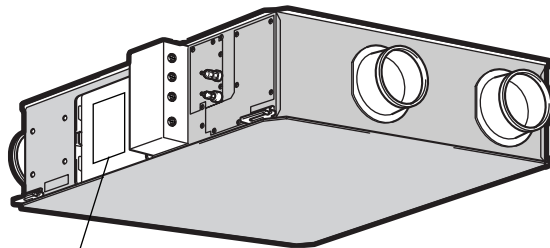


FRESH MASTER

HAND BOOK

FOR DEALERS

Model: GUF-50RD3
GUF-100RD3



Nameplate

The picture is shown GUF-50RD3.
Humidifier function not available.

Repair work should be performed by the manufacturer, its service agent or similarly qualified person in order to avoid a hazard.

Notice:











The term of validity is one year from the issued date.

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Safety precautions

- Please be sure to read the following safety precautions thoroughly before commencing with the maintenance work, and conduct the inspection and repair of the product in a safe manner.
- The types and levels of danger that may arise if the product is handled incorrectly are described by using the warning symbols shown below.

 Warning		Incorrect handling of the product may result in serious injury or death.	
<p>◇ Electric shock If you must inspect the circuitry while the power is on, do not touch the live parts.</p> <p>(Failure to heed this warning may result in electric shock.)</p>	 Caution for electric shock	<p>◇ Turn off the power supply Be sure to shut off the breaker before disassembling the unit for repair.</p> <p>(Failure to heed this warning may result in electric shock.)</p>	 Be sure to follow this instruction.
<p>◇ Modification is prohibited Do not modify the unit.</p> <p>(Failure to heed this warning may result in electric shock, fire and/or bodily injury.)</p>	 Prohibited	<p>◇ Use proper parts and tools For repair, be sure to use the parts listed in the service parts list of the applicable unit model and use the proper tools.</p> <p>(Failure to heed this warning may result in electric shock, fire and/or bodily injury.)</p>	 Be sure to follow this instruction.
<p>◇ Do not mix anything other than (Use the specified coolant of the same type used in the outdoor unit.) Do not charge any coolant different from the coolant used in the outdoor unit.</p> <p>(Failure to heed this warning may cause the pressure inside the freezing cycle to become abnormally high, leading to bodily injury or other damage.)</p>	 Prohibited	<p>◇ Proper electric work Use the electric wires designated for electric work, and conduct electric work in accordance with the "Electric Installation Engineering Standard," the "Indoor Wiring Regulations," and the Installation Work Guide.</p> <p>(Incomplete connection or wiring installation may result in electric shock and/or fire.)</p>	 Be sure to follow this instruction.
<p>◇ Toxic gas generation</p> <ul style="list-style-type: none"> • Be careful that the coolant (R407C, R410A, R22) does not leak in a flammable environment. • Conduct welding operation in an open room. • If the coolant gas leaks, open the windows while in operation. • Be sure to completely repair the leak. Close the service valve if the repair work is temporarily suspended. <p>(If the coolant gas comes into contact with flames such as open fire, sparks and a heater, it may generate toxic gas.)</p>	 Be sure to follow this instruction.	<p>◇ Replace damaged and/or degraded parts Be sure to replace the power-supply cord and lead wire in the event that they are damaged and/or degraded.</p> <p>(Failure to heed this warning may result in electric shock and/or fire.)</p>	 Be sure to follow this instruction.
		<p>◇ Check insulation Be sure to measure the insulation resistance once the repair work is complete, and turn on the power supply after verifying that an insulation resistance of at least 1MΩ is obtained.</p> <p>(If an insulation problem exists, it may result in electric shock.)</p>	 Be sure to follow this instruction.



Caution

Incorrect handling of the product may result in serious injury or damage to properties including buildings and equipment.

◇ Caution for bodily injury

- Do not conduct any work at a location where you do not have a sure footing.

(Failure to heed this caution may result in a fall.)



Prohibited

- Wear gloves when conducting work.

(Failure to heed this caution may result in injury to your hands from sharp metal or other edges.)



Be sure to follow this instruction.

◇ Prevent water leakage

- Before removing any of the water-related parts, completely drain the residual water from the piping.
- After the repair is complete, be sure to check the drainage of the indoor unit and that no water leaks from any of the piping connections.

(Water leakage may cause buildings to soil, leading to secondary failure of other parts.)



Be sure to follow this instruction.

Request during repair

- Inspect the grounding, and repair it if incomplete.
- Make sure that the product operates correctly upon completion of repair. Clean the product as well as the surrounding area, and then notify the customer of the completion of repair.

1. Specifications

Model name	Power supply (V)	Frequency (Hz)	Current (A)	Power consumption (W)	Air volume		External air load heat processing capability (kw)		Noise (dB)	Weight (kg)	Equivalent indoor unit capability
					m ³ /h	L/S	Cooling capability	Heating capability			
GUF-50RD3	Single-phase 220-240	50	1.15	235-265	500	139	5.29 (1.66)	6.42 (2.25)	33.5-34.5	54	P32
GUF-100RD3			2.20	480-505	1,000	278	10.81 (3.49)	13.00 (4.70)	38-39	92	P63

- The values given in the table for the noise level reflect the levels measured at a position 1.5 meters immediately below the unit in an anechoic chamber.
- The noise at the air outlets (at a 45° angle, 1.5 meters in front) is about 5-6 dB (A) higher than the values given in the table.
- The above values apply during Lossnay ventilation when the fan speed is set to high speed.

* Capacity in () is heat recovery capacity by Lossnay core.

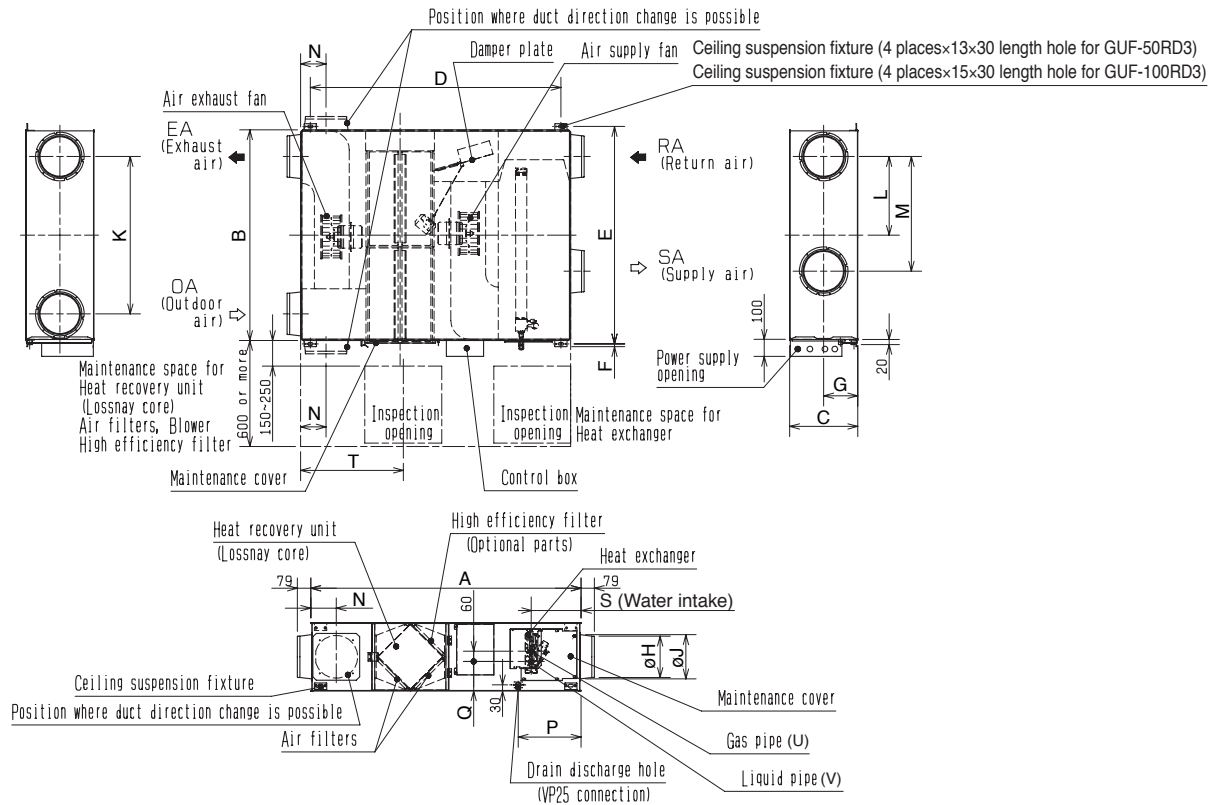
Cooling/Heating capacity indicates the maximum value at operation under the following condition.

Cooling: Indoor: 27°C DB/19.5°C WB Outdoor: 35°C DB/24°C WB

Heating: Indoor: 21°C DB/14.6°C WB Outdoor: 7°C DB/6°C WB

2. Dimensions

GUF-50RD3, GUF-100RD3

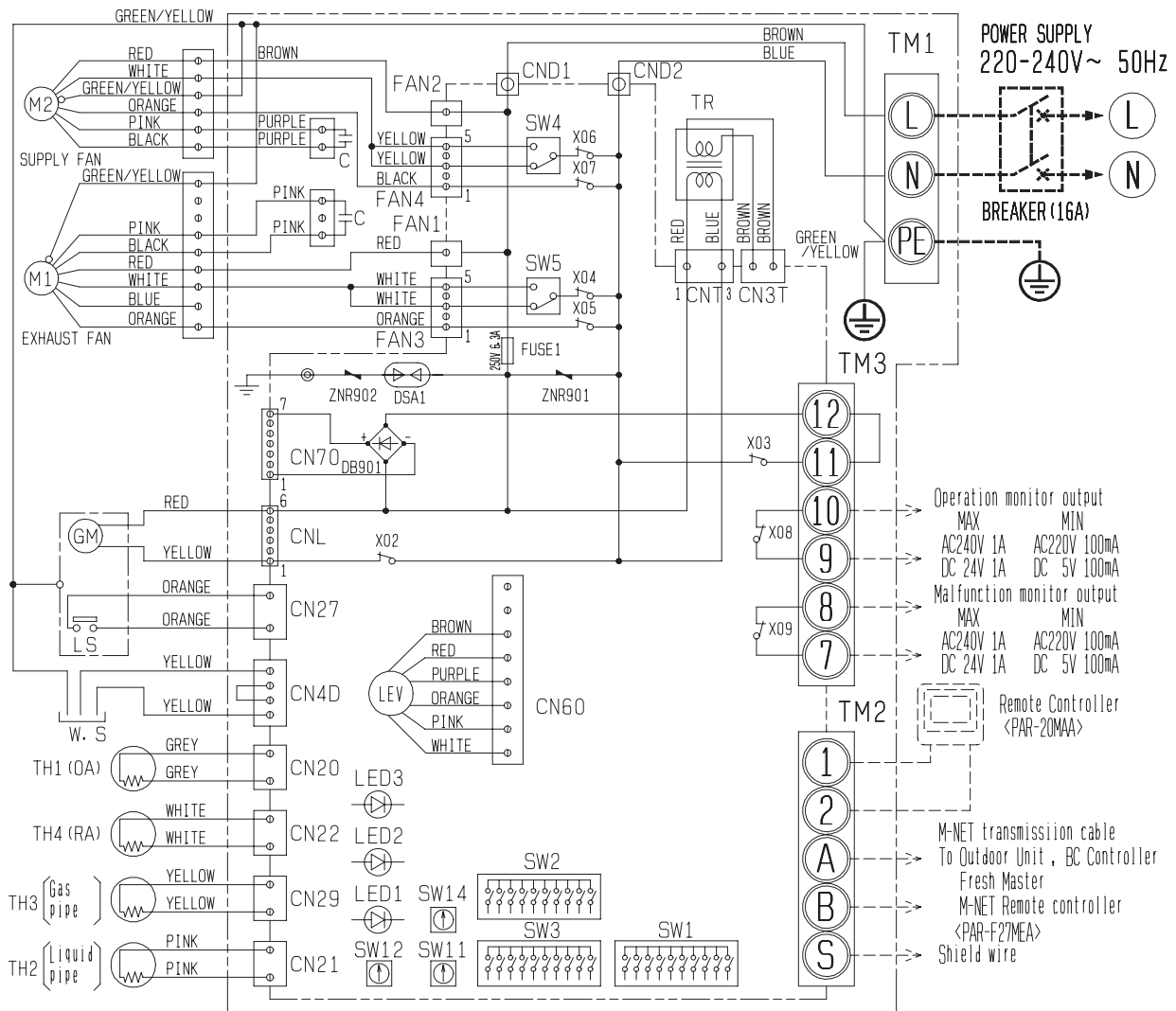


Model	External dimension			Ceiling suspension fixture pitch			Duct connection flange			Duct pitch				Humidification			Inspection opening	Flare		
	A	B	C	D	E	F	Nominal diameter	G	H	J	K	L	M	N	P	Q		S	T	U
GUF-50RD3	1288	1016	317	1185	1048	22	200	158.5	192	208	745	372.5	435	124	347	135	266	450	ø12.7	ø6.35
GUF-100RD3	1580	1231	398	1465	1271	16	250	199	242	258	920	460	670	149	361	169	280	600	ø15.88	ø9.52

Unit (mm)

3. Wiring diagrams

GUF-50RD3,GUF-100RD3



- NOTE
1. TM1, TM2, TM3 shown in dotted lines are field work.
 2. Be sure to connect the grounding wire.
 3. Breakers should be provided by the customer.
 4. MARK \odot : indicates terminal block, \ominus : connector

■Warning
Before obtaining access to terminals, all supply circuits must be disconnected.

\oplus : board insertion connector or fastening connector of control board.

■Symbol explanation

Symbol	Name	Symbol	Name	Symbol	Name
M1	Fan motor(exhaust)	TM1	Terminal block(power supply)	1, 2	Remote controller terminal
M2	Fan motor(supply)	TM2	Terminal block(transmission)	A, B	M-NET transmission terminal
C	Capacitor	TM3	Terminal block(humidistat, monitor)	S	Shield
W. S	Water sensor	SW1	Switch(function selection)	CND1, CND2	Connector(power supply)
TH1	Thermistor(outdoor air temp. detection)	SW2	Switch(capacity code setting)	X02-X09	Relay
TH2	Thermistor(pipe temp. detection/liquid)	SW3	Switch(function selection)	TR	Transformer
TH3	Thermistor(pipe temp. detection/gas)	SW4	Switch	GM	Damper motor
TH4	Thermistor(room air temp. detection)	SW5	Switch	LS	Limit switch
LEV	Electronic linear expansion valve	SW11	Switch(1st digit address set)	LED1	Power supply monitor
		SW12	Switch(2nd digit address set)	LED2	Ma remote controller
		SW14	Switch(branch NO. set)	LED3	Power supply monitor
					M-NET Power supply monitor

4. Maintenance procedures

4-1 Blower Parts

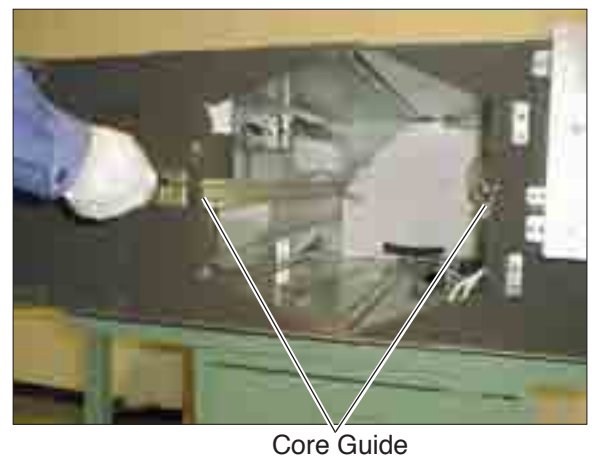
- ① Remove the cover fixing special screw.
- ② Pull back the hinged clip.
Open the door and lift off of the hinge brackets.



- ③ Remove Filters from the unit.
- ④ Remove Lossnay cores from the unit.



- ⑤ Remove screw from the core-guide, Remove core-guide.



- ⑥ Remove separator from the blower portion.
- ⑦ Remove connections of motor lead wire.



Separator

- ⑧ Remove screws from the motor base.



Motor Base

Motor

- ⑨ Remove the pre-assembled blower.



Pre-assembled Blower

4-2 Damper Motor Part (All units available)

① Remove (2) screws out from the damper motor cover.



② Take the damper motor out of the cover.



4-3 Circuit Board Part

① Remove the 4 screws from the control cover.



② Remove the 3 screws from capacitors.
(2 screws for the GUF-50RD3)



- ③ Remove all harnesses connected to the circuit board.
- ④ Take the circuit board out.

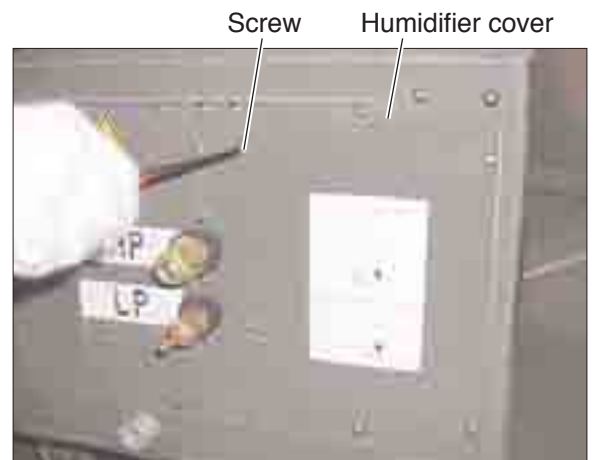


Circuit Board

4-4 Humidifier Parts

Humidifier function not available.

- ① Remove the 7 screws to remove the humidifier cover.



- ② Remove the Humidifier cover (Inner lid).



4-5 Heat exchanger for refrigerant Part

- ① Remove the 11 screws to remove cover (L) and cover (S).
(9 screws for the GUF-50RD3)



- ② Remove connections of themistor lead wire and lenear expansion valve lead wire.
③ Remove the 2 screws to remove the Fixture.
④ Remove the heat exchanger from the unit.



Connection

- ⑤ Remove the 2 screws to remove the Fix plate.



Water sensor installation positions

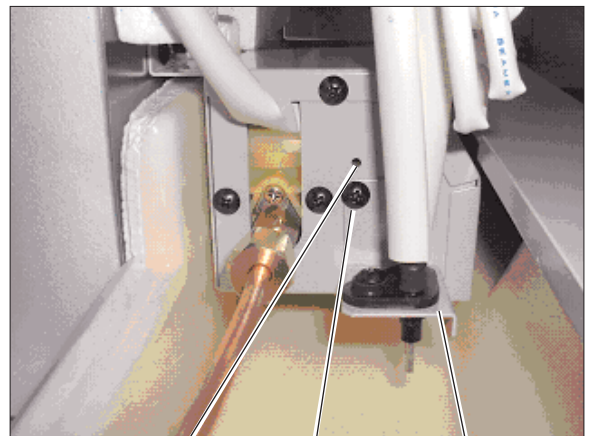


4-6 Water sensor Part

*This product is not equipped with the solenoid valve and the water supply pipe.

① Remove a screw to remove the water sensor.

Installed condition of GUF-100RD3



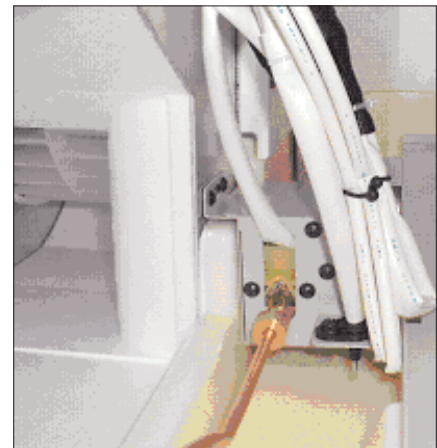
Fixing position of water sensor plate (GUF-50RD3)

Water sensor plate

Fixing position of water sensor plate (GUF-100RD3)

② The hole at the fixing position of the water sensor plate (GUF-50RD3) is no longer visible.

Installed condition of GUF-50RD3

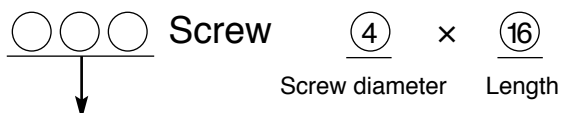


5. Parts list

Please note the following when using the parts list.

1. When ordering parts, always indicate the part number, part name, and number of parts required.
2. Parts are not always available, and it may take time for you to receive them.
3. There may be specification improvements or prices changes.
4. Specifications and prices are as of March 2006.
5. Parts marked \triangle are critical for safety. To maintain safety and performance, always replace these parts with the parts prescribed.
6. The numbers that are circled in the exploded view are the same as the reference number for the part being indicated.

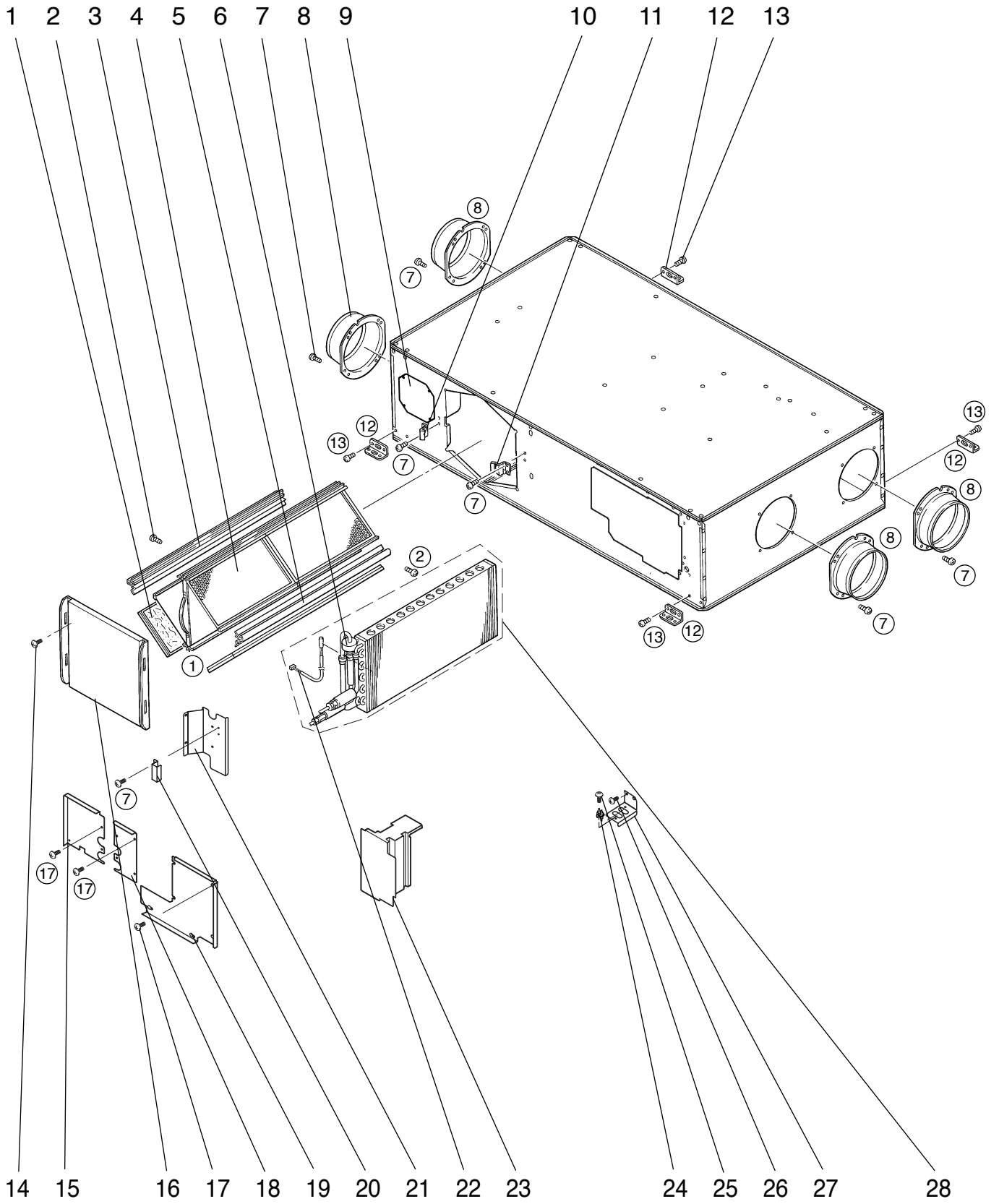
Description of screw abbreviations



Abbreviation	Description
PC screw	Cross recess flat head machine screw
PRC screw	Cross recess oval head machine screw
PP screw	Cross recess pan head machine screw
SW · PP screw	Cross recess pan head screw with spring washer
PPT screw	Cross recess tapping screw
PCT screw	Cross recess flat head tapping screw
PTT screw	Cross recess truss head tapping screw
PT screw	Cross recess truss head machine screw
SET screw	Slotted head stop screw
SQ · SET screw	Square head stop screw
P · SET screw	Pan head stop screw
PMT screw	Primer truss head screw
HS · SET screw	Hexagon head stop screw
P · R · W screw	Cross recess round wood screw
P · C · W screw	Cross recess flat head wood screw
P · R · C · W screw	Cross recess round and flat wood screw
R · W screw	Slotted round wood screw
PW · PP screw	Cross recess pan head screw with small washer
SW-PW · PP screw	Cross recess pan head machine screw with spring washer and flat washer

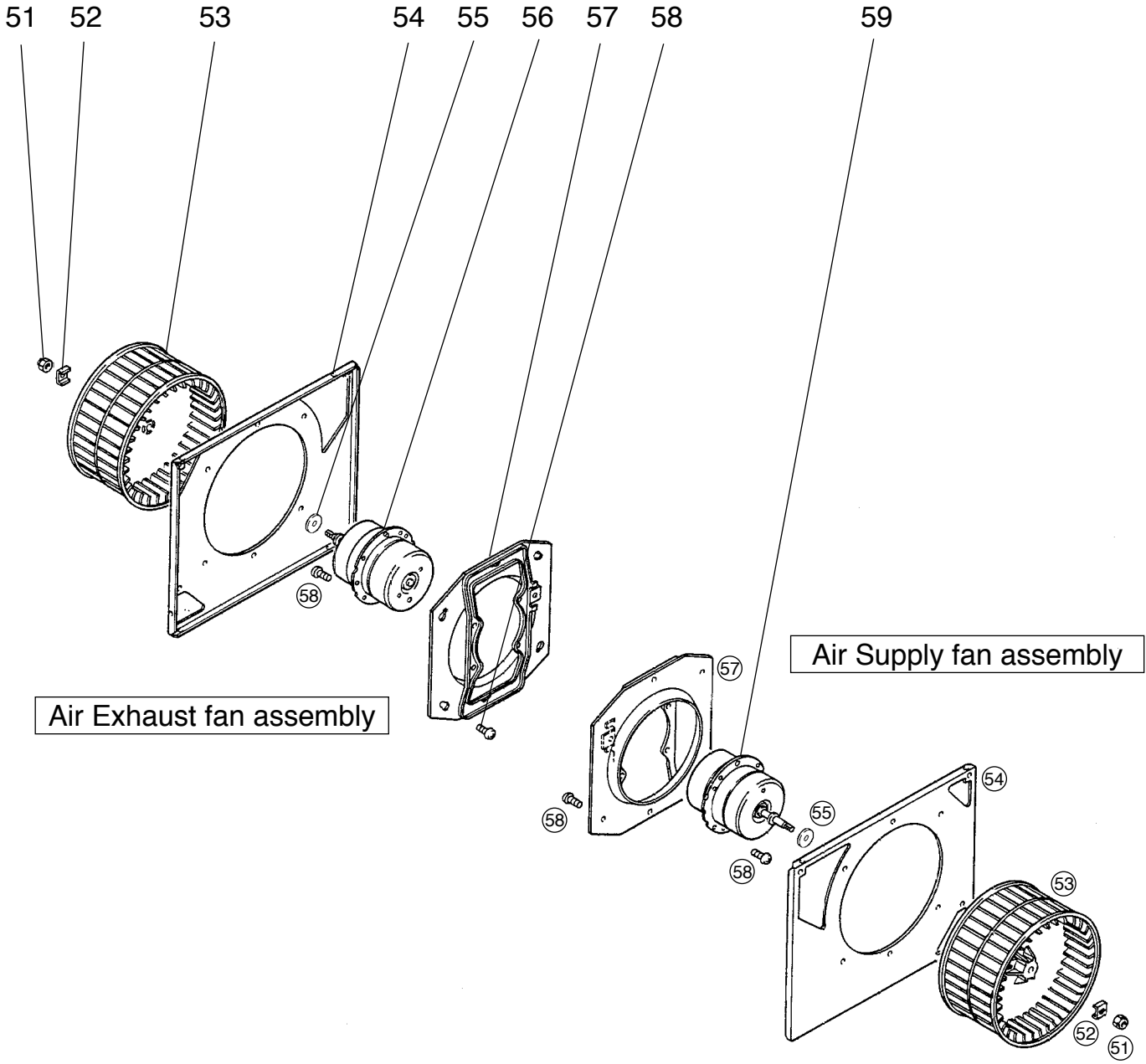
Model GUF-50RD3

No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
1.	Y50 062 718	Filter	2	▲		
2.	H00 000 488	PTT screw 4×12	2			
3.	R50 216 381	Core guide	1			
4.	R50 216 710	Lossnay core	2	▲		
5.	R50 478 382	Core guide	1			
6.	R50 474 737	Linear expansion valve	1	▲		
7.	H00 000 487	PTT screw 4×8	38			
8.	R50 028 610	Flange	4			
9.	R50 351 708	Cover	2			
10.	R50 466 344	Hinge	1			
11.	Y50 029 712	Fix plate	1			
12.	R50 095 380	Hanger	4			
13.	H00 000 244	PT screw 6×12	8			
14.	M34 074 017	Special screw 4×11	1			
15.	R50 429 691	Cover(1)	1			
16.	X50 002 707	Maintenance cover	1			
17.	H00 189 007	PTT screw 5×10	13			
18.	R50 429 697	Cover(s)	1			
19.	R50 429 698	Humidifier cover	1			
20.	R50 429 700	Fix plate	1			
21.	R50 429 699	Fix plate	1			
22.	R40 647 340	Thermistor	1	▲	Liquid pipe	
22.	R40 632 936	Thermistor	1	▲	gas pipe	
23.	R50 429 486	Humidifier cover(in)	1			
24.	M45 280 707	Water sensor	2	▲		
25.	M35 282 045	Special screw 4×12	2			
26.	H00 260 045	PTT screw 4×8	5			
27.	Y55 007 692	Water sensor plate	1			
28.	R50 472 699	Heat exchanger	1	▲	Refrigerant	



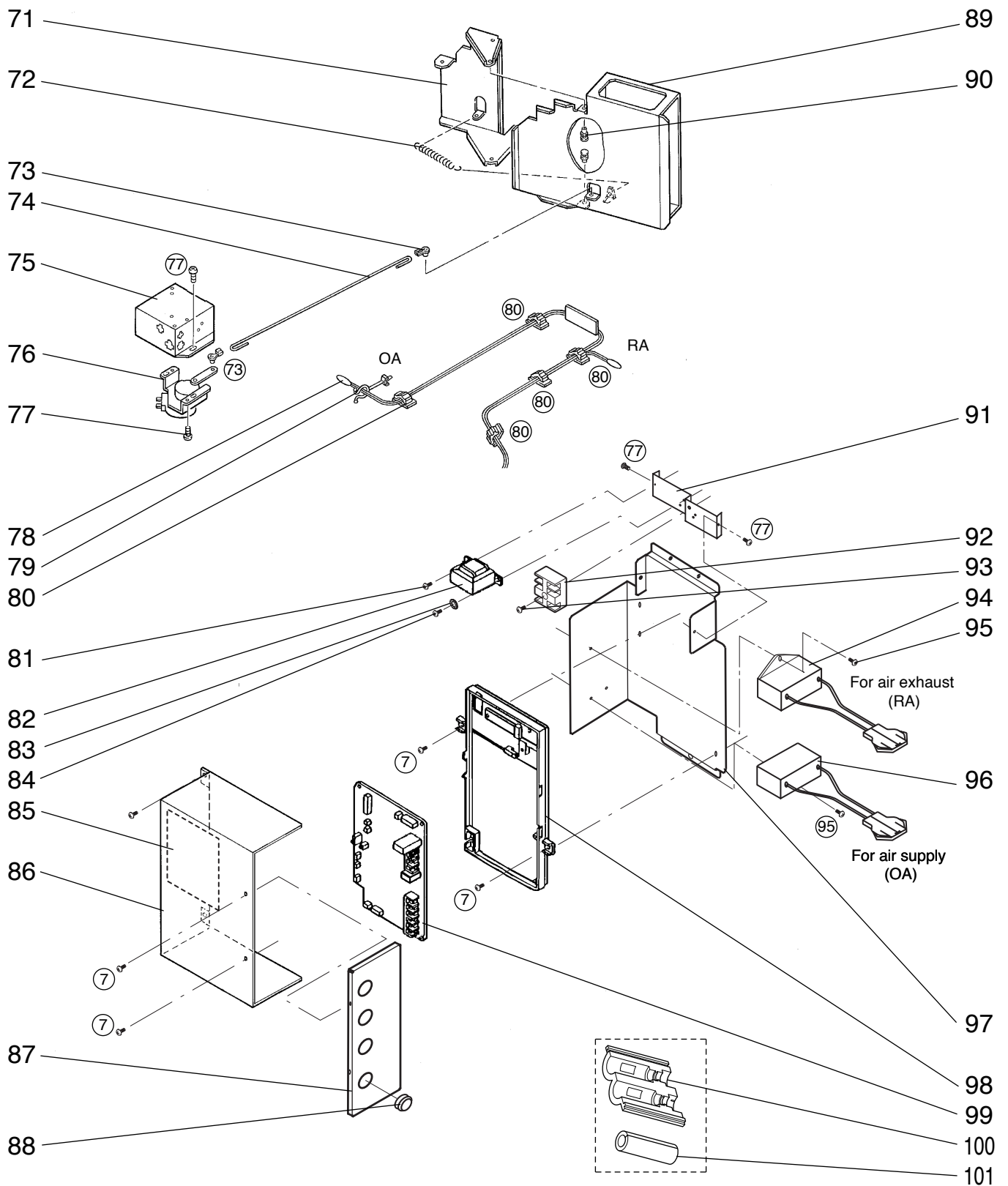
Model GUF-50RD3

No.	Parts No.	Name of part	Q' ty pcs/unit	Critical for safety	Remarks	Price
51.	R50 331 067	Special nut	2			
52.	M34 398 077	Tab washer	2			
53.	R50 351 480	Centrifugal fan	2	▲	φ 220	
54.	R50 478 707	Motor base	2			
55.	M34 706 465	Special washer	2			
56.	Y50 062 452	Motor	1	▲		
57.	R50 351 713	Motor fix plate	2			
58.	H00 189 007	PTT screw 5×10	16			
59.	Y55 003 451	Motor	1	▲		



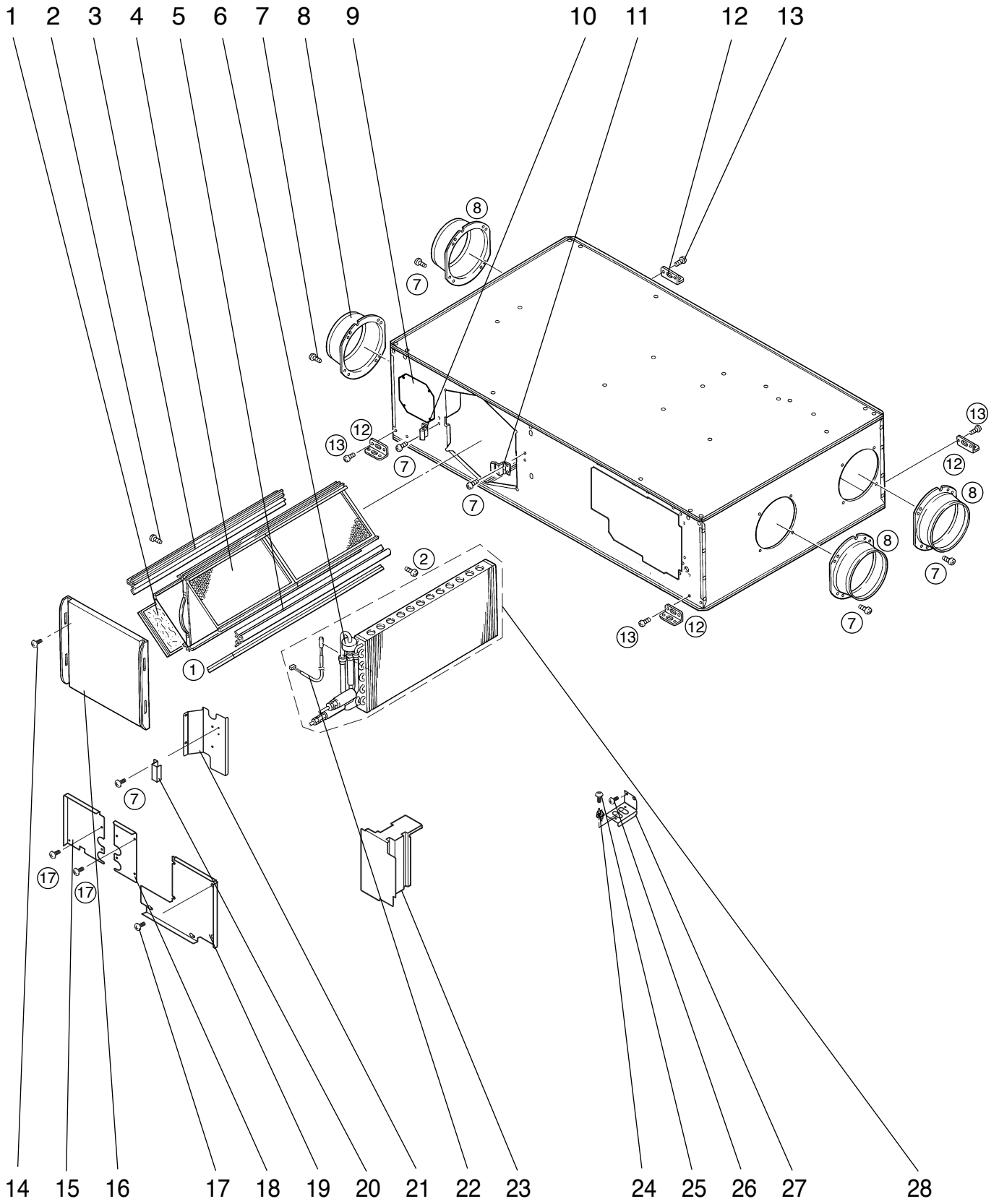
Model GUF-50RD3

No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
71.	R50 472 716	Damper support	1			
72.	R50 069 156	Pull spring	1			
73.	R50 054 225	Bush	2			
74.	R50 232 150	Rod	1			
75.	Y50 061 693	Damper motor cover	1			
76.	Y50 061 260	Damper motor	1	▲	220-240V	
77.	H00 312 007	PTT screw 4×6	2			
78.	Y55 003 216	Thermistor	1	▲		
79.	D41 093 224	Cord clamper	1			
80.	R50 399 224	Cord clip	5			
81.	H00 000 349	Pt screw 4×8	1			
82.	Y55 001 217	Transformer	1	▲		
83.	H00 013 076	Lock washer	3			
84.	H00 011 008	PT screw 4×8(BS)	3			
85.	Y55 009 367	Wiring diagram	1			
86.	R50 429 693	Cover	1			
87.	R50 430 693	Side plate	1			
88.	R50 351 225	Bush	4			
89.	R50 472 715	Damper	1			
90.	M31 234 089	Special bush	2			
91.	R50 429 701	Terminal fix plate	1			
92.	M13 100 242	Terminal	1	▲	3P	
93.	H00 000 007	PPT screw 4×25	1			
94.	Y55 007 235	Capacitor	1	▲	4 μ F·440VAC	
95.	H00 000 332	PTT screw 4×10	2			
96.	Y55 003 235	Capacitor	1	▲	4 μ F·440VAC	
97.	R50 429 695	PCB fix plate	1			
98.	R50 327 730	PCB fix plate	1			
99.	Y55 007 171	Circuit board	1	▲	FU-M04-D4	
100.	Y55 001 698	Separator	1			
101.	Y55 001 699	Separator	1			



Model GUF-100RD3

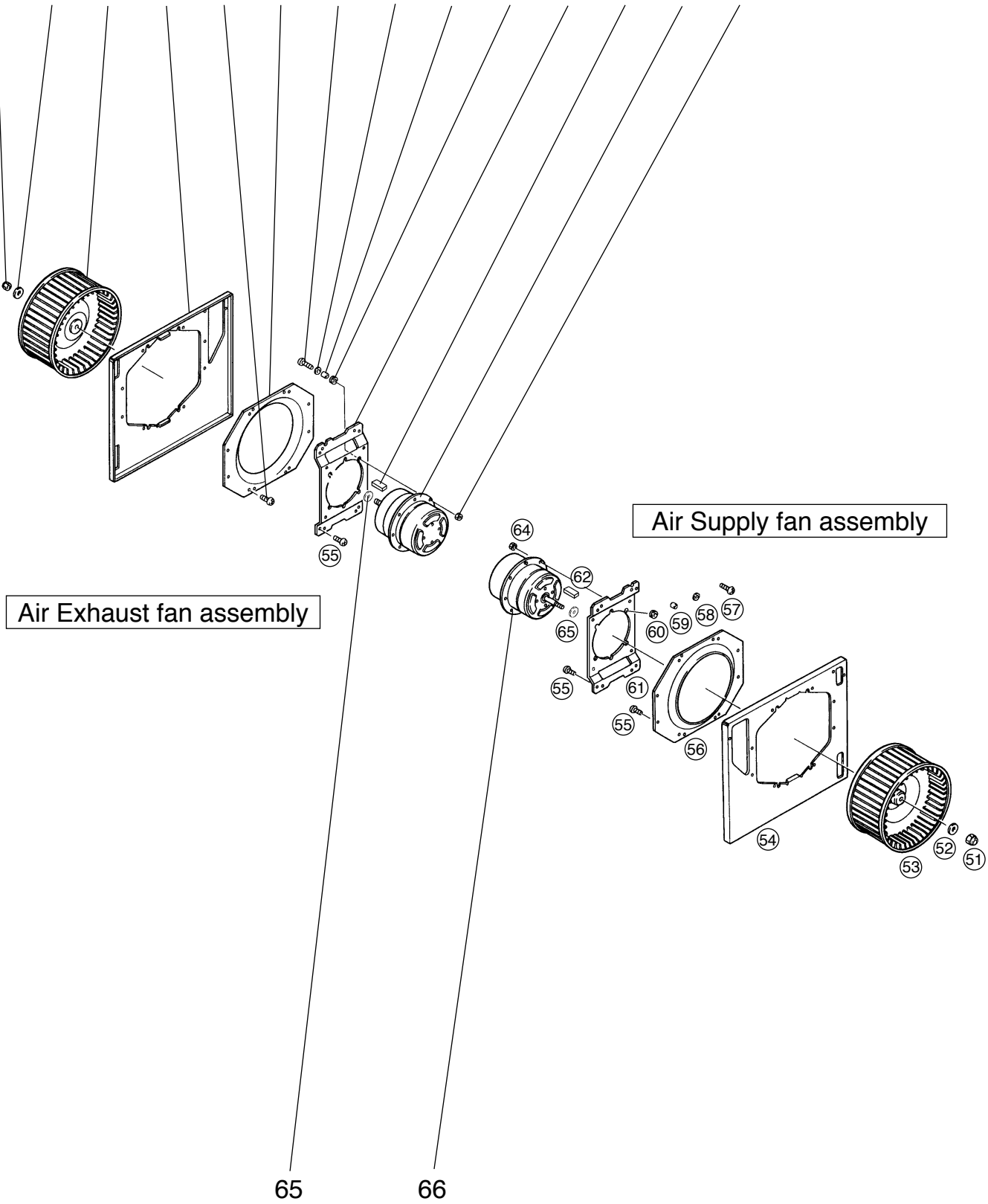
No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
1.	Y50 063 718	Filter	2	▲		
2.	H00 000 488	PTT screw 4×12	2			
3.	R50 219 381	Core guide	1			
4.	R50 219 710	Lossnay core	2	▲		
5.	R50 481 381	Core guide	1			
6.	R50 474 737	Linear expansion valve	1	▲		
7.	H00 000 487	PTT screw 4×8	76			
8.	R50 430 609	Flange	4			
9.	R50 358 704	Cover	2			
10.	R50 466 344	Hinge	1			
11.	Y50 029 712	Fix plate	2			
12.	R50 054 383	Hanger	4			
13.	H00 000 244	PT screw 6×12	8			
14.	M34 074 017	Special screw 4×11	1			
15.	R50 430 691	Cover(1)	1			
16.	X50 004 707	Maintenance cover	1			
17.	H00 189 007	PTTcrew 5×10	16			
18.	R50 430 692	Cover(s)	1			
19.	R50 430 694	Humidifier cover	1			
20.	R50 429 700	Fix plate	1			
21.	R50 430 695	Fix plate	1			
22.	R40 647 340	Thermistor	1	▲	Liquid pipe	
22.	R40 632 936	Thermistor	1	▲	gas pipe	
23.	R50 430 486	Humidifier cover(in)	1			
24.	M45 280 707	Water sensor	2	▲		
25.	M35 282 045	Special screw 4×12	2			
26.	H00 260 045	PTT screw 4×8	5			
27.	Y55 007 692	Water sensor plate	1			
28.	R50 473 699	Heat exchanger	1	▲	Refrigerant	



Model GUF-100RD3

No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
51.	R50 218 067	Special nut(12)	2			
52.	K83 466 113	Washer(12)	2			
53.	R50 479 480	Centrifugal fan	2	▲	φ 245	
54.	R50 480 707	Fan base	2			
55.	H00 189 007	PTT screw 5×10	16			
56.	R50 264 711	Inlet plate	2			
57.	H00 157 008	PT screw 6×20	8			
58.	M34 043 080	Special washer	8			
59.	R50 000 095	Spacer	8			
60.	R50 217 225	Bush	8			
61.	R50 218 712	Motor fix leg	2			
62.	Y50 033 104	Key	2		5×5×11.5	
63.	Y55 008 453	Motor	1	▲		
64.	H00 061 050	Nut(6)	8			
65.	K83 195 080	Special washer	2			
66.	Y55 004 451	Motor	1	▲		

51 52 53 54 55 56 57 58 59 60 61 62 63 64



Air Exhaust fan assembly

Air Supply fan assembly

Model GUF-100RD3

No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
71.	R50 473 715	Damper support	1			
72.	R50 074 156	Pull spring	1			
73.	R50 054 225	Bush	2			
74.	R50 265 150	Rod	1			
75.	Y50 061 693	Damper motor cover	1			
76.	Y50 061 260	Damper motor	1	▲	220-240V	
77.	H00 312 007	PTT screw 4×6	2			
78.	Y55 004 215	Thermistor	1	▲		
79.	D41 093 224	Cord clamper	2			
80.	R50 399 224	Cord clip	7			
81.	H00 000 349	PT screw 4×8	1			
82.	Y55 001 217	Transformer	1	▲		
83.	H00 013 076	Lock washer	3			
84.	H00 011 008	PT screw 4×8(BS)	3			
85.	Y55 009 367	Wiring diagram	1			
86.	R50 429 693	Cover	1			
87.	R50 430 693	Side plate	1			
88.	R50 351 225	Bush	4			
89.	R50 473 716	Damper	1			
90.	M31 234 089	Special bush	2			
91.	R50 429 701	Terminal fix plate	1			
92.	M13 100 242	Terminal	1	▲	3P	
93.	H00 000 007	PPT screw 4×25	1			
94.	H00 000 332	PTT screw 4×10	3			
95.	Y55 008 235	Capacitor	1	▲	7 μ F·440VAC	
96.	R50 429 695	PCB fix plate	1			
97.	Y55 008 236	Capacitor(2)	1	▲	4.5 μ F·440VAC	
98.	R50 327 730	PCB fix plate	1			
99.	Y55 007 171	Circuit board	1	▲	FU-M04-D4	
100.	Y55 001 698	Separator	1			
101.	Y55 001 699	Separator	1			

