

## Electric Immersion Heaters



### Features

#### ■ Heavy Duty Construction

Hubbell electric immersion heaters are constructed using only the highest grade materials and are put through a rigorous quality assurance testing procedure to ensure that each heater conforms to specification.

#### ■ Wide Selection

Hubbell electric heaters are fabricated in a wide variety of types and styles including cartridge heaters, screw plug heaters, and flanged heaters.

#### ■ Delivery

Hubbell maintains a large inventory to meet even the most demanding delivery requirements.

#### ■ Versatility

Hubbell heaters are manufactured to order and can be engineered to meet the exact requirements of a particular application.

### APPLICATIONS

- Water Heaters
- Boilers
- Oil Heaters
- Freeze Protection
- OEM Applications
- Storage Tanks
- Railroad Tank Cars
- Process Systems
- Heat Transfer Systems

### Electric Immersion Heater Constructed For Long Service Life

Hubbell electric heaters have been in service since 1920. In that time Hubbell engineering, production, and quality control systems have been continually refined to ensure that each electric heater performs to the highest standards. Available in virtually any configuration, Hubbell electric heaters are manufactured to meet the

requirements of the most demanding application. So whatever fluid type you are heating, you will have confidence in knowing that when you specify and install a Hubbell electric heater the owner will be provided with a trouble-free and long lasting product.

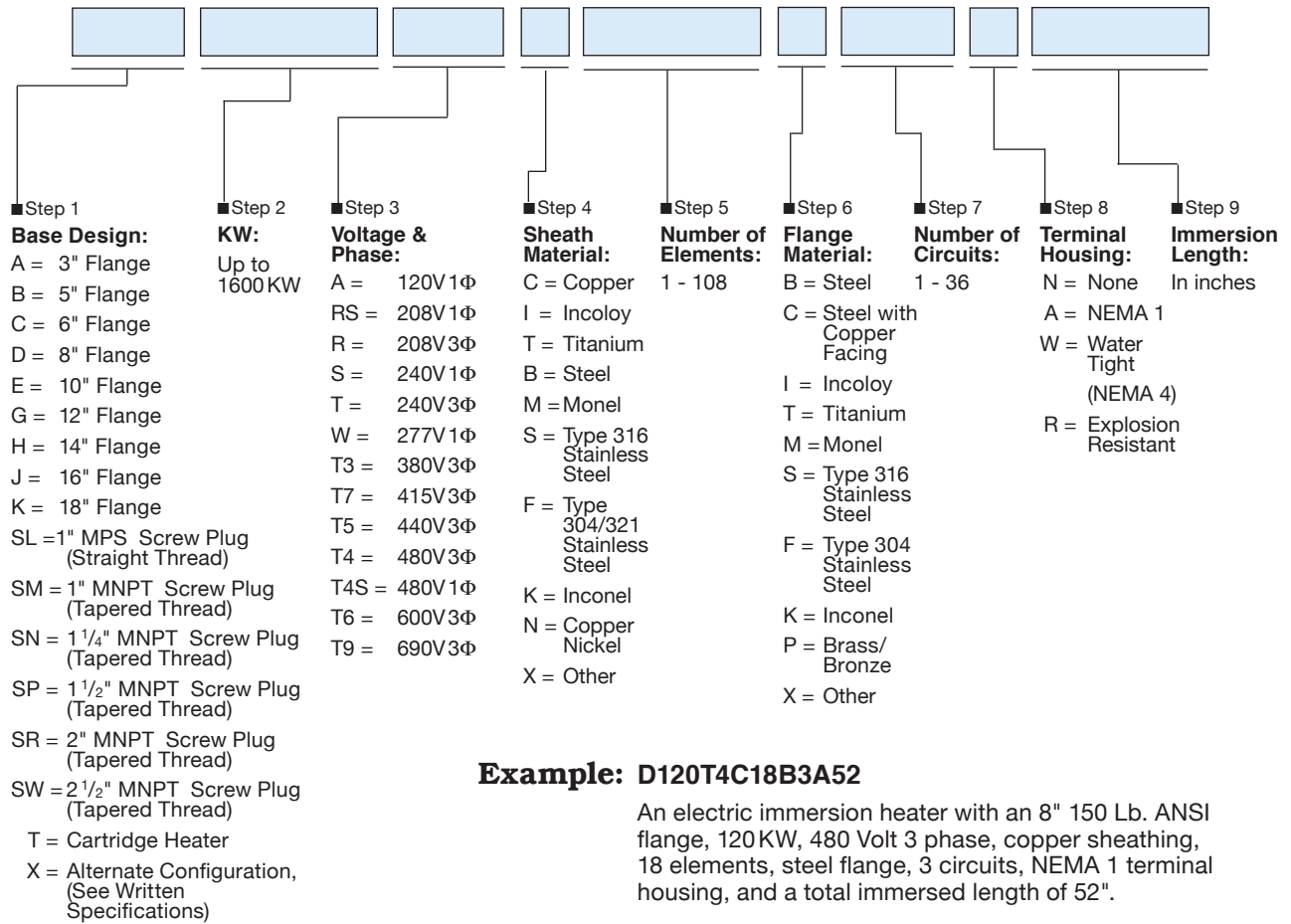
## Standard Equipment

- NEMA 1 terminal housing
- Tubulars brazed to flange
- Fitted gasket
- Maximum 48 amp rating per circuit
- Heavy duty factory fitted jumpers
- 80/20 Nickel-chromium resistance wire
- High grade magnesium oxide insulation
- Factory fitted element spacers to prevent excessive rubbing (Only when required)
- Repressed elements to prevent hot spots at tubular bends
- Flange construction to ANSI B16.5 Class 150

## Optional Equipment

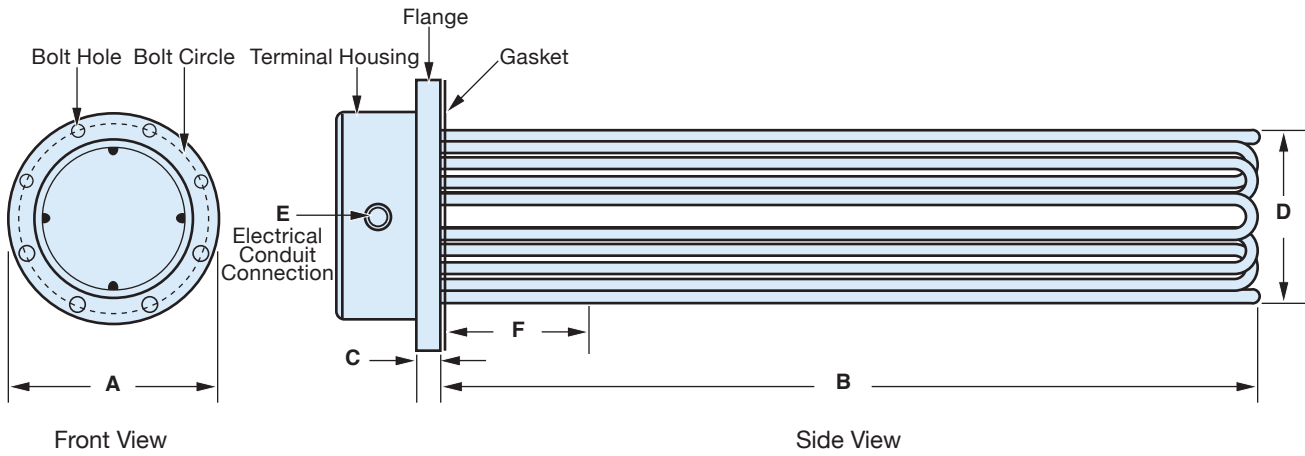
- 1. Alternate watt density (please specify) to suit specific fluid requirements
- 2. Alternate material construction
- 3. Alternate flange rating
- 4. Built-in thermostat 60-250°F range
- 5. Built-in thermowell
- 6. Factory installed nonferrous baffle system
- 7. Passivation
- 8. Electropolished finish for high purity
- 9. Terminal hermetic seals
- 10. Military spec conformance to MIL-H-22577
- 11. Individually replaceable element blades
- 12. Welded elements
- 13. Dry side extended cold end
- 14. Flange construction to ANSI B16.5 Class 300

## Model Number Designation



**Note:** All heaters do not necessarily conform to the model number designation system as stated above.

# Outline Dimensions



**Please Provide The Following Data For Accurate Sizing.**

## Dimensional Data:

<b>Flange O.D.:</b> (A) _____ inches	<b>Terminal Housing Depth:</b> _____ inches
<b>Immersion Length:</b> (B) _____ inches	<b>Maximum Bundle Diameter:</b> (D) _____ inches
<b>Number of Bolt Holes:</b> _____	<b>Electrical Conduit Opening:</b> (E) _____ Qty _____ NPT
<b>Diameter of Bolt Holes:</b> _____	<b>Tubular Diameter:</b> _____ inches
<b>Bolt Circle Diameter</b> _____ inches	<b>Cold Length: (F) (unheated)</b> _____
<b>Flange Thickness:</b> (C) _____ inches	

<b>Wattage (KW):</b> _____	<b>Spacers:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Voltage:</b> _____	Provide details: _____
<b>Phase:</b> _____	_____
<b>Number of Circuits:</b> _____ Rated _____ KW each	<b>Baffles:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Of equal wattage?</b>	Provide details: _____
<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
If No, provide details: _____	
_____	
<b>Number of U-Tubes/Hairpins:</b> _____	<b>Built-in Thermostat:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Sheath Material:</b> _____	Provide details: _____
<b>Watt Density:</b> _____	_____
<b>Flange Material:</b> _____	<b>Thermowell:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Liquid Being Heated:</b> _____	Provide details: _____
<b>Terminal Housing:</b> <input type="checkbox"/> None <input type="checkbox"/> Water tight NEMA 4	_____
<input type="checkbox"/> Standard <input type="checkbox"/> Explosion Resistant	
(Please provide class, division and group rating)	

# Master Specification: Electric Immersion Heaters

JOB NAME \_\_\_\_\_

ENGINEER \_\_\_\_\_

REPRESENTATIVE \_\_\_\_\_

CONTRACTOR \_\_\_\_\_

## General

Provide a quantity of \_\_\_\_\_ electric immersion heater(s) Model No. \_\_\_\_\_ as manufactured by HUBBELL Electric Heater Co., Stratford, CT. The heater shall have a total rating of \_\_\_\_\_ KW composed of \_\_\_\_\_ circuit(s) of \_\_\_\_\_ KW each when supplied with \_\_\_\_\_ Volts \_\_\_\_\_ Phase \_\_\_\_\_ Hz electrical power. The heater shall be a \_\_\_\_\_ (**Specify: Flange or Screwplug**) type of \_\_\_\_\_ size. The heater shall be designed for full immersion in liquid and constructed of high quality grade materials to ensure a long service life.

## Tubular

The heater shall consist of \_\_\_\_\_ individual tubular elements of \_\_\_\_\_ " diameter. The properly sized Nickel-Chromium resistor wire for the element shall be verified by computer calculations to ensure the longest service life possible. The resistor wire shall be factory inspected, tested, and verified as meeting rigid quality control specifications prior to being coiled. The resistor wire is to be centered in the sheath and insulated with high quality magnesium oxide. The magnesium oxide shall be compacted so that the terminal pin is firmly secured allowing for a maximum torque of 8 inch lbs. when tightening terminal hardware. The tubular sheathing shall be copper ( **Optional Specifications:** *Incoloy, Type 304 or 316 or 321 stainless steel, Steel, Teflon coated, Titanium, Monel, Inconel, Copper-Nickel*) and have a maximum watt density of \_\_\_\_\_ watts/per square inch with a \_\_\_\_\_ " cold section and a total immersed length of \_\_\_\_\_ ". Non-Ferrous element spacers shall be supplied when required.

## Terminal Housing

The heater (shall, shall not) include a terminal housing. The terminal housing shall be a general purpose NEMA 1 enclosure ( **Optional Specification:** *Nema 4 watertight, explosion resistant*) and supplied with a quantity of \_\_\_\_\_ electrical conduit connections of \_\_\_\_\_ " NPT size each.

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

- Option** Built-in thermostat with a 60-250°F range
- Option** Built-in thermowell
- Option** Factory fitted thermocouple strapped to the element sheathing
- Option** Factory fitted element baffle system
- Option** Passivation of material
- Option** Electropolishing of material
- Option** Hermetic seals for superior moisture protection
- Option** Individually replaceable element hairpins
- Option** Liquid Die Penetrant Testing
- Option** ASME Certification
- Option** Construction to MIL-H-22577
- Option** \_\_\_\_\_
- Option** \_\_\_\_\_

## Warranty

The heater manufacturer shall warranty the entire immersion heating element against defects in workmanship and material for a period of one (1) year 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 heater design and operating capability.



*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.

