

**SPLIT TYPE
ROOM AIR CONDITIONER
CEILING type (50Hz)**

SERVICE MANUAL

Models

Indoor unit

ABY30LBAG

ABY36LBAG

Outdoor unit

AOY30LNAWL

AOY36LNAWL

Refrigerant
R410A



ENINDEL CLIMA

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SPECIFICATIONS

TYPE	COOLING & HEATING	
INDOOR UNIT	ABY30LBAG	ABY36LBAG
OUTDOOR UNIT	AOY30LNAWL	AOY36LNAWL
COOLING CAPACITY	8.50 kW	10.0 kW
HEATING CAPACITY	10.0 kW	10.8 kW

ELECTRICAL DATA

POWER SOURCE		230 V	
FREQUENCY		1 ϕ 50Hz	
RUNNING CURRENT	COOLING	13.1 A	18.0 A
	HEATING	12.7 A	14.2 A
INPUT WATTS	COOLING	3.0 kW	4.12 kW
	HEATING	2.90 kW	3.26 kW
E.E.R.	COOLING	2.83 kW/kW	2.43 kW/kW
	HEATING	3.45 kW/kW	3.31 kW/kW
MOISTURE REMOVAL		2.5 L/hr	3.0 L/hr
AIR CIRCULATION		1,660 m ³ /hr	1,850 m ³ /hr

COMPRESSOR

TYPE	Hermetic type, 4 poles, Inverter, Twin rotary
DISCRIMINATION	5KD240XAD21

FAN MOTOR

POWER SOURCE		230 V	
INDOOR UNIT	DISCRIMINATION	MFA-45DZM	
	HIGH SPEED	1,000 r.p.m.	1,100 r.p.m.
	MED SPEED	900 r.p.m.	1,000 r.p.m.
	LOW SPEED	750 r.p.m.	850 r.p.m.
OUTDOOR UNIT	DISCRIMINATION	MFE-60PO	
	HIGH SPEED	850 r.p.m.	
	LOW SPEED	900 r.p.m.	

DIMENSIONS

INDOOR UNIT	H x W x D	240 x 1,660 x 700 mm
OUTDOOR UNIT	H x W x D	830 x 900 x 330 mm

WEIGHT

INDOOR UNIT	NET / GROSS	48 kg / 61 kg
OUTDOOR UNIT	NET / GROSS	62 kg / 70 kg

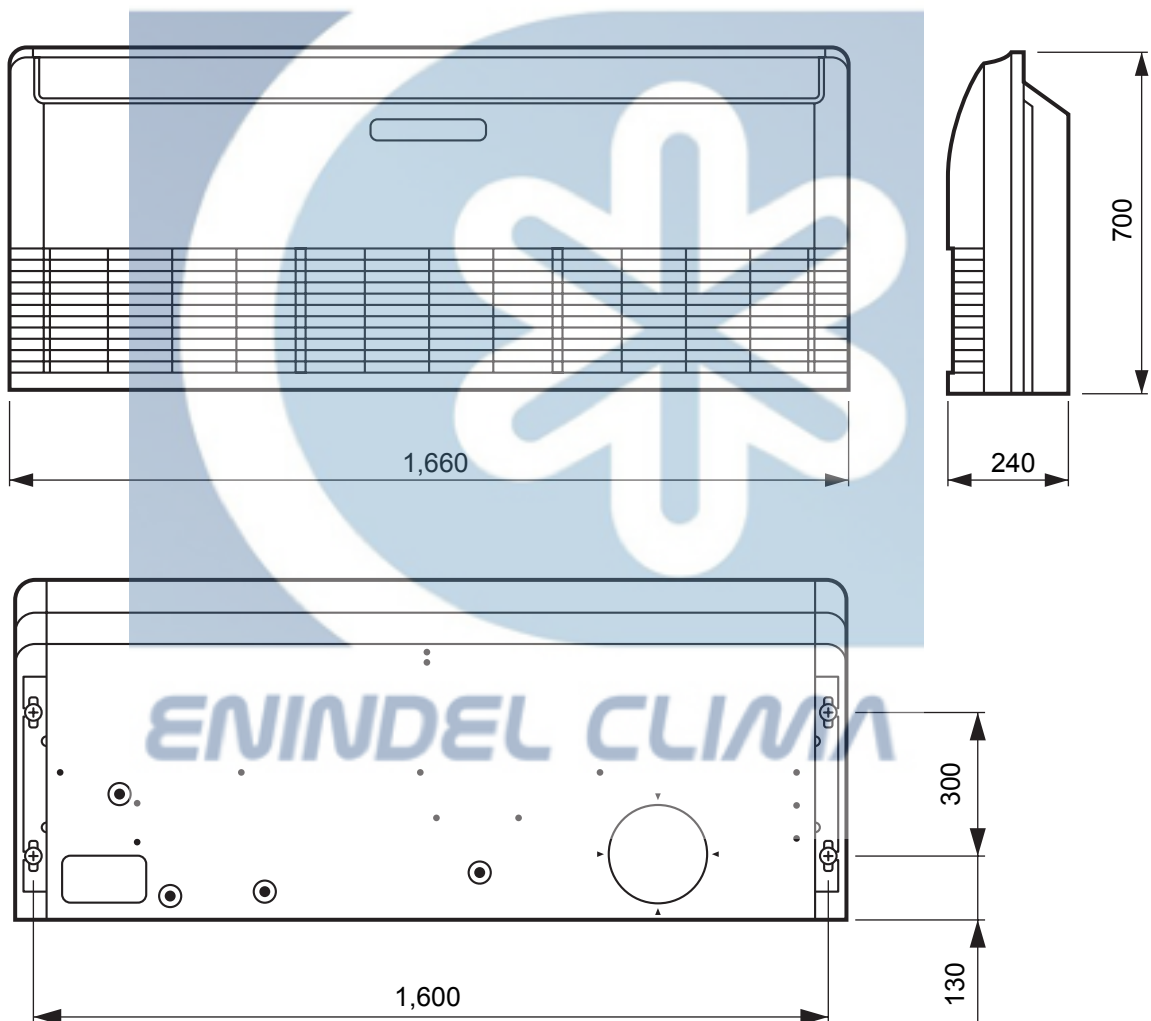
REFRIGERANT CHARGE (R410A)

FULL CHARGE	Pipe Length	20 m	2,100 g
		30 m	2,500 g
		40 m	2,900 g
		50 m	3,300 g
ADDITIONAL CHARGE		40 g/m	
MAXIMUM PIPE HEIGHT		30 m	

OUTLINE AND DIMENSIONS

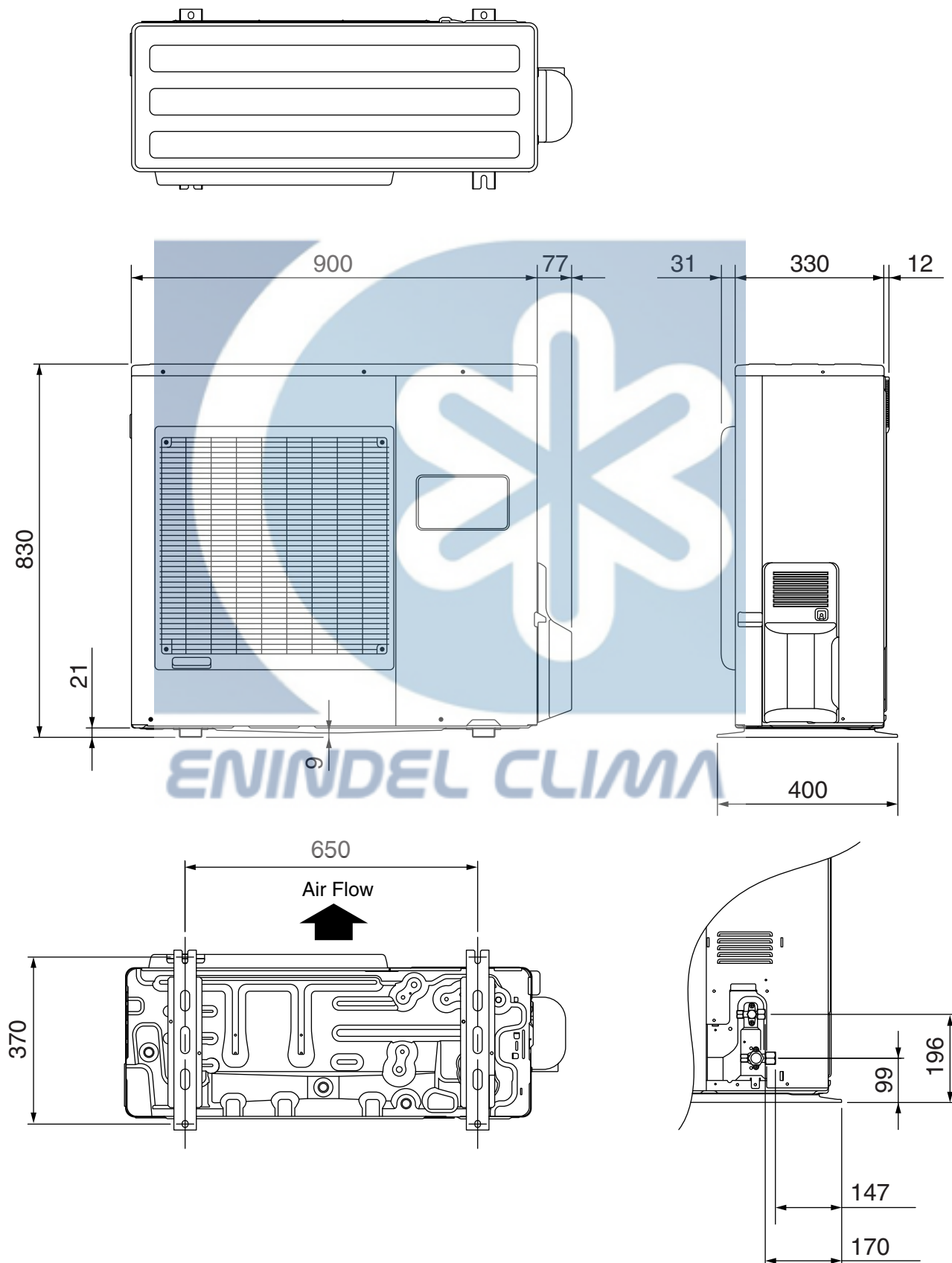
(Unit : mm)

INDOOR UNIT

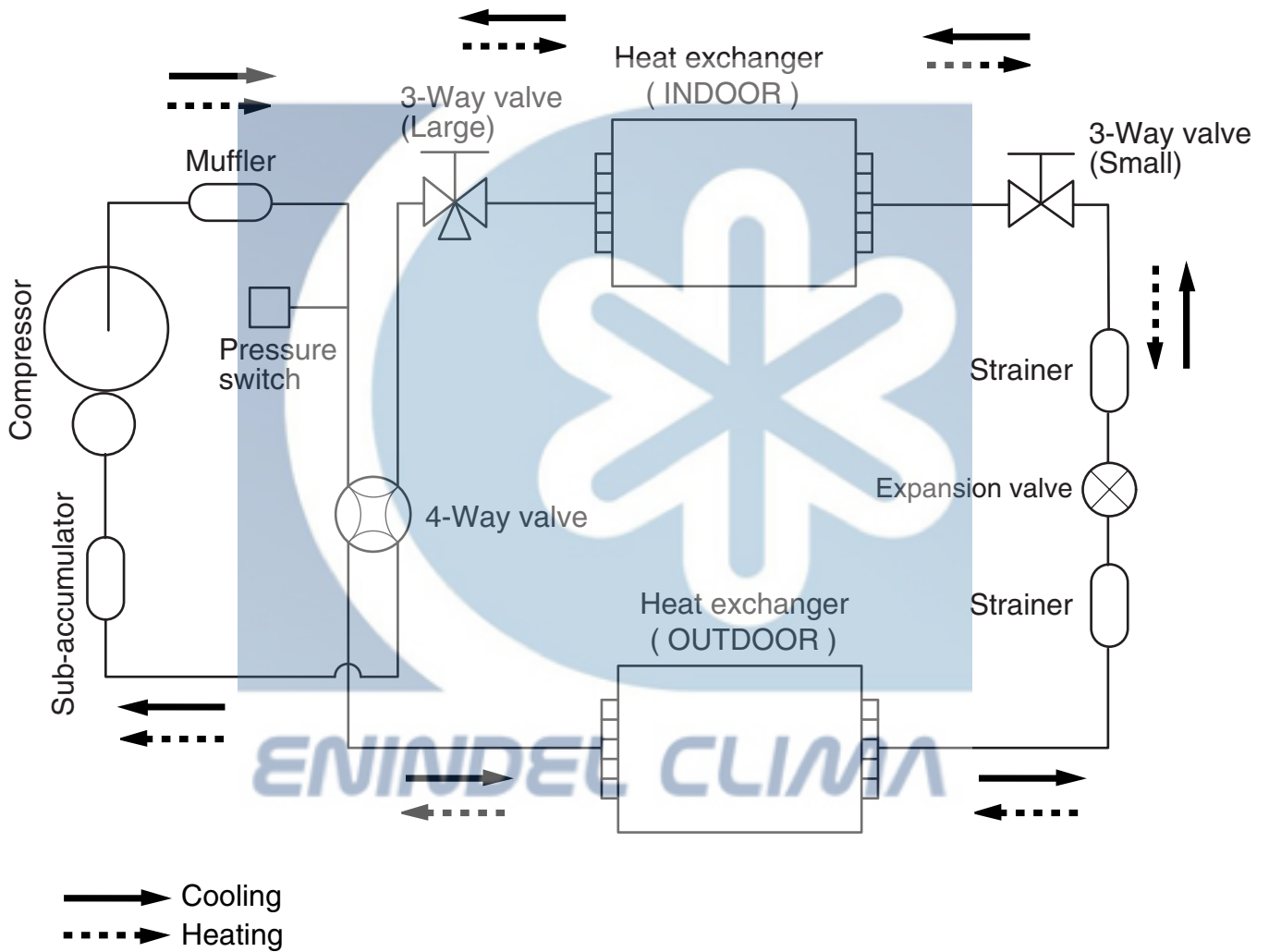


OUTDOOR UNIT

(Unit : mm)



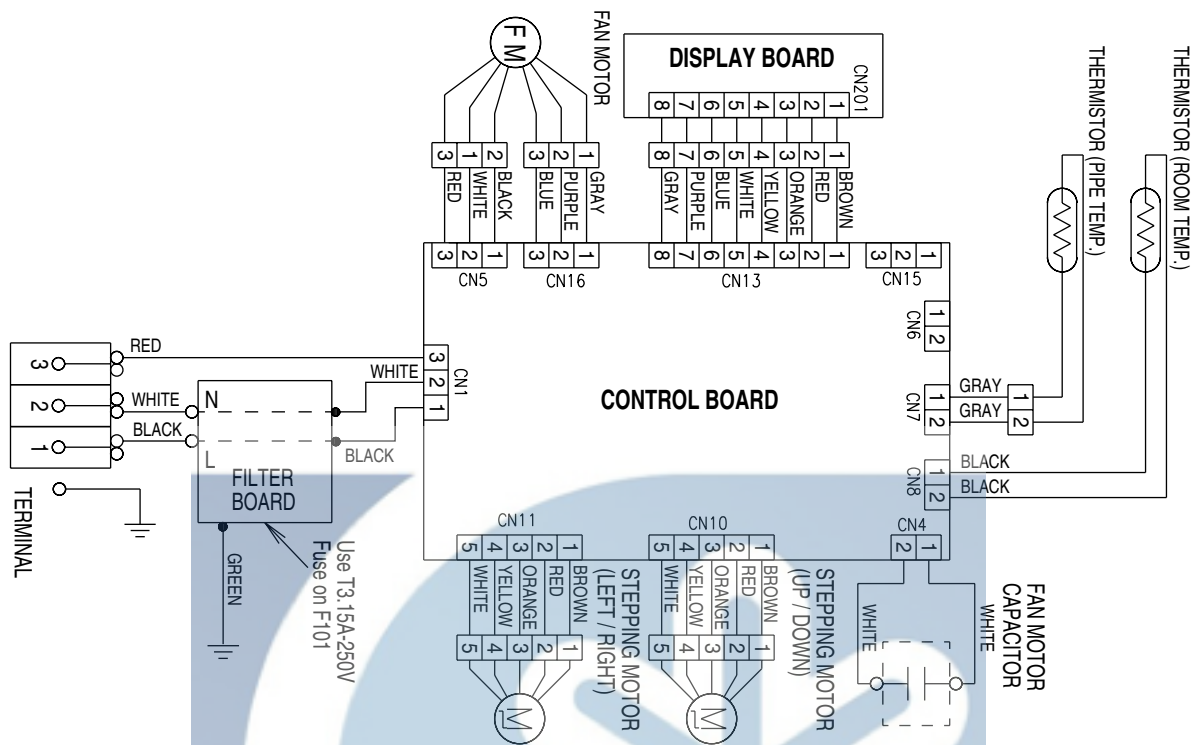
REFRIGERANT SYSTEM DIAGRAM



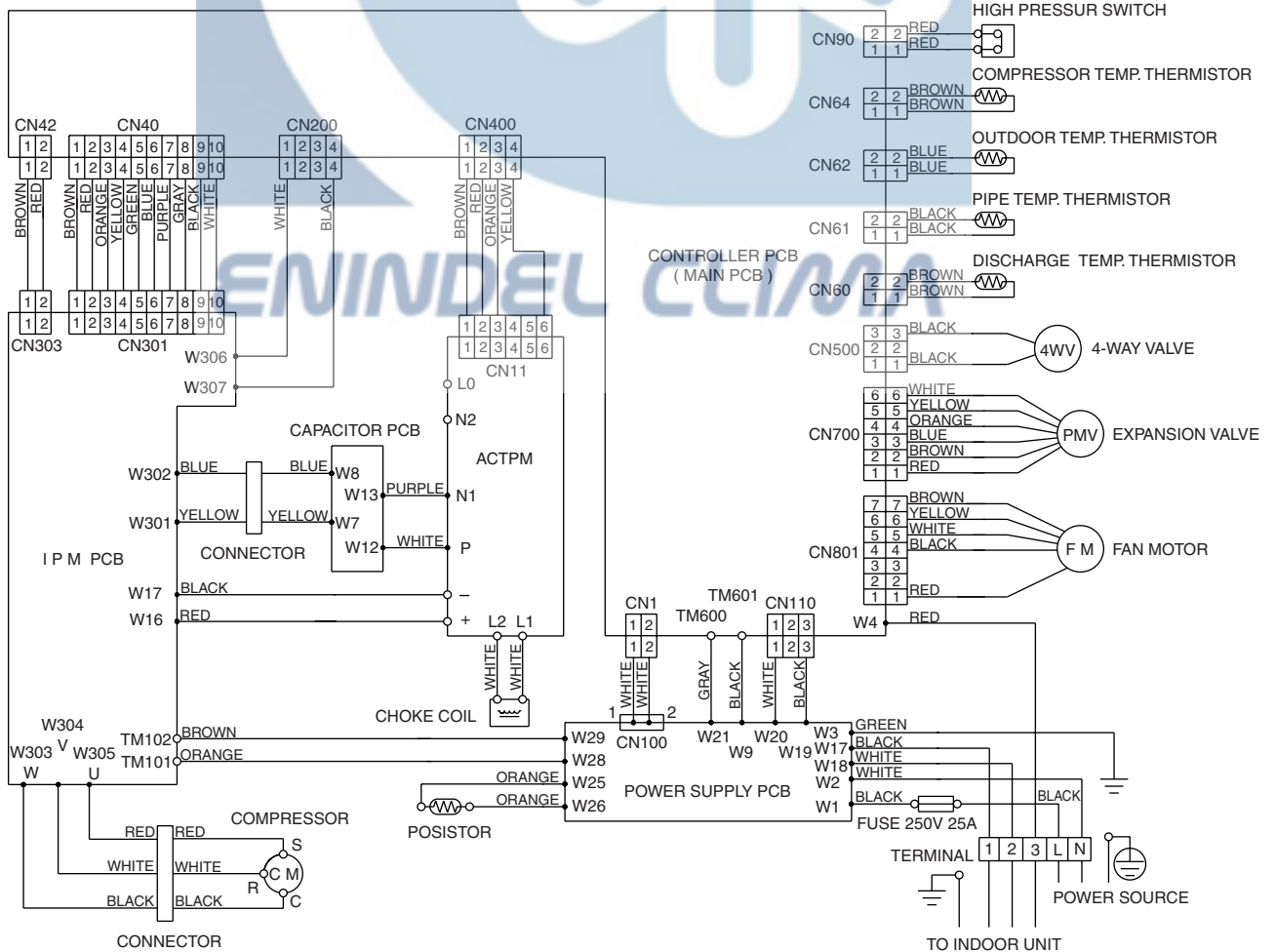
Refrigerant pipe diameter
 Liquid : 3/8" (9.52 mm)
 Gas : 5/8" (15.88 mm)

CIRCUIT DIAGRAM

INDOOR UNIT



OUTDOOR UNIT

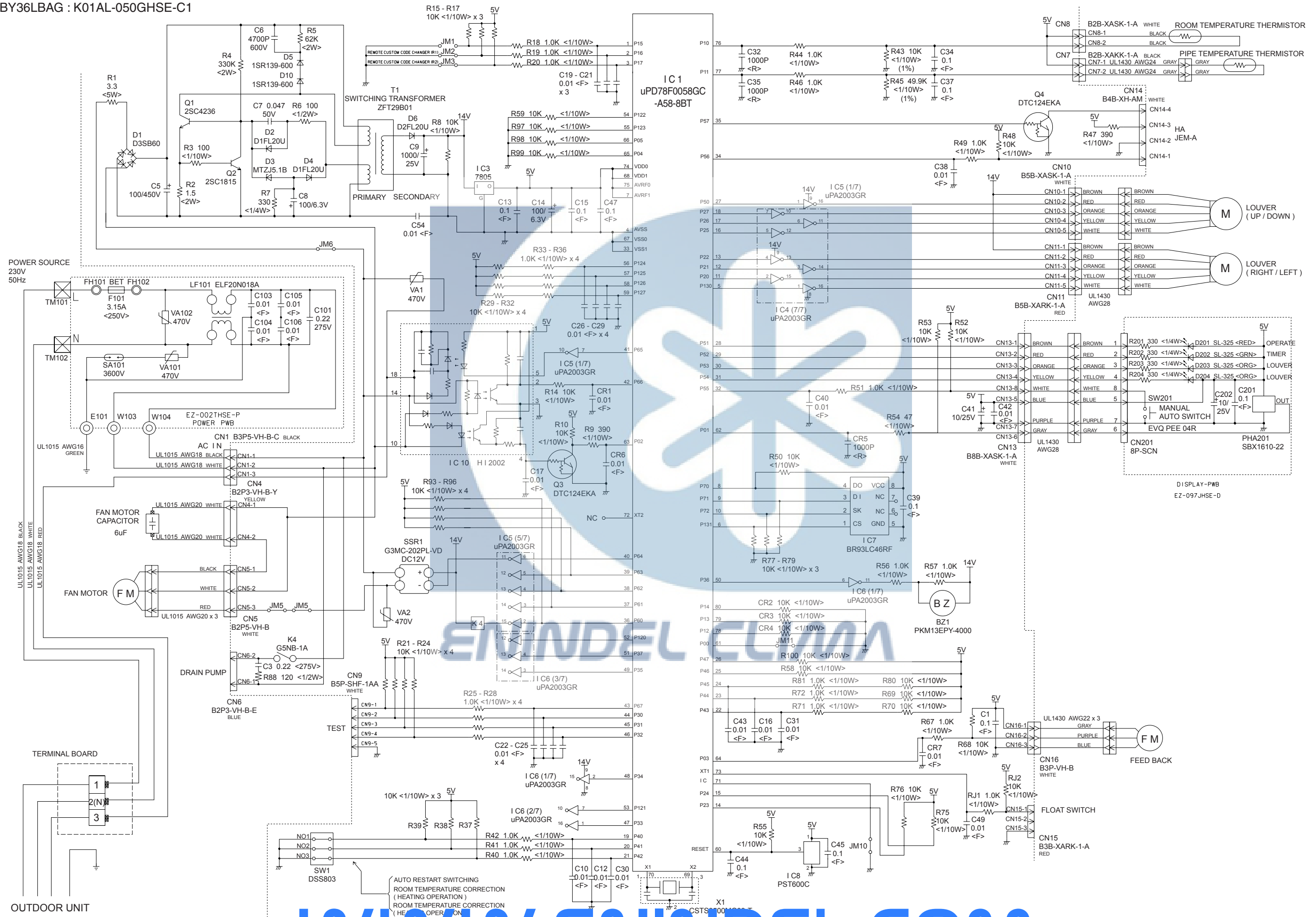


INDOOR PCB CIRCUIT DIAGRAM

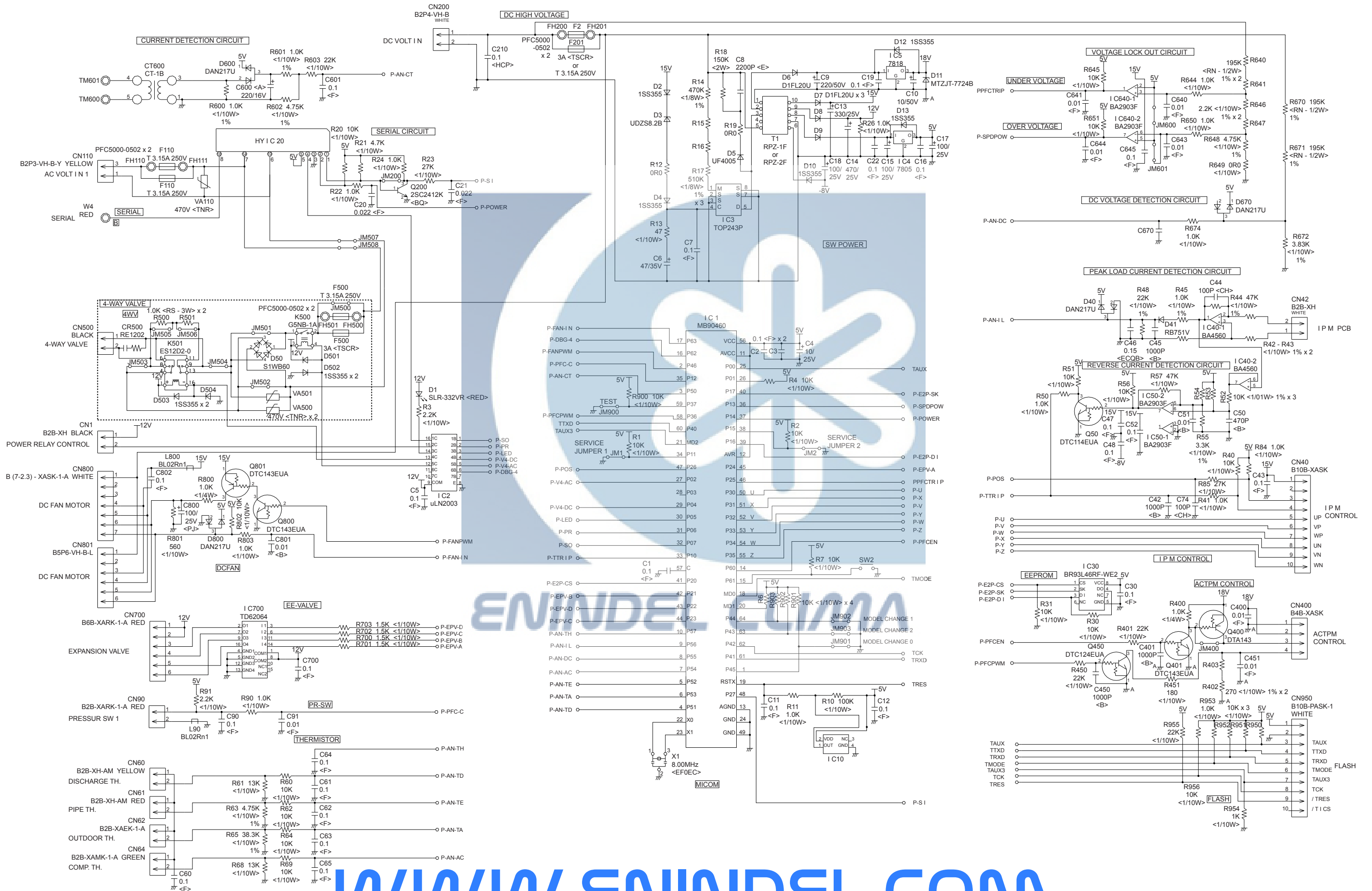
CONTROLLER PCB ASSEMBLY (MAIN PCB)

ABY30LBAG : K01AL-050FHSE-C1

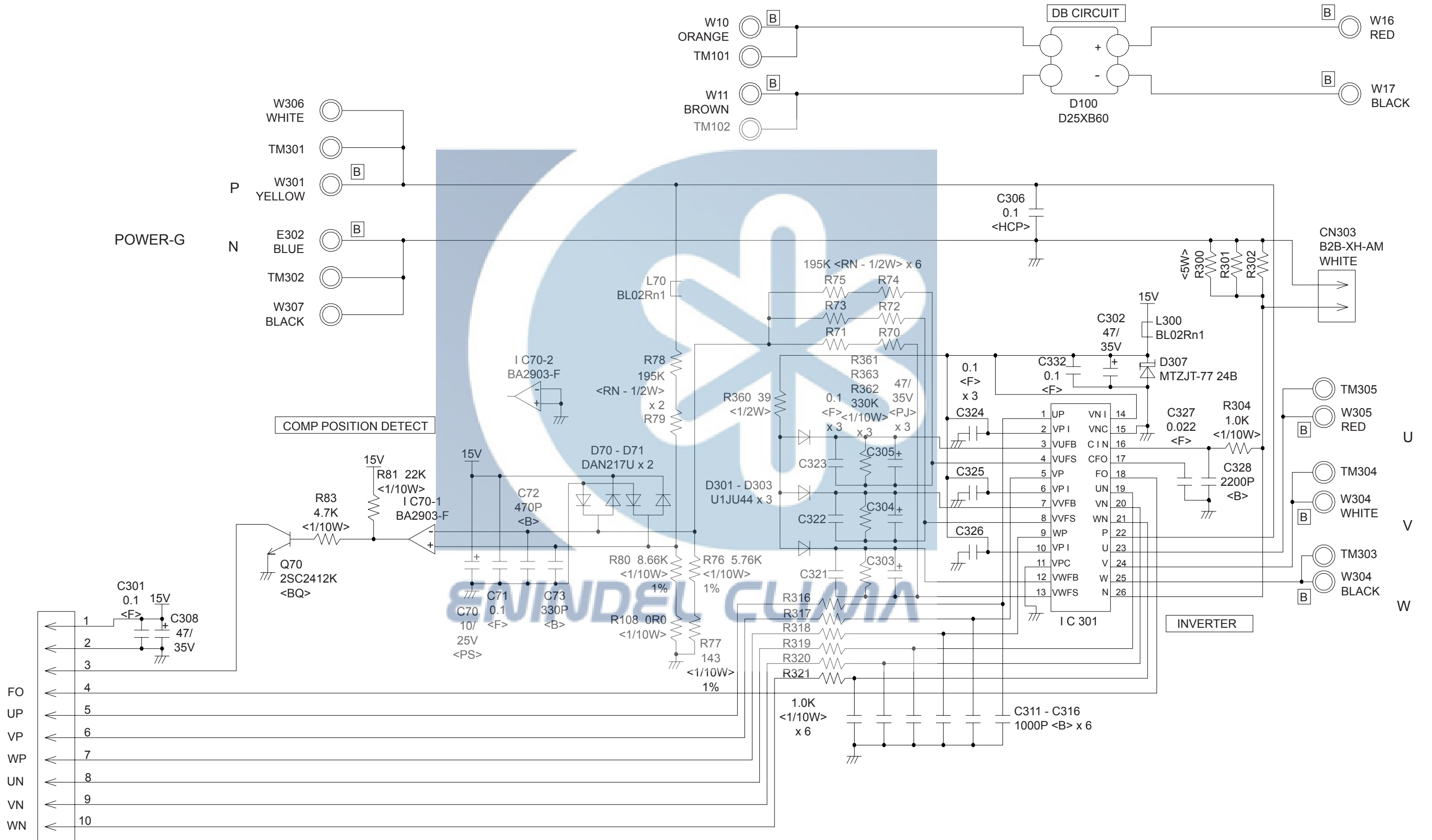
ABY36LBAG : K01AL-050GHSE-C1



CONTROLLER PCB ASSY
 AOY30LNAWL : K05CU-0601HUE-C1
 AOY36LNAWL : K05CU-0600HUE-C1

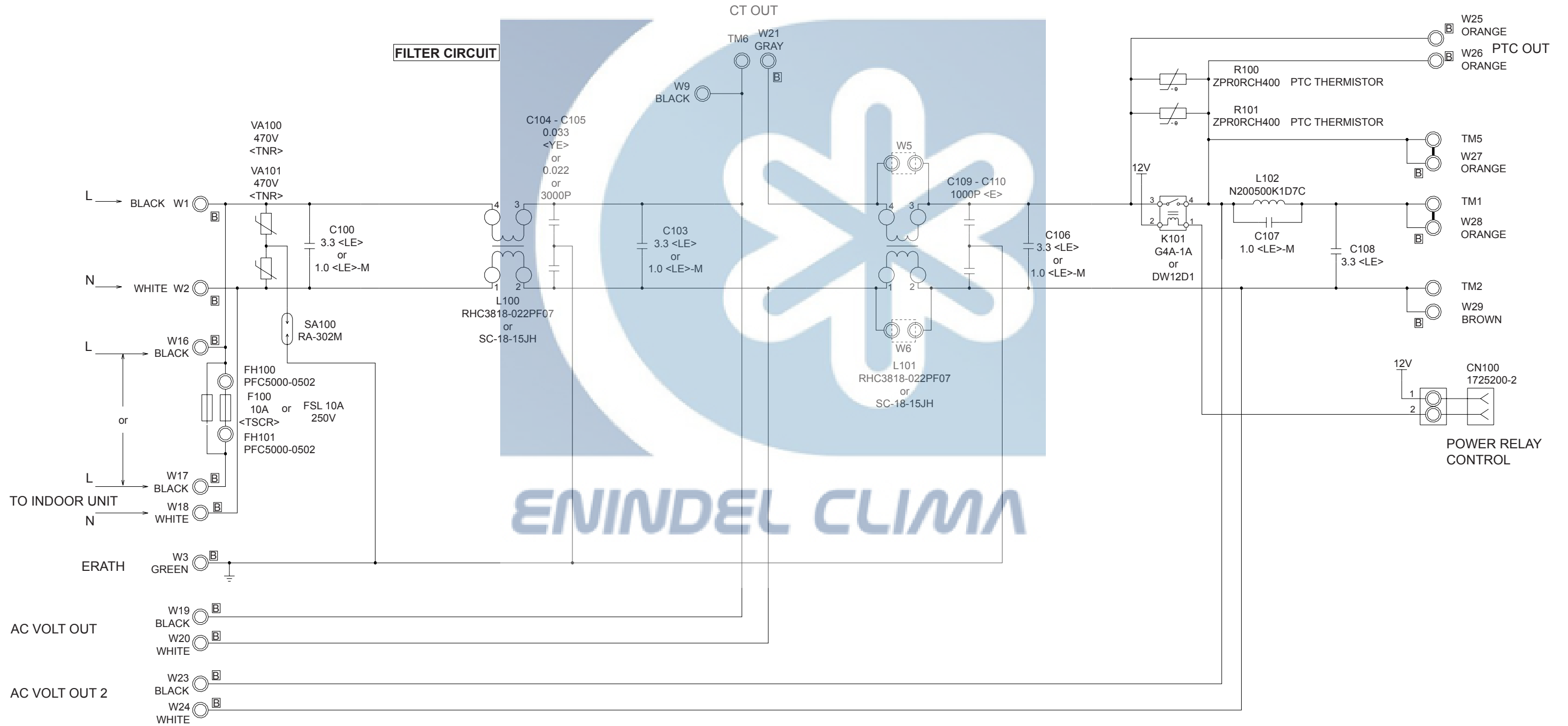


TRANSISTOR PCB ASSEMBLY (I P M)
K05CZ-0503HUE-TR0

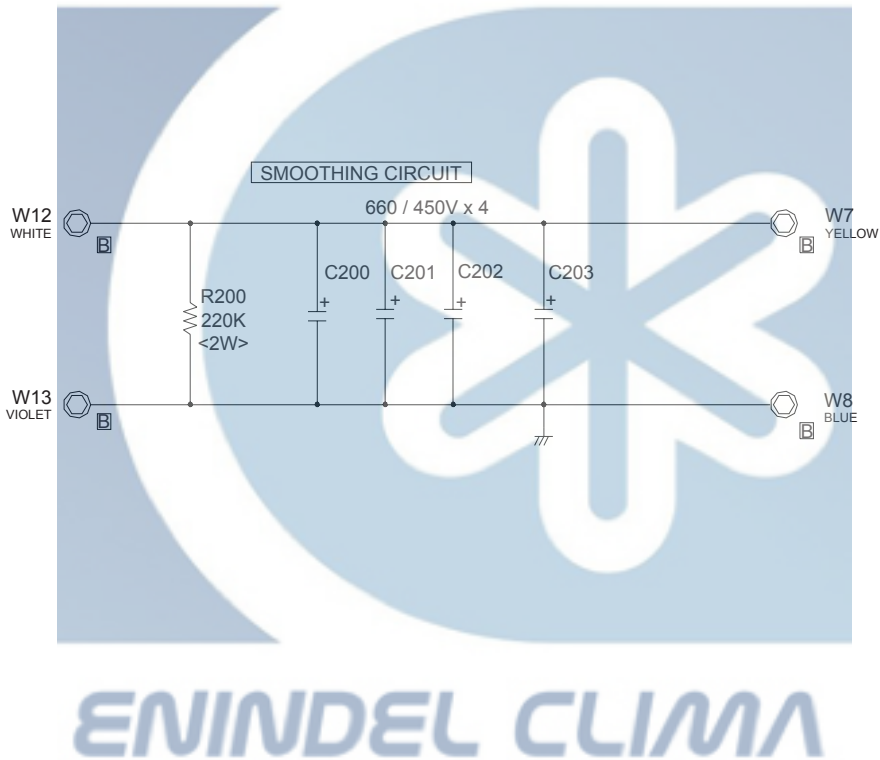


CN301
B10B-XASK-1-A
WHITE

POWER SUPPLY PCB ASSEMBLY
K05CW-0501HUE-FL0



CAPACITOR PCB ASSY
K05FB-0500HUE-P0

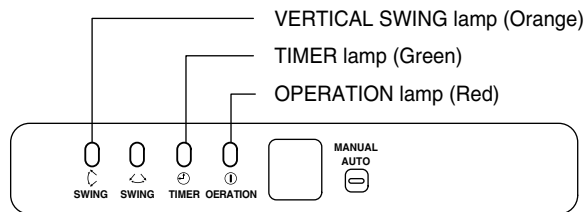


ERROR CONTENTS

(Indoor unit)

Operation can be checked by lighting and flashing of the display section OPERATION, TIMER, and VERTICAL SWING lamps.

Perform judgment in accordance with the following.



TEST RUNNING

When the air conditioner is run by pressing the remote control unit test run button, the OPERATION, TIMER, and VERTICAL SWING lamps flash slowly at the same time.

ERROR

The OPERATION, TIMER, and VERTICAL SWING lamps operate as follows (Table 1) according to the error contents.

OPERATION lamp (RED)	TIMER lamp (GREEN)	SWING lamp (ORANGE)	Error contents
○	○	×	Indoor EEPROM abnormal
○	○	○	Outdoor EEPROM abnormal
(2 times) ●	○	×	Indoor room temperature sensor open
(2 times) ●	○	○	Indoor room temperature sensor shortcircuited
(3 times) ●	○	×	Indoor heat exchanger temperature sensor open
(3 times) ●	○	○	Indoor heat exchanger temperature sensor shortcircuited
(4 times) ●	○	×	Float switch operated
(5 times) ●	○	×	Indoor signal abnormal
(5 times) ●	○	○	Outdoor signal abnormal
(6 times) ●	○	×	Indoor fan abnormal
○	(2 times) ●	×	Outdoor power source connection abnormal
○	(3 times) ●	×	Outdoor heat exchanger temperature sensor open
○	(3 times) ●	○	Outdoor heat exchanger temperature sensor shortcircuited
○	(4 times) ●	×	Outdoor temperature sensor open
○	(4 times) ●	○	Outdoor temperature sensor shortcircuited
○	(5 times) ●	×	Outdoor discharge pipe temperature sensor or compressor temperature sensor open
○	(5 times) ●	○	Outdoor discharge pipe temperature sensor or compressor temperature sensor shortcircuited
○	(6 times) ●	×	Outdoor high pressure abnormal
○	(7 times) ●	×	Outdoor discharge pipe temperature or compressor temperature sensor abnormal

○ : 0.1s ON/0.1s OFF (flash) × : OFF

● : 0.5s ON/0.5s OFF (flash)

ERROR CONTENTS (outdoor unit)

⚠ CAUTION

Always turn on the power 12 hours prior to the start of the operation in order to ensure compressor protection

1. Make a TEST RUN in accordance with the installation instruction sheet for the indoor unit.

2. OUTDOOR UNIT LEDS

When a malfunction occurs in the outdoor unit, the LED on the circuit board lights to indicate the error. Refer to the following table for the description of each error according to the LED.

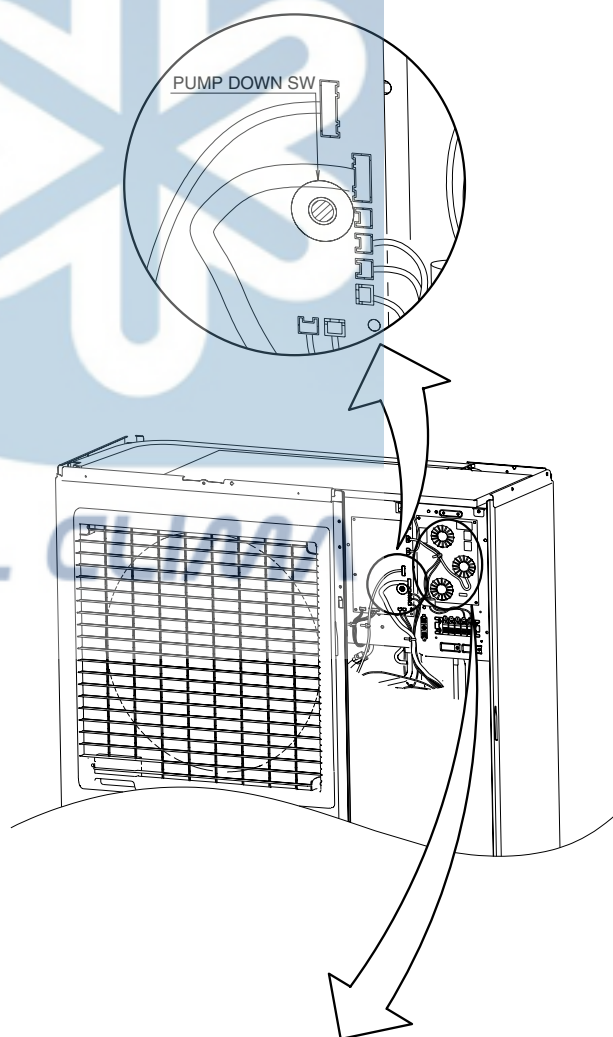
LED	ERROR CONTENTS
FLASH (0.1sec ON/0.1sec OFF)	Temperature sensor error
FLASH (0.5sec ON/0.5sec OFF)	IPM protection
FLASH (2sec ON/2sec OFF)	Current trans. error
FLASH (5sec ON/5sec OFF)	Outdoor fan error
FLASH (0.1sec ON/2sec OFF)	Compressor rotor position cannot be detected
FLASH (5sec ON/0.1sec OFF)	ACTPM error
Lighting	Overheat discharge temperature protection

SPECIAL INSTALLATION SETTING

PUMP DOWN (Refrigerant collecting operation)

Perform the following procedures to collect the refrigerant when moving the indoor unit or the outdoor unit.

- (1) Press the push-button switch on the circuit board once.
The LED on the circuit board starts flashing (one second ON/one second OFF). This indicates the start of PUMP DOWN operation.
When the switch is pressed while the compressor is in operation, PUMP DOWN operation starts automatically.
When the switch is pressed while the compressor is in stop, the compressor starts to operate automatically, and then move on to PUMP DOWN operation.
- (2) PUMP DOWN operation continues for about 1 minute. When PUMP DOWN operation is completed, the compressor stops automatically. Then close the 2-way valve and 3-way valve immediately.
- (3) Turn the power off.

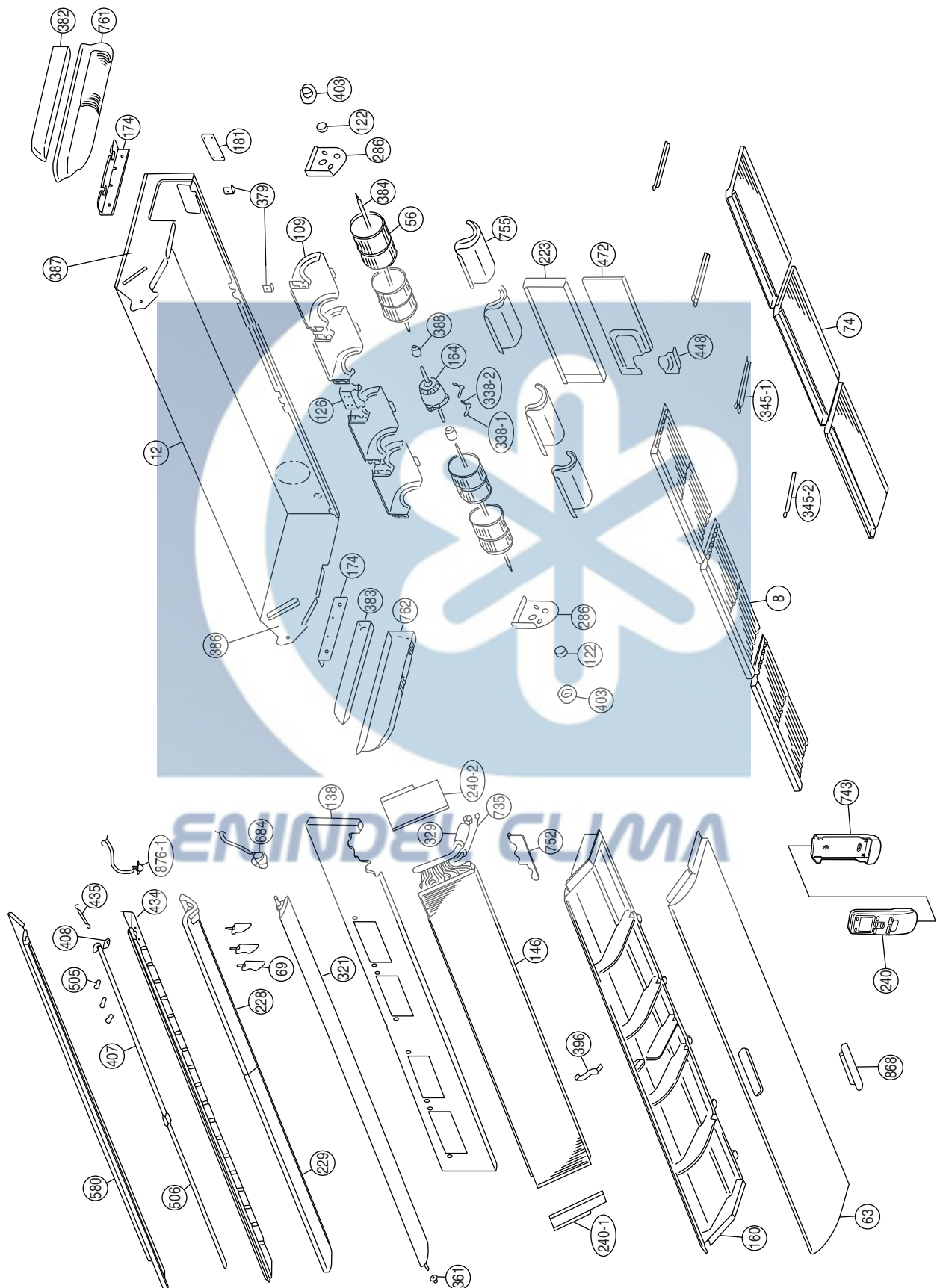


⚠ DANGER

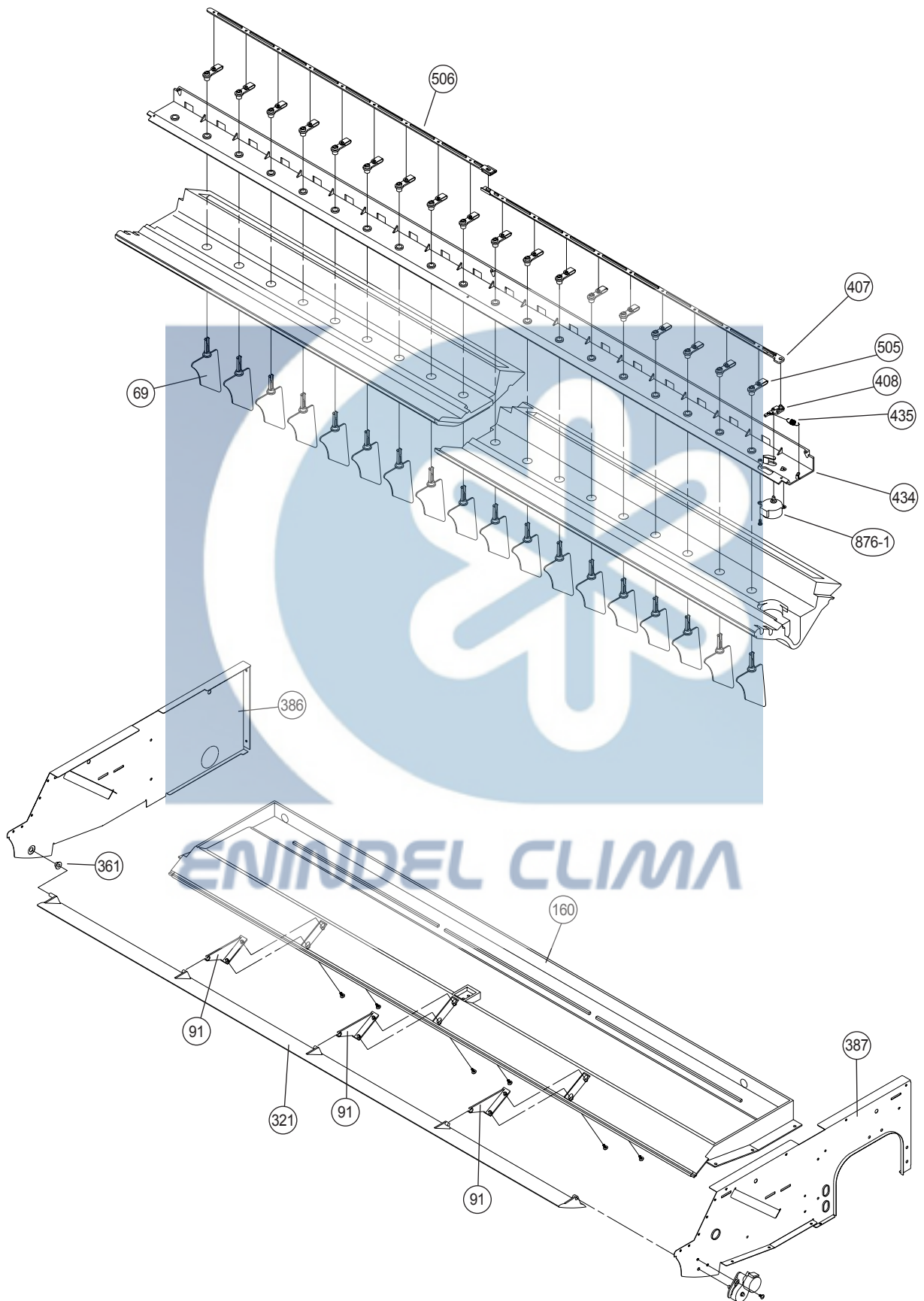
This part (Choke coil) generates high voltages. Never touch this part.

DISASSEMBLY ILLUSTRATION

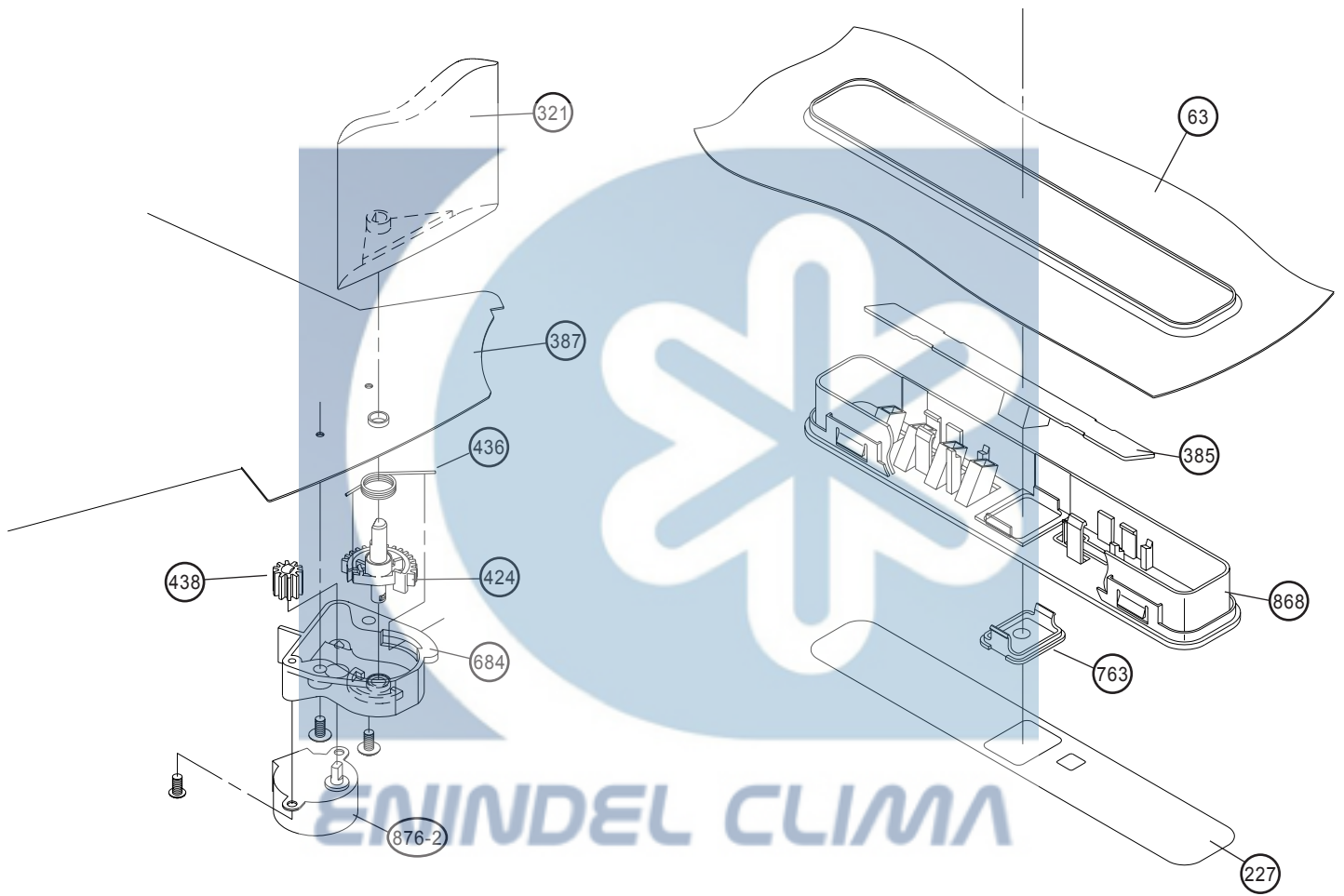
INDOOR UNIT



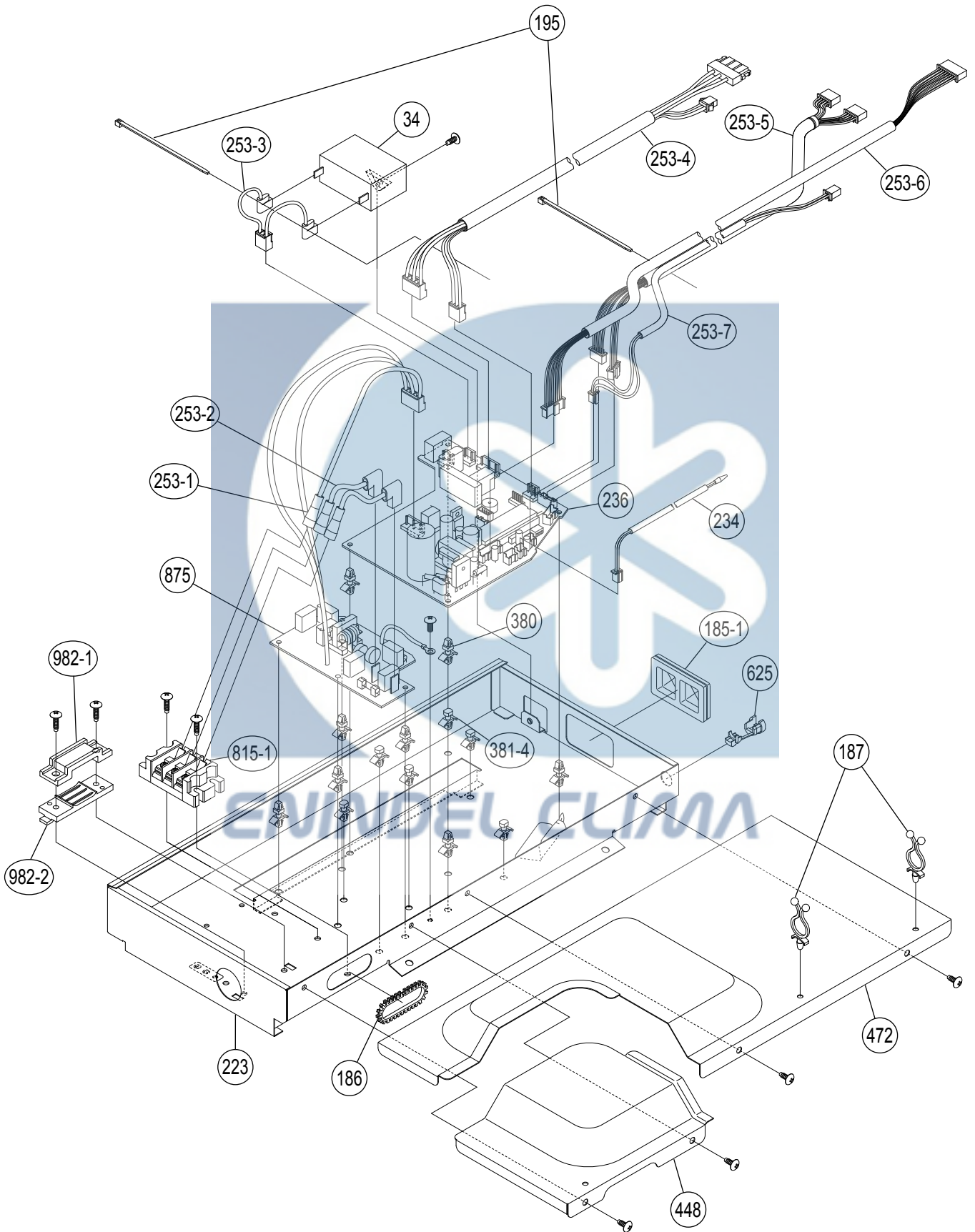
INDOOR UNIT



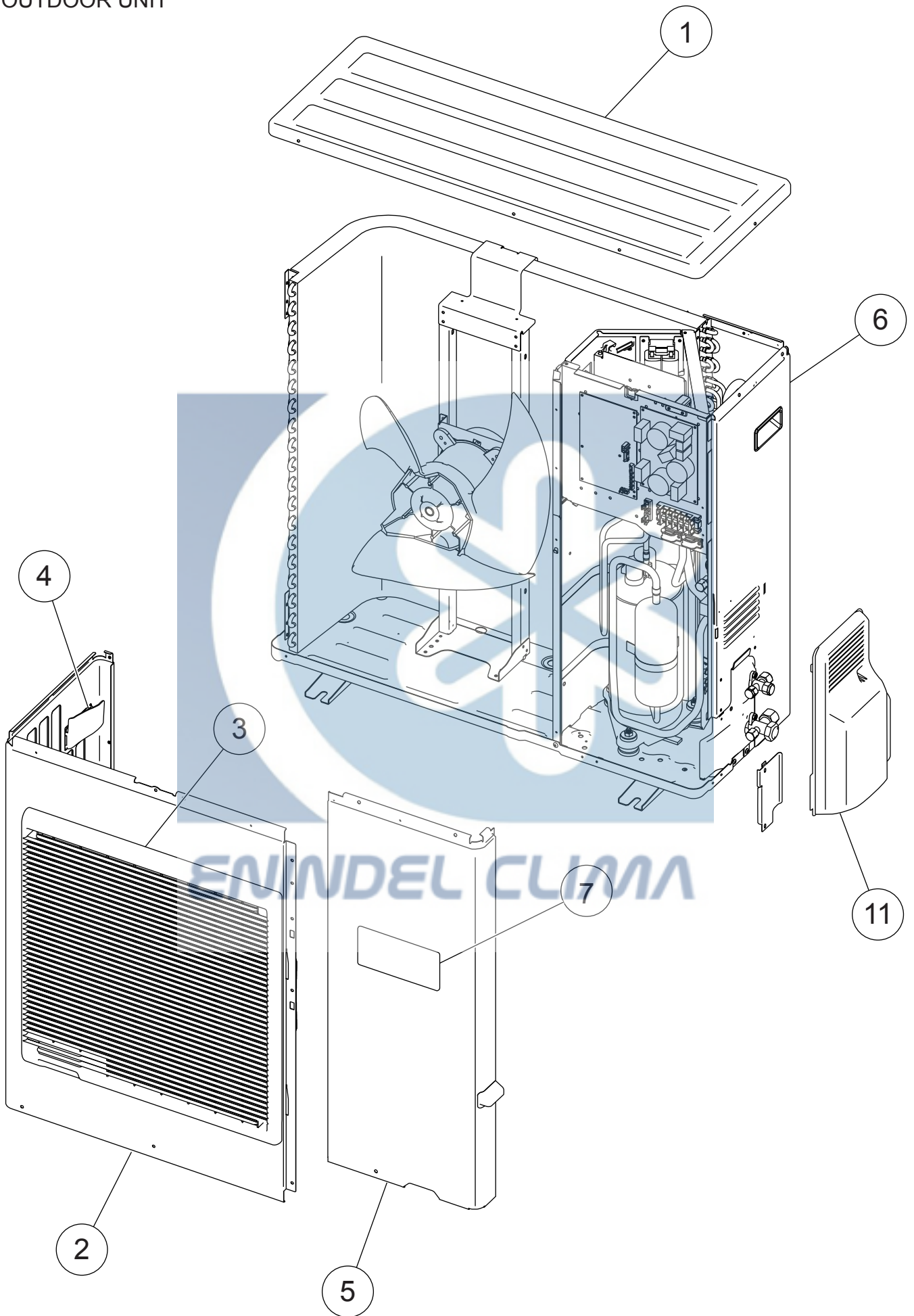
INDOOR UNIT



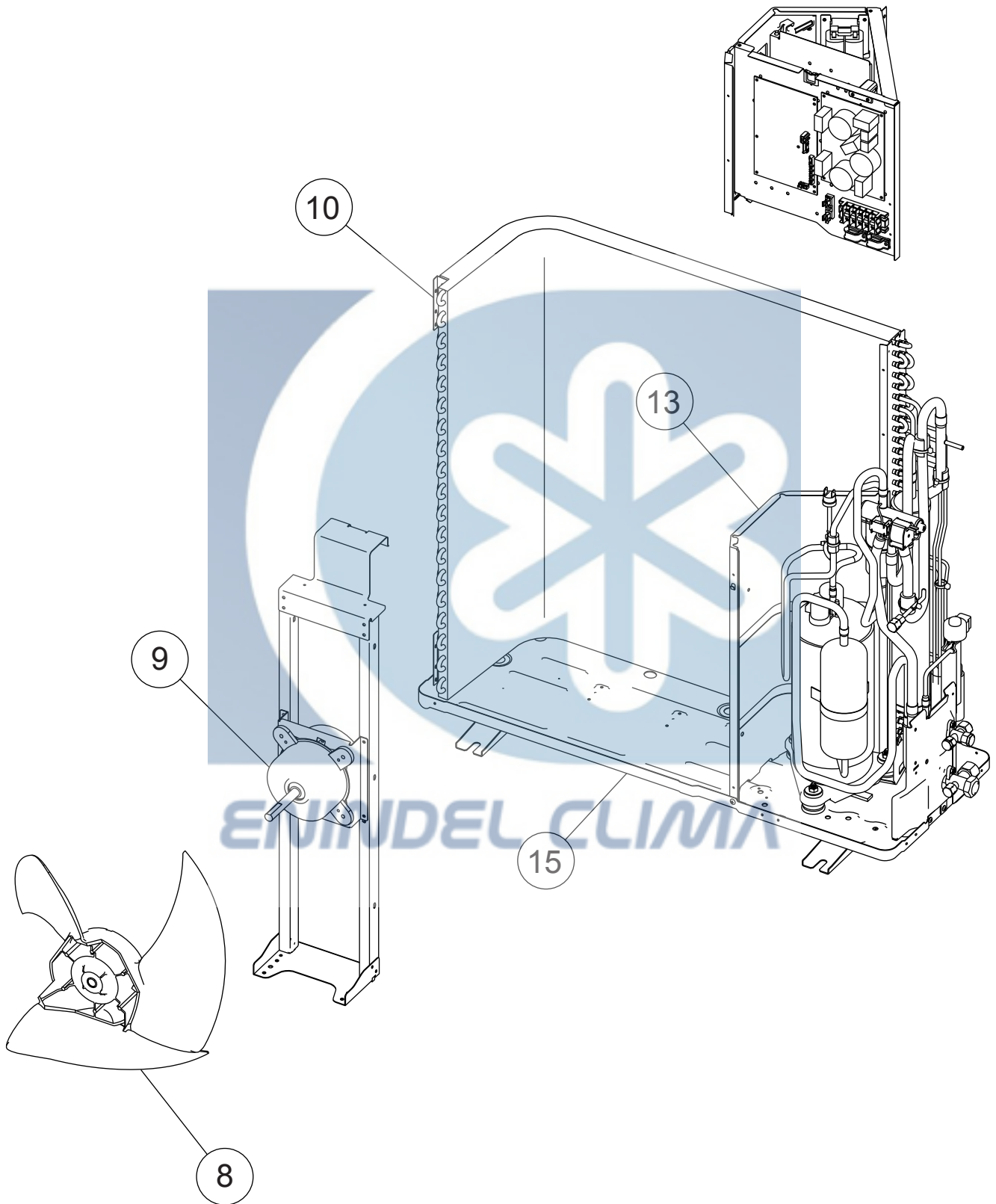
INDOOR UNIT



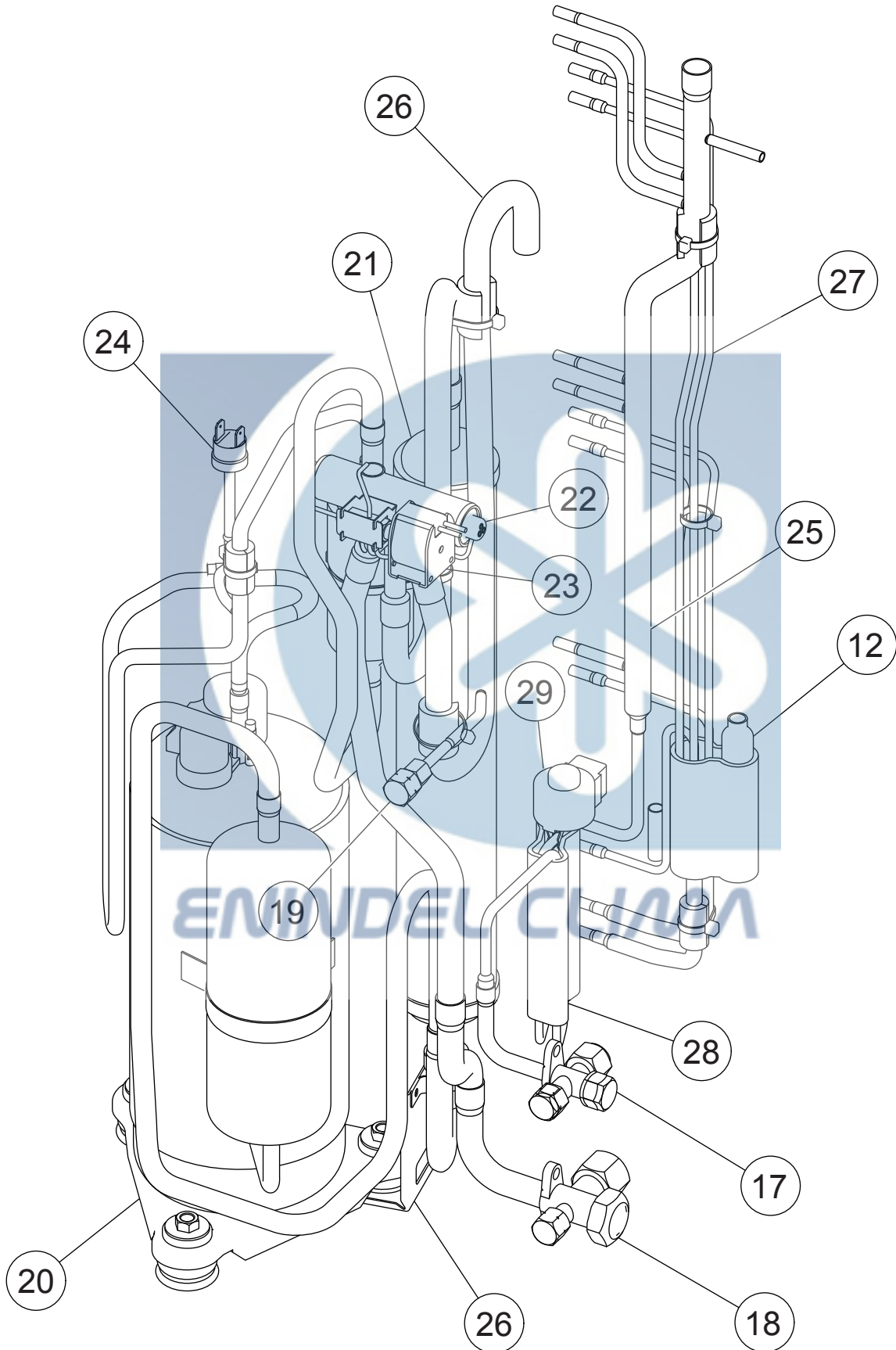
OUTDOOR UNIT



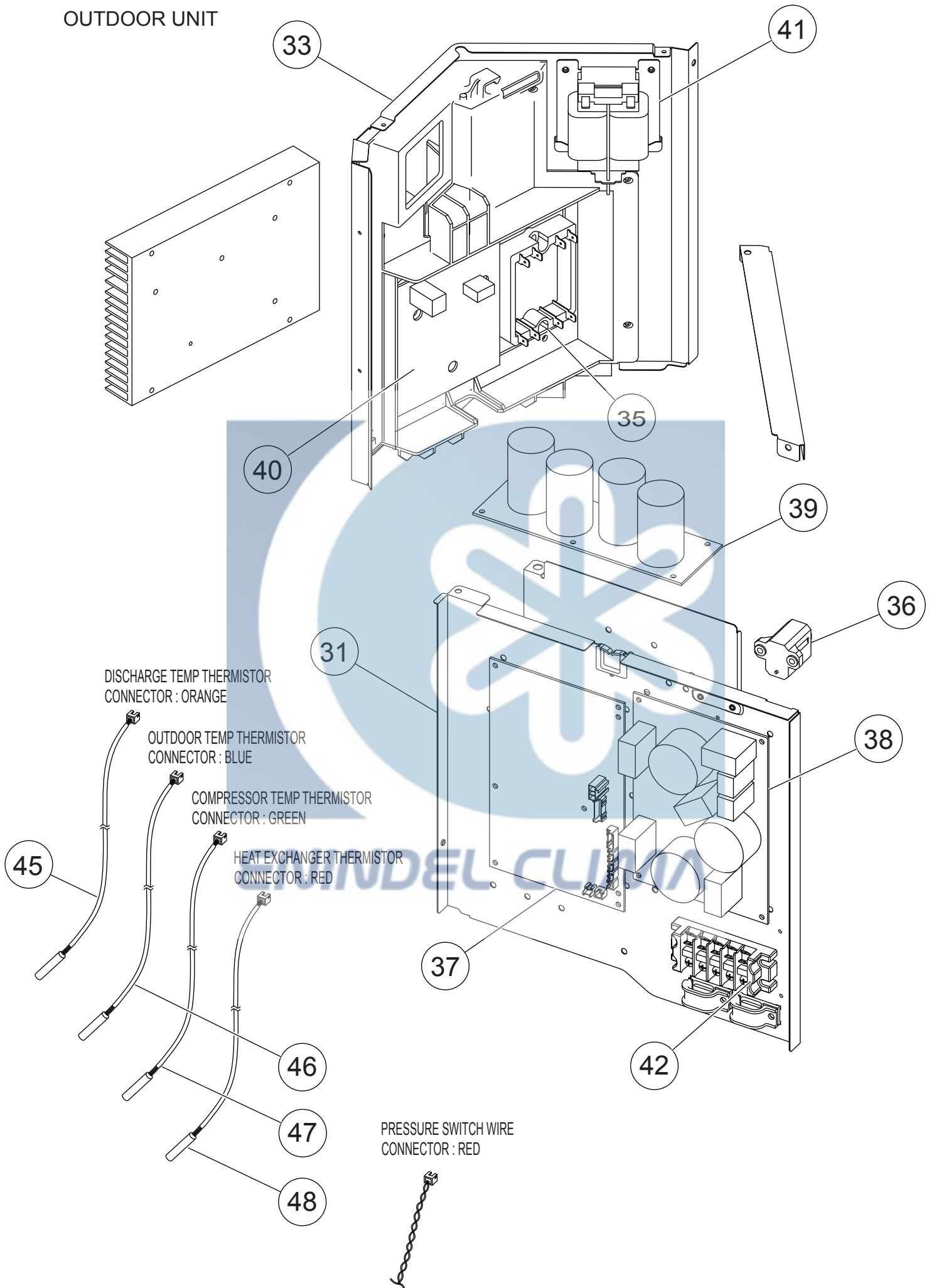
OUTDOOR UNIT



OUTDOOR UNIT



OUTDOOR UNIT



PARTS LIST

INDOOR UNIT

Ref. No.	Description	Part No.		Ord. Q'ty	Ref. No.	Description	Part No.		Ord. Q'ty
		ABY30LBAG	ABY36LBAG				ABY30LBAG	ABY36LBAG	
8	Air Filter	9359739005	9359739005		345-1	Filter Guide-R	9359692003	9359692003	
12	Base Assy	9359680000	9359680000		345-2	Filter Guide-L	9359693000	9359693000	
34	Capacitor	9900270216	9900270216		361	Bushing	9359733003	9359733003	
56	Sirocco Fan Assy	9359701002	9359701002		379	Hinge Plate (Grille)	9359694007	9359694007	
63	Panel (Front)	9359734000	9359734000		380	Locking Spacer KGLS-6S	313209391403	313209391403	
69	Louver	9359719007	9359719007		381-4	Spacer	0600118075	0600118075	
74	Intake Grille	9359738008	9359738008		382	Cover (Decoration)-R	9359744009	9359744009	
91	Hinge	9359699002	9359699002		383	Cover (Decoration)-L	9359745006	9359745006	
109	Casing	9359704003	9359704003		384	Shaft	9359707004	9359707004	
122	Bearing-B Assy	9357921006	9357921006		385	Indicator PCB Assy	9702260019	9702260019	
126	Bracket (Motor)	9359681007	9359681007		386	Kit (Panel Left Assy)	9360427014	9360427014	
138	Separate Wall	9359700005	9359700005		387	Kit (Panel Right Assy)	9371361017	9371361017	
146	Evaporator Assy	9371073040	9371073040		388	Joint Assy	9359706007	9359706007	
160	Drain Pan Sub Assy	9360429018	9360429018		396	Rfm Bracket Metal	9359697008	9359697008	
164	Fan Motor Assy-IN	9360457004	9360457004		403	Fixture (Bearing)	9359687009	9359687009	
174	Hanger	9359742005	9359742005		407	Rod (Motor)	9359723004	9359723004	
181	Hole Cover	9359691006	9359691006		408	Link (Louver)	9359726005	9359726005	
185-1	Rubber Bushing	9357376004	9357376004		424	Sector Gear	9359729006	9359729006	
186	Cover (Edge)	9361049017	9361049017		434	Base (Louver)	9359718000	9359718000	
187	Clamp No.1219	313361271706	313361271706		435	Louver Spring	9359720003	9359720003	
195	Clamp SKB-100	313361275805	313361275805		436	Flap Spring	9359730002	9359730002	
223	Control Box Assy	9359708001	9359708001		438	Pinion Gear	9359728009	9359728009	
227	Badge "FUJITSU"	9359735014	9359735014		448	Control Box-B	9359713005	9359713005	
228	Insulation (Louver)-R	9359721000	9359721000		472	Control Box-A	9359712008	9359712008	
229	Insulation (Louver)-L	9359722007	9359722007		505	Stopper (Louver)	9359724001	9359724001	
234	Thermistor (Room)	9703299025	9703299025		506	Rod (Louver)	9359725008	9359725008	
236	Controller PCB Assy	9705914193	9705914209		580	Cover (Top)	9359737001	9359737001	
240	Remote Control Unit	9374322015	9374322015		625	Cord Bushing	9359240006	9359240006	
240-1	Cover Panel (Pipe)-L	9359690009	9359690009		684	Motor Base	9359727002	9359727002	
240-2	Cover Panel (Pipe)-R	9359689003	9359689003		735	Distributor Assy	9360455000	9360455000	
253-1	Wire Assy (Terminal)	9702321017	9702321017		743	Remote Control Holder Case	9305642014	9305642014	
253-2	Wire Assy (Terminal)	9702322014	9702322014		752	Bracket Panel (Pipe)	9359688006	9359688006	
253-3	Wire Assembly	9702311018	9702311018		755	Cover (Casing)	9359705000	9359705000	
253-4	Wire Assy (Connector)	9702323011	9702323011		761	Kit (Cover (Side)-R)	9371364018	9371364018	
253-5	Wire Assy (Connector)	9702319014	9702319014		762	Kit (Cover (Side)-L)	9371365015	9371365015	
253-6	Wire Assy (Connector)	9702317010	9702317010		763	Cover (Receiver)	9359714002	9359714002	
253-7	Wire Assy (Connector)	9702318017	9702318017		815-1	Terminal-3P	9900203016	9900203016	
286	Bracket (Bearing)	9359686002	9359686002		868	PCB Holder	9359736004	9359736004	
321	Flap Assy	9359731009	9359731009		875	Power Supply PCB Assy	9704561060	9704561060	
329	Coupling Pipe Assy	9373038214	9373038214		876-1	Motor, Step-H	9360479013	9360479013	
338-1	Fixture (Motor)	9359702009	9359702009		982-1	Cord Clamp-A	9359820017	9359820017	
338-2	Fixture (Motor)-B	9359703006	9359703006		982-2	Cord Clamp-B	9359821014	9359821014	
					---	Thermistor (Pipe)	9900022020	9900022020	
					---	Drain Cap	9358746004	9358746004	


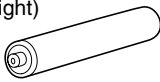
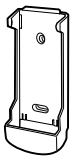



OUTDOOR UNIT








Ref. No.	Description	Part No.		Ord. Q'ty
		AOY30LNAWL	AOY36LNAWL	
1	Top Panel Sub Assy	9374417032	9374417032	
2	Front Panel	9374094066	9374094066	
3	Fan Guard	9374330010	9374330010	
4	Grip Side	9374173013	9374173013	
5	Service Panel Sub Assy	9374415052	9374415052	
6	Right Panel Sub Assy	9374416127	9374416127	
7	Emblem Rear	9351355005	9351355005	
8	Propeller Fan Assy	9366378020	9366378020	
9	Motor, DC Brushless	9601882015	9601882015	
10	Condenser A Assy	9374433056	9374433056	
11	Valve Cover	9374174010	9374174010	
12	Strainer Assy	9372524015	9372524015	
13	Separate Wall	9374413133	9374413133	
15	Base Assy	9374166138	9374166138	
17	3-Way Valve Assy	9372205044	9372205044	
18	3-Way Valve Assy	9372205075	9372205075	
19	Check Joint Assy	9372802038	9372802038	
20	Compressor Assy	9372558126	9372558126	
21	Accumulator	9385005006	9385005006	
22	4-Way Valve	9900164010	9900164010	
23	Solenoid	9900165079	9900165079	
24	Pressure Switch	9900186012	9900186012	
25	Inlet Pipe (Cond) A Assy	9373461067	9373461067	
26	Accumulator Support Assy	313986353804	313986353804	
27	Outlet Pipe (Cond) A Assy	9374266104	9374266104	
28	Expansion Valve Assy	9370947144	9370947144	
29	Coil (Expansion Valve)	9900057039	9900057039	
31	PCB Case Assy	9375316013	9375316013	
33	Inverter Case	9375314019	9375314019	
35	ACTPM	9703457012	9703457012	
36	Thermistor	9704265012	9704265012	
37	Controller PCB Assy	9707121179	9707121162	
38	Power Supply PCB Assy	9707128062	9707128062	
39	Capacitor PCB Assy	9707257014	9707257014	
40	TR PCB Assy (IPM)	9707125085	9707125085	
41	Choke Coil	9900366018	9900366018	
42	Terminal	9900203023	9900203023	
45	Discharge Temp Thermistor	9704219114	9704219114	
46	Thermistor (Outdoor Temp)	9900378028	9900378028	
47	Compressor Temp Thermistor	9900156022	9900156022	
48	Heat Exchanger Thermistor	9900374013	9900374013	

STANDARD ACCESSORIES

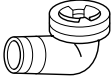


The following installation parts are furnished. Use them as required.

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application
Remote control unit 	1	Use for air conditioner operation
Battery (penlight) 	2	For remote control unit
Remote control unit holder 	1	For mounting the remote control unit
Tapping screw (ø3 x 12) 	2	For remote control unit holder installation
Drain hose insulation 	1	Adhesive type 70 x 230
VT wire 	1	For fixing the drain hose L 280 mm

Name and Shape	Q'ty	Application
Coupler heat insulator (large) 	2	For indoor side pipe joint (Gas pipe)
Coupler heat insulator (small) 	1	For indoor side pipe joint (Liquid pipe)
Nylon fastener 	Large 4 Small 4	For fixing the coupler heat insulator
Special nut A (large flange) 	4	For installing indoor unit
Special nut B (small flange) 	4	For installing indoor unit
Installation template 	1	For positioning the indoor unit
Auxiliary pipe assembly 	1	For connecting the piping

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application
Drain pipe 	1	For outdoor unit drain piping work (May not be supplied, depending on the model.)
Drain cap 	2	
Insulation (seal) 	1	For filling in a gap at the entrance of connection cords

OPTIONAL PARTS

The following options are available.
DRAIN PUMP UNIT : UTR-DPB241 (P/N 9034087001)



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0608G3125

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