southbend

A MIDDLEBY COMPANY

OWNER'S MANUAL

INSTALLATION

USER'S GUIDE

DIRECT STEAM TRI-LEG TILTING KETTLE

MODELS: KDLS-20, KDLS-30, KDLS-40

KDLS-60, KDLS-80, KDLS-100

These instructions should be read thoroughly before attempting installation. Set up, installation and Performance Check should be performed by a qualified service technician. The Manufacturer. Southbend (1100 Old Honeycutt Rd., Fuquay-Varina, North Carolina 27526), informs you that unless the installation instructions for the above described Southbend product are followed and performed by a qualified service technician, (a person experienced in and knowledgeable concerning the installation of commercial gas and/or electrical cooking equipment) then the terms and conditions of the Manufacturer's Limited Warranty will be rendered void and no warranty of any kind shall apply.

If the equipment has been changed, altered, modified or repaired by other than a qualified service technician during or after the 12-month limited warranty period, then the manufacturer shall not be liable for any incidental or consequential damages to any person or to any property which may result from the use of the equipment thereafter. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion thereto may not apply to you.

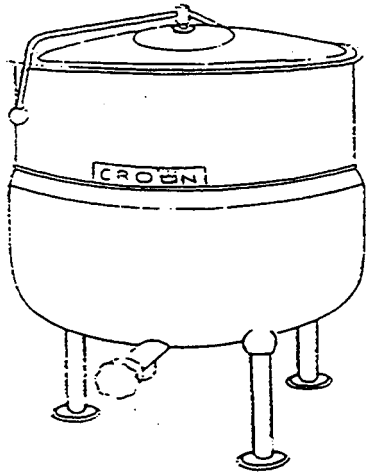
In the event you have any question concerning the installation, use, care. or service of the product, write Customer Service Department. Southbend Corporation. 1100 Old Honeycutt Rd., Fuquay-Varina, North Carolina 27526.

INSTALLATION AND OPERATION

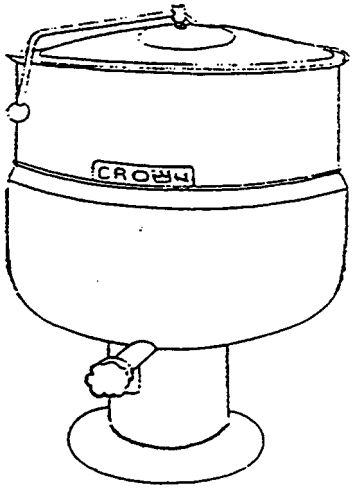
MANUAL

DIRECT STEAM STATIONARY KETTLES

20. 30. 40. 60. 80. 100 GALLON



DL



DP

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A MIDDLEBY COMPANY

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(800) 348-2558

INSTALLATION AND OPERATION

It is recommended that this manual be read thoroughly and that all instructions be followed carefully. This manual should be retained for future reference.

ADEQUATE CLEARANCES MOST BE MAINTAINED FOR SAFE AND PROPER OPERATION

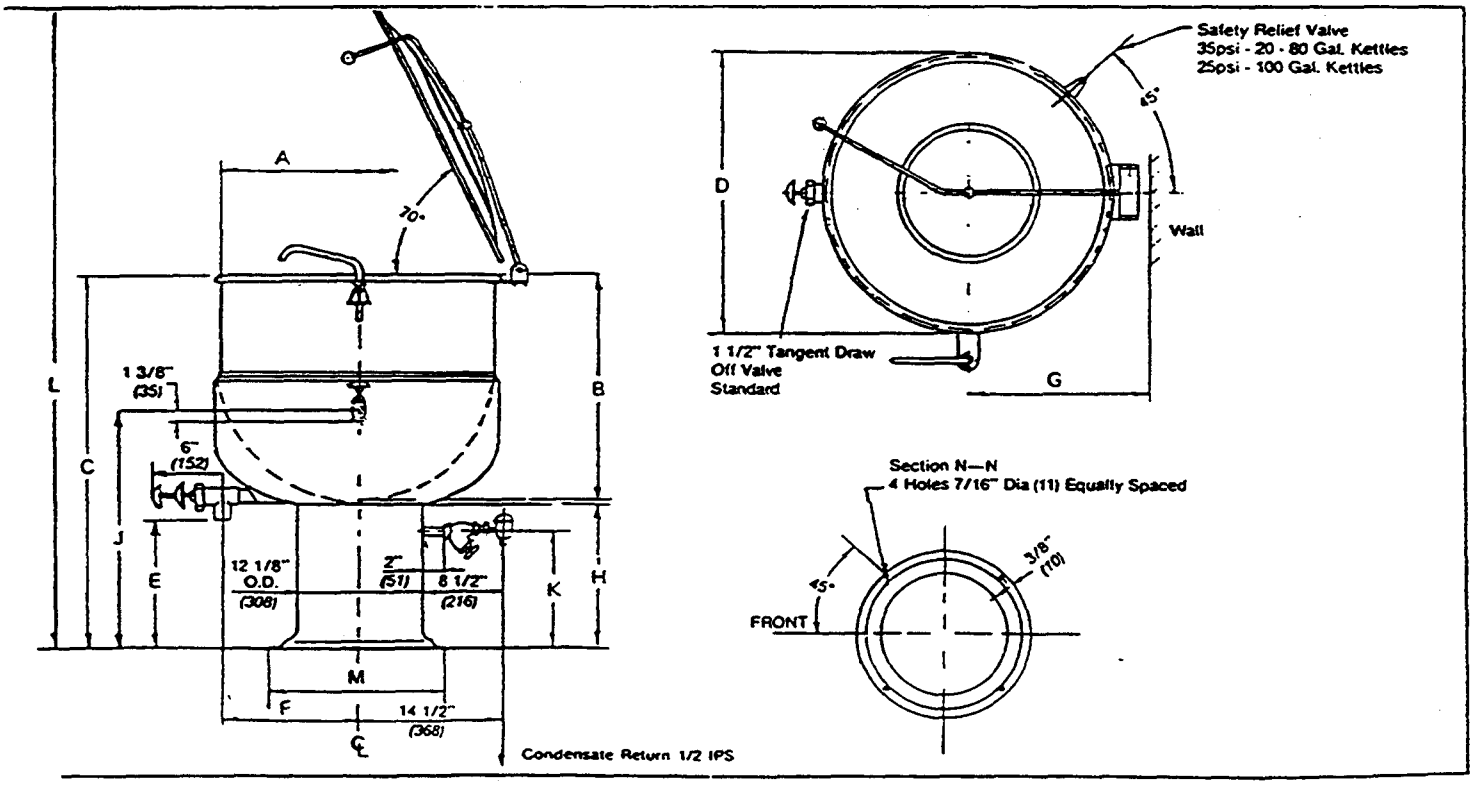
I N D E X

INSTALLATION & SERVICE CONNECTIONS

SERVICE CONNECTIONS

S	Steam supply: 3/4" IPS *(19mm)*
CR	Condensate return: 1 */2"* IPS *(13mm)*

Model	Capacity		A	B	C	D	E	F	G	H	J	K	L	M
KDLS-20	20 U.S. gal.	inches	21	18	37	22 -3/4	17	11-3/4	15-1/2	18-3/4	26	16-1/2	59-1/2	17-1/4
	76 liter	mm	533	457	940	578	432	298	394	476	660	479	1511	438
KDLS-30	30 U.S. gal.	inches	24	20	37	25-3/4	15	12-1/2	16-1/2	16-3/4	25-1/2	14-1/2	62-1/2	17-1/4
	114 liter	mm	610	508	940	654	387	378	479	424	648	368	1588	438
KDLS-40	40 U.S. gal.	inches	26	22-1/2	37	27-3/4	12-1/2	13	17-1/2	14-1/4	24	12	63-1/2	17-1/4
	152 liter	mm	660	571	940	704	378	330	445	362	670	305	1613	438
KDLS-60	60 U.S. gal.	inches	30	25-1/2	40-1/2	31-1/4	12-1/2	13-1/2	19-1/2	14	24-3/4	12	71	17-1/4
	227 liter	mm	762	648	1029	794	378	343	495	356	629	305	1803	438
KDLS-80	80 U.S. gal.	inches	33	28	42-1/2	34-3/4	12-1/2	14-1/4	21	14	25	12	77	19-1/4
	303 liter	mm	838	711	1080	883	378	362	533	356	635	305	1956	489
	100 U.S. gal.	inches	36	30	44 -1/2	37-1/4	12-1/2	15	22-1/2	14	26-3/4	12	83	19-1/4
	380 liter	mm	914	762	1130	946	378	387	572	356	679	305	2108	489

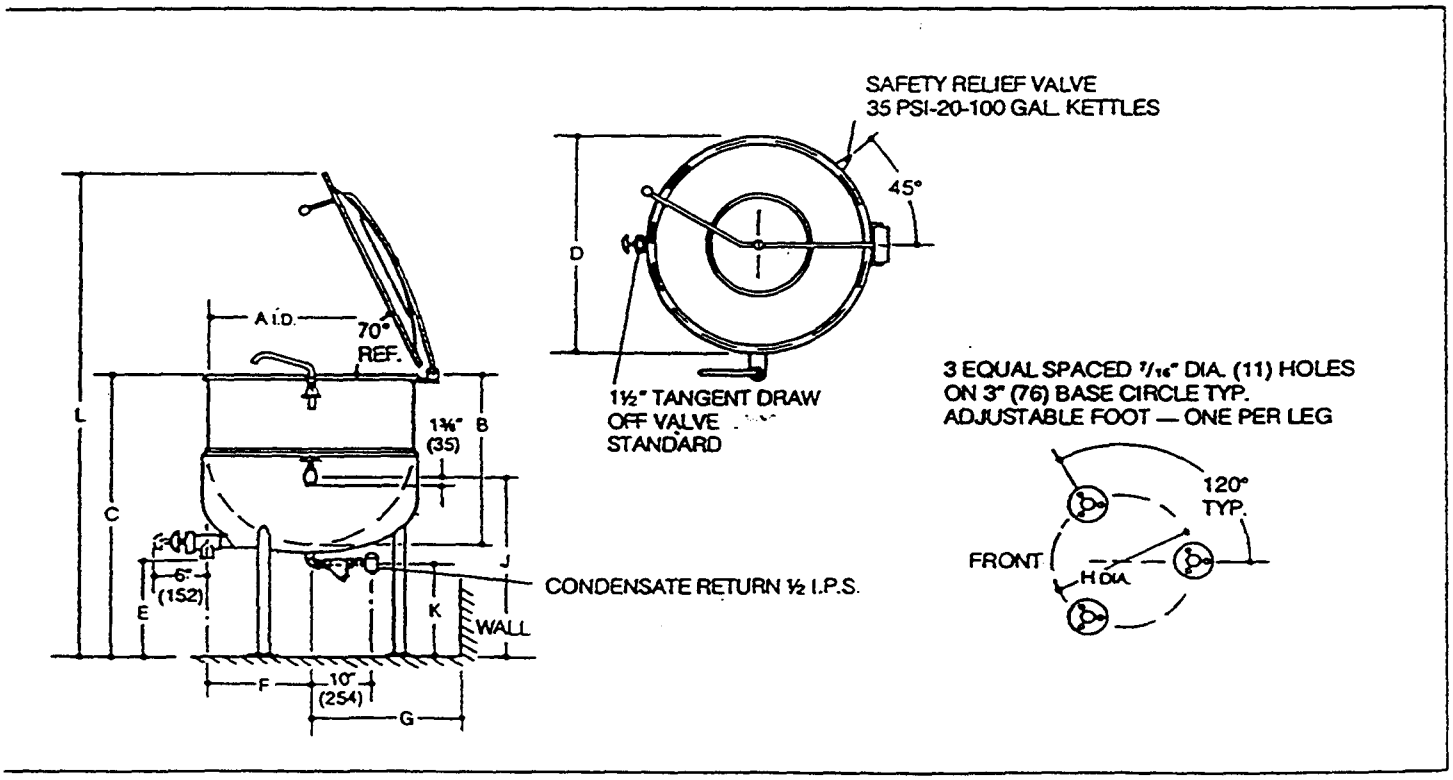


As continued product improvement is a policy of Crown, specifications are subject to change without notice.

SERVICE CONNECTIONS

S Steam Supply: 3/4" IPS *(19 mm)* CR Condensate Return: *1/2"* IPS (13 *mm)*

Model	Capacity		A	B	C	D	E	P	G	H	J	K	L
KDLS-20	20 U.S. gal.	inches	21	18	37	22-3/4	16-7/8	12	16-1/2	17-1/2	25-3/4	16-3/8	59-1/2
	76 liter	mm	533	457	940	578	429	305	479	445	654	476	1511
KDLS-30	30 U.S. gal.	inches	24	20	37	25-3/4	14-7/8	12-3/4	16-1/2	20-1/2	25-1/4	14-3/8	62-1/2
	114 liter	mm	670	508	940	654	378	324	479	527	647	365	1588
KDLS-40	40 U.S. gal.	inches	26	22-1/2	37	27-3/4	12-3/8	13-1/4	17	22-1/2	23-3/4	11-7/8	63-1/2
	152 liter	mm	660	572	940	705	374	337	432	572	603	302	1613
KDLS-60	60 U.S. gal.	inches	29-1/2	26	40-1/2	31-1/4	12-3/8	13-3/4	19	25-3/4	24-1/2	11-7/8	71
	227 liter	mm	749	660	1029	794	374	349	483	654	622	302	1803
KDLS-80	80 U.S. gal.	inches	33	28	42-1/2	34-3/4	12-3/8	14-1/2	20-1/2	29-1/4	25-3/4	11-7/8	77
	303 liter	mm	838	711	7080	863	374	368	521	743	654	302	1956
KDLS-100	100 U.S. gal.	inches	35-1/2	30	44-1/4	37-1/4	12-3/8	15-1/4	22	31-3/4	26-1/2	11-7/8	83
	380 liter	mm	802	762	1130	946	374	387	559	806	673	302	2108



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INSTALLATION INSTRUCTIONS

DIRECT STEAM CONNECTED
JACKETED KETTLES

a) Select a location to provide drainage directly below the tangent Draw-Off Valve.

b) Mark hole locations through flanged adjustable feet on DL models and through pedestal base on DPT models. Remove kettle.

c) On hole locations marked, drill holes and insert expansion shields to accommodate 5/16" size lag bolts.

d) Reposition kettle. On DL models level kettle by making necessary adjustment on flanged foot.

e) Bolt down kettle and seal with Silastic or other equivalent sealing compound. Sealant must. be applied not only to bolt heads but also around flanges or pedestal base making contact "with floor surface to fulfil NSF requirements.

f) Install a steam control valve at a convenient location near kettle on the incoming steam line (3/4" size pipe).

g) Connect steam line to the kettle, making sure there is a steam control valve strainer fairly convenient to the kettle.

h) Connect kettle condensate return line to a drain or to a boiler return line. Each kettle return line must have a suitable steam trap. Boiler return lines must have a check valve.

i) Safety relief valve on kettle roust not be plugged as it is set to relieve excess pressure in the kettle.

j) If incoming steam pressure is greater than kettle maximum operating pressure then a pressure reducing valve must be installed in the line.

k) If large amounts of water accumulate in the steam line it will be necessary to install one or more ball float traps in the line to eliminate the water.

l) A steam line pressure gauge is also recommended to determine the actual amount of steam coming to the kettle.

m) Check for proper operation.

INTRODUCTION

DIRECT STEAM CONNECTED
JACKETED KETTLES

DESCRIPTION

All Crown 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 stationary, floor mounted in fixed positions either on legs with adjustable flanged feet (DL models) or pedestal (DP models).

CAPACITIES

All models are suffixed with either -20, -30, -40, -60, -80 or -100 to indicate the capacity of that kettle in US gallons. Thus a DL-40 is a two thirds jacketed direct steam kettle mounted on legs with a capacity of 40 gallons (US). If the letter F is added to the suffix, this then indicates that the kettle is full jacketed. Thus a DP-30F indicates a full jacketed steam direct steam kettle mounted on pedestal with a capacity of 30 gallons (US).

FUNCTIONING MODE

Crown 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.

The kettle bowl is the container for the food product which ideally should be of a liquid or semi-liquid 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 p.s.i. attains a temperature of 274 degrees fahrenheit (135 degrees fahrenheit).

OPERATING INSTRUCTION

DIRECT STEAM CONNECTED
JACKETED KETTLES

OPERATING PROCEDURE

a) Ensure that draw-off valve is closed.

b) Fill kettle with product to desired level.

c) Slow turn the steam control valve ON to full open position (counter clockwise).

d) 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.

e) Regulate steam control valve depending on type of food being prepared.

f) When food is cooked, turn off steam, remove food and clean kettle immediately to prevent residue from drying on kettle bowl surface.

CLEANING PROCEDURES

DIRECT STEAM CONNECTED JACKETED KETTLES

CLEANING PROCEDURE

Your kettle should be cleaned immediately after each use.

a) Ensure that steam supply is OFF.

b) Pre-rinse inside of kettle thoroughly and drain to remove any food particles.

c) 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.

d) Tilt kettle fully or open the tangent draw-off valve if one is provided to allow soap and water solution to drain. Rinse with clean water.

e) On Kettle equipped with a draw-off valve, by hand, turn the large hex nut counter-clockwise until it is completely disengaged from thread. Grasp knob to valve and slowly pull out valve stem and disc. Do not allow disc to come in contact with hard surfaces since damage to disc may occur and result in valve leakage. Wash the valve stem, disc and handle. Insert nylon brush with .detergent into interior of valve body and tangent draw-off tube and brush vigorously. Replace valve stem assembly and engage hex nut fully by hand. Flush kettle with clean warm water. Leave valve open when kettle is not in use.

f) Replace valve stem assembly and engage hex nut fully by hand. Flush kettle with clean warm water.

g) Leave valve open when kettle is not in use.

WARNING

It is **NOT RECOMMENDED** to 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 appliance.

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.