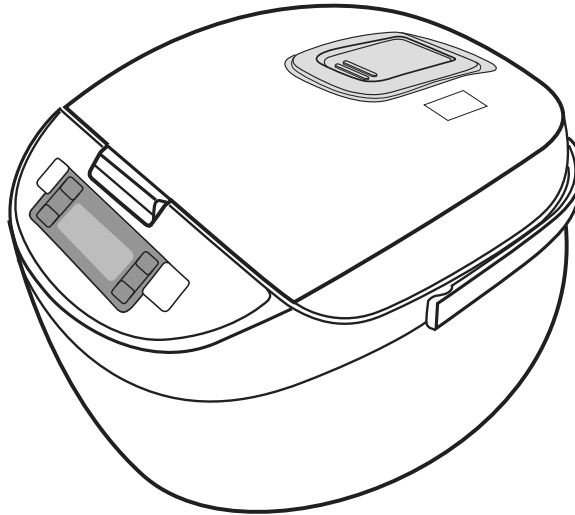


# Service Manual

## Electronic Warm Jar

**SR-MG102**  
**SR-MG182**



### Product Colour

White (W)

### Destination

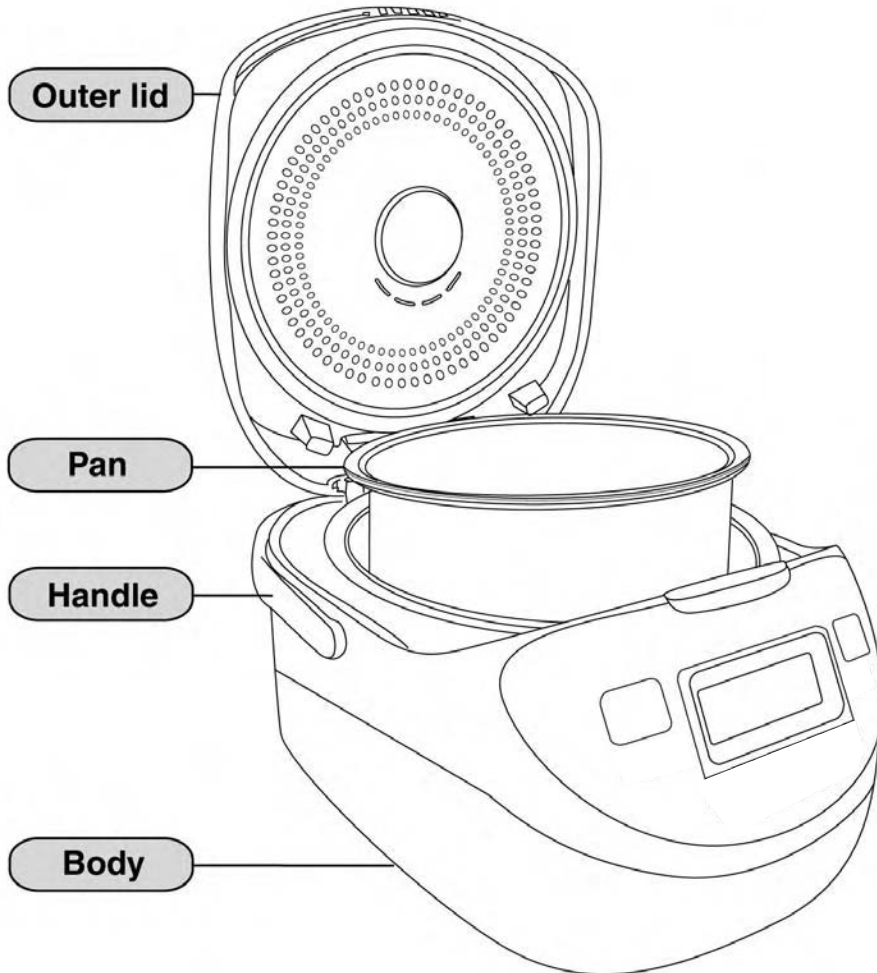
Thailand, Sin-DBD,  
Malaysia, Sin-RBD,  
Indonesia

## Specifications

Model		SR-MG102			SR-MG182				
Destination		Thailand	Sin-DBD	Malaysia	Thailand	Sin-DBD	Malaysia	Sin-RBD	Indonesia
Plug		C3P	S3P	S3P	C3P	S3P	S3P	SH3P	SH3P
Power Supply		220V	230V	240V	220V	230V	240V	220V	220V
Power Consumption	Keeping Warm	69W	75W	81W	95W	104W	112W	95W	95W
	Cooking	600 W			800 W				
	Cake Baking	620 W			835 W				
Cooking Capacity	White Rice	1~5 cups			2~10 cups				
Product Dimension	Width	251 mm			279 mm				
	Depth	332 mm			357 mm				
	Height	210 mm			243 mm				
Power Cord	Length	1 m							
Keep Warm Temperature	Thailand	75°C ± 4°C							
	Indonesia	77°C ± 4°C							
	Others	73°C ± 4°C							
Center Thermostat Working Temperature		127°C ± 6°C							
Thermal Fuse Specification		172°C							
Weight (Approx.)		3.0 Kg			3.9 Kg				
Accessories		Steaming basket, Scoop, Measuring cup, Power cord							
*If any change occurred to the appearance, wiring or other parts of the warm jar due to property improvement or other reasons, there will be additional notice.									

**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.



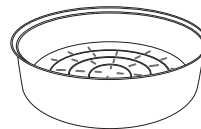
**Accessory**



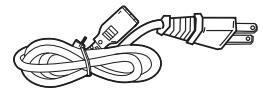
**Scoop**



**Measuring cup**



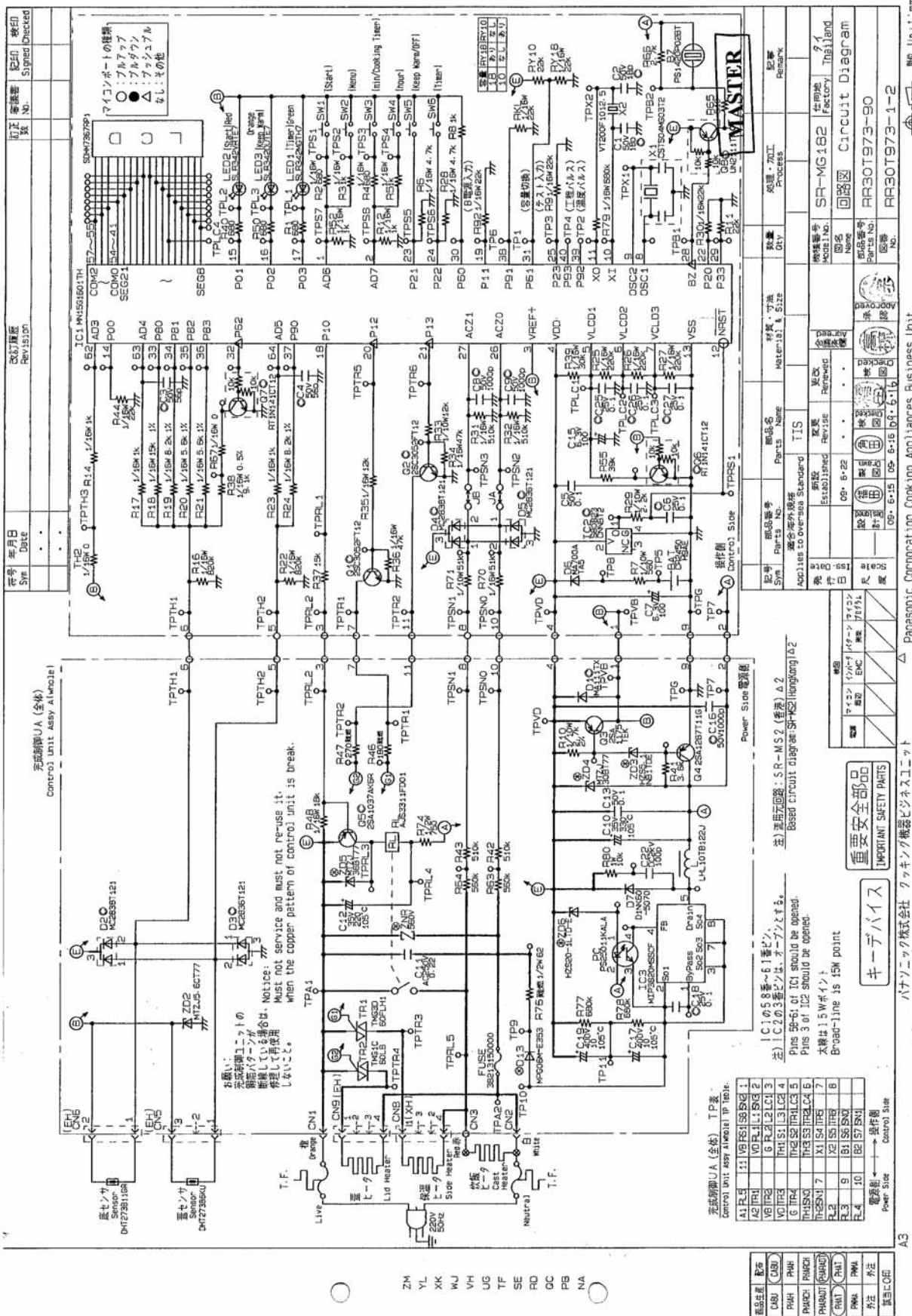
**Steaming basket**  
**(Except : SR-DG102)**



**Power cord**

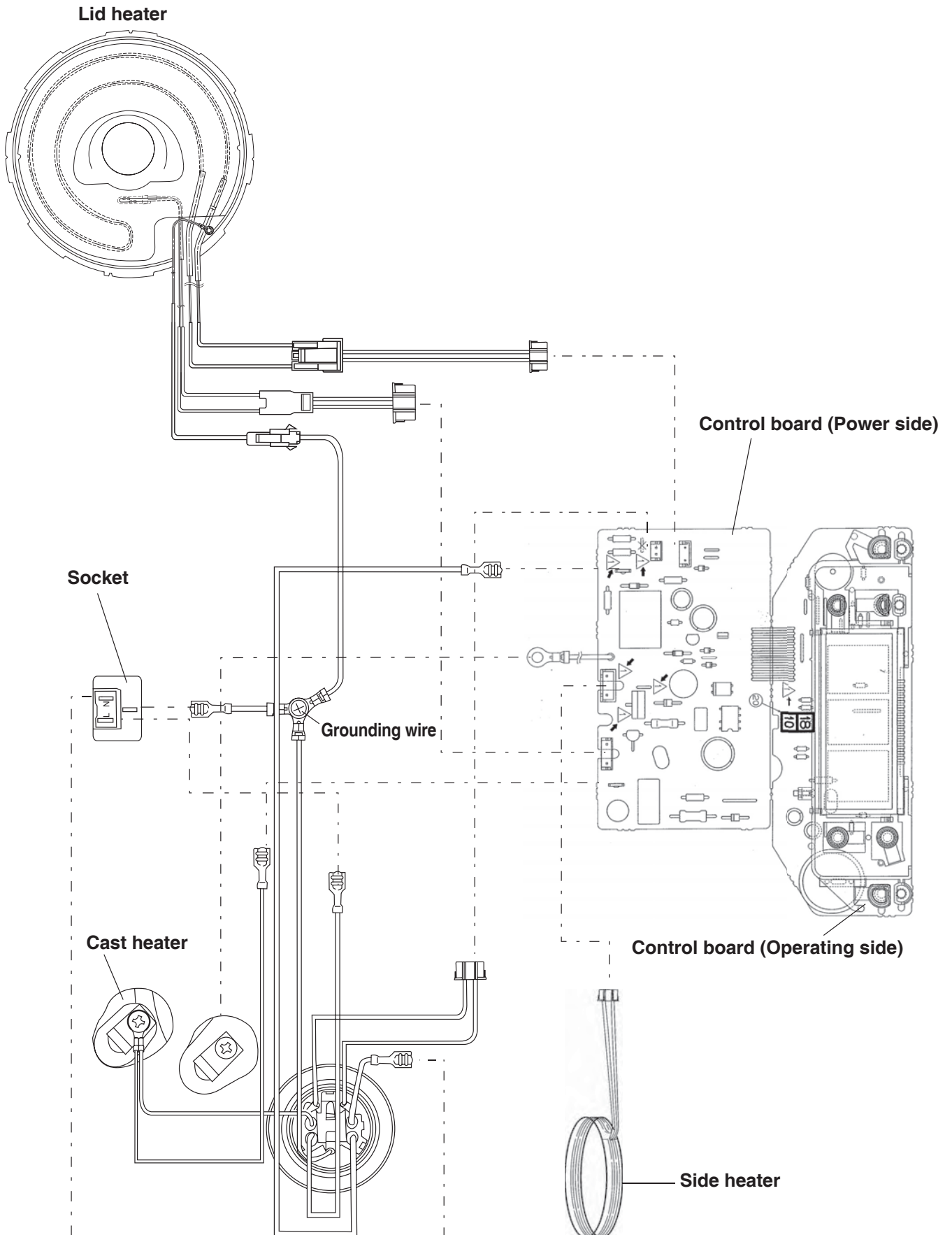
# 1. Circuit Diagram

## SR-MG102, 182



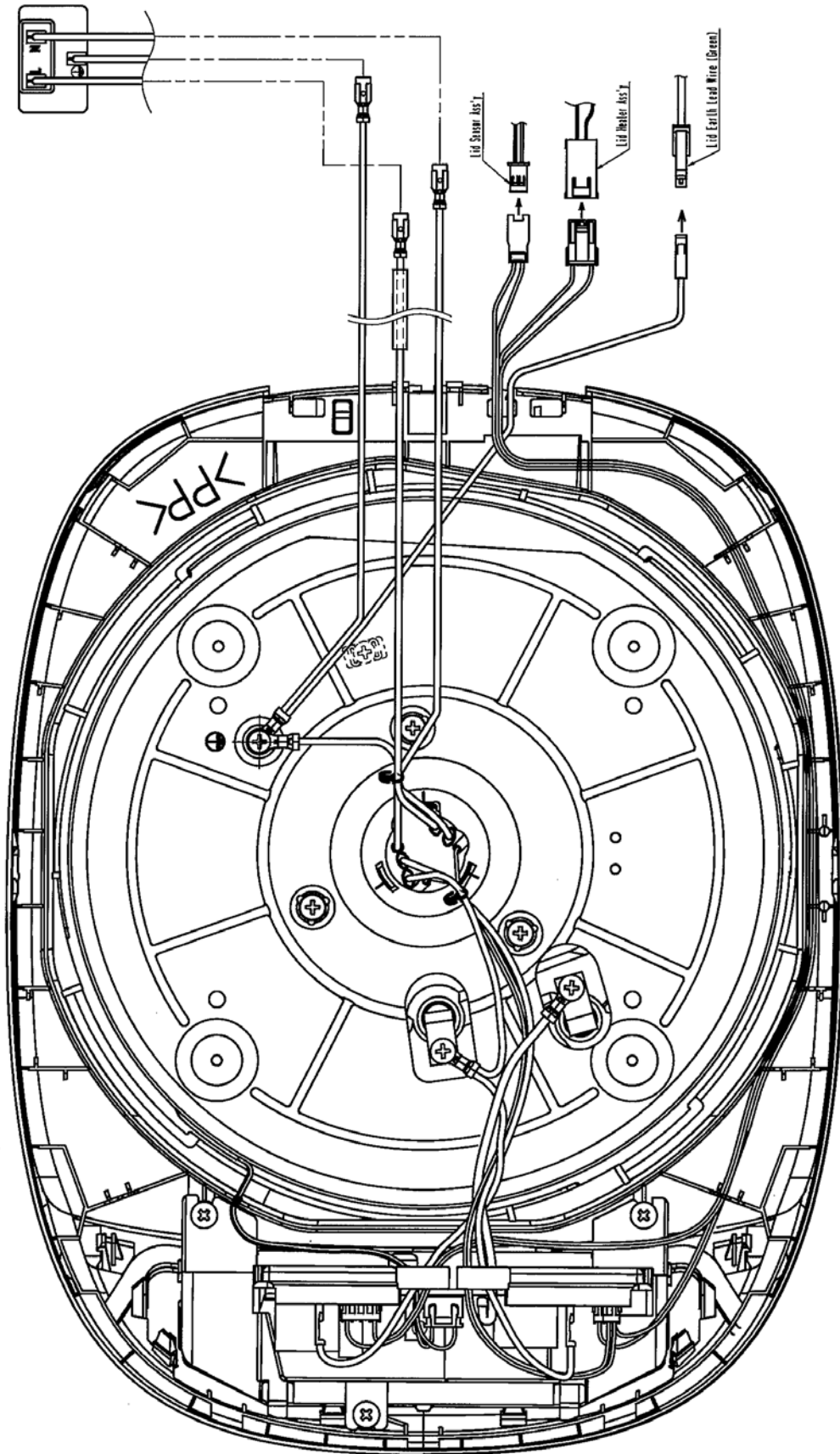
## 2. Block Diagram

### SR-MG102, 182



### 3. Wiring Diagram

SR-MG102, 182



## 4. Troubleshooting

Before repairing the warm jar from users, please confirm whether it is complete (pan, lid, Keep Warm pin etc.) and inquiry the user for specific malfunctions. Please turn off the power before checking the circuit or component.

### 4.1. Before troubleshooting

Troubleshooting will be proceeded in two steps, one for the main unit and the other for control circuit board.

Please refer to part I before any checking.

If the malfunctioned item is unavailable in the troubleshooting table, please proceed the basic test to check the control circuit board (refer to page 9). Then decide proper measures according to the troubleshooting description in part II.

The malfunctioned component and its location are indicated in the right side of trouble symptom.

Each component is designated with a number of checking sequence, please refer to it.

Please refer to page 10 for information of diagnosing the malfunctioned parts on panel (for reference only).

#### Precautions for operating microprocessor or control circuit

The microcomputer is composed of CMOS digital IC and MOS FET, so it is quite sensitive to electrostatic, such as electrostatic from body, clothes, iron, etc. Please handle it carefully as per following instructions:

- The handling personnel should be well grounded.
- The iron should be grounded. Do not use the iron with poor insulation. The iron with microcomputer control is suggested.
- Do not touch the IC pin or other components before grounded. Do not put the circuit board on conductive surface that may be charged.
- Do not insert the components from reverse side of the circuit board.
- Do not apply high resistance ( $\times 10k$ ) when proceeding continuous measurement with multi-meter, otherwise, the IC and other components on the circuit board may be damaged due to the high voltage.
- Try to shorten the welding time (within several seconds).
- Please turn off the power before replacing any component.
- The transformer for control panel has a voltage of AC 110V, 120V, 220V, 230V, 240V so please take care when handling the electric control board to avoid electric shock or hurt.

### 4.2. Self-diagnosing

The following symbols will appear on LCD automatically when it is abnormal.

#### Display

Symbol	Symptom	Remedy
U14	The "Keep Warm" function is cut off automatically when the operation exceeds 96 hours.	Press [Keep Warm/Off] button to resume keeping warm (Do not set keeping warm for more than 12 hours).
H01	All the buttons are inoperative.	Replace the pan sensor (pan sensor is broken off), or check the branch component of pan sensor on the computer panel.
H02	All the buttons are inoperative.	Replace the pan sensor (lid sensor is broken off), or check the branch component of lid sensor on the computer panel.
H06	All the buttons are inoperative.	Replace P.C.B.
H05	All the buttons are inoperative.	Replace relay or P.C.B. (Cause: The relay is in fault)

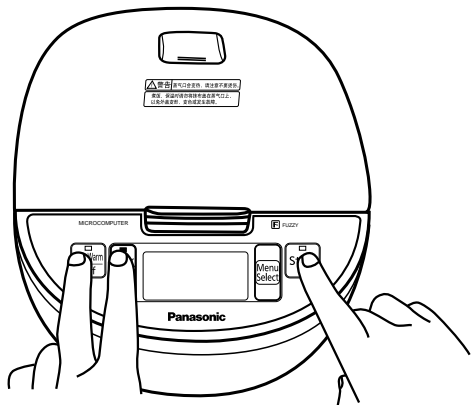


## 6. Quick check test of the control board

Check performance of the P.C.B. in the following procedure. If any failure detected, repeat the performance again. (Refer to Page 11). If still abnormal, replace spare parts on the control panel or the whole control board (comp.) according to Troubleshooting-part II on page 9 and Problem diagnosing table (page 10).

1

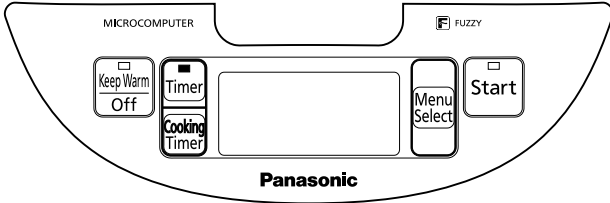
Connect the unit to a power source by inserting the plug into an outlet. In the stand-by mode, press the [Start/Reheat], [Menu Select] and [Keep Warm/Off] button simultaneously with fingers.



[Fig.A]

2

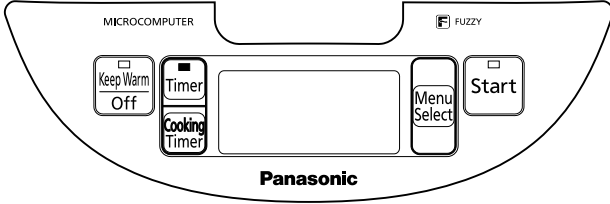
With the keys pressed, if all areas on the LCD panel light up, as shown at right in Fig. B, the control board can be judged to be normal. (Releasing any or all of the three keys will cancel the test condition)



[Fig.B]

3

When releasing the three keys, the [Hour] lights up as shown in right Fig.C and the buzzer sounds. Then cooking starts. When the pan sensor temperature reaches the cooking end level, the heating operation switches to the warming mode.



[Fig.C]

4

Press the [Keep Warm/Off] button. Operate and check whether other function buttons are normal.

If the above 1 to 4 operation proves to be normal, the P.C.B. comp. can be judged as OK.



## 7. Troubleshooting-part II (for the P.C.B.)

### Note:

Mark ○ means the components that may malfunction.

		38	SW	LCD	X1	BZ	T	RL	TR1	BAT					Remark
Symptom	Unit description	P.C.B. (comp)	Parts on the control panel												
			Tact switch	LCD	Ceramic resonator	Buzzer	Transformer	Relay	Triac	Flat cable	Li battery				
Does not cook	Cooking LED lights up	○						○		○					
	Cooking LED does not light up	○	○		○		○			○					
	LED does not operate at all	○	○		○		○			○					
Cannot cook rice correctly (stops early or cooking is uneven, etc.)		○						○							
Rice on bottom of the inner pan is scorched		○						○							
Keep Warm temperature is high (over 78°C)		○							○						
Keep Warm temperature is low (below 68°C)		○							○	○					
Does not keep warm	Keep Warm LED lights up	○							○	○					
Does not Keep Warm continuously		○							○						
Droplets fall onto the surface of the rice		○							○	○					
Buzzer does not sound	Other operations are normal	○				○									
Part of the LCD is blank		○		○											
The Clock display disappears after unplugging										○					

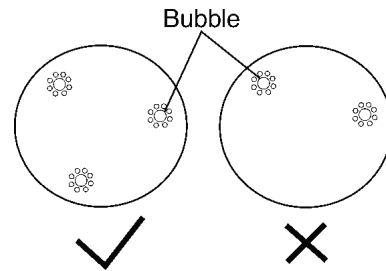
## 8. Test Method

### 8.1. Bubble test

1. Insert the pan into the cooker main body and turn it slightly clockwise and anti-clockwise to place the pan properly on top of the cast heater.
2. Pour small quantity of water into the pan so that the bottom of the pan is immersed with water. Close the lid completely.
3. After connecting to power, select [Quick] from [Menu Select] and then press [Start] button.
4. When the water boils, the cooker will blow off steam. When you see the steam, open the lid, and then press the brim of the pan to completely touch it to the cast heater. Then check the water bubbling condition.

See the right figures:

- Water bubbles appear at three areas and are distributed evenly around the circle..... Acceptable
- Water bubbles are distributed unevenly and not around the circle.....Unacceptable
- The unacceptable result is possibly due to incomplete contact of bottom of pan and the cast heater. So please check the heater surface for foreign material, and remove them or replace the defective part (pan or cast heater).

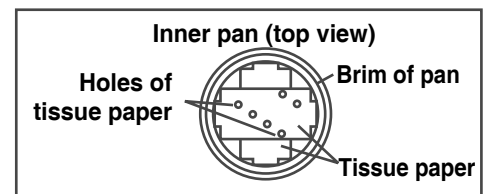


### 8.2. Steaming test

1. After confirming the bubble test is acceptable, spread two or three sheets of tissue paper (or gauze) over bottom of the pan to leave the cooker on without closing the lid.

**Note:**

- Be sure to fully open the lid to protect the plastic parts from thermal distortion caused by steam.
- Make holes in the tissue paper (or gauze), as shown, so that it will not float up during steaming.



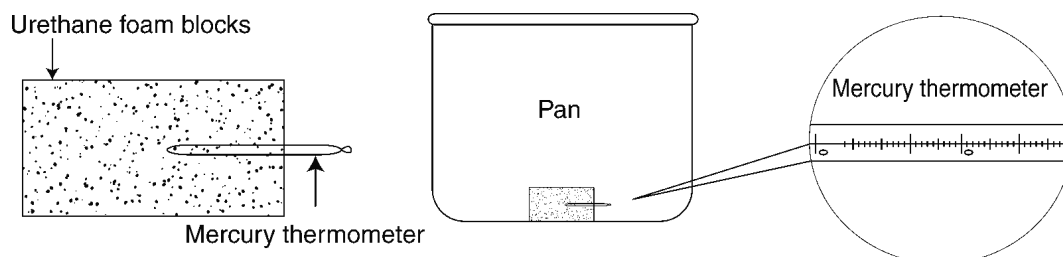
### 8.3. Keep Warm test

1. Place a mercury thermometer between urethane foam blocks as shown below. Urethane foam blocks (ASN-300) and the thermometer (ASN-150H) are supplied as spare parts.
2. Place the urethane foam blocks holding the thermometer into central bottom of the pan, and allow the cooker to run in the Keep Warm condition for more than 1 hour.
3. More than one hour later, open the lid and read the temperature within 10 seconds.

If it is within 69°C - 77°C, then considered as normal.

If the warming temperature is out of this range, check whether there is any dirt or foreign material stuck on the pan sensor or bottom of the pan, if so, please remove them.

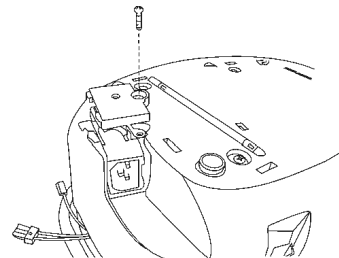
If nothing is found, adjust the warming temperature and replace the control circuit board(comp.)



## 9. Replacing of P.C.B. (Comp.)

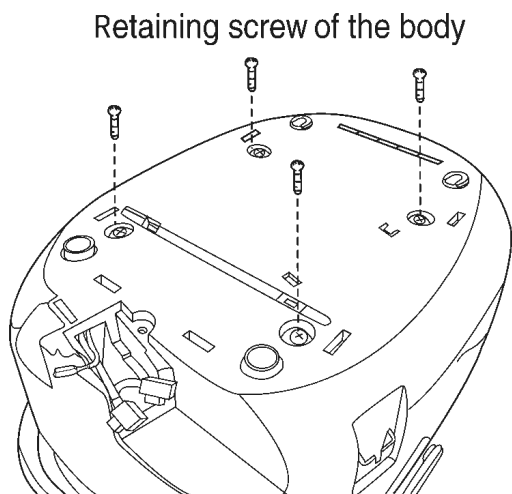
### 1 Remove the power socket (comp.)

- Open the lid and place the cooker upside down on a rubber sheet to protect it, as shown in the right figure.
- Unplug the power cord.
- Remove the screw (1) on power socket cover, and take out the power socket and its cover (comp.).
- Remove the wiring of power socket (3 places).



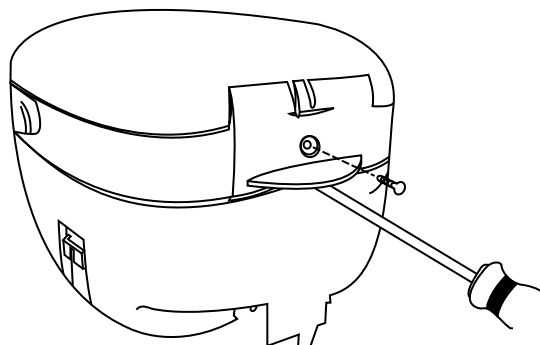
### 2 Remove the retaining screw of the body

- Remove the 4 retaining screws of the body.



### 3 Remove the hinge cover

- Remove the retaining screw first and then insert the screwdriver between hinge cover and body, as shown in the right figure.
- Pry the screwdriver outward like a lever to disconnect the hinge cover.

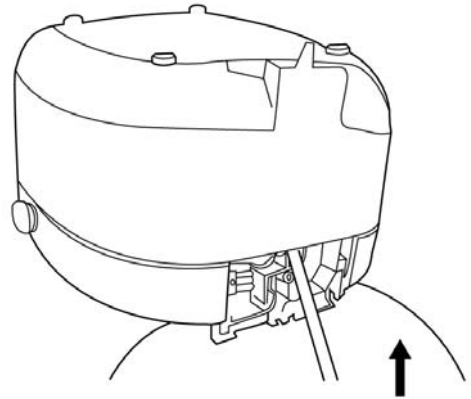


**4 Remove the body of cooker**

- Place the cooker upside down on a rubber sheet, then insert the screwdriver upright for about 30-40mm, as shown in the right figure.
- Turn the screwdriver in arrow direction to remove the body, as shown in the right figure.

**Note:**

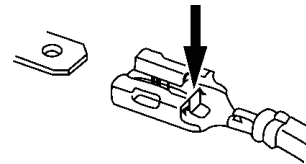
- Do not knock at the screwdriver, otherwise the parts contacted with screwdriver will be damaged. Please follow the above procedures to remove.

**5 Remove the wiring of P.C.B. component**

- Pull out each connector with a pincers.
- Pull out the fastening terminals (3 places) with a pincers.

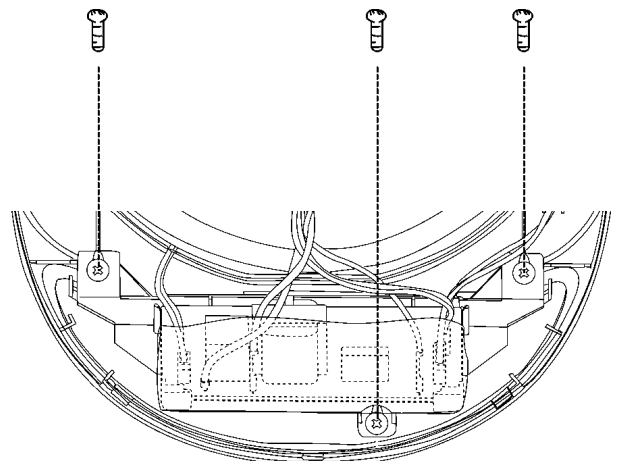
**Note:**

- For connectors or thing like this, please pull outward directly. If pulled out in different directions, the coil may be damaged or P.C.B. cracks due to the pressure applied on it.
- When pulling out the fastening terminal, please press the pin down in arrow direction while pulling. Otherwise, the terminal can not be pulled out.

**6 Remove the P.C.B. base (comp.)**

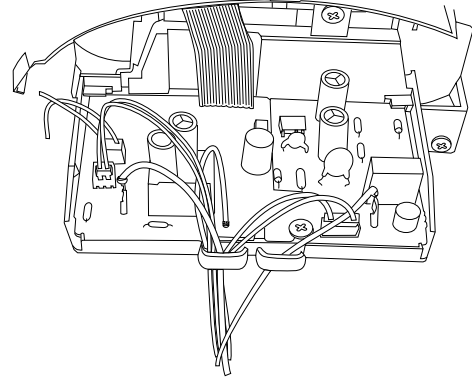
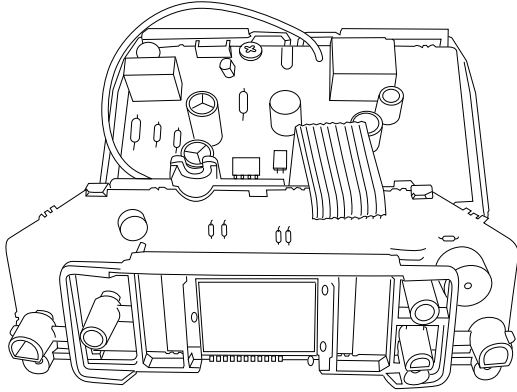
- Remove the fire-retardant tape attached on the P.C.B..
- Unplug the wiring connected to P.C.B..
- Remove the retaining screw on P.C.B. base (3 places).
- Take out the P.C.B. base directly with hand.
- Remove another fire-retardant tape attached on the P.C.B..

⊗ Please wear an anti-static wring strap or take relative measures to prevent electric shock.



**7 Take out the P.C.B. component**

- Remove the tabs at (a) gently, then take out the P.C.B. (operating side) while lifting.
- Remove another fire-retardant tape attached on the bottom of the P.C.B..
- Remove the retaining screws gently. Then take out the P.C.B. (power side) while lifting.

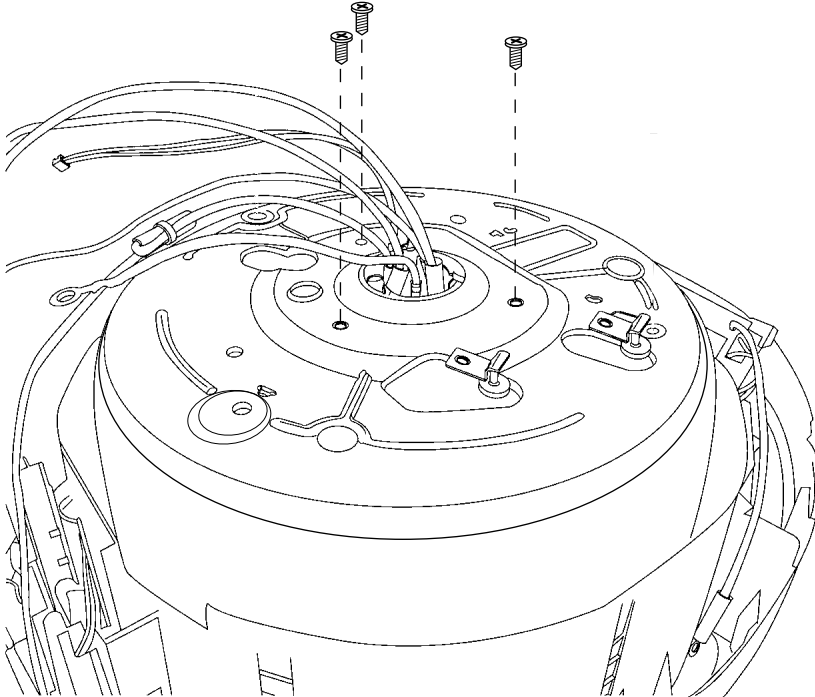
**8 Assembly of P.C.B. base (comp.)**

- When assembling the P.C.B. base (comp.), please proceed in reverse to disassembly.

**Note:**

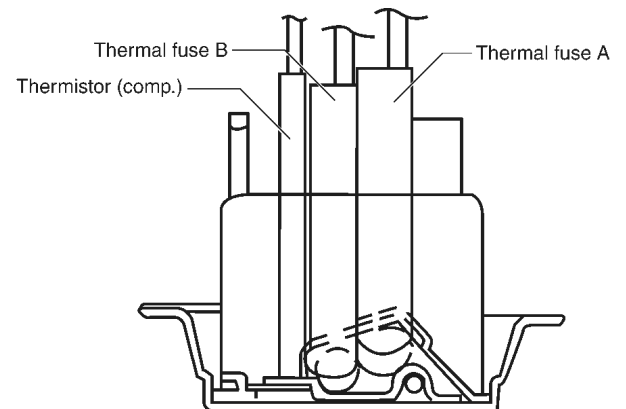
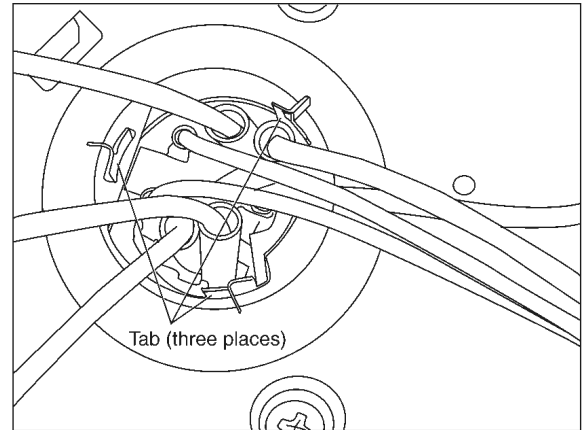
- When reassembling, make sure to attach the fire-retardant tapes as what they are before removing.

## 10. Replacing of Cast Heater

<b>1</b>	<b>Remove the power socket (comp.) and body</b>
	<ul style="list-style-type: none"> <li>Remove the power socket and body in referring to replacing of P.C.B. base (comp.)</li> </ul>
<b>2</b>	<b>Remove the base of sensor</b>
	<ul style="list-style-type: none"> <li>Tear off the retaining tapes (2 places) on the wiring of the pan sensor.</li> <li>Remove the connections (2 places) between pan sensor and P.C.B..</li> <li>Remove the wiring (1 place) connected between pan sensor and cast heater.</li> <li>Remove the connection (1 place) between cast heater and P.C.B..</li> <li>Remove the grounding wire.</li> <li>Remove the connections (3 places) on base of sensor.</li> <li>Take out the base of sensor.</li> </ul>
<b>3</b>	<b>Remove the cast heater</b>
	<ul style="list-style-type: none"> <li>Remove the retaining screw of cast heater (3 pieces).</li> <li>Take out the cast heater from protection frame.</li> </ul>
	
<b>4</b>	<b>Reassembly</b>
	<ul style="list-style-type: none"> <li>Please reassemble the cast heater in reverse to disassembly.</li> </ul>
	<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>When reassembling, make sure to attach the fire-retardant tapes as what they are before removing.</li> </ul>

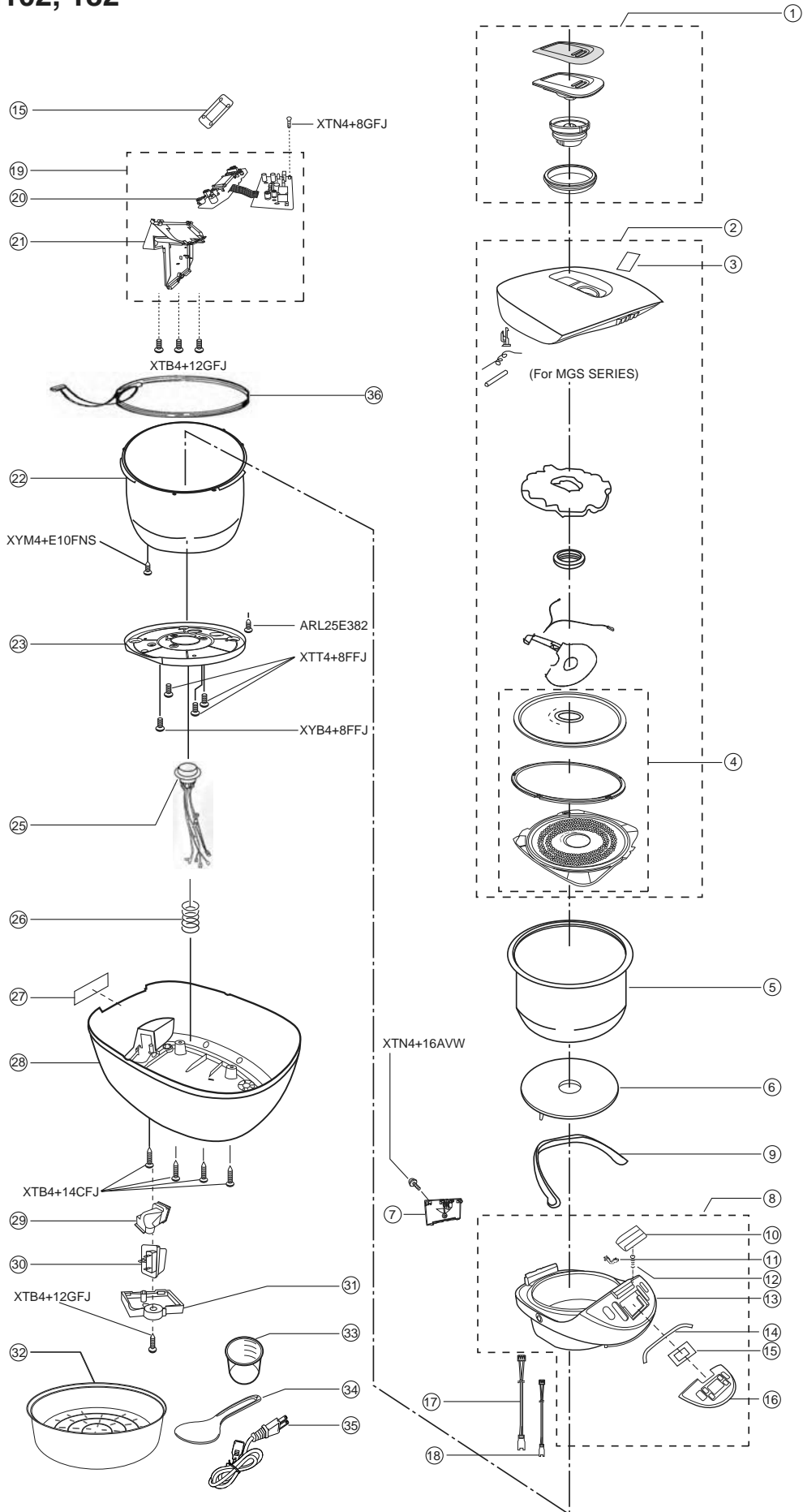
# 11. Replacing of Pan Sensor and Thermal Fuse

1	<p><b>Remove the cast heater</b></p> <ul style="list-style-type: none"> <li>Remove the cast heater in referring to replacing of cast heater.</li> </ul>
2	<p><b>Remove the pan sensor</b></p> <ul style="list-style-type: none"> <li>Upright the tabs (3 places) as shown in the right figure, then take out the pan sensor.</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>Do not deform the spring when removing.</li> </ul>
3	<p><b>Replacing of thermal fuse</b></p> <ul style="list-style-type: none"> <li>The procedure of replacing of pan sensor is actually a procedure of replacing of thermal fuse A/B, for they both fixed inside of pan sensor.</li> </ul>
4	<p><b>Reassembly</b></p> <ul style="list-style-type: none"> <li>Please reassemble the pan sensor in reverse to disassembly.</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>Do not deform the spring when assembling.</li> <li>Do not slant the spring when assembling.</li> <li>Check the direction of pan sensor.</li> </ul>



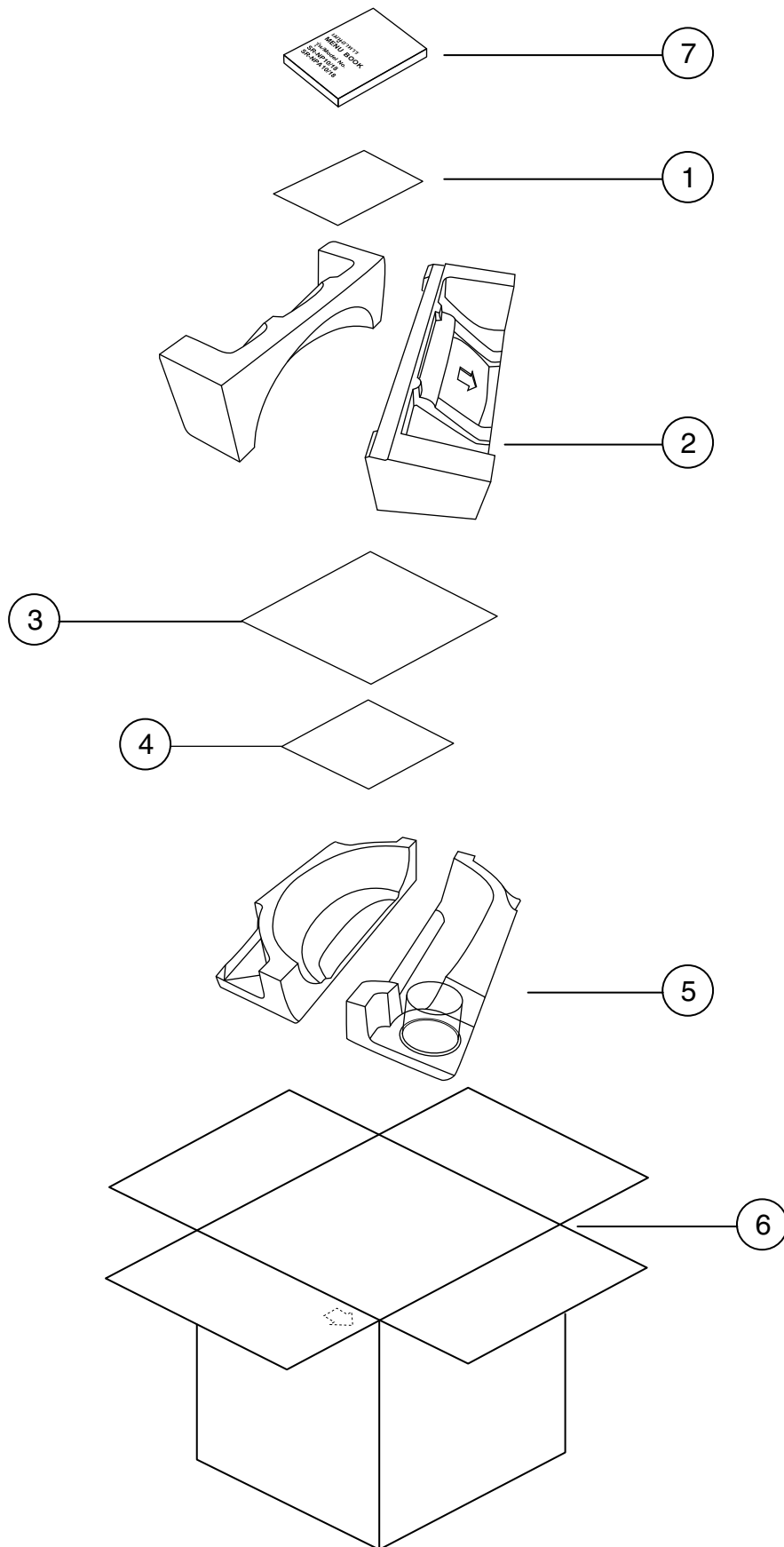
# 12. Exploded View

## SR-MG102, 182





# 13. Packing View



# REPLACEMENT PARTS LIST

## Important safety notice :

Components identified by mark have special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified parts.

## Parts List

Ref. No.	Safety	Part name	Part No.	Model		Country / Q'ty					Remark
				MG102	MG182	THAILAND	SIN-RBD	INDONESIA	SIN-DBD	MALAYSIA	
1		STEAM VENT ASSY	ARC00EB08L7U	●	●	1	1	1	1	1	
2		OUTER LID ASSY	ARB01T974W9U	●		1					
			ARB01S974W9U	●					1	1	
			ARB01T973W9U		●	1	1				
			ARB01S973W9U		●				1	1	1
3	⚠	CAUTION LABEL	ARB32T9731	●	●	1					LANGUAGE: ENGLISH / THAI
			ARB32S973	●	●		1		1	1	LANGUAGE: ENGLISH
			ARB32L973	●	●			1			LANGUAGE: INDONESIAN
4		INNER LID ASSY	ARC80H962-0U	●		1			1	1	
			ARC80H961-0U		●	1	1	1	1	1	
5		PAN	ARE50H962	●		1			1	1	
			ARE50H961		●	1	1	1	1	1	
6	⚠	CAST HEATER ASSY	ARL20T962-0U	●		1					
			ARL20S962-0U	●					1		
			ARL20M964-0U	●							1
			ARL20T961-0U		●	1	1	1			
			ARL20S961-0U		●					1	
			ARL20M965-0U		●						1
7		HINGE COVER	ARE40T961-W9	●	●	1	1	1	1	1	
8		UPPER FRAME ASSY	ARE00T9621WU	●		1			1	1	
			ARE00T9611WU		●	1	1	1	1	1	
9		HANDLE	ARB10T962-W9	●		1			1	1	
			ARB10T961-W9		●	1	1	1	1	1	
10		HOOK BUTTON	ARE05EB10-SJ	●	●	1	1	1	1	1	
11		HOOK BUTTON SHAFT	ARE07EA241TW	●	●	1	1	1	1	1	
12		HOOK SPRING	ARE06EA29	●	●	1	1	1	1	1	
13		UPPER FRAME	ARE00T9621W9	●		1			1	1	
			ARE00T9611W9		●	1	1	1	1	1	
14		ESCUTCHEON SEAL	ARN34T962	●		1			1	1	
			ARN34T961		●	1	1	1	1	1	
15		DECORATIVE PANEL B	ARN24A972-DE	●	●	1	1	1	1	1	
16		ESCUTCHEON ASSY	ARN11T974AVU	●		1			1	1	
			ARN11T973AVU		●	1	1	1	1	1	
17		LEAD WIRE A ASSY	ARN97T962-0U	●		1			1	1	
			ARN97T961-0U		●	1	1	1	1	1	
18		LEAD WIRE B ASSY	ARN98T962-0U	●		1			1	1	
			ARN98T961-0U		●	1	1	1	1	1	
19	⚠	CONTROL UNIT COMPLETE	ARH01T974-0U	●		1			1	1	
			ARH01T973-0U		●	1	1		1	1	
			ARH01L973-0U		●			1			
20	⚠	CONTROL UNIT	ARR30T974	●		1			1	1	
			ARR30T973		●	1	1		1	1	
			ARR30L973		●			1			
21		PCB BASE	ARH01T961	●	●	1	1	1	1	1	
22		PROTECTING FRAME	ARE20T962	●		1			1	1	
			ARE20T9201		●	1	1	1	1	1	
23		HEAT PROTECTING FRAME	ARE31T962	●		1			1	1	
			ARE31T961		●	1	1	1	1	1	
25	⚠	THERMOSTAT ASSY	ARS10T962-0U	●		1					
			ARS10H962-0U	●					1	1	
			ARS10T961-0U		●	1					
			ARS10H961-0U		●		1	1	1	1	
26		OUTER SPRING	AQS61T2701	●	●	1	1	1	1	1	

## Parts List

Ref. No.	Safety	Part name	Part No.	Model		Country / Q'ty					Remark		
				MG102	MG182	THAILAND	SIN-RBD	INDONESIA	SIN-DBD	MALAYSIA			
27	△	NAME PLATE	ARY30T974	●		1							
			ARY30S974-W9	●					1				
			ARY30M974-W9	●							1		
			ARY30T973		●	1							
			ARY30V973-W9		●		1						
			ARY30L973-W9		●				1				
			ARY30S973-W9		●					1			
			ARY30M973-W9		●							1	
28		BODY	ARE10T962-W9	●		1			1	1			
			ARE10T961-W9		●	1	1	1	1	1			
29		INLET PLATE	ARF27T961-W9	●	●	1	1	1	1	1			
30	△	INLET	ARG10T92010U	●	●	1	1	1	1	1			
31		INLET COVER	ARF26T961	●	●	1	1	1	1	1			
32		STEAMING BASKET	ARK53H617-W9	●		1			1	1			
			ARK57H6161W9		●	1	1	1	1	1			
33		MEASURING CUP	ASR792-454BK	●	●	1	1	1	1	1			
34		SCOOP	ASR79WT281AK	●	●	1	1	1	1	1			
35	△	POWER CORD ASSY	ARQ00T959-0U	●	●	1						TYPE : C-3	
			ARQ00T920-0U		●		1	1					TYPE : SH-3
			ARQ00M961-0U	●	●					1	1		TYPE : S-3
36	△	SIDE HEATER ASSY	ARL10H962-0U	●		1			1	1			
			ARL10H961-0U		●	1	1	1	1	1			

## SCREWS

Ref. No.	Safety	Part name	Part No.	Model		Country / Q'ty					Remark
				MG102	MG182	THAILAND	SIN-RBD	INDONESIA	SIN-DBD	MALAYSIA	
		TAPPING SCREW	XTB4+12GFJ	●	●	3	3	3	3	3	FOR CONTROL UNIT
		TAPPING SCREW	XTB4+12GFJ	●	●	1	1	1	1	1	FOR INLET COVER
		TAPPING SCREW	XTB4+14CFJ	●	●	4	4	4	4	4	FOR BODY
		TAPPING SCREW	XTT4+8FFJ	●	●	3	3	3	3	3	FOR HEAT PROTECTING FRAME
		TAPPING SCREW	XTN4+16AVW	●	●	1	1	1	1	1	FOR HINGE COVER
		SEMS SCREW	XYN4+C10FNS	●	●	1	1	1	1	1	FOR CAST HEATER ASSY
		SEMS SCREW	XYN4+C7FNS	●	●	2	2	2	2	2	FOR INTERNAL WIRING
		TAPPING SCREW	ASR270-977AZ	●	●	1	1	1	1	1	FOR PCB BASE

## PACKING

Ref. No.	Safety	Part name	Part No.	Model		Country / Q'ty					Remark	
				MG102	MG182	THAILAND	SIN-RBD	INDONESIA	SIN-DBD	MALAYSIA		
1	△	OPERATING INSTRUCTION	ARZ19T973	●	●	1						FOR THAI, ENGLISH
			ARZ19V973		●		1					FOR ENGLISH, VIETNAMESE
			ARZ19L973		●			1				FOR INDONESIAN
			ARZ19S973	●	●				1			FOR ENGLISH, CHINESE
			ARZ19M973	●	●						1	FOR ENGLISH, CHINESE, MALAY
2		UPPER PAD ASSY	ARZ04T96200U	●		1			1	1		
			ARZ04T96100U		●	1	1	1	1	1		
3		POLYETHYLENE SHEET	ASR762T929-K	●	●	1	1	1	1	1		
4		RUST PROOF PAPER	ASR758T344B	●	●	1	1	1	1	1		
5		LOWER PAD ASSY	ARZ11T96200U	●		1			1	1		
			ARZ11T96100U		●	1	1	1	1	1		
6	△	INNER PACKING CASE	ARZ01T974-W9	●		1						
			ARZ01S974-W9	●					1			
			ARZ01M974-W9	●							1	
			ARZ01T973-W9		●	1						
			ARZ01V973-W9		●		1					
			ARZ01L973-W9		●			1				
			ARZ01S973-W9		●				1			
			ARZ01M973-W9		●						1	
7		MENU BOOK	ARZ20T973	●	●	1						LANGUAGE: THAI
			ARZ20S9613		●		1					LANGUAGE: ENGLISH, CHINESE, VIETNAMESE
			ARZ20L973		●			1				LANGUAGE: INDONESIAN
			ARZ20S973	●	●				1	1		LANGUAGE: ENGLISH, CHINESE, MALAY