

# KPS-E, KLS-E AND KLT-E SERIES ELECTRIC KETTLES INSTALLATION - OPERATION - MAINTENANCE



## STATIONARY PEDESTAL MODELS

- KPS-20E
- KPS-25E
- KPS-30E
- KPS-40E
- KPS-60E
- KPS-80E
- KPS-100E



## STATIONARY TRI-LEG MODELS

- KLS-20E
- KLS-25E
- KLS-30E
- KLS-40E
- KLS-60E
- KLS-80E
- KLS-100E



## TILTING TRI-LEG MODELS

- KLT-20E
- KLT-30E
- KLT-40E
- KLT-60E
- KLT-80E
- KLT-100E



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PN S00050 Rev E (4/16)

Your Service Agency's Address:

\_\_\_\_\_

Model

\_\_\_\_\_

Serial number

\_\_\_\_\_

Kettle installed by

\_\_\_\_\_

Installation checked by

# IMPORTANT

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

## FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

The information contained in this manual is important for the proper installation, use, and maintenance of this kettle. Adherence to these procedures and instructions will result in trouble free service. Please read this manual carefully and retain it for future reference.

**ERRORS:** Descriptive, typographic or pictorial errors are subject to correction. Specifications are subject to change without notice.

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# Introduction

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## DESCRIPTION

Floor model kettles are self-contained, self-generating steam jacketed vessels for cooking large volumes of liquid and semi-liquid food products. All models include a hemispheric shape based on double-wall construction forming a steam jacket reservoir around the lower two-thirds of the kettle. The reservoir is charged with distilled water, rust inhibitor and antifreeze solution and is vacuum-sealed. Kettles are equipped with electric heating elements and controls including a low water cut-off device for protection of heating elements.

Two model series differ in that KLT-\_\_E units are leg-mounted tilting kettles while KPS-\_\_E units are pedestal mounted stationery kettles. Optional leg mounting of the pedestal models is designated by the model number series KLS-\_\_E. The missing figures of the model numbers are the two digits representing the kettle capacity, ie, KLT-20E for a 20 gallon tilting kettle.

## BASIC FUNCTIONING

Self-contained kettles operate by generating steam in the kettle reservoir; the sequence of functioning, which occurs during operation, is as follows:

1. Operator places the power switch in the ON position and sets the thermostat knob at the required setting from "1" to "10" – 165°F (74°C) to 285°F (140°C) - jacket temperature.
2. Control circuit is normally completed to the thermostat control if two standard conditions exist:
  - a. Water level in kettle jacket is adequate to prevent circuit interruption by the low water cut-off device. An activated cut-off is evidenced by the Low Water light turning on and heating element cut off.
  - b. Kettle is in vertical position with circuit completed through the tilt interlock switch (KLT-E series only).
3. Thermostatic control contacts close to energize heater contactor coils and turn temperature Indicator light on.
4. Power is applied to heaters through closed contactor power contacts.
5. As temperature of water rises in kettle reservoir, the

steam pressure increase is indicated by the vacuum pressure gauge.

*NOTE: Gauge normally reads 22-30 IN. Hg (74-100 k/Pa) (below 0 PSI, prior to heaters turning on. Air is eliminated from the system when jacket is filled (with the kettle reservoir at a pressure above 0 PSI) by opening the bleed vent one full turn for 10 seconds and closing.*

6. When temperature of steam in the reservoir reaches the temperature coinciding with the thermostat setting, the thermostat switch opens to break the circuit to the contractor coils and shuts off the elements. Any number of on and off cycles of the control thermostat, contactors and elements will occur as required to maintain thermostat setting,

## SERVICE

Required service, both preventive and corrective, is explained in the maintenance section. Should repairs be required, a network of authorized agencies is available to assist with prompt service. A current Directory of Authorized Service Agencies may be found by visiting our website, [www.blodgett.com](http://www.blodgett.com).

The model and serial numbers must be referenced when corresponding with Blodgett. The data plate containing the serial number pertaining to the equipment is located on rear of kettle.

TILTING TRI-LEG KETTLES

DIMENSIONS

MODEL	A	B	C	D	E	F	G	H	J(2")*	J(3")*	K(2")*	K(3")*	L	M*
KLT-20E	21 [533]	18 [457]	38 [965]	36 [914]	15 [381]	18 [457]	14 [356]	19.25 [489]	14.75 [375]	15.5 [394]	18 [457]	17.5 [445]	-	63.5 [1613]
KLT-30E	24 [610]	20 [508]	38 [965]	39 [990]	16.5 [419]	19 [483]	12.38 [314]	19.25 [489]	16.75 [425]	17.25 [438]	16 [406]	15.5 [394]	-	66.5 [1689]
KLT-40E	26 [660]	22.5 [572]	38 [965]	41 [1041]	17.5 [445]	23 [584]	10 [254]	20.25 [489]	17.5 [445]	18.5 [470]	13.5 [343]	13 [430]	-	68.5 [1740]
KLT-60E	29.5 [749]	26 [660]	42 [1067]	44.5 [1124]	19.13 [486]	24 [610]	11 [280]	22.5 [514]	19.5 [495]	20.75 [527]	14 [356]	13.5 [343]	10.5 [267]	76 [1930]
KLT-80E	33 [838]	28 [711]	45 [1143]	48 [1219]	20.88 [530]	27 [686]	12.63 [321]	23.75 [565]	20.25 [514]	21.25 [540]	15 [381]	14.5 [368]	12 [305]	82.5 [2096]
KLT-100E	35.5 [902]	29.75 [756]	48.75 [1238]	49.5 [1257]	22.25 [565]	32 [813]	14.5 [368]	25.25 [641]	20.25 [514]	21.25 [540]	18.75 [476]	18.25 [464]	14 [356]	88.5 [2248]

\* Optional

SERVICE CONNECTIONS

EC	Electrical Connection to be as specified on data plate.
HW & CW	Hot & Cold Water - 5/8" O.D. Tubing (Optional)

ELECTRICAL CHARACTERISTICS

MODEL	PH	KW	AMPS					
			208V	220V	240V	380V	415V	480V
KLT-20E, KLT-25E	1	12	57.7	54.4	50.0	N/A	N/A	N/A
	3	12	33.3	31.5	28.9	18.2	16.7	14.4
KLT-30E	1	15	72.1	68.2	62.5	N/A	N/A	N/A
	3	15	41.6	39.4	36.1	22.8	20.9	18.0
KLT-40E, KLT-60E, KLT-80E	1	18	86.5	81.8	75	N/A	N/A	N/A
	3	18	50	47.2	43.3	27.3	25	21.7
KLT-100E	3	24	66.6	63.0	57.7	36.5	33.4	28.9
	3	33 (option)	91.6	86.6	79.4	50.1	45.9	39.7

MAXIMUM PRESSURE

All models 50 PSI (345 kPa)

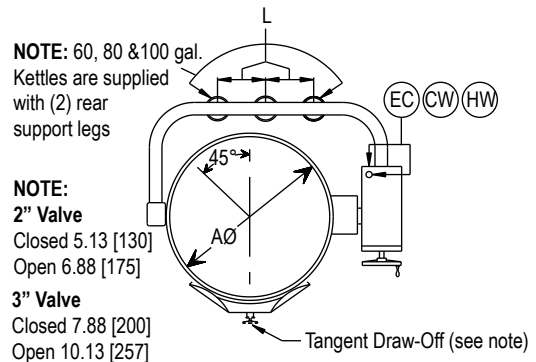
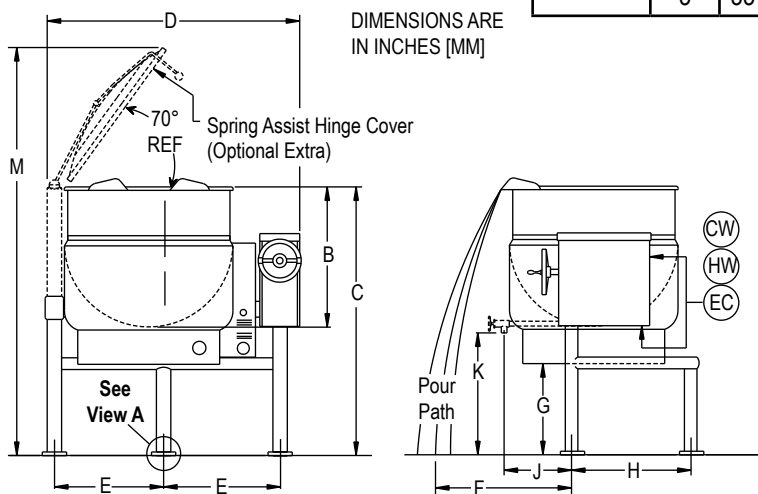
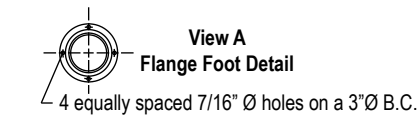


Figure 1

# Service Connections

## STATIONARY TRI-LEG KETTLES

MODEL	A	B	C	D	E	F (2")	F (3")	G (2")	G (3")	H	J	K	L
KLS-20E	21[533]	18[457]	38[965]	23.25[641]	18.5[470]	14.75[375]	15.5[395]	18[457]	17.13[435]	13.38[340]	20.75[527]	60.5[1537]	16.5[419]
KLS-25E	21[533]	20.5[521]	36.75[933]	25.25[641]	18.5[470]	14.75[375]	15.5[394]	14.38[365]	13.38[340]	9.5[241]	17[432]	58[1473]	16.5[419]
KLS-30E	24[610]	20[508]	38[965]	28.25[718]	20[508]	16[406]	16.5[419]	15.75[400]	15[381]	11.25[286]	18.88[479]	63.5[1613]	18[457]
KLS-40E	26[660]	22.5[572]	38[965]	30.25[768]	21[533]	17[432]	18[457]	13.5[343]	12.5[318]	8.88[225]	16.38[416]	65[1651]	19.63[498]
KLS-60E	29.5[749]	26[660]	42[1067]	33.75[857]	20.63[524]	18[457]	19.25[489]	13.88[352]	12.88[327]	9.63[244]	17.13[435]	75[1905]	22.88[581]
KLS-80E	33[838]	28[711]	45[1143]	37[940]	22.38[568]	19.5[495]	20.5[521]	14.88[378]	13.88[352]	11.25[286]	18.63[473]	81[2058]	26[660]
KLS-100E	35.5[902]	30[762]	48[1219]	40[1016]	23.63[600]	21.5[546]	22.5[572]	15[381]	14.5[368]	13[330]	20.5[521]	87[2210]	29.13[740]

### SERVICE CONNECTIONS

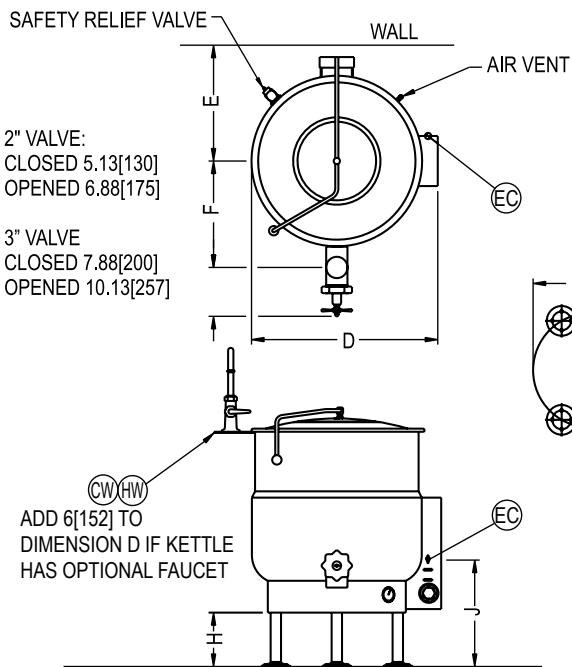
EC	Electrical Connection to be as specified on data plate.
HW & CW	Hot & Cold Water - 5/8" O.D. Tubing (Optional)

### MAXIMUM PRESSURE

All models 50 PSI (345 kPa)

### ELECTRICAL CHARACTERISTICS

MODEL	PH	KW	AMPS					
			208V	220V	240V	380V	415V	480V
KLS-20E, KLS-25E	1	12	57.7	54.4	50.0	N/A	N/A	N/A
	3	12	33.3	31.5	28.9	18.2	16.7	14.4
KLS-30E	1	15	72.1	68.2	62.5	N/A	N/A	N/A
	3	15	41.6	39.4	36.1	22.8	20.9	18.0
KLS-40E, KLS-60E, KLS-80E	1	18	86.5	81.8	75	N/A	N/A	N/A
	3	18	50	47.2	43.3	27.3	25	21.7
KLS-100E	3	24	66.6	63.0	57.7	36.5	33.4	28.9
	3	33 (option)	91.6	86.6	79.4	50.1	45.9	39.7



DIMENSIONS ARE IN INCHES [MM]

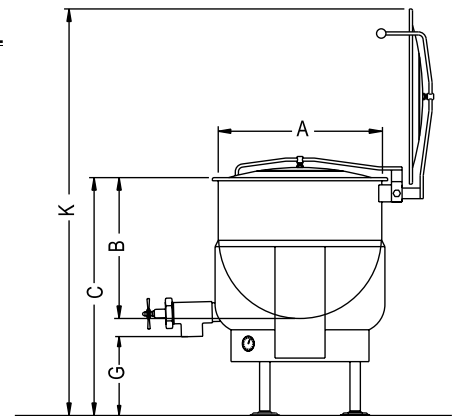
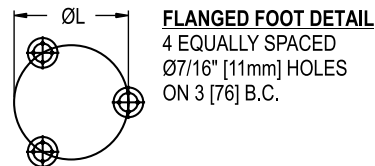


Figure 2

STATIONARY PEDESTAL BASE KETTLES

DIMENSIONS

MODEL	A	B	C	D*	E	F (2")	F (3")	G (2")	G (3")	H	J	K	L
KPS-20E	21 [533]	18 [457]	38 [965]	25.25 [641]	18.5 [470]	14.75 [375]	15.5 [394]	18 [457]	17.13 [435]	13.38 [340]	20.75 [527]	60.5 [1537]	16.63 [422]
KPS-25E	21 [533]	20.5 [523]	36.75 [933]	25.25 [641]	18.5 [470]	14.75 [375]	15.5 [394]	18 [457]	17.13 [435]	9.5 [241]	17 [432]	58 [1473]	16.5 [419]
KPS-30E	24 [610]	20 [508]	38 [965]	28.25 [718]	20 [508]	16 [406]	16.5 [419]	15.75 [400]	15 [387]	11.25 [286]	18.88 [479]	63.5 [1613]	16.63 [422]
KPS-40E	26 [660]	22.5 [572]	38 [965]	30.25 [768]	21 [533]	17 [432]	18 [457]	13.5 [343]	12.5 [318]	8.88 [225]	16.38 [416]	65 [1651]	16.63 [422]
KPS-60E	29.5 [749]	26 [660]	42 [1067]	33.75 [857]	20.63 [524]	18 [457]	19.25 [489]	13.88 [352]	12.88 [327]	9.63 [244]	17.13 [435]	75 [1905]	16.63 [422]
KPS-80E	33 [838]	28 [711]	45 [1143]	37 [940]	22.38 [568]	19.5 [495]	20.5 [521]	14.88 [378]	13.88 [352]	11.25 [286]	18.63 [473]	81 [2058]	19.63 [498]
KPS-100E	35.5 [902]	30 [762]	48 [1219]	40 [1016]	23.63 [600]	21.5 [546]	22.5 [572]	15 [381]	14.5 [368]	13 [330]	20.5 [521]	87 [2210]	19.63 [498]

\* Optional

SERVICE CONNECTIONS

EC	Electrical Connection to be as specified on data plate.
HW & CW	Hot & Cold Water - 5/8" O.D. Tubing (Optional)

MAXIMUM PRESSURE

All models 50 PSI (345 kPa)

ELECTRICAL CHARACTERISTICS

MODEL	PH	KW	AMPS					
			208V	220V	240V	380V	415V	480V
KPS-20E, KPS-25E	1	12	57.7	54.4	50.0	N/A	N/A	N/A
	3	12	33.3	31.5	28.9	18.2	16.7	14.4
KPS-30E	1	15	72.1	68.2	62.5	N/A	N/A	N/A
	3	15	41.6	39.4	36.1	22.8	20.9	18.0
KPS-40E, KPS-60E, KPS-80E	1	18	86.5	81.8	75	N/A	N/A	N/A
	3	18	50	47.2	43.3	27.3	25	21.7
KPS-100E	3	24	66.6	63.0	57.7	36.5	33.4	28.9
	3	33 (option)	91.6	86.6	79.4	50.1	45.9	39.7

DIMENSIONS ARE IN INCHES [MM]

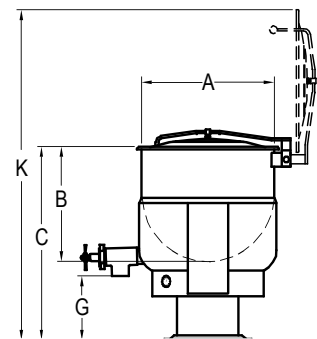
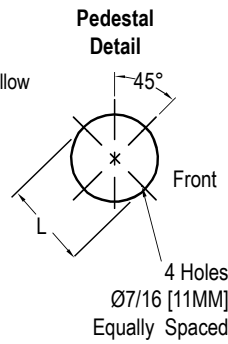
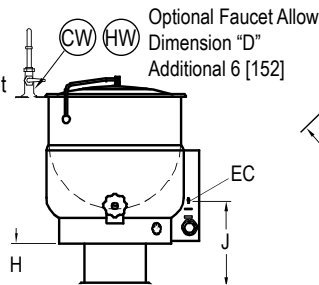
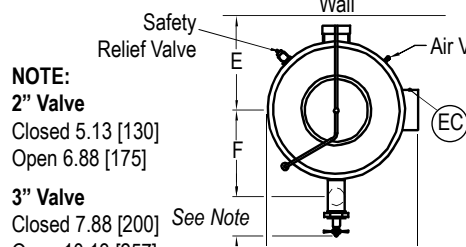


Figure 3

## Installation Instructions

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1. Select a location to provide drainage directly below the tangent draw-off. Allow sufficient rear clearance from wall for kettle cover to lift upright freely and completely without obstructions.
2. Mark hole locations through flanged adjustable feet on KLT-\_\_E models. Remove kettle.
3. Drill holes on marked hole locations, and insert expansion shields to accommodate 5/16" size lag bolts.
4. Reposition kettle. On KLS-\_\_E models level by making necessary adjustments on flanged feet.
5. 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 fulfill NSF requirements. Wipe off excess sealant immediately.
6. A control box with power supply equivalent to electrical
7. Rating of kettle should be located conveniently nearby.
8. A waterproof electrical connection for power supply to rear of control housing must be provided.
9. Ground kettle to terminal provided inside control housing.
10. Turn power ON and check for proper operation.



# Operating & Cleaning Instructions

## OPERATION

1. Check kettle pressure gauge that reading indicates 20-25 vacuum for a cold kettle. If vacuum is insufficient, air venting instructions must be followed. If equipped with draw off valve ensure valve is closed.
2. Place kettle power switch in ON position.
3. Preheat kettle by turning thermostat knob to '8' and wait until temperature pilot light goes off.

*NOTE: Food products with milk or egg base should be placed into cold kettle and then the cooking operation begun. Avoid sudden contact of these food products to hot kettle bowl surface since caking/adhering will occur.*

4. Place food product into kettle bowl. Close kettle cover.
5. Adjust thermostat knob to temperature cooking mode. Setting of 6-7 will provide simmer and 8-10 low to rolling boil.
6. Turn both kettle power switch and thermostat knob OFF when cooking has been completed.
7. Remove food product by ladling out of kettle bowl or by opening draw-off valve and pouring into a suitable container.



### WARNING

**DRAW OFF VALVE HAS A VUCANIZED RUBBER COATED STEAM FOR BETTER SEALING. DO NOT OVERTIGHTEN. THIS MAY CAUSE THE RUBBER TO PULL AWAY FROM STEAM AND PERMANENTLY DAMAGE IT.**

## CLEANING

Your kettle should be cleaned immediately after each use to prevent food residue from drying and adhering too kettle bowl and valve surfaces.

1. Turn power supply OFF to kettle
2. Rinse inside of kettle thoroughly. Drain kettle by tilting or if equipped with drain valve, open valve and remove all food particles. Close drain valve.
3. Using nylon brush. clean kettle with a mild detergent and warm water rinse. Never use steel wool or scouring powder as they will scratch stainless steel. Food adhering excessively to bowl surface may be loosened by allowing water to soak in a bowl at a low temperature setting.
4. Open the draw-off to allow soap and water solution to drain.
5. By hand, turn large hex nut on draw-off valve counter clockwise until completely disengaged from thread. Grasp valve knob and pullout valve stem and disc slowly.
6. Avoid contact of valve disc with hard surfaces since damage to disc may occur and result in valve leakage. Wash the valve stem, disc and handles. Insert nylon brush with detergent into interior of valve body and tangent draw-off tube and brush vigorously.
7. Replace valve stem assembly and engage hex nut fully by hand. Flush kettle with clean warm water and leave valve open when kettle is not in use.
8. Wipe down exterior of kettle with clean damp cloth.



### 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 detergent, warm water and rinse thoroughly.**

**NEVER SPRAY WATER INTO ELECTRIC CONTROLS.**