Hubbell™

MODEL ER

Explosion Resistant Water Heater

10-120 Gallon Capacity, 1.5-58 KW, Single or Three Phase

FEATURES

- **Built For Safe Operation In A Hazardous Location**
  - √ UL and CSA listed housing rated for operation in Class 1 Division 1 & 2, Groups B, C, D; Class 2 Division 1 & 2 Groups E, F, G, ; Class 3, Division 1 & 2; NEMA 4, 7BCD, 9 EFG
- **Heavy Duty Construction**
  - √ Hydrastone cement lining provides long tank life
  - √ Copper-silicon alloy tappings cannot rust or corrode
  - √ High impact composite jacket cannot rust or corrode and eliminates damage during installation and transit
- **Packaged System**
  - √ All controls factory selected and wired for efficient installation and operation
  - √ Ready for electrical and plumbing service connections

APPLICATIONS

- Refineries
- Drilling Platforms
- Paper and Pulp Mills
- Industrial Facilities

NO GLASS LINING

Water Heater designed specifically for use in hazardous locations.

A Long Lasting Water Heater For Your Hazardous Location

The Hubbell ER explosion resistant water heater is the right choice for applications in hazardous atmosphere locations. All operating controls are housed within the heavy duty explosion resistant enclosure to ensure safe operation in a hazardous location. Furthermore, because of the exceptional corrosion resistant properties of the Hubbell and a built-in heat trap device, all of which Hydrastone cement lined tank, the ER model water heater is proven to last longer than other conventional tank designs.

When you specify and install a Hubbell Model ER for a hazardous location you will have confidence in knowing that the owner will be provided with a quality product that is a safe, long lasting, and trouble-free source for hot water.

Standard Equipment

- Explosion resistant electrical enclosure rated for operation in a Class 1, Division 1 & 2, Groups B, C, D; Class 2, Division 1 & 2 Groups E, F, G; Class 3, Division 1 & 2; NEMA 4, 7BCD, 9 EFG; UL and CSA listed for hazardous area locations.
- Heavy Duty ½" thick Hydrastone cement lined storage tank for long service life
- Non-ferrous solid copper-silicon tank openings
- Built-in heat trap to improve operating efficiency
- High quality long lasting immersion heating elements
- Magnetic contactor (3 Φ only)
- Adjustable temperature controller (110-170°F)
- 2" Polyurethane foam insulation for minimum standby heat loss
- High impact colorized composite protective jacket
- ASME rated combination temperature and pressure relief valve set at 150 psi, 210°F
- ¾" Male NPT inlet and outlet connections (except 45, 54, and 58 KW models which have 1½" Male NPT)

Optional Equipment

- ☐ 1. Solid copper alloy tank (ASTM SB-96) for maximum tank life
- ☐ 2. 1½" Male NPT brass inlet/outlet water connections (if not standard)
- ☐ 3. Type 316L Stainless Steel tank construction
- ☐ 4. Low water cut out to disengage electrically the heating element in the event of no/low water condition in the storage tank.
- ☐ 5. Integrally welded seismic attachment points
- ☐ 6. 3" Foam Insulation
- ☐ 7. Alternate element sheath material

Note: Incoloy, Stainless Steel, Copper and Other optional features are available to meet the needs of particular applications, please consult factory.

Formulas To Solve For:

KW Required

GPH x _____ °F ΔT x 0.00244 = KW

Temperature Rise

KW x 410 ÷ _____ GPH = °F Rise

Recovery

KW x 410 ÷ _____ °F ΔT Rise = GPH

Note: 1 KW will heat 4.1 GPH at a 100°F Rise

Amperage

1 Phase

$$\frac{\text{KW} \times 1000}{\text{Volts}} = \text{AMPS } 1\Phi$$

3 Phase

$$\frac{\text{KW} \times 1000}{\text{Volts}} \div 1.73 = \text{AMPS } 3\Phi$$

Model Number Designation

ER		–			
	Step 2	Step 3	Step 4	Step 5

Step 1 — Model: ER

Step 2 — Gallon Capacity: 10-120 Gallons

Step 3 — KW Selection: 1.5 - 58 KW

Step 4 — Tank:
- SL = Cement Lined
- CS = Copper Alloy
- SS = Stainless Steel

Step 5 — Voltage / Phase / Hz:
- A = 120-1-60
- RS = 208-1-60
- R = 208-3-60
- S = 240-1-60
- T = 240-3-60
- W = 277-1-60
- T3 = 380-3-50/60
- T7 = 415-3-50/60
- T5 = 440-3-60
- T4S = 480-1-60
- T4 = 480-3-60
- T6 = 600-3-60

Example: ER10-1.5SLA

Is a hazardous location model ER water heater with 10 gallons of storage and 1.5 KW heating element. It is a cement lined steel vessel and has an electrical rating of 120 volt 1 phase.

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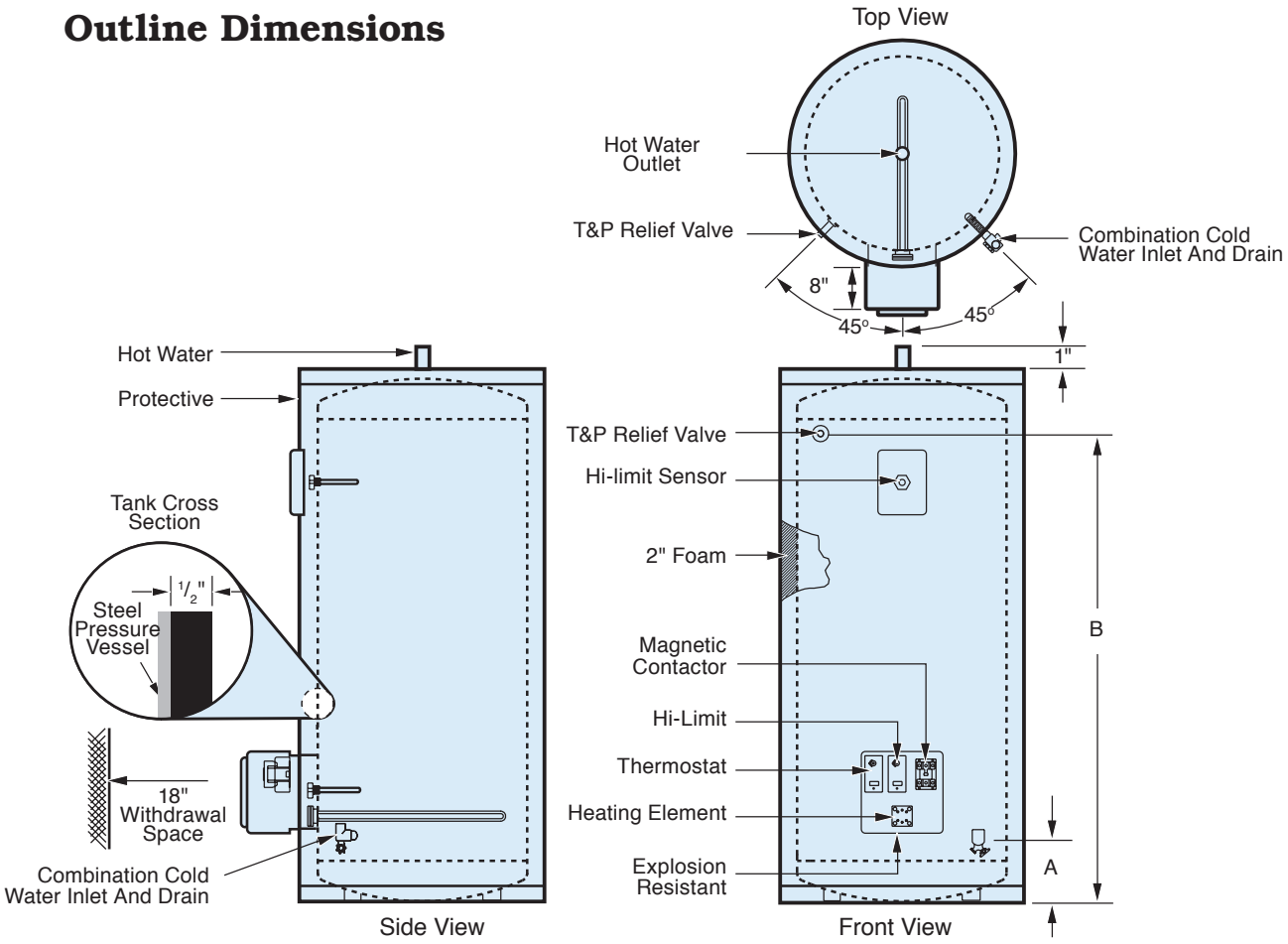
Model ER — Standard Specifications

Tank:	Cement Lined steel	Thermostat Range:	110-170°F
Capacities:	10 - 120 Gallons	Hi-Limit:	190°F
Orientation:	Vertical	Design Pressure:	150 psi WP, 300 psi TP
Voltages:	120 - 600 V	Elements:	High Quality Immersion Electric
Phase:	1 or 3 Φ	Insulation:	2" Polyurethane Foam
Inlet Size:	¾" Female NPT	Tank Warranty:	3 Years Non Pro-Rated
Outlet Size:	¾" Male NPT	Electrical Warranty:	1 Year
Drain Size:	¾" GHT	Jacket:	High Impact Colorized Composite
Relief Valve Opening:	¾" Female NPT	Finish:	Brown and Tan
Relief Valve Type:	T&P, 210°F, 150 psi		

Outline Dimensions



Base Model	Storage Capacity (Gallons)	KW Selection & Electrical Supply			Dimensions (Inches)				Shipping Weight (lbs.)
		120 V 1 Phase	208 - 480 V 1 Phase	208 - 480 V 3 Phase	Overall Diameter	Overall Height	Inlet "A"	T & P Valve "B"	
ER10	10	1.5	2, 3	3, 4, 5, 6, 8, 10	20	21	7	15	160
ER20	20				20	33	7	27	200
ER30	30	1.5	2, 3.5, 4.5, 5.5, 6		20	41.5	7	34	230
ER40	40				20	58.75	7	51	280
ER50	50				22.75	51	7	43	295
ER65	65	1.5	2, 3.5, 4.5, 5.5, 6, 8, 10, 12, 15	6, 8, 10, 12, 15, 20, 30, 35, 40, 45 54, 58	26	48	8	40	360
ER80	80				26	58	8	51	395
ER100	100				26	69.5	8	62	425
ER120	120				28	69.25	8	62	475

Note: For alternative voltages and/or KW sizes, please consult factory. If storage capacity greater than 120 gallons is required, please reference Hubbell Model SH brochure.

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Master Specification: Model ER

JOB NAME _____ ENGINEER _____

REPRESENTATIVE _____ CONTRACTOR _____

GENERAL

Provide a quantity of _____ explosion resistant electric water heater(s) Model No. _____ as manufactured by HUBBELL Electric Heater Co., Stratford, CT. The entire unit is to be complete with all operating controls and require only plumbing and electrical service connections. The heater is designed specifically for installation in a hazardous location. All operating controls are to be housed within an electrical control panel rated for operation in a Class 1, Division 1&2, Groups B,C,D; Class 2, Division 1&2, Groups E,F,G; Class 3, Division 1&2; Nema 4, 7BCD, 9EFG; hazardous area and is UL and CSA listed. The tank shall be all welded steel commercial construction designed for 150 psi working pressure and contain _____ gallons of storage. The pressure vessel is to be lined with seamless Hydrastone cement to a minimum thickness of ½" on 100% of all interior tank surfaces (☐Optional Specification: tank to be fabricated from solid copper-alloy, Type 304 or 316L stainless steel) and does not require any type of anodic protection. The tank shall be fabricated with non-ferrous copper-silicon threaded tappings and non-ferrous inlet and outlet piping for maximum corrosion resistance. Steel tank tappings will not be acceptable. The entire tank is to be insulated with a minimum of 2" thick polyurethane foam insulation and exceed the latest ASHRAE standard for stand-by heat loss. The complete heater shall be supplied with a high impact colorized composite protective jacket which cannot rust or corrode and does not require painting.

The cold water inlet shall be ¾" Female NPT (☐Optional Specification: 1½" Male NPT) and include a non-corrosive strata-flow diffuser which prevents incoming cold water from mixing too rapidly with hot water in the tank. A ¾" hose connection drain is supplied. The hot water outlet shall be ¾" Male NPT (☐Optional Specification: 1½" Male NPT) and shall include a factory installed built-in heat trap (not available on 1½" models) to prevent water from radiating through the piping during stand-by periods. A separate ¾" Female NPT tapping is to be provided for relief valve installation. An ASME rated automatic reseating combination temperature and pressure safety relief valve set at 150 psi and 210°F shall be factory supplied.

RECOVERY

The heating element(s) shall be high quality electric immersion type, and shall be rated at _____ KW which will heat _____ GPH of water at _____ °F Rise (_____ ° to _____ °F).

ELECTRICAL

The heater shall be designed to operate at _____ volts _____ phase _____ Hz (balanced) with all necessary operating controls factory mounted, wired and tested. Heaters operating at 3 phase power shall have each circuit independently operated through a definite purpose magnetic contactor having a resistive load rating exceeding the ampere rating of that particular circuit. Water temperature shall be controlled through an adjustable immersion thermostat 100-180°F or 30-110°F. An over-temperature manual reset Hi-Limit shall be factory installed to disconnect all conductors to the heating element in the event of an over-temperature condition in the pressure vessel.

In addition, the water heater shall be supplied with the following optional features:

☐ Option _____

☐ Option _____

☐ Option _____

The water heater manufacturer shall warranty all electrical components against defects in workmanship and material for a period of one (1) year from date of start-up, and the pressure vessel for a full three (3) years Non Pro-Rated from date of start-up, provided that the unit is started within three (3) months of date of shipment and installed and operated within the scope of the tank design and operating capability. Each water heater shall be shipped with a complete set of installation and operating instructions including spare parts list and approved drawings.

ISO 9001:2008

Committed to continuous improvement...

Continuing research results in product improvement; therefore specifications are subject to change without notice. For the most updated information, consult the factory directly.

Made in the U.S.A.

Hubbell™ *The Electric Heater Company* ■ P.O. Box 288 ■ Stratford, CT 06615-0288 ■ Phone: 203-378-2659 ■ Fax: 203-378-3593
info@hubbellheaters.com ■ ***www.hubbellheaters.com***