

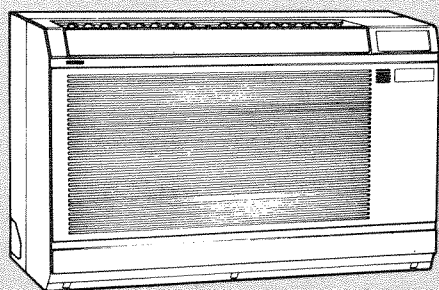


No. SP-006

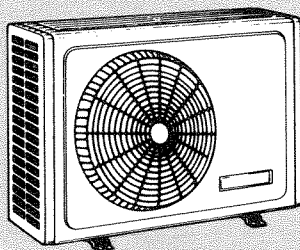
TECHNICAL & SERVICE MANUAL

Models

MF12EN/MUF12EN
MF15EN/MUF15EN
MF12EN2/MUF12EN2
MF15EN2/MUF15EN2



MF12EN
MF12EN2
INDOOR UNIT



MUF12EN
MUF12EN2
OUTDOOR UNIT

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The Slim Line.
From Mitsubishi Electric.



Mr. SLIM™



1

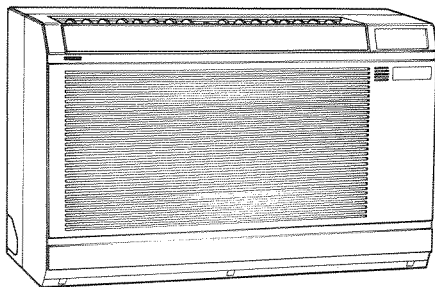
CHANGE POINTS

MF12/15EN → MF12/15EN2

1. Before shipment from the factory, the indoor unit of the new model is charged with nitrogen gas(N₂) instead of Freon(R-22).
2. Wiring diagram changed. Color of connecting wires and power supply wires changed.
3. Model indication of wiring diagram and spec. name plate changed.

2

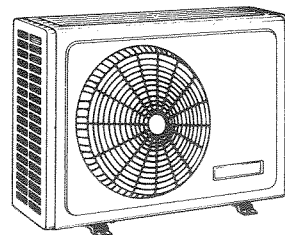
FEATURES



MF12EN/MF15EN
MF12EN2/MF15EN2



LCD wireless
remote controller



MUF12EN/MUF15EN
MUF12EN2/MUF15EN2

Models

MF12EN/MF12EN2
MF15EN/MF15EN2

Cooling capacity

11,600/12,000BTU/h
14,000/14,500BTU/h

SEER

{10.3/10.3}
{10.0/10.0}

1. "I FEEL CONTROL" ON OUR LCD WIRELESS REMOTE CONTROLLER

Mitsubishi Electric's wireless remote controller incorporates a number of advanced features that provide even greater control and ease-of-use. It has a liquid crystal display which indicates such information as mode, fan speed and temperature selected as well as the timer setting and time remaining. It is also equipped with "I Feel Control", a unique Mitsubishi Electric feature that allows the user to adjust the temperature to exactly the level he or she wants simply by tapping the button that describes present conditions: "Too Cool" "Too Warm" or "Okay". The optimum temperature set this way is then memorized for immediate recall whenever the air conditioner is used again. And what's more, the new controller has been made more compact and easy to handle than even before.

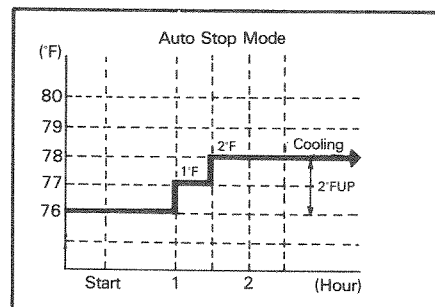
2. A VARIETY OF MICROPROCESSOR-CONTROLLED FUNCTION

1) Automatic ON/OFF timer

Convenient timer function includes Auto Start, Auto Stop, both can be set 1 ~ 12 hours.

2) Auto Stop (Night Setback) Mode

This mode raises the temperature setting by 1°F after one hour, and by another 1°F the next half hour. When 1-1/2 hours have passed, the air conditioner is running at a setting that is 2°F higher, thus preventing excessive cooling.



3. MAXIMUM COMFORT AIR CONDITIONING

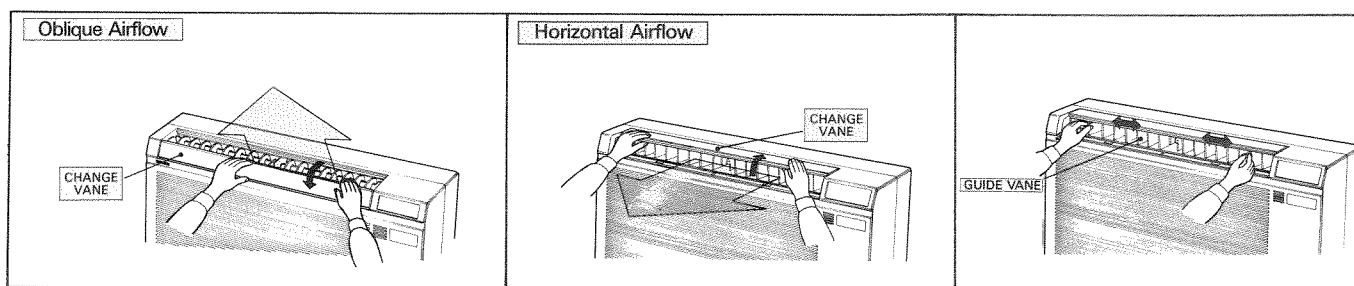
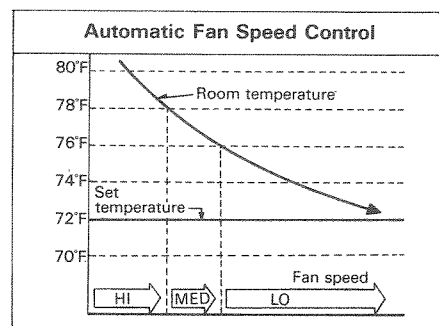
1) Automatic Fan Speed Control

When there's a large difference between the set temperature and existing room temperature, the fan speed automatically adjusts to HI.

As the temperature differential decreases, the Fan speed shifts down automatically to MED and LO. Operation is almost whisper quiet.

2) Four-Direction Airflow Adjustment

Four-direction airflow adjustment is easy with CHANGE VANE and GUIDE VANE that allow you to direct an air stream into any area you choose.



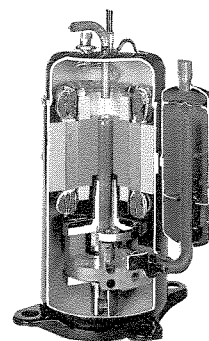
4. OTHER FEATURES

1) Restart Function

The restart function restarts the equipment when power is restored following an outage. Operation resumes in the mode in which the equipment was running immediately before the outage.

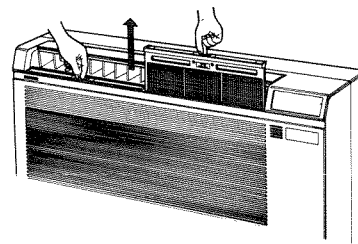
2) High Performance Rotary Compressor

The advance design of Mitsubishi Electric's powerful and energy-efficient rotary compressor results in lower operating costs and longer service life.



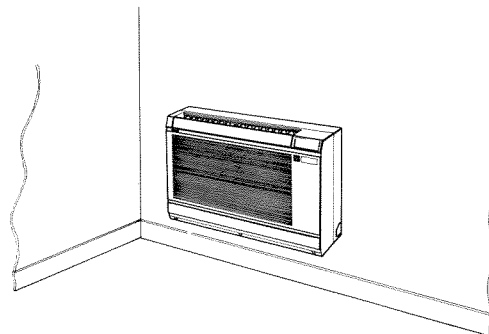
3) One-Step Air Filter Removal

This convenient air filter slides out for easy rinse-and-shake cleaning to keep the airflow smooth.



4) Two-way Installation (On-the-wall installation)

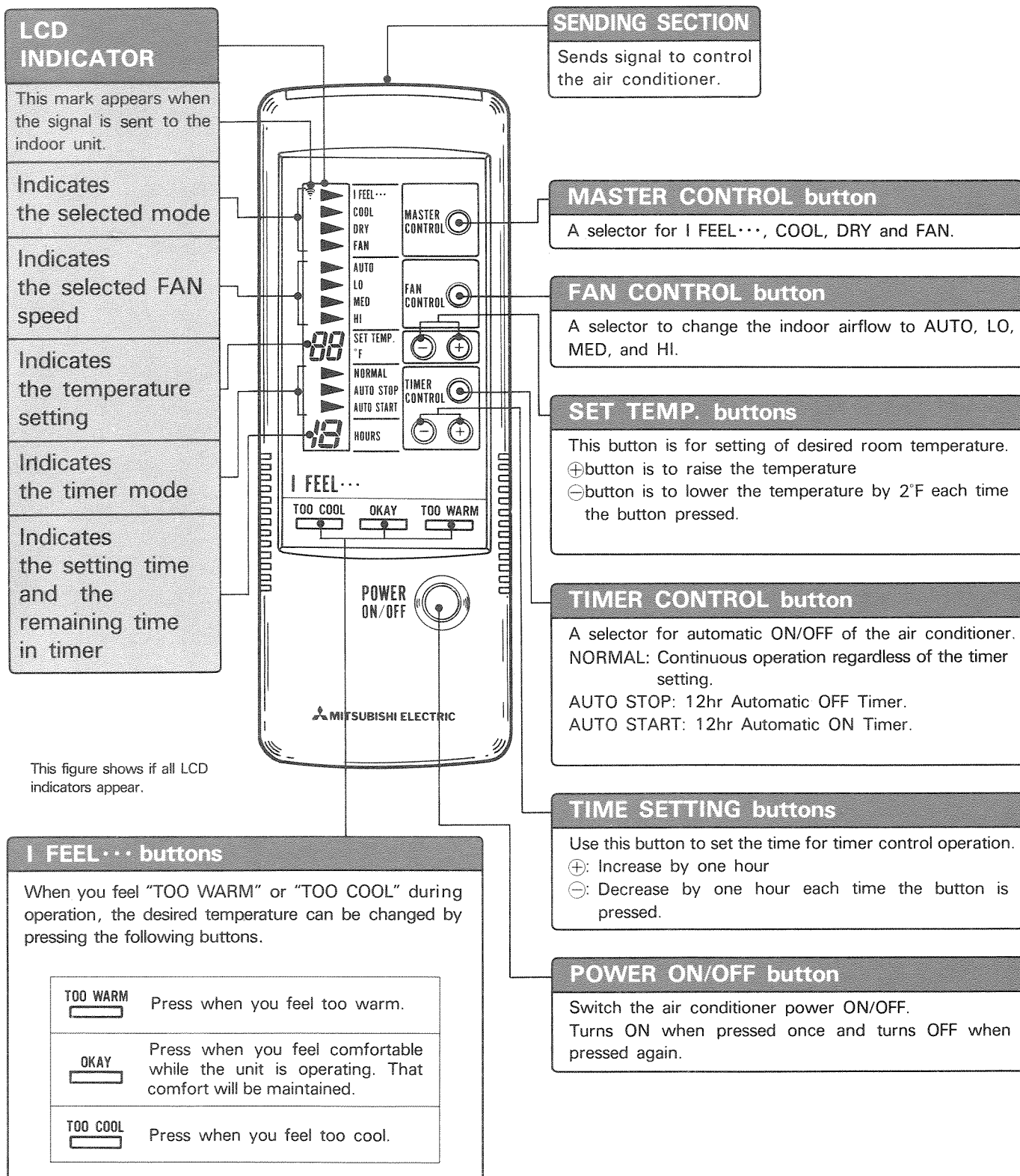
Indoor unit can be also installed on the wall using the optional WALL MOUNT. (MAC-761WS)



WIRELESS REMOTE CONTROLLER

Once the controls are set, the same operation mode can be repeated by simply turning the POWER switch ON.

When batteries are replaced all of the controls memorized should be canceled, and 'I FEEL CONTROL' mode is automatically selected.



This figure shows if all LCD indicators appear.

3

SPECIFICATIONS

ITEM		MODEL	MF12EN MF12EN2	MF15EN MF15EN2
Cooling capacity*1		BTU/h	11,600/12,000	14,000/14,500
Power consumption*1		W	1,140/1,180	1,420/1,470
EER*1(SEER)			10.2/10.2[10.3/10.3]	9.9/9.9[10.0/10.0]
INDOOR UNIT			MF12EN/MF12EN2	MF15EN/MF15EN2
External finish			White	White
Power supply		V, Hz, ϕ	115, 60, 1	
Max. fuse size (time delay)		A	15.0	
Min. ampacity		A	0.5	
Fan motor		F.L.A	0.4	
Airflow Lo—Me—Hi	Dry	CFM	280—340—370	
	Wet	CFM	250—300—330	
Moisture removal		Pints/h	2.4	3.6
Sound level		dB(A)	46	47
Cond. drain conn. O.D.		in.	5/8	
Dimensions	W	in.	36-1/4	
	D	in.	8-1/8	
	H	in.	23-7/16	
Weight		lbs	59	
OUTDOOR UNIT			MUF12EN/MUF12EN2	MUF15EN/MUF15EN2
External finish			Munsell 5Y6.5/1	
Sound level		dB(A)	54	54
Power supply		V, Hz, ϕ	208/230, 60, 1	
Max. fuse size (time delay)		A	15.0	20.0
Min. ampacity			11.0	13.0
Fan motor		F.L.A	0.4	
Compressor	Model		RH167NAB	RH207NAB
	Winding resistance (at 68°F)		C-R 2.47 C-S 4.62	C-R 1.69 C-S 3.38
	R.L.A		8.0	10.0
	L.R.A		29.0	33.0
Refrigerant control			Capillary tube	
Dimensions	W	in.	33-1/2	
	D	in.	11-7/16	
	H	in.	23-7/8	
Weight		lbs	99	
REMOTE CONTROLLER			Wireless type	
Control voltage (by built-in transformer)			DC 12V	
REFRIGERANT PIPING			Not supplied (optional parts)	
Pipe size	Liquid	in.	1/4	
	Gas	in.	1/2	
Connection method	Indoor		Flared	
	Outdoor		Flared	
Between the indoor & outdoor units	Height difference	ft	Max. 25	
	Piping length	ft	Max. 49	

Notes* 1. Rating conditions (cooling)—Indoor : 80°FDB, 67°FWB, Outdoor : 95°FDB, 75°FWB

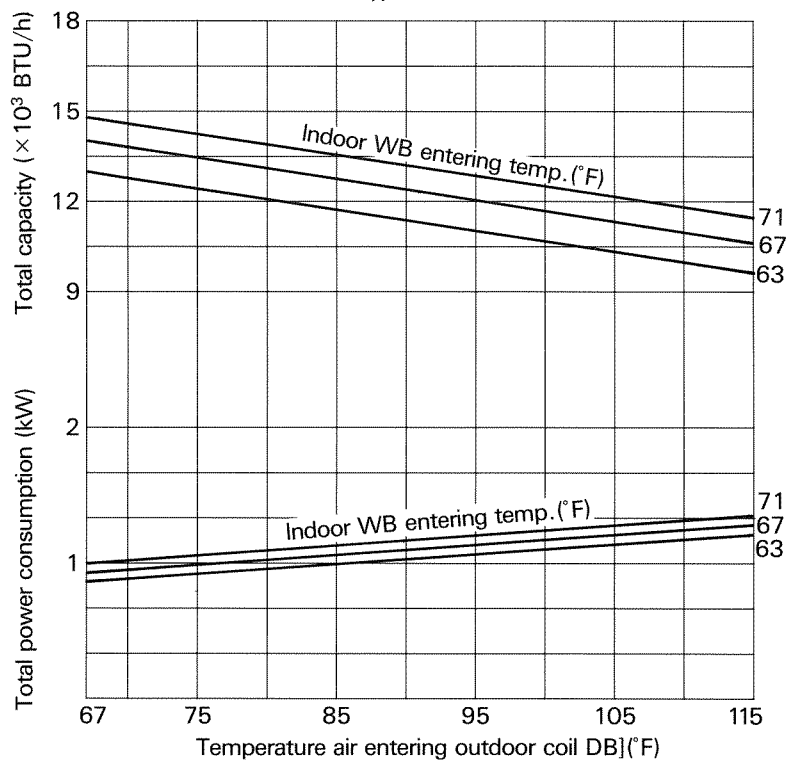
Operating Range

		Indoor air intake temperature	Outdoor air intake temperature
Cooling	Maximum	90°FDB, 71°FWB	115°FDB
	Minimum	67°FDB, 57°FWB	67°FDB

1. PERFORMANCE CURVE

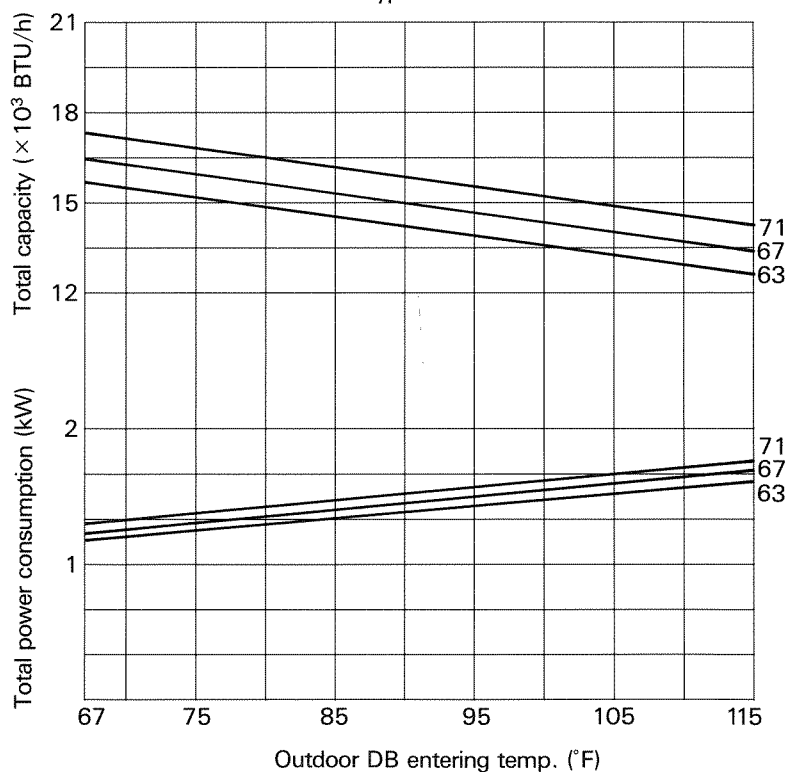
MF12EN
MUF12EN
MF12EN2
MUF12EN2

Cooling capacity
SHF at rating condition = 0.72
Airflow = 370
Bypass Factor = 0.17



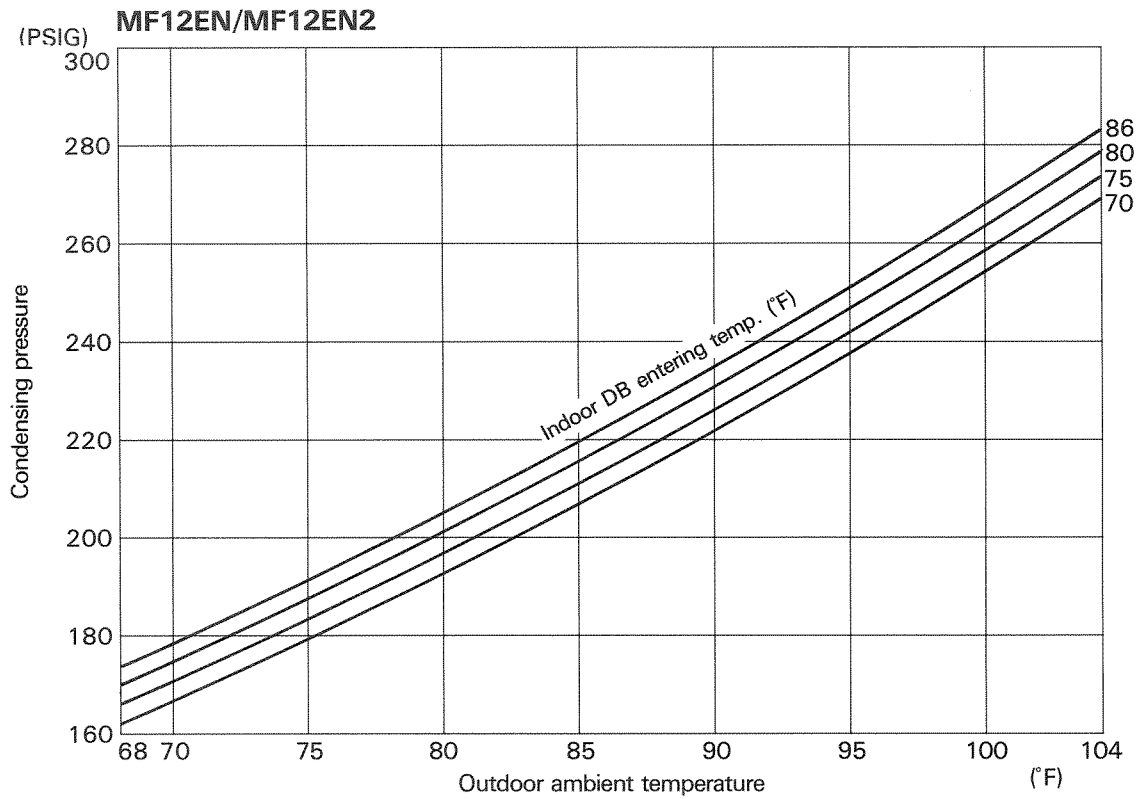
MF15EN
MUF15EN
MF15EN2
MUF15EN2

Cooling capacity
SHF at rating condition = 0.67
Airflow = 370
Bypass factor = 0.11

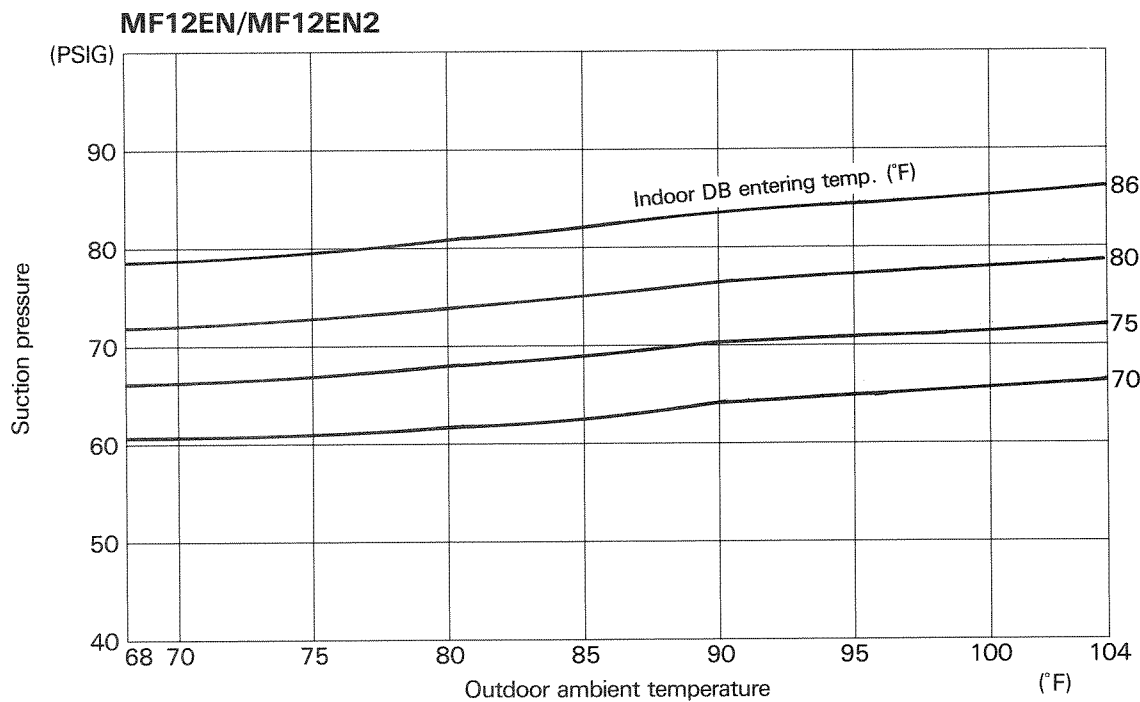


CONDENSING PRESSURE-Cooling mode

Data is based on the condition of indoor humidity 50%. Air flow should be set at HI.

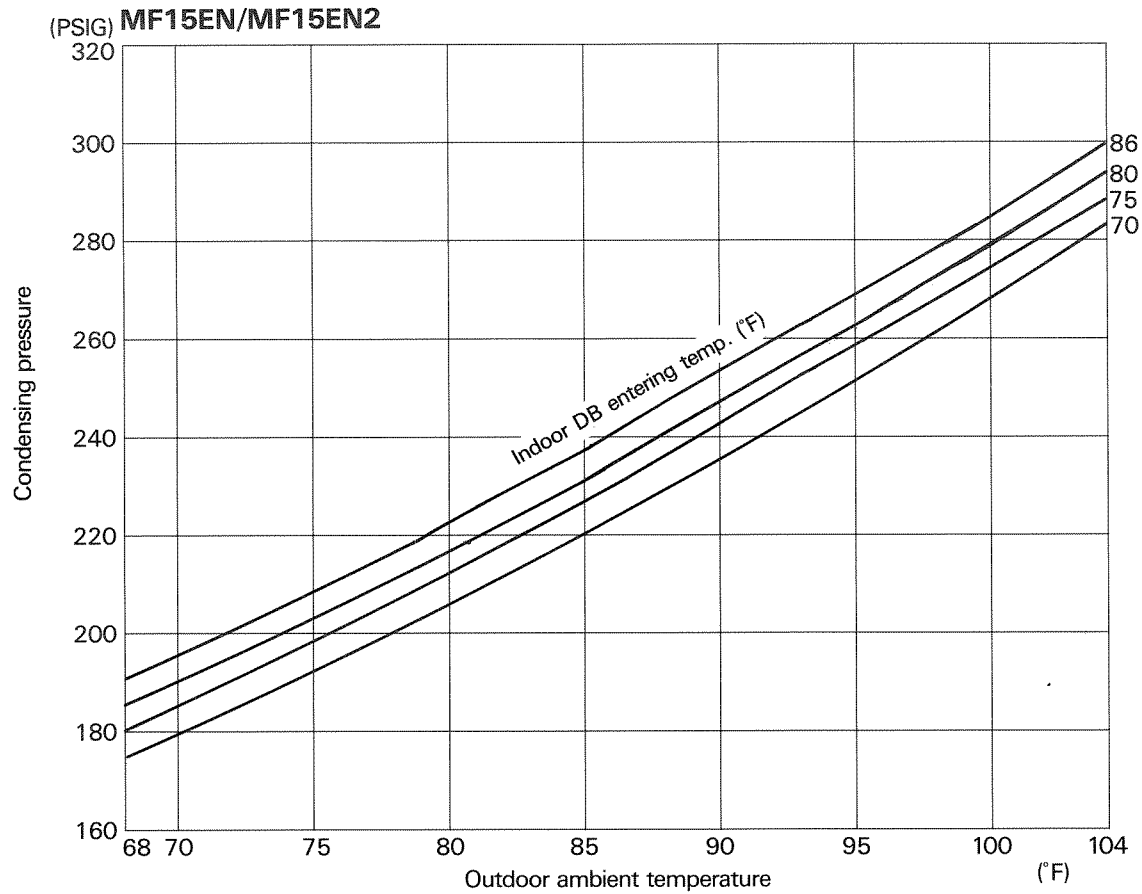


SUCTION PRESSURE-Cooling mode

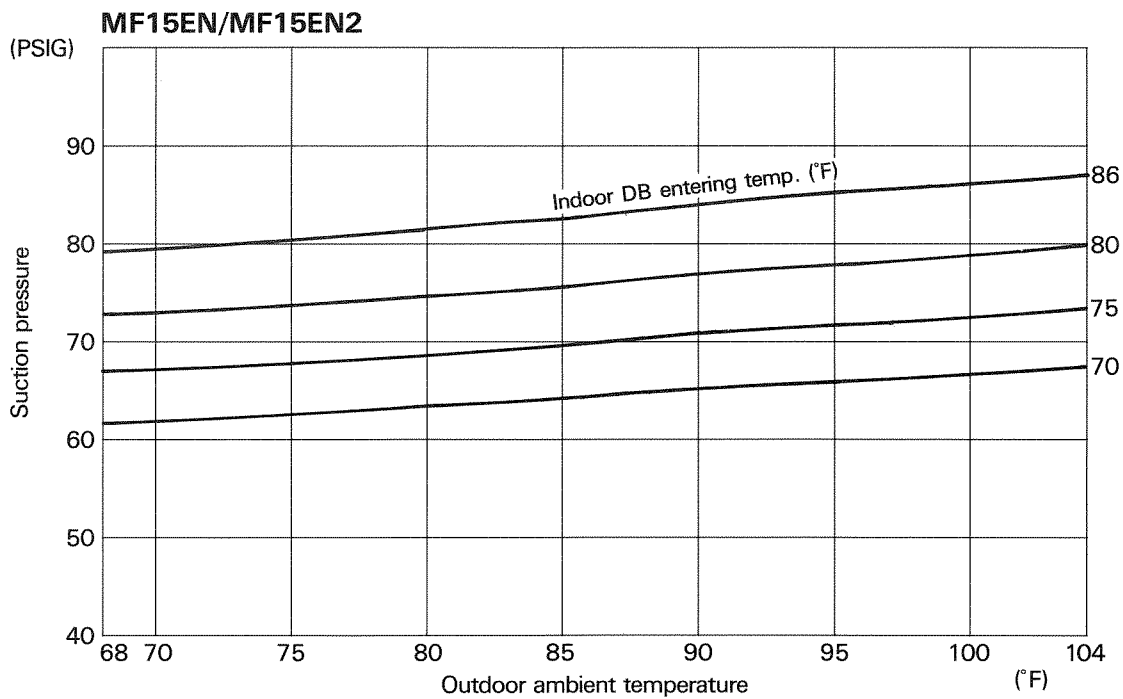


CONDENSING PRESSURE-Cooling mode

Data is based on the condition of indoor humidity 50%. Air flow should be set at HI.



SUCTION PRESSURE-Cooling mode



2. OPERATING RANGE

(1) POWER SUPPLY

	Models	Rating	Guaranteed Voltage
Indoor unit	MF12EN/MF12EN2 MF15EN/MF15EN2	115V 60Hz 1 ϕ	Min. 103V ----- ----- ----- Max. 127V
Outdoor unit	MUF12EN/MUF12EN2 MUF15EN/MUF15EN2	208/230V 60Hz 1 ϕ	Min. 198V 208V 230V ----- ----- ----- ----- Max. 253V

(2) OPERATION

Function	Entering air temp. Condition	Indoor		Outdoor	
		DB(°F)	WB(°F)	DB(°F)	WB(°F)
Cooling	Standard temp.	80	67	95	—
	Maximum temp.	95	71	115	—
	Minimum temp.	67	57	67	—
	Maximum humidity	78%		—	

3. OUTLET AIR SPEED AND COVERAGE RANGE

Model	Function	Airflow (CFM)	Air speed (ft/sec.)	Coverage range (ft)
MF12EN MF12EN2	Dry	370	13.4	22.9
	Wet	330	11.9	20.5
MF15EN MF15EN2	Dry	370	13.4	22.9
	Wet	330	11.9	20.5

- The air coverage range is the value up to the position where the air speed is 1 ft/sec. when air is blown out horizontally from the unit properly at the High speed 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.

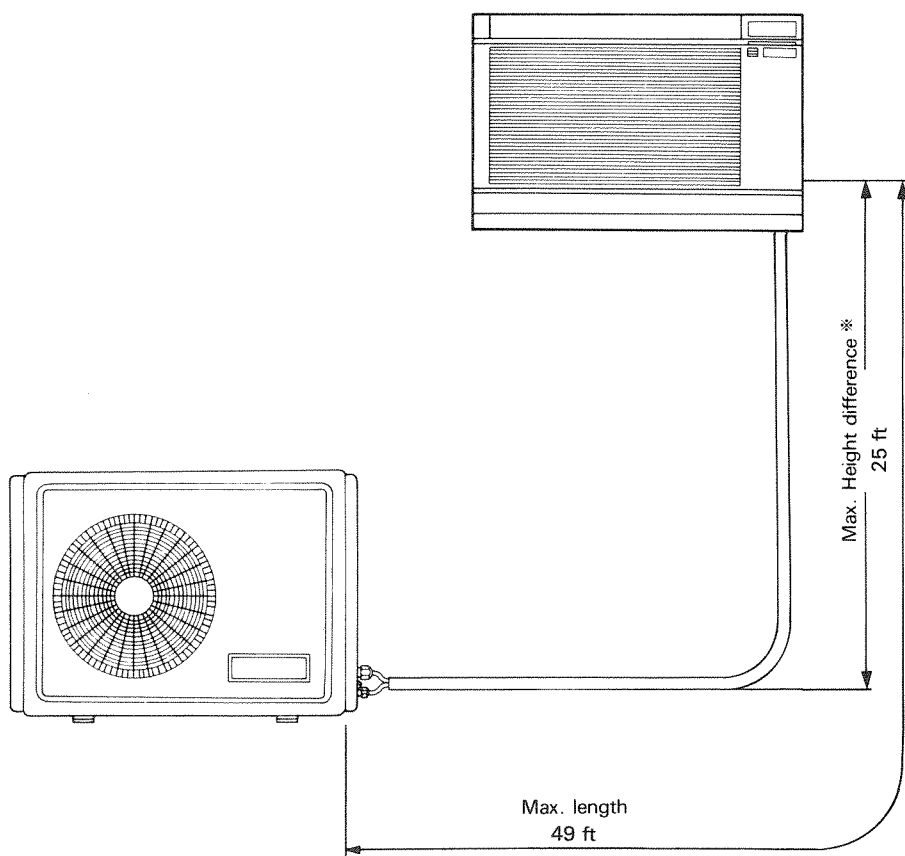
4. ADDITIONAL REFRIGERANT CHARGE (R-22)

Model	Outdoor unit precharged (up to 25 ft)	Refrigerant piping length (one way)					
		25 ft	30 ft	33 ft	40 ft	45 ft	49 ft
MF12EN/MF12EN2 MUF12EN/MUF12EN2	2 lbs 12 oz	0	1oz	1oz	2oz	2oz	3oz
MF15EN/MF15EN2 MUF15EN/MUF15EN2	2 lbs 16 oz						

MAX. REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE

Models	Length ft A	Piping size O.D. in.		Length of connecting pipe m	
		Gas	Liquid	Indoor unit	Outdoor unit
MF12EN MF12EN2	49	1/2	1/4	0	0
MF15EN MF15EN2					

*It does not matter whether the indoor unit or outdoor unit is higher than the other.

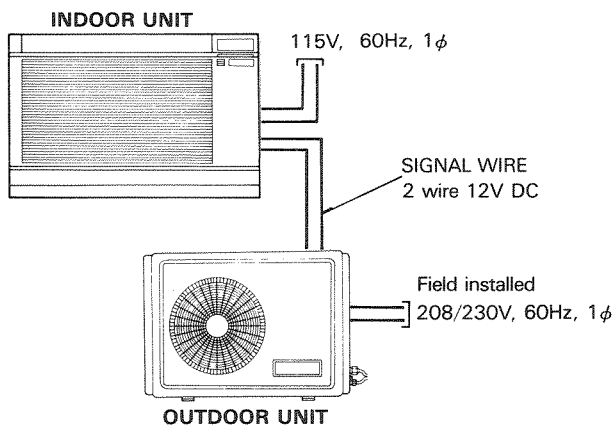


STANDARD OPERATION DATA

Model			MF12EN/MF12EN2	MF15EN/MF15EN2
Total	Item	Mode	Cooling	Cooling
	Capacity	BTU/h	11,600/12,000	14,000/14,500
	SHF	—	0.72	0.67
	Input	kW	1.14/1.18	1.42/1.47
Electrical circuit	Indoor unit		MF12EN/MF12EN2	MF15EN/MF15EN2
	Power supply (V,Hz,φ)		115,60,1	115,60,1
	Input	kW	0.04	0.04
	Fan current	A	0.4	0.4
	Outdoor unit		MUF12EN/MUF12EN2	MUF15EN/MUF15EN2
	Power supply (V,Hz,φ)		208/230,60,1	208/230,60,1
	Input	kW	1.10/1.14	1.38/1.43
	Comp. current	A	5.0/4.7	6.5/6.1
	Fan current	A	0.4	0.4
Refrigerant circuit	Condensing pressure	PSIG	248	263
	Suction pressure	PSIG	77	77
	Discharge temp.	°F	181	173
	Condensing temp.	°F	114	116
	Suction temp.	°F	53	45
	Comp. shell bottom temp.	°F	166	159
	Ref. pipe length	ft	25	25
	Refrigerant charge	—	2 lbs 12oz	2 lbs 16oz
Indoor side	Entering air temp.	DB	°F	80
		WB	°F	67
	Discharge air temp.	DB	°F	58
		WB	°F	56
	Fan speed	R.P.M.	1,320	1,370
	Airflow (Hi)	CFM	370	370
Outdoor side	Entering air temp.	DB	°F	95
		WB	°F	—
	Fan speed	R.P.M.	860	860
	Airflow	CFM	1,270	1,270

POWER SUPPLY

MF12EN/MF12EN2
MF15EN/MF15EN2



5

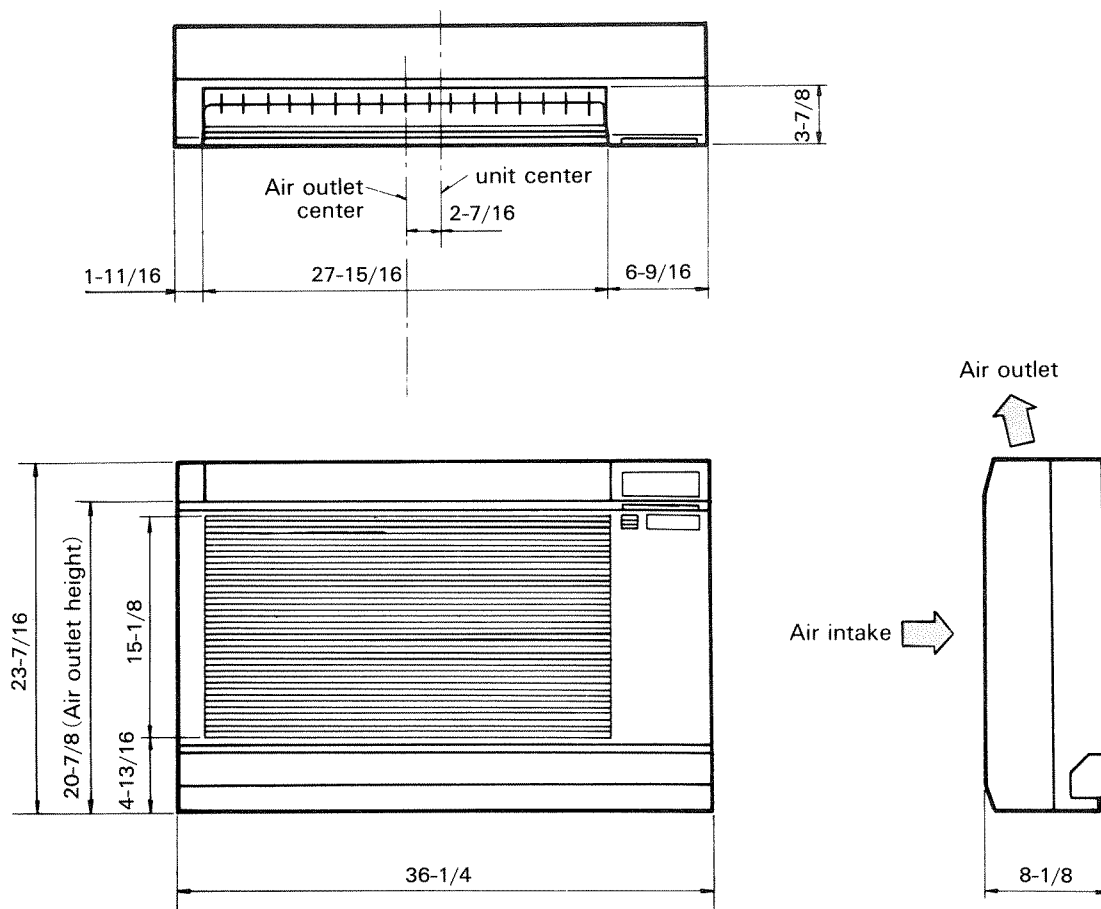
OUTLINES AND DIMENSIONS

3-1 INDOOR UNIT

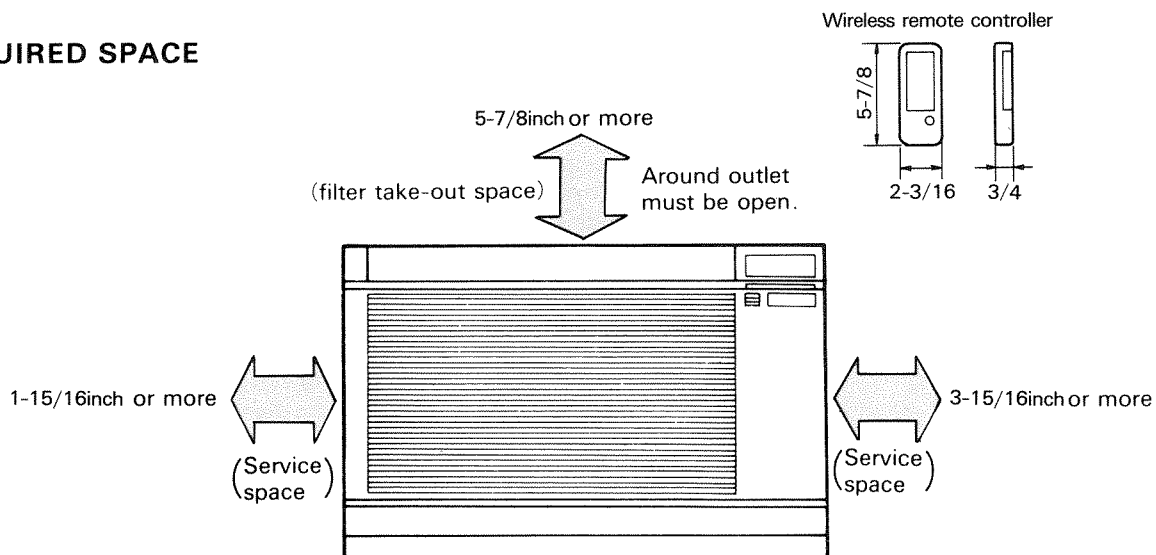
Unit : inch

MODEL : MF12EN/MF12EN2
MF15EN/MF15EN2

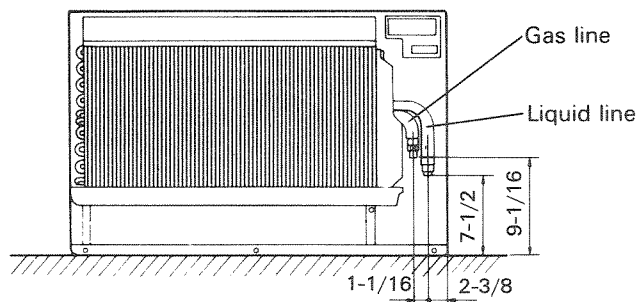
(NOTE) This figure shows when blowing direction is upward.



REQUIRED SPACE



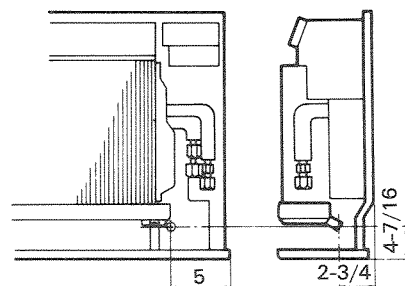
Piping position



Models			MF12EN/MF15EN MF12EN2/MF15EN2
Indoor piping	Insulation O.D.		$\phi 2-1/2$
	Liquid line	O.D.	$\phi 5/16$
		Flare joint	1/4F
	Gas line	O.D.	$\phi 3/8$
		Flare joint	1/2F

Drain hose set position

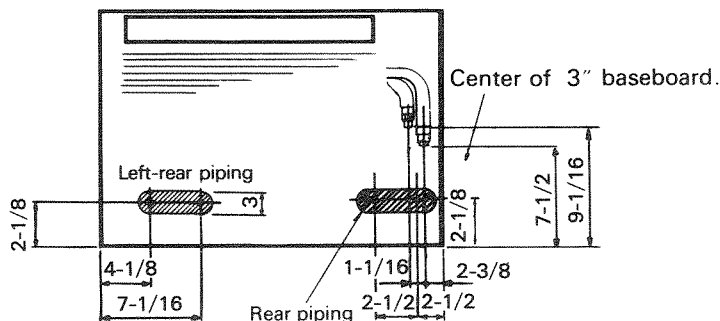
Unit : inch



Drain hose O.D. $\phi 5/8$
Insulation O.D. $\phi 1-3/16$
Length 43-5/16

For rear and left-rear piping

- Diagonally hatched sections in the figure below indicate where piping can be arranged. (Figure below is a frontview of the unit).

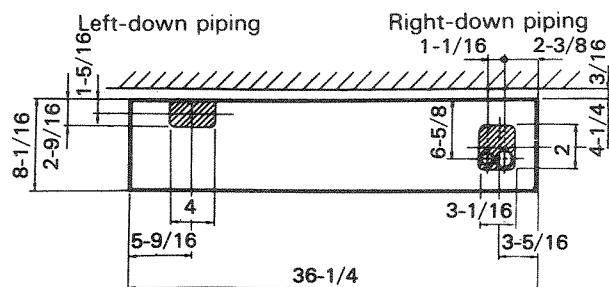


Rear piping installation is possible with 80 mm (3") height baseboard. If the baseboard is more than 3", use optional WALL MOUNT MAC-761WS for the wall installation, or arrange a platform in the field for floor standing.

For right-down and left-down piping

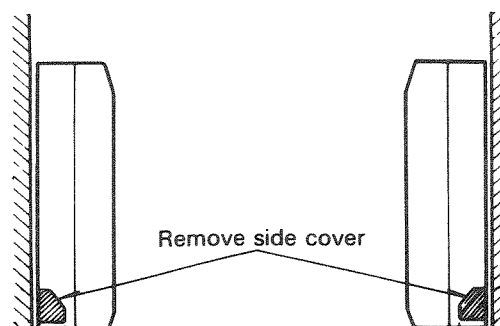
(Figure below is a bottom view of the unit)

Left-down piping Right-down piping

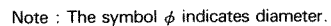


For left piping

For right piping



MUF15EN/MUF15EN2

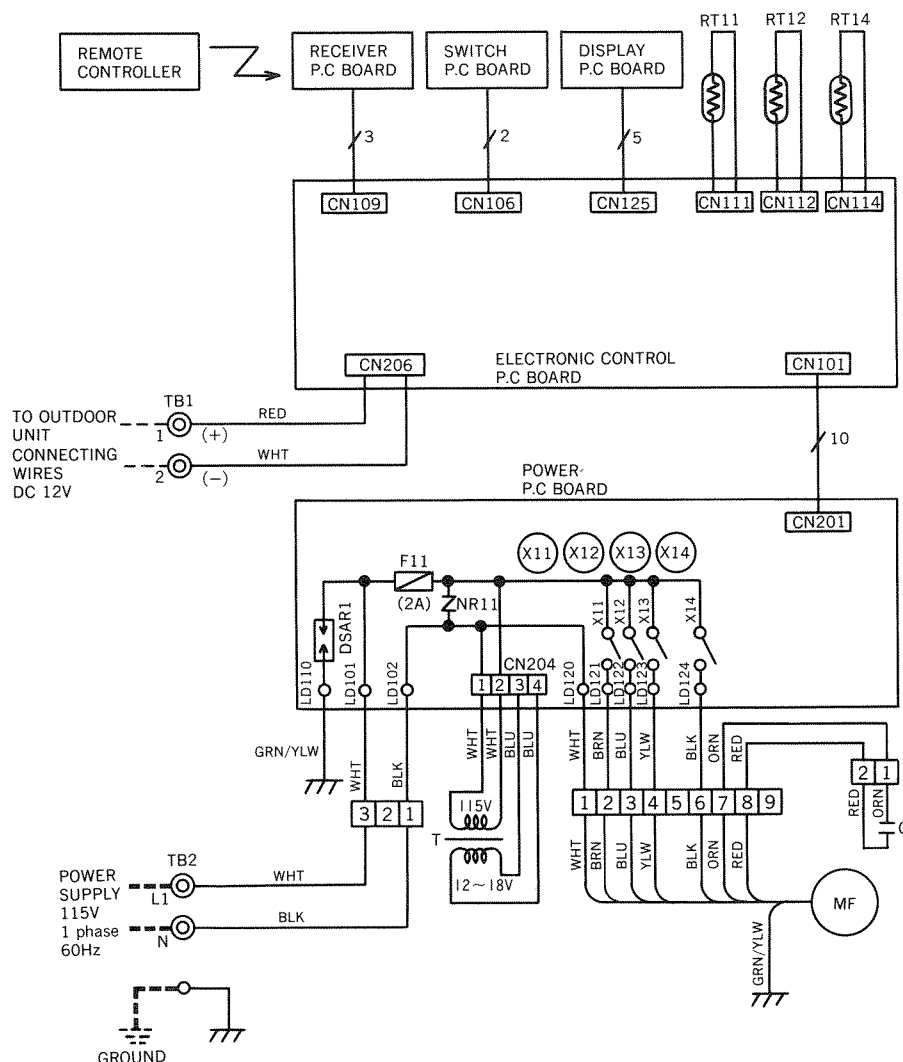


6

WIRING DIAGRAM

INDOOR UNIT

MODELS MF12EN MF15EN WIRING DIAGRAM



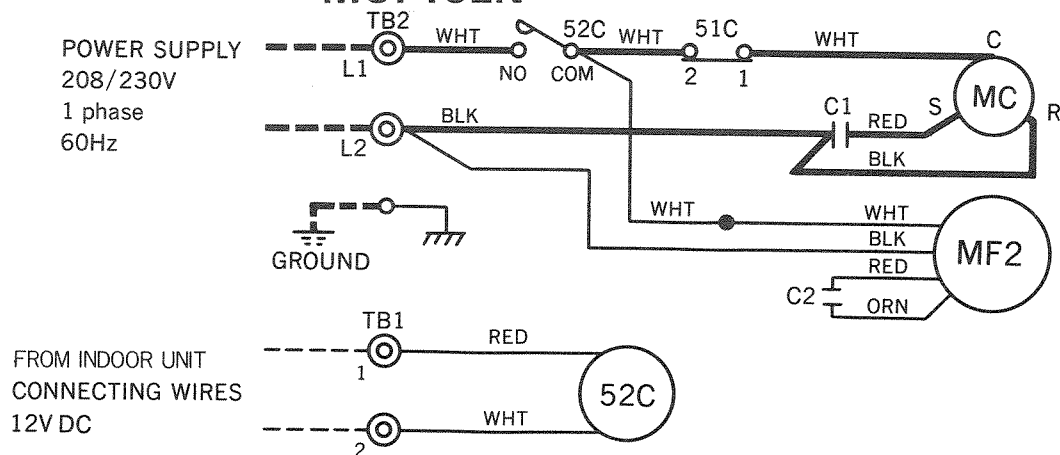
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C	INDOOR FAN CAPACITOR	NR11	VARISTOR	T	TRANSFORMER
DSAR1	SURGE ABSORBER	RT11	ROOM TEMP. THERMISTOR	TB1,2	TERMINAL BLOCK
F11	FUSE (2A)	RT12	INDOOR COIL THERMISTOR	X11~14	AUXILIARY RELAY
MF	FAN MOTOR (INNER PROTECTOR)	RT14	INDOOR COIL THERMISTOR		

NOTE

1. Refer to the outdoor side wiring diagram for the outdoor unit service.
2. Use copper conductors only (For field wiring).
3. Since the indoor and outdoor unit connecting wires have polarity, connect them according to the numbers (1 and 2).
4. Symbols below indicate,
 ◎ : Terminal block, □ □ □ □ : Connector

OUTDOOR UNIT

MODELS MUF12EN MUF15EN WIRING DIAGRAM

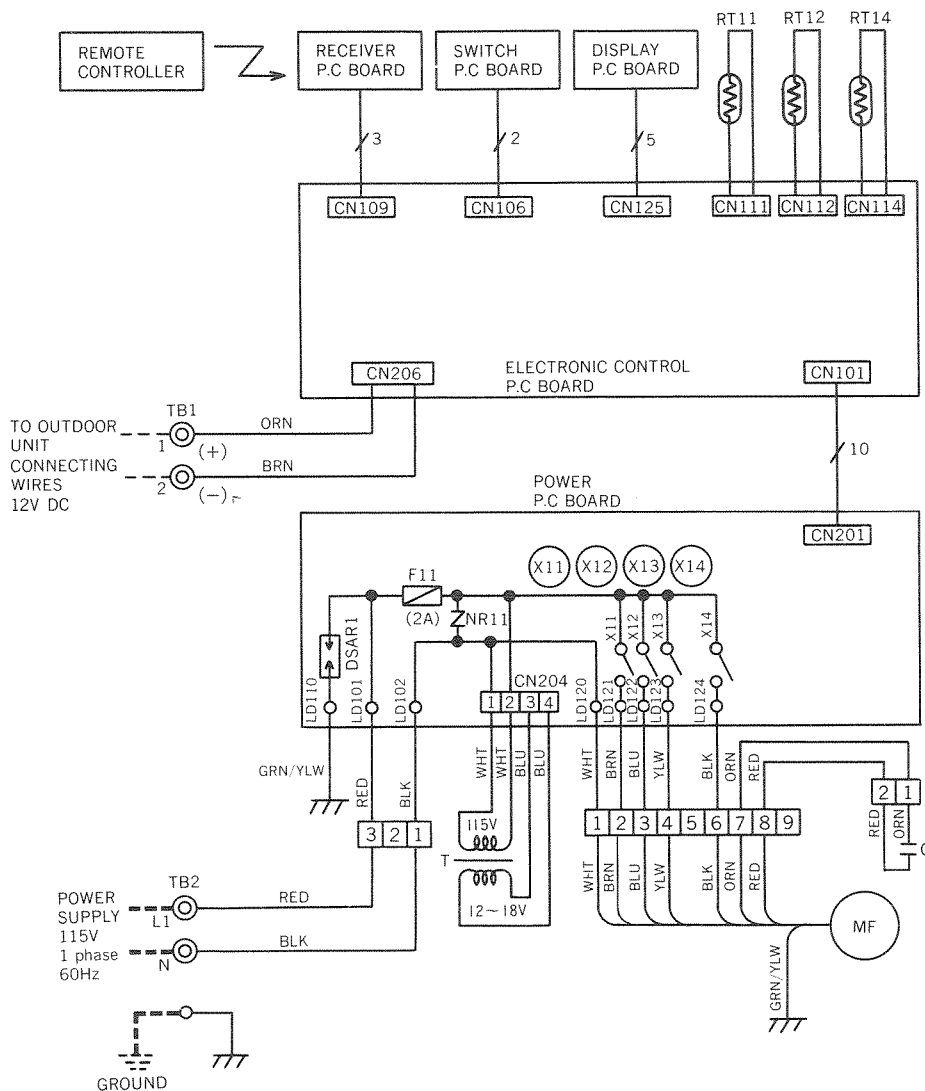


SYMBOL	NAME	SYMBOL	NAME
C1	COMP. CAPACITOR	TB1,2	TERMINAL BLOCK
C2	OUTDOOR FAN CAPACITOR	51C	THERMAL OVERCURRENT RELAY
MC	COMPRESSOR MOTOR	52C	COMP. CONTACTOR
MF	OUTDOOR FAN MOTOR (INNER THERMOSTAT)		

NOTE: Use copper conductors only (For field wiring).

INDOOR UNIT

MODELS MF12EN2 MF15EN2 WIRING DIAGRAM



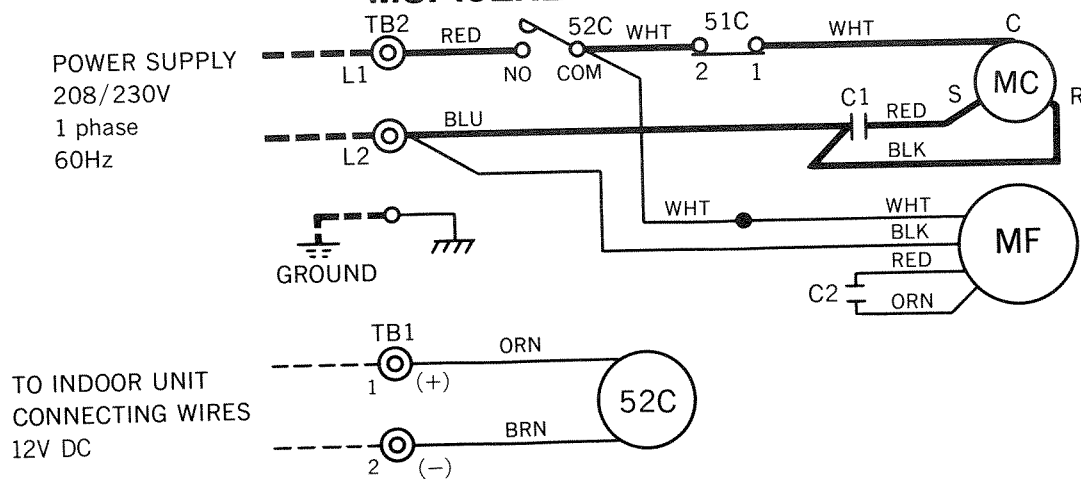
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C	INDOOR FAN CAPACITOR	NR11	VARISTOR	T	TRANSFORMER
DSAR1	SURGE ABSORBER	RT11	ROOM TEMPERATURE THERMISTOR	TB1,2	TERMINAL BLOCK
F11	FUSE (2A)	RT12	INDOOR COIL THERMISTOR	X11~14	FAN RELAY
MF2	INDOOR FAN MOTOR (INNER THERMOSTAT)	RT14	INDOOR COIL THERMISTOR		

NOTE

- For the outdoor electric wiring refer to the outdoor unit electric wiring diagram.
- Use copper conductors only (For field wiring).
- Since the indoor and outdoor unit connecting wires have polarity, connect them according to the numbers (1 and 2).
- Symbols below indicate,
 ◎ : Terminal block, □ : Connector

OUTDOOR UNIT

MODELS MUF12EN2 MUF15EN2 WIRING DIAGRAM



SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	TB1,2	TERMINAL BLOCK
C2	OUTDOOR FAN CAPACITOR	51C	OVERCURRENT RELAY
MC	COMPRESSOR	52C	CONTACTOR
MF2	FAN MOTOR (INNER PROTECTOR)		

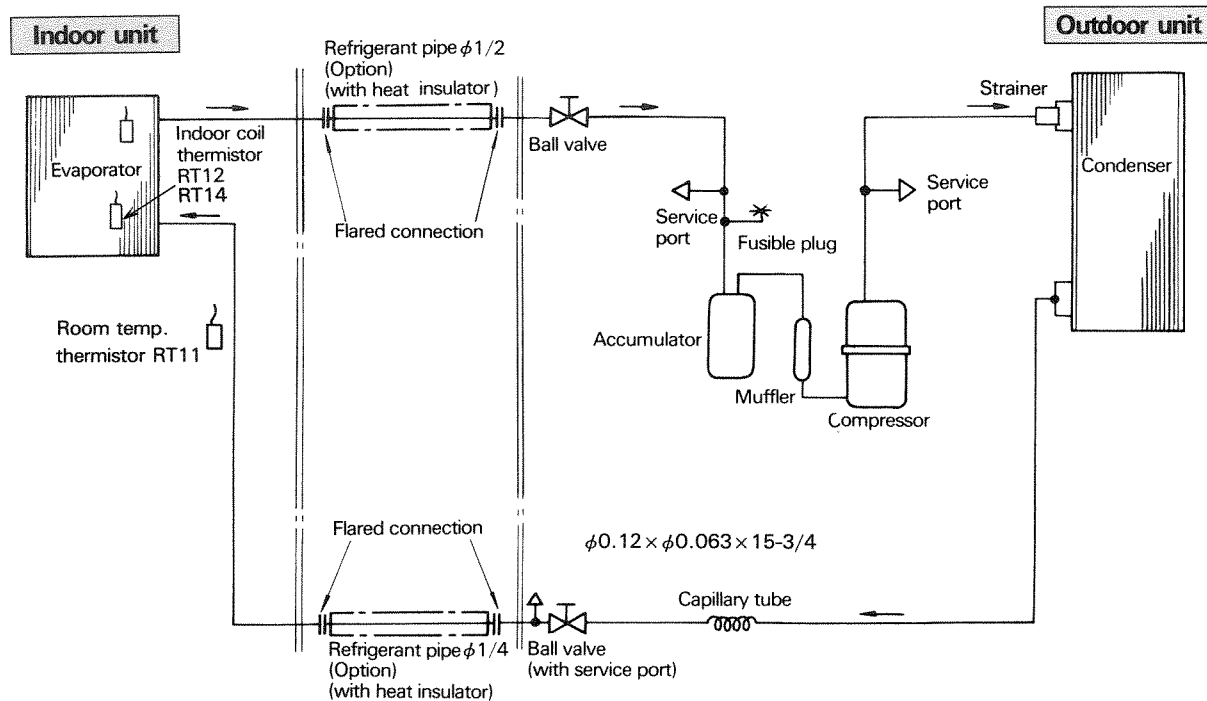
NOTE: Use copper conductors only (For field wiring).

7

REFRIGERANT SYSTEM DIAGRAM

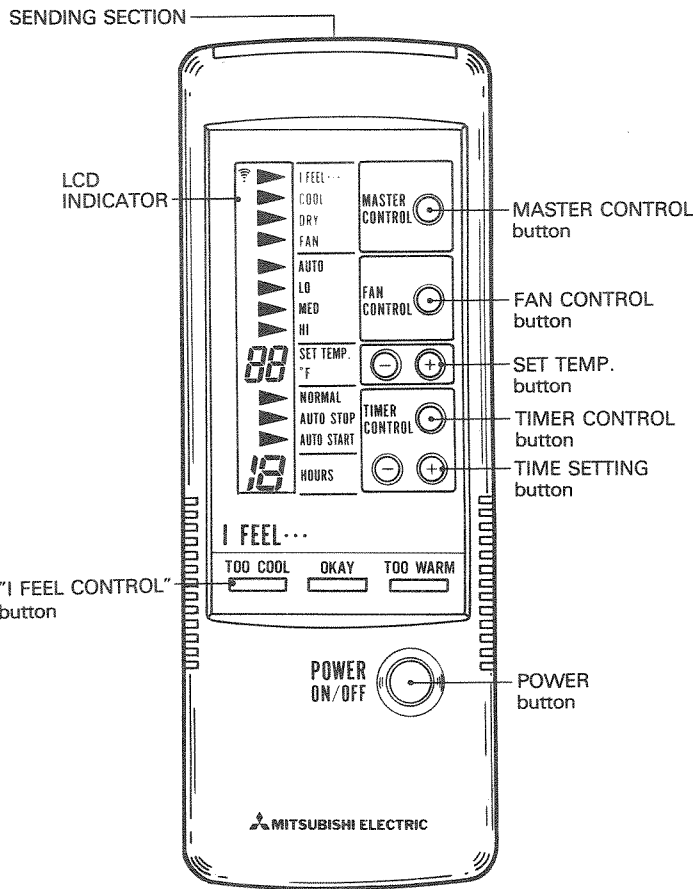
MF12EN/MUF12EN
 MF12EN2/MUF12EN2
 MF15EN/MUF15EN
 MF15EN2/MUF15EN2

Unit : inch



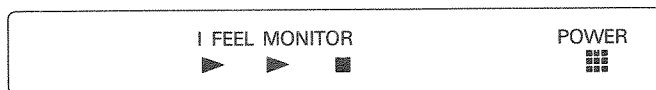
NOTE: The symbol ϕ indicates diameter.

Wireless Remote Controller



This figure shows if all LCD indicators appear.

INDOOR UNIT DISPLAY SECTION



Once the controls are set, the same operation mode can be repeated by simply turning the POWER switch ON. Indoor unit receives the signal with a beep tone. When the system turns off, "3 min. time-delay function" will operate to protect system from over load and compressor will not restart for 3 minutes.

1. "I FEEL CONTROL" operation

- (1) Press POWER button on the remote controller. Power lamp of the indoor unit will turn on with beep tone.
- (2) Press the MASTER CONTROL button to set "I FEEL ...". And I FEEL MONITOR lamp lights with beep tone.
- (3) The operation mode is decided by the initial room temp. at starting up the operation.

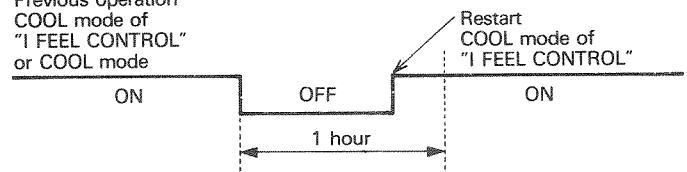
Initial Room Temp.	Mode
more than 76°F	COOL mode of "I FEEL CONTROL"
55°F to 76°F	DRY mode of "I FEEL CONTROL"

- Once the mode is fixed, the mode will not change by room temp. afterwards.
- Under the AUTO STOP timer operation, the mode is determined according to the room temperature 1 hour before the set time.
- When the system is stopped with the POWER button on the remote controller, and restarted within 1 hour in "I FEEL CONTROL" mode, the system operates in previous mode automatically regardless of the room temp.

When the system is restarted after 1 hour, the operation mode is decided by the initial room temp. at starting up the operation.

Example

Previous operation
COOL mode of
"I FEEL CONTROL"
or COOL mode



(4) The initial set temp. is decided by the initial room temp. within 2 min. after starting-up the system.

Model	Initial Room Temp.	Initial set temp.	
COOL mode of "I FEEL CONTROL"	More than 88°F	81°F	※1
	84°F to 88°F	79°F	
	81°F to 84°F	77°F	
	76°F to 81°F	75°F	
DRY mode of "I FEEL CONTROL"	Less than 76°F	Initial room temp. minus 2deg(°F)	

※1 After the system restarts by the remote controller, the system operates with the previous set temp. regardless of the initial set temp.

(5) I FEEL CONTROL buttons

In "I FEEL CONTROL" mode, set temp. is decided by the microprocessor based on the room temp. In addition, set temp. is controlled by I FEEL buttons when you feel too cool or too warm, and when you feel comfortable the  button fixes the comfortable temp.

When the I FEEL button is pressed, I FEEL MONITOR lamp on the indoor unit pulsates for a second with beeps.

● Variable control

When the  or  button is pressed, the set temp. is changed based on the room temp. As the set temp. range is variable, this is called "Variable control". The variable control operates only in "I FEEL CONTROL" mode.

In DRY mode of "I FEEL CONTROL". the set temp. range is fixed ± 2 deg (°F).

TOO COOL  ...To raise the set temp 2 deg. ~ 3 deg.(°F)

OKAY  ...To fix and memorize the comfortable present temp.

TOO WARM  ...To lower the set temp. 2 deg. ~ 3 deg.(°F)

— I FEEL MONITOR lamp on the indoor unit —

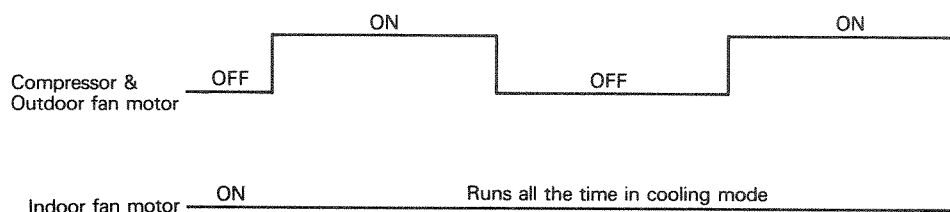
When I FEEL CONTROL button is pressed, I FEEL MONITOR lamp on the indoor unit pulsates with beeps and shows the temp. control condition.

I FEEL MONITOR lamp

-  Shows difference between Set temp. and Room temp. is more than 3 deg. (°F)
During this condition, I FEEL button is not available.
Wait for about 15 min.
-  Shows difference between Set temp. and Room temp. is 2 deg. ~ 3 deg. (°F)
The buttons are available.
-  Shows Room temp. is almost Set temp. The difference is less than 2 deg. (°F)
The buttons are available.

NOTE ● During "I FEEL CONTROL" operation, thermostat (SET TEMP.) is not available. Use "I FEEL CONTROL" buttons to set temp.
● Once the set temp. is set, the microprocessor memorizes the temp. and the system restarts at the same set temp.
● The set temp. range is 61 ~ 88°F in COOL · DRY mode of "I FEEL CONTROL".
● When the main power is turned off, the settings are canceled. Set temp. will be initial set temp. again. See the above table.

— COOL mode of "I FEEL CONTROL" —



NOTE ● Coil frost prevention during COOL mode of "I FEEL CONTROL".

There are two type of controls in coil frost prevention.

① Temperature control

When the indoor coil thermistor RT12 or RT14 is below 47°F for 5 minutes, the coil frost prevention mode starts. The compressor stops for 5 minutes and the indoor fan runs at set speed or AUTO speed.

5 minutes later, if the indoor coil thermistor RT12 or RT14 exceeds 50°F, the coil frost prevention mode terminates.

If the RT12 or RT14 is below 50°F at this time, the coil frost prevention continues until the thermistor RT12 or RT14 reaches to 50°F.

The first 5 minutes, termination of the coil frost prevention is controlled by the time regardless of the indoor coil thermistor, temperature. After that, the termination of the prevention mode is controlled by the temperature of the indoor coil thermistor.

Therefore, the coil frost prevention continues at least 5 minutes even if the temperature of RT12 or RT14 reaches the termination point within 5 minutes.

② Time control

When the three conditions below have been satisfied for 1 hour and 45 minutes, the compressor stops for 3 minutes and the coil frost prevention mode starts.

(a) The compressor is on continuously.

(b) The indoor fan speed is LO or MED.

(c) The room temperature is below 79°F.

If the compressor turns off before 1 hour and 45 minutes, the accumulated time is cancelled.

In this case, time counting starts from the beginning when the above three conditions are satisfied again.

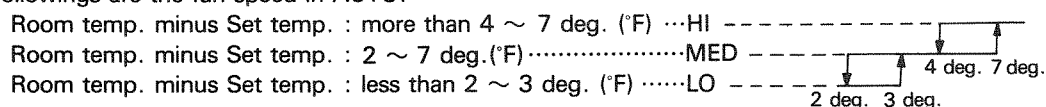
If the indoor fan speed becomes HI or the room temperature exceeds 79°F, time counting stops temporarily.

In this case, time counting restarts from the stop point when the above three conditions are satisfied again.

The indoor fan operates at the set speed.

● Indoor fan operates at the set speed by FAN CONTROL switch.

Followings are the fan speed in AUTO.



— DRY mode of "I FEEL CONTROL" —

The system uses the same refrigerant circuit as the cooling circuit for dry operation.

The compressor and the indoor fan are controlled by both temp. and the microprocessor.

By such controls, indoor flow amounts will be reduced in order to lower humidity without much room temp. decrease.

The operation of the comp. and indoor fan is as follows on the next page.

Compressor operates by temperature control and time control.

In the first 2 min. the system is FAN mode and the indoor fan operates at VLO (=Very Lo) speed. Then 2 min. later, the room temperature is read as the initial temperature.

① Set temp. is controlled to minus 2°F as initial set temp.

② When the thermostat is ON, the compressor repeats 8 min. ON/3 min. OFF cycle operation.

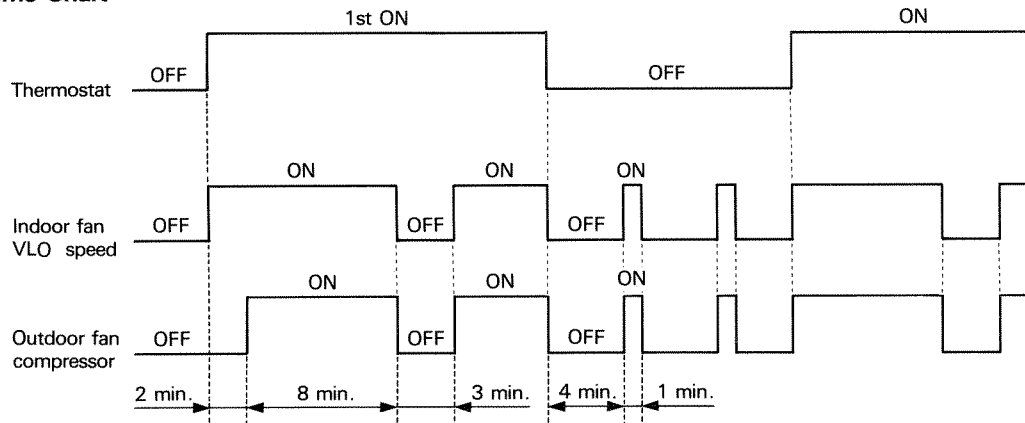
When the thermostat is OFF, the compressor repeats 4 min. OFF/1 min. ON cycle operation.

Indoor fan and outdoor fan operate in same cycle with compressor.

Indoor fan speed is VLO.

Operation Time Chart

Example



NOTE ● Coil frost prevention during DRY mode of "I FEEL CONTROL"

The operation is same as coil frost prevention during COOL mode of "I FEEL CONTROL" except the indoor fan speed is VLo.

● In DRY mode of "I FEEL CONTROL", FAN CONTROL switch is not available.

2. COOL operation

(1) Press POWER button.

Power lamp of the indoor unit turns on with a beep tone.

Indoor fan continues to operate regardless of thermostat's OFF-ON.

Coil frost prevention is same as COOL mode of "I FEEL CONTROL".

(2) Select COOL mode.

(3) Set the SET TEMP. button.

The setting range is 61~88°F.

* "I FEEL CONTROL" buttons are not available.

(4) The indoor fan runs continuously to provide ventilation and prevent air stratification.

3. DRY operation

(1) Press POWER ON/OFF button.

Power lamp of the indoor unit turns on with a beep tone.

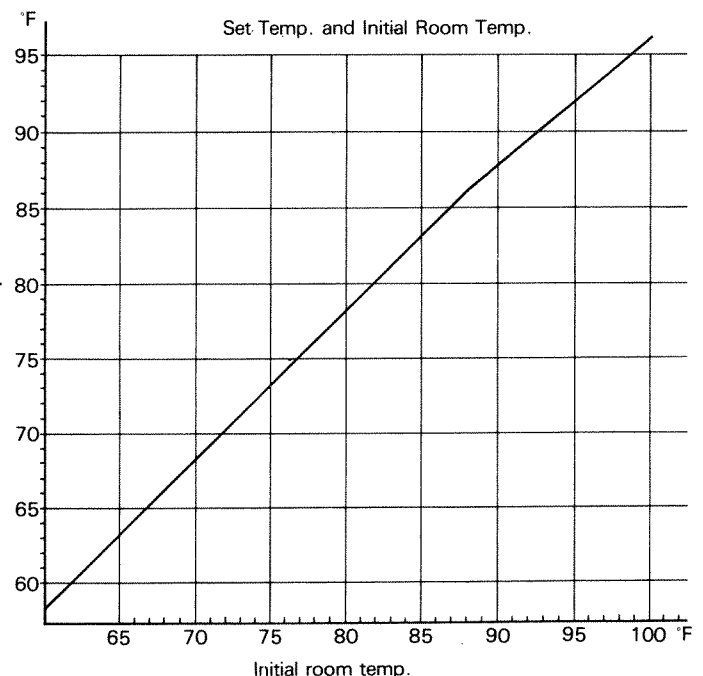
(2) Select DRY mode.

(3) Indoor fan operates at VLO speed.

(4) After 2 min. the microprocessor reads the room temp. and decides the set temp. Set temp. will be as follows.

Thermostat (SET TEMP.) is not available.

The other operations are same as DRY mode of "I FEEL CONTROL".



4. FAN operation

- (1) Press POWER ON/OFF button.
- (2) Select FAN mode.
- (3) Press SET TEMP. button to select the desired temperature.
The indoor fan stops when room temperature is lower than the set temp.
- (4) Select the desired fan speed.

Followings are the fan speed in AUTO.

Room temp. minus set temp. : more than 4~7 deg.(°F) HI -----

Room temp. minus set temp. : 2~7 deg.(°F) MED -----

Room temp. minus set temp. : -2~3 deg.(°F) LO -----

Room temp. minus set temp. : less than -2~0 deg.(°F).....STOP -----

Only indoor fan operates.

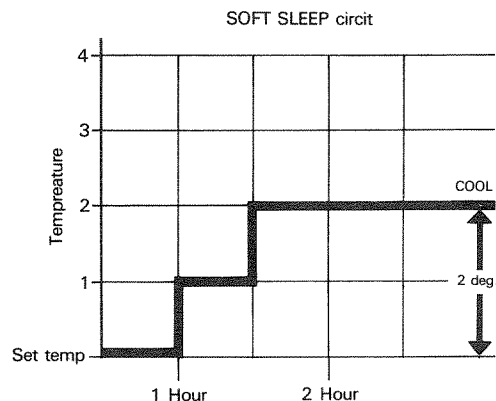
Outdoor unit does not operate.

5. TIMER

1. AUTO STOP operation

AUTO STOP mode has "SOFT SLEEP" circuit which provides comfortable temperature control for sleeping.

- (1) Set the **TIMER CONTROL** to **AUTO STOP**.
 - (2) Set the time. Time setting is in 1 hour units for up to 12 hours.
 - (3) "SOFT SLEEP" circuit operates in **COOL** mode. By this circuit, system operates at the set temp. for the first 1 hour. Then, in **COOL** mode the set temp. raises by 1 deg. half-hourly to 2 deg. range.
- In "**I FEEL CONTROL**" and **DRY** mode, the circuit does not operate.



2. AUTO START operation

- (1) Select the **TIMER CONTROL** button to **AUTO START**.
- (2) Set the time. Time setting is in 1 hour units for up to 12 hours.

NOTE TIMER setting will be canceled by power failure or breaker functioning.

6. EMERGENCY-TEST operation

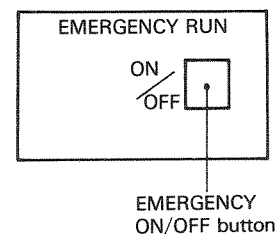
When the remote controller is missing, has failed or the batteries run down, press the emergency run on/off switch on the front of the indoor unit. The unit will start and the operation lamp will light.

The first 30 min. of operation will be the test run operation. This operation is for servicing. The indoor fan runs at high speed and the system is in continuous operation. The thermostat does not operate and the timer is reset to normal.

After 30 min. of test run operation the system shifts to emergency run operation with a set temperature of 75°F in cooling. The fan shifts to MED speed.

This operation continues until the emergency run on/off button is pressed or a button on the remote control is pressed, then normal operation will start.

The coil frost prevention circuit operates in this mode.



7. AUTO RESTART FUNCTION

When the indoor unit is controlled by the remote controller for more than 10 minutes, the operation mode, set temperature, and the fan speed are memorized by the indoor electronic control P.C. board. After power failure, the unit operates automatically when power is restored. However, if units were operated in "I FEEL CONTROL" mode before power failure, the board does not memorize the operation mode.

When power is restored, the mode is decided by the initial temperature. Refer to page 21.

How to set "AUTO RESTART FUNCTION"

Cut the jumper wire of SW1AO.

See the TEST POINT DIAGRAM on page 30.

Operation

- If main power (AC115V) is cut, the operation settings remain.
- When power is restored, the unit restarts in the previous mode 3 minutes later without remote control.
- If main power is cut while AUTO START/STOP timer is set, the timer setting is cancelled and auto restart function works.
- Even if power is cut for about 0.5 seconds, auto restart works.

NOTE:

- If operation setting is changed by the remote controller in the first 10 minutes, the accumulated time is cancelled and counting starts from zero.
- When the unit was off by the remote controller before power failure:
If power is restored within 10 minutes, the unit operates by auto restart function even the power button of the remote controller is still off.

Usually auto restart function does not work when the power button of the remote controller is off.

9

TROUBLESHOOTING

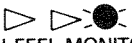
Self check function

This function is to show defective point by lighting or flashing of the indoor unit power lamp, or "I FEEL" monitor lamp (monitor LED). If troubles written in the below table occur during operation, the self check result indicated. The abnormal point indication is reset by pressing the power on/off button of the remote controller and when the unit is on.

* Before taking measures make sure that the symptom reappears, for accurate troubleshooting.

Self Check Table

 Flash ☐ OFF

Abnormal point	Indoor coil thermistor
Indication	 POWER  I FEEL MONITOR
Symptom	Indoor unit power turns off.
Detect method	Detects Indoor coil thermistor short or open circuit every 2 sec. during operation.
Cause	● Thermistor defect ● Connector disconnecting ● Connector misconnecting ● Indoor control P.C. board defect
Repair	● Check thermistor calibration. ● Reconnect connector. ● Check indoor board.