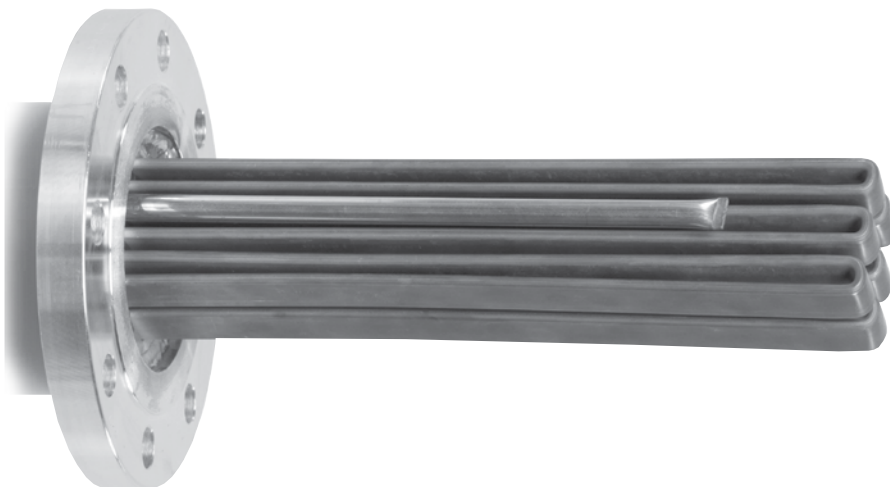


Immersion Heaters

Immersion Heaters	Sheath Materials	Max. Operating Temperatures		Typical Max. Watt Densities		Page
		°F	°C	W/in ²	W/cm ²	
WATROD and FIREBAR® Screw Plug	Alloy 800/840	1600	870	120	18.6	165
	Stainless steel	1200	650	120	18.6	
	Steel	750	400	120	18.6	
Screw Plug with Control Assembly	Alloy 800	1600	870	60	9.3	235
WATROD and FIREBAR ANSI Flange	Alloy 800	1600	870	100	15.5	237
	Stainless steel	1200	650	100	15.5	
	Steel	750	400	100	15.5	
WATROD and FIREBAR Flange						
Plate Flange	Alloy 800/840	1600	870	60	9.3	307
	304 stainless steel	1200	650	100	15.5	
	Steel	750	400	30	4.7	
Square Flange	Alloy 800	1600	870	100	15.5	313
Bayonet/Pipe Insert	Alloy 800	1600	870	10	1.6	316
	Steel	750	400	10	1.6	
Over-the-Side						
L and O Shaped	Alloy 800	1600	870	60	9.3	318
FIREROD®	Alloy 800	212	100	300	46.5	323





Immersion Heaters

WATROD™ and FIREBAR® Screw Plug Immersion Heaters

Screw plug immersion heaters are ideal for direct immersion heating of liquids, including all types of oils and heat transfer solutions.

Available in a variety of sizes, Watlow® screw plug immersion heaters feature both WATROD™ round and FIREBAR® flat tubular elements.

Heating elements are hairpin bent and either welded or brazed into the screw plug—depending on element sheath and plug material compatibility.

General purpose terminal enclosures are standard; with optional moisture resistant, explosion resistant and explosion/moisture resistant enclosures available to meet specific application needs.

Optional thermostats provide convenient process temperature regulation.

Performance Capabilities

- Watt densities up to 120 W/in² (18.6 W/cm²)
- Wattages up to 38 kilowatts
- UL® and CSA component recognition up to 480VAC and 600VAC respectively
- Alloy 800/840 sheath temperatures up to 1600°F (870°C)
- Passivated 316 stainless steel sheath temperatures up to 1200°F (650°C)
- 304 stainless steel sheath temperatures up to 1200°F (650°C)
- Steel sheath temperatures up to 750°F (400°C)

Features and Benefits

A variety of element sheath and screw plug materials

- Meets your application needs

Integral thermowells

- Provides convenient temperature sensor insertion and replacement without draining the fluid being heated

Terminal enclosures

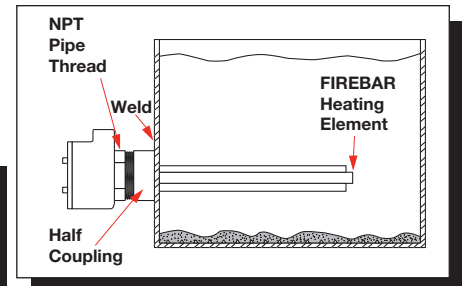
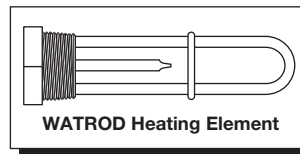
- Provides ability to be rotated to simplify connection with existing conduits

Welding or brazing WATROD and FIREBAR elements to the screw plug

- Provides a pressure tight seal

WATROD hairpins are repressed (recompacted)

- Maintains MgO density, dielectric strength, heat transfer and life



2 1/2 in. (64 mm) NPT screw plug assemblies feature element support(s)

- Ensures proper spacing for maximizing heater performance and life

• Screw plug and element sizes:

1 in. NPT	0.260 and 0.315 in. WATROD
1 1/4 in. NPT	0.260 and 0.315 in. WATROD 1 in. FIREBAR
2 in. NPT	0.430 and 0.475 in. WATROD
2 1/2 in. NPT	0.430 and 0.475 in. WATROD 1 in. FIREBAR

• Phase capability:

1 in. NPT	1-Phase
1 1/4, 2, 2 1/2 in., NPT	1- or 3-Phase

UL® and CSA component recognition under File E52951 and 31388 respectively, see pages 561 to 568 for details.

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Typical Applications

- Water:
 - Deionized
 - Demineralized
 - Clean
 - Potable
 - Process
- Industrial water rinse tanks
- Vapor degreasers
- Hydraulic oil, crude, asphalt
- Lubricating oils at API specified watt densities
- Air and gas flow
- Caustic solutions
- Chemical baths
- Anti-freeze (glycol) solutions
- Paraffin

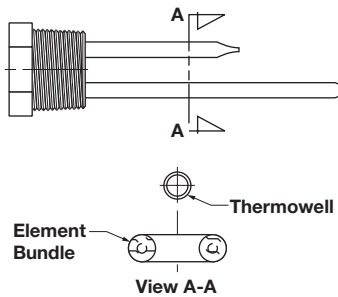
Screw Plug Orientation

Correct element/thermowell orientation assures proper process temperature sensing.

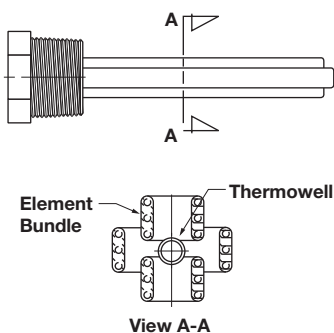
Correct horizontal mounting of WATROD and FIREBAR screw plugs is shown below. Correct orientation assures optimum performance and maximum heater life. Additional mounting information is provided in the *Installation and Maintenance Instructions*.

FIREBAR Heating Elements

1 1/4 in. (32 mm) NPT—One Element

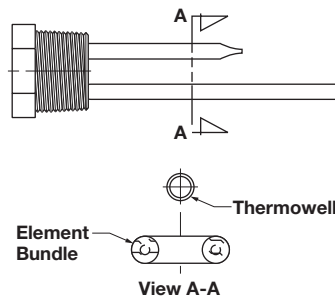


2 1/2 in. (64 mm) NPT—Three Elements

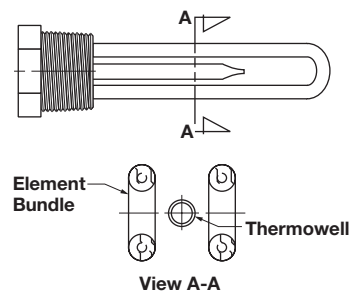


WATROD Heating Element

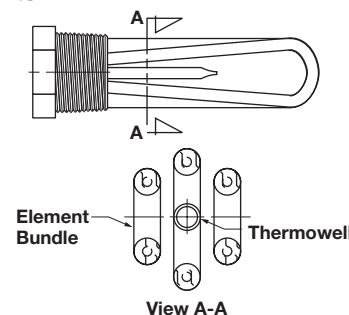
1 in. (25 mm) NPT—One Element



1 1/4 in. (32 mm) and 2 in. (51 mm) NPT—Two Elements



2 in. (51 mm) and 2 1/2 in. (64 mm) NPT—Three Elements



Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Options

Terminal Enclosures

General purpose terminal enclosures, without thermostats, are available on all screw plug immersion heaters. To meet specific application requirements, Watlow offers the following optional terminal enclosures:

- General purpose with single- or double-pole thermostat
- Moisture-resistant or corrosion resistant—available with optional single- or double-pole thermostat
- Non-certified, explosion-resistant suitable for use in non-classified areas only—available with optional single or double-pole thermostat
- Non-certified, explosion and moisture-resistant combination suitable for use in non-classified areas only—available with optional single- or double-pole thermostat

Note: Unless otherwise stated on the accompanying illustrations, both WATROD and FIREBAR screw plugs are centered on the terminal enclosure. To order, add the suffix letter(s) to the screw plug heater's base part number. This is depicted on the ordering example on page 234. Also, specify class and group, if applicable.

CSA Certified Enclosures

These enclosures are suitable for Class 1, Groups B, C and D classified areas. CSA certified moisture and/or explosion-resistant terminal enclosures protect wiring in hazardous gas environments. These terminal enclosures, covered under CSA File number 61707, are available on all WATROD and FIREBAR screw plug immersion heaters. For additional information, contact your Watlow representative.

To order, specify **CSA certified enclosure**, **process temperature** (°F), maximum **working pressure** of application (psig), **media** being heated and heater **mounting orientation** (horizontal or vertical) and **screw plug size**.

Pilot Light

The optional pilot light gives the operator visual indication of heater on or off power status.

The PL10 pilot light is configured to a maximum 250VAC and supplied with 6 in. (152 mm) leads.

The PL11 pilot light is rated for 480VAC and supplied with 4 in. (102 mm) leads.

Pilot lights may be attached to either single- or double-pole thermostats with general purpose enclosure only.

Thermostats

To provide process temperature control, Watlow offers optional single-pole, single-throw (SPST) and double-pole, single-throw (DPST) thermostats.

Unless otherwise specified, thermostats are mounted inside the terminal enclosure. For details and ordering information, refer to *Thermostats* on pages 534 to 538. Please verify that the thermostat's sensing bulb O.D. is compatible with the screw plug's thermowell I.D.



Caution:

Certified explosion-resistant terminal enclosures are intended to provide explosion containment in the electrical termination/wiring enclosure only. No portion of the assembly outside of this enclosure is covered under this enclosure rating. Enclosure rating effectiveness may be compromised by abuse or misapplication.

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Options (Continued)

Thermocouples

Type J or K thermocouples offer extremely accurate sensing of process and/or sheath temperatures. A thermocouple may be inserted into the thermowell or attached to the heater's sheath.

Thermocouples are supplied with 120 in. (3048 mm) leads (longer lead lengths available). Unless otherwise specified, thermocouples are supplied with temperature ranges detailed on the *Thermocouple Types* chart.

Using a thermocouple requires an appropriate temperature and power controller and these must be purchased separately. Watlow offers a wide variety of temperature and power controllers to meet virtually all applications. Temperature controllers can be configured to accept process variable inputs, too. Contact your Watlow representative for details.

To order, specify **Type J** or **K** thermocouple and lead length. Indicate if the thermocouple is for **process temperature sensing** or heater sheath **high-limit protection**. Please specify if the screw plug will be mounted **vertical** or **horizontal** in the tank. **If vertical, indicate if the housing is on top or bottom.**

If the screw plug heater is mounted in an in-line circulation heating application, indicate flow direction relative to the heater's enclosure.

Thermocouple Types

ASTM Type	Conductor Characteristics		Recommended ① Temperature Range	
	Positive	Negative	°F	(°C)
J	Iron (Magnetic)	Constantan (Non-Magnetic)	0 to 1000	(-20 to 540)
K	Chromel® (non-magnetic)	Alumel® (Magnetic)	0 to 2000	(-20 to 1100)

① Type J and Type K thermocouples are rated 32 to 1382°F and 32 to 2282°F (0-750°C and 0-1250°C), respectively. Watlow does not recommend exceeding temperature ranges shown on this chart for the tubular product line.

Wattages and Voltages

Watlow routinely supplies screw plug immersion heaters with 120 to 480VAC as well as wattages from 250 watts to 38kW.

Sheath Materials

The following sheath materials are available on WATROD and FIREBAR heating elements:

Standard Sheath Materials

WATROD	Alloy 800/840
	316 SS
	Steel
FIREBAR	Alloy 800

Exotic Sheath Materials

Contact your Watlow representative for details and availability.

External Finishing

Passivation

During the manufacturing process, particles of iron or tool steel may become embedded in the stainless steel or alloy sheath. If not removed, these particles may corrode, produce rust spots and/or contaminate the process. For critical applications, passivation will remove free iron from the sheath. To order, specify **passivation**.

Other Finishes

Bright annealing available to meet cosmetic demands.

Screw Plug Materials

The following screw plug materials are available:

To order, specify **screw plug size** and **material**.

Standard Screw Plug Materials

WATROD	304 SS, Brass
	Steel
FIREBAR	304 SS

Made-to-Order Plug Materials

For both WATROD and FIREBAR, contact your Watlow representative about details and availability.

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Options (Continued)

Screw Plug Sizes

Including European

- NPT— 3/4, 1, 1 1/4, 2, 2 1/2 in.

To order, specify **size**, **style** (NPT) and material.

Screw Plug to Flange Adapters

Screw plug to flange adapters permit replacing flange heaters with screw plug heaters. To order, specify the appropriate part number.

Screw Plug to Flange Adapters

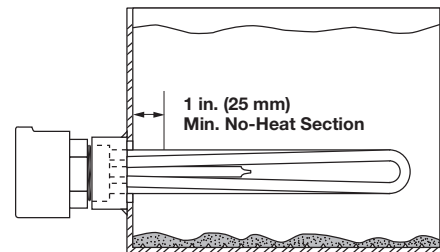
Screw Plug to Flange Adapter Sizes	Material	Estimated Shipping Wt.		Delivery	Part Number
		lbs	(kg)		
1 1/4 to 3 in.-150#	Steel	13	(5.9)	RS	125X3SA
2 1/2 to 3 in.-150#	Steel	11	(5.0)	RS	250X3SA
2 1/2 to 4 in.-150#	Steel	16	(7.3)	RS	250X4SA
2 1/2 to 5 in.-150#	Steel	25	(11.3)	RS	250X5SA
2 1/2 to 6 in.-150#	Steel	33	(15.0)	RS	250X6SA

RAPID SHIP

- RS - Next day shipment up to 3 pieces

Application Hints

- Select the recommended sheath material and watt density for the substance being heated. Use the *Supplemental Applications Chart* on pages 555 to 560. If unable to determine the correct heater material and type, contact your Watlow representative.
- Extend the element's no-heat section completely into the fluid being heated to help prevent premature heater failure. See illustration below for proper no-heat section placement.
- Locate screw plug heater low in the tank, but above the sludge level.



- Choose a FIREBAR element when the application requires a smaller system package or lower watt density.
- Ensure wiring integrity by making sure terminal enclosure temperature does not exceed 400°F (205°C).
- Keep electrical connections clean, dry and tight.
- Size power feeder wires in accordance with National Electrical Code guidelines and other applicable codes.
- Size power feeder wires in accordance with national electrical code guidelines and other applicable codes.
- Minimize problems associated with low liquid level conditions by using a low liquid level sensor or sheath temperature high-limit control.
- Periodically remove the screw plug assembly for inspection and clean the heating element(s). This preventive maintenance will reduce premature failure and optimize heater performance.
- Refer to the *Installation and Maintenance Instructions* for correct orientation of FIREBAR elements. Correct element orientation to flow minimizes pressure drop, increases buoyancy force and heater performance.

Extended Capabilities For WATROD and FIREBAR Screw Plug Immersion Heaters

Options

Pilot Light

The optional pilot light gives the operator visual indication of heater on or off power status.

The PL10 pilot light is configured to a maximum 250VAC and supplied with 6 in. (152 mm) leads.

The PL11 pilot light is rated for 480VAC and supplied with 4 in. (102 mm) leads.

Pilot lights may be attached to either single or double pole thermostats with general purpose enclosure only. For moisture or explosion resistant terminal enclosures, contact your Watlow representative.

To order, refer to the *Ordering Information* on page 234.

Wattages and Voltages

Watlow routinely supplies screw plug immersion heaters with 120 to 480VAC as well as wattages from 250 watts to 38kW. If required, Watlow may configure heaters with voltages and wattages outside these parameters. For more information on special voltage and wattage configurations, contact your Watlow representative.

Extended Sheath Materials

The following sheath materials are available on WATROD and FIREBAR heating elements:

Extended Sheath Materials

WATROD	304 and 321 SS Alloy 400 and 600 Titanium Hastelloy C276
FIREBAR	304 SS Alloy 800

Screw Plug Materials

The following screw plug materials are available:

To order, specify **screw plug size** and **material**.

Extended Screw Plug Materials

WATROD	304, 304H, 316H, 321 SS Titanium Alloy 400 and 600 Hastelloy C276 Alloy 800/840
---------------	---

Screw Plug Sizes

Including European

- **Gas (Gas Pipe Standard)** – G1¹/₄, G1¹/₂, G2 in. (brass only)
- **BSP (British Standard Pipe)** – 1¹/₂, 2 in. (stainless steel only)

Contact your Watlow representative for sizes and materials not listed.

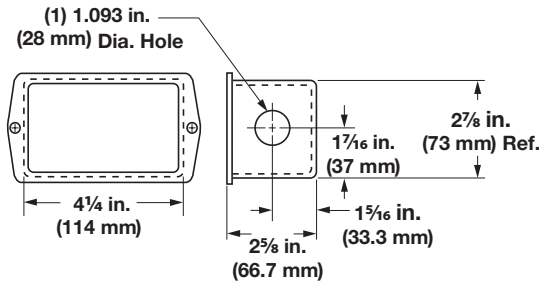
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Optional Moisture Resistant Housings

Single-Pole Thermostat

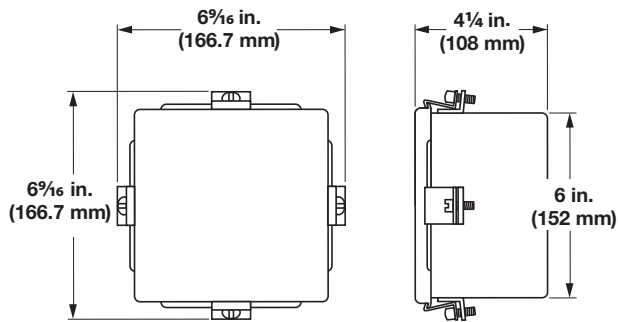
1 and 1¹/₄ inch NPT-1 WATROD Element



Note: The thermostat is not centered on the WATROD screw plug immersion heater.

Single-Pole Thermostat

All 2 and 2¹/₂ inch NPT



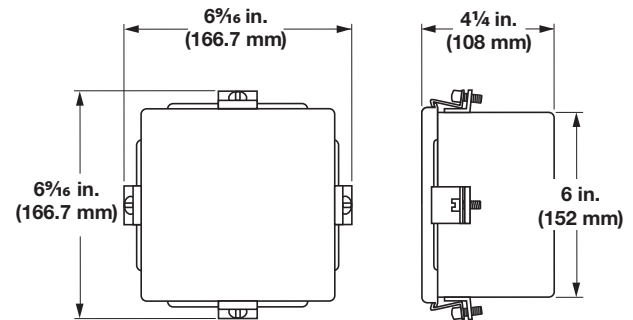
To order: Reference “W” in the *Ordering Information* section on page 234.

Double-Pole Thermostat

1¹/₄ inch NPT-2 WATROD Elements

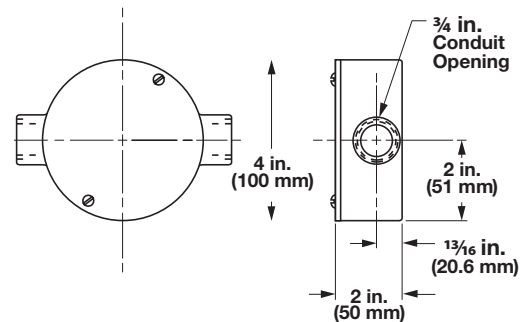
1¹/₄ inch NPT-1 FIREBAR Element

All 2 and 2¹/₂ inch NPT screw plugs



Note: The thermostat is not centered on the screw plug immersion heater.

Without Thermostat



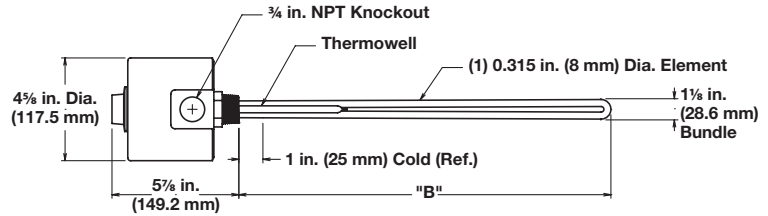
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 1 inch NPT screw plug
- WATROD elements
- With thermostat (SPST)
- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 2 (30 to 250°F)		Type 3 (175 to 550°F)	
						Part Number	Del.	Part Number ②	Del.
General Purpose Enclosure									
60 W/in² Brass Plug 1-Alloy 800 Element	120	0.50	1	4 1/2 (114.0)	3 (2)	BCN4J1S2	RS	BCN4J1S3	RS
	240	0.50	1	4 1/2 (114.0)	3 (2)	BCN4J10S2	RS	BCN4J10S3	RS
	120	0.75	1	6 1/2 (165.0)	3 (2)	BCN6J1S2	RS	BCN6J1S3	RS
	240	0.75	1	6 1/2 (165.0)	3 (2)	BCN6J10S2	RS	BCN6J10S3	RS
	120	1.00	1	6 5/8 (168.3)	3 (2)	BCN6L1S2	RS	BCN6L1S3	RS
	240	1.00	1	6 5/8 (168.3)	3 (2)	BCN6L10S2	RS	BCN6L10S3	RS
	120	1.25	1	8 (203.0)	4 (2)	BCN8A1S2	RS	BCN8A1S3	RS
	240	1.25	1	8 (203.0)	4 (2)	BCN8A10S2	RS	BCN8A10S3	RS
	120	1.50	1	10 5/8 (269.9)	4 (2)	BCN10L1S2	RS	BCN10L1S3	RS
	240	1.50	1	10 5/8 (269.9)	4 (2)	BCN10L10S2	RS	BCN10L10S3	RS
	120	2.00	1	12 1/2 (318.0)	5 (3)	BCN12J1S2	RS	BCN12J1S3	RS
	240	2.00	1	12 1/2 (318.0)	5 (3)	BCN12J10S2	RS	BCN12J10S3	RS
	120	2.50	1	14 3/4 (375.0)	5 (3)	BCN14N1S2	RS	BCN14N1S3	RS
	240	2.50	1	14 3/4 (375.0)	5 (3)	BCN14N10S2	RS	BCN14N10S3	RS
	120	3.00	1	16 3/4 (425.0)	6 (3)	BCN16N1S2	RS	BCN16N1S3	RS
	240	3.00	1	16 3/4 (425.0)	6 (3)	BCN16N10S2	RS	BCN16N10S3	RS
240	4.00	1	21 (533.0)	6 (3)	BCN21A10S2	RS	BCN21A10S3	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

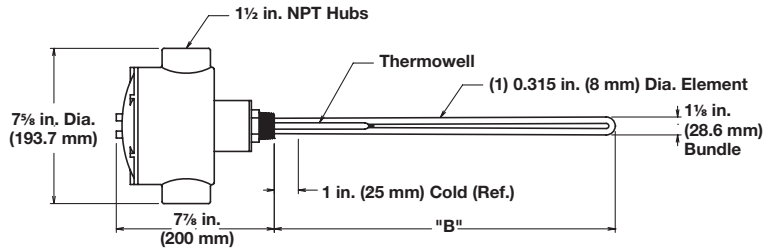
② UL® recognized only

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Clean Water

- 1 inch NPT screw plug
- WATROD elements
- With thermostat (SPST)
- Moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 2 (30 to 250°F)		Type 3 (175 to 550°F)	
						Part Number	Del.	Part Number	Del.
Moisture/Explosion-Resistant Enclosure ⑤									
60 W/in² Brass Plug 1-Alloy 800 Element (9.3 W/cm²)	120	0.50	1	4 1/2 (114.0)	3 (2)	BCN4J1C2	RS	BCN4J1C3	RS
	240	0.50	1	4 1/2 (114.0)	3 (2)	BCN4J10C2	RS	BCN4J10C3	RS
	120	0.75	1	6 1/2 (165.0)	3 (2)	BCN6J1C2	RS	BCN6J1C3	RS
	240	0.75	1	6 1/2 (165.0)	3 (2)	BCN6J10C2	RS	BCN6J10C3	RS
	120	1.00	1	6 5/8 (168.3)	3 (2)	BCN6L1C2	RS	BCN6L1C3	RS
	240	1.00	1	6 5/8 (168.3)	3 (2)	BCN6L10C2	RS	BCN6L10C3	RS
	120	1.25	1	8 (203.0)	4 (2)	BCN8A1C2	RS	BCN8A1C3	RS
	240	1.25	1	8 (203.0)	4 (2)	BCN8A10C2	RS	BCN8A10C3	RS
	120	1.50	1	10 5/8 (269.9)	4 (2)	BCN10L1C2	RS	BCN10L1C3	RS
	240	1.50	1	10 5/8 (269.9)	4 (2)	BCN10L10C2	RS	BCN10L10C3	RS
	120	2.00	1	12 1/2 (318.0)	5 (3)	BCN12J1C2	RS	BCN12J1C3	RS
	240	2.00	1	12 1/2 (318.0)	5 (3)	BCN12J10C2	RS	BCN12J10C3	RS
	120	2.50	1	14 3/4 (375.0)	5 (3)	BCN14N1C2	RS	BCN14N1C3	RS
	240	2.50	1	14 3/4 (375.0)	5 (3)	BCN14N10C2	RS	BCN14N10C3	RS
	120	3.00	1	16 3/4 (425.0)	6 (3)	BCN16N1C2	RS	BCN16N1C3	RS
	240	3.00	1	16 3/4 (425.0)	6 (3)	BCN16N10C2	RS	BCN16N10C3	RS
240	4.00	1	21 (533.0)	6 (3)	BCN21A10C2	RS	BCN21A10C3	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

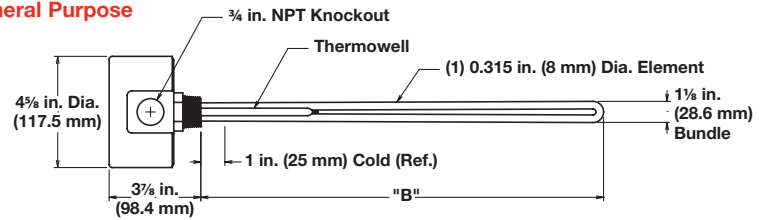
WATROD and FIREBAR Screw Plug Immersion Heaters



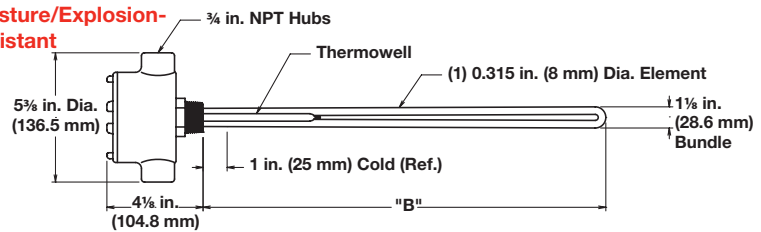
Application: Clean Water

- 1 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure		
60 W/in² Brass Plug 1-Alloy 800 Element (9.3 W/cm²)	120	0.50	1	4 1/2 (114.0)	BCN4J1S	RS	3 (2)	BCN4J1C	RS	6 (3)
	240	0.50	1	4 1/2 (114.0)	BCN4J10S	RS	3 (2)	BCN4J10C	RS	6 (3)
	120	0.75	1	6 1/2 (165.0)	BCN6J1S	RS	3 (2)	BCN6J1C	RS	6 (3)
	240	0.75	1	6 1/2 (165.0)	BCN6J10S	RS	3 (2)	BCN6J10C	RS	6 (3)
	120	1.00	1	6 5/8 (168.3)	BCN6L1S	RS	3 (2)	BCN6L1C	RS	6 (3)
	240	1.00	1	6 5/8 (168.3)	BCN6L10S	RS	3 (2)	BCN6L10C	RS	6 (3)
	120	1.25	1	8 (203.0)	BCN8A1S	RS	4 (2)	BCN8A1C	RS	7 (4)
	240	1.25	1	8 (203.0)	BCN8A10S	RS	4 (2)	BCN8A10C	RS	7 (4)
	120	1.50	1	10 5/8 (269.9)	BCN10L1S	RS	4 (2)	BCN10L1C	RS	7 (4)
	240	1.50	1	10 5/8 (269.9)	BCN10L10S	RS	4 (2)	BCN10L10C	RS	7 (4)
	120	2.00	1	12 1/2 (318.0)	BCN12J1S	RS	5 (3)	BCN12J1C	RS	8 (4)
	240	2.00	1	12 1/2 (318.0)	BCN12J10S	RS	5 (3)	BCN12J10C	RS	8 (4)
	120	2.50	1	14 3/4 (375.0)	BCN14N1S	RS	5 (3)	BCN14N1C	RS	8 (4)
	240	2.50	1	14 3/4 (375.0)	BCN14N10S	RS	5 (3)	BCN14N10C	RS	8 (4)
	120	3.00	1	16 3/4 (425.0)	BCN16N1S	RS	6 (3)	BCN16N1C	RS	9 (4)
	240	3.00	1	16 3/4 (425.0)	BCN16N10S	RS	6 (3)	BCN16N10C	RS	9 (4)
240	4.00	1	21 (533.0)	BCN21A10S	RS	6 (3)	BCN21A10C	RS	9 (4)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

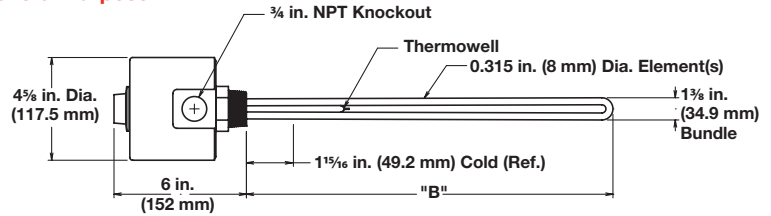
WATROD and FIREBAR Screw Plug Immersion Heaters



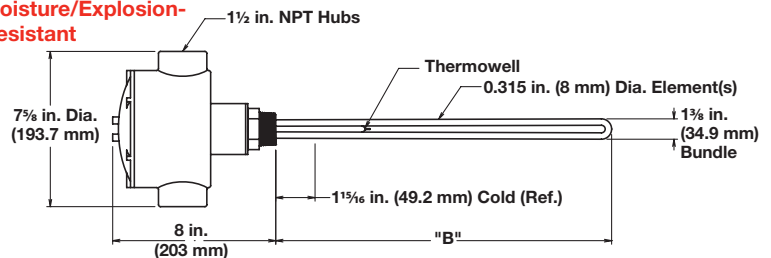
Application: Clean Water

- 1 1/4 inch NPT screw plug
- WATROD elements
- With thermostat (SPST)
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 2 (30 to 250°F)		Type 3 (175 to 550°F)	
						Part Number	Del.	Part Number ⑤	Del.
General Purpose Enclosure									
60 W/in ² Brass Plug 1-Alloy 800 Element (9.3 W/cm ²)	120	0.50	1	4 ³ / ₈ (111.1)	3 (2)	BDN4G1S2	RS	BDN4G1S3	RS
	240	0.50	1	4 ³ / ₈ (111.1)	3 (2)	BDN4G10S2	RS	BDN4G10S3	RS
	120	0.75	1	6 ³ / ₈ (161.9)	3 (2)	BDN6G1S2	RS	BDN6G1S3	RS
	240	0.75	1	6 ³ / ₈ (161.9)	3 (2)	BDN6G10S2	RS	BDN6G10S3	RS
60 W/in ² ④ Brass Plug 2-Alloy 800 Elements (9.3 W/cm ²)	120/240	1.00	1	4 ³ / ₈ (111.1)	4 (2)	BEN4G6S2	RS	BEN4G6S3	RS
	120/240	1.50	1	6 ³ / ₈ (161.9)	4 (2)	BEN6G6S2	RS	BEN6G6S3	RS
	120/240	2.00	1	8 ¹ / ₂ (216.0)	5 (3)	BEN8J6S2	RS	BEN8J6S3	RS
	120/240	2.50	1	10 ³ / ₄ (273.0)	5 (3)	BEN10N6S2	RS	BEN10N6S3	RS
	120/240	3.00	1	15 (381.0)	6 (3)	BEN15A6S2	RS	BEN15A6S3	RS
	240	4.00	1	19 (483.0)	7 (4)	BEN19A10S2	RS	BEN19A10S3	RS
	240	5.00	1	23 ¹ / ₂ (597.0)	8 (4)	BEN23J10S2	RS	BEN23J10S3	RS
	240	6.00	1	27 ¹ / ₂ (699.0)	9 (4)	BEN27J10S2	RS	BEN27J10S3	RS
Moisture/Explosion-Resistant Enclosure ⑤									
60 W/in ² Brass Plug 1-Alloy 800 Element (9.3 W/cm ²)	120	0.50	1	4 ³ / ₈ (111.1)	7 (4)	BDN4G1C2	RS	BDN4G1C3	RS
	240	0.50	1	4 ³ / ₈ (111.1)	7 (4)	BDN4G10C2	RS	BDN4G10C3	RS
	120	0.75	1	6 ³ / ₈ (161.9)	7 (4)	BDN6G1C2	RS	BDN6G1C3	RS
	240	0.75	1	6 ³ / ₈ (161.9)	7 (4)	BDN6G10C2	RS	BDN6G10C3	RS
60 W/in ² ④ Brass Plug 2-Alloy 800 Elements (9.3 W/cm ²)	120/240	1.00	1	4 ³ / ₈ (111.1)	8 (4)	BEN4G6C2	RS	BEN4G6C3	RS
	120/240	1.50	1	6 ³ / ₈ (161.9)	8 (4)	BEN6G6C2	RS	BEN6G6C3	RS
	120/240	2.00	1	8 ¹ / ₂ (216.0)	9 (4)	BEN8J6C2	RS	BEN8J6C3	RS
	120/240	2.50	1	10 ³ / ₄ (273.0)	9 (4)	BEN10N6C2	RS	BEN10N6C3	RS
	120/240	3.00	1	15 (381.0)	10 (5)	BEN15A6C2	RS	BEN15A6C3	RS
	240	4.00	1	19 (483.0)	11 (5)	BEN19A10C2	RS	BEN19A10C3	RS
	240	5.00	1	23 ¹ / ₂ (597.0)	12 (6)	BEN23J10C2	RS	BEN23J10C3	RS
	240	6.00	1	27 ¹ / ₂ (699.0)	13 (6)	BEN27J10C2	RS	BEN27J10C3	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

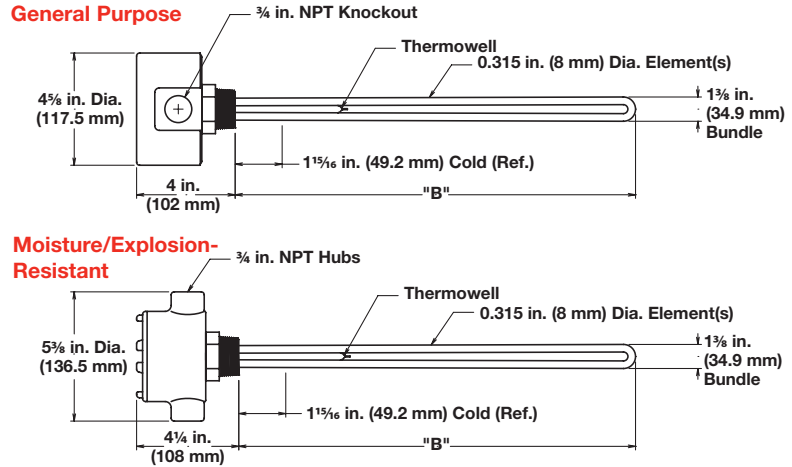
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 1 1/4 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
60 W/in² Brass Plug 1-Alloy 800 Element (9.3 W/cm²)	120	0.50	1	4 ³ / ₈ (111.1)	BDN4G1S	RS	3 (2)	BDN4G1C	RS	6 (3)	
	240	0.50	1	4 ³ / ₈ (111.1)	BDN4G10S	RS	3 (2)	BDN4G10C	RS	6 (3)	
	120	0.75	1	6 ³ / ₈ (161.9)	BDN6G1S	RS	3 (2)	BDN6G1C	RS	6 (3)	
	240	0.75	1	6 ³ / ₈ (161.9)	BDN6G10S	RS	3 (2)	BDN6G10C	RS	6 (3)	
60 W/in² ④ Brass Plug 2-Alloy 800 Elements (9.3 W/cm²)	120/240	1.00	1	4 ³ / ₈ (111.1)	BEN4G6S	RS	4 (2)	BEN4G6C	RS	7 (4)	
	120/240	1.50	1	6 ³ / ₈ (161.9)	BEN6G6S	RS	4 (2)	BEN6G6C	RS	7 (4)	
	120/240	2.00	1	8 ¹ / ₂ (216.0)	BEN8J6S	RS	5 (3)	BEN8J6C	RS	8 (4)	
	120/240	2.50	1	10 ³ / ₄ (273.0)	BEN10N6S	RS	5 (3)	BEN10N6C	RS	8 (4)	
	120/240	3.00	1	15 (381.0)	BEN15A6S	RS	6 (3)	BEN15A6C	RS	9 (4)	
	240	4.00	1	19 (483.0)	BEN19A10S	RS	7 (4)	BEN19A10C	RS	10 (5)	
	240	5.00	1	23 ¹ / ₂ (597.0)	BEN23J10S	RS	8 (4)	BEN23J10C	RS	11 (5)	
	240	6.00	1	27 ¹ / ₂ (699.0)	BEN27J10S	RS	9 (4)	BEN27J10C	RS	12 (6)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

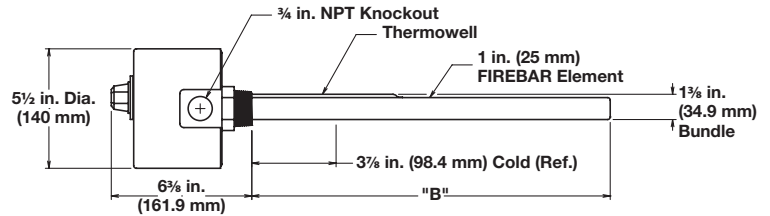
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)
- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.
General Purpose Enclosure									
90 W/in² Ⓢ 304 SS Plug 1-Alloy 800 Element (14 W/cm²)	240	1.5	1	7 ⁵ / ₈ (193.7)	6 (3)	BDNF7R10S5A	RS	BDNF7R10S7A	RS
	480	1.5	1	7 ⁵ / ₈ (193.7)	6 (3)	BDNF7R11S5A	RS	BDNF7R11S7A	RS
	240	3.0	1	11 ¹ / ₈ (282.6)	7 (4)	BDNF11G10S5A	RS	BDNF11G10S7A	RS
	480	3.0	1	11 ¹ / ₈ (282.6)	7 (4)	BDNF11G11S5A	RS	BDNF11G11S7A	RS
	240	5.0	3	16 ¹ / ₈ (409.6)	8 (4)	BDNF16G3S5A	RS	BDNF16G3S7A	RS
	480	5.0	3	16 ¹ / ₈ (409.6)	8 (4)	BDNF16G5S5A	RS	BDNF16G5S7A	RS
	240	6.5	3	19 ¹ / ₈ (485.8)	9 (4)	BDNF19G3S5A	RS	BDNF19G3S7A	RS
	480	6.5	3	19 ¹ / ₈ (485.8)	9 (4)	BDNF19G5S5A	RS	BDNF19G5S7A	RS
	240	8.5	3	24 ³ / ₈ (619.1)	10 (5)	BDNF24L3S5A	RS	BDNF24L3S7A	RS
	480	8.5	3	24 ³ / ₈ (619.1)	10 (5)	BDNF24L5S5A	RS	BDNF24L5S7A	RS
	240	10.5	3	29 ⁵ / ₈ (752.5)	11 (5)	BDNF29R3S5A	RS	BDNF29R3S7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

Ⓢ Can be wired for 1-phase operation

Immersion Heaters

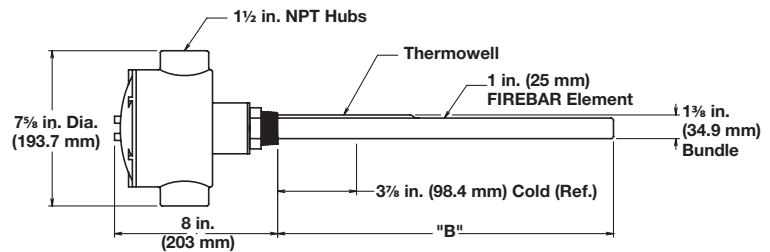
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Clean Water

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- Moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.
Moisture/Explosion-Resistant Enclosure ⑤									
90 W/in² ⑧ 304 SS Plug 1-Alloy 800 Element (14 W/cm²)	240	1.5	1	7 ⁵ / ₈ (193.7)	9 (4)	BDNF7R10C5A	RS	BDNF7R10C7A	RS
	480	1.5	1	7 ⁵ / ₈ (193.7)	9 (4)	BDNF7R11C5A	RS	BDNF7R11C7A	RS
	240	3.0	1	11 ¹ / ₈ (282.6)	10 (5)	BDNF11G10C5A	RS	BDNF11G10C7A	RS
	480	3.0	1	11 ¹ / ₈ (282.6)	10 (5)	BDNF11G11C5A	RS	BDNF11G11C7A	RS
	240	5.0	3	16 ¹ / ₈ (409.6)	11 (5)	BDNF16G3C5A	RS	BDNF16G3C7A	RS
	480	5.0	3	16 ¹ / ₈ (409.6)	11 (5)	BDNF16G5C5A	RS	BDNF16G5C7A	RS
	240	6.5	3	19 ¹ / ₈ (485.8)	12 (6)	BDNF19G3C5A	RS	BDNF19G3C7A	RS
	480	6.5	3	19 ¹ / ₈ (485.8)	12 (6)	BDNF19G5C5A	RS	BDNF19G5C7A	RS
240	8.5	3	24 ³ / ₈ (619.1)	13 (6)	BDNF24L3C5A	RS	BDNF24L3C7A	RS	

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

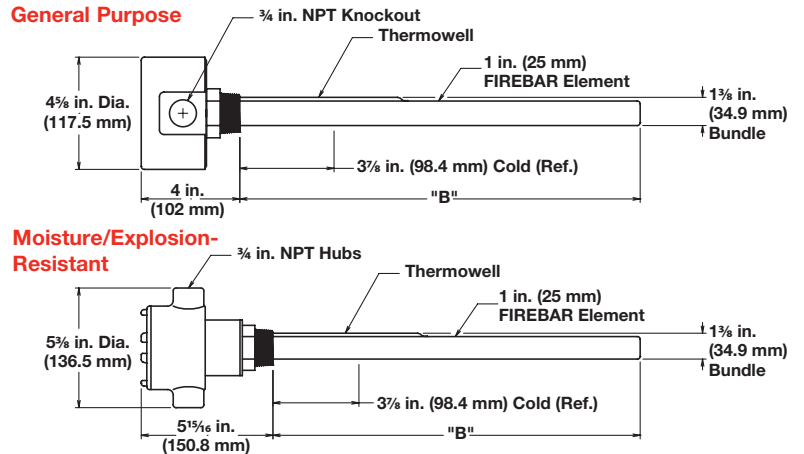
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure		
					Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
90 W/in ² ⑧ 304 SS Plug 1-Alloy 800 Element (9.3 W/cm ²)	240	1.5	1	7 ⁵ / ₈ (193.7)	BDNF7R10S	RS	5 (3)	BDNF7R10C	RS	8 (4)
	480	1.5	1	7 ⁵ / ₈ (193.7)	BDNF7R11S	RS	5 (3)	BDNF7R11C	RS	8 (4)
	240	3.0	1	11 ¹ / ₈ (282.6)	BDNF11G10S	RS	6 (3)	BDNF11G10C	RS	9 (4)
	480	3.0	1	11 ¹ / ₈ (282.6)	BDNF11G11S	RS	6 (3)	BDNF11G11C	RS	9 (4)
	240	5.0	3	16 ¹ / ₈ (409.6)	BDNF16G3S	RS	7 (4)	BDNF16G3C	RS	10 (5)
	480	5.0	3	16 ¹ / ₈ (409.6)	BDNF16G5S	RS	7 (4)	BDNF16G5C	RS	10 (5)
	240	6.5	3	19 ¹ / ₈ (485.8)	BDNF19G3S	RS	8 (4)	BDNF19G3C	RS	11 (5)
	480	6.5	3	19 ¹ / ₈ (485.8)	BDNF19G5S	RS	8 (4)	BDNF19G5C	RS	11 (5)
	240	8.5	3	24 ³ / ₈ (619.1)	BDNF24L3S	RS	9 (4)	BDNF24L3C	RS	12 (6)
	480	8.5	3	24 ³ / ₈ (619.1)	BDNF24L5S	RS	9 (4)	BDNF24L5C	RS	12 (6)
	240	10.5	3	29 ⁵ / ₈ (752.5)	BDNF29R3S	RS	10 (5)	BDNF29R3C	RS	13 (6)
	480	10.5	3	29 ⁵ / ₈ (752.5)	BDNF29R5S	RS	10 (5)	BDNF29R5C	RS	13 (6)
	240	12.7	3	34 ⁵ / ₈ (879.5)	BDNF34R3S	RS	11 (5)	BDNF34R3C	RS	14 (7)
	480	12.7	3	34 ⁵ / ₈ (879.5)	BDNF34R5S	RS	11 (5)	BDNF34R5C	RS	14 (7)
	240	17.0	3	45 ¹ / ₈ (1146.2)	BDNF45G3S	RS	13 (6)	BDNF45G3C	RS	16 (8)
	480	17.0	3	45 ¹ / ₈ (1146.2)	BDNF45G5S	RS	13 (6)	BDNF45G5C	RS	16 (8)
480	21.5	3	55 ⁵ / ₈ (1412.9)	BDNF55R5S	RS	15 (7)	BDNF55R5C	RS	18 (9)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

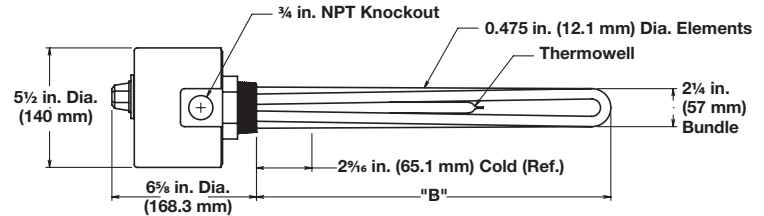


Application: Clean Water

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
60 W/in² ④ 304 SS Plug 2-Alloy 800 Elements (9.3 W/cm²)	120/240	2.0	1	8 ¹ / ₈ (206.4)	5 (3)	BGN78C6S4	RS	BGN78C6S5A	RS	BGN78C6S7A	RS
	240/480	2.0	1	8 ¹ / ₈ (206.4)	5 (3)	BGN78C7S4	RS	BGN78C7S5A	RS	BGN78C7S7A	RS
	120/240	3.0	1	11 ¹ / ₈ (282.6)	6 (3)	BGN711C6S4	RS	BGN711C6S5A	RS	BGN711C6S7A	RS
	240/480	3.0	1	11 ¹ / ₈ (282.6)	6 (3)	BGN711C7S4	RS	BGN711C7S5A	RS	BGN711C7S7A	RS
	120/240	4.0	1	15 ¹ / ₈ (384.2)	7 (4)	BGN715C6S4	RS	BGN715C6S5A	RS	BGN715C6S7A	RS
	120/240	5.0	1	18 ¹ / ₈ (460.4)	7 (4)	BGN718C6S4	RS	BGN718C6S5A	RS	BGN718C6S7A	RS
60 W/in² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm²)	240	3.0	3	8 ¹ / ₈ (206.4)	6 (3)	BHN78C3S4	RS	BHN78C3S5A	RS	BHN78C3S7A	RS
	480	3.0	3	8 ¹ / ₈ (206.4)	6 (3)	BHN68C13S4	RS	BHN68C13S5A	RS	BHN68C13S7A	RS
	240	4.5	3	11 ¹ / ₈ (282.6)	7 (4)	BHN711C3S4	RS	BHN711C3S5A	RS	BHN711C3S7A	RS
	480	4.5	3	11 ¹ / ₈ (282.6)	7 (4)	BHN611C13S4	RS	BHN611C13S5A	RS	BHN611C13S7A	RS
	240	6.0	3	15 ¹ / ₈ (384.2)	8 (4)	BHN715C3S4	RS	BHN715C3S5A	RS	BHN715C3S7A	RS
	480	6.0	3	15 ¹ / ₈ (384.2)	8 (4)	BHN715C5S4	RS	BHN715C5S5A	RS	BHN715C5S7A	RS
	240	7.5	3	18 ¹ / ₈ (460.4)	8 (4)	BHN718C3S4	RS	BHN718C3S5A	RS	BHN718C3S7A	RS
	240	9.0	3	21 ¹ / ₈ (536.6)	9 (4)	BHN721C3S4	RS	BHN721C3S5A	RS	BHN721C3S7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

④ Wired for higher voltage

Immersion Heaters

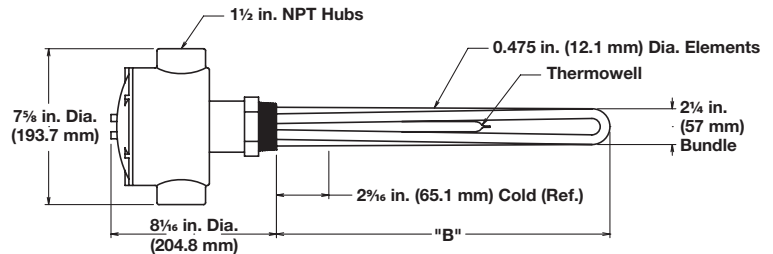
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Clean Water

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- Moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
Moisture/Explosion-Resistant Enclosure ⑤											
60 W/in² ④ 304 SS Plug 2-Alloy 800 Elements (9.3 W/cm²)	120/240	2.0	1	8 ¹ / ₈ (206.4)	8 (4)	BGN78C6C4	RS	BGN78C6C5A	RS	BGN78C6C7A	RS
	240/480	2.0	1	8 ¹ / ₈ (206.4)	8 (4)	BGN78C7C4	RS	BGN78C7C5A	RS	BGN78C7C7A	RS
	120/240	3.0	1	11 ¹ / ₈ (282.6)	9 (4)	BGN711C6C4	RS	BGN711C6C5A	RS	BGN711C6C7A	RS
	240/480	3.0	1	11 ¹ / ₈ (282.6)	9 (4)	BGN711C7C4	RS	BGN711C7C5A	RS	BGN711C7C7A	RS
	120/240	4.0	1	15 ¹ / ₈ (384.2)	10 (5)	BGN715C6C4	RS	BGN715C6C5A	RS	BGN715C6C7A	RS
	120/240	5.0	1	18 ¹ / ₈ (460.4)	10 (5)	BGN718C6C4	RS	BGN718C6C5A	RS	BGN718C6C7A	RS
60 W/in² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm²)	240	3.0	3	8 ¹ / ₈ (206.4)	9 (4)	BHN78C3C4	RS	BHN78C3C5A	RS	BHN78C3C7A	RS
	480	3.0	3	8 ¹ / ₈ (206.4)	9 (4)	BHN68C13C4	RS	BHN68C13C5A	RS	BHN68C13C7A	RS
	240	4.5	3	11 ¹ / ₈ (282.6)	10 (5)	BHN711C3C4	RS	BHN711C3C5A	RS	BHN711C3C7A	RS
	480	4.5	3	11 ¹ / ₈ (282.6)	10 (5)	BHN611C13C4	RS	BHN611C13C5A	RS	BHN611C13C7A	RS
	240	6.0	3	15 ¹ / ₈ (384.2)	11 (5)	BHN715C3C4	RS	BHN715C3C5A	RS	BHN715C3C7A	RS
	480	6.0	3	15 ¹ / ₈ (384.2)	11 (5)	BHN715C5C4	RS	BHN715C5C5A	RS	BHN715C5C7A	RS
	240	7.5	3	18 ¹ / ₈ (460.4)	11 (5)	BHN718C3C4	RS	BHN718C3C5A	RS	BHN718C3C7A	RS
	240	9.0	3	21 ¹ / ₈ (536.6)	12 (6)	BHN721C3C4	RS	BHN721C3C5A	RS	BHN721C3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

Immersion Heaters

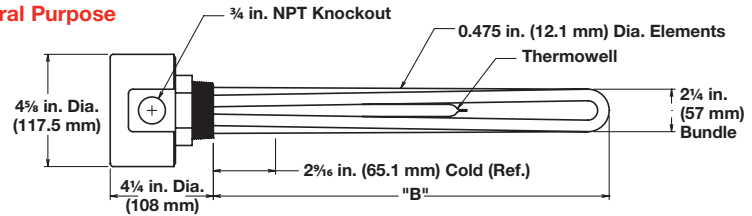
WATROD and FIREBAR Screw Plug Immersion Heaters



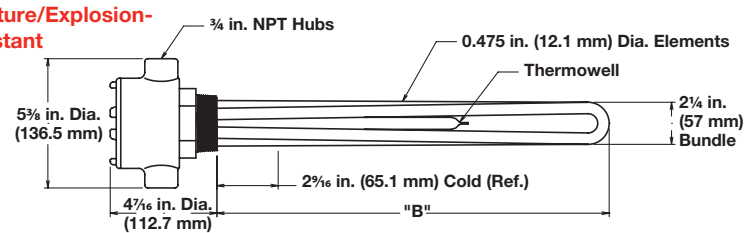
Application: Clean Water

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number		Ship Wt. lbs (kg)		Part Number ⑤		Ship Wt. lbs (kg)	
					Del.	Del.	lbs (kg)	Del.	Del.	lbs (kg)		
					General Purpose Enclosure				Moisture/Explosion-Resistant Enclosure			
60 W/in ² ④ 304 SS Plug 2-Alloy 800 Elements (9.3 W/cm ²)	120/240	2.0	1	8 ¹ / ₈ (206.4)	BGN78C6S	RS	4 (2)	BGN78C6C	RS	7 (4)		
	240/480	2.0	1	8 ¹ / ₈ (206.4)	BGN78C7S	RS	4 (2)	BGN78C7C	RS	7 (4)		
	120/240	3.0	1	11 ¹ / ₈ (282.6)	BGN711C6S	RS	5 (3)	BGN711C6C	RS	8 (4)		
	240/480	3.0	1	11 ¹ / ₈ (282.6)	BGN711C7S	RS	5 (3)	BGN711C7C	RS	8 (4)		
	120/240	4.0	1	15 ¹ / ₈ (384.2)	BGN715C6S	RS	6 (3)	BGN715C6C	RS	9 (4)		
	240/480	4.0	1	15 ¹ / ₈ (384.2)	BGN715C7S	RS	6 (3)	BGN715C7C	RS	9 (4)		
	120/240	5.0	1	18 ¹ / ₈ (460.4)	BGN718C6S	RS	6 (3)	BGN718C6C	RS	9 (4)		
	240/480	5.0	1	18 ¹ / ₈ (460.4)	BGN718C7S	RS	6 (3)	BGN718C7C	RS	9 (4)		
	240/480	6.0	1	21 ¹ / ₈ (536.6)	BGN721C7S	RS	7 (4)	BGN721C7C	RS	10 (5)		
	240/480	8.0	1	26 ⁵ / ₈ (676.3)	BGN726L7S	RS	7 (4)	BGN726L7C	RS	10 (5)		
60 W/in ² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm ²)	120	3.0	1	8 ¹ / ₈ (206.4)	BHN78C1S	RS	5 (3)	BHN78C1C	RS	8 (4)		
	240	3.0	3	8 ¹ / ₈ (206.4)	BHN78C3S	RS	5 (3)	BHN78C3C	RS	8 (4)		
	480	3.0	3	8 ¹ / ₈ (206.4)	BHN68C13S	RS	5 (3)	BHN68C13C	RS	8 (4)		
	120	4.5	1	11 ¹ / ₈ (282.6)	BHN711C1S	RS	6 (3)	BHN711C1C	RS	9 (4)		
	240	4.5	3	11 ¹ / ₈ (282.6)	BHN711C3S	RS	6 (3)	BHN711C3C	RS	9 (4)		
	480	4.5	3	11 ¹ / ₈ (282.6)	BHN611C13S	RS	6 (3)	BHN611C13C	RS	9 (4)		
	240	6.0	3	15 ¹ / ₈ (384.2)	BHN715C3S	RS	7 (4)	BHN715C3C	RS	10 (5)		
	480	6.0	3	15 ¹ / ₈ (384.2)	BHN715C5S	RS	7 (4)	BHN715C5C	RS	10 (5)		
	240	7.5	3	18 ¹ / ₈ (460.4)	BHN718C3S	RS	7 (4)	BHN718C3C	RS	10 (5)		
	480	7.5	3	18 ¹ / ₈ (460.4)	BHN718C5S	RS	7 (4)	BHN718C5C	RS	10 (5)		
	240	9.0	3	21 ¹ / ₈ (536.6)	BHN721C3S	RS	8 (4)	BHN721C3C	RS	11 (5)		
	480	9.0	3	21 ¹ / ₈ (536.6)	BHN721C5S	RS	8 (4)	BHN721C5C	RS	11 (5)		
	240	12.0	3	26 ⁵ / ₈ (676.3)	BHN726L3S	RS	8 (4)	BHN726L3C	RS	11 (5)		
	480	12.0	3	26 ⁵ / ₈ (676.3)	BHN726L5S	RS	8 (4)	BHN726L5C	RS	11 (5)		
	240	15.0	3	32 ¹ / ₈ (816.0)	BHN732C3S	RS	9 (4)	BHN732C3C	RS	12 (6)		
480	15.0	3	32 ¹ / ₈ (816.0)	BHN732C5S	RS	9 (4)	BHN732C5C	RS	12 (6)			

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



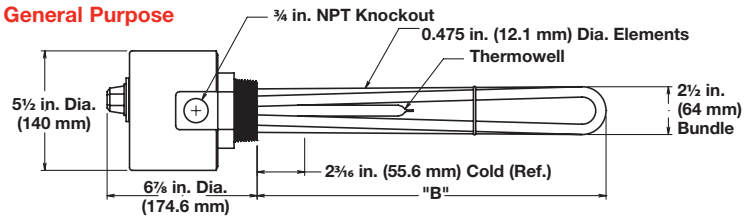
Application: Clean Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

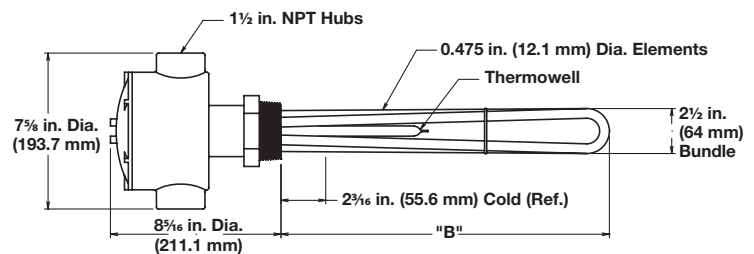
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
60 W/in ² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm ²)	240	3.0	3	7 ⁵ / ₈ (193.7)	7 (4)	BLN77L3S4	RS	BLN77L3S5A	RS	BLN77L3S7A	RS
	480	3.0	3	7 ⁵ / ₈ (193.7)	7 (4)	BLN77L13S4	RS	BLN77L13S5A	RS	BLN77L13S7A	RS
	240	4.5	3	10 ⁵ / ₈ (269.9)	8 (4)	BLN710L3S4	RS	BLN710L3S5A	RS	BLN710L3S7A	RS
	480	4.5	3	10 ⁵ / ₈ (269.9)	8 (4)	BLN610K13S4	RS	BLN610K13S5A	RS	BLN610K13S7A	RS
	240	6.0	3	14 ⁵ / ₈ (371.5)	10 (5)	BLN714L3S4	RS	BLN714L3S5A	RS	BLN714L3S7A	RS
	480	6.0	3	14 ⁵ / ₈ (371.5)	10 (5)	BLN714L5S4	RS	BLN714L5S5A	RS	BLN714L5S7A	RS
	240	7.5	3	17 ⁵ / ₈ (447.7)	10 (5)	BLN717L3S4	RS	BLN717L3S5A	RS	BLN717L3S7A	RS
	240	9.0	3	20 ⁵ / ₈ (523.9)	12 (6)	BLN720L3S4	RS	BLN720L3S5A	RS	BLN720L3S7A	RS
Moisture/Explosion-Resistant Enclosure ⑤											
60 W/in ² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm ²)	240	3.0	3	7 ⁵ / ₈ (193.7)	10 (5)	BLN77L3C4	RS	BLN77L3C5A	RS	BLN77L3C7A	RS
	480	3.0	3	7 ⁵ / ₈ (193.7)	10 (5)	BLN77L13C4	RS	BLN77L13C5A	RS	BLN77L13C7A	RS
	240	4.5	3	10 ⁵ / ₈ (269.9)	11 (5)	BLN710L3C4	RS	BLN710L3C5A	RS	BLN710L3C7A	RS
	480	4.5	3	10 ⁵ / ₈ (269.9)	11 (5)	BLN610K13C4	RS	BLN610K13C5A	RS	BLN610K13C7A	RS
	240	6.0	3	14 ⁵ / ₈ (371.5)	13 (6)	BLN714L3C4	RS	BLN714L3C5A	RS	BLN714L3C7A	RS
	480	6.0	3	14 ⁵ / ₈ (371.5)	13 (6)	BLN714L5C4	RS	BLN714L5C5A	RS	BLN714L5C7A	RS
	240	7.5	3	17 ⁵ / ₈ (447.7)	13 (6)	BLN717L3C4	RS	BLN717L3C5A	RS	BLN717L3C7A	RS
	240	9.0	3	20 ⁵ / ₈ (523.9)	15 (7)	BLN720L3C4	RS	BLN720L3C5A	RS	BLN720L3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

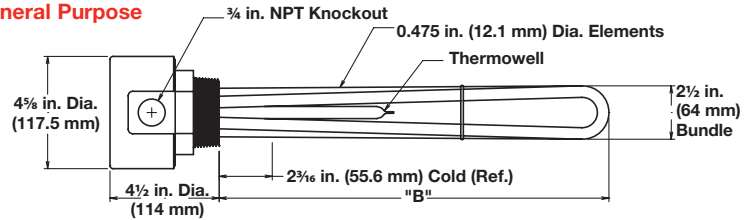
WATROD and FIREBAR Screw Plug Immersion Heaters



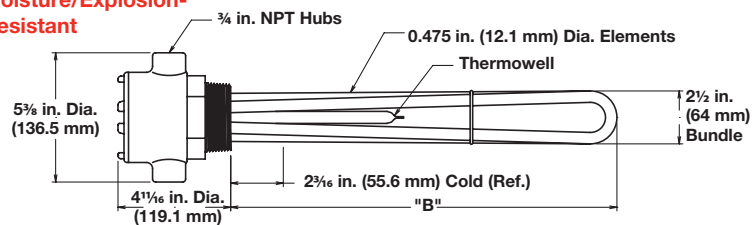
Application: Clean Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
60 W/in² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm²)	General Purpose Enclosure					Moisture/Explosion-Resistant Enclosure				
	120	3.0	1	7 ⁵ / ₈ (193.7)	BLN77L1S	RS	6 (3)	BLN77L1C	RS	9 (4)
	240	3.0	3	7 ⁵ / ₈ (193.7)	BLN77L3S	RS	6 (3)	BLN77L3C	RS	9 (4)
	480	3.0	3	7 ⁵ / ₈ (193.7)	BLN77L13S	RS	6 (3)	BLN77L13C	RS	9 (4)
	120	4.5	1	10 ⁵ / ₈ (269.9)	BLN710L1S	RS	7 (4)	BLN710L1C	RS	10 (5)
	240	4.5	3	10 ⁵ / ₈ (269.9)	BLN710L3S	RS	7 (4)	BLN710L3C	RS	10 (5)
	480	4.5	3	10 ⁵ / ₈ (269.9)	BLN610K13S	RS	7 (4)	BLN610K13C	RS	10 (5)
	240	6.0	3	14 ⁵ / ₈ (371.5)	BLN714L3S	RS	9 (4)	BLN714L3C	RS	12 (6)
	480	6.0	3	14 ⁵ / ₈ (371.5)	BLN714L5S	RS	9 (4)	BLN714L5C	RS	12 (6)
	240	7.5	3	17 ⁵ / ₈ (447.7)	BLN717L3S	RS	9 (4)	BLN717L3C	RS	12 (6)
	480	7.5	3	17 ⁵ / ₈ (447.7)	BLN717L5S	RS	9 (4)	BLN717L5C	RS	12 (6)
	240	9.0	3	20 ⁵ / ₈ (523.9)	BLN720L3S	RS	11 (5)	BLN720L3C	RS	14 (7)
	480	9.0	3	20 ⁵ / ₈ (523.9)	BLN720L5S	RS	11 (5)	BLN720L5C	RS	14 (7)
	240	12.0	3	26 ¹ / ₈ (663.6)	BLN726C3S	RS	12 (6)	BLN726C3C	RS	15 (7)
	480	12.0	3	26 ¹ / ₈ (663.6)	BLN726C5S	RS	12 (6)	BLN726C5C	RS	15 (7)
	240	15.0	3	31 ⁵ / ₈ (803.3)	BLN731L3S	RS	14 (7)	BLN731L3C	RS	17 (8)
	480	15.0	3	31 ⁵ / ₈ (803.3)	BLN731L5S	RS	14 (7)	BLN731L5C	RS	17 (8)
	240	18.0	3	37 ¹ / ₈ (943.0)	BLN737C3S	RS	15 (7)	BLN737C3C	RS	18 (9)
480	18.0	3	37 ¹ / ₈ (943.0)	BLN737C5S	RS	15 (7)	BLN737C5C	RS	18 (9)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

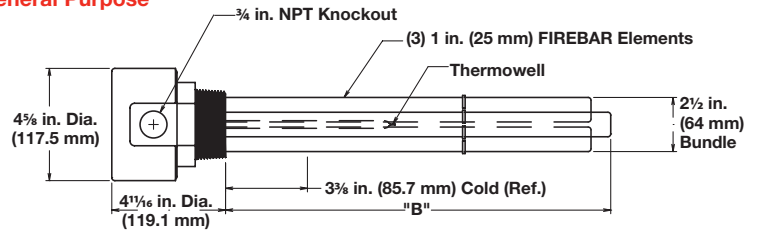
WATROD and FIREBAR Screw Plug Immersion Heaters



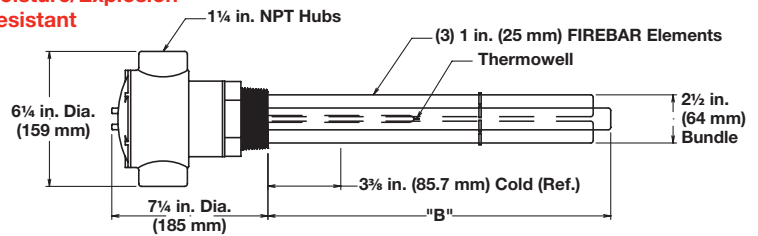
Application: Clean Water

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	General Purpose Enclosure		Moisture/Explosion-Resistant Enclosure			
					Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
90 W/in² ⑧ 304 SS Plug 3-Alloy 800 Elements (14 W/cm²)	240	15.0	3	15 1/8 (384.2)	BLNF15C3S	RS	11 (5)	BLNF15C3C	RS	14 (7)
	480	15.0	3	15 1/8 (384.2)	BLNF15C5S	RS	11 (5)	BLNF15C5C	RS	14 (7)
	240	20.0	3	18 1/8 (460.4)	BLNF18C3S	RS	12 (6)	BLNF18C3C	RS	15 (7)
	480	20.0	3	18 1/8 (460.4)	BLNF18C5S ③	RS	12 (6)	BLNF18C5C ③	RS	15 (7)
	480	25.0	3	23 1/8 (587.4)	BLNF23C5S	RS	14 (7)	BLNF23C5C	RS	17 (8)
	480	32.0	3	28 5/8 (727.1)	BLNF28L5S	RS	17 (8)	BLNF28L5C	RS	20 (9)
	480	38.0	3	33 5/8 (854.1)	BLNF33L5S	RS	18 (9)	BLNF33L5C	RS	21 (10)

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

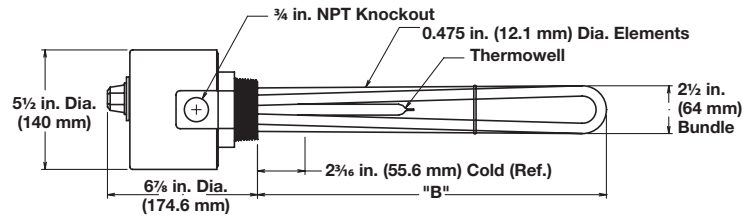


Application: Deionized/ Demineralized Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
60 W/in² 316 SS Plug 3-316 SS Elements (9.3 W/cm²) (Passivated)	240	3.0	3	7 ⁵ / ₈ (193.7)	7 (4)	BLR77L3S4	RS	BLR77L3S5A	RS	BLR77L3S7A	RS
	480	3.0	3	7 ⁵ / ₈ (193.7)	7 (4)	BLR77L5S4	RS	BLR77L5S5A	RS	BLR77L5S7A	RS
	240	4.5	3	10 ⁵ / ₈ (269.9)	8 (4)	BLR710L3S4	RS	BLR710L3S5A	RS	BLR710L3S7A	RS
	480	4.5	3	10 ⁵ / ₈ (269.9)	8 (4)	BLR710L5S4	RS	BLR710L5S5A	RS	BLR710L5S7A	RS
	240	6.0	3	14 ⁵ / ₈ (371.5)	10 (5)	BLR714L3S4	RS	BLR714L3S5A	RS	BLR714L3S7A	RS
	480	6.0	3	14 ⁵ / ₈ (371.5)	10 (5)	BLR714L5S4	RS	BLR714L5S5A	RS	BLR714L5S7A	RS
	240	7.5	3	17 ⁵ / ₈ (447.7)	10 (5)	BLR717L3S4	RS	BLR717L3S5A	RS	BLR717L3S7A	RS
	240	9.0	3	20 ⁵ / ₈ (523.9)	12 (6)	BLR720L3S4	RS	BLR720L3S5A	RS	BLR720L3S7A	RS

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

Immersion Heaters

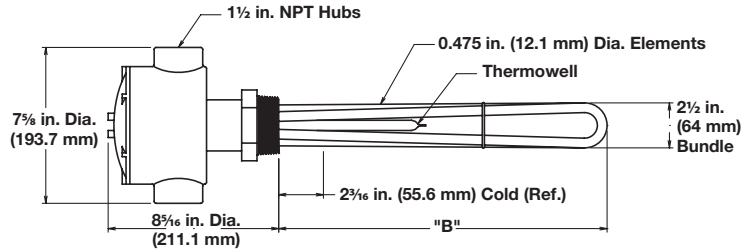
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Deionized/ Demineralized Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- Moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
Moisture/Explosion-Resistant Enclosure ⑤											
60 W/in² 316 SS Plug 3-316 SS Elements (9.3 W/cm²) (Passivated)	240	3.0	3	7 ⁵ / ₈ (193.7)	10 (5)	BLR77L3C4	RS	BLR77L3C5A	RS	BLR77L3C7A	RS
	480	3.0	3	7 ⁵ / ₈ (193.7)	10 (5)	BLR77L5C4	RS	BLR77L5C5A	RS	BLR77L5C7A	RS
	240	4.5	3	10 ⁵ / ₈ (269.9)	11 (5)	BLR710L3C4	RS	BLR710L3C5A	RS	BLR710L3C7A	RS
	480	4.5	3	10 ⁵ / ₈ (269.9)	11 (5)	BLR710L5C4	RS	BLR710L5C5A	RS	BLR710L5C7A	RS
	240	6.0	3	14 ⁵ / ₈ (371.5)	13 (6)	BLR714L3C4	RS	BLR714L3C5A	RS	BLR714L3C7A	RS
	480	6.0	3	14 ⁵ / ₈ (371.5)	13 (6)	BLR714L5C4	RS	BLR714L5C5A	RS	BLR714L5C7A	RS
	240	7.5	3	17 ⁵ / ₈ (447.7)	13 (6)	BLR717L3C4	RS	BLR717L3C5A	RS	BLR717L3C7A	RS
	240	9.0	3	20 ⁵ / ₈ (523.9)	15 (7)	BLR720L3C4	RS	BLR720L3C5A	RS	BLR720L3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

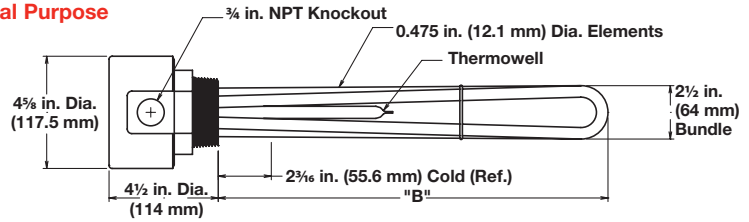
WATROD and FIREBAR Screw Plug Immersion Heaters



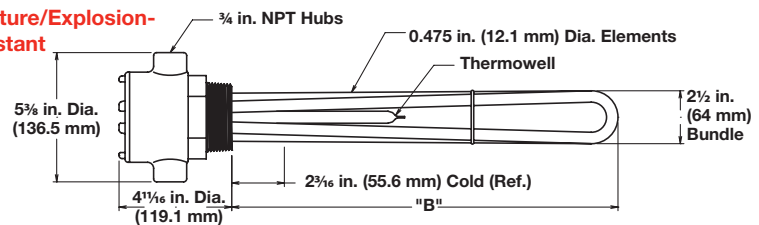
Application: Deionized/ Demineralized Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture/Explosion-Resistant Enclosure	
								Part Number ⑤	Del.	Part Number ⑤	Del.
60 W/in ² 316 SS Plug 3-316 SS Elements (9.3 W/cm ²) (Passivated)	120	3.0	1	7 ⁵ / ₈ (193.7)	BLR77L1S	RS	6 (3)	BLR77L1C	RS	9 (4)	
	240	3.0	3	7 ⁵ / ₈ (193.7)	BLR77L3S	RS	6 (3)	BLR77L3C	RS	9 (4)	
	480	3.0	3	7 ⁵ / ₈ (193.7)	BLR77L5S	RS	6 (3)	BLR77L5C	RS	9 (4)	
	120	4.5	1	10 ⁵ / ₈ (269.9)	BLR710L1S	RS	7 (4)	BLR710L1C	RS	10 (5)	
	240	4.5	3	10 ⁵ / ₈ (269.9)	BLR710L3S	RS	7 (4)	BLR710L3C	RS	10 (5)	
	480	4.5	3	10 ⁵ / ₈ (269.9)	BLR710L5S	RS	7 (4)	BLR710L5C	RS	10 (5)	
	240	6.0	3	14 ⁵ / ₈ (371.5)	BLR714L3S	RS	9 (4)	BLR714L3C	RS	12 (6)	
	480	6.0	3	14 ⁵ / ₈ (371.5)	BLR714L5S	RS	9 (4)	BLR714L5C	RS	12 (6)	
	240	7.5	3	17 ⁵ / ₈ (447.7)	BLR717L3S	RS	9 (4)	BLR717L3C	RS	12 (6)	
	480	7.5	3	17 ⁵ / ₈ (447.7)	BLR717L5S	RS	9 (4)	BLR717L5C	RS	12 (6)	
	240	9.0	3	20 ⁵ / ₈ (523.9)	BLR720L3S	RS	11 (5)	BLR720L3C	RS	14 (7)	
	480	9.0	3	20 ⁵ / ₈ (523.9)	BLR720L5S	RS	11 (5)	BLR720L5C	RS	14 (7)	
	240	12.0	3	26 ¹ / ₈ (663.6)	BLR726C3S	RS	12 (6)	BLR726C3C	RS	15 (7)	
	480	12.0	3	26 ¹ / ₈ (663.6)	BLR726C5S	RS	12 (6)	BLR726C5C	RS	15 (7)	
	240	15.0	3	31 ⁵ / ₈ (803.3)	BLR731L3S	RS	14 (7)	BLR731L3C	RS	17 (8)	
	480	15.0	3	31 ⁵ / ₈ (803.3)	BLR731L5S	RS	14 (7)	BLR731L5C	RS	17 (8)	
240	18.0	3	37 ¹ / ₈ (943.0)	BLR737C3S	RS	15 (7)	BLR737C3C	RS	18 (9)		
480	18.0	3	37 ¹ / ₈ (943.0)	BLR737C5S	RS	15 (7)	BLR737C5C	RS	18 (9)		

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



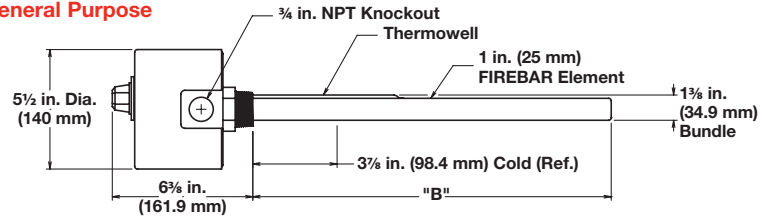
Application: Process Water

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)

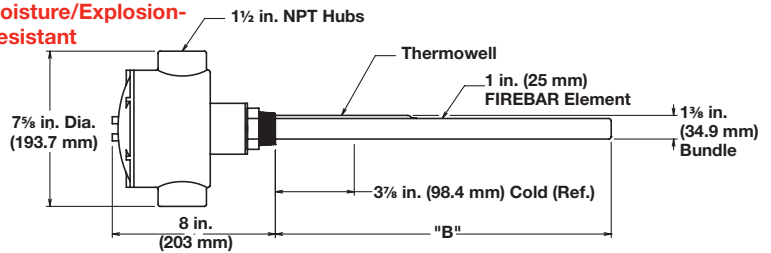
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.
General Purpose Enclosure									
45 W/in ² Ⓢ 304 SS Plug 1-Alloy 800 Element (7 W/cm ²)	240	2.0	3	13 (330)	7 (4)	BDNF13A27S5A	RS	BDNF13A27S7A	RS
	240	2.5	3	15 1/2 (394)	8 (4)	BDNF15J27S5A	RS	BDNF15J27S7A	RS
	240	3.0	3	18 (457)	9 (4)	BDNF18A27S5A	RS	BDNF18A27S7A	RS
	240	4.0	3	22 1/2 (572)	10 (5)	BDNF22J27S5A	RS	BDNF22J27S7A	RS
	480	4.0	3	22 1/2 (572)	10 (5)	BDNF22J28S5A	RS	BDNF22J28S7A	RS
	240	5.0	3	27 1/2 (699)	11 (5)	BDNF27J27S5A	RS	BDNF27J27S7A	RS
	480	5.0	3	27 1/2 (699)	11 (5)	BDNF27J28S5A	RS	BDNF27J28S7A	RS
	240	6.0	3	32 1/2 (826)	12 (6)	BDNF32J27S5A	RS	BDNF32J27S7A	RS
	480	6.0	3	32 1/2 (826)	12 (6)	BDNF32J28S5A	RS	BDNF32J28S7A	RS
	240	8.0	3	42 (1067)	14 (7)	BDNF42A27S5A	RS	BDNF42A27S7A	RS
	240	10.0	3	51 1/2 (1308)	16 (8)	BDNF51J27S5A	RS	BDNF51J27S7A	RS
	Moisture/Explosion-Resistant Enclosure ⑤								
45 W/in ² Ⓢ 304 SS Plug 1-Alloy 800 Element (7 W/cm ²)	240	2.0	3	13 (330)	10 (5)	BDNF13A27C5A	RS	BDNF13A27C7A	RS
	240	2.5	3	15 1/2 (394)	11 (5)	BDNF15J27C5A	RS	BDNF15J27C7A	RS
	240	3.0	3	18 (457)	12 (6)	BDNF18A27C5A	RS	BDNF18A27C7A	RS
	240	4.0	3	22 1/2 (572)	13 (6)	BDNF22J27C5A	RS	BDNF22J27C7A	RS
	480	4.0	3	22 1/2 (572)	13 (6)	BDNF22J28C5A	RS	BDNF22J28C7A	RS
	240	5.0	3	27 1/2 (699)	14 (7)	BDNF27J27C5A	RS	BDNF27J27C7A	RS
	480	5.0	3	27 1/2 (699)	14 (7)	BDNF27J28C5A	RS	BDNF27J28C7A	RS
	240	6.0	3	32 1/2 (826)	15 (7)	BDNF32J27C5A	RS	BDNF32J27C7A	RS
	480	6.0	3	32 1/2 (826)	15 (7)	BDNF32J28C5A	RS	BDNF32J28C7A	RS
	240	8.0	3	42 (1067)	17 (8)	BDNF42A27C5A	RS	BDNF42A27C7A	RS
	240	10.0	3	51 1/2 (1308)	19 (9)	BDNF51J27C5A	RS	BDNF51J27C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

Immersion Heaters

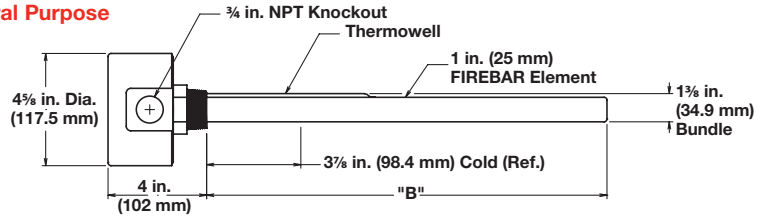
WATROD and FIREBAR Screw Plug Immersion Heaters



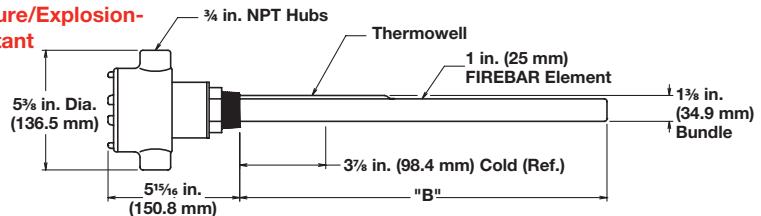
Application: Process Water

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosures (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
45 W/in ² ⑥ 304 SS Plug 1-Alloy 800 Element (7 W/cm ²)	240	2.0	3	13 (330)	BDNF13A27S	RS	6 (3)	BDNF13A27C	RS	9 (4)	
	240	2.5	3	15 1/2 (394)	BDNF15J27S	RS	7 (4)	BDNF15J27C	RS	10 (5)	
	240	3.0	3	18 (457)	BDNF18A27S	RS	8 (4)	BDNF18A27C	RS	11 (5)	
	240	4.0	3	22 1/2 (572)	BDNF22J27S	RS	9 (4)	BDNF22J27C	RS	12 (6)	
	480	4.0	3	22 1/2 (572)	BDNF22J28S	RS	9 (4)	BDNF22J28C	RS	12 (6)	
	240	5.0	3	27 1/2 (699)	BDNF27J27S	RS	10 (5)	BDNF27J27C	RS	13 (6)	
	480	5.0	3	27 1/2 (699)	BDNF27J28S	RS	10 (5)	BDNF27J28C	RS	13 (6)	
	240	6.0	3	32 1/2 (826)	BDNF32J27S	RS	11 (5)	BDNF32J27C	RS	14 (7)	
	480	6.0	3	32 1/2 (826)	BDNF32J28S	RS	11 (5)	BDNF32J28C	RS	14 (7)	
	240	8.0	3	42 (1067)	BDNF42A27S	RS	13 (6)	BDNF42A27C	RS	16 (8)	
	480	8.0	3	42 (1067)	BDNF42A28S	RS	13 (6)	BDNF42A28C	RS	16 (8)	
	240	10.0	3	51 1/2 (1308)	BDNF51J27S	RS	15 (7)	BDNF51J27C	RS	18 (9)	
	480	10.0	3	51 1/2 (1308)	BDNF51J28S	RS	15 (7)	BDNF51J28C	RS	18 (9)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

⑥ Can be wired for 1-phase operation

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

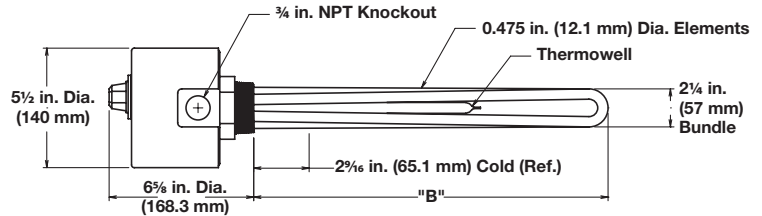


Application: Process Water

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
48 W/in² ④ 304 SS Plug 2-Alloy 800 Elements (7.5 W/cm²)	120/240	2.0	1	9 ³ / ₄ (248)	5 (3)	BGN79N6S4	RS	BGN79N6S5A	RS	BGN79N6S7	RS
	240/480	2.0	1	9 ³ / ₄ (248)	5 (3)	BGN79N7S4	RS	BGN79N7S5A	RS	BGN79N7S7A	RS
	120/240	3.0	1	13 ¹ / ₄ (337)	6 (3)	BGN713E6S4	RS	BGN713E6S5A	RS	BGN713E6S7A	RS
	240/480	3.0	1	13 ¹ / ₄ (337)	6 (3)	BGN713E7S4	RS	BGN713E7S5A	RS	BGN713E7S7A	RS
	120/240	4.0	1	17 ³ / ₄ (451)	7 (4)	BGN717N6S4	RS	BGN717N6S5A	RS	BGN717N6S7A	RS
	120/240	5.0	1	20 ¹ / ₄ (514)	8 (4)	BGN720E6S4	RS	BGN720E6S5A	RS	BGN720E6S7A	RS
48 W/in² 304 SS Plug 3-Alloy 800 Elements (7.5 W/cm²)	240	3.0	3	9 ³ / ₄ (248)	6 (3)	BHN79N3S4	RS	BHN79N3S5A	RS	BHN79N3S7A	RS
	480	3.0	3	9 ³ / ₄ (248)	6 (3)	BHN79N5S4	RS	BHN79N5S5A	RS	BHN79N5S7A	RS
	240	4.5	3	13 ¹ / ₄ (337)	7 (4)	BHN713E3S4	RS	BHN713E3S5A	RS	BHN713E3S7A	RS
	480	4.5	3	13 ¹ / ₄ (337)	7 (4)	BHN713E5S4	RS	BHN713E5S5A	RS	BHN713E5S7A	RS
	240	6.0	3	17 ³ / ₄ (451)	8 (4)	BHN717N3S4	RS	BHN717N3S5A	RS	BHN717N3S7A	RS
	480	6.0	3	17 ³ / ₄ (451)	8 (4)	BHN717N5S4	RS	BHN717N5S5A	RS	BHN717N5S7A	RS
	240	7.5	3	20 ¹ / ₄ (514)	9 (4)	BHN720E3S4	RS	BHN720E3S5A	RS	BHN720E3S7A	RS
	240	9.0	3	25 ¹ / ₄ (641)	10 (5)	BHN725E3S4	RS	BHN725E3S5A	RS	BHN725E3S7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage

Immersion Heaters

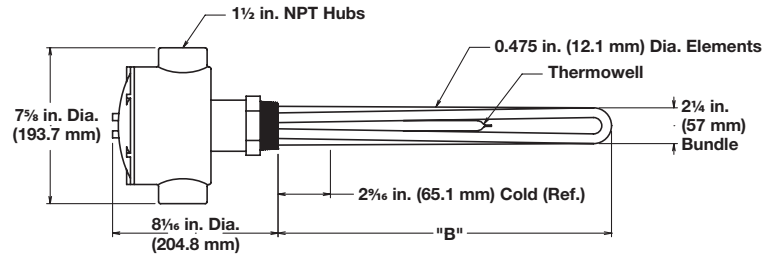
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Process Water

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- Moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
Moisture/Explosion-Resistant Enclosure ⑤											
48 W/in² ④ 304 SS Plug 2-Alloy 800 Elements (7.5 W/cm²)	120/240	2.0	1	9 ³ / ₄ (248)	8 (4)	BGN79N6C4	RS	BGN79N6C5A	RS	BGN79N6C7A	RS
	240/480	2.0	1	9 ³ / ₄ (248)	8 (4)	BGN79N7C4	RS	BGN79N7C5A	RS	BGN79N7C7A	RS
	120/240	3.0	1	13 ¹ / ₄ (337)	9 (4)	BGN713E6C4	RS	BGN713E6C5A	RS	BGN713E6C7A	RS
	240/480	3.0	1	13 ¹ / ₄ (337)	9 (4)	BGN713E7C4	RS	BGN713E7C5A	RS	BGN713E7C7A	RS
	120/240	4.0	1	17 ³ / ₄ (451)	10 (5)	BGN717N6C4	RS	BGN717N6C5A	RS	BGN717N6C7A	RS
	120/240	5.0	1	20 ¹ / ₄ (514)	11 (5)	BGN720E6C4	RS	BGN720E6C5A	RS	BGN720E6C7A	RS
48 W/in² 304 SS Plug 3-Alloy 800 Elements (7.5 W/cm²)	240	3.0	3	9 ³ / ₄ (248)	9 (4)	BHN79N3C4	RS	BHN79N3C5A	RS	BHN79N3C7A	RS
	480	3.0	3	9 ³ / ₄ (248)	9 (4)	BHN79N5C4	RS	BHN79N5C5A	RS	BHN79N5C7A	RS
	240	4.5	3	13 ¹ / ₄ (337)	10 (5)	BHN713E3C4	RS	BHN713E3C5A	RS	BHN713E3C7A	RS
	480	4.5	3	13 ¹ / ₄ (337)	10 (5)	BHN713E5C4	RS	BHN713E5C5A	RS	BHN713E5C7A	RS
	240	6.0	3	17 ³ / ₄ (451)	11 (5)	BHN717N3C4	RS	BHN717N3C5A	RS	BHN717N3C7A	RS
	480	6.0	3	17 ³ / ₄ (451)	11 (5)	BHN717N5C4	RS	BHN717N5C5A	RS	BHN717N5C7A	RS
	240	7.5	3	20 ¹ / ₄ (514)	12 (6)	BHN720E3C4	RS	BHN720E3C5A	RS	BHN720E3C7A	RS
	240	9.0	3	25 ¹ / ₄ (641)	13 (6)	BHN725E3C4	RS	BHN725E3C5A	RS	BHN725E3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

Immersion Heaters

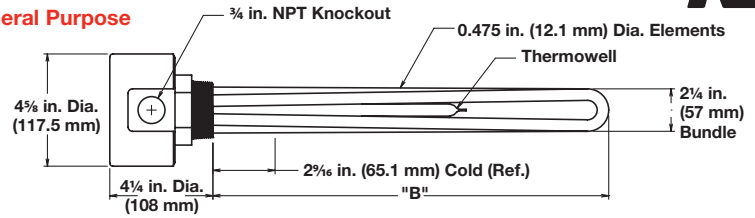


WATROD and FIREBAR Screw Plug Immersion Heaters

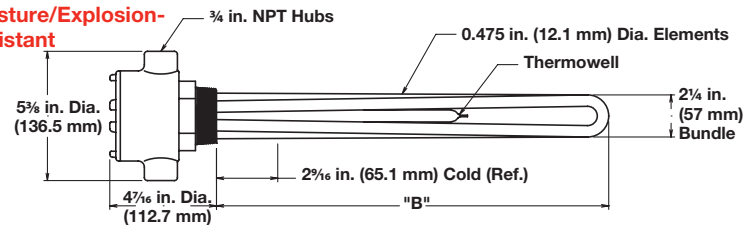
Application: Process Water

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
48 W/in² ④ 304 SS Plug 2-Alloy 800 Elements (7.5 W/cm²)	120/240	2.0	1	9 ³ / ₄ (248)	BGN79N6S	RS	4 (2)	BGN79N6C	RS	7 (4)	
	240/480	2.0	1	9 ³ / ₄ (248)	BGN79N7S	RS	4 (2)	BGN79N7C	RS	7 (4)	
	120/240	3.0	1	13 ¹ / ₄ (337)	BGN713E6S	RS	5 (3)	BGN713E6C	RS	8 (4)	
	240/480	3.0	1	13 ¹ / ₄ (337)	BGN713E7S	RS	5 (3)	BGN713E7C	RS	8 (4)	
	120/240	4.0	1	17 ³ / ₄ (451)	BGN717N6S	RS	6 (3)	BGN717N6C	RS	9 (4)	
	240/480	4.0	1	17 ³ / ₄ (451)	BGN717N7S	RS	6 (3)	BGN717N7C	RS	9 (4)	
	120/240	5.0	1	20 ¹ / ₄ (514)	BGN720E6S	RS	7 (4)	BGN720E6C	RS	10 (5)	
	240/480	5.0	1	20 ¹ / ₄ (514)	BGN720E7S	RS	7 (4)	BGN720E7C	RS	10 (5)	
	240/480	6.0	1	25 ¹ / ₄ (641)	BGN725E7S	RS	7 (4)	BGN725E7C	RS	10 (5)	
	240/480	8.0	1	32 ³ / ₄ (832)	BGN732N7S	RS	8 (4)	BGN732N7C	RS	11 (5)	
240/480	10.0	1	40 ¹ / ₄ (1022)	BGN740E7S	RS	9 (4)	BGN740E7C	RS	12 (6)		
48 W/in² 304 SS Plug 3-Alloy 800 Element (7.5 W/cm²)	120	3.0	1	9 ³ / ₄ (248)	BHN79N1S	RS	5 (3)	BHN79N1C	RS	8 (4)	
	240	3.0	3	9 ³ / ₄ (248)	BHN79N3S	RS	5 (3)	BHN79N3C	RS	8 (4)	
	480	3.0	3	9 ³ / ₄ (248)	BHN79N5S	RS	5 (3)	BHN79N5C	RS	8 (4)	
	120	4.5	1	13 ¹ / ₄ (337)	BHN713E1S	RS	6 (3)	BHN713E1C	RS	9 (4)	
	240	4.5	3	13 ¹ / ₄ (337)	BHN713E3S	RS	6 (3)	BHN713E3C	RS	9 (4)	
	480	4.5	3	13 ¹ / ₄ (337)	BHN713E5S	RS	6 (3)	BHN713E5C	RS	9 (4)	
	240	6.0	3	17 ³ / ₄ (451)	BHN717N3S	RS	7 (4)	BHN717N3C	RS	10 (5)	
	480	6.0	3	17 ³ / ₄ (451)	BHN717N5S	RS	7 (4)	BHN717N5C	RS	10 (5)	
	240	7.5	3	20 ¹ / ₄ (514)	BHN720E3S	RS	8 (4)	BHN720E3C	RS	11 (5)	
	480	7.5	3	20 ¹ / ₄ (514)	BHN720E5S	RS	8 (4)	BHN720E5C	RS	11 (5)	
	240	9.0	3	25 ¹ / ₄ (641)	BHN725E3S	RS	9 (4)	BHN725E3C	RS	12 (6)	
	480	9.0	3	25 ¹ / ₄ (641)	BHN725E5S	RS	9 (4)	BHN725E5C	RS	12 (6)	
	240	12.0	3	32 ³ / ₄ (832)	BHN732N3S	RS	9 (4)	BHN732N3C	RS	12 (6)	
	480	12.0	3	32 ³ / ₄ (832)	BHN732N5S	RS	9 (4)	BHN732N5C	RS	12 (6)	
	240	15.0	3	40 ¹ / ₄ (1022)	BHN740E3S	RS	10 (5)	BHN740E3C	RS	13 (6)	
	480	15.0	3	40 ¹ / ₄ (1022)	BHN740E5S	RS	10 (5)	BHN740E5C	RS	13 (6)	
	240	18.0	3	47 ³ / ₄ (1213)	BHN747N3S	RS	11 (5)	BHN747N3C	RS	14 (7)	
480	18.0	3	47 ³ / ₄ (1213)	BHN747N5S	RS	11 (5)	BHN747N5C	RS	14 (7)		

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



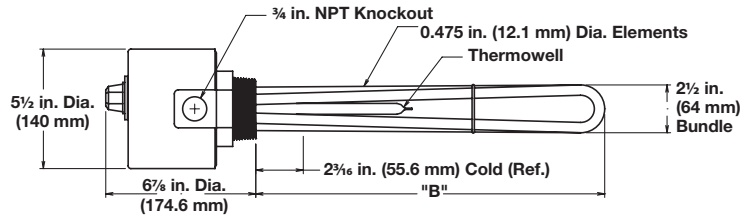
Application: Process Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

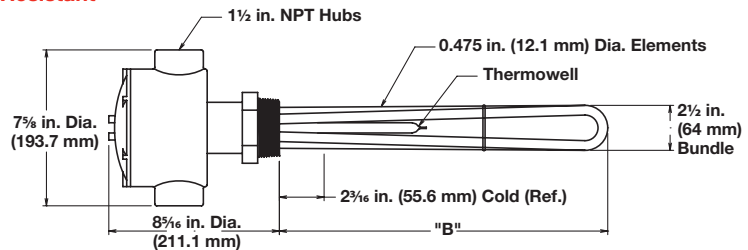
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
48 W/in ² 304 SS Plug 3-Alloy 800 Elements (7.5 W/cm ²)	240	3.0	3	9 ³ / ₈ (238.1)	7 (4)	BLN79G3S4	RS	BLN79G3S5A	RS	BLN79G3S7A	RS
	480	3.0	3	9 ³ / ₈ (238.1)	7 (4)	BLN79G5S4	RS	BLN79G5S5A	RS	BLN79G5S7A	RS
	240	4.5	3	12 ⁷ / ₈ (327.0)	8 (4)	BLN712R3S4	RS	BLN712R3S5A	RS	BLN712R3S7A	RS
	480	4.5	3	12 ⁷ / ₈ (327.0)	8 (4)	BLN712R5S4	RS	BLN712R5S5A	RS	BLN712R5S7A	RS
	240	6.0	3	17 ³ / ₈ (441.3)	10 (5)	BLN717G3S4	RS	BLN717G3S5A	RS	BLN717G3S7A	RS
	480	6.0	3	17 ³ / ₈ (441.3)	10 (5)	BLN717G5S4	RS	BLN717G5S5A	RS	BLN717G5S7A	RS
	240	7.5	3	19 ⁷ / ₈ (504.8)	12 (6)	BLN719R3S4	RS	BLN719R3S5A	RS	BLN719R3S7A	RS
	240	9.0	3	24 ⁷ / ₈ (631.8)	13 (6)	BLN724R3S4	RS	BLN724R3S5A	RS	BLN724R3S7A	RS
Moisture/Explosion-Resistant Enclosure ⑤											
48 W/in ² 304 SS Plug 3-Alloy 800 Elements (7.5 W/cm ²)	240	3.0	3	9 ³ / ₈ (238.1)	10 (5)	BLN79G3C4	RS	BLN79G3C5A	RS	BLN79G3C7A	RS
	480	3.0	3	9 ³ / ₈ (238.1)	10 (5)	BLN79G5C4	RS	BLN79G5C5A	RS	BLN79G5C7A	RS
	240	4.5	3	12 ⁷ / ₈ (327.0)	11 (5)	BLN712R3C4	RS	BLN712R3C5A	RS	BLN712R3C7A	RS
	480	4.5	3	12 ⁷ / ₈ (327.0)	11 (5)	BLN712R5C4	RS	BLN712R5C5A	RS	BLN712R5C7A	RS
	240	6.0	3	17 ³ / ₈ (441.3)	13 (6)	BLN717G3C4	RS	BLN717G3C5A	RS	BLN717G3C7A	RS
	480	6.0	3	17 ³ / ₈ (441.3)	13 (6)	BLN717G5C4	RS	BLN717G5C5A	RS	BLN717G5C7A	RS
	240	7.5	3	19 ⁷ / ₈ (504.8)	15 (7)	BLN719R3C4	RS	BLN719R3C5A	RS	BLN719R3C7A	RS
	240	9.0	3	24 ⁷ / ₈ (631.8)	16 (8)	BLN724R3C4	RS	BLN724R3C5A	RS	BLN724R3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

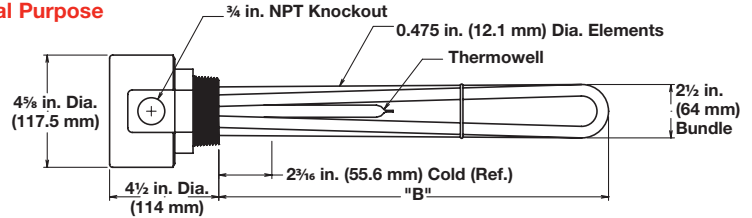
WATROD and FIREBAR Screw Plug Immersion Heaters



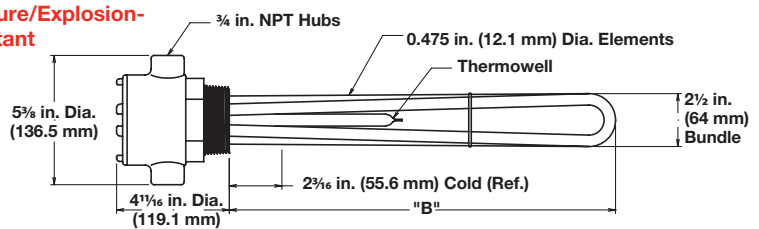
Application: Process Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
48 W/in² 304 SS Plug 3-Alloy 800 Elements (7.5 W/cm²)	General Purpose Enclosure					Moisture/Explosion-Resistant Enclosure				
	120	3.0	1	9 ³ / ₈ (238.1)	BLN79G1S	RS	6 (3)	BLN79G1C	RS	9 (4)
	240	3.0	3	9 ³ / ₈ (238.1)	BLN79G3S	RS	6 (3)	BLN79G3C	RS	9 (4)
	480	3.0	3	9 ³ / ₈ (238.1)	BLN79G5S	RS	6 (3)	BLN79G5C	RS	9 (4)
	120	4.5	1	12 ⁷ / ₈ (327.0)	BLN712R1S	RS	7 (4)	BLN712R1C	RS	10 (5)
	240	4.5	3	12 ⁷ / ₈ (327.0)	BLN712R3S	RS	7 (4)	BLN712R3C	RS	10 (5)
	480	4.5	3	12 ⁷ / ₈ (327.0)	BLN712R5S	RS	7 (4)	BLN712R5C	RS	10 (5)
	240	6.0	3	17 ³ / ₈ (441.3)	BLN717G3S	RS	9 (4)	BLN717G3C	RS	12 (6)
	480	6.0	3	17 ³ / ₈ (441.3)	BLN717G5S	RS	9 (4)	BLN717G5C	RS	12 (6)
	240	7.5	3	19 ⁷ / ₈ (504.8)	BLN719R3S	RS	11 (5)	BLN719R3C	RS	14 (7)
	480	7.5	3	19 ⁷ / ₈ (504.8)	BLN719R5S	RS	11 (5)	BLN719R5C	RS	14 (7)
	240	9.0	3	24 ⁷ / ₈ (631.8)	BLN724R3S	RS	12 (6)	BLN724R3C	RS	15 (7)
	480	9.0	3	24 ⁷ / ₈ (631.8)	BLN724R5S	RS	12 (6)	BLN724R5C	RS	15 (7)
	240	12.0	3	32 ³ / ₈ (822.3)	BLN732G3S	RS	14 (7)	BLN732G3C	RS	17 (8)
	480	12.0	3	32 ³ / ₈ (822.3)	BLN732G5S	RS	14 (7)	BLN732G5C	RS	17 (8)
	240	15.0	3	39 ⁷ / ₈ (1012.8)	BLN739R3S	RS	15 (7)	BLN739R3C	RS	18 (9)
480	15.0	3	39 ⁷ / ₈ (1012.8)	BLN739R5S	RS	15 (7)	BLN739R5C	RS	18 (9)	
240	18.0	3	47 ³ / ₈ (1203.3)	BLN747G3S	RS	17 (8)	BLN747G3C	RS	20 (9)	
480	18.0	3	47 ³ / ₈ (1203.3)	BLN747G5S	RS	17 (8)	BLN747G5C	RS	20 (9)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



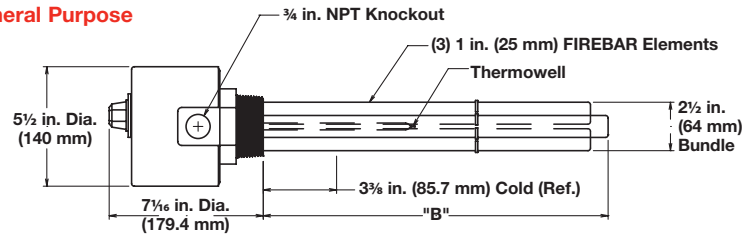
Application: Process Water

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)

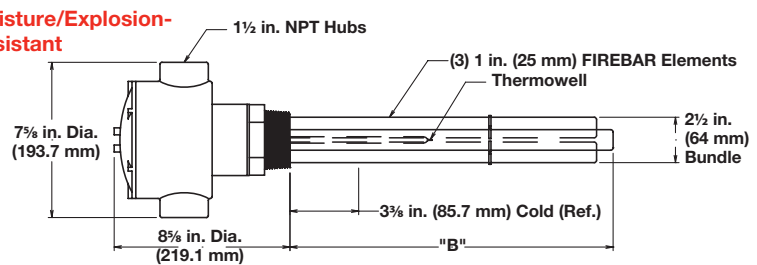
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)		Ship Wt. lbs (kg)	Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
							Part Number	Del.	Part Number	Del.
General Purpose Enclosure										
45 W/in² ⑧ 304 SS Plug 3-Alloy 800 Elements (7 W/cm²)	240	6.0	3	12	(305)	12 (6)	BLNF12A27S5A	RS	BLNF12A27S7A	RS
	240	7.5	3	14 1/2	(368)	12 (6)	BLNF14J27S5A	RS	BLNF14J27S7A	RS
	240	9.0	3	17	(432)	13 (6)	BLNF17A27S5A	RS	BLNF17A27S7A	RS
	240	12.0	3	21 1/2	(546)	15 (7)	BLNF21J27S5A	RS	BLNF21J27S7A	RS
Moisture/Explosion-Resistant Enclosure ⑤										
45 W/in² ⑧ 304 SS Plug 3-Alloy 800 Elements (7 W/cm²)	240	6.0	3	12	(305)	14 (7)	BLNF12A27C5A	RS	BLNF12A27C7A	RS
	240	7.5	3	14 1/2	(368)	15 (7)	BLNF14J27C5A	RS	BLNF14J27C7A	RS
	240	9.0	3	17	(432)	16 (8)	BLNF17A27C5A	RS	BLNF17A27C7A	RS
	240	12.0	3	21 1/2	(546)	18 (9)	BLNF21J27C5A	RS	BLNF21J27C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

Immersion Heaters

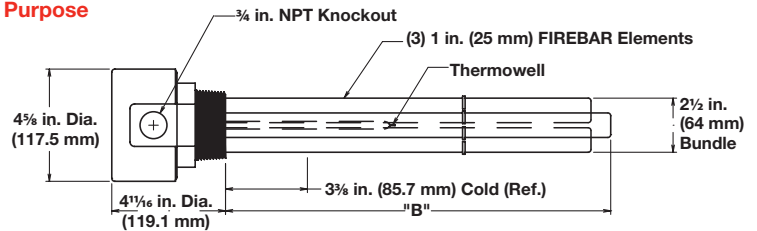
WATROD and FIREBAR Screw Plug Immersion Heaters



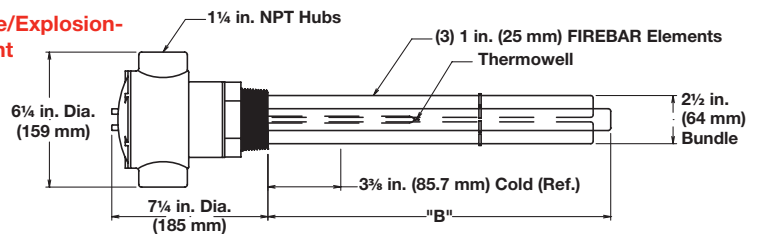
Application: Process Water

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in.	(mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
						General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure		
45 W/in² ⑧ 304 SS Plug 3-Alloy 800 Elements (7 W/cm²)	240	6.0	3	12	(305)	BLNF12A27S	RS	10 (5)	BLNF12A27C	RS	13 (6)
	240	7.5	3	14 1/2	(368)	BLNF14J27S	RS	11 (5)	BLNF14J27C	RS	14 (7)
	240	9.0	3	17	(432)	BLNF17A27S	RS	12 (6)	BLNF17A27C	RS	15 (7)
	240	12.0	3	21 1/2	(546)	BLNF21J27S	RS	14 (7)	BLNF21J27C	RS	17 (8)
	480	12.0	3	21 1/2	(546)	BLNF21J28S	RS	14 (7)	BLNF21J28C	RS	17 (8)
	240	15.0	3	26 1/2	(673)	BLNF26J27S	RS	17 (8)	BLNF26J27C	RS	20 (9)
	480	15.0	3	26 1/2	(673)	BLNF26J28S	RS	17 (8)	BLNF26J28C	RS	20 (9)
	240	18.0	3	31 1/2	(800)	BLNF31J27S	RS	18 (9)	BLNF31J27C	RS	21 (10)
	480	18.0	3	31 1/2	(800)	BLNF31J28S	RS	18 (9)	BLNF31J28C	RS	21 (10)
	480	24.0	3	41	(1041)	BLNF41A28S	RS	20 (9)	BLNF41A28C	RS	23 (11)
480	30.0	3	50 1/2	(1283)	BLNF50J28S	RS	22 (10)	BLNF50J28C	RS	25 (12)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

Immersion Heaters

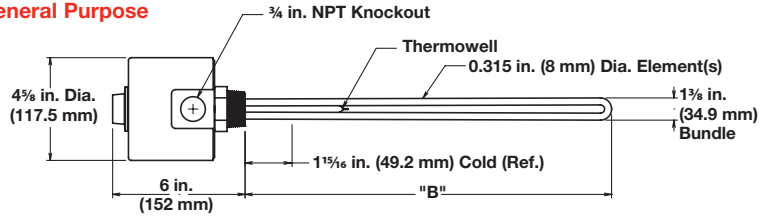
WATROD and FIREBAR Screw Plug Immersion Heaters



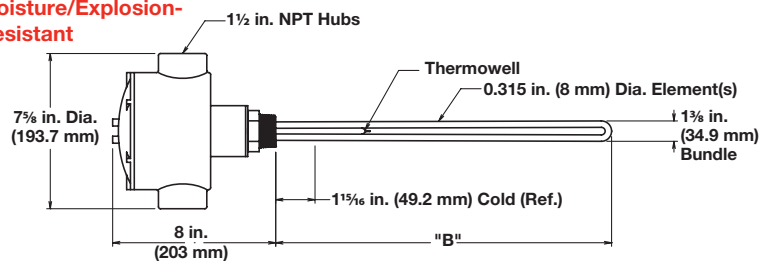
Application: Forced Air and Caustic Solutions

- 1 1/4 inch NPT screw plug
- WATROD elements
- With thermostat (SPST)
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 2 (30 to 250°F)		Type 3 (175 to 550°F)	
						Part Number	Del.	Part Number	Del.
						General Purpose Enclosure			
23 W/in² ④ 304 SS Plug 2-Alloy 800 Elements (3.6 W/cm²)	120/240	1.0	1	13 ³ / ₈ (339.7)	6 (3)	BEN13G6S2	RS	BEN13G6S3	RS
	120/240	1.5	1	19 (483.0)	7 (4)	BEN19A6S2	RS	BEN19A6S3	RS
	120/240	2.0	1	24 ³ / ₈ (619.1)	8 (4)	BEN24G6S2	RS	BEN24G6S3	RS
						Moisture/Explosion-Resistant Enclosure ⑤			
23 W/in² ④ 304 SS Plug 2-Alloy 800 Elements (3.6 W/cm²)	120/240	1.0	1	13 ³ / ₈ (339.7)	10 (5)	BEN13G6C2	RS	BEN13G6C3	RS
	120/240	1.5	1	19 (483.0)	11 (5)	BEN19A6C2	RS	BEN19A6C3	RS
	120/240	2.0	1	24 ³ / ₈ (619.1)	12 (6)	BEN24G6C2	RS	BEN24G6C3	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

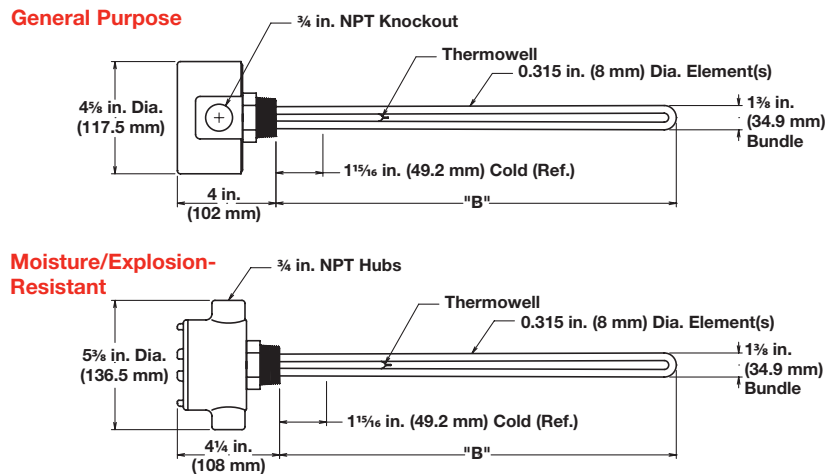
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Forced Air and Caustic Solutions

- 1 1/4 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
					General Purpose Enclosure			Moisture Explosion-Resistant Enclosure		
23 W/in ² ④ 304 SS Plug 2-Alloy 800 Elements (3.6 W/cm ²)	120/240	1.0	1	13 ^{3/8} (339.7)	BEN13G6S	RS	6 (3)	BEN13G6C	RS	9 (4)
	120/240	1.5	1	19 (483.0)	BEN19A6S	RS	7 (4)	BEN19A6C	RS	10 (5)
	120/240	2.0	1	24 ^{3/8} (619.1)	BEN24G6S	RS	8 (4)	BEN24G6C	RS	11 (5)

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



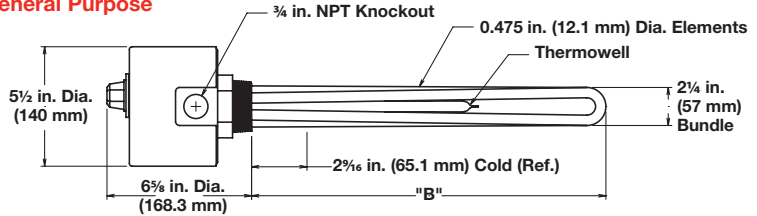
Application: Forced Air and Caustic Solutions

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

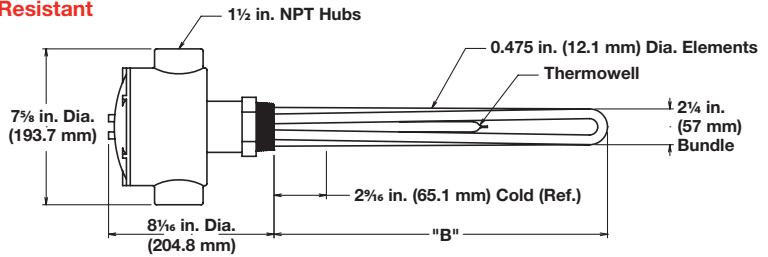
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
23 W/in² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm²)	240	3.0	3	17 ³ / ₄ (451)	8 (4)	BHNA17N3S4	RS	BHNA17N3S5A	RS	BHNA17N3S7A	RS
	480	3.0	3	17 ³ / ₄ (451)	8 (4)	BHNA17N5S4	RS	BHNA17N5S5A	RS	BHNA17N5S7A	RS
	240	4.5	3	25 ¹ / ₄ (641)	10 (5)	BHNA25E3S4	RS	BHNA25E3S5A	RS	BHNA25E3S7A	RS
	480	4.5	3	25 ¹ / ₄ (641)	10 (5)	BHNA25E5S4	RS	BHNA25E5S5A	RS	BHNA25E5S7A	RS
	240	6.0	3	32 ³ / ₄ (832)	10 (5)	BHNA32N3S4	RS	BHNA32N3S5A	RS	BHNA32N3S7A	RS
	480	6.0	3	32 ³ / ₄ (832)	10 (5)	BHNA32N5S4	RS	BHNA32N5S5A	RS	BHNA32N5S7A	RS
	240	7.5	3	40 ¹ / ₄ (1022)	11 (5)	BHNA40E3S4	RS	BHNA40E3S5A	RS	BHNA40E3S7A	RS
240	9.0	3	47 ³ / ₄ (1213)	12 (6)	BHNA47N3S4	RS	BHNA47N3S5A	RS	BHNA47N3S7A	RS	
Moisture/Explosion-Resistant Enclosure ⑥											
23 W/in² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm²)	240	3.0	3	17 ³ / ₄ (451)	11 (5)	BHNA17N3C4	RS	BHNA17N3C5A	RS	BHNA17N3C7A	RS
	480	3.0	3	17 ³ / ₄ (451)	11 (5)	BHNA17N5C4	RS	BHNA17N5C5A	RS	BHNA17N5C7A	RS
	240	4.5	3	25 ¹ / ₄ (641)	13 (6)	BHNA25E3C4	RS	BHNA25E3C5A	RS	BHNA25E3C7A	RS
	480	4.5	3	25 ¹ / ₄ (641)	13 (6)	BHNA25E5C4	RS	BHNA25E5C5A	RS	BHNA25E5C7A	RS
	240	6.0	3	32 ³ / ₄ (832)	13 (6)	BHNA32N3C4	RS	BHNA32N3C5A	RS	BHNA32N3C7A	RS
	480	6.0	3	32 ³ / ₄ (832)	13 (6)	BHNA32N5C4	RS	BHNA32N5C5A	RS	BHNA32N5C7A	RS
	240	7.5	3	40 ¹ / ₄ (1022)	14 (7)	BHNA40E3C4	RS	BHNA40E3C5A	RS	BHNA40E3C7A	RS
	240	9.0	3	47 ³ / ₄ (1213)	15 (7)	BHNA47N3C4	RS	BHNA47N3C5A	RS	BHNA47N3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

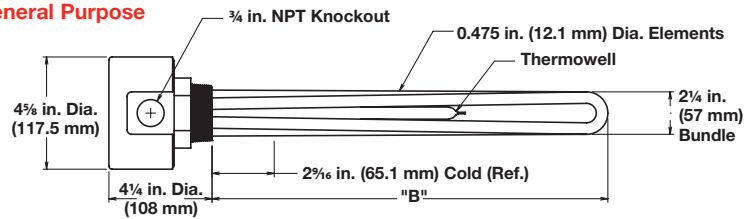
WATROD and FIREBAR Screw Plug Immersion Heaters



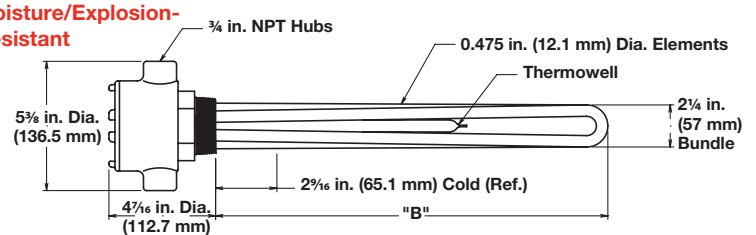
Application: Forced Air and Caustic Solutions

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
23 W/in² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm²)	120	3.0	1	17 ³ / ₄ (451)	BHNA17N1S	RS	7 (4)	BHNA17N1C	RS	10 (5)	
	240	3.0	3	17 ³ / ₄ (451)	BHNA17N3S	RS	7 (4)	BHNA17N3C	RS	10 (5)	
	480	3.0	3	17 ³ / ₄ (451)	BHNA17N5S	RS	7 (4)	BHNA17N5C	RS	10 (5)	
	120	4.5	1	25 ¹ / ₄ (641)	BHNA25E1S	RS	8 (4)	BHNA25E1C	RS	11 (5)	
	240	4.5	3	25 ¹ / ₄ (641)	BHNA25E3S	RS	8 (4)	BHNA25E3C	RS	11 (5)	
	480	4.5	3	25 ¹ / ₄ (641)	BHNA25E5S	RS	8 (4)	BHNA25E5C	RS	11 (5)	
	240	6.0	3	32 ³ / ₄ (832)	BHNA32N3S	RS	9 (4)	BHNA32N3C	RS	12 (6)	
	480	6.0	3	32 ³ / ₄ (832)	BHNA32N5S	RS	9 (4)	BHNA32N5C	RS	12 (6)	
	240	7.5	3	40 ¹ / ₄ (1022)	BHNA40E3S	RS	10 (5)	BHNA40E3C	RS	13 (6)	
	480	7.5	3	40 ¹ / ₄ (1022)	BHNA40E5S	RS	10 (5)	BHNA40E5C	RS	13 (6)	
	240	9.0	3	47 ³ / ₄ (1213)	BHNA47N3S	RS	11 (5)	BHNA47N3C	RS	14 (7)	
	480	9.0	3	47 ³ / ₄ (1213)	BHNA47N5S	RS	11 (5)	BHNA47N5C	RS	14 (7)	
	240	12.5	3	64 ¹ / ₄ (1632)	BHNA64E3S	RS	15 (7)	BHNA64E3C	RS	18 (9)	
	480	12.5	3	64 ¹ / ₄ (1632)	BHNA64E5S	RS	15 (7)	BHNA64E5C	RS	18 (9)	
	240	15.0	3	76 ³ / ₄ (1950)	BHNA76E3S	RS	18 (9)	BHNA76E3C	RS	21 (10)	
480	15.0	3	76 ³ / ₄ (1950)	BHNA76E5S	RS	18 (9)	BHNA76E5C	RS	21 (10)		

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



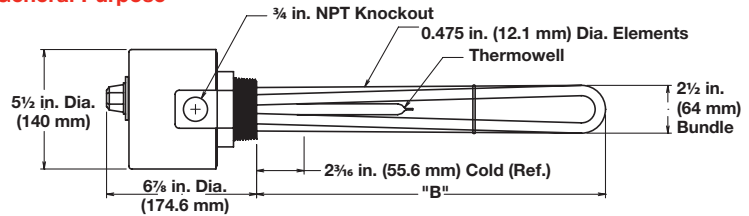
Application: Forced Air and Caustic Solutions

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

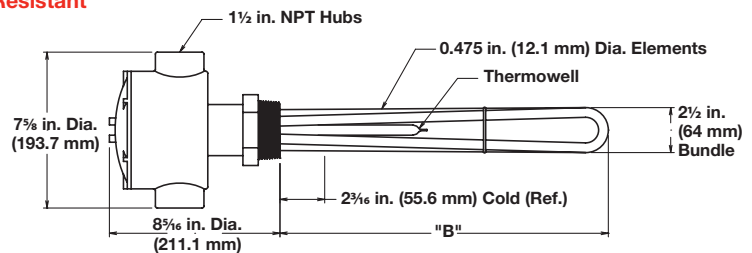
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
23 W/in ² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.0	3	17 ³ / ₈ (441.3)	10 (5)	BLNA17G3S4	RS	BLNA17G3S5A	RS	BLNA17G3S7A	RS
	480	3.0	3	17 ³ / ₈ (441.3)	10 (5)	BLNA17G5S4	RS	BLNA17G5S5A	RS	BLNA17G5S7A	RS
	240	4.5	3	24 ⁷ / ₈ (631.8)	13 (6)	BLNA24R3S4	RS	BLNA24R3S5A	RS	BLNA24R3S7A	RS
	480	4.5	3	24 ⁷ / ₈ (631.8)	13 (6)	BLNA24R5S4	RS	BLNA24R5S5A	RS	BLNA24R5S7A	RS
	240	6.0	3	32 ³ / ₈ (822.3)	15 (7)	BLNA32G3S4	RS	BLNA32G3S5A	RS	BLNA32G3S7A	RS
	480	6.0	3	32 ³ / ₈ (822.3)	15 (7)	BLNA32G5S4	RS	BLNA32G5S5A	RS	BLNA32G5S7A	RS
	240	7.5	3	39 ⁷ / ₈ (1012.8)	16 (8)	BLNA39R3S4	RS	BLNA39R3S5A	RS	BLNA39R3S7A	RS
	240	9.0	3	47 ³ / ₈ (1203.3)	18 (9)	BLNA47G3S4	RS	BLNA47G3S5A	RS	BLNA47G3S7A	RS
Moisture/Explosion-Resistant Enclosure ⑤											
23 W/in ² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.0	3	17 ³ / ₈ (441.3)	13 (6)	BLNA17G3C4	RS	BLNA17G3C5A	RS	BLNA17G3C7A	RS
	480	3.0	3	17 ³ / ₈ (441.3)	13 (6)	BLNA17G5C4	RS	BLNA17G5C5A	RS	BLNA17G5C7A	RS
	240	4.5	3	24 ⁷ / ₈ (631.8)	16 (8)	BLNA24R3C4	RS	BLNA24R3C5A	RS	BLNA24R3C7A	RS
	480	4.5	3	24 ⁷ / ₈ (631.8)	16 (8)	BLNA24R5C4	RS	BLNA24R5C5A	RS	BLNA24R5C7A	RS
	240	6.0	3	32 ³ / ₈ (822.3)	18 (9)	BLNA32G3C4	RS	BLNA32G3C5A	RS	BLNA32G3C7A	RS
	480	6.0	3	32 ³ / ₈ (822.3)	18 (9)	BLNA32G5C4	RS	BLNA32G5C5A	RS	BLNA32G5C7A	RS
	240	7.5	3	39 ⁷ / ₈ (1012.8)	19 (9)	BLNA39R3C4	RS	BLNA39R3C5A	RS	BLNA39R3C7A	RS
	240	9.0	3	47 ³ / ₈ (1203.3)	21 (10)	BLNA47G3C4	RS	BLNA47G3C5A	RS	BLNA47G3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

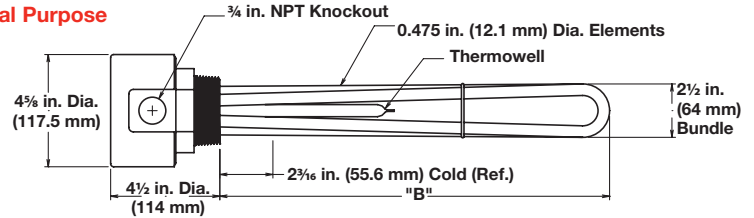
WATROD and FIREBAR Screw Plug Immersion Heaters



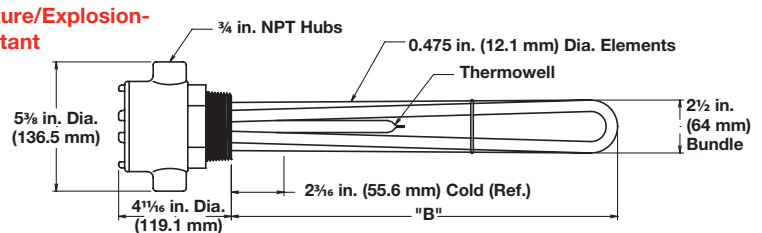
Application: Forced Air and Caustic Solutions

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
23 W/in² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm²)	120	3.0	1	17 ³ / ₈ (441.3)	BLNA17G1S	RS	9 (4)	BLNA17G1C	RS	12 (6)	
	240	3.0	3	17 ³ / ₈ (441.3)	BLNA17G3S	RS	9 (4)	BLNA17G3C	RS	12 (6)	
	480	3.0	3	17 ³ / ₈ (441.3)	BLNA17G5S	RS	9 (4)	BLNA17G5C	RS	12 (6)	
	120	4.5	1	24 ⁷ / ₈ (631.8)	BLNA24R1S	RS	12 (6)	BLNA24R1C	RS	15 (7)	
	240	4.5	3	24 ⁷ / ₈ (631.8)	BLNA24R3S	RS	12 (6)	BLNA24R3C	RS	15 (7)	
	480	4.5	3	24 ⁷ / ₈ (631.8)	BLNA24R5S	RS	12 (6)	BLNA24R5C	RS	15 (7)	
	240	6.0	3	32 ³ / ₈ (822.3)	BLNA32G3S	RS	14 (7)	BLNA32G3C	RS	17 (8)	
	480	6.0	3	32 ³ / ₈ (822.3)	BLNA32G5S	RS	14 (7)	BLNA32G5C	RS	17 (8)	
	240	7.5	3	39 ⁷ / ₈ (1012.8)	BLNA39R3S	RS	15 (7)	BLNA39R3C	RS	18 (9)	
	480	7.5	3	39 ⁷ / ₈ (1012.8)	BLNA39R5S	RS	15 (7)	BLNA39R5C	RS	18 (9)	
	240	9.0	3	47 ³ / ₈ (1203.3)	BLNA47G3S	RS	17 (8)	BLNA47G3C	RS	20 (9)	
	480	9.0	3	47 ³ / ₈ (1203.3)	BLNA47G5S	RS	17 (8)	BLNA47G5C	RS	20 (9)	
	240	12.5	3	63 ⁷ / ₈ (1622.4)	BLNA63R3S	RS	20 (9)	BLNA63R3C	RS	23 (11)	
	480	12.5	3	63 ⁷ / ₈ (1622.4)	BLNA63R5S	RS	20 (9)	BLNA63R5C	RS	23 (11)	
	240	15.0	3	76 ³ / ₈ (1939.9)	BLNA76G3S	RS	23 (11)	BLNA76G3C	RS	26 (12)	
480	15.0	3	76 ³ / ₈ (1939.9)	BLNA76G5S	RS	23 (11)	BLNA76G5C	RS	26 (12)		

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

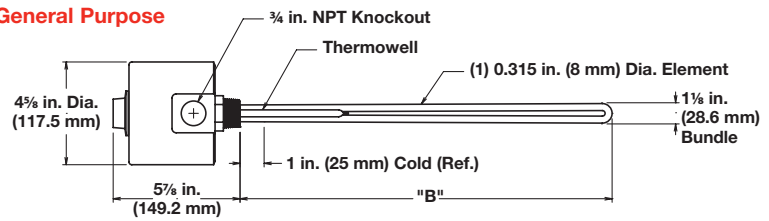
WATROD and FIREBAR Screw Plug Immersion Heaters



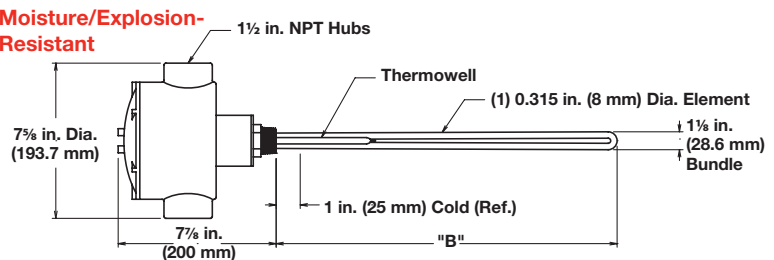
Application: Lightweight Oils and Heat Transfer Oils

- 1 inch NPT screw plug
- WATROD elements
- With thermostat (SPST)
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 2 (30 to 250°F)		Type 3 (175 to 550°F)	
						Part Number	Del.	Part Number	Del.
General Purpose Enclosure									
23 W/in² Steel Plug 1-Steel Element (3.6 W/cm²)	120	0.25	1	6 1/2 (165)	3 (2)	BCS6J1S2	RS	BCS6J1S3	RS
	240	0.25	1	6 1/2 (165)	3 (2)	BCS6J10S2	RS	BCS6J10S3	RS
	120	0.35	1	9 1/4 (235)	4 (2)	BCS9E1S2	RS	BCS9E1S3	RS
	240	0.35	1	9 1/4 (235)	4 (2)	BCS9E10S2	RS	BCS9E10S3	RS
	120	0.50	1	9 3/8 (238)	4 (2)	BCS9G1S2	RS	BCS9G1S3	RS
	240	0.50	1	9 3/8 (238)	4 (2)	BCS9G10S2	RS	BCS9G10S3	RS
	120	0.75	1	13 1/2 (343)	5 (3)	BCS13J1S2	RS	BCS13J1S3	RS
	240	0.75	1	13 1/2 (343)	5 (3)	BCS13J10S2	RS	BCS13J10S3	RS
	120	1.00	1	16 3/4 (426)	6 (3)	BCS16N1S2	RS	BCS16N1S3	RS
	240	1.00	1	16 3/4 (426)	6 (3)	BCS16N10S2	RS	BCS16N10S3	RS
	120	1.50	1	23 3/4 (603)	7 (4)	BCS23N1S2	RS	BCS23N1S3	RS
	240	1.50	1	23 3/4 (603)	7 (4)	BCS23N10S2	RS	BCS23N10S3	RS
Moisture/Explosion-Resistant Enclosure ⑤									
23 W/in² Steel Plug 1-Steel Element (3.6 W/cm²)	120	0.25	1	6 1/2 (165)	3 (2)	BCS6J1C2	RS	BCS6J1C3	RS
	240	0.25	1	6 1/2 (165)	3 (2)	BCS6J10C2	RS	BCS6J10C3	RS
	120	0.35	1	9 1/4 (235)	4 (2)	BCS9E1C2	RS	BCS9E1C3	RS
	240	0.35	1	9 1/4 (235)	4 (2)	BCS9E10C2	RS	BCS9E10C3	RS
	120	0.50	1	9 3/8 (238)	4 (2)	BCS9G1C2	RS	BCS9G1C3	RS
	240	0.50	1	9 3/8 (238)	4 (2)	BCS9G10C2	RS	BCS9G10C3	RS
	120	0.75	1	13 1/2 (343)	5 (3)	BCS13J1C2	RS	BCS13J1C3	RS
	240	0.75	1	13 1/2 (343)	5 (3)	BCS13J10C2	RS	BCS13J10C3	RS
	120	1.00	1	16 3/4 (426)	6 (3)	BCS16N1C2	RS	BCS16N1C3	RS
	240	1.00	1	16 3/4 (426)	6 (3)	BCS16N10C2	RS	BCS16N10C3	RS
	120	1.50	1	23 3/4 (603)	7 (4)	BCS23N1C2	RS	BCS23N1C3	RS
	240	1.50	1	23 3/4 (603)	7 (4)	BCS23N10C2	RS	BCS23N10C3	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

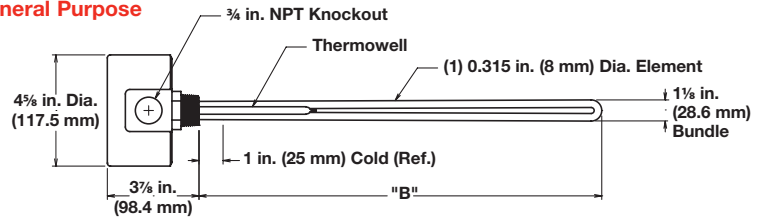
WATROD and FIREBAR Screw Plug Immersion Heaters



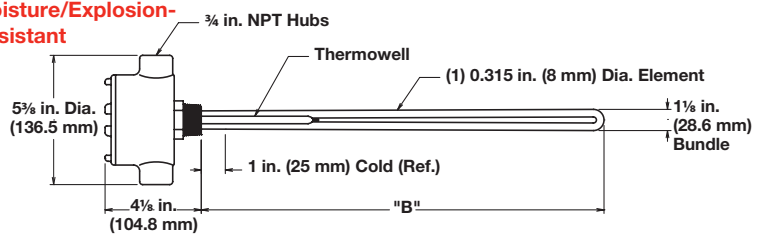
Application: Lightweight Oils and Heat Transfer Oils

- 1 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
23 W/in² Steel Plug 1-Steel Element (3.6 W/cm²)	120	0.25	1	6 ¹ / ₂ (165)	BCS6J1S	RS	3 (2)	BCS6J1C	RS	6 (3)	
	240	0.25	1	6 ¹ / ₂ (165)	BCS6J10S	RS	3 (2)	BCS6J10C	RS	6 (3)	
	120	0.35	1	9 ¹ / ₄ (235)	BCS9E1S	RS	4 (2)	BCS9E1C	RS	7 (4)	
	240	0.35	1	9 ¹ / ₄ (235)	BCS9E10S	RS	4 (2)	BCS9E10C	RS	7 (4)	
	120	0.50	1	9 ³ / ₈ (238)	BCS9G1S	RS	4 (2)	BCS9G1C	RS	7 (4)	
	240	0.50	1	9 ³ / ₈ (238)	BCS9G10S	RS	4 (2)	BCS9G10C	RS	7 (4)	
	120	0.75	1	13 ¹ / ₂ (343)	BCS13J1S	RS	5 (3)	BCS13J1C	RS	8 (4)	
	240	0.75	1	13 ¹ / ₂ (343)	BCS13J10S	RS	5 (3)	BCS13J10C	RS	8 (4)	
	120	1.00	1	16 ³ / ₄ (426)	BCS16N1S	RS	6 (3)	BCS16N1C	RS	9 (4)	
	240	1.00	1	16 ³ / ₄ (426)	BCS16N10S	RS	6 (3)	BCS16N10C	RS	9 (4)	
	120	1.50	1	23 ³ / ₄ (603)	BCS23N1S	RS	7 (4)	BCS23N1C	RS	10 (5)	
	240	1.50	1	23 ³ / ₄ (603)	BCS23N10S	RS	7 (4)	BCS23N10C	RS	10 (5)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

Immersion Heaters

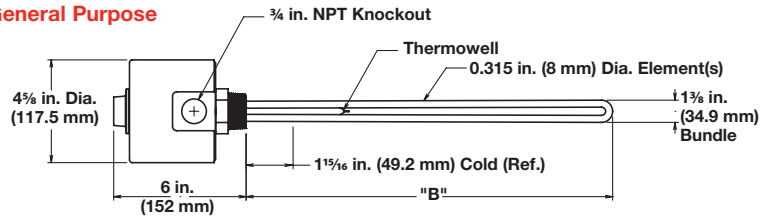
WATROD and FIREBAR Screw Plug Immersion Heaters



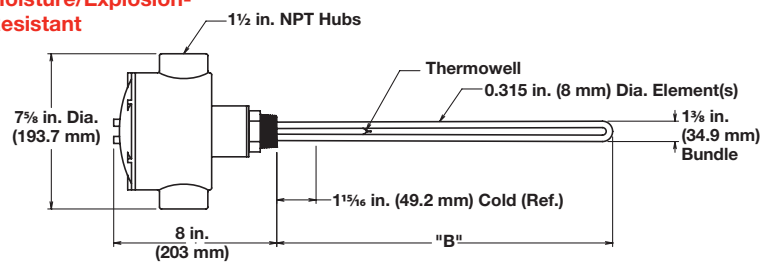
Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- WATROD elements
- With thermostat (SPST)
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 2 (30 to 250°F)		Type 3 (175 to 550°F)	
						Part Number	Del.	Part Number	Del.
General Purpose Enclosure									
23 W/in² ④ Steel Plug 2-Steel Elements (3.6 W/cm²)	120/240	0.50	1	6 ³ / ₈ (161.9)	4 (2)	BES6G6S2	RS	BES6G6S3	RS
	120/240	0.50	1	7 ³ / ₈ (187.3)	4 (2)	BES7G6S2	RS	BES7G6S3	RS
	120/240	0.70	1	8 ⁷ / ₈ (225.4)	5 (3)	BES8R6S2	RS	BES8R6S3	RS
	120/240	0.75	1	10 ¹ / ₁₆ (255.6)	5 (3)	BES10B6S2	RS	BES10B6S3	RS
	120/240	1.00	1	12 ³ / ₄ (324.0)	6 (3)	BES12N6S2	RS	BES12N6S3	RS
	120/240	1.50	1	19 ³ / ₈ (492.1)	7 (4)	BES19G6S2	RS	BES19G6S3	RS
	120/240	2.00	1	25 ³ / ₈ (644.5)	8 (4)	BES25G6S2	RS	BES25G6S3	RS
	120/240	3.00	1	36 ⁷ / ₈ (936.6)	9 (4)	BES36R6S2	RS	BES36R6S3	RS
Moisture/Explosion-Resistant Enclosure ⑤									
23 W/in² ④ Steel Plug 2-Steel Elements (3.6 W/cm²)	120/240	0.50	1	6 ³ / ₈ (161.9)	8 (4)	BES6G6C2	RS	BES6G6C3	RS
	120/240	0.50	1	7 ³ / ₈ (187.3)	8 (4)	BES7G6C2	RS	BES7G6C3	RS
	120/240	0.70	1	8 ⁷ / ₈ (225.6)	9 (4)	BES8R6C2	RS	BES8R6C3	RS
	120/240	0.75	1	10 ¹ / ₁₆ (256.0)	9 (4)	BES10B6C2	RS	BES10B6C3	RS
	120/240	1.00	1	12 ³ / ₄ (324.0)	10 (5)	BES12N6C2	RS	BES12N6C3	RS
	120/240	1.50	1	19 ³ / ₈ (492.1)	11 (5)	BES19G6C2	RS	BES19G6C3	RS
	120/240	2.00	1	25 ³ / ₈ (644.5)	12 (6)	BES25G6C2	RS	BES25G6C3	RS
	120/240	3.00	1	36 ⁷ / ₈ (936.7)	13 (6)	BES36R6C2	RS	BES36R6C3	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

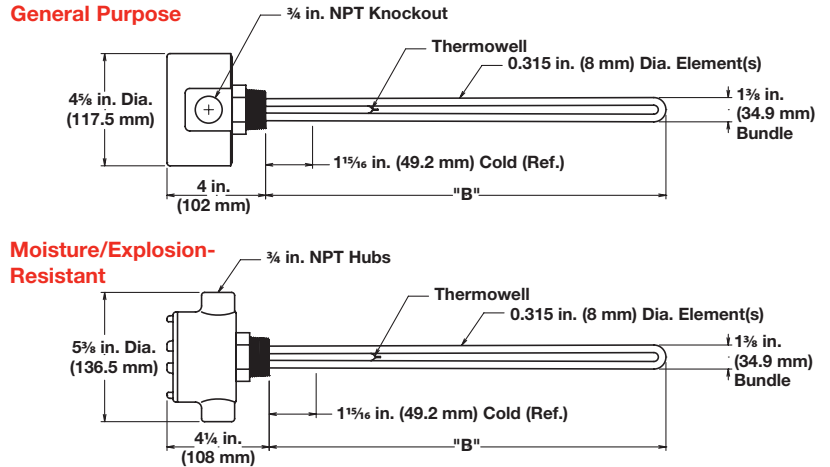
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure		
23 W/in² ④ Steel Plug 2-Steel Elements (3.6 W/cm²)	120/240	0.50	1	6 ³ / ₈ (161.9)	BES6G6S	RS	4 (2)	BES6G6C	RS	7 (4)
	120/240	0.50	1	7 ³ / ₈ (187.3)	BES7G6S	RS	4 (2)	BES7G6C	RS	7 (4)
	120/240	0.70	1	8 ⁷ / ₈ (225.4)	BES8R6S	RS	5 (3)	BES8R6C	RS	8 (4)
	120/240	0.75	1	10 ¹ / ₁₆ (255.6)	BES10B6S	RS	5 (3)	BES10B6C	RS	8 (4)
	120/240	1.00	1	12 ³ / ₄ (324.0)	BES12N6S	RS	6 (3)	BES12N6C	RS	9 (4)
	120/240	1.50	1	19 ³ / ₈ (492.1)	BES19G6S	RS	7 (4)	BES19G6C	RS	10 (5)
	120/240	2.00	1	25 ³ / ₈ (644.5)	BES25G6S	RS	8 (4)	BES25G6C	RS	11 (5)
120/240	3.00	1	36 ⁷ / ₈ (936.6)	BES36R6S	RS	9 (4)	BES36R6C	RS	12 (6)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

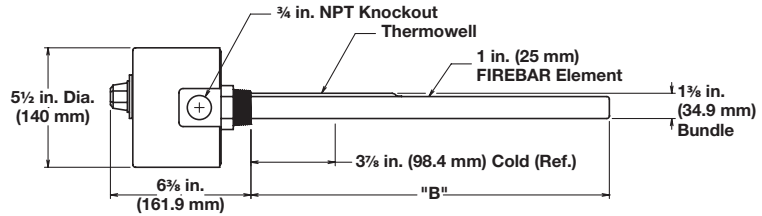


Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller, please see following pages for available heaters without thermostats

- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.
General Purpose Enclosure									
30 W/in² ③ 304 SS Plug 1-Alloy 800 Element (4.7 W/cm²)	240	1.70	3	16 1/8 (409.6)	8 (4)	BDNF16G12S5A	RS	BDNF16G12S7A	RS
	480	1.70	3	16 1/8 (409.6)	8 (4)	BDNF16G13S5A	RS	BDNF16G13S7A	RS
	240	2.20	3	19 1/8 (485.8)	9 (4)	BDNF19G12S5A	RS	BDNF19G12S7A	RS
	480	2.20	3	19 1/8 (485.8)	9 (4)	BDNF19G13S5A	RS	BDNF19G13S7A	RS
	240	2.80	3	24 3/8 (619.1)	10 (5)	BDNF24L12S5A	RS	BDNF24L12S7A	RS
	480	2.80	3	24 3/8 (619.1)	10 (5)	BDNF24L13S5A	RS	BDNF24L13S7A	RS
	240	3.50	3	29 5/8 (752.5)	11 (5)	BDNF29R12S5A	RS	BDNF29R12S7A	RS
	480	3.50	3	29 5/8 (752.5)	11 (5)	BDNF29R13S5A	RS	BDNF29R13S7A	RS
	240	4.25	3	34 5/8 (879.5)	12 (6)	BDNF34R12S5A	RS	BDNF34R12S7A	RS
	480	4.25	3	34 5/8 (879.5)	12 (6)	BDNF34R13S5A	RS	BDNF34R13S7A	RS
	240	5.70	3	45 1/8 (1146.2)	14 (7)	BDNF45G12S5A	RS	BDNF45G12S7A	RS
	480	5.70	3	45 1/8 (1146.2)	14 (7)	BDNF45G13S5A	RS	BDNF45G13S7A	RS
240	7.20	3	55 5/8 (1412.9)	16 (8)	BDNF55R12S5A	RS	BDNF55R12S7A	RS	
23 W/in² ⑧ 304 SS Plug 1-Alloy 800 Element (3.6 W/cm²)	240	1.25	3	16 1/8 (409.6)	8 (4)	BDNF16G20S5A	RS	BDNF16G20S7A	RS
	240	1.65	3	19 1/8 (485.8)	9 (4)	BDNF19G20S5A	RS	BDNF19G20S7A	RS
	240	2.15	3	24 3/8 (619.1)	10 (5)	BDNF24L20S5A	RS	BDNF24L20S7A	RS
	480	2.15	3	24 3/8 (619.1)	10 (5)	BDNF24L19S5A	RS	BDNF24L19S7A	RS
	240	2.65	3	29 5/8 (752.5)	11 (5)	BDNF29R20S5A	RS	BDNF29R20S7A	RS
	480	2.65	3	29 5/8 (752.5)	11 (5)	BDNF29R19S5A	RS	BDNF29R19S7A	RS
	240	3.20	3	34 5/8 (879.5)	12 (6)	BDNF34R20S5A	RS	BDNF34R20S7A	RS
	480	3.20	3	34 5/8 (879.5)	12 (6)	BDNF34R19S5A	RS	BDNF34R19S7A	RS
	240	4.25	3	45 1/8 (1146.2)	14 (7)	BDNF45G20S5A	RS	BDNF45G20S7A	RS
	480	4.25	3	45 1/8 (1146.2)	14 (7)	BDNF45G19S5A	RS	BDNF45G19S7A	RS
	240	5.40	3	55 5/8 (1412.9)	16 (8)	BDNF55R20S5A	RS	BDNF55R20S7A	RS
	480	5.40	3	55 5/8 (1412.9)	16 (8)	BDNF55R19S5A	RS	BDNF55R19S7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

③ Wired for 3-phase operation only

⑧ Can be wired for 1-phase operation

Immersion Heaters

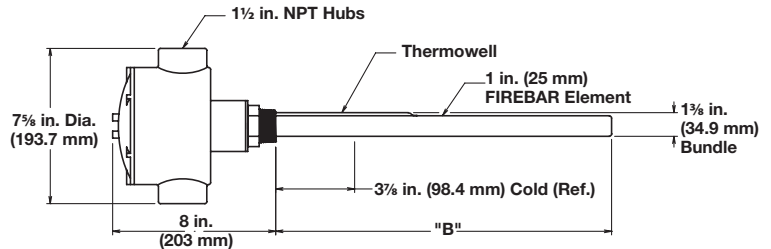
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- Moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60 to 250°F)		Type 7A (100 to 550°F)		
						Part Number	Del.	Part Number	Del.	
Moisture/Explosion-Resistant Enclosure ⑤										
30 W/in² ③ 304 SS Plug 1-Alloy 800 Element (4.7 W/cm²)	240	1.70	3	16 ¹ / ₈ (409.6)	11 (5)	BDNF16G12C5A	RS	BDNF16G12C7A	RS	
	480	1.70	3	16 ¹ / ₈ (409.6)	11 (5)	BDNF16G13C5A	RS	BDNF16G13C7A	RS	
	240	2.20	3	19 ¹ / ₈ (485.8)	12 (6)	BDNF19G12C5A	RS	BDNF19G12C7A	RS	
	480	2.20	3	19 ¹ / ₈ (485.8)	12 (6)	BDNF19G13C5A	RS	BDNF19G13C7A	RS	
	240	2.80	3	24 ³ / ₈ (619.1)	13 (6)	BDNF24L12C5A	RS	BDNF24L12C7A	RS	
	480	2.80	3	24 ³ / ₈ (619.1)	13 (6)	BDNF24L13C5A	RS	BDNF24L13C7A	RS	
	240	3.50	3	29 ⁵ / ₈ (752.5)	14 (7)	BDNF29R12C5A	RS	BDNF29R12C7A	RS	
	480	3.50	3	29 ⁵ / ₈ (752.5)	14 (7)	BDNF29R13C5A	RS	BDNF29R13C7A	RS	
	240	4.25	3	34 ⁵ / ₈ (879.5)	15 (7)	BDNF34R12C5A	RS	BDNF34R12C7A	RS	
	480	4.25	3	34 ⁵ / ₈ (879.5)	15 (7)	BDNF34R13C5A	RS	BDNF34R13C7A	RS	
	240	5.70	3	45 ¹ / ₈ (1146.2)	17 (8)	BDNF45G12C5A	RS	BDNF45G12C7A	RS	
	480	5.70	3	45 ¹ / ₈ (1146.2)	17 (8)	BDNF45G13C5A	RS	BDNF45G13C7A	RS	
240	7.20	3	55 ⁵ / ₈ (1412.9)	19 (9)	BDNF55R12C5A	RS	BDNF55R12C7A	RS		
23 W/in² ⑧ 304 SS Plug 1-Alloy 800 Element (3.6 W/cm²)	240	1.25	3	16 ¹ / ₈ (409.6)	11 (5)	BDNF16G20C5A	RS	BDNF16G20C7A	RS	
	240	1.65	3	19 ¹ / ₈ (485.8)	12 (6)	BDNF19G20C5A	RS	BDNF19G20C7A	RS	
	240	2.15	3	24 ³ / ₈ (619.1)	13 (6)	BDNF24L20C5A	RS	BDNF24L20C7A	RS	
	480	2.15	3	24 ³ / ₈ (619.1)	13 (6)	BDNF24L19C5A	RS	BDNF24L19C7A	RS	
	240	2.65	3	29 ⁵ / ₈ (752.5)	14 (7)	BDNF29R20C5A	RS	BDNF29R20C7A	RS	
	480	2.65	3	29 ⁵ / ₈ (752.5)	14 (7)	BDNF29R19C5A	RS	BDNF29R19C7A	RS	
	240	3.20	3	34 ⁵ / ₈ (879.5)	15 (7)	BDNF34R20C5A	RS	BDNF34R20C7A	RS	
	480	3.20	3	34 ⁵ / ₈ (879.5)	15 (7)	BDNF34R19C5A	RS	BDNF34R19C7A	RS	
	240	4.25	3	45 ¹ / ₈ (1146.2)	17 (8)	BDNF45G20C5A	RS	BDNF45G20C7A	RS	
	480	4.25	3	45 ¹ / ₈ (1146.2)	17 (8)	BDNF45G19C5A	RS	BDNF45G19C7A	RS	
	240	5.40	3	55 ⁵ / ₈ (1412.9)	19 (9)	BDNF55R20C5A	RS	BDNF55R20C7A	RS	
	480	5.40	3	55 ⁵ / ₈ (1412.9)	19 (9)	BDNF55R19C5A	RS	BDNF55R19C7A	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

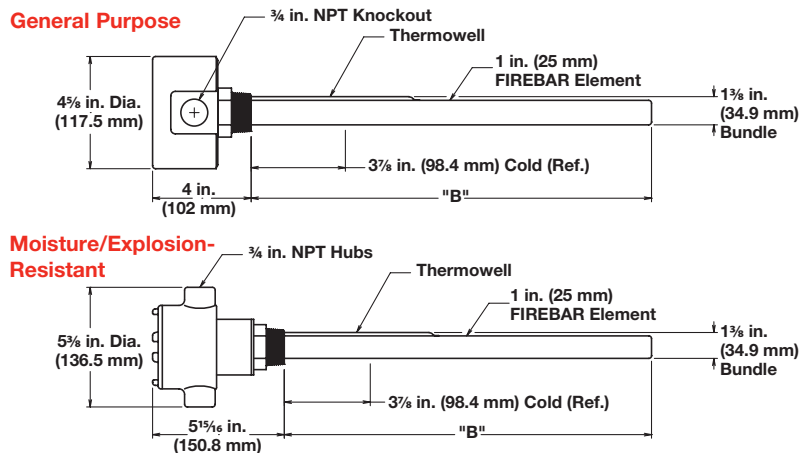
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
30 W/in² ③ 304 SS Plug 1-Alloy 800 Element (4.7 W/cm²)	240	1.70	3	16 1/8 (409.6)	BDNF16G12S	RS	7 (4)	BDNF16G12C	RS	10 (5)	
	480	1.70	3	16 1/8 (409.6)	BDNF16G13S	RS	7 (4)	BDNF16G13C	RS	10 (5)	
	240	2.20	3	19 1/8 (485.8)	BDNF19G12S	RS	8 (4)	BDNF19G12C	RS	11 (5)	
	480	2.20	3	19 1/8 (485.8)	BDNF19G13S	RS	8 (4)	BDNF19G13C	RS	11 (5)	
	240	2.80	3	24 3/8 (619.1)	BDNF24L12S	RS	9 (4)	BDNF24L12C	RS	12 (6)	
	480	2.80	3	24 3/8 (619.1)	BDNF24L13S	RS	9 (4)	BDNF24L13C	RS	12 (6)	
	240	3.50	3	29 5/8 (752.5)	BDNF29R12S	RS	10 (5)	BDNF29R12C	RS	13 (6)	
	480	3.50	3	29 5/8 (752.5)	BDNF29R13S	RS	10 (5)	BDNF29R13C	RS	13 (6)	
	240	4.25	3	34 5/8 (879.5)	BDNF34R12S	RS	11 (5)	BDNF34R12C	RS	14 (7)	
	480	4.25	3	34 5/8 (879.5)	BDNF34R13S	RS	11 (5)	BDNF34R13C	RS	14 (7)	
	240	5.70	3	45 1/8 (1146.2)	BDNF45G12S	RS	13 (6)	BDNF45G12C	RS	16 (8)	
	480	5.70	3	45 1/8 (1146.2)	BDNF45G13S	RS	13 (6)	BDNF45G13C	RS	16 (8)	
23 W/in² ⑥ 304 SS Plug 1-Alloy 800 Element (3.6 W/cm²)	240	1.25	3	16 1/8 (409.6)	BDNF16G20S	RS	7 (4)	BDNF16G20C	RS	10 (5)	
	240	1.65	3	19 1/8 (485.8)	BDNF19G20S	RS	8 (4)	BDNF19G20C	RS	11 (5)	
	240	2.15	3	24 3/8 (619.1)	BDNF24L20S	RS	9 (4)	BDNF24L20C	RS	12 (6)	
	480	2.15	3	24 3/8 (619.1)	BDNF24L19S	RS	9 (4)	BDNF24L19C	RS	12 (6)	
	240	2.65	3	29 5/8 (752.5)	BDNF29R20S	RS	10 (5)	BDNF29R20C	RS	13 (6)	
	480	2.65	3	29 5/8 (752.5)	BDNF29R19S	RS	10 (5)	BDNF29R19C	RS	13 (6)	
	240	3.20	3	34 5/8 (879.5)	BDNF34R20S	RS	11 (5)	BDNF34R20C	RS	14 (7)	
	480	3.20	3	34 5/8 (879.5)	BDNF34R19S	RS	11 (5)	BDNF34R19C	RS	14 (7)	
	240	4.25	3	45 1/8 (1146.2)	BDNF45G20S	RS	13 (6)	BDNF45G20C	RS	16 (8)	
	480	4.25	3	45 1/8 (1146.2)	BDNF45G19S	RS	13 (6)	BDNF45G19C	RS	16 (8)	
	240	5.40	3	55 5/8 (1412.9)	BDNF55R20S	RS	15 (7)	BDNF55R20C	RS	18 (9)	
	480	5.40	3	55 5/8 (1412.9)	BDNF55R19S	RS	15 (7)	BDNF55R19C	RS	18 (9)	

RAPID SHIP

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Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition
- ⑥ Can be wired for 1-phase operation

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

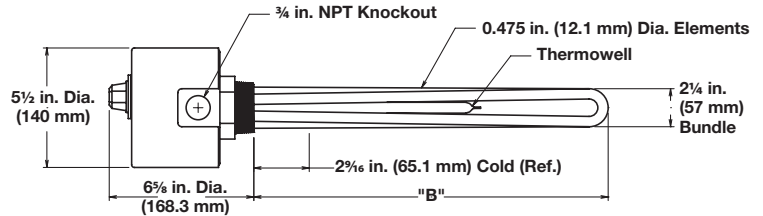


Application: Lightweight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)		Ship Wt. lbs (kg)		Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
								Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure													
23 W/in² ④ Steel Plug 2-Steel Elements (3.6 W/cm²)	120/240	1.0	1	9 1/2	(241)	5	(3)	BGS79J6S4	RS	BGS79J6S5A	RS	BGS79J6S7A	RS
	240/480	1.0	1	9 1/2	(241)	5	(3)	BGS79J7S4	RS	BGS79J7S5A	RS	BGS79J7S7A	RS
	120/240	1.5	1	13 1/2	(343)	6	(3)	BGS713J6S4	RS	BGS713J6S5A	RS	BGS713J6S7A	RS
	240/480	1.5	1	13 1/2	(343)	6	(3)	BGS713J7S4	RS	BGS713J7S5A	RS	BGS713J7S7A	RS
	120/240	2.0	1	17 1/2	(445)	7	(4)	BGS717J6S4	RS	BGS717J6S5A	RS	BGS717J6S7A	RS
	240/480	2.0	1	17 1/2	(445)	7	(4)	BGS717J7S4	RS	BGS717J7S5A	RS	BGS717J7S7A	RS
	120/240	2.5	1	20 1/2	(521)	8	(4)	BGS720J6S4	RS	BGS720J6S5A	RS	BGS720J6S7A	RS
	240/480	2.5	1	20 1/2	(521)	8	(4)	BGS720J7S4	RS	BGS720J7S5A	RS	BGS720J7S7A	RS
	120/240	3.0	1	25	(635)	8	(4)	BGS725A6S4	RS	BGS725A6S5A	RS	BGS725A6S7A	RS
	240/480	3.0	1	25	(635)	8	(4)	BGS725A7S4	RS	BGS725A7S5A	RS	BGS725A7S7A	RS
120/240	4.0	1	32 1/2	(826)	9	(4)	BGS732J6S4	RS	BGS732J6S5A	RS	BGS732J6S7A	RS	
120/240	5.0	1	40	(1016)	10	(5)	BGS740A6S4	RS	BGS740A6S5A	RS	BGS740A6S7A	RS	
23 W/in² Steel Plug 3-Steel Elements (3.6 W/cm²)	120	1.5	1	9 1/2	(241)	6	(3)	BHS79J1S4	RS	BHS79J1S5A	RS	BHS79J1S7A	RS
	240	1.5	3	9 1/2	(241)	6	(3)	BHS79J3S4	RS	BHS79J3S5A	RS	BHS79J3S7A	RS
	480	1.5	3	9 1/2	(241)	6	(3)	BHS79J13S4	RS	BHS79J13S5A	RS	BHS79J13S7A	RS
	240	3.0	3	17 1/2	(445)	8	(4)	BHS717J3S4	RS	BHS717J3S5A	RS	BHS717J3S7A	RS
	480	3.0	3	17 1/2	(445)	8	(4)	BHS717J5S4	RS	BHS717J5S5A	RS	BHS717J5S7A	RS
	240	4.5	3	25	(635)	10	(5)	BHS725A3S4	RS	BHS725A3S5A	RS	BHS725A3S7A	RS
	480	4.5	3	25	(635)	10	(5)	BHS725A5S4	RS	BHS725A5S5A	RS	BHS725A5S7A	RS
	240	6.0	3	32 1/2	(826)	13	(6)	BHS732J3S4	RS	BHS732J3S5A	RS	BHS732J3S7A	RS
	480	6.0	3	32 1/2	(826)	13	(6)	BHS732J5S4	RS	BHS732J5S5A	RS	BHS732J5S7A	RS
	240	7.5	3	40	(1016)	14	(7)	BHS740A3S4	RS	BHS740A3S5A	RS	BHS740A3S7A	RS
480	7.5	3	40	(1016)	14	(7)	BHS740A5S4	RS	BHS740A5S5A	RS	BHS740A5S7A	RS	
240	9.0	3	47 1/2	(1207)	14	(7)	BHS747J3S4	RS	BHS747J3S5A	RS	BHS747J3S7A	RS	

RAPID SHIP

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- ④ Wired for higher voltage

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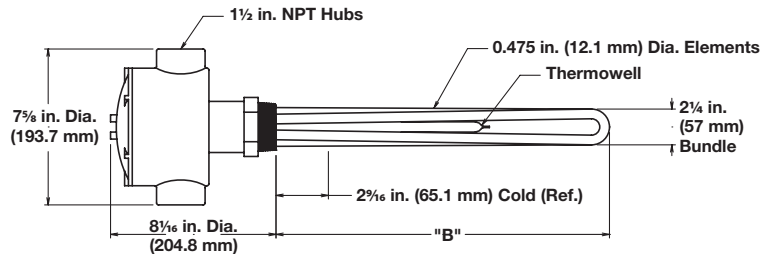
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						Part Number	Del.	Part Number	Del.	Part Number	Del.
Moisture/Explosion-Resistant Enclosure ⑤											
23 W/in² ④ Steel Plug 2-Steel Elements (3.6 W/cm²)	120/240	1.0	1	9 1/2 (241)	8 (4)	BGS79J6C4	RS	BGS79J6C5A	RS	BGS79J6C7A	RS
	240/480	1.0	1	9 1/2 (241)	8 (4)	BGS79J7C4	RS	BGS79J7C5A	RS	BGS79J7C7A	RS
	120/240	1.5	1	13 1/2 (343)	9 (4)	BGS713J6C4	RS	BGS713J6C5A	RS	BGS713J6C7A	RS
	240/480	1.5	1	13 1/2 (343)	9 (4)	BGS713J7C4	RS	BGS713J7C5A	RS	BGS713J7C7A	RS
	120/240	2.0	1	17 1/2 (445)	10 (5)	BGS717J6C4	RS	BGS717J6C5A	RS	BGS717J6C7A	RS
	240/480	2.0	1	17 1/2 (445)	10 (5)	BGS717J7C4	RS	BGS717J7C5A	RS	BGS717J7C7A	RS
	120/240	2.5	1	20 1/2 (521)	11 (5)	BGS720J6C4	RS	BGS720J6C5A	RS	BGS720J6C7A	RS
	240/480	2.5	1	20 1/2 (521)	11 (5)	BGS720J7C4	RS	BGS720J7C5A	RS	BGS720J7C7A	RS
	120/240	3.0	1	25 (635)	11 (5)	BGS725A6C4	RS	BGS725A6C5A	RS	BGS725A6C7A	RS
	240/480	3.0	1	25 (635)	11 (5)	BGS725A7C4	RS	BGS725A7C5A	RS	BGS725A7C7A	RS
23 W/in² Steel Plug 3-Steel Elements (3.6 W/cm²)	120	1.5	1	9 1/2 (241)	9 (4)	BHS79J1C4	RS	BHS79J1C5A	RS	BHS79J1C7A	RS
	240	1.5	3	9 1/2 (241)	9 (4)	BHS79J3C4	RS	BHS79J3C5A	RS	BHS79J3C7A	RS
	480	1.5	3	9 1/2 (241)	9 (4)	BHS79J13C4	RS	BHS79J13C5A	RS	BHS79J13C7A	RS
	240	3.0	3	17 1/2 (445)	11 (5)	BHS717J3C4	RS	BHS717J3C5A	RS	BHS717J3C7A	RS
	480	3.0	3	17 1/2 (445)	11 (5)	BHS717J5C4	RS	BHS717J5C5A	RS	BHS717J5C7A	RS
	240	4.5	3	25 (635)	13 (6)	BHS725A3C4	RS	BHS725A3C5A	RS	BHS725A3C7A	RS
	480	4.5	3	25 (635)	13 (6)	BHS725A5C4	RS	BHS725A5C5A	RS	BHS725A5C7A	RS
	240	6.0	3	32 1/2 (826)	16 (8)	BHS732J3C4	RS	BHS732J3C5A	RS	BHS732J3C7A	RS
	480	6.0	3	32 1/2 (826)	16 (8)	BHS732J5C4	RS	BHS732J5C5A	RS	BHS732J5C7A	RS
	240	7.5	3	40 (1016)	17 (8)	BHS740A3C4	RS	BHS740A3C5A	RS	BHS740A3C7A	RS
480	7.5	3	40 (1016)	17 (8)	BHS740A5C4	RS	BHS740A5C5A	RS	BHS740A5C7A	RS	
240	9.0	3	47 1/2 (1207)	17 (8)	BHS747J3C4	RS	BHS747J3C5A	RS	BHS747J3C7A	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

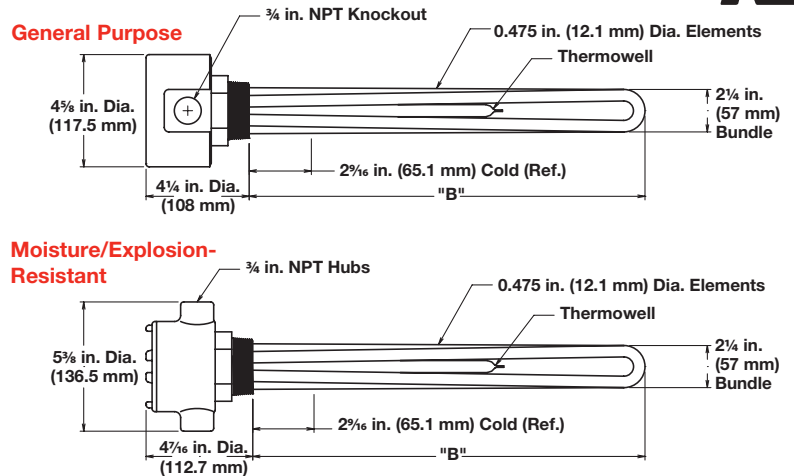
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose			Moisture/Explosion-Resistant Enclosures			
23 W/in² ④ Steel Plug 2-Steel Elements (3.6 W/cm²)	120/240	1.0	1	9 1/2 (241)	BGS79J6S	RS	4 (2)	BGS79J6C	RS	7 (4)	
	240/480	1.0	1	9 1/2 (241)	BGS79J7S	RS	4 (2)	BGS79J7C	RS	7 (4)	
	120/240	1.5	1	13 1/2 (343)	BGS713J6S	RS	5 (3)	BGS713J6C	RS	8 (4)	
	240/480	1.5	1	13 1/2 (343)	BGS713J7S	RS	5 (3)	BGS713J7C	RS	8 (4)	
	120/240	2.0	1	17 1/2 (445)	BGS717J6S	RS	6 (3)	BGS717J6C	RS	9 (4)	
	240/480	2.0	1	17 1/2 (445)	BGS717J7S	RS	6 (3)	BGS717J7C	RS	9 (4)	
	120/240	2.5	1	20 1/2 (521)	BGS720J6S	RS	7 (4)	BGS720J6C	RS	10 (5)	
	240/480	2.5	1	20 1/2 (521)	BGS720J7S	RS	7 (4)	BGS720J7C	RS	10 (5)	
	120/240	3.0	1	25 (635)	BGS725A6S	RS	7 (4)	BGS725A6C	RS	10 (5)	
	240/480	3.0	1	25 (635)	BGS725A7S	RS	7 (4)	BGS725A7C	RS	10 (5)	
	120/240	4.0	1	32 1/2 (826)	BGS732J6S	RS	8 (4)	BGS732J6C	RS	11 (5)	
	240/480	4.0	1	32 1/2 (826)	BGS732J7S	RS	8 (4)	BGS732J7C	RS	11 (5)	
	120/240	5.0	1	40 (1016)	BGS740A6S	RS	9 (4)	BGS740A6C	RS	12 (6)	
	240/480	5.0	1	40 (1016)	BGS740A7S	RS	9 (4)	BGS740A7C	RS	12 (6)	
240/480	6.0	1	47 1/2 (1207)	BGS747J7S	RS	10 (5)	BGS747J7C	RS	13 (6)		
23 W/in² Steel Plug 3-Steel Elements (3.6 W/cm²)	120	1.5	1	9 1/2 (241)	BHS79J1S	RS	5 (3)	BHS79J1C	RS	8 (4)	
	240	1.5	3	9 1/2 (241)	BHS79J3S	RS	5 (3)	BHS79J3C	RS	8 (4)	
	480	1.5	3	9 1/2 (241)	BHS79J13S	RS	5 (3)	BHS79J13C	RS	8 (4)	
	120	3.0	1	17 1/2 (445)	BHS717J1S	RS	7 (4)	BHS717J1C	RS	10 (5)	
	240	3.0	3	17 1/2 (445)	BHS717J3S	RS	7 (4)	BHS717J3C	RS	10 (5)	
	480	3.0	3	17 1/2 (445)	BHS717J5S	RS	7 (4)	BHS717J5C	RS	10 (5)	
	120	4.5	1	25 (635)	BHS725A1S	RS	9 (4)	BHS725A1C	RS	12 (6)	
	240	4.5	3	25 (635)	BHS725A3S	RS	9 (4)	BHS725A3C	RS	12 (6)	
	480	4.5	3	25 (635)	BHS725A5S	RS	9 (4)	BHS725A5C	RS	12 (6)	
	240	6.0	3	32 1/2 (826)	BHS732J3S	RS	12 (6)	BHS732J3C	RS	15 (7)	
	480	6.0	3	32 1/2 (826)	BHS732J5S	RS	12 (6)	BHS732J5C	RS	15 (7)	
	240	7.5	3	40 (1016)	BHS740A3S	RS	13 (6)	BHS740A3C	RS	16 (8)	
	480	7.5	3	40 (1016)	BHS740A5S	RS	13 (6)	BHS740A5C	RS	16 (8)	
	240	9.0	3	47 1/2 (1207)	BHS747J3S	RS	13 (6)	BHS747J3C	RS	16 (8)	
	480	9.0	3	47 1/2 (1207)	BHS747J5S	RS	13 (6)	BHS747J5C	RS	16 (8)	
	240	12.5	3	64 (1626)	BHS764A3S	RS	17 (8)	BHS764A3C	RS	20 (9)	
480	12.5	3	64 (1626)	BHS764A5S	RS	17 (8)	BHS764A5C	RS	20 (9)		

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ④ Wired for higher voltage
- ⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



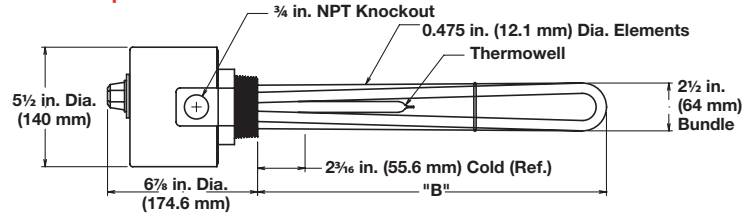
Application: Lightweight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

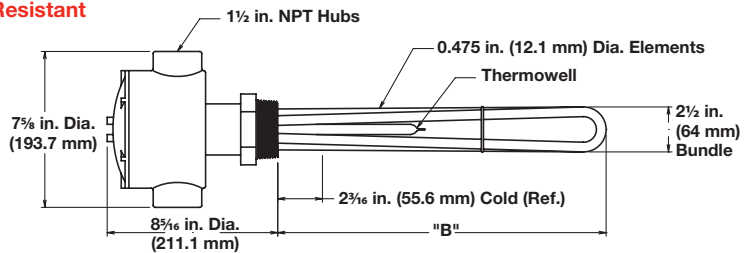
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)		Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
							Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure												
23 W/in² ⑥ Steel Plug 3-Steel Elements (3.6 Wcm²)	240	3.0	3	17 1/4	(438)	10 (5)	BLS717E3S4	RS	BLS717E3S5A	RS	BLS717E3S7A	RS
	480	3.0	3	17 1/4	(438)	10 (5)	BLS717E5S4	RS	BLS717E5S5A	RS	BLS717E5S7A	RS
	240	4.5	3	24 3/4	(629)	13 (6)	BLS724N3S4	RS	BLS724N3S5A	RS	BLS724N3S7A	RS
	480	4.5	3	24 3/4	(629)	13 (6)	BLS724N5S4	RS	BLS724N5S5A	RS	BLS724N5S7A	RS
	240	6.0	3	32 1/4	(819)	15 (7)	BLS732E3S4	RS	BLS732E3S5A	RS	BLS732E3S7A	RS
	480	6.0	3	32 1/4	(819)	15 (7)	BLS732E5S4	RS	BLS732E5S5A	RS	BLS732E5S7A	RS
	240	7.5	3	39 3/4	(1010)	16 (8)	BLS739N3S4	RS	BLS739N3S5A	RS	BLS739N3S7A	RS
	480	7.5	3	39 3/4	(1010)	16 (8)	BLS739N5S4	RS	BLS739N5S5A	RS	BLS739N5S7A	RS
	240	9.0	3	47 1/4	(1200)	18 (9)	BLS747E3S4	RS	BLS747E3S5A	RS	BLS747E3S7A	RS
Moisture/Explosion-Resistant Enclosure ⑤												
23 W/in² ⑥ Steel Plug 3-Steel Elements (3.6 Wcm²)	240	3.0	3	17 1/4	(438)	13 (6)	BLS717E3C4	RS	BLS717E3C5A	RS	BLS717E3C7A	RS
	480	3.0	3	17 1/4	(438)	13 (6)	BLS717E5C4	RS	BLS717E5C5A	RS	BLS717E5C7A	RS
	240	4.5	3	24 3/4	(629)	16 (8)	BLS724N3C4	RS	BLS724N3C5A	RS	BLS724N3C7A	RS
	480	4.5	3	24 3/4	(629)	16 (8)	BLS724N5C4	RS	BLS724N5C5A	RS	BLS724N5C7A	RS
	240	6.0	3	32 1/4	(819)	18 (9)	BLS732E3C4	RS	BLS732E3C5A	RS	BLS732E3C7A	RS
	480	6.0	3	32 1/4	(819)	18 (9)	BLS732E5C4	RS	BLS732E5C5A	RS	BLS732E5C7A	RS
	240	7.5	3	39 3/4	(1010)	19 (9)	BLS739N3C4	RS	BLS739N3C5A	RS	BLS739N3C7A	RS
	480	7.5	3	39 3/4	(1010)	19 (9)	BLS739N5C4	RS	BLS739N5C5A	RS	BLS739N5C7A	RS
	240	9.0	3	47 1/4	(1200)	21 (10)	BLS747E3C4	RS	BLS747E3C5A	RS	BLS747E3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

⑥ Can be rewired to produce 1/3 of original kW and watt density (3-phase only)

Immersion Heaters

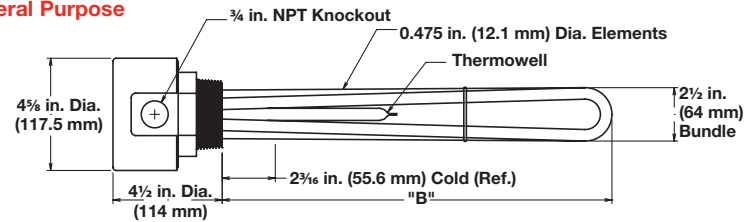
WATROD and FIREBAR Screw Plug Immersion Heaters



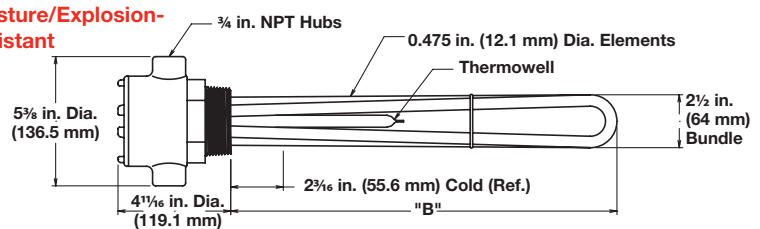
Application: Lightweight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. (mm)		Part Number	Del.	Ship Wt. (kg)		Part Number ⑤	Del.	Ship Wt. (kg)	
						General Purpose Enclosure				Moisture /Explosion-Resistant Enclosure			
23 W/in ² ⑥ Steel Plug 3-Steel Elements (3.6 Wcm ²)	120	3.0	1	17 1/4	(438)	BLS717E1S	RS	9	(4)	BLS717E1C	RS	12	(6)
	240	3.0	3	17 1/4	(438)	BLS717E3S	RS	9	(4)	BLS717E3C	RS	12	(6)
	480	3.0	3	17 1/4	(438)	BLS717E5S	RS	9	(4)	BLS717E5C	RS	12	(6)
	120	4.5	1	24 3/4	(629)	BLS724N1S	RS	12	(6)	BLS724N1C	RS	15	(7)
	240	4.5	3	24 3/4	(629)	BLS724N3S	RS	12	(6)	BLS724N3C	RS	15	(7)
	480	4.5	3	24 3/4	(629)	BLS724N5S	RS	12	(6)	BLS724N5C	RS	15	(7)
	240	6.0	3	32 1/4	(819)	BLS732E3S	RS	14	(7)	BLS732E3C	RS	17	(8)
	480	6.0	3	32 1/4	(819)	BLS732E5S	RS	14	(7)	BLS732E5C	RS	17	(8)
	240	7.5	3	39 3/4	(1010)	BLS739N3S	RS	15	(7)	BLS739N3C	RS	18	(9)
	480	7.5	3	39 3/4	(1010)	BLS739N5S	RS	15	(7)	BLS739N5C	RS	18	(9)
	240	9.0	3	47 1/4	(1200)	BLS747E3S	RS	17	(8)	BLS747E3C	RS	20	(9)
	480	9.0	3	47 1/4	(1200)	BLS747E5S	RS	17	(8)	BLS747E5C	RS	20	(9)
	240	12.5	3	63 3/4	(1619)	BLS763N3S	RS	20	(9)	BLS763N3C	RS	23	(11)
	480	12.5	3	63 3/4	(1619)	BLS763N5S	RS	20	(9)	BLS763N5C	RS	23	(11)
	240	15.0	3	76 1/4	(1937)	BLS776E3S	RS	23	(11)	BLS776E3C	RS	26	(12)
	480	15.0	3	76 1/4	(1937)	BLS776E5S	RS	23	(11)	BLS776E5C	RS	26	(12)

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

⑤ No third party recognition

⑥ Can be rewired to produce 1/3 of original kW and watt density (3-phase only)

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



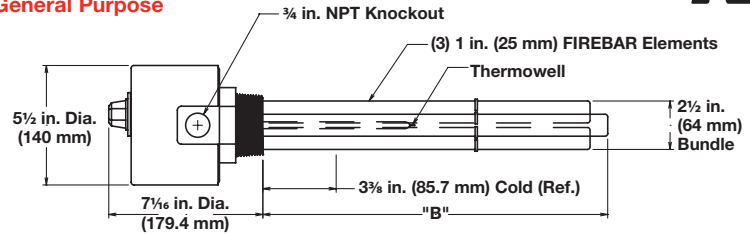
Application: Lightweight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)

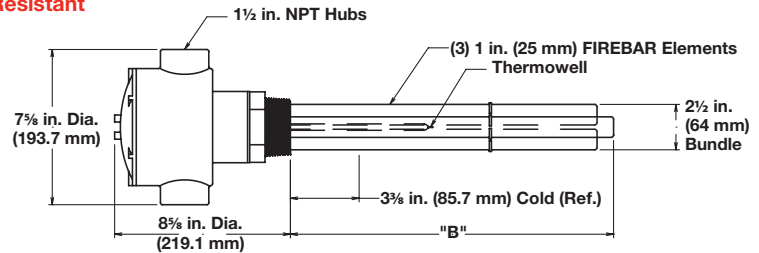
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60 to 250°F)		Type 7A (100 to 550°F)		
						Part Number	Del.	Part Number	Del.	
General Purpose Enclosure										
30 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (4.7 W/cm²)	240	5.0	3	15 1/8 (384.2)	12 (6)	BLNF15C12S5A	RS	BLNF15C12S7A	RS	
	480	5.0	3	15 1/8 (384.2)	12 (6)	BLNF15C13S5A	RS	BLNF15C13S7A	RS	
	240	6.5	3	18 1/8 (460.4)	13 (6)	BLNF18C12S5A	RS	BLNF18C12S7A	RS	
	480	6.5	3	18 1/8 (460.4)	13 (6)	BLNF18C13S5A	RS	BLNF18C13S7A	RS	
23 W/in² ⑧ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm²)	240	8.5	3	23 1/8 (587.4)	15 (7)	BLNF23C12S5A	RS	BLNF23C12S7A	RS	
	240	3.8	3	15 1/8 (384.2)	12 (6)	BLNF15C20S5A	RS	BLNF15C20S7A	RS	
	240	4.9	3	18 1/8 (460.4)	13 (6)	BLNF18C20S5A	RS	BLNF18C20S7A	RS	
	240	6.4	3	23 1/8 (587.4)	15 (7)	BLNF23C20S5A	RS	BLNF23C20S7A	RS	
	480	6.4	3	23 1/8 (587.4)	15 (7)	BLNF23C19S5A	RS	BLNF23C19S7A	RS	
	240	7.9	3	28 5/8 (727.1)	18 (9)	BLNF28L20S5A	RS	BLNF28L20S7A	RS	
240	9.6	3	33 5/8 (854.1)	19 (9)	BLNF33L20S5A	RS	BLNF33L20S7A	RS		
Moisture/Explosion-Resistant Enclosure ⑤										
30 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (4.7 W/cm²)	240	5.0	3	15 1/8 (384.2)	14 (7)	BLNF15C12C5A	RS	BLNF15C12C7A	RS	
	480	5.0	3	15 1/8 (384.2)	14 (7)	BLNF15C13C5A	RS	BLNF15C13C7A	RS	
	240	6.5	3	18 1/8 (460.4)	16 (8)	BLNF18C12C5A	RS	BLNF18C12C7A	RS	
	480	6.5	3	18 1/8 (460.4)	16 (8)	BLNF18C13C5A	RS	BLNF18C13C7A	RS	
	240	8.5	3	23 1/8 (587.4)	18 (9)	BLNF23C12C5A	RS	BLNF23C12C7A	RS	
23 W/in² ⑧ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm²)	240	3.8	3	15 1/8 (384.2)	14 (7)	BLNF15C20C5A	RS	BLNF15C20C7A	RS	
	240	4.9	3	18 1/8 (460.4)	16 (8)	BLNF18C20C5A	RS	BLNF18C20C7A	RS	
	240	6.4	3	23 1/8 (587.4)	18 (9)	BLNF23C20C5A	RS	BLNF23C20C7A	RS	
	480	6.4	3	23 1/8 (587.4)	18 (9)	BLNF23C19C5A	RS	BLNF23C19C7A	RS	
	240	7.9	3	28 5/8 (727.1)	21 (10)	BLNF28L20C5A	RS	BLNF28L20C7A	RS	
	240	9.6	3	33 5/8 (854.1)	22 (10)	BLNF33L20C5A	RS	BLNF33L20C7A	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

Immersion Heaters

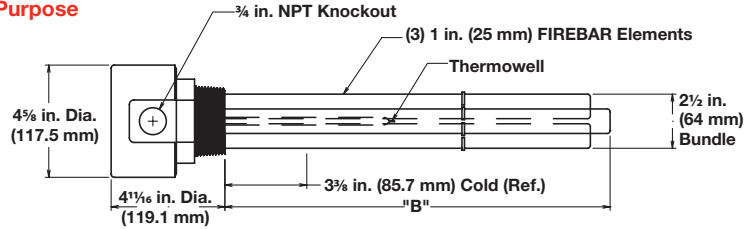
WATROD and FIREBAR Screw Plug Immersion Heaters



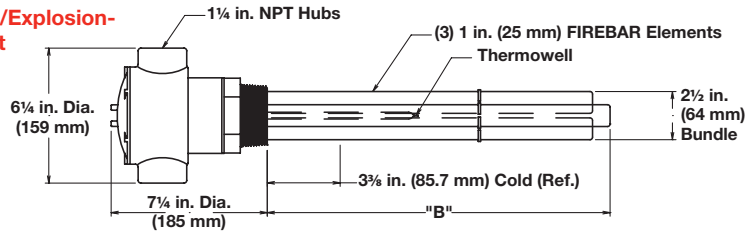
Application: Lightweight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure		
30 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (4.7 W/cm²)	240	5.0	3	1 5/8 (384.2)	BLNF15C12S	RS	11 (5)	BLNF15C12C	RS	14 (7)
	480	5.0	3	1 5/8 (384.2)	BLNF15C13S	RS	11 (5)	BLNF15C13C	RS	14 (7)
	240	6.5	3	1 8/8 (460.4)	BLNF18C12S	RS	12 (6)	BLNF18C12C	RS	15 (7)
	480	6.5	3	1 8/8 (460.4)	BLNF18C13S	RS	12 (6)	BLNF18C13C	RS	15 (7)
	240	8.5	3	2 1/8 (587.4)	BLNF23C12S	RS	14 (7)	BLNF23C12C	RS	17 (8)
	480	8.5	3	2 1/8 (587.4)	BLNF23C13S	RS	14 (7)	BLNF23C13C	RS	17 (8)
	240	10.5	3	2 5/8 (727.1)	BLNF28L12S	RS	17 (8)	BLNF28L12C	RS	20 (9)
	480	10.5	3	2 5/8 (727.1)	BLNF28L13S	RS	17 (8)	BLNF28L13C	RS	20 (9)
	240	12.8	3	3 3/8 (854.1)	BLNF33L12S	RS	18 (9)	BLNF33L12C	RS	21 (10)
	480	12.8	3	3 3/8 (854.1)	BLNF33L13S	RS	18 (9)	BLNF33L13C	RS	21 (10)
	240	17.0	3	4 1/8 (1120.8)	BLNF44C12S	RS	20 (9)	BLNF44C12C	RS	23 (11)
	480	17.0	3	4 1/8 (1120.8)	BLNF44C13S	RS	20 (9)	BLNF44C13C	RS	23 (11)
480	21.5	3	5 5/8 (1387.5)	BLNF54L13S	RS	22 (10)	BLNF54L13C	RS	25 (12)	
23 W/in² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm²)	240	3.8	3	1 5/8 (384.2)	BLNF15C20S	RS	11 (5)	BLNF15C20C	RS	14 (7)
	240	4.9	3	1 8/8 (460.4)	BLNF18C20S	RS	12 (6)	BLNF18C20C	RS	15 (7)
	240	6.4	3	2 1/8 (587.4)	BLNF23C20S	RS	14 (7)	BLNF23C20C	RS	17 (8)
	480	6.4	3	2 1/8 (587.4)	BLNF23C19S	RS	14 (7)	BLNF23C19C	RS	17 (8)
	240	7.9	3	2 5/8 (727.1)	BLNF28L20S	RS	17 (8)	BLNF28L20C	RS	20 (9)
	480	7.9	3	2 5/8 (727.1)	BLNF28L19S	RS	17 (8)	BLNF28L19C	RS	20 (9)
	240	9.6	3	3 3/8 (854.1)	BLNF33L20S	RS	18 (9)	BLNF33L20C	RS	21 (10)
	480	9.6	3	3 3/8 (854.1)	BLNF33L19S	RS	18 (9)	BLNF33L19C	RS	21 (10)
	240	12.8	3	4 1/8 (1120.8)	BLNF44C20S	RS	20 (9)	BLNF44C20C	RS	23 (11)
	480	12.8	3	4 1/8 (1120.8)	BLNF44C19S	RS	20 (9)	BLNF44C19C	RS	23 (11)
	240	16.1	3	5 5/8 (1387.5)	BLNF54L20S	RS	22 (10)	BLNF54L20C	RS	25 (12)
	480	16.1	3	5 5/8 (1387.5)	BLNF54L19S	RS	22 (10)	BLNF54L19C	RS	25 (12)

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition
- ⑧ Can be wired for 1-phase operation

Immersion Heaters

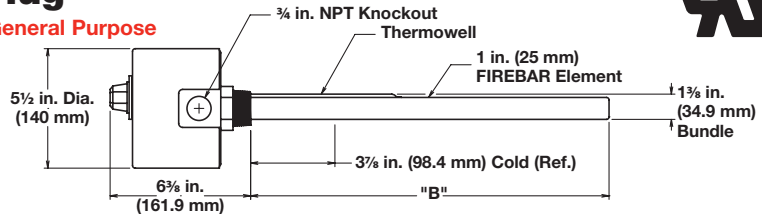
WATROD and FIREBAR Screw Plug Immersion Heaters



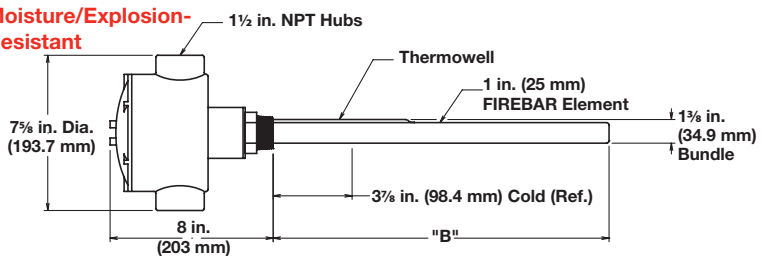
Application: Medium Weight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)		Ship Wt. lbs (kg)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
								Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
15 W/in ² ③ 304 SS Plug 1-Alloy 800 Element (2.3 W/cm ²)	240	0.67	3	13	(330)	7	(4)	BDNF13A29S5A	RS	BDNF13A29S7A	RS
	240	0.83	3	15 1/2	(394)	8	(4)	BDNF15J29S5A	RS	BDNF15J29S7A	RS
	240	1.00	3	18	(457)	9	(4)	BDNF18A29S5A	RS	BDNF18A29S7A	RS
	240	1.33	3	22 1/2	(572)	10	(5)	BDNF22J29S5A	RS	BDNF22J29S7A	RS
	480	1.33	3	22 1/2	(572)	10	(5)	BDNF22J30S5A	RS	BDNF22J30S7A	RS
	240	1.67	3	27 1/2	(699)	11	(5)	BDNF27J29S5A	RS	BDNF27J29S7A	RS
	480	1.67	3	27 1/2	(699)	11	(5)	BDNF27J30S5A	RS	BDNF27J30S7A	RS
	240	2.00	3	32 1/2	(826)	12	(6)	BDNF32J29S5A	RS	BDNF32J29S7A	RS
	480	2.00	3	32 1/2	(826)	12	(6)	BDNF32J30S5A	RS	BDNF32J30S7A	RS
	240	2.67	3	42	(1067)	14	(7)	BDNF42A29S5A	RS	BDNF42A29S7A	RS
	480	2.67	3	42	(1067)	14	(7)	BDNF42A30S5A	RS	BDNF42A30S7A	RS
	240	3.33	3	51 1/2	(1308)	16	(8)	BDNF51J29S5A	RS	BDNF51J29S7A	RS
480	3.33	3	51 1/2	(1308)	16	(8)	BDNF51J30S5A	RS	BDNF51J30S7A	RS	
Moisture/Explosion-Resistant Enclosure ⑤											
15 W/in ² ③ 304 SS Plug 1-Alloy 800 Element (2.3 W/cm ²)	240	0.67	3	13	(330)	10	(5)	BDNF13A29C5A	RS	BDNF13A29C7A	RS
	240	0.83	3	15 1/2	(394)	11	(5)	BDNF15J29C5A	RS	BDNF15J29C7A	RS
	240	1.00	3	18	(457)	12	(6)	BDNF18A29C5A	RS	BDNF18A29C7A	RS
	240	1.33	3	22 1/2	(572)	13	(6)	BDNF22J29C5A	RS	BDNF22J29C7A	RS
	480	1.33	3	22 1/2	(572)	13	(6)	BDNF22J30C5A	RS	BDNF22J30C7A	RS
	240	1.67	3	27 1/2	(699)	14	(7)	BDNF27J29C5A	RS	BDNF27J29C7A	RS
	480	1.67	3	27 1/2	(699)	14	(7)	BDNF27J30C5A	RS	BDNF27J30C7A	RS
	240	2.00	3	32 1/2	(826)	15	(7)	BDNF32J29C5A	RS	BDNF32J29C7A	RS
	480	2.00	3	32 1/2	(826)	15	(7)	BDNF32J30C5A	RS	BDNF32J30C7A	RS
	240	2.67	3	42	(1067)	17	(8)	BDNF42A29C5A	RS	BDNF42A29C7A	RS
	480	2.67	3	42	(1067)	17	(8)	BDNF42A30C5A	RS	BDNF42A30C7A	RS
	240	3.33	3	51 1/2	(1308)	19	(9)	BDNF51J29C5A	RS	BDNF51J29C7A	RS
480	3.33	3	51 1/2	(1308)	19	(9)	BDNF51J30C5A	RS	BDNF51J30C7A	RS	



- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

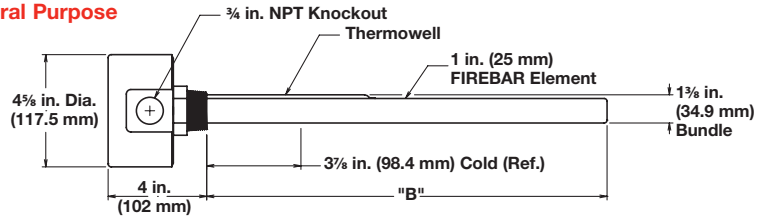
WATROD and FIREBAR Screw Plug Immersion Heaters



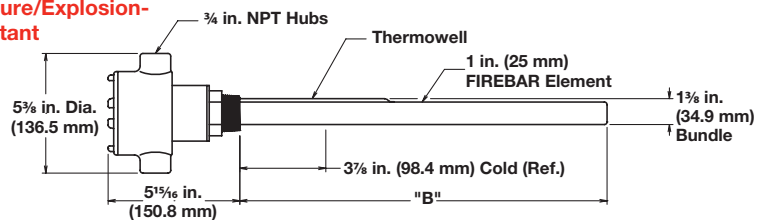
Application: Medium Weight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
15 W/in² ③ 304 SS Plug 1-Alloy 800 Element (2.3 W/cm²)	240	0.67	3	13 (330)	BDNF13A29S	RS	6 (3)	BDNF13A29C	RS	9 (4)	
	240	0.83	3	15 1/2 (394)	BDNF15J29S	RS	7 (4)	BDNF15J29C	RS	10 (5)	
	240	1.00	3	18 (457)	BDNF18A29S	RS	8 (4)	BDNF18A29C	RS	11 (5)	
	240	1.33	3	22 1/2 (572)	BDNF22J29S	RS	9 (4)	BDNF22J29C	RS	12 (6)	
	480	1.33	3	22 1/2 (572)	BDNF22J30S	RS	9 (4)	BDNF22J30C	RS	12 (6)	
	240	1.67	3	27 1/2 (699)	BDNF27J29S	RS	10 (5)	BDNF27J29C	RS	13 (6)	
	480	1.67	3	27 1/2 (699)	BDNF27J30S	RS	10 (5)	BDNF27J30C	RS	13 (6)	
	240	2.00	3	32 1/2 (826)	BDNF32J29S	RS	11 (5)	BDNF32J29C	RS	14 (7)	
	480	2.00	3	32 1/2 (826)	BDNF32J30S	RS	11 (5)	BDNF32J30C	RS	14 (7)	
	240	2.67	3	42 (1067)	BDNF42A29S	RS	13 (6)	BDNF42A29C	RS	16 (8)	
	480	2.67	3	42 (1067)	BDNF42A30S	RS	13 (6)	BDNF42A30C	RS	16 (8)	
	240	3.33	3	51 1/2 (1308)	BDNF51J29S	RS	15 (7)	BDNF51J29C	RS	18 (9)	
	480	3.33	3	51 1/2 (1308)	BDNF51J30S	RS	15 (7)	BDNF51J30C	RS	18 (9)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

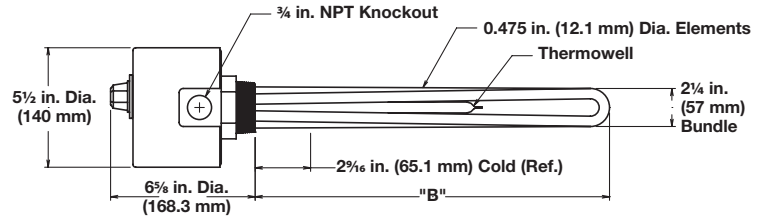


Application: Medium Weight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)		Ship Wt. lbs (kg)		Type 4 (30-110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
								Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure													
16 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm²)	240	1.0	3	9 ³ / ₄	(248)	6	(3)	BHN79N12S4	RS	BHN79N12S5A	RS	BHN79N12S7A	RS
	480	1.0	3	9 ³ / ₄	(248)	6	(3)	BHN79N13S4	RS	BHN79N13S5A	RS	BHN79N13S7A	RS
	240	1.5	3	13 ¹ / ₄	(337)	7	(4)	BHN713E12S4	RS	BHN713E12S5A	RS	BHN713E12S7A	RS
	480	1.5	3	13 ¹ / ₄	(337)	7	(4)	BHN713E13S4	RS	BHN713E13S5A	RS	BHN713E13S7A	RS
	240	2.0	3	17 ³ / ₄	(451)	8	(4)	BHN717N12S4	RS	BHN717N12S5A	RS	BHN717N12S7A	RS
	480	2.0	3	17 ³ / ₄	(451)	8	(4)	BHN717N13S4	RS	BHN717N13S5A	RS	BHN717N13S7A	RS
	240	2.5	3	20 ¹ / ₄	(514)	9	(4)	BHN720E12S4	RS	BHN720E12S5A	RS	BHN720E12S7A	RS
	480	2.5	3	20 ¹ / ₄	(514)	9	(4)	BHN720E13S4	RS	BHN720E13S5A	RS	BHN720E13S7A	RS
	240	3.0	3	25 ¹ / ₄	(641)	10	(5)	BHN725E12S4	RS	BHN725E12S5A	RS	BHN725E12S7A	RS
	480	3.0	3	25 ¹ / ₄	(641)	10	(5)	BHN725E13S4	RS	BHN725E13S5A	RS	BHN725E13S7A	RS
	240	4.0	3	32 ³ / ₄	(832)	10	(5)	BHN732N12S4	RS	BHN732N12S5A	RS	BHN732N12S7A	RS
	480	4.0	3	32 ³ / ₄	(832)	10	(5)	BHN732N13S4	RS	BHN732N13S5A	RS	BHN732N13S7A	RS
	240	5.0	3	40 ¹ / ₄	(1022)	11	(5)	BHN740E12S4	RS	BHN740E12S5A	RS	BHN740E12S7A	RS
	480	5.0	3	40 ¹ / ₄	(1022)	11	(5)	BHN740E13S4	RS	BHN740E13S5A	RS	BHN740E13S7A	RS
240	6.0	3	47 ³ / ₄	(1213)	12	(6)	BHN747N12S4	RS	BHN747N12S5A	RS	BHN747N12S7A	RS	
480	6.0	3	47 ³ / ₄	(1213)	12	(6)	BHN747N13S4	RS	BHN747N13S5A	RS	BHN747N13S7A	RS	
15 W/in² Steel Plug 3-Steel Elements (2.3 W/cm²)	240	1.5	3	13 ¹ / ₄	(337)	7	(4)	BHSS13E3S4	RS	BHSS13E3S5A	RS	BHSS13E3S7A	RS
	480	1.5	3	13 ¹ / ₄	(337)	7	(4)	BHSS13E13S4	RS	BHSS13E13S5A	RS	BHSS13E13S7A	RS
	240	2.0	3	17 ¹ / ₂	(445)	8	(4)	BHSS17J3S4	RS	BHSS17J3S5A	RS	BHSS17J3S7A	RS
	480	2.0	3	17 ¹ / ₂	(445)	8	(4)	BHSS17J5S4	RS	BHSS17J5S5A	RS	BHSS17J5S7A	RS
	240	2.5	3	20 ¹ / ₂	(521)	9	(4)	BHSS20J3S4	RS	BHSS20J3S5A	RS	BHSS20J3S7A	RS
	480	2.5	3	20 ¹ / ₂	(521)	9	(4)	BHSS20J5S4	RS	BHSS20J5S5A	RS	BHSS20J5S7A	RS
	240	3.0	3	25	(635)	10	(5)	BHSS25A3S4	RS	BHSS25A3S5A	RS	BHSS25A3S7A	RS
	480	3.0	3	25	(635)	10	(5)	BHSS25A5S4	RS	BHSS25A5S5A	RS	BHSS25A5S7A	RS
	240	4.0	3	32 ¹ / ₂	(826)	13	(6)	BHSS32J3S4	RS	BHSS32J3S5A	RS	BHSS32J3S7A	RS
	480	4.0	3	32 ¹ / ₂	(826)	13	(6)	BHSS32J5S4	RS	BHSS32J5S5A	RS	BHSS32J5S7A	RS
	240	5.0	3	40	(1016)	14	(7)	BHSS40A3S4	RS	BHSS40A3S5A	RS	BHSS40A3S7A	RS
	480	5.0	3	40	(1016)	14	(7)	BHSS40A5S4	RS	BHSS40A5S5A	RS	BHSS40A5S7A	RS
	240	6.0	3	47 ¹ / ₂	(1207)	14	(7)	BHSS47J3S4	RS	BHSS47J3S5A	RS	BHSS47J3S7A	RS
	480	6.0	3	47 ¹ / ₂	(1207)	14	(7)	BHSS47J5S4	RS	BHSS47J5S5A	RS	BHSS47J5S7A	RS
240	7.5	3	58 ¹ / ₂	(1486)	17	(8)	BHSS58J3S4	RS	BHSS58J3S5A	RS	BHSS58J3S7A	RS	
240	9.0	3	69 ³ / ₄	(1772)	21	(10)	BHSS69N3S4	RS	BHSS69N3S5A	RS	BHSS69N3S7A	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

③ Wired for 3-phase operation only

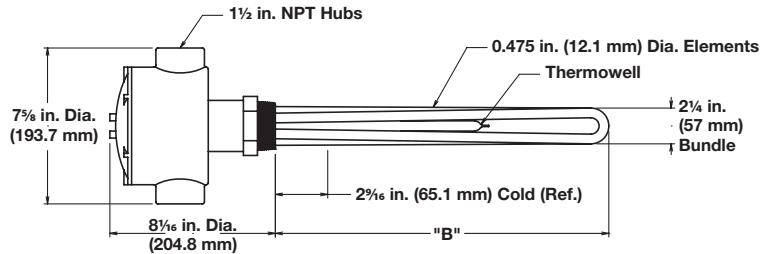
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Medium Weight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)

Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.



- Moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30 to 110°F)		Type 5A (60 to 250°F)		Type 7A (100 to 550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
Moisture/Explosion-Resistant Enclosure ⑤											
16 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm²)	240	1.0	3	9 ³ / ₄ (248)	9 (4)	BHN79N12C4	RS	BHN79N12C5A	RS	BHN79N12C7A	RS
	480	1.0	3	9 ³ / ₄ (248)	9 (4)	BHN79N13C4	RS	BHN79N13C5A	RS	BHN79N13C7A	RS
	240	1.5	3	13 ¹ / ₄ (337)	10 (5)	BHN713E12C4	RS	BHN713E12C5A	RS	BHN713E12C7A	RS
	480	1.5	3	13 ¹ / ₄ (337)	10 (5)	BHN713E13C4	RS	BHN713E13C5A	RS	BHN713E13C7A	RS
	240	2.0	3	17 ³ / ₄ (451)	11 (5)	BHN717N12C4	RS	BHN717N12C5A	RS	BHN717N12C7A	RS
	480	2.0	3	17 ³ / ₄ (451)	11 (5)	BHN717N13C4	RS	BHN717N13C5A	RS	BHN717N13C7A	RS
	240	2.5	3	20 ¹ / ₄ (514)	12 (6)	BHN720E12C4	RS	BHN720E12C5A	RS	BHN720E12C7A	RS
	480	2.5	3	20 ¹ / ₄ (514)	12 (6)	BHN720E13C4	RS	BHN720E13C5A	RS	BHN720E13C7A	RS
	240	3.0	3	25 ¹ / ₄ (641)	13 (6)	BHN725E12C4	RS	BHN725E12C5A	RS	BHN725E12C7A	RS
	480	3.0	3	25 ¹ / ₄ (641)	13 (6)	BHN725E13C4	RS	BHN725E13C5A	RS	BHN725E13C7A	RS
	240	4.0	3	32 ³ / ₄ (832)	13 (6)	BHN732N12C4	RS	BHN732N12C5A	RS	BHN732N12C7A	RS
	480	4.0	3	32 ³ / ₄ (832)	13 (6)	BHN732N13C4	RS	BHN732N13C5A	RS	BHN732N13C7A	RS
	240	5.0	3	40 ¹ / ₄ (1022)	14 (7)	BHN740E12C4	RS	BHN740E12C5A	RS	BHN740E12C7A	RS
	480	5.0	3	40 ¹ / ₄ (1022)	14 (7)	BHN740E13C4	RS	BHN740E13C5A	RS	BHN740E13C7A	RS
	240	6.0	3	47 ³ / ₄ (1213)	15 (7)	BHN747N12C4	RS	BHN747N12C5A	RS	BHN747N12C7A	RS
	480	6.0	3	47 ³ / ₄ (1213)	15 (7)	BHN747N13C4	RS	BHN747N13C5A	RS	BHN747N13C7A	RS
15 W/in² Steel Plug 3-Steel Elements (2.3 W/cm²)	240	1.5	3	13 ¹ / ₄ (337)	10 (5)	BHSS13E3C4	RS	BHSS13E3C5A	RS	BHSS13E3C7A	RS
	480	1.5	3	13 ¹ / ₄ (337)	10 (5)	BHSS13E13C4	RS	BHSS13E13C5A	RS	BHSS13E13C7A	RS
	240	2.0	3	17 ¹ / ₂ (445)	11 (5)	BHSS17J3C4	RS	BHSS17J3C5A	RS	BHSS17J3C7A	RS
	480	2.0	3	17 ¹ / ₂ (445)	11 (5)	BHSS17J5C4	RS	BHSS17J5C5A	RS	BHSS17J5C7A	RS
	240	2.5	3	20 ¹ / ₂ (521)	12 (6)	BHSS20J3C4	RS	BHSS20J3C5A	RS	BHSS20J3C7A	RS
	480	2.5	3	20 ¹ / ₂ (521)	12 (6)	BHSS20J5C4	RS	BHSS20J5C5A	RS	BHSS20J5C7A	RS
	240	3.0	3	25 (635)	13 (6)	BHSS25A3C4	RS	BHSS25A3C5A	RS	BHSS25A3C7A	RS
	480	3.0	3	25 (635)	13 (6)	BHSS25A5C4	RS	BHSS25A5C5A	RS	BHSS25A5C7A	RS
	240	4.0	3	32 ¹ / ₂ (826)	16 (8)	BHSS32J3C4	RS	BHSS32J3C5A	RS	BHSS32J3C7A	RS
	480	4.0	3	32 ¹ / ₂ (826)	16 (8)	BHSS32J5C4	RS	BHSS32J5C5A	RS	BHSS32J5C7A	RS
	240	5.0	3	40 (1016)	17 (8)	BHSS40A3C4	RS	BHSS40A3C5A	RS	BHSS40A3C7A	RS
	480	5.0	3	40 (1016)	17 (8)	BHSS40A5C4	RS	BHSS40A5C5A	RS	BHSS40A5C7A	RS
	240	6.0	3	47 ¹ / ₂ (1207)	17 (8)	BHSS47J3C4	RS	BHSS47J3C5A	RS	BHSS47J3C7A	RS
	480	6.0	3	47 ¹ / ₂ (1207)	17 (8)	BHSS47J5C4	RS	BHSS47J5C5A	RS	BHSS47J5C7A	RS
	240	7.5	3	58 ¹ / ₂ (1486)	20 (9)	BHSS58J3C4	RS	BHSS58J3C5A	RS	BHSS58J3C7A	RS
	240	9.0	3	69 ³ / ₄ (1772)	24 (11)	BHSS69N3C4	RS	BHSS69N3C5A	RS	BHSS69N3C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

③ Wired for 3-phase operation only

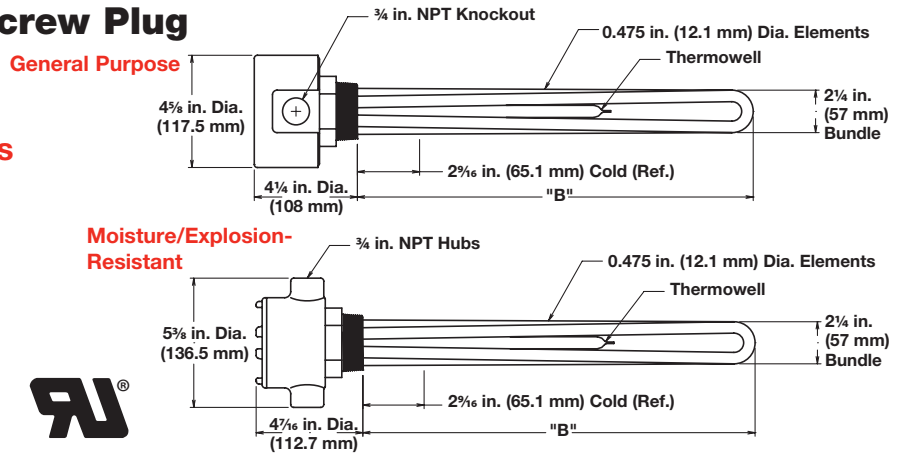
⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Medium Weight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt.		Part Number ⑤	Del.	Ship Wt.	
							lbs	(kg)			lbs	(kg)
					General Purpose Enclosure				Moisture/Explosion-Resistant Enclosure			
16 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm ²)	240	1.0	3	9 ³ / ₄ (248)	BHN79N12S	RS	5	(3)	BHN79N12C	RS	8	(4)
	480	1.0	3	9 ³ / ₄ (248)	BHN79N13S	RS	5	(3)	BHN79N13C	RS	8	(4)
	240	1.5	3	13 ¹ / ₄ (337)	BHN713E12S	RS	6	(3)	BHN713E12C	RS	9	(4)
	480	1.5	3	13 ¹ / ₄ (337)	BHN713E13S	RS	6	(3)	BHN713E13C	RS	9	(4)
	240	2.0	3	17 ³ / ₄ (451)	BHN717N12S	RS	7	(4)	BHN717N12C	RS	10	(5)
	480	2.0	3	17 ³ / ₄ (451)	BHN717N13S	RS	7	(4)	BHN717N13C	RS	10	(5)
	240	2.5	3	20 ¹ / ₄ (514)	BHN720E12S	RS	8	(4)	BHN720E12C	RS	11	(5)
	480	2.5	3	20 ¹ / ₄ (514)	BHN720E13S	RS	8	(4)	BHN720E13C	RS	11	(5)
	240	3.0	3	25 ¹ / ₄ (641)	BHN725E12S	RS	9	(4)	BHN725E12C	RS	12	(6)
	480	3.0	3	25 ¹ / ₄ (641)	BHN725E13S	RS	9	(4)	BHN725E13C	RS	12	(6)
	240	4.0	3	32 ³ / ₄ (832)	BHN732N12S	RS	9	(4)	BHN732N12C	RS	12	(6)
	480	4.0	3	32 ³ / ₄ (832)	BHN732N13S	RS	9	(4)	BHN732N13C	RS	12	(6)
	240	5.0	3	40 ¹ / ₄ (1022)	BHN740E12S	RS	10	(5)	BHN740E12C	RS	13	(6)
	480	5.0	3	40 ¹ / ₄ (1022)	BHN740E13S	RS	10	(5)	BHN740E13C	RS	13	(6)
240	6.0	3	47 ³ / ₄ (1213)	BHN747N12S	RS	11	(5)	BHN747N12C	RS	14	(7)	
480	6.0	3	47 ³ / ₄ (1213)	BHN747N13S	RS	11	(5)	BHN747N13C	RS	14	(7)	
15 W/in ² Steel Plug 3-Steel Elements (2.3 W/cm ²)	240	1.5	3	13 ¹ / ₄ (337)	BHSS13E3S	RS	6	(3)	BHSS13E3C	RS	9	(4)
	480	1.5	3	13 ¹ / ₄ (337)	BHSS13E13S	RS	6	(3)	BHSS13E13C	RS	9	(4)
	240	2.0	3	17 ¹ / ₂ (445)	BHSS17J3S	RS	7	(4)	BHSS17J3C	RS	10	(5)
	480	2.0	3	17 ¹ / ₂ (445)	BHSS17J5S	RS	7	(4)	BHSS17J5C	RS	10	(5)
	240	2.5	3	20 ¹ / ₂ (521)	BHSS20J3S	RS	8	(4)	BHSS20J3C	RS	11	(5)
	480	2.5	3	20 ¹ / ₂ (521)	BHSS20J5S	RS	8	(4)	BHSS20J5C	RS	11	(5)
	240	3.0	3	25 (635)	BHSS25A3S	RS	9	(4)	BHSS25A3C	RS	12	(6)
	480	3.0	3	25 (635)	BHSS25A5S	RS	9	(4)	BHSS25A5C	RS	12	(6)
	240	4.0	3	32 ¹ / ₂ (826)	BHSS32J3S	RS	9	(4)	BHSS32J3C	RS	12	(6)
	480	4.0	3	32 ¹ / ₂ (826)	BHSS32J5S	RS	9	(4)	BHSS32J5C	RS	12	(6)
	240	5.0	3	40 (1016)	BHSS40A3S	RS	10	(5)	BHSS40A3C	RS	13	(6)
	480	5.0	3	40 (1016)	BHSS40A5S	RS	10	(5)	BHSS40A5C	RS	13	(6)
	240	6.0	3	47 ¹ / ₂ (1207)	BHSS47J3S	RS	11	(5)	BHSS47J3C	RS	14	(7)
	480	6.0	3	47 ¹ / ₂ (1207)	BHSS47J5S	RS	11	(5)	BHSS47J5C	RS	14	(7)
	240	7.5	3	58 ¹ / ₂ (1486)	BHSS58J3S	RS	14	(7)	BHSS58J3C	RS	17	(8)
	480	7.5	3	58 ¹ / ₂ (1486)	BHSS58J5S	RS	14	(7)	BHSS58J5C	RS	17	(8)
240	9.0	3	69 ³ / ₄ (1772)	BHSS69N3S	RS	16	(8)	BHSS69N3C	RS	19	(9)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

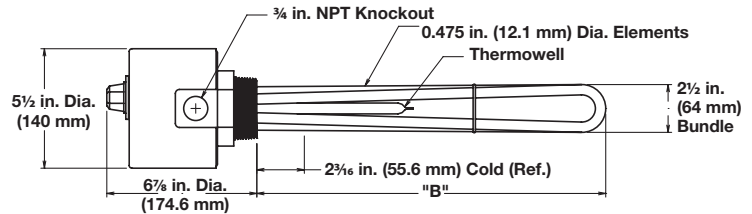
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)
- General purpose enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30-110°F)		Type 5A (60-250°F)		Type 7A (100-550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
16 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm²)	240	1.0	3	9 ³ / ₈ (238.1)	7 (4)	BLN79G12S4	RS	BLN79G12S5A	RS	BLN79G12S7A	RS
	480	1.0	3	9 ³ / ₈ (238.1)	7 (4)	BLN79G13S4	RS	BLN79G13S5A	RS	BLN79G13S7A	RS
	240	1.5	3	12 ⁷ / ₈ (327.0)	8 (4)	BLN712R12S4	RS	BLN712R12S5A	RS	BLN712R12S7A	RS
	480	1.5	3	12 ⁷ / ₈ (327.0)	8 (4)	BLN712R13S4	RS	BLN712R13S5A	RS	BLN712R13S7A	RS
	240	2.0	3	17 ³ / ₈ (441.3)	10 (5)	BLN717G12S4	RS	BLN717G12S5A	RS	BLN717G12S7A	RS
	480	2.0	3	17 ³ / ₈ (441.3)	10 (5)	BLN717G13S4	RS	BLN717G13S5A	RS	BLN717G13S7A	RS
	240	2.5	3	19 ⁷ / ₈ (504.8)	12 (6)	BLN719R12S4	RS	BLN719R12S5A	RS	BLN719R12S7A	RS
	480	2.5	3	19 ⁷ / ₈ (504.8)	12 (6)	BLN719R13S4	RS	BLN719R13S5A	RS	BLN719R13S7A	RS
	240	3.0	3	24 ⁷ / ₈ (631.8)	13 (6)	BLN724R12S4	RS	BLN724R12S5A	RS	BLN724R12S7A	RS
	480	3.0	3	24 ⁷ / ₈ (631.8)	13 (6)	BLN724R13S4	RS	BLN724R13S5A	RS	BLN724R13S7A	RS
	240	4.0	3	32 ³ / ₈ (822.3)	15 (7)	BLN732G12S4	RS	BLN732G12S5A	RS	BLN732G12S7A	RS
	480	4.0	3	32 ³ / ₈ (822.3)	15 (7)	BLN732G13S4	RS	BLN732G13S5A	RS	BLN732G13S7A	RS
	240	5.0	3	39 ⁷ / ₈ (1012.8)	16 (8)	BLN739R12S4	RS	BLN739R12S5A	RS	BLN739R12S7A	RS
	480	5.0	3	39 ⁷ / ₈ (1012.8)	16 (8)	BLN739R13S4	RS	BLN739R13S5A	RS	BLN739R13S7A	RS
	240	6.0	3	47 ³ / ₈ (1203.3)	18 (9)	BLN747G12S4	RS	BLN747G12S5A	RS	BLN747G12S7A	RS
	480	6.0	3	47 ³ / ₈ (1203.3)	18 (9)	BLN747G13S4	RS	BLN747G13S5A	RS	BLN747G13S7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

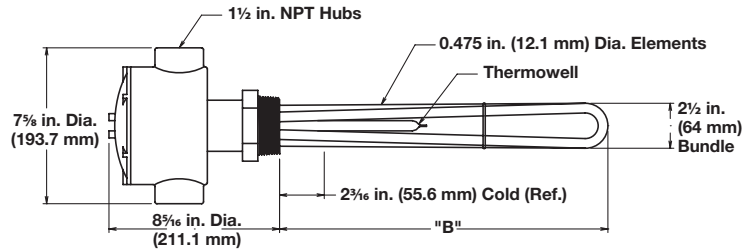
③ Wired for 3-phase operation only

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Medium Weight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)
- Moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30-110°F)		Type 5A (60-250°F)		Type 7A (100-550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
Moisture/Explosion-Resistant Enclosure ⑤											
16 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm²)	240	1.0	3	9 ³ / ₈ (238.1)	10 (5)	BLN79G12C4	RS	BLN79G12C5A	RS	BLN79G12C7A	RS
	480	1.0	3	9 ³ / ₈ (238.1)	10 (5)	BLN79G13C4	RS	BLN79G13C5A	RS	BLN79G13C7A	RS
	240	1.5	3	12 ⁷ / ₈ (327.0)	11 (5)	BLN712R12C4	RS	BLN712R12C5A	RS	BLN712R12C7A	RS
	480	1.5	3	12 ⁷ / ₈ (327.0)	11 (5)	BLN712R13C4	RS	BLN712R13C5A	RS	BLN712R13C7A	RS
	240	2.0	3	17 ³ / ₈ (441.3)	13 (6)	BLN717G12C4	RS	BLN717G12C5A	RS	BLN717G12C7A	RS
	480	2.0	3	17 ³ / ₈ (441.3)	13 (6)	BLN717G13C4	RS	BLN717G13C5A	RS	BLN717G13C7A	RS
	240	2.5	3	19 ⁷ / ₈ (504.8)	15 (7)	BLN719R12C4	RS	BLN719R12C5A	RS	BLN719R12C7A	RS
	480	2.5	3	19 ⁷ / ₈ (504.8)	15 (7)	BLN719R13C4	RS	BLN719R13C5A	RS	BLN719R13C7A	RS
	240	3.0	3	24 ⁷ / ₈ (631.8)	16 (8)	BLN724R12C4	RS	BLN724R12C5A	RS	BLN724R12C7A	RS
	480	3.0	3	24 ⁷ / ₈ (631.8)	16 (8)	BLN724R13C4	RS	BLN724R13C5A	RS	BLN724R13C7A	RS
	240	4.0	3	32 ³ / ₈ (822.3)	18 (9)	BLN732G12C4	RS	BLN732G12C5A	RS	BLN732G12C7A	RS
	480	4.0	3	32 ³ / ₈ (822.3)	18 (9)	BLN732G13C4	RS	BLN732G13C5A	RS	BLN732G13C7A	RS
	240	5.0	3	39 ⁷ / ₈ (1012.8)	19 (9)	BLN739R12C4	RS	BLN739R12C5A	RS	BLN739R12C7A	RS
	480	5.0	3	39 ⁷ / ₈ (1012.8)	19 (9)	BLN739R13C4	RS	BLN739R13C5A	RS	BLN739R13C7A	RS
	240	6.0	3	47 ³ / ₈ (1203.3)	21 (10)	BLN747G12C4	RS	BLN747G12C5A	RS	BLN747G12C7A	RS
	480	6.0	3	47 ³ / ₈ (1203.3)	21 (10)	BLN747G13C4	RS	BLN747G13C5A	RS	BLN747G13C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

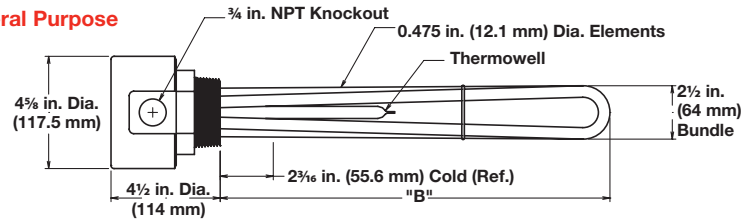
WATROD and FIREBAR Screw Plug Immersion Heaters



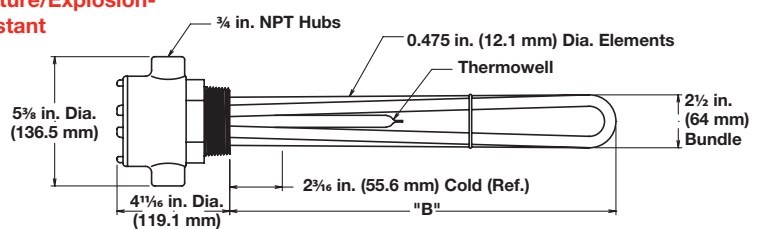
Application: Medium Weight Oils and Heat Transfer Oils

- 2½ inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
16 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm ²)	240	1.0	1	9 ³ / ₈ (238.1)	General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure		
	480	1.0	3	9 ³ / ₈ (238.1)	BLN79G12S	RS	6 (3)	BLN79G12C	RS	9 (4)
	480	1.0	3	9 ³ / ₈ (238.1)	BLN79G13S	RS	6 (3)	BLN79G13C	RS	9 (4)
	240	1.5	3	12 ⁷ / ₈ (327.0)	BLN712R12S	RS	7 (4)	BLN712R12C	RS	10 (5)
	480	1.5	1	12 ⁷ / ₈ (327.0)	BLN712R13S	RS	7 (4)	BLN712R13C	RS	10 (5)
	240	2.0	3	17 ³ / ₈ (441.3)	BLN717G12S	RS	9 (4)	BLN717G12C	RS	12 (6)
	480	2.0	3	17 ³ / ₈ (441.3)	BLN717G13S	RS	9 (4)	BLN717G13C	RS	12 (6)
	240	2.5	3	19 ⁷ / ₈ (504.8)	BLN719R12S	RS	11 (5)	BLN719R12C	RS	14 (7)
	480	2.5	3	19 ⁷ / ₈ (504.8)	BLN719R13S	RS	11 (5)	BLN719R13C	RS	14 (7)
	240	3.0	3	24 ⁷ / ₈ (631.8)	BLN724R12S	RS	12 (6)	BLN724R12C	RS	15 (7)
	480	3.0	3	24 ⁷ / ₈ (631.8)	BLN724R13S	RS	12 (6)	BLN724R13C	RS	15 (7)
	240	4.0	3	32 ³ / ₈ (822.3)	BLN732G12S	RS	14 (7)	BLN732G12C	RS	17 (8)
	480	4.0	3	32 ³ / ₈ (822.3)	BLN732G13S	RS	14 (7)	BLN732G13C	RS	17 (8)
	240	5.0	3	39 ⁷ / ₈ (1012.8)	BLN739R12S	RS	15 (7)	BLN739R12C	RS	18 (9)
	480	5.0	3	39 ⁷ / ₈ (1012.8)	BLN739R13S	RS	15 (7)	BLN739R13C	RS	18 (9)
	240	6.0	3	47 ³ / ₈ (1203.3)	BLN747G12S	RS	17 (8)	BLN747G12C	RS	20 (9)
480	6.0	3	47 ³ / ₈ (1203.3)	BLN747G13S	RS	17 (8)	BLN747G13C	RS	20 (9)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



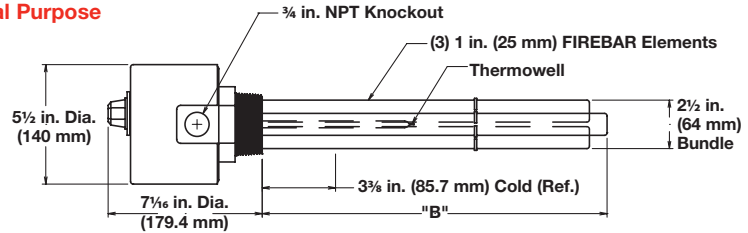
Application: Medium Weight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)

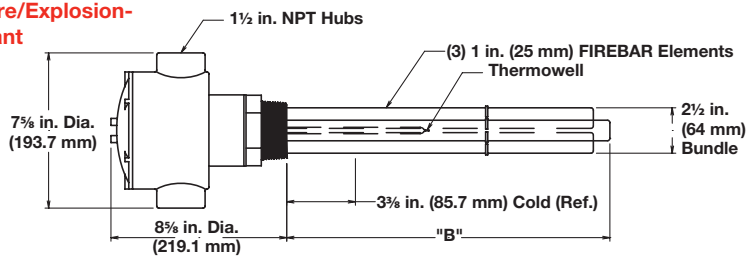
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60-250°F)		Type 7A (100-550°F)	
						Part Number	Del.	Part Number	Del.
General Purpose Enclosure									
15 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (2.3 W/cm ²)	240	2.0	3	12 (305)	11 (5)	BLNF12A29S5A	RS	BLNF12A29S7A	RS
	240	2.5	3	14 1/2 (368)	12 (6)	BLNF14J29S5A	RS	BLNF14J29S7A	RS
	240	3.0	3	17 (432)	13 (6)	BLNF17A29S5A	RS	BLNF17A29S7A	RS
	240	4.0	3	21 1/2 (546)	15 (7)	BLNF21J29S5A	RS	BLNF21J29S7A	RS
	480	4.0	3	21 1/2 (546)	15 (7)	BLNF21J30S5A	RS	BLNF21J30S7A	RS
	240	5.0	3	26 1/2 (673)	18 (9)	BLNF26J29S5A	RS	BLNF26J29S7A	RS
	480	5.0	3	26 1/2 (673)	18 (9)	BLNF26J30S5A	RS	BLNF26J30S7A	RS
	240	6.0	3	31 1/2 (800)	19 (9)	BLNF31J29S5A	RS	BLNF31J29S7A	RS
	480	6.0	3	31 1/2 (800)	19 (9)	BLNF31J30S5A	RS	BLNF31J30S7A	RS
	240	8.0	3	41 (1041)	21 (10)	BLNF41A29S5A	RS	BLNF41A29S7A	RS
240	10.0	3	50 1/2 (1283)	23 (11)	BLNF50J29S5A	RS	BLNF50J29S7A	RS	
Moisture/Explosion-Resistant Enclosure ⑤									
15 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (2.3 W/cm ²)	240	2.0	3	12 (305)	14 (7)	BLNF12A29C5A	RS	BLNF12A29C7A	RS
	240	2.5	3	14 1/2 (368)	15 (7)	BLNF14J29C5A	RS	BLNF14J29C7A	RS
	240	3.0	3	17 (432)	16 (8)	BLNF17A29C5A	RS	BLNF17A29C7A	RS
	240	4.0	3	21 1/2 (546)	18 (9)	BLNF21J29C5A	RS	BLNF21J29C7A	RS
	480	4.0	3	21 1/2 (546)	18 (9)	BLNF21J30C5A	RS	BLNF21J30C7A	RS
	240	5.0	3	26 1/2 (673)	21 (10)	BLNF26J29C5A	RS	BLNF26J29C7A	RS
	480	5.0	3	26 1/2 (673)	21 (10)	BLNF26J30C5A	RS	BLNF26J30C7A	RS
	240	6.0	3	31 1/2 (800)	22 (10)	BLNF31J29C5A	RS	BLNF31J29C7A	RS
	480	6.0	3	31 1/2 (800)	22 (10)	BLNF31J30C5A	RS	BLNF31J30C7A	RS
	240	8.0	3	41 (1041)	24 (11)	BLNF41A29C5A	RS	BLNF41A29C7A	RS
240	10.0	3	50 1/2 (1283)	26 (11)	BLNF50J29C5A	RS	BLNF50J29C7A	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

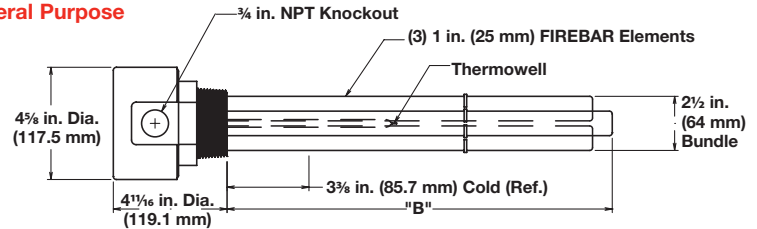
WATROD and FIREBAR Screw Plug Immersion Heaters



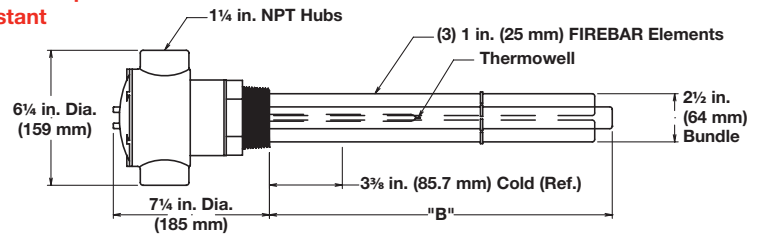
Application: Medium Weight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. In. (mm)	General Purpose Enclosure		Moisture/Explosion-Resistant Enclosure			
					Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)
15 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (2.3 W/cm ²)	240	2.0	3	12 (305)	BLNF12A29S	RS	10 (5)	BLNF12A29C	RS	13 (6)
	240	2.5	3	14 1/2 (368)	BLNF14J29S	RS	11 (5)	BLNF14J29C	RS	14 (7)
	240	3.0	3	17 (432)	BLNF17A29S	RS	12 (6)	BLNF17A29C	RS	15 (7)
	240	4.0	3	21 1/2 (546)	BLNF21J29S	RS	14 (7)	BLNF21J29C	RS	17 (8)
	480	4.0	3	21 1/2 (546)	BLNF21J30S	RS	14 (7)	BLNF21J30C	RS	17 (8)
	240	5.0	3	26 1/2 (673)	BLNF26J29S	RS	17 (8)	BLNF26J29C	RS	20 (9)
	480	5.0	3	26 1/2 (673)	BLNF26J30S	RS	17 (8)	BLNF26J30C	RS	20 (9)
	240	6.0	3	31 1/2 (800)	BLNF31J29S	RS	18 (9)	BLNF31J29C	RS	21 (10)
	480	6.0	3	31 1/2 (800)	BLNF31J30S	RS	18 (9)	BLNF31J30C	RS	21 (10)
	240	8.0	3	41 (1041)	BLNF41A29S	RS	20 (9)	BLNF41A29C	RS	23 (11)
	480	8.0	3	41 (1041)	BLNF41A30S	RS	20 (9)	BLNF41A30C	RS	23 (11)
	240	10.0	3	50 1/2 (1283)	BLNF50J29S	RS	22 (10)	BLNF50J29C	RS	25 (12)
	480	10.0	3	50 1/2 (1283)	BLNF50J30S	RS	22 (10)	BLNF50J30C	RS	25 (12)

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

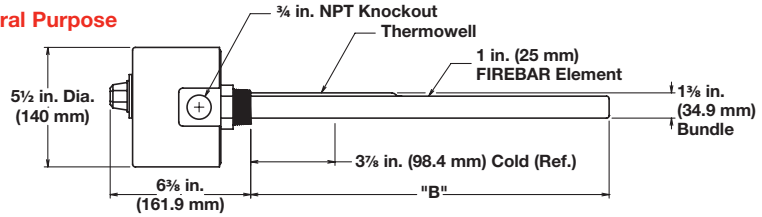
WATROD and FIREBAR Screw Plug Immersion Heaters



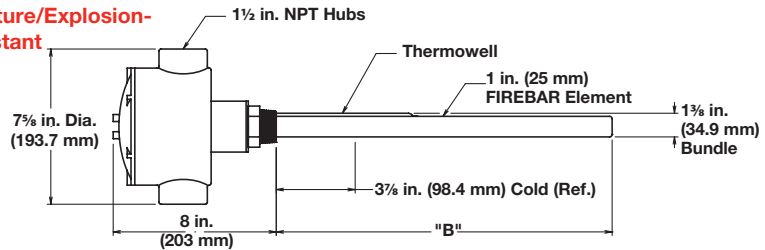
Application: Bunker C, Asphalt and #6 Fuel Oil

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60-250°F)		Type 7A (100-550°F)	
						Part Number	Del.	Part Number	Del.
General Purpose									
8 W/in² ③ 304 SS Plug 1-Alloy 800 Element (1.3 W/cm²)	240	0.43	3	16 1/8 (409.6)	8 (4)	BDNF16G22S5A	RS	BDNF16G22S7A	RS
	240	0.55	3	19 1/8 (485.8)	9 (4)	BDNF19G22S5A	RS	BDNF19G22S7A	RS
	240	0.70	3	24 3/8 (619.1)	10 (5)	BDNF24L22S5A	RS	BDNF24L22S7A	RS
	480	0.70	3	24 3/8 (619.1)	10 (5)	BDNF24L21S5A	RS	BDNF24L21S7A	RS
	240	0.88	3	29 5/8 (752.5)	11 (5)	BDNF29R22S5A	RS	BDNF29R22S7A	RS
	480	0.88	3	29 5/8 (752.5)	11 (5)	BDNF29R21S5A	RS	BDNF29R21S7A	RS
	240	1.08	3	34 5/8 (879.5)	12 (6)	BDNF34R22S5A	RS	BDNF34R22S7A	RS
	480	1.08	3	34 5/8 (879.5)	12 (6)	BDNF34R21S5A	RS	BDNF34R21S7A	RS
	240	1.40	3	45 1/8 (1146.2)	14 (7)	BDNF45G22S5A	RS	BDNF45G22S7A	RS
	480	1.40	3	45 1/8 (1146.2)	14 (7)	BDNF45G21S5A	RS	BDNF45G21S7A	RS
	240	1.80	3	55 5/8 (1412.9)	16 (8)	BDNF55R22S5A	RS	BDNF55R22S7A	RS
	480	1.80	3	55 5/8 (1412.9)	16 (8)	BDNF55R21S5A	RS	BDNF55R21S7A	RS
Moisture/Explosion-Resistant Enclosure ⑤									
8 W/in² ③ 304 SS Plug 1-Alloy 800 Element (1.3 W/cm²)	240	0.43	3	16 1/8 (409.6)	11 (5)	BDNF16G22C5A	RS	BDNF16G22C7A	RS
	240	0.55	3	19 1/8 (485.8)	12 (6)	BDNF19G22C5A	RS	BDNF19G22C7A	RS
	240	0.70	3	24 3/8 (619.1)	13 (6)	BDNF24L22C5A	RS	BDNF24L22C7A	RS
	480	0.70	3	24 3/8 (619.1)	13 (6)	BDNF24L21C5A	RS	BDNF24L21C7A	RS
	240	0.88	3	29 5/8 (752.5)	14 (7)	BDNF29R22C5A	RS	BDNF29R22C7A	RS
	480	0.88	3	29 5/8 (752.5)	14 (7)	BDNF29R21C5A	RS	BDNF29R21C7A	RS
	240	1.08	3	34 5/8 (879.5)	15 (7)	BDNF34R22C5A	RS	BDNF34R22C7A	RS
	480	1.08	3	34 5/8 (879.5)	15 (7)	BDNF34R21C5A	RS	BDNF34R21C7A	RS
	240	1.40	3	45 1/8 (1146.2)	17 (8)	BDNF45G22C5A	RS	BDNF45G22C7A	RS
	480	1.40	3	45 1/8 (1146.2)	17 (8)	BDNF45G21C5A	RS	BDNF45G21C7A	RS
	240	1.80	3	55 5/8 (1412.9)	19 (9)	BDNF55R22C5A	RS	BDNF55R22C7A	RS
	480	1.80	3	55 5/8 (1412.9)	19 (9)	BDNF55R21C5A	RS	BDNF55R21C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

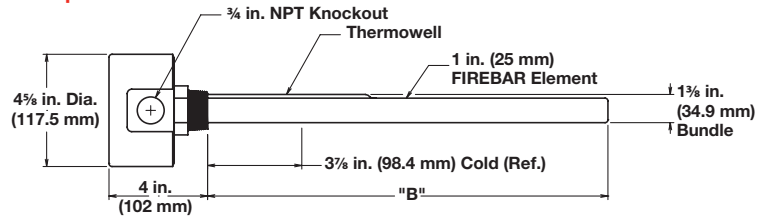
WATROD and FIREBAR Screw Plug Immersion Heaters



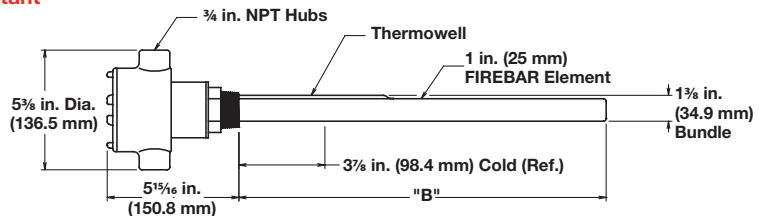
Application: Bunker C, Asphalt and #6 Fuel Oil

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
8 W/in² ③ 304 SS Plug 1-Alloy 800 Element (1.3 W/cm²)	240	0.43	3	16 ¹ / ₈ (409.6)	BDNF16G22S	RS	7 (4)	BDNF16G22C	RS	10 (5)	
	240	0.55	3	19 ¹ / ₈ (485.8)	BDNF19G22S	RS	8 (4)	BDNF19G22C	RS	11 (5)	
	240	0.70	3	24 ³ / ₈ (619.1)	BDNF24L22S	RS	9 (4)	BDNF24L22C	RS	12 (6)	
	480	0.70	3	24 ³ / ₈ (619.1)	BDNF24L21S	RS	9 (4)	BDNF24L21C	RS	12 (6)	
	240	0.88	3	29 ⁵ / ₈ (752.5)	BDNF29R22S	RS	10 (5)	BDNF29R22C	RS	13 (6)	
	480	0.88	3	29 ⁵ / ₈ (752.5)	BDNF29R21S	RS	10 (5)	BDNF29R21C	RS	13 (6)	
	240	1.08	3	34 ⁵ / ₈ (879.5)	BDNF34R22S	RS	11 (5)	BDNF34R22C	RS	14 (7)	
	480	1.08	3	34 ⁵ / ₈ (879.5)	BDNF34R21S	RS	11 (5)	BDNF34R21C	RS	14 (7)	
	240	1.40	3	45 ¹ / ₈ (1146.2)	BDNF45G22S	RS	13 (6)	BDNF45G22C	RS	16 (8)	
	480	1.40	3	45 ¹ / ₈ (1146.2)	BDNF45G21S	RS	13 (6)	BDNF45G21C	RS	16 (8)	
	240	1.80	3	55 ⁵ / ₈ (1412.9)	BDNF55R22S	RS	15 (7)	BDNF55R22C	RS	18 (9)	
	480	1.80	3	55 ⁵ / ₈ (1412.9)	BDNF55R21S	RS	15 (7)	BDNF55R21C	RS	18 (9)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

③ Wired for 3-phase operation only

⑤ No third party recognition

Immersion Heaters

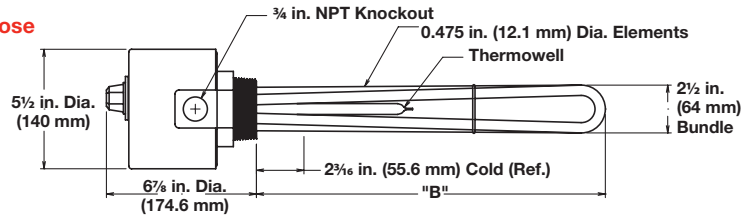
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Bunker C, Asphalt and #6 Fuel Oil

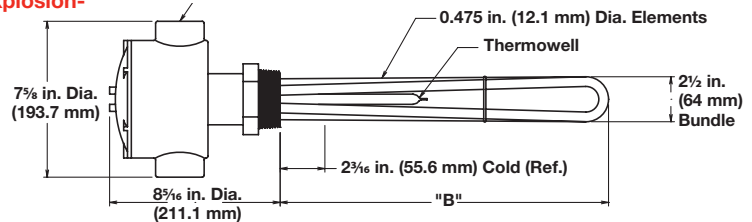
- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST)
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 4 (30-110°F)		Type 5A (60-250°F)		Type 7A (100-550°F)	
						Part Number	Del.	Part Number	Del.	Part Number	Del.
General Purpose Enclosure											
8 W/in ² ③ Steel Plug 3-Steel Elements (1.3 W/cm ²)	240	1.0	3	17 1/4 (438)	10 (5)	BLS717E12S4	RS	BLS717E12S5A	RS	BLS717E12S7	RS
	480	1.0	3	17 1/4 (438)	10 (5)	BLS717E13S4	RS	BLS717E13S5A	RS	BLS717E13S7	RS
	240	1.5	3	24 3/4 (629)	13 (6)	BLS724N12S4	RS	BLS724N12S5A	RS	BLS724N12S7	RS
	480	1.5	3	24 3/4 (629)	13 (6)	BLS724N13S4	RS	BLS724N13S5A	RS	BLS724N13S7	RS
	240	2.0	3	32 1/4 (819)	15 (7)	BLS732E12S4	RS	BLS732E12S5A	RS	BLS732E12S7	RS
	480	2.0	3	32 1/4 (819)	15 (7)	BLS732E13S4	RS	BLS732E13S5A	RS	BLS732E13S7	RS
	240	2.5	3	39 3/4 (1010)	16 (8)	BLS739N12S4	RS	BLS739N12S5A	RS	BLS739N12S7	RS
	480	2.5	3	39 3/4 (1010)	16 (8)	BLS739N13S4	RS	BLS739N13S5A	RS	BLS739N13S7	RS
	240	3.0	3	47 1/4 (1200)	18 (9)	BLS747E12S4	RS	BLS747E12S5A	RS	BLS747E12S7	RS
	480	3.0	3	47 1/4 (1200)	18 (9)	BLS747E13S4	RS	BLS747E13S5A	RS	BLS747E13S7	RS
	240	4.0	3	63 3/4 (1619)	21 (10)	BLS763N12S4	RS	BLS763N12S5A	RS	BLS763N12S7	RS
	480	4.0	3	63 3/4 (1619)	21 (10)	BLS763N13S4	RS	BLS763N13S5A	RS	BLS763N13S7	RS
	240	5.0	3	76 1/4 (1937)	24 (11)	BLS776E12S4	RS	BLS776E12S5A	RS	BLS776E12S7	RS
	480	5.0	3	76 1/4 (1937)	24 (11)	BLS776E13S4	RS	BLS776E13S5A	RS	BLS776E13S7	RS
Moisture/Explosion-Resistant Enclosure ⑤											
8 W/in ² ③ Steel Plug 3-Steel Elements (1.3 W/cm ²)	240	1.0	3	17 1/4 (438)	13 (6)	BLS717E12C4	RS	BLS717E12C5A	RS	BLS717E12C7A	RS
	480	1.0	3	17 1/4 (438)	13 (6)	BLS717E13C4	RS	BLS717E13C5A	RS	BLS717E13C7A	RS
	240	1.5	3	24 3/4 (629)	16 (8)	BLS724N12C4	RS	BLS724N12C5A	RS	BLS724N12C7A	RS
	480	1.5	3	24 3/4 (629)	16 (8)	BLS724N13C4	RS	BLS724N13C5A	RS	BLS724N13C7A	RS
	240	2.0	3	32 1/4 (819)	18 (9)	BLS732E12C4	RS	BLS732E12C5A	RS	BLS732E12C7A	RS
	480	2.0	3	32 1/4 (819)	18 (9)	BLS732E13C4	RS	BLS732E13C5A	RS	BLS732E13C7A	RS
	240	2.5	3	39 3/4 (1010)	19 (9)	BLS739N12C4	RS	BLS739N12C5A	RS	BLS739N12C7A	RS
	480	2.5	3	39 3/4 (1010)	19 (9)	BLS739N13C4	RS	BLS739N13C5A	RS	BLS739N13C7A	RS
	240	3.0	3	47 1/4 (1200)	21 (10)	BLS747E12C4	RS	BLS747E12C5A	RS	BLS747E12C7A	RS
	480	3.0	3	47 1/4 (1200)	21 (10)	BLS747E13C4	RS	BLS747E13C5A	RS	BLS747E13C7A	RS
	240	4.0	3	63 3/4 (1619)	24 (11)	BLS763N12C4	RS	BLS763N12C5A	RS	BLS763N12C7A	RS
	480	4.0	3	63 3/4 (1619)	24 (11)	BLS763N13C4	RS	BLS763N13C5A	RS	BLS763N13C7A	RS
	240	5.0	3	76 1/4 (1937)	27 (13)	BLS776E12C4	RS	BLS776E12C5A	RS	BLS776E12C7A	RS
	480	5.0	3	76 1/4 (1937)	27 (13)	BLS776E13C4	RS	BLS776E13C5A	RS	BLS776E13C7A	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

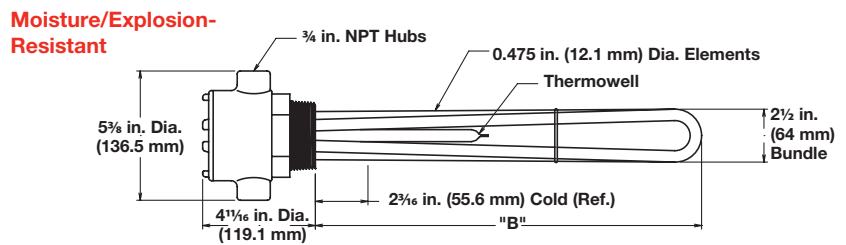
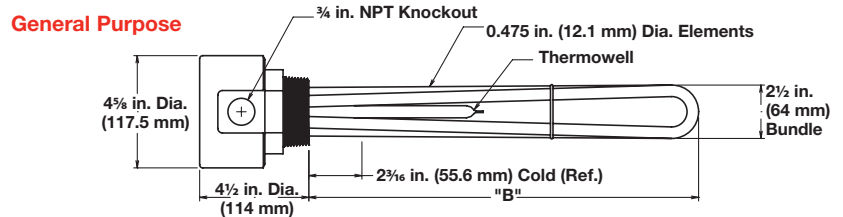
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	General Purpose Enclosure				Moisture/Explosion-Resistant Enclosure			
					Part Number	Del.	Ship Wt. lbs (kg)		Part Number ⑤	Del.	Ship Wt. lbs (kg)	
8 W/in ² ③ Steel Plug 3-Steel Elements (1.3 W/cm ²)	240	1.0	1	17 1/4 (438)	BLS717E12S	RS	9 (4)		BLS717E12C	RS	12 (6)	
	480	1.0	3	17 1/4 (438)	BLS717E13S	RS	9 (4)		BLS717E13C	RS	12 (6)	
	240	1.5	3	24 3/4 (629)	BLS724N12S	RS	12 (6)		BLS724N12C	RS	15 (7)	
	480	1.5	1	24 3/4 (629)	BLS724N13S	RS	12 (6)		BLS724N13C	RS	15 (7)	
	240	2.0	3	32 1/4 (819)	BLS732E12S	RS	14 (7)		BLS732E12C	RS	17 (8)	
	480	2.0	3	32 1/4 (819)	BLS732E13S	RS	14 (7)		BLS732E13C	RS	17 (8)	
	240	2.5	3	39 3/4 (1010)	BLS739N12S	RS	15 (7)		BLS739N12C	RS	18 (9)	
	480	2.5	3	39 3/4 (1010)	BLS739N13S	RS	15 (7)		BLS739N13C	RS	18 (9)	
	240	3.0	3	47 1/4 (1200)	BLS747E12S	RS	17 (8)		BLS747E12C	RS	20 (9)	
	480	3.0	3	47 1/4 (1200)	BLS747E13S	RS	17 (8)		BLS747E13C	RS	20 (9)	
	240	4.0	3	63 3/4 (1619)	BLS763N12S	RS	20 (9)		BLS763N12C	RS	23 (11)	
	480	4.0	3	63 3/4 (1619)	BLS763N13S	RS	20 (9)		BLS763N13C	RS	23 (11)	
	240	5.0	3	76 1/4 (1937)	BLS776E12S	RS	23 (11)		BLS776E12C	RS	26 (12)	
	480	5.0	3	76 1/4 (1937)	BLS776E13S	RS	23 (11)		BLS776E13C	RS	26 (12)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

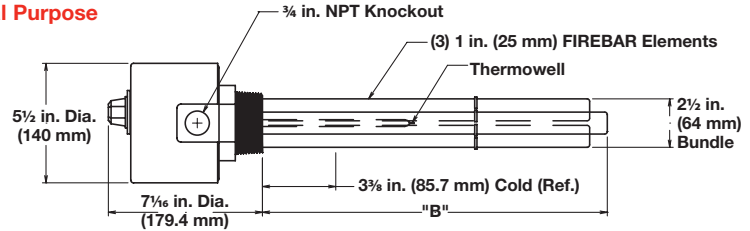
WATROD and FIREBAR Screw Plug Immersion Heaters



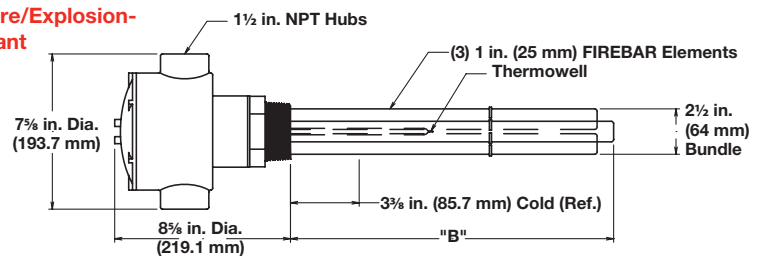
Application: Bunker C, Asphalt and #6 Fuel Oil

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST)
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Type 5A (60-250°F)		Type 7A (100-550°F)		
						Part Number	Del.	Part Number	Del.	
General Purpose Enclosure										
8 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (1.3 W/cm ²)	240	1.25	3	15 1/8 (384.2)	11 (5)	BLNF15C22S5A	RS	BLNF15C22S7A	RS	
	240	1.63	3	18 1/8 (460.4)	13 (6)	BLNF18C22S5A	RS	BLNF18C22S7A	RS	
	240	2.13	3	23 1/8 (587.4)	15 (7)	BLNF23C22S5A	RS	BLNF23C22S7A	RS	
	480	2.13	3	23 1/8 (587.4)	15 (7)	BLNF23C21S5A	RS	BLNF23C21S7A	RS	
	240	2.63	3	28 5/8 (727.1)	18 (9)	BLNF28L22S5A	RS	BLNF28L22S7A	RS	
	480	2.63	3	28 5/8 (727.1)	18 (9)	BLNF28L21S5A	RS	BLNF28L21S7A	RS	
	240	3.19	3	33 5/8 (854.1)	19 (9)	BLNF33L22S5A	RS	BLNF33L22S7A	RS	
	480	3.19	3	33 5/8 (854.1)	19 (9)	BLNF33L21S5A	RS	BLNF33L21S7A	RS	
	240	4.25	3	44 1/8 (1120.8)	21 (10)	BLNF44C22S5A	RS	BLNF44C22S7A	RS	
	480	4.25	3	44 1/8 (1120.8)	21 (10)	BLNF44C21S5A	RS	BLNF44C21S7A	RS	
	240	5.38	3	54 5/8 (1387.5)	23 (11)	BLNF54L22S5A	RS	BLNF54L22S7A	RS	
	480	5.38	3	54 5/8 (1387.5)	23 (11)	BLNF54L21S5A	RS	BLNF54L21S7A	RS	
Moisture/Explosion-Resistant Enclosure ⑤										
8 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (1.3 W/cm ²)	240	1.25	3	15 1/8 (384.2)	14 (7)	BLNF15C22C5A	RS	BLNF15C22C7A	RS	
	240	1.63	3	18 1/8 (460.4)	16 (8)	BLNF18C22C5A	RS	BLNF18C22C7A	RS	
	240	2.13	3	23 1/8 (587.4)	18 (9)	BLNF23C22C5A	RS	BLNF23C22C7A	RS	
	480	2.13	3	23 1/8 (587.4)	18 (9)	BLNF23C21C5A	RS	BLNF23C21C7A	RS	
	240	2.63	3	28 5/8 (727.1)	21 (10)	BLNF28L22C5A	RS	BLNF28L22C7A	RS	
	480	2.63	3	28 5/8 (727.1)	21 (10)	BLNF28L21C5A	RS	BLNF28L21C7A	RS	
	240	3.19	3	33 5/8 (854.1)	22 (10)	BLNF33L22C5A	RS	BLNF33L22C7A	RS	
	480	3.19	3	33 5/8 (854.1)	22 (10)	BLNF33L21C5A	RS	BLNF33L21C7A	RS	
	240	4.25	3	44 1/8 (1120.8)	24 (11)	BLNF44C22C5A	RS	BLNF44C22C7A	RS	
	480	4.25	3	44 1/8 (1120.8)	24 (11)	BLNF44C21C5A	RS	BLNF44C21C7A	RS	
	240	5.38	3	54 5/8 (1387.5)	26 (11)	BLNF54L22C5A	RS	BLNF54L22C7A	RS	
	480	5.38	3	54 5/8 (1387.5)	26 (11)	BLNF54L21C5A	RS	BLNF54L21C7A	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

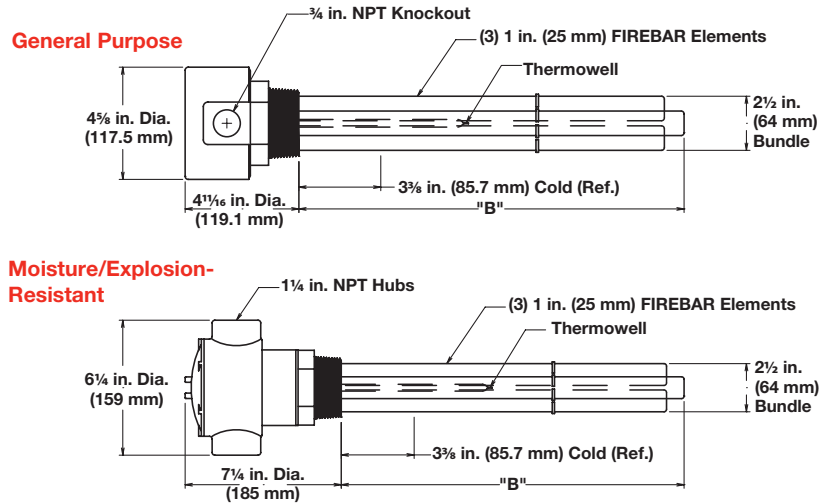
Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose or moisture/explosion-resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Del.	Ship Wt. lbs (kg)	Part Number ⑤	Del.	Ship Wt. lbs (kg)	
					General Purpose Enclosure			Moisture/Explosion-Resistant Enclosure			
8 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (1.3 W/cm ²)	240	1.25	3	15 1/8 (384.2)	BLNF15C22S	RS	11 (5)	BLNF15C22C	RS	14 (7)	
	240	1.63	3	18 1/8 (460.4)	BLNF18C22S	RS	12 (6)	BLNF18C22C	RS	15 (7)	
	240	2.13	3	23 1/8 (587.4)	BLNF23C22S	RS	14 (7)	BLNF23C22C	RS	17 (8)	
	480	2.13	3	23 1/8 (587.4)	BLNF23C21S	RS	14 (7)	BLNF23C21C	RS	17 (8)	
	240	2.63	3	28 5/8 (727.1)	BLNF28L22S	RS	17 (8)	BLNF28L22C	RS	20 (9)	
	480	2.63	3	28 5/8 (727.1)	BLNF28L21S	RS	17 (8)	BLNF28L21C	RS	20 (9)	
	240	3.19	3	33 5/8 (854.1)	BLNF33L22S	RS	18 (9)	BLNF33L22C	RS	21 (10)	
	480	3.19	3	33 5/8 (854.1)	BLNF33L21S	RS	18 (9)	BLNF33L21C	RS	21 (10)	
	240	4.25	3	44 1/8 (1120.8)	BLNF44C22S	RS	20 (9)	BLNF44C22C	RS	23 (11)	
	480	4.25	3	44 1/8 (1120.8)	BLNF44C21S	RS	20 (9)	BLNF44C21C	RS	23 (11)	
	240	5.38	3	54 5/8 (1387.5)	BLNF54L22S	RS	22 (10)	BLNF54L22C	RS	25 (12)	
	480	5.38	3	54 5/8 (1387.5)	BLNF54L21S	RS	22 (10)	BLNF54L21C	RS	25 (12)	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Note: All screw plug bundles are designed to fit the inside diameter of the equivalent mating coupling. They will not fit into the equivalent pipe inside diameter.

- ③ Wired for 3-phase operation only
- ⑤ No third party recognition

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Ordering Information

Part Number

Stock Screw Plug Part Number	Optional Terminal Enclosures	Optional Process Sensors	Sheath Limit Sensors

Stock Screw Plug Part Number
<p>Note: Catalog part numbers include standard option enclosures and process sensors. To order optional enclosures or sensors, substitute the appropriate suffix.</p>

Optional Terminal Enclosures	
S =	General purpose enclosure
W =	Moisture-resistant enclosure
E =	Explosion-resistant enclosure
C =	Moisture/explosion-resistant enclosure
<p>Note: Catalog listings include either a general purpose enclosure or moisture/explosion-resistant enclosure. Substitute enclosure options are noted.</p>	

Optional Process Sensors	
2 =	30 to 250°F, (-1 to 121°C) SPST
3 =	175 to 550°F, (79 to 288°C) SPST
4 =	30 to 110°F, (-1 to 43°C) DPST
5A=	60 to 250°F, (16 to 121°C) DPST (FIREBAR)
7A=	100 to 550°F, (38 to 288°C) DPST (FIREBAR)
PJ=	Type J process thermocouple in thermowell
PK=	Type K process thermocouple in thermowell
<p>Note: Thermostat part numbers are shown in the <i>Thermostat Chart</i> on page 537.</p>	

Example Part Number: BHC78C6 S 1 HJ

Sheath Limit Sensors	
HJ=	Type J high-limit thermocouple, horizontal mount
TJ=	Type J high-limit thermocouple, vertical/housing at top
BJ=	Type J high-limit thermocouple, vertical/housing at bottom
HK=	Type K high-limit thermocouple, horizontal mount
TK=	Type K high-limit thermocouple, vertical/housing at top
BK=	Type K high-limit thermocouple, vertical/housing at bottom
<p>Note: Heater orientation is critical to accurate sensing of limit conditions. Use the appropriate code to indicate heater mounting orientation.</p>	

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

Screw Plug with Control Assembly

Constructed from a WATROD screw plug heater, a moisture resistant terminal enclosure and built-in temperature sensor and power controller, this assembly comes pre-wired and ready for hook-up to any 120VAC control circuit.

Optional sheath materials, NPT screw plug sizes and materials, wattages, voltages and terminal enclosures extend application versatility.

Performance Capabilities

- Watt densities up to 60 W/in² (9.3 W/cm²)
- Wattages up to 20 kilowatts
- Voltages up to 600VAC
- Alloy 800/840 sheath temperatures up to 1600°F (870°C)

Features and Benefits

Three 0.475 in. (12 mm) diameter WATROD elements brazed to a 2 in. (51 mm) NPT brass screw plug

- Produces a pressure-tight seal

WATROD hairpins are repressed (recompacted) after bending

- Maintains MgO density, dielectric strength, heat transfer and life

Two built-in thermostats, one on-off with manual reset

- Helps ensure safe operation by automatically cycling on and off when process or sheath temperatures reach a predetermined set point selectable from 30° to 250°F (0° to 120°C)

Internal mechanical contactor

- Works on a 120VAC control circuit to switch higher volts/amps to the heating elements

Hinged, moisture resistant terminal enclosure has two conduit openings

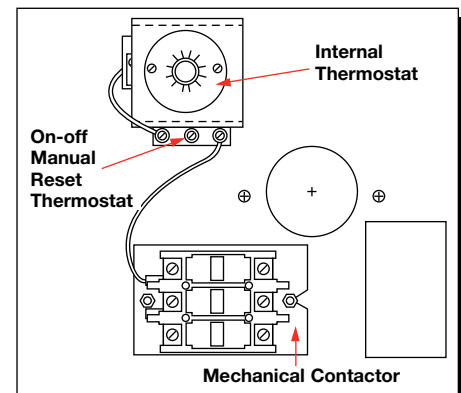
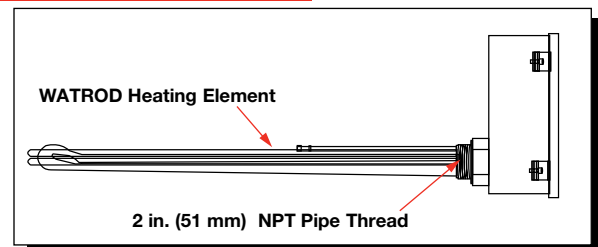
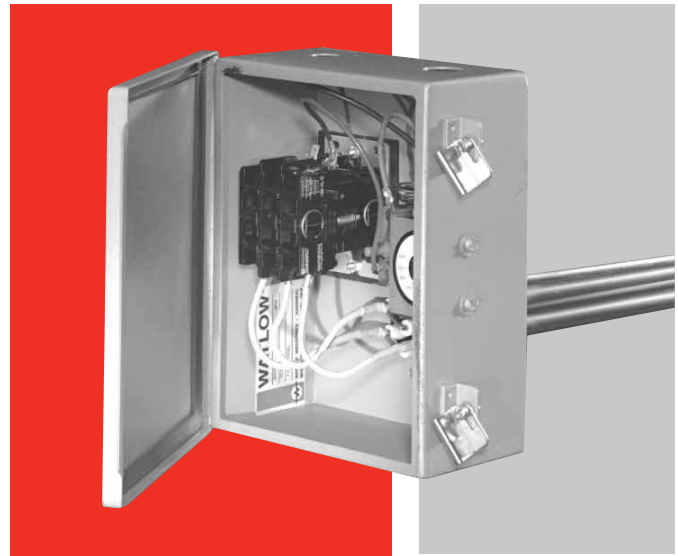
- Accommodates 3/4 in. (19 mm) NPT conduit fittings

Terminal enclosures can be rotated to mate with existing conduits

- Minimal fastener adjustment required

Thermowells allow replacing the thermostat sensing element without draining the fluid being heated

- Labor required to maintain and repair is minimized



Typical Applications

- Water heating
- Commercial dishwashers and glass washers
- Sterilizing equipment

Application Hints

Same as *Screw Plug Immersion Heaters*. See page 169 for details.

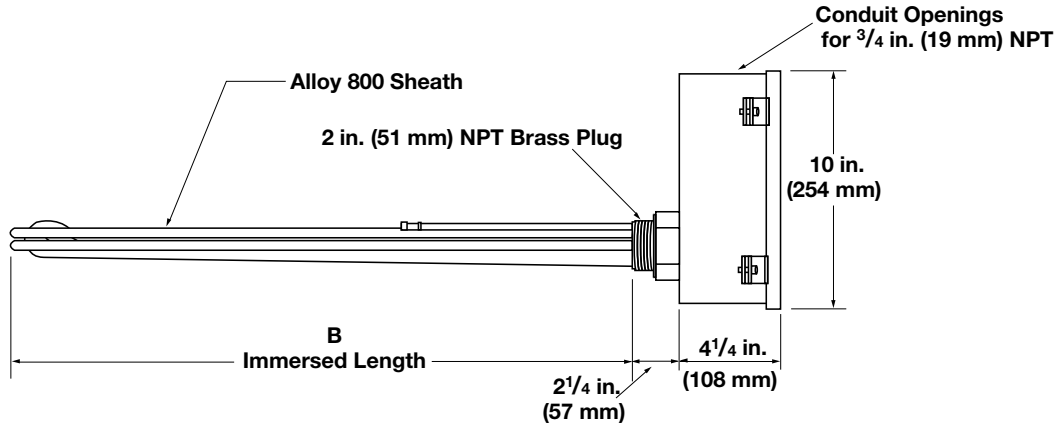
Accessories

Clamping Nut, Gasket and Washers—for mounting to thin-wall tanks, use optional clamping nut, gasket and washers. To order, specify **NGW**.

Immersion Heaters

WATROD and FIREBAR Screw Plug Immersion Heaters

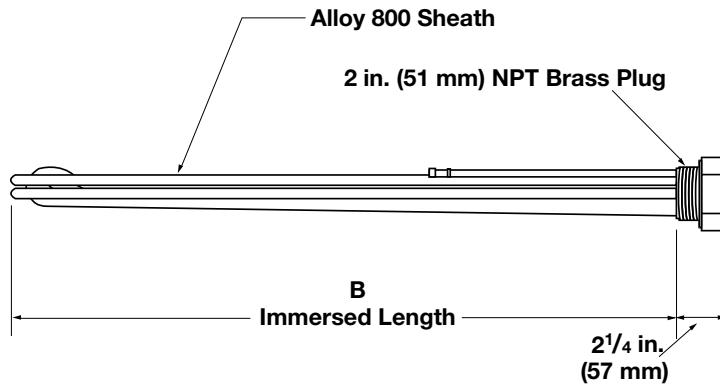
Screw Plug with Control Assembly



2 in. (51 mm) NPT Brass Screw Plug With Control Box (Assembly Stock)

WATROD Desc.	kW	Immersed Length in. (mm)	Part Number					Est. Net Wt. lbs(kg)	Del.
			208VAC 3-Phase	240VAC 3-Phase	380VAC 3-Phase	480VAC 3-Phase	575VAC 3-Phase		
50 W/in ²	9	24% (629.0)		BHNB24N3W2C11		BHNB24N5W2C11	BHNB24N16W2C11	23 (10)	M
Brass Plug	12	30 (762.0)	BHNB30A2W2C11	BHNB30A3W2C11	BHNB30A8W2C11	BHNB30A5W2C11	BHNB30A16W2C11	24 (11)	M
3-Alloy 800	16	35% (904.8)	BHNB35L2W2C11	BHNB35L3W2C11	BHNB35L8W2C11	BHNB35L5W2C11	BHNB35L16W2C11	25 (11)	M
(7.8 W/cm ²)	20	45% (1158.8)		BHNB45L3W2C11	BHNB45L8W2C11	BHNB45L5W2C11	BHNB45L16W2C11	27 (12)	M

• M - Manufacturing lead times



2 in. (51 mm) NPT Brass Screw Plug With Control Box (Replacement Heater Only)

WATROD Desc.	kW	Immersed Length in. (mm)	Part Number					Est. Net Wt. lbs (kg)	Del.
			208VAC 3-Phase	240VAC 3-Phase	380VAC 3-Phase	480VAC 3-Phase	575VAC 3-Phase		
50 W/in ²	9	24% (628.7)		BHNB24N3		BHNB24N5	BHNB24N16	21 (9)	M
Brass Plug	12	30 (762.0)	BHNB30A2	BHNB30A3	BHNB30A8	BHNB30A5	BHNB30A16	22 (10)	M
Alloy 800	16	35% (904.8)	BHNB35L2	BHNB35L3	BHNB35L8	BHNB35L5	BHNB35L16	23 (10)	M
(7.8 W/cm ²)	20	45% (1158.8)		BHNB45L3	BHNB45L8	BHNB45L5	BHNB45L16	25 (11)	M

• M - Manufacturing lead times

Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters

Watlow flange heaters are easy to install and maintain. Designed for heating liquids and gases in tanks and pressure vessels, flange immersion heaters are ideal for applications requiring higher kilowatts.

Watlow flange heaters are made with WATROD or FIREBAR tubular elements brazed or welded to a flange. Stock flange heaters are equipped with a general purpose terminal enclosure.

Flange heaters, with FIREBAR elements, also answer the need for liquid immersion applications requiring high kilowatts in small tanks. The FIREBAR element's unique flat surface geometry packs more power in a smaller bundle, with lower watt density, making it especially well-suited for petroleum-based liquid heating applications.

Performance Capabilities

- Watt densities up to 100 W/in² (15.5 W/cm²)
- Wattages up to three megawatts
- UL[®] and CSA component recognition up to 600VAC
- Alloy 800/840 sheath temperatures up to 1600°F (870°C)
- Passivated 316 stainless steel sheath temperatures up to 1200°F (650°C)
- 304 stainless steel sheath temperatures up to 1200°F (650°C)
- Steel sheath temperatures up to 750°F (400°C)
- FIREBAR flange heaters deliver more kilowatts in smaller bundles
- A conventional round tubular 10-inch ANSI flange can be replaced by a 6-inch ANSI FIREBAR flange with same immersed length

Features and Benefits

ANSI and ANSI compatible 2, 2 1/2, 3 thru 48 inch flanges

- Provides appropriate heater size-to-application and fit

Element sheath and flange materials

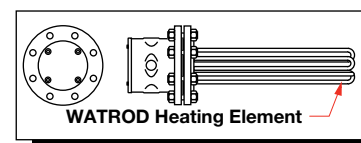
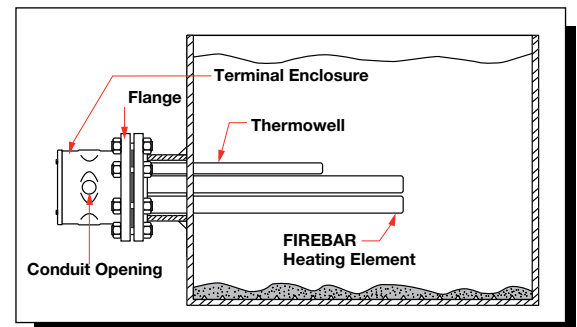
- Meets your application needs

Integral thermowells

- Provides convenient temperature sensor insertion and replacement without draining the fluid being heated

Standard, general purpose terminal enclosure

- Offers easy access to wiring



Element support(s)

- Provides proper element spacing to maximize heater performance and life

All units are inspected and/or tested

- Ensures element-to-flange pressure seals do not leak

Drilled and tapped eyebolt holes or lift lugs for eye bolts on 10 inch and larger flange heaters

- Facilitates lifting during installation

WATROD hairpins are repressed (recompacted)

- Provides improved heater life, insulation resistance and heat transfer

Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters

Features and Benefits *(Continued)*

FIREBAR flange heaters pack more kilowatts into a smaller bundle

- Includes a conventional round tubular 10 in. (254 mm) ANSI flange which can be replaced by a 6 in. (152 mm) ANSI FIREBAR flange with the same immersed length

Branch circuits are designed for 48 amperes per circuit maximum

- Reduces risk of failure due to excessive temperatures generated by high amperage

UL® and CSA component recognition under file numbers E52951 and 31388 respectively

- Simplifies obtaining third-party recognition for assembly

Typical Applications

- Water:
 - Deionized
 - Demineralized
 - Clean
 - Potable
 - Process
- Industrial water rinse tanks
- Vapor degreasers
- Hydraulic oil, crude, asphalt
- Lubricating oils at API specified watt densities
- Air and gas flow
- Caustic solutions
- Chemical baths
- Process air equipment
- Boiler equipment
- Freeze protection of any fluid
- Anti-freeze (glycol) solutions
- Paraffin

Options

Terminal Enclosures

General purpose terminal enclosures, without thermostats, are standard on all flange immersion heaters. Optional terminal enclosures include:

- General purpose with a single or double-pole thermostat
- Moisture resistant—available with or without a single- or double-pole thermostat
- Corrosion resistant—available with or without a single- or double-pole thermostat
- Non-certified, explosion resistant suitable for use in non-classified areas only—available with or without a single- or double-pole thermostat
- Explosion resistant Class 1, Div. 1 and 2, Groups B, C, D, T1 - T6—available with or without a single- or double-pole thermostat
- Non-certified, explosion and moisture resistant combination suitable for use in non-classified areas only—available with or without a single- or double-pole thermostat

Prior to ordering, refer to the terminal enclosure dimensions on page 243. Order by adding the appropriate suffix letter(s) to the base flange heater part number, as shown on the Ordering information chart. Heater part numbers and suffix letters are depicted on the charts, pages 244 to 305. Specify class and group, if applicable.



Caution

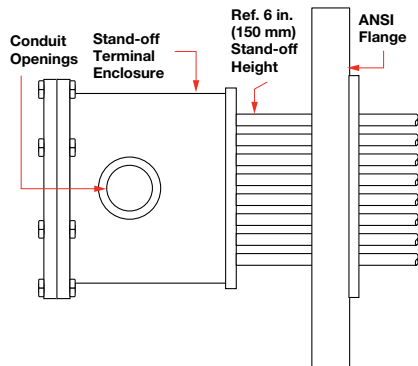
Certified explosion-resistant terminal enclosures are intended to provide explosion containment in the electrical termination/wiring enclosure only. No portion of the assembly outside of this enclosure is covered under this rating. Rating effectiveness may be compromised by abuse or misapplication.

Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters

Options (Continued)

Stand-off Terminal Enclosures



Stand-off terminal enclosures provide an air-insulating barrier between the flange and terminal enclosure by mounting the terminations and wiring away from the flange. Stand-off terminal enclosures are recommended whenever a process operating temperature exceeds 210°F (100°C). This helps minimize terminal enclosure temperatures.

To order, specify **stand-off terminal enclosure**.

Certified Enclosures

CSA, ATEX or IECEx certified enclosures protect wiring in hazardous gas environments. These terminal enclosures, covered under CSA file number 61707, ATEX certificate # SIRA 10ATEX1155X or IECEx certificate # IECEx CSA 09.0010X are available on WATROD flange heaters. For additional information, see page 567 and 568 or contact your Watlow representative.

For products that will be installed in hazardous locations, please provide the following information:

- Operating conditions
- Minimum and maximum ambient temperatures for the installation location
- Mounting orientation

Watlow must understand this information so that an appropriate design can be provided.

ASME Pressure Vessel Code Welding

Flange assemblies can be provided with an ASME Section VIII, Div. I pressure vessel stamp upon request.

Thermostats

To provide process temperature control, Watlow offers optional single pole, single throw (SPST) and double pole, single throw (DPST) thermostats.

Unless otherwise specified, thermostats are mounted inside the terminal enclosure. For details and ordering information, refer to *Thermostats* on pages 534 to 537. Please verify that the thermostat's sensing bulb O.D. is compatible with the flange heater's thermowell I.D.

Thermocouples

ASTM Type J or K thermocouples offer more accurate sensing of process and/or sheath temperatures. A thermocouple may be inserted into the thermowell or attached to the heater's sheath.

Thermocouples are supplied with 120 in. (3050 mm) leads (longer lead lengths available). Unless otherwise specified, thermocouples are supplied with temperature ranges detailed on the *Thermocouple Types* chart.

Using a thermocouple requires an appropriate temperature and power controller. These must be purchased separately. Watlow offers a wide variety of temperature and power controllers to meet virtually all applications. Temperature controllers can be configured to accept process variable inputs, too. Contact your Watlow representative for details.

To order, specify **Type J** or **K** thermocouple and lead length. Indicate if the thermocouple is for **process temperature sensing** or heater sheath **high-limit protection**. Please specify if the flange heater will be mounted **vertical** or **horizontal** in the tank. **If vertical, specify if the housing is on top or bottom.**

If the flange heater is part of an in-line circulation heating application, indicate flow direction relative to the heater's enclosure.

Thermocouple Types

ASTM Type	Conductor Characteristics		Recommended ^① Temperature Range	
	Positive	Negative	°F	(°C)
J	Iron (Magnetic)	Constantan (Non-magnetic)	0 to 1000	(-20 to 540)
K	Chromel® (Non-magnetic)	Alumel® (Magnetic)	0 to 2000	(-20 to 1100)

^①Type J and Type K thermocouples are rated 32 to 1382°F and 32 to 2282°F (0-750°C and 0-1250°C), respectively. Watlow does not recommend exceeding temperature ranges shown on this chart for the tubular product line.

Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters

Options (Continued)

Wattages and Voltages

Watlow routinely supplies flange immersion heaters with 240 to 480VAC as well as wattages from 150 watts to one megawatt.

Sheath Materials

The following sheath materials are available on WATROD and FIREBAR flange heaters:

Standard Sheath Materials

WATROD	Alloy 800, 840 316 SS Steel
FIREBAR	Alloy 800

Exotic Sheath Materials

Contact your Watlow representative for details and availability.

External Finishing

Passivation

During the manufacturing process, particles of iron or tool steel may become embedded in the stainless steel or alloy sheath. If not removed, these particles may corrode, produce rust spots and/or contaminate the process. For critical sheath applications, passivation will remove free iron from the sheath. To order, specify **passivation**.

Other Finishes

Bright annealing available to meet cosmetic demands.

Flanges

Flange Sizes and Styles

Standard: 2^①, 2^{1/2}^①, 3 to 48 inch ANSI raised face/blind flanges.

Made-to-Order: 16, 18, 20 and 24 inch in any recognized configuration, as well as customer specified. Over 48 inch ANSI flange, contact your Watlow representative.

Flange Materials

Standard	Carbon steel 316 SS 304 SS
-----------------	----------------------------------

Pressure Classes

Standard	150 lb 300 lb 600 lb
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① ANSI bolt pattern only

Gaskets

Rubber, asbestos-free and spiral wound gaskets are available for all flange sizes. Order by specifying gasket type, flange size/rating, process operating temperature and pressure.

To make the correct selection, see the *Gasket Selection* chart. It provides a recommended gasket type and effective temperature rating.

To use this chart, multiply operating temperature by the operating pressure to arrive at "Maximum PSIG x °F." This is listed in the chart's first column.

Gasket Selection

Maximum PSIG x °F	Gasket Temperature °F	Gasket Type
Up to 15,000	300	Rubber
Over 250,000	700	Asbestos-Free
Over 250,000	③	Spiral Wound

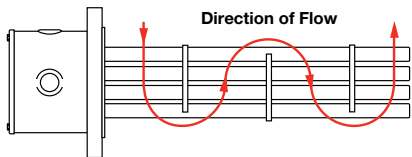
③ Depends on metal gasket material.

Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters

Options (Continued)

Baffles



For forced circulation applications, 316 stainless steel baffles can be arranged on the heating element bundle to enhance and/or modify fluid or gas flow for better heat transfer.

For open tank or convection heating applications, standard element supports will be supplied.

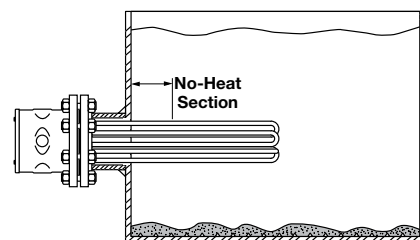
To order, specify **baffles**.

ANSI Raised Face Blind Flange, 150# Class Dimensions

Pipe Size	Outside Diameter	Flange Thickness	Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt Holes
3	7.50	0.94	6.00	0.75	4
4	9.00	0.94	7.50	0.75	8
5	10.00	0.94	8.50	0.88	8
6	11.00	1.00	9.50	0.88	8
8	13.50	1.12	11.75	0.88	8
10	16.00	1.19	14.25	1.00	12
12	19.00	1.25	17.00	1.00	12
14	21.00	1.38	18.75	1.12	12
16	23.50	1.44	21.25	1.12	16
18	25.00	1.56	22.75	1.25	16
20	27.50	1.69	25.00	1.25	20
24	32.00	1.88	29.50	1.38	20

Application Hints

- Select the recommended heating element sheath material and watt density for the substance being heated. Use the *Supplemental Applications Chart* on pages 555 to 560. If unable to determine the correct heating element sheath material and type, contact your Watlow representative.
- Extend the element no-heat section completely into the fluid being heated to help prevent premature heater failure. See accompanying illustration for proper no-heat section placement.
- Locate flange heater low in the tank, but above the sludge level.
- Choose a FIREBAR element when your application requires a smaller system package or lower watt density.
- Ensure wiring integrity by keeping terminal enclosure temperature below 400°F (205°C).
- Size power feeder wires in accordance with National Electrical Code guidelines and other applicable codes.
- Keep electrical connections clean, dry and tight.
- Minimize problems associated with low liquid level conditions by using low liquid level sensor or sheath temperature high-limit control.



- Periodically remove the flange assembly to inspect and clean the heating element(s). This preventive maintenance will reduce premature failure and optimize heater performance.
- Refer to the *Installation and Maintenance Instructions* for correct orientation of FIREBAR elements. This is important in air applications with customer-supplied circulation tanks. Correct element orientation to flow minimizes pressure drop and increases buoyancy force and heater performance.

Extended Capabilities For WATROD and FIREBAR ANSI Flange Immersion Heaters

Options

Enclosure Enhancements

- Enclosure heater to solve condensation and freeze problems.
- Power distribution blocks to facilitate power feed line wiring.

RTDs

If the process requires greater temperature sensing accuracy than is possible with thermocouples, Watlow can also supply RTDs in DIN or JIS calibrations. Contact your Watlow representative for details.

Wattages and Voltages

If required, Watlow will make heaters with voltage up to 600VAC and wattage beyond one megawatt. For more information on special voltage and wattage configurations, contact your Watlow representative.

Sheath Materials

The following sheath materials are available on WATROD and FIREBAR flange heaters:

Extended Sheath Materials

WATROD	Titanium 304 and 321 SS Hastelloy C276 Alloy 400 and 600
FIREBAR	304 SS

Flanges

Flange Materials

Extended	Exotic materials to meet specific application needs ①
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Pressure Classes

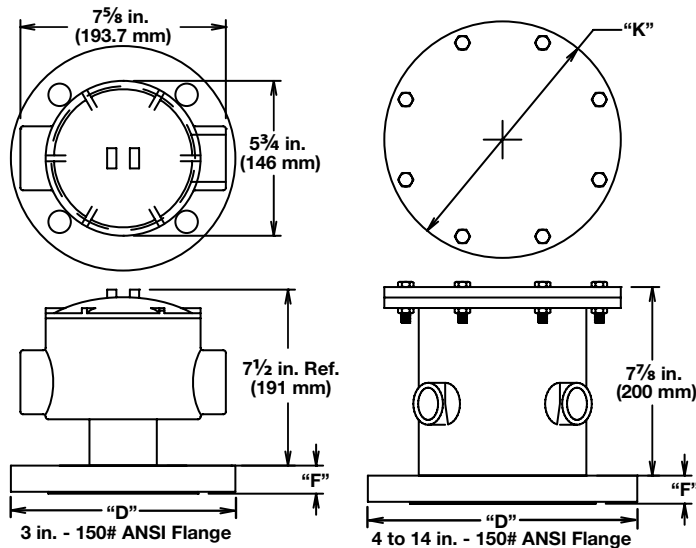
Extended	Over 600 lb ①
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① Contact your Watlow representative

Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters

Optional Moisture/Explosion Resistant Enclosure Without Thermostat



Terminal Enclosure Dimensions

General Purpose & Moisture Resistant Enclosures

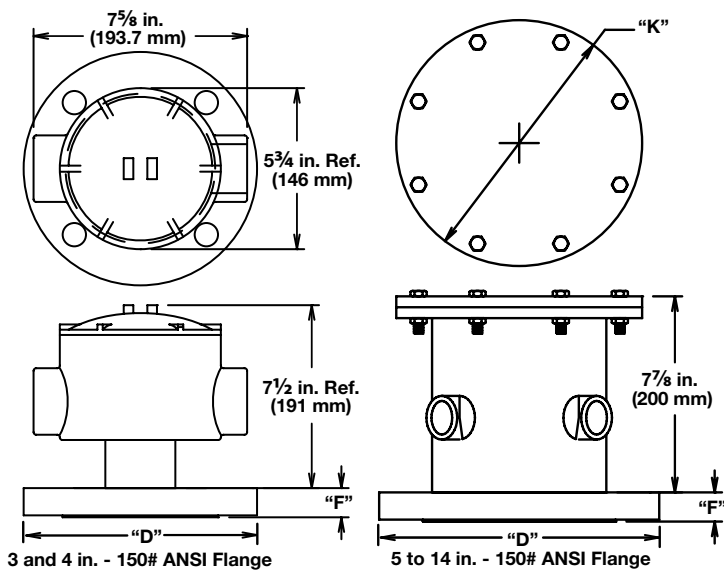
ANSI Flange Size in.	"F" Thickness in. (mm)	"K" With Thermostat	"K" Without Thermostat	"D" in. (mm)
3	15/16 (23.8)	5 3/4 (146)	See heater dwg.	7 1/2 (191)
4	15/16 (23.8)	5 3/4 (146)	See heater dwg.	9 (229)

Note: 5 thru 12 in. (127 thru 305 mm) flange dimensions are on catalog heater drawings.

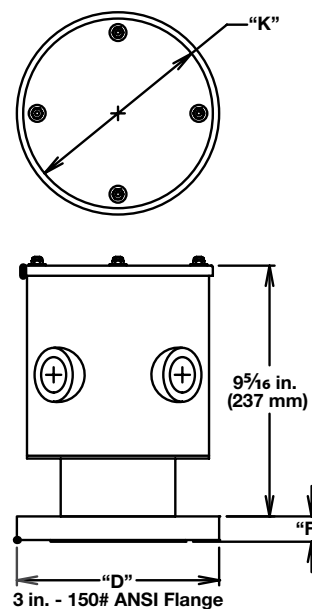
Moisture/Explosion Resistant Enclosures

ANSI Flange Size in.	"F" Thickness in. (mm)	"K" With Thermostat	"K" Without Thermostat	"D" in. (mm)
3	15/16 (23.8)	N/A	N/A	7 1/2 (191)
4	15/16 (23.8)	N/A	7 7/8 (200.0)	9 (229)
5	15/16 (23.8)	8 7/8 (225.4)	8 7/8 (225.4)	10 (254)
6	1 (25.0)	9 7/8 (250.8)	9 7/8 (250.8)	11 (280)
8	1 1/8 (28.6)	12 1/8 (308.0)	12 1/8 (308.0)	13 1/2 (343)
10	1 3/16 (30.2)	14 5/8 (371.5)	14 5/8 (371.5)	16 (407)
12	1 1/4 (32.0)	17 1/4 (438.0)	17 1/4 (438.0)	19 (483)
14	1 3/8 (34.9)	19 3/8 (492.1)	19 3/8 (492.1)	21 (534)

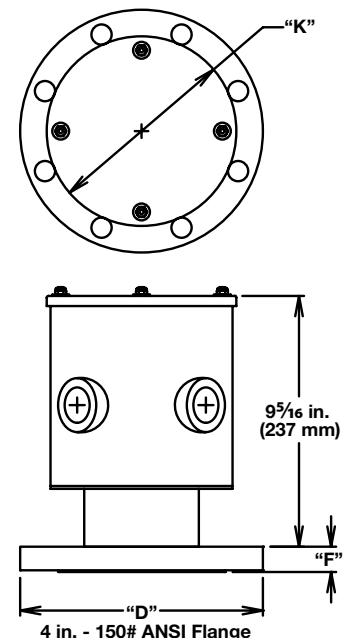
Optional Moisture/Explosion Resistant Enclosure With Thermostat



Optional General Purpose/Moisture Resistant Enclosure With Thermostat



Optional Moisture Resistant Enclosure With Thermostat



To order: Reference the *Ordering Information* on page 306

Note: Dimensions for all 5 to 14 in. flange heaters with General Purpose or Moisture Resistant Enclosure with thermostats are identical to units supplied without thermostats.

Immersion Heaters

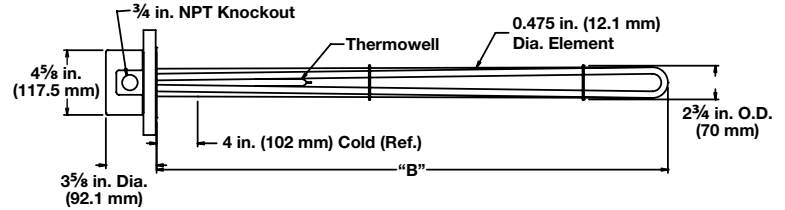
WATROD and FIREBAR ANSI Flange Immersion Heaters



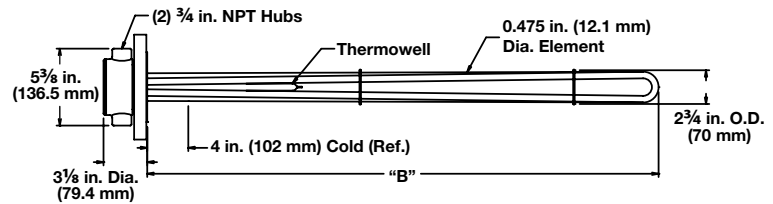
Application: Clean Water

- 3 inch - 150 lb ANSI flange.
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures
- Single circuit

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	"B" Dim. (mm)		Ship Wt. (kg)		Part Number	Del.	Part Number	Del.
								General Purpose Enclosure		Moisture-Resistant Enclosure	
60 W/in ² Steel Flange 3-Alloy 800 Elements (9.3 W/cm ²)	120	6.0	1	15 1/2	(394)	22	(10)	FMN715J10S	RS	FMN715J10W	RS
	240	6.0	3	15 1/2	(394)	22	(10)	FMN715J3S	RS	FMN715J3W	RS
	480	6.0	1	15 1/2	(394)	22	(10)	FMN715J11S	RS	FMN715J11W	RS
	480	6.0	3	15 1/2	(394)	22	(10)	FMN715J5S	RS	FMN715J5W	RS
	120	9.0	1	21 1/2	(546)	25	(12)	FMN721J10S	RS	FMN721J10W	RS
	240	9.0	3	21 1/2	(546)	25	(12)	FMN721J3S	RS	FMN721J3W	RS
	480	9.0	1	21 1/2	(546)	25	(12)	FMN721J11S	RS	FMN721J11W	RS
	480	9.0	3	21 1/2	(546)	25	(12)	FMN721J5S	RS	FMN721J5W	RS
	240	12.0	3	27	(686)	27	(13)	FMN727A3S	RS	FMN727A3W	RS
	480	12.0	1	27	(686)	27	(13)	FMN727A11S	RS	FMN727A11W	RS
	480	12.0	3	27	(686)	27	(13)	FMN727A5S	RS	FMN727A5W	RS
	240	15.0	3	32 1/2	(826)	28	(13)	FMN732J3S	RS	FMN732J3W	RS
	480	15.0	1	32 1/2	(826)	28	(13)	FMN732J11S	RS	FMN732J11W	RS
	480	15.0	3	32 1/2	(826)	28	(13)	FMN732J5S	RS	FMN732J5W	RS
	240	18.0	3	38	(965)	30	(14)	FMN738A3S	RS	FMN738A3W	RS
	480	18.0	1	38	(965)	30	(14)	FMN738A11S	RS	FMN738A11W	RS
	480	18.0	3	38	(965)	30	(14)	FMN738A5S	RS	FMN738A5W	RS
	480	25.0	1	51	(1295)	34	(16)	FMN751A11S	RS	FMN751A11W	RS
	480	25.0	3	51	(1295)	34	(16)	FMN751A5S	RS	FMN751A5W	RS
	480	30.0	1	60 1/2	(1537)	36	(17)	FMN760J11S	M	FMN760J11W	RS
480	30.0	3	60 1/2	(1537)	36	(17)	FMN760J5S	M	FMN760J5W	RS	

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

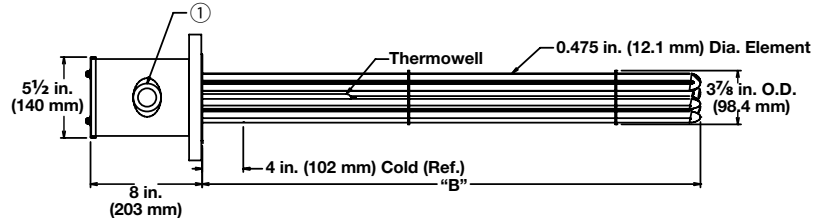
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Clean Water

- 4 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part		Part	
							Number	Del.	Number	Del.
60 W/in ² Steel Flange 6-Alloy 800 Elements (9.3 W/cm ²)	240	12.0	1	2	15 1/2 (394)	31 (14)	General Purpose Enclosure		Moisture-Resistant Enclosure	
							FON715J10S	RS	FON715J10W	RS
	240	12.0	3	1	15 1/2 (394)	31 (14)	FON715J3S	RS	FON715J3W	RS
	480	12.0	1	1	15 1/2 (394)	31 (14)	FON715J11S	RS	FON715J11W	RS
	480	12.0	3	1	15 1/2 (394)	31 (14)	FON715J5S	RS	FON715J5W	RS
	240	18.0	1	2	21 1/2 (546)	34 (16)	FON721J10S	RS	FON721J10W	RS
	240	18.0	3	1	21 1/2 (546)	34 (16)	FON721J3S	RS	FON721J3W	RS
	480	18.0	1	1	21 1/2 (546)	34 (16)	FON721J11S	RS	FON721J11W	RS
	480	18.0	3	1	21 1/2 (546)	34 (16)	FON721J5S	RS	FON721J5W	RS
	240	24.0	1	2	27 (686)	36 (17)	FON727A10S	RS	FON727A10W	RS
	240	24.0	3	2	27 (686)	36 (17)	FON727A3S	RS	FON727A3W	RS
	480	24.0	1	1	27 (686)	36 (17)	FON727A11S	RS	FON727A11W	RS
	480	24.0	3	1	27 (686)	36 (17)	FON727A5S	RS	FON727A5W	RS
	240	30.0	3	2	32 1/2 (826)	39 (18)	FON732J3S	RS	FON732J3W	RS
	480	30.0	1	2	32 1/2 (826)	39 (18)	FON732J11S	RS	FON732J11W	RS
	480	30.0	3	1	32 1/2 (826)	39 (18)	FON732J5S	RS	FON732J5W	RS
	240	36.0	3	2	38 (965)	43 (20)	FON738A3S	RS	FON738A3W	RS
	480	36.0	1	2	38 (965)	43 (20)	FON738A11S	RS	FON738A11W	RS
	480	36.0	3	1	38 (965)	43 (20)	FON738A5S	RS	FON738A5W	RS
	480	50.0	3	2	51 (1295)	48 (22)	FON751A5S	RS	FON751A5W	RS
480	60.0	3	2	60 1/2 (1537)	52 (24)	FON760J5S	M	FON760J5W	M	

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

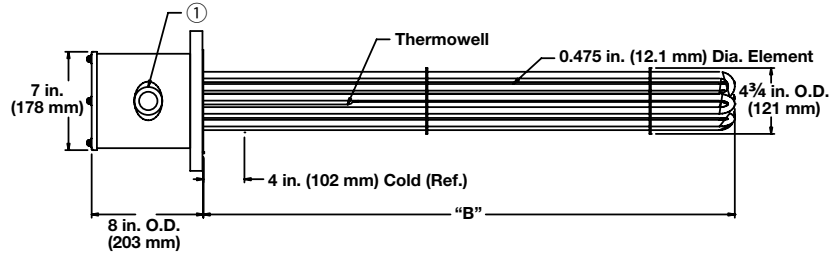
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Clean Water

- 5 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
60 W/in² Steel Flange 6-Alloy 800 Elements (9.3 W/cm²)	240	12.0	1	2	15 ¹ / ₂ (394)	35 (16)	FNN715J10S	RS	FNN715J10W	RS
	240	12.0	3	1	15 ¹ / ₂ (394)	35 (16)	FNN715J3S	RS	FNN715J3W	RS
	480	12.0	1	1	15 ¹ / ₂ (394)	35 (16)	FNN715J11S	RS	FNN715J11W	RS
	480	12.0	3	1	15 ¹ / ₂ (394)	35 (16)	FNN715J5S	RS	FNN715J5W	RS
	240	18.0	1	2	21 ¹ / ₂ (546)	38 (18)	FNN721J10S	RS	FNN721J10W	RS
	240	18.0	3	1	21 ¹ / ₂ (546)	38 (18)	FNN721J3S	RS	FNN721J3W	RS
	480	18.0	1	1	21 ¹ / ₂ (546)	38 (18)	FNN721J11S	RS	FNN721J11W	RS
	480	18.0	3	1	21 ¹ / ₂ (546)	38 (18)	FNN721J5S	RS	FNN721J5W	RS
	240	24.0	1	3	27 (686)	40 (19)	FNN727A10S	RS	FNN727A10W	RS
	240	24.0	3	2	27 (686)	40 (19)	FNN727A3S	RS	FNN727A3W	RS
	480	24.0	1	3	27 (686)	40 (19)	FNN727A11S	RS	FNN727A11W	RS
	480	24.0	3	1	27 (686)	40 (19)	FNN727A5S	RS	FNN727A5W	RS
	240	30.0	3	2	32 ¹ / ₂ (826)	43 (20)	FNN732J3S	RS	FNN732J3W	RS
	480	30.0	1	2	32 ¹ / ₂ (826)	43 (20)	FNN732J11S	RS	FNN732J11W	RS
	480	30.0	3	1	32 ¹ / ₂ (826)	43 (20)	FNN732J5S	RS	FNN732J5W	RS
	240	36.0	3	2	38 (965)	47 (22)	FNN738A3S	RS	FNN738A3W	RS
	480	36.0	1	2	38 (965)	47 (22)	FNN738A11S	RS	FNN738A11W	RS
	480	36.0	3	1	38 (965)	47 (22)	FNN738A5S	RS	FNN738A5W	RS
	480	50.0	3	2	51 (1295)	52 (24)	FNN751A5S	RS	FNN751A5W	RS
	480	60.0	3	2	60 ¹ / ₂ (1537)	56 (26)	FNN760J5S	M	FNN760J5W	M

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

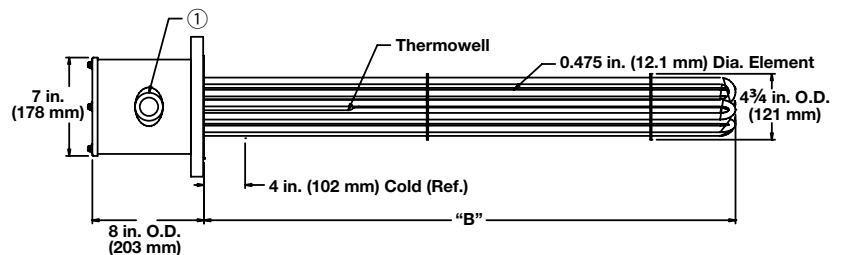
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Clean Water

- 5 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim.		Ship Wt.		Part Number		Part Number	
					in.	(mm)	lbs	(kg)	General Purpose Enclosure	Del.	Moisture-Resistant Enclosure	Del.
60 W/in ² Steel Flange 9-Alloy 800 Elements (9.3 W/cm ²)	240	18.0	1	3	15 ¹ / ₂	(394)	38	(18)	FNN715J10XS	RS	FNN715J10XW	RS
	240	18.0	3	1	15 ¹ / ₂	(394)	38	(18)	FNN715J3XS	RS	FNN715J3XW	RS
	480	18.0	1	1	15 ¹ / ₂	(394)	38	(18)	FNN715J11XS	RS	FNN715J11XW	RS
	480	18.0	3	1	15 ¹ / ₂	(394)	38	(18)	FNN715J5XS	RS	FNN715J5XW	RS
	240	27.0	1	3	21 ¹ / ₂	(546)	42	(19)	FNN721J10XS	RS	FNN721J10XW	RS
	240	27.0	3	3	21 ¹ / ₂	(546)	42	(19)	FNN721J3XS	RS	FNN721J3XW	RS
	480	27.0	1	3	21 ¹ / ₂	(546)	42	(19)	FNN721J11XS	RS	FNN721J11XW	RS
	480	27.0	3	1	21 ¹ / ₂	(546)	42	(19)	FNN721J5XS	RS	FNN721J5XW	RS
	240	36.0	3	3	27	(686)	45	(21)	FNN727A3XS	RS	FNN727A3XW	RS
	480	36.0	1	3	27	(686)	45	(21)	FNN727A11XS	RS	FNN727A11XW	RS
	480	36.0	3	1	27	(686)	45	(21)	FNN727A5XS	RS	FNN727A5XW	RS
	240	45.0	3	3	32 ¹ / ₂	(826)	48	(22)	FNN732J3XS	RS	FNN732J3XW	RS
	480	45.0	1	3	32 ¹ / ₂	(826)	48	(22)	FNN732J11XS	RS	FNN732J11XW	RS
	480	45.0	3	3	32 ¹ / ₂	(826)	48	(22)	FNN732J5XS	RS	FNN732J5XW	RS
	240	54.0	3	3	38	(965)	53	(24)	FNN738A3XS	RS	FNN738A3XW	RS
	480	54.0	1	3	38	(965)	53	(24)	FNN738A11XS	RS	FNN738A11XW	RS
	480	54.0	3	3	38	(965)	53	(24)	FNN738A5XS	RS	FNN738A5XW	RS
	480	75.0	3	3	51	(1295)	60	(28)	FNN751A5XS	RS	FNN751A5XW	RS
	480	90.0	3	3	60 ¹ / ₂	(1537)	66	(30)	FNN760J5XS	M	FNN760J5XW	M

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

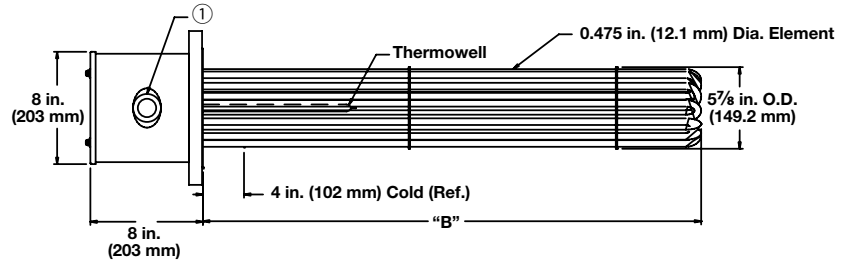
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Clean Water

- 6 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
60 W/in ² Steel Flange 12-Alloy 800 Elements (9.3 W/cm ²)	240	24.0	1	3	15 ³ / ₈ (390.5)	73 (33)	FPN715G10S	RS	FPN715G10W	RS
	240	24.0	3	2	15 ³ / ₈ (390.5)	73 (33)	FPN715G3S	RS	FPN715G3W	RS
	480	24.0	1	2	15 ³ / ₈ (390.5)	73 (33)	FPN715G11S	RS	FPN715G11W	RS
	480	24.0	3	1	15 ³ / ₈ (390.5)	73 (33)	FPN715G5S	RS	FPN715G5W	RS
	240	36.0	1	4	21 ³ / ₈ (542.9)	78 (36)	FPN721G10S	M	FPN721G10W	M
	240	36.0	3	2	21 ³ / ₈ (542.9)	78 (36)	FPN721G3S	M	FPN721G3W	M
	480	36.0	1	2	21 ³ / ₈ (542.9)	78 (36)	FPN721G11S	M	FPN721G11W	M
	480	36.0	3	1	21 ³ / ₈ (542.9)	78 (36)	FPN721G5S	M	FPN721G5W	M
	240	48.0	3	4	26 ⁷ / ₈ (682.6)	81 (37)	FPN726R3S	M	FPN726R3W	M
	480	48.0	1	3	26 ⁷ / ₈ (682.6)	81 (37)	FPN726R11S	M	FPN726R11W	M
	480	48.0	3	2	26 ⁷ / ₈ (682.6)	81 (37)	FPN726R5S	M	FPN726R5W	M
	240	60.0	3	4	32 ³ / ₈ (822.3)	85 (39)	FPN732G3S	M	FPN732G3W	M
	480	60.0	1	3	32 ³ / ₈ (822.3)	85 (39)	FPN732G11S	M	FPN732G11W	M
	480	60.0	3	2	32 ³ / ₈ (822.3)	85 (39)	FPN732G5S	M	FPN732G5W	M
	240	72.0	3	4	37 ⁷ / ₈ (962.0)	92 (42)	FPN737R3S	M	FPN737R3W	M
	480	72.0	3	2	37 ⁷ / ₈ (962.0)	92 (42)	FPN737R5S	M	FPN737R5W	M
	480	100.0	3	4	50 ⁷ / ₈ (1292.2)	100 (45)	FPN750R5S	M	FPN750R5W	M
	480	120.0	3	4	60 ³ / ₈ (1533.5)	110 (50)	FPN760G5S	M	FPN760G5W	M

RAPID SHIP

- RS - Next day shipment up to 2 pieces
- M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
- Truck Shipment only

Immersion Heaters

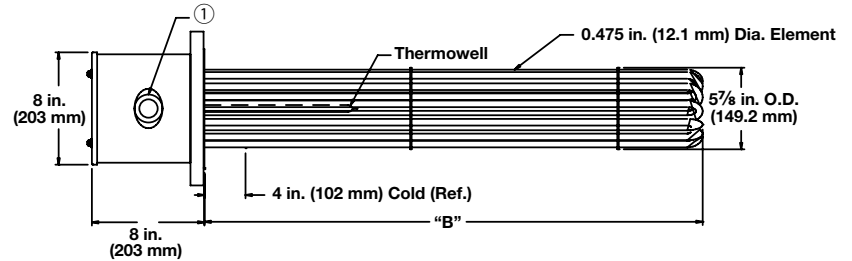
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Clean Water

- 6 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	Part Number		Del.
							General Purpose Enclosure	Moisture-Resistant Enclosure		Moisture-Resistant Enclosure	Del.	
60 W/in ² Steel Flange 15-Alloy 800 Elements (9.3 W/cm ²)	240	30.0	1	3	15 ³ / ₈ (390.5)	76 (35)	FPN715G10XS	M	FPN715G10XW	M		
	240	30.0	3	5	15 ³ / ₈ (390.5)	76 (35)	FPN715G3XS	M	FPN715G3XW	M		
	480	30.0	1	3	15 ³ / ₈ (390.5)	76 (35)	FPN715G11XS	M	FPN715G11XW	M		
	480	30.0	3	1	15 ³ / ₈ (390.5)	76 (35)	FPN715G5XS	M	FPN715G5XW	M		
	240	45.0	1	5	21 ³ / ₈ (542.9)	82 (38)	FPN721G10XS	M	FPN721G10XW	M		
	240	45.0	3	5	21 ³ / ₈ (542.9)	82 (38)	FPN721G3XS	M	FPN721G3XW	M		
	480	45.0	1	3	21 ³ / ₈ (542.9)	82 (38)	FPN721G11XS	M	FPN721G11XW	M		
	480	45.0	3	5	21 ³ / ₈ (542.9)	82 (38)	FPN721G5XS	M	FPN721G5XW	M		
	240	60.0	3	5	26 ⁷ / ₈ (682.6)	85 (39)	FPN726R3XS	M	FPN726R3XW	M		
	480	60.0	1	3	26 ⁷ / ₈ (682.6)	85 (39)	FPN726R11XS	M	FPN726R11XW	M		
	480	60.0	3	5	26 ⁷ / ₈ (682.6)	85 (39)	FPN726R5XS	M	FPN726R5XW	M		
	240	75.0	3	5	32 ³ / ₈ (822.3)	90 (41)	FPN732G3XS	M	FPN732G3XW	M		
	480	75.0	1	5	32 ³ / ₈ (822.3)	90 (41)	FPN732G11XS	M	FPN732G11XW	M		
	480	75.0	3	5	32 ³ / ₈ (822.3)	90 (41)	FPN732G5XS	M	FPN732G5XW	M		
	240	90.0	3	5	37 ⁷ / ₈ (962.0)	98 (45)	FPN737R3XS	M	FPN737R3XW	M		
	480	90.0	3	5	37 ⁷ / ₈ (962.0)	98 (45)	FPN737R5XS	M	FPN737R5XW	M		
480	125.0	3	5	50 ⁷ / ₈ (1292.2)	108 (49)	FPN750R5XS	M	FPN750R5XW	M			
480	150.0	3	5	60 ³ / ₈ (1533.5)	120 (55)	FPN760G5XS	M	FPN760G5XW	M			

• M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
- Truck Shipment only

Immersion Heaters

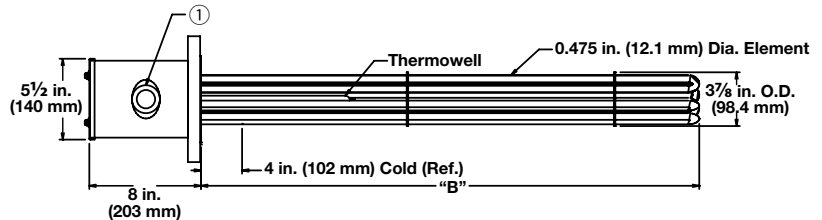
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Deionized or Demineralized Water

- 4 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
60 W/in ² 316 SS Flange 6-316 SS Elements (9.3 W/cm ²) Passivated	240	12.0	1	2	16 (406)	31 (14)	FOR716A10S	RS	FOR716A10W	RS
	240	12.0	3	1	16 (406)	31 (14)	FOR716A3S	RS	FOR716A3W	RS
	480	12.0	1	1	16 (406)	31 (14)	FOR716A11S	RS	FOR716A11W	RS
	480	12.0	3	1	16 (406)	31 (14)	FOR716A5S	RS	FOR716A5W	RS
	240	18.0	1	2	22 (559)	34 (16)	FOR722A10S	RS	FOR722A10W	RS
	240	18.0	3	1	22 (559)	34 (16)	FOR722A3S	RS	FOR722A3W	RS
	480	18.0	1	1	22 (559)	34 (16)	FOR722A11S	RS	FOR722A11W	RS
	480	18.0	3	1	22 (559)	34 (16)	FOR722A5S	RS	FOR722A5W	RS
	240	24.0	1	2	27 1/2 (699)	36 (17)	FOR727J10S	RS	FOR727J10W	RS
	240	24.0	3	2	27 1/2 (699)	36 (17)	FOR727J3S	RS	FOR727J3W	RS
	480	24.0	1	1	27 1/2 (699)	36 (17)	FOR727J11S	RS	FOR727J11W	RS
	480	24.0	3	1	27 1/2 (699)	36 (17)	FOR727J5S	RS	FOR727J5W	RS
	240	30.0	3	2	33 (838)	39 (18)	FOR733A3S	RS	FOR733A3W	RS
	480	30.0	1	2	33 (838)	39 (18)	FOR733A11S	RS	FOR733A11W	RS
	480	30.0	3	1	33 (838)	39 (18)	FOR733A5S	RS	FOR733A5W	RS
	240	36.0	3	2	38 1/2 (978)	43 (20)	FOR738J3S	RS	FOR738J3W	RS
	480	36.0	1	2	38 1/2 (978)	43 (20)	FOR738J11S	RS	FOR738J11W	RS
	480	36.0	3	1	38 1/2 (978)	43 (20)	FOR738J5S	RS	FOR738J5W	RS
	480	50.0	3	2	51 1/2 (1308)	48 (22)	FOR751J5S	RS	FOR751J5W	RS
	480	60.0	3	2	61 (1549)	52 (24)	FOR761A5S	RS	FOR761A5W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

- Notes:
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

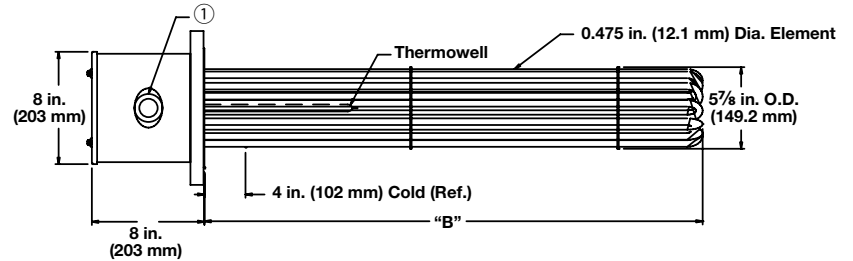
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Deionized or Demineralized Water

- 6 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
60 W/in ² 316 SS Flange 12-316 SS Elements (9.3 W/cm ²) (Passivated)	240	24.0	1	3	15 ³ / ₄ (400)	73 (33)	FPR715N10S	RS	FPR715N10W	RS
	240	24.0	3	2	15 ³ / ₄ (400)	73 (33)	FPR715N3S	RS	FPR715N3W	RS
	480	24.0	1	2	15 ³ / ₄ (400)	73 (33)	FPR715N11S	RS	FPR715N11W	RS
	480	24.0	3	1	15 ³ / ₄ (400)	73 (33)	FPR715N5S	RS	FPR715N5W	RS
	240	36.0	1	4	21 ³ / ₄ (552)	78 (36)	FPR721N10S	M	FPR721N10W	M
	240	36.0	3	2	21 ³ / ₄ (552)	78 (36)	FPR721N3S	M	FPR721N3W	M
	480	36.0	1	2	21 ³ / ₄ (552)	78 (36)	FPR721N11S	M	FPR721N11W	M
	480	36.0	3	1	21 ³ / ₄ (552)	78 (36)	FPR721N5S	M	FPR721N5W	M
	240	48.0	3	4	27 ¹ / ₄ (692)	81 (37)	FPR727E3S	M	FPR727E3W	M
	480	48.0	1	3	27 ¹ / ₄ (692)	81 (37)	FPR727E11S	M	FPR727E11W	M
	480	48.0	3	2	27 ¹ / ₄ (692)	81 (37)	FPR727E5S	M	FPR727E5W	M
	240	60.0	3	4	32 ³ / ₄ (832)	85 (39)	FPR732N3S	M	FPR732N3W	M
	480	60.0	1	3	32 ³ / ₄ (832)	85 (39)	FPR732N11S	M	FPR732N11W	M
	480	60.0	3	2	32 ³ / ₄ (832)	85 (39)	FPR732N5S	M	FPR732N5W	M
	240	72.0	3	4	38 ¹ / ₄ (972)	92 (42)	FPR738E3S	M	FPR738E3W	M
	480	72.0	3	2	38 ¹ / ₄ (972)	92 (42)	FPR738E5S	M	FPR738E5W	M
	480	100.0	3	4	51 ¹ / ₄ (1302)	100 (45)	FPR751E5S	M	FPR751E5W	M
480	120.0	3	4	60 ³ / ₄ (1543)	110 (50)	FPR760N5S	M	FPR760N5W	M	

RAPID SHIP

- RS - Next day shipment up to 2 pieces
- M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
 - Truck Shipment only

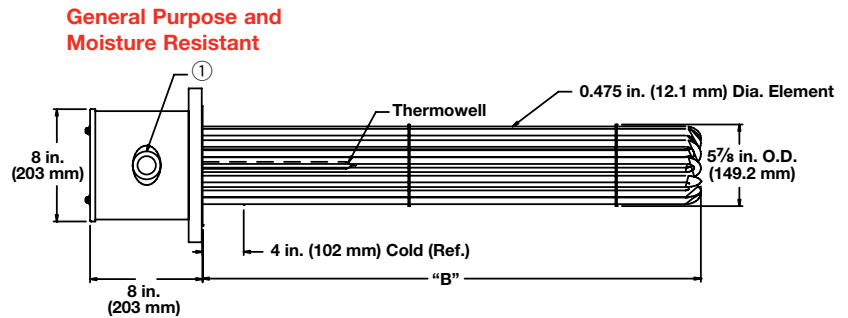
Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Deionized or Demineralized Water

- 6 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or moisture-resistant enclosures



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
							Part Number	Del.	Part Number	Del.
60 W/in ² 316 SS Flange 15-316 SS Elements (9.3 W/cm ²) (Passivated)	240	30.0	1	3	15 ³ / ₄ (400)	76 (35)	FPR715N10XS	M	FPR715N10XW	M
	240	30.0	3	5	15 ³ / ₄ (400)	76 (35)	FPR715N3XS	M	FPR715N3XW	M
	480	30.0	1	3	15 ³ / ₄ (400)	76 (35)	FPR715N11XS	M	FPR715N11XW	M
	480	30.0	3	1	15 ³ / ₄ (400)	76 (35)	FPR715N5XS	M	FPR715N5XW	M
	240	45.0	1	5	21 ³ / ₄ (552)	82 (38)	FPR721N10XS	M	FPR721N10XW	M
	240	45.0	3	5	21 ³ / ₄ (552)	82 (38)	FPR721N3XS	M	FPR721N3XW	M
	480	45.0	1	3	21 ³ / ₄ (552)	82 (38)	FPR721N11XS	M	FPR721N11XW	M
	480	45.0	3	5	21 ³ / ₄ (552)	82 (38)	FPR721N5XS	M	FPR721N5XW	M
	240	60.0	3	5	27 ¹ / ₄ (692)	85 (39)	FPR727E3XS	M	FPR727E3XW	M
	480	60.0	1	3	27 ¹ / ₄ (692)	85 (39)	FPR727E11XS	M	FPR727E11XW	M
	480	60.0	3	5	27 ¹ / ₄ (692)	85 (39)	FPR727E5XS	M	FPR727E5XW	M
	240	75.0	3	5	32 ³ / ₄ (832)	90 (41)	FPR732N3XS	M	FPR732N3XW	M
	480	75.0	1	5	32 ³ / ₄ (832)	90 (41)	FPR732N11XS	M	FPR732N11XW	M
	480	75.0	3	5	32 ³ / ₄ (832)	90 (41)	FPR732N5XS	M	FPR732N5XW	M
	240	90.0	3	5	38 ¹ / ₄ (972)	98 (45)	FPR738E3XS	M	FPR738E3XW	M
	480	90.0	3	5	38 ¹ / ₄ (972)	98 (45)	FPR738E5XS	M	FPR738E5XW	M
	480	125.0	3	5	51 ¹ / ₄ (1302)	108 (49)	FPR751E5XS	M	FPR751E5XW	M
	480	150.0	3	5	60 ³ / ₄ (1543)	120 (55)	FPR760N5XS	M	FPR760N5XW	M

• M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

■ Truck Shipment only

Immersion Heaters

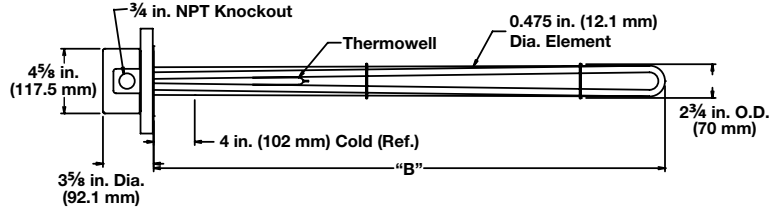
WATROD and FIREBAR ANSI Flange Immersion Heaters



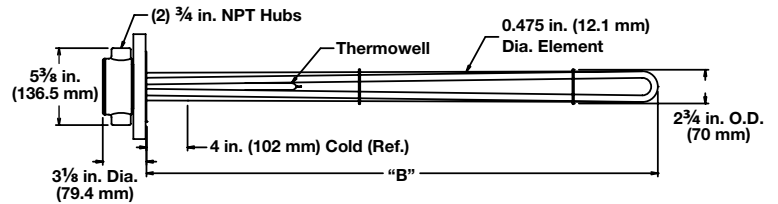
Application: Process Water

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures
- Single circuit

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	"B" Dim.		Ship Wt.		Part Number	Del.	Part Number		Del.
				in.	(mm)	lbs	(kg)			Moisture-Resistant Enclosure		
48 W/in ² Ⓒ Steel Flange 3-Alloy 800 Elements (7.5 W/cm ²)	General Purpose Enclosure											
	Moisture-Resistant Enclosure											
	240	4.5	1	13 ¹ / ₂	(343)	22	(10)	FMN713J10S	RS	FMN713J10W	RS	
	240	4.5	3	13 ¹ / ₂	(343)	22	(10)	FMN713J3S	RS	FMN713J3W	RS	
	480	4.5	1	13 ¹ / ₂	(343)	22	(10)	FMN713J11S	RS	FMN713J11W	RS	
	480	4.5	3	13 ¹ / ₂	(343)	22	(10)	FMN713J5S	RS	FMN713J5W	RS	
	240	6.0	1	18	(457)	23	(11)	FMN718A10S	RS	FMN718A10W	RS	
	240	6.0	3	18	(457)	23	(11)	FMN718A3S	RS	FMN718A3W	RS	
	480	6.0	1	18	(457)	23	(11)	FMN718A11S	RS	FMN718A11W	RS	
	480	6.0	3	18	(457)	23	(11)	FMN718A5S	RS	FMN718A5W	RS	
	240	7.5	1	20 ¹ / ₂	(521)	25	(12)	FMN720J10S	RS	FMN720J10W	RS	
	240	7.5	3	20 ¹ / ₂	(521)	25	(12)	FMN720J3S	RS	FMN720J3W	RS	
	480	7.5	1	20 ¹ / ₂	(521)	25	(12)	FMN720J11S	RS	FMN720J11W	RS	
	480	7.5	3	20 ¹ / ₂	(521)	25	(12)	FMN720J5S	RS	FMN720J5W	RS	
	240	9.0	1	25 ¹ / ₂	(648)	27	(13)	FMN725J10S	RS	FMN725J10W	RS	
	240	9.0	3	25 ¹ / ₂	(648)	27	(13)	FMN725J3S	RS	FMN725J3W	RS	
	480	9.0	1	25 ¹ / ₂	(648)	27	(13)	FMN725J11S	RS	FMN725J11W	RS	
	480	9.0	3	25 ¹ / ₂	(648)	27	(13)	FMN725J5S	RS	FMN725J5W	RS	
	240	12.0	3	33	(838)	28	(13)	FMN733A3S	RS	FMN733A3W	RS	
	480	12.0	1	33	(838)	28	(13)	FMN733A11S	RS	FMN733A11W	RS	
	480	12.0	3	33	(838)	28	(13)	FMN733A5S	RS	FMN733A5W	RS	
	240	15.0	3	40 ¹ / ₂	(1029)	30	(14)	FMN740J3S	RS	FMN740J3W	RS	
	480	15.0	1	40 ¹ / ₂	(1029)	30	(14)	FMN740J11S	RS	FMN740J11W	RS	
	480	15.0	3	40 ¹ / ₂	(1029)	30	(14)	FMN740J5S	RS	FMN740J5W	RS	
	240	18.0	3	48	(1219)	32	(15)	FMN748A3S	RS	FMN748A3W	RS	
	480	18.0	1	48	(1219)	32	(15)	FMN748A11S	RS	FMN748A11W	RS	
	480	18.0	3	48	(1219)	32	(15)	FMN748A5S	RS	FMN748A5W	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

Ⓒ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

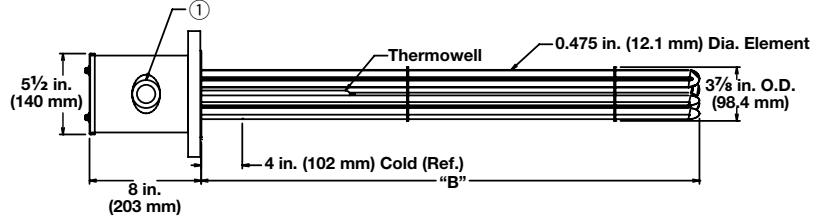
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
48 W/in ² © Steel Flange 6-Alloy 800 Elements (7.5 W/cm ²)	240	9.0	1	1	13 1/2 (343)	29 (14)	FON713J10S	RS	FON713J10W	RS
	240	9.0	3	1	13 1/2 (343)	29 (14)	FON713J3S	RS	FON713J3W	RS
	480	9.0	1	1	13 1/2 (343)	29 (14)	FON713J11S	RS	FON713J11W	RS
	480	9.0	3	1	13 1/2 (343)	29 (14)	FON713J5S	RS	FON713J5W	RS
	240	12.0	1	2	18 (457)	32 (15)	FON718A10S	RS	FON718A10W	RS
	240	12.0	3	1	18 (457)	32 (15)	FON718A3S	RS	FON718A3W	RS
	480	12.0	1	1	18 (457)	32 (15)	FON718A11S	RS	FON718A11W	RS
	480	12.0	3	1	18 (457)	32 (15)	FON718A5S	RS	FON718A5W	RS
	240	15.0	1	2	20 1/2 (521)	34 (16)	FON720J10S	RS	FON720J10W	RS
	240	15.0	3	1	20 1/2 (521)	34 (16)	FON720J3S	RS	FON720J3W	RS
	480	15.0	1	1	20 1/2 (521)	34 (16)	FON720J11S	RS	FON720J11W	RS
	480	15.0	3	1	20 1/2 (521)	34 (16)	FON720J5S	RS	FON720J5W	RS
	240	18.0	1	2	25 1/2 (648)	36 (17)	FON725J10S	RS	FON725J10W	RS
	240	18.0	3	1	25 1/2 (648)	36 (17)	FON725J3S	RS	FON725J3W	RS
	480	18.0	1	1	25 1/2 (648)	36 (17)	FON725J11S	RS	FON725J11W	RS
	480	18.0	3	1	25 1/2 (648)	36 (17)	FON725J5S	RS	FON725J5W	RS
	240	24.0	1	2	33 (838)	39 (18)	FON733A10S	RS	FON733A10W	RS
	240	24.0	3	2	33 (838)	39 (18)	FON733A3S	RS	FON733A3W	RS
	480	24.0	1	1	33 (838)	39 (18)	FON733A11S	RS	FON733A11W	RS
	480	24.0	3	1	33 (838)	39 (18)	FON733A5S	RS	FON733A5W	RS
	240	30.0	3	2	40 1/2 (1029)	43 (20)	FON740J3S	RS	FON740J3W	RS
	480	30.0	1	2	40 1/2 (1029)	43 (20)	FON740J11S	RS	FON740J11W	RS
	480	30.0	3	1	40 1/2 (1029)	43 (20)	FON740J5S	RS	FON740J5W	RS
	240	36.0	3	2	48 (1219)	48 (22)	FON748A3S	RS	FON748A3W	RS
480	36.0	1	2	48 (1219)	48 (22)	FON748A11S	RS	FON748A11W	RS	
480	36.0	3	1	48 (1219)	48 (22)	FON748A5S	RS	FON748A5W	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 • For ANSI flange dimensions, reference chart on page 241

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

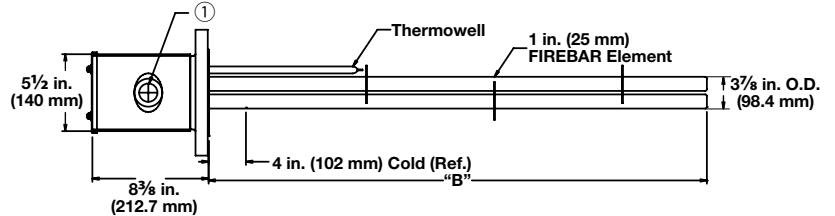
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 4 inch - 150 lb ANSI flange
- FIREBAR elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Part Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
45 W/in ² 304 SS Flange 6-Alloy 800 Elements (7 W/cm ²)	240	12.0	3	1	13 ³ / ₈ (339.7)	32 (15)	FONF13G27S	RS	FONF13G27W	RS
	240	15.0	3	1	16 (406.0)	35 (16)	FONF16A27S	RS	FONF16A27W	RS
	240	18.0	3	1	18 ³ / ₈ (466.7)	38 (17)	FONF18G27S	RS	FONF18G27W	RS
	240	24.0	3	2	22 ⁷ / ₈ (581.0)	41 (19)	FONF22R27S	RS	FONF22R27W	RS
	480	24.0	3	1	22 ⁷ / ₈ (581.0)	41 (19)	FONF22R28S	RS	FONF22R28W	RS
	240	30.0	3	2	27 ⁷ / ₈ (708.0)	44 (20)	FONF27R27S	RS	FONF27R27W	RS
	480	30.0	3	1	27 ⁷ / ₈ (708.0)	44 (20)	FONF27R28S	RS	FONF27R28W	RS
	240	36.0	3	2	32 ⁷ / ₈ (835.0)	46 (21)	FONF32R27S	RS	FONF32R27W	RS
	480	36.0	3	1	32 ⁷ / ₈ (835.0)	46 (21)	FONF32R28S	RS	FONF32R28W	RS
	480	48.0	3	2	42 ³ / ₈ (1076.3)	50 (23)	FONF42G28S	RS	FONF42G28W	RS
	480	60.0	3	2	51 ⁷ / ₈ (1317.6)	54 (25)	FONF51R28S	RS	FONF51R28W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

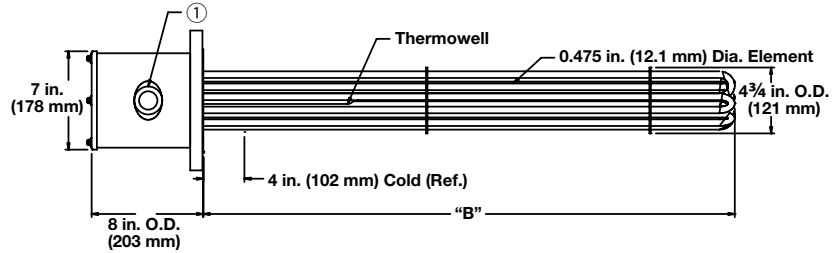
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim.		Ship Wt.		General Purpose Enclosure		Moisture-Resistant Enclosure	
					in.	(mm)	lbs	(kg)	Part Number	Del.	Part Number	Del.
48 W/in ² Steel Flange 6-Alloy 800 Elements (7.5 W/cm ²)	240	9.0	1	1	13 ¹ / ₂	(343)	33	(15)	FNN713J10S	RS	FNN713J10W	RS
	240	9.0	3	1	13 ¹ / ₂	(343)	33	(15)	FNN713J3S	RS	FNN713J3W	RS
	480	9.0	1	1	13 ¹ / ₂	(343)	33	(15)	FNN713J11S	RS	FNN713J11W	RS
	480	9.0	3	1	13 ¹ / ₂	(343)	33	(15)	FNN713J5S	RS	FNN713J5W	RS
	240	12.0	1	2	18	(457)	36	(17)	FNN718A10S	RS	FNN718A10W	RS
	240	12.0	3	1	18	(457)	36	(17)	FNN718A3S	RS	FNN718A3W	RS
	480	12.0	1	1	18	(457)	36	(17)	FNN718A11S	RS	FNN718A11W	RS
	480	12.0	3	1	18	(457)	36	(17)	FNN718A5S	RS	FNN718A5W	RS
	240	15.0	1	2	20 ¹ / ₂	(521)	38	(18)	FNN720J10S	RS	FNN720J10W	RS
	240	15.0	3	1	20 ¹ / ₂	(521)	38	(18)	FNN720J3S	RS	FNN720J3W	RS
	480	15.0	1	1	20 ¹ / ₂	(521)	38	(18)	FNN720J11S	RS	FNN720J11W	RS
	480	15.0	3	1	20 ¹ / ₂	(521)	38	(18)	FNN720J5S	RS	FNN720J5W	RS
	240	18.0	1	2	25 ¹ / ₂	(648)	40	(19)	FNN725J10S	RS	FNN725J10W	RS
	240	18.0	3	1	25 ¹ / ₂	(648)	40	(19)	FNN725J3S	RS	FNN725J3W	RS
	480	18.0	1	1	25 ¹ / ₂	(648)	40	(19)	FNN725J11S	RS	FNN725J11W	RS
	480	18.0	3	1	25 ¹ / ₂	(648)	40	(19)	FNN725J5S	RS	FNN725J5W	RS
	240	24.0	1	3	33	(838)	43	(20)	FNN733A10S	RS	FNN733A10W	RS
	240	24.0	3	2	33	(838)	43	(20)	FNN733A3S	RS	FNN733A3W	RS
	480	24.0	1	1	33	(838)	43	(20)	FNN733A11S	RS	FNN733A11W	RS
	480	24.0	3	1	33	(838)	43	(20)	FNN733A5S	RS	FNN733A5W	RS
	240	30.0	3	2	40 ¹ / ₂	(1029)	47	(22)	FNN740J3S	RS	FNN740J3W	RS
	480	30.0	1	2	40 ¹ / ₂	(1029)	47	(22)	FNN740J11S	RS	FNN740J11W	RS
	480	30.0	3	1	40 ¹ / ₂	(1029)	47	(22)	FNN740J5S	RS	FNN740J5W	RS
	240	36.0	3	2	48	(1219)	52	(24)	FNN748A3S	RS	FNN748A3W	RS
480	36.0	1	2	48	(1219)	52	(24)	FNN748A11S	RS	FNN748A11W	RS	
480	36.0	3	1	48	(1219)	52	(24)	FNN748A5S	RS	FNN748A5W	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

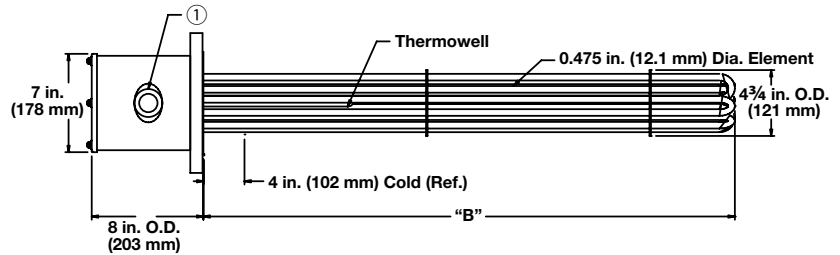
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim.		Ship Wt.	Part Number		Part Number	
					in.	(mm)		lbs	(kg)	Del.	Del.
48 W/in ² Steel Flange 9-Alloy 800 Elements (7.5 W/cm ²)	240	14.0	1	3	13 ¹ / ₂	(343)	35 (16)	General Purpose Enclosure		Moisture-Resistant Enclosure	
								FNN713J10XS	RS	FNN713J10XW	RS
	240	14.0	3	1	13 ¹ / ₂	(343)	35 (16)	FNN713J3XS	RS	FNN713J3XW	RS
	480	14.0	1	1	13 ¹ / ₂	(343)	35 (16)	FNN713J11XS	RS	FNN713J11XW	RS
	480	14.0	3	1	13 ¹ / ₂	(343)	35 (16)	FNN713J5XS	RS	FNN713J5XW	RS
	240	18.0	1	3	18	(457)	39 (18)	FNN718A10XS	RS	FNN718A10XW	RS
	240	18.0	3	1	18	(457)	39 (18)	FNN718A3XS	RS	FNN718A3XW	RS
	480	18.0	1	1	18	(457)	39 (18)	FNN718A11XS	RS	FNN718A11XW	RS
	480	18.0	3	1	18	(457)	39 (18)	FNN718A5XS	RS	FNN718A5XW	RS
	240	23.0	1	3	20 ¹ / ₂	(521)	42 (19)	FNN720J10XS	RS	FNN720J10XW	RS
	240	23.0	3	3	20 ¹ / ₂	(521)	42 (19)	FNN720J3XS	RS	FNN720J3XW	RS
	480	23.0	1	1	20 ¹ / ₂	(521)	42 (19)	FNN720J11XS	RS	FNN720J11XW	RS
	480	23.0	3	1	20 ¹ / ₂	(521)	42 (19)	FNN720J5XS	RS	FNN720J5XW	RS
	240	27.0	1	3	25 ¹ / ₂	(648)	45 (21)	FNN725J10XS	RS	FNN725J10XW	RS
	240	27.0	3	3	25 ¹ / ₂	(648)	45 (21)	FNN725J3XS	RS	FNN725J3XW	RS
	480	27.0	1	3	25 ¹ / ₂	(648)	45 (21)	FNN725J11XS	RS	FNN725J11XW	RS
	480	27.0	3	1	25 ¹ / ₂	(648)	45 (21)	FNN725J5XS	RS	FNN725J5XW	RS
	240	36.0	3	3	33	(838)	48 (22)	FNN733A3XS	RS	FNN733A3XW	RS
	480	36.0	1	3	33	(838)	48 (22)	FNN733A11XS	RS	FNN733A11XW	RS
	480	36.0	3	1	33	(838)	48 (22)	FNN733A5XS	RS	FNN733A5XW	RS
	240	45.0	3	3	40 ¹ / ₂	(1029)	53 (24)	FNN740J3XS	RS	FNN740J3XW	RS
	480	45.0	1	3	40 ¹ / ₂	(1029)	53 (24)	FNN740J11XS	RS	FNN740J11XW	RS
	480	45.0	3	3	40 ¹ / ₂	(1029)	53 (24)	FNN740J5XS	RS	FNN740J5XW	RS
	240	54.0	3	3	48	(1219)	60 (28)	FNN748A3XS	RS	FNN748A3XW	RS
	480	54.0	1	3	48	(1219)	60 (28)	FNN748A11XS	RS	FNN748A11XW	RS
	480	54.0	3	3	48	(1219)	60 (28)	FNN748A5XS	RS	FNN748A5XW	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

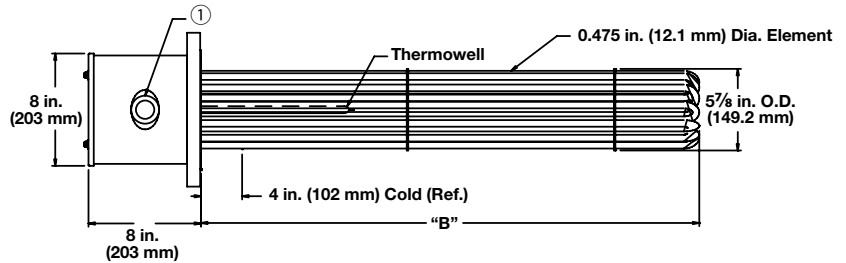
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim.		Ship Wt.		General Purpose Enclosure		Moisture-Resistant Enclosure	
					in.	(mm)	lbs	(kg)	Part Number	Del.	Part Number	Del.
48 W/in ² Steel Flange 12-Alloy 800 Elements (7.5 W/cm ²)	240	18.0	1	2	13 ³ / ₈	(339.7)	73	(33)	FPN713G10S	RS	FPN713G10W	RS
	240	18.0	3	1	13 ³ / ₈	(339.7)	73	(33)	FPN713G3S	RS	FPN713G3W	RS
	480	18.0	1	1	13 ³ / ₈	(339.7)	73	(33)	FPN713G11S	RS	FPN713G11W	RS
	480	18.0	3	1	13 ³ / ₈	(339.7)	73	(33)	FPN713G5S	RS	FPN713G5W	RS
	240	24.0	1	3	17 ⁷ / ₈	(454.0)	75	(34)	FPN717R10S	M	FPN717R10W	M
	240	24.0	3	2	17 ⁷ / ₈	(454.0)	75	(34)	FPN717R3S	M	FPN717R3W	M
	480	24.0	1	2	17 ⁷ / ₈	(454.0)	75	(34)	FPN717R11S	M	FPN717R11W	M
	480	24.0	3	1	17 ⁷ / ₈	(454.0)	75	(34)	FPN717R5S	M	FPN717R5W	M
	240	30.0	1	3	20 ³ / ₈	(517.5)	78	(36)	FPN720G10S	M	FPN720G10W	M
	240	30.0	3	2	20 ³ / ₈	(517.5)	78	(36)	FPN720G3S	M	FPN720G3W	M
	480	30.0	1	2	20 ³ / ₈	(517.5)	78	(36)	FPN720G11S	M	FPN720G11W	M
	480	30.0	3	1	20 ³ / ₈	(517.5)	78	(36)	FPN720G5S	M	FPN720G5W	M
	240	36.0	1	4	25 ³ / ₈	(644.5)	81	(37)	FPN725G10S	M	FPN725G10W	M
	240	36.0	3	2	25 ³ / ₈	(644.5)	81	(37)	FPN725G3S	M	FPN725G3W	M
	480	36.0	1	2	25 ³ / ₈	(644.5)	81	(37)	FPN725G11S	M	FPN725G11W	M
	480	36.0	3	1	25 ³ / ₈	(644.5)	81	(37)	FPN725G5S	M	FPN725G5W	M
	240	48.0	3	4	32 ⁷ / ₈	(835.0)	85	(39)	FPN732R3S	M	FPN732R3W	M
	480	48.0	1	3	32 ⁷ / ₈	(835.0)	85	(39)	FPN732R11S	M	FPN732R11W	M
	480	48.0	3	2	32 ⁷ / ₈	(835.0)	85	(39)	FPN732R5S	M	FPN732R5W	M
	240	60.0	3	4	40 ³ / ₈	(1025.5)	92	(42)	FPN740G3S	M	FPN740G3W	M
480	60.0	1	3	40 ³ / ₈	(1025.5)	92	(42)	FPN740G11S	M	FPN740G11W	M	
480	60.0	3	2	40 ³ / ₈	(1025.5)	92	(42)	FPN740G5S	M	FPN740G5W	M	
240	72.0	3	4	47 ⁷ / ₈	(1216.0)	100	(46)	FPN747R3S	M	FPN747R3W	M	
480	72.0	3	2	47 ⁷ / ₈	(1216.0)	100	(46)	FPN747R5S	M	FPN747R5W	M	

RAPID SHIP

- **RS** - Next day shipment up to 2 pieces
- **M** - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
 - Truck Shipment only

Immersion Heaters

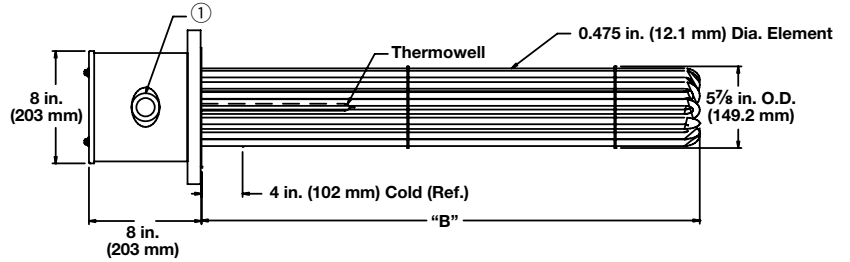
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)		Ship Wt. lbs (kg)		Part Number		Part Number	
									Del.	Del.	Del.	Del.
48 W/in ² Steel Flange 15-Alloy 800 Elements (7.5 W/cm ²)	240	23.0	1	3	13 ³ / ₈	(339.7)	76	(35)	General Purpose Enclosure		Moisture-Resistant Enclosure	
									FPN713G10XS	M	FPN713G10XW	M
	240	23.0	3	5	13 ³ / ₈	(339.7)	76	(35)	FPN713G3XS	M	FPN713G3XW	M
	480	23.0	1	1	13 ³ / ₈	(339.7)	76	(35)	FPN713G11XS	M	FPN713G11XW	M
	480	23.0	3	1	13 ³ / ₈	(339.7)	76	(35)	FPN713G5XS	M	FPN713G5XW	M
	240	30.0	1	3	17 ⁷ / ₈	(441.3)	78	(36)	FPN717R10XS	M	FPN717R10XW	M
	240	30.0	3	5	17 ⁷ / ₈	(441.3)	78	(36)	FPN717R3XS	M	FPN717R3XW	M
	480	30.0	1	3	17 ⁷ / ₈	(441.3)	78	(36)	FPN717R11XS	M	FPN717R11XW	M
	480	30.0	3	1	17 ⁷ / ₈	(441.3)	78	(36)	FPN717R5XS	M	FPN717R5XW	M
	240	38.0	1	5	20 ³ / ₈	(517.5)	82	(38)	FPN720G10XS	M	FPN720G10XW	M
	240	38.0	3	5	20 ³ / ₈	(517.5)	82	(38)	FPN720G3XS	M	FPN720G3XW	M
	480	38.0	1	3	20 ³ / ₈	(517.5)	82	(38)	FPN720G11XS	M	FPN720G11XW	M
	480	38.0	3	1	20 ³ / ₈	(517.5)	82	(38)	FPN720G5XS	M	FPN720G5XW	M
	240	45.0	1	5	25 ³ / ₈	(644.5)	85	(39)	FPN725G10XS	M	FPN725G10XW	M
	240	45.0	3	5	25 ³ / ₈	(644.5)	85	(39)	FPN725G3XS	M	FPN725G3XW	M
	480	45.0	1	3	25 ³ / ₈	(644.5)	85	(39)	FPN725G11XS	M	FPN725G11XW	M
	480	45.0	3	5	25 ³ / ₈	(644.5)	85	(39)	FPN725G5XS	M	FPN725G5XW	M
	240	60.0	3	5	32 ⁷ / ₈	(835.0)	90	(41)	FPN732R3XS	M	FPN732R3XW	M
	480	60.0	1	3	32 ⁷ / ₈	(835.0)	90	(41)	FPN732R11XS	M	FPN732R11XW	M
	480	60.0	3	5	32 ⁷ / ₈	(835.0)	90	(41)	FPN732R5XS	M	FPN732R5XW	M
	240	75.0	3	5	40 ³ / ₈	(1025.5)	98	(45)	FPN740G3XS	M	FPN740G3XW	M
	480	75.0	1	5	40 ³ / ₈	(1025.5)	98	(45)	FPN740G11XS	M	FPN740G11XW	M
	480	75.0	3	5	40 ³ / ₈	(1025.5)	98	(45)	FPN740G5XS	M	FPN740G5XW	M
	240	90.0	3	5	47 ⁷ / ₈	(1216.0)	108	(49)	FPN747R3XS	M	FPN747R3XW	M
	480	90.0	3	5	47 ⁷ / ₈	(1216.0)	108	(49)	FPN747R5XS	M	FPN747R5XW	M

• M - Manufacturing lead times

- Notes:
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
 - Truck Shipment only

Immersion Heaters

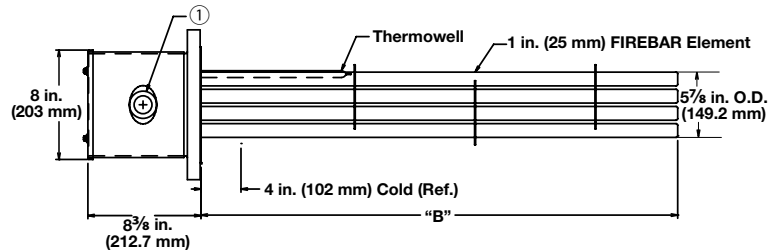
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 6 inch - 150 lb ANSI flange
- FIREBAR elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure		
45 W/in ² 304 SS Flange 15-Alloy 800 Elements (7 W/cm ²)	240	30.0	3	5	13 ³ / ₈ (339.7)	78 (36)	FPNF13G27S	M	FPNF13G27W	M
	240	37.5	3	5	16 (406.0)	81 (37)	FPNF16A27S	M	FPNF16A27W	M
	240	45.0	3	5	18 ³ / ₈ (466.7)	84 (38)	FPNF18G27S	M	FPNF18G27W	M
	240	60.0	3	5	22 ⁷ / ₈ (581.0)	87 (40)	FPNF22R27S	M	FPNF22R27W	M
	480	60.0	3	5	22 ⁷ / ₈ (581.0)	87 (40)	FPNF22R28S	M	FPNF22R28W	M
	240	75.0	3	5	27 ⁷ / ₈ (708.0)	91 (42)	FPNF27R27S	M	FPNF27R27W	M
	480	75.0	3	5	27 ⁷ / ₈ (708.0)	91 (42)	FPNF27R28S	M	FPNF27R28W	M
	240	90.0	3	5	32 ⁷ / ₈ (835.0)	95 (43)	FPNF32R27S	M	FPNF32R27W	M
	480	90.0	3	5	32 ⁷ / ₈ (835.0)	95 (43)	FPNF32R28S	M	FPNF32R28W	M
	480	120.0	3	5	42 ³ / ₈ (1076.3)	106 (48)	FPNF42G28S	M	FPNF42G28W	M
	480	150.0	3	5	51 ⁷ / ₈ (1317.6)	116 (53)	FPNF51R28S	M	FPNF51R28W	M

• M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
- Truck Shipment only

Immersion Heaters

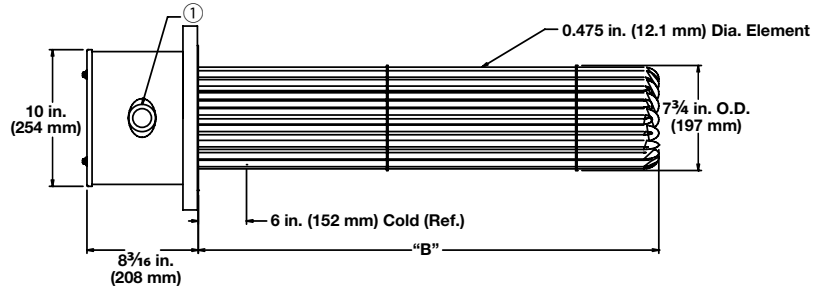
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
48 W/in ² Steel Flange 18-Alloy 800 Elements (7.5 W/cm ²)	240	50.0	3	3	25 ³ / ₄ (654.0)	121 (55)	FRN725N3S	M	FRN725N3W	M
	480	50.0	1	3	25 ³ / ₄ (654.0)	121 (55)	FRN725N11S	M	FRN725N11W	M
	480	50.0	3	2	25 ³ / ₄ (654.0)	121 (55)	FRN725N5S	M	FRN725N5W	M
	240	75.0	3	6	35 ³ / ₄ (908.0)	130 (59)	FRN735N3S	M	FRN735N3W	M
	480	75.0	3	2	35 ³ / ₄ (908.0)	130 (59)	FRN735N5S	M	FRN735N5W	M
	240	100.0	3	6	44 ¹ / ₄ (1124.0)	132 (60)	FRN744E3S	M	FRN744E3W	M
	480	100.0	3	3	44 ¹ / ₄ (1124.0)	132 (60)	FRN744E5S	M	FRN744E5W	M
	240	125.0	3	6	54 ¹¹ / ₁₆ (1389.1)	140 (64)	FRN754M3S	M	FRN754M3W	M
	480	125.0	3	6	54 ¹¹ / ₁₆ (1389.1)	140 (64)	FRN754M5S	M	FRN754M5W	M
	480	150.0	3	6	63 ¹¹ / ₁₆ (1617.6)	145 (66)	FRN763M5S	M	FRN763M5W	M
	480	175.0	3	6	73 ³ / ₁₆ (1859.0)	151 (69)	FRN773D5S	M	FRN773D5W	M
	480	200.0	3	6	82 ¹¹ / ₁₆ (2100.3)	157 (72)	FRN782M5S	M	FRN782M5W	M
48 W/in ² Steel Flange 24-Alloy 800 Elements (7.5 W/cm ²)	240	67.0	3	4	26 ³ / ₁₆ (665.2)	129 (59)	FRN726D3XS	M	FRN726D3XW	M
	480	67.0	1	3	26 ³ / ₁₆ (665.2)	129 (59)	FRN726D11XS	M	FRN726D11XW	M
	480	67.0	3	2	26 ³ / ₁₆ (665.2)	129 (59)	FRN726D5XS	M	FRN726D5XW	M
	240	100.0	3	8	36 ³ / ₁₆ (919.2)	142 (65)	FRN736D3XS	M	FRN736D3XW	M
	480	100.0	3	4	36 ³ / ₁₆ (919.2)	142 (65)	FRN736D5XS	M	FRN736D5XW	M
	240	133.0	3	8	44 ¹¹ / ₁₆ (1135.1)	147 (67)	FRN744M3XS	M	FRN744M3XW	M
	480	133.0	3	4	44 ¹¹ / ₁₆ (1135.1)	147 (67)	FRN744M5XS	M	FRN744M5XW	M
	240	167.0	3	8	54 ¹¹ / ₁₆ (1389.1)	158 (72)	FRN754M3XS	M	FRN754M3XW	M
	480	167.0	3	8	54 ¹¹ / ₁₆ (1389.1)	158 (72)	FRN754M5XS	M	FRN754M5XW	M
	480	200.0	3	8	63 ¹¹ / ₁₆ (1617.6)	166 (76)	FRN763M5XS	M	FRN763M5XW	M
	480	233.0	3	8	73 ³ / ₁₆ (1859.0)	175 (80)	FRN773D5XS	M	FRN773D5XW	M
	480	267.0	3	8	82 ¹¹ / ₁₆ (2100.3)	184 (84)	FRN782M5XS	M	FRN782M5XW	M

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

■ Truck Shipment only

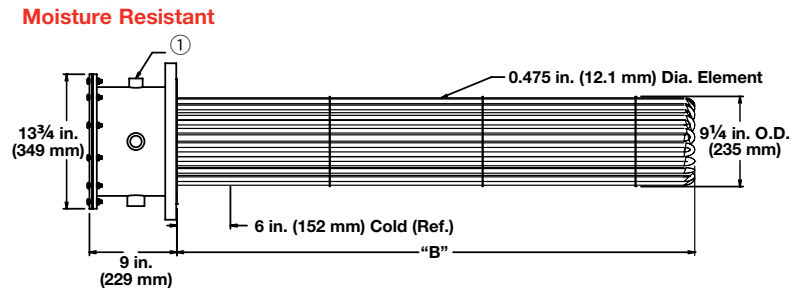
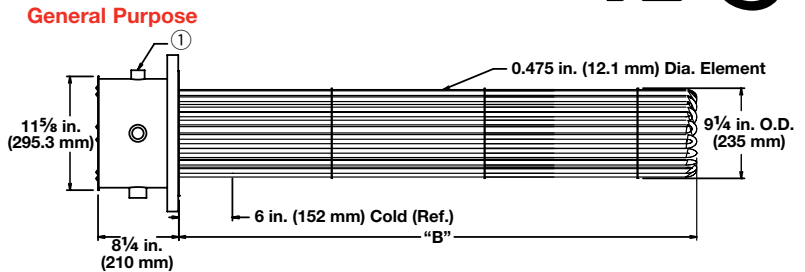
Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Process Water

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

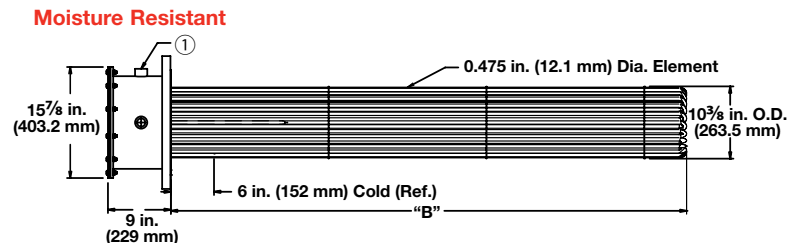
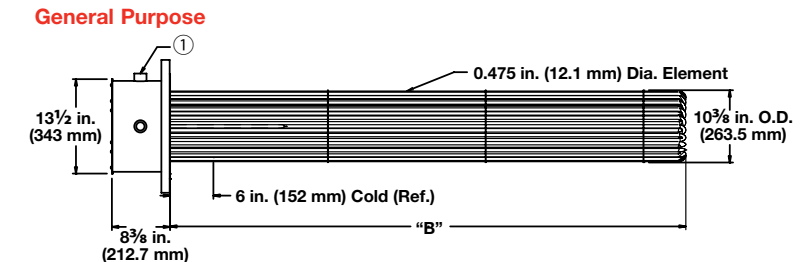


① The number and size of the conduit opening will comply with the National Electrical Code standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
48 W/in ² Steel Flange 27-Alloy 800 Elements (7.5 W/cm ²)	480	190.0	3	9	54 ³ / ₄ (1391)	240 (109)	General Purpose Enclosure		Moisture-Resistant Enclosure	
	480	262.0	3	9	73 ¹ / ₄ (1861)	260 (118)	FSN754N5S	M	FSN754N5W	M
							FSN773E5S	M	FSN773E5W	M

Application: Process Water

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures



① The number and size of the conduit opening will comply with the National Electrical Code standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
48 W/in ² Steel Flange 36-Alloy 800 Elements (7.5 W/cm ²)	480	250.0	3	6	54 ⁵ / ₈ (1387.5)	280 (127)	General Purpose Enclosure		Moisture-Resistant Enclosure	
	480	350.0	3	12	73 ¹ / ₈ (1857.4)	291 (132)	FTN754L5S	M	FTN754L5W	M
							FTN773C5S	M	FTN773C5W	M

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

■ Truck Shipment only

Immersion Heaters

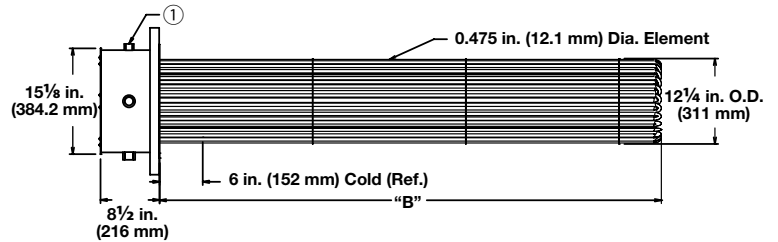
WATROD and FIREBAR ANSI Flange Immersion Heaters



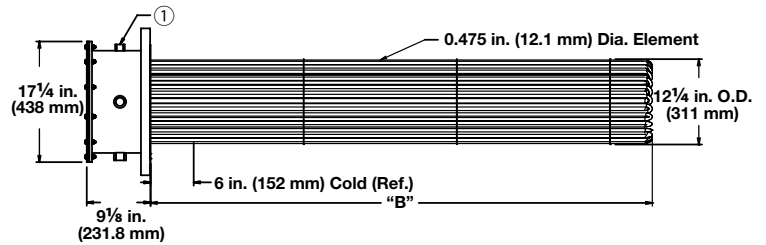
Application: Process Water

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
48 W/in ² Steel Flange 45-Alloy 800 Elements (7.5 W/cm ²)	480	315.0	3	15	54 1/2 (1384)	300 (136)	FWN754J5S	M	FWN754J5W	M
	480	375.0	3	15	63 1/2 (1613)	310 (141)	FWN763J5S	M	FWN763J5W	M

- M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
- Truck Shipment only

Immersion Heaters

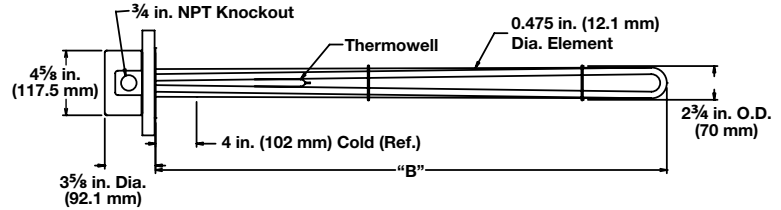
WATROD and FIREBAR ANSI Flange Immersion Heaters



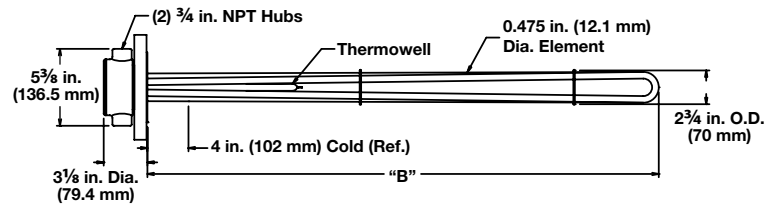
Application: Forced Air and Caustic Solutions

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures
- Single circuit

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	"B" Dim. in. (mm)		Ship Wt. lbs (kg)		General Purpose Enclosure		Moisture-Resistant Enclosure	
								Part Number	Del.	Part Number	Del.
23 W/in ² ® Steel Flange 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.0	1	18	(457)	23	(11)	FMNA18A10S	RS	FMNA18A10W	RS
	240	3.0	3	18	(457)	23	(11)	FMNA18A3S	RS	FMNA18A3W	RS
	480	3.0	1	18	(457)	23	(11)	FMNA18A11S	RS	FMNA18A11W	RS
	480	3.0	3	18	(457)	23	(11)	FMNA18A5S	RS	FMNA18A5W	RS
	240	4.5	1	25 1/2	(648)	27	(13)	FMNA25J10S	RS	FMNA25J10W	RS
	240	4.5	3	25 1/2	(648)	27	(13)	FMNA25J3S	RS	FMNA25J3W	RS
	480	4.5	1	25 1/2	(648)	27	(13)	FMNA25J11S	RS	FMNA25J11W	RS
	480	4.5	3	25 1/2	(648)	27	(13)	FMNA25J5S	RS	FMNA25J5W	RS
	240	6.0	1	33	(838)	28	(13)	FMNA33A10S	RS	FMNA33A10W	RS
	240	6.0	3	33	(838)	28	(13)	FMNA33A3S	RS	FMNA33A3W	RS
	480	6.0	1	33	(838)	28	(13)	FMNA33A11S	RS	FMNA33A11W	RS
	480	6.0	3	33	(838)	28	(13)	FMNA33A5S	RS	FMNA33A5W	RS
	240	7.5	1	40 1/2	(1029)	30	(14)	FMNA40J10S	RS	FMNA40J10W	RS
	240	7.5	3	40 1/2	(1029)	30	(14)	FMNA40J3S	RS	FMNA40J3W	RS
	480	7.5	1	40 1/2	(1029)	30	(14)	FMNA40J11S	RS	FMNA40J11W	RS
	480	7.5	3	40 1/2	(1029)	30	(14)	FMNA40J5S	RS	FMNA40J5W	RS
	240	9.0	1	48	(1219)	32	(15)	FMNA48A10S	RS	FMNA48A10W	RS
	240	9.0	3	48	(1219)	32	(15)	FMNA48A3S	RS	FMNA48A3W	RS
	480	9.0	1	48	(1219)	32	(15)	FMNA48A11S	RS	FMNA48A11W	RS
	480	9.0	3	48	(1219)	32	(15)	FMNA48A5S	RS	FMNA48A5W	RS
	240	12.5	3	64 1/2	(1638)	37	(17)	FMNA64J3S	RS	FMNA64J3W	RS
	480	12.5	1	64 1/2	(1638)	37	(17)	FMNA64J11S	RS	FMNA64J11W	RS
	480	12.5	3	64 1/2	(1638)	37	(17)	FMNA64J5S	RS	FMNA64J5W	RS
	240	15.0	3	77	(1956)	42	(19)	FMNA77A3S	RS	FMNA77A3W	RS
480	15.0	1	77	(1956)	42	(19)	FMNA77A11S	RS	FMNA77A11W	RS	
480	15.0	3	77	(1956)	42	(19)	FMNA77A5S	RS	FMNA77A5W	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

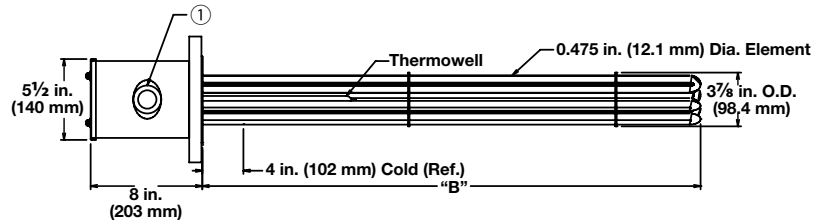
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in.	(mm)	Ship Wt. lbs	(kg)	Part Number		Del.	
									General Purpose Enclosure	Moisture-Resistant Enclosure		
23 W/in ² © Steel Flange 6-Alloy 800 Elements (3.6 W/cm ²)	240	6.0	1	1	18	(457)	32	(15)	FONA18A10S	RS	FONA18A10W	RS
	240	6.0	3	1	18	(457)	32	(15)	FONA18A3S	RS	FONA18A3W	RS
	480	6.0	1	1	18	(457)	32	(15)	FONA18A11S	RS	FONA18A11W	RS
	480	6.0	3	1	18	(457)	32	(15)	FONA18A5S	RS	FONA18A5W	RS
	240	9.0	1	1	25 1/2	(648)	36	(17)	FONA25J10S	RS	FONA25J10W	RS
	240	9.0	3	1	25 1/2	(648)	36	(17)	FONA25J3S	RS	FONA25J3W	RS
	480	9.0	1	1	25 1/2	(648)	36	(17)	FONA25J11S	RS	FONA25J11W	RS
	480	9.0	3	1	25 1/2	(648)	36	(17)	FONA25J5S	RS	FONA25J5W	RS
	240	12.0	1	2	33	(838)	39	(18)	FONA33A10S	RS	FONA33A10W	RS
	240	12.0	3	1	33	(838)	39	(18)	FONA33A3S	RS	FONA33A3W	RS
	480	12.0	1	1	33	(838)	39	(18)	FONA33A11S	RS	FONA33A11W	RS
	480	12.0	3	1	33	(838)	39	(18)	FONA33A5S	RS	FONA33A5W	RS
	240	15.0	1	2	40 1/2	(1029)	43	(20)	FONA40J10S	RS	FONA40J10W	RS
	240	15.0	3	1	40 1/2	(1029)	43	(20)	FONA40J3S	RS	FONA40J3W	RS
	480	15.0	1	1	40 1/2	(1029)	43	(20)	FONA40J11S	RS	FONA40J11W	RS
	480	15.0	3	1	40 1/2	(1029)	43	(20)	FONA40J5S	RS	FONA40J5W	RS
	240	18.0	1	2	48	(1219)	48	(22)	FONA48A10S	RS	FONA48A10W	RS
	240	18.0	3	1	48	(1219)	48	(22)	FONA48A3S	RS	FONA48A3W	RS
	480	18.0	1	1	48	(1219)	48	(22)	FONA48A11S	RS	FONA48A11W	RS
	480	18.0	3	1	48	(1219)	48	(22)	FONA48A5S	RS	FONA48A5W	RS
	240	25.0	3	2	64 1/2	(1638)	53	(24)	FONA64J3S	RS	FONA64J3W	RS
	480	25.0	1	2	64 1/2	(1638)	53	(24)	FONA64J11S	RS	FONA64J11W	RS
	480	25.0	3	1	64 1/2	(1638)	53	(24)	FONA64J5S	RS	FONA64J5W	RS
	240	30.0	3	2	77	(1956)	61	(28)	FONA77A3S	RS	FONA77A3W	RS
480	30.0	1	2	77	(1956)	61	(28)	FONA77A11S	RS	FONA77A11W	RS	
480	30.0	3	1	77	(1956)	61	(28)	FONA77A5S	RS	FONA77A5W	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

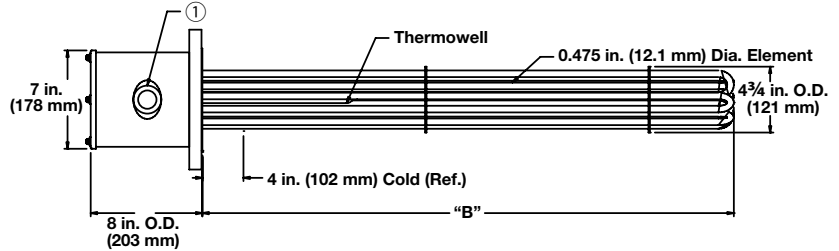
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
23 W/in² ® Steel Flange 6-Alloy 800 Elements (3.6 W/cm²)	240	6.0	1	1	18 (457)	36 (17)	FNNA18A10S	RS	FNNA18A10W	RS
	240	6.0	3	1	18 (457)	36 (17)	FNNA18A3S	RS	FNNA18A3W	RS
	480	6.0	1	1	18 (457)	36 (17)	FNNA18A11S	RS	FNNA18A11W	RS
	480	6.0	3	1	18 (457)	36 (17)	FNNA18A5S	RS	FNNA18A5W	RS
	240	9.0	1	1	25½ (648)	40 (19)	FNNA25J10S	RS	FNNA25J10W	RS
	240	9.0	3	1	25½ (648)	40 (19)	FNNA25J3S	RS	FNNA25J3W	RS
	480	9.0	1	1	25½ (648)	40 (19)	FNNA25J11S	RS	FNNA25J11W	RS
	480	9.0	3	1	25½ (648)	40 (19)	FNNA25J5S	RS	FNNA25J5W	RS
	240	12.0	1	2	33 (838)	43 (20)	FNNA33A10S	RS	FNNA33A10W	RS
	240	12.0	3	1	33 (838)	43 (20)	FNNA33A3S	RS	FNNA33A3W	RS
	480	12.0	1	1	33 (838)	43 (20)	FNNA33A11S	RS	FNNA33A11W	RS
	480	12.0	3	1	33 (838)	43 (20)	FNNA33A5S	RS	FNNA33A5W	RS
	240	15.0	1	2	40½ (1029)	47 (22)	FNNA40J10S	RS	FNNA40J10W	RS
	240	15.0	3	1	40½ (1029)	47 (22)	FNNA40J3S	RS	FNNA40J3W	RS
	480	15.0	1	1	40½ (1029)	47 (22)	FNNA40J11S	RS	FNNA40J11W	RS
	480	15.0	3	1	40½ (1029)	47 (22)	FNNA40J5S	RS	FNNA40J5W	RS
	240	18.0	1	2	48 (1219)	52 (24)	FNNA48A10S	RS	FNNA48A10W	RS
	240	18.0	3	1	48 (1219)	52 (24)	FNNA48A3S	RS	FNNA48A3W	RS
	480	18.0	1	1	48 (1219)	52 (24)	FNNA48A11S	RS	FNNA48A11W	RS
	480	18.0	3	1	48 (1219)	52 (24)	FNNA48A5S	RS	FNNA48A5W	RS
	240	25.0	3	2	64½ (1638)	57 (26)	FNNA64J3S	RS	FNNA64J3W	RS
	480	25.0	1	2	64½ (1638)	57 (26)	FNNA64J11S	RS	FNNA64J11W	RS
	480	25.0	3	1	64½ (1638)	57 (26)	FNNA64J5S	RS	FNNA64J5W	RS
	240	30.0	3	2	77 (1956)	65 (30)	FNNA77A3S	RS	FNNA77A3W	RS
480	30.0	1	2	77 (1956)	65 (30)	FNNA77A11S	RS	FNNA77A11W	RS	
480	30.0	3	1	77 (1956)	65 (30)	FNNA77A5S	RS	FNNA77A5W	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

Immersion Heaters

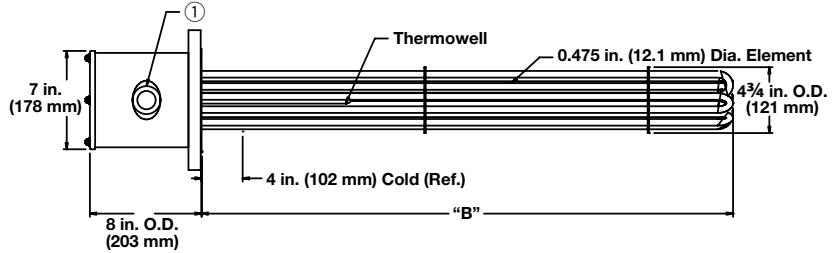
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in.	(mm)	Ship Wt. lbs	(kg)	Part Number		Del.	
									General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
23 W/in² © Steel Flange 9-Alloy 800 Elements (3.6 W/cm²)	240	9.0	1	1	18	(457)	39	(18)	FNNA18A10XS	RS	FNNA18A10XW	RS
	240	9.0	3	1	18	(457)	39	(18)	FNNA18A3XS	RS	FNNA18A3XW	RS
	480	9.0	1	1	18	(457)	39	(18)	FNNA18A11XS	RS	FNNA18A11XW	RS
	480	9.0	3	1	18	(457)	39	(18)	FNNA18A5XS	RS	FNNA18A5XW	RS
	240	14.0	1	3	25 ^{1/2}	(648)	45	(21)	FNNA25J10XS	RS	FNNA25J10XW	RS
	240	14.0	3	1	25 ^{1/2}	(648)	45	(21)	FNNA25J3XS	RS	FNNA25J3XW	RS
	480	14.0	1	1	25 ^{1/2}	(648)	45	(21)	FNNA25J11XS	RS	FNNA25J11XW	RS
	480	14.0	3	1	25 ^{1/2}	(648)	45	(21)	FNNA25J5XS	RS	FNNA25J5XW	RS
	240	18.0	1	3	33	(838)	48	(22)	FNNA33A10XS	RS	FNNA33A10XW	RS
	240	18.0	3	1	33	(838)	48	(22)	FNNA33A3XS	RS	FNNA33A3XW	RS
	480	18.0	1	1	33	(838)	48	(22)	FNNA33A11XS	RS	FNNA33A11XW	RS
	480	18.0	3	1	33	(838)	48	(22)	FNNA33A5XS	RS	FNNA33A5XW	RS
	240	23.0	1	3	40 ^{1/2}	(1029)	53	(24)	FNNA40J10XS	RS	FNNA40J10XW	RS
	240	23.0	3	3	40 ^{1/2}	(1029)	53	(24)	FNNA40J3XS	RS	FNNA40J3XW	RS
	480	23.0	1	1	40 ^{1/2}	(1029)	53	(24)	FNNA40J11XS	RS	FNNA40J11XW	RS
	480	23.0	3	1	40 ^{1/2}	(1029)	53	(24)	FNNA40J5XS	RS	FNNA40J5XW	RS
	240	27.0	1	3	48	(1219)	60	(28)	FNNA48A10XS	RS	FNNA48A10XW	RS
	240	27.0	3	3	48	(1219)	60	(28)	FNNA48A3XS	RS	FNNA48A3XW	RS
	480	27.0	1	3	48	(1219)	60	(28)	FNNA48A11XS	RS	FNNA48A11XW	RS
	480	27.0	3	1	48	(1219)	60	(28)	FNNA48A5XS	RS	FNNA48A5XW	RS
	240	38.0	3	3	64 ^{1/2}	(1638)	68	(31)	FNNA64J3XS	RS	FNNA64J3XW	RS
	480	38.0	1	3	64 ^{1/2}	(1638)	68	(31)	FNNA64J11XS	RS	FNNA64J11XW	RS
	480	38.0	3	1	64 ^{1/2}	(1638)	68	(31)	FNNA64J5XS	RS	FNNA64J5XW	RS
	240	45.0	3	3	77	(1956)	78	(36)	FNNA77A3XS	M	FNNA77A3XW	M
	480	45.0	1	3	77	(1956)	78	(36)	FNNA77A11XS	M	FNNA77A11XW	M
	480	45.0	3	3	77	(1956)	78	(36)	FNNA77A5XS	M	FNNA77A5XW	M

RAPID SHIP
 • RS - Next day shipment up to 5 pieces
 • M - Manufacturing lead times

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 • For ANSI flange dimensions, reference chart on page 241

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

■ Truck Shipment only

Immersion Heaters

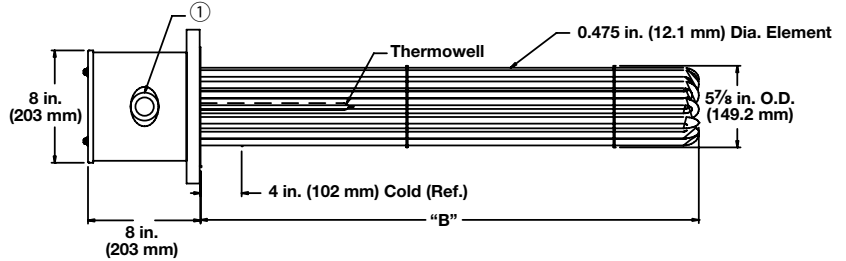
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
							Part Number	Del.	Part Number	Del.
23 W/in² ⑥ Steel Flange 12-Alloy 800 Elements (3.6 W/cm²)	240	12.0	1	2	17 ⁷ / ₈ (454.0)	75 (34)	FPNA17R10S	M	FPNA17R10W	M
	240	12.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPNA17R3S	M	FPNA17R3W	M
	480	12.0	1	1	17 ⁷ / ₈ (454.0)	75 (34)	FPNA17R11S	M	FPNA17R11W	M
	480	12.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPNA17R5S	M	FPNA17R5W	M
	240	18.0	1	2	25 ³ / ₈ (644.5)	81 (37)	FPNA25G10S	M	FPNA25G10W	M
	240	18.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPNA25G3S	M	FPNA25G3W	M
	480	18.0	1	1	25 ³ / ₈ (644.5)	81 (37)	FPNA25G11S	M	FPNA25G11W	M
	480	18.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPNA25G5S	M	FPNA25G5W	M
	240	24.0	1	3	32 ⁷ / ₈ (835.0)	85 (39)	FPNA32R10S	M	FPNA32R10W	M
	240	24.0	3	2	32 ⁷ / ₈ (835.0)	85 (39)	FPNA32R3S	M	FPNA32R3W	M
	480	24.0	1	2	32 ⁷ / ₈ (835.0)	85 (39)	FPNA32R11S	M	FPNA32R11W	M
	480	24.0	3	1	32 ⁷ / ₈ (835.0)	85 (39)	FPNA32R5S	M	FPNA32R5W	M
	240	30.0	1	3	40 ³ / ₈ (1025.5)	92 (42)	FPNA40G10S	M	FPNA40G10W	M
	240	30.0	3	2	40 ³ / ₈ (1025.5)	92 (42)	FPNA40G3S	M	FPNA40G3W	M
	480	30.0	1	2	40 ³ / ₈ (1025.5)	92 (42)	FPNA40G11S	M	FPNA40G11W	M
	480	30.0	3	1	40 ³ / ₈ (1025.5)	92 (42)	FPNA40G5S	M	FPNA40G5W	M
	240	36.0	1	4	47 ⁷ / ₈ (1216.0)	100 (46)	FPNA47R10S	M	FPNA47R10W	M
	240	36.0	3	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPNA47R3S	M	FPNA47R3W	M
	480	36.0	1	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPNA47R11S	M	FPNA47R11W	M
	480	36.0	3	1	47 ⁷ / ₈ (1216.0)	100 (46)	FPNA47R5S	M	FPNA47R5W	M
	240	50.0	3	4	64 ³ / ₈ (1635.1)	110 (50)	FPNA64G3S	M	FPNA64G3W	M
	480	50.0	1	3	64 ³ / ₈ (1635.1)	110 (50)	FPNA64G11S	M	FPNA64G11W	M
	480	50.0	3	2	64 ³ / ₈ (1635.1)	110 (50)	FPNA64G5S	M	FPNA64G5W	M
	240	60.0	3	4	76 ⁷ / ₈ (1952.4)	118 (54)	FPNA76R3S	M	FPNA76R3W	M
480	60.0	1	3	76 ⁷ / ₈ (1952.4)	118 (54)	FPNA76R11S	M	FPNA76R11W	M	
480	60.0	3	2	76 ⁷ / ₈ (1952.4)	118 (54)	FPNA76R5S	M	FPNA76R5W	M	

• M - Manufacturing lead times

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

■ Truck Shipment only

Immersion Heaters

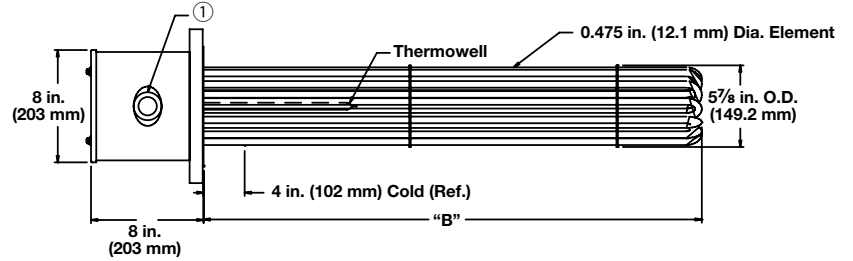
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure		
23 W/in² ⑥ Steel Flange 15-Alloy 800 Elements (3.6 W/cm²)	240	15.0	1	3	17 ⁷ / ₈ (454.0)	78 (36)	FPNA17R10XS	M	FPNA17R10XW	M
	240	15.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPNA17R3XS	M	FPNA17R3XW	M
	480	15.0	1	1	17 ⁷ / ₈ (454.0)	78 (36)	FPNA17R11XS	M	FPNA17R11XW	M
	480	15.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPNA17R5XS	M	FPNA17R5XW	M
	240	23.0	1	3	25 ³ / ₈ (644.5)	85 (39)	FPNA25G10XS	M	FPNA25G10XW	M
	240	23.0	3	5	25 ³ / ₈ (644.5)	85 (39)	FPNA25G3XS	M	FPNA25G3XW	M
	480	23.0	1	1	25 ³ / ₈ (644.5)	85 (39)	FPNA25G11XS	M	FPNA25G11XW	M
	480	23.0	3	1	25 ³ / ₈ (644.5)	85 (39)	FPNA25G5XS	M	FPNA25G5XW	M
	240	30.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPNA32R10XS	M	FPNA32R10XW	M
	240	30.0	3	5	32 ⁷ / ₈ (835.0)	90 (41)	FPNA32R3XS	M	FPNA32R3XW	M
	480	30.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPNA32R11XS	M	FPNA32R11XW	M
	480	30.0	3	1	32 ⁷ / ₈ (835.0)	90 (41)	FPNA32R5XS	M	FPNA32R5XW	M
	240	38.0	1	5	40 ³ / ₈ (1025.5)	98 (45)	FPNA40G10XS	M	FPNA40G10XW	M
	240	38.0	3	5	40 ³ / ₈ (1025.5)	98 (45)	FPNA40G3XS	M	FPNA40G3XW	M
	480	38.0	1	3	40 ³ / ₈ (1025.5)	98 (45)	FPNA40G11XS	M	FPNA40G11XW	M
	480	38.0	3	1	40 ³ / ₈ (1025.5)	98 (45)	FPNA40G5XS	M	FPNA40G5XW	M
	240	45.0	1	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPNA47R10XS	M	FPNA47R10XW	M
	240	45.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPNA47R3XS	M	FPNA47R3XW	M
	480	45.0	1	3	47 ⁷ / ₈ (1216.0)	108 (49)	FPNA47R11XS	M	FPNA47R11XW	M
	480	45.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPNA47R5XS	M	FPNA47R5XW	M
	240	63.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPNA64G3XS	M	FPNA64G3XW	M
	480	63.0	1	3	64 ³ / ₈ (1635.1)	120 (55)	FPNA64G11XS	M	FPNA64G11XW	M
	480	63.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPNA64G5XS	M	FPNA64G5XW	M
	240	75.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPNA76R3XS	M	FPNA76R3XW	M
480	75.0	1	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPNA76R11XS	M	FPNA76R11XW	M	
480	75.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPNA76R5XS	M	FPNA76R5XW	M	

• M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

■ Truck Shipment only

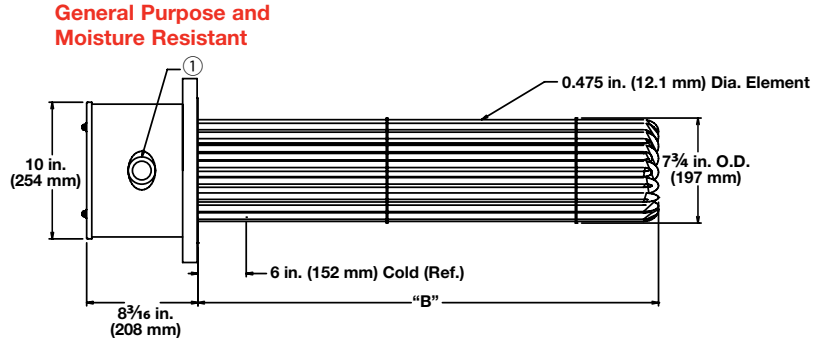
Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)		Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
								Part Number	Del.	Part Number	Del.
23 W/in² ® Steel Flange 18-Alloy 800 Elements (3.6 W/cm²)	240	30.0	1	3	32 ³ / ₄	(832.0)	130 (59)	FRNA32N10S	M	FRNA32N10W	M
	240	30.0	3	2	32 ³ / ₄	(832.0)	130 (59)	FRNA32N3S	M	FRNA32N3W	M
	480	30.0	1	2	32 ³ / ₄	(832.0)	130 (59)	FRNA32N11S	M	FRNA32N11W	M
	480	30.0	3	1	32 ³ / ₄	(832.0)	130 (59)	FRNA32N5S	M	FRNA32N5W	M
	240	40.0	3	3	43 ¹ / ₄	(1099.0)	132 (60)	FRNA43E3S	M	FRNA43E3W	M
	480	40.0	1	2	43 ¹ / ₄	(1099.0)	132 (60)	FRNA43E11S	M	FRNA43E11W	M
	480	40.0	3	3	43 ¹ / ₄	(1099.0)	132 (60)	FRNA43E5S	M	FRNA43E5W	M
	240	50.0	3	3	51 ¹¹ / ₁₆	(1312.9)	137 (63)	FRNA51M3S	M	FRNA51M3W	M
	480	50.0	1	3	51 ¹¹ / ₁₆	(1312.9)	137 (63)	FRNA51M11S	M	FRNA51M11W	M
	480	50.0	3	2	51 ¹¹ / ₁₆	(1312.9)	137 (63)	FRNA51M5S	M	FRNA51M5W	M
23 W/in² ® Steel Flange 24-Alloy 800 Elements (3.6 W/cm²)	240	40.0	1	4	33 ³ / ₁₆	(843.0)	142 (65)	FRNA33D10XS	M	FRNA33D10XW	M
	240	40.0	3	4	33 ³ / ₁₆	(843.0)	142 (65)	FRNA33D3XS	M	FRNA33D3XW	M
	480	40.0	1	2	33 ³ / ₁₆	(843.0)	142 (65)	FRNA33D11XS	M	FRNA33D11XW	M
	480	40.0	3	2	33 ³ / ₁₆	(843.0)	142 (65)	FRNA33D5XS	M	FRNA33D5XW	M
	240	53.0	3	4	43 ¹¹ / ₁₆	(1109.7)	147 (67)	FRNA43M3XS	M	FRNA43M3XW	M
	480	53.0	1	3	43 ¹¹ / ₁₆	(1109.7)	147 (67)	FRNA43M11XS	M	FRNA43M11XW	M
	480	53.0	3	2	43 ¹¹ / ₁₆	(1109.7)	147 (67)	FRNA43M5XS	M	FRNA43M5XW	M
	240	67.0	3	4	51 ¹¹ / ₁₆	(1312.9)	154 (70)	FRNA51M3XS	M	FRNA51M3XW	M
	480	67.0	1	3	51 ¹¹ / ₁₆	(1312.9)	154 (70)	FRNA51M11XS	M	FRNA51M11XW	M
	480	67.0	3	2	51 ¹¹ / ₁₆	(1312.9)	154 (70)	FRNA51M5XS	M	FRNA51M5XW	M

• M - Manufacturing lead times

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

⑥ Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

■ Truck Shipment only

Immersion Heaters

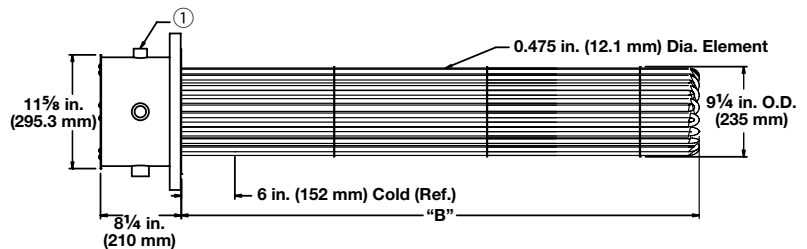
WATROD and FIREBAR ANSI Flange Immersion Heaters



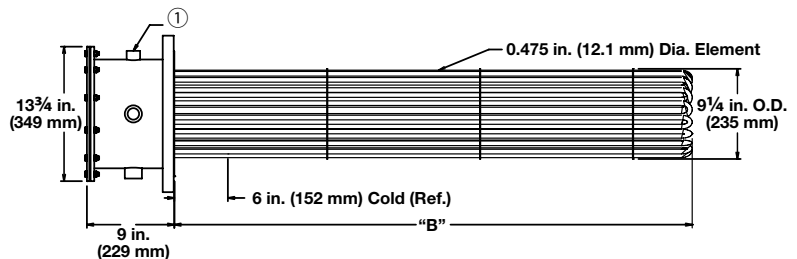
Application: Forced Air and Caustic Solutions

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
							Part Number	Del.	Part Number	Del.
23 W/in ² Steel Flange 27-Alloy 800 Elements (3.6 W/cm ²)	240	45.0	3	3	33 ¹ / ₄ (845)	165 (75)	FSNA33E3S	M	FSNA33E3W	M
	480	45.0	3	3	33 ¹ / ₄ (845)	165 (75)	FSNA33E5S	M	FSNA33E5W	M
	240	60.0	3	3	43 ³ / ₄ (1111)	195 (89)	FSNA43N3S	M	FSNA43N3W	M
	480	60.0	3	3	43 ³ / ₄ (1111)	195 (89)	FSNA43N5S	M	FSNA43N5W	M
	240	75.0	3	9	51 ³ / ₄ (1314)	230 (105)	FSNA51N3S	M	FSNA51N3W	M
	480	75.0	3	3	51 ³ / ₄ (1314)	230 (105)	FSNA51N5S	M	FSNA51N5W	M

• M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

■ Truck Shipment only

Immersion Heaters

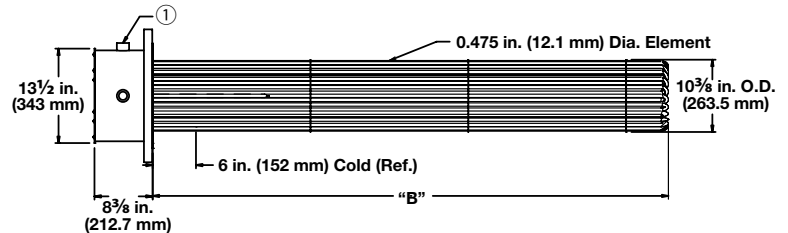
WATROD and FIREBAR ANSI Flange Immersion Heaters



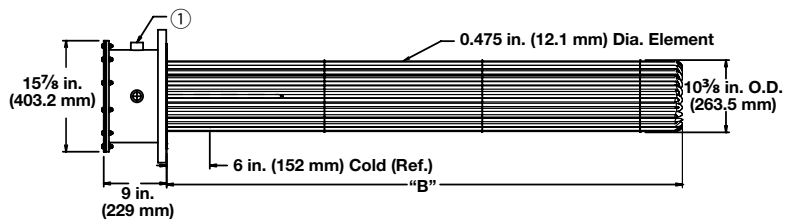
Application: Forced Air and Caustic Solutions

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
23 W/in ² Steel Flange 36-Alloy 800 Elements (3.6 W/cm ²)	480	60.0	3	3	33 ¹ / ₈ (841.4)	205 (93)	FTNA33C5S	M	FTNA33C5W	M
	480	80.0	3	3	43 ⁵ / ₈ (1108.1)	240 (109)	FTNA43L5S	M	FTNA43L5W	M
	480	100.0	3	3	51 ⁵ / ₈ (1311.3)	280 (127)	FTNA51L5S	M	FTNA51L5W	M

- M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
- Truck Shipment only

Immersion Heaters

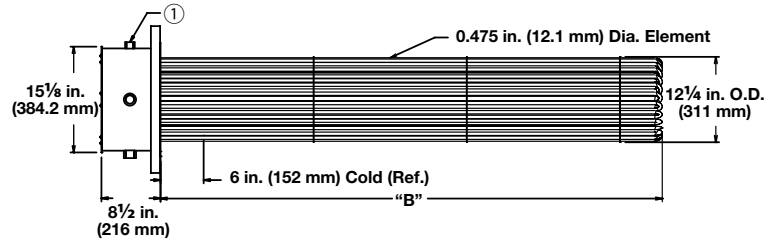
WATROD and FIREBAR ANSI Flange Immersion Heaters



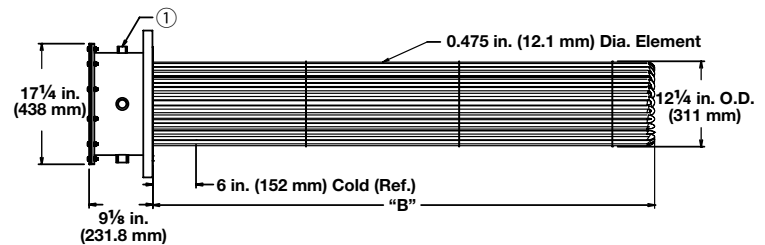
Application: Forced Air and Caustic Solutions

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
23 W/in ² Steel Flange 45-Alloy 800 Elements (3.6 W/cm ²)	480	75.0	3	3	33 (838)	225 (102)	FWNA33A5S	M	FWNA33A5W	M
	480	100.0	3	3	43 1/2 (1105)	255 (116)	FWNA43J5S	M	FWNA43J5W	M
	480	125.0	3	5	51 1/2 (1308)	300 (136)	FWNA51J5S	M	FWNA51J5W	M

- M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
- Truck Shipment only

Immersion Heaters

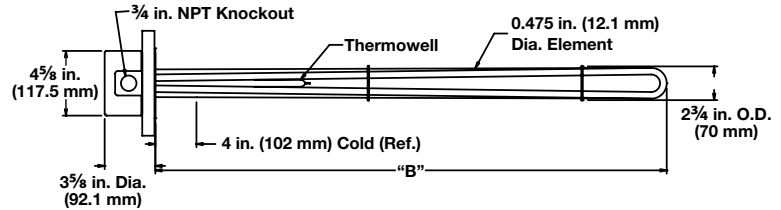
WATROD and FIREBAR ANSI Flange Immersion Heaters



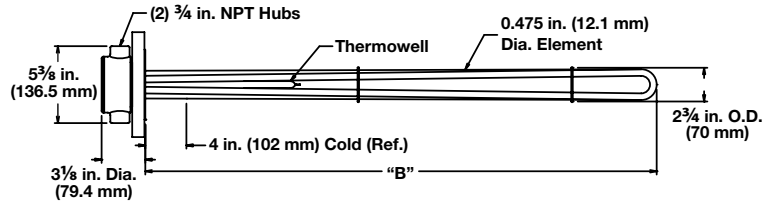
Application: Lightweight Oils and Heat Transfer Oils

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures
- Single circuit

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	"B" Dim.		Ship Wt.		Part Number	Del.	Part Number	Del.
				in.	(mm)	lbs	(kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
23 W/in ² Steel Flange 3-Steel Elements (3.6 W/cm ²)	240	3.0	1	18	(457)	23	(11)	FMS718A10S	RS	FMS718A10W	RS
	240	3.0	3	18	(457)	23	(11)	FMS718A3S	RS	FMS718A3W	RS
	480	3.0	1	18	(457)	23	(11)	FMS718A11S	RS	FMS718A11W	RS
	480	3.0	3	18	(457)	23	(11)	FMS718A5S	RS	FMS718A5W	RS
	240	4.5	1	25 ¹ / ₂	(648)	27	(13)	FMS725J10S	RS	FMS725J10W	RS
	240	4.5	3	25 ¹ / ₂	(648)	27	(13)	FMS725J3S	RS	FMS725J3W	RS
	480	4.5	1	25 ¹ / ₂	(648)	27	(13)	FMS725J11S	RS	FMS725J11W	RS
	480	4.5	3	25 ¹ / ₂	(648)	27	(13)	FMS725J5S	RS	FMS725J5W	RS
	240	6.0	1	33	(838)	28	(13)	FMS733A10S	RS	FMS733A10W	RS
	240	6.0	3	33	(838)	28	(13)	FMS733A3S	RS	FMS733A3W	RS
	480	6.0	1	33	(838)	28	(13)	FMS733A11S	RS	FMS733A11W	RS
	480	6.0	3	33	(838)	28	(13)	FMS733A5S	RS	FMS733A5W	RS
	240	7.5	1	40 ¹ / ₂	(1029)	30	(14)	FMS740J10S	RS	FMS740J10W	RS
	240	7.5	3	40 ¹ / ₂	(1029)	30	(14)	FMS740J3S	RS	FMS740J3W	RS
	480	7.5	1	40 ¹ / ₂	(1029)	30	(14)	FMS740J11S	RS	FMS740J11W	RS
	480	7.5	3	40 ¹ / ₂	(1029)	30	(14)	FMS740J5S	RS	FMS740J5W	RS
	240	9.0	1	48	(1219)	32	(15)	FMS748A10S	RS	FMS748A10W	RS
	240	9.0	3	48	(1219)	32	(15)	FMS748A3S	RS	FMS748A3W	RS
	480	9.0	1	48	(1219)	32	(15)	FMS748A11S	RS	FMS748A11W	RS
	480	9.0	3	48	(1219)	32	(15)	FMS748A5S	RS	FMS748A5W	RS
	240	12.5	3	64 ¹ / ₂	(1638)	37	(17)	FMS764J3S	RS	FMS764J3W	RS
	480	12.5	1	64 ¹ / ₂	(1638)	37	(17)	FMS764J11S	RS	FMS764J11W	RS
	480	12.5	3	64 ¹ / ₂	(1638)	37	(17)	FMS764J5S	RS	FMS764J5W	RS
	240	15.0	3	77	(1956)	42	(19)	FMS777A3S	RS	FMS777A3W	RS
	480	15.0	1	77	(1956)	42	(19)	FMS777A11S	RS	FMS777A11W	RS
	480	15.0	3	77	(1956)	42	(19)	FMS777A5S	RS	FMS777A5W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

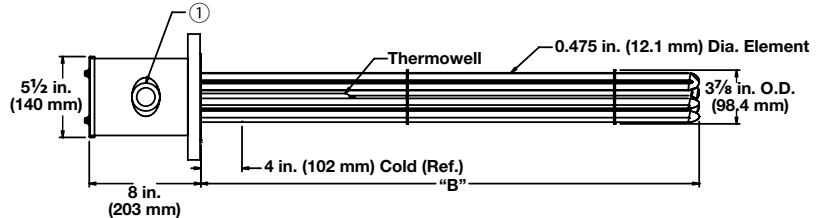
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
23 W/in ² Steel Flange 6-Steel Elements (3.6 W/cm ²)	240	6.0	1	1	18 (457)	32 (15)	FOS718A10S	RS	FOS718A10W	RS
	240	6.0	3	1	18 (457)	32 (15)	FOS718A3S	RS	FOS718A3W	RS
	480	6.0	1	1	18 (457)	32 (15)	FOS718A11S	RS	FOS718A11W	RS
	480	6.0	3	1	18 (457)	32 (15)	FOS718A5S	RS	FOS718A5W	RS
	240	9.0	1	1	25 1/2 (648)	36 (17)	FOS725J10S	RS	FOS725J10W	RS
	240	9.0	3	1	25 1/2 (648)	36 (17)	FOS725J3S	RS	FOS725J3W	RS
	480	9.0	1	1	25 1/2 (648)	36 (17)	FOS725J11S	RS	FOS725J11W	RS
	480	9.0	3	1	25 1/2 (648)	36 (17)	FOS725J5S	RS	FOS725J5W	RS
	240	12.0	1	2	33 (838)	39 (18)	FOS733A10S	RS	FOS733A10W	RS
	240	12.0	3	1	33 (838)	39 (18)	FOS733A3S	RS	FOS733A3W	RS
	480	12.0	1	1	33 (838)	39 (18)	FOS733A11S	RS	FOS733A11W	RS
	480	12.0	3	1	33 (838)	39 (18)	FOS733A5S	RS	FOS733A5W	RS
	240	15.0	1	2	40 1/2 (1029)	43 (20)	FOS740J10S	RS	FOS740J10W	RS
	240	15.0	3	1	40 1/2 (1029)	43 (20)	FOS740J3S	RS	FOS740J3W	RS
	480	15.0	1	1	40 1/2 (1029)	43 (20)	FOS740J11S	RS	FOS740J11W	RS
	480	15.0	3	1	40 1/2 (1029)	43 (20)	FOS740J5S	RS	FOS740J5W	RS
	240	18.0	1	2	48 (1219)	48 (22)	FOS748A10S	RS	FOS748A10W	RS
	240	18.0	3	1	48 (1219)	48 (22)	FOS748A3S	RS	FOS748A3W	RS
	480	18.0	1	1	48 (1219)	48 (22)	FOS748A11S	RS	FOS748A11W	RS
	480	18.0	3	1	48 (1219)	48 (22)	FOS748A5S	RS	FOS748A5W	RS
	240	25.0	3	2	64 1/2 (1638)	53 (24)	FOS764J3S	RS	FOS764J3W	RS
	480	25.0	1	2	64 1/2 (1638)	53 (24)	FOS764J11S	RS	FOS764J11W	RS
	480	25.0	3	1	64 1/2 (1638)	53 (24)	FOS764J5S	RS	FOS764J5W	RS
	240	30.0	3	2	77 (1956)	61 (28)	FOS777A3S	RS	FOS777A3W	RS
480	30.0	1	2	77 (1956)	61 (28)	FOS777A11S	RS	FOS777A11W	RS	
480	30.0	3	1	77 (1956)	61 (28)	FOS777A5S	RS	FOS777A5W	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

- Notes:
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

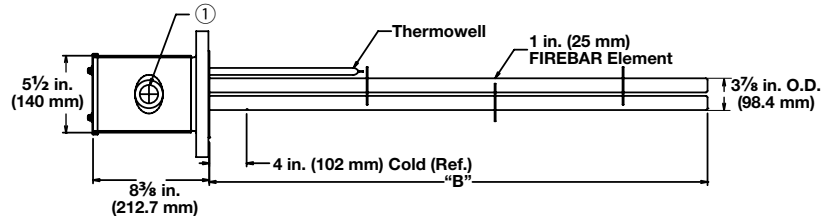
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 4 inch - 150 lb ANSI flange
- FIREBAR elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in.	(mm)	Ship Wt. lbs	(kg)	Part Number		Del.	
									General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
30 W/in ² ③ 304 SS Flange 6-Alloy 800 Elements (4.7 W/cm ²)	240	10.0	3	1	16 1/2	(420)	35	(16)	FONF16J12S	RS	FONF16J12W	RS
	480	10.0	3	1	16 1/2	(420)	35	(16)	FONF16J13S	RS	FONF16J13W	RS
	240	13.0	3	1	19 1/2	(495)	38	(17)	FONF19J12S	RS	FONF19J12W	RS
	480	13.0	3	1	19 1/2	(495)	38	(17)	FONF19J13S	RS	FONF19J13W	RS
	240	17.0	3	1	24 1/2	(622)	41	(19)	FONF24J12S	RS	FONF24J12W	RS
	480	17.0	3	1	24 1/2	(622)	41	(19)	FONF24J13S	RS	FONF24J13W	RS
	240	21.0	3	2	30	(762)	44	(20)	FONF30A12S	RS	FONF30A12W	RS
	480	21.0	3	1	30	(762)	44	(20)	FONF30A13S	RS	FONF30A13W	RS
	240	25.5	3	2	35	(889)	46	(21)	FONF35A12S	RS	FONF35A12W	RS
	480	25.5	3	1	35	(889)	46	(21)	FONF35A13S	RS	FONF35A13W	RS
	240	34.0	3	2	45 1/2	(1156)	50	(23)	FONF45J12S	RS	FONF45J12W	RS
	480	34.0	3	1	45 1/2	(1156)	50	(23)	FONF45J13S	RS	FONF45J13W	RS
	480	43.0	3	2	56	(1422)	54	(25)	FONF56A13S	RS	FONF56A13W	RS
23 W/in ² ③ 304 SS Flange 6-Alloy 800 Elements (3.6 W/cm ²)	240	7.5	3	1	16 1/2	(420)	35	(16)	FONF16J20S	RS	FONF16J20W	RS
	240	10.0	3	1	19 1/2	(495)	38	(17)	FONF19J20S	RS	FONF19J20W	RS
	240	12.8	3	1	24 1/2	(622)	41	(19)	FONF24J20S	RS	FONF24J20W	RS
	480	12.8	3	1	24 1/2	(622)	41	(19)	FONF24J19S	RS	FONF24J19W	RS
	240	15.8	3	1	30	(762)	44	(20)	FONF30A20S	RS	FONF30A20W	RS
	480	15.8	3	1	30	(762)	44	(20)	FONF30A19S	RS	FONF30A19W	RS
	240	19.0	3	1	35	(889)	46	(21)	FONF35A20S	RS	FONF35A20W	RS
	480	19.0	3	1	35	(889)	46	(21)	FONF35A19S	RS	FONF35A19W	RS
	240	25.0	3	2	45 1/2	(1156)	50	(23)	FONF45J20S	RS	FONF45J20W	RS
	480	25.0	3	1	45 1/2	(1156)	50	(23)	FONF45J19S	RS	FONF45J19W	RS
	240	32.3	3	2	56	(1422)	54	(25)	FONF56A20S	RS	FONF56A20W	RS
	480	32.3	3	1	56	(1422)	54	(25)	FONF56A19S	RS	FONF56A19W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

- ③ Wired for 3-phase operation only
- ⑧ Can be rewired for 1-phase

Immersion Heaters

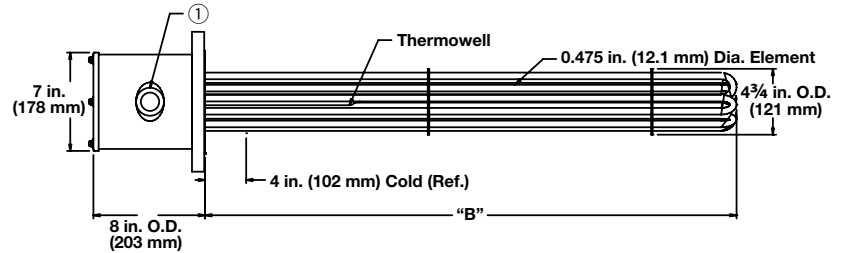
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim.		Ship Wt.		Part Number		Part Number	
					in.	(mm)	lbs	(kg)	Del.	Del.		
23 W/in ² Steel Flange 6-Steel Elements (3.6 W/cm ²)	240	6.0	1	1	18	(457)	36	(17)	General Purpose Enclosure		Moisture-Resistant Enclosure	
									FNS718A10S	RS	FNS718A10W	RS
	240	6.0	3	1	18	(457)	36	(17)	FNS718A3S	RS	FNS718A3W	RS
	480	6.0	1	1	18	(457)	36	(17)	FNS718A11S	RS	FNS718A11W	RS
	480	6.0	3	1	18	(457)	36	(17)	FNS718A5S	RS	FNS718A5W	RS
	240	9.0	1	1	25 ¹ / ₂	(648)	40	(19)	FNS725J10S	RS	FNS725J10W	RS
	240	9.0	3	1	25 ¹ / ₂	(648)	40	(19)	FNS725J3S	RS	FNS725J3W	RS
	480	9.0	1	1	25 ¹ / ₂	(648)	40	(19)	FNS725J11S	RS	FNS725J11W	RS
	480	9.0	3	1	25 ¹ / ₂	(648)	40	(19)	FNS725J5S	RS	FNS725J5W	RS
	240	12.0	1	2	33	(838)	43	(20)	FNS733A10S	RS	FNS733A10W	RS
	240	12.0	3	1	33	(838)	43	(20)	FNS733A3S	RS	FNS733A3W	RS
	480	12.0	1	1	33	(838)	43	(20)	FNS733A11S	RS	FNS733A11W	RS
	480	12.0	3	1	33	(838)	43	(20)	FNS733A5S	RS	FNS733A5W	RS
	240	15.0	1	2	40 ¹ / ₂	(1029)	47	(22)	FNS740J10S	RS	FNS740J10W	RS
	240	15.0	3	1	40 ¹ / ₂	(1029)	47	(22)	FNS740J3S	RS	FNS740J3W	RS
	480	15.0	1	1	40 ¹ / ₂	(1029)	47	(22)	FNS740J11S	RS	FNS740J11W	RS
	480	15.0	3	1	40 ¹ / ₂	(1029)	47	(22)	FNS740J5S	RS	FNS740J5W	RS
	240	18.0	1	2	48	(1219)	52	(24)	FNS748A10S	RS	FNS748A10W	RS
	240	18.0	3	1	48	(1219)	52	(24)	FNS748A3S	RS	FNS748A3W	RS
	480	18.0	1	1	48	(1219)	52	(24)	FNS748A11S	RS	FNS748A11W	RS
	480	18.0	3	1	48	(1219)	52	(24)	FNS748A5S	RS	FNS748A5W	RS
	240	25.0	3	2	64 ¹ / ₂	(1638)	57	(26)	FNS764J3S	RS	FNS764J3W	RS
	480	25.0	1	2	64 ¹ / ₂	(1638)	57	(26)	FNS764J11S	RS	FNS764J11W	RS
	480	25.0	3	1	64 ¹ / ₂	(1638)	57	(26)	FNS764J5S	RS	FNS764J5W	RS
	240	30.0	3	2	77	(1956)	65	(30)	FNS777A3S	RS	FNS777A3W	RS
	480	30.0	1	2	77	(1956)	65	(30)	FNS777A11S	RS	FNS777A11W	RS
	480	30.0	3	1	77	(1956)	65	(30)	FNS777A5S	RS	FNS777A5W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

- Notes:
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

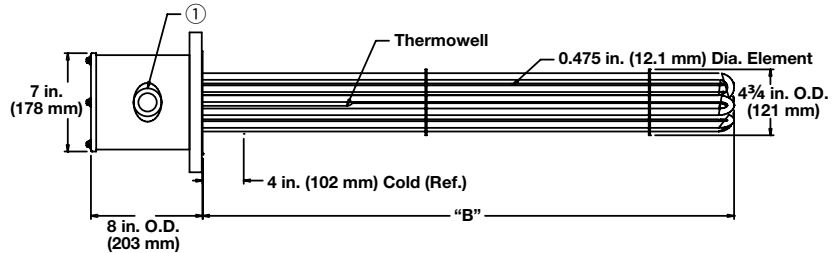
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
23 W/in ² Steel Flange 9-Steel Elements (3.6 W/cm ²)	240	9.0	1	1	18 (457)	39 (18)	FNS718A10XS	RS	FNS718A10XW	RS
	240	9.0	3	1	18 (457)	39 (18)	FNS718A3XS	RS	FNS718A3XW	RS
	480	9.0	1	1	18 (457)	39 (18)	FNS718A11XS	RS	FNS718A11XW	RS
	480	9.0	3	1	18 (457)	39 (18)	FNS718A5XS	RS	FNS718A5XW	RS
	240	14.0	1	3	25 ^{1/2} (648)	45 (21)	FNS725J10XS	RS	FNS725J10XW	RS
	240	14.0	3	1	25 ^{1/2} (648)	45 (21)	FNS725J3XS	RS	FNS725J3XW	RS
	480	14.0	1	1	25 ^{1/2} (648)	45 (21)	FNS725J11XS	RS	FNS725J11XW	RS
	480	14.0	3	1	25 ^{1/2} (648)	45 (21)	FNS725J5XS	RS	FNS725J5XW	RS
	240	18.0	1	3	33 (838)	48 (22)	FNS733A10XS	RS	FNS733A10XW	RS
	240	18.0	3	1	33 (838)	48 (22)	FNS733A3XS	RS	FNS733A3XW	RS
	480	18.0	1	1	33 (838)	48 (22)	FNS733A11XS	RS	FNS733A11XW	RS
	480	18.0	3	1	33 (838)	48 (22)	FNS733A5XS	RS	FNS733A5XW	RS
	240	23.0	1	3	40 ^{1/2} (1029)	53 (24)	FNS740J10XS	RS	FNS740J10XW	RS
	240	23.0	3	3	40 ^{1/2} (1029)	53 (24)	FNS740J3XS	RS	FNS740J3XW	RS
	480	23.0	1	1	40 ^{1/2} (1029)	53 (24)	FNS740J11XS	RS	FNS740J11XW	RS
	480	23.0	3	1	40 ^{1/2} (1029)	53 (24)	FNS740J5XS	RS	FNS740J5XW	RS
	240	27.0	1	3	48 (1219)	60 (28)	FNS748A10XS	RS	FNS748A10XW	RS
	240	27.0	3	3	48 (1219)	60 (28)	FNS748A3XS	RS	FNS748A3XW	RS
	480	27.0	1	3	48 (1219)	60 (28)	FNS748A11XS	RS	FNS748A11XW	RS
	480	27.0	3	1	48 (1219)	60 (28)	FNS748A5XS	RS	FNS748A5XW	RS
	240	38.0	3	3	64 ^{1/2} (1638)	68 (31)	FNS764J3XS	RS	FNS764J3XW	RS
	480	38.0	1	3	64 ^{1/2} (1638)	68 (31)	FNS764J11XS	RS	FNS764J11XW	RS
	480	38.0	3	1	64 ^{1/2} (1638)	68 (31)	FNS764J5XS	RS	FNS764J5XW	RS
	240	45.0	3	3	77 (1956)	78 (36)	FNS777A3XS	M	FNS777A3XW	M
480	45.0	1	3	77 (1956)	78 (36)	FNS777A11XS	M	FNS777A11XW	M	
480	45.0	3	3	77 (1956)	78 (36)	FNS777A5XS	M	FNS777A5XW	M	

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

■ Truck Shipment only

Immersion Heaters

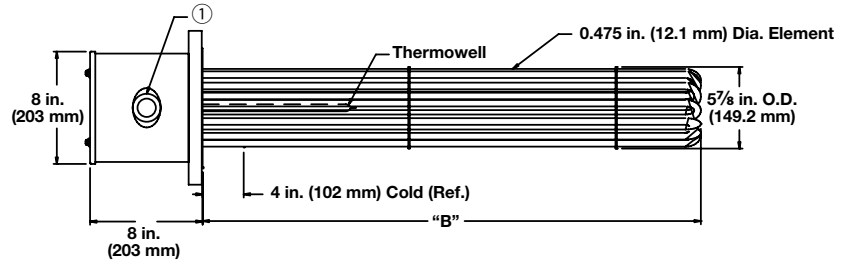
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
23 W/in ² Steel Flange 12-Steel Elements (3.6 W/cm ²)	240	12.0	1	2	17 ⁷ / ₈ (454.0)	75 (34)	FPS717R10S	M	FPS717R10W	M
	240	12.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPS717R3S	M	FPS717R3W	M
	480	12.0	1	1	17 ⁷ / ₈ (454.0)	75 (34)	FPS717R11S	M	FPS717R11W	M
	480	12.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPS717R5S	M	FPS717R5W	M
	240	18.0	1	2	25 ³ / ₈ (644.5)	81 (37)	FPS725G10S	M	FPS725G10W	M
	240	18.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPS725G3S	M	FPS725G3W	M
	480	18.0	1	1	25 ³ / ₈ (644.5)	81 (37)	FPS725G11S	M	FPS725G11W	M
	480	18.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPS725G5S	M	FPS725G5W	M
	240	24.0	1	3	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R10S	M	FPS732R10W	M
	240	24.0	3	2	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R3S	M	FPS732R3W	M
	480	24.0	1	2	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R11S	M	FPS732R11W	M
	480	24.0	3	1	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R5S	M	FPS732R5W	M
	240	30.0	1	3	40 ³ / ₈ (1025.5)	92 (42)	FPS740G10S	M	FPS740G10W	M
	240	30.0	3	2	40 ³ / ₈ (1025.5)	92 (42)	FPS740G3S	M	FPS740G3W	M
	480	30.0	1	2	40 ³ / ₈ (1025.5)	92 (42)	FPS740G11S	M	FPS740G11W	M
	480	30.0	3	1	40 ³ / ₈ (1025.5)	92 (42)	FPS740G5S	M	FPS740G5W	M
	240	36.0	1	4	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R10S	M	FPS747R10W	M
	240	36.0	3	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R3S	M	FPS747R3W	M
	480	36.0	1	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R11S	M	FPS747R11W	M
	480	36.0	3	1	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R5S	M	FPS747R5W	M
	240	50.0	3	4	64 ³ / ₈ (1635.1)	110 (50)	FPS764G3S	M	FPS764G3W	M
	480	50.0	1	3	64 ³ / ₈ (1635.1)	110 (50)	FPS764G11S	M	FPS764G11W	M
	480	50.0	3	2	64 ³ / ₈ (1635.1)	110 (50)	FPS764G5S	M	FPS764G5W	M
	240	60.0	3	4	76 ⁷ / ₈ (1952.4)	118 (54)	FPS776R3S	M	FPS776R3W	M
480	60.0	1	3	76 ⁷ / ₈ (1952.4)	118 (54)	FPS776R11S	M	FPS776R11W	M	
480	60.0	3	2	76 ⁷ / ₈ (1952.4)	118 (54)	FPS776R5S	M	FPS776R5W	M	

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

■ Truck Shipment only

Immersion Heaters

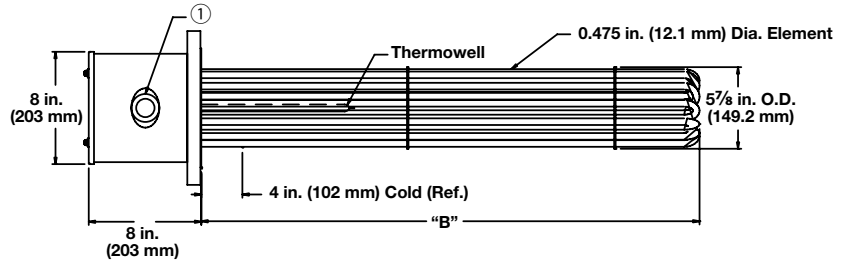
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
23 W/in² Steel Flange 15-Steel Elements (3.6 W/cm²)	240	15.0	1	3	17 ⁷ / ₈ (454.0)	78 (36)	FPS717R10XS	M	FPS717R10XW	M
	240	15.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPS717R3XS	M	FPS717R3XW	M
	480	15.0	1	1	17 ⁷ / ₈ (454.0)	78 (36)	FPS717R11XS	M	FPS717R11XW	M
	480	15.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPS717R5XS	M	FPS717R5XW	M
	240	23.0	1	3	25 ³ / ₈ (644.5)	85 (39)	FPS725G10XS	M	FPS725G10XW	M
	240	23.0	3	5	25 ³ / ₈ (644.5)	85 (39)	FPS725G3XS	M	FPS725G3XW	M
	480	23.0	1	1	25 ³ / ₈ (644.5)	85 (39)	FPS725G11XS	M	FPS725G11XW	M
	480	23.0	3	1	25 ³ / ₈ (644.5)	85 (39)	FPS725G5XS	M	FPS725G5XW	M
	240	30.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R10XS	M	FPS732R10XW	M
	240	30.0	3	5	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R3XS	M	FPS732R3XW	M
	480	30.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R11XS	M	FPS732R11XW	M
	480	30.0	3	1	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R5XS	M	FPS732R5XW	M
	240	38.0	1	5	40 ³ / ₈ (1025.5)	98 (45)	FPS740G10XS	M	FPS740G10XW	M
	240	38.0	3	5	40 ³ / ₈ (1025.5)	98 (45)	FPS740G3XS	M	FPS740G3XW	M
	480	38.0	1	3	40 ³ / ₈ (1025.5)	98 (45)	FPS740G11XS	M	FPS740G11XW	M
	480	38.0	3	1	40 ³ / ₈ (1025.5)	98 (45)	FPS740G5XS	M	FPS740G5XW	M
	240	45.0	1	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R10XS	M	FPS747R10XW	M
	240	45.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R3XS	M	FPS747R3XW	M
	480	45.0	1	3	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R11XS	M	FPS747R11XW	M
	480	45.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R5XS	M	FPS747R5XW	M
	240	63.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPS764G3XS	M	FPS764G3XW	M
	480	63.0	1	3	64 ³ / ₈ (1635.1)	120 (55)	FPS764G11XS	M	FPS764G11XW	M
	480	63.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPS764G5XS	M	FPS764G5XW	M
	240	75.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPS776R3XS	M	FPS776R3XW	M
480	75.0	1	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPS776R11XS	M	FPS776R11XW	M	
480	75.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPS776R5XS	M	FPS776R5XW	M	

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241
- Truck Shipment only

Immersion Heaters

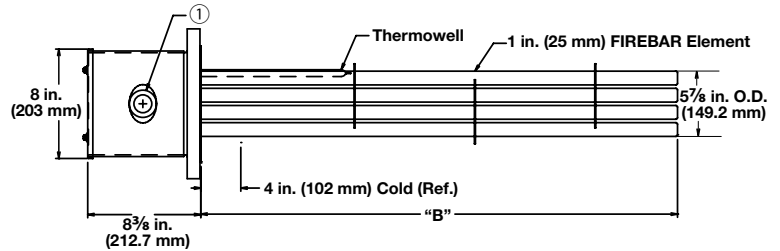
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 6 inch - 150 lb ANSI flange
- FIREBAR elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
30 W/in ² ③ 304 SS Flange 15-Alloy 800 Elements (4.7 W/cm ²)	240	25.0	3	5	16 ¹ / ₂ (419)	81 (37)	FPNF16J12S	M	FPNF16J12W	M
	480	25.0	3	5	16 ¹ / ₂ (419)	81 (37)	FPNF16J13S	M	FPNF16J13W	M
	240	32.0	3	5	19 ¹ / ₂ (495)	84 (38)	FPNF19J12S	M	FPNF19J12W	M
	480	32.0	3	5	19 ¹ / ₂ (495)	84 (38)	FPNF19J13S	M	FPNF19J13W	M
	240	42.0	3	5	24 ¹ / ₂ (622)	87 (40)	FPNF24J12S	M	FPNF24J12W	M
	480	42.0	3	5	24 ¹ / ₂ (622)	87 (40)	FPNF24J13S	M	FPNF24J13W	M
	240	52.0	3	5	30 (762)	91 (42)	FPNF30A12S	M	FPNF30A12W	M
	480	52.0	3	5	30 (762)	91 (42)	FPNF30A13S	M	FPNF30A13W	M
	240	64.0	3	5	35 (889)	95 (43)	FPNF35A12S	M	FPNF35A12W	M
	480	64.0	3	5	35 (889)	95 (43)	FPNF35A13S	M	FPNF35A13W	M
	240	85.0	3	5	45 ¹ / ₂ (1156)	106 (48)	FPNF45J12S	M	FPNF45J12W	M
	480	85.0	3	5	45 ¹ / ₂ (1156)	106 (48)	FPNF45J13S	M	FPNF45J13W	M
	480	110.0	3	5	56 (1422)	116 (53)	FPNF56A13S	M	FPNF56A13W	M
23 W/in ² 304 SS Flange 15-Alloy 800 Elements (3.6 W/cm ²)	240	19.0	3	5	16 ¹ / ₂ (419)	81 (37)	FPNF16J20S	M	FPNF16J20W	M
	240	24.0	3	5	19 ¹ / ₂ (495)	84 (38)	FPNF19J20S	M	FPNF19J20W	M
	240	32.0	3	5	24 ¹ / ₂ (622)	87 (40)	FPNF24J20S	M	FPNF24J20W	M
	480	32.0	3	5	24 ¹ / ₂ (622)	87 (40)	FPNF24J19S	M	FPNF24J19W	M
	240	40.0	3	5	30 (762)	91 (42)	FPNF30A20S	M	FPNF30A20W	M
	480	40.0	3	5	30 (762)	91 (42)	FPNF30A19S	M	FPNF30A19W	M
	240	48.0	3	5	35 (889)	95 (43)	FPNF35A20S	M	FPNF35A20W	M
	480	48.0	3	5	35 (889)	95 (43)	FPNF35A19S	M	FPNF35A19W	M
	240	64.0	3	5	45 ¹ / ₂ (1156)	106 (48)	FPNF45J20S	M	FPNF45J20W	M
	480	64.0	3	5	45 ¹ / ₂ (1156)	106 (48)	FPNF45J19S	M	FPNF45J19W	M
	240	80.0	3	5	56 (1422)	116 (53)	FPNF56A20S	M	FPNF56A20W	M
	480	80.0	3	5	56 (1422)	116 (53)	FPNF56A19S	M	FPNF56A19W	M

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

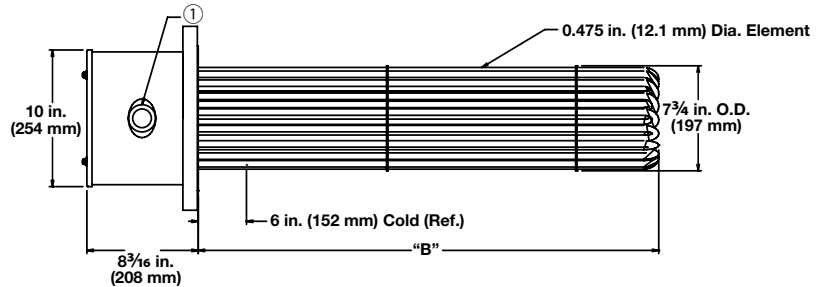
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
							Part Number	Del.	Part Number	Del.
23 W/in ² Steel Flange 18-Steel Elements (3.6 W/cm ²)	240	30.0	1	3	32 ³ / ₄ (832.0)	130 (59)	FRS732N10S	M	FRS732N10W	M
	240	30.0	3	2	32 ³ / ₄ (832.0)	130 (59)	FRS732N3S	M	FRS732N3W	M
	480	30.0	1	2	32 ³ / ₄ (832.0)	130 (59)	FRS732N11S	M	FRS732N11W	M
	480	30.0	3	1	32 ³ / ₄ (832.0)	130 (59)	FRS732N5S	M	FRS732N5W	M
	240	40.0	3	3	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E3S	M	FRS743E3W	M
	480	40.0	1	2	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E11S	M	FRS743E11W	M
	480	40.0	3	2	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E5S	M	FRS743E5W	M
	240	50.0	3	3	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M3S	M	FRS751M3W	M
	480	50.0	1	3	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M11S	M	FRS751M11W	M
	480	50.0	3	2	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M5S	M	FRS751M5W	M
	240	60.0	3	6	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D3S	M	FRS762D3W	M
	480	60.0	1	3	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D11S	M	FRS762D11W	M
	480	60.0	3	2	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D5S	M	FRS762D5W	M
	240	70.0	3	6	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M3S	M	FRS770M3W	M
	480	70.0	1	6	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M11S	M	FRS770M11W	M
	480	70.0	3	2	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M5S	M	FRS770M5W	M
240	80.0	3	6	79 ¹¹ / ₁₆ (2024.1)	172 (78)	FRS779M3S	M	FRS779M3W	M	
480	80.0	3	3	79 ¹¹ / ₁₆ (2024.1)	172 (78)	FRS779M5S	M	FRS779M5W	M	
23 W/in ² Steel Flange 24-Steel Elements (3.6 W/cm ²)	240	40.0	1	4	33 ³ / ₁₆ (843.0)	142 (65)	FRS733D10XS	M	FRS733D10XW	M
	240	40.0	3	4	33 ³ / ₁₆ (843.0)	142 (65)	FRS733D3XS	M	FRS733D3XW	M
	480	40.0	1	2	33 ³ / ₁₆ (843.0)	142 (65)	FRS733D11XS	M	FRS733D11XW	M
	480	40.0	3	2	33 ³ / ₁₆ (843.0)	142 (65)	FRS733D5XS	M	FRS733D5XW	M
	240	53.0	3	4	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M3XS	M	FRS743M3XW	M
	480	53.0	1	3	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M11XS	M	FRS743M11XW	M
	480	53.0	3	2	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M5XS	M	FRS743M5XW	M
	240	67.0	3	4	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M3XS	M	FRS751M3XW	M
	480	67.0	1	3	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M11XS	M	FRS751M11XW	M
	480	67.0	3	2	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M5XS	M	FRS751M5XW	M
	240	80.0	3	8	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D3XS	M	FRS762D3XW	M
	480	80.0	1	4	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D11XS	M	FRS762D11XW	M
	480	80.0	3	4	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D5XS	M	FRS762D5XW	M
	240	93.0	3	8	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M3XS	M	FRS770M3XW	M
	480	93.0	1	6	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M11XS	M	FRS770M11XW	M
	480	93.0	3	4	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M5XS	M	FRS770M5XW	M
	240	107.0	3	8	79 ¹¹ / ₁₆ (2024.1)	181 (82)	FRS779M3XS	M	FRS779M3XW	M
	480	107.0	3	4	79 ¹¹ / ₁₆ (2024.1)	181 (82)	FRS779M5XS	M	FRS779M5XW	M

• M - Manufacturing lead times Truck Shipment only

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

Immersion Heaters

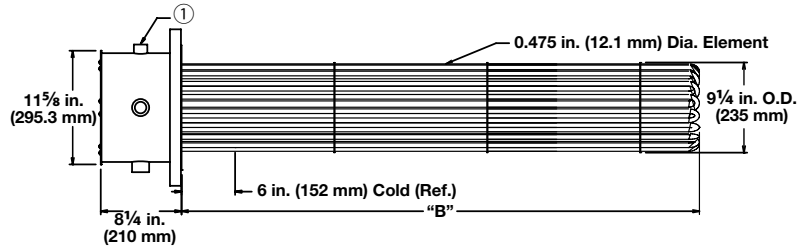
WATROD and FIREBAR ANSI Flange Immersion Heaters



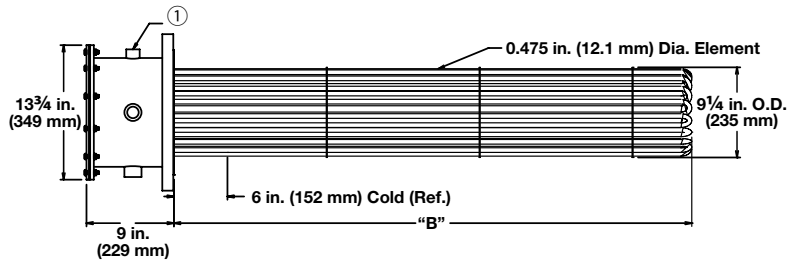
Application: Light Weight Oils and Heat Transfer Oils

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
23 W/in ² Steel Flange 27-Steel Elements (3.6 W/cm ²)	240	45.0	3	3	33 ³ / ₄ (845)	165 (75)	FSS733E3S	M	FSS733E3W	M
	480	45.0	3	3	33 ³ / ₄ (845)	165 (75)	FSS733E5S	M	FSS733E5W	M
	240	60.0	3	3	43 ³ / ₄ (1111)	195 (89)	FSS743N3S	M	FSS743N3W	M
	480	60.0	3	3	43 ³ / ₄ (1111)	195 (89)	FSS743N5S	M	FSS743N5W	M
	240	75.0	3	9	51 ³ / ₄ (1314)	230 (105)	FSS751N3S	M	FSS751N3W	M
	480	75.0	3	3	51 ³ / ₄ (1314)	230 (105)	FSS751N5S	M	FSS751N5W	M
	480	90.0	3	3	62 ¹ / ₄ (1581)	250 (114)	FSS762E5S	M	FSS762E5W	M
	480	105.0	3	3	70 ³ / ₄ (1797)	258 (117)	FSS770N5S	M	FSS770N5W	M
	480	120.0	3	3	78 ³ / ₄ (2000)	265 (121)	FSS778N5S	M	FSS778N5W	M

• M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
- Truck Shipment only

Immersion Heaters

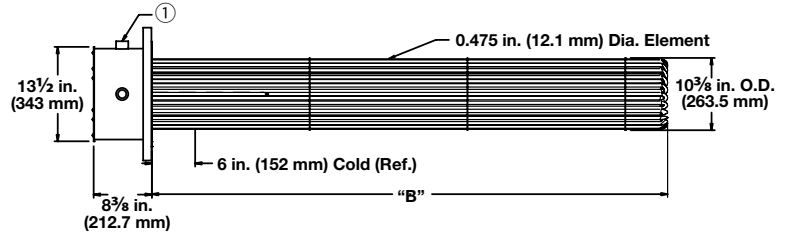
WATROD and FIREBAR ANSI Flange Immersion Heaters



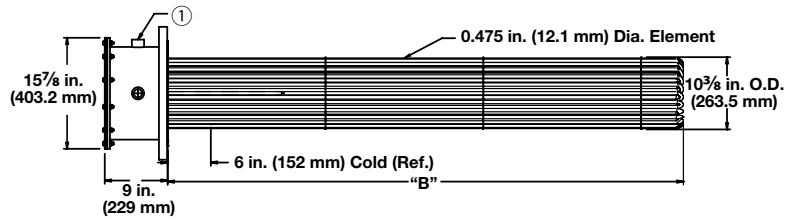
Application: Light Weight Oils and Heat Transfer Oils

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
							Part Number	Del.	Part Number	Del.
23 W/in ² Steel Flange 36-Steel Elements (3.6 W/cm ²)	480	60.0	3	3	33 ¹ / ₈ (841.4)	205 (93)	FTS733C5S	M	FTS733C5W	M
	480	80.0	3	3	43 ⁵ / ₈ (1108.1)	240 (109)	FTS743L5S	M	FTS743L5W	M
	480	100.0	3	3	51 ⁵ / ₈ (1311.3)	280 (127)	FTS751L5S	M	FTS751L5W	M
	480	120.0	3	3	62 ¹ / ₈ (1578.0)	285 (130)	FTS762C5S	M	FTS762C5W	M
	480	140.0	3	4	70 ⁵ / ₈ (1793.9)	290 (132)	FTS770L5S	M	FTS770L5W	M
	480	160.0	3	4	78 ⁵ / ₈ (1997.1)	300 (136)	FTS778L5S	M	FTS778L5W	M

- M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

■ Truck Shipment only

Immersion Heaters

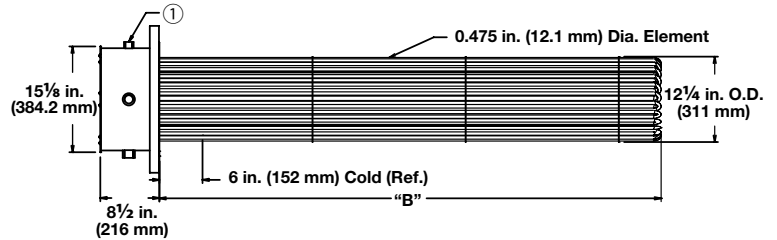
WATROD and FIREBAR ANSI Flange Immersion Heaters



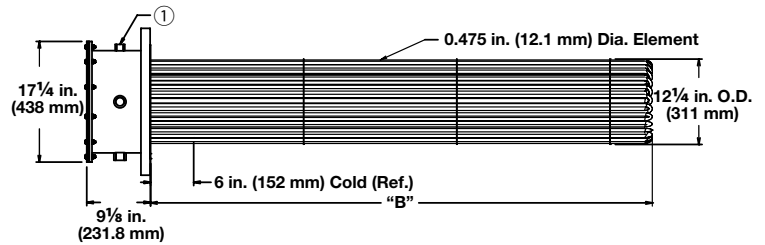
Application: Light Weight Oils and Heat Transfer Oils

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
23 W/in ² Steel Flange 45-Steel Elements (3.6 W/cm ²)	480	75.0	3	3	33 (838)	225 (102)	FWS733A5S	M	FWS733A5W	M
	480	100.0	3	3	43 1/2 (1105)	255 (116)	FWS743J5S	M	FWS743J5W	M
	480	125.0	3	5	51 1/2 (1308)	300 (136)	FWS751J5S	M	FWS751J5W	M
	480	150.0	3	5	62 (1575)	310 (141)	FWS762A5S	M	FWS762A5W	M
	480	175.0	3	5	70 1/2 (1791)	318 (145)	FWS770J5S	M	FWS770J5W	M
	480	200.0	3	5	78 1/2 (1994)	330 (150)	FWS778J5S	M	FWS778J5W	M

- M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
 - Truck Shipment only

Immersion Heaters

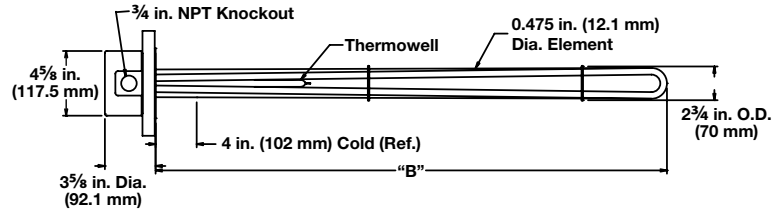
WATROD and FIREBAR ANSI Flange Immersion Heaters



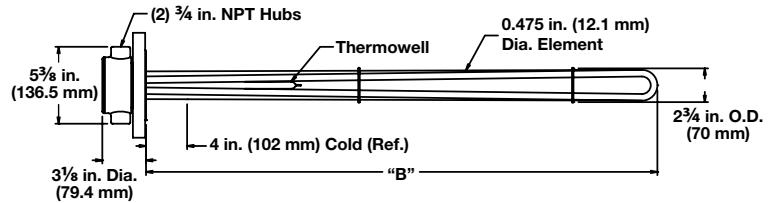
Application: Medium Weight Oils and Heat Transfer Oils

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures
- Single circuit

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
16 W/in ² ③ Steel Flange 3-Alloy 800 Elements (2.5 W/cm ²)	240	1.5	3	13 1/2 (343)	22 (10)	General Purpose Enclosure FMN713J12S	RS	Moisture-Resistant Enclosure FMN713J12W	RS
	480	1.5	3	13 1/2 (343)	22 (10)	FMN713J13S	RS	FMN713J13W	RS
	240	2.0	3	18 (457)	23 (11)	FMN718A12S	RS	FMN718A12W	RS
	480	2.0	3	18 (457)	23 (11)	FMN718A13S	RS	FMN718A13W	RS
	240	2.5	3	20 1/2 (521)	25 (12)	FMN720J12S	RS	FMN720J12W	RS
	480	2.5	3	20 1/2 (521)	25 (12)	FMN720J13S	RS	FMN720J13W	RS
	240	3.0	3	25 1/2 (648)	27 (13)	FMN725J12S	RS	FMN725J12W	RS
	480	3.0	3	25 1/2 (648)	27 (13)	FMN725J13S	RS	FMN725J13W	RS
	240	4.0	3	33 (838)	28 (13)	FMN733A12S	RS	FMN733A12W	RS
	480	4.0	3	33 (838)	28 (13)	FMN733A13S	RS	FMN733A13W	RS
	240	5.0	3	40 1/2 (1029)	30 (14)	FMN740J12S	RS	FMN740J12W	RS
	480	5.0	3	40 1/2 (1029)	30 (14)	FMN740J13S	RS	FMN740J13W	RS
	240	6.0	3	48 (1219)	32 (15)	FMN748A12S	RS	FMN748A12W	RS
	480	6.0	3	48 (1219)	32 (15)	FMN748A13S	RS	FMN748A13W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe

• For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

Immersion Heaters

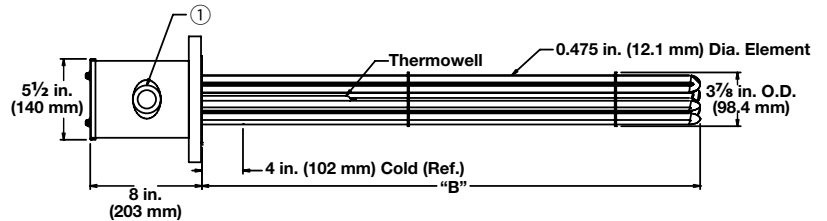
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim.		Ship Wt.		Part		Part	
					in.	(mm)	lbs	(kg)	Number	Del.	Number	Del.
16 W/in ² ③ Steel Flange 6-Alloy 800 Elements (2.5 W/cm ²)	240	3.0	3	1	13 ¹ / ₂	(343)	29	(14)	General Purpose Enclosure		Moisture-Resistant Enclosure	
	480	3.0	3	1	13 ¹ / ₂	(343)	29	(14)	FON713J12S	RS	FON713J12W	RS
	480	3.0	3	1	13 ¹ / ₂	(343)	29	(14)	FON713J13S	RS	FON713J13W	RS
	240	4.0	3	1	18	(457)	32	(15)	FON718A12S	RS	FON718A12W	RS
	480	4.0	3	1	18	(457)	32	(15)	FON718A13S	RS	FON718A13W	RS
	240	5.0	3	1	20 ¹ / ₂	(521)	34	(16)	FON720J12S	RS	FON720J12W	RS
	480	5.0	3	1	20 ¹ / ₂	(521)	34	(16)	FON720J13S	RS	FON720J13W	RS
	240	6.0	3	1	25 ¹ / ₂	(648)	36	(17)	FON725J12S	RS	FON725J12W	RS
	480	6.0	3	1	25 ¹ / ₂	(648)	36	(17)	FON725J13S	RS	FON725J13W	RS
	240	8.0	3	1	33	(838)	39	(18)	FON733A12S	RS	FON733A12W	RS
	480	8.0	3	1	33	(838)	39	(18)	FON733A13S	RS	FON733A13W	RS
	240	10.0	3	1	40 ¹ / ₂	(1029)	43	(20)	FON740J12S	RS	FON740J12W	RS
	480	10.0	3	1	40 ¹ / ₂	(1029)	43	(20)	FON740J13S	RS	FON740J13W	RS
	240	12.0	3	1	48	(1219)	48	(22)	FON748A12S	RS	FON748A12W	RS
480	12.0	3	1	48	(1219)	48	(22)	FON748A13S	RS	FON748A13W	RS	

RAPID SHIP

- RS - Next day shipment up to 5 pieces

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241
- ③ Wired for 3-phase operation only

Immersion Heaters

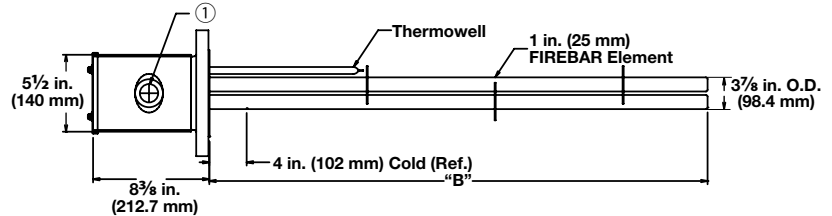
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 4 inch - 150 lb ANSI flange
- FIREBAR elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
15 W/in ² ③ 304 SS Flange 6-Alloy 800 Elements (2.3 W/cm ²)	240	4.0	3	1	13 ³ / ₈ (339.7)	32 (15)	FONF13G29S	RS	FONF13G29W	RS
	240	5.0	3	1	16 (406.0)	35 (16)	FONF16A29S	RS	FONF16A29W	RS
	240	6.0	3	1	18 ³ / ₈ (466.7)	38 (17)	FONF18G29S	RS	FONF18G29W	RS
	240	8.0	3	1	22 ⁷ / ₈ (581.0)	41 (19)	FONF22R29S	RS	FONF22R29W	RS
	480	8.0	3	1	22 ⁷ / ₈ (581.0)	41 (19)	FONF22R30S	RS	FONF22R30W	RS
	240	10.0	3	1	27 ⁷ / ₈ (708.0)	44 (20)	FONF27R29S	RS	FONF27R29W	RS
	480	10.0	3	1	27 ⁷ / ₈ (708.0)	44 (20)	FONF27R30S	RS	FONF27R30W	RS
	240	12.0	3	1	32 ⁷ / ₈ (835.0)	46 (21)	FONF32R29S	RS	FONF32R29W	RS
	480	12.0	3	1	32 ⁷ / ₈ (835.0)	46 (21)	FONF32R30S	RS	FONF32R30W	RS
	240	16.0	3	1	42 ³ / ₈ (1076.3)	50 (23)	FONF42G29S	RS	FONF42G29W	RS
	480	16.0	3	1	42 ³ / ₈ (1076.3)	50 (23)	FONF42G30S	RS	FONF42G30W	RS
	240	20.0	3	1	51 ⁷ / ₈ (1317.6)	54 (25)	FONF51R29S	RS	FONF51R29W	RS
	480	20.0	3	1	51 ⁷ / ₈ (1317.6)	54 (25)	FONF51R30S	RS	FONF51R30W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

Immersion Heaters

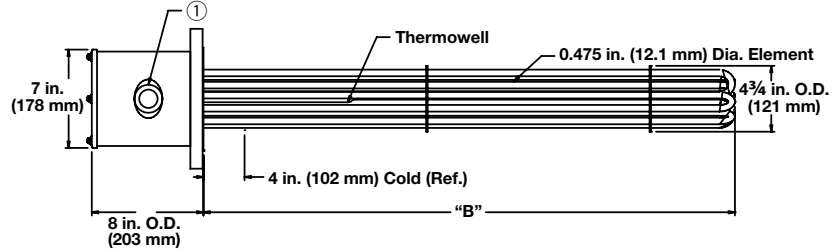
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	Part Number		Del.
							General Purpose Enclosure	Moisture-Resistant Enclosure		Moisture-Resistant Enclosure	Del.	
16 W/in ² ③ Steel Flange 6-Alloy 800 Elements (2.5 W/cm ²)	240	3.0	3	1	13 ¹ / ₂ (343)	36 (17)	FNN713J12S	RS	FNN713J12W	RS		
	480	3.0	3	1	13 ¹ / ₂ (343)	36 (17)	FNN713J13S	RS	FNN713J13W	RS		
	240	4.0	3	1	18 (457)	40 (19)	FNN718A12S	RS	FNN718A12W	RS		
	480	4.0	3	1	18 (457)	40 (19)	FNN718A13S	RS	FNN718A13W	RS		
	240	5.0	3	1	20 ¹ / ₂ (521)	43 (20)	FNN720J12S	RS	FNN720J12W	RS		
	480	5.0	3	1	20 ¹ / ₂ (521)	43 (20)	FNN720J13S	RS	FNN720J13W	RS		
	240	6.0	3	1	25 ¹ / ₂ (648)	47 (22)	FNN725J12S	RS	FNN725J12W	RS		
	480	6.0	3	1	25 ¹ / ₂ (648)	47 (22)	FNN725J13S	RS	FNN725J13W	RS		
	240	8.0	3	1	33 (838)	52 (24)	FNN733A12S	RS	FNN733A12W	RS		
	480	8.0	3	1	33 (838)	52 (24)	FNN733A13S	RS	FNN733A13W	RS		
	240	10.0	3	1	40 ¹ / ₂ (1029)	57 (26)	FNN740J12S	RS	FNN740J12W	RS		
	480	10.0	3	1	40 ¹ / ₂ (1029)	57 (26)	FNN740J13S	RS	FNN740J13W	RS		
	240	12.0	3	1	48 (1219)	65 (30)	FNN748A12S	RS	FNN748A12W	RS		
	480	12.0	3	1	48 (1219)	65 (30)	FNN748A13S	RS	FNN748A13W	RS		
16 W/in ² ③ Steel Flange 9-Alloy 800 Elements (2.5 W/cm ²)	240	4.5	3	1	13 ¹ / ₂ (343)	39 (18)	FNN713J12XS	RS	FNN713J12XW	RS		
	480	4.5	3	1	13 ¹ / ₂ (343)	39 (18)	FNN713J13XS	RS	FNN713J13XW	RS		
	240	6.0	3	1	18 (457)	45 (21)	FNN718A12XS	RS	FNN718A12XW	RS		
	480	6.0	3	1	18 (457)	45 (21)	FNN718A13XS	RS	FNN718A13XW	RS		
	240	7.5	3	1	20 ¹ / ₂ (521)	48 (22)	FNN720J12XS	RS	FNN720J12XW	RS		
	480	7.5	3	1	20 ¹ / ₂ (521)	48 (22)	FNN720J13XS	RS	FNN720J13XW	RS		
	240	9.0	3	1	25 ¹ / ₂ (648)	53 (24)	FNN725J12XS	RS	FNN725J12XW	RS		
	480	9.0	3	1	25 ¹ / ₂ (648)	53 (24)	FNN725J13XS	RS	FNN725J13XW	RS		
	240	12.0	3	1	33 (838)	60 (28)	FNN733A12XS	RS	FNN733A12XW	RS		
	480	12.0	3	1	33 (838)	60 (28)	FNN733A13XS	RS	FNN733A13XW	RS		
	240	15.0	3	1	40 ¹ / ₂ (1029)	68 (31)	FNN740J12XS	RS	FNN740J12XW	RS		
	480	15.0	3	1	40 ¹ / ₂ (1029)	68 (31)	FNN740J13XS	RS	FNN740J13XW	RS		
	240	18.0	3	1	48 (1219)	78 (36)	FNN748A12XS	M	FNN748A12XW	M		
	480	18.0	3	1	48 (1219)	78 (36)	FNN748A13XS	M	FNN748A13XW	M		

RAPID SHIP
 • RS - Next day shipment up to 5 pieces
 • M - Manufacturing lead times

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 • For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only
 ■ Truck Shipment only

Immersion Heaters

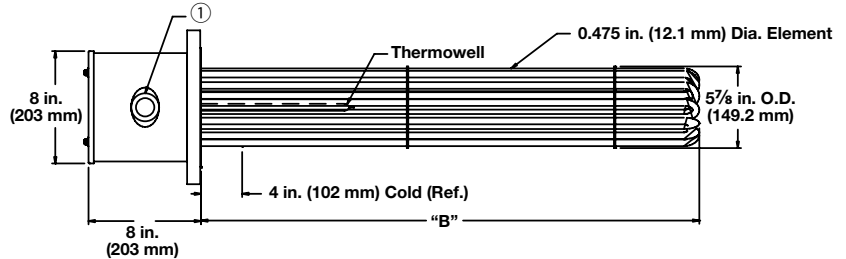
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim.		Ship Wt.		Part Number		Part Del.	
					in.	(mm)	lbs	(kg)	General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
16 W/in ² ③ Steel Flange 12-Alloy 800 Elements (2.5 W/cm ²)	240	6.0	3	1	13 ³ / ₈	(339.7)	73	(33)	FPN713G12S	RS	FPN713G12W	RS
	480	6.0	3	1	13 ³ / ₈	(339.7)	73	(33)	FPN713G13S	RS	FPN713G13W	RS
	240	8.0	3	1	17 ⁷ / ₈	(454.0)	75	(34)	FPN717R12S	M	FPN717R12W	M
	480	8.0	3	1	17 ⁷ / ₈	(454.0)	75	(34)	FPN717R13S	M	FPN717R13W	M
	240	10.0	3	1	20 ³ / ₈	(517.5)	78	(36)	FPN720G12S	M	FPN720G12W	M
	480	10.0	3	1	20 ³ / ₈	(517.5)	78	(36)	FPN720G13S	M	FPN720G13W	M
	240	12.0	3	1	25 ³ / ₈	(644.5)	81	(37)	FPN725G12S	M	FPN725G12W	M
	480	12.0	3	1	25 ³ / ₈	(644.5)	81	(37)	FPN725G13S	M	FPN725G13W	M
	240	16.0	3	1	32 ⁷ / ₈	(835.0)	85	(39)	FPN732R12S	M	FPN732R12W	M
	480	16.0	3	1	32 ⁷ / ₈	(835.0)	85	(39)	FPN732R13S	M	FPN732R13W	M
	240	20.0	3	2	40 ³ / ₈	(1025.5)	92	(42)	FPN740G12S	M	FPN740G12W	M
	480	20.0	3	1	40 ³ / ₈	(1025.5)	92	(42)	FPN740G13S	M	FPN740G13W	M
	240	24.0	3	2	47 ⁷ / ₈	(1216.0)	100	(46)	FPN747R12S	M	FPN747R12W	M
	480	24.0	3	1	47 ⁷ / ₈	(1216.0)	100	(46)	FPN747R13S	M	FPN747R13W	M
16 W/in ² ③ Steel Flange 15-Alloy 800 Elements (2.5 W/cm ²)	240	7.5	3	1	13 ³ / ₈	(339.7)	76	(35)	FPN713G12XS	M	FPN713G12XW	M
	480	7.5	3	1	13 ³ / ₈	(339.7)	76	(35)	FPN713G13XS	M	FPN713G13XW	M
	240	10.0	3	1	17 ⁷ / ₈	(454.0)	78	(36)	FPN717R12XS	M	FPN717R12XW	M
	480	10.0	3	1	17 ⁷ / ₈	(454.0)	78	(36)	FPN717R13XS	M	FPN717R13XW	M
	240	12.5	3	1	20 ³ / ₈	(517.5)	82	(38)	FPN720G12XS	M	FPN720G12XW	M
	480	12.5	3	1	20 ³ / ₈	(517.5)	82	(38)	FPN720G13XS	M	FPN720G13XW	M
	240	15.0	3	1	25 ³ / ₈	(644.5)	85	(39)	FPN725G12XS	M	FPN725G12XW	M
	480	15.0	3	1	25 ³ / ₈	(644.5)	85	(39)	FPN725G13XS	M	FPN725G13XW	M
	240	20.0	3	5	32 ⁷ / ₈	(835.0)	90	(41)	FPN732R12XS	M	FPN732R12XW	M
	480	20.0	3	1	32 ⁷ / ₈	(835.0)	90	(41)	FPN732R13XS	M	FPN732R13XW	M
	240	25.0	3	5	40 ³ / ₈	(1025.5)	98	(45)	FPN740G12XS	M	FPN740G12XW	M
	480	25.0	3	1	40 ³ / ₈	(1025.5)	98	(45)	FPN740G13XS	M	FPN740G13XW	M
	240	30.0	3	5	47 ⁷ / ₈	(1216.0)	108	(49)	FPN747R12XS	M	FPN747R12XW	M
	480	30.0	3	1	47 ⁷ / ₈	(1216.0)	108	(49)	FPN747R13XS	M	FPN747R13XW	M

RAPID SHIP

- RS - Next day shipment up to 2 pieces
- M - Manufacturing lead times

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only
■ Truck Shipment only

Immersion Heaters

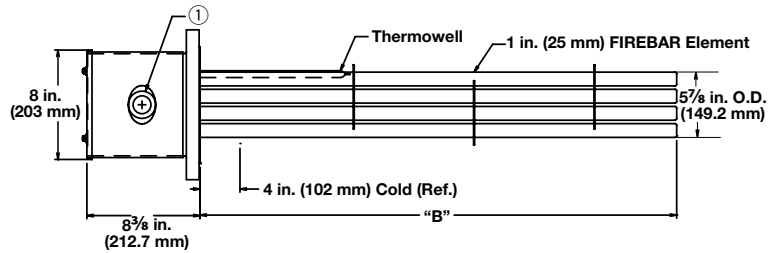
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 6 inch - 150 lb ANSI flange
- FIREBAR elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
15 W/in ² ③ 304 SS Flange 15-Alloy 800 Elements (2.3 W/cm ²)	240	10.0	3	5	13 ³ / ₈ (339.7)	78 (36)	FPNF13G29S	M	FPNF13G29W	M
	240	12.5	3	5	16 (406.0)	81 (37)	FPNF16A29S	M	FPNF16A29W	M
	240	15.0	3	5	18 ³ / ₈ (466.7)	84 (38)	FPNF18G29S	M	FPNF18G29W	M
	240	20.0	3	5	22 ⁷ / ₈ (581.0)	87 (40)	FPNF22R29S	M	FPNF22R29W	M
	480	20.0	3	5	22 ⁷ / ₈ (581.0)	87 (40)	FPNF22R30S	M	FPNF22R30W	M
	240	25.0	3	5	27 ⁷ / ₈ (708.0)	91 (42)	FPNF27R29S	M	FPNF27R29W	M
	480	25.0	3	5	27 ⁷ / ₈ (708.0)	91 (42)	FPNF27R30S	M	FPNF27R30W	M
	240	30.0	3	5	32 ⁷ / ₈ (835.0)	95 (43)	FPNF32R29S	M	FPNF32R29W	M
	480	30.0	3	5	32 ⁷ / ₈ (835.0)	95 (43)	FPNF32R30S	M	FPNF32R30W	M
	240	40.0	3	5	42 ³ / ₈ (1076.3)	106 (48)	FPNF42G29S	M	FPNF42G29W	M
	480	40.0	3	5	42 ³ / ₈ (1076.3)	106 (48)	FPNF42G30S	M	FPNF42G30W	M
	240	50.0	3	5	51 ⁷ / ₈ (1317.6)	116 (53)	FPNF51R29S	M	FPNF51R29W	M
	480	50.0	3	5	51 ⁷ / ₈ (1317.6)	116 (53)	FPNF51R30S	M	FPNF51R30W	M

• M - Manufacturing lead times

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

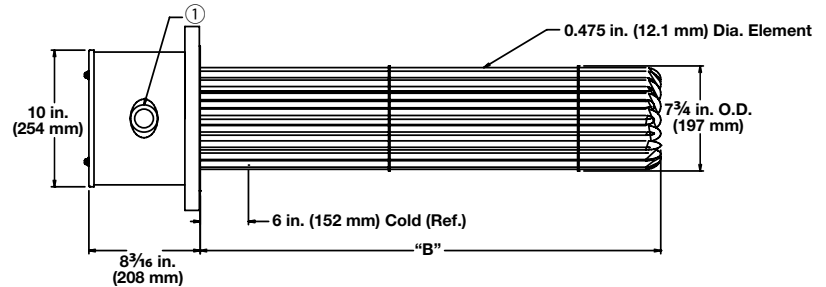
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure		
16 W/in² ③ Steel Flange 18-Alloy 800 Elements (2.5 W/cm²)	240	17.0	3	1	25% (654.0)	121 (55)	FRN725N12S	M	FRN725N12W	M
	480	17.0	3	1	25% (654.0)	121 (55)	FRN725N13S	M	FRN725N13W	M
	240	25.0	3	2	35% (908.0)	130 (59)	FRN735N12S	M	FRN735N12W	M
	480	25.0	3	1	35% (908.0)	130 (59)	FRN735N13S	M	FRN735N13W	M
	240	33.0	3	2	44% (1124.0)	132 (60)	FRN744E12S	M	FRN744E12W	M
	480	33.0	3	1	44% (1124.0)	132 (60)	FRN744E13S	M	FRN744E13W	M
	240	42.0	3	3	54 ¹¹ / ₁₆ (1389.1)	140 (64)	FRN754M12S	M	FRN754M12W	M
	480	42.0	3	2	54 ¹¹ / ₁₆ (1389.1)	140 (64)	FRN754M13S	M	FRN754M13W	M
	480	50.0	3	2	63 ¹¹ / ₁₆ (1617.6)	145 (66)	FRN763M13S	M	FRN763M13W	M
	480	58.0	3	2	73 ³ / ₁₆ (1859.0)	151 (69)	FRN773D13S	M	FRN773D13W	M
480	67.0	3	2	82 ¹¹ / ₁₆ (2100.3)	157 (72)	FRN782M13S	M	FRN782M13W	M	
16 W/in² ③ Steel Flange 24-Alloy 800 Elements (2.5 W/cm²)	240	23.0	3	2	26 ³ / ₁₆ (665.2)	129 (59)	FRN726D12XS	M	FRN726D12XW	M
	480	23.0	3	1	26 ³ / ₁₆ (665.2)	129 (59)	FRN726D13XS	M	FRN726D13XW	M
	240	33.0	3	2	36 ³ / ₁₆ (919.2)	142 (65)	FRN736D12XS	M	FRN736D12XW	M
	480	33.0	3	1	36 ³ / ₁₆ (919.2)	142 (65)	FRN736D13XS	M	FRN736D13XW	M
	240	44.0	3	4	44 ¹¹ / ₁₆ (1135.1)	147 (67)	FRN744M12XS	M	FRN744M12XW	M
	480	44.0	3	2	44 ¹¹ / ₁₆ (1135.1)	147 (67)	FRN744M13XS	M	FRN744M13XW	M
	240	56.0	3	4	54 ¹¹ / ₁₆ (1389.1)	158 (72)	FRN754M12XS	M	FRN754M12XW	M
	480	56.0	3	2	54 ¹¹ / ₁₆ (1389.1)	158 (72)	FRN754M13XS	M	FRN754M13XW	M
	480	67.0	3	2	63 ¹¹ / ₁₆ (1617.6)	166 (76)	FRN763M13XS	M	FRN763M13XW	M
	480	77.0	3	2	73 ³ / ₁₆ (1859.0)	175 (80)	FRN773D13XS	M	FRN773D13XW	M
480	89.0	3	4	82 ¹¹ / ₁₆ (2100.3)	184 (84)	FRN782M13XS	M	FRN782M13XW	M	

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

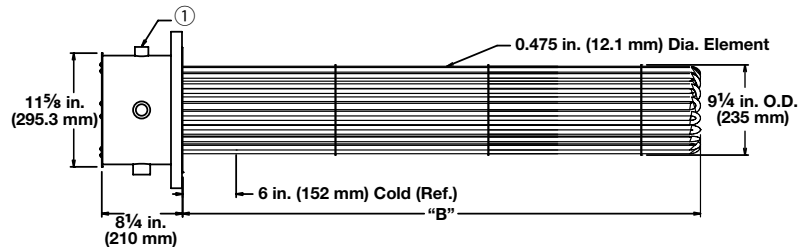
WATROD and FIREBAR ANSI Flange Immersion Heaters



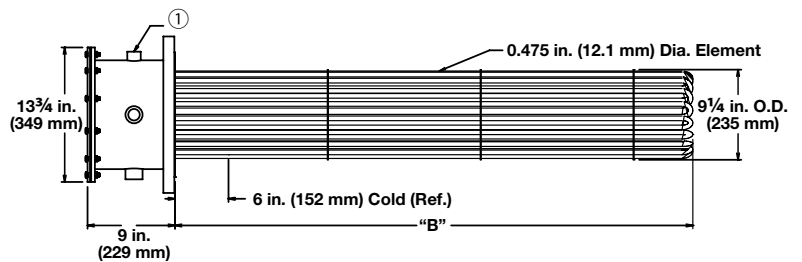
Application: Medium Weight Oils and Heat Transfer Oils

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
16 W/in ² ③ Steel Flange 27-Alloy 800 Elements (2.5 W/cm ²)	480	63.0	3	3	54 ³ / ₄ (1391)	240 (109)	General Purpose Enclosure FSN754N13S	M	Moisture-Resistant Enclosure FSN754N13W	M
	480	75.0	3	3	63 ³ / ₄ (1619)	250 (114)	FSN763N13S	M	FSN763N13W	M
	480	87.0	3	3	73 ¹ / ₄ (1861)	260 (118)	FSN773E13S	M	FSN773E13W	M

- M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

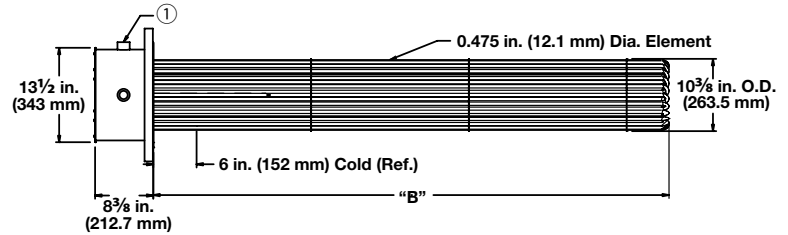
WATROD and FIREBAR ANSI Flange Immersion Heaters



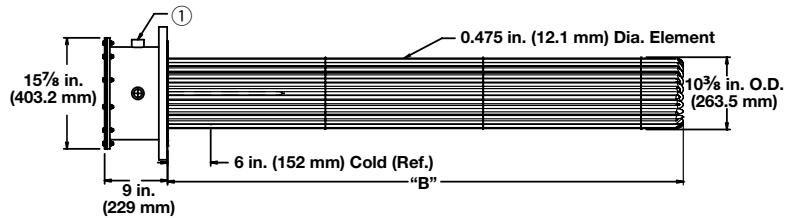
Application: Medium Weight Oils and Heat Transfer Oils

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
16 W/in ² ③ Steel Flange 36-Alloy 800 Elements (2.5 W/cm ²)	480	83.0	3	3	54 ⁵ / ₈ (1387.5)	280 (127)	FTN754L13S	M	FTN754L13W	M
	480	117.0	3	3	73 ¹ / ₈ (1857.4)	291 (132)	FTN773C13S	M	FTN773C13W	M

- M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

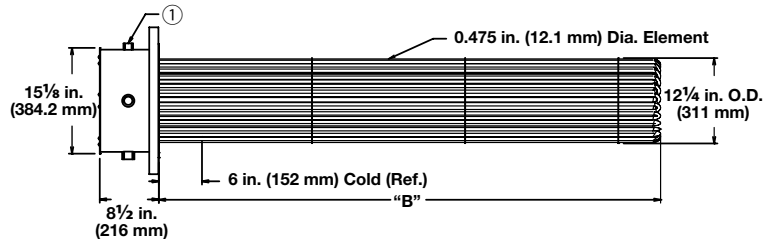
WATROD and FIREBAR ANSI Flange Immersion Heaters



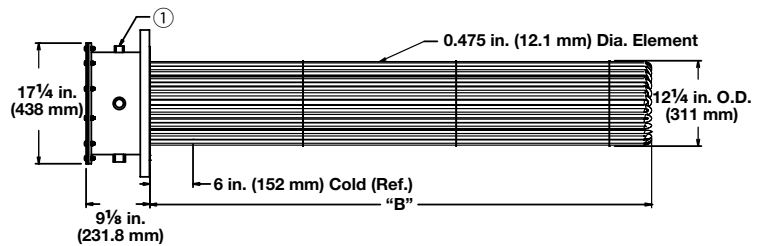
Application: Medium Weight Oils and Heat Transfer Oils

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.
							General Purpose Enclosure		Moisture-Resistant Enclosure	
16 Win ² ③ Steel Flange 45-Alloy 800 Elements (2.5 W/cm ²)	480	105.0	3	3	54 1/2 (1384)	300 (136)	FWN754J13S	M	FWN754J13W	M
	480	125.0	3	5	63 1/2 (1613)	310 (141)	FWN763J13S	M	FWN763J13W	M

- M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

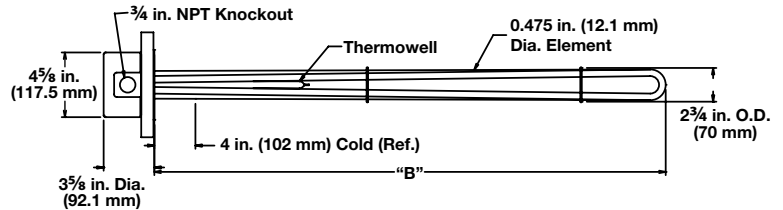
WATROD and FIREBAR ANSI Flange Immersion Heaters



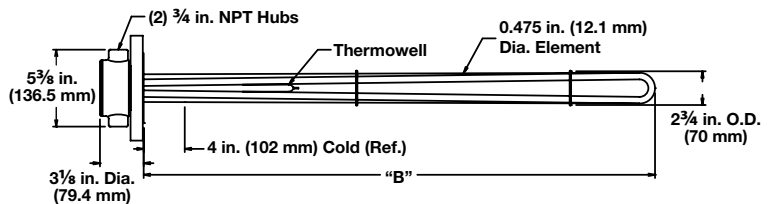
Application: Bunker C, Asphalt and #6 Fuel Oil

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures
- Single circuit

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	"B" Dim.		Ship Wt.		General Purpose Enclosure		Moisture-Resistant Enclosure	
				in.	(mm)	lbs	(kg)	Part Number	Del.	Part Number	Del.
8 W/in ² ③ Steel Flange 3-Steel Elements (1.3 W/cm ²)	240	2.0	3	33	(838)	28	(13)	FMS733A12S	RS	FMS733A12W	RS
	480	2.0	3	33	(838)	28	(13)	FMS733A13S	RS	FMS733A13W	RS
	240	3.0	3	48	(1219)	32	(15)	FMS748A12S	RS	FMS748A12W	RS
	480	3.0	3	48	(1219)	32	(15)	FMS748A13S	RS	FMS748A13W	RS
	240	4.0	3	64 ^{1/2}	(1638)	37	(17)	FMS764J12S	RS	FMS764J12W	RS
	480	4.0	3	64 ^{1/2}	(1638)	37	(17)	FMS764J13S	RS	FMS764J13W	RS
	240	5.0	3	77	(1956)	42	(19)	FMS777A12S	RS	FMS777A12W	RS
	480	5.0	3	77	(1956)	42	(19)	FMS777A13S	RS	FMS777A13W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

Immersion Heaters

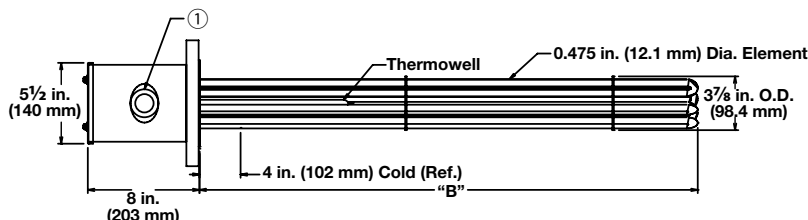
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure		
8 W/in ² ③ Steel Flange 6-Steel Elements (1.3 W/cm ²)	240	5.0	3	1	40 ^{1/2} (1029)	43 (20)	FOS740J12S	RS	FOS740J12W	RS
	480	5.0	3	1	40 ^{1/2} (1029)	43 (20)	FOS740J13S	RS	FOS740J13W	RS
	240	6.0	3	1	48 (1219)	48 (22)	FOS748A12S	RS	FOS748A12W	RS
	480	6.0	3	1	48 (1219)	48 (22)	FOS748A13S	RS	FOS748A13W	RS
	240	8.0	3	1	64 ^{1/2} (1638)	53 (24)	FOS764J12S	RS	FOS764J12W	RS
	480	8.0	3	1	64 ^{1/2} (1638)	53 (24)	FOS764J13S	RS	FOS764J13W	RS
	240	10.0	3	1	77 (1956)	61 (28)	FOS777A12S	RS	FOS777A12W	RS
	480	10.0	3	1	77 (1956)	61 (28)	FOS777A13S	RS	FOS777A13W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

- Notes:
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

Immersion Heaters

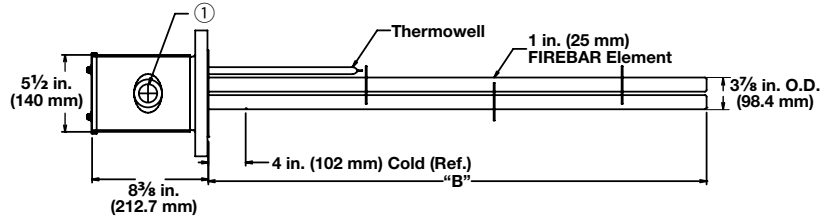
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 4 inch - 150 lb ANSI flange
- FIREBAR elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
8 W/in ² ③ 304 SS Flange 6-Alloy 800 Elements (1.3 W/cm ²)	240	2.50	3	1	16 ¹ / ₂ (420)	35 (16)	FONF16J22S	RS	FONF16J22W	RS
	240	3.25	3	1	19 ¹ / ₂ (495)	38 (17)	FONF19J22S	RS	FONF19J22W	RS
	240	4.25	3	1	24 ¹ / ₂ (622)	41 (19)	FONF24J22S	RS	FONF24J22W	RS
	480	4.25	3	1	24 ¹ / ₂ (622)	41 (19)	FONF24J21S	RS	FONF24J21W	RS
	240	5.25	3	1	30 (762)	44 (20)	FONF30A22S	RS	FONF30A22W	RS
	480	5.25	3	1	30 (762)	44 (20)	FONF30A21S	RS	FONF30A21W	RS
	240	6.38	3	1	35 (889)	46 (21)	FONF35A22S	RS	FONF35A22W	RS
	480	6.38	3	1	35 (889)	46 (21)	FONF35A21S	RS	FONF35A21W	RS
	240	8.50	3	1	45 ¹ / ₂ (1156)	50 (23)	FONF45J22S	RS	FONF45J22W	RS
	480	8.50	3	1	45 ¹ / ₂ (1156)	50 (23)	FONF45J21S	RS	FONF45J21W	RS
	240	10.75	3	1	56 (1422)	54 (25)	FONF56A22S	RS	FONF56A22W	RS
	480	10.75	3	1	56 (1422)	54 (25)	FONF56A21S	RS	FONF56A21W	RS

RAPID SHIP

- RS - Next day shipment up to 5 pieces

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

Immersion Heaters

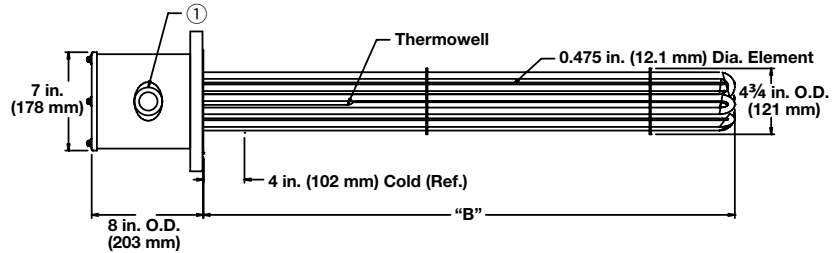
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure		
8 W/in ² ③ Steel Flange 6-Steel Elements (1.3 W/cm ²)	240	5.0	3	1	40 ¹ / ₂ (1029)	47 (22)	FNS740J12S	RS	FNS740J12W	RS
	480	5.0	3	1	40 ¹ / ₂ (1029)	47 (22)	FNS740J13S	RS	FNS740J13W	RS
	240	6.0	3	1	48 (1219)	52 (24)	FNS748A12S	RS	FNS748A12W	RS
	480	6.0	3	1	48 (1219)	52 (24)	FNS748A13S	RS	FNS748A13W	RS
	240	8.0	3	1	64 ¹ / ₂ (1638)	57 (26)	FNS764J12S	RS	FNS764J12W	RS
	480	8.0	3	1	64 ¹ / ₂ (1638)	57 (26)	FNS764J13S	RS	FNS764J13W	RS
	240	10.0	3	1	77 (1956)	65 (28)	FNS777A12S	RS	FNS777A12W	RS
	480	10.0	3	1	77 (1956)	65 (28)	FNS777A13S	RS	FNS777A13W	RS
8 W/in ² ③ Steel Flange 9-Steel Elements (1.3 W/cm ²)	240	7.5	3	1	40 ¹ / ₂ (1029)	53 (24)	FNS740J12XS	RS	FNS740J12XW	RS
	480	7.5	3	1	40 ¹ / ₂ (1029)	53 (24)	FNS740J13XS	RS	FNS740J13XW	RS
	240	9.0	3	1	48 (1219)	60 (28)	FNS748A12XS	RS	FNS748A12XW	RS
	480	9.0	3	1	48 (1219)	60 (28)	FNS748A13XS	RS	FNS748A13XW	RS
	240	12.0	3	1	64 ¹ / ₂ (1638)	68 (31)	FNS764J12XS	RS	FNS764J12XW	RS
	480	12.0	3	1	64 ¹ / ₂ (1638)	68 (31)	FNS764J13XS	RS	FNS764J13XW	RS
	240	15.0	3	1	77 (1956)	78 (36)	FNS777A12XS	M	FNS777A12XW	M
	480	15.0	3	1	77 (1956)	78 (36)	FNS777A13XS	M	FNS777A13XW	M

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

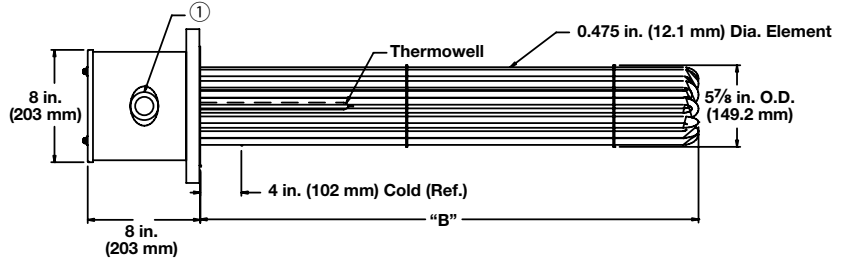
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)		Ship Wt. lbs (kg)		Part Number		Part Number				
									Del.	Del.	Del.	Del.			
8 W/in² ③ Steel Flange 12-Steel Elements (1.3 W/cm²)	240	8.0	3	1	32 ⁷ / ₈	(835.0)	85	(39)	General Purpose Enclosure		Moisture-Resistant Enclosure				
	480	8.0	3	1	32 ⁷ / ₈	(835.0)	85	(39)	FPS732R12S	M	FPS732R12W	M			
	240	10.0	3	1	40 ³ / ₈	(1025.5)	92	(42)	FPS732R13S	M	FPS732R13W	M			
	480	10.0	3	1	40 ³ / ₈	(1025.5)	92	(42)	FPS740G12S	M	FPS740G12W	M			
	240	12.0	3	1	47 ⁷ / ₈	(1216.0)	100	(46)	FPS740G13S	M	FPS740G13W	M			
	480	12.0	3	1	47 ⁷ / ₈	(1216.0)	100	(46)	FPS747R12S	M	FPS747R12W	M			
	240	16.5	3	1	64 ³ / ₈	(1635.1)	110	(50)	FPS747R13S	M	FPS747R13W	M			
	480	16.5	3	1	64 ³ / ₈	(1635.1)	110	(50)	FPS764G12S	M	FPS764G12W	M			
	240	20.0	3	2	76 ⁷ / ₈	(1952.4)	118	(54)	FPS764G13S	M	FPS764G13W	M			
	480	20.0	3	1	76 ⁷ / ₈	(1952.4)	118	(54)	FPS776R12S	M	FPS776R12W	M			
8 W/in² ③ Steel Flange 15-Steel Elements (1.3 W/cm²)	240	10.0	3	1	32 ⁷ / ₈	(835.0)	90	(41)	FPS776R13S	M	FPS776R13W	M			
	480	10.0	3	1	32 ⁷ / ₈	(835.0)	90	(41)	FPS732R12XS	M	FPS732R12XW	M			
	240	12.5	3	1	40 ³ / ₈	(1025.5)	98	(45)	FPS732R13XS	M	FPS732R13XW	M			
	480	12.5	3	1	40 ³ / ₈	(1025.5)	98	(45)	FPS740G12XS	M	FPS740G12XW	M			
	240	15.0	3	1	47 ⁷ / ₈	(1216.0)	108	(49)	FPS740G13XS	M	FPS740G13XW	M			
	480	15.0	3	1	47 ⁷ / ₈	(1216.0)	108	(49)	FPS747R12XS	M	FPS747R12XW	M			
	240	21.0	3	5	64 ³ / ₈	(1635.1)	120	(55)	FPS747R13XS	M	FPS747R13XW	M			
	480	21.0	3	1	64 ³ / ₈	(1635.1)	120	(55)	FPS764G12XS	M	FPS764G12XW	M			
	240	25.0	3	5	76 ⁷ / ₈	(1952.4)	131	(60)	FPS764G13XS	M	FPS764G13XW	M			
	480	25.0	3	1	76 ⁷ / ₈	(1952.4)	131	(60)	FPS776R12XS	M	FPS776R12XW	M			
												FPS776R13XS	M	FPS776R13XW	M

• M - Manufacturing lead times

Notes: • All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
• For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

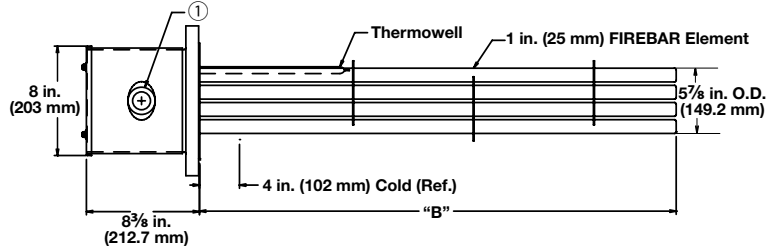
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 6 inch - 150 lb ANSI flange
- FIREBAR elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure		
8 W/in ² ③ 304 SS Flange 15-Alloy 800 Elements (1.3 W/cm ²)	240	6.3	3	5	16 ¹ / ₂ (419)	81 (37)	FPNF16J22S	M	FPNF16J22W	M
	240	8.1	3	5	19 ¹ / ₂ (495)	84 (38)	FPNF19J22S	M	FPNF19J22W	M
	240	10.6	3	5	24 ¹ / ₂ (622)	87 (40)	FPNF24J22S	M	FPNF24J22W	M
	480	10.6	3	5	24 ¹ / ₂ (622)	87 (40)	FPNF24J21S	M	FPNF24J21W	M
	240	13.1	3	5	30 (762)	91 (42)	FPNF30A22S	M	FPNF30A22W	M
	480	13.1	3	5	30 (762)	91 (42)	FPNF30A21S	M	FPNF30A21W	M
	240	16.0	3	5	35 (889)	95 (43)	FPNF35A22S	M	FPNF35A22W	M
	480	16.0	3	5	35 (889)	95 (43)	FPNF35A21S	M	FPNF35A21W	M
	240	21.3	3	5	45 ¹ / ₂ (1156)	106 (48)	FPNF45J22S	M	FPNF45J22W	M
	480	21.3	3	5	45 ¹ / ₂ (1156)	106 (48)	FPNF45J21S	M	FPNF45J21W	M
	240	26.0	3	5	56 (1422)	116 (53)	FPNF56A22S	M	FPNF56A22W	M
	480	26.0	3	5	56 (1422)	116 (53)	FPNF56A21S	M	FPNF56A21W	M

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

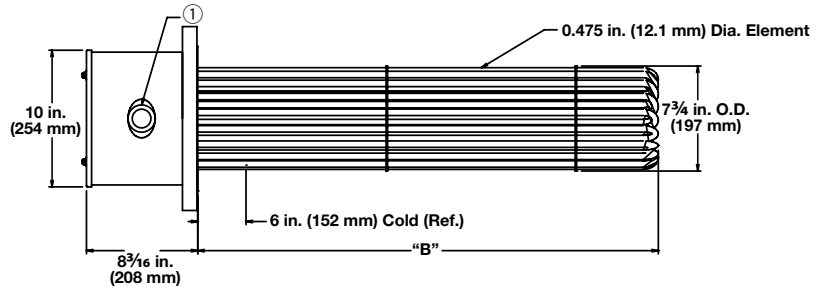
WATROD and FIREBAR ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose and Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	Part Number		Del.
							General Purpose Enclosure	Moisture-Resistant Enclosure				
8 W/in² ③ Steel Flange 18-Steel Elements (1.3 W/cm²)	240	12.5	3	1	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E12S	M		FRS743E12W	M	
	480	12.5	3	1	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E13S	M		FRS743E13W	M	
	240	16.5	3	1	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M12S	M		FRS751M12W	M	
	480	16.5	3	1	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M13S	M		FRS751M13W	M	
	240	20.0	3	2	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D12S	M		FRS762D12W	M	
	480	20.0	3	1	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D13S	M		FRS762D13W	M	
	240	24.0	3	2	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M12S	M		FRS770M12W	M	
	480	24.0	3	1	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M13S	M		FRS770M13W	M	
	240	27.0	3	2	79 ¹¹ / ₁₆ (2024.1)	172 (78)	FRS779M12S	M		FRS779M12W	M	
	480	27.0	3	1	79 ¹¹ / ₁₆ (2024.1)	172 (78)	FRS779M13S	M		FRS779M13W	M	
8 W/in² ③ Steel Flange 24-Steel Elements (1.3 W/cm²)	240	17.0	3	1	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M12XS	M		FRS743M12XW	M	
	480	17.0	3	1	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M13XS	M		FRS743M13XW	M	
	240	22.0	3	2	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M12XS	M		FRS751M12XW	M	
	480	22.0	3	1	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M13XS	M		FRS751M13XW	M	
	240	27.0	3	2	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D12XS	M		FRS762D12XW	M	
	480	27.0	3	1	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D13XS	M		FRS762D13XW	M	
	240	32.0	3	2	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M12XS	M		FRS770M12XW	M	
	480	32.0	3	1	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M13XS	M		FRS770M13XW	M	
	240	36.0	3	2	79 ¹¹ / ₁₆ (2024.1)	181 (82)	FRS779M12XS	M		FRS779M12XW	M	
	480	36.0	3	1	79 ¹¹ / ₁₆ (2024.1)	181 (82)	FRS779M13XS	M		FRS779M13XW	M	

• M - Manufacturing lead times

- Notes:**
- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
 - For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

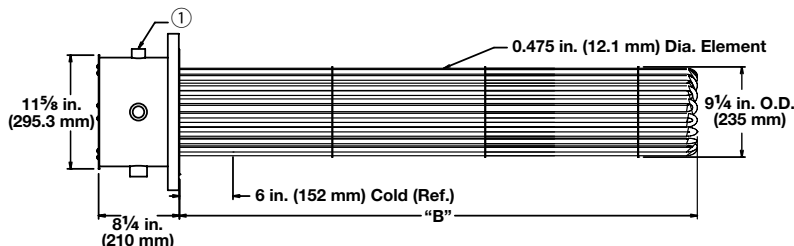
WATROD and FIREBAR ANSI Flange Immersion Heaters



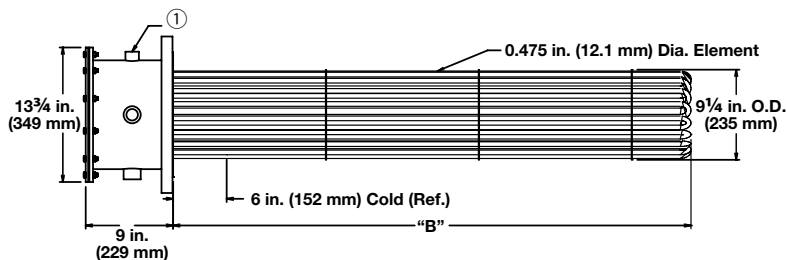
Application: Bunker C, Asphalt and #6 Fuel Oil

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
							Part Number	Del.	Part Number	Del.
8 W/in ² ③ Steel Flange 27-Steel Elements (1.3 W/cm ²)	240	25.0	3	3	51 ³ / ₄ (1314)	230 (105)	FSS751N12S	M	FSS751N12W	M
	480	25.0	3	1	51 ³ / ₄ (1314)	230 (105)	FSS751N13S	M	FSS751N13W	M
	240	30.0	3	3	62 ¹ / ₄ (1581)	250 (114)	FSS762E12S	M	FSS762E12W	M
	480	30.0	3	1	62 ¹ / ₄ (1581)	250 (114)	FSS762E13S	M	FSS762E13W	M
	240	35.0	3	3	70 ³ / ₄ (1797)	258 (117)	FSS770N12S	M	FSS770N12W	M
	480	35.0	3	1	70 ³ / ₄ (1797)	258 (117)	FSS770N13S	M	FSS770N13W	M
	240	40.0	3	3	78 ³ / ₄ (2000)	265 (121)	FSS778N12S	M	FSS778N12W	M
	480	40.0	3	1	78 ³ / ₄ (2000)	265 (121)	FSS778N13S	M	FSS778N13W	M

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

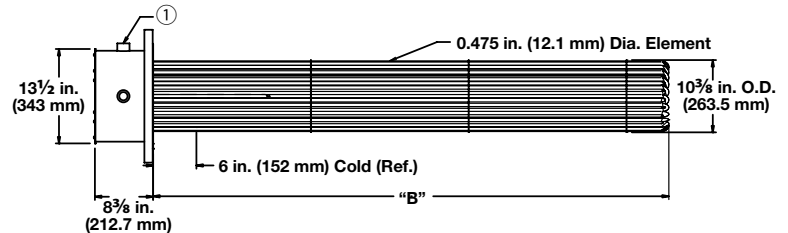
Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters

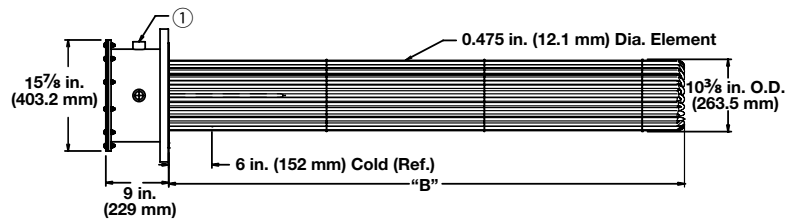
Application: Bunker C, Asphalt and #6 Fuel Oil

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
8 W/in ² ③ Steel Flange 27-Steel Elements (1.3 W/cm ²)	240	34.0	3	2	51 ⁵ / ₈ (1311.3)	280 (127)	FTS751L12S	M	FTS751L12W	M
	480	34.0	3	1	51 ⁵ / ₈ (1311.3)	280 (127)	FTS751L13S	M	FTS751L13W	M
	240	40.0	3	2	62 ¹ / ₈ (1578.0)	285 (130)	FTS762C12S	M	FTS762C12W	M
	480	40.0	3	1	62 ¹ / ₈ (1578.0)	285 (130)	FTS762C13S	M	FTS762C13W	M
	240	47.0	3	3	70 ⁵ / ₈ (1793.9)	290 (132)	FTS770L12S	M	FTS770L12W	M
	480	47.0	3	2	70 ⁵ / ₈ (1793.9)	290 (132)	FTS770L13S	M	FTS770L13W	M
	240	54.0	3	3	78 ⁵ / ₈ (1997.1)	300 (136)	FTS778L12S	M	FTS778L12W	M
	480	54.0	3	2	78 ⁵ / ₈ (1997.1)	300 (136)	FTS778L13S	M	FTS778L13W	M

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

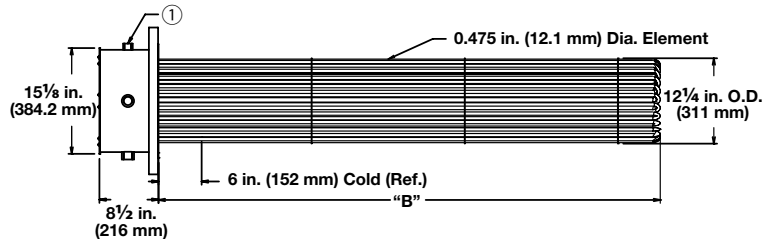
WATROD and FIREBAR ANSI Flange Immersion Heaters



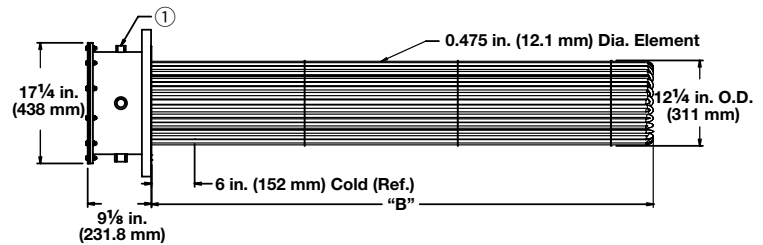
Application: Bunker C, Asphalt and #6 Fuel Oil

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	General Purpose Enclosure		Moisture-Resistant Enclosure	
							Part Number	Del.	Part Number	Del.
8 W/in ² ③ Steel Flange 27-Steel Elements (1.3 W/cm ²)	240	42.0	3	3	51 1/2 (1308)	300 (136)	FWS751J12S	M	FWS751J12W	M
	480	42.0	3	3	51 1/2 (1308)	300 (136)	FWS751J13S	M	FWS751J13W	M
	240	50.0	3	3	62 (1575)	310 (141)	FWS762A12S	M	FWS762A12W	M
	480	50.0	3	3	62 (1575)	310 (141)	FWS762A13S	M	FWS762A13W	M
	240	60.0	3	3	70 1/2 (1791)	318 (145)	FWS770J12S	M	FWS770J12W	M
	480	60.0	3	3	70 1/2 (1791)	318 (145)	FWS770J13S	M	FWS770J13W	M
	240	67.0	3	5	78 1/2 (1994)	330 (150)	FWS778J12S	M	FWS778J12W	M
	480	67.0	3	3	78 1/2 (1994)	330 (150)	FWS778J13S	M	FWS778J13W	M

• M - Manufacturing lead times

Notes:

- All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe
- For ANSI flange dimensions, reference chart on page 241

③ Wired for 3-phase operation only

■ Truck Shipment only

Immersion Heaters

WATROD and FIREBAR ANSI Flange Immersion Heaters

Ordering Information

Part Number

Stock ANSI Flange Part Number	Optional Terminal Enclosures	Optional Process Sensors	Sheath Limit Sensors

Stock ANSI Flange Part Number

Note: Catalog part numbers include optional enclosures and process sensors. To order optional enclosures or sensors, substitute the appropriate suffix.

Optional Terminal Enclosures

S =	General purpose enclosure
W =	Moisture-resistant enclosure
E =	Explosion-resistant enclosure
C =	Moisture/explosion-resistant enclosure

Note: Catalog listings include either a general purpose enclosure or moisture/explosion-resistant enclosure. Substitute enclosure options are noted.

Optional Process Sensors

2 =	30 to 250°F, (-1 to 121°C) SPST
3 =	175 to 550°F, (79 to 288°C) SPST
4 =	30 to 110°F, (-1 to 43°C) DPST
5A=	60 to 250°F, (16 to 121°C) DPST (FIREBAR)
7A=	100 to 550°F, (38 to 288°C) DPST (FIREBAR)
PJ=	Type J process thermocouple in thermowell
PK=	Type K process thermocouple in thermowell

Note: Thermostat part numbers are shown in the *Thermostat Chart* on page 537.

Example Part Number: FPS732R12 S 2 HJ

Sheath Limit Sensors

HJ=	Type J high-limit thermocouple, horizontal mount
TJ=	Type J high-limit thermocouple, vertical/housing at top
BJ=	Type J high-limit thermocouple, vertical/housing at bottom
HK=	Type K high-limit thermocouple, horizontal mount
TK=	Type K high-limit thermocouple, vertical/housing at top
BK=	Type K high-limit thermocouple, vertical/housing at bottom

Note: Heater orientation is critical to accurate sensing of limit conditions. Use the appropriate code to indicate heater mounting orientation.

Immersion Heaters

WATROD and FIREBAR Flange Immersion Heaters

Plate Flange Immersion Heaters

Watlow plate flange heaters are easy to install and maintain. These products are designed for heating heat transfer fluids, medium and lightweight oils and water in tanks and pressure vessels. Plate flange heaters are ideal for applications requiring low to medium wattage requirements.

Watlow plate flange heaters are made with WATROD tubular elements that are brazed or welded to the flange. Stock plate flange heaters are supplied with general purpose or moisture-resistant terminal enclosures.

Performance Capabilities

- Watt densities up to 100 W/in² (15.5 W/cm²)
- Wattages up to 18 kilowatts
- Alloy 800/840 sheath temperatures up to 1600°F (870°C)
- 304 stainless steel sheath temperatures up to 1200°F (650°C)
- Steel sheath temperatures up to 750°F (400°C)

Features and Benefits

Rapid ship program

- Minimizes downtime

Direct replacement for many OEM mold temperature control units

- Provides a single source supplier for many OEM applications

ANSI compatible 2 and 2½ inch flanges

- Provides appropriate heater size-to-application fit

Standard general purpose or moisture resistant terminal enclosures

- Offers easy access to wiring
- Limits accidental contact with termination
- Denies access to wiring connection in local environment



Immersion Heaters

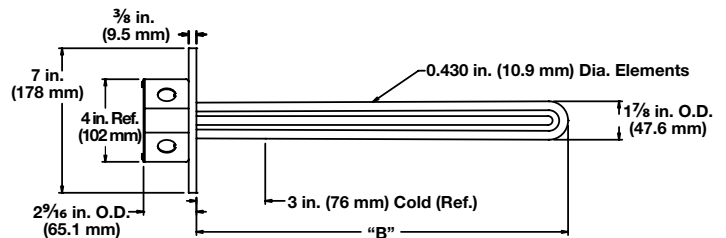
WATROD and FIREBAR Flange Immersion Heaters

Plate Flange Immersion Heaters

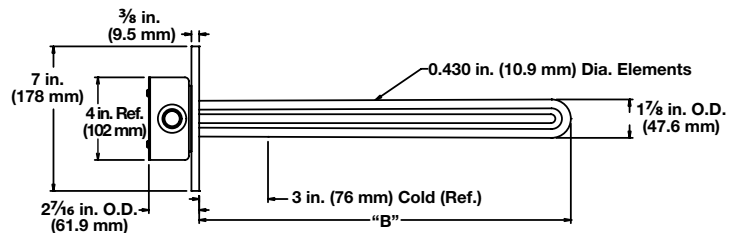
Application: Clean Water

- 2 1/2 inch plate flange (bolt pattern matches 2 1/2 inch - 150 lb ANSI flange)
- WATROD elements
- Not available with thermowell or thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Del.	Part Number	Del.	
							General Purpose Enclosure		Moisture-Resistant Enclosure		
100 W/in ² Steel Flange 3-304 SS Elements (15.5 W/cm ²)	240	12.0	1	3	18 (457)	22 (10)	FLN18A10S	M	FLN18A10W	M	
	240	12.0	3	1	18 (457)	22 (10)	FLN18A3S	M	FLN18A3W	M	
	480	12.0	1	1	18 (457)	22 (10)	FLN18A11S	M	FLN18A11W	M	
	480	12.0	3	1	18 (457)	22 (10)	FLN18A5S	M	FLN18A5W	M	
80 W/in ² Steel Flange 3-304 SS Elements (12.4 W/cm ²)	240	9.0	1	1	17 ³ / ₄ (451)	22 (10)	FLN17N10S	M	FLN17N10W	M	
	240	9.0	3	1	17 ³ / ₄ (451)	22 (10)	FLN17N3S	RS	FLN17N3W	RS	
	480	9.0	1	1	17 ³ / ₄ (451)	22 (10)	FLN17N11S	M	FLN17N11W	M	
	480	9.0	3	1	17 ³ / ₄ (451)	22 (10)	FLN17N5S	M	FLN17N5W	M	
	240	18.0	1	3	30 (762)	27 (13)	FLN30A10S	M	FLN30A10W	M	
	240	18.0	3	1	30 (762)	27 (13)	FLN30A3S	RS	FLN30A3W	RS	
	480	18.0	1	1	30 (762)	27 (13)	FLN30A11S	M	FLN30A11W	M	
	480	18.0	3	1	30 (762)	27 (13)	FLN30A5S	M	FLN30A5W	M	
60 W/in ² Steel Flange 3-Alloy 800 Elements (9.3 W/cm ²)	240	4.5	1	1	12 ¹ / ₂ (318)	21 (10)	FLN12J10S	M	FLN12J10W	M	
	240	4.5	3	1	12 ¹ / ₂ (318)	21 (10)	FLN12J3S	RS	FLN12J3W	RS	
	480	4.5	1	1	12 ¹ / ₂ (318)	21 (10)	FLN12J11S	M	FLN12J11W	M	
	480	4.5	3	1	12 ¹ / ₂ (318)	21 (10)	FLN12J5S	M	FLN12J5W	M	

Note: All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe

RAPID SHIP

- RS - Next day shipment up to 5 pieces
- M - Manufacturing lead times

Immersion Heaters

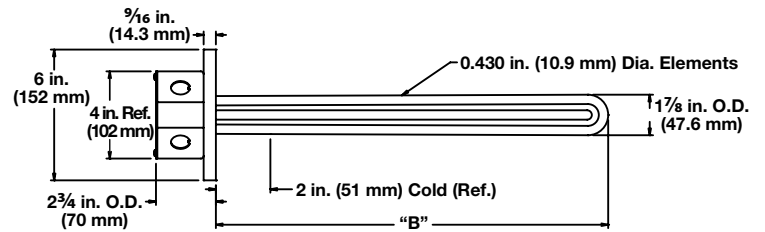
WATROD and FIREBAR Flange Immersion Heaters

Plate Flange Immersion Heaters

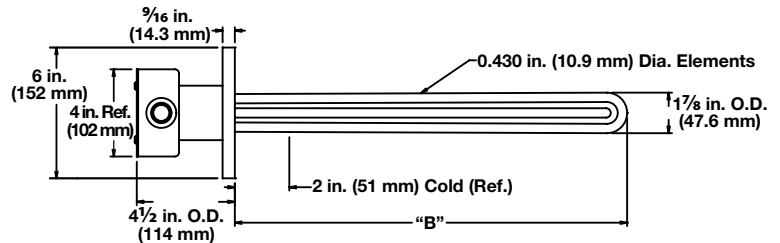
Application: Process Water

- 2 inch flange (bolt pattern matches 2 inch - 150 lb ANSI flange)
- WATROD elements
- Not available with thermowell or thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



Description	Volts	kW	PH	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		Del.	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Del.	Del.
45 W/in ² Steel Flange 3-Alloy 800 Elements (7 W/cm ²)	240	4.5	1	1	16 (406)	22 (10)	FKN16A10S	M	FKN16A10W	M
	240	4.5	3	1	16 (406)	22 (10)	FKN16A3S	M	FKN16A3W	M
	480	4.5	1	1	16 (406)	22 (10)	FKN16A11S	M	FKN16A11W	M
	480	4.5	3	1	16 (406)	22 (10)	FKN16A5S	RS	FKN16A5W	RS
	240	9.0	1	1	29 (737)	27 (13)	FKN29A10S	M	FKN29A10W	M
	240	9.0	3	1	29 (737)	27 (13)	FKN29A3S	RS	FKN29A3W	RS
	480	9.0	1	1	29 (737)	27 (13)	FKN29A11S	M	FKN29A11W	M
	480	9.0	3	1	29 (737)	27 (13)	FKN29A5S	RS	FKN29A5W	RS
45 W/in ² Steel Flange 3-Alloy 800 Elements (7 W/cm ²)	240	9.0	1	1	28 (711)	27 (13)	FKN28A10S	M	FKN28A10W	M
	240	9.0	3	1	28 (711)	27 (13)	FKN28A3S	M	FKN28A3W	M
	480	9.0	1	1	28 (711)	27 (13)	FKN28A11S	M	FKN28A11W	M
	480	9.0	3	1	28 (711)	27 (13)	FKN28A5S	RS	FKN28A5W	RS

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

Note: All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe

Immersion Heaters

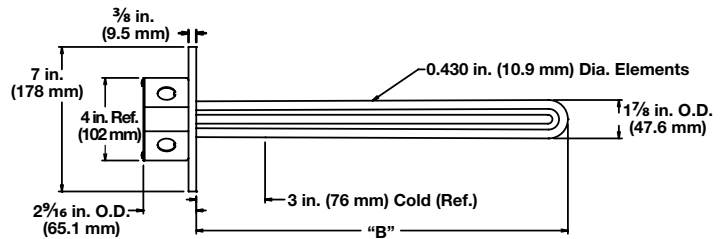
WATROD and FIREBAR Flange Immersion Heaters

Plate Flange Immersion Heaters

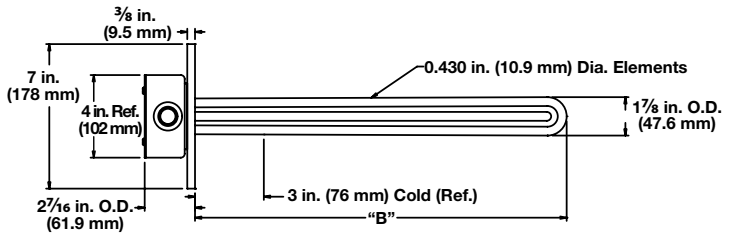
Application: Forced Air and Caustic Solutions

- 2½ inch flange (bolt pattern matches 2½ inch - 150 lb ANSI flange)
- WATROD elements
- Not available with thermowell or thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	# Circ.	"B" Dim.		Ship Wt.		General Purpose Enclosure		Moisture-Resistant Enclosure	
					in.	(mm)	lbs	(kg)	Part Number	Del.	Part Number	Del.
30 W/in ² Steel Flange 3-Alloy 800 Elements (4.7 W/cm ²)	240	3.0	3	1	17 ³ / ₄	(451)	22	(10)	FLN17N12S	RS	FLN17N12W	RS
	480	3.0	3	1	17 ³ / ₄	(451)	22	(10)	FLN17N13S	RS	FLN17N13W	RS
	240	4.0	3	1	18	(457)	22	(10)	FLN18A12S	RS	FLN18A12W	RS
	480	4.0	3	1	18	(457)	22	(10)	FLN18A13S	M	FLN18A13W	M
	240	6.0	3	1	30	(762)	27	(13)	FLN30A12S	M	FLN30A12W	M
	480	6.0	3	1	30	(762)	27	(13)	FLN30A13S	M	FLN30A13W	M

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

Note: All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe

Immersion Heaters

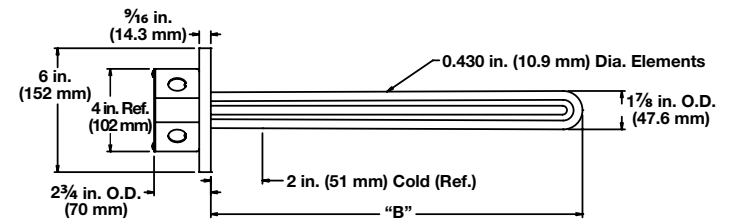
WATROD and FIREBAR Flange Immersion Heaters

Plate Flange Immersion Heaters

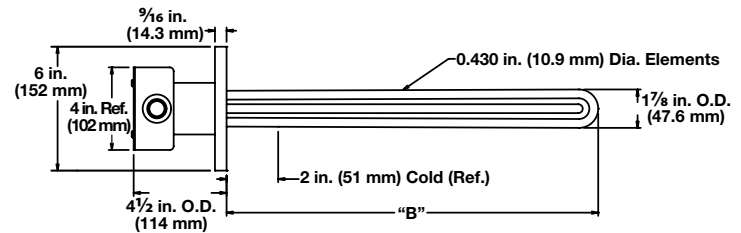
Application: Lightweight Oils and Ethylene Glycol (100%)

- 2 inch flange (bolt pattern matches 2 inch - 150 lb ANSI flange)
- WATROD elements
- Not available with thermowell or thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	# Circ.	"B" Dim. in.	"B" Dim. (mm)	Ship Wt. lbs	Ship Wt. (kg)	Part Number		Del.	
									General Purpose Enclosure	Moisture-Resistant Enclosure		
30 W/in ² Steel Flange 3-Steel Elements (4.7 W/cm ²)	240	6.0	1	1	29	(737)	27	(13)	FKS29A10S	RS	FKS29A10W	RS
	240	6.0	3	1	29	(737)	27	(13)	FKS29A3S	RS	FKS29A3W	RS
	480	6.0	1	1	29	(737)	27	(13)	FKS29A11S	RS	FKS29A11W	RS
	480	6.0	3	1	29	(737)	27	(13)	FKS29A5S	M	FKS29A5W	M

RAPID SHIP

- **RS** - Next day shipment up to 5 pieces
- **M** - Manufacturing lead times

Note: All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe

Immersion Heaters

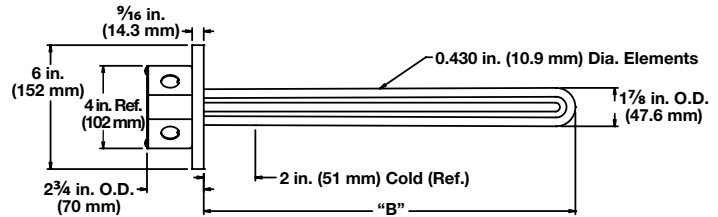
WATROD and FIREBAR Flange Immersion Heaters

Plate Flange Immersion Heaters

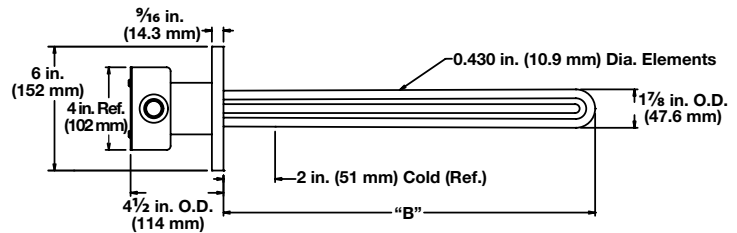
Application: Medium Weight Oils and Heat Transfer Oils

- 2 inch flange (bolt pattern matches 2 inch - 150 lb ANSI flange)
- WATROD elements
- Not available with thermowell or thermostat
- General purpose or moisture-resistant enclosures

General Purpose



Moisture Resistant



Description	Volts	kW	Ph	# Circ.	"B" Dim. in.	(mm)	Ship Wt. lbs	(kg)	Part Number	Del.	Part Number	Del.
									General Purpose Enclosure		Moisture-Resistant Enclosure	
15 W/in ² Steel Flange 3-Alloy 800 Elements (2.3 W/cm ²)	240	3.0	3	1	28	(711)	27	(13)	FKN28A12S	M	FKN28A12W	M
	480	3.0	3	1	28	(711)	27	(13)	FKN28A13S	M	FKN28A13W	M
10 W/in ² Steel Flange 3-Steel Elements (1.6 W/cm ²)	240	2.0	3	1	29	(737)	27	(13)	FKS29A12S	M	FKS29A12W	M
	480	2.0	3	1	29	(737)	27	(13)	FKS29A13S	M	FKS29A13W	M

- M - Manufacturing lead times

Note: All flange bundles are designed to fit the inside diameter of the equivalent standard schedule pipe

Immersion Heaters

WATROD and FIREBAR Flange Immersion Heaters

Square Flange Immersion Heaters

Designed for use in boilers and industrial storage tanks, the square flange immersion heater from Watlow offers an energy efficient solution to heating water, oils and degreasing solutions.

Consisting of WATROD or FIREBAR elements brazed, staked or welded to a four- or six-bolt flange, these heaters mount directly to a mating flange that is welded to a tank wall or nozzle.

Installation and maintenance is easy. Heater change-out is also simple-unbolt the flange and replace it with another-without extensive equipment downtime.

Performance Capabilities

- Watt densities up to 100 W/in² (15.5 W/cm²)
- Wattages up to 24 kilowatts
- Voltages up to 480VAC
- Alloy 800/840 sheath temperatures up to 1600°F (870°C)

Features and Benefits

2¹/₂, 3¹/₈ and 4¹/₂ inch square flanges

- Adapts easily to application needs

Asbestos-free gaskets

- Come wire-tied to each flange. Spare gaskets also available

Epoxy or silicone resin seals rated to 250°F (120°C) or 390°F (200°C)

- Protects elements against moisture and other contaminants

WATROD hairpins are repressed (recompacted)

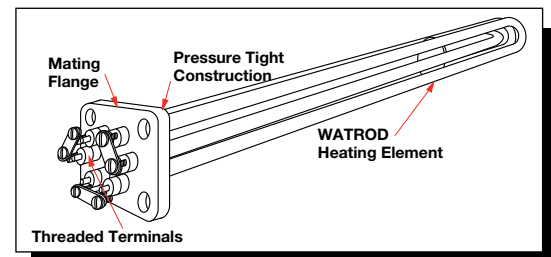
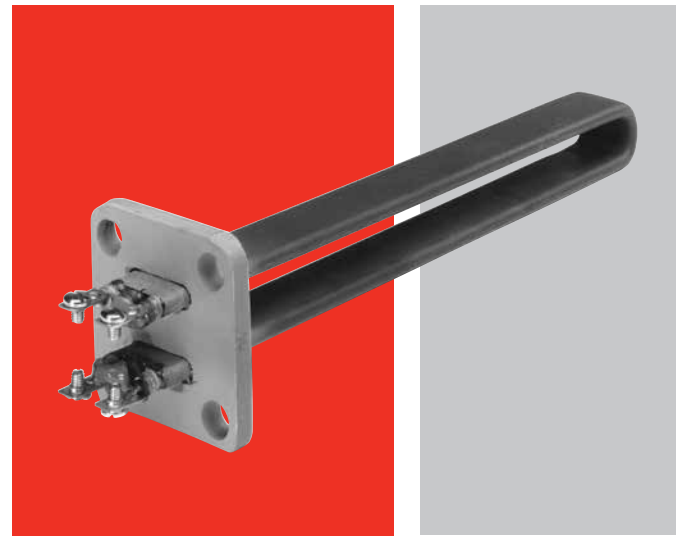
- Helps maintain MgO density, dielectric strength, heat transfer and life

UL® and CSA component recognition under file numbers E52951 and 31388

- Meets industry safety standards

Typical Applications

- Water
- Boiler equipment
- Vapor degreasers
- Fuel oils
- Heat transfer fluids
- Caustic solutions



Flange Materials

WATROD	Steel 304 SS
FIREBAR	Steel Brass

Available on Request

- **Sheath materials** in steel, 304 and 316 stainless steel and titanium
- **Flange materials** in titanium and 316 stainless steel
- **Flange sizes** to meet specific application needs
- **External finishes** such as passivation, belt polishing and glass beading
- **Other voltage and wattage ratings**
Contact your Watlow representative for details

Immersion Heaters

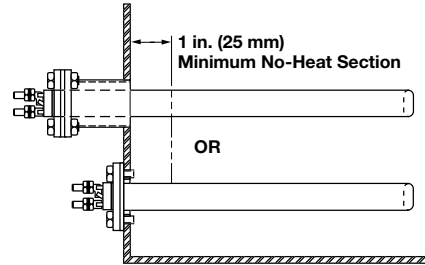
WATROD and FIREBAR Flange Immersion Heaters

Square Flange Immersion Heaters

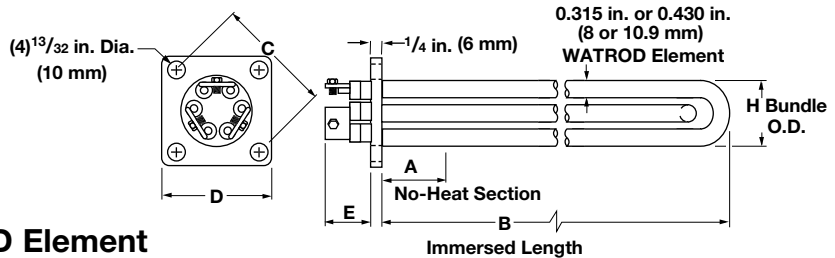
Application Hints

- Determine recommended sheath materials and watt densities by using the *Element and Assembly Selection Guide* on pages 554 to 555. If wattage is not known, contact your Watlow representative.
- Extend the element's no-heat section completely in the fluid at all times to prevent premature heater failure. See the accompanying illustration for proper placement of the no-heat section.

- Mount WATROD and FIREBAR square flange heaters horizontally and low in the tank, but above sludge level.
- Periodically remove heaters to inspect and clean the elements.
- Keep terminations clean, dry and tight.
- Minimize problems associated with low liquid level conditions by using a low liquid level sensor.



Heater Dimension	in.	(mm)
A	1 1/2	(38)
C	2 1/2	(64)
D	2 1/2	(64)
E	1	(25)
H	1 1/2	(38)



2 1/2 inch Square Flange – WATROD Element

WATROD Description	kW	Immersed B Dimension in. (mm)	Part Number				Est. Ship. Wt. lbs (kg)
			240VAC 1-Phase	240VAC 3-Phase	480VAC 1-Phase	480VAC 3-Phase	

Applications: Clean and Potable Water

100 W/in ² Steel Flange 3-Alloy 800 (15.5 W/cm ²)	8.0	11 3/4 (298.0)	FHN11N10 ^②	FHN11N3 ^②	FHN11N11 ^②	FHN11N5 ^①	18 (9)
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Applications: Forced Air and Gases, Caustic Solutions, Degreasing Solutions

30 W/in ² 304 SS Flange 3-Alloy 800 (4.7 W/cm ²)	3.0	18 1/2 (470.0)	FHN18J10 ^①	FHN18J3 ^①	FHN18J11 ^②	FHN18J5 ^②	19 (9)
	3.75	23 1/16 (585.8)	FHN23B10 ^①	FHN23B3 ^①	FHN23B11 ^②	FHN23B5 ^②	20 (9)
25 W/in ² 304 SS Flange 3-Alloy 800 (3.9 W/cm ²)	1.5	12 (305.0)	FHN12A10 ^①	FHN12A3 ^①	FHN12A11 ^②	FHN12A5 ^②	18 (8)

Applications: Bunker C and #6 Fuel Oils

10 W/in ² 304 SS Flange 3-Alloy 800 (1.6 W/cm ²)	1.0	18 1/2 (470.0)		FHN18J12 ^①		FHN18J13 ^②	19 (9)
	1.25	23 1/16 (585.8)		FHN23B12 ^①		FHN23B13 ^②	20 (9)
8 W/in ² 304 SS Flange 3-Alloy 800 (1.3 W/cm ²)	0.5	12 (305.0)		FHN12A12 ^①		FHN12A13 ^②	18 (8)

RAPID SHIP

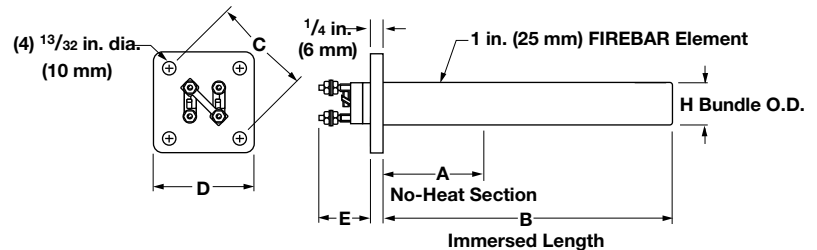
- ① Next day shipment up to 5 pieces
- ② Manufacturing lead times

Immersion Heaters

WATROD and FIREBAR Flange Immersion Heaters

Square Flange Immersion Heaters

Heater Dimension	in.	(mm)
A	1 1/2	(38)
C	2 1/2	(64)
D	2 1/2	(64)
E	1 3/4	(44)
H	1 5/16	(33)



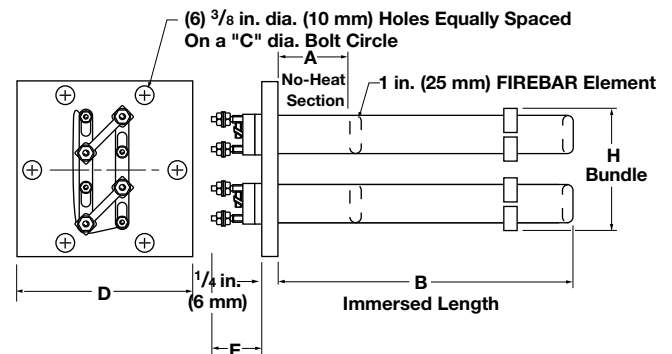
2 1/2 inch Square Flange—FIREBAR Element

FIREBAR Description	kW	Immersed B Dimension in. (mm)	Part Number					Est. Ship.	
			208VAC 3-Phase	240VAC 1-Phase	240VAC 3-Phase	480VAC 1-Phase	480VAC 3-Phase	Wt. lbs	(kg)

Applications: Clean and Potable Water

100 W/in ² Steel Flange	5	11 1/2 (292)	FHNFA11J26N ^②	FHNFA11J10N ^①	FHNFA11J3N ^①	FHNFA11J11N ^②	FHNFA11J5N ^②	5	(3)
1-Alloy 800 (15.5 W/cm ²)	8	20 3/4 (527)	FHNFA20N26N ^②	FHNFA20N10N ^①	FHNFA20N3N ^①	FHNFA20N11N ^②	FHNFA20N5N ^①	7	(4)
	10	24 3/8 (619)	FHNFA24G26N ^②	FHNFA24G10N ^①	FHNFA24G3N ^②	FHNFA24G11N ^②	FHNFA24G5N ^①	8	(4)
	15	33 15/16 (862)	FHNFA33S26N ^②		FHNFA33S3N ^②	FHNFA33S11N ^②	FHNFA33S5N ^①	9	(5)
80 W/in ² Steel Flange	16	22 5/8 (575)	FHNFB22L26J ^②	FHNFB22L10J ^②	FHNFB22L3J ^②	FHNFB22L11J ^②	FHNFB22L5J ^②	10	(5)
1-Alloy 800 (12.4 W/cm ²)									

Heater Dimension	in.	(mm)
A	1	(25.0)
C	3 13/16	(96.8)
D	4 1/2	(114.0)
E	2 1/4	(57.0)
H	3 7/32	(81.8)



4 1/2 inch Square Flange—FIREBAR Element

FIREBAR Description	kW	Immersed B Dimension in. (mm)	Part Number			Est. Ship.	
			208VAC 3-Phase	240VAC 3-Phase	480VAC 3-Phase	Wt. lbs	(kg)

Applications: Clean and Potable Water

100 W/in ² Steel Flange	18	10 1/2 (267)	FGNFB10J26N ^②	FGNFB10J3N ^②	FGNFB10J5N ^①	16	(8)
2-Alloy 800 (15.5 W/cm ²)							
70 W/in ² Steel Flange	12	10 1/2 (267)	FGNFB10J26P ^①	FGNFB10J3P ^②	FGNFB10J5P ^①	16	(8)
2-Alloy 800 (10.9 W/cm ²)							

RAPID SHIP

- ① Next day shipment up to 5 pieces
- ② Manufacturing lead times

Immersion Heaters

**EXTENDED
CAPABILITY**

WATROD and FIREBAR Flange Immersion Heaters

Extended Capabilities For Bayonet/Pipe Insert Immersion Heaters

Bayonet/Pipe insert immersion heaters permit removing and servicing the heater bundle without draining the liquid being heated.

Heating is accomplished by mounting a flange or screw plug immersion heater inside a pressure-tight bayonet pipe vessel then mates to a flange connection on a storage tank's side. Heat transfer between element(s) and tank contents is accomplished by heating the air or heat transfer fluid inside the bayonet pipe for conduction to the tank's contents.

Performance Capabilities

- Wattages up to 100 kilowatts
- Voltages up to 600VAC
- Ratings up to 600 lb pressure class
- Alloy 800 sheath temperatures up to 1400°F (760°C)
- Stainless steel sheath temperatures up to 1200°F (650°C)
- Steel sheath temperatures up to 750°F (400°C)

Features and Benefits

Low watt density screw plug or flange heaters mounted in the bayonet vessel

- Provides long life

Carbon steel, 304 and 316 stainless steel bayonet vessels

- Offers compatibility with a wide range of liquids

Welded flange on pipe vessel

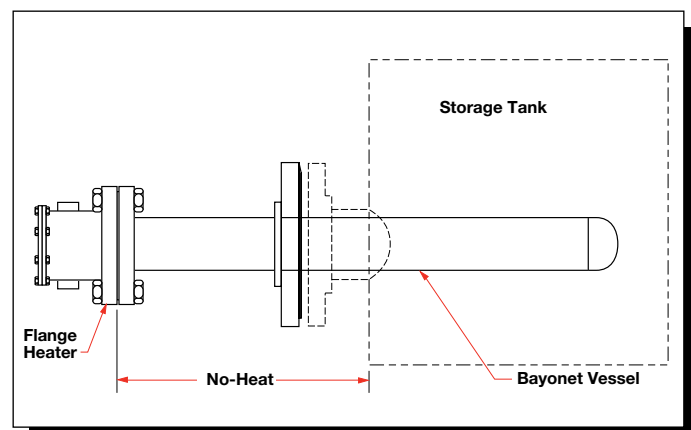
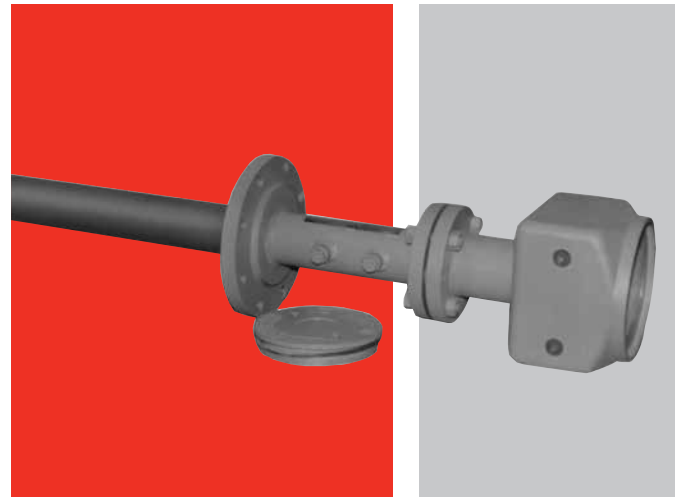
- Ensures pressure seal

Heating elements support(s)

- Ensures proper element spacing and maximum heater performance

Typical Applications

- Indirect heating of viscous fluids:
 - Asphalt
 - Tar
 - Molasses
 - Syrup
 - Glue
- Corrosive liquids
- Degreasing fluids



WATROD and FIREBAR Flange Immersion Heaters

Extended Capabilities For Bayonet/Pipe Insert Immersion Heaters

Options

Pipe insert heaters can be supplied with a variety of options, including:

- Appropriate gasket materials
- Passivation cleaning on pipe insert
- European screw plug to flange adapters
- CSA certified terminal enclosures
- Stand-off terminal enclosures
- Thermocouple temperature sensors
- Thermostats
- Customer specified materials, sizes and pressure class ratings

For descriptions and ordering information about these options, please refer to *Flange Immersion Heaters*, pages 237 to 306, or *Screw Plug Immersion Heaters*, pages 165 to 234.

Flanges

Flanges to 24 in. (610 mm) nominal pipe size are available in materials compatible with specific application needs. For information on flange materials and ratings, consult your Watlow representative.

Bayonet Vessels

Bayonet vessels are available up to 14 in. (356 mm) nominal pipe size and 20 feet long. Vessel size is dependent upon the kilowatt requirement and element watt density. For more information, contact your Watlow representative.

Application Hints

- Mount pipe insert heater horizontally
- Locate pipe insert heaters low in the tank, but above the sludge level
- Consider a low liquid level sensor to protect against low liquid level conditions
- Select a watt density that is compatible with the heat transfer media being used
- Insulate the pipe insert heater's exterior to minimize heat loss



Caution:

Do not insulate the terminal enclosure.

Immersion Heaters

Over-the-Side Heaters

L and O Shaped Immersion Heaters

Over-the-side heaters are ideal for heating water, oils, solvents, salts and acids. Application versatility is enhanced with optional sheath materials, kilowatt ratings, terminal enclosures and mounting methods.

The L and O shaped “installed-from-the-top” heaters slide easily into tanks, with the heated portion immersed along the side or at the bottom. The drum immersion heaters are designed for direct immersion in a standard 55 gallon steel drum. Watlow vertical loop immersion heaters are well-suited for open tank applications.

L and O Shaped Performance Capabilities

- Alloy 800 sheath element watt densities up to 60 W/in² (9.3 W/cm²)
- Wattages up to 50 kilowatts
- Voltages up to 600VAC

Features and Benefits

Rugged, light-weight construction

- Resists damage during installation or removal

0.475 in. (12 mm) diameter WATROD heating elements

- Offers one- or three-phase operation

WATROD hairpins are repressed (recompacted)

- Maintains MgO density, dielectric strength, heat transfer and heater life

Four inch (100 mm) sludge legs

- Keeps heating elements off the tank’s bottom to help avoid being covered with sediment

RTV riser seal

- Prevents moisture from infiltrating electrical areas

Standardized size 1 in. (25 mm) conduit openings

- Facilitates wiring

SRG insulated flexible lead wires, rated to 390°F (200°C)

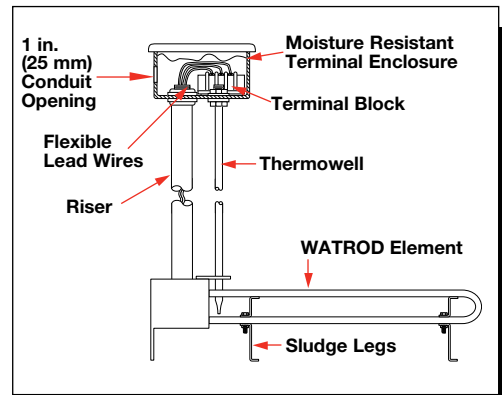
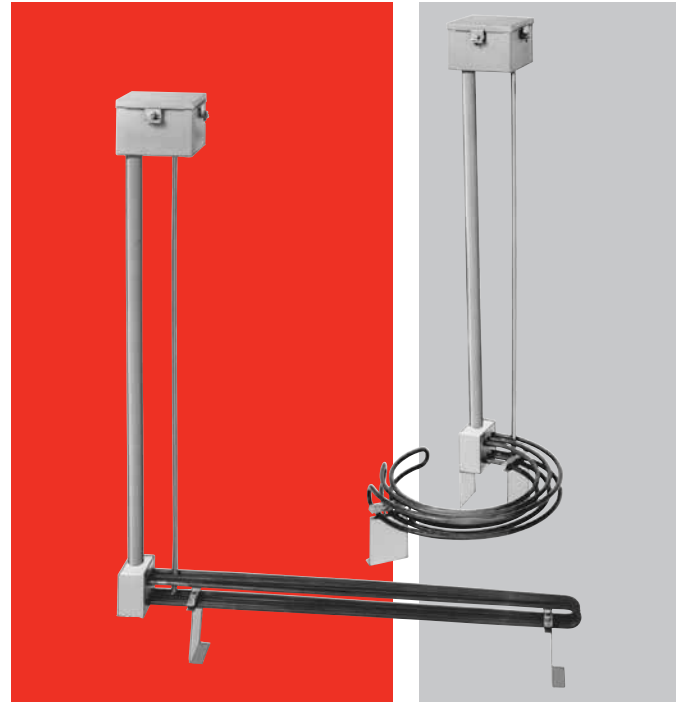
- Allows factory or field wiring for three- or one-phase operation

Riser materials are compatible with element sheath materials such as stainless steel with alloy 800 sheath and steel with steel sheath

- Meets varying application needs
- Ensures ease of use

Integral thermowells

- Provides convenient temperature sensor insertion and replacement without draining the fluid being heated



Moisture resistant

- Standardizes enclosures

UL® and CSA component recognition

- 480 and 600VAC maximum under file numbers E52951 and 31388 respectively

Typical Applications

- Water heating
- Solvents
- Freeze protection
- Salts
- Viscous oils
- Caustic solutions
- Storage tanks
- Paraffin
- Degreasing tanks

Immersion Heaters

Over-the-Side Heaters

L and O Shaped Immersion Heaters

Options

Terminal Enclosures

Moisture resistant terminal enclosures, without thermostats, are standard on all Watlow L and O shaped over-the-side heaters. Optional terminal enclosures meet application requirements with:

- Corrosion resistant, available with or without a single- or double-pole thermostat.
- Explosion/moisture resistant Class 1, Div. I and II, Groups B, C and D. Available with or without a single- or double- pole thermostat.

Thermostats

Optional single- and double-pole thermostats are also available separately.

For details on thermostats, see *Thermostats*, pages 534 to 537.

Wattages and Voltages

Watlow routinely supplies over-the-side heaters with 240 to 480VAC as well as wattages from 3 to 18 kilowatts.

Multiple Elements

Over-the-side immersion heaters are configured with three WATROD heating elements.

To achieve a specific kilowatt rating, Watlow can configure units with up to six heating elements.

To order, specify **multiple elements**, the **number of elements**, **volts**, **watts**, **phase** and **maximum bundle height** and **width**.

Riser

A stainless steel or steel riser is supplied to keep terminal enclosures out of the heated solution. Stock heights are 39⁵/₁₆ or 51⁵/₁₆ in. (1000 or 1320 mm). Upon request, riser height up to 60 ft (18.3 m) can be provided.

To order, specify **riser material** and **height**.

Right Angle Riser

Riser may be right angle formed to move the terminal enclosure away from over the tank.

To order, specify **right angle riser** and **dimensions**.

Sludge Legs

Four inch (100 mm) sludge legs are supplied on all stock units to keep elements above sediments. Shorter or longer sludge legs are available upon request.

To order, specify **sludge legs** and **height**.

Sheath Material

Stock O and L shaped over-the-side heaters come with alloy 800 or steel sheaths.

To order, specify the **sheath material**.



Caution

Explosion-resistant terminal enclosures are intended to provide explosion containment in the electrical termination/wiring enclosure only. No portion of the assembly outside of this enclosure is covered under this rating. Rating effectiveness may be compromised by abuse or misapplication.

Thermocouples

ASTM Type J or K thermocouples offer more accurate sensing of process and/or sheath temperatures. A thermocouple may be inserted into the thermowell or attached to the heater's sheath.

Thermocouples are supplied with 120 in. (3050 mm) leads (longer lead lengths available). Unless otherwise specified, thermocouples are supplied with temperature ranges detailed on the *Thermocouple Types* chart.

Thermocouples require an appropriate temperature and power controller. These must be purchased separately. Watlow offers a wide variety of temperature and power controllers to meet virtually all applications. Temperature controllers can be configured to accept process variable inputs, too. Contact your Watlow representative for details.

To order, specify **Type J** or **K** thermocouple, **lead length**, and indicate if it is for measuring **process** temperature or as a **high-limit** sensing device.

Thermocouple Types

ASTM Type	Conductor Characteristics		Recommended Temperature Range	
	Positive	Negative	°F	(°C) ①
J	Iron (Magnetic)	Constantan (Non-magnetic)	0 to 1000	(-20 to 540)
K	Chromel® (Non-magnetic)	Alumel® (Magnetic)	0 to 2000	(-20 to 1100)

① Type J and Type K thermocouples are rated 32 to 1382°F and 32 to 2282°F (0-750°C and 0-1250°C), respectively. Watlow does not recommend exceeding temperature ranges shown on this chart for the tubular product line.

Over-the-Side Heaters

Extended Capabilities For L and O Shaped Immersion Heaters

Options

Wattages and Voltages

Watlow routinely supplies over-the-side heaters with 240 to 480VAC as well as wattages from 3 to 18 kilowatts. If required, Watlow can configure heaters with voltages and wattages outside these parameters.

For more information about this option, contact your Watlow representative.

Sheath Material

Stock O and L shaped over-the-side heaters come with alloy 800 sheaths. 304 or 316 stainless steel and titanium sheaths are available upon request.

For more information about this option, contact your Watlow representative.

Multiple Elements

Over-the-side immersion heaters are configured with three WATROD heating elements.

To achieve a specific kilowatt rating, Watlow can configure units with up to 36 heating elements.

To order, specify **multiple elements**, the **number of elements**, **volts**, **watts**, **phase** and **maximum bundle height** and **width**.

Passivation

During the manufacturing process, particles of iron or tool steel may become embedded in the stainless steel or alloy sheath. If not removed, these particles may corrode, produce rust spots and/or contaminate the process.

For critical applications, passivation will remove free iron from the sheath and other wetted surfaces.

To order, specify **passivation**.

Man Hole Cover

A man hole cover seals the tank and provides heater mounting. Man hole covers are pre-assembled to the riser. Standard man hole covers are made from steel with other materials available upon request.

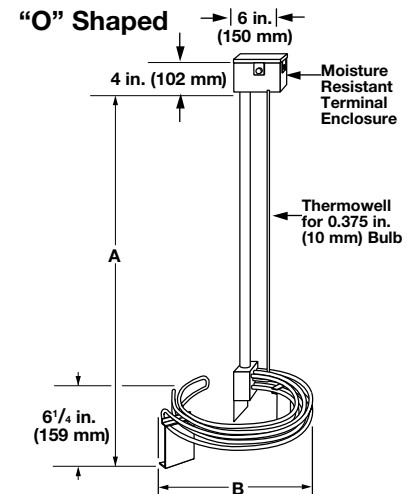
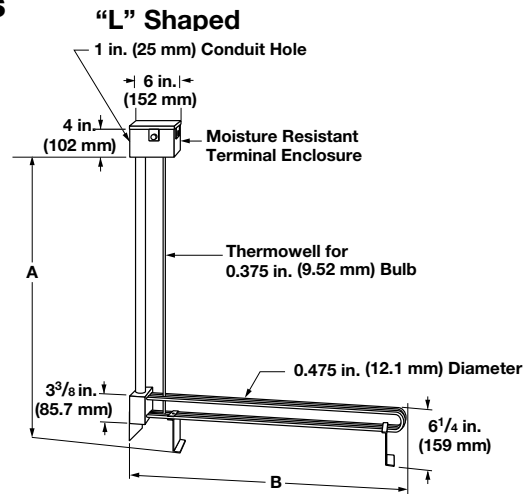
To order, specify **man hole construction**, **diameter** and **material**.

Immersion Heaters

Over-the-Side Heaters

L and O Shaped Immersion Heaters

Ordering Information



"L" Shaped

WATROD Description	kW	A		B		Part No.		Del.	Est. Ship. Wt.	
		in.	(mm)	in.	(mm)	240VAC 3-Phase	480VAC 3-Phase		lbs	(kg)
48 W/in² Alloy 800 (7.5 W/cm²)	3	39 ⁵ / ₁₆	(998.5)	14 ⁵ / ₈	(371.5)	OLN714L3W	OLN714L13W^①	M	30	(14)
	6	39 ⁵ / ₁₆	(998.5)	22 ⁵ / ₈	(574.7)	OLN722L3W	OLN722L5W	M	40	(19)
	9	39 ⁵ / ₁₆	(998.5)	30 ¹ / ₈	(765.2)	OLN730C3W	OLN730C5W	M	45	(21)
	12	51 ⁵ / ₁₆	(1303.3)	37 ⁵ / ₈	(955.7)	OLN737L3W	OLN737L5W	M	50	(23)
	15	51 ⁵ / ₁₆	(1303.3)	45 ¹ / ₈	(1146.2)	OLN745C3W	OLN745C5W	M	65	(30)
	18	51 ⁵ / ₁₆	(1303.3)	52 ⁵ / ₈	(1336.7)	OLN752L3W	OLN752L5W	M	75	(34)

Applications: Citric and Phosphoric Acid Solutions, Caustic Solutions, Water Based Solutions

23 W/in² Alloy 800 (3.6 W/cm²)	3	39 ⁵ / ₁₆	(998.5)	22 ⁵ / ₈	(574.7)	OLNA22L3W	OLNA22L5W	M	40	(19)
	6	51 ⁵ / ₁₆	(1303.3)	37 ⁵ / ₈	(955.7)	OLNA37L3W	OLNA37L5W	M	50	(23)
	9	51 ⁵ / ₁₆	(1303.3)	52 ⁵ / ₈	(1336.7)	OLNA52L3W	OLNA52L5W	M	75	(34)

"O" Shaped

WATROD Description	kW	A		B		Part No.		Del.	Est. Ship. Wt.	
		in.	(mm)	in.	(mm)	240VAC 3-Phase	480VAC 3-Phase		lbs	(kg)
48 W/in² Alloy 800 (7.5 W/cm²)	3	39 ⁵ / ₁₆	(998.5)	10 ³ / ₄	(273)	ORN710N3W	ORN710N13W^①	M	30	(14)
	6	39 ⁵ / ₁₆	(998.5)	13 ¹ / ₂	(343)	ORN713J3W	ORN713J5W	M	40	(19)
	9	39 ⁵ / ₁₆	(998.5)	16	(406)	ORN716A3W	ORN716A5W	M	45	(21)
	12	51 ⁵ / ₁₆	(1303.3)	18 ¹ / ₂	(470)	ORN718J3W	ORN718J5W	M	50	(23)
	15	51 ⁵ / ₁₆	(1303.3)	21 ¹ / ₂	(546)	ORN721E3W	ORN721E5W	M	65	(30)
	18	51 ⁵ / ₁₆	(1303.3)	23 ¹ / ₂	(597)	ORN723J3W	ORN723J5W	M	75	(34)

Applications: Citric and Phosphoric Acid Solutions, Caustic Solutions, Water Based Solutions

23 W/in² Alloy 800 (3.6 W/cm²)	3	39 ⁵ / ₁₆	(998.5)	13 ¹ / ₂	(343)	ORNA13J3W	ORNA13J5W	M	40	(19)
	6	51 ⁵ / ₁₆	(1303.3)	18 ¹ / ₂	(470)	ORNA18J3W	ORNA18J5W	M	50	(23)
	9	51 ⁵ / ₁₆	(1303.3)	23 ¹ / ₂	(597)	ORNA23J3W	ORNA23J5W	M	75	(34)

• M - Manufacturing lead times

■ Truck Shipment only

① Must be operated 3-phase only.

Immersion Heaters

Over-the-Side Heaters

L and O Shaped Immersion Heaters

Ordering Information

Part Number

Stock Over-the-Side Part Number	Optional Terminal Enclosures	Optional Process Sensors	Sheath Limit Sensors

Stock Over-the-Side Part Number

Note: Catalog part numbers include optional enclosures and process sensors. To order optional enclosures or sensors, substitute the appropriate suffix.

Optional Terminal Enclosures

W=	Moisture-resistant enclosure
C=	Moisture/explosion-resistant enclosure

Note: Catalog listings include moisture resistant enclosure. Substitute enclosure options are noted.

Optional Process Sensors

2A=	30 to 250°F, (-1 to 121°C) SPST
3A=	175 to 550°F, (79 to 288°C) SPST
5A=	60 to 250°F, (16 to 121°C) DPST
7A=	100 to 550°F, (38 to 288°C) DPST
PJ=	Type J process thermocouple in thermowell
PK=	Type K process thermocouple in thermowell

Note: Thermostat part numbers are shown in the *Thermostat Chart* on page 537.

Sheath Limit Sensors

TJ=	Type J high-limit thermocouple, vertical/housing at top
TK=	Type K high-limit thermocouple, vertical/housing at top

Note: Heater orientation is critical to accurate sensing of limit conditions. Use the appropriate code to indicate heater mounting orientation.

Example Part Number: OLN714L3 W 2A TK

Immersion Heaters

FIREROD® Immersion Heaters

FIREROD® immersion heaters are ideal to replace large screw-plug immersion heaters. Packaging up to 300 W/in² (46.5 W/cm²) in a compact unit, these heaters are versatile when designed into a heating system.

FIREROD immersion heaters are complete with a stainless steel 3/4 inch National Pipe Thread Taper (NPT) double-threaded fitting which allows conduit boxes to be added. They are also sealed at the lead end with a silicone rubber seal.

Solid copper leads with silicone rubber sleeves are provided for unrestricted wiring. These heaters are recommended for immersion in water of 90+ percent water soluble solutions.

Performance Capabilities

- Maximum operating temperature in water up to 212°F (100°C) at atmospheric pressure
- Maximum watt density up to 300 W/in² (46.5 W/cm²)
- Maximum voltage up to 480VAC

Features and Benefits

Nickel-chromium resistance wire precisely centered in the unit

- Ensures even, efficient distribution of heat to the sheath

Magnesium oxide (MgO) insulation compacted to the proper density

- Results in high dielectric strength and contributes to faster heat-up

Alloy 800 sheath

- Resists water corrosion

Metallurgically-bonded conductor pins

- Overlap the resistance wire inside of the core to ensure trouble-free electrical continuity

Lead end with silicone rubber seal

- Protects the heater against moisture contamination

Stainless steel fittings

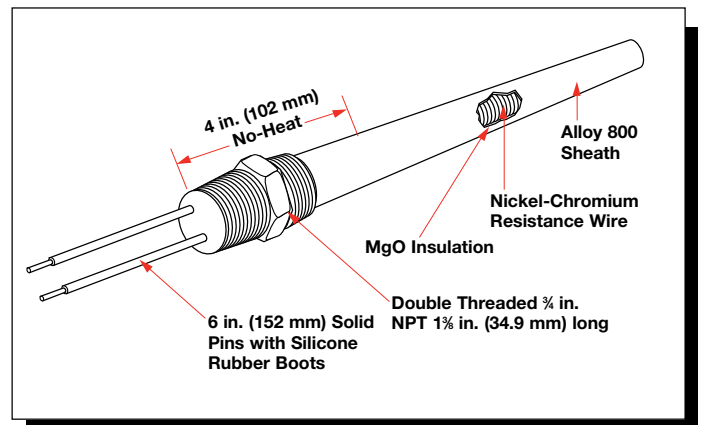
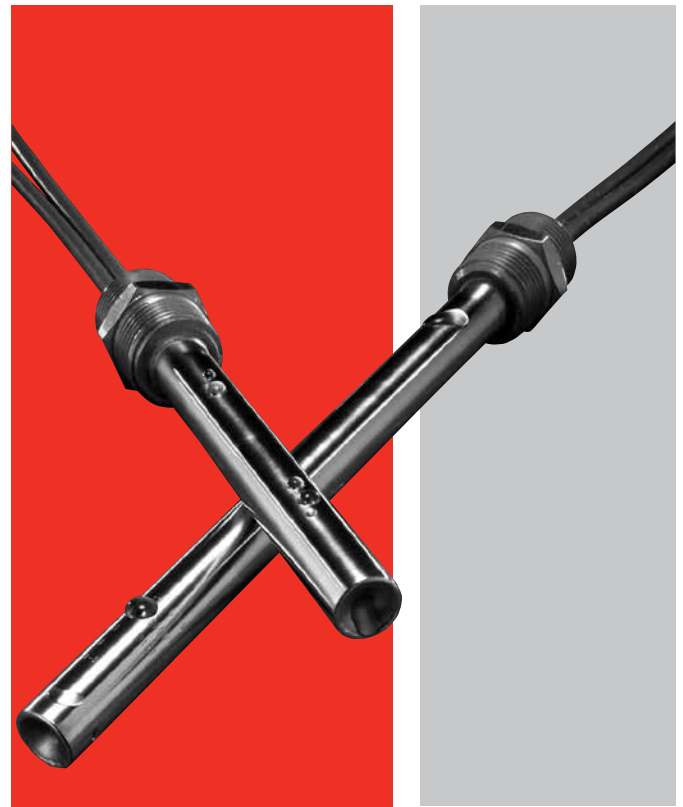
- Offer availability for use in corrosive applications

Horizontal through the wall tank mounting

- Provides faster set-up

240 and 480VAC voltage

- Allows wiring flexibility for heater use in particular applications



Typical Applications

- Plastic reclamation
- Food preparation
- Lab equipment

Immersion Heaters

FIREROD Immersion Heaters

Applications and Technical Data

The small size and large capacity of FIREROD immersion heaters are ideal for use in cramped quarters. When heating liquids of low viscosity, FIREROD heaters have high watt density to pack more heat into tight spots. For water heating applications, a rating of 150 to 300 W/in² is recommended. Laboratory tests show that under certain conditions, ratings as high as 700 W/in² are safe. For longer life at high watt densities, the FIREROD heater:

- Should not be contained in the main body of the liquid or in a restricted space
- Should be covered with liquid at all times
- Should not be allowed to cycle on and off too frequently
- Should not form scale build up

When heating viscous liquids, such as oils, watt densities must be kept low to prevent carbonization at the heater sheath. FIREROD cartridges offer advantages for heating viscous materials where long life and high quality outweigh usual economic considerations.

As in all immersion applications, scale build-up on the sheath and sludge on the bottom of the tank must be carefully controlled to ensure long heater life.

Equipped with smaller threaded fittings than conventional immersion heaters, FIREROD heaters leave space for more units in the same location. Replacement of single FIREROD units in multiheater assemblies is fast and easy to avoid discarding the complete assembly.

Moisture resistant seals are available for protection against damp atmospheres.

Threaded fittings are furnished in either stainless steel or available in brass as an extended offering. FIREROD heaters are designed with alloy 800 sheaths, however, other sheath materials can be provided on made-to-order FIREROD units.

Fittings and sheath material should be appropriate for the specific liquid material being heated.

Sheath Material Compositions

Sheath Material	Chemical Composition															
	Al	C	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ta	Ti	V	W
Nickel Alloys																
Alloy 800	0.15-0.6	0.1		19-23	0.75	Bal	1.5		30-35		0.015	1.0		0.15-0.6		
Stainless Steels																
304		0.08 ^①		18-20		Bal	2 ^①		8-12			1 ^①				
316		0.08 ^①		16-18		Bal	2 ^①	2-3	10-14			1 ^①				

^① Maximum

Immersion Heaters

FIREROD Immersion Heaters

Heater Part Numbers With Stainless Steel Fittings

Diameter in.	Overall Length in. (mm)	Volts	Watts	Watt Density W/in ² (W/cm ²)	Approx. Net Wt. lbs (kg)	Delivery	Part Number
5/8	6 ¹ / ₄ (159)	120	500	127 (19.7)	0.58 (0.26)	RS	L6EX12B
	6 ¹ / ₄ (159)	240	500	127 (19.7)	0.58 (0.26)	RS	L6EX13B
	6 ¹ / ₄ (159)	120	750	191 (29.6)	0.58 (0.26)	RS	L6EX14B
	6 ¹ / ₄ (159)	240	750	191 (29.6)	0.58 (0.26)	RS	L6EX15B
	6 ¹ / ₄ (159)	120	1,000	254 (39.4)	0.58 (0.26)	RS	L6EX16B
	6 ¹ / ₄ (159)	240	1,000	254 (39.4)	0.58 (0.26)	RS	L6EX17B
	6 ³ / ₄ (172)	240	1,500	300 (46.5)	0.60 (0.27)	RS	L6NX7B
	6 ³ / ₄ (172)	480	1,500	300 (46.5)	0.60 (0.27)	M	L6NX8B
	7 ³ / ₄ (197)	240	2,000	291 (45.1)	0.66 (0.30)	RS	L7NX5B
	7 ³ / ₄ (197)	480	2,000	291 (45.1)	0.66 (0.30)	M	L7NX6B
	8 ¹ / ₂ (216)	240	2,500	300 (46.5)	0.68 (0.31)	RS	L8JX16B
	8 ¹ / ₂ (216)	480	2,500	300 (46.5)	0.68 (0.31)	M	L8JX17B
	9 ¹ / ₄ (235)	240	3,000	300 (46.5)	0.72 (0.33)	RS	L9EX11B
	9 ¹ / ₄ (235)	480	3,000	300 (46.5)	0.72 (0.33)	RS	L9EX12B
	11 (279)	240	4,000	300 (46.5)	0.80 (0.36)	RS	L11AX59B
	11 (279)	480	4,000	300 (46.5)	0.80 (0.36)	RS	L11AX60B
	12 ³ / ₄ (324)	240	5,000	300 (46.5)	0.89 (0.41)	RS	L12NX4B
	12 ³ / ₄ (324)	480	5,000	300 (46.5)	0.89 (0.41)	RS	L12NX5B
	14 ¹ / ₂ (368)	240	6,000	300 (46.5)	0.95 (0.43)	RS	L14JX8B
	14 ¹ / ₂ (368)	480	6,000	300 (46.5)	0.95 (0.43)	M	L14JX9B
	18 (457)	240	8,000	295 (45.7)	1.14 (0.52)	M	L18AX43B
	18 (457)	480	8,000	295 (45.7)	1.14 (0.52)	M	L18AX44B
	21 ¹ / ₄ (540)	240	10,000	300 (46.5)	1.30 (0.59)	M	L21EX1B
	21 ¹ / ₄ (540)	480	10,000	300 (46.5)	1.30 (0.59)	M	L21EX2B
	24 ³ / ₄ (629)	480	12,000	300 (46.5)	1.50 (0.68)	M	L24NX1B
	29 ³ / ₄ (756)	480	15,000	300 (46.5)	1.80 (0.82)	M	L29NX5B
	35 (889)	480	18,000	300 (46.5)	2.00 (0.91)	M	L35AX5B

RAPID SHIP

- **RS** - Next day shipment
- **M** - Manufacturing lead times

Immersion Heaters

**EXTENDED
CAPABILITY**

FIREROD Immersion Heaters

Heater Part Numbers With Brass Fittings

Diameter in.	Overall Length		Volts	Watts	Watt Density		Approx. Net Wt.		Delivery	Part Number
	in.	(mm)			W/in ²	(W/cm ²)	lbs	(kg)		
5/8	6 ¹ / ₄	(159)	120	500	127	(19.7)	0.58	(0.26)	M	L6EX12A
	6 ¹ / ₄	(159)	240	500	127	(19.7)	0.58	(0.26)	M	L6EX13A
	6 ¹ / ₄	(159)	120	750	191	(29.6)	0.58	(0.26)	M	L6EX14A
	6 ¹ / ₄	(159)	240	750	191	(29.6)	0.58	(0.26)	M	L6EX15A
	6 ¹ / ₄	(159)	120	1,000	254	(39.4)	0.58	(0.26)	M	L6EX16A
	6 ¹ / ₄	(159)	240	1,000	254	(39.4)	0.58	(0.26)	M	L6EX17A
	6 ³ / ₄	(172)	240	1,500	300	(46.5)	0.60	(0.27)	M	L6NX7A
	6 ³ / ₄	(172)	480	1,500	300	(46.5)	0.60	(0.27)	M	L6NX8A
	7 ³ / ₄	(197)	240	2,000	291	(45.1)	0.66	(0.30)	M	L7NX5A
	7 ³ / ₄	(197)	480	2,000	291	(45.1)	0.66	(0.30)	M	L7NX6A
	8 ¹ / ₂	(216)	240	2,500	300	(46.5)	0.68	(0.31)	M	L8JX16A
	8 ¹ / ₂	(216)	480	2,500	300	(46.5)	0.68	(0.31)	M	L8JX17A
	9 ¹ / ₄	(235)	240	3,000	300	(46.5)	0.72	(0.33)	M	L9EX11A
	9 ¹ / ₄	(235)	480	3,000	300	(46.5)	0.72	(0.33)	M	L9EX12A
	11	(279)	240	4,000	300	(46.5)	0.80	(0.36)	M	L11AX59A
	11	(279)	480	4,000	300	(46.5)	0.80	(0.36)	M	L11AX60A
	12 ³ / ₄	(324)	240	5,000	300	(46.5)	0.89	(0.41)	M	L12NX4A
	12 ³ / ₄	(324)	480	5,000	300	(46.5)	0.89	(0.41)	M	L12NX5A
	14 ¹ / ₂	(368)	240	6,000	300	(46.5)	0.95	(0.43)	M	L14JX8A
	14 ¹ / ₂	(368)	480	6,000	300	(46.5)	0.95	(0.43)	M	L14JX9A
18	(457)	240	8,000	295	(45.7)	1.14	(0.52)	M	L18AX43A	
18	(457)	480	8,000	295	(45.7)	1.14	(0.52)	M	L18AX44A	
21 ¹ / ₄	(540)	240	10,000	300	(46.5)	1.30	(0.59)	M	L21EX1A	
21 ¹ / ₄	(540)	480	10,000	300	(46.5)	1.30	(0.59)	M	L21EX2A	
24 ³ / ₄	(629)	480	12,000	300	(46.5)	1.50	(0.68)	M	L24NX1A	
29 ³ / ₄	(756)	480	15,000	300	(46.5)	1.80	(0.82)	M	L29NX5A	
35	(889)	480	18,000	300	(46.5)	2.00	(0.91)	M	L35AX5A	

• **M** - Manufacturing lead times