



TECHNICAL MANUAL

INVERTER WALL MOUNTED TYPE RESIDENTIAL AIR-CONDITIONERS (Split system, air to air heat pump type)

SRK20ZSX-S

25ZSX-S

35ZSX-S

50ZSX-S

60ZSX-S

1. SPECIFICATIONS

Model			SRK20ZSX-S		
Item			Indoor unit SRK20ZSX-S	Outdoor unit SRC20ZSX-S	
Power source			1 Phase, 220 - 240V, 50Hz / 220V, 60Hz		
Operation data	Nominal cooling capacity (range)		kW	2.0 (0.9(Min.) - 3.2 (Max.))	
	Nominal heating capacity (range)		kW	2.7 (0.8(Min.) - 5.3 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	0.32 (0.16 - 0.74)	
		Heating		0.47 (0.14 - 1.36)	
		Heating (H2)		—	
	Max power consumption			1.92	
	Running current	Cooling	A	1.9 / 1.8 / 1.7 (220/ 230/ 240V)	
		Heating		2.6 / 2.5 / 2.4 (220/ 230/ 240V)	
	Inrush current, max current			2.5 Max. 9	
	Power factor	Cooling	%	76	
		Heating		81	
	EER	Cooling		6.25	
		COP		Heating	5.74
	Heating (H2)			—	
Sound power level	Cooling	dB(A)	53	56	
	Heating		53	58	
Sound pressure level	Cooling		Hi: 38 Me: 31 Lo: 24 ULo: 19	43	
	Heating		Hi: 38 Me: 32 Lo: 25 ULo: 19	44	
Silent mode sound pressure level			—	Cooling:33 / Heating:38	
Exterior dimensions (Height x Width x Depth)			mm	305 x 920 x 220	640 x 800 (+71) x 290
Exterior appearance (Equivalent color)				Fine snow Munsell : (8.0Y 9.3/0.1), RAL : 9003	Stucco white Munsell : (4.2Y 7.5/1.1), RAL : 7004
Net weight			kg	13	43.0
Compressor type & Quantity				—	RMT5111MCE2(Twin rotary type) x 1
Compressor motor (Starting method)			kW	—	0.75 (Inverter driven)
Refrigerant oil (Amount, type)			ℓ	—	0.35 (DIAMOND FREEZE MA68)
Refrigerant (Type, amount, pre-charge length)			kg	R410A 1.45 in outdoor unit (Incl. the amount for the piping of 15m)	
Heat exchanger				Louver fins & inner grooved tubing	M fins & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Quantity				Tangential fan x 1	Propeller fan x 1
Fan motor (Starting method)			W	42 x1 (Direct drive)	34 x1 (Direct drive)
Air flow	Cooling	m³/min	Hi: 11.3 Me: 9.1 Lo: 6.0 ULo: 5.0	31.0	
	Heating		Hi: 12.2 Me: 10.3 Lo: 7.2 ULo: 5.4	31.0	
Available external static pressure			Pa	0	0
Outside air intake				Not possible	—
Air filter, Quality / Quantity				Polypropylene net (Washable) x 2	—
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor & compressor)
Electric heater				—	—
Operation control	Remote control			Wireless - remote control	
	Room temperature control			Microcomputer thermostat	
	Operation display			RUN: Green, TIMER: Yellow, ECO: Blue	
Safety equipments				Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection	
Installation data	Refrigerant piping size (O.D)		mm	Liquid line: ϕ6.35 (1/4")	Gas line: ϕ9.52 (3/8")
	Connecting method			Flare connection	Flare connection
	Attached length of piping		m	Liquid line : 0.55 / Gas line : 0.48	—
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.25	
	Vertical height diff. between O.U. and I.U.		m	Max.15 (Outdoor unit is higher) / Max.15 (Outdoor unit is lower)	
	Drain hose			Hose connectable (VP 16)	Holes ϕ20 x 5 pcs
Drain pump, max lift height			mm	—	—
Recommended breaker size			A	16	
L.R.A. (Locked rotor ampere)			A	2.5	
Interconnecting wires		Size x Core number		1.5mm ² x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Clean filter (Allergen clear filter x 1, Photocatalytic washable deodorizing filter x 1)	
Option parts				Interface kit (SC-BIKN-E)	

Notes (1) The data are measured at the following conditions.

The pipe length is 5m.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	ISO5151-H1
Heating (H2)	20°C	—	2°C	1°C	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) Select the breaker size according to the own national standard.

Item			Model	SRK25ZSX-S	
				Indoor unit SRK25ZSX-S	Outdoor unit SRC25ZSX-S
Power source				1 Phase, 220 - 240V, 50Hz / 220V, 60Hz	
Operation data	Nominal cooling capacity (range)		kW	2.5 (0.9(Min.) - 3.7 (Max.))	
	Nominal heating capacity (range)		kW	3.2 (0.8(Min.) - 5.8 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	0.44 (0.16 - 0.89)	
		Heating		0.59 (0.14 - 1.54)	
		Heating (H2)		—	
	Max power consumption			1.92	
	Running current	Cooling	A	2.5 / 2.4 / 2.3 (220/ 230/ 240V)	
		Heating		3.2 / 3.0 / 2.9 (220/ 230/ 240V)	
	Inrush current, max current			3.0 Max. 9	
	Power factor	Cooling	%	80	
		Heating		85	
	EER	Cooling		5.68	
	COP	Heating		5.42	
		Heating (H2)		—	
Sound power level	Cooling	dB(A)	55	57	
	Heating		56	58	
Sound pressure level	Cooling		Hi: 39 Me: 33 Lo: 25 ULo: 19	44	
	Heating		Hi: 40 Me: 34 Lo: 27 ULo: 19	45	
Silent mode sound pressure level			—	Cooling:35 / Heating:39	
Exterior dimensions (Height x Width x Depth)			mm	305 x 920 x 220	
Exterior appearance (Equivalent color)				Fine snow Munsell : (8.0Y 9.3/0.1), RAL : 9003	
Net weight			kg	13	
Compressor type & Quantity				—	
Compressor motor (Starting method)			kW	—	
Refrigerant oil (Amount, type)			ℓ	—	
Refrigerant (Type, amount, pre-charge length)			kg	R410A 1.45 in outdoor unit (Incl. the amount for the piping of 15m)	
Heat exchanger				Louver fins & inner grooved tubing	
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Quantity				Tangential fan x 1	
Fan motor (Starting method)			W	42 x1 (Direct drive)	
Air flow	Cooling	m³/min	Hi: 12.2 Me: 10.0 Lo: 6.7 ULo: 5.0		
	Heating		Hi: 12.8 Me: 11.0 Lo: 7.8 ULo: 5.4		
Available external static pressure			Pa	0	
Outside air intake				Not possible	
Air filter, Quality / Quantity				Polypropylene net (Washable) x 2	
Shock & vibration absorber				Rubber sleeve (for fan motor)	
Electric heater				—	
Operation control	Remote control			Wireless - remote control	
	Room temperature control			Microcomputer thermostat	
	Operation display			RUN: Green, TIMER: Yellow, ECO: Blue	
Safety equipments				Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection	
Installation data	Refrigerant piping size (O.D)		mm	Liquid line: ϕ6.35 (1/4") Gas line: ϕ9.52 (3/8")	
	Connecting method			Flare connection	
	Attached length of piping		m	Liquid line : 0.55 / Gas line : 0.48	
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.25	
	Vertical height diff. between O.U. and I.U.		m	Max.15 (Outdoor unit is higher) / Max.15 (Outdoor unit is lower)	
Drain hose				Hose connectable (VP 16)	
Drain pump, max lift height			mm	—	
Recommended breaker size			A	16	
L.R.A. (Locked rotor ampere)			A	3.0	
Interconnecting wires		Size x Core number		1.5mm² x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	
Standard accessories				Mounting kit, Clean filter (Allergen clear filter x 1, Photocatalytic washable deodorizing filter x 1)	
Option parts				Interface kit (SC-BIKN-E)	

Notes (1) The data are measured at the following conditions.

The pipe length is 5m.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	ISO5151-H1
Heating (H2)	20°C	—	2°C	1°C	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) Select the breaker size according to the own national standard.

Item			Model	SRK35ZSX-S	
				Indoor unit SRK35ZSX-S	Outdoor unit SRC35ZSX-S
Power source				1 Phase, 220 - 240V, 50Hz / 220V, 60Hz	
Operation data	Nominal cooling capacity (range)		kW	3.5 (0.9(Min.) - 4.3 (Max.))	
	Nominal heating capacity (range)		kW	4.3 (0.8(Min.) - 6.6 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	0.78 (0.16 - 1.26)	
		Heating		0.90 (0.14 - 1.89)	
		Heating (H2)		—	
	Max power consumption			1.92	
	Running current	Cooling	A	3.9 / 3.7 / 3.6 (220/ 230/ 240V)	
		Heating		4.4 / 4.3 / 4.1 (220/ 230/ 240V)	
	Inrush current, max current			4.3 Max. 9	
	Power factor	Cooling	%	91	
		Heating		92	
	EER	Cooling		4.49	
	COP	Heating		4.78	
		Heating (H2)		—	
Sound power level	Cooling	dB(A)	58	61	
	Heating		58	62	
Sound pressure level	Cooling		Hi: 43 Me: 35 Lo: 26 ULo: 19	48	
	Heating		Hi: 41 Me: 35 Lo: 28 ULo: 19	47	
Silent mode sound pressure level			—	Cooling:38 / Heating:43	
Exterior dimensions (Height x Width x Depth)			mm	305 x 920 x 220	
Exterior appearance (Equivalent color)				Fine snow Munsell : (8.0Y 9.3/0.1), RAL : 9003	
Net weight			kg	13	
Compressor type & Quantity				—	
Compressor motor (Starting method)			kW	—	
Refrigerant oil (Amount, type)			ℓ	—	
Refrigerant (Type, amount, pre-charge length)			kg	R410A 1.45 in outdoor unit (Incl. the amount for the piping of 15m)	
Heat exchanger				Louver fins & inner grooved tubing	M fins & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Quantity				Tangential fan x 1	Propeller fan x 1
Fan motor (Starting method)			W	42 x1 (Direct drive)	34 x1 (Direct drive)
Air flow	Cooling	m³/min	Hi: 13.1 Me: 10.8 Lo: 7.3 ULo: 5.0	36.0	
	Heating		Hi: 13.9 Me: 11.8 Lo: 8.6 ULo: 5.4	31.0	
Available external static pressure			Pa	0	0
Outside air intake				Not possible	—
Air filter, Quality / Quantity				Polypropylene net (Washable) x 2	—
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor & compressor)
Electric heater				—	—
Operation control	Remote control			Wireless - remote control	
	Room temperature control			Microcomputer thermostat	
	Operation display			RUN: Green, TIMER: Yellow, ECO: Blue	
Safety equipments				Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection	
Installation data	Refrigerant piping size (O.D)		mm	Liquid line: ϕ6.35 (1/4")	Gas line: ϕ9.52 (3/8")
	Connecting method			Flare connection	Flare connection
	Attached length of piping		m	Liquid line : 0.55 / Gas line : 0.48	—
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.25	
	Vertical height diff. between O.U. and I.U.		m	Max.15 (Outdoor unit is higher) / Max.15 (Outdoor unit is lower)	
Drain hose				Hose connectable (VP 16)	Holes ϕ20 x 5 pcs
Drain pump, max lift height			mm	—	—
Recommended breaker size			A	16	
L.R.A. (Locked rotor ampere)			A	4.3	
Interconnecting wires		Size x Core number		1.5mm ² x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Clean filter (Allergen clear filter x 1, Photocatalytic washable deodorizing filter x 1)	
Option parts				Interface kit (SC-BIKN-E)	

Notes (1) The data are measured at the following conditions.

The pipe length is 5m.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	ISO5151-H1
Heating (H2)	20°C	—	2°C	1°C	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

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(4) Select the breaker size according to the own national standard.

Item			Model	SRK50ZSX-S	
				Indoor unit SRK50ZSX-S	Outdoor unit SRC50ZSX-S
Power source				1 Phase, 220 - 240V, 50Hz / 220V, 60Hz	
Operation data	Nominal cooling capacity (range)		kW	5.0 (1.0(Min.) - 5.8 (Max.))	
	Nominal heating capacity (range)		kW	6.0 (0.6(Min.) - 8.1 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	1.30 (0.19 - 1.80)	
		Heating		1.36 (0.18 - 2.43)	
		Heating (H2)		—	
	Max power consumption			2.90	
	Running current	Cooling	A	6.0 / 5.7 / 5.5 (220/ 230/ 240V)	
		Heating		6.2 / 6.0 / 5.7 (220/ 230/ 240V)	
	Inrush current, max current			5.0 Max. 15	
	Power factor	Cooling	%	99	
		Heating		99	
	EER	Cooling		3.85	
		Heating		4.41	
	COP	Heating (H2)		—	
Sound power level		Cooling	dB(A)	59	63
	Heating	62		63	
Sound pressure level	Cooling	Hi: 44 Me: 39 Lo: 31 ULo: 22		50	
	Heating	Hi: 46 Me: 41 Lo: 33 ULo: 23		49	
Silent mode sound pressure level			—		
Exterior dimensions (Height x Width x Depth)		mm	305 x 920 x 220		
Exterior appearance (Equivalent color)			Fine snow Munsell : (8.0Y 9.3/0.1), RAL : 9003		
Net weight		kg	13		
Compressor type & Quantity			—		
Compressor motor (Starting method)		kW	—		
Refrigerant oil (Amount, type)		ℓ	—		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 1.50 in outdoor unit (Incl. the amount for the piping of 15m)		
Heat exchanger			Louver fins & inner grooved tubing		
Refrigerant control			Capillary tubes + Electronic expansion valve		
Fan type & Quantity			Tangential fan x 1		
Fan motor (Starting method)		W	42 x1 (Direct drive)		
Air flow	Cooling	m³/min	Hi: 14.3 Me: 12.4 Lo: 7.8 ULo: 5.4		
	Heating		Hi: 17.3 Me: 14.3 Lo: 9.8 ULo: 6.2		
Available external static pressure		Pa	0		
Outside air intake			Not possible		
Air filter, Quality / Quantity			Polypropylene net (Washable) x 2		
Shock & vibration absorber			Rubber sleeve (for fan motor)		
Electric heater			—		
Operation control	Remote control		Wireless - remote control		
	Room temperature control		Microcomputer thermostat		
	Operation display		RUN: Green, TIMER: Yellow, ECO: Blue		
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection		
Installation data	Refrigerant piping size (O.D)		mm	Liquid line: ϕ6.35 (1/4") Gas line: ϕ12.7 (1/2")	
	Connecting method			Flare connection	
	Attached length of piping		m	Liquid line : 0.55 / Gas line : 0.48	
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.30	
	Vertical height diff. between O.U. and I.U.		m	Max.20 (Outdoor unit is higher) / Max.20 (Outdoor unit is lower)	
Drain hose			Hose connectable (VP 16)		
Drain pump, max lift height		mm	—		
Recommended breaker size		A	16		
L.R.A. (Locked rotor ampere)		A	5.0		
Interconnecting wires		Size x Core number	1.5mm ² x 4 cores (Including earth cable) / Terminal block (Screw fixing type)		
IP number			IPX0		
Standard accessories			Mounting kit, Clean filter (Allergen clear filter x 1, Photocatalytic washable deodorizing filter x 1)		
Option parts			Interface kit (SC-BIKN-E)		

Notes (1) The data are measured at the following conditions.

The pipe length is 5m.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO5151-T1
Heating		20°C	—	7°C	6°C	ISO5151-H1
Heating (H2)		20°C	—	2°C	1°C	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) Select the breaker size according to the own national standard.

Item			Model	SRK60ZSX-S	
				Indoor unit SRK60ZSX-S	Outdoor unit SRC60ZSX-S
Power source				1 Phase, 220 - 240V, 50Hz / 220V, 60Hz	
Operation data	Nominal cooling capacity (range)		kW	6.1 (1.0(Min.) - 6.8 (Max.))	
	Nominal heating capacity (range)		kW	6.8 (0.6(Min.) - 8.7 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	1.81 (0.19 - 2.50)	
		Heating		1.67 (0.18 - 2.86)	
		Heating (H2)		—	
	Max power consumption			2.90	
	Running current	Cooling	A	8.3 / 7.9 / 7.6 (220/ 230/ 240V)	
		Heating		7.7 / 7.3 / 7.0 (220/ 230/ 240V)	
	Inrush current, max current			5.0 Max. 15	
	Power factor	Cooling	%	99	
		Heating		99	
	EER	Cooling		3.37	
	COP	Heating		4.07	
		Heating (H2)		—	
Sound power level	Cooling	dB(A)	62	65	
	Heating		63	64	
Sound pressure level	Cooling		Hi: 46 Me: 41 Lo: 33 ULo: 22	52	
	Heating		Hi: 46 Me: 42 Lo: 34 ULo: 23	52	
Silent mode sound pressure level			—	Cooling:42 / Heating:43	
Exterior dimensions (Height x Width x Depth)			mm	305 x 920 x 220	
Exterior appearance (Equivalent color)				Fine snow Munsell : (8.0Y 9.3/0.1), RAL : 9003	
Net weight			kg	13	
Compressor type & Quantity				—	
Compressor motor (Starting method)			kW	—	
Refrigerant oil (Amount, type)			ℓ	—	
Refrigerant (Type, amount, pre-charge length)			kg	R410A 1.50 in outdoor unit (Incl. the amount for the piping of 15m)	
Heat exchanger				Louver fins & inner grooved tubing	M fins & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Quantity				Tangential fan x 1	Propeller fan x 1
Fan motor (Starting method)			W	42 x1 (Direct drive)	34 x1 (Direct drive)
Air flow	Cooling	m³/min	Hi: 16.3 Me: 13.4 Lo: 8.9 ULo: 5.4		41.5
	Heating		Hi: 17.8 Me: 13.7 Lo: 10.9 ULo: 6.2		39.0
Available external static pressure			Pa	0	0
Outside air intake				Not possible	—
Air filter, Quality / Quantity				Polypropylene net (Washable) x 2	—
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor & compressor)
Electric heater				—	—
Operation control	Remote control			Wireless - remote control	
	Room temperature control			Microcomputer thermostat	
	Operation display			RUN: Green, TIMER: Yellow, ECO: Blue	
Safety equipments				Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection	
Installation data	Refrigerant piping size (O.D)		mm	Liquid line: ϕ6.35 (1/4")	Gas line: ϕ12.7 (1/2")
	Connecting method			Flare connection	Flare connection
	Attached length of piping		m	Liquid line : 0.55 / Gas line : 0.48	—
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.30	
	Vertical height diff. between O.U. and I.U.		m	Max.20 (Outdoor unit is higher) / Max.20 (Outdoor unit is lower)	
Drain hose				Hose connectable (VP 16)	Holes ϕ20 x 5 pcs
Drain pump, max lift height			mm	—	—
Recommended breaker size			A	16	
L.R.A. (Locked rotor ampere)			A	5.0	
Interconnecting wires		Size x Core number		1.5mm ² x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Clean filter (Allergen clear filter x 1, Photocatalytic washable deodorizing filter x 1)	
Option parts				Interface kit (SC-BIKN-E)	

Notes (1) The data are measured at the following conditions.

The pipe length is 5m.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	ISO5151-H1
Heating (H2)	20°C	—	2°C	1°C	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

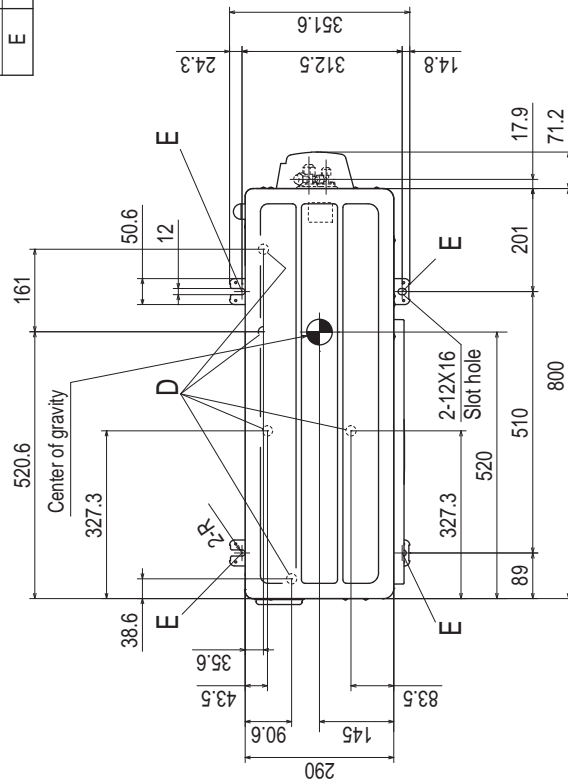
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) Select the breaker size according to the own national standard.

(2) Outdoor units

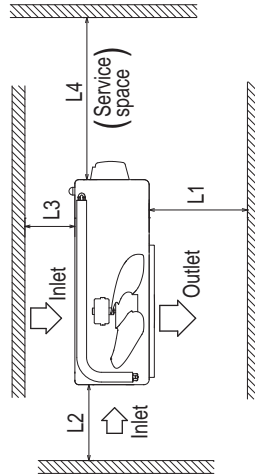
Models SRC20ZSX-S, 25ZSX-S, 35ZSX-S

Symbol	Content
A	Service valve connection (Gas side) $\phi 9.52 (3/8")$ (Flare)
B	Service valve connection (Liquid side) $\phi 6.35 (1/4")$ (Flare)
C	Pipe/cable draw-out hole
D	Drain discharge hole
E	Anchor bolt hole



Notes

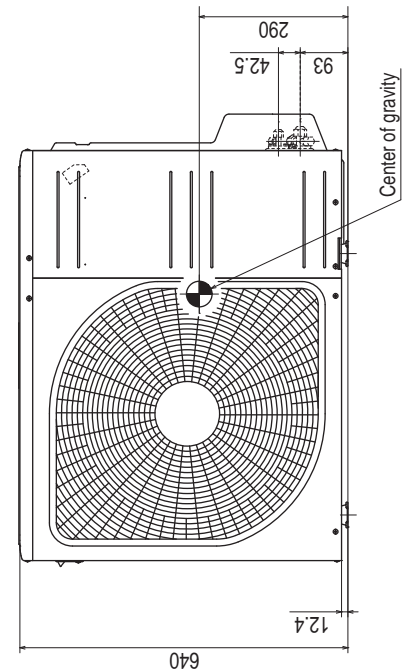
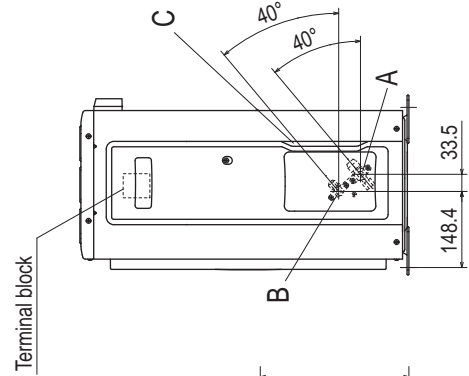
- (1) The unit must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) If the unit is installed in the location where there is a possibility of strong winds, place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.
- (4) Leave 200mm or more space above the unit.
- (5) The wall height on the outlet side should be 1200mm or less.
- (6) The model name label is attached on the right side of the unit.



Minimum installation space

Examples installation	I	II	III	IV
Size				
L1	Open	280	280	180
L2	100	75	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open

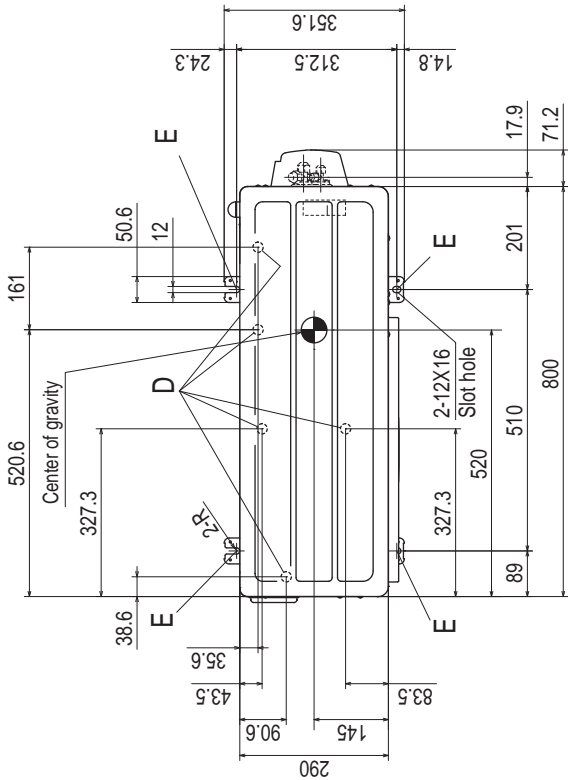
Unit:mm



RCT000Z019

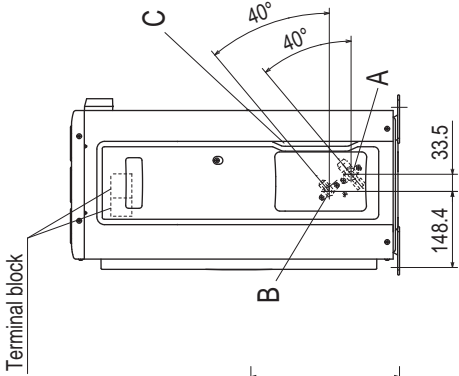
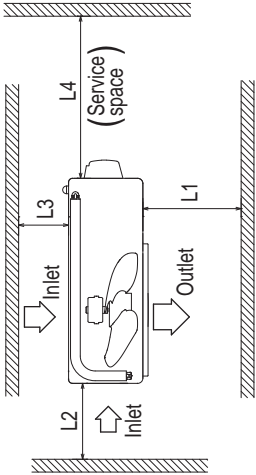
Model SRC50ZSX-S, 60ZSX-S

Symbol	Content
A	Service valve connection (Gas side) $\phi 12.7(1/2")(\text{Flare})$
B	Service valve connection (Liquid side) $\phi 6.35(1/4")(\text{Flare})$
C	Pipe/cable draw-out hole
D	Drain discharge hole
E	Anchor bolt hole



Notes

- (1) The unit must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) If the unit is installed in the location where there is a possibility of strong winds, place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.
- (4) Leave 200mm or more space above the unit.
- (5) The wall height on the outlet side should be 1200mm or less.
- (6) The model name label is attached on the front side of the unit.



Minimum installation space

Examples installation	I	II	III	IV
Size	Open	280	280	180
L1	Open	100	75	Open
L2	Open	100	80	80
L3	Open	250	Open	250
L4	Open	Open	Open	Open

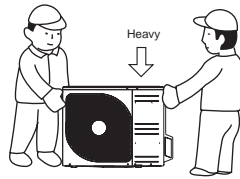
Unit:mm

RCT000Z020

2. OUTDOOR UNIT INSTALLATION

1. Haulage

- Always carry or move the unit with two or more persons.
 - The right hand side of the unit as viewed from the front (outlet side) is heavier.
- A person carrying the right hand side must take care of this fact. A person carrying the left hand side must hold the handle provided on the front panel of the unit with his right hand and the corner column section of the unit with his left hand.



CAUTION

When a unit is hauled, take care of its gravity center position which is shifted towards right hand side. If the unit is not hauled properly, it can go off balance and fall resulting in serious injury.

2. Selecting the installation location

Select the suitable installation location where:

- Unit will be stable, horizontal and free of any vibration transmission.
- There is no obstacle which can prevent smooth air circulation from inlet and outlet side of the unit.
- There is enough space for service and maintenance of unit.
- Neighbours are not bothered by noise or air generating from the unit.
- Outlet air of the unit does not blow directly to animals or plants.
- Drain water can be discharged properly.
- There is no risk of flammable gas leakage.
- There are no other heat sources nearby.
- Unit is not directly exposed to rain or sunlight.
- Unit is not directly exposed to oil mist and steam.
- Chemical substances like ammonia (organic fertilizer), calcium chloride (snow melting agent) and acid (sulfurous acid etc.), which can harm the unit, will not generate or accumulate.
- Unit is not directly exposed to corrosive gases (like sulphide gas, chloride gas), sea breeze or salty atmosphere.
- No TV set or radio receiver is placed within 1m.
- Unit is not affected by electromagnetic waves and/or high-harmonic waves generated by other equipments.
- Strong wind does not blow against the unit outlet.
- Heavy snowfalls do not occur (If installed, provide proper protection to avoid snow accumulation).

NOTE

If the unit is installed in the area where there is a possibility of strong wind or snow accumulation, the following measures are required.

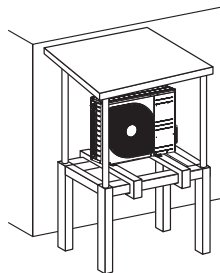
(1) Location of strong wind

- Place the unit with its outlet side facing the wall.
- Place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.



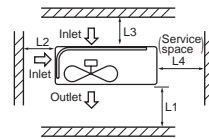
(2) Location of snow accumulation

- Install the unit on the base so that the bottom is higher than snow cover surface.
- Install the unit under eaves or provide the roof on site.



3. Installation space

- There must be 1 meter or larger space between the unit and the wall in at least 1 of the 4 sides. Walls surrounding the unit from 4 sides is not acceptable. The wall height on the outlet side should be 1200 mm or less. Refer to the following figure and table for details.



(mm)				
Example installation		I	II	III
Size				IV
L1	Open	280	280	180
L2	100	75	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open

NOTE

When more than one unit are installed side by side, provide a 250mm or wider interval between them as a service space.

CAUTION

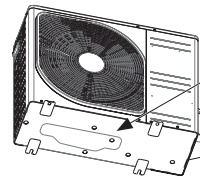
When more than one unit are installed in parallel directions, provide sufficient inlet space so that short-circuiting may not occur.

4. Drain piping work (If necessary)

Carry out drain piping work by using a drain elbow and a drain grommet supplied separately as accessories if condensed water needs to be drained out.

- Install drain elbow and drain grommet.
- Seal around the drain elbow and drain grommet with putty or adequate caulking material.

<SRC20/25/35/40/50/60ZSX-S>

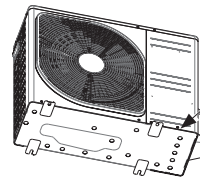


Do not put a grommet on this hole. This is a supplementary drain hole to discharge drain water, when a large amount of it is gathered.

CAUTION

Do not use drain elbow and drain grommet if there is a possibility to have several consecutive days of sub zero temperature. (There is a risk of drain water freezing inside and blocking the drain.)

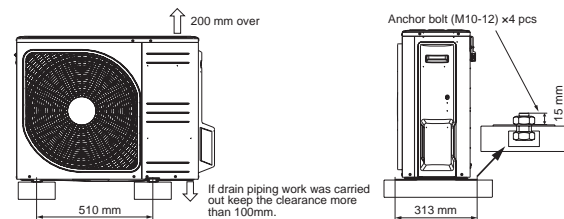
<SRC20/25/35ZSX-SA>



Do not block the drain holes when installing the outdoor unit.

5. Installation

- Install the unit on a flat level base.
- While installing the unit, keep space and fix the unit's legs with 4 anchor bolts as shown in the figure below. The protrusion of an anchor bolt from the foundation surface must be kept within 15mm.



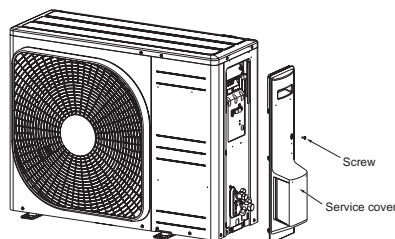
CAUTION

- Install the unit properly so that it does not fall over during earthquake, strong wind, etc.
- Make sure that unit is installed on a flat level base. Installing unit on uneven base may result in unit malfunction.

3. PREPARATION FOR WORK

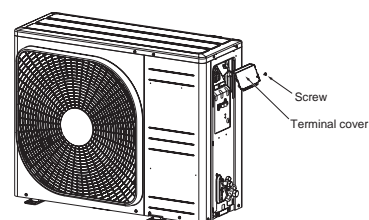
1. Removing service cover

Remove the screw. Slide service cover downwards and remove it.



2. Removing terminal cover

Remove the screw and take out terminal cover.

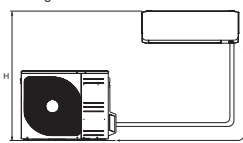


4. CONNECTING PIPING WORK

1. Restrictions on unit installation

Abide by the following restrictions on unit installation.
Improper installation can cause compressor failure or performance degradation.

	Dimensional restrictions	
	Model SRC20/25/35	Model SRC40/50/60
Connecting pipe length(L)	25m or less	30m or less
Elevation difference between indoor and outdoor units(H*)	15m or less	20m or less



* Outdoor unit installation position can be higher as well as lower than the indoor unit installation position.

2. Preparation of connecting pipe

2.1. Selecting connecting pipe

Select connecting pipe according to the following table.

	Model SRC20/25/35	Model SRC40/50/60
Gas pipe	ø9.52	ø12.7
Liquid pipe	ø6.35	ø6.35

- Pipe wall thickness must be greater than or equal to 0.8 mm.
- Pipe material must be O-type (Phosphorus deoxidized seamless copper pipe ICS 23.040.15, ICS 77.150.30).

NOTE

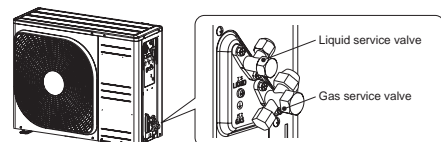
If it is required to reuse the existing connecting pipe system, refer to 5. UTILIZATION OF EXISTING PIPE.

2.2. Cutting connecting pipe

- Cut the connecting pipe to the required length with pipe cutter.
- Hold the pipe downward and remove the burrs. Make sure that no foreign material enters the pipe.
- Cover the connecting pipe ends with the tape.

3. Piping work

Check that both liquid and gas service valves are fully closed.
Carry out the piping work with service valves fully closed.



3.1. Flaring pipe

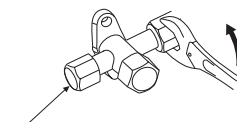
- Take out flare nuts from the service valves of outdoor unit and engage them onto connecting pipes.
- Flare the pipes according to table and figure shown below.
Flare dimensions for R410A are different from those for conventional refrigerant. Although it is recommended to use the flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a flare adjustment gauge.

Copper pipe outer diameter	A 0 -0.4	Rigid (clutch) type	Copper pipe outer diameter	R410A	Conventional
ø6.35	9.1		ø6.35	0-0.5	1.0-1.5
ø9.52	13.2		ø9.52		
ø12.7	16.6		ø12.7		

3.2. Connecting pipes

- Connect pipes on both liquid and gas sides.
- Tighten nuts to specified torque shown in the table below.

Operation valve size (mm)	Tightening torque (N·m)
ø6.35 (1/4")	14-18
ø9.52 (3/8")	34-42
ø12.7 (1/2")	49-61



Do not hold the valve cap area with a spanner

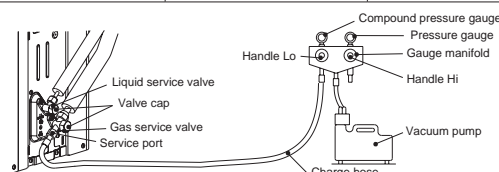
CAUTION

- Do not apply refrigerating machine oil to the flared surface. It can cause refrigerant leakage.
- Do not apply excess torque to the flared nuts. The flared nuts may crack resulting in refrigerant leakage.

4. Evacuation

- Connect vacuum pump to gauge manifold. Connect charge hose of gauge manifold to service port of outdoor unit.
- Run the vacuum pump for at least one hour after the vacuum gauge shows -0.1MPa (-76cm Hg).
- Confirm that the vacuum gauge indicator does not rise even if the system is left for 15 minutes or more. Vacuum gauge indicator will rise if the system has moisture left inside or has a leakage point. Check the system for the leakage point. If leakage point is found, repair it and return to (1) again.
- Close the Handle Lo and stop the vacuum pump. Keep this state for a few minutes to make sure that the compound pressure gauge pointer does not swing back.
- Remove valve caps from liquid service valve and gas service valve.
- Turn the liquid service valve's rod 90 degree counterclockwise with a hexagonal wrench key to open valve. Close it after 5 seconds, and check for gas leakage. Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods. Wipe off all the water after completing the check.
- Disconnect charging hose from gas service valve's service port and fully open liquid and gas operation valves. (Do not attempt to turn valve rod beyond its stop.)
- Tighten service valve caps and service port cap to the specified torque shown in the table below.

Service valve size (mm)	Service valve cap tightening torque (N·m)	Service port cap tightening torque (N·m)
ø6.35 (1/4")	20-30	10-12
ø9.52 (3/8")		
ø12.7 (1/2")	25-35	



CAUTION

- To prevent the entering of different oil into the refrigeration system, do not use tools designed for any other refrigerant type (R22, R407C, etc.).
- To prevent vacuum pump oil from entering into the refrigerant system, use a counterflow prevention adapter.

5. Additional refrigerant charge

Additional refrigerant charge is required only when connecting pipe length exceeds 15 m.

5.1 Calculating additional refrigerant charge

Additional refrigerant charge can be calculated using the formula given below.

Additional refrigerant charge (g) = { Connecting pipe length (m) - Factory charged length 15 (m) } x 20 (g/m)

NOTE

- If additional refrigerant charge calculation result is negative, there is no need to remove the refrigerant.
- If refrigerant recharge is required for the unit with connecting pipe length 15m or shorter, charge the factory charged volume as shown in the table below.

	Model SRC 20/25/35	Model SRC40/50/60
Factory charged volume(kg)	1.45	1.50

5.2 Charging refrigerant

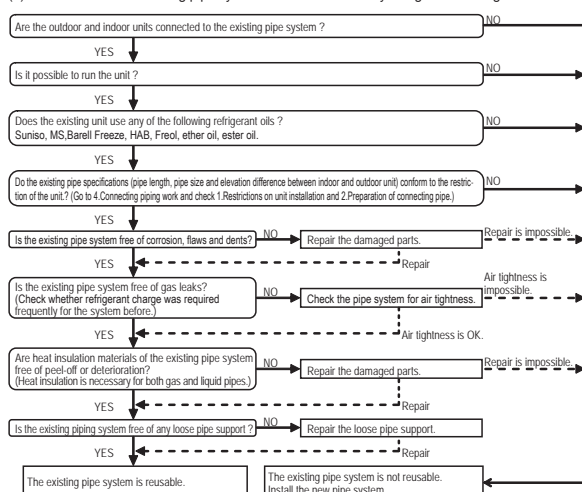
- Charge the R410A refrigerant in liquid phase from service port with both liquid and gas service valves shut. Since R410A refrigerant must be charged in the liquid phase, make sure that refrigerant is discharged from the cylinder in the liquid phase all the time.
- When it is difficult to charge a required refrigerant volume, fully open both liquid and gas service valves and charge refrigerant, while running the unit in the cooling mode. When refrigerant is charged with the unit being run, complete the charge operation within 30 minutes.
- Write the additional refrigerant charge calculated from the connecting pipe length on the label attached on the service cover.

CAUTION

Running the unit with an insufficient quantity of refrigerant for a long time can cause unit malfunction.

5. UTILIZATION OF EXISTING PIPE

- Check whether an existing pipe system is reusable or not by using the following flow chart.



NOTE

- Consult with our distributor in the area, if you need to recover refrigerant and charge it again.
- Clean the existing pipe system according to the procedure given below.
 - Carry out forced cooling operation of existing unit for 30 minutes. For 'Forced cooling operation' refer to the indoor unit installation manual.
 - Stop the indoor fan and carry out forced cooling operation for 3 minutes (Liquid return).
 - Close the liquid service valve of the outdoor unit and carry out pump down operation (Refer to 6. PUMP DOWN).
 - Blow with nitrogen gas. If discolored refrigeration oil or any foreign matter is discharged by the blow, wash the pipe system or install a new pipe system.
- Remove the flare nuts from the existing pipe system. Go back to 4. Connecting Piping work and proceed to step 2.2 Cutting connecting pipe.

CAUTION

Do not use the old flare nuts (of existing unit). Make sure that the flare nuts supplied with the (new) outdoor unit are used.

* If the existing piping is specified as liquid pipe ø9.52 or gas pipe ø12.7, refer to the following. (SRC40, 50 and 60 only)

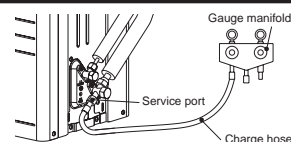
<Table of pipe size restrictions>

Additional charge volume per meter of pipe		0.06kg/m
Pipe size	Liquid pipe	ø9.52
	Gas pipe	ø12.7
Maximum one-way pipe length		10
Length covered without additional charge		5

Additional charge volume (kg) = {Main pipe length (m) - Length covered without additional charge shown in the table (m)} X Additional charge volume per meter of pipe shown in the table (kg/m)

6. PUMP DOWN

- (1) Connect charge hose of gauge manifold to service port of outdoor unit.
- (2) Close the liquid service valve with hexagonal wrench key.
- (3) Fully open the gas service valve with hexagonal wrench key.
- (4) Carry out forced cooling operation (For forced cooling operation procedure, refer to indoor unit installation manual).
- (5) When the low pressure gauge becomes 0.01MPa, close the gas service valve and stop forced cooling operation.



7. ELECTRICAL WIRING WORK

⚠ WARNING

- Make sure that all the electrical work is carried out in accordance with the national or regional electrical standards.
- Make sure that the earth leakage breaker and circuit breaker of appropriate capacities are installed (Refer to the table given below).
- Do not turn on the power until the electrical work is completed.
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor. Moreover, it can cause an abnormal overheat accident).

Breaker specifications

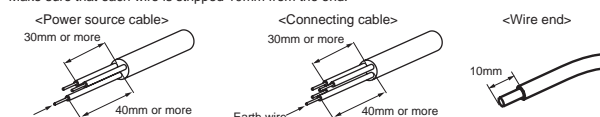
Model	Phase	Earth leakage breaker	Circuit breaker
SRC20/25/35	Single phase	Leakage current: 30mA,	Over current: 16A
SRC40/50/60		0.1sec or less	Over current: 20A

Main fuse specification

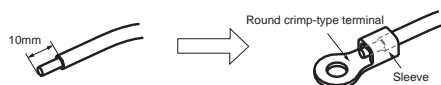
Model	Specification	Parts No.	Code on LABEL, WIRING
SRC20/25/35	250V 15A	SSA564A136	F4
SRC40/50/60	250V 20A	SSA564A136A	F4

1.Preparing cable

- (1) Selecting cable
 - Select the power source cable and connecting cable in accordance with the specifications mentioned below.
 - (a) Power source cable
 - 3-core* 2.0mm² or more, conformed with 60245 IEC57
 - When selecting the power source cable length, make sure that voltage drop is less than 2%.
 - If the wire length gets longer, increase the wire diameter.
 - (b) Connecting cable
 - 4-core* 1.5mm², conformed with 60245 IEC57
 - * 1 Earth wire is included (Yellow/Green).
- (2) Arrange each wire length as shown below.
 - Make sure that each wire is stripped 10mm from the end.



- (3) Attach round crimp-type terminal to each wire as shown in the below.
 - Select the size of round crimp-type terminal after considering the specifications of terminal block and wire diameter.



⚠ CAUTION

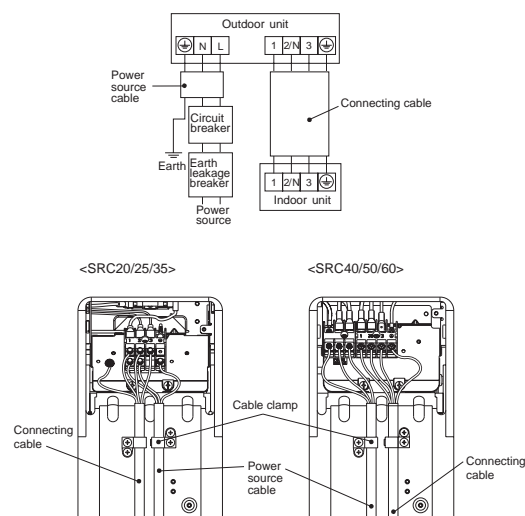
Power source cable and connecting cable must conform to the specifications mentioned in the manual. Using cables with wrong specifications may result in unit malfunction.

2.Connecting cable

- (1) Remove the service cover.
- (2) Connect the cables according to the instructions and figures given below.
 - (a) Connect the earth wire of power source cable.
 - An earth wire must be connected before connecting the other wires of power source cable.
 - Keep the earth wire longer than the remaining two wires of power source cable.
 - (b) Connect the remaining two wires (N and L) of power source cable.
 - (c) Connect the wires of connecting cable. Make sure that for each wire, outdoor and indoor side terminal numbers match.
- (3) Fasten the cables properly with cable clamps so that no external force may work on terminal connections.

Moreover, make sure that cables do not touch the piping, etc. When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection.

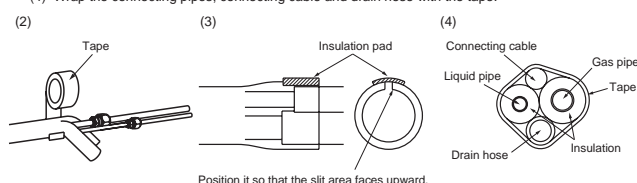
<Circuit diagram>



8. FINISHING WORK

1. Heating and condensation prevention

- (1) Dress the connecting pipes (both liquid and gas pipes) with insulation to prevent it from heating and dew condensation.
 - Use the heat insulating material which can withstand 120°C or higher temperature. Make sure that insulation is wrapped tightly around the pipes and no gap is left between them.
- (2) Wrap the refrigerant pipings of indoor unit with indoor unit heat insulation using tape.
- (3) Cover the flare-connected joints (indoor side) with the indoor unit heat insulation and wrap it with an insulation pad (standard accessory provided with indoor unit).
- (4) Wrap the connecting pipes, connecting cable and drain hose with the tape.



NOTE

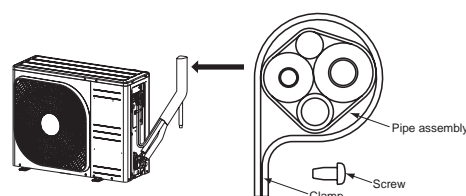
Locations where relative humidity exceeds 70%, both liquid and gas pipes need to be dressed with 20mm or thicker heat insulation materials.

⚠ CAUTION

- Improper insulation can cause condensate(water) formation during cooling operation. Condensate can leak or drip causing damage to household property.
- Poor heat insulating capacity can cause pipe outer surface to reach high temperature during heating operation. It can cause cable deterioration and personal injury.

2.Finishing work

- (1) Make sure that the exterior portion of connecting pipes, connecting cable and drain hose is wrapped properly with tape. Shape the connecting pipes to match with the contours of the pipe assembly route.
- (2) Fix the pipe assembly with the wall using clamps and screws. Pipe assembly should be anchored every 1.5m or less to isolate the vibration.
- (3) Install the service cover securely. Water may enter the unit if service cover is not installed properly, resulting in unit malfunction and failure.



⚠ CAUTION

Make sure that the connecting pipes do not touch the components within the unit. If pipes touch the internal components, it may generate abnormal sounds and/or vibrations.

9. INSTALLATION TEST CHECK POINTS

After finishing the installation work, check the following points again before turning on the power. Conduct test run (Refer to indoor unit installation manual) and ensure that the unit operates properly.

Power source voltage complies with the rated voltage of air-conditioner.	
Earth leakage breaker and circuit breaker are installed.	
Power cable and connecting cable are securely fixed to the terminal block.	
Both liquid and gas service valves are fully open.	

No gas leaks from the joints of the service valves.	
Indoor and outdoor side pipe joints have been insulated.	
Drain hose (if installed) is fixed properly.	
Screw of the service cover is tightened properly.	

(12) Outdoor unit inspection points

Models SRC20ZSX-S, 25ZSX-S, 35ZSX-S

◆Check point of outdoor unit

⚠ CAUTION— HIGH VOLTAGE

High voltage is produced in the control box. Don't touch electrical parts in the control box for 5 minutes after the unit is stopped.

Color symbol

Mark	Color
BK	Black
BL	Blue
BR	Brown
OR	Orange
RD	Red
WH	White
YE	Yellow
Y/G	Yellow/Green

◆Voltage check in PCB

The normal range is as follows.

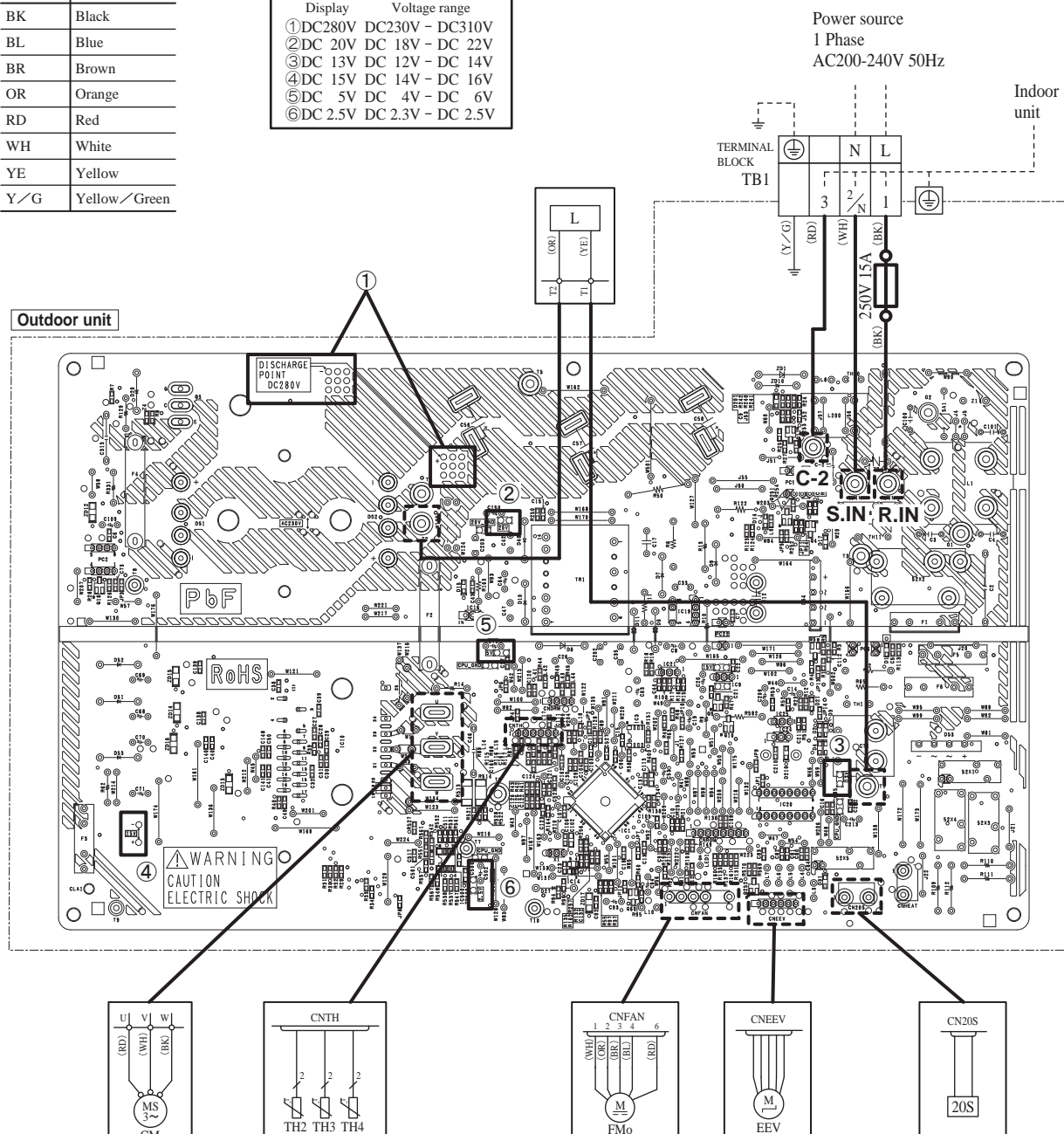
Display	Voltage range
①DC280V DC230V - DC310V	
②DC 20V DC 18V - DC 22V	
③DC 13V DC 12V - DC 14V	
④DC 15V DC 14V - DC 16V	
⑤DC 5V DC 4V - DC 6V	
⑥DC 2.5V DC 2.3V - DC 2.5V	

◆Power source and serial signal inspection

① to ② : AC220/230/240V

① to ②/N : AC220/230/240V

②/N to ③ : Normal if the voltage oscillates between DC0 and approx. 20V



◆Inspection power transistor
Remove the fasten terminal and test output voltage

◆Inspection of resistance valve of sensor
Remove the connector and check the resistance valve.
See the section of sensor characteristics on page 62.

◆Inspection of outdoor fan motor
See page 72.

◆Inspection of electronic expansion valve
See page 72.

Models SRC50ZSX-S, 60ZSX-S

◆ Check point of outdoor unit

⚠ CAUTION – HIGH VOLTAGE

High voltage is produced in the control box. Don't touch electrical parts in the control box for 5 minutes after the unit is stopped.

Color symbol

Mark	Color
BK	Black
BL	Blue
RD	Red
WH	White
YE	Yellow
Y/G	Yellow/Green

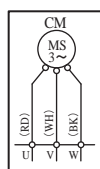
◆ Voltage check in PCB

The normal range is as follows.

Display	Voltage range
① DC280V	DC230V – DC310V
② DC 20V	DC 18V – DC 22V
③ DC 13V	DC 12V – DC 14V
④ DC 15V	DC 14V – DC 16V
⑤ DC 5V	DC 4V – DC 6V
⑥ DC 2.5V	DC 2.3V – DC 2.5V

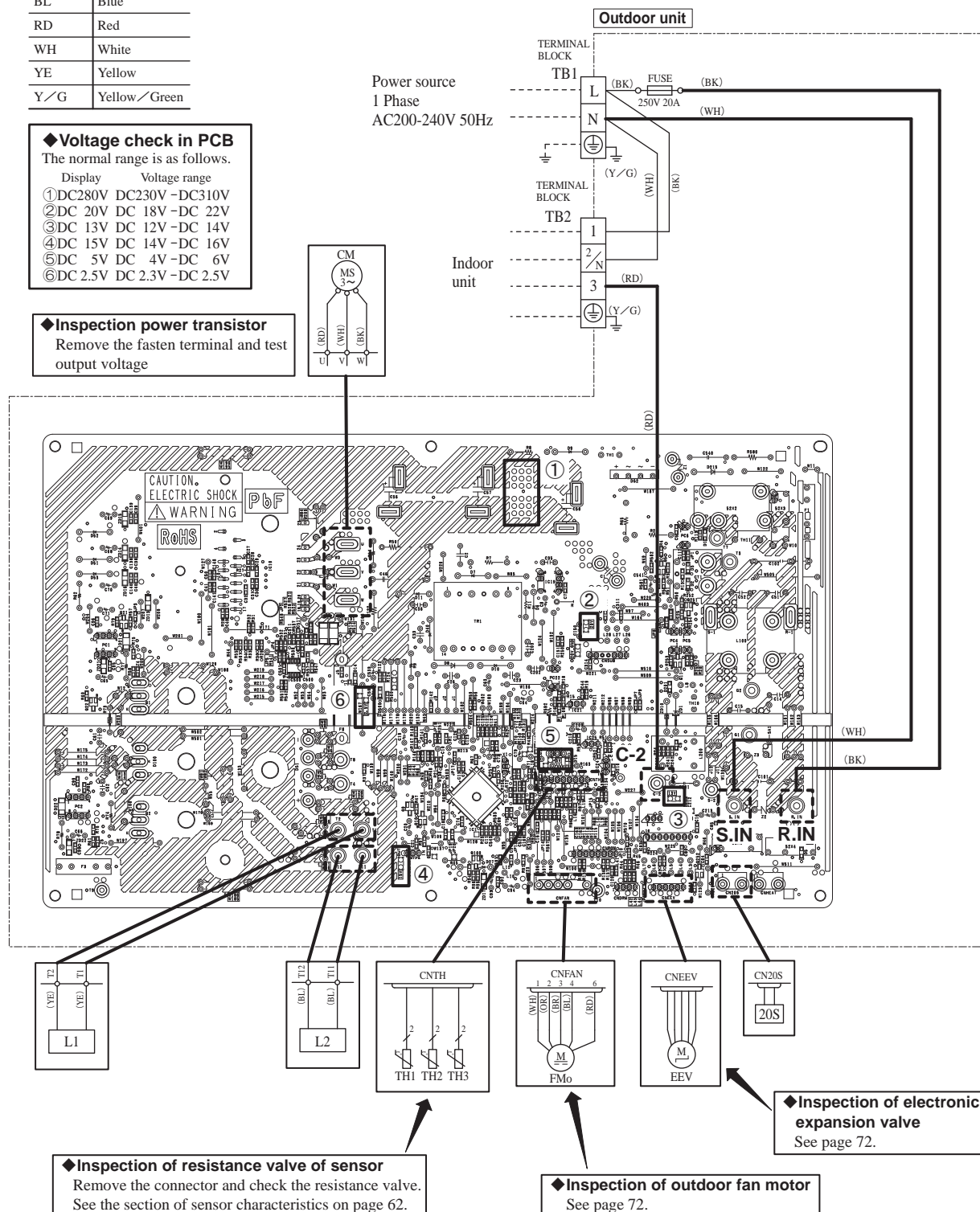
◆ Inspection power transistor

Remove the fasten terminal and test output voltage



◆ Power source and serial signal inspection

- ① to ② : AC220/230/240V
- ① to ②N : AC220/230/240V
- ②N to ③ : Normal if the voltage oscillates between DC0 and approx. 20V



INVERTER WALL MOUNTED TYPE RESIDENTIAL AIR-CONDITIONERS



MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD.

16-5 Konan 2-chome, Minato-ku, Tokyo, 108-8215, Japan

<http://www.mhi-mth.co.jp/en/>

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