



# SERVICE MANUAL

**SPLIT TYPE  
AIR CONDITIONER (50Hz)  
DUCT type**

Models

Indoor unit

Outdoor unit

**HR-30TB**

**HO-30TB**



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# SPECIFICATIONS

TYPE	COOLING & HEATING	
INDOOR UNIT	HR-30TB	
OUTDOOR UNIT	HO-30TB	
COOLING CAPACITY	(kW)	8.50
HEATING CAPACITY	(kW)	9.40

POWER SOURCE	(V)	230
	(Hz)	50
RUNNING CURRENT	(COOL)	16.0
	(HEAT)	15.0
INPUT WATTS	(COOL)	3.50
	(HEAT)	3.35
E.E.R	(COOL)	2.43
	(HEAT)	2.81
STARTING CURRENT	(A)	93
MOISTURE REMOVAL	(l/h)	4.0

COMPRESSOR TYPE	Hermetic type, 2 pole, Single phase, Induction motor, Rotary
CODE	NE52VNHMT
REFRIGERANT R407C	(g) 2700

FAN SPEED INDOOR	HIGH	1240
	MED	1140
	LOW	1040
(r.p.m)		
FAN SPEED OUTDOOR	(r.p.m)	760
AIR FLOW	INDOOR	1750 (at 100Pa)
	OUTDOOR	3320
(m3/h)		
DIMENSIONS	IN	270 x 1210 x 700
	OUT	900 x 900 x 350
H x W x D	(mm)	
WEIGHT	IN	43 / 58
	OUT	80 / 92
NET/GROSS	(kg)	
MAX PIPE LENGTH / HEIGHT	(m)	30 / 15
REMOTE CONTROLLER TYPE		WEEKLY

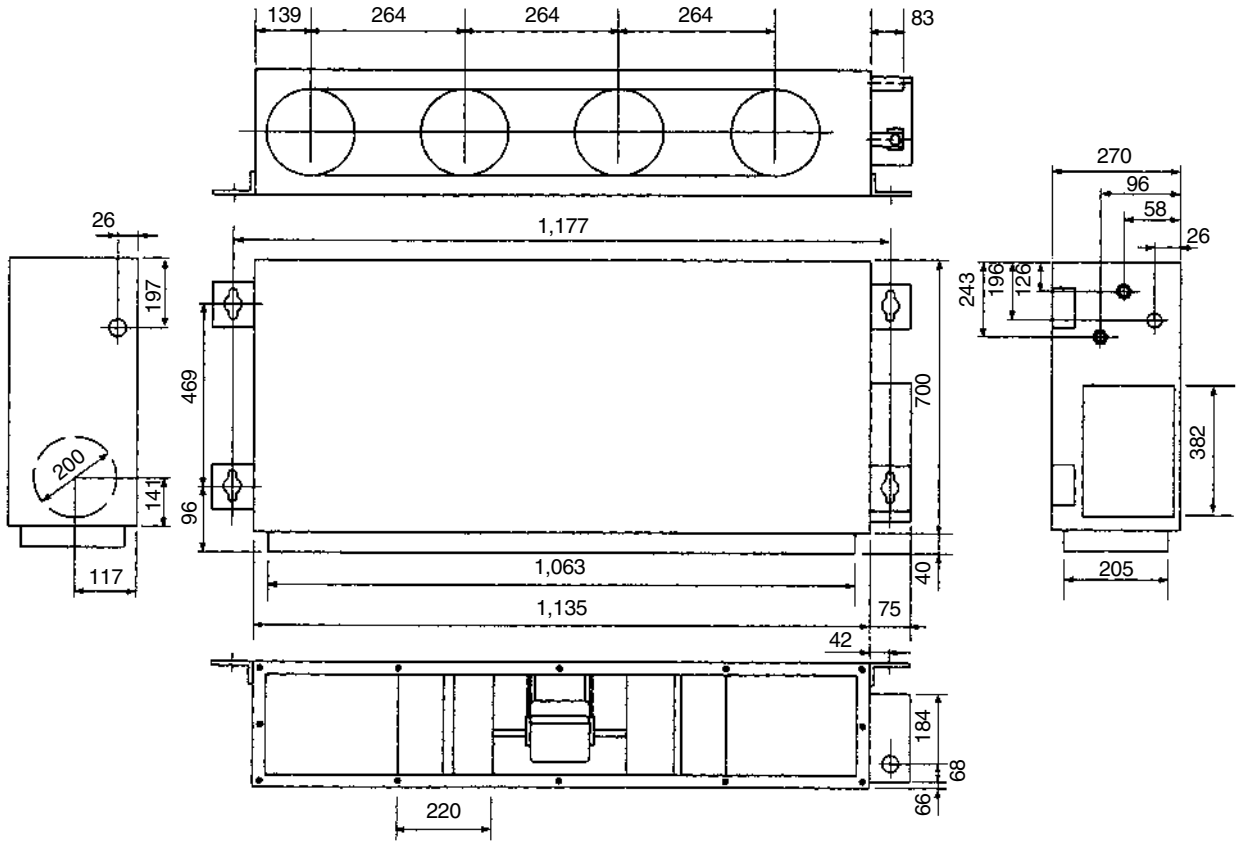
## REFRIGERANT CHARGE (R407C)

PIPE LENGTH	7.5m (25ft)	10m (33ft)	15m (49ft)	20m (66ft)	25m (82ft)	Additional refrigerant
FULL CHARGE AMOUNT (R407C)	2700g (95.2 oz)	2825g (100.5 oz)	3075g (108.5 oz)	3325g (117.3 oz)	3575g (126.1 oz)	50g/m (0.54 oz/ft)

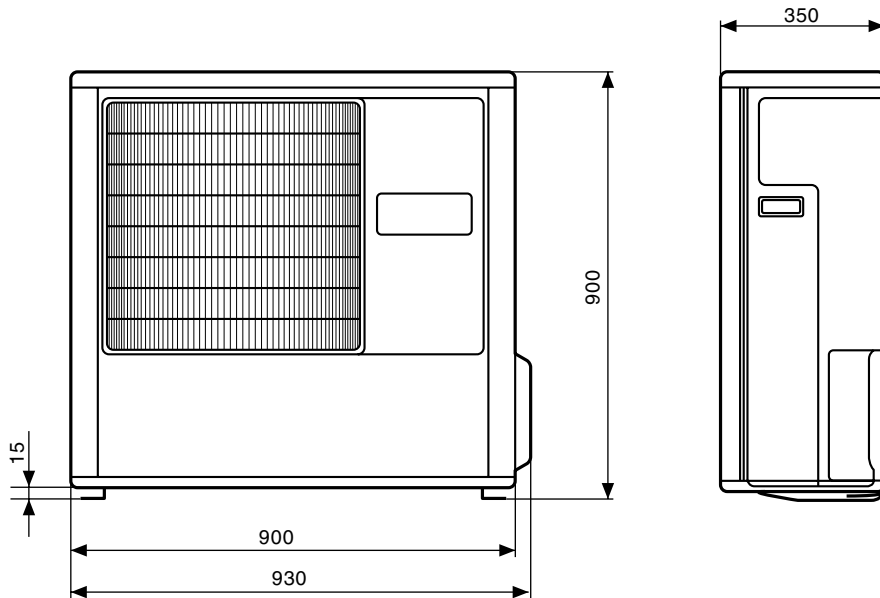
# OUTLINE AND DIMENSIONS

Unit : mm

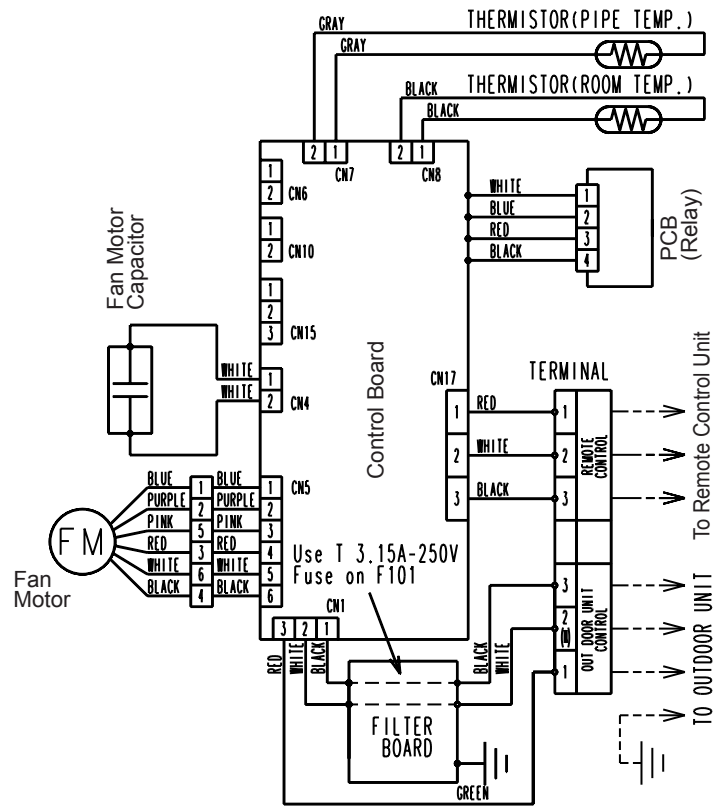
## INDOOR UNIT



## OUTDOOR UNIT

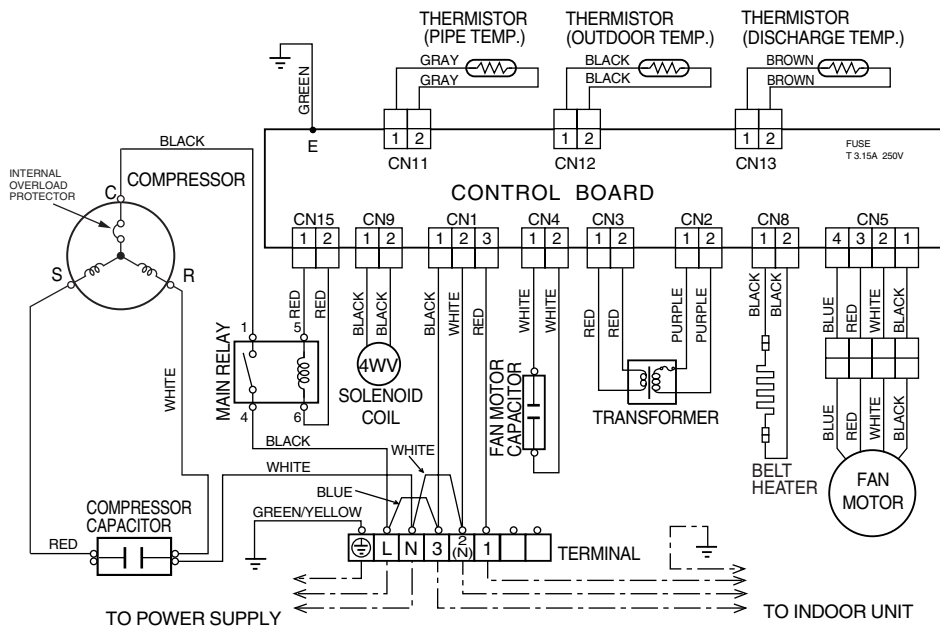


# CIRCUIT DIAGRAM

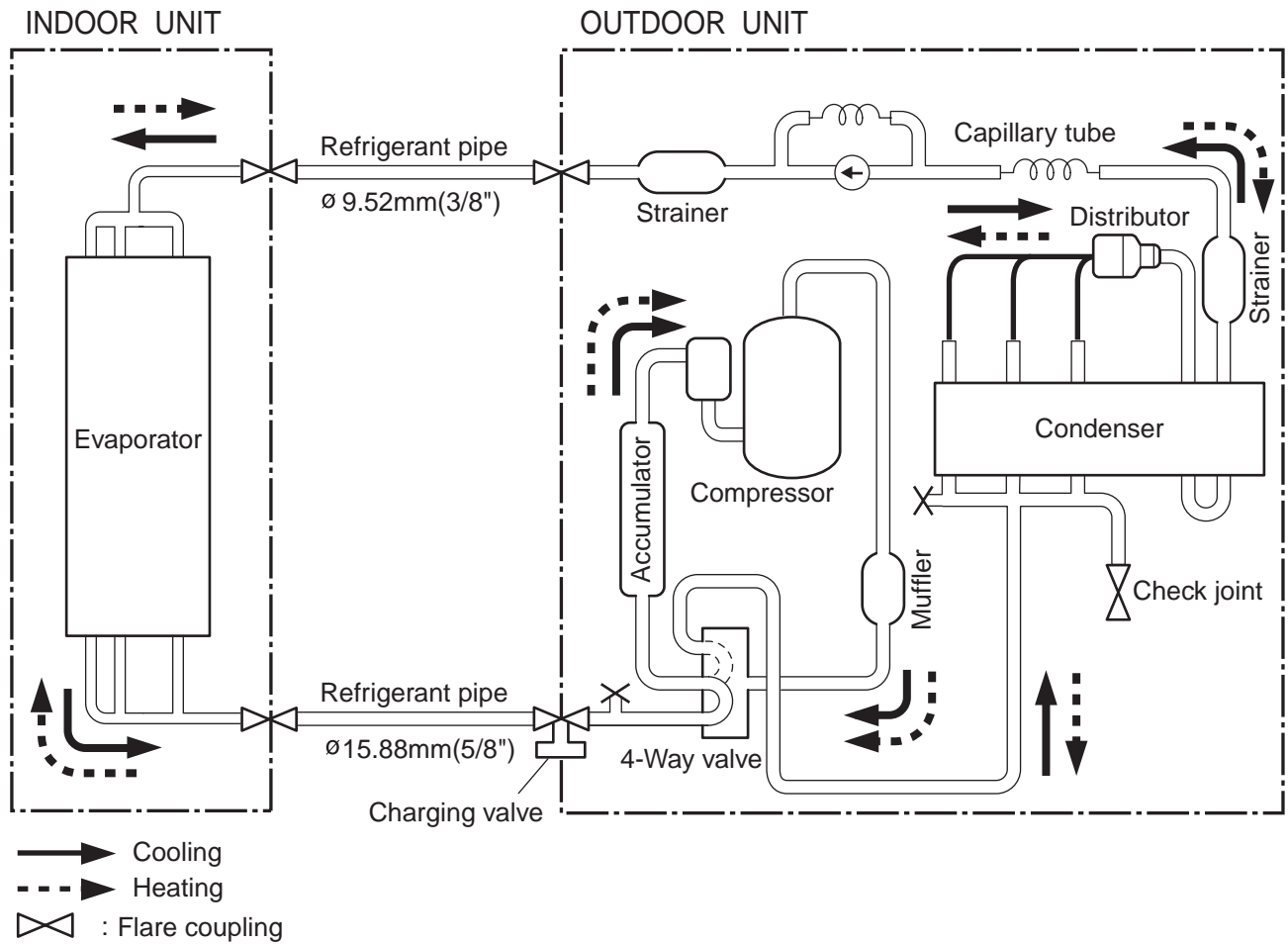


INDOOR UNIT

OUTDOOR UNIT



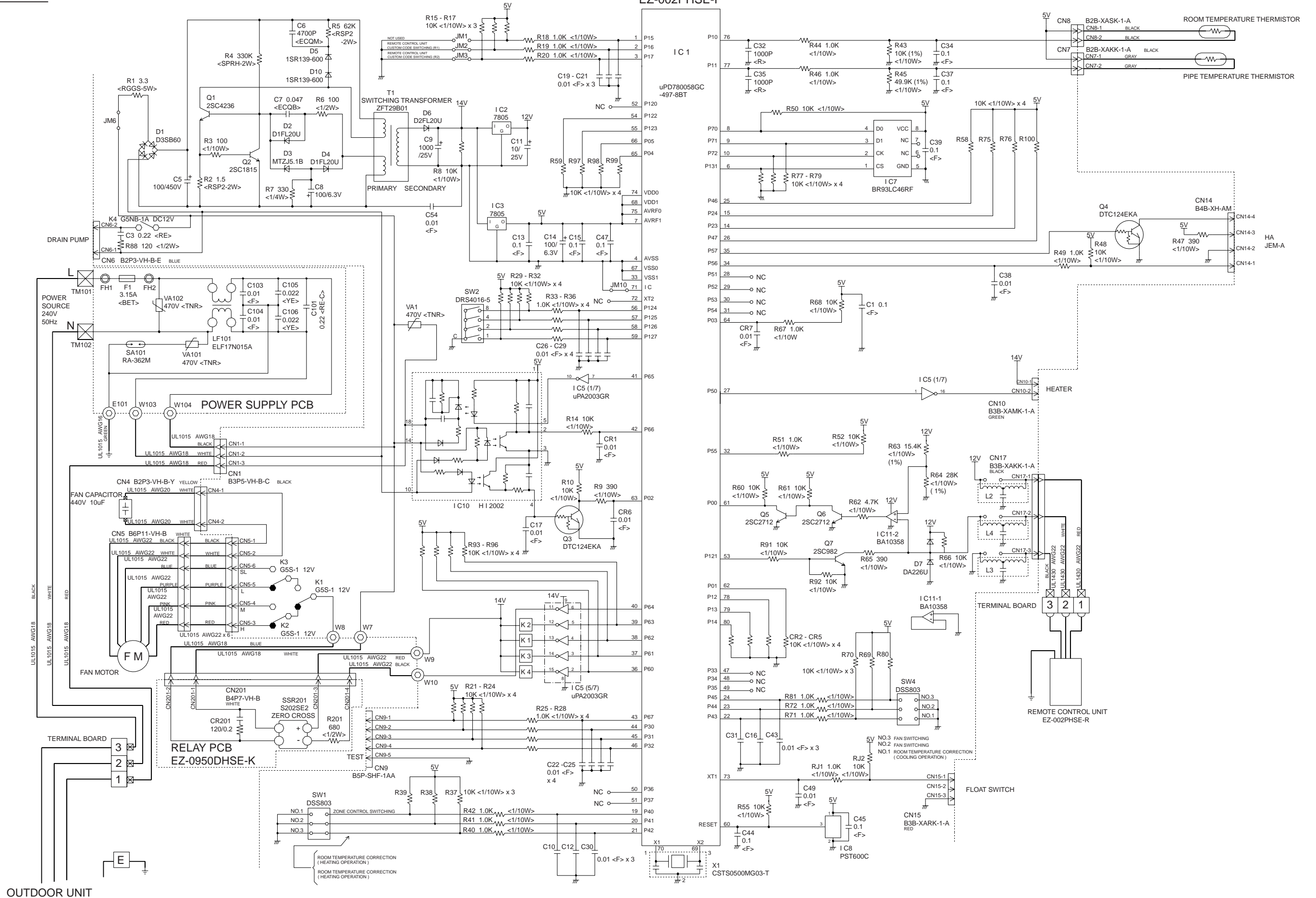
# REFRIGERANT SYSTEM DIAGRAM



# INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Models :HR-30TB

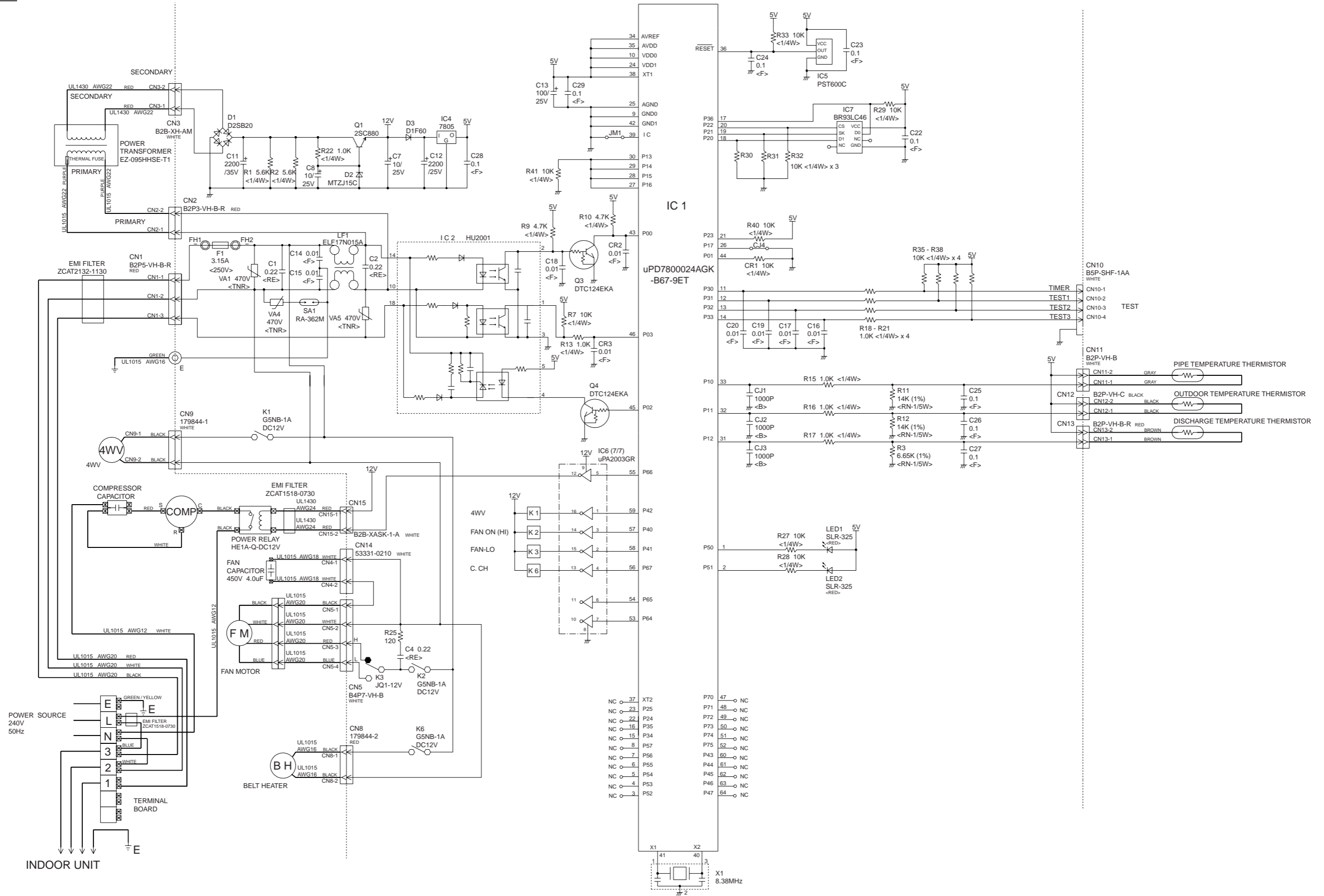
## CONTROLLER PCB ASSEMBLY ( MAIN PCB ) EZ-002PHSE-F



# OUTDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Models : HO-30TB

## CONTROLLER PCB ASSEMBLY ( MAIN PCB ) EZ-0028HUE-C



# ERROR CONTENTS

## 1. REMOTE CONTROLLER

- When EE : EE blinks at the current time display, there is an error inside the air conditioner. If the SET TIME button (▼) and TEMP./DAY button (▼) are pressed simultaneously for more than three seconds, the self diagnosis check will start and the error contents will be displayed at the current time display. When the operation lamp lights, press the START/STOP button and after operation lamp goes off, perform the same operation. Process the error contents by referring to (Table 1).

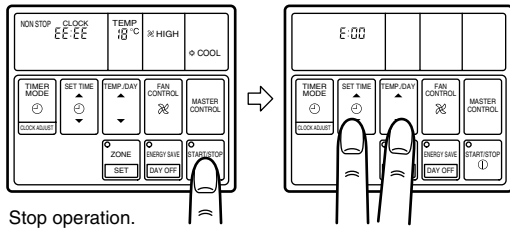


Table 1

Error cord	Error contents
E:00	Communication error (indoor unit ↔ remote controller)
E:01	Communication error (indoor unit ↔ outdoor unit)
E:02	Room temperature sensor open
E:03	Room temperature sensor shortcircuited
E:04	Indoor heat exchanger temperature sensor open
E:05	Indoor heat exchanger temperature sensor shortcircuited
E:06	Outdoor heat exchanger temperature sensor open
E:07	Outdoor heat exchanger temperature sensor shortcircuited
E:08	Power source connection error
E:09	Float switch operated
E:0A	Outdoor temperature sensor open
E:0B	Outdoor temperature sensor shortcircuited
E:0C	Discharge pipe temperature sensor open
E:0D	Discharge pipe temperature sensor shortcircuited
E:0E	Outdoor high pressure abnormal
E:0F	Discharge pipe temperature abnormal
E:11	Model abnormal
E:12	Indoor fan abnormal
E:13	Outdoor signal abnormal
E:14	Outdoor EEPROM abnormal

- To stop test running, press the START/STOP button.
- For the operation method, refer to the operating manual and perform operation check.
- Check that there are no abnormal sounds or vibration sounds during test running.

## 2. OUTDOOR UNIT

### ERROR : Heat & Cool model (Reverse cycle) only

The LED lamps operate as follows (Table 2) according to the error contents.

Table 2

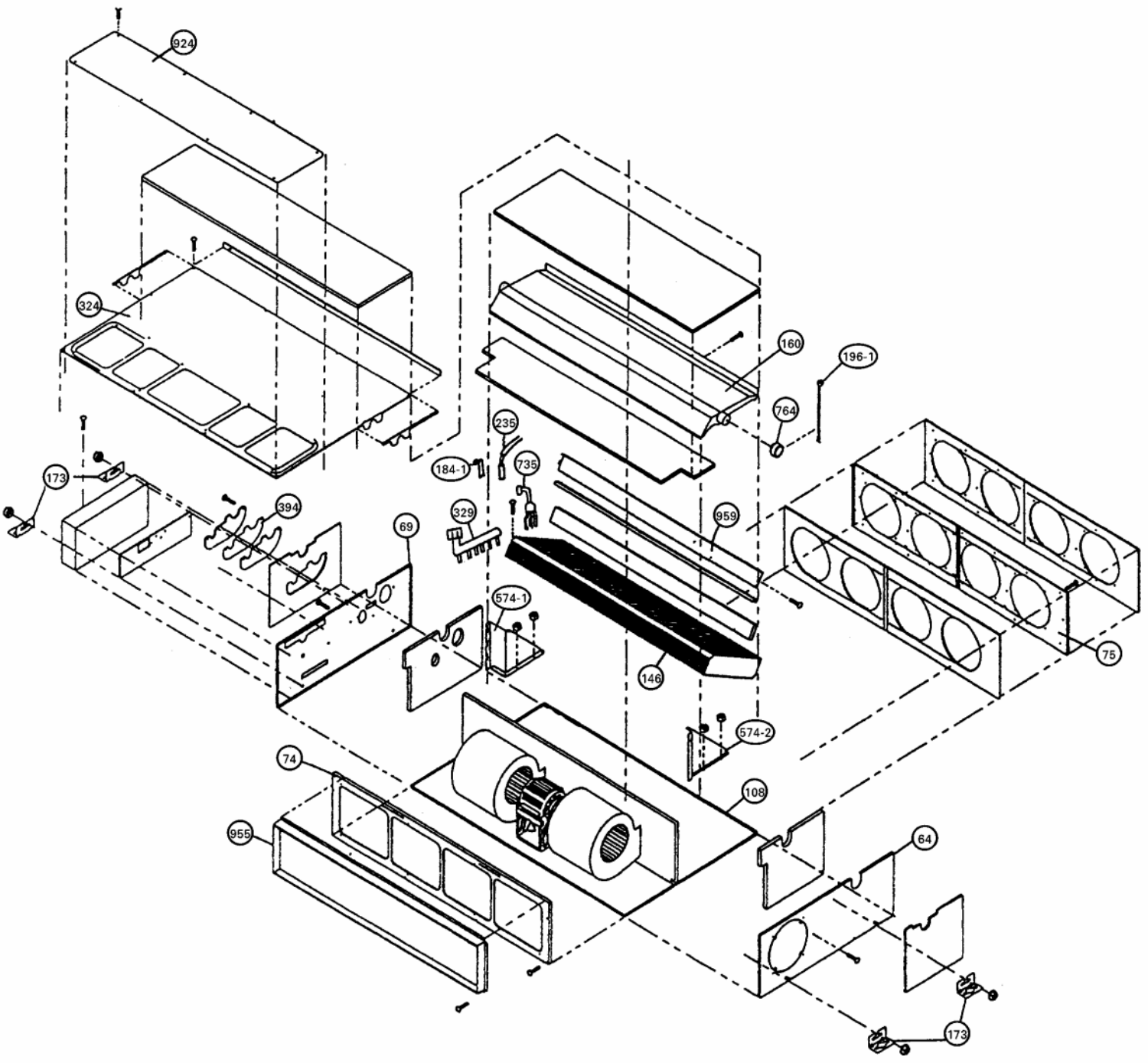
Error display		Error contents
LED 1	LED 2	
<p>Quick flash continued</p>	<p>Quick flash continued</p>	Model abnormal or EEPROM abnormal
<p>1 quick flash repeated</p>	<p>Lighting continued</p>	Power source connection error
<p>2 quick flashes repeated</p>	<p>Lighting continued</p>	Discharge temperature sensor error
<p>3 quick flashes repeated</p>	<p>Lighting continued</p>	Outdoor heat exchanger temperature sensor error
<p>4 quick flashes repeated</p>	<p>Lighting continued</p>	Outdoor temperature sensor error
<p>5 quick flashes repeated</p>	<p>Lighting continued</p>	Communication signal error
<p>6 quick flashes repeated</p>	<p>Lighting continued</p>	Indoor unit error
<p>7 quick flashes repeated</p>	<p>Lighting continued</p>	Discharge temperature abnormal
<p>8 quick flashes repeated</p>	<p>Lighting continued</p>	High pressure abnormal

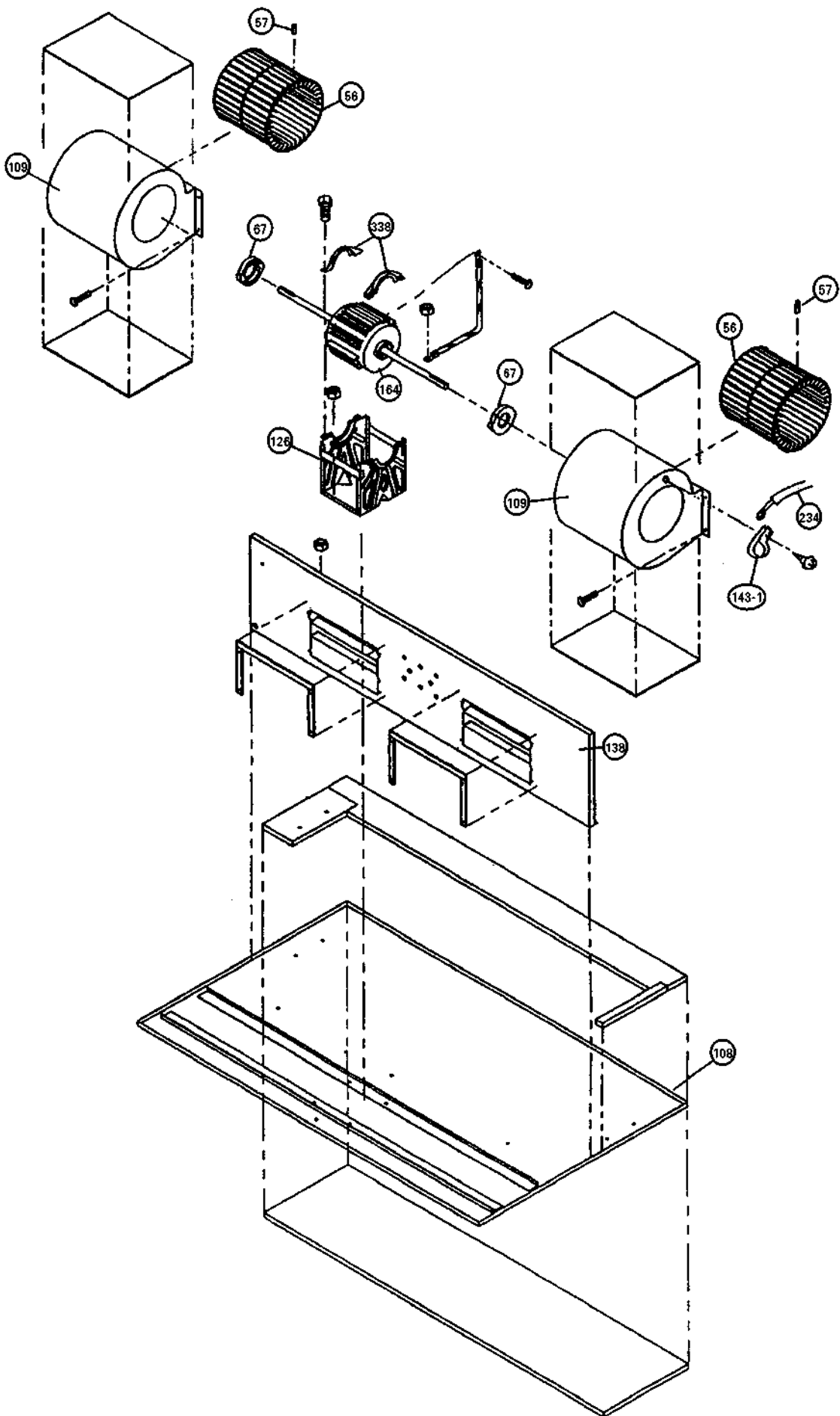
When the fault is cleared, the LED lamp goes off. However, for discharge pipe temperature abnormal and high pressure abnormal, the LED lamp lights continuously for 24 hours, as long as the power is not turned off.

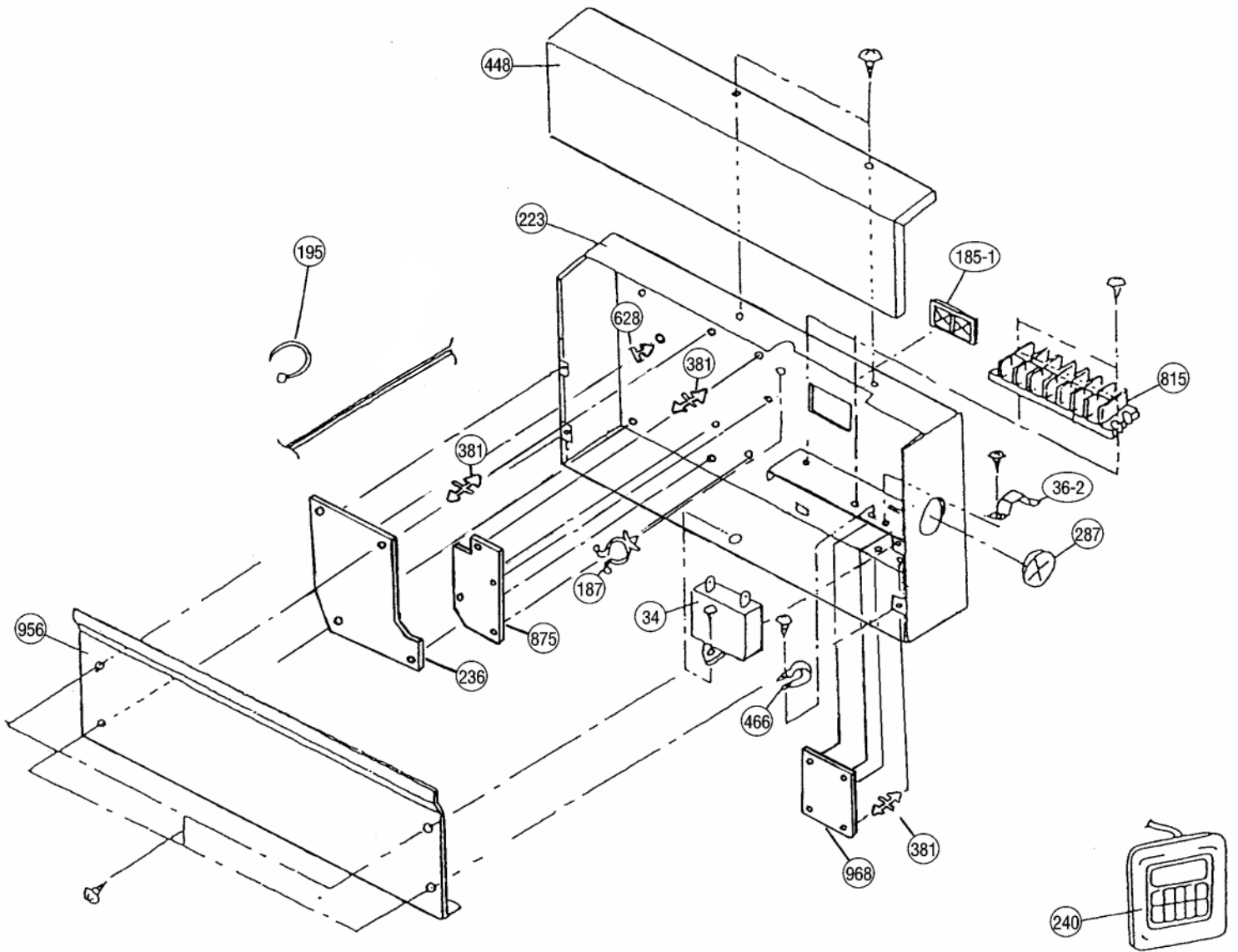


# DISASSEMBLY ILLUSTRATION

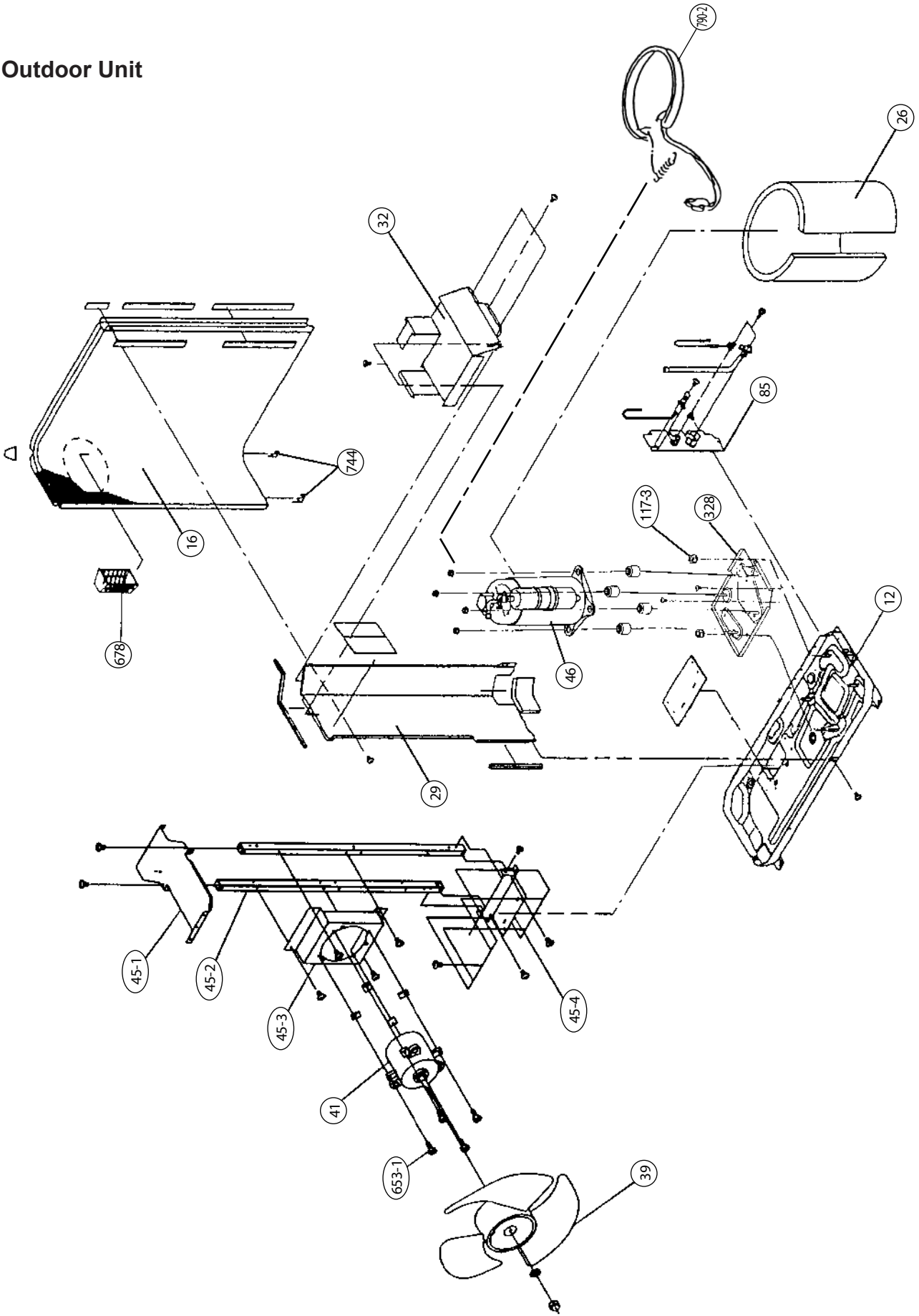
## Indoor Unit

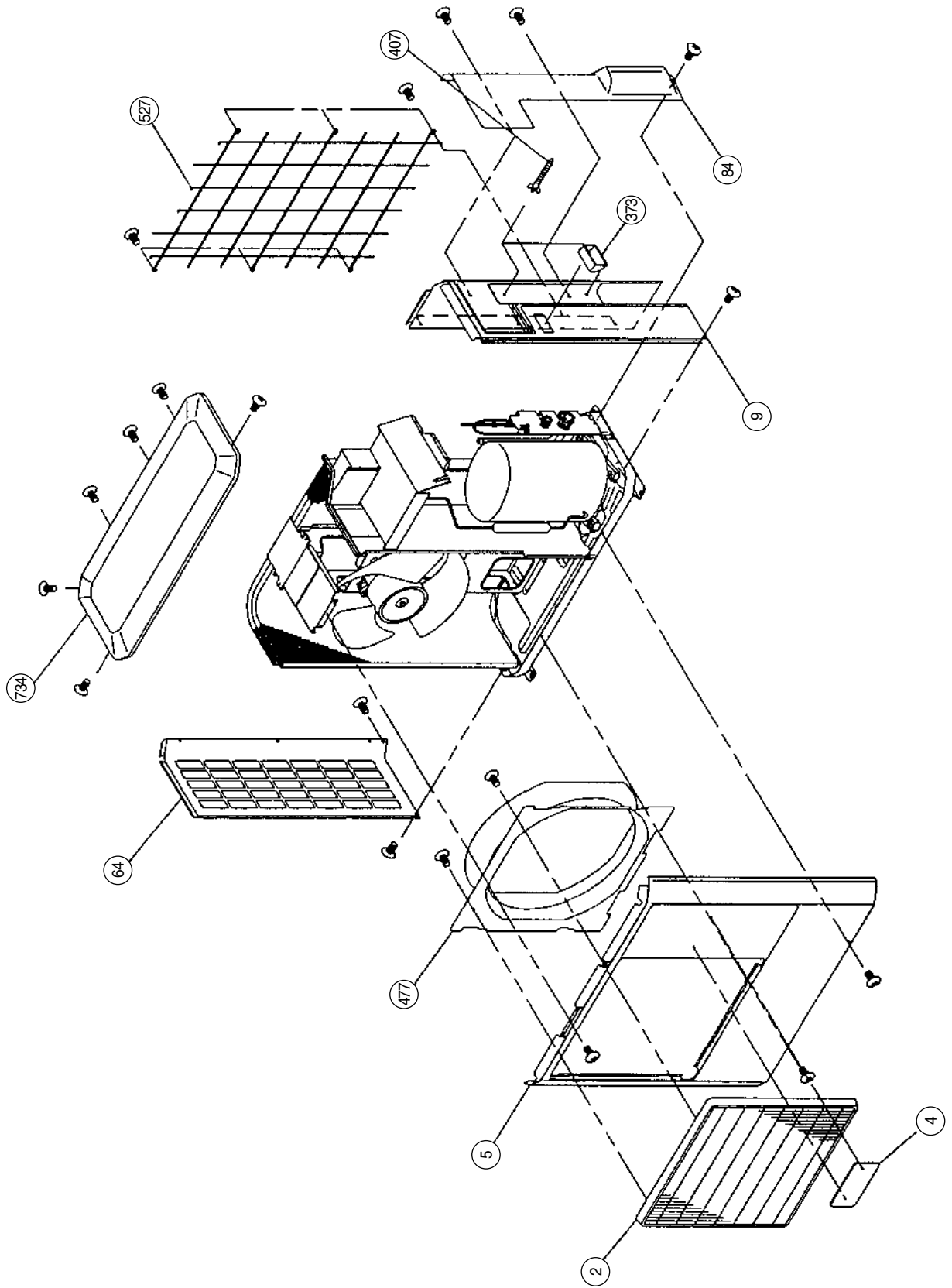


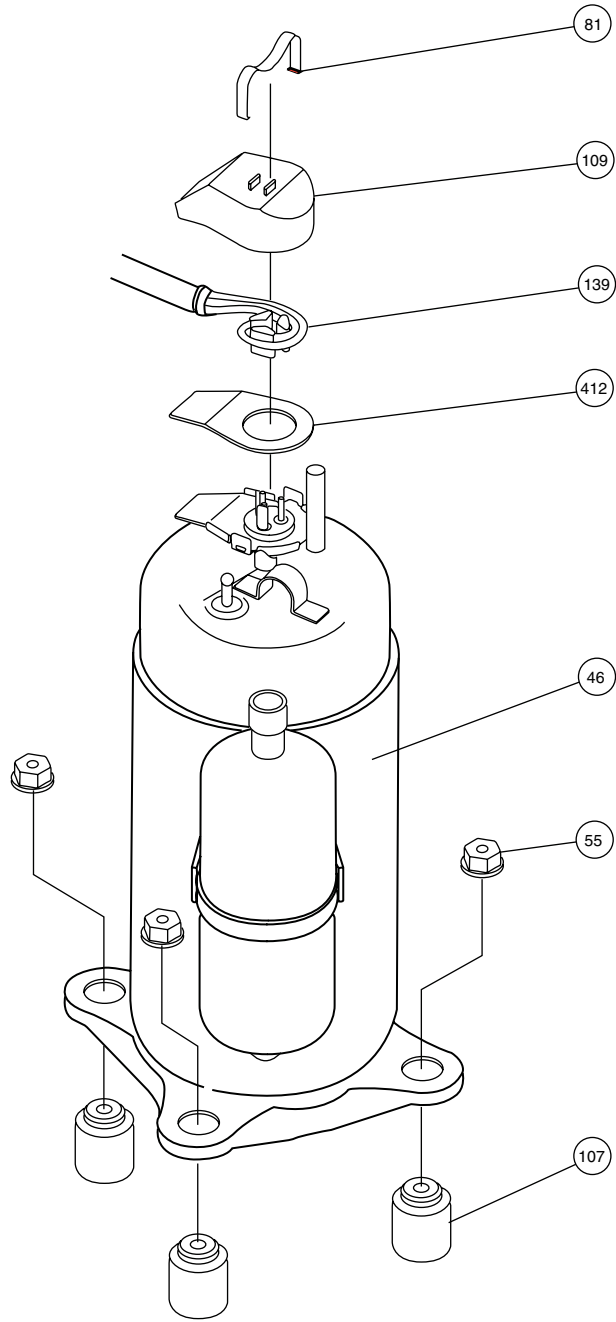


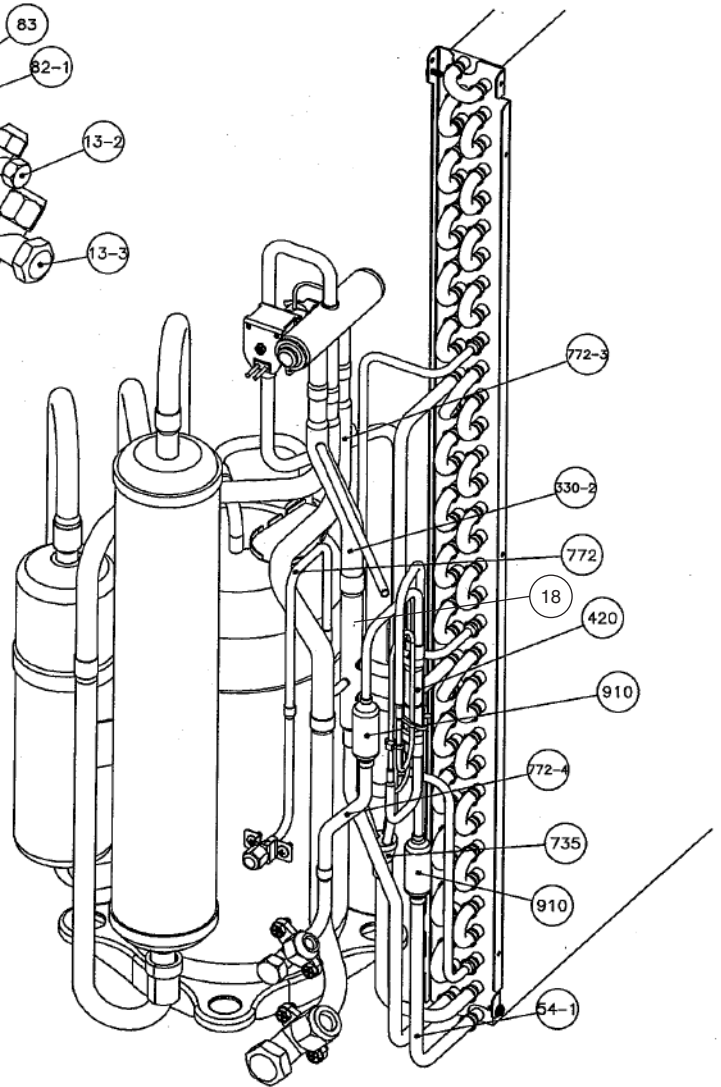
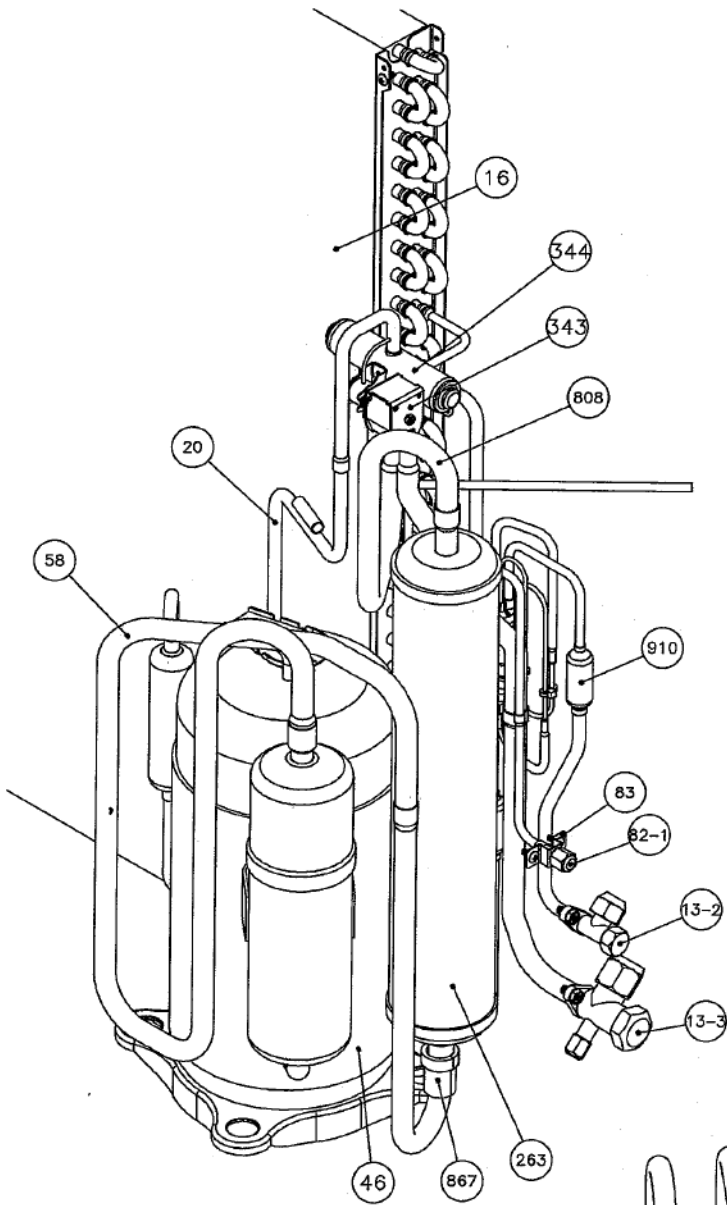


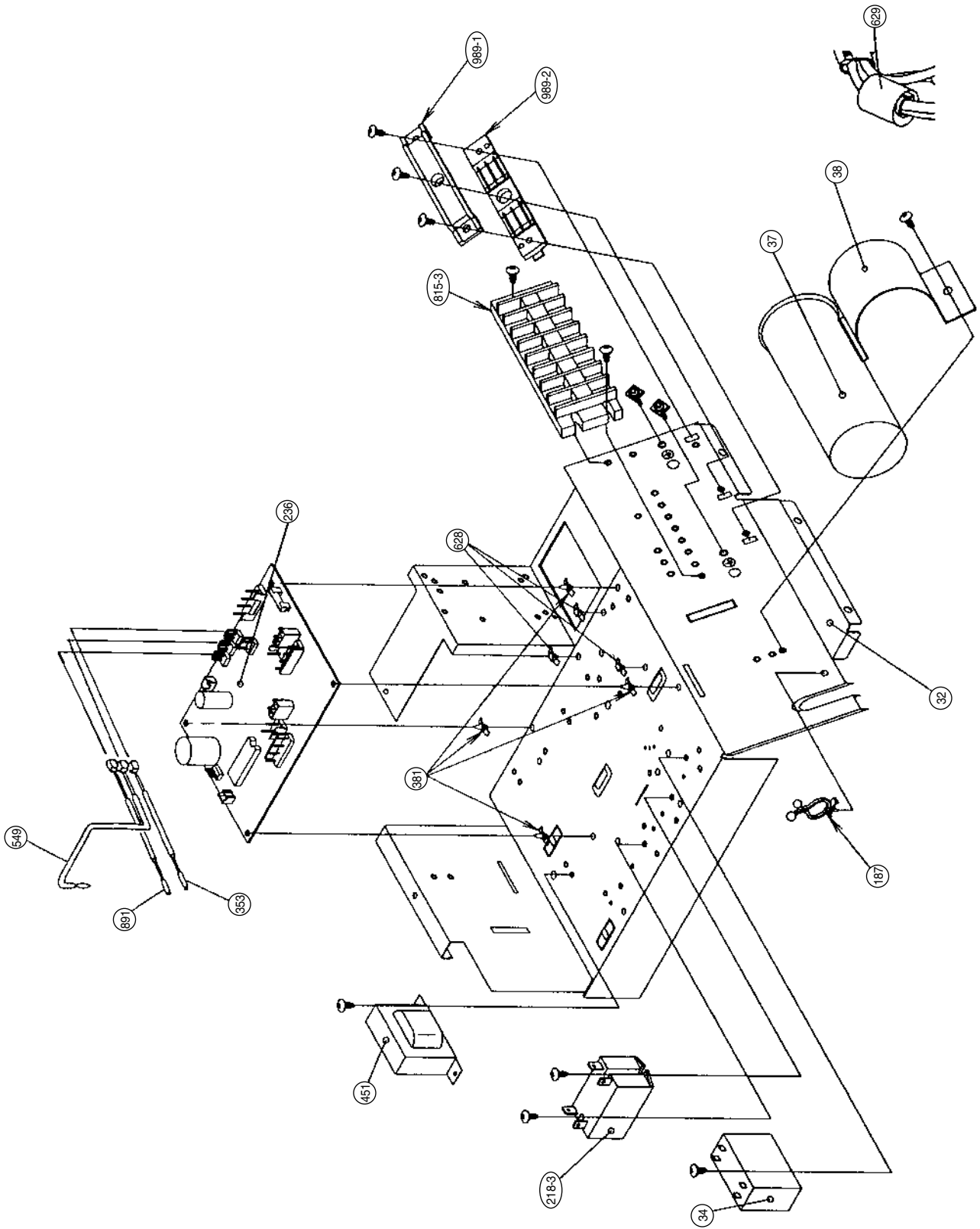
# Outdoor Unit













# PARTS LIST

## INDOOR UNIT

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		HR-30TB				HR-30TB	
34	Capacitor (Fan Motor)	9704305053		223	Control Box Metal Assy	9356558005	
36-2	Cord Holder Metal	9356362008		234	Thermistor Assy	9703299056	
56	Sirocco Fan Assy	9356531022		235	Thermistor Assy-Pipe	9703297045	
57	Hex. Socket Screw	313616213202		236	Controller PCB Assy	9704557049	
64	Cabinet-Left Metal	9356551006		240	Remote Control Unit	9371438030	
67	Rubber (Vibration-proof)	313659068604		287	Cap (Power)	9352173011	
69	Cabinet-Right Metal	9356547009		324	Top Plate	9356546002	
74	Intake Panel	9356537000		329	Coupling Pipe Assy	9369117008	
75	Outlet Panel Assy	9356538007		338	Motor Fixture	9356536003	
108	Base Assy	9356518009		381	Loking Spacer	313209391506	
109	Casing Assy	9356527001		394	Pipe Fixing Plate	9356554007	
126	Motor Fixing Table Assy	9356533002		448	Control Box Metal-B	9356560008	
138	Separate Wall	9356523003		466	Clamp NK-4N	313714328805	
143-1	Clamp NK-3N	313361274700		574-1	Eva. Fixing Plate-R	9356521009	
146	Evaporator Assy	9369111006		574-2	Eva. Fixing Plate-L	9356522006	
160	Drain Pan Assy	9356542028		628	Locking Spacer-B	313005446558	
164	Fan Motor Assy	9600830017		735	Distributor Assy	9369112003	
173	Hanger Bracket	9356563009		764	Drain Cap	9356541007	
184-1	Thermo. Spring-A	313728262708		815	Terminal-7P	9703403019	
185-1	Rubber Bushing	9357376004		875	Power PWB Assy	9704561046	
187	Clamp No. 1219	313361271706		924	Intake seal plate	9356553000	
195	Clamp SKB-100	313361275805		955	Square Frange Assy	9356555004	
196-1	Clamp SKB-3M	312300787605		956	Control Box Metal-E	9356900002	
				959	Eva. Seal Plate	9356540000	
				968	Relay PCB Assy	9701594030	

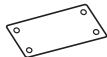







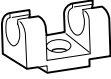


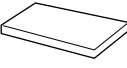
**OUTDOOR UNIT**

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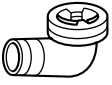


Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		HO-30TB				HO-30TB	
2	Fan Cover (Guard)	9371187013		187	Clamp No. 1219	313361271706	
4	Emblem-Rear "HIYASU"	9359546009		218-3	Power Relay	9900074029	
5	Cabinet-A, Painted	9359797029		236	Controller PCB Assy	9704299024	
9	Cabinet-B, Painted	9359798026		263	Accumulator	9370703009	
12	Base Assy, Painted	9359813019		328	Comp Plate Assy	9362273046	
13-2	2-Way Valve (3/8)	9362380003		330-2	Inlet Pipe (Condenser)-B Assy	9369074004	
13-3	3-Way Valve (5/8)	9366193005		343	Solenoid	9704061027	
16	Condenser Assy	9369981005		344	4-Way Valve	9307556012	
18	Inlet Pipe (Condenser) Assy	9369068003		353	THERMISTOR(Heat Exchanger)	9900043025	
20	Discharge Pipe Assy	9371581088		373	Grip	9352157004	
26	Comp. Cover	9369093005		381	Looking Spacer	313209391043	
29	Separate Wall	9359804017		407	Clamp (Cable) No. 1259	313739340109	
32	Control Box Metal	9359839019		412	Terminal Gasket	9362370004	
34	Capacitor (Fan Motor)	9704305015		420	Capillary Assy	9371287133	
37	Running Capacitor	9703107023		451	Transformer	9900039011	
38	Capacitor Clamp	9360610010		477	Bell-Mouth	9359809012	
39	Propeller Fan Assy	9359837015		527	Protection Net	9359844013	
41	Fan Motor Assy-Out	9601754015		549	THERMISTOR(OUT TEMP)	9900037017	
45-1	Motor Bracket-A	9369627002		628	Spacer	0600118075	
45-2	Motor Bracket-B	9369628009		629	EMI Filter	0400056119	
45-3	Motor Bracket-C	9369629006		653-1	Cup Screw	9385089020	
45-4	Motor Bracket-D	9369630002		678	Bracket (Thermistor)	313557406106	
46	Compressor Assy	9372023013		734	Cabinet Top Panel	9359799023	
54-1	Condensing Pipe-A	9372024010		735	Distributor Assy	9369964008	
55	Special Nut M8	9355091008		744	Clamp (Condenser)	313166374106	
58	Suction Pipe Assy	9369064005		772	Joint Pipe-A	9369084003	
64	Cabinet Left, Painted	9359840022		772-3	Joint Pipe (Valve)	9369082009	
81	Strap	9362371001		772-4	Joint Pipe (Valve)-B	9369083006	
82-1	Check Joint	9369980008		790-2	Belt Heater A	9361140066	
83	Check Joint Bracket	9359807018		808	Inlet Pipe (Accumulator)	9370742008	
84	Valve Cover	9359817017		815-3	Terminal-8P	9358660119	
85	Valve Fixing Plate	9359806011		867	Accumulator Holder Rubber	9354022010	
107	Rubber Mount	9362368001		891	THERMISTOR (Discharge)	9900038014	
109	Terminal Cover	9362369008		910	Strainer	9369287008	
117-3	Hex. Nut w/Sp. Washer	301721180114		989-1	Cord Clamp-A	9359822011	
139	Wire Assy (Compressor)	9370945058		989-2	Cord Clamp-B	9359823018	

# STANDARD ACCESSORIES

## INDOOR UNIT ACCESSORIES

Name and Shape	Q`ty	Application	Parts No.
Installation template 	1	For positioning the indoor unit	9357036007
Hanger 	4	For suspending the indoor unit from ceiling	9356563009
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling	313005446653
Special nut B (small flange) 	4		313005446759
Coupler heat insulation (large) 	2	For indoor side pipe joint (large pipe)	9350716029
Coupler heat insulation (small) 	1	For indoor side pipe joint (small pipe)	9352766015
Nylon fastener 	1	For fixing the drain hose	312300787605
Remote control unit 	1		9371438030
Remote control unit cord clamp 	10	For installing the remote control unit cord	313714181904
Tapping screw (flush heads) 	10	For installing the remote control unit cord clamp	301141153027
Auxiliary pipe assembly 	1	For wiring conduit (gas side) connection	9356995022
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708

**OUTDOOR UNIT ACCESSORIES**

Name and Shape	Q'ty	Application	Parts No.
Hexagon wrench 	1	For opening the refrigerant valve on the outdoor unit	9351228019
Cable clip 	2	For power cord binding	313739340109
Drain pipe 	1	For outdoor unit drain piping work [Heat & Cool (Reverse cycle) model only]	9303029015
Drain cap 	2		313166024302
Tapping screw 	2	For cabinet A and cabinet D mounting (1) Spare (1)	301463040100

