

# PATRIOT™

## LIGHT-DUTY COMMERCIAL ELECTRIC WATER HEATERS



Designed for use as recovery heaters for light-duty hot water supply service. Patriot™ PCE water heaters are available with tank capacities from 6 through 119 gallons. They can be installed for non-simultaneous and single element operation (maximum input up to 6 KW), or for simultaneous dual-element operation (maximum input up to 12 KW).

### Zinc-Plated Copper Sheath Heating Elements Standard

- Medium watt density design disperses element temperature over larger surface contact area to minimize scale buildup, maximize efficiency and prolong element life
- Element options from 1.5 KW to 6 KW (non-simultaneous or simultaneous operation), recoveries from 6 gph to 49 gph at 100°F rise

### Standard Voltages for Easy Installation

- 120V, 277V single-phase, and 208V, 240V and 480V unbalanced 3-phase delta
- Easily converted to single-phase at terminal block (except for 208V with 6000 watt elements)
- Single-element heater, single-phase only (see chart for dual-element options)

### Factory-Installed Terminal Block

- Provides electrical service to heater and connects to block

### Factory-Wired Controls

- Temperature control (adjustable from 110°F to 170°F on single-element; 120°F to 180°F on dual-element models)

- Manual reset high temperature cutoff per element (dual-element models)
- Factory wired for non-simultaneous operation; easily converted to simultaneous operation

### Glass-Lined Tank with Anode Rod

- Provides long-lasting protection against corrosion

### Maximum Hydrostatic Working Pressure: 150 psi

**Meets or exceeds the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1**

### Other Patriot™ PCE Series Features

- CSA Certified and ASME rated T&P relief valve is factory-installed
- Simplified, color-coded circuitry for ease of service
- Bonderized undercoat on cabinet with baked enamel finish
- Top inlet and outlet openings
- Foam insulation
- Drain valve
- UL-approved field conversion program
- PCE models 6-20 are listed to UL 174 and PCE models 30-120 are listed to UL 1453

### Three-Year Limited Tank Warranty

- Consult written warranty shipped with water heater, or contact State for complete information

For more information on State® contact:  
State Water Heaters  
500 Tennessee Waltz Parkway, Ashland City, TN 37015  
800-365-0024 Toll-free USA  
[www.statewaterheaters.com](http://www.statewaterheaters.com)

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# PRODUCT SPECIFICATIONS

## WATTAGE, RECOVERY AND ELECTRICAL CHARACTERISTICS

Element Wattage (Upper/Lower)	INPUT KW	U.S. Gallons/Hr and Litres/Hr at TEMPERATURE RISE INDICATED											
		F° C°	36F° 20C°	40F° 22.2C°	54F° 30C°	60F° 33.3C°	72F° 40C°	80F° 44.4C°	90F° 50C°	100F° 55.5C°	108F° 60C°	120F° 66.6C°	126F° 70C°

### NON-SIMULTANEOUS OPERATION

/1500		GPH	17	15	11	10	8	8	7	6	6	5	5
	1.5	LPH	64	58	43	38	32	29	26	23	21	19	18
/2000		GPH	23	20	15	14	11	10	9	8	8	7	6
	2.0	LPH	85	77	57	51	43	38	34	31	28	26	24
/2500		GPH	28	25	19	17	14	13	11	10	9	8	8
	2.5	LPH	107	96	71	64	53	48	43	38	36	32	30
3000/3000		GPH	34	30	23	20	17	15	14	12	11	10	10
	3.0	LPH	128	115	85	77	64	58	51	46	43	38	37
4000/4000		GPH	45	41	30	27	23	20	18	16	15	14	13
	4.0	LPH	170	153	114	102	85	77	68	61	57	51	49
4500/4500		GPH	51	46	34	30	25	23	20	18	17	15	14
	4.5	LPH	192	173	128	115	96	86	77	69	64	58	55
5000/5000		GPH	56	51	38	34	28	25	23	20	19	17	16
	5.0	LPH	213	192	142	128	107	96	85	77	71	64	61
6000/6000		GPH	68	61	45	41	34	30	27	24	23	20	19
	6.0	LPH	256	230	170	153	128	115	102	92	85	77	73

### SIMULTANEOUS OPERATION

3000/3000		GPH	68	61	45	41	34	30	27	24	23	20	19
	6	LPH	256	230	170	153	128	115	102	92	85	77	73
4000/4000		GPH	90	81	60	54	45	41	36	32	30	27	26
	8	LPH	341	307	227	205	170	153	136	123	114	102	97
4500/4500		GPH	101	91	68	61	51	46	41	36	34	30	29
	9	LPH	384	345	256	230	192	173	153	138	128	115	110
5000/5000		GPH	113	101	75	68	56	51	45	41	38	34	32
	10	LPH	426	384	284	256	213	192	170	153	142	128	122
6000/6000		GPH	135	122	90	81	68	61	54	49	45	41	39
	12	LPH	511	460	341	307	256	230	205	184	170	153	146

## TANK CAPACITY, DIMENSIONS AND WEIGHTS

Models Dimensions	No. of Elements	Tank Capacity		A		B		C		D		Approx. Shipping Weight	
		US Gals.	Litres	inches	mm	inches	mm	inches	mm	inches	mm	Lbs.	Kg.
PCE 6 10MSA	1	6	23	15 1/2	394	14 1/4	362	11	279	-	-	35	15.9
PCE 10 10MSA	1	10	38	18 1/4	464	18	457	12 1/2	318	-	-	54	24.5
PCE 17 10MSA	1	15	57	26	660	18	457	20 1/2	521	-	-	58	26.3
PCE 20 10MSA	1	20	76	22 1/4	565	21 3/4	552	15 3/8	391	-	-	73	33.1
PCE 30 20LSA	2	30	114	30 7/8	784	21 3/4	552	24 1/8	613	8	203	100	45.4
PCE 40 20LSA	2	40	151	32 1/4	819	24	610	25 9/16	649	8	203	125	56.7
PCE 50 20LSA	2	50	189	32 1/4	819	26 1/2	673	25 1/8	638	8	203	166	75.3
PCE 30 20RTA	2	30	114	34 1/2	876	20 1/2	521	-	-	8	203	98	44.5
PCE 40 20RTA	2	40	151	45 1/8	1146	20 1/2	521	-	-	8	203	113	51.3
PCE 52 20RTA	2	50	189	54 7/8	1394	20 1/2	521	-	-	8	203	131	59.4
PCE 66 20RTA	2	66	250	60 3/4	1543	21 3/4	552	-	-	8	203	176	79.8
PCE 82 20RTA	2	80	303	59 3/8	1508	24	610	-	-	8	203	211	95.7
PCE 120 20RTA	2	119	450	62 7/16	1586	29 3/8	746	-	-	8	203	326	147.9

Recovery capacities at 100° F rise equal: for non-simultaneous element operation = 4.1 gal. x KW of one element; for simultaneous element operation = 4.1 gal. x 2/3 KW of both elements. For other rises multiply element KW as previously explained by 410 and divide by temperature rise. Full load current for single phase = total watts : voltage.

## HEATING ELEMENT AVAILABILITY

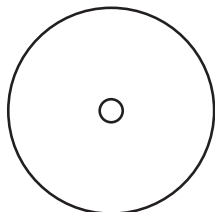
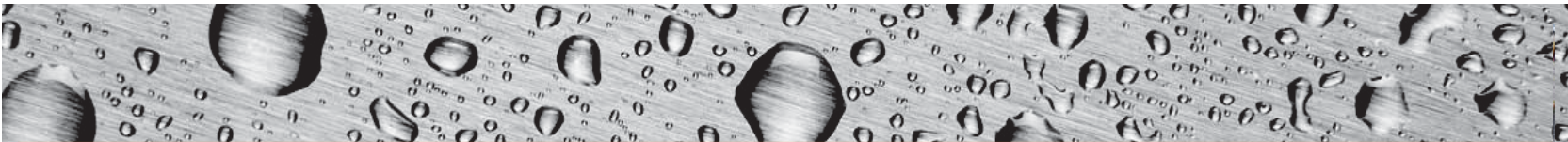
INPUT WATTS	120V	208V	240V	277V	480V
1500	YES	YES	YES	YES	NO
2000	YES	YES	YES	YES	NO
2500	YES	YES	YES	YES	YES
3000	YES	YES	YES	YES	YES
3500	NO	NO	YES	NO	NO
4000	NO	YES	YES	YES	YES
4500	NO	YES	YES	YES	YES
5000	NO	YES*	YES*	YES*	YES*
5500	NO	NO	YES	NO	NO
6000	NO	YES**	YES	YES	YES

\*Not available in PCE 10 10MSA, PCE 17 10MSA and PCE 30 20RTA.

\*\*A6 non-simultaneous circuit only.

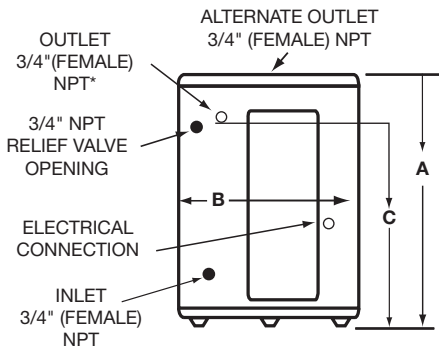
PCE 6 10MSA not available above 2500 W.

PCE 6 10MSA not available in 480V.



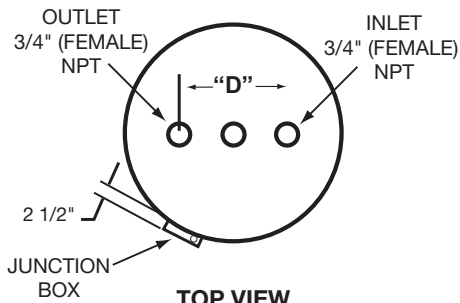
**TOP VIEW**

PCE 6 10MSA, PCE 10 10MSA  
PCE 17 10MSA, PCE 20 10MSA



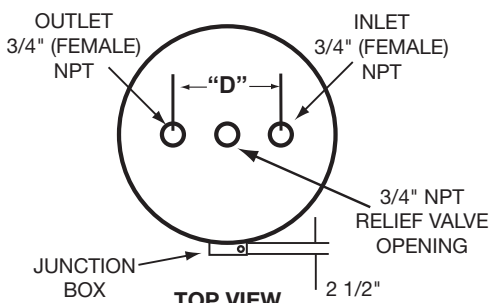
**FRONT VIEW**

PCE 6 10MSA, PCE 10 10MSA  
PCE 17 10MSA, PCE 20 10MSA

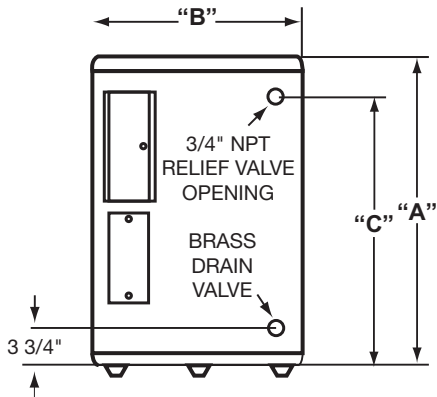


**TOP VIEW**

PCE 30 20LSA, PCE 40 20LSA,  
PCE 50 20LSA

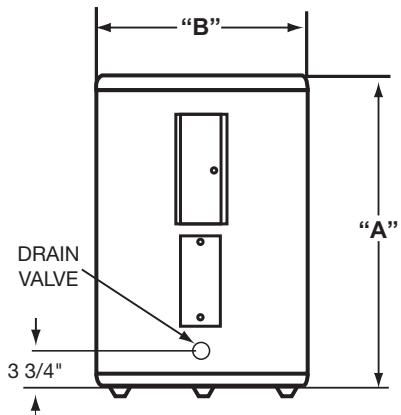


**TOP VIEW**



**FRONT VIEW**

PCE 30 20LSA, PCE 40 20LSA,  
PCE 50 20LSA



**FRONT VIEW**

PCE 30 20RTA - PCE 120 20RTA

## SUGGESTED SPECIFICATION

The water heater(s) shall be State Patriot™ Model(s) \_\_\_\_\_, rated at \_\_\_\_\_ KW, \_\_\_\_\_ volts, \_\_\_\_\_ -phase, 60 cycle AC. Water heater(s) shall be listed by Underwriters Laboratories and meet or exceed the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1 shall be \_\_\_\_\_ gallon capacity with a recovery capacity of \_\_\_\_\_ GPH at a temperature rise of \_\_\_\_\_ °F with \_\_\_\_\_/\_\_\_\_\_ upper/lower element wattage. Heater(s) shall have 150 psi working pressure and be equipped with extruded high-density anode rod. All internal surfaces of the heater(s) exposed to water shall be glass-lined with an alkaline borosilicate composition that has been fused to steel by firing at a temperature of 1600°F. Electric heating elements shall be medium watt density with zinc-plated copper sheath or Incoloy sheath \_\_\_\_\_. CSA Certified and ASME rated T&P Relief valve is factory-installed.

Each element shall be controlled by an individually mounted thermostat and high-temperature cutoff switch. The outer jacket shall be a baked enamel finish and provided with a full-size control compartment for performance of service and maintenance through a hinged front panel and shall enclose the tank with foam insulation.

Electrical junction box with heavy-duty terminal block shall be provided (except on 120V and 277V [no junction box on PCE 6 10MSA thru PCE 20 10 MSA]). The drain valve shall be located in the front for ease of servicing. Heater tank shall have a 3-year limited warranty as outlined in the written warranty. Fully illustrated instruction manual will be included.

For more information on State® contact:  
 State Water Heaters  
 500 Tennessee Waltz Parkway, Ashland City, TN 37015  
**800-365-0024 Toll-free USA**  
**[www.statewaterheaters.com](http://www.statewaterheaters.com)**

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