

EXPLOSION PROOF WATER HEATER

**10-120 GALLON CAPACITY,
1.5-58KW, SINGLE OR THREE PHASE**

Model ER

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 area.

▪ Heavy Duty Construction

- Hydrastone cement lining provides long tank life
- Copper-silicon alloy tapings 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
- Paper and Pulp Mills
- Drilling Platforms
- Industrial Facilities



Model ER

*Water heater designed specifically
for use in hazardous locations.*



A LONG LASTING WATER HEATER FOR YOUR HAZARDOUS LOCATION

The Hubbell ER explosion proof water heater is the right choice for applications in hazardous atmosphere locations. All operating controls are housed within the heavy duty explosion proof enclosure to ensure safe operation in a hazardous location. Furthermore, because of the exceptional corrosion resistant properties of the Hubbell 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.

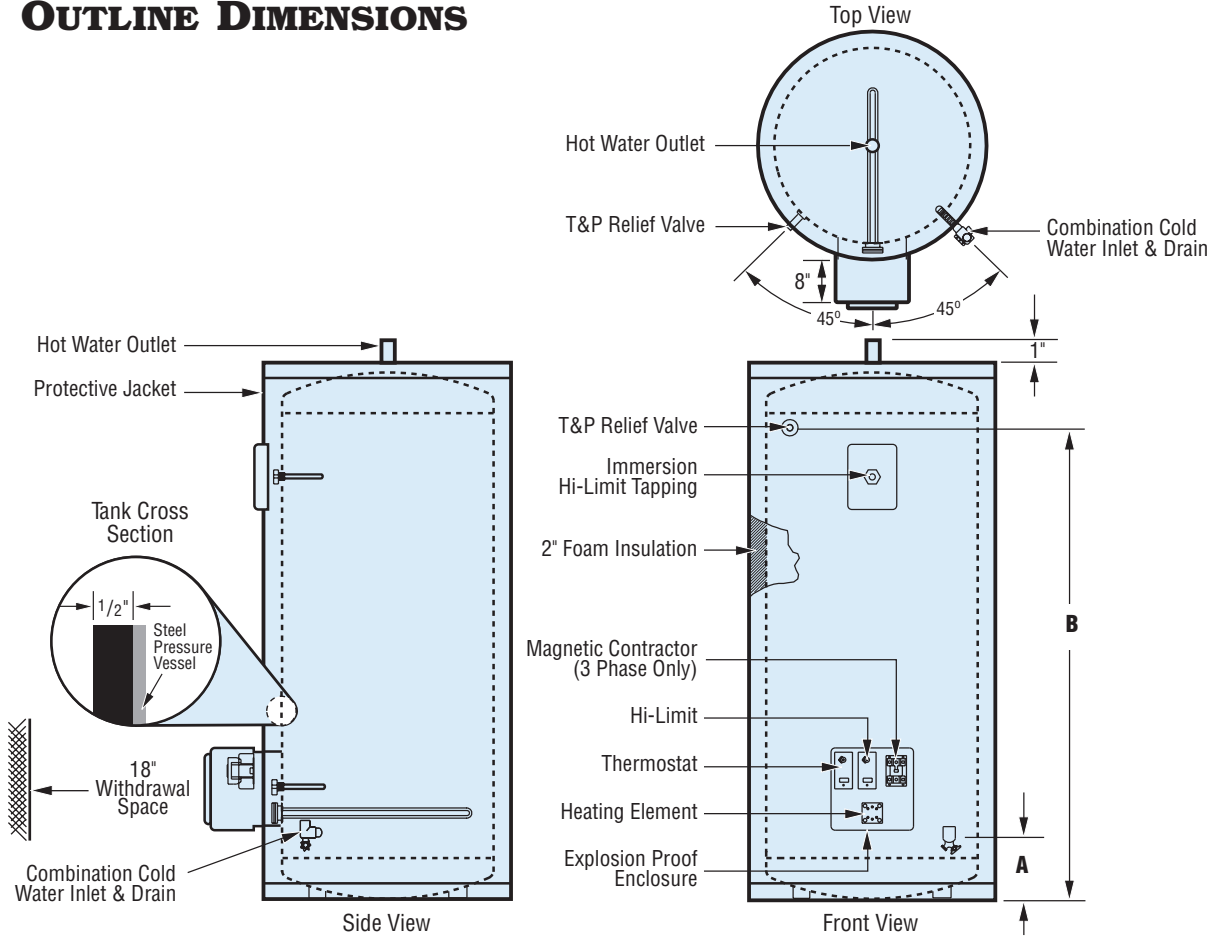
THE RIGHT CHOICE FOR A HAZARDOUS LOCATION WATER HEATER

Hubbell™

MODEL ER — STANDARD SPECIFICATIONS

Tank:	Cement Lined steel	Thermostat Range:	110-170°F
Capacities:	10 - 120 Gallons	Hi-Limit:	190°F
Orientation:	Vertical	Design WP:	150 psi, 300 psi TP
Voltages:	120 - 480 V	Elements:	Incoloy Sheath
Phase:	1 or 3 Φ	Insulation:	2" Polyurethane Foam
Inlet Size:	3/4" Female NPT	Tank Warranty:	3 Years Non Pro-Rated
Outlet Size:	3/4" Male NPT	Electrical Warranty:	1 Year
Drain Size:	3/4" Hose Connection	Jacket:	High Impact Colorized Composite
Relief Valve Opening:	3/4" 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				20	41.5	7	34	230
ER40	40	1.5	2, 3.5, 4.5, 5.5, 6	6, 8, 10, 12, 15, 20, 30, 35, 40, 45, 54, 58	20	58.75	7	51	280
ER50	50				22.75	51	7	43	295
ER65	65				26	48	8	40	360
ER80	80	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	58	8	51	395
ER100	100				26	69.5	8	62	425
ER120	120				28	69.25	8	62	475



STANDARD EQUIPMENT

- Explosion proof 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; UL and CSA listed for hazardous area locations.
- Heavy Duty 1/2" 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
- Incoloy sheathed 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
- 3/4" Male NPT inlet and outlet connections (except 45, 54, and 58 KW models which have 1 1/2" Male NPT)

OPTIONAL EQUIPMENT

- 1. Solid copper-silicon tank (ASTM SB-96) for maximum tank life
- 2. 1 1/2" 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 in the storage tank.
- 5. Integrally welded seismic attachment points

Note: Other optional features are available to meet the needs of particular applications, please consult factory.

FORMULAS TO SOLVE FOR:

KW REQUIRED

$$\text{GPH} \times \text{_____} \text{ } ^\circ\text{F } \Delta\text{T} \times 0.00244 = \text{KW}$$

TEMPERATURE RISE

$$\text{KW} \times 410 \div \text{_____} \text{ GPH} = \text{ } ^\circ\text{F Rise}$$

RECOVERY

$$\text{KW} \times 410 \div \text{_____} \text{ } ^\circ\text{F } \Delta\text{T Rise} = \text{GPH}$$

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

AMPERAGE

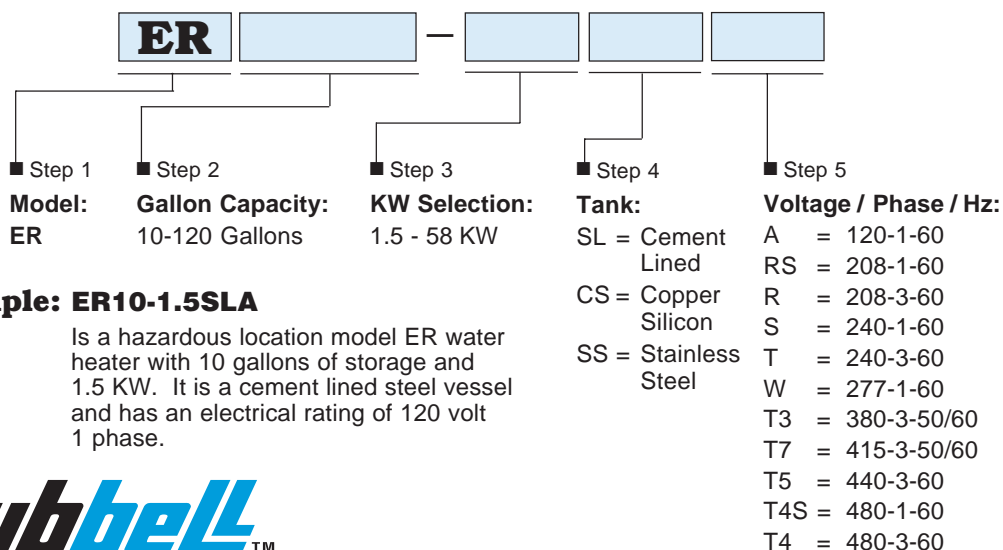
1 PHASE

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

3 PHASE

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

MODEL NUMBER DESIGNATION



Example: ER10-1.5SLA

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



MASTER SPECIFICATIONS: MODEL ER

JOB NAME _____

ENGINEER _____

REPRESENTATIVE _____

CONTRACTOR _____

GENERAL

Provide a quantity of _____ explosion proof 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,9; hazardous area and is UL and CSA listed. The tank shall be all welded steel commercial construction designed for 150psi working pressure and contain _____ gallons of storage. The pressure vessel is to be lined with seamless Hydrastone cement to a minimum thickness of 1/2" on 100% of all interior tank surfaces (**Optional Specification:** *tank to be fabricated from solid copper-silicon, 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 3/4" Female NPT (**Optional Specification:** *1 1/2" 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 3/4" hose connection drain is supplied. The hot water outlet shall be 3/4" Male NPT (**Optional Specification:** *1 1/2" Male NPT*) and shall include a factory installed built-in heat trap to prevent water from radiating through the piping during stand-by periods. A separate 3/4" 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 150psi and 210°F shall be factory supplied.

RECOVERY

The heating element(s) shall be high quality incoloy sheath 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 110-170°F snap action surface thermostat (**Optional Specification:** *an 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.

