



Кондиционеры Mitsubishi Heavy

Техническое руководство

Кондиционеры настенного типа SRK50CE-S, SRK56CE-S



1 GENERAL INFORMATION

1.1 Specific features

The “Mitsubishi Daiya” room air-conditioner: SRK series are of split and wall mounted type and the unit consists of indoor unit and outdoor unit with refrigerant precharged in factory. The indoor unit is composed of room air cooling or heating equipment with operation control switch and the outdoor unit is composed of condensing unit with compressor.

(1) Remote control flap

The flap can be automatically controlled by operating wireless remote controller.

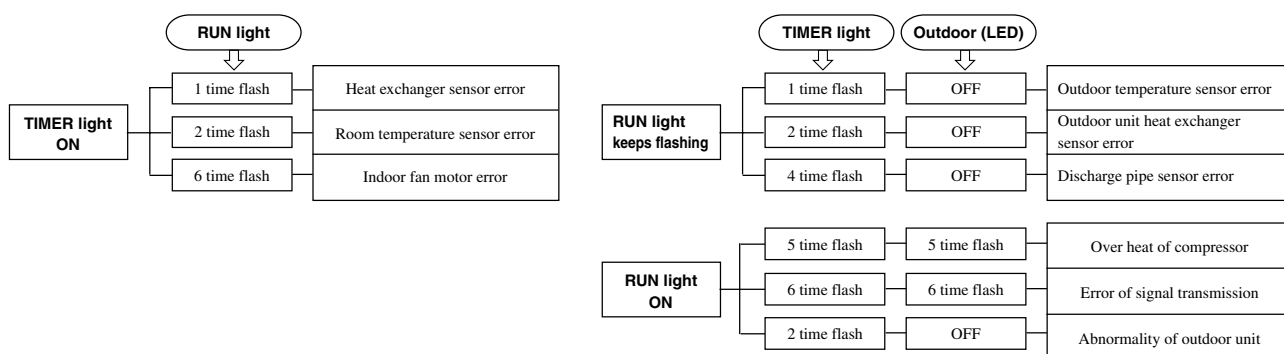
- Air scroll: Flap operation is automatically control.
- Swing: This will swing the flap up and down.
- Memory flap: Once the flap position is set, the unit memorizes the position and continues to operate at the same position from the next time.

(2) Automatic operation

When the remote control switch is set on “auto(△)”, it will either automatically decide operation mode such as cooling, heating and thermal dry, or operate in the operation mode before it has been turned to automatic control.

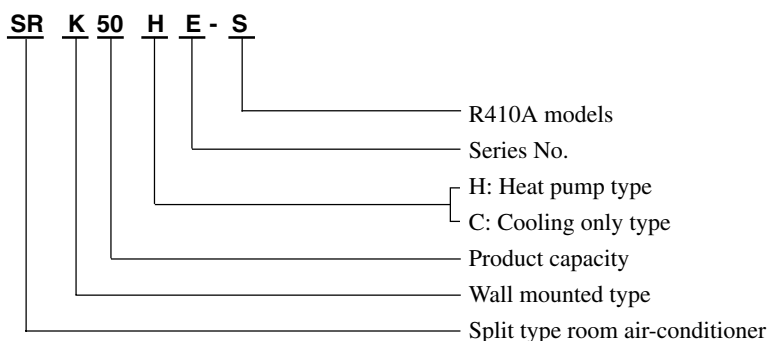
(3) Self diagnosis function

- We are constantly trying to do better service to our customers by installing such judges that show abnormality of operation as follows.



1.2 How to read the model name

Example :



2 SELECTION DATA

2.1 Specifications

Model SRK50HE-S (Indoor unit)
SRC50HE-S (Outdoor unit)

Item				Model	SRK50HE-S	SRC50HE-S
Cooling capacity ⁽¹⁾				W	4700	
Heating capacity ⁽¹⁾				W	5300	
Power source					1 Phase, 220-240V, 50Hz	
Operation data ⁽²⁾	Cooling input			kW	1.41	
	Running current (Cooling)			A	6.5/6.3/6.0	
	Heating input			kW	1.40	
	Running current (Heating)			A	6.5/6.2/6.0	
	Inrush current			A	39.6	
	COP				Cooling: 3.33 Heating: 3.79	
	Noise level	Cooling	Sound level	dB	Hi 43, Me 39, Lo 34	47
			Power level		58	63
Heating		Sound level	Hi 44, Me 39, Lo 35		49	
		Power level	61		64	
Exterior dimensions Height × Width × Depth				mm	298 × 840 × 259	640 × 850 × 290
Color					Cool white	Stucco white
Net weight				kg	12	44
Refrigerant equipment Compressor type & Q'ty					—	RM-B5118MNE5 (Rotary type) × 1
Motor				kW	—	1.4
Starting method					—	Line starting
Heat exchanger					Louver fins & inner grooved tubing	Straight fins & inner grooved tubing
Refrigerant control					Capillary tubes + Electronic expansion valve	
Refrigerant ⁽³⁾				kg	R410A 1.4 (Pre-Charged up to the piping length of 15m)	
Refrigerant oil				ℓ	0.7 (MA68)	
Deice control					Microcomputer control	
Air handling equipment Fan type & Q'ty					Tangential fan × 1	Propeller fan × 1
Motor				W	27	35
Air flow (at High)			(Cooling)	CMM	10.0	38.0
			(Heating)		12.5	38.0
Air filter, Q'ty					Polypropylene net (washable) × 2	
Shock & vibration absorber					—	Cushion rubber (for compressor)
Electric heater					—	—
Operation control Operation switch					Wireless-Remote controller	—
Room temperature control					Microcomputer thermostat	—
Pilot lamp					RUN (Green), TIMER (Yellow), HI POWER (Green), ECONO (Orange)	
Safety equipment					Compressor: Overheat protection, Serial signal error protection, Indoor fan motor error protection, Frost protection	
Refrigerant piping	O.D			mm (in)	Liquid line: φ6.35 (1/4") Gas line: φ12.7 (1/2")	
	Connecting method				Flare Connection	
	Attached length of piping				Liquid line: 0.54 m Gas line : 0.47 m	—
	Insulation				Necessary (Both sides)	
Drain hose					Connectable	
Power source cord					2 m (3 cores with earth)	
Connection wiring		Size × Core number			1.5 mm ² × 4 cores (Including earth cable)	
		Connecting method			Terminal block (Screw fixing type)	
Accessories (included)					Mounting kit, Clean filter (Natural enzyme filter × 1, Photocatalytic washable deodorizing filter × 1)	
Optional parts					—	

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

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1, JIS C9612
Heating	20°C	–	7°C	6°C	ISO-T1, JIS C9612

The piping length is 7.5m.

(2) The operation data are applied to the 220/230/240V districts respectively.

(3) The refrigerant quantity to be charged includes the refrigerant in 15 m connecting piping.

(Purging is not required even for the short piping.)

If the piping length is longer, when it is 15 to 25 m, add 20 g refrigerant per meter.

Model SRK56HE-S (Indoor unit)
SRC56HE-S (Outdoor unit)

Item				Model	SRK56HE-S	SRC56HE-S
Cooling capacity ⁽¹⁾				W	5100	
Heating capacity ⁽¹⁾				W	5800	
Power source					1 Phase, 220-240V, 50Hz	
Operation data ⁽²⁾	Cooling input			kW	1.59	
	Running current (Cooling)			A	7.3/7.1/6.8	
	Heating input			kW	1.58	
	Running current (Heating)			A	7.4/7.1/6.8	
	Inrush current			A	45.2	
	COP				Cooling: 3.21 Heating: 3.67	
	Noise level	Cooling	Sound level	dB	Hi 44, Me 40, Lo 35	49
			Power level		59	64
Heating		Sound level	Hi 44, Me 39, Lo 35		51	
		Power level	61		65	
Exterior dimensions Height × Width × Depth				mm	298 × 840 × 259	640 × 850 × 290
Color					Cool white	Stucco white
Net weight				kg	12	44
Refrigerant equipment Compressor type & Q'ty					—	RM-B5120MNE5 [Rotary type] × 1
Motor				kW	—	1.5
Starting method					—	Line starting
Heat exchanger					Louver fins & inner grooved tubing	Straight fins & inner grooved tubing
Refrigerant control					Capillary tubes + Electronic expansion valve	
Refrigerant ⁽³⁾				kg	R410A 1.4 (Pre-Charged up to the piping length of 15m)	
Refrigerant oil				ℓ	0.7 (MA68)	
Deice control					Microcomputer control	
Air handling equipment Fan type & Q'ty					Tangential fan × 1	Propeller fan × 1
Motor				W	27	35
Air flow (at High)			(Cooling)	CMM	11.0	38.0
			(Heating)		12.5	38.0
Air filter, Q'ty					Polypropylene net (washable) × 2	—
Shock & vibration absorber					—	Cushion rubber (for compressor)
Electric heater					—	—
Operation control Operation switch					Wireless-Remote controller	—
Room temperature control					Microcomputer thermostat	—
Pilot lamp					RUN (Green), TIMER (Yellow), HI POWER (Green), ECONO (Orange)	
Safety equipment					Compressor: Overheat protection, Serial signal error protection, Indoor fan motor error protection, Frost protection	
Refrigerant piping	O.D			mm (in)	Liquid line: φ6.35 (1/4") Gas line: φ12.7 (1/2")	
	Connecting method				Flare connection	
	Attached length of piping				Liquid line: 0.54 m Gas line : 0.47 m	—
	Insulation				Necessary (Both sides)	
Drain hose					Connectable	
Power source cord					2 m (3 cores with earth)	
Connection wiring	Size × Core number				1.5 mm² × 4 cores (Including earth cable)	
	Connecting method				Terminal block (Screw fixing type)	
Accessories (included)					Mounting kit, Clean filter (Natural enzyme filter × 1, Photocatalytic washable deodorizing filter × 1)	
Optional parts					—	

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

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO-T1, JIS C9612
Heating		20°C	–	7°C	6°C	ISO-T1, JIS C9612

The piping length is 7.5m.

(2) The operation data are applied to the 220/230/240V districts respectively.

(3) The refrigerant quantity to be charged includes the refrigerant in 15 m connecting piping.

(Purging is not required even for the short piping.)

If the piping length is longer, when it is 15 to 25 m, add 20 g refrigerant per meter.

Model SRK50CE-S (Indoor unit)
SRC50CE-S (Outdoor unit)

Item				Model	SRK50CE-S	SRC50CE-S
Cooling capacity ⁽¹⁾				W	4700	
Power source					1 Phase, 220-240V, 50Hz	
Operation data ⁽²⁾	Cooling input			kW	1.41	
	Running current (Cooling)			A	6.5/6.3/6.0	
	Inrush current			A	39.6	
	COP				Cooling: 3.33	
	Noise level	Cooling	Sound level	dB	Hi 43, Me 39, Lo 34	47
		Power level	58		63	
Exterior dimensions				mm	298 × 840 × 259	640 × 850 × 290
Height × Width × Depth						
Color					Cool white	Stucco white
Net weight				kg	12	44
Refrigerant equipment					—	RM-B5118MNE5 (Rotary type) × 1
Compressor type & Q'ty						
Motor				kW	—	1.4
Starting method					—	Line starting
Heat exchanger					Louver fins & inner grooved tubing	Straight fins & inner grooved tubing
Refrigerant control					Capillary tubes + Electronic expansion valve	
Refrigerant ⁽³⁾				kg	R410A 1.4 (Pre-Charged up to the piping length of 15m)	
Refrigerant oil				ℓ	0.7 (MA68)	
Deice control					Microcomputer control	
Air handling equipment						
Fan type & Q'ty					Tangential fan × 1	Propeller fan × 1
Motor				W	27	35
Air flow (at High)			(Cooling)	CMM	10.0	38.0
Air filter, Q'ty					Polypropylene net (washable) × 2	—
Shock & vibration absorber					—	Cushion rubber (for compressor)
Electric heater					—	—
Operation control						
Operation switch					Wireless-Remote controller	—
Room temperature control					Microcomputer thermostat	—
Pilot lamp					RUN (Green), TIMER (Yellow), HI POWER (Green), ECONO (Orange)	
Safety equipment					Compressor: Overheat protection, Serial signal error protection, Indoor fan motor error protection, Frost protection	
Refrigerant piping	O.D			mm (in)	Liquid line: ϕ6.35 (1/4") Gas line: ϕ12.7 (1/2")	
	Connecting method				Flare connection	
	Attached length of piping				Liquid line: 0.54 m Gas line : 0.47 m	—
	Insulation				Necessary (Both sides)	
Drain hose					Connectable	
Power source cord					2 m (3 cores with earth)	
Connection wiring	Size × Core number				1.5 mm ² × 4 cores (Including earth cable)	
	Connecting method				Terminal block (Screw fixing type)	
Accessories (included)					Mounting kit, Clean filter (Natural enzyme filter × 1, Photocatalytic washable deodorizing filter × 1)	
Optional parts					—	

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

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1, JIS C9612

The piping length is 7.5m.

- (2) The operation data are applied to the 220/230/240V districts respectively.
(3) The refrigerant quantity to be charged includes the refrigerant in 15 m connecting piping.
(Purging is not required even for the short piping.)
If the piping length is longer, when it is 15 to 25 m, add 20 g refrigerant per meter.

Model SRK56CE-S (Indoor unit)
SRC56CE-S (Outdoor unit)

Item				Model	SRK56CE-S	SRC56CE-S
Cooling capacity ⁽¹⁾				W	5100	
Power source					1 Phase, 220-240V, 50Hz	
Operation data ⁽²⁾	Cooling input			kW	1.59	
	Running current (Cooling)			A	7.3/7.1/6.8	
	Inrush current			A	45.2	
	COP				Cooling: 3.21	
	Noise level	Cooling	Sound level	dB	Hi 44, Me 40, Lo 35	49
Power level			59		64	
Exterior dimensions				mm	298 × 840 × 259	
Height × Width × Depth					640 × 850 × 290	
Color					Cool white	Stucco white
Net weight				kg	12	44
Refrigerant equipment					—	RM-B5120MNE5 [Rotary type] × 1
Compressor type & Q'ty						
Motor				kW	—	1.5
Starting method					—	Line starting
Heat exchanger					Louver fins & inner grooved tubing	Straight fins & inner grooved tubing
Refrigerant control					Capillary tubes + Electronic expansion valve	
Refrigerant ⁽³⁾				kg	R410A 1.4 (Pre-Charged up to the piping length of 15m)	
Refrigerant oil				ℓ	0.7 (MA68)	
Deice control					Microcomputer control	
Air handling equipment					Tangential fan × 1	Propeller fan × 1
Fan type & Q'ty						
Motor				W	27	35
Air flow (at High)				(Cooling) CMM	11.0	38.0
Air filter, Q'ty					Polypropylene net (washable) × 2	—
Shock & vibration absorber					—	Cushion rubber (for compressor)
Electric heater					—	—
Operation control					Wireless-Remote controller	—
Operation switch						—
Room temperature control					Microcomputer thermostat	—
Pilot lamp					RUN (Green), TIMER (Yellow), HI POWER (Green), ECONO (Orange)	
Safety equipment					Compressor: Overheat protection, Serial signal error protection, Indoor fan motor error protection, Frost protection	
Refrigerant piping	O.D			mm (in)	Liquid line: φ6.35 (1/4") Gas line: φ12.7 (1/2")	
	Connecting method				Flare connection	
	Attached length of piping				Liquid line: 0.54 m Gas line : 0.47 m	—
	Insulation				Necessary (Both sides)	
Drain hose					Connectable	
Power source cord					2 m (3 cores with earth)	
Connection wiring		Size × Core number			1.5 mm ² × 4 cores (Including earth cable)	
		Connecting method			Terminal block (Screw fixing type)	
Accessories (included)					Mounting kit, Clean filter (Natural enzyme filter × 1, Photocatalytic washable deodorizing filter × 1)	
Optional parts					—	

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

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1, JIS C9612

The piping length is 7.5m.

- (2) The operation data are applied to the 220/230/240V districts respectively.
(3) The refrigerant quantity to be charged includes the refrigerant in 15 m connecting piping.
(Purging is not required even for the short piping.)
If the piping length is longer, when it is 15 to 25 m, add 20 g refrigerant per meter.

2.2 Range of usage & limitations

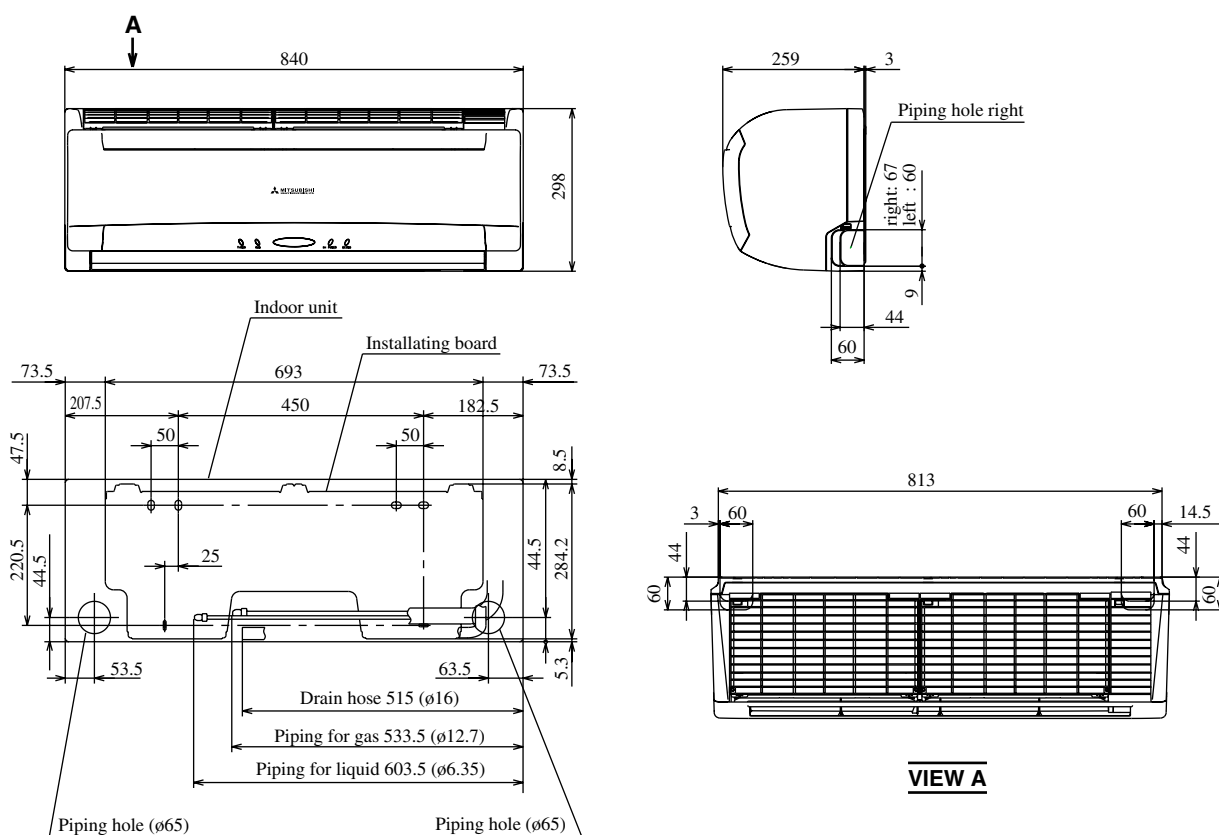
Item	Models	All models
Indoor return air temperature (Upper, lower limits)	Refer to the selection chart	Refer to the selection chart
Outdoor air temperature (Upper, lower limits)		
Refrigerant line (one way) length		Max. 25m
Vertical height difference between outdoor unit and indoor unit		Max. 15m (Outdoor unit is higher) Max. 15m (Outdoor unit is lower)
Power source voltage		Rating $\pm 10\%$
Voltage at starting		Min. 85% of rating
Frequency of ON-OFF cycle		Max. 10 times/h
ON and OFF interval		Max. 3 minutes

2.3 Exterior dimensions

(1) Indoor unit

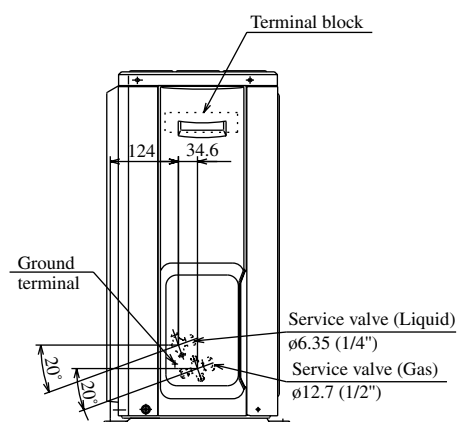
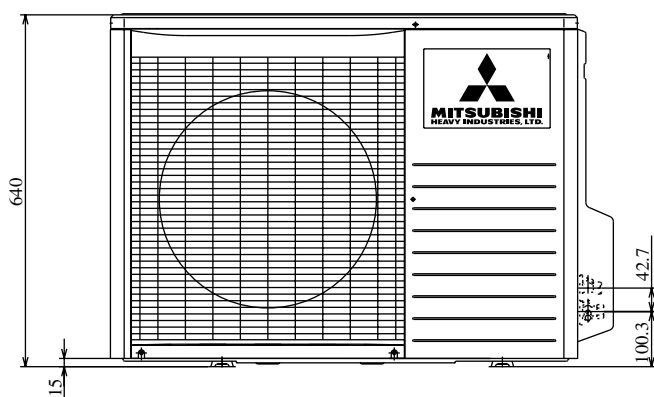
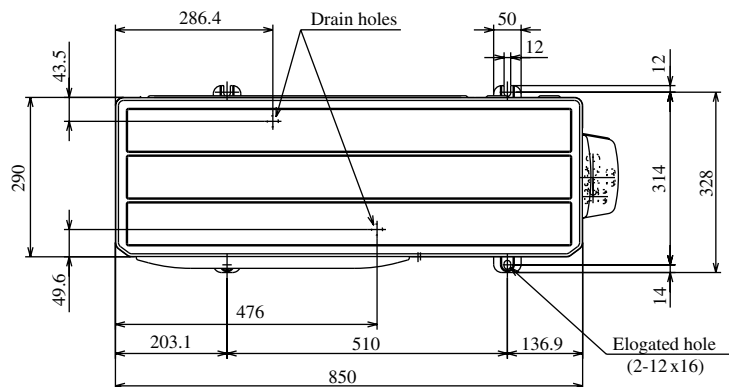
Models All models

Unit: mm



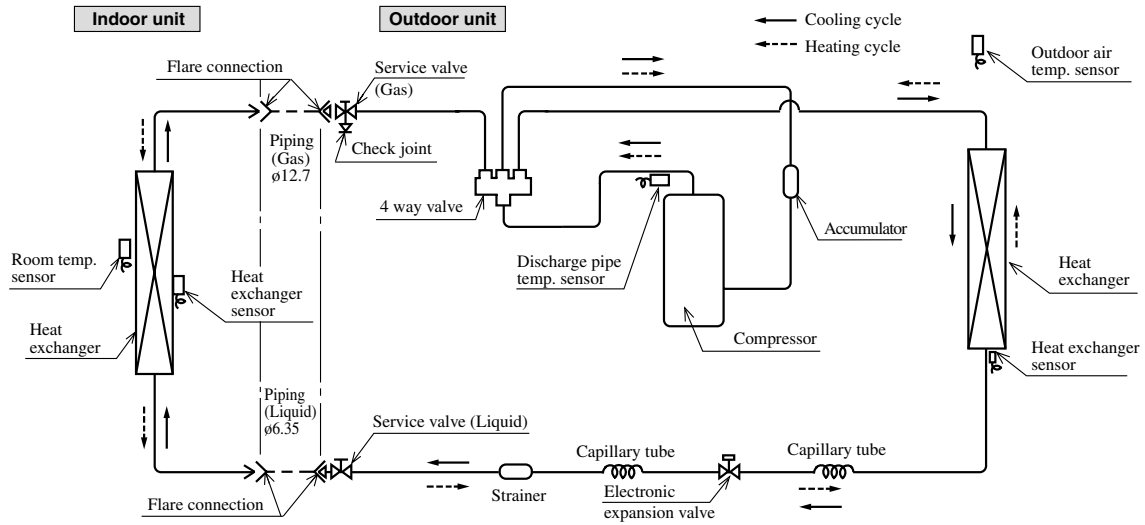
(2) Outdoor unit

Models All models

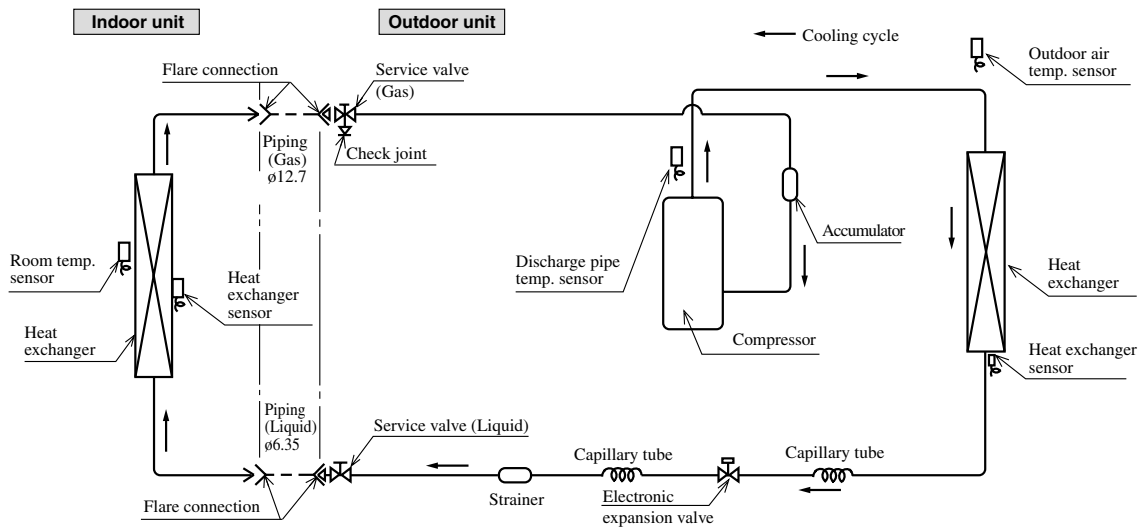


2.4 Piping system

Models SRK50HE-S, 56HE-S



Models SRK50CE-S, 56CE-S

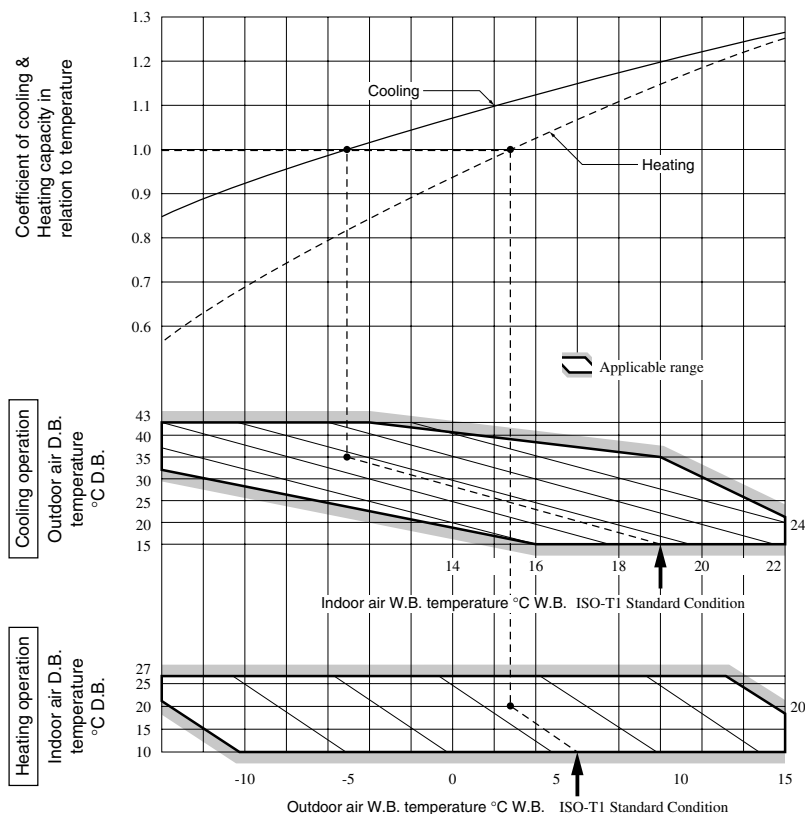


2.5 Selection chart

Correct the cooling and heating capacity in accordance with the conditions as follows. The net cooling and heating capacity can be obtained in the following way.

Net capacity = Capacity shown on specification × Correction factors as follows.

(1) Coefficient of cooling and heating capacity in relation to temperatures



(2) Correction of cooling and heating capacity in relation to one way length of refrigerant piping

It is necessary to correct the cooling and heating capacity in relation to the one way piping length between the indoor and outdoor units.

Piping length [m]	7	10	15	20	25
Cooling	1.0	0.99	0.975	0.965	0.95
Heating	1.0	1.0	1.0	1.0	1.0

(3) Correction relative to frosting on outdoor heat exchanger during heating

In additions to the foregoing corrections (1), (2) the heating capacity needs to be adjusted also with respect to the frosting on the outdoor heat exchanger.

Air inlet temperature of outdoor unit in °CWB	-10	-9	-7	-5	-3	-1	1	3	5
Adjustment coefficient	0.95	0.94	0.93	0.91	0.88	0.86	0.87	0.92	1.00

How to obtain the cooling and heating capacity

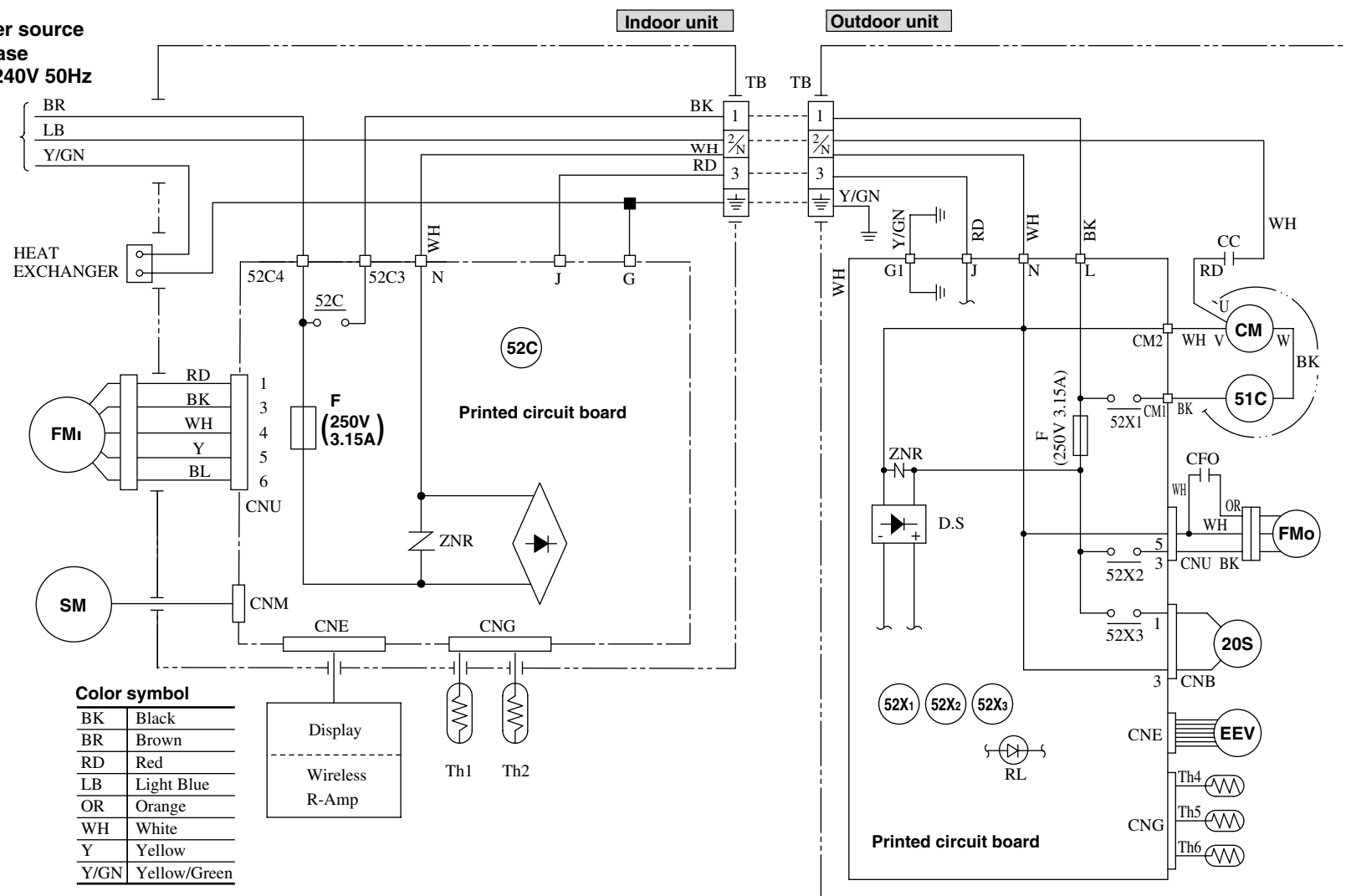
Example : The net cooling capacity of the model SRK50HE-S with the piping length of 15m, indoor wet-bulb temperature at 19.0°C and outdoor dry-bulb temperature 35°C is Net cooling capacity =

$$\begin{array}{ccccccc} \uparrow & & \uparrow & & \uparrow & & \\ \text{SRK50HE-S} & \times & \text{Length 15m} & \times & \text{Factor by air temperatures} & = & 4583 \text{ W} \\ 4700 & & 0.975 & & 1.0 & & \end{array}$$

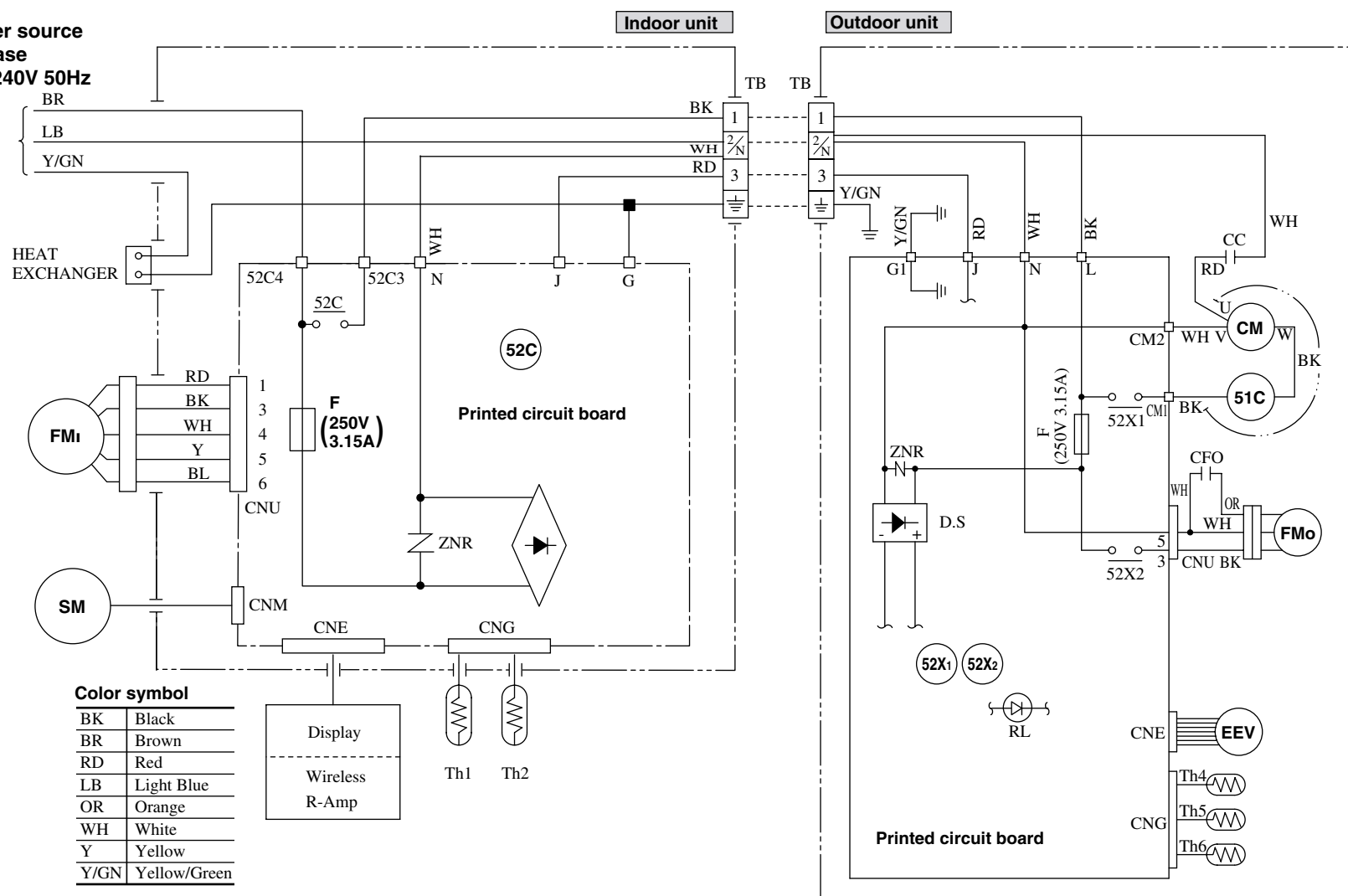
3 ELECTRICAL DATA

3.1 Electrical wiring

Models SRK50HE-S, 56HE-S



Power source
1 Phase
220-240V 50Hz



Models SRK50CE-S, 56CE-S

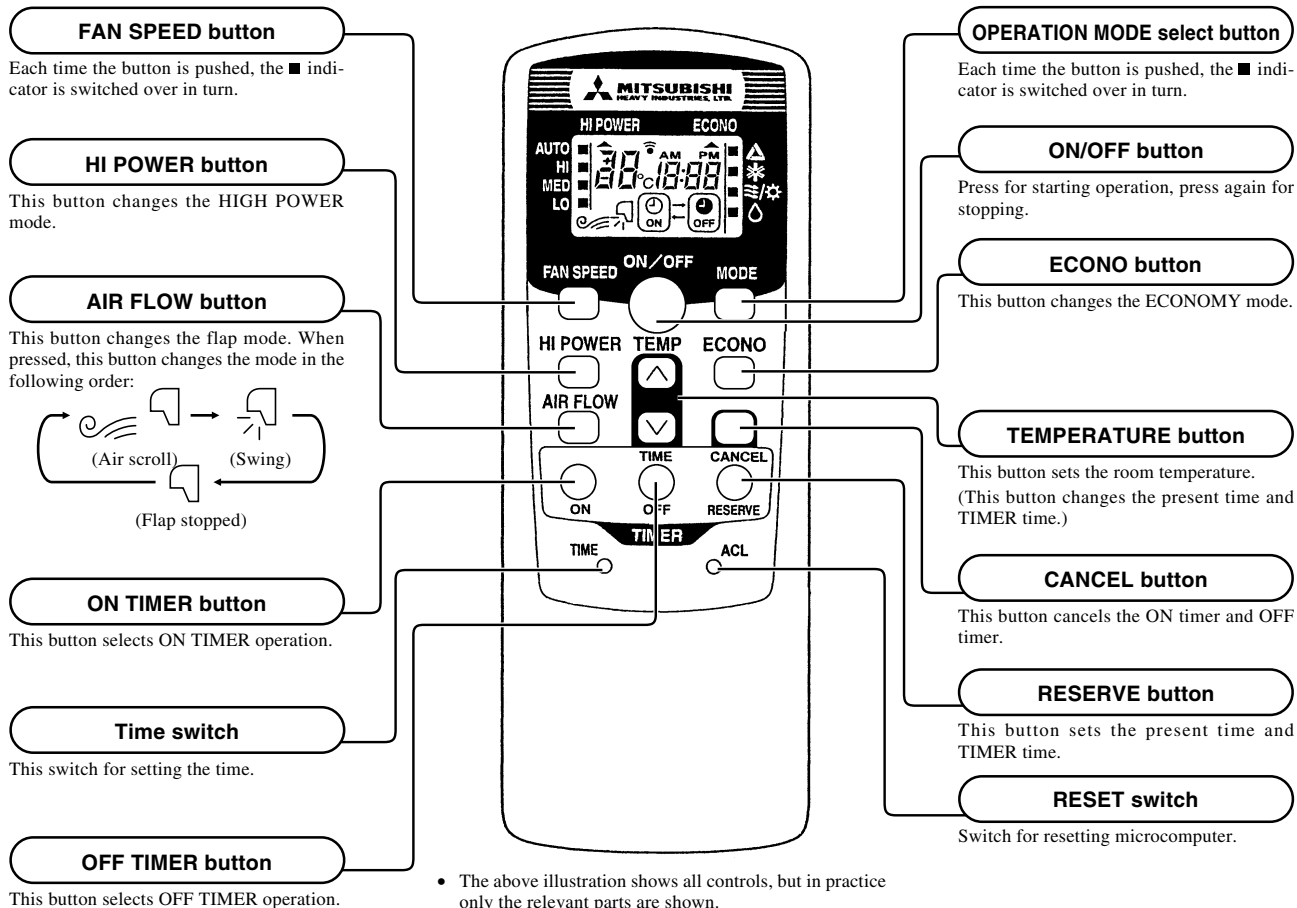
4 OUTLINE OF OPERATION CONTROL BY MICROCOMPUTER

4.1 Operation control function by remote control switch

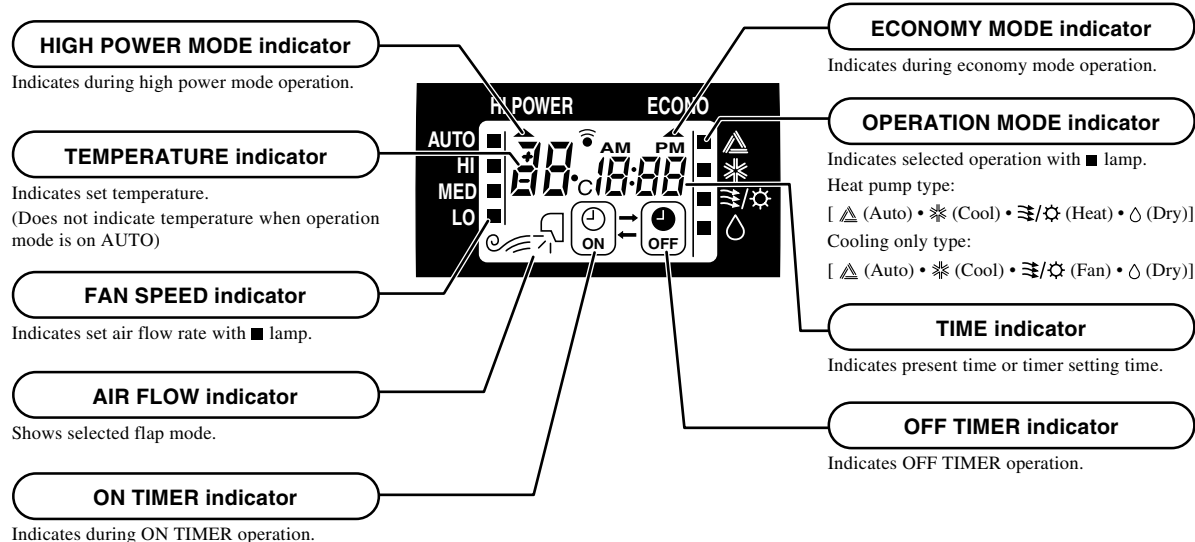
Remote controller

Models All models

◆ Operation section

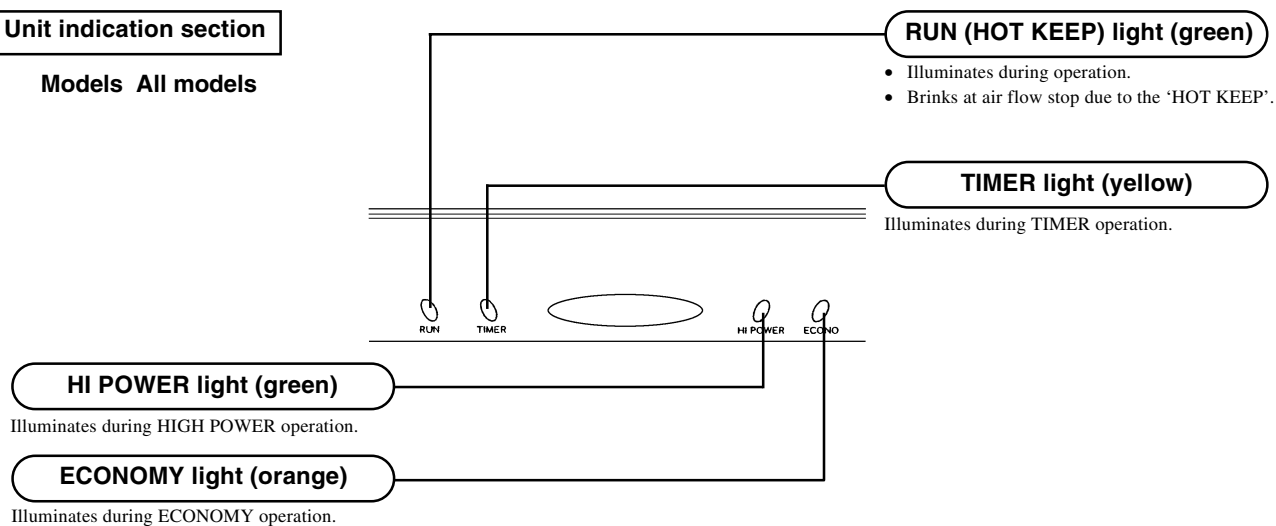


◆ Indication section



Unit indication section

Models All models



5 INSTALLATION

R410A refrigerant is used for this air-conditioner. Execute the installation work while taking care of the following points in addition to the general caution items.

5.1 Installation tools

Prepare the following special tools for R410A in addition to the general-purpose tools.

- Flare tool
- Vacuum pump adaptor
- Gauge manifold
- Leak detector
- Charge hose

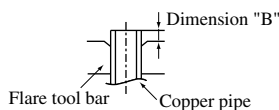
5.2 Refrigerant piping

- Use the copper pipe that has less than 40 mg/10 m of oil adhesion and 0.8 mm of wall thickness. Never use the thin walled pipe the thickness of which is less than 0.8 mm.
- Use the flare nut attached to the air-conditioner.

5.3 Pipe connection

(1) Pipe working

	Copper pipe dia.	Dimension "A" (mm)
Liquid side	ø6.35	9.1
Gas side	ø9.52	13.2
	ø12.7	16.6



Copper pipe dia.	Dimension "B" (mm)
	Clutch type flare tool for R410A
ø6.35	0.0 ~ 0.5
ø9.52	0.0 ~ 0.5
ø12.7	0.0 ~ 0.5

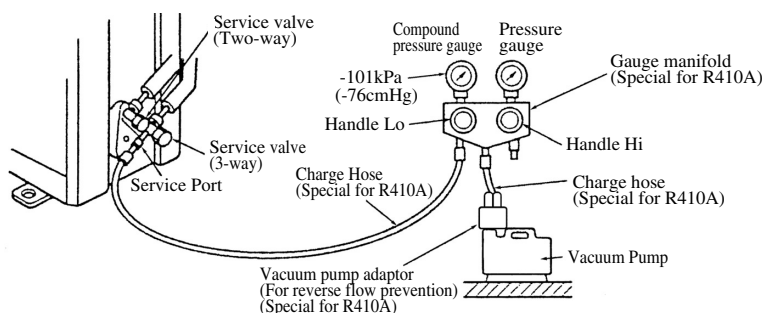
(2) Tightening torque

- The tightening torque is shown below.

Copper pipe dia.	Across flats of flare nut (mm)	Tightening torque N.m (kgf.m)
Liquid side	ø6.35	14 ~ 18 (1.4 ~ 1.8)
Gas side	ø9.52	33 ~ 42 (3.3 ~ 4.2)
	ø12.7	50 ~ 62 (5.0 ~ 6.2)

(3) Vacuuming

- The charge hose for R22 cannot be connected because the service port diameter is different from the conventional one. Use the special charge hose for R410A.
- Use the vacuum pump adapter for reverse flow prevention to check the reverse flow of vacuum pump oil. If oil flows back to the air-conditioner, it causes failure of refrigerant cycle.



PARTS LIST (Main parts)

(1) Indoor unit

No.	Parts Name	Parts No.	
		SRK50HE-S	SRK56HE-S
1	PANEL ASSY, FRONT	RKT102A750	
2	PANEL, FRONT	RKT122A600B	
3	GRILLE ASSY, AIR INLET	RKT435A600B	
4	GRILLE ASSY, AIR OUTLET	RKT435A750	
5	MOTOR, DC	SSA512T046B	
6	IMPELLER	SSA431G040C	
7	HEAT EXCH ASSY(AIR)	RKT301A750	
8	PWB ASSY	RKV505A200G	RKV505A200J
9	CONTROL ASSY, REMOTE	RMA502A001	

(2) Outdoor unit

No.	Parts Name	Parts No.	
		SRC50HE-S	SRC56HE-S
1	PANEL, FRONT	RWC122A003	
2	PANEL, SIDE(R)	RWC123A005F	
3	PANEL, SIDE(L)	RWC123A002	
4	PANEL, TOP	RWC124A003	
5	GRILLE, AIR OUTLET	RWC435A002	
6	GUARD, FIN	RWC131A004	
7	BRACKET, MOTOR	RWC116A041	
8	MOTOR, AC	SSA511C063A	
9	PROPELLER	SSA431B233	
10	BASE ASSY	RWC111A003H	
11	HEAT EXCH ASSY(AIR)	RWC301A023	
12	VALVE, S(4WAY)	SSA382C078	
13	COIL, SOLENOID	RSA382F010B	
14	COMPRESSOR ASSY	AHT201A530ND	AHT201A540ND
15	PWB ASSY	RCP505A500C	
16	VALVE, BODY(EXP)	SSA387F035	
17	COIL,SOLENOID	SSA382F210A	

PARTS LIST (Main parts)

(1) Indoor unit

No.	Parts Name	Parts No.	
		SRK50CE-S	SRK56CE-S
1	PANEL ASSY, FRONT	RKT102A750	
2	PANEL, FRONT	RKT122A600B	
3	GRILLE ASSY, AIR INLET	RKT435A600B	
4	GRILLE ASSY, AIR OUTLET	RKT435A750	
5	MOTOR, DC	SSA512T046B	
6	IMPELLER	SSA431G040C	
7	HEAT EXCH ASSY(AIR)	RKT301A750	
8	PWB ASSY	RKV505A200H	RKV505A200K
9	CONTROL ASSY, REMOTE	RMA502A001	

(2) Outdoor unit

No.	Parts Name	Parts No.	
		SRC50CE-S	SRC56CE-S
1	PANEL, FRONT	RWC122A003	
2	PANEL, SIDE(R)	RWC123A005F	
3	PANEL, SIDE(L)	RWC123A002	
4	PANEL, TOP	RWC124A003	
5	GRILLE, AIR OUTLET	RWC435A002	
6	GUARD, FIN	RWC131A004	
7	BRACKET, MOTOR	RWC116A041	
8	MOTOR, AC	SSA511C063A	
9	PROPELLER	SSA431B233	
10	BASE ASSY	RWC111A003H	
11	HEAT EXCH ASSY(AIR)	RWC301A023A	
12	COMPRESSOR ASSY	AHT201A530ND	AHT201A540ND
13	PWB ASSY	RCP505A500C	
14	VALVE, BODY(EXP)	SSA387F035	
15	COIL, SOLENOID	SSA382F210A	

WALL MOUNTED TYPE ROOM AIR-CONDITIONER



mitsubishi heavy industries, ltd.

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