

AUTOMATIC GAS COFFEE URN

OPERATION MANUAL

MODEL: FE-100G

SPECIFICATIONS INSTALLATION MAINTENANCE TIPS REPAIR PARTS LIST WIRING DIAGRAMS

GAS SPECIFICATIONS

MODEL NO.	NATURAL GAS	PROPANE GAS
	BTU/HR @ 3.5" W.C.	BTU/HR @ 10" W.C.
FE-100G	32,000	32,000

FOR YOUR SAFETY DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

THIS INSTALLATION MUST CONFORM WITH THE NATIONAL FUEL GAS CODE, ANSI Z223.1 (LATEST EDITION).

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

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SAFETY PRECAUTIONS FOR YOUR SAFETY, THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE FOLLOWED AND ENFORCED.

IF YOU SMELL GAS:

- OPEN WINDOWS
- DON'T TOUCH ELECTRICAL SWITCHES
- EXTINGUISH OPEN FLAMES
- IMMEDIATELY CALL YOUR GAS SUPPLIER

1. Instructions must be posted in a prominent location and all safety precautions taken in the event the user smells gas. Obtain this information from your local gas supplier.

- 2. <u>LIGHTING</u>: Follow the instruction on page 6 and label attached to right side of coffee urn.
- 3. Do not place anything over the flue opening.
- 4. Do not place combustibles or non-combustible materials in the proximity of coffee urn as this could cause fires or obstruct air flow to the main burners.
- 5. This installation must conform with local codes, or in absence of local codes with the National Fuel Gas Code ANSI Z223.1, latest edition.
- 6. Provide adequate air supply and ventilation.
- 7. Provide adequate clearance for air openings into the combustion chamber.
- 8. Provide clearance for servicing and proper operation. Minimum clearance from combustible construction 8" from back and 6" from side.
- Boiler must be disconnected from gas supply during any pressure testing of pipelines in excess of ½ psig, and isolated (by turning off gas shut-off valve) during any testing less than ½ psig.
- 10. Retain this manual for future reference.

<u>UNPACKING INSTRUCTION</u>: Carefully unpack the coffee urn and inspect immediately for shipping damages. Your automatic coffee urn was shipped in a carton designed to give maximum protection in normal handling. It was thoroughly inspected before leaving the factory and the carrier accepted and signed for it. File any claims for shipping damage or irregularities with the carrier.

ELECTRICAL CONNECTIONS:	Cord Type Plug-in 120 VAC, 15 AMP, 50/60 Hz
POWER REQUIREMENTS:	3 AMP @ 120 VAC, 50/60 Hz



FE-100G AUTOMATIC COFFEE URN

Dimensions	Body	Overall	Overall	Overall
(inch)	Depth	Depth	Height	Width
	16.0	19.5	31.0	37.0
Water	1/4" Copper tubing			
connection				
Construction	Type 304 18-8 Stainless Steel			
Shipping Wt.	125 lb.			

INSTALLATION AND OPERATING INSTRUCTION:

<u>PRE-INSTALLATION INSTRUCTIONS</u>: The installation of your coffee urn must be made by a licensed plumber and the installation must conform with State and Local Codes or in absence of Local Codes, with the National Fuel Gas Code ANSI Z223.1 a latest version.

<u>AIR SUPPLY AND VENTILATION:</u> Adequate ventilation and air supply must be provided in order for the coffee urn to operate properly and efficiently. The area in front of and above the unit must be clear to avoid any obstruction of flow of combustion and ventilation air. DO NOT under any circumstances, connect the coffee urn flue directly to a building exhaust system or place the flue outlet directly into the plenum of the exhaust hood as it will adversely affect the gas combustion of the coffee urn.

<u>CLEARANCES</u>: Your coffee urn is design certified to use on combustible floors. The side and back clearances for combustible constructions are as follows: 6 inches from side and 8 inches from back. The coffee urn must be installed with 4 inch high legs provided.

<u>GAS CONNECTION:</u> Examine the gas specification label attached to the urn to be certain that the type of gas for which the unit is equipped is the same as the gas supply. A 3/8 NPT gas connection is needed to connect the unit to the gas line. An accessible manual shut-off valve must be installed in the gas supply line in case of an emergency. The gas supply pipe must be sized to accommodate all the gas fired equipment that may be connected to it. Check with your local Gas Company as to proper pipe size. Sealant on all pipe joints must be resistive to propane gas. Before attempting to light the coffee urn, check all joints for gas tightness using a soap and water solution.

WATER CONNECTION: Unit is supplied with a water strainer and a 19" length of ¼" copper tubing with a flare fitting. Connect the copper tubing with the flare fitting to the water connection at the rear of the machine. The other end of the strainer is connected with a suitable length of ¼" tubing and a shut-off valve (supplied by a plumber) to a cold water supply. Water pressure should be minimum of 20 lbs. for proper operation.

To turn on the water supply valve plug the line cord into a 120 V grounded outlet. The water will start entering the unit and automatically fill it to capacity.

<u>LIGHTING AND ADJUSTMENT:</u> Water must be visible in the sight glass before lighting to pilot. Turn the thermostat knob to its lowest position. Turn gas cock dial to PILOT position. Depress gas cock dial and light pilot with a long lighted match through the opening located on the bottom of the urn. Hold in depressed position for approximately 30 sec. or until pilot remains lit when dial is released.

NOTE: On the first lighting it may be necessary to hold the dial for a longer period to allow trapped air to escape from the line.

DIAL SETTINGS AND CORRESPONDING WATER TEMPERATURES: "1" = 50F, "10" = 198F



PARTS LIST FOR FE-100G GAS SYSTEM

NO	DESCRIPTION	
1	SIDE BOX DOOR	RZ46A
2	SIDE BOX	RZ45A
3	WASHER 2"	P528A
4	HEX BUSHING 3/4 X 3/8 NPT	K636A
5	SPACER 1/4"	K641A
6	GAS VALVE R/S 7000MVRLC	L621A
7	3/8 NPT 4" NIPPLE, BLACK	J015A
8	1/4 COMP FITTING	K039A
9	1/4 ALUM PILOT TUBE	H350A
10	3/8 X 3/8 NPT L COMP FITTING	K635A
11	3/8 ALUM GAS VALVE TUBE	H349A
12	THERMOSTAT RX-2051-12	L622A
13	WIRING HARNESS	CH32A
14	8-32 HEX NUT	P010A
15	#10 STAR WASHER	P072A
16	8-32 X 3/4" WELD STUD	P125A
17	THERMOPILE	F178A
18	PILOT ASSEMBLY	F144A
19	ORIFICE,NAT	F098A
	ORIFICE, LP	F126A
20	BURNER	G090Q
21	MANIFOLD	F044A
22	8-32 X 5/8 SCREW	P526A
	LP CONVERSION KIT	L347P

<u>RELIGHTING</u>: Shut off all gas and wait approximately 3 minutes before relighting the pilot.

<u>SHUTTING DOWN</u>: For temporary shut down, turn the thermostat to lowest or OFF position; then turn gas cock dial to PILOT position. To shut boiler down completely, partially depress and turn gas cock dial to OFF position.

CORRECT PROCEDURES FOR BREWING COFFEE AS RECOMMENDED BY THE COFFEE BREWING CENTER

- Use fresh or drip grind coffee, spread evenly, as an even coffee bed is important for proper extraction.
- Urn should be connected to cold water supply and the water heated sufficiently to insure brewing temperatures of 195-205F (90-96C). Leave cover on urn during brewing. Total contact time for urn grind should be approximately 4-6 minutes.
- Remove grounds and filter basket immediately after water has dripped through.
- If automatic agitation is not incorporated, mix brew by drawing off heavy coffee from bottom of batch and pouring back into brew. Mix at least one gallon per pound of coffee used.
- Never repour brewed coffee back through spent grounds.
- Hold coffee at 185-190F (85-88C) for proper serving temperature. Brewed coffee should not be held for longer than one hour; it should never be reheated if allowed to cool, and it should never be boiled.

<u>TIMER:</u> An electronic solid state timer is used to control the volume of water for brewing the coffee. The timers are preset at the factory to deliver 2.5 gallons of water for each brewing cycle.

However, if other volumes of water are desired, or a correction is necessary, follow these instructions:

To increase volume of water, turn the timer knob clockwise. To decrease the volume of water turn the knob counter-clockwise. Run through a complete cycle for each setting. Note that the timer cannot be readjusted once it is activated. To terminate the cycle if the liner overflows, simply activate the cycle stop switch at the bottom of the control box. If the maximum setting of the timer fails to deliver enough water, check the water pump and spray head and follow instructions under maintenance.

<u>SPRAY ARM & BY-PASS ADJUSTMENT</u>: Urns equipped with an adjustable by-pass are delivered from the factory with the by-pass adjusted. If further by-pass adjustment are required to correct local water conditions, proceed as follows:

Place the spray head over the center of the right coffee liner and activate the brew cycle switch. Insert a screwdriver in the by-pass

adjustment slot and turn it counter-clockwise to increase or clockwise to decrease by-pass flow. At the completion of the brewing cycle, measure the volume of the water in the coffee liner. The timer may have to be readjusted to obtain the correct volume of water. The proper setting of the by-pass will have to be determined by the user.

<u>THERMOSTAT</u>: To adjust the temperature of the water in the urn, turn the thermostat knob to "10" and remove the knob without moving the thermostat shaft. Place narrow bladed screwdriver (1/8") into the hollow thermostat shaft and engage center adjustment screw. When thermometer reading approaches 198F slowly turn the adjustment screw clockwise until the burner goes out. Turning the screw counter-clockwise will increase the temperature.

MAINTENANCE TIPS

<u>WATER CONDITION:</u> Remove and clean spray head cap and spray head disc frequently-typically once a week. To clean the swivel valve, loosen nut and remove spray arm assembly from urn. Sediment may be removed by inserting a pipe cleaner through small hole in valve. If maximum setting of timer fails to deliver enough water, check water pump.

<u>OUTSIDE SERVICE</u>: Should you require help, contact the factory, your factory representative, or your local service company.

FOR QUALIFIED SERVICE PERSONNEL ONLY

When servicing of unit is required, contact a qualified service agency.

<u>CAUTION:</u> DO NOT TURN ON THERMOSTAT BEFORE ALL PRIMING INSTRUCTIONS ARE COMPLETED.

- WATER FROM COLD WATER SUPPLY LINE DOES NOT ENTER URN
- 1. Check water supply to shut-off valve and strainer.
- 2. Check fuse () on the front panel and replace it if necessary.
- 3. If steps 1 & 2 are in order, remove fuse and lift control box door.
- 4. Remove two screws from timer panel and remove timer exposing terminal strip and electrical wiring.
- 5. Replace fuse.
- 6. Place wire jumper across terminals () and () on terminal board (). If water enters urn, float switch is inoperative and should be replaced (see par10). If water does not enter urn, then solenoid valve () or small relay () is not functioning. To check solenoid valve, disconnect leads from the coil and apply 115V power. If solenoid operates replace relay.

- REPLACING SOLENOID VALVE.
- 1. Shut off water supply and remove fuse () from front panel.
- 2. Disconnect wires from terminals on solenoid coil.
- 3. Remove flare nut from solenoid valve and unscrew valve solenoid from bracket.
- 4. Install new unit.
- REPLACING FLOAT SWITCH.
- 1. Remove fuse () from front panel.
- 2. Remove screws from timer panel and remove timer exposing terminal board and electrical wiring.
- 3. Disconnect wires from terminals () and () on terminal board and release float switch wires (see ill. X)
- 4. Unscrew packing nut from bottom of float mechanism and remove cartridge () by pulling on the wires.
- 5. Replace with new cartridge and assemble unit and wiring in reverse order.
- CLEANING FLOAT CONTAINER

Periodically it may become necessary to clean out float container () to keep float switch in proper operating condition:

- 1. Remove float can cover () from top of control box exposing ball float () and stem.
- 2. Lift ball from stem.
- 3. Clean container and all parts and reassemble unit.
- 4. Replace cover.
- AUTOMATIC REFILL OVERFLOWS

Remove fuse () from front panel, water should cease flowing which indicates float switch is inoperative. However, if water still continues to flow, valve in solenoid is lodged or dirty and should be replaced.

- NO WATER FROM SPRAY HEAD
- 1. Check panel fuse () first.
- 2. Depress BREW button () and note if pilot light remains lit when button is released. If pilot light stays on, we can assume water pump is not operating. Remove side panel and check if fan on water pump is not rotating; then pump should be replaced.
- REPLACING WATER PUMP
- 1. Turn off water and electrical power from urn.
- 2. Drain urn to level of center faucet.

- 3. Open the control box and disconnect the two pump wires from the quick disconnect terminals.
- 4. Loosen union fittings on pump and remove pump from urn.
- 5. Replace pump and follow priming instruction.

NOTE: Pump and motor assembly is factory lubricated for the life of the pump.

• TIMER SOLID-STATE

Depress BREW button, hold for approximately 10 seconds, and then release. If water flows from spray head when button is depressed and stops flowing after button is released, then timer is faulty and should be replaced. No water from spray head when button is depressed, indicates BREW button is fault and must be replaced.

• AGITATOR

OPERATION: The agitator pump circuit is programmed to operate when the BREW button is pushed. Upon completion of the pump cycle, the agitator pump will pump air through the manifold into the coffee gauge glasses and into the coffee liner. The completed cycle will take approximately 20 second. The agitator may be operated independently of the brewing cycle, if the agitator button is depressed.

MAITENANCE: The air pump is capable of delivering enough air for proper blending. However if enough agitation is not present, check flexible tubing on top of gauge glasses and fittings, for possible air leaks. If air pump does not operate on completion of brewing cycle or when agitation button is depressed, replace air pump or solid state agitator timer (black box).

• BURNER MAITENANCE

The two main burners can be removed by first removing the base cover panel and unfastening the burner ends. The main burners should be cleaned both inside the venturi portion and on the outside using a soft bristle brush. The main burners must be into the same position before removal. Once a year, a qualified service agency should be contacted to inspect the appliance for safe and proper operation.

• SAFETY PILOT:

Remove pilot adjustment cap on the gas valve and turn adjustment screw to provide properly sized flame (3/4 inch long). Replace the cap.



PARTS LIST ME-10/15G

NO	DESCRIPTION	ME-10G	ME-15G
1	KNOB	M027A	M027A
2	COVER	Q102H	Q102H
3	BODY	R477A	R478A
4	GAUGE SHIELD MTG BRACKET	U160A	U160A
5	VENT CAP ASSEMBLY	X046A	X046A
6	GAUGE SHIELD WASHER KIT	X012A	X012A
7	WATER GAUGE GLASS	X043A	X073A
8	WATER GAUGE SHIELD	D031A	D066A
9	DIAL THERMOMETER	L007A	L007A
10	CHROME PLATED NUT 3/8" NPT	K110A	K110A
11	OVERFLOW TUBE	H081A	H080A
12	HANDLE	X007A	X007A
13	BONNET	X010A	X010A
13	FAUCET SPRING SS	X010A	X019A
15	STEM	X013A	X058A
16	CUP SEAT	X038A	X014A
17	FAUCET	X149A	X149A
17	SHANK		
10	OVERFLOW DRAIN	E009A	E009A
20	BURNER SUPPORT BRACKET	R483A	E009A
20	LEGS SET OF 4		M005A
21	T-BURNER		
22		G052A U670A	G052A
			U670A
24	PILOT ASSEMBLY, NAT	F135A	F135A
05	PILOT ASSEMBLY, LP	F134A	F134A
25		F160A	F160A
00	ORIFICE, LP	F161A	F161A
26		P813A	P813A
27	REDUCING COUPLING 1/4 X 3/8 "	J041A	J041A
28		U674A	U674A
29	SIDE BOX	RZ16A	RZ16A
30	SLIDE	UB12A	UB12A
31	THERMOSTAT	L622A	L622A
32	THERMOPILE	F178A	F178A
33	WIRING HARNESS	CH32A	CH32A
34	3/8 STREET ELBOW, BLACK STEEL	J040A	J040A
35	1/4 COMPRESSION FITTING	K039A	K039A
36	1/4 PILOT TUBE, ALUM	H345A	H345A
37	BLACK NIPPLE, 3/8 NPT X 4"	J015A	J015A
38	GAS VALVE	L621A	L621A
39	ELBOW COMP FTG, BRASS 3/8 X 3/8 NPT	K635A	K635A
40	3/8 GAS VALVE TUBE	H346A	H346A
41	SCREW, 8-32 X 3/8	P013A	P013A
42	GAS_VALVE BRACKET	UB11A	UB11A
43	SIDE BOX DOOR	RZ17A	RZ17A
44	SIDE BOX BACK	RZ18A	RZ18A
45	STAR WASHER, #10	P072A	P072A
46	HEX NUT, 8-32	P010A	P010A
47	WELD STUD, 8-32 X 3/4	P125A	P125A
48	HEX BUSHING 3/4 X 3/8	K636A	K636A
49	FLUE	R481A	R481A
50	VENT CAP	U019A	U019A

51	SILICONE GASKET	M256A	M256A
52	STEM VALVE	M0251	M0251
53	ADAPTER 1/4-20	M0589	M0589
54	FLOAT, SS 3"	M0892	M0892
	LP CONVERSION KIT	L347P	L347P
55	WATER GAUGE ASSEMBLY		D020A
56	FAUCET ASSEMBLY	D017A	D017A