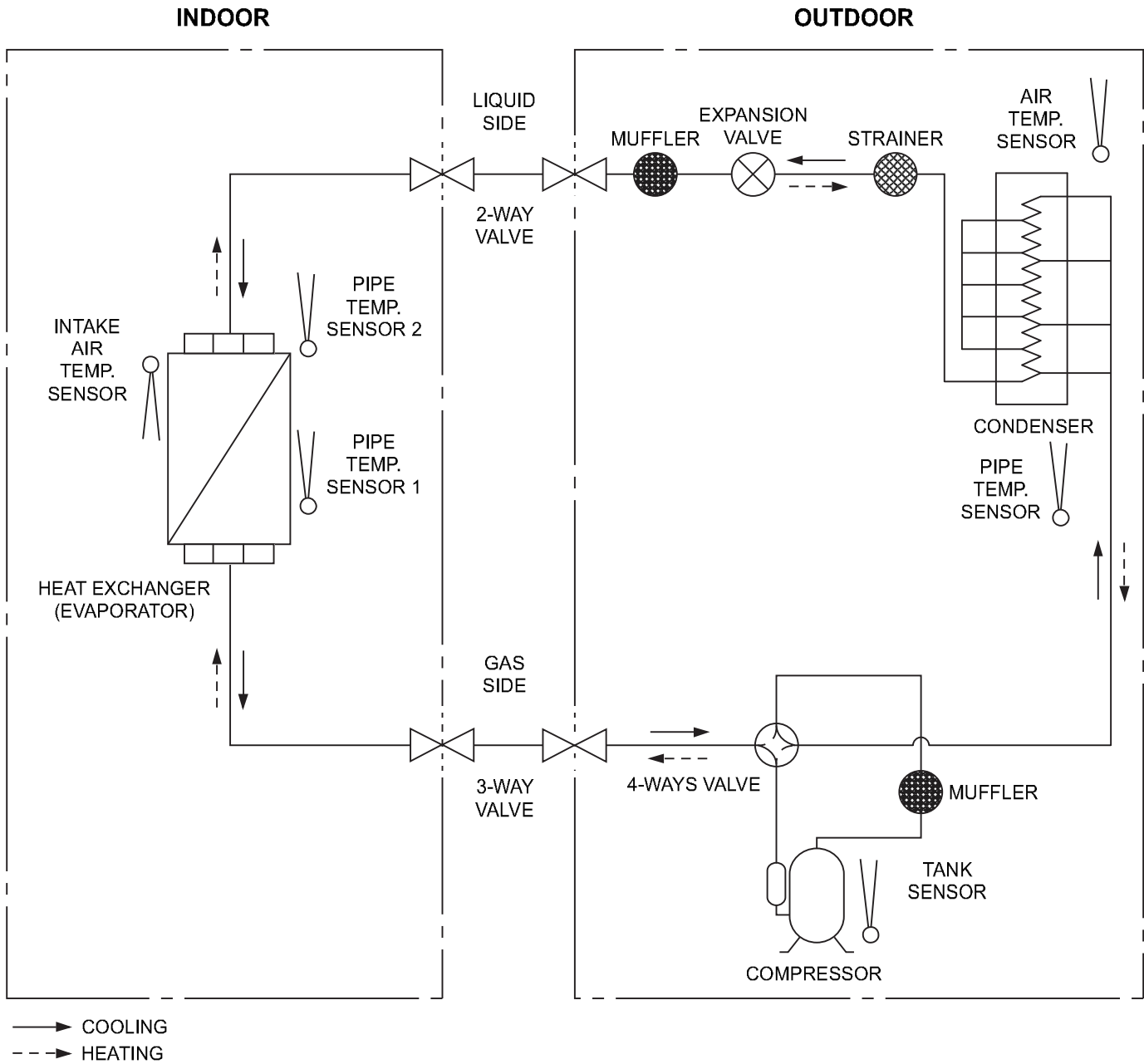
6.2.1 CU-TZ20TKE CU-TZ25TKE CU-TZ35TKE



6.2.2 CU-TZ42TKE

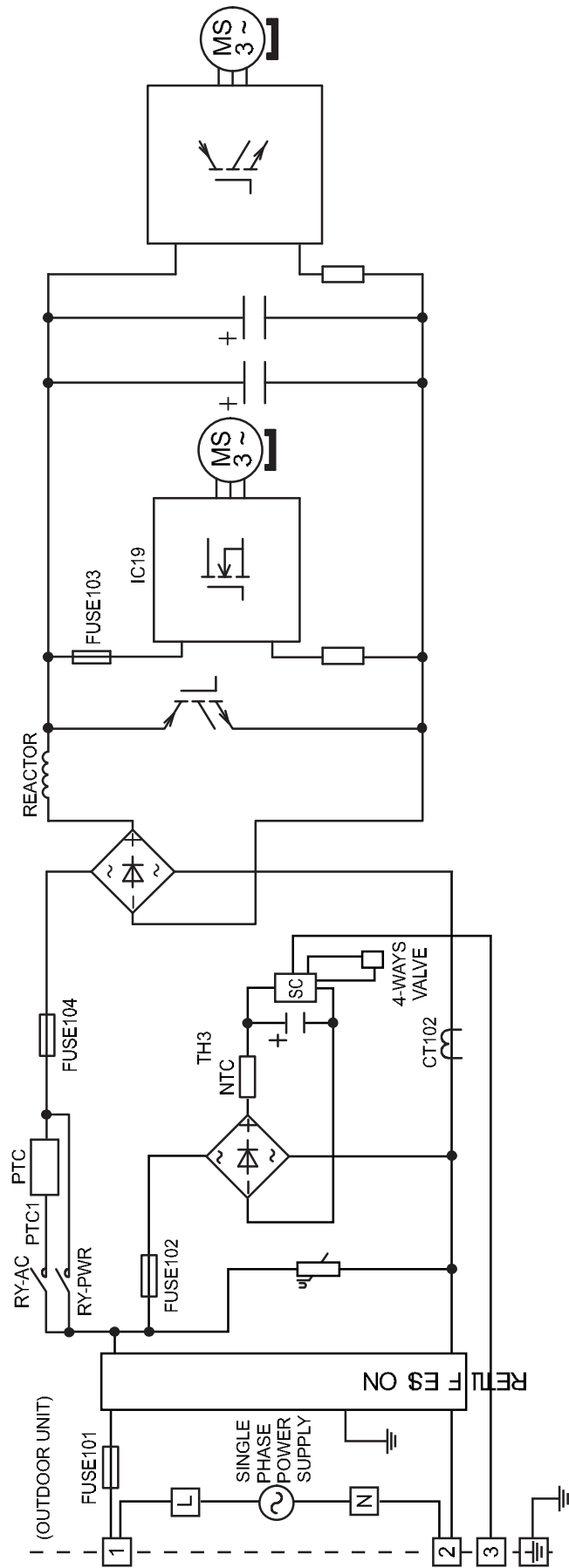


7. Refrigeration Cycle Diagram

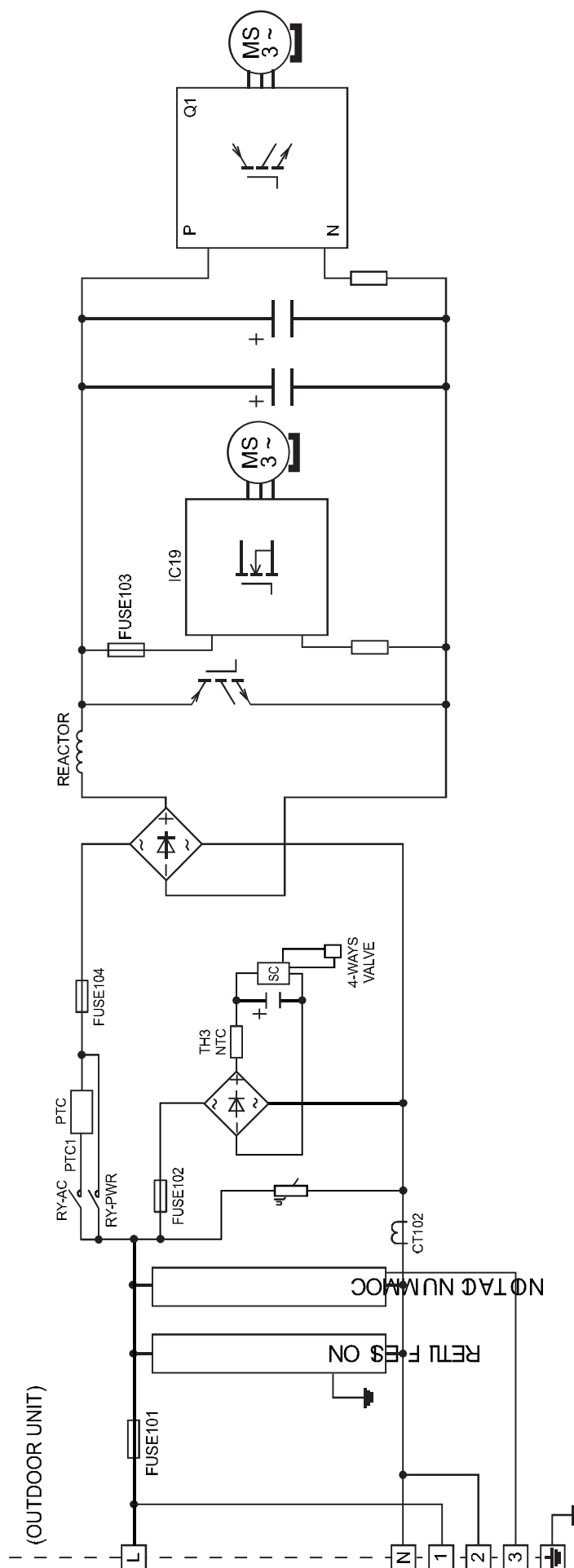


8.2 Outdoor Unit

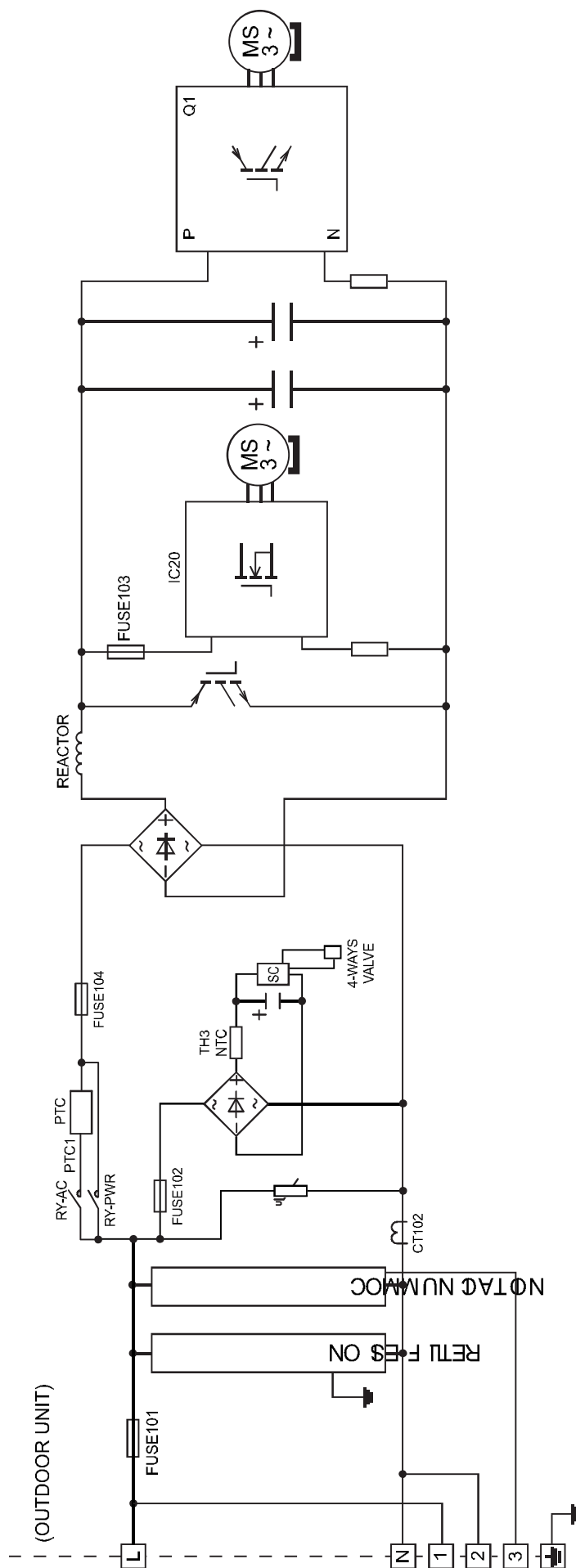
8.2.1 CU-TZ20TKE CU-TZ25TKE



8.2.2 CU-TZ35TKE

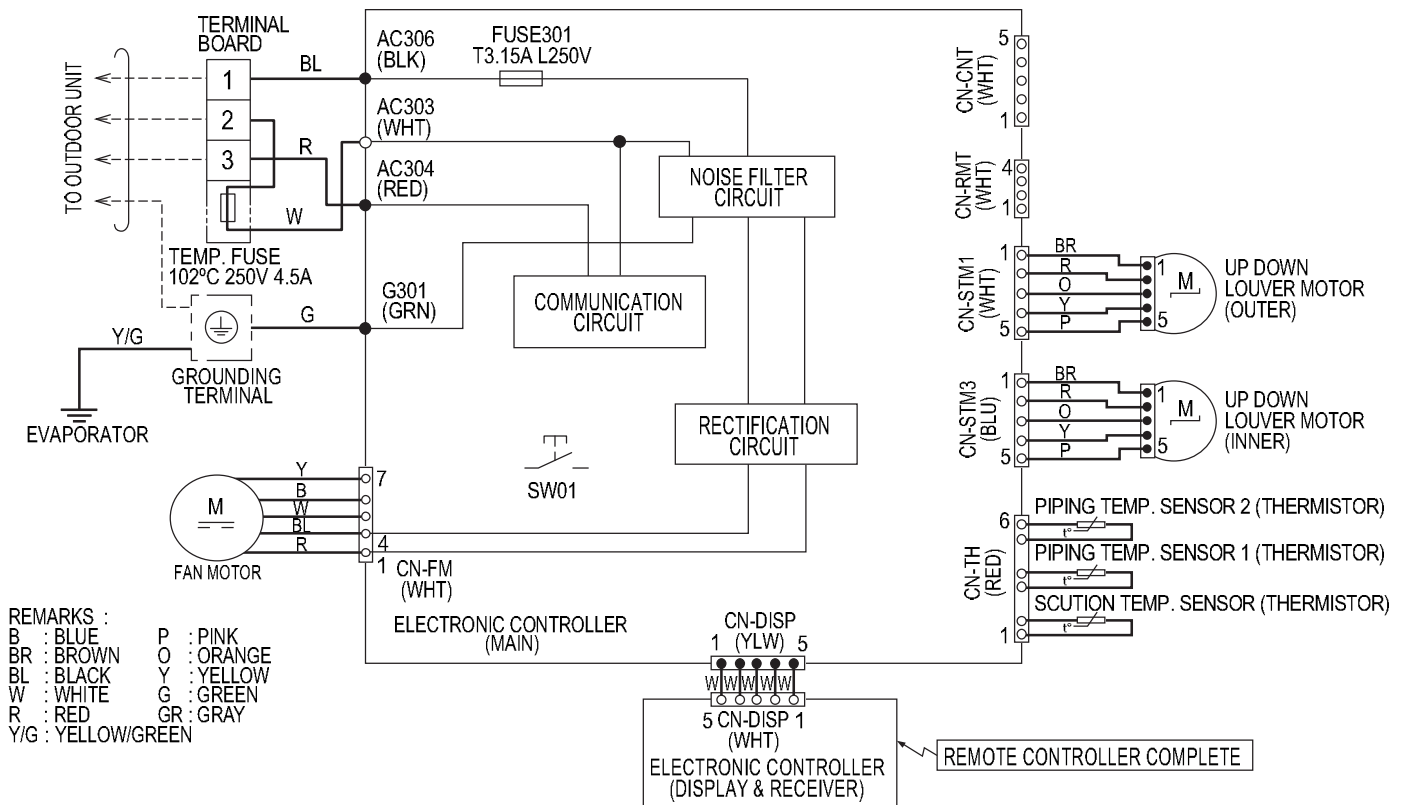


8.2.3 CU-TZ42TKE



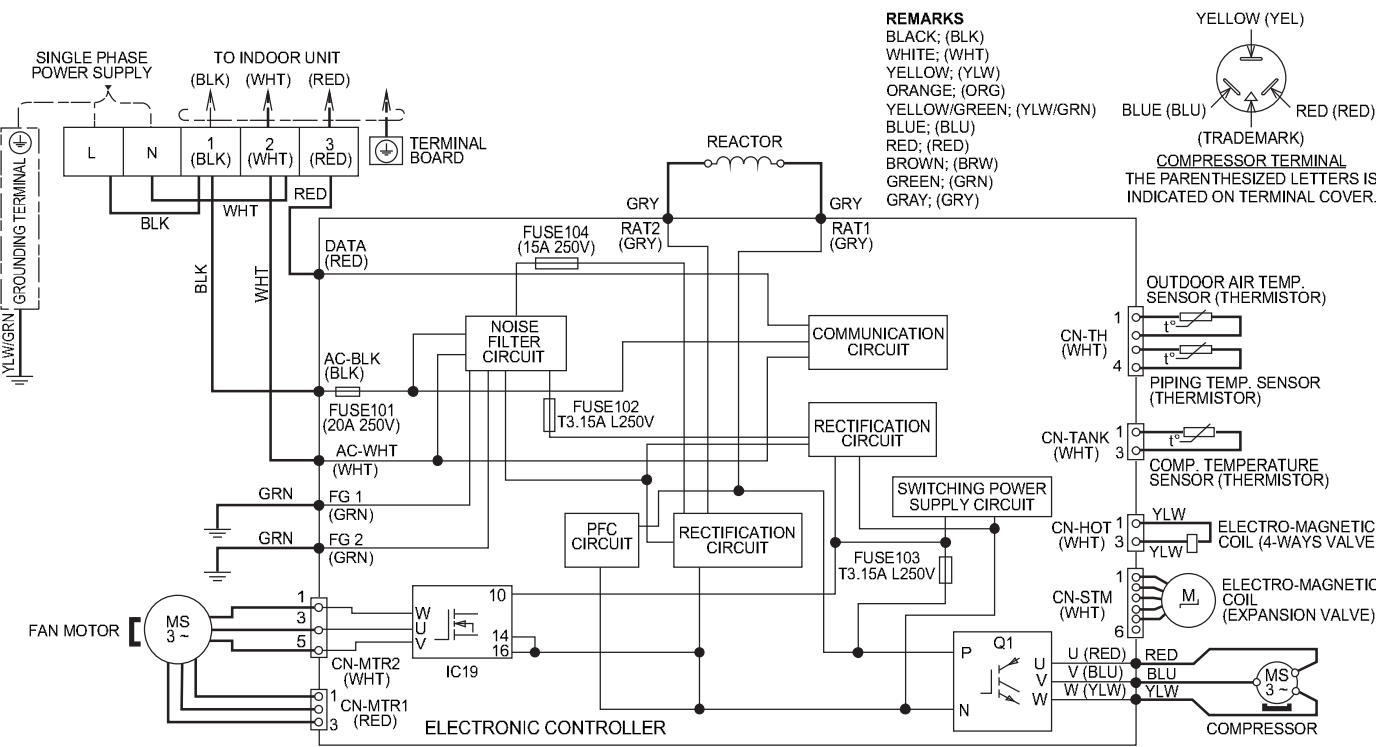
9. Wiring Connection Diagram

9.1 Indoor Unit



9.2 Outdoor Unit

9.2.1 CU-TZ20TKE CU-TZ25TKE

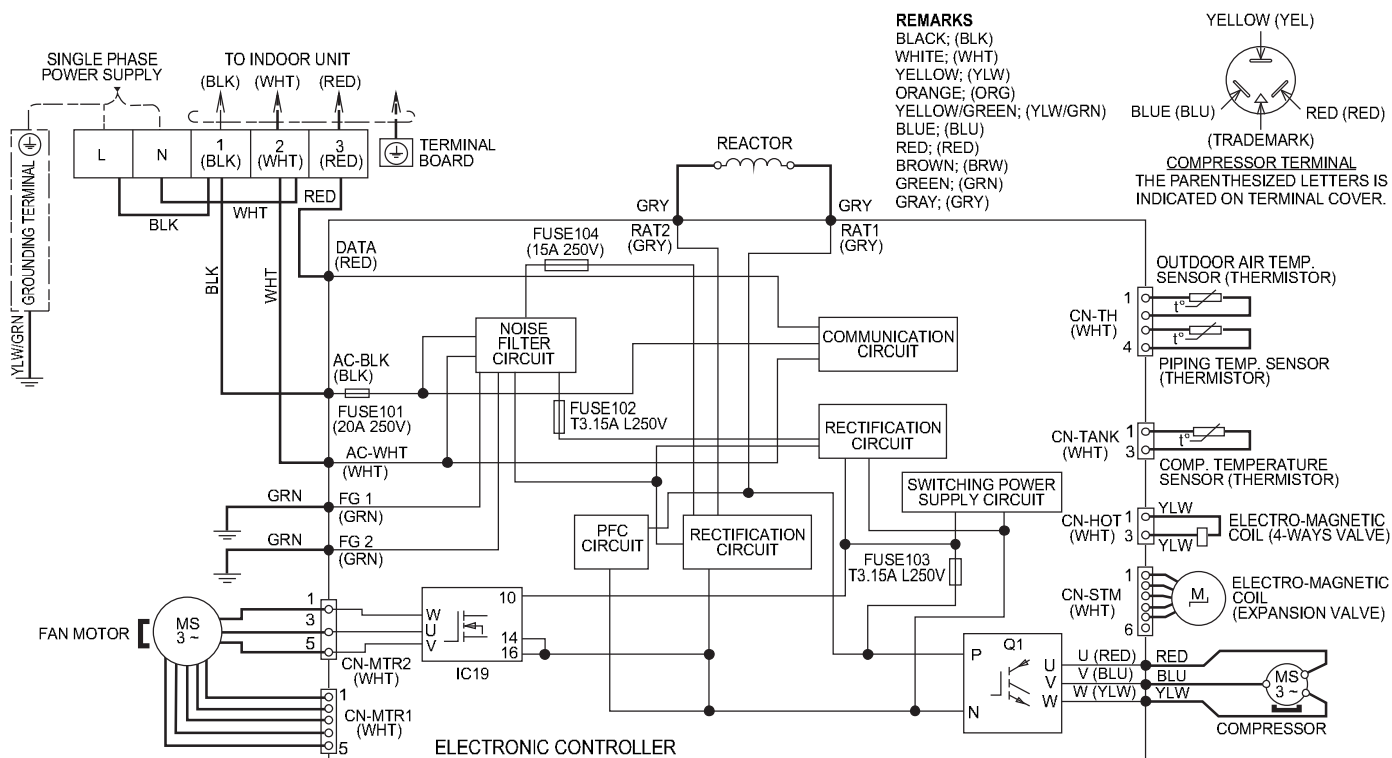


Resistance of Compressor Windings

MODEL	CU-TZ20TKE / CU-TZ25TKE
CONNECTION	9SS072XAC21 (Ω)
U-V	3.034
U-W	3.021
V-W	3.009

Note: Resistance at 20°C of ambient temperature.

9.2.2 CU-TZ35TKE



Resistance of Compressor Windings

MODEL	CU-TZ35TKE
CONNECTION	9RS102XEA21 (Ω)
U-V	1.211
U-W	1.211
V-W	1.211

Note: Resistance at 20°C of ambient temperature.

20. Technical Data

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

20.1 Cool Mode Performance Data

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

Voltage: 230V

20.1.1 CS-TZ20TKEW/CU-TZ20TKE

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	2228	2052	374	2239	2065	372	2247	2035	374	2184	2047	435	2458	2210	297	2291	2160	395	2000	1993	510
	22	2458	1651	379	2418	1650	411	2430	1646	400	2528	1688	347	2707	1795	285	2511	1696	390	2239	1590	512
23	15.7	1990	1970	400	2005	1985	383	1985	1965	419	1997	1977	408	2215	2192	307	2054	2034	398	1817	1799	510
	18.4	2200	1638	374	2216	1635	362	2231	1645	374	2147	1617	426	2354	1712	300	2241	1689	395	2014	1584	511
20	13.3	1767	1750	458	1751	1734	383	1891	1872	401	1834	1816	418	2083	2063	314	1892	1873	400	1688	1671	509
	15.8	2008	1616	400	2002	1613	379	1991	1593	420	1952	1570	439	2191	1702	307	2041	1637	398	1831	1539	510

(Dry bulb value based on 46% humidity)

20.1.2 CS-TZ25TKEW/CU-TZ25TKE

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	2646	2235	484	2658	2249	481	2669	2216	484	2593	2230	564	2919	2407	385	2721	2353	511	2500	2171	660
	22	2919	1798	490	2872	1797	532	2886	1792	518	3002	1838	449	3215	1955	368	2982	1847	504	2659	1732	663
23	15.7	2363	2340	518	2381	2203	495	2357	2183	542	2372	2348	528	2630	2604	397	2439	2254	515	2158	2136	660
	18.4	2613	1784	484	2631	1780	468	2649	1792	484	2550	1761	552	2795	1864	388	2661	1839	511	2392	1725	661
20	13.3	2099	2078	593	2080	2059	495	2245	2169	518	2178	2093	541	2474	2449	406	2247	2224	517	2004	1984	659
	15.8	2384	1760	517	2378	1756	490	2364	1735	544	2318	1710	568	2601	1853	397	2423	1783	515	2174	1676	661

(Dry bulb value based on 46% humidity)

20.1.3 CS-TZ35TKEW/CU-TZ35TKE

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	3821	2954	733	3839	2973	729	3854	2930	733	3745	2947	854	4215	3181	583	3930	3110	774	3500	2870	1000
	22	4215	2377	742	4148	2375	807	4168	2369	784	4335	2430	680	4643	2584	558	4306	2442	764	3840	2289	1004
23	15.7	3413	3379	785	3438	2913	750	3404	2885	821	3425	3391	801	3798	3760	602	3523	2980	781	3116	2855	1000
	18.4	3774	2358	734	3800	2353	710	3826	2369	734	3682	2327	836	4037	2464	588	3843	2432	775	3454	2281	1001
20	13.3	3031	3001	898	3004	2700	750	3242	2867	785	3146	2767	820	3573	3537	616	3245	2907	784	2895	2723	998
	15.8	3443	2326	784	3434	2322	743	3414	2293	824	3348	2260	861	3757	2450	601	3500	2357	780	3140	2215	1001

(Dry bulb value based on 46% humidity)

20.1.4 CS-TZ42TKEW/CU-TZ42TKE

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	4445	3100	924	4466	3119	919	4484	3074	924	4356	3092	1076	4904	3338	735	4572	3263	975	4200	3010	1260
	22	4903	2494	935	4825	2492	1016	4848	2486	988	5043	2549	857	5401	2711	703	5009	2562	963	4467	2402	1265
23	15.7	3970	3931	989	4000	3056	945	3960	3027	1034	3984	3944	1009	4418	4374	759	4098	3126	984	3625	2995	1260
	18.4	4390	2473	924	4421	2469	894	4451	2485	925	4283	2442	1054	4696	2585	740	4470	2551	976	4018	2393	1261
20	13.3	3526	3491	1131	3494	2833	946	3772	3008	990	3660	2903	1033	4156	4115	776	3774	3049	988	3367	2857	1257
	15.8	4005	2441	987	3995	2436	936	3971	2405	1039	3895	2371	1085	4370	2570	757	4071	2472	983	3652	2324	1261

(Dry bulb value based on 46% humidity)

TC - Total Cooling Capacity (W)

SHC - Sensible Heat Capacity (W)

IP - Input Power (W)

20.2 Heat Mode Performance Data

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

Voltage: 230V

20.2.1 CS-TZ20TKEW/CU-TZ20TKE

Indoor (°C)	Outdoor WB (°C)									
DB	-15		-7		2		7		12	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	1653	767	1948	865	2535	899	2521	671	2684	668
20	1656	726	2140	860	2610	920	2700	670	2792	668
16	1561	687	2207	823	2627	876	2883	669	2959	666

20.2.2 CS-TZ25TKEW/CU-TZ25TKE

Indoor (°C)	Outdoor WB (°C)									
DB	-15		-7		2		7		12	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	2003	945	2458	1057	2885	977	3082	801	3281	797
20	2006	894	2700	1050	2970	1000	3300	800	3413	797
16	1890	846	2785	1005	2989	952	3523	799	3617	796

20.2.3 CS-TZ35TKEW/CU-TZ35TKE

Indoor (°C)	Outdoor WB (°C)									
DB	-15		-7		2		7		12	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	2552	1271	3004	1359	3594	1231	3623	1052	3857	1046
20	2556	1203	3300	1350	3700	1260	4000	1050	4013	1046
16	2409	1139	3403	1292	3724	1199	4142	1049	4253	1044

20.2.4 CS-TZ42TKEW/CU-TZ42TKE

Indoor (°C)	Outdoor WB (°C)									
DB	-15		-7		2		7		12	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	3184	1610	3550	1711	4549	1768	4669	1352	4971	1345
20	3189	1523	3900	1700	4930	1810	5000	1350	5171	1345
16	3005	1442	4022	1627	4714	1723	5338	1349	5480	1342

TC - Total Cooling Capacity (W)

SHC - Sensible Heat Capacity (W)

IP - Input Power (W)