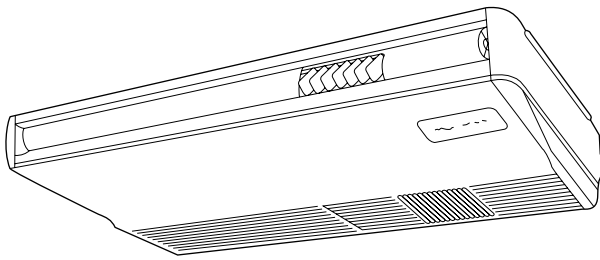


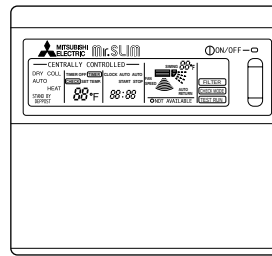
PC24GK PC30GK PC36GK PC42GK

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Indoor unit

Microprocessor
Remote controller

Models	Cooling capacity	SEER
PC24GK	25,000 Btu/h	10.4
PC30GK	31,000 Btu/h	10.0
PC36GK	36,500 Btu/h	10.3
PC42GK	42,500 Btu/h	10.8

1. AIR OUTLET

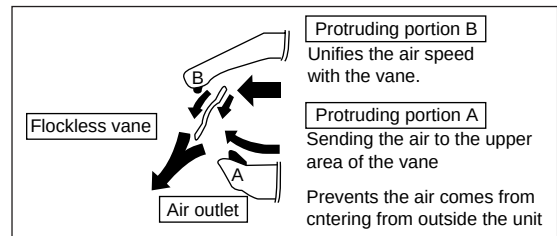
New PCH series models have 1 air outlet (auto vane switching of horizontal air flow / down flow by switched by auto vane) instead of 2 (horizontal, and down flows).

2. EASY TO CLEAN ; FLOCKLESS VANE

With our original air current control mechanism, a flockless vane is newly adapted.

The flockless vane prevents the condensation on the vane.

By changing the vane to the flockless type, the unit can be cleaned much easier with mild household detergent.



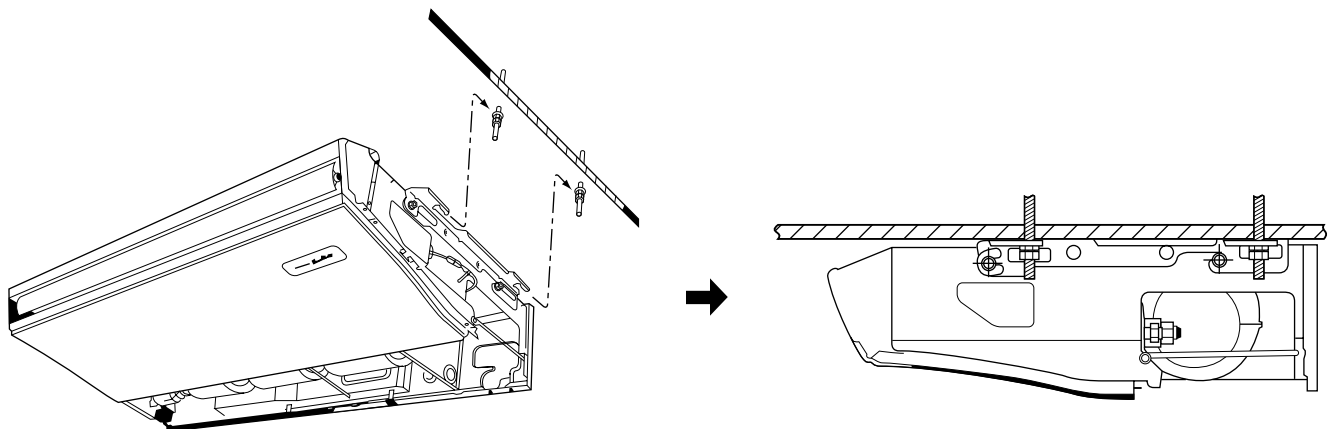
3. NEW MATERIALS FOR BETTER OIL RESISTANCE

We have changed the materials of grill, filter, fan and fan casing from ABS to P.P. (polypropylene) for better oil resistance. As a result, oil crazing is cut in half.

4. SIMPLIFIED INSTALLATION WORK (DIRECT SUSPENDING METHOD)

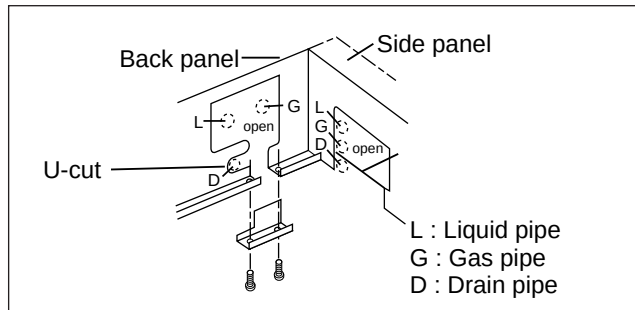
Simplified the installation work by changing the suspending method to the direct suspending method (suspending the unit directly from the suspension fixture).

In this way, the unit can be attached to the suspension fixture without removing the installation parts off (Only the side cover is removed). This method is much simpler than the "One-time installation method".



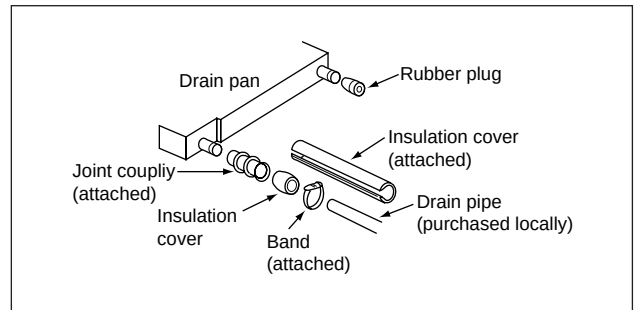
5. IMPROVING EFFICIENCY OF PIPING WORK

① Removed the knockout work by separating the piping space from the air outlet for efficiency of the piping work.



※ Knockout work is needed for the top part. When optional drain-up machine is installed, the refrigerant pipe exits out from the top.

② Improved the flexibility by making it possible for drainage pipe to exit not only from the right side back but also from the left side back.



※ Please move the rubber plug for the unit to the right joint when drainage pipe exits from the left side.

6. EASY MAINTENANCE ; NO MAINTENANCE NECESSARY FOR 2500 HOURS

The new long-life air filter can be used continuously 2500 hours without maintenance (at general office situation).

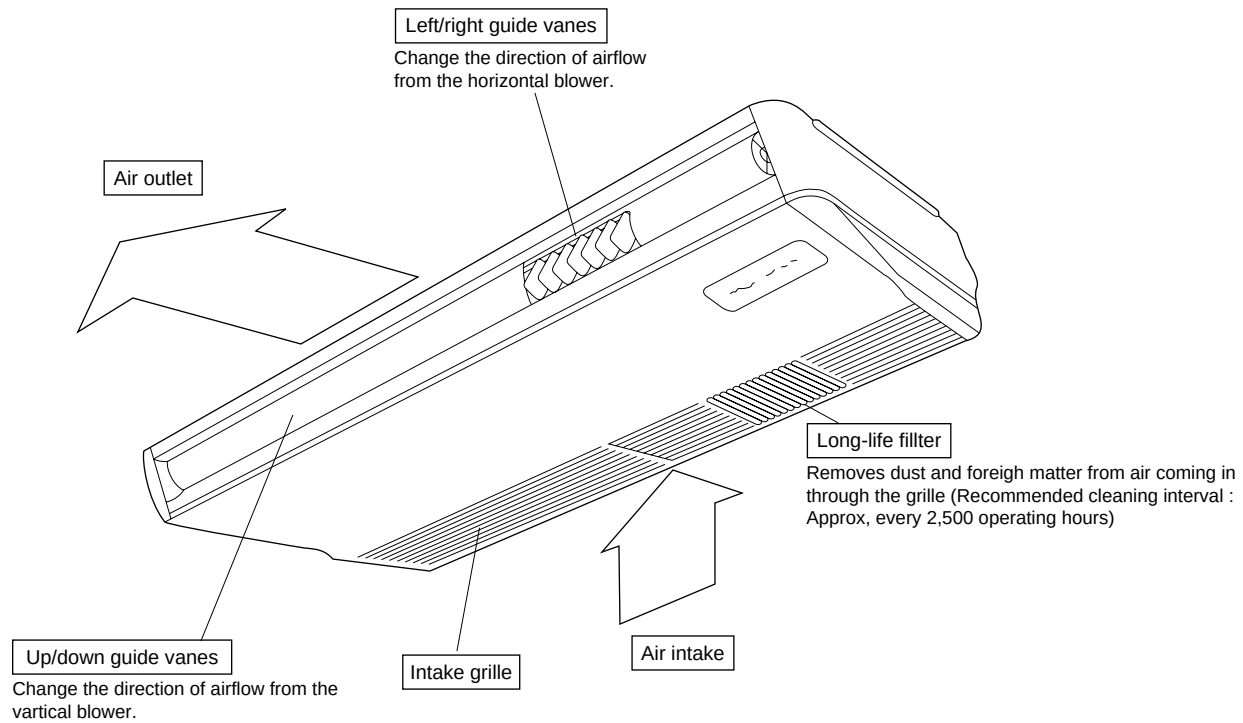
7. STABLE COOLING EVEN AT OUTDOOR TEMPERATURES AS LOW AS 23°F MAKES YEAR-ROUND AIR-CONDITIONING POSSIBLE

The microprocessor automatically adjusts fan speed in accordance with outdoor temperature to maintain the coolant at an even condensing temperature. The result is smooth, efficient cooling even when temperatures outdoors drop as low as 23°F. This makes the unit ideal for a wide range of specialised cooling needs, such as rooms with many office machines or computers and areas subject to strong sunlight.

2

PART NAMES AND FUNCTIONS

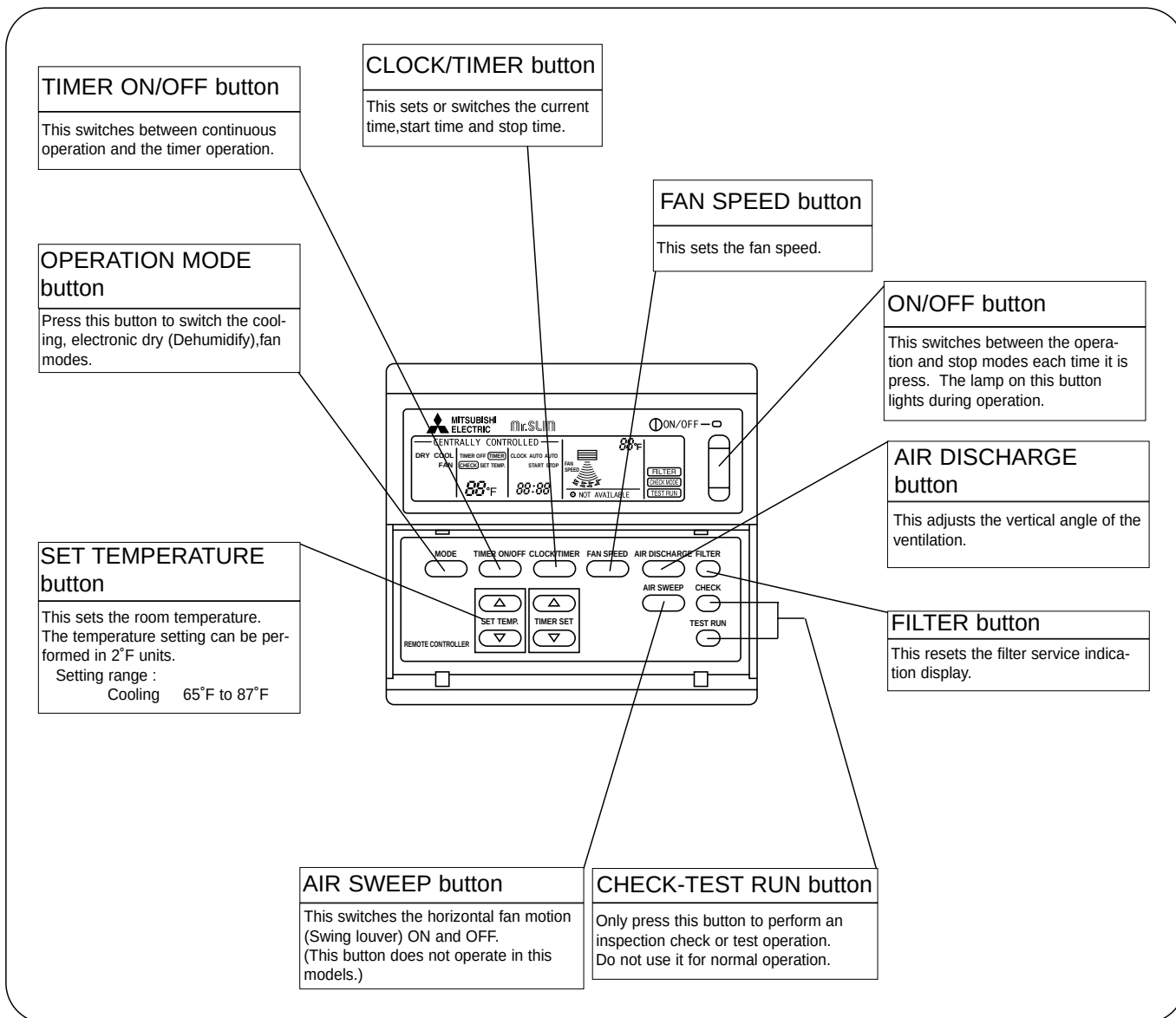
● Indoor (Main) Unit



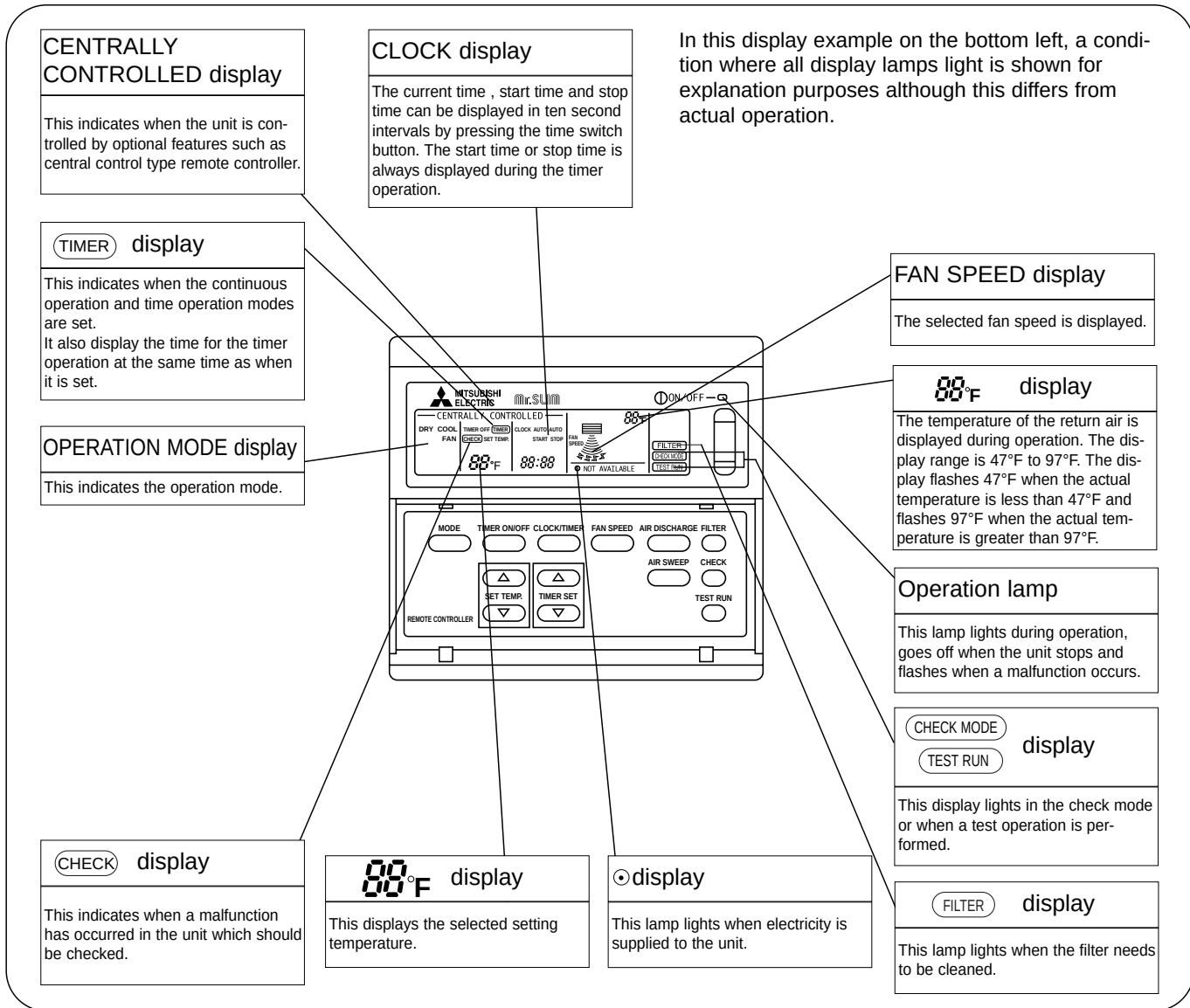
Remote controller

Once the controls are set, the same operation mode can be repeated by simply pressing the ON / OFF button.

Remote controller operation buttons



Remote controller display



Caution

- Only the ⊙ display lights when the unit is stopped and power supplied to the unit.
- When power is turned ON for the first time the (CENTRAL CTRL) display appears to go off momentarily but this is not a malfunction.
- When the central control remote control unit, which is sold separately, is used the ON-OFF button, OPERATION MODE button and SET TEMP. button do not operate.
- “NOT AVAILABLE” is displayed when the AIR DISCHARGE button are pressed.
(AIR DISCHARGE function is not provided for PC series.)

MODELS : PC24GK, PC30GK, PC36GK, PC42GK

Model			PC24GK	PC30GK	PC36GK	PC42GK
Item						
Capacity	❁ 1	Btu/h	25,000	31,000	36,500	42,500
Power consumption	❁ 1	kW	2.61	3.18	3.62	4.10
EER	❁ 1		9.6	9.7	10.1	10.4
SEER			10.4	10.0	10.3	10.8
INDOOR UNIT MODEL			PC24GK	PC30GK	PC36GK	PC42GK
External finish			Munsell 0.70Y 8.59/0.97			
Power supply V, Phase, Hz			115, 1, 60			
Max. fuse size (time delay) A			15	15	15	15
Min ampacity A			2.0	3.0	3.0	3.0
Fan motor F.L.A.			1.9	2.4	2.4	2.4
Airflow Hi-Lo	Dry	CFM	880-710	1,240-990		
	Wet	CFM	810-640	1,130-880		
Moisture removal Pints/h			4.6	5.2	7.4	10.6
Sound level Hi-Lo dB			48-42	51-45	51-45	51-45
Unit drain pipe OD. (On a local side) in.			1	1	1	1
Dimensions	W	in.	51-9/16	63-3/4	63-3/4	63-3/4
	D	in.	26-3/4	26-3/4	26-3/4	26-3/4
	H	in.	10-5/8	10-5/8	10-5/8	10-5/8
Weight lb			82	95	99	99
OUTDOOR UNIT MODEL			PU24EK ₁	PU30EK ₁	PU36EK ₁	PU42EK ₇
External finish			Munsell 5Y7/1			
Power supply V, Phase, Hz			208/230, 1, 60			
Max. fuse size (time delay) A			20	30	30	40
Min. ampacity A			16	20	22	28
Fan motor F.L.A.			0.65+0.65	0.65+0.65	0.75+0.75	0.8+0.8
Compressor	Model		NH33NBD	NH41NAD	NH47NAD	ZR42K3PFV
		R.L.A	11.5	14.0	17.5	20.4
		L.R.A	54	73	87	109
Crankcase heater A(W)			016/0.17 (33/39)	0.16/0.17 (33/39)	0.16/0.17 (33/39)	0.16/0.17 (33/39)
Refrigerant control			Capillary tube			
Sound level dB			55	55	55	56
Dimensions	W	in.	33-1/4		38-3/16	
	D	in.	11-5/8		13-9/16	
	H	in.	49-9/16		49-9/16	
Weight lb.			207	208	220	260
REMOTE CONTROLLER			With indoor unit			
Control voltage (by built-in transformer)			Indoor unit - remote controller : DC12V, Indoor unit - outdoor unit : DC12V			
REFRIGERANT PIPING			Not supplied (optional parts)			
Pipe size	Liquid	in.	3/8	1/2		
	Gas	in.	5/8	3/4		
Connection method	Indoors		Flared			
	Outdoors		Flared			
Between the indoor & outdoor units	Height	ft	Max.164			
	Piping length	fr	Max.164			

NOTES : ❁ 1. Rating conditions —indoor : D.B. 80°F, W.B. 67°F outdoor : D.B. 95°F, W.B. 75°F.

Operating range

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	D.B. 95°F, W.B. 71°F	D.B. 115°F
	Minimum	D.B. 67°F, W.B. 57°F	D.B. 0°F *

* In case of the wind baffle is installed.

(In case of the wind baffle is not installed, the minimum temperature will be D.B. 23°F.)

MODELS : PC24GK, PC30GK, PC36GK, PC42GK

1. PERFORMANCE DATA

1) COOLING CAPACITY

Models	Models		Outdoor intake air DB temperature(°F)																	
	Airflow (CFM) B.F	IWB (°F)	65			75			85			95			105			115		
			TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC
PC24GK	$\frac{810}{0.04}$	71	29.7	19.7	2.17	29.1	19.3	2.27	28.2	18.6	2.45	26.9	17.8	2.68	25.6	16.9	2.92	24.4	16.2	3.13
		67	27.9	22.3	2.12	27.1	21.7	2.22	26.2	21.0	2.39	25.0	20.0	2.61	23.7	19.0	2.83	22.6	18.1	3.02
		63	26.1	24.3	2.08	25.3	23.6	2.18	24.4	22.8	2.33	23.3	21.7	2.54	22.1	20.6	2.75	21.0	19.5	2.92
	DB75°F (50%RH)	62.5	25.9	21.8	2.07	25.1	21.1	2.17	24.2	20.4	2.33	23.1	19.4	2.53	21.8	18.4	2.74	20.8	17.5	2.91
	DB72°F (50%RH)	60	24.8	20.9	2.05	24.1	20.2	2.14	23.2	19.5	2.29	22.1	18.6	2.49	20.9	17.6	2.69	19.8	16.7	2.86
	DB70°F (50%RH)	59	24.4	20.4	2.04	23.6	19.8	2.13	22.8	19.1	2.28	21.7	18.1	2.48	20.5	17.1	2.67	19.4	16.3	2.84
PC30GK	$\frac{1,130}{0.10}$	71	36.9	25.1	2.64	36.1	24.6	2.77	34.9	23.8	2.98	33.4	22.7	3.27	31.7	21.6	3.56	30.3	20.7	3.82
		67	34.6	28.3	2.59	33.6	27.6	2.71	32.5	26.6	2.91	31.0	25.4	3.18	29.4	24.1	3.45	28.0	23.0	3.68
		63	32.4	30.8	2.53	31.4	29.9	2.65	30.3	28.9	2.84	28.9	27.5	3.10	27.3	26.0	3.35	26.0	24.8	3.56
	DB75°F (50%RH)	62.5	32.1	27.6	2.53	31.1	26.8	2.64	30.0	25.9	2.84	28.6	24.6	3.09	27.1	23.3	3.34	25.7	22.2	3.55
	DB72°F (50%RH)	60	30.8	26.5	2.49	29.9	25.7	2.61	28.8	24.8	2.80	27.4	23.6	3.04	25.9	22.3	3.28	24.6	21.2	3.49
	DB70°F (50%RH)	59	30.3	25.9	2.48	29.3	25.1	2.59	28.3	24.2	2.78	26.9	23.0	3.02	25.4	21.8	3.26	24.1	20.6	3.46
PC36GK	$\frac{1,130}{0.05}$	71	43.4	27.9	3.01	42.5	27.3	3.15	41.1	26.4	3.40	39.3	25.2	3.72	37.4	24.0	4.06	35.7	22.9	4.35
		67	40.7	31.7	2.94	39.6	30.9	3.09	38.3	29.8	3.32	36.5	28.5	3.62	34.6	27.0	3.93	33.0	25.8	4.18
		63	38.1	34.7	2.88	37.0	33.7	3.02	35.7	32.5	3.24	34.0	31.0	3.53	32.2	29.4	3.81	30.6	27.9	4.06
	DB75°F (50%RH)	62.5	37.7	31.0	2.88	36.6	30.1	3.01	35.3	29.1	3.23	33.7	27.7	3.51	31.9	26.2	3.80	30.3	24.9	4.04
	DB72°F (50%RH)	60	36.3	29.7	2.84	35.2	28.8	2.97	33.9	27.8	3.18	32.3	26.5	3.46	30.5	25.0	3.74	29.0	23.8	3.97
	DB70°F (50%RH)	59	35.6	29.1	2.82	34.5	28.2	2.95	33.3	27.2	3.16	31.7	25.8	3.43	29.9	24.4	3.71	28.4	23.2	3.93
PC42GK	$\frac{1,130}{0.04}$	71	50.5	29.4	3.41	49.4	28.8	3.57	47.9	27.9	3.85	45.7	26.6	4.21	43.5	25.3	4.59	41.6	24.2	4.92
		67	47.4	34.1	3.34	46.1	33.2	3.49	44.6	32.1	3.76	42.5	30.6	4.10	40.3	29.0	4.45	38.5	27.7	4.74
		63	44.4	37.8	3.27	43.1	36.7	3.42	41.6	35.4	3.67	39.6	33.7	3.99	37.5	31.9	4.32	35.7	30.4	4.59
	DB75°F (50%RH)	62.5	43.9	33.5	3.26	42.7	32.5	3.41	41.2	31.4	3.66	39.2	29.9	3.98	37.1	28.3	4.30	35.3	26.9	4.58
	DB72°F (50%RH)	60	42.2	32.1	3.22	40.9	31.1	3.37	39.5	30.0	3.60	37.6	28.6	3.92	35.5	27.0	4.23	33.7	25.6	4.50
	DB70°F (50%RH)	59	41.5	31.4	3.20	40.2	30.4	3.35	38.7	29.3	3.58	36.9	27.9	3.89	34.8	26.3	4.20	33.1	25.0	4.46

Notes 1. B.F. : Bypass Factor, IWB : Intake air wet-bulb temperature

TC : Total Capacity ($\times 10^3$ Btu/h), SHC : Sensible Heat Capacity ($\times 10^3$ Btu/h)

TPC : Total Power Consumption (kW)

2. SHC is based on 80°FDB of indoor intake air temperature.

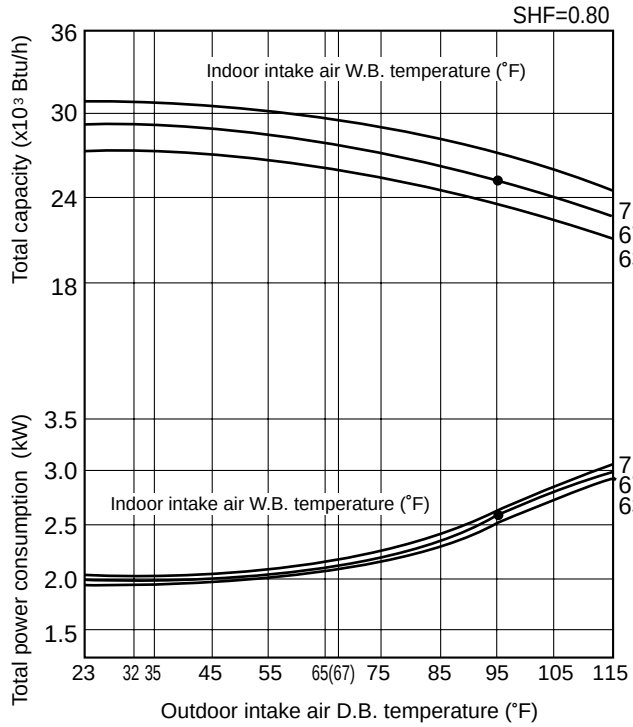
3. Cooling capacity correction factors and Refrigerant piping length (one way) range.

MODEL	Refrigerant piping length (one way)									
	25ft	40ft	55ft	70ft	85ft	100ft	115ft	130ft	150ft	164ft
PC24GK	1.0	0.981	0.968	0.952	0.940	0.925	0.913	0.900	0.886	0.874
PC30GK	1.0	0.981	0.986	0.952	0.940	0.925	0.913	0.900	0.886	0.874
PC36GK	1.0	0.981	0.968	0.952	0.940	0.925	0.913	0.900	0.886	0.874
PC42GK	1.0	0.975	0.955	0.935	0.918	0.900	0.884	0.869	0.855	0.840

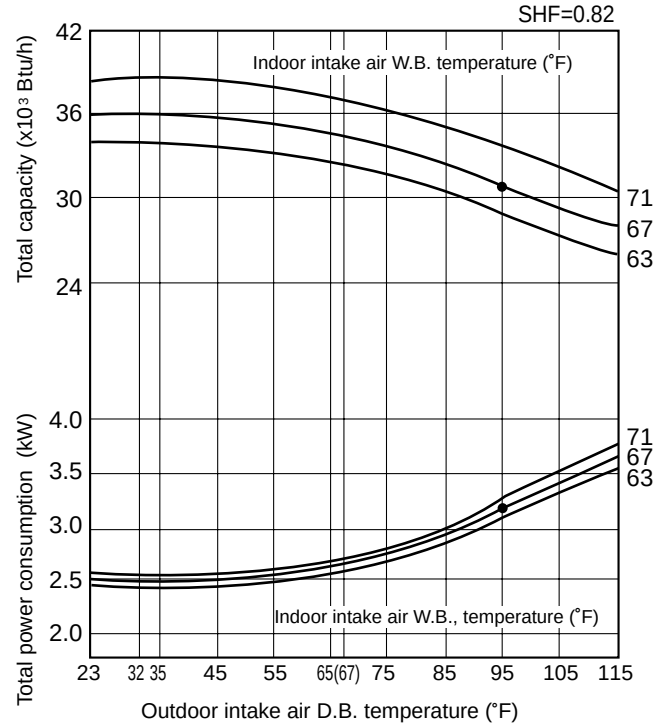
2. PERFORMANCE CURVE

NOTES : A point on the curve shows the reference point.

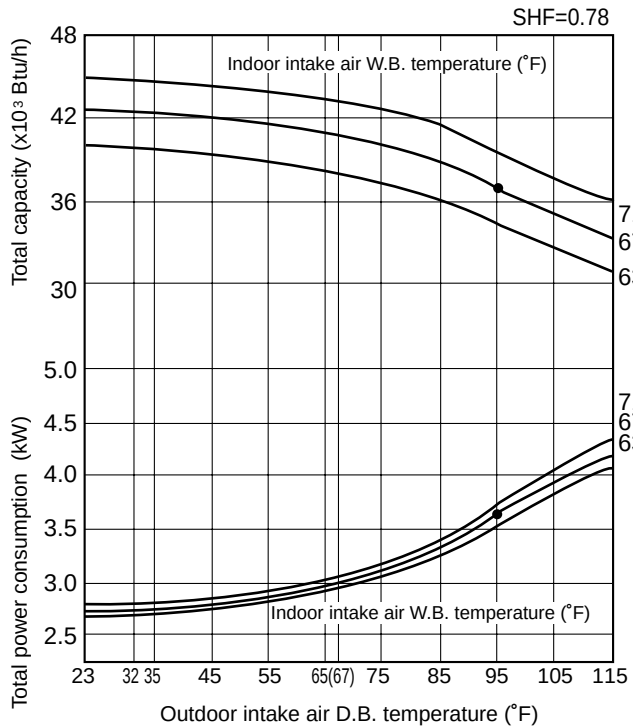
PC24GK COOLING CAPACITY



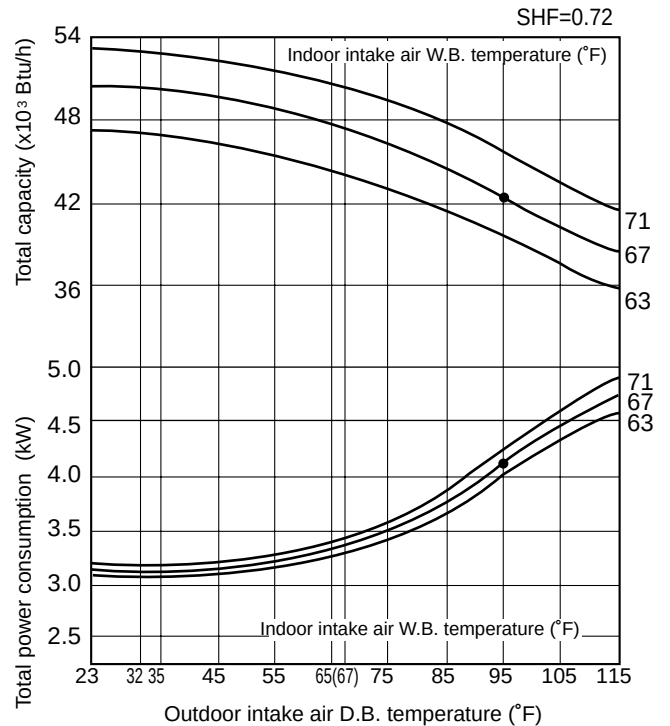
PC30GK COOLING CAPACITY



PC36GK COOLING CAPACITY



PC42GK COOLING CAPACITY



3. CONDENSING PRESSURE AND SUCTION PRESSURE

Data is based on the condition under indoor humidity 50%.

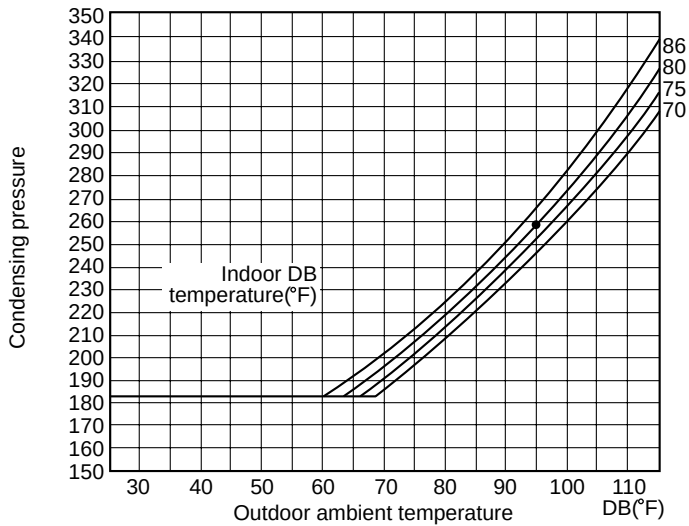
Air flow should be set at HI.

A point on the curve shows the reference point.

< Cooling mode >

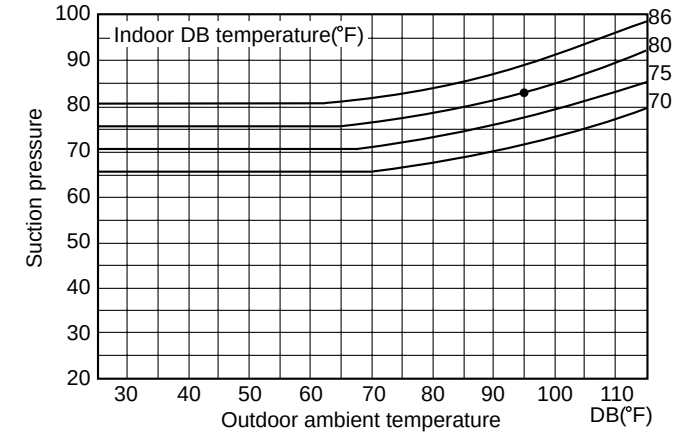
PC24GK

(psi.G)



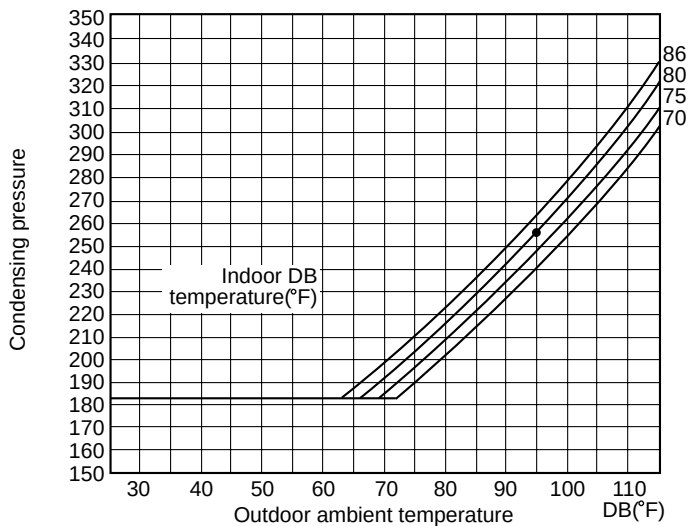
PC24GK

(psi.G)



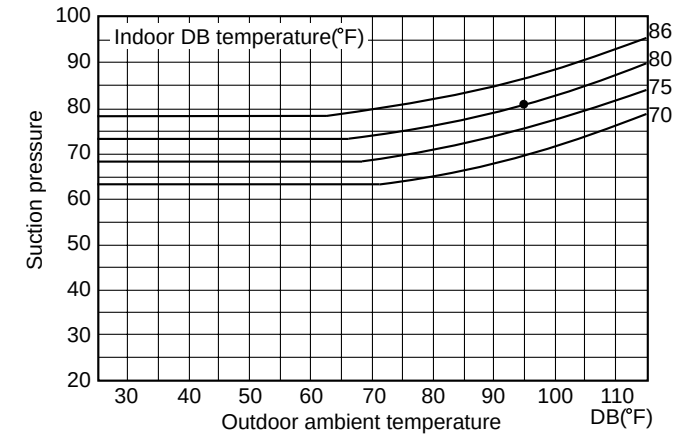
PC30GK

(psi.G)



PC30GK

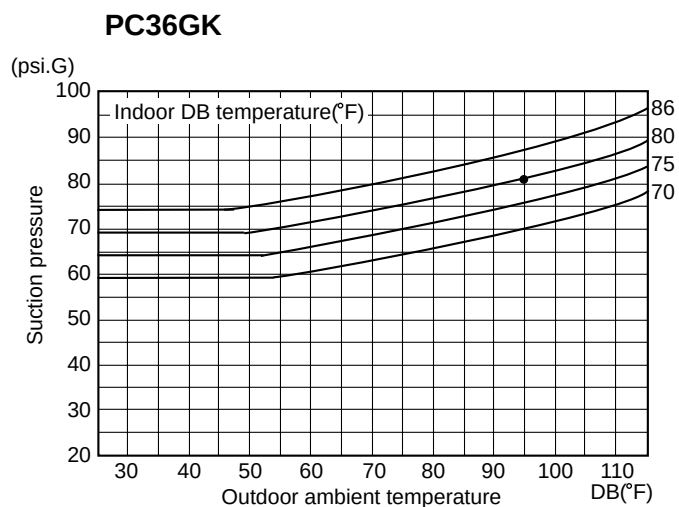
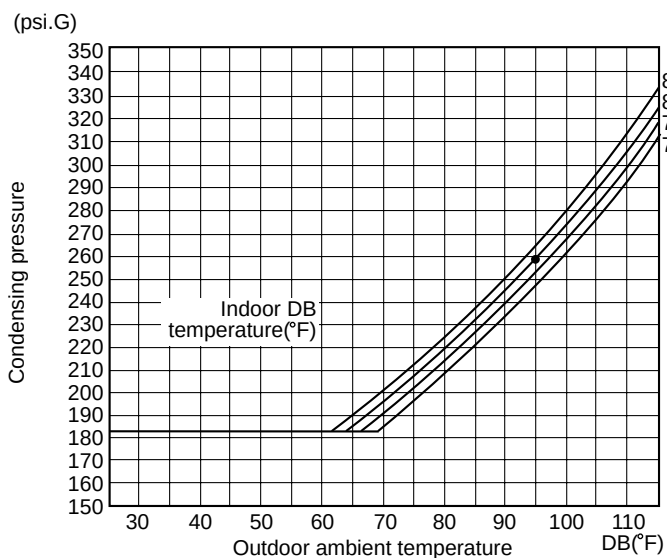
(psi.G)



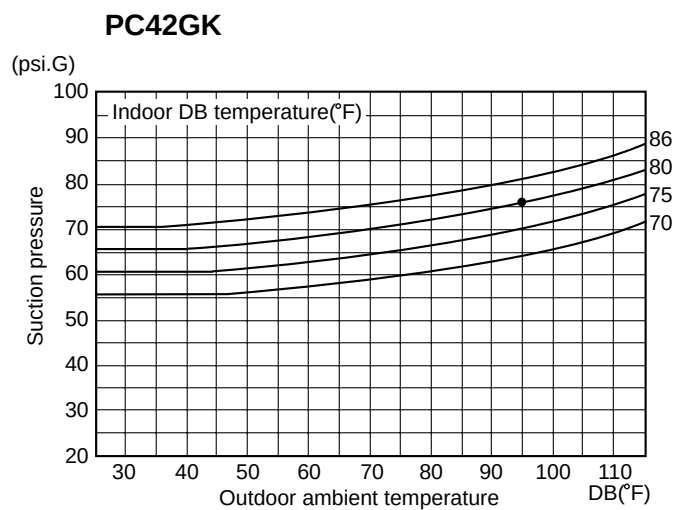
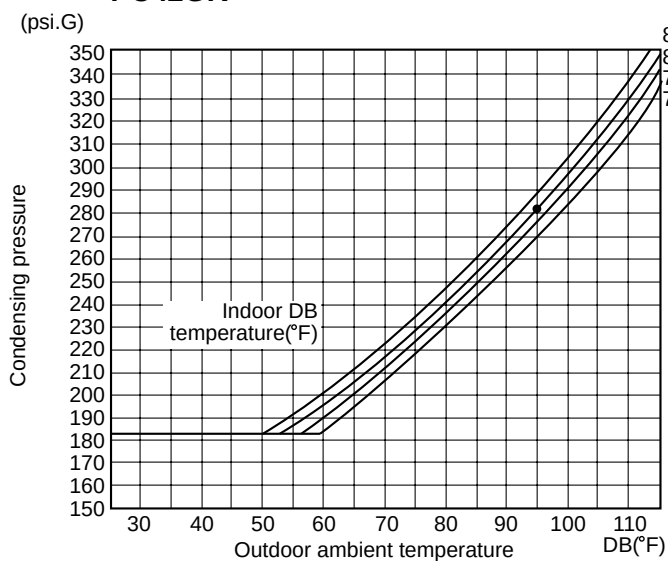
Data is based on the condition under indoor humidity 50%.
 Air flow should be set at HI.
 A point on the curve shows the reference point.

< Cooling mode>

PC36GK



PC42GK



4. STANDARD OPERATION DATA

Models				PC24GK		PC30GK		PC36GK		PC42GK	
Item			Unit	Cooling		Cooling		Cooling		Cooling	
Electrical circuit	Voltage		V	115		115		115		115	
	Frequency		Hz	60		60		60		60	
	Total input		kW	2.61		3.18		3.62		4.10	
	Indoor fan current		A	1.9		2.4		2.4		2.4	
	Outdoor fan current		A	0.65+0.65		0.65+0.65		0.75+0.75		0.8+0.8	
	Comp. current		A	11.5		14.0		17.5		20.4	
Refrigerant circuit	Condensing pressure		psi.G	259		256		259		282	
	Suction pressure		psi.G	83		81		81		76	
	Discharge temperature		°F	165		163		167		165	
	Condensing temperature		°F	119		117		119		125	
	Suction temperature		°F	50		49		49		47	
	Comp.shell bottom temperature		°F	157		147		154		94	
	Ref. pipe length		ft	25		25		25		25	
	Refrigerant charge		—	9 lbs 15 oz		10 lbs 2 oz		10 lbs 9 oz		11 lbs 0 oz	
Indoor side	Intake air temperature	DB	°F	80		80		80		80	
		WB	°F	67		67		67		67	
	Discharge air temperature	DB	°F	58		60		57		56	
		WB	°F	57		59		56		55	
	Fan speed		r.p.m.	1,100		1,150		1,180		1,180	
	Airflow (High)		CFM	810		1,130		1,130		1,130	
Outdoor side	Intake air temperature	DB	°F	95		95		95		95	
		WB	°F	—		—		—		—	
	Fan speed upper/lower		r.p.m.	750	750	750	750	760	760	840	840
	Airflow		CFM	3,170		3,170		3,350		3,530	
Capacity			Btu/h	25,000		31,000		36,500		42,500	
SHF			—	0.80		0.82		0.78		0.72	

5. OPERATING RANGE

1) POWER SUPPLY

	Rating	Allowable voltage
Indoor unit	115V 1 phase 60Hz	Min. 103V — Max. 127V
Outdoor unit	208/230V 1 phase 60Hz	Min. 198V — Max. 253V

2) OPERATION

Function	Air intake temperature Condition	Indoor		Outdoor	
		DB (°F)	WB (°F)	DB (°F)	WB (°F)
Cooling	Standard temperature	80	67	95	75
	Maximum temperature	95	71	115	75
	Minimum temperature	67	57	23	—
	Maximum humidity	80	75	80	75

6. OUTLET AIR SPEED AND COVERAGE RANGE

Model	Airflow (CFM)	Air speed (ft/sec)	Coverage range(ft)
PC24GK	880	13.5	40
PC30GK	1,240	14.8	50
PC36GK	1,240	14.8	50
PC42GK	1,240	14.8	50

The air coverage range is the value up to the position where the air speed is 0.8ft/sec. when air is blown out horizontally from the unit at the High notch position. The coverage range should be used only as a general guideline since it varies according to the size of the room and furniture installed inside the room.

7. ADDITIONAL REFRIGERANT CHARGE (R22(oz))

Model	Outdoor unit precharged (up to 100ft)	Refrigerant piping length (one way)									
		25ft	40ft	55ft	70ft	85ft	100ft	115ft	130ft	150ft	164ft
PC24GK	9 lbs 15 oz	0	0	0	0	0	0	2	4	7	9
PC30GK	10 lbs 2 oz	0	0	0	0	0	0	5	10	16	20
PC36GK	10 lbs 9 oz	0	0	0	0	0	0	5	10	16	20
PC42GK	11 lbs 0 oz	0	0	0	0	0	0	5	10	16	20

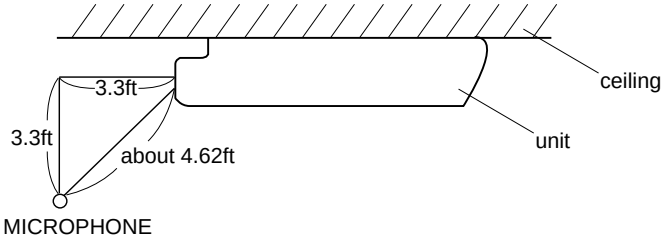
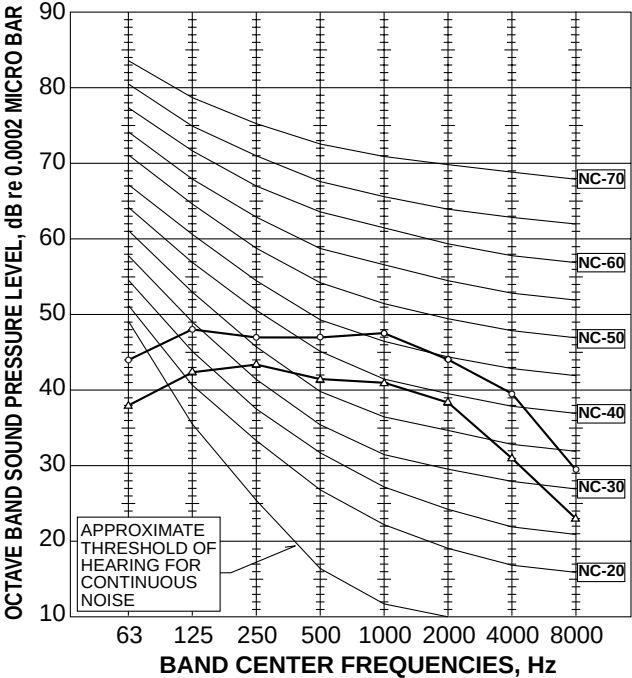
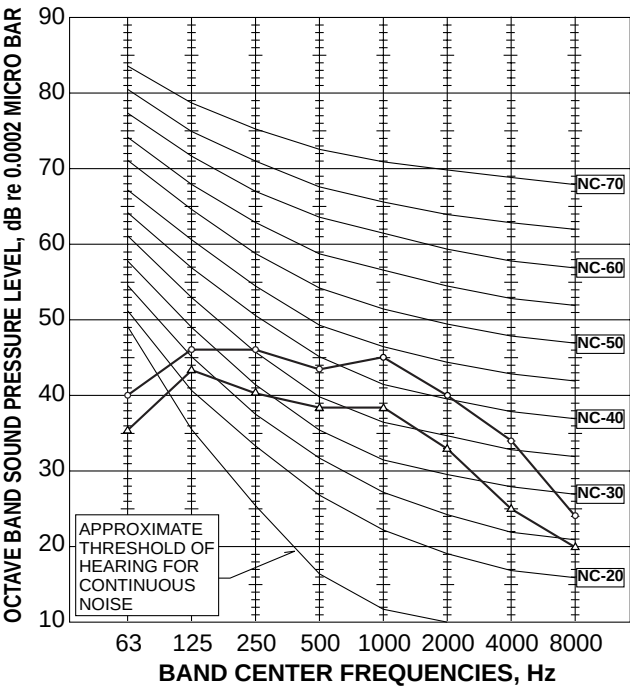
8. NOISE CRITERION CURVES

PC24GK

NOTCH	SPL(db)	LINE
Hi	48	○—○
Lo	42	△—△

PC30GK
PC36GK
PC42GK

NOTCH	SPL(db)	LINE
Hi	51	○—○
Lo	45	△—△

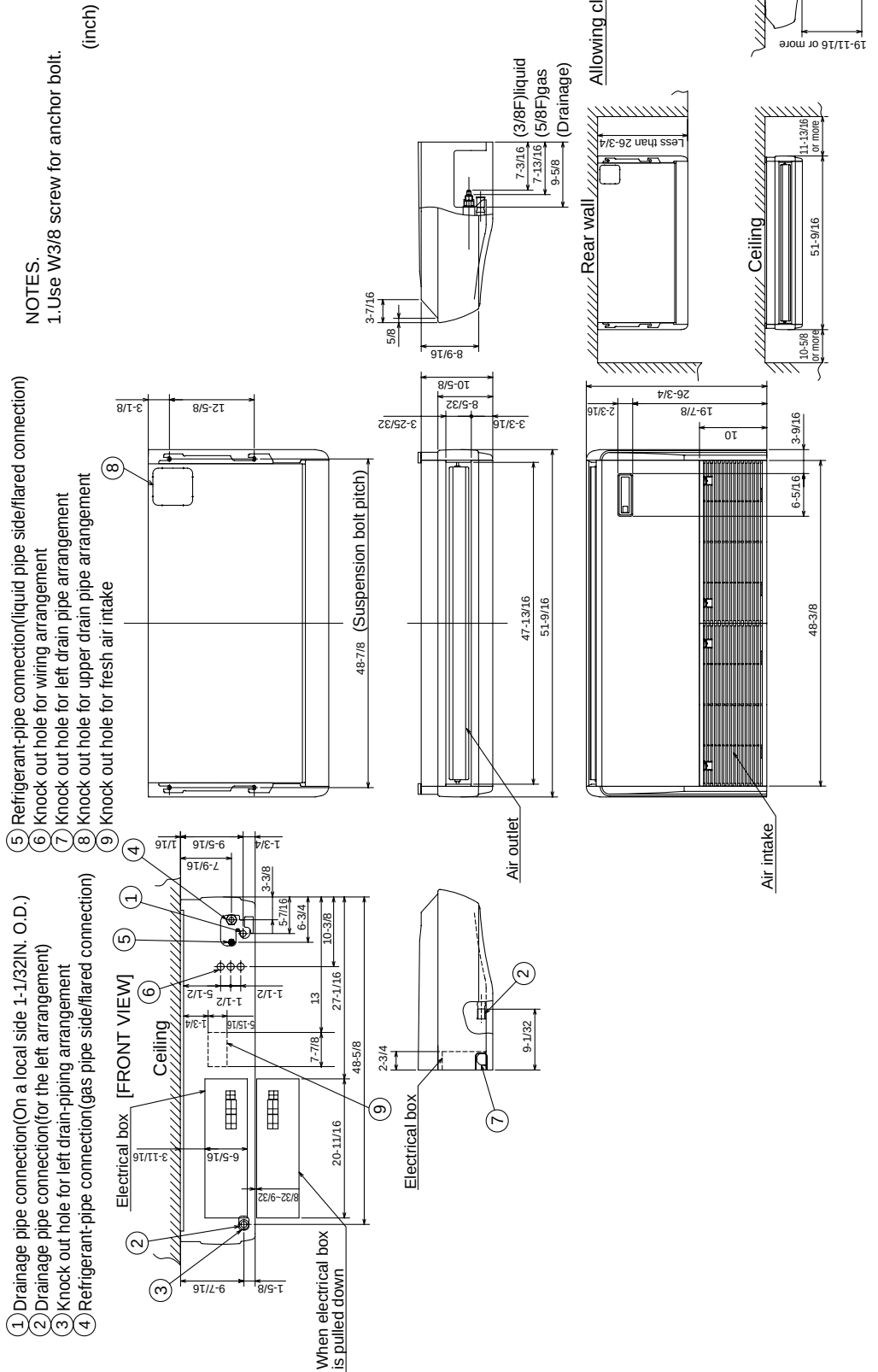


Ambient temperature 80°F

Test conditions are based on JIS Z8731

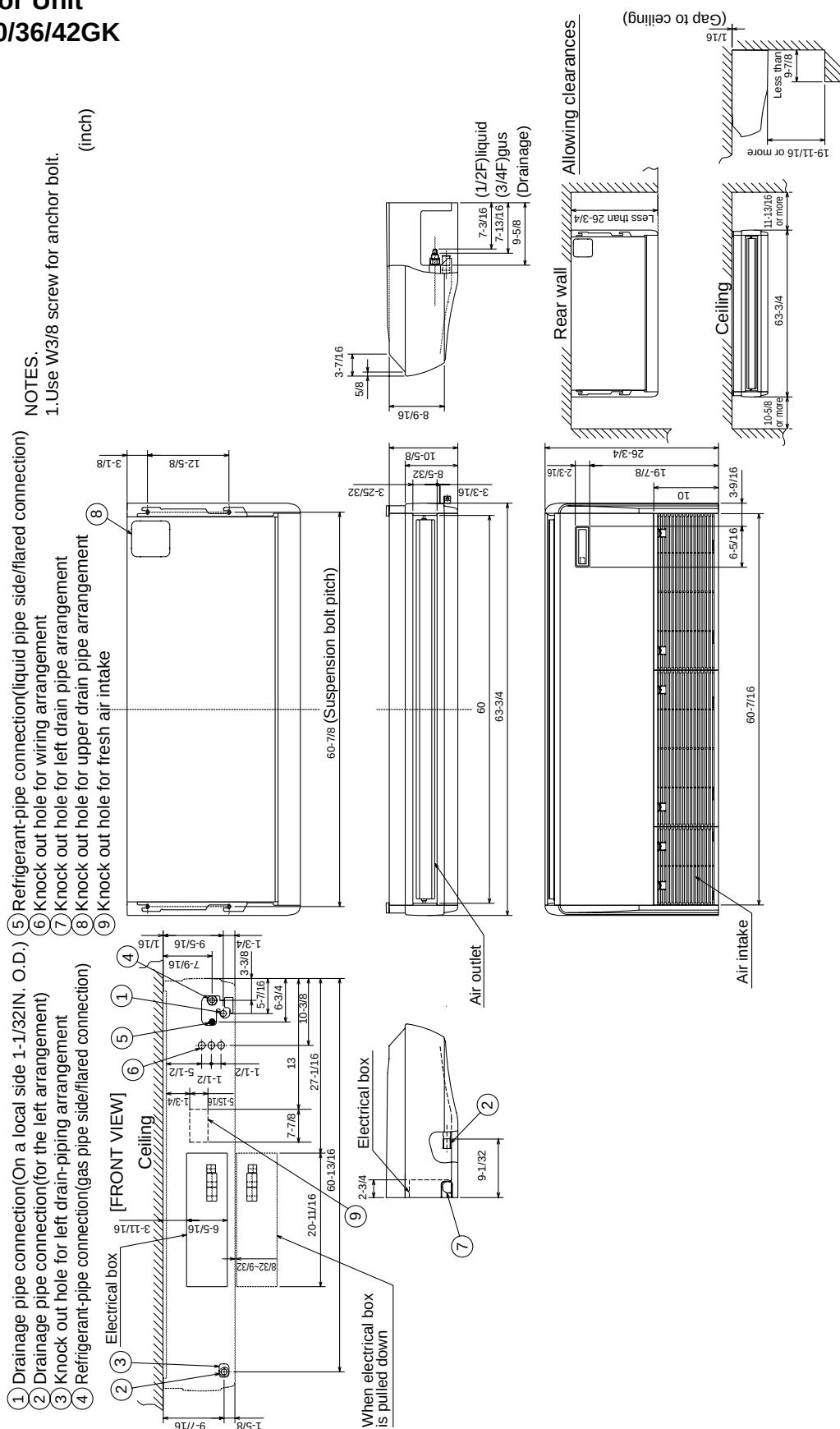
Indoor Unit
PC24GK

Unit : inch



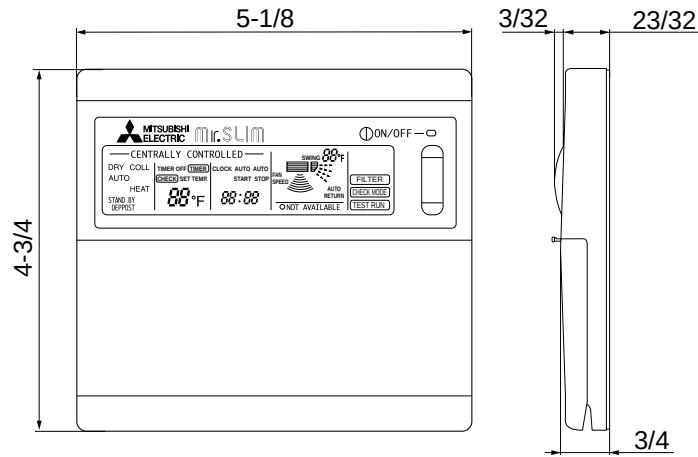
Indoor Unit PC30/36/42GK

Unit : inch



Remote controller

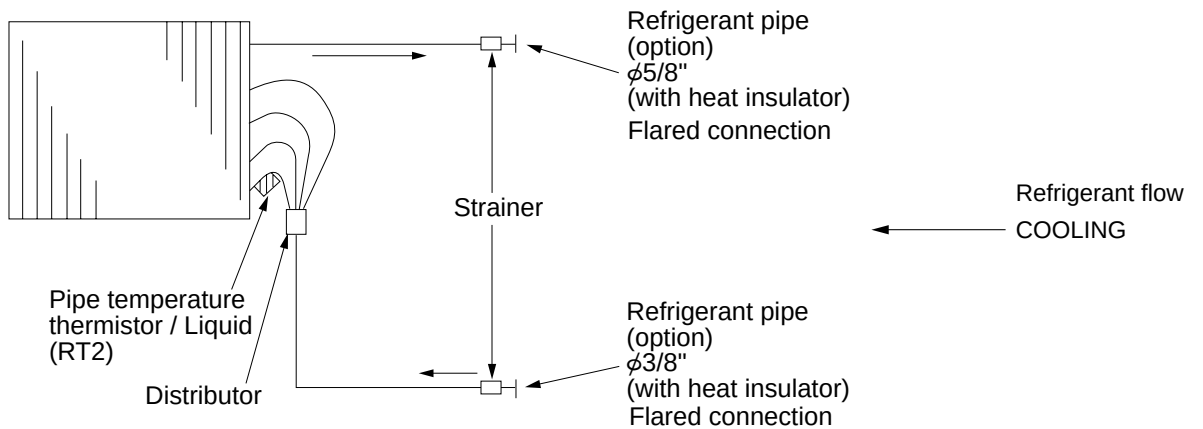
Unit : inch



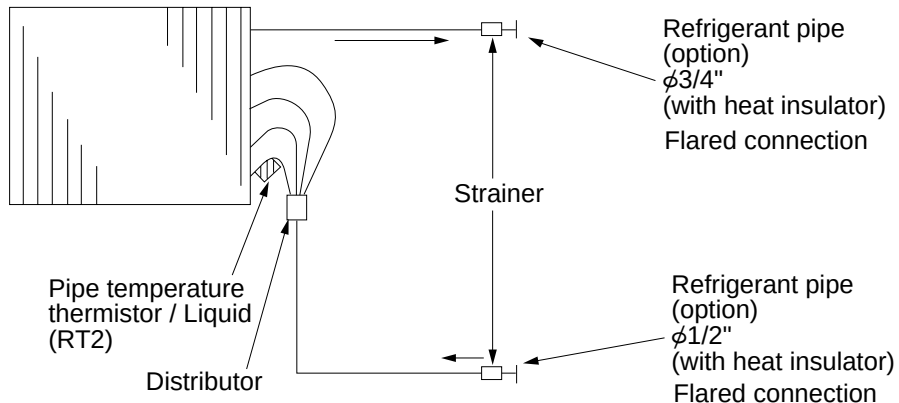
6

REFRIGERANT SYSTEM DIAGRAM

PC24GK

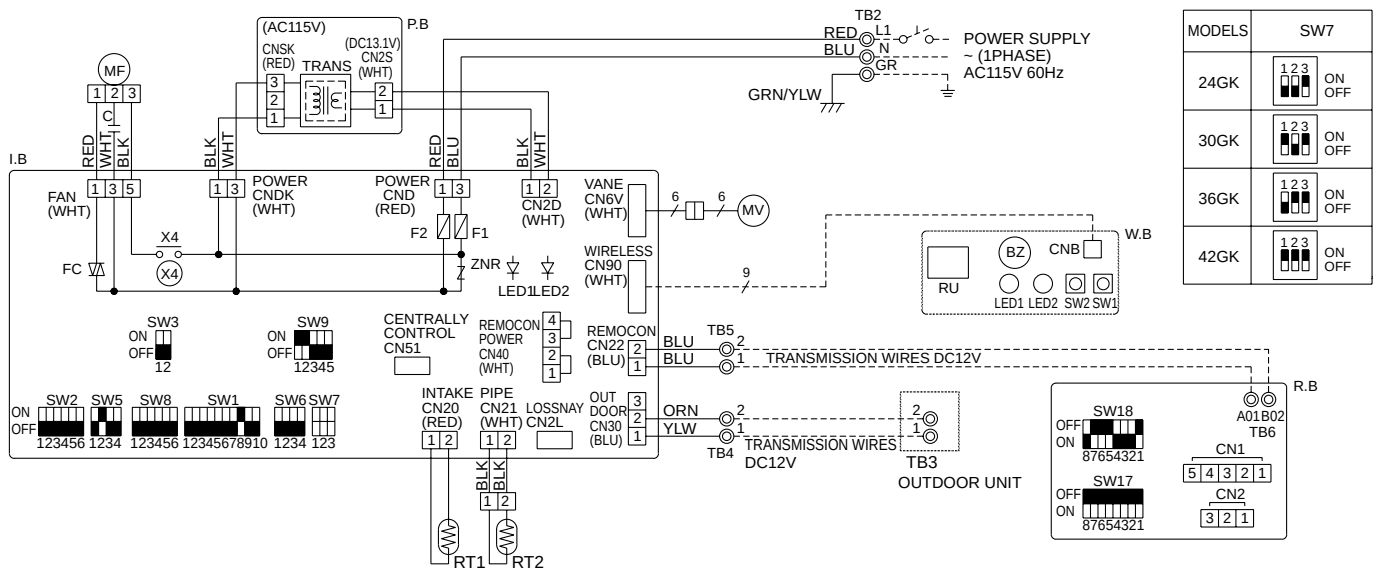


PC30GK PC36GK PC42GK



WIRING DIAGRAM

MODELS PC24/30/36/42GK WIRING DIAGRAM



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
P.B	INDOOR POWER BOARD	C	CAPACITOR(FAN MOTOR)	W.B	WIRELESS REMOTE CONTROLLER BOARD(OPTION)
I.B	INDOOR CONTROLLER BOARD	MF	FAN MOTOR	RU	RECEIVING UNIT
CN2L	CONNECTOR(LOSSNAY)	MV	VANE MOTOR	BZ	BUZZER
CN51	CONNECTOR(CENTRALLY CONTROL)	TB2	TERMINAL BLOCK(POWER)	LED1	LED(RUN INDICATOR)
FC	FAN PHASE CONTROL	TB4	TERMINAL BLOCK(INDOOR/OUTDOOR TRANSMISSION LINE)	SW2	SWITCH(COOLING ON/OFF)
SW1	SWITCH(FUNCTION SELECTOR)	TB5	TERMINAL BLOCK(REMOTE CONTROLLER TRANSMISSION LINE)		
SW2	SWITCH(ADDRESS SELECTOR)				
SW3	SWITCH(EMERGENCY OPERATION)	RT1	ROOM TEMP.THERMISTOR (32°F/15kΩ, 77°F/5.4kΩ DETECT)		
SW5	SWITCH(MODEL SELECTOR)				
SW6	SWITCH(TWIN/TRIPLE SELECTOR)	RT2	PIPE TEMP.THERMISTOR/LIQUID (32°F/15kΩ, 77°F/5.4kΩ DETECT)		
SW7	SWITCH(MODEL SELECTOR)				
SW8	SWITCH(OPTION)	R.B	REMOTE CONTROLLER BOARD		
SW9	SWITCH(MODEL SELECTOR)	CN1	CONNECTOR(PROGRAM TIMER)		
X4	RELAY(FAN MOTOR)	CN2	CONNECTOR(REMOTE SWITCH)		
F1,F2	FUSE(6A/250V)	SW17	SWITCH(ADDRESS SELECTOR)		
ZNR	VARISTOR	SW18	SWITCH(FUNCTION SELECTOR)		
LED1	LED(DC12V POWER)	TB6	TERMINAL BLOCK(REMOTE CONTROLLER TRANSMISSION LINE)		
LED2	LED(DC5V POWER)				

NOTES:

1. Since the outdoor side electric wiring may change, be sure to check the outdoor unit electric wiring for servicing.
2. Indoor and outdoor connecting wires are made with polarities, make wiring matching terminal numbers.
3. Symbols used in wiring diagram above are, : Connector, : Terminal block.

4. Emergency operation

If remote controller or microcomputer fails but there is no other trouble, emergency operation is possible by setting dip switch(SW3<1.B>) on the indoor controller board.

[Check items]

- (1) Make sure that no other trouble exist in the outdoor unit. Trouble with the outdoor unit prevents emergency operation.
(If any trouble exists in the outdoor unit error code "P8" will be displayed on the remote controller and the trouble position will be shown on the outdoor controller board LED. See electric wiring diagram of the outdoor unit for details.)
- (2) Make sure that there is no trouble with the indoor fan.
Emergency operation will be continuous operation mode.
(ON/OFF by the remote controller is not possible.)

[Emergency operation procedure]

- (1) Set the dip switch (SW3<I.B>) on the indoor controller board to ① on and ② off for cooling.
- (2) Turn on outdoor unit side circuit breaker, then indoor unit side circuit breaker.
- (3) During emergency operation, indoor fan runs at high speed but automatic vane does not work.
- (4) Thermostat will not function.
- (5) Emergency cooling should be limited to 10 hours maximum.
(The indoor unit heat exchanger may freeze.)
- (6) After every emergency operation, set all dip switch (SW3<I.B>) to OFF.
- (7) Movement of the vane does not work in emergency operation, therefore you have to slowly set them manually to the appropriate position.

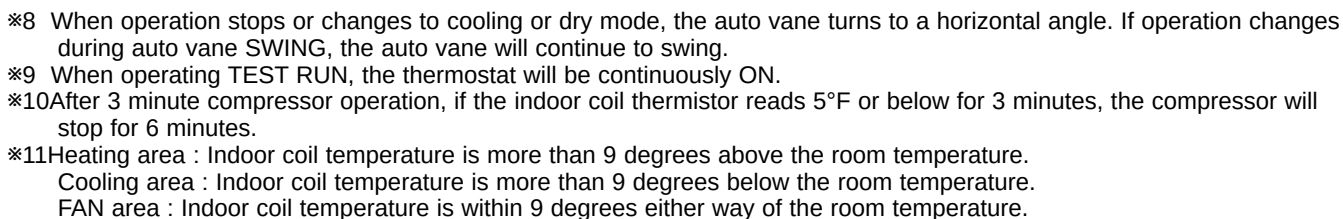
The flowchart illustrates the start sequence for the air conditioning system. It begins with a 'START' terminal, leading to a decision 'Power circuit breaker'. If 'NO', it loops back to 'START'. If 'YES', it proceeds to a decision 'Check SW ON twice'. If 'NO', it leads to a decision 'Operation SW ON'. If 'YES' (marked with ※ 1), it proceeds to a 'Trouble' decision (marked with ※ 2). If 'NO' at 'Operation SW ON', it leads to a decision '“OFF” timer'. If 'YES', it leads to a 'Set time complete' decision. If 'NO' at '“OFF” timer', it leads to a decision '“ON” timer'. If 'YES' at '“ON” timer', it leads to a 'Set time complete' decision. If 'NO' at '“ON” timer', it leads to a 'Set time complete' decision. If 'YES' at 'Set time complete' (from either timer), it leads to the 'Trouble' decision (marked with ※ 2). If 'NO' at 'Set time complete', it leads to the 'Trouble' decision. If 'YES' at 'Trouble' (marked with ※ 2), it leads to a 'Trouble STOP' terminal, followed by 'PROTECTION DEVICE SELF HOLD', and then a 'Remote controller trouble display' (marked with ※ 3). If 'NO' at 'Trouble', it leads to a 'Remote controller operation display' terminal, followed by a decision 'Operating mode (COOL)'. If 'YES' at 'Operating mode (COOL)', it leads to a 'COOL operation' terminal. If 'NO' at 'Operating mode (COOL)', it leads to a decision 'Operating mode (DRY)'. If 'YES' at 'Operating mode (DRY)', it leads to a 'DRY operation' terminal. If 'NO' at 'Operating mode (DRY)', it leads to a 'FAN operation' terminal (marked with ※ 5). The 'FAN operation' terminal leads to a dashed box labeled 'Indoor side' containing a 'Fan STOP' terminal. The 'FAN operation' terminal also leads to a dashed box labeled 'Outdoor side' containing a 'Compressor OFF' terminal (marked with ※ 4) and a 'Fan STOP' terminal. Both 'Fan STOP' terminals lead to a common line that loops back to the 'Check SW ON twice' decision (marked with 1).

*2 The modes which indicate the sources of trouble are listed below.

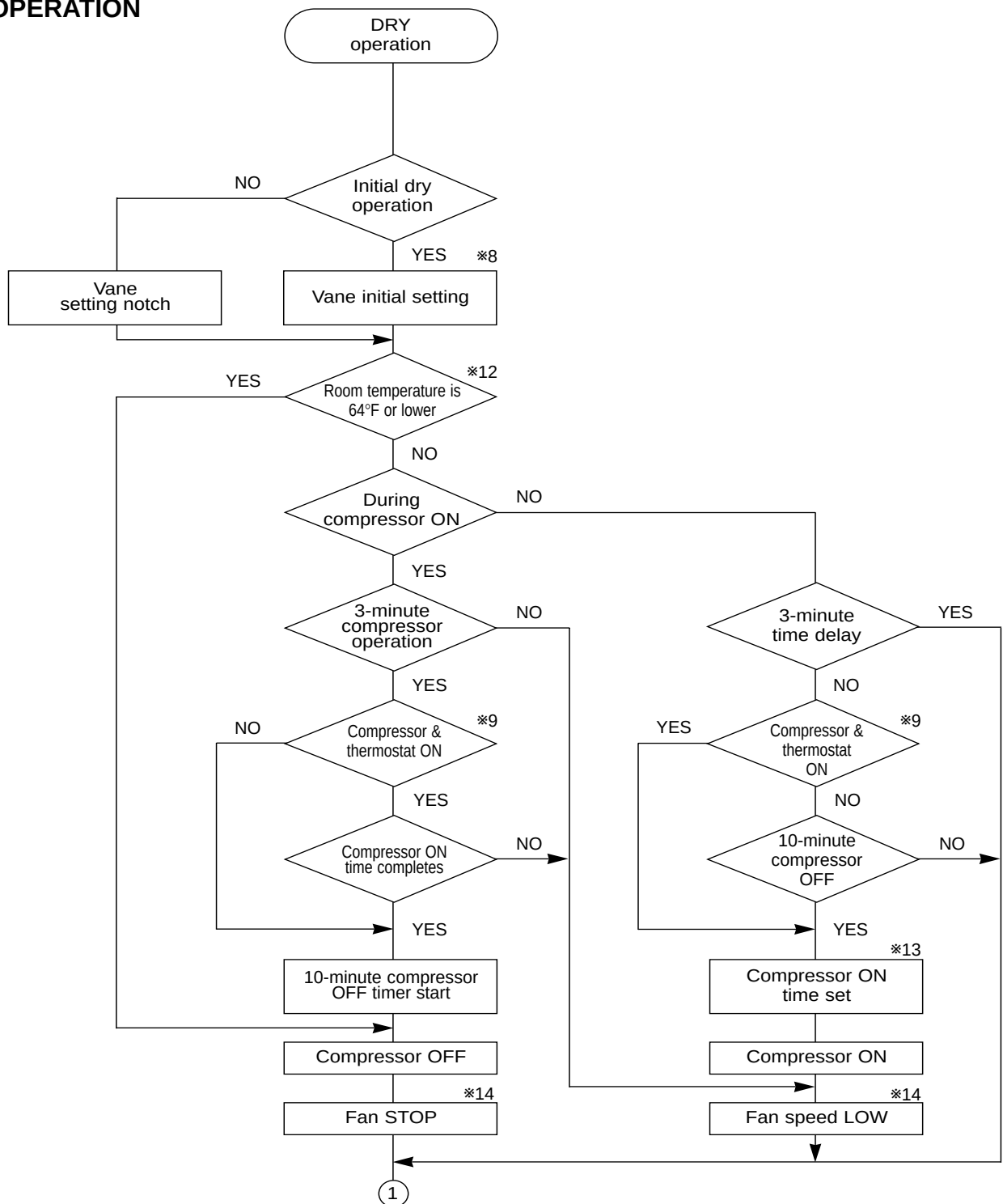
- ※3 The CHECK switch will show if an error has occurred in the past.

※5 In FAN mode, fan speed and vane operation depend on the remote controller setting. (Compressor is OFF.)

--



DRY OPERATION



*8—9 Refer to page OC278-20.

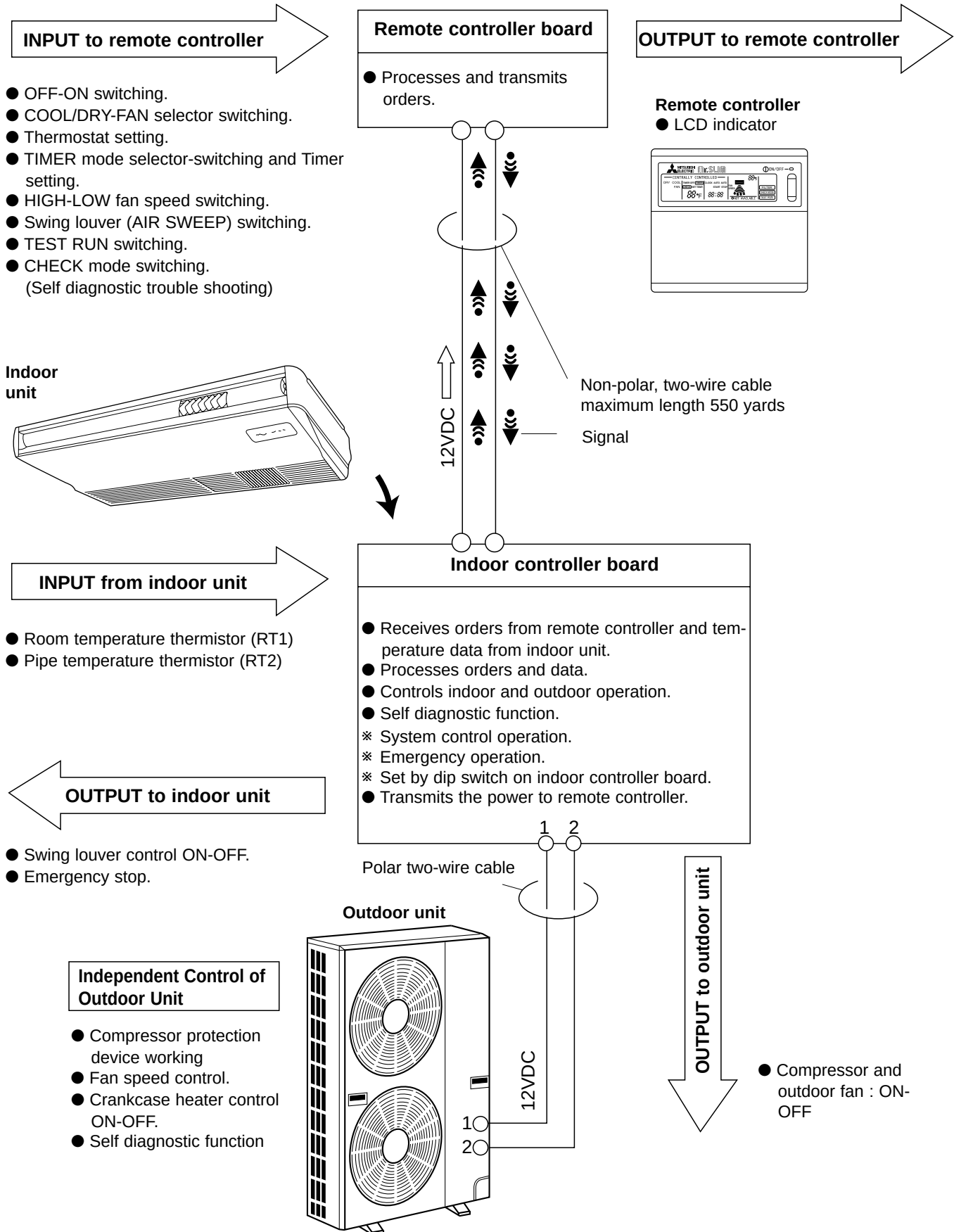
*12 When room temperature is 64°F or below, the compressor cannot operate.
When room temperature rises over 64°F the compressor starts after a 3-minute time delay.

*13 Compressor ON time is decided by room temperature. Refer to page OC278-28.

*14 In dry operation, compressor ON makes the fan speed LOW. Also, when the compressor OFF and the pipe temperature is 79°F or less, the fan stops, or when the compressor OFF and the pipe temperature is below 43°F the fan speed changes to LOW mode.

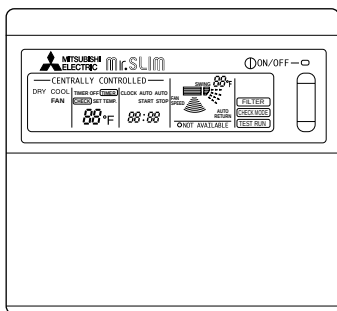
It is not possible to set the fan speed with the remote controller

1. OUTLINE OF MICROPROCESSOR CONTROL



2. INDOOR UNIT CONTROL

2-1 COOL operation

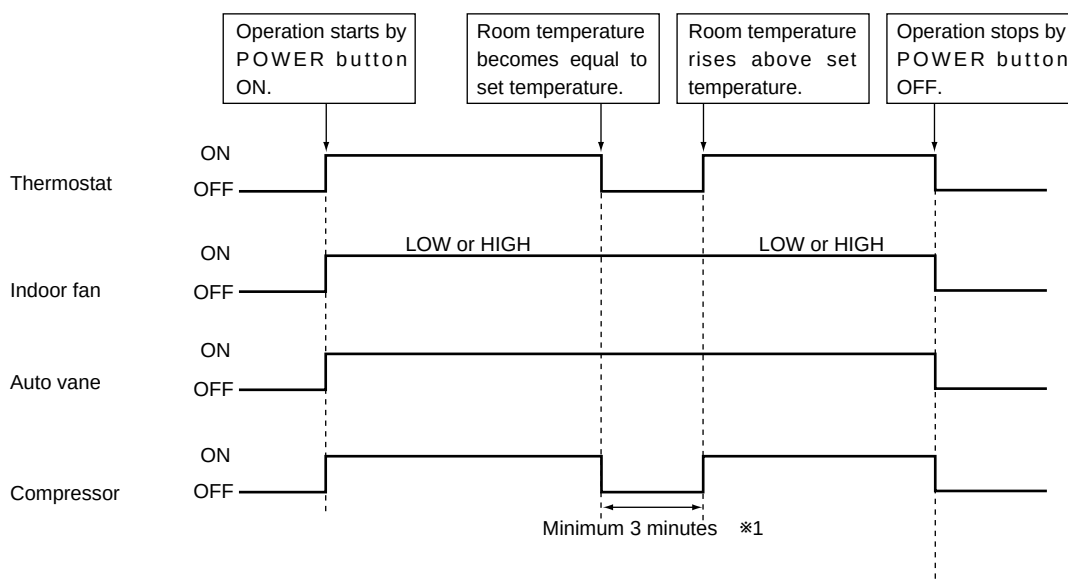


<How to operate>

- ① Press POWER ON/OFF button.
- ② Press the MODE button to display COOL.
- ③ Press the SET TEMP. button to set the desired temperature.

NOTE: Set temperature changes 2°F when the SET TEMP. button is pressed one time.
Cooling 65 to 87°F.

<COOL operation time chart>



※1 Even if the room temperature rise above the set temperature during this period, the compressor will not start until this period has ended.

(1) Compressor control

① 3-minute time delay

To prevent overload, the compressor will not start within 3 minutes after stop.

② The compressor runs when room temperature is higher than set temperature.

The compressor stops when room temperature is equal to or lower than the set temperature.

The compressor maintains the previous state when the room temperature minus the set temperature is 0 degrees or more, or lower than 2 degrees.

③ The compressor stops in check mode or during protective functions.

④ Coil frost prevention

To prevent indoor coil frost, the compressor will stop when the indoor coil thermistor (RT2) reads 34°F or below after the compressor has been continuously operated for at least 16 minutes or more. When the indoor coil temperature rises to 50°F or above, the compressor will start in a 3-minute(※2) time delay.

※2 When the indoor coil temperature is 30°F or less, the compressor starts in 6 minutes.

NOTE : By turning OFF the dip switch SW1-3 on indoor controller board, the start temperature of coil frost prevention changes from 34°F to 36°F.

⑤ Coil frost protection

When indoor coil temperature becomes 5°F or below, coil frost protection will proceed as follows.

<Start condition>

After the compressor has been continuously operated for 3 minutes or more, and the indoor coil temperature has been 5°F or below for 3 minutes, the coil frost protection will start.

<Coil frost protection>

Compressor stops for 6 minutes, and then restarts.

If the start condition is satisfied again during the first 10 minutes of compressor operation, both the indoor and outdoor units stop, displaying a check code of "P6" on the remote controller.

<Termination conditions>

Coil frost protection is released when the start condition is not satisfied again during the allowance, or when the COOL mode stops or changes to another mode.

(2) Indoor fan control

Indoor fan speed LOW/HIGH depends on the remote controller setting.

However, if an outdoor unit abnormality is detected, the indoor fan speed will be LOW, regardless of the remote controller setting.

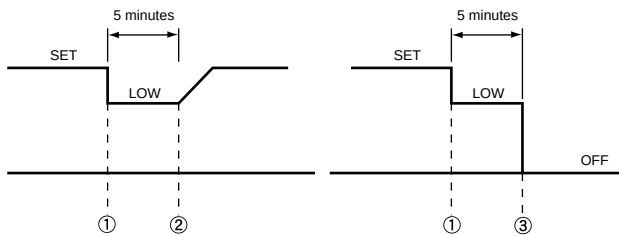
When the outdoor unit abnormality detection is released and the fan speed returns to the set speed, the quiet cycle control will work.

(a) Normal control

(i) Fan speed LOW/HIGH depends on the remote controller setting regardless of the thermostat ON/OFF.

(ii) Fan speed will remain on LOW if an abnormality in outdoor unit is detected. (5 minutes)

When the abnormality detection is released, the fan speed returns to the set speed.



- ① Start-up of outdoor unit abnormality detection.
- ② Release of outdoor unit abnormality detection.
- ③ Unit stop due to outdoor unit abnormality with P8 indication.

NOTE 1 : Fan stops immediately if the unit stops or the check mode is started.

(3) Auto vane control

Auto vane position is set to horizontal airflow at the start-up of COOL operation. It can then be changed by the remote controller.

(a) Vane position set mode & swing mode.

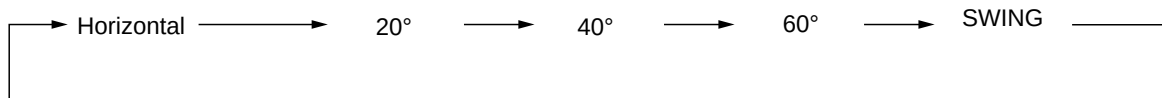
(i) Every time AIR DISCHARGE button is pressed, setting will be changed .

(ii) Airflow direction can be changed with AIR DISCHARGE button.

① Fan speed : LOW

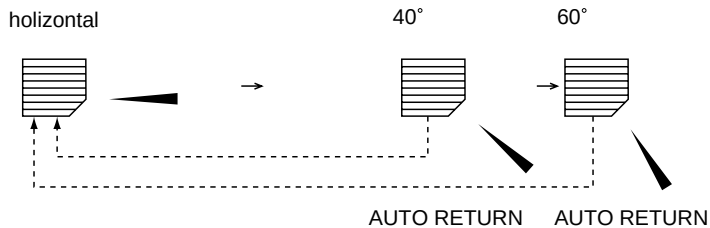


② Fan speed : HIGH

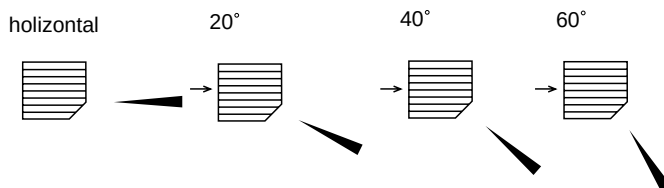


<AUTO RETURN>

① Fan speed : LOW



② Fan speed : HIGH



When 40° degrees or 60° degrees airflow is selected with the LOW fan speed in COOL operation, "AUTO RETURN" will appear below the temperature display. One hour later, the airflow direction returns to horizontal automatically and "AUTO RETURN" will disappear. If the airflow direction is set to horizontal during "AUTO RETURN" indication, the time counting for AUTO RETURN is cancelled.

(4) Detecting abnormalities in the outdoor unit

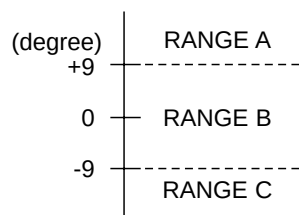
After the compressor has been continuously operated for 3 minutes, if the difference between the indoor coil temperature and room temperature is out of RANGE C for 1 minute, the indoor fan speed will turn to LOW. Five minutes later, if the difference is still out of RANGE C, the outdoor unit is functioning abnormally. Thus, the compressor stops and check code "P8" appears on remote controller.

RANGE A : Indoor coil temperature is more than 9 degrees above room temperature.

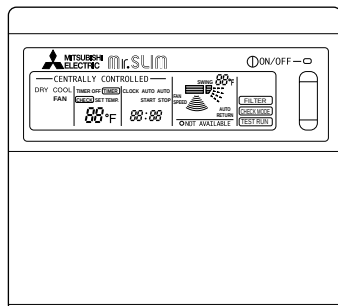
RANGE B : Indoor coil temperature is within 9 degrees either way of room temperature.

RANGE C : Indoor coil temperature is more than 9 degrees below room temperature.

Indoor coil temperature
minus room temperature



2-2 DRY operation

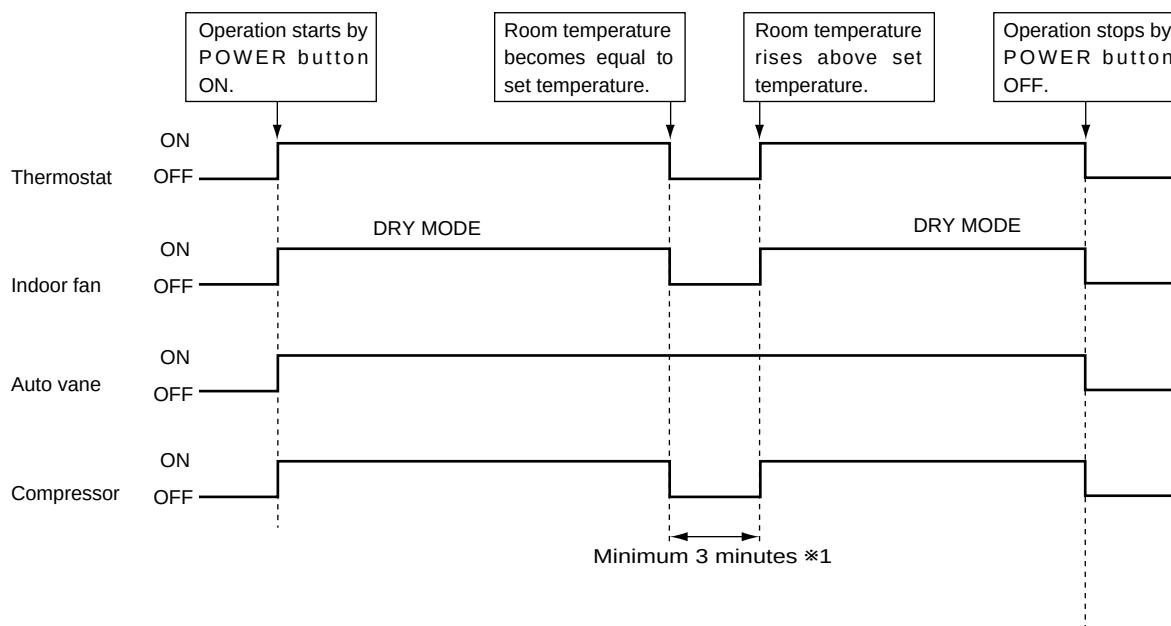


<How to operate>

- ① Press POWER ON/OFF button.
- ② Press the MODE button to display "DRY"
- ③ Press the SET TEMP. button to set the desired temperature.

NOTE: The set temperature changes 2°F when the SET TEMP. button is pressed one time.
Dry 65 to 87°F

<DRY operation time chart>



*1 Even if the room temperature rises above the set temperature during this period, the compressor will not start until this period has ended.

(1) Compressor control

- ① 3-minute time delay
To prevent overload, the compressor will not start within 3 minutes after stop.
- ② The compressor runs when room temperature is higher than set temperature.
The compressor stops when room temperature is equal to or lower than the set temperature.
The compressor maintains the previous state when the room temperature minus the set temperature is 0°F or more, or lower than 2°F.
- ③ The compressor stops in check mode or during protective functions.

④The compressor will not start when the room temperature is 64°F or below.

The compressor starts intermittent operation when the power is turned ON with room temperature above 64°F. The compressor ON/OFF time depends on the thermostat ON/OFF and the following room temperatures. After 3-minute compressor operation,

- If the room temperature thermistor reads above 82°F with thermostat ON, the compressor will operate for 6 more minutes and then stop for 3 minutes.
- If the room temperature thermistor reads 79°F to 82°F with thermostat ON, the compressor will operate for 4 more minutes and then stop for 3 minutes.
- If the room temperature thermistor reads 75°F to 79°F with thermostat ON, the compressor will operate for 2 more minutes and then stop for 3 minutes.
- If the room temperature thermistor reads below 75°F with thermostat ON, the compressor will stop for 3 minutes.
- If the thermostat is OFF regardless of room temperature, the compressor will stop for 10 minutes.

⑤Coil frost protection

Coil frost protection in DRY operation is the same as in COOL operation. (Refer to “2-1 COOL operation”.)

⑥Coil frost prevention

Coil frost prevention does not operate in DRY operation.

(2) Indoor fan control

The indoor fan runs on LOW speed during compressor operation. The fan speed cannot be changed with the remote controller. Also, the indoor fan does not run during compressor OFF.

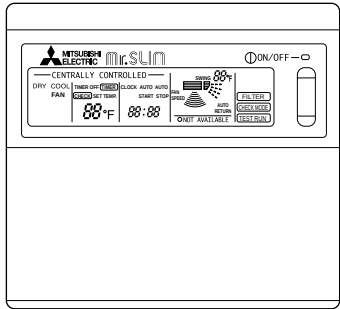
(3) Auto vane control

Same as in COOL operation

(4) Detecting abnormalities in the outdoor unit

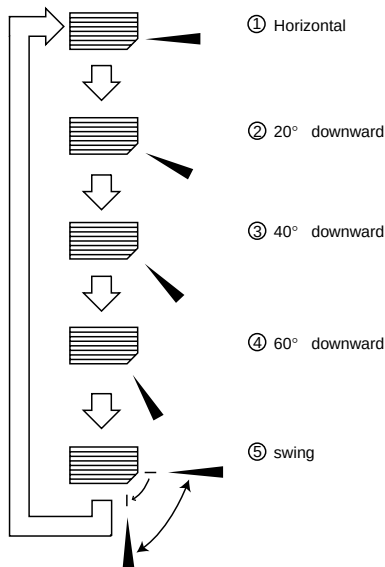
An abnormality in the outdoor unit can not be detected in DRY operation.

2-3 Auto vane control



<How to operate>
To change the air flow direction, press AIR DISCHARGE button.

①	②	③	④	⑤
Horizontal	20°	40°	60°	SWING



Changes by pressing
the AIR DISCHARGE
button.

Available in COOL operation with fan speed on HIGH.
Unavailable in DRY operation.
If fan speed changes from HIGH to LOW during 20°
downward airflow in COOL mode, the direction automati-
cally changes to horizontal.

COOL/DRY operation

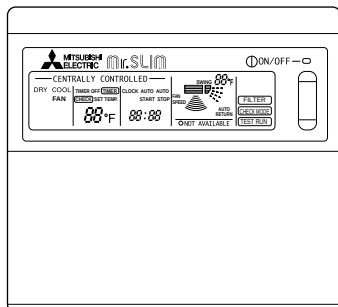
At the start-up of COOL or DRY operation, the airflow direction in automatically set to horizontal. After, it can be changed to another direction with AIR DISCHARGE button on the remote controller.

<Auto return>

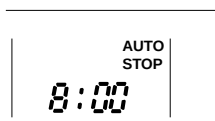
When 40° or 60° airflow is set with fan speed in LOW, “AUTO RETURN” appears right side of the air direction. One hour later the direction changes to horizontal degrees, automatically and “AUTO RETURN” disappears.

2-4 TIMER operation

WIRED REMOTE CONTROLLER



<Timer setting example>



<Timer function>

AUTO STOP The air conditioner stops after the set time lapses.

AUTO START The air conditioner starts after the set time lapses.

AUTO OFF Timer is not active.

<How to operate>

1. Press POWER ON/OFF button.
2. Press "TIMER ON/OFF" button to select AUTO STOP or AUTO START.
3. Press "CLOCK/TIMER" button to set desired time.
Time setting is in 1 hour units for up to 24 hours.
Each time TIMER SET button is pressed, set time increases by 1 hour. When TIMER SET button is pressed and held, the set time increases by 1 hour every 0.5 seconds.
4. To cancel the timer operation, press POWER ON/OFF button.

This setting will stop the operation in 8hours.
With the lapse of time, time display changes in 1hour units, showing remaining time.

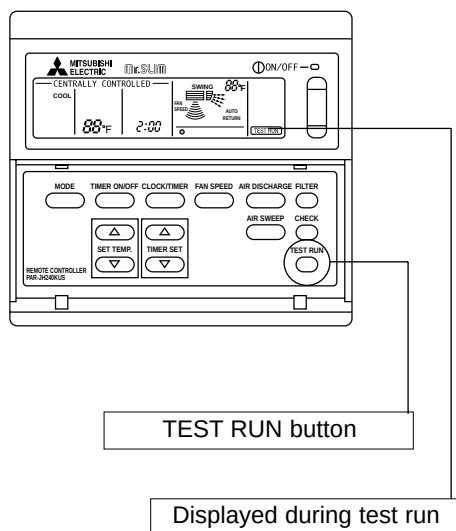
2-5Test run

<Before test run>

- After installing, wiring, and piping the indoor and outdoor units, check for refrigerant leakage, looseness in power supply or control wiring, and mistaken polarity.
- Use a 500-volt measure to check the resistance between the power supply terminal block and ground to make sure that it is at least 1.0MΩ.

Attention:

Do not use the air conditioner if resistance is less than 1.0MΩ.



<How to operate>

1. Turn ON main breaker.
2. Press TEST RUN button twice. "TEST RUN" is displayed on remote controller.
3. Select "COOL" with MODE button to check that cool air is being discharge.
4. Select LOW/HIGH with FAN SPEED button to check that the fan speed changes properly.
5. Press AIR DISCHARGE button to check auto vane operation.
6. Check outdoor fan operation.
7. Check compressor operation referring to the indoor coil temperature code displayed on the remote controller.
8. After checking, press the ON/OFF button.

The test run works for 2 hours and stops automatically.
To cancel the test run, press ON / OFF button or TIMER ON / OFF button.

(1) Indoor coil temperature code

During the test run, the indoor coil temperature code from 1 to 15 is displayed on the remote controller instead of room temperature. The code should fall with the lapse of time in normal COOL operation.

Code	1	2	3	4	5	6	7	8
Indoor coil temperature	~34(36)°F	36(37)°F~50°F	~59°F	~68°F	~77°F	~86°F	~95°F	~104°F
Code	9	10	11	12	13	14	15	
Indoor coil temperature	~113°F	~122°F	~131°F	~140°F	~158°F	~191°F	Thermistor abnormality	

(2) Trouble during test run

- If the unit malfunctions during the test run, refer to section 10 in this manual entitled "TROUBLESHOOTING."
- When the optional program timer is connected to the conditioner, refer to its operating instructions.

2-6 Emergency operation

When the remote controller or microprocessor malfunctions but all other parts are normal, emergency operation is started by setting the dip switch SW3 on the indoor controller board.

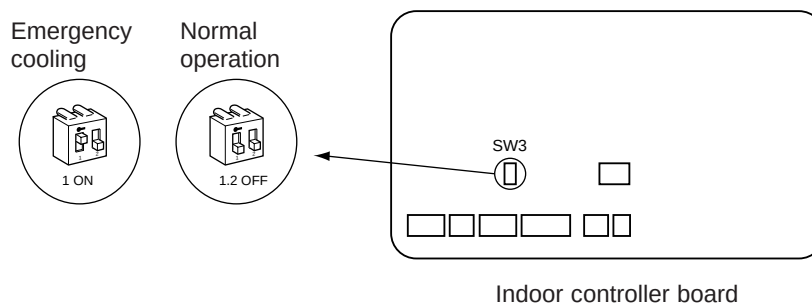
<Before emergency operation>

1. Make sure the compressor and the indoor fan are operating normally.
2. Locate the defect with the self-diagnostic function. When the self-diagnostic function indicates "protective function is working", release the protective function before starting the emergency operation.

CAUTION: When the self-diagnostic function indicates a check code of "P5" (drain pump malfunction), DO NOT start the emergency operation because the drain may overflow.

<How to operate>

1. For emergency cooling, set the dip switch SW3-1 to ON and SW3-2 to OFF.



2. Turn ON the outdoor unit breaker and then ON the indoor unit breaker.
Emergency operation will now start.
3. During emergency operation, the indoor fan operates on high speed, the auto vanes do not operate.
4. To stop emergency operation, turn OFF the indoor unit breaker.
5. Movements of the vanes do not work in emergency operation, therefore you have to slowly set them manually to the appropriate position.

NOTE: The remote controller POWER ON/OFF button can not start/stop emergency operations.

CAUTION: Do not use emergency cooling for more than 10 hours, as the indoor coil may freeze.

2-7 Dip switch functions

Each figure shows the initial factory setting.

1. On remote controller board

(1) SW17(Address selector)

	1	2	3	4	5	6	7	8
ON	☐	☐	☐	☐	☐	☐	☐	☐
OFF	☒	☒	☒	☒	☒	☒	☒	☒

SW17-1~6) For address setting

SW17-7) When two remote controllers are used,this switch sets the controller function.

OFF:The remote controller is set as a main controller.

ON:The remote controller is set as a sub controller.

SW17-8) Switch for system back-up.

OFF:Without back-up

ON:With back-up

(2) SW18(Function selector)

	1	2	3	4	5	6	7	8
ON	☐	☒	☒	☒	☒	☒	☒	☒
OFF	☒	☐	☐	☐	☐	☐	☐	☐

SW18-1) Switch for timer

OFF:Single day ON:timer every day

SW18-2) Switch for filter sign

OFF:filter sign absent

ON:filter sign present

SW18-3) Switch for filter sign time setting.

OFF:100Hr ON:2500Hr

SW18-4~8) Not for use.

2. On indoor controller board

(1) SW1 (Mode selector)

	1	2	3	4	5	6	7	8	9	10
ON	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐
OFF	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒

SW1-1) Switch that changes between FAN mode and AUTO mode

OFF:Not available

ON:Not available

SW1-2) Not for use.

SW1-3) Switch to change the temperature to start coil frost prevention

OFF:34°F

ON:36°F

SW1-4) Not for use.

SW1-5) Not for use.

SW1-6) Not for use.

SW1-7) Switch for detecting abnormalities in the outdoor unit abnormality detection

OFF:When an abnormality occurs,it is detected.

ON:Even if an abnormality occurs,it can not be detected.

SW1-8) Switch for auto restart function

OFF:This function does not work

ON:This function works.

SW1-9, 10) Not for use.

(2) SW2 (Address selector)

	1	2	3	4	5	6
ON	☐	☐	☐	☐	☐	☐
OFF	☒	☒	☒	☒	☒	☒

Used in setting the unit-address for group control.

For further information, refer to page OC278-41.

(3) SW3 (Emergency operation switch)

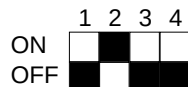
Normal operation



For emergency cooling



(4) SW5 (Model selector)



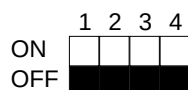
SW5-1) Not for use.

SW5-2) Leave this switch as it is.

SW5-3) Not for use.

SW5-4) Not for use.

(5) SW6 (Address selector)



This switch is not available for series PC.

(6) SW7 (Model selector)

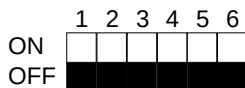
Switch to set the output of phase-controlled indoor fan motor.

Address setting is available at any time.

The initial factory setting by is based on each capacity.

Model	PC24GK	PC30GK	PC36GK	PC42GK
SW7	ON	ON	ON	ON
	OFF	OFF	OFF	OFF

(7) SW8 (Option)



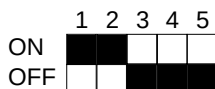
SW8-1~2) Not for use.

SW8-3~4) Not for use.

SW8-5) Not for use.

SW8-6) Not for use.

(8) SW9 (Model selector)



SW9-1~5) Keep this switch.

2-8. INDOOR FAN CONTROL

Fan motor max. rotational frequency

Model	Voltage [V]	100% rotational frequency(rpm)
		60Hz
PC24GK	115	1170
PC30GK	115	1150
PC36/42GK	115	1180

1.TROUBLES IN TEST RUN

Symptom	Cause	Check points																				
The display “CENTRALLY CONTROLLED” on remote controller does not disappear.	1) Wrong address setting of remote controller/indoor controller board. 2) Timer adapter is connected to the remote controller. 3) Signal transmission error between indoor unit and remote controller.	1) Check the address setting of remote controller and indoor controller. 2) Make sure the timer adapter is used correctly. 3) ① Turn another remote controller's DIP SW17-7 ON to make it sub controller. ② Connect the sub controller to the unit, and turn circuit breaker ON. ● If the display “centrally controlled” disappears, replace the original remote controller. ● If the display remains the same, replace the indoor controller board.																				
When remote controller POWER button is turned ON, the check code “E0”appears.	1) Signal transmission error between indoor unit and remote controller	1) ① Connect a sub remote controller. ② Turn circuit breaker ON. If the display “centrally controlled” remains, replace the indoor controller board. ③ If the display disappears, turn the remote controller POWER button ON and check as follows. <table><tr><td></td><td>Remote controller</td><td>Sub remote controller</td><td>Malfunction</td></tr><tr><td>1</td><td>Operating Display</td><td>E0 Display</td><td>Malfunction of indoor Unit</td></tr><tr><td>2</td><td>Operating Display</td><td>Operating Display</td><td>Malfunction of Remote controller</td></tr><tr><td>3</td><td>No Display</td><td>E0 Display</td><td>Malfunction of indoor Unit and Remote Controller</td></tr><tr><td>4</td><td>No Display</td><td>Operating Display</td><td>Malfunction of Remote controller</td></tr></table>		Remote controller	Sub remote controller	Malfunction	1	Operating Display	E0 Display	Malfunction of indoor Unit	2	Operating Display	Operating Display	Malfunction of Remote controller	3	No Display	E0 Display	Malfunction of indoor Unit and Remote Controller	4	No Display	Operating Display	Malfunction of Remote controller
	Remote controller	Sub remote controller	Malfunction																			
1	Operating Display	E0 Display	Malfunction of indoor Unit																			
2	Operating Display	Operating Display	Malfunction of Remote controller																			
3	No Display	E0 Display	Malfunction of indoor Unit and Remote Controller																			
4	No Display	Operating Display	Malfunction of Remote controller																			
When remote controller POWER button is turned ON, operating display appears, but disappears soon.	1) Short circuit of indoor/outdoor connecting wire 2) Short circuit of transmission wire. 3) Wrong operation of remote controller due to noise wave emitted by other appliances.	1), 2) Check the wire 3) Turn the circuit breaker OFF, and then turn ON. If the remote controller remains abnormal, despite the above measures, replace the indoor controller board.																				
Despite turning POWER button ON, the remote controller display does not appear.	1) Damaged remote controller. 2) Short circuit of transmission wire. 3) Bad contact of indoor CN40. 4) CN40 is attached to a sub unit. 5) Damaged power board. 6) Bad contact of CN2D. 7) Blown fuse. 8) Circuit breaker OFF.	1) Measure the voltage between terminals of remote controller. If no voltage, remove the terminals and measure the voltage between wires. If the voltage is between 6VDC and 12V, replace the remote controller. 2) ~ 8) Check each point. If it is not defective, replace the indoor controller board.																				

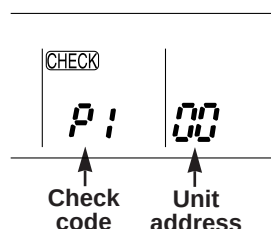
2. SELF DIAGNOSTIC FUNCTION WITH REMOTE CONTROLLER (WIRED REMOTE CONTROLLER)

2-1 When malfunction occurs during operation

When a malfunction occurs, the indoor and outdoor units stop and the malfunction is displayed on the LCD of the remote controller.

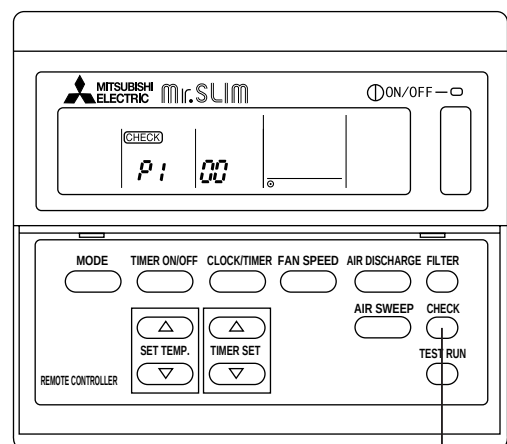
- (1) ON the set temperature display part, "CHECK" appears, and the unit address and the check code are displayed alternately at one-second intervals. (Check mode)

Example



- (2) When one remote controller controls several units in the group control, the LCD shows the unit address and check code of the first malfunctioning unit.
- (3) To cancel the check mode, press the $\odot$ ON/OFF button. In remote ON/OFF control, press the remote $\odot$ ON/OFF switch. In centralised control, turn OFF the $\odot$ ON/OFF button of centralised controller.

CHECK mode



Check button

NOTE: The latest check code is memorised, even if the check mode is cancelled by the way mentioned above. It takes 60 seconds maximum to display the memorised check code.

2-2 How to use the self diagnostic function for service

A. For normal control with one unit and one remote controller

- (1) Pressing the CHECK button on the remote controller twice starts the self diagnostic function.
- (2) During the self diagnostic function, "CHECK MODE" appears at two positions on the remote controller display. Then, at least 10 seconds later, the unit address and the check code is alternately displayed at one-second intervals.
- (3) Check and repair the unit according to the check code. (Refer to the next page.)

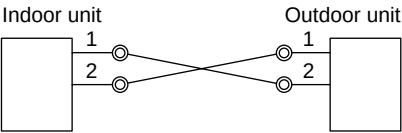
B. For group control using one remote controller

- (1) Pressing the CHECK button on the remote controller twice starts the self diagnostic function.
- (2) Press the $\triangle$ SET TEMP. button or ∇ SET TEMP. button on the remote controller to advance or go back to the unit address. Each time $\triangle$ SET TEMP. button is pressed, the unit address advances by one. Each time ∇ SET TEMP. button is pressed, the unit address goes back by one.
The check code and the unit address, appear alternately.
- (3) The check code "U8" means no malfunction has occurred since installation.
The check code "E0" means the following conditions:
 - The unit address displayed on the remote controller does not apply to any unit.
 - power is not supplied to the unit.
 - Signal transmitting/receiving circuit is abnormal.
- (4) Check and repair the unit according to the check code. (Refer to the next page.)

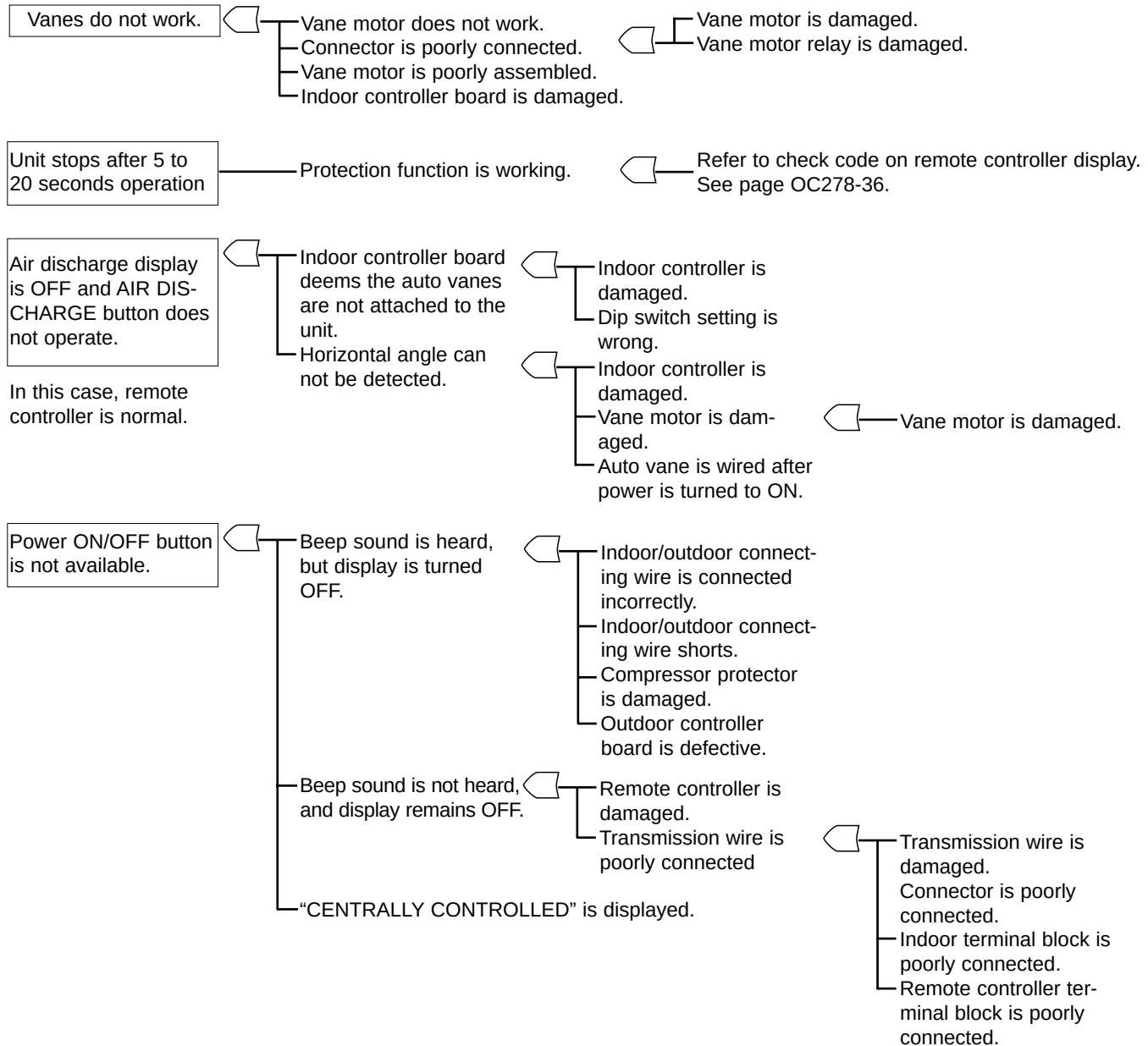
Check code	Diagnosis of malfunction	Cause	Check points
E0	Signal transmitting/receiving error (Indoor controller does not respond to remote controller signal.)	During individual unit control 1) Bad contact of transmission wire 2) Signal transmitting/receiving circuit is abnormal.	1) Check the transmission wire. 2) Check with another remote controller. If "E0" is still indicated, replace the indoor controller board. If other check code appears, replace the original remote controller.
P1	Abnormality of room temperature thermistor (RT1)	1) Bad contact of thermistor 2) Damaged thermistor	1) Check the thermistor. 2) Measure the resistance of the thermistor. Normal resistance should be as follows. 32°F...15kΩ 86°F...4.3kΩ 50°F...9.6kΩ 104°F...3.0kΩ 68°F...6.3kΩ If the resistance is normal, replace the indoor controller board.
P2	Abnormality of indoor coil thermistor (RT2)		
P3	Signal transmission error (Remote controller does not respond to indoor controller signal.)	1) Bad contact of transmission wire 2) Signal transmitting/receiving circuit is abnormal. 3) Wrong operation due to noise wave emitted by other appliances	1) Check the transmission wire. 2) Check with another remote controller. If "P3" is still indicated, replace the indoor board. If other check code appears, replace the original remote controller. 3) Short-circuit between ① and ② of CN40 and attach CN40 to the following units. ● Second unit in twin control ● Second and third units in triple control ● Sub units in group control
P4	Abnormality of drain sensor	1) Bad contact of transmission wire 2) Damaged thermistor	1) Check the connector. 2) Measure the resistance of the thermistor ① - ③. 32°F...6kΩ 59°F...3.2kΩ 86°F...1.8kΩ 41°F...4.8kΩ 68°F...2.6kΩ 95°F...1.5kΩ 50°F...3.9kΩ 77°F...2.2kΩ 104°F 1.3kΩ If the resistance is normal, replace the indoor controller board.
P5	Malfunction of drain pump	1) Malfunction of drain pump 2) Damaged drain sensor	1) Check the drain pump. 2) Check the drain sensor. (Check the drop of water is on.) If the resistance is normal, replace the indoor controller board.
P6	Freezing protection/overheating protection is working.	1) Short cycle of air cycle 2) Dirty air filter 3) Damaged fan 4) Abnormal refrigerant	1) Clear obstructions from the air cycle. 2) Clean the air filter 3) Check the fan. 4) Check the refrigerant temperature.
P7	System error	1) Wrong address-setting 2) Signal transmitting/receiving circuit of remote controller is abnormal. 3) Wrong SW6-setting	1) Check the address-setting. 2) Check with another remote controller. If check code other than "P7" appears, replace the original remote controller. 3) Check SW6 setting.
P8	Abnormality in outdoor unit	1) Wrong wiring of indoor/outdoor connecting wire 2) Reversed phase 3) Protection device is working 4) Damaged outdoor coil thermistor	1) Check the indoor/outdoor connecting wire. 2) Change the connection of electric wiring. 3) Check the protection device. 4) Measure the resistance of the outdoor coil thermistor. If the resistance is normal, replace the outdoor controller board.

3. WRONG WIRING ON SITE

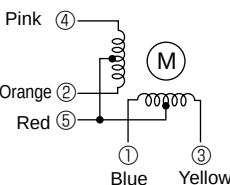
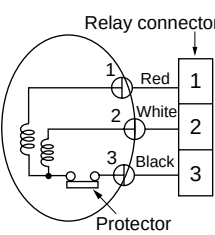
Symptom due to wrong wiring between indoor and outdoor units

Wrong wiring	Thermostat	Phenomena
 Indoor unit Outdoor unit	OFF	The outdoor unit stops.
	ON	Operation stops. 9 minutes later, the check code "P8" appears on the remote controller display.
Disconnect between 1 and 1 or 2 and 2.	OFF	Operation stops.
	ON	9 minutes later, the check code "P8" appears on the remote controller display.

4. OTHER TROUBLES AND CAUSES



5. How to check the parts

Parts name	Check points																	
Room temperature thermistor (RT1)	Disconnect the connector then measure the resistance using a tester. (Ambient temperature 50°F to 86°F)																	
Liquid pipe thermistor (RT2)	<table><tr><td>Normal</td><td>Abnormal</td></tr><tr><td>4.3kΩ to 9.6kΩ</td><td>Open or short</td></tr></table>	Normal	Abnormal	4.3kΩ to 9.6kΩ	Open or short	(Refer to the thermistor)												
Normal	Abnormal																	
4.3kΩ to 9.6kΩ	Open or short																	
Vane motor (MV) 	Measure the resistance between the terminals using a tester. (Ambient temperature 77°F)																	
	<table><tr><th rowspan="5">Connector</th><th colspan="2">Normal</th><th rowspan="2">Abnormal</th></tr><tr><th colspan="2">PC24/30/36/42GK</th></tr><tr><td>Red — Yellow</td><td rowspan="4">150Ω</td><td rowspan="4">Open or short</td></tr><tr><td>Red — Blue</td></tr><tr><td>Red — Orange</td></tr><tr><td>Red — Pink</td></tr></table>	Connector	Normal		Abnormal	PC24/30/36/42GK		Red — Yellow	150Ω	Open or short	Red — Blue	Red — Orange	Red — Pink					
Connector	Normal		Abnormal															
	PC24/30/36/42GK																	
	Red — Yellow		150Ω	Open or short														
	Red — Blue																	
	Red — Orange																	
Red — Pink																		
Fan motor (MF) 	Measure the resistance between the terminals using a tester.																	
	<table><tr><th rowspan="4">Motor terminal or Relay connector</th><th colspan="2">Normal</th><th rowspan="3">Abnormal</th></tr><tr><th colspan="2">PC</th></tr><tr><td>24GK</td><td>30,36,42GK</td></tr><tr><td>Red-Black</td><td>12.2Ω</td><td>7.6Ω</td></tr><tr><td>White-Black</td><td>16.7Ω</td><td>8.3Ω</td><td rowspan="2">Open or short</td></tr></table>	Motor terminal or Relay connector	Normal		Abnormal	PC		24GK	30,36,42GK	Red-Black	12.2Ω	7.6Ω	White-Black	16.7Ω	8.3Ω	Open or short		
Motor terminal or Relay connector	Normal		Abnormal															
	PC																	
	24GK			30,36,42GK														
	Red-Black	12.2Ω	7.6Ω															
White-Black	16.7Ω	8.3Ω	Open or short															
Opening and closing temperatuer of protector. Open: 266±41°F (Fan motor OFF) Close: 176±68°F (Fan motor ON)																		

<Thermistor Characteristic graph>

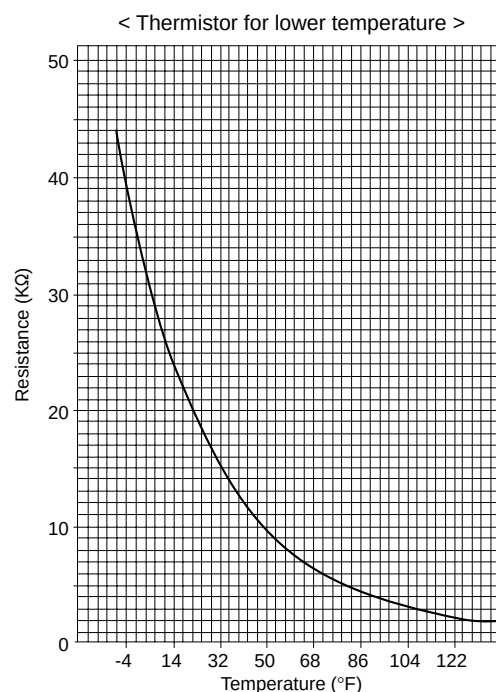
Thermistor for lower temperature

Room temperature thermistor(RT1)
Liquid pipe thermistor(RT2)

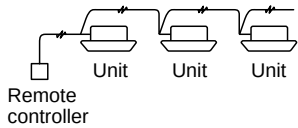
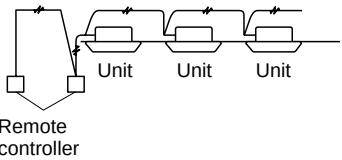
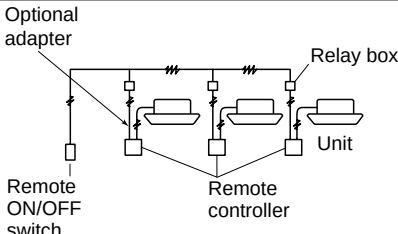
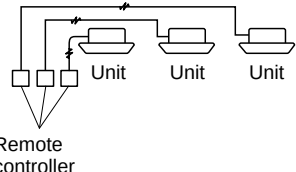
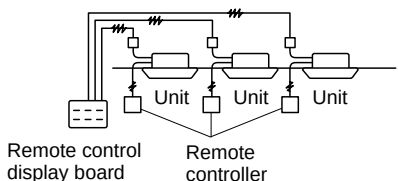
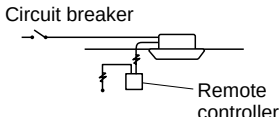
Thermistor $R_0=15k\Omega \pm 3\%$
Fixed number of $B=3480k\Omega \pm 2\%$

$$R_t = 15 \exp \left\{ 3480 \left(\frac{1}{273 + \{(t-32)/1.8\}} - \frac{1}{273} \right) \right\}$$

32°F	15kΩ
50°F	9.6kΩ
68°F	6.3kΩ
77°F	5.4kΩ
86°F	4.3kΩ
104°F	3.0kΩ



1. VARIETY OF SYSTEM CONTROL FUNCTIONS

① Group control with a single remote controller (See page OC278-41.)	 Remote controller	Many units, installed at different locations, can be started and controlled with a single remote controller. The remote controller can be mounted in a different location using a non-polar two-wire cable, which can be extended up to 500m. A maximum of 50 units can be controlled with a single remote controller. All units operate in the same mode.
② Control using two remote controllers (See page OC278-42.)	 Remote controller	Two remote controllers can be used to control either one unit or a group of units. Units can then be controlled from a distance or at close range. Units operate according to the latest command from either remote controller.
③ Both remote ON/OFF and individual controls (See page OC278-42.) * Timer adapter (PAC-SA89TA-E) is needed.	 Optional adapter Remote ON/OFF switch Relay box Remote controller	All units can be turned on or off simultaneously using a remote ON-OFF switch. Also, each unit can be controlled individually by each remote controller. During remote ON-OFF control, a message of "CENTRALLY CONTROLLED" is displayed on the LCD of the remote controller. This is available for both one unit control and several units control.
④ Individual control by grouping remote controllers (See page OC278-43.)	 Remote controller	By grouping the remote controllers in one place, several units installed at different locations can be controlled individually, and operation conditions of all units are visible without a special control board. The control method is the same as that of the single unit with a single remote controller.
⑤ Multiple remote control display (See page OC278-44.) * Multiple display adapter (PAC-SA88HA-E) is needed.	 Remote control display board Remote controller	Several units can be controlled with a remote control display board. Operation conditions of all the units are visible with the remote control display board. Individual control by each remote controller is also possible.
⑥ Auto restart function (See page OC278-44.)	 Circuit breaker Remote controller	A unit can be started or stopped with the circuit breaker on or off. Remote controller is also available. With this function, when the power is restored after power failure, the unit will restart automatically. (However, when the remote controller POWER ON/OFF button is OFF, the unit will not start.)

2. GROUP CONTROL WITH A SINGLE REMOTE CONTROLLER

A maximum of 50 units can be started in order according to the dip switch settings

2-1 How to wire

- (1) Connect the remote controller to the double terminal block on the indoor controller board of the master unit (No.0 unit). (See Figure 1.)
- (2) Connect the double terminal block of the master unit to the double terminal block of No.1 unit.
- (3) Connect the double terminal block of No.1 unit to the double terminal block of No.2 unit.
- (4) Continue the process until all the units are connected with two-wire cables. (See Figure 2.)
- (5) Remove the connector CN40 from the indoor controller board of each unit except the master unit. (See Figure 3.)
- (6) Set the unit-address of each unit with SW2 on the indoor controller board following the instructions below.

2-2 How to set unit-address

The unit-address also serves as a successive-start timer which starts each unit at intervals of 1 second. If two or more units have the same unit-address in a group control, operation stops due to system error. Be sure to set SW2 correctly following the instructions below.

- (1) Each lever of SW2 shows the number as follows.

SW2-1 : 1	SW2-4 : 8
SW2-2 : 2	SW2-5 : 16
SW2-3 : 4	SW2-6 : 32
- (2) Total number of levers turned to ON shows the address of the unit.
For example, to set No.3 unit, turn ON SW2-1 and SW2-2.
- (3) In this way, set from the master unit to the last unit.
Do not forget to set the master (No. 0) unit.

Figure 1

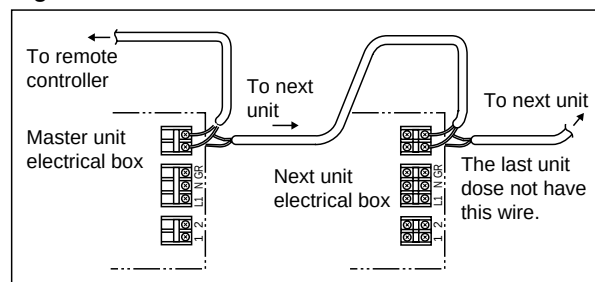


Figure 2

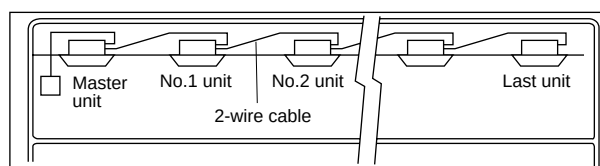
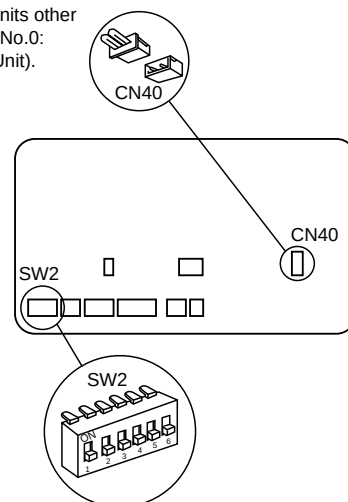


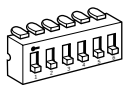
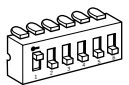
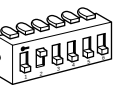
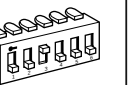
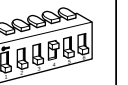
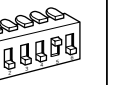
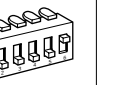
Figure 3

Indoor controller board ▼

Should be removed from all units other than unit No.0: (Master Unit).



Setting examples

	Master (No. 0) unit	No. 1 unit	No. 2 unit	No. 4 unit	No. 8 unit	No. 16 unit	No. 32 unit
SW2	ALL OFF 	1 ON 	2 ON 	3 ON 	4 ON 	5 ON 	6 ON 
Unit address & start delay in seconds.	0	1	2	4	8	16	32

2-3 Unit control

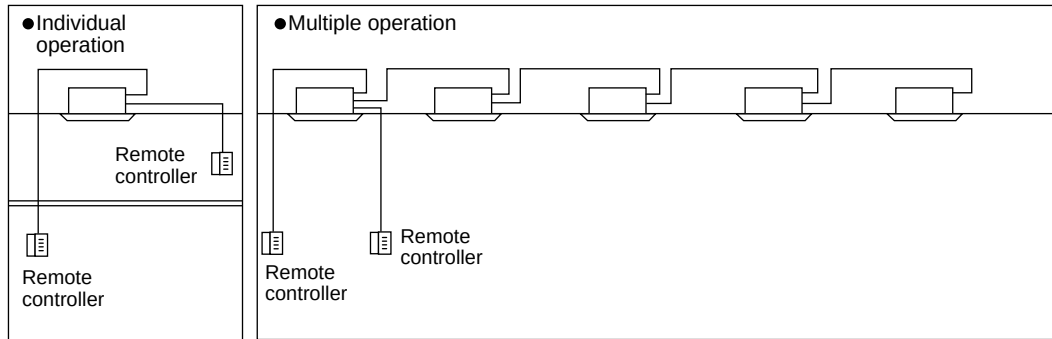
The remote controller can control all units ON/OFF, temperature, air flow, and swing louver. However, the thermostat in each unit turns ON or OFF individually to adjust to the room temperature.

3. CONTROL USING TWO REMOTE CONTROLLERS

Two remote controllers can be used to control either one unit or a group of units. Units operate according to the latest command from either of the two remote controllers.

Before operation, be sure to set one remote controller as the “main controller” and the other as the “sub controller”, using dip switch SW17-7 of the remote controller.

Figure 4



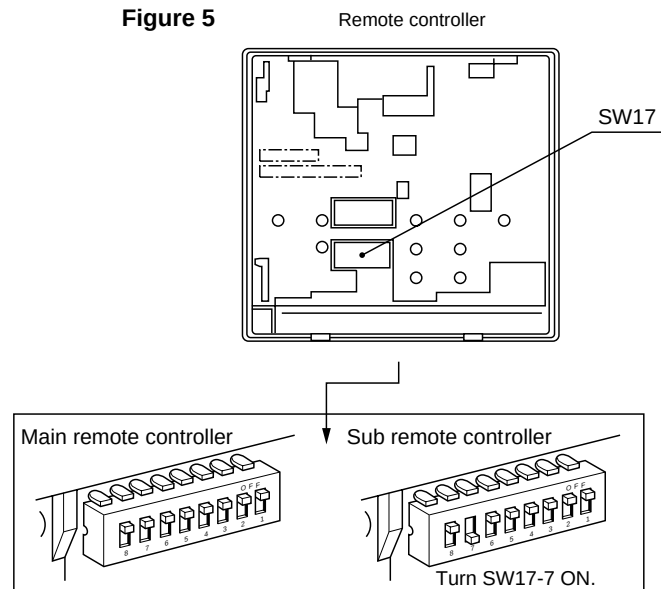
3-1 How to set SW17-7 (See Figure 5.)

- (1) For the main remote controller, turn SW17-7 OFF.
- (2) For the sub remote controller, turn SW17-7 ON.

3-2 Remote controller LCD indication

- (1) The same indications always appear on both the main and sub remote controllers, except during the timer operations.
- (2) Timer operations can be set with either of the two remote controllers. However, LCD indication appears only on the remote controller used for timer-settings.
- (3) If both remote controllers are set for timer operation with different time-settings, the timer operation with the shorter remaining-time is effective.
- (4) Self-diagnostic function is available with either of the two remote controllers. If one of the remote controllers is used for the self-diagnostic function, the other remote controller displays the check mode. If the self-diagnostic function is reset by either of the two remote controllers, both remote controllers are reset.

Figure 5



4. REMOTE ON-OFF AND INDIVIDUAL REMOTE CONTROLS

This method is available to control one unit or any number of units.

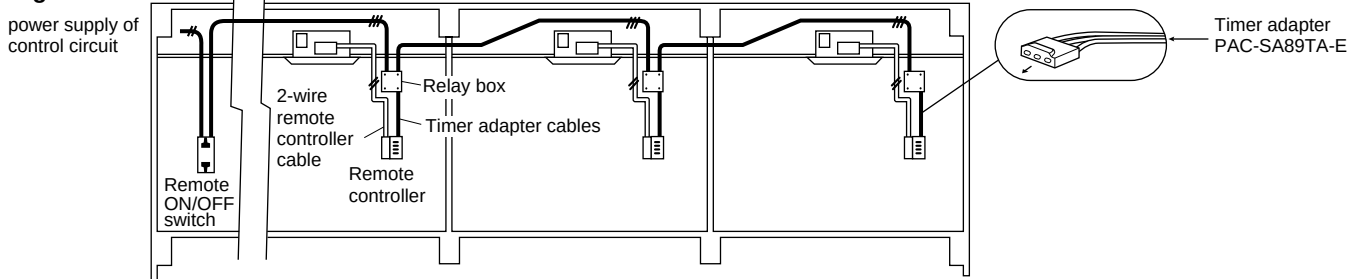
The following operations are available by connecting a relay, a timer adapter (PAC-SA89TA-E), and a remote ON/OFF switch to the system. Timer adapter is an optional part. Other parts are available on the market.

- (A) To start all units in order by remote ON-OFF switch
- (B) To stop all units simultaneously by remote ON-OFF switch
- (C) To switch between the remote ON-OFF control and the individual remote control

4-1 System

Figure 6 shows the case of three units. The same is the case with any number of units.

Figure 6



NOTE1 : Install the relay box where you can be serviced it easily.

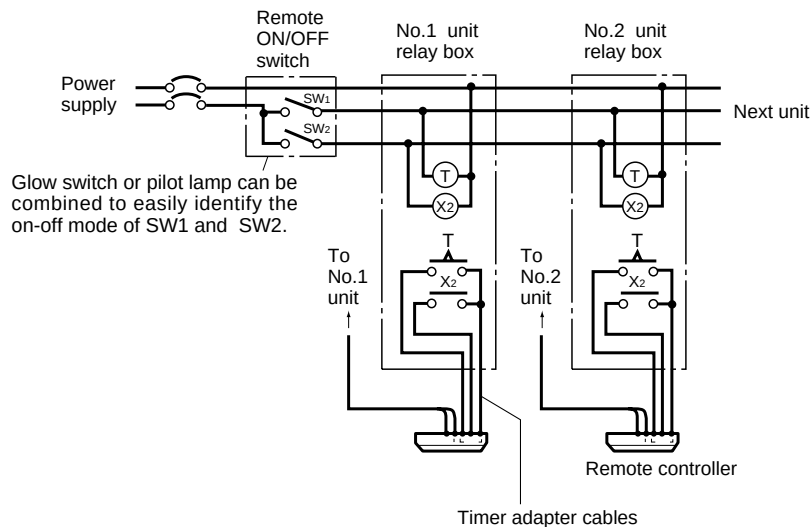
NOTE2 : For control circuit wiring, use a wire of No. 14 AWG or a control cable according to the power supply of control circuit.

NOTE3 : When the power supply of the control circuit is 115V AC,

- Do not connect the control circuit wire to the remote controller cable directly.
- Do not place the control circuit wire and the remote controller cable into the same conduit tube.

4-2 Basic wiring

Caution : Before starting all units simultaneously by the remote ON-OFF switch, be sure to connect a sequence-start timer into the remote ON-OFF circuit. Otherwise, a rush of starting current may damage the power supply.



4-3 Switch function of remote ON-OFF switch

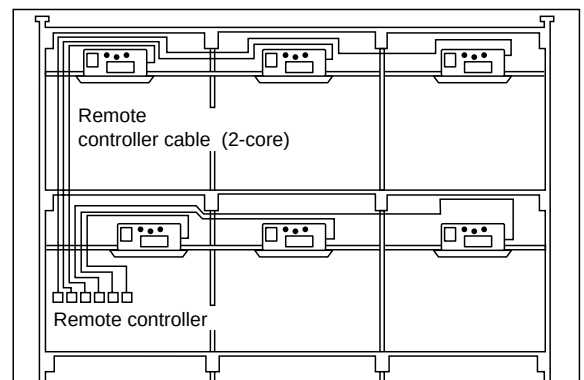
		SW2 (Switches between remote ON-OFF and individual control)	
		ON (Remote ON-OFF control)	OFF (Individual control)
SW1 (Switches between remote ON and OFF.)	ON (Start)	All units start together. ※1 Individual control is not available.	Each unit can be controlled by each remote controller. Remote ON-OFF switch is not available.
	OFF (Stop)	All units stop together. ※2 Individual control is not available.	

※1 After all units start together, if SW2 is turned OFF, each unit can be individually stopped by each remote controller.

※2 After all units stop together, if SW2 is turned OFF, each unit can be individually started by each remote controller.

5. INDIVIDUAL CONTROL BY GROUPING THE REMOTE CONTROLLERS

- Grouping the remote controllers allows individual control and centralized monitoring of units installed in different places without a special control board.
- Remote control cables are extendible up to 550 yards. When the cable length exceeds 33ft, use the double-insulated two-core cable such as Belden 9407. Also, the cable thickness must be No. 22 AWG or above.
- When gathering the power ON/OFF switches of air conditioners near the remote controllers, you should also install the power ON/OFF switch near each unit to prevent electric trouble during servicing.



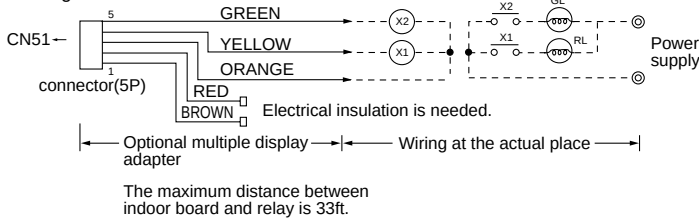
6. MULTIPLE REMOTE CONTROL DISPLAY

You can control several units with a multiple remote control display, by wiring an optional multiple display adapter (PAC-SA88HA-E) with relays and lamps on the market.

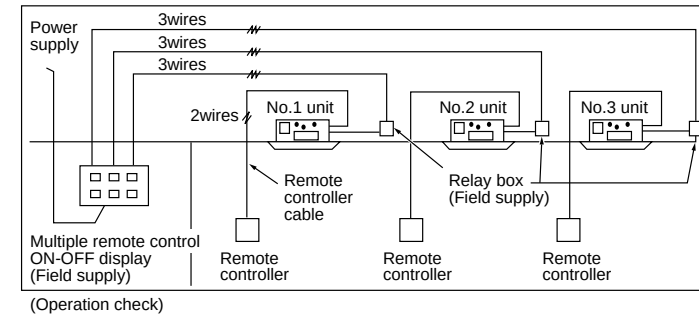
How to wire

- (1) Connect the multiple display adapter to the connector CN51 on the indoor controller board.
- (2) Wire three of the five wires from the multiple display adapter as shown in the figure below.

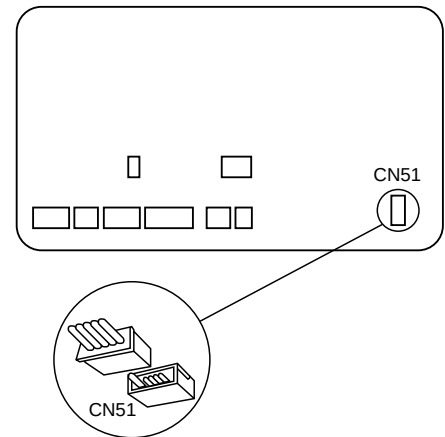
<Wiring>



<System>



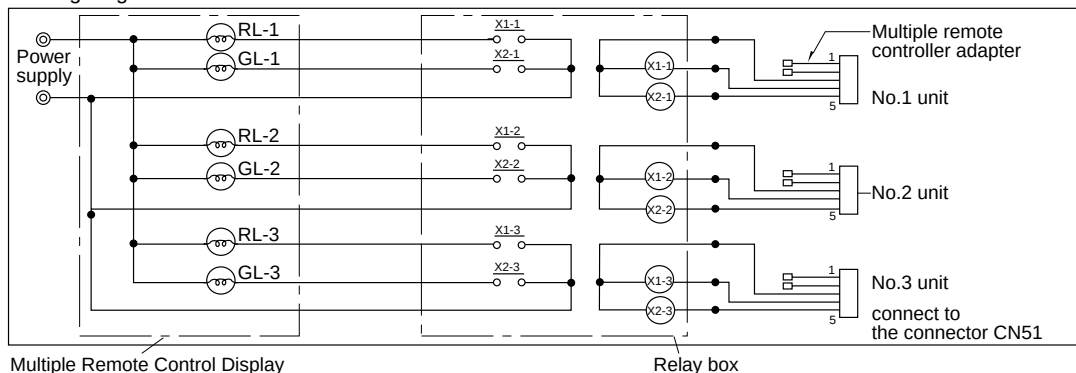
Indoor controller board



[Notes on Signs]

X1:Relay (for operation lamp)
X2:Relay (for check lamp)
RL:Operation Lamp
GL:Check Lamp
[Field supplied parts]
Relays:12V DC with rated coil power consumption below 0.9W.
Lamps:Matching to power supply voltage.

<Wiring diagram>



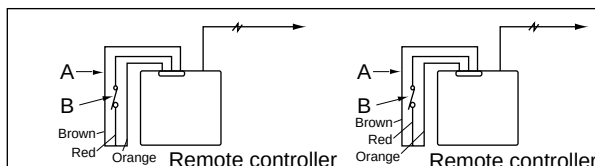
7. AUTO RESTART FUNCTION

By setting the dip switch SW1-8 to ON, the air conditioner can be started/stopped by power supply ON/OFF. If the air conditioner is OFF before the power failure, it will not start operation by power restore.

•This function is mainly to emergency performance when the power supply stops temporarily. Therefore, since the protection function (for example, crank case heater and prevention from restarting in 3 minutes, etc.) of the device is not operated, this function should not be used mostly.

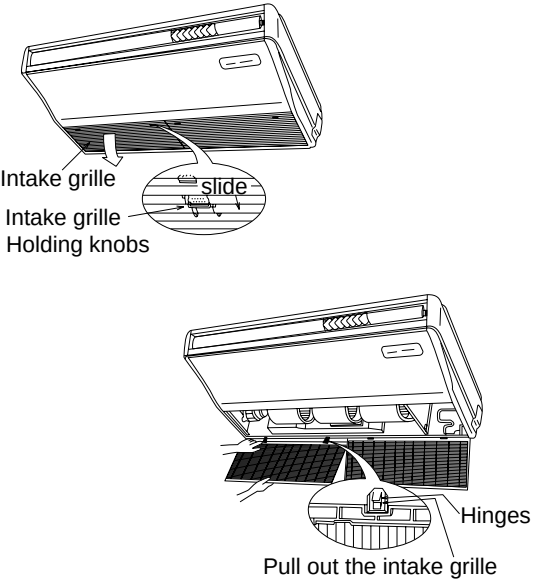
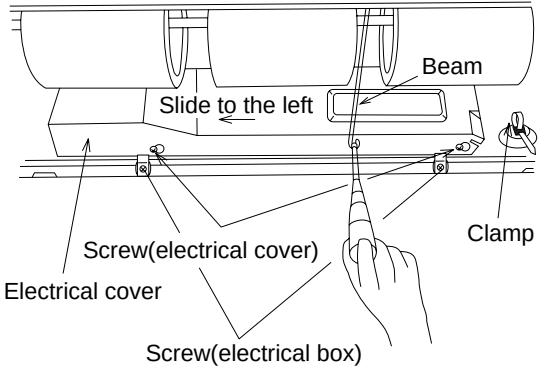
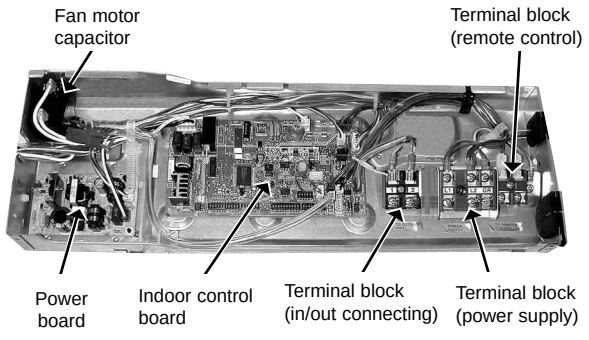
8. TIMER OPERATION OR THE OPERATION BY AN EXTERNAL SIGNAL

<Wiring>



A : an optional timer adapter
B : a single-throw switch

PC24GK

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
1. Removing the air intake grille (1) Slide the intake grille holding knobs (at two locations) backward to open the intake grille. (2) When the intake grille left open, push the stoppers on the rear hinges (at two locations) to pull out the intake grille.	Figure 1 
2. Removing the electrical box (1) Remove the air intake grille. (2) Remove the screw from the beam and remove the beam. (3) Remove the screws from the electrical cover, and remove the electrical cover. (4) Disconnectors including CN6V and CN21. (5) Remove the screws from the electrical box and pull out the electrical box. <Electrical parts in the electrical box> - Terminal block (for power supply) - Terminal block (for in/outdoor connecting wire) - Terminal block (for remote controller) - Fan motor capacitor - Indoor control board - Power Board	Figure 2  Photo 1 

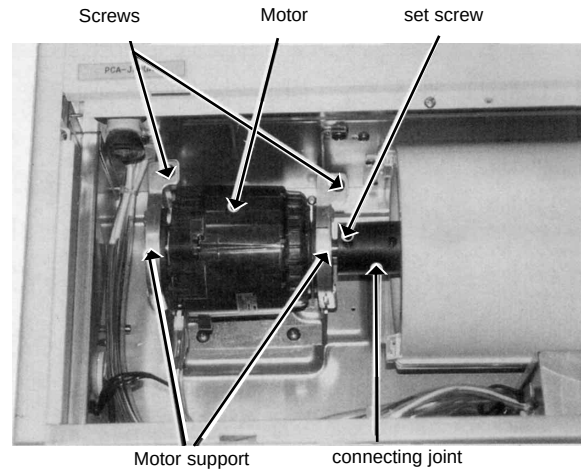
OPERATING PROCEDURE

3. Removing the fan motor

- (1) Remove the intake grille.
- (2) Disconnect the fan motor connector.
- (3) Remove the screw for removing the motor support at both left and right side.
- (4) Loosen the set screws at the fan motor side of the connecting joint.
- (5) Slide the fan motor to the left side and pull it out.

PHOTOS&ILLUSTRATIONS

Photo 2



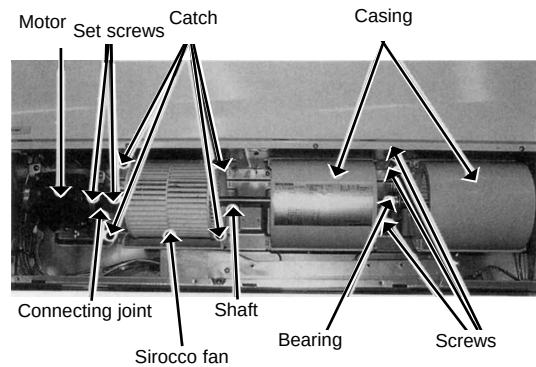
4. Removing the sirocco fan

- (1) Remove the air intake grille.
- (2) Remove 1 beam.
- (3) Remove the lower casing while pressing the stoppers at upper side of the casing.
- (4) Loosen the set screws at the connecting joint.
- (5) Remove the sirocco fan and shaft together by sliding the shaft to the left.

(Note)

Make sure that the upper side casing is snapped to the fan plate securely with catch.

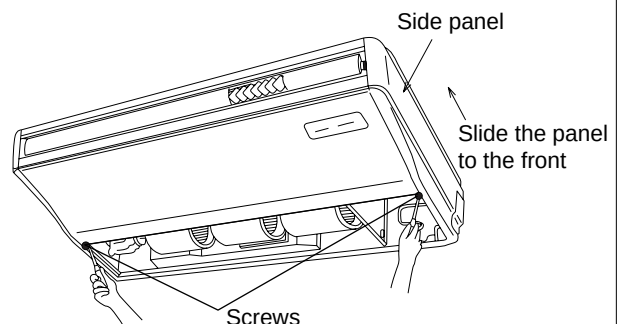
Photo 3



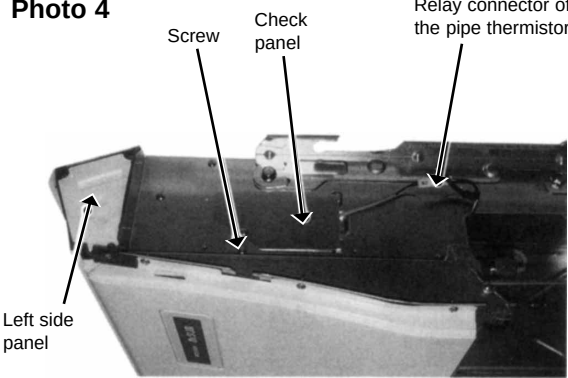
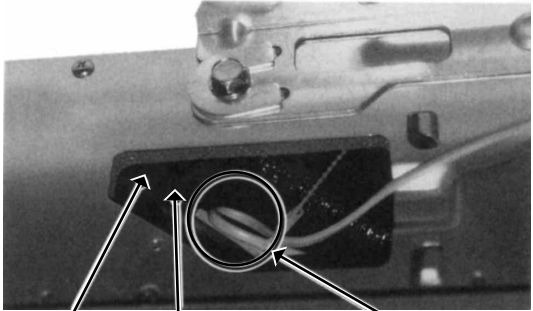
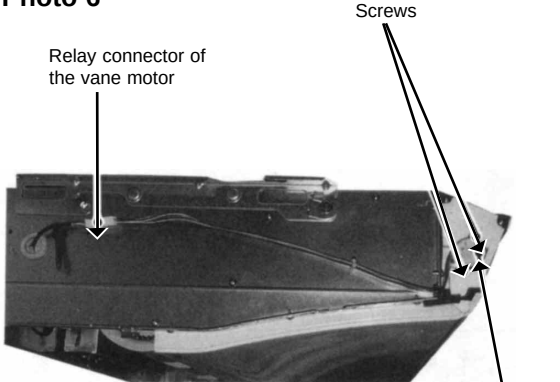
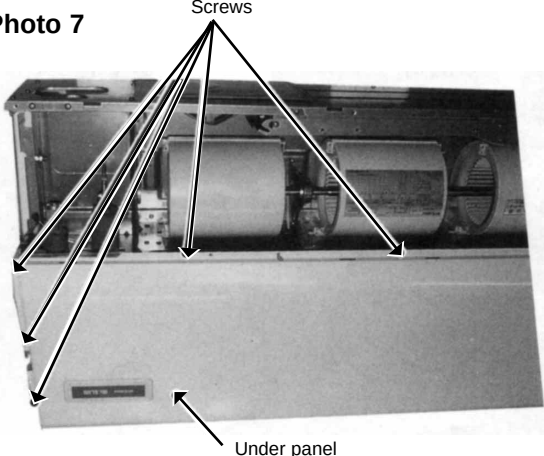
5. Removing the side panel

- (1) Remove the air intake grille.
- (2) Remove the screw from the side panel, and remove the side panel by sliding the panel to the front.

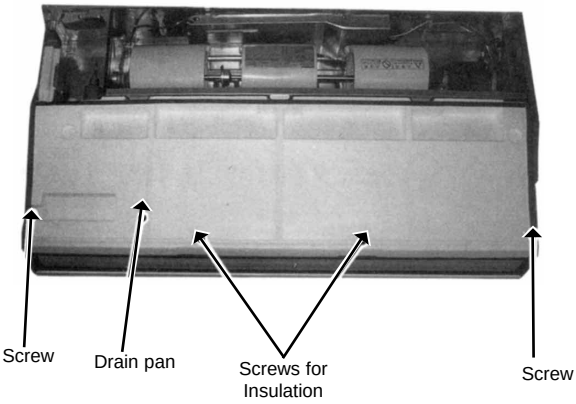
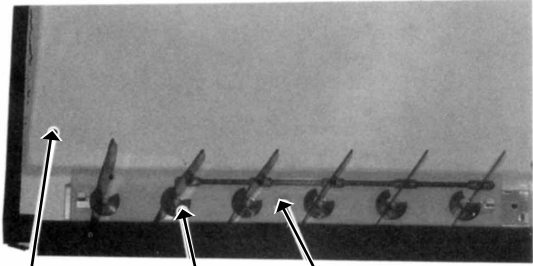
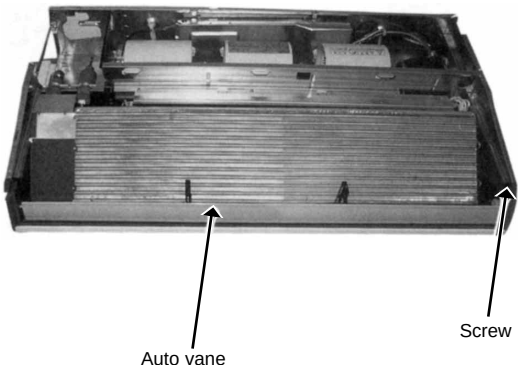
Figure 3





OPERATING PROCEDURE	PHOTOS
6. Removing the vane motor (1) Remove the air intake grille. (2) Remove the left side panel. (3) Remove the relay connector of vane motor. (4) Remove the electrical box. (5) Remove the screws of vane motor, then remove vane motor. (Note) Connect the lead wires and connectors properly and place them in the proper position so that the wires are not pinched by other parts.	Photo 4  Left side panel Screw Check panel Relay connector of the pipe thermistor Photo 5  Hold Indoor coil thermistor Trap
7. Removing the Indoor coil thermistor (1) Remove the air intake grille. (2) Remove the right side panel. (3) Remove the relay connector of the pipe thermistor. (4) Remove the screw, and remove the check panel. (5) Extract the indoor coil thermistor from the holder. <Caution for the installation> There is a possibility for the short circuit when connector gets wet by water through the thermistor lead wire. Therefore, lead wire of the indoor coil thermistor should be trapped as shown in the photo 5.	Photo 6  Relay connector of the vane motor Screws Vane motor
8. Removing the Under panel (1) Remove the air intake grille. (2) Remove the beam. (3) Remove the side panel (right and left). (4) Unscrew the screws of the under panel, then remove the under panel. ※ Weight of the under panel : approx. 5 lbs.	Photo 7  Screws Under panel



OPERATING PROCEDURE	PHOTOS
9. Removing the drain pan (1) Remove the air intake grille. (2) Remove the beam. (3) Remove the side panel (right and left). (4) Remove the under panel. Remove the screws of the right and left side drain pan. (5) Remove the insulation in center of the drain pan, and after removing the screw, remove the drain pan.	Photo 8  Screw Drain pan Screws for Insulation Screw
10. Removing the guide vane (1) Remove the intake grille. (2) Remove the beam. (3) Remove the side panel (right and left). (4) Remove the under panel. (5) Remove the drain pan. (6) Remove the screw from the guide vane, then remove the guide vane.	Photo 9  Drain pan Guide vane Screw
11. Removing the Auto vane (1) Remove the intake grille. (2) Remove the left side panel. (3) Remove the left side box. (4) Remove the under panel. (5) Remove the screw from the auto vane. (6) Slide the auto vane to the right side and pull the auto vane out.	Photo 10  Auto vane Screw

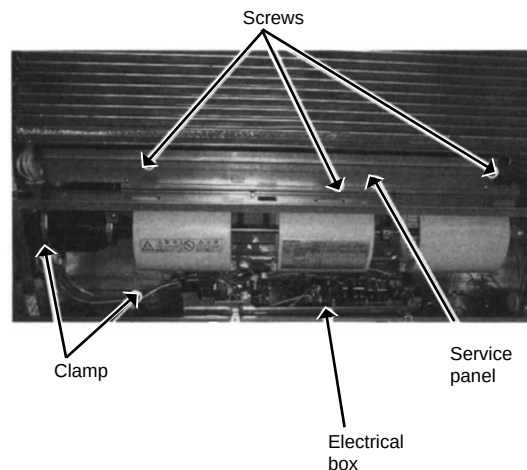
OPERATING PROCEDURE

12. Removing the support heater.

- (1) Remove the air intake grille.
- (2) Remove the beam.
- (3) Remove the side panel (right and left).
- (4) Remove the relay connector for the pipe thermistor.
- (5) Remove the under panel.
- (6) Remove the drain pan.
- (7) Remove the screw from the pipe cover, and remove the pipe cover.
- (8) Remove the screw from the pipe support, and remove the pipe fixed support.

PHOTOS

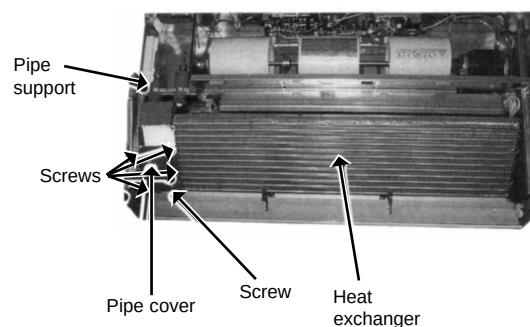
Photo 11



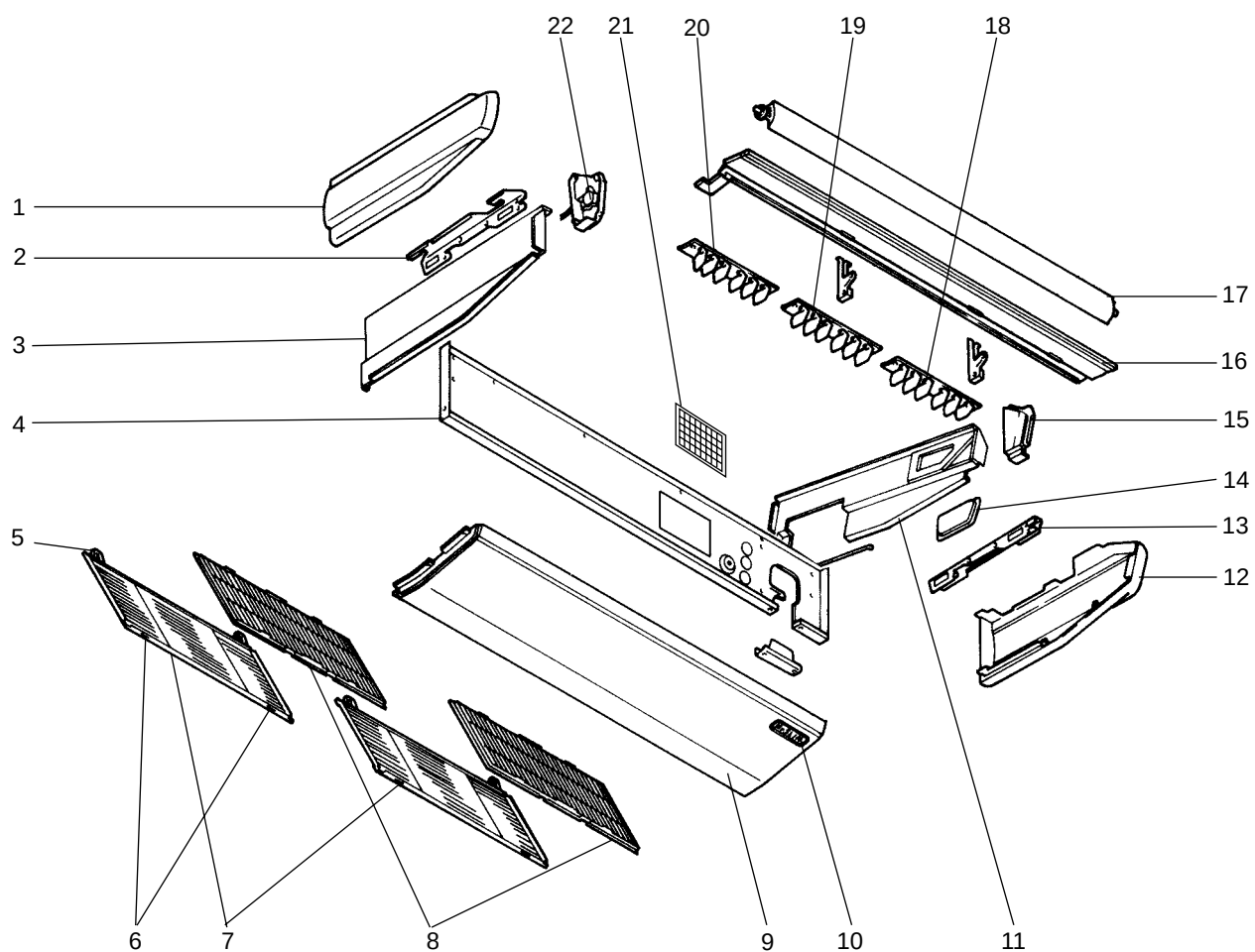
13. Removing the heat exchanger.

- (1) Remove the air intake grille.
 - (2) Remove the beam.
 - (3) Remove the side panel (right and left).
 - (4) Disconnect the relay connector.
 - (5) Remove the under panel.
 - (6) Remove the drain pan.
 - (7) Unscrew the screw of the pipe cover, and remove the pipe cover.
 - (8) Unscrew the screw of the pipe support, and remove the pipe support.
 - (9) Unscrew the screw of the heat exchanger, and remove the heat exchanger.
- Remove the heat exchanger with care. Since this is quite heavy, removing work should be done with more than 2 people.
- ※Weight of heat exchanger : Approx. 12 lbs.

Photo 12



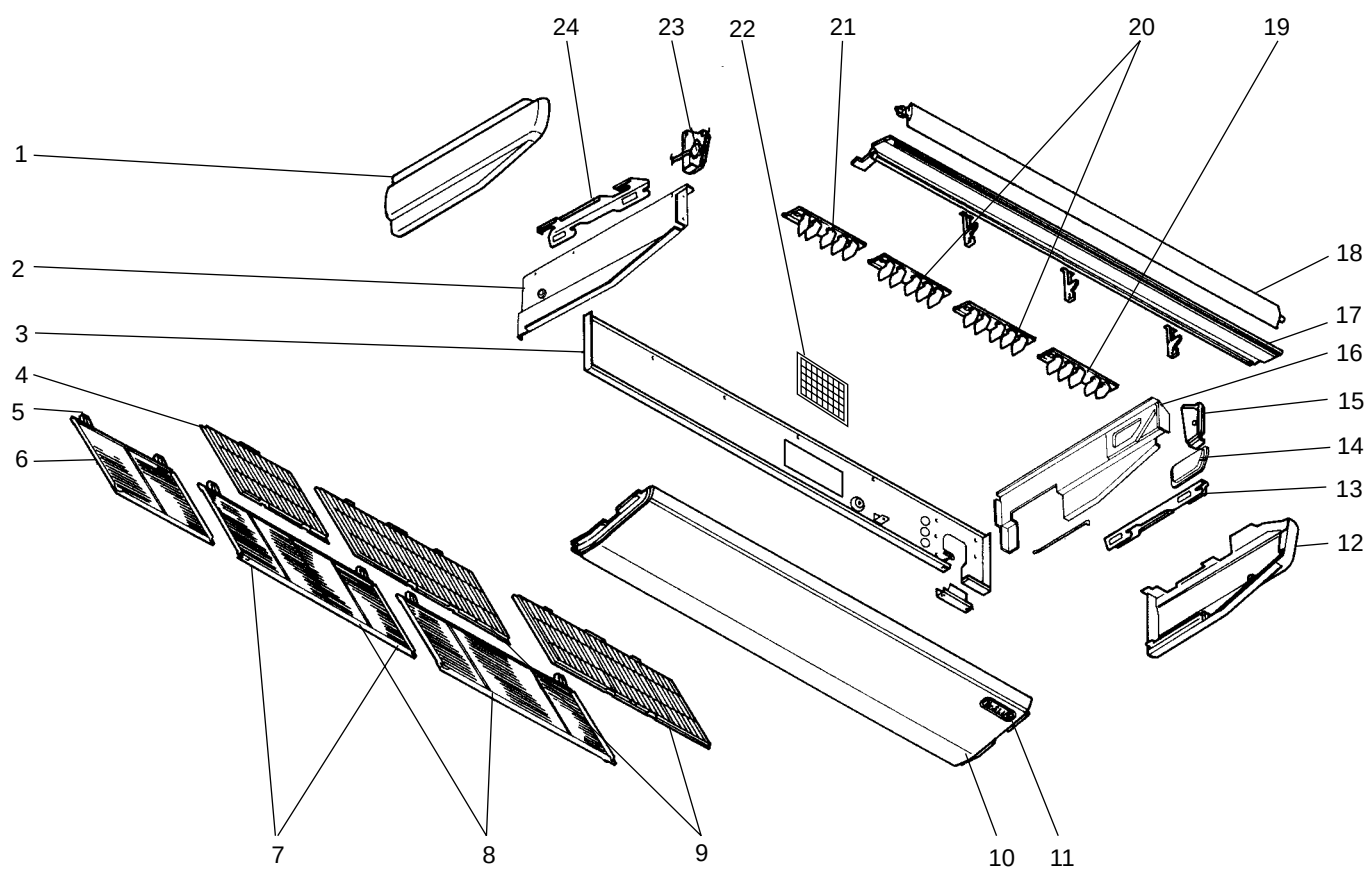
STRUCTURAL PART
PC24GK



Part numbers that are circled are not shown in the illustration.

No.	Parts No.	Parts Name	Specifications	Q'ty / set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recom- mended Q'ty	Price	
				PC				Unit	Amount
				24GK					
1	R01 35J 662	LEFT SIDE PANEL		1					
2	R01 17J 809	LEFT LEG		1					
3	T7W E00 666	SIDE PLATE-L.		1					
4	T7W E00 676	REAR PANEL		1					
5	R01 17J 061	GRILLE HINGE		4					
6	R01 17J 054	GRILLE CATCH		4					
7	R01 17J 691	GRILLE ASSY		2					
8	R01 A14 500	FILTER		2					
9	R01 29J 669	UNDER PANEL		1					
10	T7W E01 070	WIRELESS BOARD CASE		1					
11	T7W E00 665	SIDE PLATE-R.		1					
12	R01 35J 661	RIGHT SIDE PANEL		1					
13	R01 17J 808	RIGHT LEG		1					
14	T7W E01 668	SERVICE PANEL		1					
15	R01 35J 067	RIGHT SIDE BOX		1					
16	T7W E00 651	FRONT PANEL		1					
17	R01 35J 002	AUTO VANE		1					
18	R01 37J 085	GUIDE VANE ASSY-6R.		1					
19	R01 37J 087	GUIDE VANE ASSY-6C.		1					
20	R01 37J 086	GUIDE VANE ASSY-6L.		1					
21	T7W 051 501	AIR FLITER		1					
22	R01 35J 223	VANE MOTOR		1		MV			
23	R01 17J 523	JOINT SOCKET		1					
24	T7W E00 072	DRAIN HOSECOVER		1					

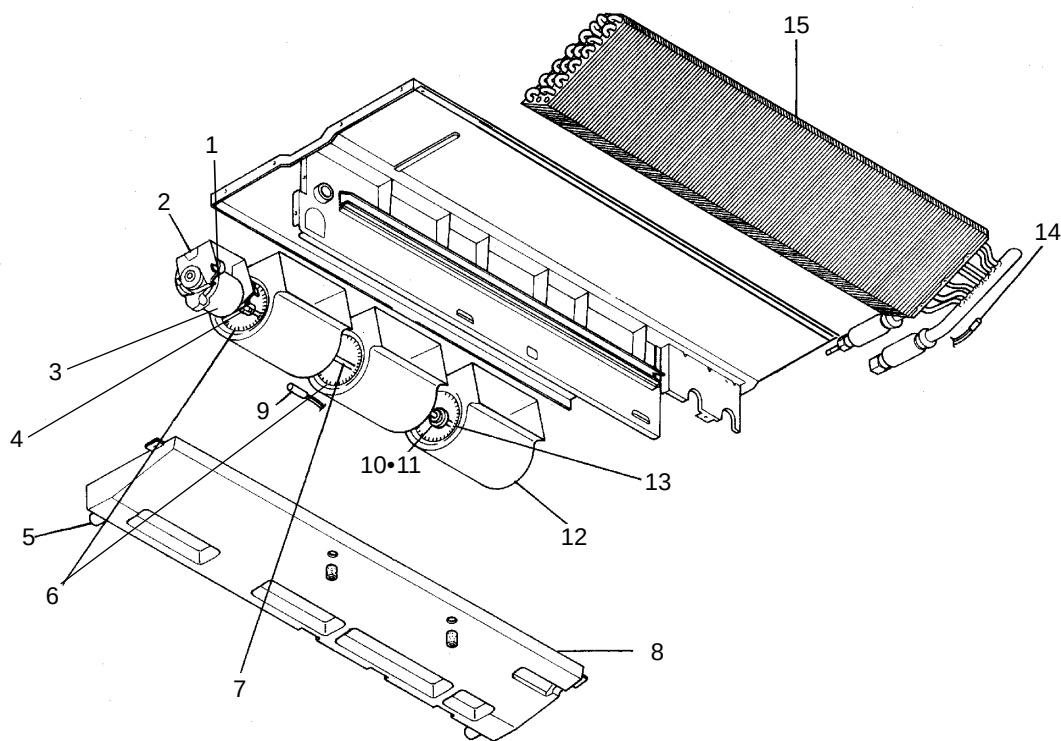
STRUCTURAL PART
PC30GK
PC36GK
PC42GK



Part numbers that are circled are not shown in the illustration.

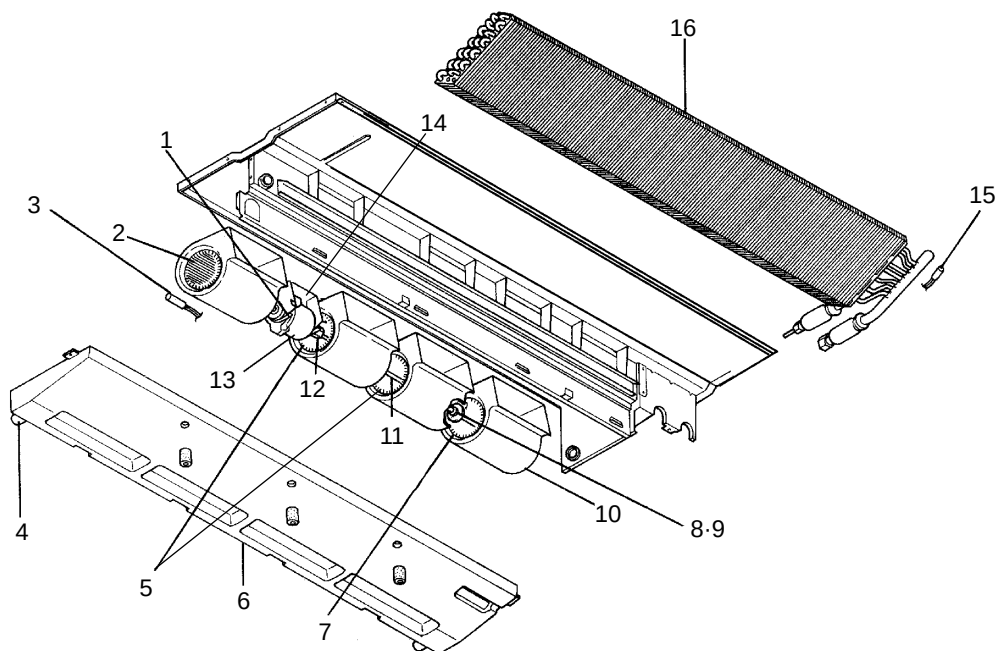
No.	Parts No.	Parts Name	Specifications	Q'ty / set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recom- mended Q'ty	Price	
				PC				Unit	Amount
				30, 36, 42GK					
1	R01 35J 662	LEFT SIDE PANEL		1					
2	T7W E00 666	SIDE PLATE-L.		1					
3	T7W E01 676	REAR PANEL		1					
4	R01 A15 500	FILTER		1					
5	R01 17J 061	GRILLE HINGE		6					
6	R01 18J 691	GRILLE ASSY		1					
7	R01 17J 054	GRILLE CATCH		6					
8	R01 17J 691	GRILLE ASSY		2					
9	R01 A14 500	FILTER		2					
10	R01 41J 669	UNDER PANEL		1					
11	T7W E01 070	WIRELESS BOARD CASE		1					
12	R01 35J 661	RIGHT SIDE PANEL		1					
13	R01 17J 808	RIGHT LEG		1					
14	T7W E01 668	SERVICE PANEL		1					
15	R01 35J 067	RIGHT SIDE BOX		1					
16	T7W E00 665	SIDE PLATE-R.		1					
17	T7W E01 651	FRONT PANEL		1					
18	R01 41J 002	AUTO VANE		1					
19	R01 41J 085	GUIDE VANE ASSY-5R.		1					
20	R01 43J 087	GUIDE VANE ASSY-5C.		2					
21	R01 42J 086	GUIDE VANE ASSY-5L.		1					
22	T7W 051 501	AIR FILTER		1					
23	R01 35J 223	VANE MOTOR		1		MV			
24	R01 17J 809	LEFT LEG		1					
②⑤	R01 17J 523	JOINT SOCKET		1					
②⑥	T7W E00 072	DRAIN HOSE COVER		1					

FAN PARTS PC24GK



No.	Part No.	Part Name	Specification	Q'ty / set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recom- mended Q'ty	Price	
				PC 24GK				Unit	Amount
1	R01 43E 126	PIECE (MOTOR)		1					
2	R01 35J 130	MOTOR LEG		1					
3	T7W E16 762	FAN MOTOR	PN4W90-C	1		MF			
4	R01 700 116	SHAFT JOINT		1					
5	R01 17J 524	DRAIN PLUG		1					
6	R01 35J 114	SIROCCO FAN		2					
7	R01 29J 100	SHAFT		1					
8	T7W E15 529	DRAIN PAN		1					
9	R01 E26 202	ROOM TEMPERATURE THERMISTOR		1		RT1			
10	R01 705 103	SLEEVE BEARING		1					
11	R01 35J 145	BEARING SUPPORT		1					
12	R01 35J 110	CASING		3					
13	R01 39J 114	SIROCCO FAN		1					
14	R01 17J 202	PIPE TEMPERATURE THERMISTOR		1		RT2			
15	T7W E89 480	HEAT EXCHANGER		1					

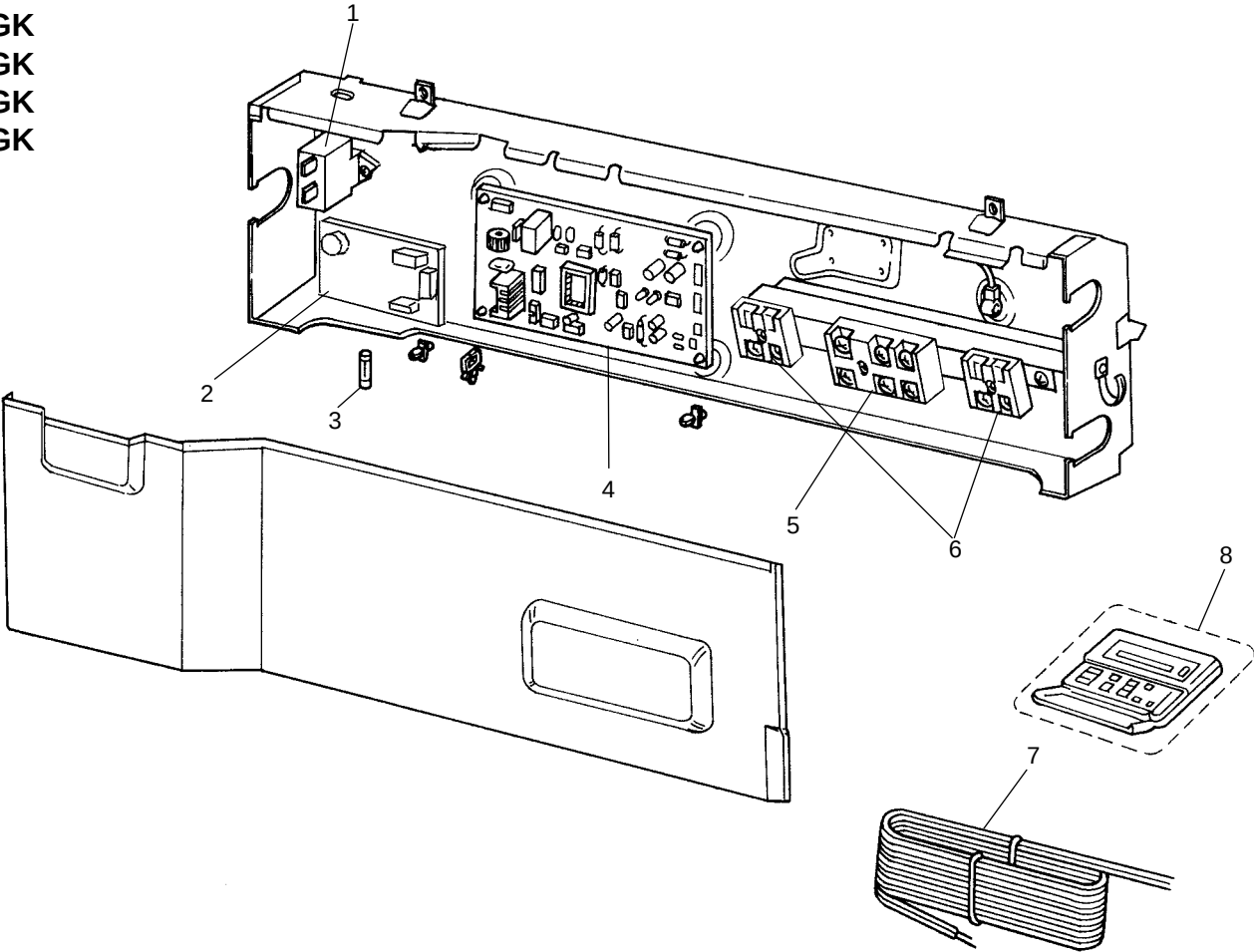
FAN PARTS
PC30GK
PC36GK
PC42GK



No.	Part No.	Part Name	Specification	Q'ty / set		Remarks (Drawing No.)	Wiring Diagram Symbol	Recom- mended Q'ty	Price	
				PC					Unit	Amount
				30GK	36,42GK					
1	R01 43E 126	PIECE (MOTOR)		1	1					
2	R01 41J 114	SIROCCO FAN		1	1					
3	R01 E26 202	ROOM TEMPERATURE THERMISTOR		1	1		RT1			
4	R01 17J 524	DRAIN PLUG		1	1					
5	R01 35J 114	SIROCCO FAN		2	2					
6	T7W E16 529	DRAIN PAN		1	1					
7	R01 39J 114	SIROCCO FAN		1	1					
8	R01 705 103	SLEEVE BEARING		1	1					
9	R01 35J 145	BEARING SUPPORT		1	1					
10	R01 35J 110	CASING		4	4					
11	R01 29J 100	SHAFT		1	1					
12	R01 700 116	SHAFT JOINT		1	1					
13	T7W E17 762	FAN MOTOR	PN4W150-C	1	1		MF			
14	R01 41J 130	MOTOR LEG		1	1					
15	R01 17J 202	PIPE TEMPERATURE THERMISTOR		1	1		RT2			
16	T7W E90 480	HEAT EXCHANGER		1						
	T7W E91 480	HEAT EXCHANGER			1					

ELECTRICAL PARTS

PC24GK
PC30GK
PC36GK
PC42GK



No.	Parts No.	Parts Name	Specifications	Q'ty / set				Remarks (Drawing No.)	Wiring Diagram Symbol	Recom- mended Q'ty	Price	
				PC							Unit	Amount
				24GK	30GK	36GK	42GK					
1	T7W E09 255	CAPACITOR	16μF 230V	1					C			
	T7W E08 255	CAPACITOR	24μF 230V		1	1	1		C			
2	T7W E02 313	POWER BOARD		1	1	1	1		P.B			
3	T7W 520 239	FUSE	250V 6.3A	2	2	2	2		F1,2			
4	T7W E25 310	CONTROLLER BOARD		1	1	1	1		I.B			
5	T7W E12 716	TERMINAL BLOCK	3P (L1,N,GR)	1	1	1	1		TB2			
6	R01 556 246	TERMINAL BLOCK	2P (1,2)	2	2	2	2		TB4,5			
7	T7W A00 305	COARD (REMOCON)	33ft	1	1	1	1					
8	T7W E05 713	REMOTE CONTROLLER		1	1	1	1		R.B			

1. TIMER

When using a program timer, a program timer adapter (PAC-825AD) is also needed.
(PAC-825AD is included with PAC-SC32PTA.)

Part No.	PAC-SC32PTA (with set back function)
Model Name	Program timer

1-1 Program timer specifications

Parts name	Program timer
Parts No.	PAC-SC32PTA
Exterior dimensions (inch)	5-4/32x4-23/32x23/32 (130x120x18mm)
Installation	Wall mount
Type of clock	Quartz
Clock accuracy	±50 second / month at 77°F
Display-Time	Liquid crystal display
-Week	Liquid crystal display
-Timer setting unit	Liquid crystal display
Program cycle	24 hours
Timer setting unit	30 minutes
No. of set points	48 / day
Power rating	5V DC ±5% (Supplied by Remote Controller)

1-2 Feature of program timer

(1) Daily timer function

Daily timer can be set in 30 minutes units for up to 24 hours.
Each unit can be set for unit ON, unit OFF, or setback operation.

(2) Setback operation (PAC-SC32PTA)

Set back operation is useful for reducing running costs

e.g. At a hotel with a 24-hour system

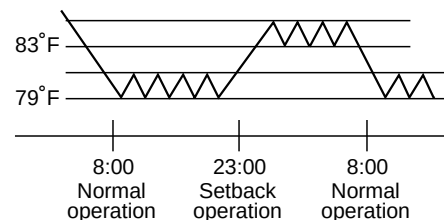
8:00~23:00 Cooling operation with set temperature at 79°F

23:00~8:00 Setback operation with 4 degrees of setback

As shown in the chart on the right, the set temperature rises 4 degrees automatically during the setback operation. When the setback operation ends, normal operation will begin.

(3) Weekly timer function

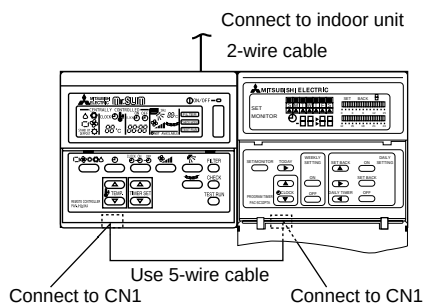
Daily timer function can apply to each day of the week.



1-3 How to connect program timer

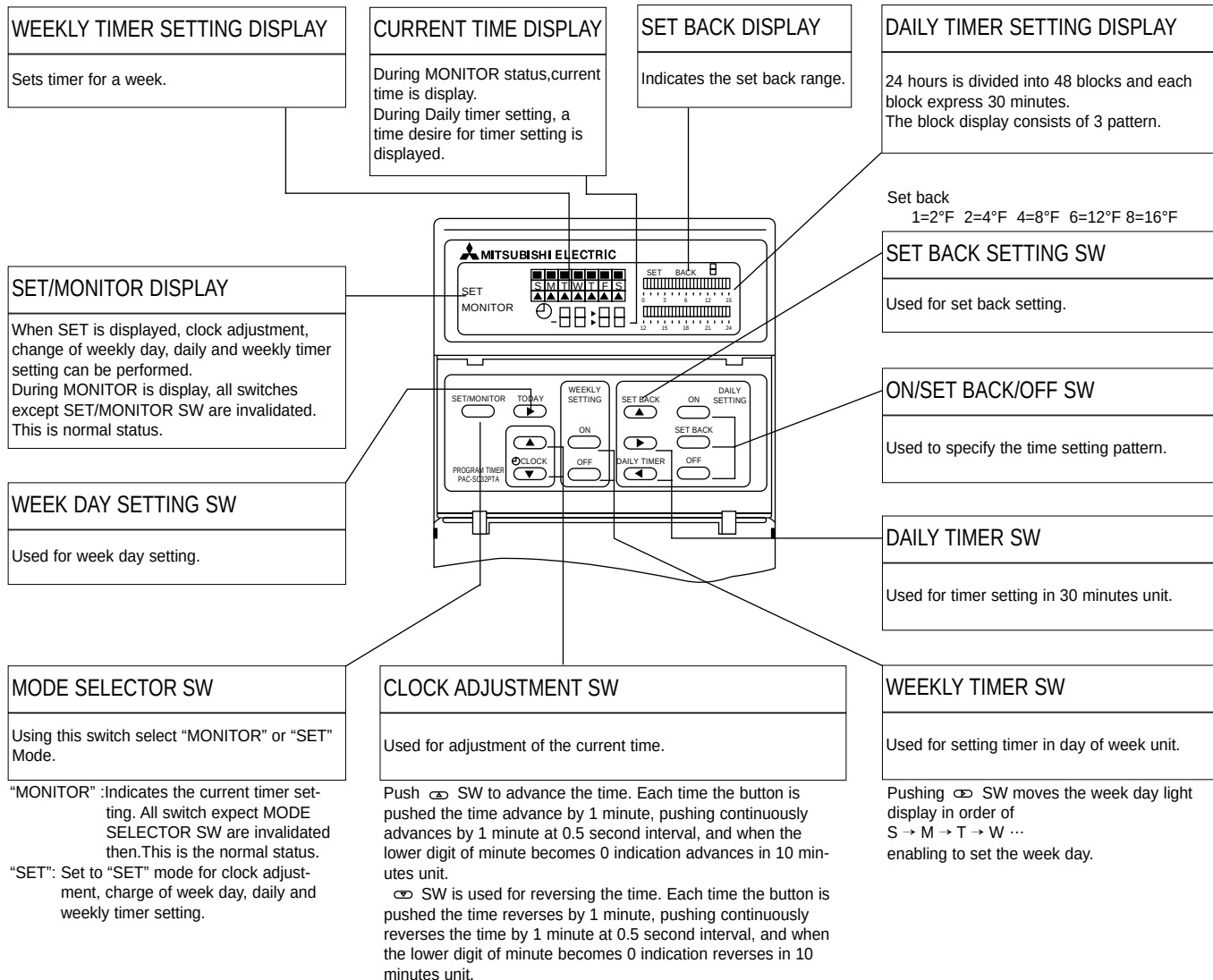
(1) Install the program timer next to the remote controller the same way as the remote controller is installed.

(2) Connect the program timer and the remote controller with a 5-wire cable as shown in the figure below



NOTE: While the program timer is connected to the remote controller, the 24hour ON/OFF timer on the remote controller will not operate.

1-4 Names and functions <PAC-SC32PTA>



2. REFRIGERANT PIPES

Service Ref. : PC24GK

Part No.	PACSK03FS	PACSK05FS	PACSK07FS	PACSK10FS	PACSK15FS
Pipe length (ft.)	10	16	23	33	49
Pipe size O.D.(in.) (in.)	Liquid: $\phi 3/8$ Gas: $\phi 5/8$				
Connection method	Indoor unit: Flared Outdoor unit: Flared				

Service Ref. : PC30/36/42GK

Part No.	PACSK03FF	PACSK05FF	PACSK07FF	PACSK10FF	PACSK15FF
Pipe length (ft.)	10	16	23	33	49
Pipe size O.D.(in.) (in.)	Liquid: $\phi 1/2$ Gas: $\phi 3/4$				
Connection method	Indoor unit: Flared Outdoor unit: Flared				

Note 1. The refrigerant pipes and the indoor unit contain a nitrogen holding charge which must be removed by evacuation.

<Piping connection procedures>

See that ball valve on outdoor unit is fully shut (unit is shipped with valve shut). Remove caps from piping and unit and make flare connection promptly. Repeat for each connection, one at a time.

After all piping connections between indoor and outdoor unit have been completed, vacuum-purge air from system through the service port for the ball valve on the outdoor unit.

Note 2. The following parts are contained in optional refrigerant piping kit.

Heat insulating cover, vinyl tapes, nipples, sleeve and flange (for wall hole), connecting cables etc.

3. TIMER ADAPTER

This adapter is needed for system control and for operation via external contacts.

Part No.	PAC-SA89TA-E
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4. MULTIPLE REMOTE CONTROLLER ADAPTER

This adapter is needed for remote indication (operation/check).

Part No.	PAC-SA88HA-E
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Specifications are subject to change without notice.