

MANUFACTURING
NUMBERS:

9100930



Antunes Foodservice Equipment

DIVISION OF A.J. ANTUNES & CO.

A BRAND OF A.J. ANTUNES & CO.

roundup
ANTUNES FOODSERVICE EQUIPMENT

MINI SPATULA

STEAMER

Model MSS-200



P/N 1010903 Rev. A 09/05



Owner's Manual

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OWNER INFORMATION

General

The MSS-200 Mini Spatula Steamer produces steam using plain tap water for quick steaming of products. Simple push button action delivers a consistent impulse of steam, producing a uniform finished product from one operator to the next.

This manual provides the safety, installation, and operating procedures for the Mini Spatula Steamer. We recommend that all information contained in this manual be read prior to installing and operating the unit.

Your Mini Spatula Steamer is manufactured from the finest materials available and is assembled to Roundup's strict quality standards. This unit has been tested at the factory to ensure dependable trouble-free operation.

Warranty Information

Please read the full text of the Limited Warranty in this manual.

If the unit arrives damaged, contact the carrier immediately and file a damage claim with them. Save all packing materials when filing a claim. Freight damage claims are the responsibility of the purchaser and **are not** covered under warranty.

Service/Technical Assistance

If you experience any problems with the installation or operation of your unit, contact your local Roundup Authorized Service Agency. They can be found in the service agency directory packaged with the equipment.

You may also contact the factory at **1-877-392-7854 (toll free in the U.S. and Canada)** or **1-630-784-1000** if you have trouble locating your local Authorized Service Agency.

Fill in the information below and have it handy when calling your authorized service agency for assistance. The serial number is on the specification plate located on the rear of the unit.

Purchased From: _____

Date of Purchase: _____

Model No.: _____

Serial No.: _____

Mfg. No.: _____

Refer to the service agency directory and fill in the information below:

Authorized Service Agency

Name: _____

Phone No.: _____

Address: _____

Use only genuine Roundup replacement parts in this unit. Use of replacement parts other than those supplied by the manufacturer will void the warranty. Your Authorized Service Agency has been factory trained and has a complete supply of parts for this unit.

IMPORTANT! Keep these instructions for future reference. If the unit changes ownership, be sure this manual accompanies the equipment.

IMPORTANT SAFETY INFORMATION

Throughout this manual, you will find the following safety words and symbols that signify important safety issues with regards to operating or maintaining the Miracle Steamer.

 WARNING 

GENERAL WARNING. Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

 CAUTION 

GENERAL CAUTION. Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment.

 WARNING 

ELECTRICAL WARNING. Indicates information relating to possible shock hazard. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

 WARNING 

HOT SURFACE WARNING. Indicates information important to the handling of equipment and parts. Failure to observe caution could result in personal injury.

IMPORTANT SAFETY INFORMATION (continued)

In addition to the warnings and cautions in this manual, use the following guidelines for safe operation of the unit.

- Read all instructions before using equipment.
- For your safety, the equipment is furnished with a properly grounded cord connector. Do not attempt to defeat the grounded connector.
- Install or locate the equipment only for its intended use as described in this manual. Do not use corrosive chemicals in this equipment.
- Do not operate this equipment if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.
- This equipment should be serviced by qualified personnel only. Contact the nearest Roundup authorized service facility for adjustment or repair.
- Do not block or cover any openings on the unit.
- Do not immerse cord or plug in water.
- Keep cord away from heated surfaces.
- Do not allow cord to hang over edge of table or counter.

The following warnings and cautions appear throughout this manual and should be carefully observed.

- Turn the unit off, disconnect the power source and allow unit to cool down before performing any service or maintenance on the unit.
- The equipment should be grounded according to local electrical codes to prevent the possibility of electrical shock. It requires a grounded receptacle with separate electrical lines, protected by fuses or circuit breaker of the proper rating.
- All electrical connections must be in accordance with local electrical codes and any other applicable codes.
- **WARNING ELECTRICAL SHOCK HAZARD. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.**
 - Electrical ground is required on this appliance.
 - Do not modify the power supply cord plug. If it does not fit the outlet, have a proper outlet installed by a qualified electrician.
 - Do not use an extension cord with this appliance.

- Check with a qualified electrician if you are in doubt as to whether the appliance is properly grounded.
- This equipment is to be installed to comply with the basic plumbing code of the Building Officials and Code Administrators, Inc. (BOCA) and the Food Service Sanitation Manual of the Food and Drug Administration (FDA).
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent, or a similarly qualified person.
- Do not clean this appliance with a water jet.
- Do not use a sanitizing solution or abrasive materials. The use of these may cause damage to the stainless steel finish.
- To ensure proper steaming characteristics, some mineral deposits must be present on generator surface. If, during cleaning, the surface does become free of mineral deposits, one approved method is to add plain tap water to the generator surface and allow it to boil off. This will ensure proper steaming characteristics by creating a thin layer of mineral deposits on the casting.
- Chlorides or phosphates in cleansing agents (e.g. bleach, sanitizers, degreasers or detergents) could cause permanent damage to stainless steel equipment. The damage is usually in the form of discoloration, dulling of metal surface finish, pits, voids, holes or cracks. This damage is permanent and not covered by warranty.

NOTE: This may require repeating several times.

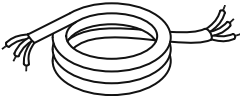
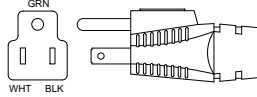
- The following tips are recommended for maintenance of your stainless steel equipment,
 - Always use soft, damp cloth for cleaning, rinse with clear water and wipe dry. When required, always rub in direction of metal polish lines.
 - Routine cleaning should be done daily using soap, and water.
 - Stains and spots should be sponged using a vinegar solution as required.
 - Finger marks and smears should be rubbed off using soap and water.
 - Hard water spots should be sponged using a vinegar solution.

SPECIFICATIONS

Electrical Ratings

Model & Mfg. No	Voltage	Watts	Amps	Hertz
MSS-200 9100930	120	1800	15.0	50/60

Electrical Cord & Plug Configurations

Letter Code*	Description	Configuration
C	Commercial Cord	
(C)F	5-15P, 15 Amp., 120 VAC., Non – Locking.	

* Used in Model Designation

⚠ CAUTION ⚠

The Mini Spatula Steamer uses a direct water line. Water pressure coming into the unit must be set to 7 to 9 psi using a Water Pressure Regulator.

Model Designation

MSS-200XX

TYPE OF POWER CORD

C = COMMERCIAL

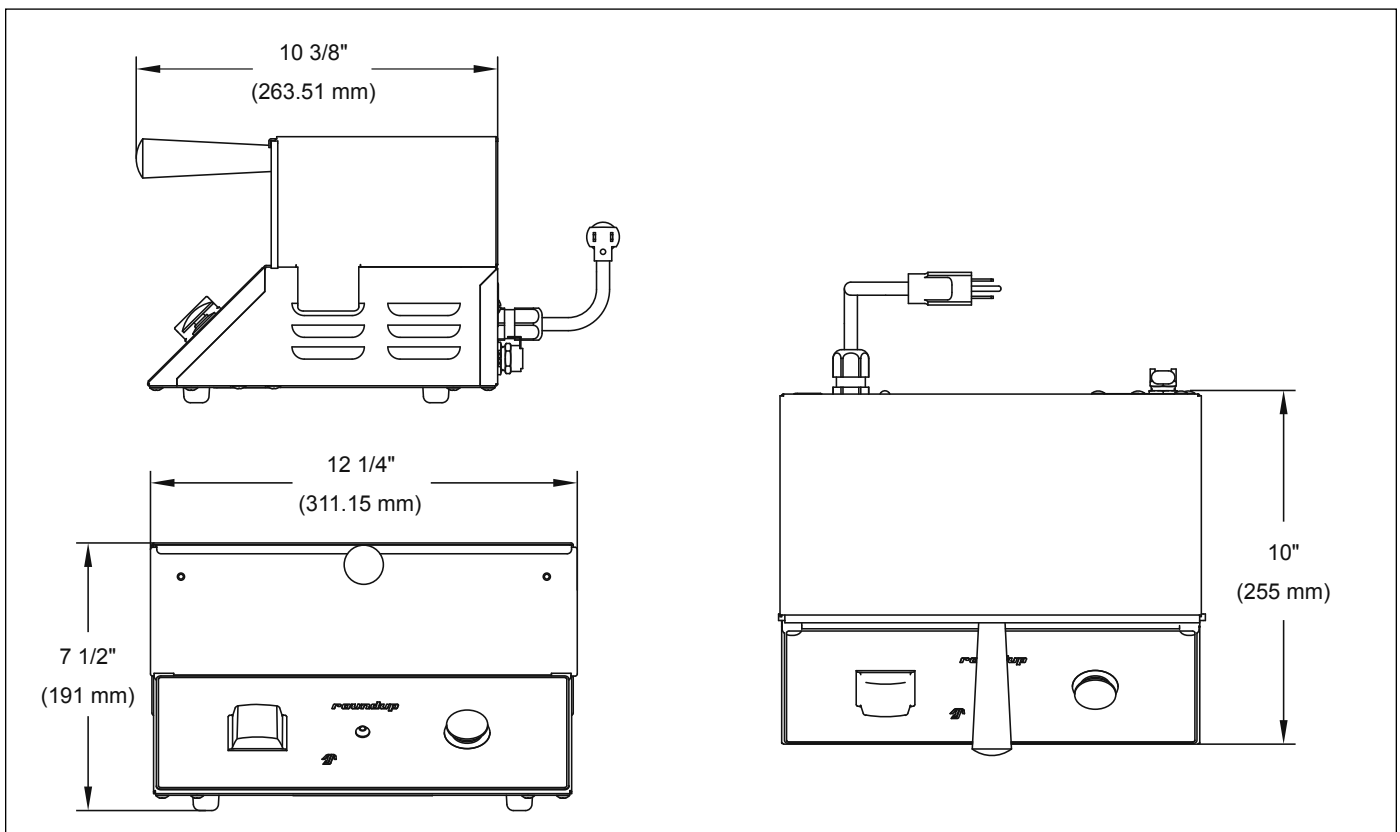
TYPE OF PLUG

F = NEMA 5-15P

⚠ CAUTION ⚠

Be sure to observe all warnings, cautions and procedures listed in the Important Safety Information section of this manual.

Dimensions



INSTALLATION

Unpacking

1. Remove unit and all packing materials from shipping carton.
2. Open the carton. It should contain the following:
 - MSS-200 Mini Spatula Steamer
 - Water Pressure Regulator Kit
 - Owner's Manual

NOTE: If any parts are missing or damaged, contact A.J. Antunes & Co. at 1-800-253-2991 or 1-630-784-1000.

3. Remove all packing materials and protective coverings from the unit.
4. Remove the Spatula, Top Cover, and Diffuser and wipe them with a clean towel dampened with sanitizer. Allow them to air dry.
5. Wipe all surfaces of the unit with a clean towel dampened with sanitizer and allow to air dry.
6. Re-install all removed parts and verify that all parts are present.

Equipment Setup

GENERAL

The MSS-200 Mini Spatula Steamer is designed to heat products using steam. Products are placed on the spatula, which is then inserted into the unit. When the Steam button is pressed, a shot of steam heats the product evenly.

MINI SPATULA STEAMER SETUP

When placing the Mini Spatula Steamer (Figure 1) into service, pay attention to the following guidelines:

- Do not block or cover any openings on the units.
 - Do not immerse cords or plugs in water.
 - Keep cords away from heated surfaces.
 - Do not allow cords to hang over edge of table or counter.
3. Connect the outlet hose/fitting from the Dual Water Regulator Kit to the Water Inlet Connection at the rear of the unit (Figure 2).
 4. Plug the power cord into the appropriate outlet.
 5. Verify that the Rotary Switches on the back of the unit (Figure 2) are pre-set to:
 - Temp Rotor Switch - 0
 - Cycle Rotor Switch - 0
 - Shot Rotor Switch - 9

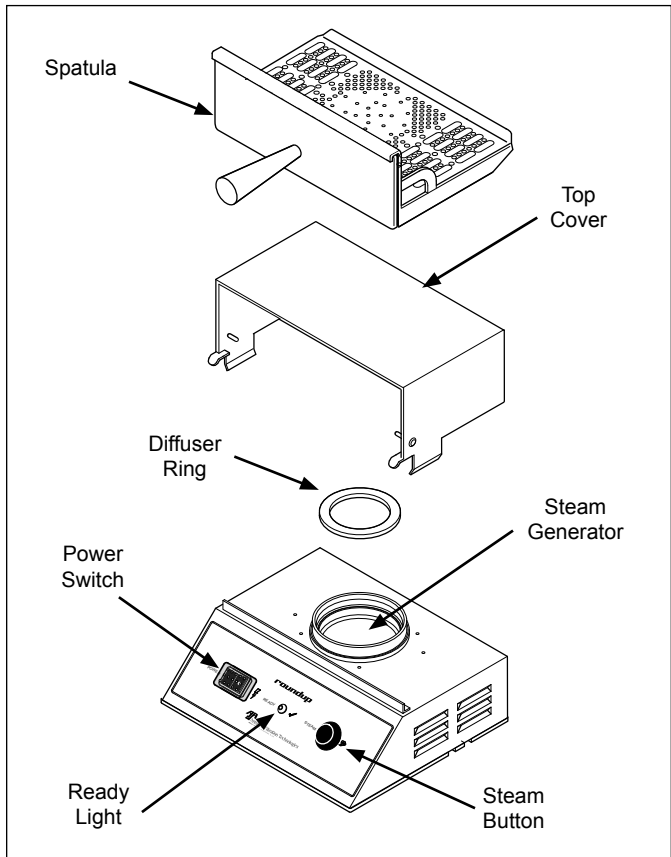


Figure 1. MSS-200 Mini Spatula Steamer

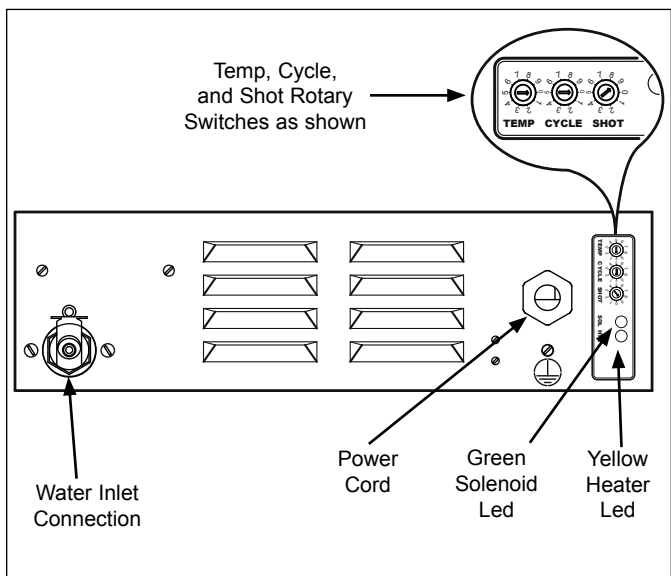


Figure 2. MSS-200 Mini Spatula Steamer (Back View)

INSTALLATION (continued)

Installing the Dual Water Pressure Regulator

The Dual Water Pressure Regulator (Figure 3) can be installed in any of the following ways:

- On a vertical surface (Figure 4)
- On a horizontal surface (Figure 4)
- Free-Standing (not mounted) (Figure 4)

When mounting the Dual Water Pressure Regulator onto a fixed horizontal or vertical surface, you must use the mounting screws provided with the kit. These screws are self-tapping and require a 0.125" inch hole for mounting.

A free-standing mounting does not require use of the mounting screws.

⚠ WARNING ⚠

DO NOT mount the Dual Water Pressure Regulator over an electrical outlet or any other appliance or area that may be damaged by water or that may cause personal injury.

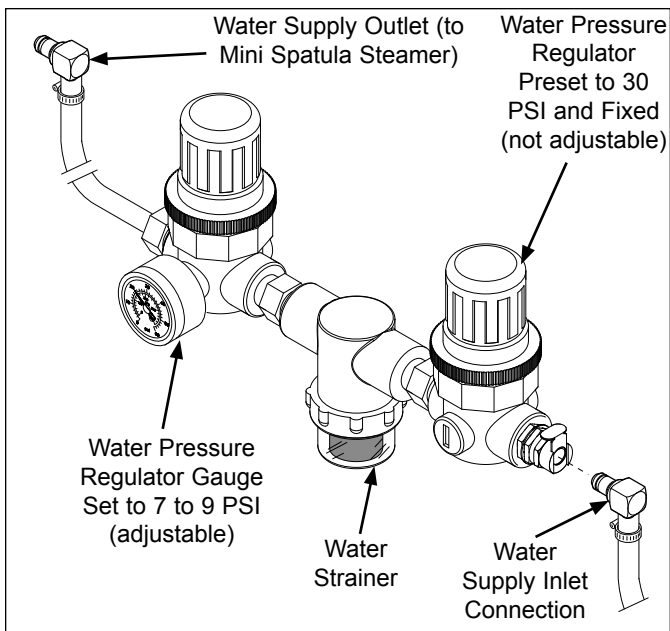


Figure 3. Dual Water Pressure Regulator

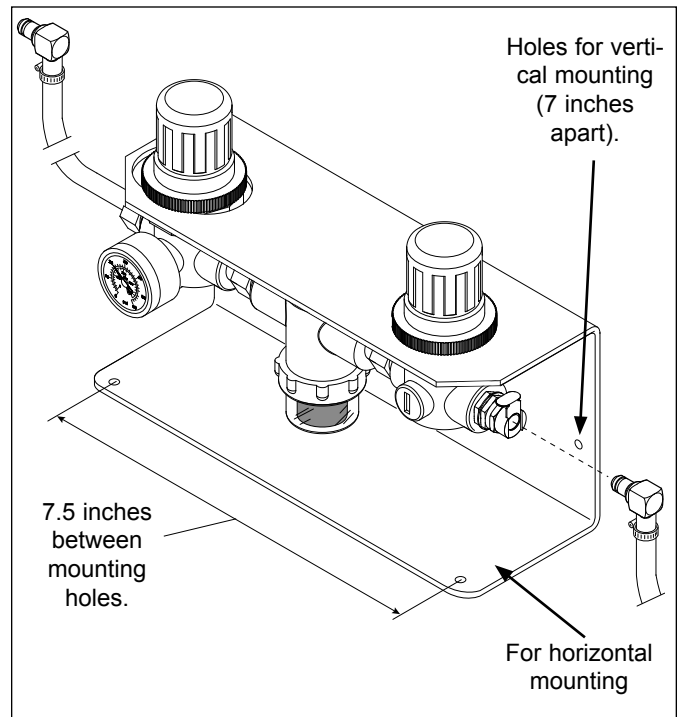


Figure 4. Mounting Options

Checking and Cleaning the Water Strainer

The Water Strainer protects your equipment from any foreign debris in the water line that could get into the food and damage the unit's solenoid (causing the unit to leak or flood), It protects from interference with the equipment's proper and consistent operation

To ensure proper and consistent steaming results, check the water pressure regulator gauge and strainer cup regularly. If the pressure on the gauge has dropped, check the clear, plastic strainer "cup" and clean out the accumulated debris as follows.

1. Press the Release Tab and remove the Quick Disconnect Fitting #2 (Figure 5). Unscrew the clear, plastic strainer "cup" and carefully remove the mesh strainer screen (Figure 5).

NOTE: Some water may drip out from the Quick Disconnect fitting and Strainer Cup.

2. At the sink, gently flush all of the accumulated debris from the strainer cup and mesh strainer. Be especially careful not to damage the mesh strainer screen.

INSTALLATION (continued)

3. Carefully place the mesh strainer screen into its seat at the bottom of the clear, plastic cup and confirm that the orange O-ring is properly seated in its place before screwing the strainer cup and top back together.
4. Reinstall the Quick Disconnect until a “click” is heard.
5. Cycle the steamer several times. This ensures the air is purged from the Water Line.
6. Replace damaged or worn parts as needed.
7. Verify that the Water Pressure Regulator Gauge is set to 7 - 9 PSI (.4 - .6 kg/cm² or 48 - 62 kPa).

Adjusting the Water Pressure Regulator

The Dual Water Pressure Regulator uses a fixed regulator and an adjustable regulator (Figure 5). The adjustable regulator must be set between 7 - 9 PSI (0.4 - 0.6 kg/cm² or 48 - 62 kPa). Follow these steps to adjust this regulator:

1. Make sure that the inlet water valve is on.
2. Over a bucket, press and hold the white plastic tip on the Quick Disconnect #1 (Figure 5 until good, steady water flow is noted (this will purge all air out of the line). Release and note the pressure on the Water Pressure Regulator gauge. It should read 7-9 PSI. If it reads more or less, adjust the pressure by pulling the black knob upwards and turning it clockwise to increase or counter-clockwise to decrease the water pressure. Push the knob down to lock it in place.

NOTE: When adjusting the knob, you must relieve the existing pressure by pressing the white plastic tip on the Quick Disconnect Insert for 3 seconds. This allows the newly set pressure to register on the gauge. Repeat this until the gauge reads 7-9 PSI.

3. Re-install the Quick Disconnect until it “clicks” into place and test the unit. Re-adjust the regulator as needed.

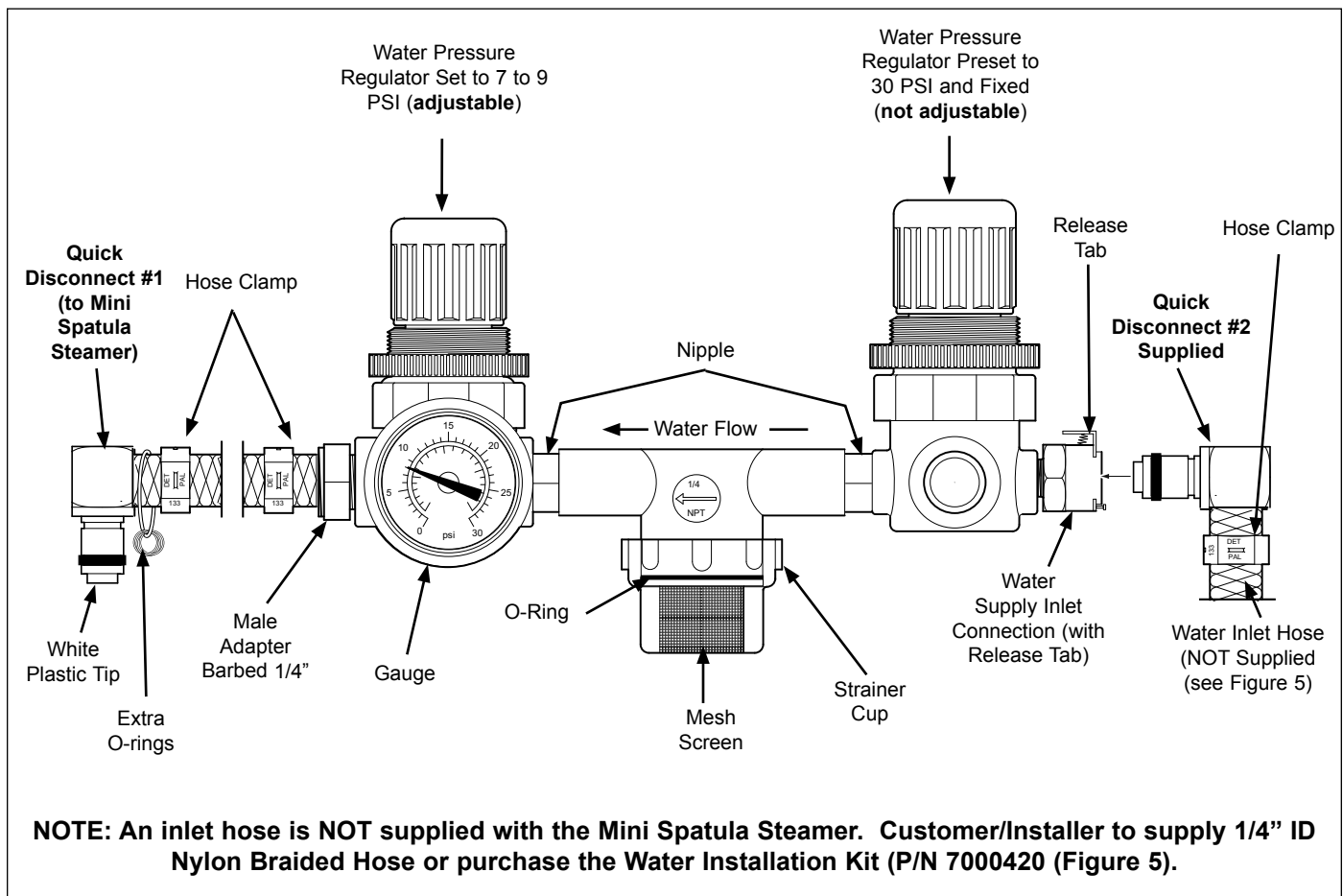


Figure 5. Dual Water Pressure Regulator

INSTALLATION (continued)

Installing the Optional Water Installation Kit

The optional Water Installation Kit (Figure 6) is used in conjunction with the Dual Water Pressure Regulator for the MSS-200 Spatula Steamer.

It allows you to easily connect your existing water supply to the inlet side of the Dual Water Pressure Regulator (Figure 7). It is equipped with quick disconnect attachments for easy installation and also has a water shut-off valve for maintenance (Figure 7).

To install, follow these steps:

1. Make sure that the Water Shut-off Valve is closed.
2. Attach the T-Fitting to your existing water supply.

NOTE: The T-Fitting is for 1/4" O.D. Tubing

3. Attach the Quick Disconnect fitting to the inlet connection of the Dual Water Pressure Regulator.

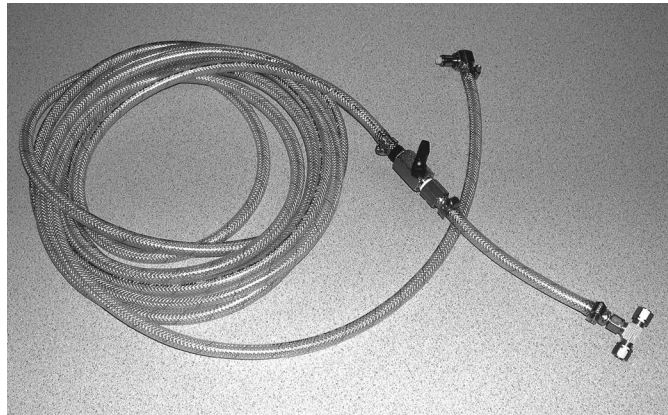


Figure 6. Water Installation Kit

⚠ WARNING ⚠

Make sure that the water hoses are not kinked or bent. This could result in poor steaming performance.

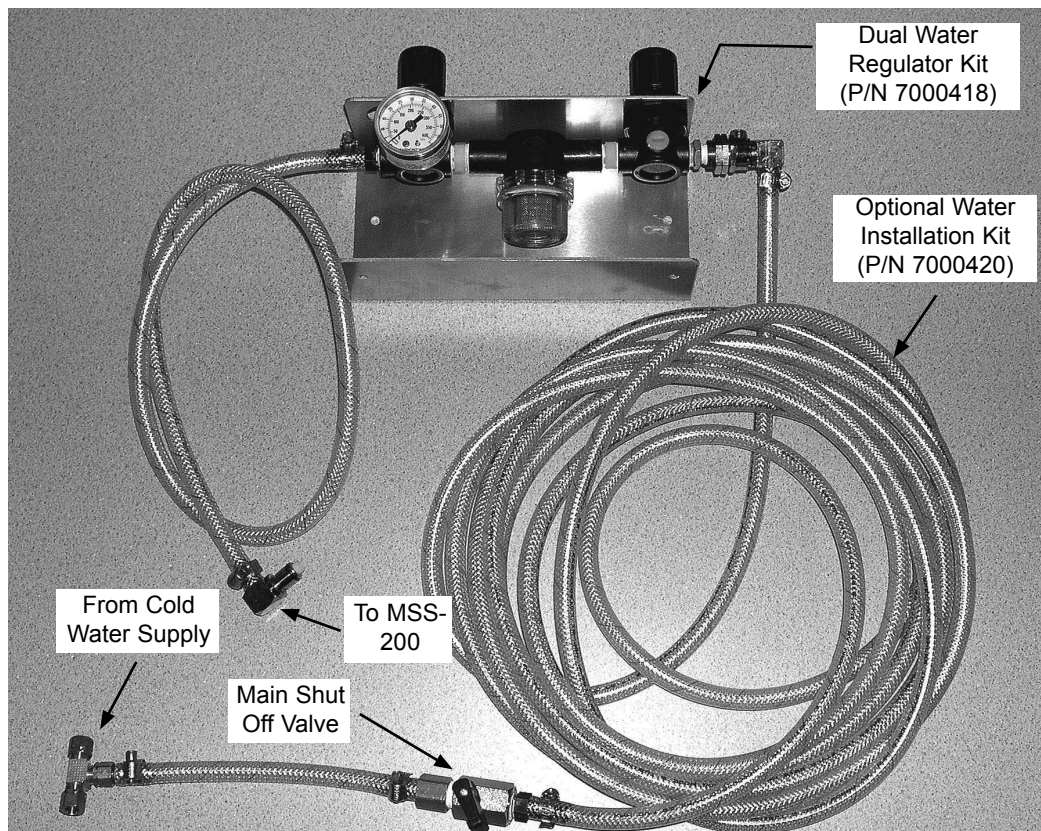


Figure 7. Dual Water Regulator Kit (P/N 7000418) with optional Water Installation Kit (P/N 7000420)

OPERATION

Operating Instructions

1. Turn the Rocker Switch (power On/Off) to ON.
2. Allow the unit to preheat for a few minutes. The yellow HTR (heater) LED, located on the back of the unit, will illuminate during the time that the heating element is heating up. When the unit is ready for operation, the blue Ready light on the front of the unit will turn on and remain lit.

NOTE: Do NOT press the Steam button or use the steamer until it has warmed up and the Blue Ready LED is ON.

3. Remove the Spatula and evenly distribute the product onto the Spatula.
4. Insert the spatula into the steamer and press and release the Steam button ONCE (Figure 1). The Mini Spatula Steamer will initiate a shot of steam.
4. The Blue LED will turn off during the steam cycle.
5. When the blue LED turns on, remove the Spatula from the unit and then remove the product from the Spatula.
6. The unit is ready for another cycle.

Rotary Switch Settings

At the back of the MSS-200 unit are three Rotary Switches: Temp, Cycle, and Shot (Figure 8).

- **Temp Rotary Switch: Sets the operating temperature of the unit.**
- **Cycle Rotary Switch: Sets the length of a steam cycle in seconds.**
- **Shot Rotary Switch: Sets the amount of water volume used in each cycle of operation. The standard settings and other possible settings are listed in Table 1.**

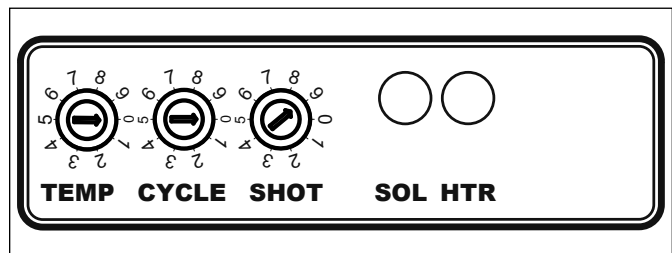


Figure 8. Rotary Switch Settings.

Setting	Temperature in Fahrenheit	Cycle time in seconds	Shot time in secnds
0	375*	10.0*	1.0
9	370	9.0	0.9*
8	365	8.0	0.8
7	360	7.0	0.7
6	355	6.0	0.6
5	350	5.0	0.5
4	345	4.0	0.4
3	340	3.0	0.3
2	355	2.0	0.2
1	330	1.0	0.1

* These are the Standard Settings for the MSS-200.

Table 1. Rotary Switch Setting Table.

MAINTENANCE

Daily

1. Turn the Rocker Switch (power On/Off) to OFF. Unplug the power cord and allow the unit to cool down before proceeding.
2. Check the Water Pressure Regulator gauge and verify that it reads 7- 9 PSI (0.4 - 0.6 kg/cm² or 48-62 kPa). If not, adjust the water pressure as described in the Installation section of this manual. Check the rear water Quick Disconnect Fitting and Hose Clamp for leakage. If leakage is apparent, tighten the hose clamp first. If leakage persists, replace the small black O-Ring on the Quick Disconnect.

NOTE: Three (3) spare O-Rings are attached to the Quick Disconnect #1 (Figure 5). Additional O-Rings can be obtained by ordering part number 020P117 (10 pack).

3. Remove the Spatula, Top Cover, and Diffuser. (Figure 9).

NOTE: To remove the Top Cover, carefully bend one side so that the cover slot releases from the vent. Do not bend the cover more than it takes to remove it

4. Wash these items in hot, soapy water and then rinse and **WIPE DRY**.
5. Wipe down the entire exterior of the unit (Figure 5) with a clean, hot, damp cloth (not dripping wet) and wipe dry.
6. Reinstall the Diffuser, Top Cover, and Spatula.

NOTE: Failure to properly clean and dry the above mentioned items prior to reassembly may result in the accumulation of water/moisture overnight. This may lead to permanent damage of the equipment's finish and its accessories. This damage is not covered by warranty.

Monthly

The MSS-200 Mini Spatula Steamer utilizes an open steam generator. Water sprayed onto the generator surface flashes into steam immediately, but the minerals in the water do not steam, they stay on the generator surface.

A small amount of calcium/mineral deposits are needed for proper operation, but a build-up of excessive calcium/mineral deposits causes poor steaming efficiency, excessive moisture (wet steam) and will eventually severely retard the steaming action completely.

CLEANING STEAM GENERATOR

1. Turn the unit off and unplug the power cord. Allow the unit to cool down before proceeding.
2. Perform the Daily cleaning, but **DO NOT** reassemble the unit
4. With the unit cool, use a wire brush and/or scraper to loosen and remove the excessive calcium/mineral deposits from the generator surface (Figure 5). Remove the loose build up, wipe the generator with a clean, damp cloth.

NOTE: If deposits are still excessive and/or difficult to remove, refer to Steps 5 and 9.

⚠ CAUTION ⚠

If a chemical cleaner/delimer is used, be sure it is safe to use on cast aluminum. Observe all precautions and warnings on the product label.

5. Pour delimer solution (not supplied) onto the generator surface. Follow the delimer manufacturer's instructions for proper mixture and use.
6. Using a sponge or a dry towel, remove the delimer solution from the generator surface, then rinse with clean water.

NOTE: To ensure proper steaming characteristics, some calcium/mineral deposits must be present on the generator surface. If, during cleaning, the surface does become free of calcium/mineral deposits, add plain tap water to the surface and allow it to boil off. If necessary, repeat this process to formulate a thin coating of calcium/mineral deposits.

NOTE: In soft water areas, it may be necessary to add a small amount of lime to the generator to "season" it. This will ensure proper steaming characteristics by producing a thin coating of calcium/mineral deposits on the generator surface.

Seasoning mixture consists of 3/4 ounces (25ml/25cc) baking soda, 3/4 ounces (25ml/25cc) lime mixed with 1 quart (950ml/950cc) of water. Stir mixture and pour 1/4" deep onto the hot generator surface. After mixture is converted to steam, the remaining loose power can be removed.

7. Plug the power cord into the appropriate outlet. Turn the Rocker Switch (power On/Off) to ON. Allow the unit to warm up for about 30 minutes.
8. Cycle the unit several times to operate the steamer. **This purges any remaining delimer residue from the generator surface.**
9. Turn the unit off, reinstall all parts and accessories, and return the unit to service.

MAINTENANCE (continued)

Cleaning the Water Inlet Tube

Sometimes when cleaning the Steam Generator, small particles may be pushed into the Water Inlet Tube causing it to become clogged.

In a clogged state, the unit is unable to spray water into the Steam Generator. Follow these steps to clean the Water Inlet Tube and to restore the unit to proper operating condition:

1. With the unit heated, insert a straightened paper clip **SLIGHTLY** into the Water Inlet Tube opening (Figure 9) and rotate in a circular motion

NOTE: Do NOT shove the paper clip into the tube, otherwise you may further clog the tube.

2. After cleaning the Water Inlet Tube, remove the paper clip and cycle the unit several times to flush out any particles. If the water sprays, the unit is ready for use. If the water does NOT spray, follow Steps 3 through 5.
3. Set the adjustable Water Pressure Regulator (Figure 5) between 20-25 PSI.
4. Next, cycle the unit several times to flush out any particles.
5. Once the water sprays, set the water pressure back to 7-9 PSI.

NOTE: Cycle the Steamer several times while adjusting the water pressure regulator knob until the water pressure gauge reads between 7-9 PSI.

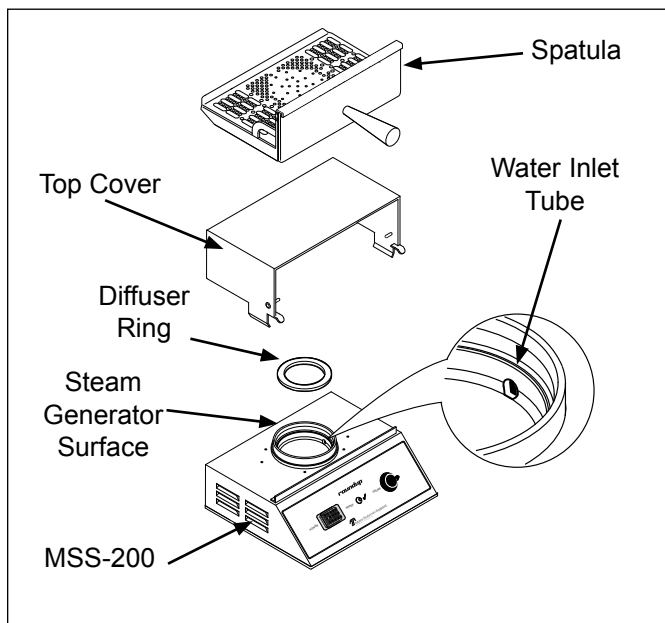


Figure 9. MSS-200 Mini Spatula Steamer

Checking/Cleaning the Water Strainer Monthly

GENERAL

The Water Strainer (Figure 5) protects the unit from any foreign debris in the water line that could get into the food, damage the unit's solenoid (causing the unit to leak or flood), or interfere with the equipment's proper and consistent operation.

To ensure proper and consistent steaming results, visually check the water pressure regulator gauge and strainer cup regularly. If the pressure on the gauge has dropped, visually check the clear plastic strainer "cup" and clean out the accumulated debris as follows.

1. Remove the Quick Disconnect #2 (Figure 5) from the incoming water supply or shut off the water supply valve to the unit. Unscrew the clear plastic strainer "cup" and carefully remove the mesh strainer screen.
2. Take the strainer cup and mesh strainer to the sink and gently flush all the accumulated debris out of them, be especially careful not to damage the mesh strainer screen.
3. Carefully place the mesh strainer screen into its seat at the bottom of the clear plastic cup and verify that the orange O-ring is properly seated in its place before screwing the Strainer cup and top back together.
4. Reinstall the quick disconnect until it "clicks" into place.
5. Purge the air out of the strainer by cycling the unit through several steam cycles.
6. Replace damaged or worn parts as needed.

NOTE: Refer to the Replacement Parts section of this manual for a complete list of parts.

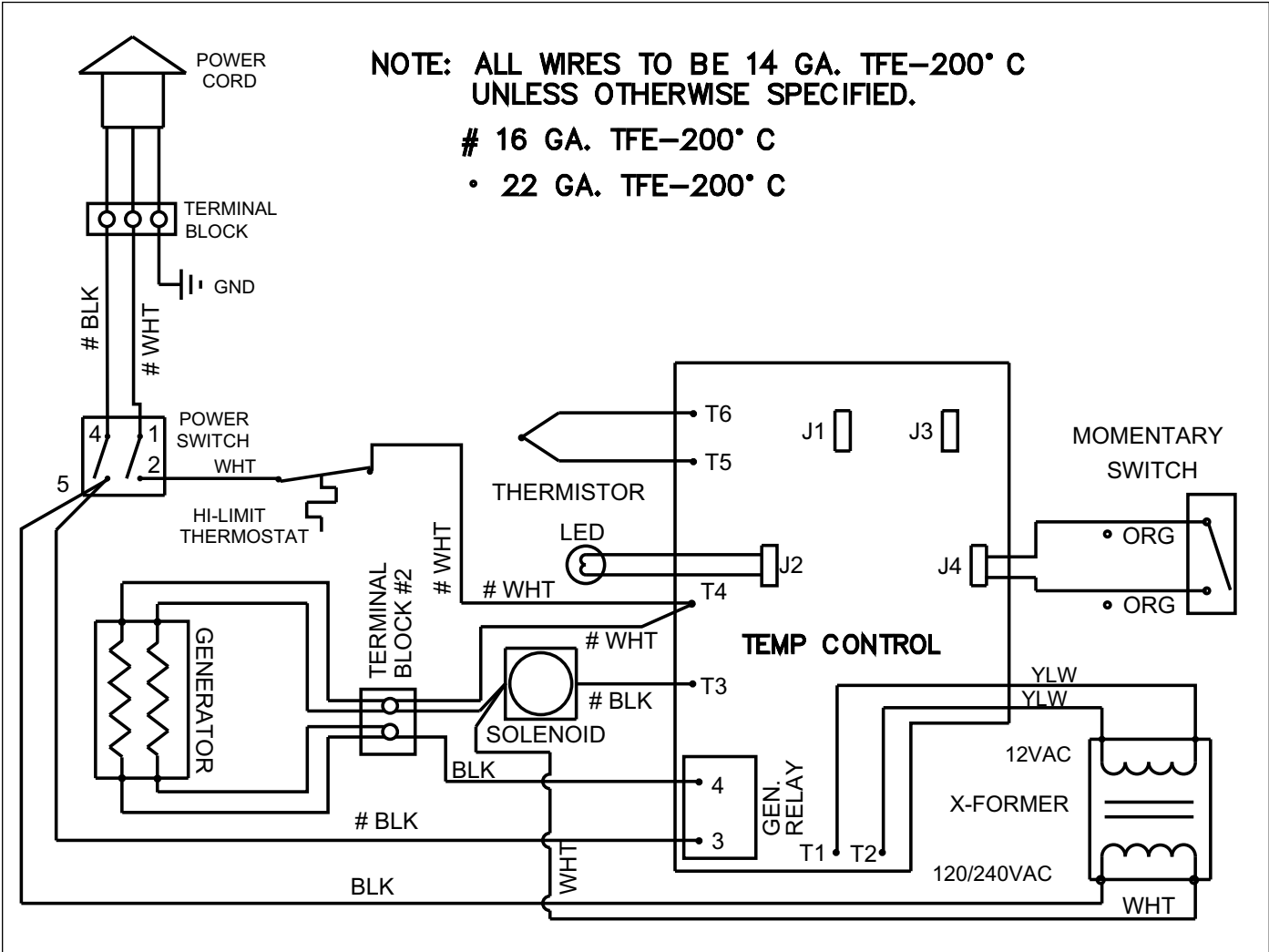
TROUBLESHOOTING

Problem	Possible Cause(s)	Corrective Action
The unit heats up and steams but the rear LEDs do not light up.	Faulty Control Board.	Contact your maintenance person or an Authorized Service Agency for service.
	Disconnected/Loose wiring harness.	
Unit operates, but the front blue ready light intermittently goes blank then comes back on after several minutes. NOTE: The generator surface temperature is in excess of 375° F. The hi-limit will trip at 450-470° F.	The automatic resetting hi-limit is tripping due to the generator overheating.	Contact your maintenance person or an Authorized Service Agency for service.
	Faulty Control board.	
	Faulty thermistor.	
No heat, the front blue ready light is off, and the light on the power switch is "Off"	Power cord not plugged into the appropriate outlet.	Verify that the power cord is plugged into the appropriate outlet.
	Circuit breaker is off or tripped.	Verify circuit breaker is on.
	Faulty power cord.	Contact your maintenance person or an Authorized Service Agency for service.
	Faulty terminal block.	
	Faulty power switch.	
No heat, the front blue ready light is on steady.	Thermistor is shorted.	Contact your maintenance person or an Authorized Service Agency for service.
	Faulty Control Board.	
Blue ready light flashes rapidly.	Thermistor is open.	Contact your maintenance person or an Authorized Service Agency for service.
	Loose, burnt, or broken wiring in heating circuit.	
	One of the two generator heaters is open.	
	Faulty Control Board.	
No heat, the front blue ready light is OFF, but the light on the power switch is ON.	Faulty transformer.	Contact your maintenance person or an Authorized Service Agency for service.
	Faulty Control Board.	
	Loose or broken wiring in circuit.	
The blue ready light repeatedly flashes 1 second on 3 seconds off NOTE: The electrical compartment temperature has exceeded 155° F.	Insufficient ventilation around unit.	Turn unit off and let cool down. If the problem persists, Contact your maintenance person or an Authorized Service Agency for service.
	Faulty Control Board	
The blue ready light intermittently flashes 1 second on 1 second off during normal use. NOTE: The generator surface temperature has dropped below 280° F. Proper operating temperature is 375° F.	Water pressure regulator is improperly set.	Adjust regulator to 7-9 PSI.
	Rotary switches are not correctly set	Set switches to the proper settings shown under the "Equipment Setup" section in the manual.
	One of the two generator heaters is open	Contact your maintenance person or an Authorized Service Agency for service.
	Faulty Control Board.	
The unit is not steaming the product properly and/or the product requires re-steaming.	The Water Pressure Regulator is improperly set.	Adjust regulator to 7-9 PSI. Refer to the section titled "Adjusting the Water Pressure Regulator" in this manual.
	The water regulator strainer screen is clogged.	Clean the strainer according to the Maintenance section of this manual.
	Rotary switches are not correctly set.	Set switches to the proper settings shown in the "Equipment Setup" section of this manual.
	The generator water inlet tube is clogged.	Clean the inlet tube according to the Maintenance section of this manual.
	The generator needs cleaning.	Clean the generator according to the Maintenance section of this manual.
	The unit is not being cleaned as required.	Clean the unit according to the Daily, Weekly, & Monthly cleaning procedures found in the Maintenance section of this manual.
	The generator surface is not hot enough.	Preheat the unit and verify that the generator surface temperature is at least 375° F.

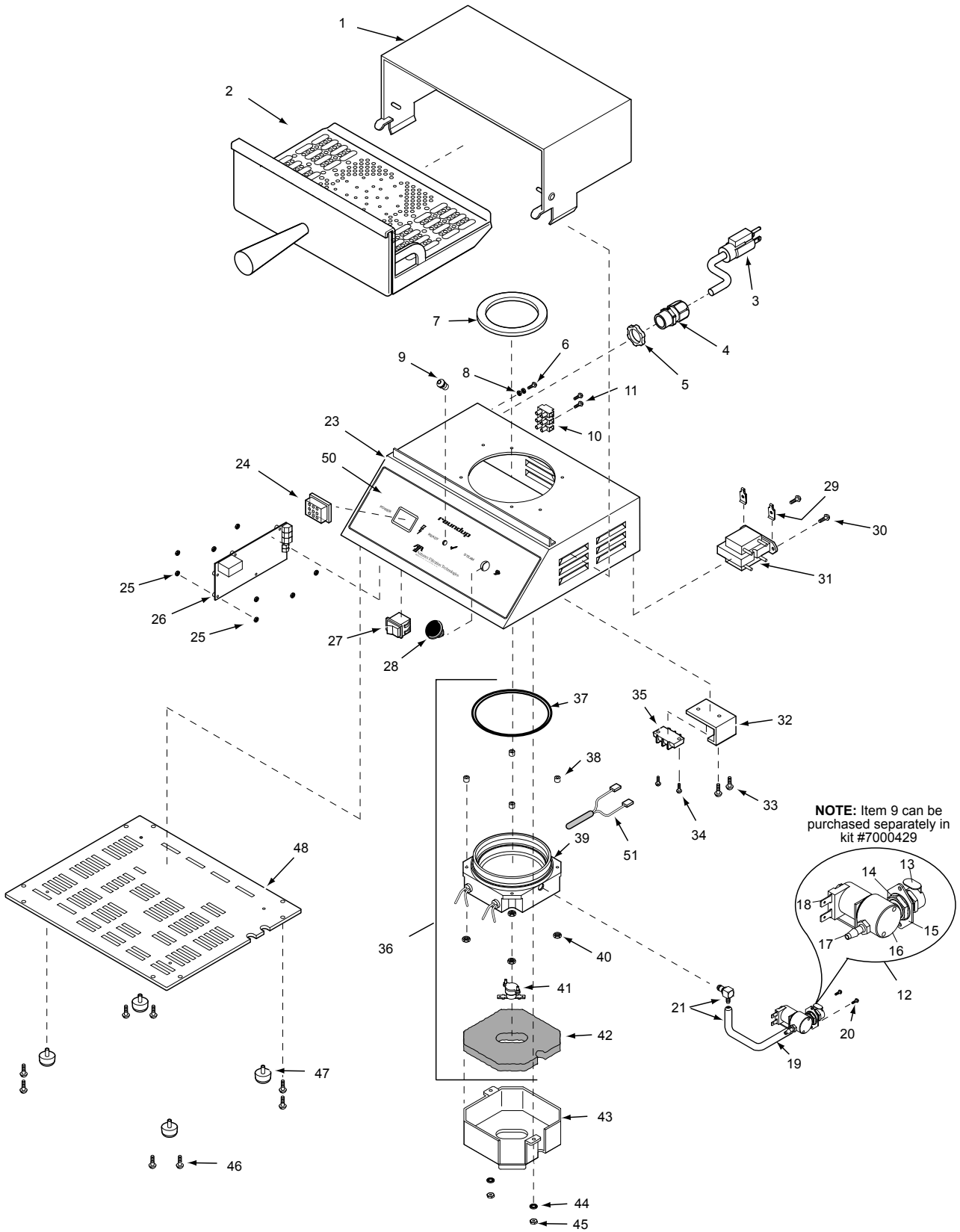
TROUBLESHOOTING (continued)

Problem	Possible Cause(s)	Corrective Action
Unit heats, does not steam, but the green LED at the rear of the unit DOES NOT turn on for a split second as the Steam Switch is pressed.	Faulty Steam Switch	Contact your maintenance person or an Authorized Service Agency for service.
The generator surface continuously fills with water ONLY when the power switch is OFF.	The solenoid valve is leaking due to debris trapped within its plunger and seat.	Attempt to flush the debris out by increasing the water regulator to 30 PSI & cycling the unit several times. Reset the regulator back to 7-9 PSI. If the problem persists. Contact the Authorized Service Agency for service
	The Solenoid Valve is not installed correctly.	If the Solenoid Valve was replaced, verify that the "IN" and "OUT" labels on the valve correspond to the water flow.
The generator surface continuously fills with water ONLY when the power switch is turned ON.	Faulty temperature Control Board	Contact your maintenance person or an Authorized Service Agency for service.

WIRING DIAGRAM



REPLACEMENT PARTS



REPLACEMENT PARTS (continued)

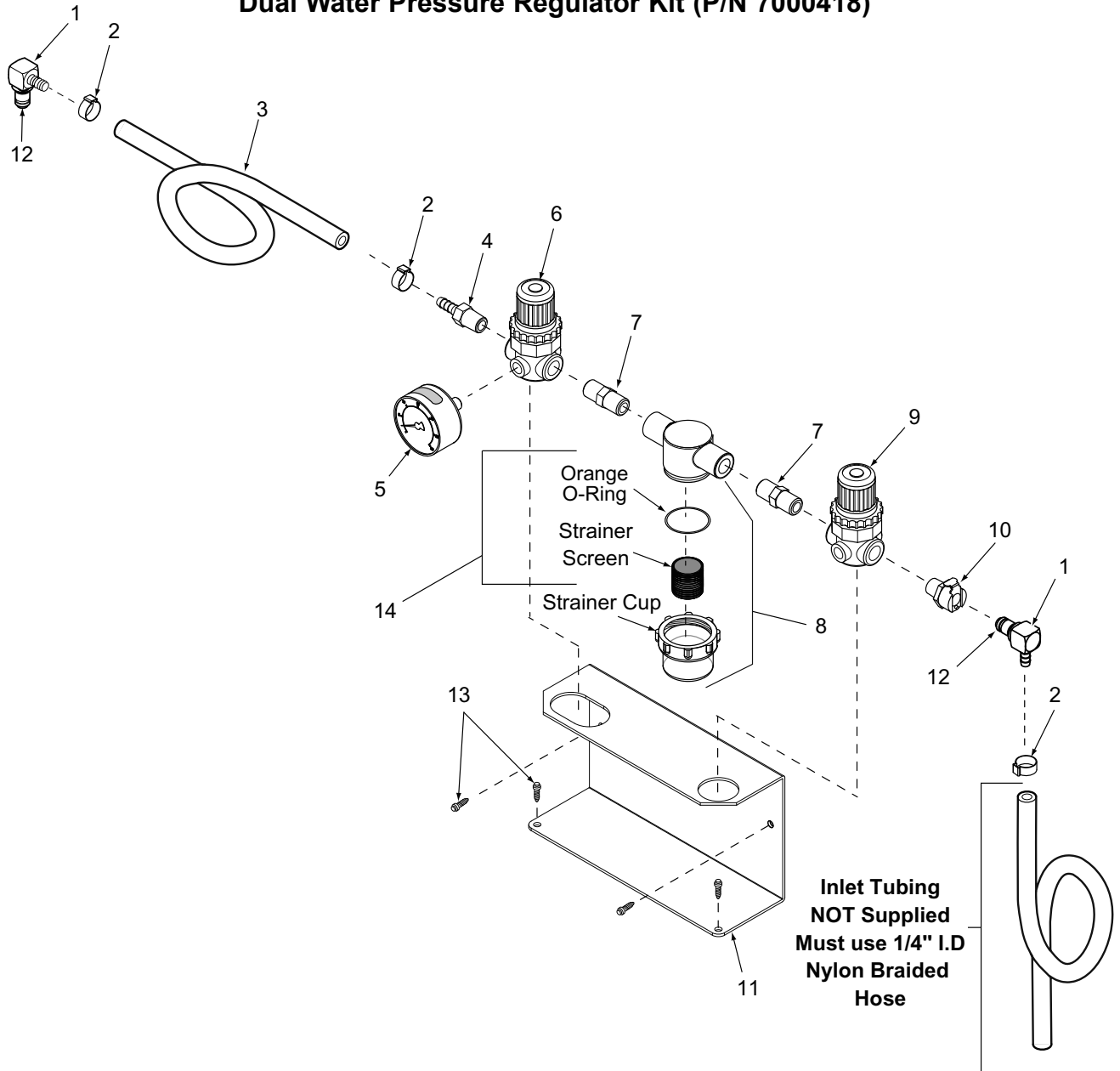
Item	Part No.	Description	Qty.
1	0021371	Spatula Housing	1
2	0011884	Spatula Assembly	1
3	0700674	Power Cord 5-15P 120V	1
4	040K251	Strain Relief - Cord Connector	1
5	040P138*	Nut, Lock Conduit 1/2"	1
6	308P124*	Scr, Mach #8-32 X 1/2" (one way)	1
7	0504331	Diffuser Ring	1
8	308P143*	Nut, Hex "KEPS" #08-32	2
9	4060386	Indicator, LED Blue	1
10	7000136	Terminal Block, 3-Pole	1
11	306P123*	Scr, Mach #06-32 X 7/8	2
12	7000425	Solenoid Assy. (incl. Items 13-18)	1
13	2080117	Quick Disconnect 1/8" NPT	1
14	3620102	Lock Washer 5/8" Int.	1
15	0504089	Plate, Solenoid	1
16	4040175	Solenoid Valve	1
17	2190143	Barb 3/16" tube x 1/8" NPT	1
18	7000429	Solenoid coil 120 VAC	1
19	2020118	Tube, Silicone 3/16" I.D. x 3/8" O.D. x 10" Lg.	1
20	308P103*	Scr, Mach #08-32 X 1/4	2
21	7000438	Generator Elbow Kit (Incl. Items #19 and 37)	1
23	0021352	Housing, Steamer	1
24	0400291	Splash Guard	1
25	306P130*	Nut, Hex"KEPS" #06-32	8
26	7000422	Control Board	1
27	4010151	Switch, Rocker 25A-125V	1

Item	Part No.	Description	Qty.
28	4010214	Switch, Momentary	1
29	300P102*	Nut, Speed #8-32 "U"	2
30	308P104*	Scr, Mach #08-32 X 3/8	2
31	4010203	Transformer 120v/12v	1
32	0504330	Bracket, Terminal Block	1
33	308P185*	Scr, Tap 8-32 X 3/8"	2
34	306P103*	Scr, Mach #06-32 X 3/8	2
35	4060387	Terminal Block, 2 Pole	1
36	7000657	Generator Kit (Incl. items shown)	1
37	0200242	O-Ring	1
38	2120168	Spacer, #6	4
39	0100245	Generator Machined	1
40	306P101	Nut, Hex #6-32	1
41	7000458	Hi-Limit Thermostat Kit	1
42	0400343	Insulation, Generator	1
43	0504053	Retainer, Insulation	1
44	306P102*	Internal Tooth Lock Washer #6	2
45	306P101*	Nut, Hex #06-32 ST.Stl.	2
46	308P157*	Scr, Tap #08-32 X 3/8 Phtrshd;"F";410 S/S	8
47	7000436	Leg Kit (Pack of 4)	1
48	0504324	Plate, Base	1
49	1010903	Owner's Manual (Not Shown)	1
50	1001162	Control Panel Label	1
51	4050228	Temperature, Thermistor Probe	1

* Available only in packages of 10 (ten).
 ** Parts NOT available for individual purchase.

REPLACEMENT PARTS (continued)

Dual Water Pressure Regulator Kit (P/N 7000418)



Item	Part No.	Description	Qty.
1	7000139	Elbow, Quick Disconnect (Incl 2 & 12)	2
2	2110160	Clamp, Ear 17/32"	3
3	2030128	Tubing - 1/4" ID PVC Brd. 30" long	1
4	2040130	Male Adaptor, Barbed - 1/4"	1
5	7000437	Gauge, Pressure (0-30 PSI)	1
6	2170122	Regulator Pressure (adjustable)	1
7	2190129	Nipple 1/4" NPT x 1/4" NPT	2

Item	Part No.	Description	Qty.
8	7000333	Strainer 1/4 FTP (includes O-Ring, Strainer Screen, and Strainer Cup)	1
9	2170124	Regulator, Pressure (non-adjustable)	1
10	2080118	Quick Disconnect 1/4" NPT	1
11	0504195	Bracket, Regulator	1
12	020P117	O-Rings, Spare (10 Pack)	3
13	306P144	Screw- Self Tapping (10 Pack)	1
14	7000334	Screen & Gasket Kit	1

TECHNICAL THEORY OF OPERATION

TEMPERATURE/STEAMING THEORY

When the Rocker Switch (Power On/Off) is ON, line voltage flows to the primary side of the step down transformer. The transformer's secondary side supplies 12 VAC to terminals T1 and T2 of the multifunctional temperature Control Board.

Once powered, and provided that the Generator surface temperature is below 375° F (190° C), the multifunctional temperature Control Board calls for heat by energizing its on board mechanical relay. Once energized, the mechanical relay closes its contacts, which allows line voltage to flow to the Generator.

As the generator begins to heat up, a 100 k ohm Thermistor monitors the internal Generator temperature. As the heat continued to increase, the thermistor's ohms begin to decrease. As the internal Generator temperature approaches 375-390° F (190-198° C), the Thermistor is generating approximately 790-665 ohms.

The multifunctional temperature Control Board receives these ohms and then de-energizes the mechanical relay since the heating circuit is satisfied. Then, the mechanical relay contacts open, and the Generator stops heating.

The heating circuit cycles on and off as needed, even at idle. Once the Generator is up to temperature (a state indicated by a steady blue light), and if the Steam Switch is pressed and released to initiate a steam cycle, the Steam Switch contacts close momentarily to complete a circuit to terminal J4 on the multifunctional temperature Control Board.

Simultaneously, the blue light turns off, and the multifunctional Control Board supplies line voltage to the Solenoid Valve Coil for a split second. The Solenoid Valve opens and allows approximately 2-3 tablespoons of water to be disbursed onto the Generator surface for steaming. The water flashes into steam immediately and steams the product.

After approximately 10 seconds, the blue light turns back on to indicate that the unit is ready for another cycle.

The multifunctional Control Board incorporates two status LEDs detailed below. If the heating circuit continues to call for heat and the Generator overheats, an automatic resetting Hi-Limit Thermostat will trip and open the generator circuit and transformer circuit at approximately 450-470° F (232-243° C).

NOTE: If this condition should repeat, the root cause must be determined and corrected.

NOTE: The MSS-200 Mini Spatula Steamer is shipped with a dual Water Pressure Regulator assembly. The primary water pressure regulator is fixed at 30 PSI and is not adjustable. The secondary water pressure regulator is factory set and should remain set between 7-9 PSI. It should only be momentarily adjusted if required as per the Maintenance Section of this manual.

LED Function

The following LEDs are viewed from the rear of the unit.

Yellow (Heat): When lit, it indicates that the unit is in heat mode. During this time, line voltage is being supplied to the generator. When off, it indicates that the generator is up to operating temperature.

NOTE : This LED will cycle on and off even at idle.

Green (Solenoid Valve): When lit, it indicates that the line voltage is momentarily being supplied to the solenoid valve coil.

NOTE: This LED is only lit for a split second.

The following provides unique features involving the blue light. These are handy for troubleshooting purposes.

During cold start up, the blue light remains off (indicating that the generator is not up to temperature). During this time, the solenoid valve circuit is disabled and the unit will not initiate a cycle even if the steam switch is pressed.

Within 5 minutes after cold start up, the blue light will

TECHNICAL THEORY OF OPERATION (continued)

turn on steady (indicating that the Generator is now up to operating temperature). During this time, the Solenoid Valve circuit is enabled.

NOTE: The unit should always be preheated for 30 minutes before use.

BLUE LIGHT BLINKING CODES (REFER ALSO TO THE TROUBLESHOOTING SECTION)

Rapid Flashing: Under this condition, the Generator may or may not get hot. The solenoid Valve circuit is disabled until the cause is corrected.

Possible Cause(s): An open Thermistor or loose, burnt, or broken wiring in the heating circuit, or one of the two Generators heaters is open, or the temperature Control Board is faulty.

Slow Flashing (1 second on and 1 second off):

Under this condition, the Generator surface temperature has dropped below 208° F (137° C). The Solenoid Valve circuit is disabled until the temperature rises above 280° F (137° C) and reaches proper operating temperature.

Possible Cause(s): The Water Pressure Regulator or the Rotary Switches are incorrectly set, one of the two Generator heaters is open, or the temperature Control Board is faulty.

Slow Flashing (1 second on and 3 seconds off):

Under this condition, the electrical compartment temperature has exceeded 155° F (68° C). The Solenoid Valve circuit is disabled until the electrical compartment temperature drops below 155° F (68° C).

Possible Cause(s): Insufficient ventilation around the unit or faulty temperature Control Board.

LIMITED WARRANTY

Equipment manufactured by Roundup Food Equipment Division of A.J. Antunes & Co. has been constructed of the finest materials available and manufactured to high quality standards. These units are warranted to be free from mechanical and electrical defects for a period of one year from date of purchase or 18 months from shipment from factory, whichever occurs first, under normal use and service, and when installed in accordance with manufacturer's recommendations.

To insure continued proper operation of the units, follow the maintenance procedure outlined in the Owner's Manual.

1. This warranty does not cover cost of installation, defects caused by improper storage or handling prior to placing of the Equipment. This warranty does not include overtime charges or work done by unauthorized service agencies or personnel. This warranty does not cover normal maintenance, calibration, or regular adjustments as specified in operating and maintenance instructions of this manual, and/or labor involved in moving adjacent objects to gain access to the Equipment. This warranty does not cover consumable items such as gaskets, O-rings, and light bulbs. Nor does it cover water contaminant problems such as foreign material in water lines or inside solenoid valves. It does not cover water pressure problems or failures resulting from improper/incorrect voltage supply. **This warranty does not pay travel, mileage, or any other charges for an authorized service agency to reach the equipment location.**
2. Roundup reserves the right to make changes in design or add any improvements on any product. The right is always reserved to modify equipment because of factors beyond our control and government regulations. Changes to update equipment do not constitute a warranty charge.
3. **If shipment is damaged in transit, the purchaser should make a claim directly upon the carrier. Careful inspection should be made of the shipment as soon as it arrives and visible damage should be noted upon the carrier's receipt. Damage should be reported to the carrier. This damage is not covered under this warranty.**
4. Warranty charges do not include freight or foreign, excise, municipal or other sales or use taxes. All such freight and taxes are the responsibility of the purchaser.
5. THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EACH OF WHICH IS HEREBY EXPRESSLY DISCLAIMED. THE REMEDIES DESCRIBED ABOVE ARE EXCLUSIVE AND IN NO EVENT SHALL ROUNDUP BE LIABLE FOR SPECIAL CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OR DELAY IN PERFORMANCE OF THIS WARRANTY.



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