

OWNER'S MANUAL

Direct Connected Steam Kettle

- MODELS:**
- FT-4 (DC-4)
 - FT-6 (DC-6)
 - FT-10 (DC-10)
 - FT-12 (DC-12)
 - FT-20 (DC-20)



MARKET FORGE
INDUSTRIES INC.

An Employee Owned Company

"The Premier Steam Cooking Equipment Manufacturer"

Form Number: S-2209 10/12

Printed in USA

35 Garvey Street, Everett, MA 02149

Telephone (617) 387-4100, (866) 698-3188, Fax (617) 387-4456, (800) 227-2659

custserv@mfii.com, www.mfii.com

WARNING: Improper installation, operation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing, operating or servicing this equipment.

This manual should be retained for future reference.

General:

All direct connected steam jacketed kettles pertaining to this manual are direct steam operated pressure vessels of a double-wall stainless steel construction forming a steam chamber (*jacket*) enveloping the lower two thirds of the kettle bowl surface. All kettles are tilting and countertop mounted in fixed positions on legs.

Available models include:

- FT-4, 4-Gallon (15 liters)
- FT-6, 6-Gallon (23 liters)
- FT-10, 10-Gallon (38 liters)
- FT-12, 12-Gallon (46 liters)
- FT-20, 20-Gallon (76 liters)

Description:

Kettle will be constructed of welded satin finish, stainless steel type 304. A double wall kettle interior will form a steam jacket around the lower 2/3 of the kettle. Kettle bottom will be of elliptical design for improved heat circulation.

Type 316 stainless steel liner for high acid content products. Tubular stainless steel mounting frame will have steam supply and condensate return pipes completely concealed within frame members.

Sealed stainless steel tilt mechanism bearings will permit the kettle to tilt forward 90o for complete emptying. A removable operating handle with heat-proof knob can be mounted on the left or right side of each kettle. Kettle will be built to A.S.M,E. code and will be N.S.F. approved.

Operation will be by:

Direct steam at a minimum of 5 PSI (0.4 kg/cm²) and a maximum of 50 PSI (3.4 kg/cm²).

Functioning Mode:

Direct connected steam jacketed kettles consist of a stainless steel bowl and a stainless steel jacket which envelopes two thirds of the lower surface of the bowl thus forming a sealed pressure vessel (*chamber*) into which steam is introduced by means of a manual control valve located in the right leg.

The kettle bowl is the container for the food product which ideally should be of a liquid or semiliquid consistency to achieve complete contact with the bowl surface and thus

fully absorb the heat transmitted through that surface.

The temperatures required for the cooking process to function adequately must be greater than the boiling point of the liquid food product, viz. water. Further, the greater the steam pressure used, the higher the temperature and consequently the quicker the cooking process. For example, steam pressurized at 30 psi attains a temperature of 274 degrees Fahrenheit (*135° Celsius*).

In the initial stages of the cooking process when the steam comes in contact with the cold kettle bowl surface it condenses and forms considerable amounts of water. A thermostatic steam trap should be plumbed to the exit end of the kettle jacket. This trap is a mechanical device that closes on high temperatures and opens when the temperature drops thus allowing the water formed from condensate to exhaust but retain steam under pressure.

Options and Accessories at Extra Cost:

To purchase these items contact your local sales rep.

- One-piece lift-off stainless steel cover

- Stainless steel wire basket

- Double Pantry Faucet with Swing Spout and Mounting Bracket.

- Single Pantry Faucet with Swing Spout and Mounting Bracket.

- 1/2" (13mm) Leg-Mounted Steam Control Valve

- 1-1/2" (38mm) Draw-Off Valve with Strainer

- Steam Trap

- Check Valve

- 18" High Floor Stand with Sliding Drain Pan

- 28" High Stainless Steel Cabinet Base with Hot and Cold Water Fill Faucets, Depressed Area and Drains, Clean-Up Pan with Removable Splash Guard, and Steam Control Valve on Stainless Steel Marine Edged Countertop.

- 22" High Stainless Steel Cabinet Base with Hot and Cold Water Fill Faucets, Depressed Area and Drains, Clean-Up Pan with Removable Splash Guard, and Steam Control Valve on Stainless Steel Marine Edged Countertop.

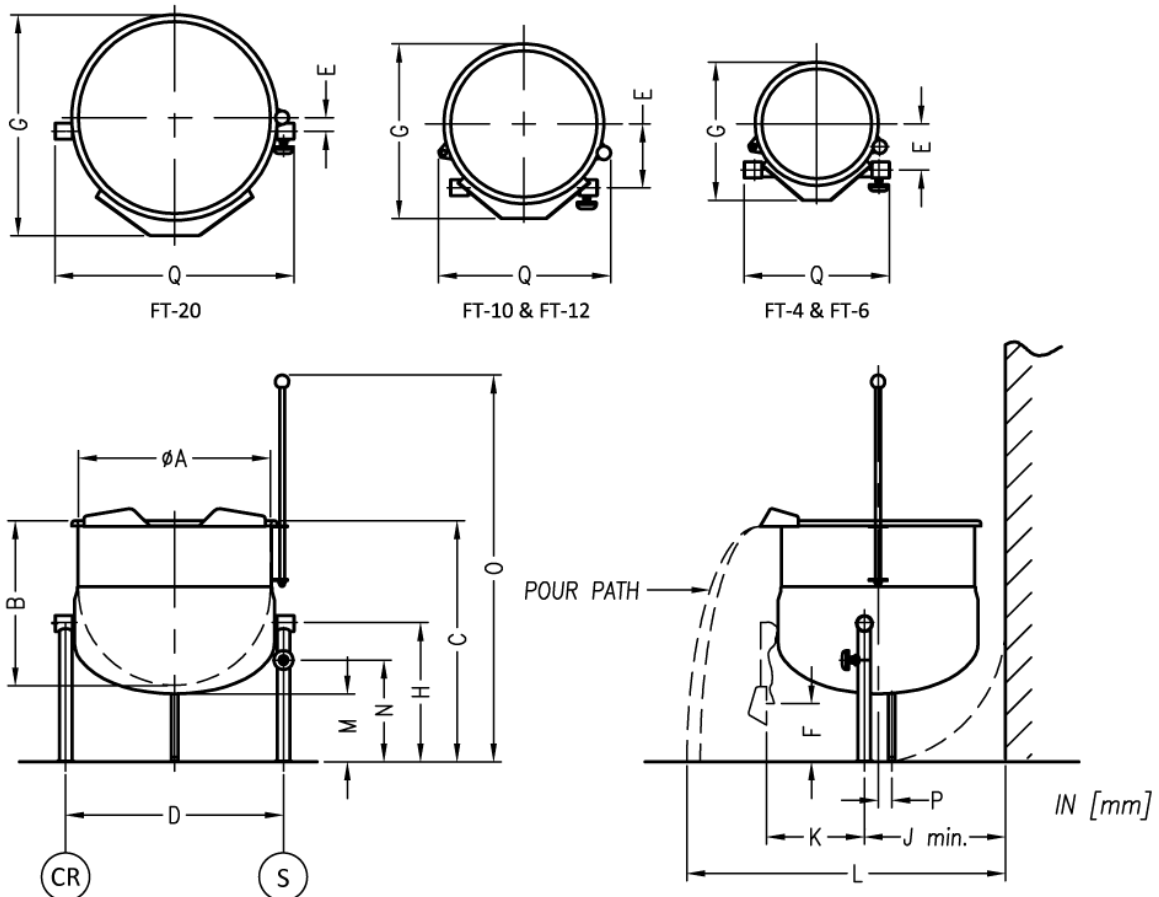
SERVICE CONNECTIONS

S	Steam Supply - 1/2" (13mm) IPS, 15-50 PSI (1.0-3.5 kg/cm ²). Pressure reducing valve is required if incoming pressure exceeds 50 PSI (3.5 kg/cm ²).
CR	Condensate Return - 1/2" (13mm) IPS.

DIMENSIONS

MODEL	CAPACITY	UNITS	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
FT-4	4 gallons	inches	12	14.5	19.5	13.75	5	7.5	15.12	8.5	12.25	10.38	30.25	4	4.38	34.12	0	16
	15 litres	mm	305	368	495	349	127	191	384	216	311	264	768	102	111	867	0	406
FT-6	6 gallons	inches	12	14.5	19.5	13.75	5	7.5	15.12	8.5	12.25	10.38	30.25	4	4.38	34.12	0	16
	23 litres	mm	305	368	495	349	127	191	384	216	311	264	768	102	111	867	0	406
FT-10	10 gallons	inches	16	15	18.5	13.75	7	7.75	19.12	9	16.25	8.88	32.25	2.38	4.88	33.12	0	19.25
	38 litres	mm	406	381	470	349	178	197	486	229	413	225	819	60	124	841	0	489
FT-12	12 gallons	inches	16	17	20.5	13.75	7	7.75	19.12	9	16.25	10.88	39.5	2.38	4.88	35.12	0	19.25
	46 litres	mm	406	432	521	349	178	197	486	229	413	276	1003	60	124	892	0	489
FT-20	20 gallons	inches	21	18	26.5	23.5	1.5	6.25	24.12	15.25	15.75	10.5	40.5	7.5	11.12	42.38	1.5	26
	76 litres	mm	533	457	673	597	38	159	613	387	400	267	1029	191	283	1076	38	660

MODEL	SHIPPING WT.	MIN. CLEARANCE	
FT-4	44 lbs. [20 kg]	SIDES BACK	1 [25mm] 3 [76mm]
FT-6	44 lbs. [20 kg]		
FT-10	61 lbs. [28 kg]		
FT-12	70 lbs. [32 kg]		
FT-20	95 lbs. [43 kg]		



Installation

Installation Instructions:

1. These kettles must be installed on a suitable table or counter top.
2. On counter top make 7/8" holes at 13 - 3/4" center for kettle legs on models FT-4, FT-6, FT-10, and FT-12, 23-1/2" center on Model FT-20. Provide sufficient space from rear wall to allow for tilting of kettle.
3. From bottom of leg remove mounting lockouts and washers. Apply Silastic to flared edge of leg. Insert threaded portion of legs through holes. Replace washers and locknuts and tighten. Wipe off excess sealant.
4. Install a safety relief valve in the steam line set at the maximum operating pressure of the kettle. Note that one valve will handle a series of kettles.
5. Connect steam supply line (1/2" pipe size) to steam inlet fitting on right leg.
6. Install a steam shutoff valve in steam supply line, preferably near the kettle for convenience.
7. A pressure reducing valve will be required if the steam supply pressure is greater than the maximum kettle working pressure.
8. If large amounts of water are in the steam line it will be necessary to install one or more ball float traps in the line to eliminate the water.
9. A steam line pressure gauge is also recommended to determine the actual amount of steam coming to the kettle.
10. Install a suitable steam trap in condensate line (left leg) near the kettle and run condensate return line to drain. If the condensate return line will be directed to the boiler, then it must have a check valve and gate shutoff valve near the kettle.

Operating

WARNING: The kettle and its parts are hot. Use care when operating, cleaning and servicing the appliance.

1. Fill kettle with product to desired level.
2. Slowly turn the steam control valve ON to full open position.
3. The water or food should boil 3 - 4 minutes per gallon. If it does not, then incoming pressure should be checked to determine that it is adequate to operate the kettle efficiently.
4. Regulate steam control valve depending on type of food being prepared.
5. When food is cooked, turn off steam, remove food and clean kettle immediately to prevent residue from drying on kettle bowl surface.

Maintenance

Cleaning Procedures:

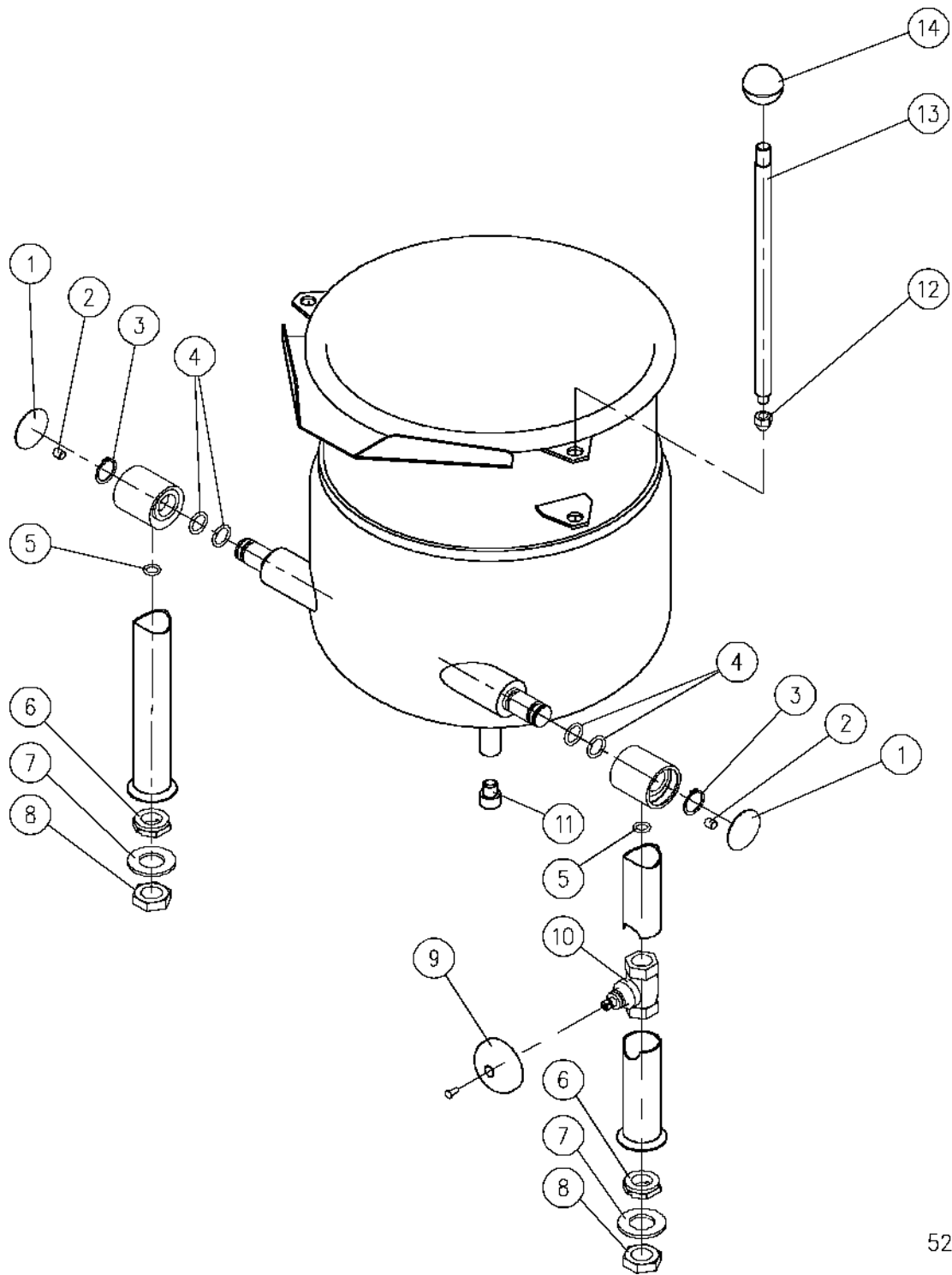
1. Your kettle should be cleaned immediately after each use.
2. Ensure that steam supply is OFF.
3. Pre-rinse inside of kettle thoroughly and tilt to remove any food particles.
4. Using a nylon brush, clean kettle with a mild detergent and warm water rinse. Never use steel wool or scouring powder as it will scratch stainless steel.
5. Tilt kettle and rinse thoroughly draining out detergent solution.

CAUTION: Do not use cleaning agents that are corrosive.

Use of cleaning agents that contain chloride, acids or salts are corrosive and may cause pitting and corrosion when used over a period of time; this will reduce the life of the appliances. Should pitting or corrosion occur this is not covered by warranty.

Follow the recommended cleaning instructions. Use a mild detergent, warm water and rinse thoroughly.

Illustrated Parts List



5252R1

ITEM	PART#	DESCRIPTION	QTY.
1	97-5663	Trunnion Cap	2
2	97-7143	Set Screw, 5/16 -18 x 3/8 "	2
3	97-5123	Retaining Clip	2
4	97-5122	"O" Ring	4
5	97-5664	"O" Ring	2
6	97-5895	Brass Nut 1/2 - 14"	2
7	97-5120	Washer	2
8	97-5121	Nut 1/2 - 14 NPS	2
9	97-5306	Knob	1
10	97-5181	Valve	1
11	97-6360	Nylon Foot	1
12	97-5116	Acorn Nut 3/8 - 16	1
*13	97-7144	Handle	1
	97-7145	Handle, 20 Gallon	1
14	97-5008	Knob	1
*15	97-5666	Condensate Leg Assembly, 6 Gallon	1
	97-5667	Condensate Leg Assembly, 10, 12 Gallon	1
	97-5668	Condensate Leg Assembly, 20 Gallon	1
*16	97-5118A	Steam In Leg Assembly, 6 Gallon	1
	97-5660	Steam In Leg Assembly, 10, 12 Gallon	1
	97-5661	Steam In Leg Assembly, 20 Gallon	1
**17	97-6405	"O" Ring Lube, 2 grams	1

* SELECT AS REQUIRED

** NOT SHOWN