HUBBELL
a **nudyne** company

ENDURANCE SERIES

Light Duty Commercial Electric Water Heater

6–55 gallon capacity, up to 12 KW, single phase and three phase options available

Hydrastone cement lining provides longer tank life

High impact composite jacket eliminates damage during transit and installation and cannot rust or corrode

Copper-silicon tappings cannot rust or corrode

- Polyurethane foam insulation reduces heat loss
- Built-in heat trap lowers operating costs
- Full five (5) year non pro-rated tank warranty is standard
- Full ten (10) year non pro-rated tank warranty can be specified for extended protection

Applications

Office buildings, schools, hospitals, industrial facilities, hotels, and much more.

A long lasting, trouble-free water heater

The Hubbell Endurance E water heater incorporates a number of features, not found in other conventional heaters, that make it better suited to resist the highly corrosive effects of hot water. The heart of a Hubbell water heater is a superior storage vessel which utilizes a specially formulated Hydrastone cement lining, solid copper-silicon threaded tank openings and a built-in heat trap device, all of which ensure a longer lasting and energy efficient water heater.

Hubbell water heaters are the right choice for your commercial and industrial applications. We have water heating solutions for most energy sources with storage capacities from 6–5,000 gallons — all designed, engineered, and manufactured for reliability and longevity coupled with unparalleled support and service.

Intertek ISO 9001 MADE in the USA

hubbellheaters.com **sales@hubbellheaters.com** **203.378.2659**

The Difference: Hydrastone Cement Lining

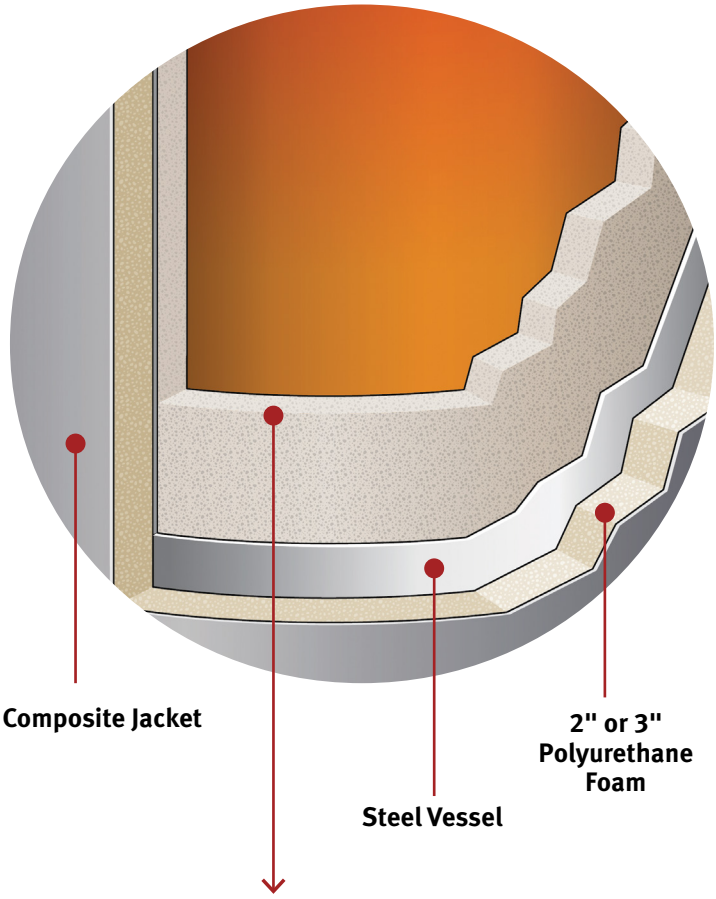
Cement lined tanks offer significant longevity, trouble-free operation and a lower lifetime cost.

The type of protective lining is the single most important feature when determining the quality of any water heater. The ability of a lining to protect the steel tank is primarily based on its thickness and complete coverage of all steel surfaces.

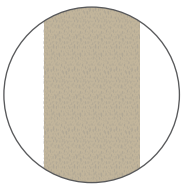
A glass lined tank uses only .005 inches of glass which does not cover all internal surfaces. To compensate, all glass lined tanks require a sacrificial anode rod which must be periodically inspected and replaced.

Our tanks are lined with a minimum of .5 inches of high density Hydrastone cement — 100 times thicker than glass lining. Full coverage is achieved by injecting the precise amount of Hydrastone cement into each tank and then centrifugally spinning it at 250 RPM to ensure complete and uniform coverage. This process provides maximum protection from the corrosive effects of hot water. Additionally, cement lined tanks do not require a sacrificial anode, eliminating periodic inspections and replacement costs associated with glass lined tanks.

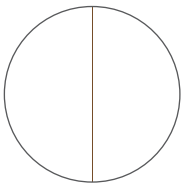
Our water heater tanks are constructed with solid non-ferrous copper-silicon tank tappings which are impervious to the corrosive effects of hot water. Glass-lined tanks have regular steel tappings which are vulnerable to corrosion.



.5 inch Hydrastone cement lining
(actual size)



VS.



.005 inch glass lining
(actual size)

Heater Specifications

Tank	Hydrastone Cement Lined Steel
Volumes	6, 10, 19, 30, 40 and 55 gallons 50 gallon for undercounter only
Orientation	Vertical, horizontal option available
Voltages	120 – 480 Volt
Phases	1Φ or 3Φ
Inlet Size	3/4" Female NPT
Outlet Size	3/4" Male NPT
Drain Size	3/4" GHT
Relief Valve Size	3/4" Female NPT
Relief Valve Type	T&P, 210°F, 150 psi
Thermostat Range	110–170°F (surface)
Hi-Limit	190°F Manual Reset
Design WP	150 psi
Design TP	300 psi
Elements	Copper Sheathed
Insulation	• 3" Polyurethane Foam • 2" Polyurethane Foam for 6, 10, and 19 gallon tanks
Tank Warranty	
Standard	5 year Non Pro-Rated
Optional	10 year Non Pro-Rated
Electrical Warranty	1 Year
Jacket	High Impact Colorized Composite
Finish	White with Black Trim

Undercounter/low boy sizes available – see chart on page 4.

For horizontal ceiling hung or floor mount in 20 or 30 gallon capacity see Endurance EH/SEH brochure.

Standard Features

Tank

The Hubbell Endurance E tank is welded heavy steel construction designed for 150 psi working pressure and tested to 300 psi. All tank openings are non-ferrous solid copper-silicon and are resistant to the corrosive effects of hot water.

Plumbing

A ¾" combination cold water inlet and drain, with non-corrosive strata flow diffuser which prevents incoming cold water from mixing too rapidly with the hot water in the tank and assures delivery of more hot water — not lukewarm water.

A ¾" hot water outlet with a uniquely designed built-in heat trap prevents heated water from radiating through the piping during standby periods.

Electrical

Copper sheathed immersion heating elements with low watt density for prolonged life — up to 10 KW in 120, 208, 240, 277, 480 volt single phase and 3 phase (see chart for details). An adjustable surface thermostat operates in 110–170°F range. Integral hi-limit with manual reset button for over-temperature protection is factory set at 190°F. Upper and lower element configurations are factory wired for non-simultaneous operation.

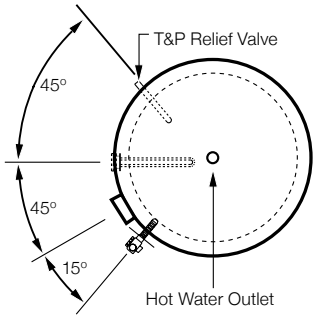
Insulation

Meets the new NAECA III efficiency requirements. Highly efficient thick polyurethane foam insulation meets or exceeds the requirements of ANSI/ASHRAE/IESNA 90.1–2007 standards for energy efficiency and heat loss.

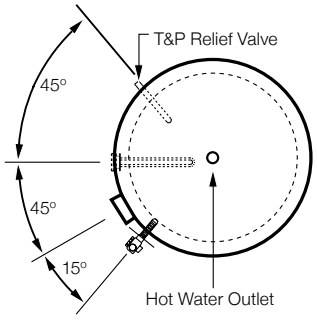
Jacket

The exterior protective jacket is constructed from high impact composite material which cannot rust or corrode and does not require painting.

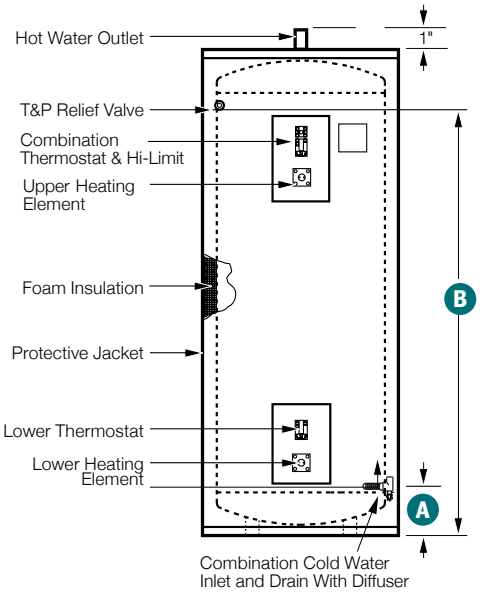
Outline Dimensions



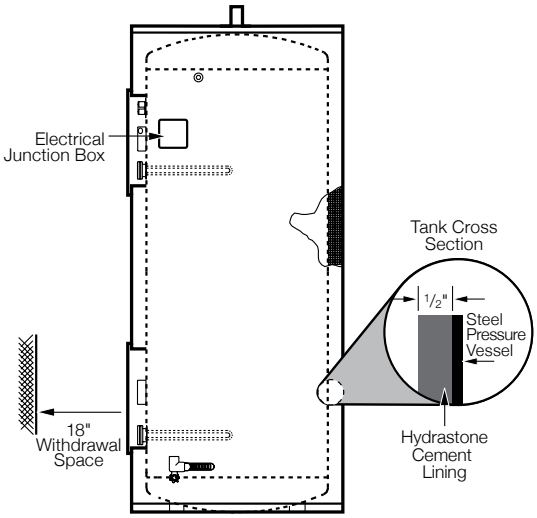
TOP VIEW E30–E55



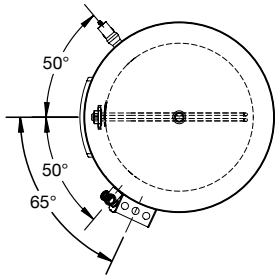
TOP VIEW E06



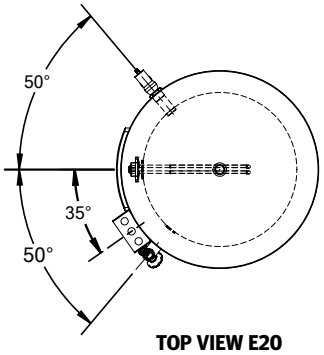
FRONT VIEW



SIDE VIEW



TOP VIEW E10



TOP VIEW E20

Endurance E Dimensional Data

Storage Capacity (Gallons)	Base Model Number	Standard Configurations		Dimensions (inches)				Shipping Weight (lbs.)
		KW	Volts 1Φ	Overall Diameter	Overall Height	Floor to Inlet "A"	Floor to T&P "B"	
6	E06	1.5	120, 240	15	19	6.125	12.875	105
10	E10	1.5	120, 240	20	22.5	7.5	14.75	120
19	E20	1.5	120, 240	20	33.75	7.5	26.75	150
30	E30	4.5	240	22.75	41.625	7.5	34.25	225
40	E40	4.5	240	22.75	57.25	7.5	50	240
55	E55	4.5	240	25	59.25	7.875	50.875	375
30	E30U	4.5	240	25	34.25	7	24	205
40	E40U	4.5	240	28	31.75	7	24	270
50	E50U	4.5	240	30	36.25	7	27	300

Under counter options

Notes:

1. 120 volt models are available in 1500, and 2500 Watts only.
2. The 6, 10, and 19 gallon models are available in lower element design only and come standard with 2" insulation. All other sizes have both upper and lower element banks of identical wattage and are wired for non-simultaneous operation and come standard with 3" insulation.
3. 6 gallon available in single phase only.
4. Undercounter models SE30U, SE40U, and SE50U hot water outlet is located on the side.

Formula: 1 KW will heat 4.1 GPH at 100°F rise

KW Selection Charts

6 Gallon KW Selection Chart

	KW	Recovery (GHP)	1 Phase Voltages				
			120	208	240	277	480
SINGLE ELEMENT	1	4		•		•	
	1.5	6	•		•		•
	2	8		•		•	•
	2.5	10	•	•	•		
	3	12		•	•		•
	3.5	14		•	•	•	
	4	16		•	•	•	
	4.5	18			•		
	5	21			■		■
	6	25					■

• = Surface Thermostat ■ = Immersion Thermostat

10 and 20 Gallon KW Selection Chart

	KW	Recovery (GHP)	1 Phase Voltages					3 Phase Voltages (Balanced)		
			120	208	240	277	480	208	240	480
SINGLE ELEMENT	1	4		•	•	•				
	1.5	6	•	•	•	•	•			
	2	8	•	•	•	•	•	•		
	2.5	10	•	•	•	•	•			
	3	12		•	•		•	•	•	
	3.5	14		•	•	•	•			
	4	16		•	•	•	•	•	•	•
	4.5	18		•	•	•	•			
	5	21		■	■	■	■	■	■	■
	6	25		■	■	■	■	■	■	■
	7	29								
	8	33		■	■	■	■	■	■	■
	9	37								
	10	41			■	■	■		■	■
	12	49								

• = Surface Thermostat ■ = Immersion Thermostat ▭ = Contactor Required

30 Gallon KW Selection Chart

KW	Recovery (GHP)	1 Phase Voltages					3 Phase Voltages (Balanced)			3 Phase Voltages (Open Delta)		
		120	208	240	277	480	208	240	480	208	240	480
1	4		•	•	•							
1.5	6	•	•	•	•	•						
2	8	•	•	•	•	•	•	•		•	•	
2.5	10	•	•	•	•	•						
3	12		•	•		•	•	•		•	•	•
3.5	14		•	•	•	•						
4	16		•	•	•	•	•	•	•	•	•	•
4.5	18		•	•	•	•						
5	21		■	■	■	■	■	■	■	■	■	■
6	25		■	■	■	■	■	■	■	■	■	■
7	29									■	■	■
8	33		■	■	■		■	■	■	■	■	■
9	37									■	■	■
10	41			■	■			■	■	■	■	■
12	49									■	■	■

• = Surface Thermostat ■ = Immersion Thermostat Non-Simultaneous Standard Non-Simultaneous Only
Simultaneous Open Delta Non-Simultaneous Only Balanced with Contactor Balanced with Contactor(s)

40, 50 and 55 Gallon KW Selection Chart

KW	Recovery (GHP)	1 Phase Voltages					3 Phase Voltages (Balanced)			3 Phase Voltages (Open Delta)		
		120	208	240	277	480	208	240	480	208	240	480
1	4		•	•	•							
1.5	6	•	•	•	•	•						
2	8	•	•	•	•	•	•	•		•	•	
2.5	10	•	•	•	•	•						
3	12		•	•		•	•	•		•	•	•
3.5	14		•	•	•	•						
4	16		•	•	•	•	•	•	•	•	•	•
4.5	18		•	•	•	•						
5	21		•	•	•	•	•	•	•	•	•	•
6	25		•	•	•	•	•	•	•	•	•	•
7	29									■	■	■
8	33		■	■	■		■	■	■	■	■	■
9	37									■	■	■
10	41			■	■			■	■	■	■	■
12	49									■	■	■

• = Surface Thermostat ■ = Immersion Thermostat Non-Simultaneous Standard Non-Simultaneous Only
Simultaneous Open Delta Non-Simultaneous Only Balanced with Contactor Balanced with Contactor(s)

Optional Equipment

Note: *Optional equipment must be called out in the written specifications. Use the codes in this section to specify optional equipment below.*

Controller

C1 Immersion thermostat specify 100–190°F or 30–120°F temperature range

C2 Immersion adjustable 100–240°F safety hi-limit cut out with manual reset

C6 Off-peak wiring for load management savings

C30 Heating elements wired for simultaneous operation

C35 T1000 digital controller with BACnet communication module

Electrical

E5 Three phase open delta wiring (must be simultaneous operation; reference 3 phase KW selection charts on previous pages)

Note Alternate voltages available including 380, 415, 440 and 600 volt, please consult factory

General

G1 Combination temperature and pressure gauge: 2.5" dial, 70-250°F, 0-200 psi mounted tank

Note A wall shelf is available, to order specify part number "WALL SHELF"

Vessel

V1 Full 10 year non pro-rated tank warranty

V10 1-½" Male NPT inlet and outlet water connections

V15 Additional ¾" FNPT tappings

V16 Additional 1-½" FNPT tappings

V20 Integrally welded seismic attachment points

Note Horizontal ceiling hung or floor mount available – see EH/SEH brochure.

Please note: Optional equipment may impact overall dimensions and weight. Please request submittal drawing from factory.

Endurance E Model Number Designation 6, 10, and 20 Gallon

See next page to specify 30–55 gallon

MODEL	MODEL NUMBER	STYLE	*See charts on pages 5 & 6* LOWER KW*	TANK	*See charts on pages 5 & 6* VOLTAGE / PHASE / HZ	OPTIONAL EQUIPMENT
E 2" Foam Insulation	6 10 20	Leave blank for standard **A** = ASME **H** = Horizontal	1 1.5 2 3 3.5 4 4.5 5 6	**SL** = Hydrastone cement lined tank **CN** = Solid copper-nickel tank **SS** = Stainless steel (specify 304L or 316L)	**A** = 120/1/60 **RS** = 208/1/60 **S** = 240/1/60 **W** = 277/1/60 **T4S** = 480/1/60 **Balanced 3Φ and 3Φ open delta†** **R** = 208/3/60 **T** = 240/3/60 **T4** = 480/3/60	Select option code from above and write code in the gray box below in alphabetical order. For multiple options separate codes with a dash (–).
E			–			–

Example: E10-4.5SLS–V1–V15

Model E with 2" foam insulation storage tank of 10 gallons with 4.5 KW heating element, hydrastone cement lined steel storage tank, 240 V, single phase, 60 Hz power. Includes optional 10-year non pro-rated tank warranty and additional ¾" FNPT tapping.

Important notes:

***6, 10 and 20 gallon models are lower element only**

† 10 and 20 gallon available in 3 phase but balanced 3 phase only

Endurance E Model Number Designation 30–55 Gallon

MODEL	MODEL NUMBER	STYLE	See charts on pages 5 & 6 UPPER KW	LOWER KW	TANK	VOLTAGE / PHASE / HZ	OPTIONAL EQUIPMENT
E 3" Foam Insulation	30 40 50* 55	Leave blank for standard **A** = ASME **U** = Undercounter** **H** = Horizontal†	0†† 1.5 2 3 3.5 4 4.5 5 6	1 1.5 2 3 3.5 4 4.5 5 6 7 8 9 10 12	**SL** = Hydrastone cement lined tank **CN** = Solid copper-nickel tank **SS** = Stainless steel (specify 304L or 316L)	**A** = 120/1/60 **RS** = 208/1/60 **S** = 240/1/60 **W** = 277/1/60 **T4S** = 480/1/60 **Balanced 3Φ and 3Φ open delta** **R** = 208/3/60 **T** = 240/3/60 **T4** = 480/3/60	Select option code from above and write code in the gray box below in alphabetical order. For multiple options separate codes with a dash (–).

E			–					–	

Example: E55A–4.54.5SLS–C1–V10

Model E with 3" foam insulation storage tank of 55 gallons, ASME certified, with 4.5 KW upper and lower heating elements, hydrastone cement lined steel storage tank, 240 V, single phase, 60 Hz power. Includes optional immersion thermostat and optional 1-½" MALE NPT inlet/outlet.

Important notes:

*** 50 gallon available only for undercounter**

**** Available in 30, 40 and 50 gallon sizes only**

† Ceiling hung horizontal available in 20 or 30 gallon capacity, see Endurance EH/SEH brochure

†† Upper KW "0" is only available in balanced 3 phase

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