

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	145
	Stainless steel	1200	650	120	18.6	
	Steel	750	400	120	18.6	
WATROD Screw Plug with Control Assembly	Alloy 800	1600	870	60	9.3	218
WATROD ANSI Flange	Alloy 800	1600	870	100	15.5	220
	Stainless steel	1200	650	100	15.5	
	Steel	750	400	100	15.5	
WATROD Plate Flange	Alloy 800/840	1600	870	60	9.3	282
	304 stainless steel	1200	650	100	15.5	
	Steel	750	400	30	4.7	
WATROD and FIREBAR Square Flange	Alloy 800	1600	870	100	15.5	288
WATROD and FIREBAR Bayonet/Pipe Insert	Alloy 800	1600	870	10	1.6	291
	Steel	750	400	10	1.6	
FIREROD®	Alloy 800	212	100	300	46.5	293



Immersion Heaters



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

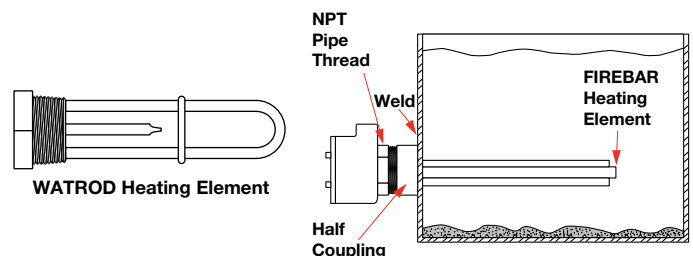
- Provides ability to be rotated to simplify connection with existing conduits

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 559 to 562 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

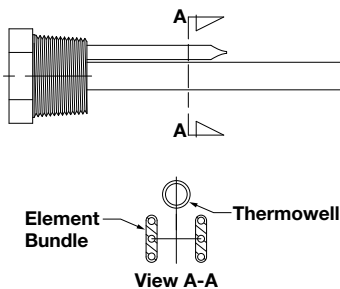
Screw Plug Orientation

Correct element/thermowell orientation assures proper process temperature sensing.

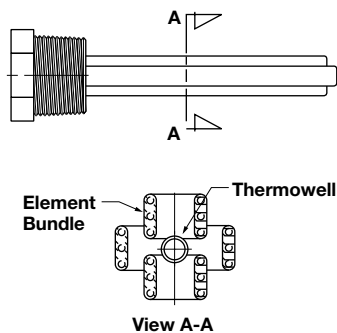
Correct horizontal mounting of WATROD and FIREBAR screw plugs is shown below. Correct orientation assures optimum performance and maximum heater life. Additional mounting information is provided in the *Installation and Maintenance Instructions*.

FIREBAR Heating Elements

1 1/4 in. NPT–One Element

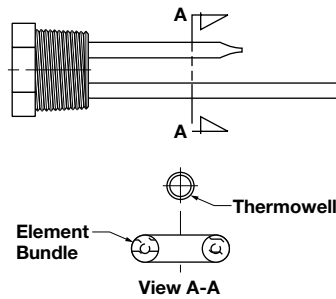


2 1/2 in. NPT–Three Elements

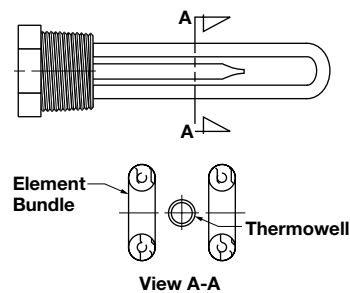


WATROD Heating Element

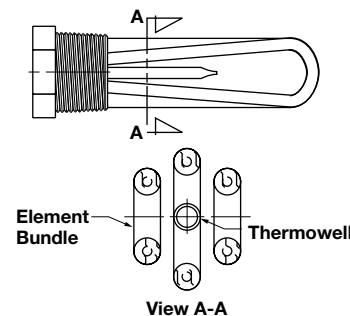
1 in. NPT–One Element



1 1/4 in. and 2 in. NPT–Two Elements



2 in. and 2 1/2 in. 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 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 217. 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 enclosure 4 and/or explosion proof 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.

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 514 to 518. Please verify that the thermostat's sensing bulb O.D. is compatible with the screw plug's thermowell I.D.



Caution:

Certified explosion proof 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

ASTM 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 standardly supplied with 120 in. (3048 mm) leads. 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 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 Copper clad steel 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:

Standard Screw Plug Materials

WATROD	304 SS, Brass, 316 SS Steel
FIREBAR	304 SS

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

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

American National Standard Taper Pipe Thread form (NPT) plugs are standard, and in sizes 1, 1¼, 2, and 2½.

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

Screw Plug to Flange Adapters

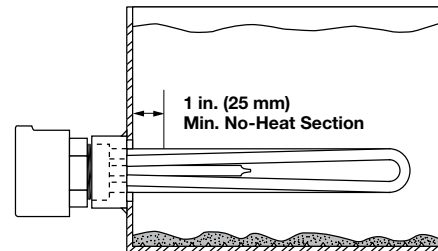
Screw plug to flange adapters permit replacing flange heaters with screw plug heaters. To order, specify the appropriate part number.

Screw Plug to Flange Adapters

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

Application Hints

- Select the recommended sheath material and watt density for the substance being heated. Use the *Supplemental Applications Chart* on pages 550 to 553. 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.
- 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.

Immersion Heaters

**EXTENDED
CAPABILITY**



Extended Capabilities for WATROD and FIREBAR Screw Plug Immersion Heaters

Pilot Light

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

To order, refer to the *Ordering Information* on page 217.

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 heating elements:

Extended Sheath Materials

WATROD	Hastelloy C276 Monel®
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Screw Plug Materials

The following screw plug materials are available:

Extended Screw Plug Materials

WATROD	Brass Carbon steel 304 SS 316 SS
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To order, specify **screw plug size** and **material**.

Immersion Heaters

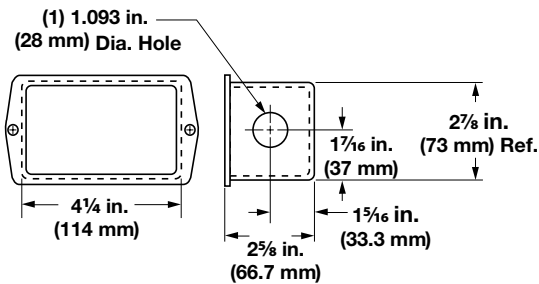


WATROD and FIREBAR Screw Plug Immersion Heaters

Optional Moisture Resistant Enclosures

With Single-Pole Thermostat

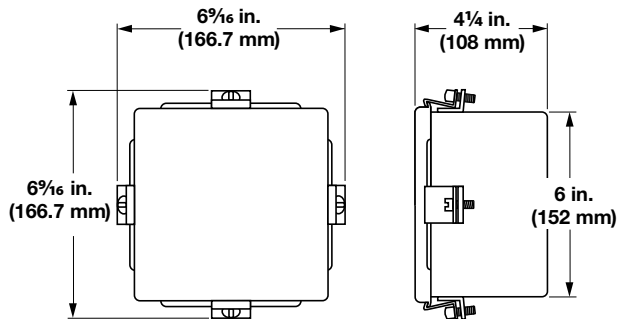
1 and 1 1/4 inch NPT-1 WATROD Element



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

With Single-Pole Thermostat

All 2 and 2 1/2 inch NPT



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

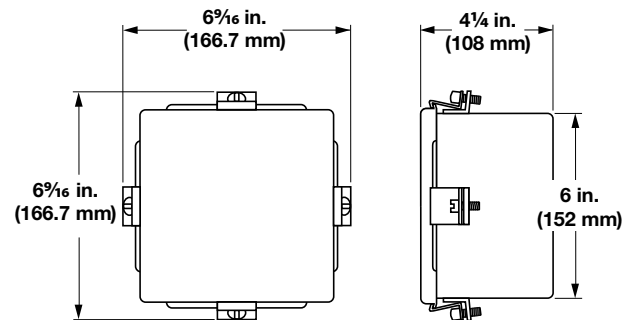
To order: Reference "W" in the *Ordering Information* section on page 217.

With Double-Pole Thermostat

1 1/4 inch NPT-2 WATROD Elements

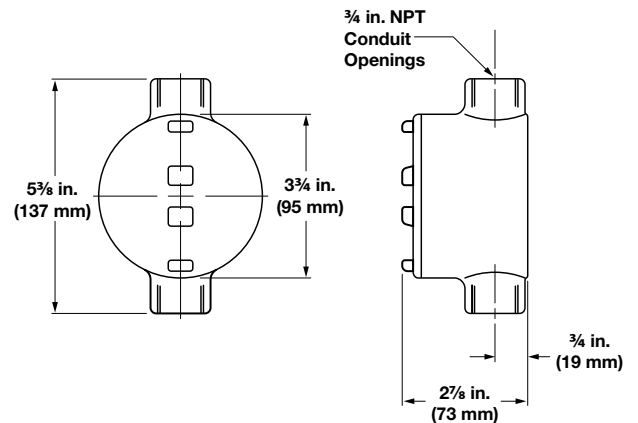
1 1/4 inch NPT-1 FIREBAR Element

All 2 and 2 1/2 inch NPT screw plugs



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

Without Thermostat



Immersion Heaters

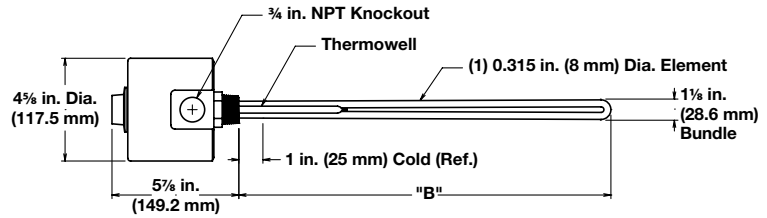


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 1 inch NPT screw plug
- WATROD elements
- With thermostat (SPST), Type 2 or 3
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	General Purpose Enclosure
60 W/in ² Brass Plug 1-Alloy 800 Element	120	0.50	1	4 1/2 (114.0)	3 (2)	BCN4J1S2	C/F	C/F	BCN4J1S3	C/F	C/F
	240	0.50	1	4 1/2 (114.0)	3 (2)	BCN4J10S2	C/F	C/F	BCN4J10S3	C/F	C/F
	120	0.75	1	6 1/2 (165.0)	3 (2)	BCN6J1S2	C/F	C/F	BCN6J1S3	C/F	C/F
	240	0.75	1	6 1/2 (165.0)	3 (2)	BCN6J10S2	C/F	C/F	BCN6J10S3	C/F	C/F
	120	1.00	1	6 5/8 (168.3)	3 (2)	BCN6L1S2	C/F	C/F	BCN6L1S3	C/F	C/F
	240	1.00	1	6 5/8 (168.3)	3 (2)	BCN6L10S2	C/F	C/F	BCN6L10S3	C/F	C/F
	120	1.25	1	8 (203.0)	4 (2)	BCN8A1S2	C/F	C/F	BCN8A1S3	C/F	C/F
	240	1.25	1	8 (203.0)	4 (2)	BCN8A10S2	C/F	C/F	BCN8A10S3	C/F	C/F
	120	1.50	1	10 5/8 (269.9)	4 (2)	BCN10L1S2	C/F	C/F	BCN10L1S3	C/F	C/F
	240	1.50	1	10 5/8 (269.9)	4 (2)	BCN10L10S2	C/F	C/F	BCN10L10S3	C/F	C/F
	120	2.00	1	12 1/2 (318.0)	5 (3)	BCN12J1S2	C/F	C/F	BCN12J1S3	C/F	C/F
	240	2.00	1	12 1/2 (318.0)	5 (3)	BCN12J10S2	C/F	C/F	BCN12J10S3	C/F	C/F
	120	2.50	1	14 3/4 (375.0)	5 (3)	BCN14N1S2	C/F	C/F	BCN14N1S3	C/F	C/F
	240	2.50	1	14 3/4 (375.0)	5 (3)	BCN14N10S2	C/F	C/F	BCN14N10S3	C/F	C/F
	120	3.00	1	16 3/4 (425.0)	6 (3)	BCN16N1S2	C/F	C/F	BCN16N1S3	C/F	C/F
	240	3.00	1	16 3/4 (425.0)	6 (3)	BCN16N10S2	C/F	C/F	BCN16N10S3	C/F	C/F
240	4.00	1	21 (533.0)	6 (3)	BCN21A10S2	C/F	C/F	BCN21A10S3	C/F	C/F	

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.

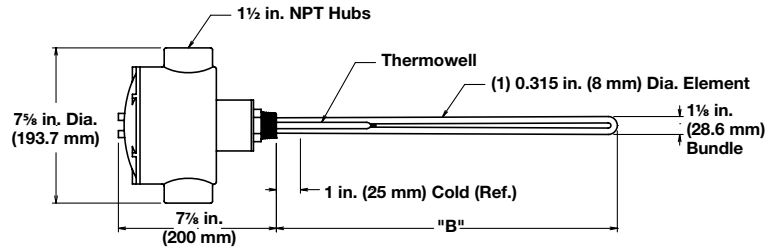
C/F - Contact factory, go to www.watlow.com/en/contact-us



WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Clean Water

- 1 inch NPT screw plug
- WATROD elements
- With thermostat (SPST), Type 2 or 3
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C		Type K T/C	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 ¹ / ₂ (114.0)	3 (2)	BCN4J1C2	C/F	C/F	BCN4J1C3	C/F	C/F
	240	0.50	1	4 ¹ / ₂ (114.0)	3 (2)	BCN4J10C2	C/F	C/F	BCN4J10C3	C/F	C/F
	120	0.75	1	6 ¹ / ₂ (165.0)	3 (2)	BCN6J1C2	C/F	C/F	BCN6J1C3	C/F	C/F
	240	0.75	1	6 ¹ / ₂ (165.0)	3 (2)	BCN6J10C2	C/F	C/F	BCN6J10C3	C/F	C/F
	120	1.00	1	6 ⁵ / ₈ (168.3)	3 (2)	BCN6L1C2	C/F	C/F	BCN6L1C3	C/F	C/F
	240	1.00	1	6 ⁵ / ₈ (168.3)	3 (2)	BCN6L10C2	C/F	C/F	BCN6L10C3	C/F	C/F
	120	1.25	1	8 (203.0)	4 (2)	BCN8A1C2	C/F	C/F	BCN8A1C3	C/F	C/F
	240	1.25	1	8 (203.0)	4 (2)	BCN8A10C2	C/F	C/F	BCN8A10C3	C/F	C/F
	120	1.50	1	10 ⁵ / ₈ (269.9)	4 (2)	BCN10L1C2	C/F	C/F	BCN10L1C3	C/F	C/F
	240	1.50	1	10 ⁵ / ₈ (269.9)	4 (2)	BCN10L10C2	C/F	C/F	BCN10L10C3	C/F	C/F
	120	2.00	1	12 ¹ / ₂ (318.0)	5 (3)	BCN12J1C2	C/F	C/F	BCN12J1C3	C/F	C/F
	240	2.00	1	12 ¹ / ₂ (318.0)	5 (3)	BCN12J10C2	C/F	C/F	BCN12J10C3	C/F	C/F
	120	2.50	1	14 ³ / ₄ (375.0)	5 (3)	BCN14N1C2	C/F	C/F	BCN14N1C3	C/F	C/F
	240	2.50	1	14 ³ / ₄ (375.0)	5 (3)	BCN14N10C2	C/F	C/F	BCN14N10C3	C/F	C/F
	120	3.00	1	16 ³ / ₄ (425.0)	6 (3)	BCN16N1C2	C/F	C/F	BCN16N1C3	C/F	C/F
	240	3.00	1	16 ³ / ₄ (425.0)	6 (3)	BCN16N10C2	C/F	C/F	BCN16N10C3	C/F	C/F
240	4.00	1	21 (533.0)	6 (3)	BCN21A10C2	C/F	C/F	BCN21A10C3	C/F	C/F	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters



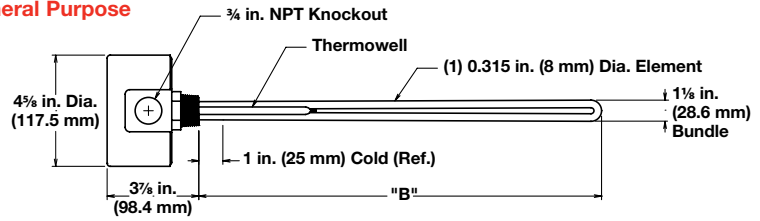
WATROD and FIREBAR Screw Plug Immersion Heaters



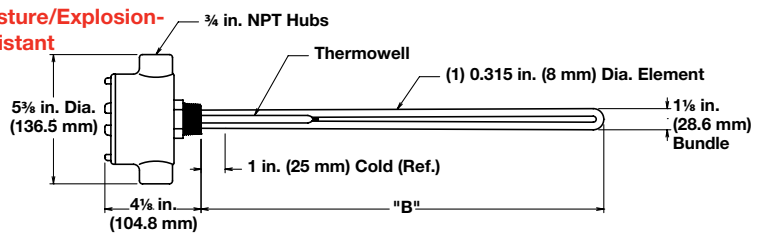
Application: Clean Water

- 1 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)

General Purpose



Moisture/Explosion-Resistant



Description	Volts	kW	Ph	"B" Dim. in. w(mm)	Part Number		WATCONNECT Part Number		Part Number ⑤		WATCONNECT Part Number	
					General Purpose Enclosure	Ship Wt. lbs (kg)	Type J T/C	Type K T/C	Moisture/Explosion- Resistant Enclosure	Ship Wt. lbs (kg)	Type J T/C	Type K T/C
60 W/in ² Brass Plug 1-Alloy 800 Element (9.3 W/cm ²)	120	0.50	1	4 1/2 (114.0)	BCN4J1S	3 (2)	C1-15	C1-12	BCN4J1C	6 (3)	C/F	C/F
	240	0.50	1	4 1/2 (114.0)	BCN4J10S	3 (2)	C1-17	C1-13	BCN4J10C	6 (3)	C/F	C/F
	120	0.75	1	6 1/2 (165.0)	BCN6J1S	3 (2)	C1-15	C1-12	BCN6J1C	6 (3)	C/F	C/F
	240	0.75	1	6 1/2 (165.0)	BCN6J10S	3 (2)	C1-17	C1-13	BCN6J10C	6 (3)	C/F	C/F
	120	1.00	1	6 5/8 (168.3)	BCN6L1S	3 (2)	C1-15	C1-12	BCN6L1C	6 (3)	C/F	C/F
	240	1.00	1	6 5/8 (168.3)	BCN6L10S	3 (2)	C1-17	C1-13	BCN6L10C	6 (3)	C/F	C/F
	120	1.25	1	8 (203.0)	BCN8A1S	4 (2)	C1-15	C1-12	BCN8A1C	7 (4)	C/F	C/F
	240	1.25	1	8 (203.0)	BCN8A10S	4 (2)	C1-17	C1-13	BCN8A10C	7 (4)	C/F	C/F
	120	1.50	1	10 5/8 (269.9)	BCN10L1S	4 (2)	C1-15	C1-12	BCN10L1C	7 (4)	C/F	C/F
	240	1.50	1	10 5/8 (269.9)	BCN10L10S	4 (2)	C1-17	C1-13	BCN10L10C	7 (4)	C/F	C/F
	120	2.00	1	12 1/2 (318.0)	BCN12J1S	5 (3)	C1-15	C1-12	BCN12J1C	8 (4)	C/F	C/F
	240	2.00	1	12 1/2 (318.0)	BCN12J10S	5 (3)	C1-17	C1-13	BCN12J10C	8 (4)	C/F	C/F
	120	2.50	1	14 3/4 (375.0)	BCN14N1S	5 (3)	C/F	C/F	BCN14N1C	8 (4)	C/F	C/F
	240	2.50	1	14 3/4 (375.0)	BCN14N10S	5 (3)	C1-17	C1-13	BCN14N10C	8 (4)	C/F	C/F
	120	3.00	1	16 3/4 (425.0)	BCN16N1S	6 (3)	C/F	C/F	BCN16N1C	9 (4)	C/F	C/F
	240	3.00	1	16 3/4 (425.0)	BCN16N10S	6 (3)	C1-17	C1-13	BCN16N10C	9 (4)	C/F	C/F
240	4.00	1	21 (533.0)	BCN21A10S	6 (3)	C1-17	C1-13	BCN21A10C	9 (4)	C/F	C/F	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters



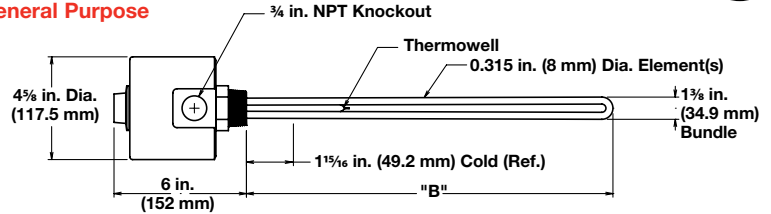
WATROD and FIREBAR Screw Plug Immersion Heaters



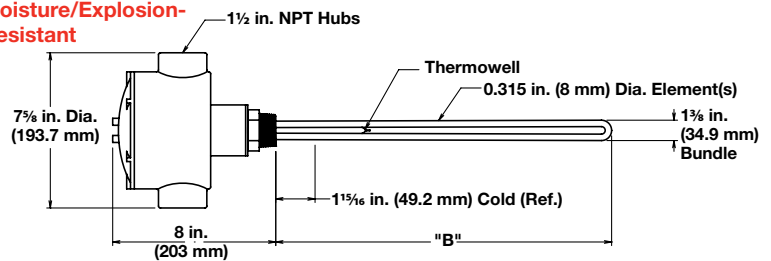
Application: Clean Water

- 1 1/4 inch NPT screw plug
- WATROD elements
- With thermostat (SPST), Type 2 or 3
- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	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	C/F	C/F	BDN4G1S3	C/F	C/F
	240	0.50	1	4 ³ / ₈ (111.1)	3 (2)	BDN4G10S2	C/F	C/F	BDN4G10S3	C/F	C/F
	120	0.75	1	6 ³ / ₈ (161.9)	3 (2)	BDN6G1S2	C/F	C/F	BDN6G1S3	C/F	C/F
	240	0.75	1	6 ³ / ₈ (161.9)	3 (2)	BDN6G10S2	C/F	C/F	BDN6G10S3	C/F	C/F
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	C/F	C/F	BEN4G6S3	C/F	C/F
	120/240	1.50	1	6 ³ / ₈ (161.9)	4 (2)	BEN6G6S2	C/F	C/F	BEN6G6S3	C/F	C/F
	120/240	2.00	1	8 ¹ / ₂ (216.0)	5 (3)	BEN8J6S2	C/F	C/F	BEN8J6S3	C/F	C/F
	120/240	2.50	1	10 ³ / ₄ (273.0)	5 (3)	BEN10N6S2	C/F	C/F	BEN10N6S3	C/F	C/F
	120/240	3.00	1	15 (381.0)	6 (3)	BEN15A6S2	C/F	C/F	BEN15A6S3	C/F	C/F
	240	4.00	1	19 (483.0)	7 (4)	BEN19A10S2	C/F	C/F	BEN19A10S3	C/F	C/F
	240	5.00	1	23 ¹ / ₂ (597.0)	8 (4)	BEN23J10S2	C/F	C/F	BEN23J10S3	C/F	C/F
	240	6.00	1	27 ¹ / ₂ (699.0)	9 (4)	BEN27J10S2	C/F	C/F	BEN27J10S3	C/F	C/F
60 W/in ² Brass Plug 1-Alloy 800 Element (9.3 W/cm ²)						Moisture/ Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/ Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
	120	0.50	1	4 ³ / ₈ (111.1)	7 (4)	BDN4G1C2	C/F	C/F	BDN4G1C3	C/F	C/F
	240	0.50	1	4 ³ / ₈ (111.1)	7 (4)	BDN4G10C2	C/F	C/F	BDN4G10C3	C/F	C/F
	120	0.75	1	6 ³ / ₈ (161.9)	7 (4)	BDN6G1C2	C/F	C/F	BDN6G1C3	C/F	C/F
60 W/in ² ④ Brass Plug 2-Alloy 800 Elements (9.3 W/cm ²)						Moisture/ Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/ Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
	120/240	1.00	1	4 ³ / ₈ (111.1)	8 (4)	BEN4G6C2	C/F	C/F	BEN4G6C3	C/F	C/F
	120/240	1.50	1	6 ³ / ₈ (161.9)	8 (4)	BEN6G6C2	C/F	C/F	BEN6G6C3	C/F	C/F
	120/240	2.00	1	8 ¹ / ₂ (216.0)	9 (4)	BEN8J6C2	C/F	C/F	BEN8J6C3	C/F	C/F
	120/240	2.50	1	10 ³ / ₄ (273.0)	9 (4)	BEN10N6C2	C/F	C/F	BEN10N6C3	C/F	C/F
	120/240	3.00	1	15 (381.0)	10 (5)	BEN15A6C2	C/F	C/F	BEN15A6C3	C/F	C/F
	240	4.00	1	19 (483.0)	11 (5)	BEN19A10C2	C/F	C/F	BEN19A10C3	C/F	C/F
	240	5.00	1	23 ¹ / ₂ (597.0)	12 (6)	BEN23J10C2	C/F	C/F	BEN23J10C3	C/F	C/F
240	6.00	1	27 ¹ / ₂ (699.0)	13 (6)	BEN27J10C2	C/F	C/F	BEN27J10C3	C/F	C/F	

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

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters

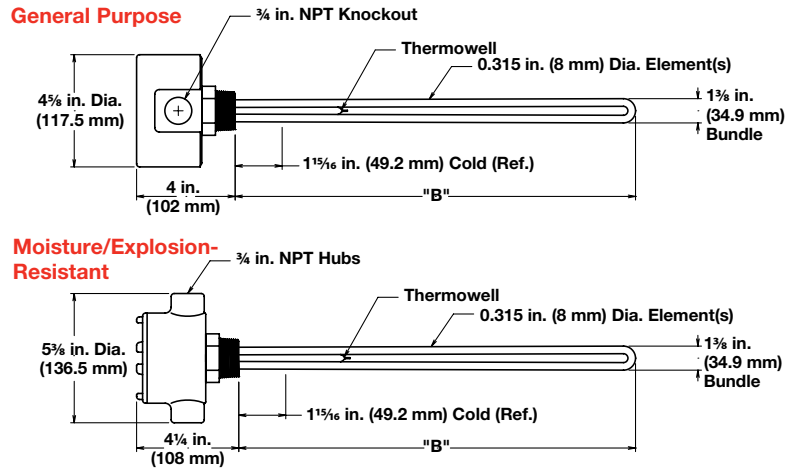


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 1 1/4 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	120V WATCONNECT		240V WATCONNECT		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT	
							Part Number	Part Number	Part Number	Part Number			Part Number	Part Number
					General Purpose Enclosure		Type J T/C	Type K T/C	Type J T/C	Type K T/C	Moisture/Explosion- Resistant Enclosure		Type J T/C	Type K T/C
60 W/in ² Brass Plug 1-Alloy 800 Element (9.3 W/cm ²)	120	0.50	1	4 ³ / ₈ (111.1)	BDN4G1S	3 (2)	C1-15	C1-12	N/A	N/A	BDN4G1C	6 (3)	C/F	C/F
	240	0.50	1	4 ³ / ₈ (111.1)	BDN4G10S	3 (2)	N/A	N/A	C1-17	C1-13	BDN4G10C	6 (3)	C/F	C/F
	120	0.75	1	6 ³ / ₈ (161.9)	BDN6G1S	3 (2)	C1-15	C1-12	N/A	N/A	BDN6G1C	6 (3)	C/F	C/F
	240	0.75	1	6 ³ / ₈ (161.9)	BDN6G10S	3 (2)	N/A	N/A	C1-17	C1-13	BDN6G10C	6 (3)	C/F	C/F
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)	BEN4G6S	4 (2)	C1-15	C1-12	C1-17	C1-13	BEN4G6C	7 (4)	C/F	C/F
	120/ 240	1.50	1	6 ³ / ₈ (161.9)	BEN6G6S	4 (2)	C1-15	C1-12	C1-17	C1-13	BEN6G6C	7 (4)	C/F	C/F
	120/ 240	2.00	1	8 ¹ / ₂ (216.0)	BEN8J6S	5 (3)	C1-15	C1-12	C1-17	C1-13	BEN8J6C	8 (4)	C/F	C/F
	120/ 240	2.50	1	10 ³ / ₄ (273.0)	BEN10N6S	5 (3)	C/F	C/F	C1-17	C1-13	BEN10N6C	8 (4)	C/F	C/F
	120/ 240	3.00	1	15 (381.0)	BEN15A6S	6 (3)	C/F	C/F	C1-17	C1-13	BEN15A6C	9 (4)	C/F	C/F
	240	4.00	1	19 (483.0)	BEN19A10S	7 (4)	N/A	N/A	C1-17	C1-13	BEN19A10C	10 (5)	C/F	C/F
	240	5.00	1	23 ¹ / ₂ (597.0)	BEN23J10S	8 (4)	N/A	N/A	C/F	C/F	BEN23J10C	11 (5)	C/F	C/F
	240	6.00	1	27 ¹ / ₂ (699.0)	BEN27J10S	9 (4)	N/A	N/A	C/F	C/F	BEN27J10C	12 (6)	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us
N/A - Not available

④ Wired for higher voltage

⑤ No third party recognition

Immersion Heaters

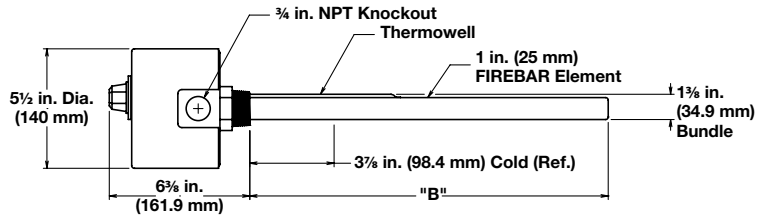


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST), Type 5A or 7A
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	General Purpose Enclosure
90 W/in ² ⑧ 304 SS Plug 1-Alloy 800 Element (14 W/cm ²)	240	1.5	1	7 ⁵ / ₈ (193.7)	6 (3)	BDNF7R10S5A	C/F	C/F	BDNF7R10S7A	C/F	C/F
	480	1.5	1	7 ⁵ / ₈ (193.7)	6 (3)	BDNF7R11S5A	C/F	C/F	BDNF7R11S7A	C/F	C/F
	240	3.0	1	11 ¹ / ₈ (282.6)	7 (4)	BDNF11G10S5A	C/F	C/F	BDNF11G10S7A	C/F	C/F
	480	3.0	1	11 ¹ / ₈ (282.6)	7 (4)	BDNF11G11S5A	C/F	C/F	BDNF11G11S7A	C/F	C/F
	240	5.0	3	16 ¹ / ₈ (409.6)	8 (4)	BDNF16G3S5A	C/F	C/F	BDNF16G3S7A	C/F	C/F
	480	5.0	3	16 ¹ / ₈ (409.6)	8 (4)	BDNF16G5S5A	C/F	C/F	BDNF16G5S7A	C/F	C/F
	240	6.5	3	19 ¹ / ₈ (485.8)	9 (4)	BDNF19G3S5A	C/F	C/F	BDNF19G3S7A	C/F	C/F
	480	6.5	3	19 ¹ / ₈ (485.8)	9 (4)	BDNF19G5S5A	C/F	C/F	BDNF19G5S7A	C/F	C/F
	240	8.5	3	24 ³ / ₈ (619.1)	10 (5)	BDNF24L3S5A	C/F	C/F	BDNF24L3S7A	C/F	C/F
	480	8.5	3	24 ³ / ₈ (619.1)	10 (5)	BDNF24L5S5A	C/F	C/F	BDNF24L5S7A	C/F	C/F
	240	10.5	3	29 ⁵ / ₈ (752.5)	11 (5)	BDNF29R3S5A	C/F	C/F	BDNF29R3S7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

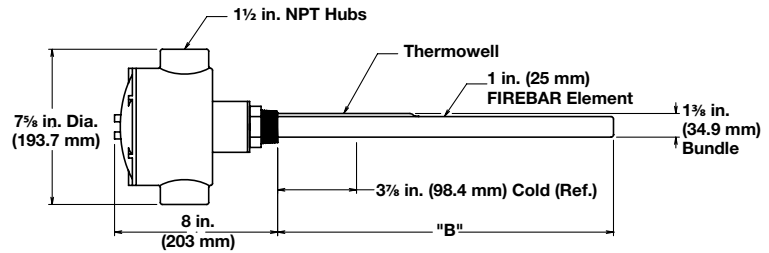
⑧ Can be wired for 1-phase operation



WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Clean Water

- 1 1/4 inch NPT screw plug
 - FIREBAR elements
 - With thermostat (DPST), Type 5A or 7A
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
90 W/in ² ⑧ 304 SS Plug 1-Alloy 800 Element (14 W/cm ²)	240	1.5	1	7 ⁵ / ₈ (193.7)	9 (4)	BDNF7R10C5A	C/F	C/F	BDNF7R10C7A	C/F	C/F
	480	1.5	1	7 ⁵ / ₈ (193.7)	9 (4)	BDNF7R11C5A	C/F	C/F	BDNF7R11C7A	C/F	C/F
	240	3.0	1	11 ¹ / ₈ (282.6)	10 (5)	BDNF11G10C5A	C/F	C/F	BDNF11G10C7A	C/F	C/F
	480	3.0	1	11 ¹ / ₈ (282.6)	10 (5)	BDNF11G11C5A	C/F	C/F	BDNF11G11C7A	C/F	C/F
	240	5.0	3	16 ¹ / ₈ (409.6)	11 (5)	BDNF16G3C5A	C/F	C/F	BDNF16G3C7A	C/F	C/F
	480	5.0	3	16 ¹ / ₈ (409.6)	11 (5)	BDNF16G5C5A	C/F	C/F	BDNF16G5C7A	C/F	C/F
	240	6.5	3	19 ¹ / ₈ (485.8)	12 (6)	BDNF19G3C5A	C/F	C/F	BDNF19G3C7A	C/F	C/F
	480	6.5	3	19 ¹ / ₈ (485.8)	12 (6)	BDNF19G5C5A	C/F	C/F	BDNF19G5C7A	C/F	C/F
	240	8.5	3	24 ³ / ₈ (619.1)	13 (6)	BDNF24L3C5A	C/F	C/F	BDNF24L3C7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

⑧ Can be wired for 1-phase operation

Immersion Heaters

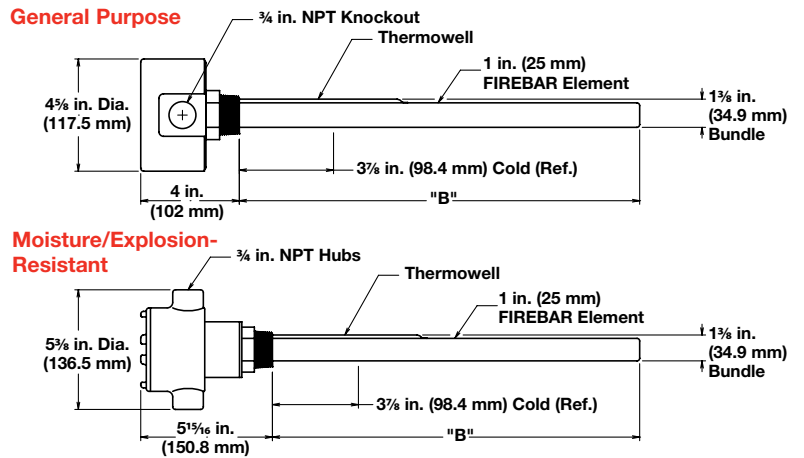


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
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	5 (3)	C1-17	C1-13	BDNF7R10C	8 (4)	C/F	C/F
	480	1.5	1	7 ⁵ / ₈ (193.7)	BDNF7R11S	5 (3)	C/F	C/F	BDNF7R11C	8 (4)	C/F	C/F
	240	3.0	1	11 ¹ / ₈ (282.6)	BDNF11G10S	6 (3)	C1-17	C1-13	BDNF11G10C	9 (4)	C/F	C/F
	480	3.0	1	11 ¹ / ₈ (282.6)	BDNF11G11S	6 (3)	C/F	C/F	BDNF11G11C	9 (4)	C/F	C/F
	240	5.0	3	16 ¹ / ₈ (409.6)	BDNF16G3S	7 (4)	C2-50	C2-92	BDNF16G3C	10 (5)	C3-94	C3-93
	480	5.0	3	16 ¹ / ₈ (409.6)	BDNF16G5S	7 (4)	C2-43	C2-35	BDNF16G5C	10 (5)	C3-116	C3-118
	240	6.5	3	19 ¹ / ₈ (485.8)	BDNF19G3S	8 (4)	C2-50	C2-92	BDNF19G3C	11 (5)	C3-94	C3-93
	480	6.5	3	19 ¹ / ₈ (485.8)	BDNF19G5S	8 (4)	C2-43	C2-35	BDNF19G5C	11 (5)	C3-116	C3-118
	240	8.5	3	24 ³ / ₈ (619.1)	BDNF24L3S	9 (4)	C2-50	C2-92	BDNF24L3C	12 (6)	C3-94	C3-93
	480	8.5	3	24 ³ / ₈ (619.1)	BDNF24L5S	9 (4)	C2-43	C2-35	BDNF24L5C	12 (6)	C3-116	C3-118
	240	10.5	3	29 ⁵ / ₈ (752.5)	BDNF29R3S	10 (5)	C2-236	C2-214	BDNF29R3C	13 (6)	C3-114	C3-115
	480	10.5	3	29 ⁵ / ₈ (752.5)	BDNF29R5S	10 (5)	C2-43	C2-35	BDNF29R5C	13 (6)	C3-116	C3-118
	240	12.7	3	34 ⁵ / ₈ (879.5)	BDNF34R3S	11 (5)	C2-236	C2-214	BDNF34R3C	14 (7)	C3-114	C3-115
	480	12.7	3	34 ⁵ / ₈ (879.5)	BDNF34R5S	11 (5)	C2-43	C2-35	BDNF34R5C	14 (7)	C3-116	C3-118
	240	17.0	3	45 ¹ / ₈ (1146.2)	BDNF45G3S	13 (6)	C2-236	C2-214	BDNF45G3C	16 (8)	C3-114	C3-115
	480	17.0	3	45 ¹ / ₈ (1146.2)	BDNF45G5S	13 (6)	C2-43	C2-35	BDNF45G5C	16 (8)	C3-116	C3-118
480	21.5	3	55 ⁵ / ₈ (1412.9)	BDNF55R5S	15 (7)	C2-225	C2-226	BDNF55R5C	18 (9)	C3-117	C3-119	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

⑧ Can be wired for 1-phase operation

Immersion Heaters

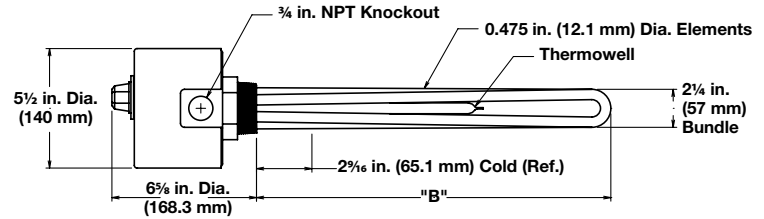


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 2 inch NPT screw plug
 - WATROD elements
 - With thermostat (DPST), Type 4, 5A or 7A
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C
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)	5 (3)	BGN78C6S4	C/F	C/F	BGN78C6S5A	C/F	C/F	BGN78C6S7A	C/F	C/F
	240/480	2.0	1	8 ¹ / ₈ (206.4)	5 (3)	BGN78C7S4	C/F	C/F	BGN78C7S5A	C/F	C/F	BGN78C7S7A	C/F	C/F
	120/240	3.0	1	11 ¹ / ₈ (282.6)	6 (3)	BGN711C6S4	C/F	C/F	BGN711C6S5A	C/F	C/F	BGN711C6S7A	C/F	C/F
	240/480	3.0	1	11 ¹ / ₈ (282.6)	6 (3)	BGN711C7S4	C/F	C/F	BGN711C7S5A	C/F	C/F	BGN711C7S7A	C/F	C/F
	120/240	4.0	1	15 ¹ / ₈ (384.2)	7 (4)	BGN715C6S4	C/F	C/F	BGN715C6S5A	C/F	C/F	BGN715C6S7A	C/F	C/F
	120/240	5.0	1	18 ¹ / ₈ (460.4)	7 (4)	BGN718C6S4	C/F	C/F	BGN718C6S5A	C/F	C/F	BGN718C6S7A	C/F	C/F
60 W/in ² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm ²)	240	3.0	3	8 ¹ / ₈ (206.4)	6 (3)	BHN78C3S4	C/F	C/F	BHN78C3S5A	C/F	C/F	BHN78C3S7A	C/F	C/F
	480	3.0	3	8 ¹ / ₈ (206.4)	6 (3)	BHN68C13S4	C/F	C/F	BHN68C13S5A	C/F	C/F	BHN68C13S7A	C/F	C/F
	240	4.5	3	11 ¹ / ₈ (282.6)	7 (4)	BHN711C3S4	C/F	C/F	BHN711C3S5A	C/F	C/F	BHN711C3S7A	C/F	C/F
	480	4.5	3	11 ¹ / ₈ (282.6)	7 (4)	BHN611C13S4	C/F	C/F	BHN611C13S5A	C/F	C/F	BHN611C13S7A	C/F	C/F
	240	6.0	3	15 ¹ / ₈ (384.2)	8 (4)	BHN715C3S4	C/F	C/F	BHN715C3S5A	C/F	C/F	BHN715C3S7A	C/F	C/F
	480	6.0	3	15 ¹ / ₈ (384.2)	8 (4)	BHN715C5S4	C/F	C/F	BHN715C5S5A	C/F	C/F	BHN715C5S7A	C/F	C/F
	240	7.5	3	18 ¹ / ₈ (460.4)	8 (4)	BHN718C3S4	C/F	C/F	BHN718C3S5A	C/F	C/F	BHN718C3S7A	C/F	C/F
	240	9.0	3	21 ¹ / ₈ (536.6)	9 (4)	BHN721C3S4	C/F	C/F	BHN721C3S5A	C/F	C/F	BHN721C3S7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

④ Wired for higher voltage



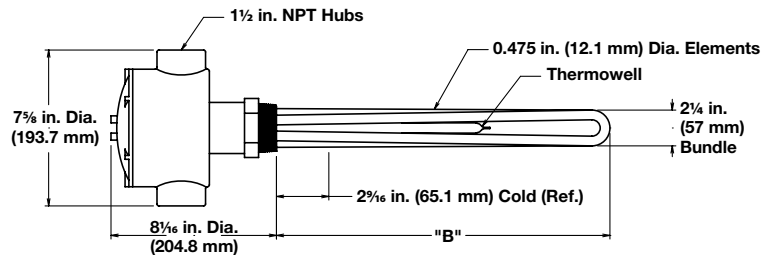
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Clean Water

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C		Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤		Type J T/C	Type K T/C
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)	8 (4)	BGN78C6C4	C/F	C/F	BGN78C6C5A	C/F	C/F	BGN78C6C7A	C/F	C/F
	240/480	2.0	1	8 1/8 (206.4)	8 (4)	BGN78C7C4	C/F	C/F	BGN78C7C5A	C/F	C/F	BGN78C7C7A	C/F	C/F
	120/240	3.0	1	11 1/8 (282.6)	9 (4)	BGN711C6C4	C/F	C/F	BGN711C6C5A	C/F	C/F	BGN711C6C7A	C/F	C/F
	240/480	3.0	1	11 1/8 (282.6)	9 (4)	BGN711C7C4	C/F	C/F	BGN711C7C5A	C/F	C/F	BGN711C7C7A	C/F	C/F
	120/240	4.0	1	15 1/8 (384.2)	10 (5)	BGN715C6C4	C/F	C/F	BGN715C6C5A	C/F	C/F	BGN715C6C7A	C/F	C/F
	120/240	5.0	1	18 1/8 (460.4)	10 (5)	BGN718C6C4	C/F	C/F	BGN718C6C5A	C/F	C/F	BGN718C6C7A	C/F	C/F
60 W/in ² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm ²)	240	3.0	3	8 1/8 (206.4)	9 (4)	BHN78C3C4	C/F	C/F	BHN78C3C5A	C/F	C/F	BHN78C3C7A	C/F	C/F
	480	3.0	3	8 1/8 (206.4)	9 (4)	BHN68C13C4	C/F	C/F	BHN68C13C5A	C/F	C/F	BHN68C13C7A	C/F	C/F
	240	4.5	3	11 1/8 (282.6)	10 (5)	BHN711C3C4	C/F	C/F	BHN711C3C5A	C/F	C/F	BHN711C3C7A	C/F	C/F
	480	4.5	3	11 1/8 (282.6)	10 (5)	BHN611C13C4	C/F	C/F	BHN611C13C5A	C/F	C/F	BHN611C13C7A	C/F	C/F
	240	6.0	3	15 1/8 (384.2)	11 (5)	BHN715C3C4	C/F	C/F	BHN715C3C5A	C/F	C/F	BHN715C3C7A	C/F	C/F
	480	6.0	3	15 1/8 (384.2)	11 (5)	BHN715C5C4	C/F	C/F	BHN715C5C5A	C/F	C/F	BHN715C5C7A	C/F	C/F
	240	7.5	3	18 1/8 (460.4)	11 (5)	BHN718C3C4	C/F	C/F	BHN718C3C5A	C/F	C/F	BHN718C3C7A	C/F	C/F
	240	9.0	3	21 1/8 (536.6)	12 (6)	BHN721C3C4	C/F	C/F	BHN721C3C5A	C/F	C/F	BHN721C3C7A	C/F	C/F

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

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



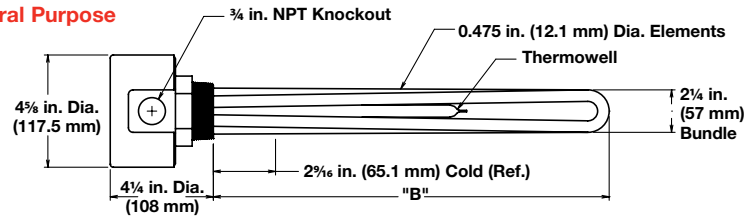
WATROD and FIREBAR Screw Plug Immersion Heaters



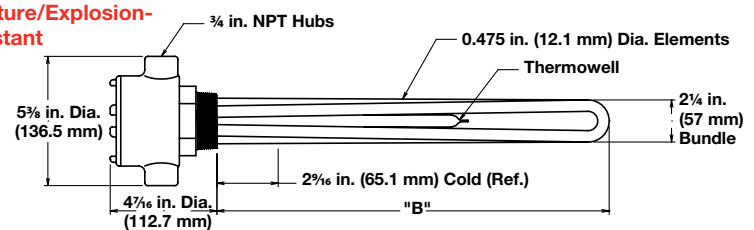
Application: Clean Water

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	120V WATCONNECT		240V WATCONNECT		480V WATCONNECT	
							Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
					General Purpose Enclosure		Type J T/C	Type K T/C	Type J T/C	Type K T/C	Type J T/C	Type K T/C
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	4 (2)	C1-15	C1-12	C1-17	C1-13	N/A	N/A
	240/480	2.0	1	8 ¹ / ₈ (206.4)	BGN78C7S	4 (2)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	3.0	1	11 ¹ / ₈ (282.6)	BGN711C6S	5 (3)	C/F	C/F	C1-17	C1-13	N/A	N/A
	240/480	3.0	1	11 ¹ / ₈ (282.6)	BGN711C7S	5 (3)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	4.0	1	15 ¹ / ₈ (384.2)	BGN715C6S	6 (3)	C/F	C/F	C1-17	C1-13	N/A	N/A
	240/480	4.0	1	15 ¹ / ₈ (384.2)	BGN715C7S	6 (3)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	5.0	1	18 ¹ / ₈ (460.4)	BGN718C6S	6 (3)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	5.0	1	18 ¹ / ₈ (460.4)	BGN718C7S	6 (3)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	6.0	1	21 ¹ / ₈ (536.6)	BGN721C7S	7 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	8.0	1	26 ⁵ / ₈ (676.3)	BGN726L7S	7 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	10.0	1	32 ¹ / ₈ (816.0)	BGN732C7S	8 (4)	N/A	N/A	C/F	C/F	C/F	C/F
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	5 (3)	C/F	C/F	N/A	N/A	N/A	N/A
	240	3.0	3	8 ¹ / ₈ (206.4)	BHN78C3S	5 (3)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	3.0	3	8 ¹ / ₈ (206.4)	BHN68C13S	5 (3)	N/A	N/A	N/A	N/A	C2-43	C2-35
	120	4.5	1	11 ¹ / ₈ (282.6)	BHN711C1S	6 (3)	C/F	C/F	N/A	N/A	N/A	N/A
	240	4.5	3	11 ¹ / ₈ (282.6)	BHN711C3S	6 (3)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	4.5	3	11 ¹ / ₈ (282.6)	BHN611C13S	6 (3)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	6.0	3	15 ¹ / ₈ (384.2)	BHN715C3S	7 (4)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	6.0	3	15 ¹ / ₈ (384.2)	BHN715C5S	7 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	7.5	3	18 ¹ / ₈ (460.4)	BHN718C3S	7 (4)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	7.5	3	18 ¹ / ₈ (460.4)	BHN718C5S	7 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	9.0	3	21 ¹ / ₈ (536.6)	BHN721C3S	8 (4)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	9.0	3	21 ¹ / ₈ (536.6)	BHN721C5S	8 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	12.0	3	26 ⁵ / ₈ (676.3)	BHN726L3S	8 (4)	N/A	N/A	C2-236	C2-214	N/A	N/A
	480	12.0	3	26 ⁵ / ₈ (676.3)	BHN726L5S	8 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	15.0	3	32 ¹ / ₈ (816.0)	BHN732C3S	9 (4)	N/A	N/A	C2-236	C2-214	N/A	N/A
480	15.0	3	32 ¹ / ₈ (816.0)	BHN732C5S	9 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us
N/A - Not available

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

Immersion Heaters



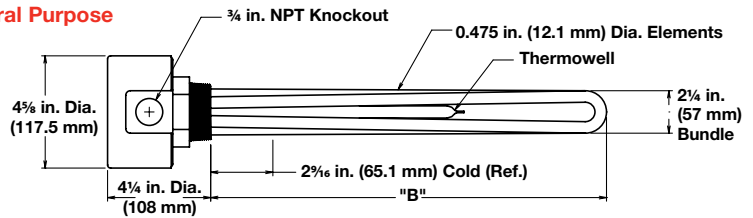
WATROD and FIREBAR Screw Plug Immersion Heaters



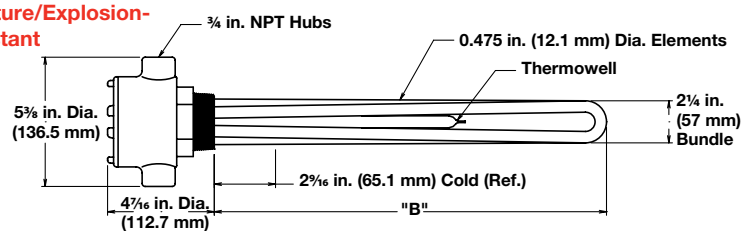
Application: Clean Water

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	120V WATCONNECT		240V WATCONNECT		480V WATCONNECT	
							Type J T/C	Type K T/C	Type J T/C	Type K T/C	Type J T/C	Type K T/C
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)	BGN78C6C	7 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	2.0	1	8 1/8 (206.4)	BGN78C7C	7 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	3.0	1	11 1/8 (282.6)	BGN711C6C	8 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	3.0	1	11 1/8 (282.6)	BGN711C7C	8 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	4.0	1	15 1/8 (384.2)	BGN715C6C	9 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	4.0	1	15 1/8 (384.2)	BGN715C7C	9 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	5.0	1	18 1/8 (460.4)	BGN718C6C	9 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	5.0	1	18 1/8 (460.4)	BGN718C7C	9 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	6.0	1	21 1/8 (536.6)	BGN721C7C	10 (5)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	8.0	1	26 5/8 (676.3)	BGN726L7C	10 (5)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	10.0	1	32 1/8 (816.0)	BGN732C7C	11 (5)	N/A	N/A	C/F	C/F	C/F	C/F
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)	BHN78C1C	8 (4)	C/F	C/F	N/A	N/A	N/A	N/A
	240	3.0	3	8 1/8 (206.4)	BHN78C3C	8 (4)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	3.0	3	8 1/8 (206.4)	BHN68C13C	8 (4)	N/A	N/A	N/A	N/A	C3-116	C3-118
	120	4.5	1	11 1/8 (282.6)	BHN711C1C	9 (4)	C/F	C/F	N/A	N/A	N/A	N/A
	240	4.5	3	11 1/8 (282.6)	BHN711C3C	9 (4)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	4.5	3	11 1/8 (282.6)	BHN611C13C	9 (4)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	6.0	3	15 1/8 (384.2)	BHN715C3C	10 (5)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	6.0	3	15 1/8 (384.2)	BHN715C5C	10 (5)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	7.5	3	18 1/8 (460.4)	BHN718C3C	10 (5)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	7.5	3	18 1/8 (460.4)	BHN718C5C	10 (5)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	9.0	3	21 1/8 (536.6)	BHN721C3C	11 (5)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	9.0	3	21 1/8 (536.6)	BHN721C5C	11 (5)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	12.0	3	26 5/8 (676.3)	BHN726L3C	11 (5)	N/A	N/A	C3-114	C3-115	N/A	N/A
	480	12.0	3	26 5/8 (676.3)	BHN726L5C	11 (5)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	15.0	3	32 1/8 (816.0)	BHN732C3C	12 (6)	N/A	N/A	C3-114	C3-115	N/A	N/A
480	15.0	3	32 1/8 (816.0)	BHN732C5C	12 (6)	N/A	N/A	N/A	N/A	C3-116	C3-118	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us
N/A - Not available

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

Immersion Heaters



WATROD and FIREBAR Screw Plug Immersion Heaters



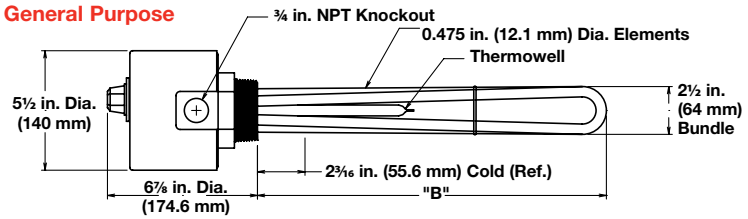
Application: Clean Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

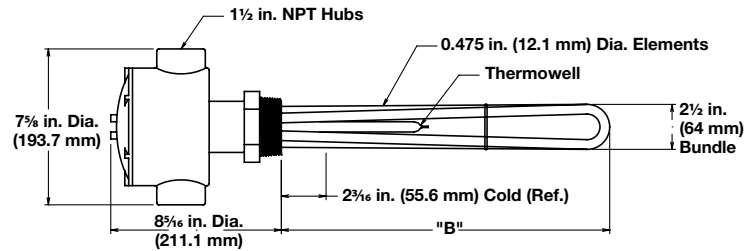
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C
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	C/F	C/F	BLN77L3S5A	C/F	C/F	BLN77L3S7A	C/F	C/F
	480	3.0	3	7 ⁵ / ₈ (193.7)	7 (4)	BLN77L13S4	C/F	C/F	BLN77L13S5A	C/F	C/F	BLN77L13S7A	C/F	C/F
	240	4.5	3	10 ⁵ / ₈ (269.9)	8 (4)	BLN710L3S4	C/F	C/F	BLN710L3S5A	C/F	C/F	BLN710L3S7A	C/F	C/F
	480	4.5	3	10 ⁵ / ₈ (269.9)	8 (4)	BLN610K13S4	C/F	C/F	BLN610K13S5A	C/F	C/F	BLN610K13S7A	C/F	C/F
	240	6.0	3	14 ⁵ / ₈ (371.5)	10 (5)	BLN714L3S4	C/F	C/F	BLN714L3S5A	C/F	C/F	BLN714L3S7A	C/F	C/F
	480	6.0	3	14 ⁵ / ₈ (371.5)	10 (5)	BLN714L5S4	C/F	C/F	BLN714L5S5A	C/F	C/F	BLN714L5S7A	C/F	C/F
	240	7.5	3	17 ⁵ / ₈ (447.7)	10 (5)	BLN717L3S4	C/F	C/F	BLN717L3S5A	C/F	C/F	BLN717L3S7A	C/F	C/F
	240	9.0	3	20 ⁵ / ₈ (523.9)	12 (6)	BLN720L3S4	C/F	C/F	BLN720L3S5A	C/F	C/F	BLN720L3S7A	C/F	C/F
						Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
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	C/F	C/F	BLN77L3C5A	C/F	C/F	BLN77L3C7A	C/F	C/F
	480	3.0	3	7 ⁵ / ₈ (193.7)	10 (5)	BLN77L13C4	C/F	C/F	BLN77L13C5A	C/F	C/F	BLN77L13C7A	C/F	C/F
	240	4.5	3	10 ⁵ / ₈ (269.9)	11 (5)	BLN710L3C4	C/F	C/F	BLN710L3C5A	C/F	C/F	BLN710L3C7A	C/F	C/F
	480	4.5	3	10 ⁵ / ₈ (269.9)	11 (5)	BLN610K13C4	C/F	C/F	BLN610K13C5A	C/F	C/F	BLN610K13C7A	C/F	C/F
	240	6.0	3	14 ⁵ / ₈ (371.5)	13 (6)	BLN714L3C4	C/F	C/F	BLN714L3C5A	C/F	C/F	BLN714L3C7A	C/F	C/F
	480	6.0	3	14 ⁵ / ₈ (371.5)	13 (6)	BLN714L5C4	C/F	C/F	BLN714L5C5A	C/F	C/F	BLN714L5C7A	C/F	C/F
	240	7.5	3	17 ⁵ / ₈ (447.7)	13 (6)	BLN717L3C4	C/F	C/F	BLN717L3C5A	C/F	C/F	BLN717L3C7A	C/F	C/F
	240	9.0	3	20 ⁵ / ₈ (523.9)	15 (7)	BLN720L3C4	C/F	C/F	BLN720L3C5A	C/F	C/F	BLN720L3C7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters

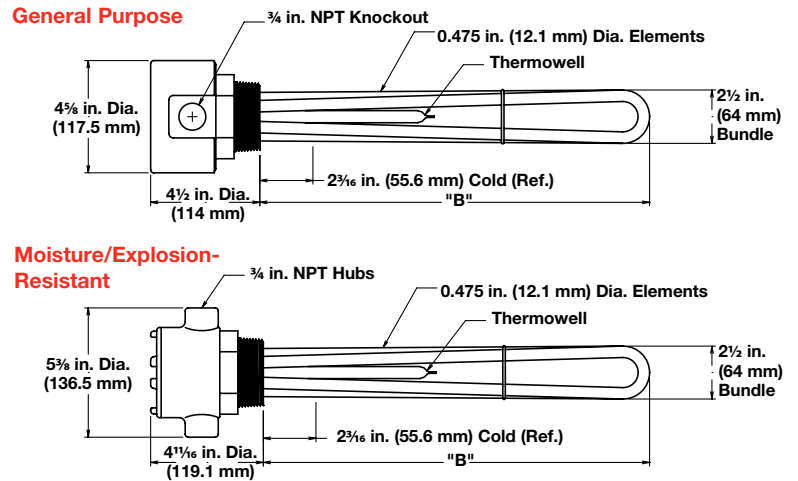


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Clean Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Type J T/C	Type K T/C
60 W/in ² 304 SS Plug 3-Alloy 800 Elements (9.3 W/cm ²)	120	3.0	1	7 ⁵ / ₈ (193.7)	BLN77L1S	6 (3)	C/F	C/F	BLN77L1C	9 (4)	C/F	C/F
	240	3.0	3	7 ⁵ / ₈ (193.7)	BLN77L3S	6 (3)	C2-50	C2-92	BLN77L3C	9 (4)	C3-94	C3-93
	480	3.0	3	7 ⁵ / ₈ (193.7)	BLN77L13S	6 (3)	C2-43	C2-35	BLN77L13C	9 (4)	C3-116	C3-118
	120	4.5	1	10 ⁵ / ₈ (269.9)	BLN710L1S	7 (4)	C/F	C/F	BLN710L1C	10 (5)	C/F	C/F
	240	4.5	3	10 ⁵ / ₈ (269.9)	BLN710L3S	7 (4)	C2-50	C2-92	BLN710L3C	10 (5)	C3-94	C3-93
	480	4.5	3	10 ⁵ / ₈ (269.9)	BLN610K13S	7 (4)	C2-43	C2-35	BLN610K13C	10 (5)	C3-116	C3-118
	240	6.0	3	14 ⁵ / ₈ (371.5)	BLN714L3S	9 (4)	C2-50	C2-92	BLN714L3C	12 (6)	C3-94	C3-93
	480	6.0	3	14 ⁵ / ₈ (371.5)	BLN714L5S	9 (4)	C2-43	C2-35	BLN714L5C	12 (6)	C3-116	C3-118
	240	7.5	3	17 ⁵ / ₈ (447.7)	BLN717L3S	9 (4)	C2-50	C2-92	BLN717L3C	12 (6)	C3-94	C3-93
	480	7.5	3	17 ⁵ / ₈ (447.7)	BLN717L5S	9 (4)	C2-43	C2-35	BLN717L5C	12 (6)	C3-116	C3-118
	240	9.0	3	20 ⁵ / ₈ (523.9)	BLN720L3S	11 (5)	C2-50	C2-92	BLN720L3C	14 (7)	C3-94	C3-93
	480	9.0	3	20 ⁵ / ₈ (523.9)	BLN720L5S	11 (5)	C2-43	C2-35	BLN720L5C	14 (7)	C3-116	C3-118
	240	12.0	3	26 ¹ / ₈ (663.6)	BLN726C3S	12 (6)	C2-50	C2-92	BLN726C3C	15 (7)	C3-114	C3-115
	480	12.0	3	26 ¹ / ₈ (663.6)	BLN726C5S	12 (6)	C2-43	C2-35	BLN726C5C	15 (7)	C3-116	C3-118
	240	15.0	3	31 ⁵ / ₈ (803.3)	BLN731L3S	14 (7)	C2-50	C2-92	BLN731L3C	17 (8)	C3-114	C3-115
	480	15.0	3	31 ⁵ / ₈ (803.3)	BLN731L5S	14 (7)	C2-43	C2-35	BLN731L5C	17 (8)	C3-116	C3-118
240	18.0	3	37 ¹ / ₈ (943.0)	BLN737C3S	15 (7)	C2-50	C2-92	BLN737C3C	18 (9)	C3-114	C3-115	
480	18.0	3	37 ¹ / ₈ (943.0)	BLN737C5S	15 (7)	C2-43	C2-35	BLN737C5C	18 (9)	C3-116	C3-118	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters



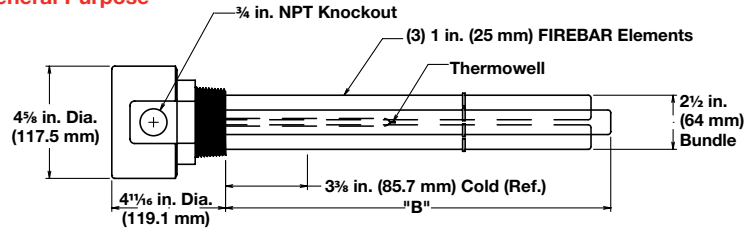
WATROD and FIREBAR Screw Plug Immersion Heaters



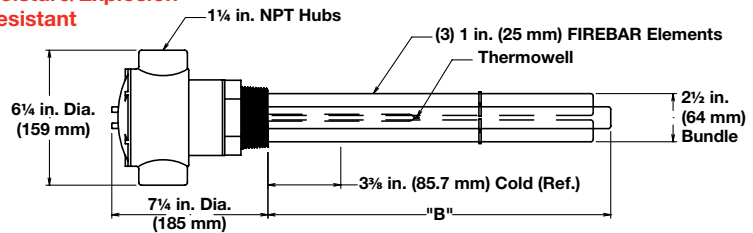
Application: Clean Water

- 2¹/₂ inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Type J T/C	Type K T/C
90 W/in ² ⑧ 304 SS Plug 3-Alloy 800 Elements (14 W/cm ²)	240	15.0	3	15 ¹ / ₈ (384.2)	BLNF15C3S	11 (5)	C2-50	C2-92	BLNF15C3C	14 (7)	C3-114	C3-115
	480	15.0	3	15 ¹ / ₈ (384.2)	BLNF15C5S	11 (5)			C2-43	C2-35		
	240	20.0	3	18 ¹ / ₈ (460.4)	BLNF18C3S	12 (6)	C2-50	C2-92	BLNF18C3C	15 (7)	C3-114	C3-115
	480	20.0	3	18 ¹ / ₈ (460.4)	BLNF18C5S ③	12 (6)			C2-43	C2-35		
	480	25.0	3	23 ¹ / ₈ (587.4)	BLNF23C5S	14 (7)	C2-225	C2-226	BLNF23C5C	17 (8)	C3-117	C3-119
	480	32.0	3	28 ⁵ / ₈ (727.1)	BLNF28L5S	17 (8)	C2-225	C2-226	BLNF28L5C	20 (9)	C3-117	C3-119
	480	38.0	3	33 ⁵ / ₈ (854.1)	BLNF33L5S	18 (9)	C2-225	C2-226	BLNF33L5C	21 (10)	C3-117	C3-119

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

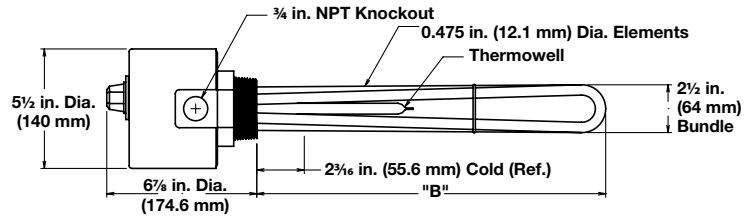


Application: Deionized/ Demineralized Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	General Purpose Enclosure		Type J T/C	Type K T/C
60 W/in ² 316 SS Plug 3-316 SS Elements (9.3 W/cm ²) (Passivated)	240	3.0	3	7 ⁵ / ₈ (193.7)	7 (4)	BLR77L3S4	C/F	C/F	BLR77L3S5A	C/F	C/F	BLR77L3S7A	C/F	C/F
	480	3.0	3	7 ⁵ / ₈ (193.7)	7 (4)	BLR77L5S4	C/F	C/F	BLR77L5S5A	C/F	C/F	BLR77L5S7A	C/F	C/F
	240	4.5	3	10 ⁵ / ₈ (269.9)	8 (4)	BLR710L3S4	C/F	C/F	BLR710L3S5A	C/F	C/F	BLR710L3S7A	C/F	C/F
	480	4.5	3	10 ⁵ / ₈ (269.9)	8 (4)	BLR710L5S4	C/F	C/F	BLR710L5S5A	C/F	C/F	BLR710L5S7A	C/F	C/F
	240	6.0	3	14 ⁵ / ₈ (371.5)	10 (5)	BLR714L3S4	C/F	C/F	BLR714L3S5A	C/F	C/F	BLR714L3S7A	C/F	C/F
	480	6.0	3	14 ⁵ / ₈ (371.5)	10 (5)	BLR714L5S4	C/F	C/F	BLR714L5S5A	C/F	C/F	BLR714L5S7A	C/F	C/F
	240	7.5	3	17 ⁵ / ₈ (447.7)	10 (5)	BLR717L3S4	C/F	C/F	BLR717L3S5A	C/F	C/F	BLR717L3S7A	C/F	C/F
	240	9.0	3	20 ⁵ / ₈ (523.9)	12 (6)	BLR720L3S4	C/F	C/F	BLR720L3S5A	C/F	C/F	BLR720L3S7A	C/F	C/F

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.

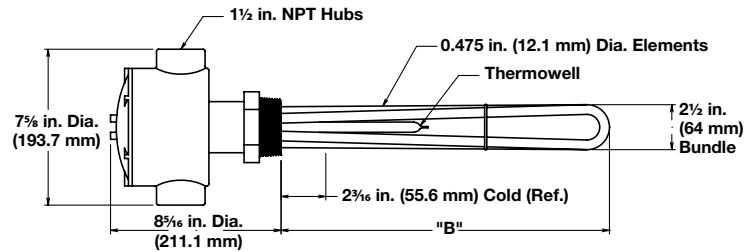
C/F - Contact factory, go to www.watlow.com/en/contact-us



WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Deionized/ Demineralized Water

- 2 1/2 inch NPT screw plug
 - WATROD elements
 - With thermostat (DPST), Type 4, 5A or 7A
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C		Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤		Type J T/C	Type K T/C
60 W/in ² 316 SS Plug 3-316 SS Elements (9.3 W/cm ²) (Passivated)	240	3.0	3	7 ⁵ / ₈ (193.7)	10 (5)	BLR77L3C4	C/F	C/F	BLR77L3C5A	C/F	C/F	BLR77L3C7A	C/F	C/F
	480	3.0	3	7 ⁵ / ₈ (193.7)	10 (5)	BLR77L5C4	C/F	C/F	BLR77L5C5A	C/F	C/F	BLR77L5C7A	C/F	C/F
	240	4.5	3	10 ⁵ / ₈ (269.9)	11 (5)	BLR710L3C4	C/F	C/F	BLR710L3C5A	C/F	C/F	BLR710L3C7A	C/F	C/F
	480	4.5	3	10 ⁵ / ₈ (269.9)	11 (5)	BLR710L5C4	C/F	C/F	BLR710L5C5A	C/F	C/F	BLR710L5C7A	C/F	C/F
	240	6.0	3	14 ⁵ / ₈ (371.5)	13 (6)	BLR714L3C4	C/F	C/F	BLR714L3C5A	C/F	C/F	BLR714L3C7A	C/F	C/F
	480	6.0	3	14 ⁵ / ₈ (371.5)	13 (6)	BLR714L5C4	C/F	C/F	BLR714L5C5A	C/F	C/F	BLR714L5C7A	C/F	C/F
	240	7.5	3	17 ⁵ / ₈ (447.7)	13 (6)	BLR717L3C4	C/F	C/F	BLR717L3C5A	C/F	C/F	BLR717L3C7A	C/F	C/F
	240	9.0	3	20 ⁵ / ₈ (523.9)	15 (7)	BLR720L3C4	C/F	C/F	BLR720L3C5A	C/F	C/F	BLR720L3C7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters



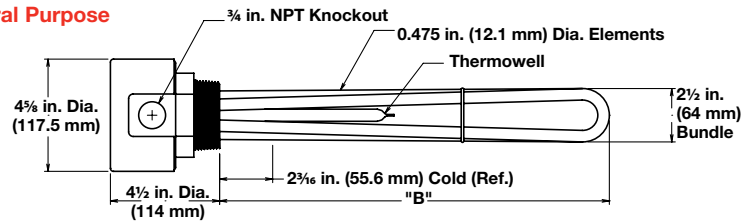
WATROD and FIREBAR Screw Plug Immersion Heaters



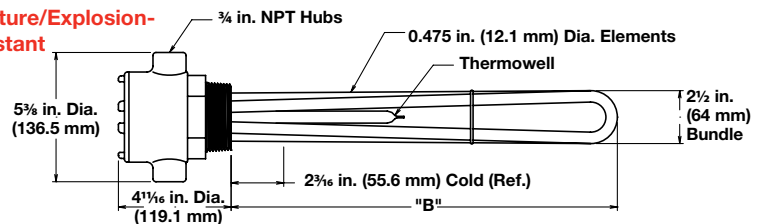
Application: Deionized/ Demineralized Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
60 W/in² 316 SS Plug 3-316 SS Elements (9.3 W/cm²) (Passivated)	120	3.0	1	7 ⁵ / ₈ (193.7)	BLR77L1S	6 (3)	C/F	C/F	BLR77L1C	9 (4)	C/F	C/F
	240	3.0	3	7 ⁵ / ₈ (193.7)	BLR77L3S	6 (3)	C2-50	C2-92	BLR77L3C	9 (4)	C3-94	C3-93
	480	3.0	3	7 ⁵ / ₈ (193.7)	BLR77L5S	6 (3)	C2-43	C2-35	BLR77L5C	9 (4)	C3-116	C3-118
	120	4.5	1	10 ⁵ / ₈ (269.9)	BLR710L1S	7 (4)	C/F	C/F	BLR710L1C	10 (5)	C/F	C/F
	240	4.5	3	10 ⁵ / ₈ (269.9)	BLR710L3S	7 (4)	C2-50	C2-92	BLR710L3C	10 (5)	C3-94	C3-93
	480	4.5	3	10 ⁵ / ₈ (269.9)	BLR710L5S	7 (4)	C2-43	C2-35	BLR710L5C	10 (5)	C3-116	C3-118
	240	6.0	3	14 ⁵ / ₈ (371.5)	BLR714L3S	9 (4)	C2-50	C2-92	BLR714L3C	12 (6)	C3-94	C3-93
	480	6.0	3	14 ⁵ / ₈ (371.5)	BLR714L5S	9 (4)	C2-43	C2-35	BLR714L5C	12 (6)	C3-116	C3-118
	240	7.5	3	17 ⁵ / ₈ (447.7)	BLR717L3S	9 (4)	C2-50	C2-92	BLR717L3C	12 (6)	C3-94	C3-93
	480	7.5	3	17 ⁵ / ₈ (447.7)	BLR717L5S	9 (4)	C2-43	C2-35	BLR717L5C	12 (6)	C3-116	C3-118
	240	9.0	3	20 ⁵ / ₈ (523.9)	BLR720L3S	11 (5)	C2-50	C2-92	BLR720L3C	14 (7)	C3-94	C3-93
	480	9.0	3	20 ⁵ / ₈ (523.9)	BLR720L5S	11 (5)	C2-43	C2-35	BLR720L5C	14 (7)	C3-116	C3-118
	240	12.0	3	26 ¹ / ₈ (663.6)	BLR726C3S	12 (6)	C2-236	C2-214	BLR726C3C	15 (7)	C3-114	C3-115
	480	12.0	3	26 ¹ / ₈ (663.6)	BLR726C5S	12 (6)	C2-43	C2-35	BLR726C5C	15 (7)	C3-116	C3-118
	240	15.0	3	31 ⁵ / ₈ (803.3)	BLR731L3S	14 (7)	C2-236	C2-214	BLR731L3C	17 (8)	C3-114	C3-115
	480	15.0	3	31 ⁵ / ₈ (803.3)	BLR731L5S	14 (7)	C2-43	C2-35	BLR731L5C	17 (8)	C3-116	C3-118
240	18.0	3	37 ¹ / ₈ (943.0)	BLR737C3S	15 (7)	C2-236	C2-214	BLR737C3C	18 (9)	C3-114	C3-115	
480	18.0	3	37 ¹ / ₈ (943.0)	BLR737C5S	15 (7)	C2-43	C2-35	BLR737C5C	18 (9)	C3-116	C3-118	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters



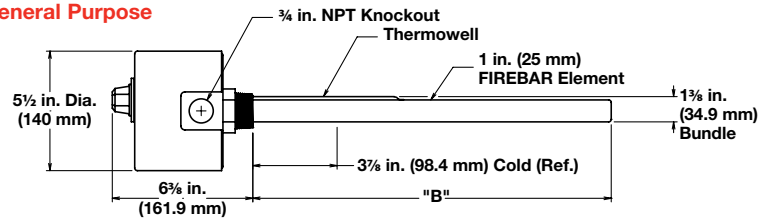
WATROD and FIREBAR Screw Plug Immersion Heaters



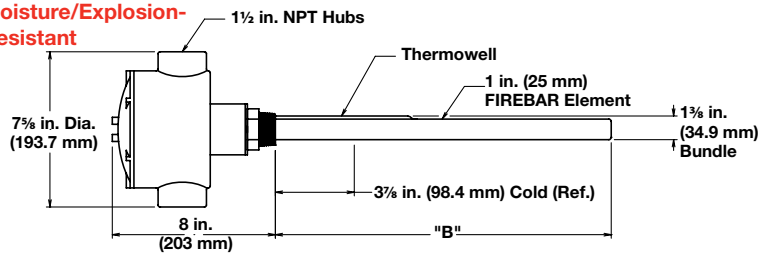
Application: Process Water

- 1 1/4 inch NPT screw plug
 - FIREBAR elements
 - With thermostat (DPST), Type 5A or 7A
- 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
 - 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	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	C/F	C/F	BDNF13A27S7A	C/F	C/F
	240	2.5	3	15 1/2 (394)	8 (4)	BDNF15J27S5A	C/F	C/F	BDNF15J27S7A	C/F	C/F
	240	3.0	3	18 (457)	9 (4)	BDNF18A27S5A	C/F	C/F	BDNF18A27S7A	C/F	C/F
	240	4.0	3	22 1/2 (572)	10 (5)	BDNF22J27S5A	C/F	C/F	BDNF22J27S7A	C/F	C/F
	480	4.0	3	22 1/2 (572)	10 (5)	BDNF22J28S5A	C/F	C/F	BDNF22J28S7A	C/F	C/F
	240	5.0	3	27 1/2 (699)	11 (5)	BDNF27J27S5A	C/F	C/F	BDNF27J27S7A	C/F	C/F
	480	5.0	3	27 1/2 (699)	11 (5)	BDNF27J28S5A	C/F	C/F	BDNF27J28S7A	C/F	C/F
	240	6.0	3	32 1/2 (826)	12 (6)	BDNF32J27S5A	C/F	C/F	BDNF32J27S7A	C/F	C/F
	480	6.0	3	32 1/2 (826)	12 (6)	BDNF32J28S5A	C/F	C/F	BDNF32J28S7A	C/F	C/F
	240	8.0	3	42 (1067)	14 (7)	BDNF42A27S5A	C/F	C/F	BDNF42A27S7A	C/F	C/F
240	10.0	3	51 1/2 (1308)	16 (8)	BDNF51J27S5A	C/F	C/F	BDNF51J27S7A	C/F	C/F	
						Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
45 W/in ² ® 304 SS Plug 1-Alloy 800 Element (7 W/cm ²)	240	2.0	3	13 (330)	10 (5)	BDNF13A27C5A	C/F	C/F	BDNF13A27C7A	C/F	C/F
	240	2.5	3	15 1/2 (394)	11 (5)	BDNF15J27C5A	C/F	C/F	BDNF15J27C7A	C/F	C/F
	240	3.0	3	18 (457)	12 (6)	BDNF18A27C5A	C/F	C/F	BDNF18A27C7A	C/F	C/F
	240	4.0	3	22 1/2 (572)	13 (6)	BDNF22J27C5A	C/F	C/F	BDNF22J27C7A	C/F	C/F
	480	4.0	3	22 1/2 (572)	13 (6)	BDNF22J28C5A	C/F	C/F	BDNF22J28C7A	C/F	C/F
	240	5.0	3	27 1/2 (699)	14 (7)	BDNF27J27C5A	C/F	C/F	BDNF27J27C7A	C/F	C/F
	480	5.0	3	27 1/2 (699)	14 (7)	BDNF27J28C5A	C/F	C/F	BDNF27J28C7A	C/F	C/F
	240	6.0	3	32 1/2 (826)	15 (7)	BDNF32J27C5A	C/F	C/F	BDNF32J27C7A	C/F	C/F
	480	6.0	3	32 1/2 (826)	15 (7)	BDNF32J28C5A	C/F	C/F	BDNF32J28C7A	C/F	C/F
	240	8.0	3	42 (1067)	17 (8)	BDNF42A27C5A	C/F	C/F	BDNF42A27C7A	C/F	C/F
240	10.0	3	51 1/2 (1308)	19 (9)	BDNF51J27C5A	C/F	C/F	BDNF51J27C7A	C/F	C/F	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

⑧ Can be wired for 1-phase operation

Immersion Heaters



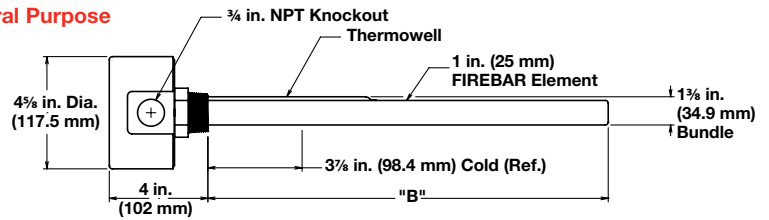
WATROD and FIREBAR Screw Plug Immersion Heaters



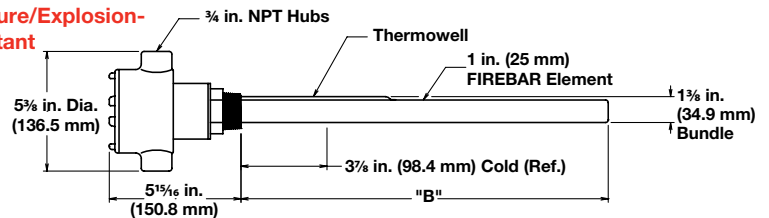
Application: Process Water

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number		
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C	Type K T/C
45 W/in ² ⑧ 304 SS Plug 1-Alloy 800 Element (7 W/cm ²)	General Purpose Enclosure							Type J T/C	Type K T/C	Moisture/Explosion- Resistant Enclosure		Type J T/C	Type K T/C
	240	2.0	3	13 (330)	BDNF13A27S	6 (3)	C2-50	C2-92	BDNF13A27C			9 (4)	C3-94
	240	2.5	3	15 1/2 (394)	BDNF15J27S	7 (4)	C2-50	C2-92	BDNF15J27C	10 (5)	C3-94	C3-93	
	240	3.0	3	18 (457)	BDNF18A27S	8 (4)	C2-50	C2-92	BDNF18A27C	11 (5)	C3-94	C3-93	
	240	4.0	3	22 1/2 (572)	BDNF22J27S	9 (4)	C2-50	C2-92	BDNF22J27C	12 (6)	C3-94	C3-93	
	480	4.0	3	22 1/2 (572)	BDNF22J28S	9 (4)	C2-43	C2-35	BDNF22J28C	12 (6)	C3-116	C3-118	
	240	5.0	3	27 1/2 (699)	BDNF27J27S	10 (5)	C2-50	C2-92	BDNF27J27C	13 (6)	C3-94	C3-93	
	480	5.0	3	27 1/2 (699)	BDNF27J28S	10 (5)	C2-43	C2-35	BDNF27J28C	13 (6)	C3-116	C3-118	
	240	6.0	3	32 1/2 (826)	BDNF32J27S	11 (5)	C2-50	C2-92	BDNF32J27C	14 (7)	C3-94	C3-93	
	480	6.0	3	32 1/2 (826)	BDNF32J28S	11 (5)	C2-43	C2-35	BDNF32J28C	14 (7)	C3-116	C3-118	
	240	8.0	3	42 (1067)	BDNF42A27S	13 (6)	C2-50	C2-92	BDNF42A27C	16 (8)	C3-94	C3-93	
	480	8.0	3	42 (1067)	BDNF42A28S	13 (6)	C2-43	C2-35	BDNF42A28C	16 (8)	C3-116	C3-118	
	240	10.0	3	51 1/2 (1308)	BDNF51J27S	15 (7)	C2-50	C2-92	BDNF51J27C	18 (9)	C3-94	C3-93	
	480	10.0	3	51 1/2 (1308)	BDNF51J28S	15 (7)	C2-43	C2-35	BDNF51J28C	18 (9)	C3-116	C3-118	

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

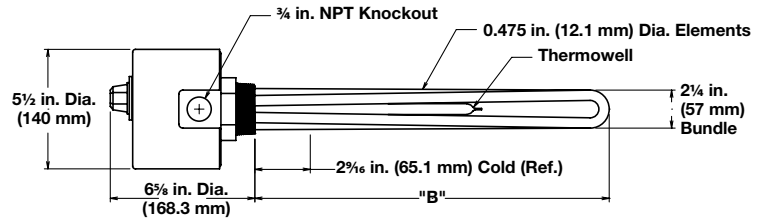


Application: Process Water

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C
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	C/F	C/F	BGN79N6S5A	C/F	C/F	BGN79N6S7	C/F	C/F
	240/480	2.0	1	9 ³ / ₄ (248)	5 (3)	BGN79N7S4	C/F	C/F	BGN79N7S5A	C/F	C/F	BGN79N7S7A	C/F	C/F
	120/240	3.0	1	13 ¹ / ₄ (337)	6 (3)	BGN713E6S4	C/F	C/F	BGN713E6S5A	C/F	C/F	BGN713E6S7A	C/F	C/F
	240/480	3.0	1	13 ¹ / ₄ (337)	6 (3)	BGN713E7S4	C/F	C/F	BGN713E7S5A	C/F	C/F	BGN713E7S7A	C/F	C/F
	120/240	4.0	1	17 ³ / ₄ (451)	7 (4)	BGN717N6S4	C/F	C/F	BGN717N6S5A	C/F	C/F	BGN717N6S7A	C/F	C/F
	120/240	5.0	1	20 ¹ / ₄ (514)	8 (4)	BGN720E6S4	C/F	C/F	BGN720E6S5A	C/F	C/F	BGN720E6S7A	C/F	C/F
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	C/F	C/F	BHN79N3S5A	C/F	C/F	BHN79N3S7A	C/F	C/F
	480	3.0	3	9 ³ / ₄ (248)	6 (3)	BHN79N5S4	C/F	C/F	BHN79N5S5A	C/F	C/F	BHN79N5S7A	C/F	C/F
	240	4.5	3	13 ¹ / ₄ (337)	7 (4)	BHN713E3S4	C/F	C/F	BHN713E3S5A	C/F	C/F	BHN713E3S7A	C/F	C/F
	480	4.5	3	13 ¹ / ₄ (337)	7 (4)	BHN713E5S4	C/F	C/F	BHN713E5S5A	C/F	C/F	BHN713E5S7A	C/F	C/F
	240	6.0	3	17 ³ / ₄ (451)	8 (4)	BHN717N3S4	C/F	C/F	BHN717N3S5A	C/F	C/F	BHN717N3S7A	C/F	C/F
	480	6.0	3	17 ³ / ₄ (451)	8 (4)	BHN717N5S4	C/F	C/F	BHN717N5S5A	C/F	C/F	BHN717N5S7A	C/F	C/F
	240	7.5	3	20 ¹ / ₄ (514)	9 (4)	BHN720E3S4	C/F	C/F	BHN720E3S5A	C/F	C/F	BHN720E3S7A	C/F	C/F
	240	9.0	3	25 ¹ / ₄ (641)	10 (5)	BHN725E3S4	C/F	C/F	BHN725E3S5A	C/F	C/F	BHN725E3S7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

- ④ Wired for higher voltage



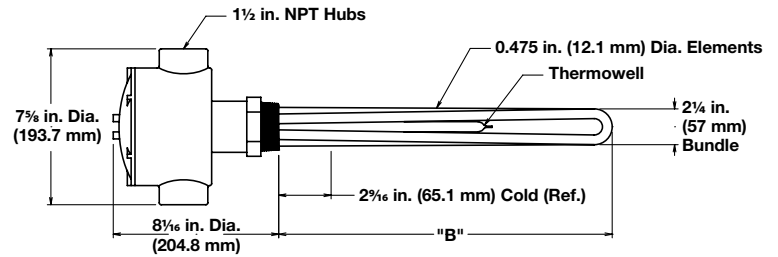
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Process Water

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							Moisture/ Explosion- Resistant Enclosure ⑤	Type J T/C		Type K T/C	Moisture/ Explosion- Resistant Enclosure ⑤		Type J T/C	Type K T/C
48 W/in ² ④ 304 SS Plug 2-Alloy 800 Elements (7.5 W/cm ²)	120/ 240	2.0	1	9 ³ / ₄ (248)	8 (4)	BGN79N6C4	C/F	C/F	BGN79N6C5A	C/F	C/F	BGN79N6C7A	C/F	C/F
	240/ 480	2.0	1	9 ³ / ₄ (248)	8 (4)	BGN79N7C4	C/F	C/F	BGN79N7C5A	C/F	C/F	BGN79N7C7A	C/F	C/F
	120/ 240	3.0	1	13 ¹ / ₄ (337)	9 (4)	BGN713E6C4	C/F	C/F	BGN713E6C5A	C/F	C/F	BGN713E6C7A	C/F	C/F
	240/ 480	3.0	1	13 ¹ / ₄ (337)	9 (4)	BGN713E7C4	C/F	C/F	BGN713E7C5A	C/F	C/F	BGN713E7C7A	C/F	C/F
	120/ 240	4.0	1	17 ³ / ₄ (451)	10 (5)	BGN717N6C4	C/F	C/F	BGN717N6C5A	C/F	C/F	BGN717N6C7A	C/F	C/F
	120/ 240	5.0	1	20 ¹ / ₄ (514)	11 (5)	BGN720E6C4	C/F	C/F	BGN720E6C5A	C/F	C/F	BGN720E6C7A	C/F	C/F
48 W/in ² 304 SS Plug 3-Alloy 800 Elements (7.5 W/cm ²)	240	3.0	3	9 ³ / ₄ (248)	9 (4)	BHN79N3C4	C/F	C/F	BHN79N3C5A	C/F	C/F	BHN79N3C7A	C/F	C/F
	480	3.0	3	9 ³ / ₄ (248)	9 (4)	BHN79N5C4	C/F	C/F	BHN79N5C5A	C/F	C/F	BHN79N5C7A	C/F	C/F
	240	4.5	3	13 ¹ / ₄ (337)	10 (5)	BHN713E3C4	C/F	C/F	BHN713E3C5A	C/F	C/F	BHN713E3C7A	C/F	C/F
	480	4.5	3	13 ¹ / ₄ (337)	10 (5)	BHN713E5C4	C/F	C/F	BHN713E5C5A	C/F	C/F	BHN713E5C7A	C/F	C/F
	240	6.0	3	17 ³ / ₄ (451)	11 (5)	BHN717N3C4	C/F	C/F	BHN717N3C5A	C/F	C/F	BHN717N3C7A	C/F	C/F
	480	6.0	3	17 ³ / ₄ (451)	11 (5)	BHN717N5C4	C/F	C/F	BHN717N5C5A	C/F	C/F	BHN717N5C7A	C/F	C/F
	240	7.5	3	20 ¹ / ₄ (514)	12 (6)	BHN720E3C4	C/F	C/F	BHN720E3C5A	C/F	C/F	BHN720E3C7A	C/F	C/F
	240	9.0	3	25 ¹ / ₄ (641)	13 (6)	BHN725E3C4	C/F	C/F	BHN725E3C5A	C/F	C/F	BHN725E3C7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters



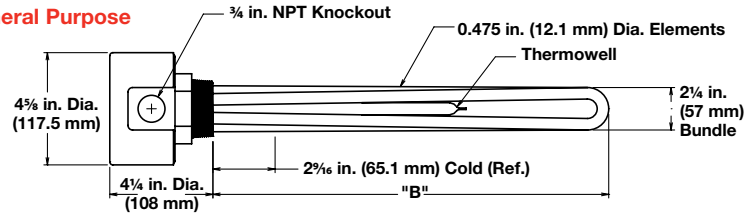
WATROD and FIREBAR Screw Plug Immersion Heaters



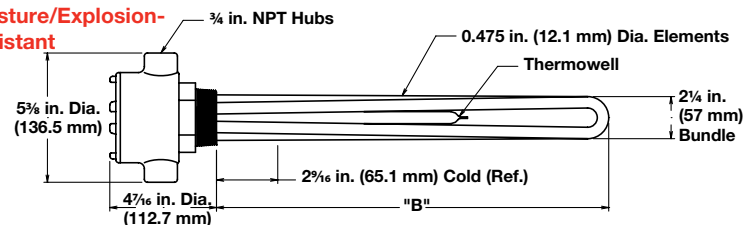
Application: Process Water

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	120V WATCONNECT		240V WATCONNECT		480V WATCONNECT	
							Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
					General Purpose Enclosure		Type J T/C	Type K T/C	Type J T/C	Type K T/C	Type J T/C	Type K T/C
48 W/in ² ④ 304 SS Plug 2-Alloy 800 Elements (7.5 W/cm ²)	120/240	2.0	1	9 ³ / ₄ (248)	BGN79N6S	4 (2)	C1-15	C1-12	C1-17	C1-13	N/A	N/A
	240/480	2.0	1	9 ³ / ₄ (248)	BGN79N7S	4 (2)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	3.0	1	13 ¹ / ₄ (337)	BGN713E6S	5 (3)	C/F	C/F	C1-17	C1-13	N/A	N/A
	240/480	3.0	1	13 ¹ / ₄ (337)	BGN713E7S	5 (3)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	4.0	1	17 ³ / ₄ (451)	BGN717N6S	6 (3)	C/F	C/F	C1-17	C1-13	N/A	N/A
	240/480	4.0	1	17 ³ / ₄ (451)	BGN717N7S	6 (3)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	5.0	1	20 ¹ / ₄ (514)	BGN720E6S	7 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	5.0	1	20 ¹ / ₄ (514)	BGN720E7S	7 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	6.0	1	25 ¹ / ₄ (641)	BGN725E7S	7 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	8.0	1	32 ³ / ₄ (832)	BGN732N7S	8 (4)	N/A	N/A	C/F	C/F	C/F	C/F
240/480	10.0	1	40 ¹ / ₄ (1022)	BGN740E7S	9 (4)	N/A	N/A	C/F	C/F	C/F	C/F	
48 W/in ² 304 SS Plug 3-Alloy 800 Element (7.5 W/cm ²)	120	3.0	1	9 ³ / ₄ (248)	BHN79N1S	5 (3)	C/F	C/F	N/A	N/A	N/A	N/A
	240	3.0	3	9 ³ / ₄ (248)	BHN79N3S	5 (3)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	3.0	3	9 ³ / ₄ (248)	BHN79N5S	5 (3)	N/A	N/A	N/A	N/A	C2-43	C2-35
	120	4.5	1	13 ¹ / ₄ (337)	BHN713E1S	6 (3)	C/F	C/F	N/A	N/A	N/A	N/A
	240	4.5	3	13 ¹ / ₄ (337)	BHN713E3S	6 (3)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	4.5	3	13 ¹ / ₄ (337)	BHN713E5S	6 (3)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	6.0	3	17 ³ / ₄ (451)	BHN717N3S	7 (4)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	6.0	3	17 ³ / ₄ (451)	BHN717N5S	7 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	7.5	3	20 ¹ / ₄ (514)	BHN720E3S	8 (4)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	7.5	3	20 ¹ / ₄ (514)	BHN720E5S	8 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	9.0	3	25 ¹ / ₄ (641)	BHN725E3S	9 (4)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	9.0	3	25 ¹ / ₄ (641)	BHN725E5S	9 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	12.0	3	32 ³ / ₄ (832)	BHN732N3S	9 (4)	N/A	N/A	C2-236	C2-214	N/A	N/A
	480	12.0	3	32 ³ / ₄ (832)	BHN732N5S	9 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	15.0	3	40 ¹ / ₄ (1022)	BHN740E3S	10 (5)	N/A	N/A	C2-236	C2-214	N/A	N/A
	480	15.0	3	40 ¹ / ₄ (1022)	BHN740E5S	10 (5)	N/A	N/A	N/A	N/A	C2-43	C2-35
240	18.0	3	47 ³ / ₄ (1213)	BHN747N3S	11 (5)	N/A	N/A	C2-236	C2-214	N/A	N/A	
480	18.0	3	47 ³ / ₄ (1213)	BHN747N5S	11 (5)	N/A	N/A	N/A	N/A	C2-43	C2-35	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us
N/A - Not available

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

Immersion Heaters



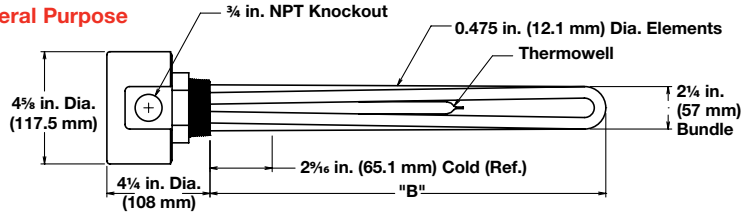
WATROD and FIREBAR Screw Plug Immersion Heaters



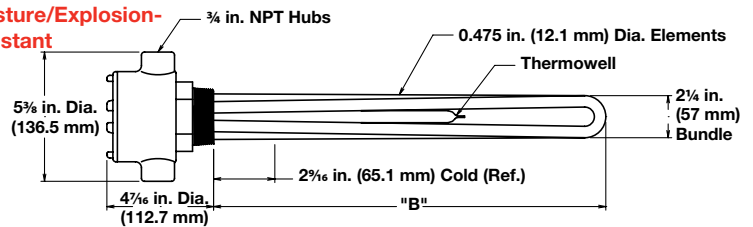
Application: Process Water

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	120V WATCONNECT		240V WATCONNECT		480V WATCONNECT	
							Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
					Moisture/Explosion-Resistant Enclosure		Type J T/C	Type K T/C	Type J T/C	Type K T/C	Type J T/C	Type K T/C
48 W/in ² ④ 304 SS Plug 2-Alloy 800 Elements (7.5 W/cm ²)	120/240	2.0	1	9 ³ / ₄ (248)	BGN79N6C	7 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	2.0	1	9 ³ / ₄ (248)	BGN79N7C	7 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	3.0	1	13 ¹ / ₄ (337)	BGN713E6C	8 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	3.0	1	13 ¹ / ₄ (337)	BGN713E7C	8 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	4.0	1	17 ³ / ₄ (451)	BGN717N6C	9 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	4.0	1	17 ³ / ₄ (451)	BGN717N7C	9 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	5.0	1	20 ¹ / ₄ (514)	BGN720E6C	10 (5)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	5.0	1	20 ¹ / ₄ (514)	BGN720E7C	10 (5)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	6.0	1	25 ¹ / ₄ (641)	BGN725E7C	10 (5)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	8.0	1	32 ³ / ₄ (832)	BGN732N7C	11 (5)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	10.0	1	40 ¹ / ₄ (1022)	BGN740E7C	12 (6)	N/A	N/A	C/F	C/F	C/F	C/F
48 W/in ² 304 SS Plug 3-Alloy 800 Element (7.5 W/cm ²)	120	3.0	1	9 ³ / ₄ (248)	BHN79N1C	8 (4)	C/F	C/F	N/A	N/A	N/A	N/A
	240	3.0	3	9 ³ / ₄ (248)	BHN79N3C	8 (4)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	3.0	3	9 ³ / ₄ (248)	BHN79N5C	8 (4)	N/A	N/A	N/A	N/A	C3-116	C3-118
	120	4.5	1	13 ¹ / ₄ (337)	BHN713E1C	9 (4)	C/F	C/F	N/A	N/A	N/A	N/A
	240	4.5	3	13 ¹ / ₄ (337)	BHN713E3C	9 (4)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	4.5	3	13 ¹ / ₄ (337)	BHN713E5C	9 (4)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	6.0	3	17 ³ / ₄ (451)	BHN717N3C	10 (5)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	6.0	3	17 ³ / ₄ (451)	BHN717N5C	10 (5)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	7.5	3	20 ¹ / ₄ (514)	BHN720E3C	11 (5)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	7.5	3	20 ¹ / ₄ (514)	BHN720E5C	11 (5)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	9.0	3	25 ¹ / ₄ (641)	BHN725E3C	12 (6)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	9.0	3	25 ¹ / ₄ (641)	BHN725E5C	12 (6)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	12.0	3	32 ³ / ₄ (832)	BHN732N3C	12 (6)	N/A	N/A	C3-114	C3-115	N/A	N/A
	480	12.0	3	32 ³ / ₄ (832)	BHN732N5C	12 (6)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	15.0	3	40 ¹ / ₄ (1022)	BHN740E3C	13 (6)	N/A	N/A	C3-114	C3-115	N/A	N/A
	480	15.0	3	40 ¹ / ₄ (1022)	BHN740E5C	13 (6)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	18.0	3	47 ³ / ₄ (1213)	BHN747N3C	14 (7)	N/A	N/A	C3-114	C3-115	N/A	N/A
480	18.0	3	47 ³ / ₄ (1213)	BHN747N5C	14 (7)	N/A	N/A	N/A	N/A	C3-116	C3-118	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us
N/A - Not available

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



Immersion Heaters



WATROD and FIREBAR Screw Plug Immersion Heaters



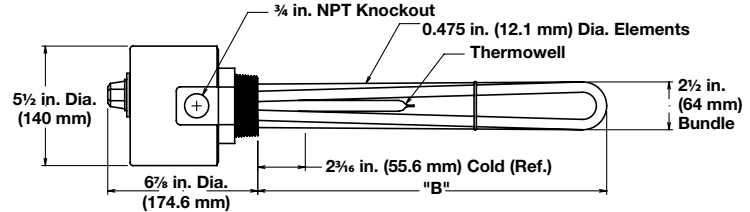
Application: Process Water

- 2¹/₂ inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

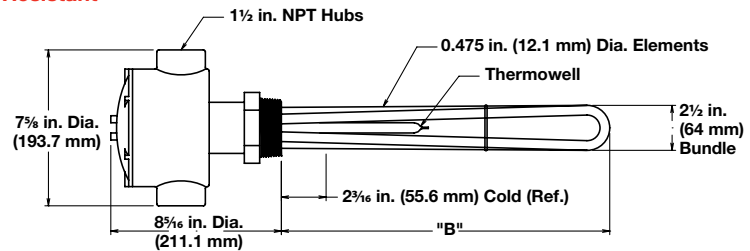
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	General Purpose Enclosure		Type J T/C	Type K T/C
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	C/F	C/F	BLN79G3S5A	C/F	C/F	BLN79G3S7A	C/F	C/F
	480	3.0	3	9 ³ / ₈ (238.1)	7 (4)	BLN79G5S4	C/F	C/F	BLN79G5S5A	C/F	C/F	BLN79G5S7A	C/F	C/F
	240	4.5	3	12 ⁷ / ₈ (327.0)	8 (4)	BLN712R3S4	C/F	C/F	BLN712R3S5A	C/F	C/F	BLN712R3S7A	C/F	C/F
	480	4.5	3	12 ⁷ / ₈ (327.0)	8 (4)	BLN712R5S4	C/F	C/F	BLN712R5S5A	C/F	C/F	BLN712R5S7A	C/F	C/F
	240	6.0	3	17 ³ / ₈ (441.3)	10 (5)	BLN717G3S4	C/F	C/F	BLN717G3S5A	C/F	C/F	BLN717G3S7A	C/F	C/F
	480	6.0	3	17 ³ / ₈ (441.3)	10 (5)	BLN717G5S4	C/F	C/F	BLN717G5S5A	C/F	C/F	BLN717G5S7A	C/F	C/F
	240	7.5	3	19 ⁷ / ₈ (504.8)	12 (6)	BLN719R3S4	C/F	C/F	BLN719R3S5A	C/F	C/F	BLN719R3S7A	C/F	C/F
	240	9.0	3	24 ⁷ / ₈ (631.8)	13 (6)	BLN724R3S4	C/F	C/F	BLN724R3S5A	C/F	C/F	BLN724R3S7A	C/F	C/F
						Moisture/ Explosion- Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/ Explosion- Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/ Explosion- Resistant Enclosure ⑤	Type J T/C	Type K T/C
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	C/F	C/F	BLN79G3C5A	C/F	C/F	BLN79G3C7A	C/F	C/F
	480	3.0	3	9 ³ / ₈ (238.1)	10 (5)	BLN79G5C4	C/F	C/F	BLN79G5C5A	C/F	C/F	BLN79G5C7A	C/F	C/F
	240	4.5	3	12 ⁷ / ₈ (327.0)	11 (5)	BLN712R3C4	C/F	C/F	BLN712R3C5A	C/F	C/F	BLN712R3C7A	C/F	C/F
	480	4.5	3	12 ⁷ / ₈ (327.0)	11 (5)	BLN712R5C4	C/F	C/F	BLN712R5C5A	C/F	C/F	BLN712R5C7A	C/F	C/F
	240	6.0	3	17 ³ / ₈ (441.3)	13 (6)	BLN717G3C4	C/F	C/F	BLN717G3C5A	C/F	C/F	BLN717G3C7A	C/F	C/F
	480	6.0	3	17 ³ / ₈ (441.3)	13 (6)	BLN717G5C4	C/F	C/F	BLN717G5C5A	C/F	C/F	BLN717G5C7A	C/F	C/F
	240	7.5	3	19 ⁷ / ₈ (504.8)	15 (7)	BLN719R3C4	C/F	C/F	BLN719R3C5A	C/F	C/F	BLN719R3C7A	C/F	C/F
	240	9.0	3	24 ⁷ / ₈ (631.8)	16 (8)	BLN724R3C4	C/F	C/F	BLN724R3C5A	C/F	C/F	BLN724R3C7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters



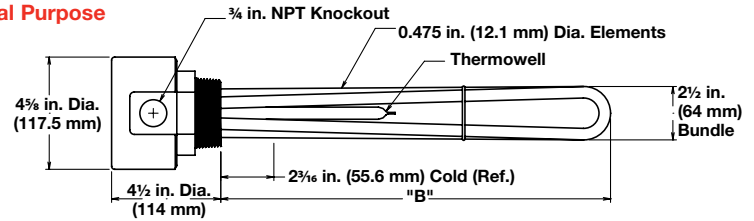
WATROD and FIREBAR Screw Plug Immersion Heaters



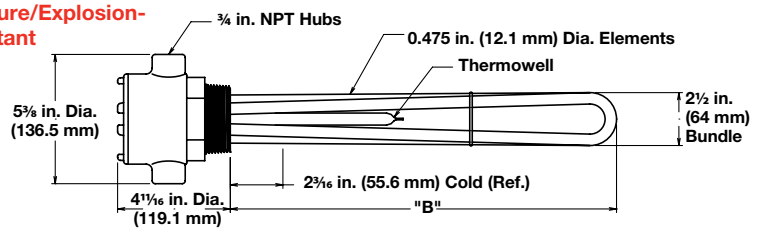
Application: Process Water

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Type J T/C	Type K T/C
48 W/in ² 304 SS Plug 3-Alloy 800 Elements (7.5 W/cm ²)	120	3.0	1	9 ³ / ₈ (238.1)	BLN79G1S	6 (3)	C/F	C/F	BLN79G1C	9 (4)	C/F	C/F
	240	3.0	3	9 ³ / ₈ (238.1)	BLN79G3S	6 (3)	C2-50	C2-92	BLN79G3C	9 (4)	C3-94	C3-93
	480	3.0	3	9 ³ / ₈ (238.1)	BLN79G5S	6 (3)	C2-43	C2-35	BLN79G5C	9 (4)	C3-116	C3-118
	120	4.5	1	12 ⁷ / ₈ (327.0)	BLN712R1S	7 (4)	C/F	C/F	BLN712R1C	10 (5)	C/F	C/F
	240	4.5	3	12 ⁷ / ₈ (327.0)	BLN712R3S	7 (4)	C2-50	C2-92	BLN712R3C	10 (5)	C3-94	C3-93
	480	4.5	3	12 ⁷ / ₈ (327.0)	BLN712R5S	7 (4)	C2-43	C2-35	BLN712R5C	10 (5)	C3-116	C3-118
	240	6.0	3	17 ³ / ₈ (441.3)	BLN717G3S	9 (4)	C2-50	C2-92	BLN717G3C	12 (6)	C3-94	C3-93
	480	6.0	3	17 ³ / ₈ (441.3)	BLN717G5S	9 (4)	C2-43	C2-35	BLN717G5C	12 (6)	C3-116	C3-118
	240	7.5	3	19 ⁷ / ₈ (504.8)	BLN719R3S	11 (5)	C2-50	C2-92	BLN719R3C	14 (7)	C3-94	C3-93
	480	7.5	3	19 ⁷ / ₈ (504.8)	BLN719R5S	11 (5)	C2-43	C2-35	BLN719R5C	14 (7)	C3-116	C3-118
	240	9.0	3	24 ⁷ / ₈ (631.8)	BLN724R3S	12 (6)	C2-50	C2-92	BLN724R3C	15 (7)	C3-94	C3-93
	480	9.0	3	24 ⁷ / ₈ (631.8)	BLN724R5S	12 (6)	C2-43	C2-35	BLN724R5C	15 (7)	C3-116	C3-118
	240	12.0	3	32 ³ / ₈ (822.3)	BLN732G3S	14 (7)	C2-236	C2-214	BLN732G3C	17 (8)	C3-114	C3-115
	480	12.0	3	32 ³ / ₈ (822.3)	BLN732G5S	14 (7)	C2-43	C2-35	BLN732G5C	17 (8)	C3-116	C3-118
	240	15.0	3	39 ⁷ / ₈ (1012.8)	BLN739R3S	15 (7)	C2-236	C2-214	BLN739R3C	18 (9)	C3-114	C3-115
	480	15.0	3	39 ⁷ / ₈ (1012.8)	BLN739R5S	15 (7)	C2-43	C2-35	BLN739R5C	18 (9)	C3-116	C3-118
240	18.0	3	47 ³ / ₈ (1203.3)	BLN747G3S	17 (8)	C2-236	C2-214	BLN747G3C	20 (9)	C3-114	C3-115	
480	18.0	3	47 ³ / ₈ (1203.3)	BLN747G5S	17 (8)	C2-43	C2-35	BLN747G5C	20 (9)	C3-116	C3-118	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters



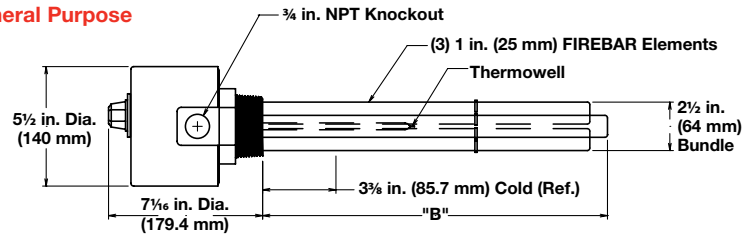
WATROD and FIREBAR Screw Plug Immersion Heaters



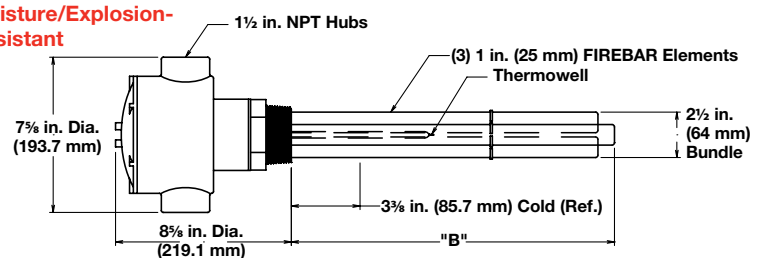
Application: Process Water

- 2 1/2 inch NPT screw plug
 - FIREBAR elements
 - With thermostat (DPST), Type 5A or 7A
- 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
 - 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	General Purpose Enclosure
45 W/in ² Ⓢ 304 SS Plug 3-Alloy 800 Elements (7 W/cm ²)	240	6.0	3	12 (305)	12 (6)	BLNF12A27S5A	C/F	C/F	BLNF12A27S7A	C/F	C/F
	240	7.5	3	14 1/2 (368)	12 (6)	BLNF14J27S5A	C/F	C/F	BLNF14J27S7A	C/F	C/F
	240	9.0	3	17 (432)	13 (6)	BLNF17A27S5A	C/F	C/F	BLNF17A27S7A	C/F	C/F
	240	12.0	3	21 1/2 (546)	15 (7)	BLNF21J27S5A	C/F	C/F	BLNF21J27S7A	C/F	C/F
45 W/in ² Ⓢ 304 SS Plug 3-Alloy 800 Elements (7 W/cm ²)	240	6.0	3	12 (305)	14 (7)	BLNF12A27C5A	C/F	C/F	BLNF12A27C7A	C/F	C/F
	240	7.5	3	14 1/2 (368)	15 (7)	BLNF14J27C5A	C/F	C/F	BLNF14J27C7A	C/F	C/F
	240	9.0	3	17 (432)	16 (8)	BLNF17A27C5A	C/F	C/F	BLNF17A27C7A	C/F	C/F
	240	12.0	3	21 1/2 (546)	18 (9)	BLNF21J27C5A	C/F	C/F	BLNF21J27C7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters



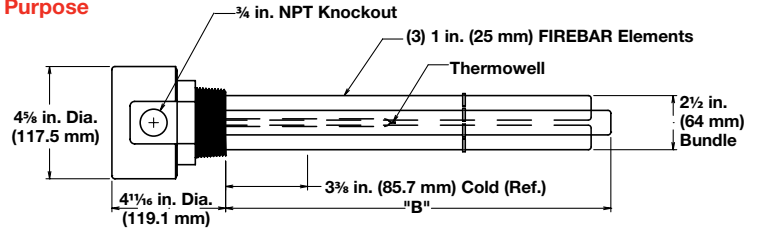
WATROD and FIREBAR Screw Plug Immersion Heaters



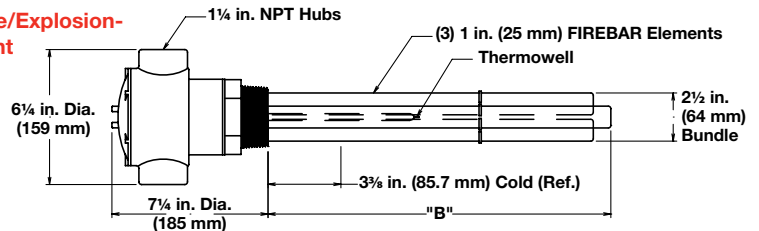
Application: Process Water

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Type J T/C	Type K T/C
45 W/in ² ⑧ 304 SS Plug 3-Alloy 800 Elements (7 W/cm ²)	240	6.0	3	12 (305)	BLNF12A27S	10 (5)	C2-50	C2-92	BLNF12A27C	13 (6)	C3-94	C3-93
	240	7.5	3	14 1/2 (368)	BLNF14J27S	11 (5)	C2-50	C2-92	BLNF14J27C	14 (7)	C3-94	C3-93
	240	9.0	3	17 (432)	BLNF17A27S	12 (6)	C2-50	C2-92	BLNF17A27C	15 (7)	C3-94	C3-93
	240	12.0	3	21 1/2 (546)	BLNF21J27S	14 (7)	C2-236	C2-214	BLNF21J27C	17 (8)	C3-114	C3-115
	480	12.0	3	21 1/2 (546)	BLNF21J28S	14 (7)	C2-43	C2-35	BLNF21J28C	17 (8)	C3-116	C3-118
	240	15.0	3	26 1/2 (673)	BLNF26J27S	17 (8)	C2-236	C2-214	BLNF26J27C	20 (9)	C3-114	C3-115
	480	15.0	3	26 1/2 (673)	BLNF26J28S	17 (8)	C2-43	C2-35	BLNF26J28C	20 (9)	C3-116	C3-118
	240	18.0	3	31 1/2 (800)	BLNF31J27S	18 (9)	C2-236	C2-214	BLNF31J27C	21 (10)	C3-114	C3-115
	480	18.0	3	31 1/2 (800)	BLNF31J28S	18 (9)	C2-43	C2-35	BLNF31J28C	21 (10)	C3-116	C3-118
	480	24.0	3	41 (1041)	BLNF41A28S	20 (9)	C2-225	C2-226	BLNF41A28C	23 (11)	C3-117	C3-119
	480	30.0	3	50 1/2 (1283)	BLNF50J28S	22 (10)	C2-225	C2-226	BLNF50J28C	25 (12)	C3-117	C3-119

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

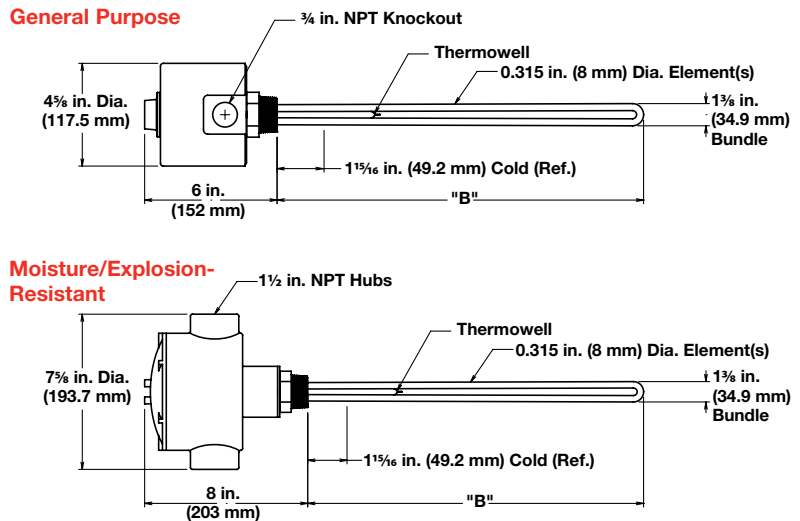


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Forced Air and Caustic Solutions

- 1 1/4 inch NPT screw plug
- WATROD elements
- With thermostat (SPST), Type 2 or 3
- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	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	C/F	C/F	BEN13G6S3	C/F	C/F
	120/240	1.5	1	19 (483.0)	7 (4)	BEN19A6S2	C/F	C/F	BEN19A6S3	C/F	C/F
	120/240	2.0	1	24 ³ / ₈ (619.1)	8 (4)	BEN24G6S2	C/F	C/F	BEN24G6S3	C/F	C/F
23 W/in² ④ 304 SS Plug 2-Alloy 800 Elements (3.6 W/cm²)						Moisture/Explosion- Resistant Enclosure^⑤	Type J T/C	Type K T/C	Moisture/Explosion- Resistant Enclosure^⑤	Type J T/C	Type K T/C
	120/240	1.0	1	13 ³ / ₈ (339.7)	10 (5)	BEN13G6C2	C/F	C/F	BEN13G6C3	C/F	C/F
	120/240	1.5	1	19 (483.0)	11 (5)	BEN19A6C2	C/F	C/F	BEN19A6C3	C/F	C/F
	120/240	2.0	1	24 ³ / ₈ (619.1)	12 (6)	BEN24G6C2	C/F	C/F	BEN24G6C3	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters



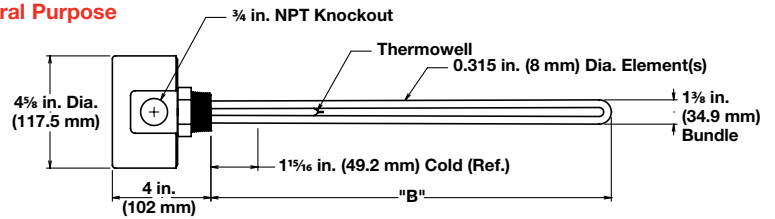
WATROD and FIREBAR Screw Plug Immersion Heaters



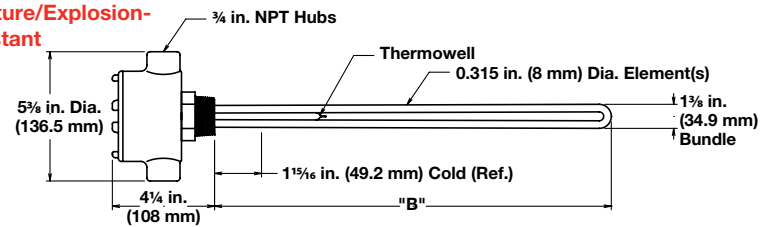
Application: Forced Air and Caustic Solutions

- 1 1/4 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	120V WATCONNECT		240V WATCONNECT		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT	
							Part Number	Part Number	Part Number	Part Number			Part Number	Part Number
					General Purpose Enclosure		Type J T/C	Type K T/C	Type J T/C	Type K T/C	Moisture Explosion-Resistant Enclosure		Type J T/C	Type K T/C
23 W/in² ④	120/240	1.0	1	13 ^{3/8} (339.7)	BEN13G6S	6 (3)	C1-15	C1-12	C1-17	C1-13	BEN13G6C	9 (4)	C/F	C/F
304 SS Plug	120/240	1.5	1	19 (483.0)	BEN19A6S	7 (4)	C1-15	C1-12	C1-17	C1-13	BEN19A6C	10 (5)	C/F	C/F
2-Alloy 800 Elements (3.6 W/cm²)	120/240	2.0	1	24 ^{3/8} (619.1)	BEN24G6S	8 (4)	C1-15	C1-12	C1-17	C1-13	BEN24G6C	11 (5)	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

④ Wired for higher voltage

⑤ No third party recognition

Immersion Heaters



WATROD and FIREBAR Screw Plug Immersion Heaters



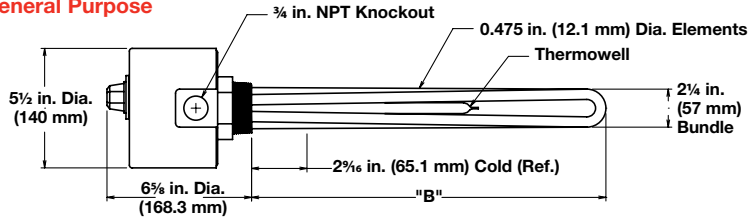
Application: Forced Air and Caustic Solutions

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

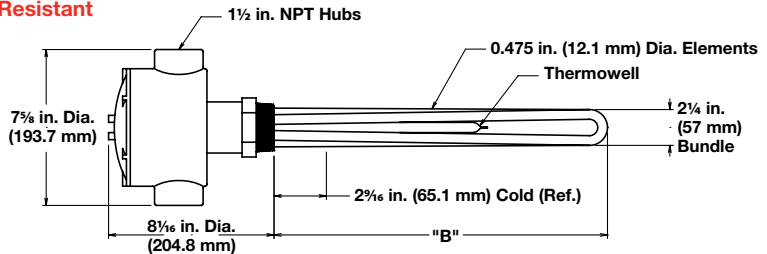
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C
23 W/in ² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.0	3	17 ³ / ₄ (451)	8 (4)	BHNA17N3S4	C/F	C/F	BHNA17N3S5A	C/F	C/F	BHNA17N3S7A	C/F	C/F
	480	3.0	3	17 ³ / ₄ (451)	8 (4)	BHNA17N5S4	C/F	C/F	BHNA17N5S5A	C/F	C/F	BHNA17N5S7A	C/F	C/F
	240	4.5	3	25 ¹ / ₄ (641)	10 (5)	BHNA25E3S4	C/F	C/F	BHNA25E3S5A	C/F	C/F	BHNA25E3S7A	C/F	C/F
	480	4.5	3	25 ¹ / ₄ (641)	10 (5)	BHNA25E5S4	C/F	C/F	BHNA25E5S5A	C/F	C/F	BHNA25E5S7A	C/F	C/F
	240	6.0	3	32 ³ / ₄ (832)	10 (5)	BHNA32N3S4	C/F	C/F	BHNA32N3S5A	C/F	C/F	BHNA32N3S7A	C/F	C/F
	480	6.0	3	32 ³ / ₄ (832)	10 (5)	BHNA32N5S4	C/F	C/F	BHNA32N5S5A	C/F	C/F	BHNA32N5S7A	C/F	C/F
	240	7.5	3	40 ¹ / ₄ (1022)	11 (5)	BHNA40E3S4	C/F	C/F	BHNA40E3S5A	C/F	C/F	BHNA40E3S7A	C/F	C/F
	240	9.0	3	47 ³ / ₄ (1213)	12 (6)	BHNA47N3S4	C/F	C/F	BHNA47N3S5A	C/F	C/F	BHNA47N3S7A	C/F	C/F
						Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
23 W/in ² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.0	3	17 ³ / ₄ (451)	11 (5)	BHNA17N3C4	C/F	C/F	BHNA17N3C5A	C/F	C/F	BHNA17N3C7A	C/F	C/F
	480	3.0	3	17 ³ / ₄ (451)	11 (5)	BHNA17N5C4	C/F	C/F	BHNA17N5C5A	C/F	C/F	BHNA17N5C7A	C/F	C/F
	240	4.5	3	25 ¹ / ₄ (641)	13 (6)	BHNA25E3C4	C/F	C/F	BHNA25E3C5A	C/F	C/F	BHNA25E3C7A	C/F	C/F
	480	4.5	3	25 ¹ / ₄ (641)	13 (6)	BHNA25E5C4	C/F	C/F	BHNA25E5C5A	C/F	C/F	BHNA25E5C7A	C/F	C/F
	240	6.0	3	32 ³ / ₄ (832)	13 (6)	BHNA32N3C4	C/F	C/F	BHNA32N3C5A	C/F	C/F	BHNA32N3C7A	C/F	C/F
	480	6.0	3	32 ³ / ₄ (832)	13 (6)	BHNA32N5C4	C/F	C/F	BHNA32N5C5A	C/F	C/F	BHNA32N5C7A	C/F	C/F
	240	7.5	3	40 ¹ / ₄ (1022)	14 (7)	BHNA40E3C4	C/F	C/F	BHNA40E3C5A	C/F	C/F	BHNA40E3C7A	C/F	C/F
	240	9.0	3	47 ³ / ₄ (1213)	15 (7)	BHNA47N3C4	C/F	C/F	BHNA47N3C5A	C/F	C/F	BHNA47N3C7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

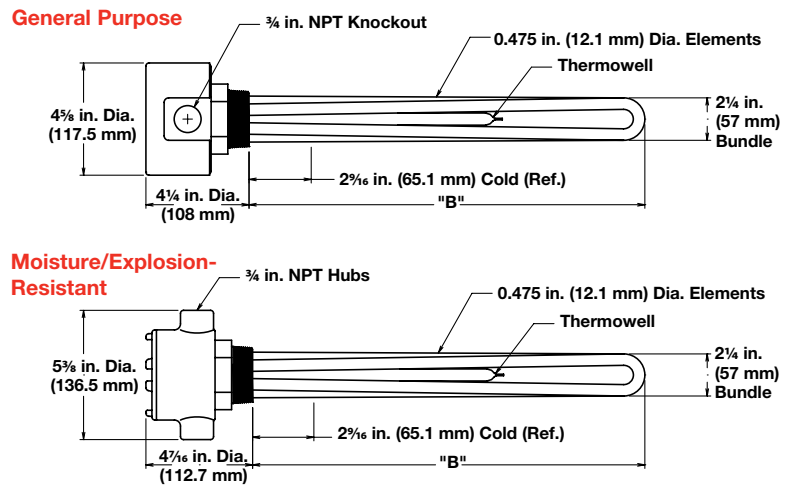


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Forced Air and Caustic Solutions

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion-Resistant Enclosure	Type J T/C
23 W/in ² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)	120	3.0	1	17 ³ / ₄ (451)	BHNA17N1S	7 (4)	C/F	C/F	BHNA17N1C	10 (5)	C/F	C/F
	240	3.0	3	17 ³ / ₄ (451)	BHNA17N3S	7 (4)	C2-50	C2-92	BHNA17N3C	10 (5)	C3-94	C3-93
	480	3.0	3	17 ³ / ₄ (451)	BHNA17N5S	7 (4)	C2-43	C2-35	BHNA17N5C	10 (5)	C3-116	C3-118
	120	4.5	1	25 ¹ / ₄ (641)	BHNA25E1S	8 (4)	C/F	C/F	BHNA25E1C	11 (5)	C/F	C/F
	240	4.5	3	25 ¹ / ₄ (641)	BHNA25E3S	8 (4)	C2-50	C2-92	BHNA25E3C	11 (5)	C3-94	C3-93
	480	4.5	3	25 ¹ / ₄ (641)	BHNA25E5S	8 (4)	C2-43	C2-35	BHNA25E5C	11 (5)	C3-116	C3-118
	240	6.0	3	32 ³ / ₄ (832)	BHNA32N3S	9 (4)	C2-50	C2-92	BHNA32N3C	12 (6)	C3-94	C3-93
	480	6.0	3	32 ³ / ₄ (832)	BHNA32N5S	9 (4)	C2-43	C2-35	BHNA32N5C	12 (6)	C3-116	C3-118
	240	7.5	3	40 ¹ / ₄ (1022)	BHNA40E3S	10 (5)	C2-50	C2-92	BHNA40E3C	13 (6)	C3-94	C3-93
	480	7.5	3	40 ¹ / ₄ (1022)	BHNA40E5S	10 (5)	C2-43	C2-35	BHNA40E5C	13 (6)	C3-116	C3-118
	240	9.0	3	47 ³ / ₄ (1213)	BHNA47N3S	11 (5)	C2-50	C2-92	BHNA47N3C	14 (7)	C3-94	C3-93
	480	9.0	3	47 ³ / ₄ (1213)	BHNA47N5S	11 (5)	C2-43	C2-35	BHNA47N5C	14 (7)	C3-116	C3-118
	240	12.5	3	64 ¹ / ₄ (1632)	BHNA64E3S	15 (7)	C2-236	C2-214	BHNA64E3C	18 (9)	C3-114	C3-115
	480	12.5	3	64 ¹ / ₄ (1632)	BHNA64E5S	15 (7)	C2-43	C2-35	BHNA64E5C	18 (9)	C3-116	C3-118
	240	15.0	3	76 ³ / ₄ (1950)	BHNA76E3S	18 (9)	C2-236	C2-214	BHNA76E3C	21 (10)	C3-114	C3-115
	480	15.0	3	76 ³ / ₄ (1950)	BHNA76E5S	18 (9)	C2-43	C2-35	BHNA76E5C	21 (10)	C3-116	C3-118

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

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



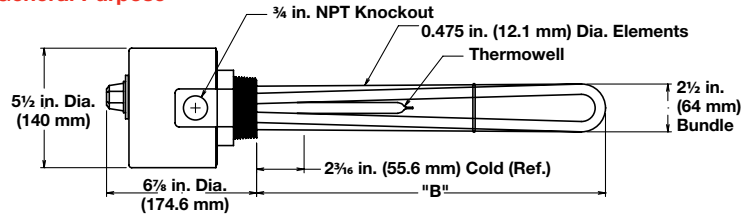
Application: Forced Air and Caustic Solutions

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

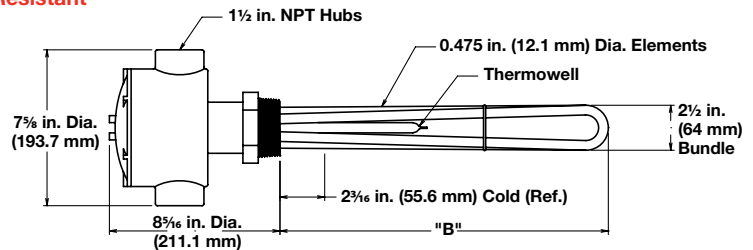
Note: Higher amperage products require a pilot duty thermostat with separate power controller. Please see following pages for available heaters without thermostats.

- General purpose enclosure
- 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	WATCONNECT Part Number	Type J T/C	Type K T/C	Part Number	WATCONNECT Part Number	Type J T/C	Type K T/C	Part Number
23 W/in ² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.0	3	1 7/8 (441.3)	10 (5)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure		
	480	3.0	3	1 7/8 (441.3)	10 (5)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
	240	4.5	3	2 7/8 (631.8)	13 (6)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure		
	480	4.5	3	2 7/8 (631.8)	13 (6)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
	240	6.0	3	3 23/8 (822.3)	15 (7)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure		
	480	6.0	3	3 23/8 (822.3)	15 (7)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
	240	7.5	3	3 97/8 (1012.8)	16 (8)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure		
	480	7.5	3	3 97/8 (1012.8)	16 (8)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
240	9.0	3	4 73/8 (1203.3)	18 (9)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure			
480	9.0	3	4 73/8 (1203.3)	18 (9)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	
240	4.5	3	2 7/8 (631.8)	16 (8)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure			
480	4.5	3	2 7/8 (631.8)	16 (8)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	
240	6.0	3	3 23/8 (822.3)	18 (9)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure			
480	6.0	3	3 23/8 (822.3)	18 (9)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	
240	7.5	3	3 97/8 (1012.8)	19 (9)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure			
480	7.5	3	3 97/8 (1012.8)	19 (9)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	
240	9.0	3	4 73/8 (1203.3)	21 (10)	General Purpose Enclosure			General Purpose Enclosure			General Purpose Enclosure			
480	9.0	3	4 73/8 (1203.3)	21 (10)	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

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



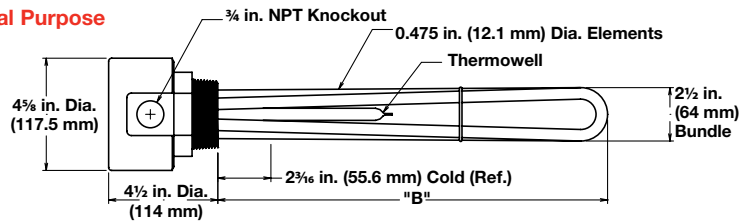
WATROD and FIREBAR Screw Plug Immersion Heaters



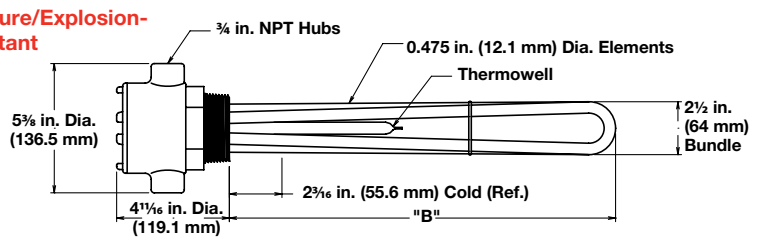
Application: Forced Air and Caustic Solutions

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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		WATCONNECT		Part		WATCONNECT	
					Number	Ship Wt. lbs (kg)	Part Number	Part Number ⑤	Ship Wt. lbs (kg)	Part Number	Part Number	
23 W/in ² ⑥ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)					General Purpose Enclosure		Type J T/C	Type K T/C	Moisture/Explosion- Resistant Enclosure		Type J T/C	Type K T/C
	120	3.0	1	1 7 ³ / ₈ (441.3)	BLNA17G1S	9 (4)	C/F	C/F	BLNA17G1C	12 (6)	C/F	C/F
	240	3.0	3	1 7 ³ / ₈ (441.3)	BLNA17G3S	9 (4)	C2-50	C2-92	BLNA17G3C	12 (6)	C3-94	C3-93
	480	3.0	3	1 7 ³ / ₈ (441.3)	BLNA17G5S	9 (4)	C2-43	C2-35	BLNA17G5C	12 (6)	C3-116	C3-118
	120	4.5	1	2 4 ⁷ / ₈ (631.8)	BLNA24R1S	12 (6)	C/F	C/F	BLNA24R1C	15 (7)	C/F	C/F
	240	4.5	3	2 4 ⁷ / ₈ (631.8)	BLNA24R3S	12 (6)	C2-50	C2-92	BLNA24R3C	15 (7)	C3-94	C3-93
	480	4.5	3	2 4 ⁷ / ₈ (631.8)	BLNA24R5S	12 (6)	C2-43	C2-35	BLNA24R5C	15 (7)	C3-116	C3-118
	240	6.0	3	3 2 ³ / ₈ (822.3)	BLNA32G3S	14 (7)	C2-50	C2-92	BLNA32G3C	17 (8)	C3-94	C3-93
	480	6.0	3	3 2 ³ / ₈ (822.3)	BLNA32G5S	14 (7)	C2-43	C2-35	BLNA32G5C	17 (8)	C3-116	C3-118
	240	7.5	3	3 9 ⁷ / ₈ (1012.8)	BLNA39R3S	15 (7)	C2-50	C2-92	BLNA39R3C	18 (9)	C3-94	C3-93
	480	7.5	3	3 9 ⁷ / ₈ (1012.8)	BLNA39R5S	15 (7)	C2-43	C2-35	BLNA39R5C	18 (9)	C3-116	C3-118
	240	9.0	3	4 7 ³ / ₈ (1203.3)	BLNA47G3S	17 (8)	C2-50	C2-92	BLNA47G3C	20 (9)	C3-94	C3-93
	480	9.0	3	4 7 ³ / ₈ (1203.3)	BLNA47G5S	17 (8)	C2-43	C2-35	BLNA47G5C	20 (9)	C3-116	C3-118
	240	12.5	3	6 3 ⁷ / ₈ (1622.4)	BLNA63R3S	20 (9)	C2-236	C2-214	BLNA63R3C	23 (11)	C3-114	C3-115
	480	12.5	3	6 3 ⁷ / ₈ (1622.4)	BLNA63R5S	20 (9)	C2-43	C2-35	BLNA63R5C	23 (11)	C3-116	C3-118
	240	15.0	3	7 6 ³ / ₈ (1939.9)	BLNA76G3S	23 (11)	C2-236	C2-214	BLNA76G3C	26 (12)	C3-114	C3-115
480	15.0	3	7 6 ³ / ₈ (1939.9)	BLNA76G5S	23 (11)	C2-43	C2-35	BLNA76G5C	26 (12)	C3-116	C3-118	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

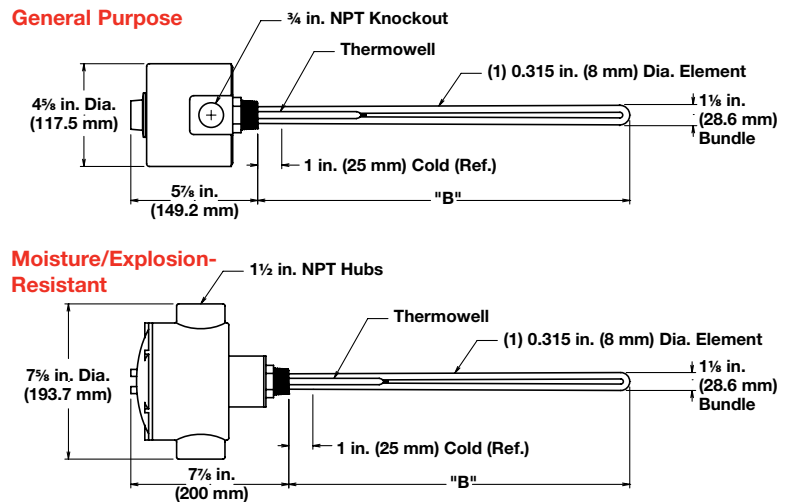


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 1 inch NPT screw plug
- WATROD elements
- With thermostat (SPST), Type 2 or 3
- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	General Purpose Enclosure
23 W/in ² Steel Plug 1-Steel Element (3.6 W/cm ²)	120	0.25	1	6 1/2 (165)	3 (2)	BCS6J1S2	C/F	C/F	BCS6J1S3	C/F	C/F
	240	0.25	1	6 1/2 (165)	3 (2)	BCS6J10S2	C/F	C/F	BCS6J10S3	C/F	C/F
	120	0.35	1	9 1/4 (235)	4 (2)	BCS9E1S2	C/F	C/F	BCS9E1S3	C/F	C/F
	240	0.35	1	9 1/4 (235)	4 (2)	BCS9E10S2	C/F	C/F	BCS9E10S3	C/F	C/F
	120	0.50	1	9 3/8 (238)	4 (2)	BCS9G1S2	C/F	C/F	BCS9G1S3	C/F	C/F
	240	0.50	1	9 3/8 (238)	4 (2)	BCS9G10S2	C/F	C/F	BCS9G10S3	C/F	C/F
	120	0.75	1	13 1/2 (343)	5 (3)	BCS13J1S2	C/F	C/F	BCS13J1S3	C/F	C/F
	240	0.75	1	13 1/2 (343)	5 (3)	BCS13J10S2	C/F	C/F	BCS13J10S3	C/F	C/F
	120	1.00	1	16 3/4 (426)	6 (3)	BCS16N1S2	C/F	C/F	BCS16N1S3	C/F	C/F
	240	1.00	1	16 3/4 (426)	6 (3)	BCS16N10S2	C/F	C/F	BCS16N10S3	C/F	C/F
	120	1.50	1	23 3/4 (603)	7 (4)	BCS23N1S2	C/F	C/F	BCS23N1S3	C/F	C/F
	240	1.50	1	23 3/4 (603)	7 (4)	BCS23N10S2	C/F	C/F	BCS23N10S3	C/F	C/F
23 W/in ² Steel Plug 1-Steel Element (3.6 W/cm ²)	120	0.25	1	6 1/2 (165)	3 (2)	BCS6J1C2	C/F	C/F	BCS6J1C3	C/F	C/F
	240	0.25	1	6 1/2 (165)	3 (2)	BCS6J10C2	C/F	C/F	BCS6J10C3	C/F	C/F
	120	0.35	1	9 1/4 (235)	4 (2)	BCS9E1C2	C/F	C/F	BCS9E1C3	C/F	C/F
	240	0.35	1	9 1/4 (235)	4 (2)	BCS9E10C2	C/F	C/F	BCS9E10C3	C/F	C/F
	120	0.50	1	9 3/8 (238)	4 (2)	BCS9G1C2	C/F	C/F	BCS9G1C3	C/F	C/F
	240	0.50	1	9 3/8 (238)	4 (2)	BCS9G10C2	C/F	C/F	BCS9G10C3	C/F	C/F
	120	0.75	1	13 1/2 (343)	5 (3)	BCS13J1C2	C/F	C/F	BCS13J1C3	C/F	C/F
	240	0.75	1	13 1/2 (343)	5 (3)	BCS13J10C2	C/F	C/F	BCS13J10C3	C/F	C/F
	120	1.00	1	16 3/4 (426)	6 (3)	BCS16N1C2	C/F	C/F	BCS16N1C3	C/F	C/F
	240	1.00	1	16 3/4 (426)	6 (3)	BCS16N10C2	C/F	C/F	BCS16N10C3	C/F	C/F
	120	1.50	1	23 3/4 (603)	7 (4)	BCS23N1C2	C/F	C/F	BCS23N1C3	C/F	C/F
	240	1.50	1	23 3/4 (603)	7 (4)	BCS23N10C2	C/F	C/F	BCS23N10C3	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters

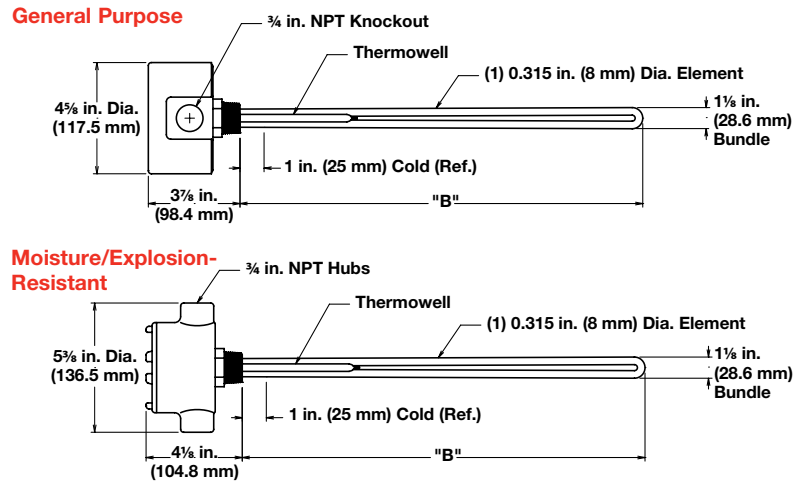


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 1 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
23 W/in² Steel Plug 1-Steel Element (3.6 W/cm²)	120	0.25	1	6 1/2 (165)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	6 (3)	Type J	Type K
					C1-15	C1-12	C/F	C/F				
	240	0.25	1	6 1/2 (165)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	6 (3)	Type J	Type K
					C1-17	C1-13	C/F	C/F				
	120	0.35	1	9 1/4 (235)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	7 (4)	Type J	Type K
					C1-15	C1-12	C/F	C/F				
	240	0.35	1	9 1/4 (235)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	7 (4)	Type J	Type K
					C1-17	C1-13	C/F	C/F				
	120	0.50	1	9 3/8 (238)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	7 (4)	Type J	Type K
					C1-15	C1-12	C/F	C/F				
	240	0.50	1	9 3/8 (238)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	7 (4)	Type J	Type K
					C1-17	C1-13	C/F	C/F				
120	0.75	1	13 1/2 (343)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	8 (4)	Type J	Type K	
				C1-15	C1-12	C/F	C/F					
240	0.75	1	13 1/2 (343)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	8 (4)	Type J	Type K	
				C1-17	C1-13	C/F	C/F					
120	1.00	1	16 3/4 (426)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	9 (4)	Type J	Type K	
				C1-15	C1-12	C/F	C/F					
240	1.00	1	16 3/4 (426)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	9 (4)	Type J	Type K	
				C1-17	C1-13	C/F	C/F					
120	1.50	1	23 3/4 (603)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	10 (5)	Type J	Type K	
				C1-15	C1-12	C/F	C/F					
240	1.50	1	23 3/4 (603)	General Purpose Enclosure		Type J	Type K	Moisture/Explosion- Resistant Enclosure	10 (5)	Type J	Type K	
				C1-17	C1-13	C/F	C/F					

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

Immersion Heaters



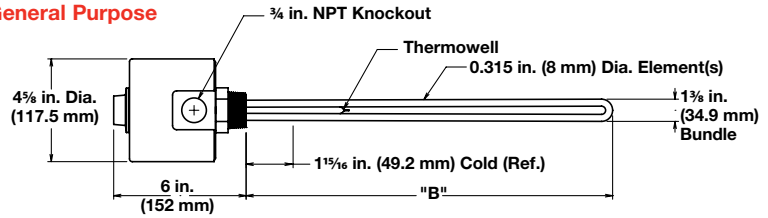
WATROD and FIREBAR Screw Plug Immersion Heaters



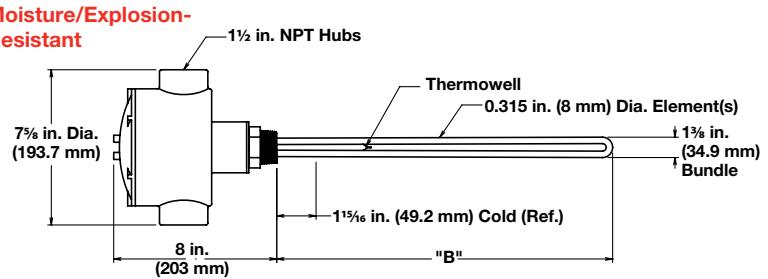
Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- WATROD elements
- With thermostat (SPST), Type 2 or 3
- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C
23 W/in ² ④ Steel Plug 2-Steel Elements (3.6 W/cm ²)	120/240	0.50	1	6 ³ / ₈ (161.9)	4 (2)	BES6G6S2	C/F	C/F	BES6G6S3	C/F	C/F
	120/240	0.50	1	7 ³ / ₈ (187.3)	4 (2)	BES7G6S2	C/F	C/F	BES7G6S3	C/F	C/F
	120/240	0.70	1	8 ⁷ / ₈ (225.4)	5 (3)	BES8R6S2	C/F	C/F	BES8R6S3	C/F	C/F
	120/240	0.75	1	10 ¹ / ₁₆ (255.6)	5 (3)	BES10B6S2	C/F	C/F	BES10B6S3	C/F	C/F
	120/240	1.00	1	12 ³ / ₄ (324.0)	6 (3)	BES12N6S2	C/F	C/F	BES12N6S3	C/F	C/F
	120/240	1.50	1	19 ³ / ₈ (492.1)	7 (4)	BES19G6S2	C/F	C/F	BES19G6S3	C/F	C/F
	120/240	2.00	1	25 ³ / ₈ (644.5)	8 (4)	BES25G6S2	C/F	C/F	BES25G6S3	C/F	C/F
120/240	3.00	1	36 ⁷ / ₈ (936.6)	9 (4)	BES36R6S2	C/F	C/F	BES36R6S3	C/F	C/F	
						Moisture/ Explosion- Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/ Explosion- Resistant Enclosure ⑤	Type J T/C	Type K T/C
23 W/in ² ④ Steel Plug 2-Steel Elements (3.6 W/cm ²)	120/240	0.50	1	6 ³ / ₈ (161.9)	8 (4)	BES6G6C2	C/F	C/F	BES6G6C3	C/F	C/F
	120/240	0.50	1	7 ³ / ₈ (187.3)	8 (4)	BES7G6C2	C/F	C/F	BES7G6C3	C/F	C/F
	120/240	0.70	1	8 ⁷ / ₈ (225.6)	9 (4)	BES8R6C2	C/F	C/F	BES8R6C3	C/F	C/F
	120/240	0.75	1	10 ¹ / ₁₆ (256.0)	9 (4)	BES10B6C2	C/F	C/F	BES10B6C3	C/F	C/F
	120/240	1.00	1	12 ³ / ₄ (324.0)	10 (5)	BES12N6C2	C/F	C/F	BES12N6C3	C/F	C/F
	120/240	1.50	1	19 ³ / ₈ (492.1)	11 (5)	BES19G6C2	C/F	C/F	BES19G6C3	C/F	C/F
	120/240	2.00	1	25 ³ / ₈ (644.5)	12 (6)	BES25G6C2	C/F	C/F	BES25G6C3	C/F	C/F
120/240	3.00	1	36 ⁷ / ₈ (936.7)	13 (6)	BES36R6C2	C/F	C/F	BES36R6C3	C/F	C/F	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

④ Wired for higher voltage

⑤ No third party recognition

Immersion Heaters



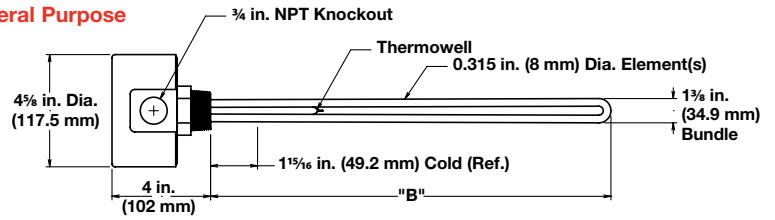
WATROD and FIREBAR Screw Plug Immersion Heaters



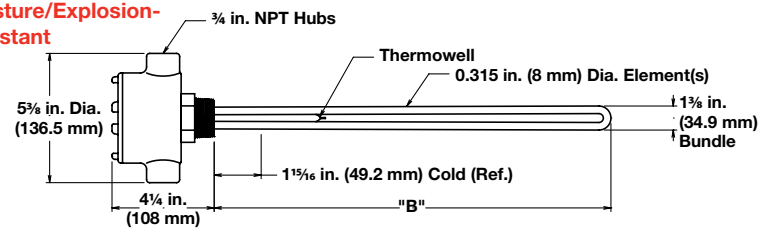
Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	120V WATCONNECT		240V WATCONNECT		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT	
							Part Number	Part Number	Part Number	Part Number			Part Number	Part Number
23 W/in² ④ Steel Plug 2-Steel Elements (3.6 W/cm²)	120/ 240	0.50	1	6 ³ / ₈ (161.9)	BES6G6S	4 (2)	Type J T/C	Type K T/C	Type J T/C	Type K T/C	BES6G6C	7 (4)	Type J T/C	Type K T/C
	120/ 240	0.50	1	7 ³ / ₈ (187.3)	BES7G6S	4 (2)	C1-15	C1-12	C1-17	C1-13	BES7G6C	7 (4)	C/F	C/F
	120/ 240	0.70	1	8 ⁷ / ₈ (225.4)	BES8R6S	5 (3)	C1-15	C1-12	C1-17	C1-13	BES8R6C	8 (4)	C/F	C/F
	120/ 240	0.75	1	10 ¹ / ₁₆ (255.6)	BES10B6S	5 (3)	C1-15	C1-12	C1-17	C1-13	BES10B6C	8 (4)	C/F	C/F
	120/ 240	1.00	1	12 ³ / ₄ (324.0)	BES12N6S	6 (3)	C1-15	C1-12	C1-17	C1-13	BES12N6C	9 (4)	C/F	C/F
	120/ 240	1.50	1	19 ³ / ₈ (492.1)	BES19G6S	7 (4)	C1-15	C1-12	C1-17	C1-13	BES19G6C	10 (5)	C/F	C/F
	120/ 240	2.00	1	25 ³ / ₈ (644.5)	BES25G6S	8 (4)	C1-15	C1-12	C1-17	C1-13	BES25G6C	11 (5)	C/F	C/F
	120/ 240	3.00	1	36 ⁷ / ₈ (936.6)	BES36R6S	9 (4)	C1-15	C1-12	C1-17	C1-13	BES36R6C	12 (6)	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

④ Wired for higher voltage

⑤ No third party recognition

Immersion Heaters

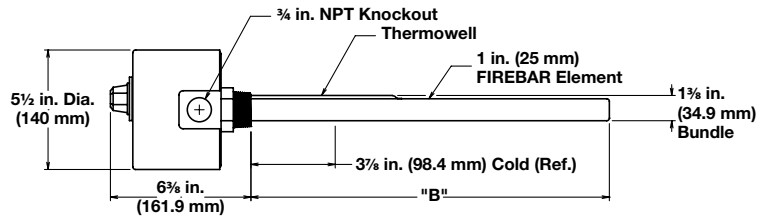


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
 - FIREBAR elements
 - With thermostat (DPST), Type 5A or 7A
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C
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	C/F	C/F	BDNF16G12S7A	C/F	C/F
	480	1.70	3	16 1/8 (409.6)	8 (4)	BDNF16G13S5A	C/F	C/F	BDNF16G13S7A	C/F	C/F
	240	2.20	3	19 1/8 (485.8)	9 (4)	BDNF19G12S5A	C/F	C/F	BDNF19G12S7A	C/F	C/F
	480	2.20	3	19 1/8 (485.8)	9 (4)	BDNF19G13S5A	C/F	C/F	BDNF19G13S7A	C/F	C/F
	240	2.80	3	24 3/8 (619.1)	10 (5)	BDNF24L12S5A	C/F	C/F	BDNF24L12S7A	C/F	C/F
	480	2.80	3	24 3/8 (619.1)	10 (5)	BDNF24L13S5A	C/F	C/F	BDNF24L13S7A	C/F	C/F
	240	3.50	3	29 5/8 (752.5)	11 (5)	BDNF29R12S5A	C/F	C/F	BDNF29R12S7A	C/F	C/F
	480	3.50	3	29 5/8 (752.5)	11 (5)	BDNF29R13S5A	C/F	C/F	BDNF29R13S7A	C/F	C/F
	240	4.25	3	34 5/8 (879.5)	12 (6)	BDNF34R12S5A	C/F	C/F	BDNF34R12S7A	C/F	C/F
	480	4.25	3	34 5/8 (879.5)	12 (6)	BDNF34R13S5A	C/F	C/F	BDNF34R13S7A	C/F	C/F
	240	5.70	3	45 1/8 (1146.2)	14 (7)	BDNF45G12S5A	C/F	C/F	BDNF45G12S7A	C/F	C/F
	480	5.70	3	45 1/8 (1146.2)	14 (7)	BDNF45G13S5A	C/F	C/F	BDNF45G13S7A	C/F	C/F
240	7.20	3	55 5/8 (1412.9)	16 (8)	BDNF55R12S5A	C/F	C/F	BDNF55R12S7A	C/F	C/F	
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	C/F	C/F	BDNF16G20S7A	C/F	C/F
	240	1.65	3	19 1/8 (485.8)	9 (4)	BDNF19G20S5A	C/F	C/F	BDNF19G20S7A	C/F	C/F
	240	2.15	3	24 3/8 (619.1)	10 (5)	BDNF24L20S5A	C/F	C/F	BDNF24L20S7A	C/F	C/F
	480	2.15	3	24 3/8 (619.1)	10 (5)	BDNF24L19S5A	C/F	C/F	BDNF24L19S7A	C/F	C/F
	240	2.65	3	29 5/8 (752.5)	11 (5)	BDNF29R20S5A	C/F	C/F	BDNF29R20S7A	C/F	C/F
	480	2.65	3	29 5/8 (752.5)	11 (5)	BDNF29R19S5A	C/F	C/F	BDNF29R19S7A	C/F	C/F
	240	3.20	3	34 5/8 (879.5)	12 (6)	BDNF34R20S5A	C/F	C/F	BDNF34R20S7A	C/F	C/F
	480	3.20	3	34 5/8 (879.5)	12 (6)	BDNF34R19S5A	C/F	C/F	BDNF34R19S7A	C/F	C/F
	240	4.25	3	45 1/8 (1146.2)	14 (7)	BDNF45G20S5A	C/F	C/F	BDNF45G20S7A	C/F	C/F
	480	4.25	3	45 1/8 (1146.2)	14 (7)	BDNF45G19S5A	C/F	C/F	BDNF45G19S7A	C/F	C/F
	240	5.40	3	55 5/8 (1412.9)	16 (8)	BDNF55R20S5A	C/F	C/F	BDNF55R20S7A	C/F	C/F
	480	5.40	3	55 5/8 (1412.9)	16 (8)	BDNF55R19S5A	C/F	C/F	BDNF55R19S7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

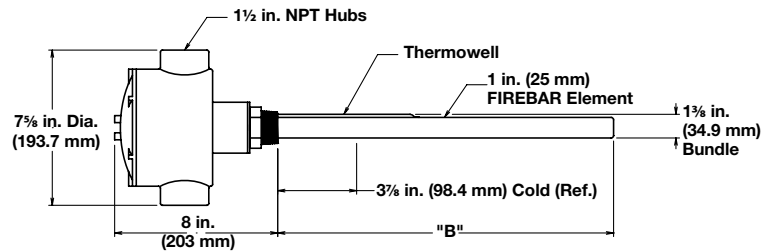
- ③ Wired for 3-phase operation only
- ⑧ Can be wired for 1-phase operation



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), Type 5A or 7A
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C		Type K T/C	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	C/F	C/F	BDNF16G12C7A	C/F	C/F
	480	1.70	3	16 1/8 (409.6)	11 (5)	BDNF16G13C5A	C/F	C/F	BDNF16G13C7A	C/F	C/F
	240	2.20	3	19 1/8 (485.8)	12 (6)	BDNF19G12C5A	C/F	C/F	BDNF19G12C7A	C/F	C/F
	480	2.20	3	19 1/8 (485.8)	12 (6)	BDNF19G13C5A	C/F	C/F	BDNF19G13C7A	C/F	C/F
	240	2.80	3	24 3/8 (619.1)	13 (6)	BDNF24L12C5A	C/F	C/F	BDNF24L12C7A	C/F	C/F
	480	2.80	3	24 3/8 (619.1)	13 (6)	BDNF24L13C5A	C/F	C/F	BDNF24L13C7A	C/F	C/F
	240	3.50	3	29 5/8 (752.5)	14 (7)	BDNF29R12C5A	C/F	C/F	BDNF29R12C7A	C/F	C/F
	480	3.50	3	29 5/8 (752.5)	14 (7)	BDNF29R13C5A	C/F	C/F	BDNF29R13C7A	C/F	C/F
	240	4.25	3	34 5/8 (879.5)	15 (7)	BDNF34R12C5A	C/F	C/F	BDNF34R12C7A	C/F	C/F
	480	4.25	3	34 5/8 (879.5)	15 (7)	BDNF34R13C5A	C/F	C/F	BDNF34R13C7A	C/F	C/F
	240	5.70	3	45 1/8 (1146.2)	17 (8)	BDNF45G12C5A	C/F	C/F	BDNF45G12C7A	C/F	C/F
	480	5.70	3	45 1/8 (1146.2)	17 (8)	BDNF45G13C5A	C/F	C/F	BDNF45G13C7A	C/F	C/F
240	7.20	3	55 5/8 (1412.9)	19 (9)	BDNF55R12C5A	C/F	C/F	BDNF55R12C7A	C/F	C/F	
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	C/F	C/F	BDNF16G20C7A	C/F	C/F
	240	1.65	3	19 1/8 (485.8)	12 (6)	BDNF19G20C5A	C/F	C/F	BDNF19G20C7A	C/F	C/F
	240	2.15	3	24 3/8 (619.1)	13 (6)	BDNF24L20C5A	C/F	C/F	BDNF24L20C7A	C/F	C/F
	480	2.15	3	24 3/8 (619.1)	13 (6)	BDNF24L19C5A	C/F	C/F	BDNF24L19C7A	C/F	C/F
	240	2.65	3	29 5/8 (752.5)	14 (7)	BDNF29R20C5A	C/F	C/F	BDNF29R20C7A	C/F	C/F
	480	2.65	3	29 5/8 (752.5)	14 (7)	BDNF29R19C5A	C/F	C/F	BDNF29R19C7A	C/F	C/F
	240	3.20	3	34 5/8 (879.5)	15 (7)	BDNF34R20C5A	C/F	C/F	BDNF34R20C7A	C/F	C/F
	480	3.20	3	34 5/8 (879.5)	15 (7)	BDNF34R19C5A	C/F	C/F	BDNF34R19C7A	C/F	C/F
	240	4.25	3	45 1/8 (1146.2)	17 (8)	BDNF45G20C5A	C/F	C/F	BDNF45G20C7A	C/F	C/F
	480	4.25	3	45 1/8 (1146.2)	17 (8)	BDNF45G19C5A	C/F	C/F	BDNF45G19C7A	C/F	C/F
	240	5.40	3	55 5/8 (1412.9)	19 (9)	BDNF55R20C5A	C/F	C/F	BDNF55R20C7A	C/F	C/F
	480	5.40	3	55 5/8 (1412.9)	19 (9)	BDNF55R19C5A	C/F	C/F	BDNF55R19C7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters

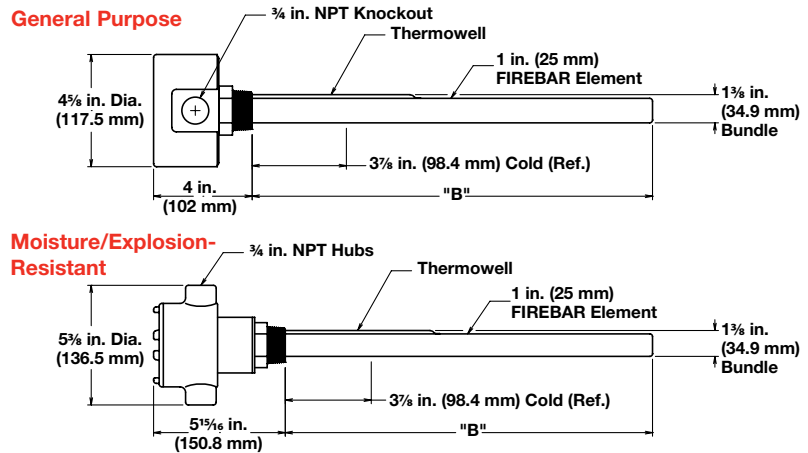


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	General Purpose Enclosure		WATCONNECT Part Number		Moisture/Explosion-Resistant Enclosure		WATCONNECT Part Number	
					Part Number	Ship Wt. lbs (kg)	Type J T/C	Type K T/C	Part Number ⑤	Ship Wt. lbs (kg)	Type J T/C	Type K T/C
30 W/in ² ③ 304 SS Plug 1-Alloy 800 Element (4.7 W/cm ²)	240	1.70	3	16 ¹ / ₈ (409.6)	BDNF16G12S	7 (4)	C2-50	C2-92	BDNF16G12C	10 (5)	C3-94	C3-93
	480	1.70	3	16 ¹ / ₈ (409.6)	BDNF16G13S	7 (4)	C2-43	C2-35	BDNF16G13C	10 (5)	C3-116	C3-118
	240	2.20	3	19 ¹ / ₈ (485.8)	BDNF19G12S	8 (4)	C2-50	C2-92	BDNF19G12C	11 (5)	C3-94	C3-93
	480	2.20	3	19 ¹ / ₈ (485.8)	BDNF19G13S	8 (4)	C2-43	C2-35	BDNF19G13C	11 (5)	C3-116	C3-118
	240	2.80	3	24 ³ / ₈ (619.1)	BDNF24L12S	9 (4)	C2-50	C2-92	BDNF24L12C	12 (6)	C3-94	C3-93
	480	2.80	3	24 ³ / ₈ (619.1)	BDNF24L13S	9 (4)	C2-43	C2-35	BDNF24L13C	12 (6)	C3-116	C3-118
	240	3.50	3	29 ⁵ / ₈ (752.5)	BDNF29R12S	10 (5)	C2-50	C2-92	BDNF29R12C	13 (6)	C3-94	C3-93
	480	3.50	3	29 ⁵ / ₈ (752.5)	BDNF29R13S	10 (5)	C2-43	C2-35	BDNF29R13C	13 (6)	C3-116	C3-118
	240	4.25	3	34 ⁵ / ₈ (879.5)	BDNF34R12S	11 (5)	C2-50	C2-92	BDNF34R12C	14 (7)	C3-94	C3-93
	480	4.25	3	34 ⁵ / ₈ (879.5)	BDNF34R13S	11 (5)	C2-43	C2-35	BDNF34R13C	14 (7)	C3-116	C3-118
	240	5.70	3	45 ¹ / ₈ (1146.2)	BDNF45G12S	13 (6)	C2-50	C2-92	BDNF45G12C	16 (8)	C3-94	C3-93
	480	5.70	3	45 ¹ / ₈ (1146.2)	BDNF45G13S	13 (6)	C2-43	C2-35	BDNF45G13C	16 (8)	C3-116	C3-118
	240	7.20	3	55 ⁵ / ₈ (1412.9)	BDNF55R12S	15 (7)	C2-50	C2-92	BDNF55R12C	18 (9)	C3-94	C3-93
	480	7.20	3	55 ⁵ / ₈ (1412.9)	BDNF55R13S	15 (7)	C2-43	C2-35	BDNF55R13C	18 (9)	C3-116	C3-118
23 W/in ² ⑧ 304 SS Plug 1-Alloy 800 Element (3.6 W/cm ²)	240	1.25	3	16 ¹ / ₈ (409.6)	BDNF16G20S	7 (4)	C2-50	C2-92	BDNF16G20C	10 (5)	C3-94	C3-93
	240	1.65	3	19 ¹ / ₈ (485.8)	BDNF19G20S	8 (4)	C2-50	C2-92	BDNF19G20C	11 (5)	C3-94	C3-93
	240	2.15	3	24 ³ / ₈ (619.1)	BDNF24L20S	9 (4)	C2-50	C2-92	BDNF24L20C	12 (6)	C3-94	C3-93
	480	2.15	3	24 ³ / ₈ (619.1)	BDNF24L19S	9 (4)	C2-43	C2-35	BDNF24L19C	12 (6)	C3-116	C3-118
	240	2.65	3	29 ⁵ / ₈ (752.5)	BDNF29R20S	10 (5)	C2-50	C2-92	BDNF29R20C	13 (6)	C3-94	C3-93
	480	2.65	3	29 ⁵ / ₈ (752.5)	BDNF29R19S	10 (5)	C2-43	C2-35	BDNF29R19C	13 (6)	C3-116	C3-118
	240	3.20	3	34 ⁵ / ₈ (879.5)	BDNF34R20S	11 (5)	C2-50	C2-92	BDNF34R20C	14 (7)	C3-94	C3-93
	480	3.20	3	34 ⁵ / ₈ (879.5)	BDNF34R19S	11 (5)	C2-43	C2-35	BDNF34R19C	14 (7)	C3-116	C3-118
	240	4.25	3	45 ¹ / ₈ (1146.2)	BDNF45G20S	13 (6)	C2-50	C2-92	BDNF45G20C	16 (8)	C3-94	C3-93
	480	4.25	3	45 ¹ / ₈ (1146.2)	BDNF45G19S	13 (6)	C2-43	C2-35	BDNF45G19C	16 (8)	C3-116	C3-118
	240	5.40	3	55 ⁵ / ₈ (1412.9)	BDNF55R20S	15 (7)	C2-50	C2-92	BDNF55R20C	18 (9)	C3-94	C3-93
	480	5.40	3	55 ⁵ / ₈ (1412.9)	BDNF55R19S	15 (7)	C2-43	C2-35	BDNF55R19C	18 (9)	C3-116	C3-118

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

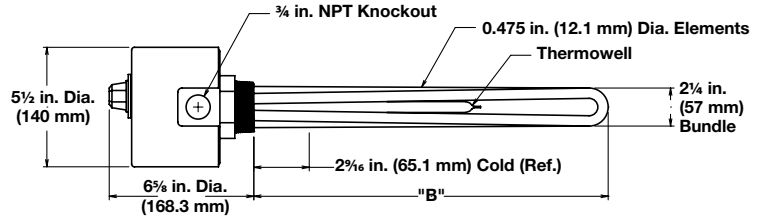


Application: Lightweight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

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

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

④ Wired for higher voltage



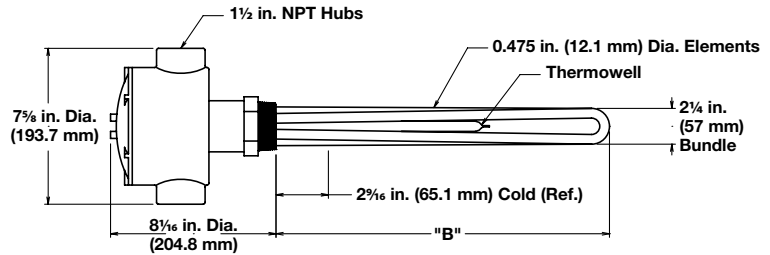
WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Lightweight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

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

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

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters

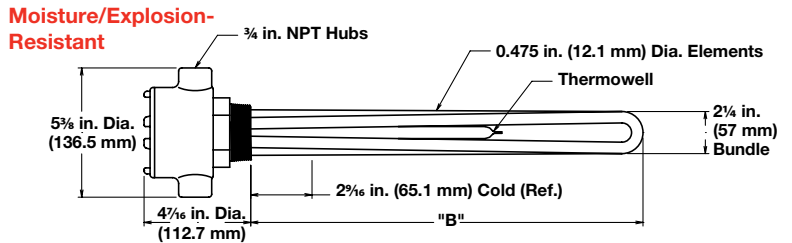
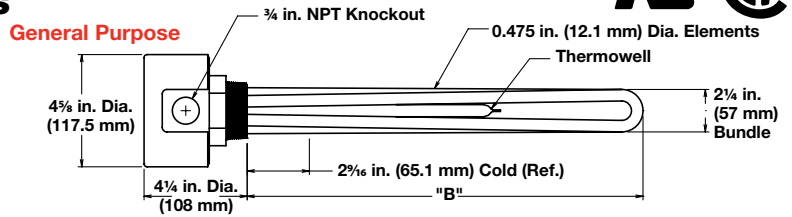


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	120V WATCONNECT		240V WATCONNECT		480V WATCONNECT	
							Type J T/C	Type K T/C	Type J T/C	Type K T/C	Type J T/C	Type K T/C
							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)	BGS79J6S	4 (2)	C1-15	C1-12	C1-17	C1-13	N/A	N/A
	240/480	1.0	1	9 1/2 (241)	BGS79J7S	4 (2)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	1.5	1	13 1/2 (343)	BGS713J6S	5 (3)	C1-15	C1-12	C1-17	C1-13	N/A	N/A
	240/480	1.5	1	13 1/2 (343)	BGS713J7S	5 (3)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	2.0	1	17 1/2 (445)	BGS717J6S	6 (3)	C1-15	C1-12	C1-17	C1-13	N/A	N/A
	240/480	2.0	1	17 1/2 (445)	BGS717J7S	6 (3)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	2.5	1	20 1/2 (521)	BGS720J6S	7 (4)	C/F	C/F	C1-17	C1-13	N/A	N/A
	240/480	2.5	1	20 1/2 (521)	BGS720J7S	7 (4)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	3.0	1	25 (635)	BGS725A6S	7 (4)	C/F	C/F	C1-17	C1-13	N/A	N/A
	240/480	3.0	1	25 (635)	BGS725A7S	7 (4)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	4.0	1	32 1/2 (826)	BGS732J6S	8 (4)	C/F	C/F	C1-17	C1-13	N/A	N/A
	240/480	4.0	1	32 1/2 (826)	BGS732J7S	8 (4)	N/A	N/A	C1-17	C1-13	C/F	C/F
	120/240	5.0	1	40 (1016)	BGS740A6S	9 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	5.0	1	40 (1016)	BGS740A7S	9 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	240/480	6.0	1	47 1/2 (1207)	BGS747J7S	10 (5)	N/A	N/A	C/F	C/F	C/F	C/F
23 W/in² Steel Plug 3-Steel Elements (3.6 W/cm²)	120	1.5	1	9 1/2 (241)	BHS79J1S	5 (3)	C1-15	C1-12	N/A	N/A	N/A	N/A
	240	1.5	3	9 1/2 (241)	BHS79J3S	5 (3)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	1.5	3	9 1/2 (241)	BHS79J13S	5 (3)	N/A	N/A	N/A	N/A	C2-43	C2-35
	120	3.0	1	17 1/2 (445)	BHS717J1S	7 (4)	C/F	C/F	N/A	N/A	N/A	N/A
	240	3.0	3	17 1/2 (445)	BHS717J3S	7 (4)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	3.0	3	17 1/2 (445)	BHS717J5S	7 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	120	4.5	1	25 (635)	BHS725A1S	9 (4)	C/F	C/F	N/A	N/A	N/A	N/A
	240	4.5	3	25 (635)	BHS725A3S	9 (4)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	4.5	3	25 (635)	BHS725A5S	9 (4)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	6.0	3	32 1/2 (826)	BHS732J3S	12 (6)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	6.0	3	32 1/2 (826)	BHS732J5S	12 (6)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	7.5	3	40 (1016)	BHS740A3S	13 (6)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	7.5	3	40 (1016)	BHS740A5S	13 (6)	N/A	N/A	N/A	N/A	C2-43	C2-35
	240	9.0	3	47 1/2 (1207)	BHS747J3S	13 (6)	N/A	N/A	C2-50	C2-92	N/A	N/A
	480	9.0	3	47 1/2 (1207)	BHS747J5S	13 (6)	N/A	N/A	N/A	N/A	C2-43	C2-35
240	12.5	3	64 (1626)	BHS764A3S	17 (8)	N/A	N/A	C2-236	C2-214	N/A	N/A	
480	12.5	3	64 (1626)	BHS764A5S	17 (8)	N/A	N/A	N/A	N/A	C2-43	C2-35	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us
N/A - Not available

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

Immersion Heaters

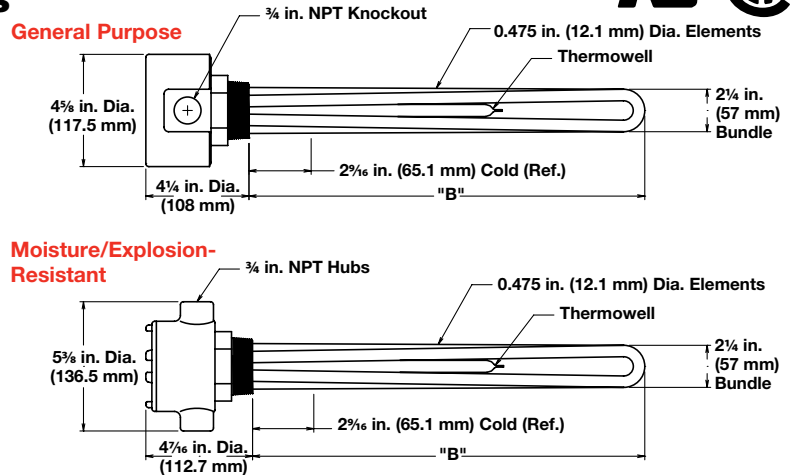


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	120V WATCONNECT		240V WATCONNECT		480V WATCONNECT	
							Type J T/C	Type K T/C	Type J T/C	Type K T/C	Type J T/C	Type K T/C
23 W/in ² ④ Steel Plug 2-Steel Elements (3.6 W/cm ²)	120/240	1.0	1	9 1/2 (241)	BGS79J6C	7 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	1.0	1	9 1/2 (241)	BGS79J7C	7 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	1.5	1	13 1/2 (343)	BGS713J6C	8 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	1.5	1	13 1/2 (343)	BGS713J7C	8 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	2.0	1	17 1/2 (445)	BGS717J6C	9 (4)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	2.0	1	17 1/2 (445)	BGS717J7C	9 (4)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	2.5	1	20 1/2 (521)	BGS720J6C	10 (5)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	2.5	1	20 1/2 (521)	BGS720J7C	10 (5)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	3.0	1	25 (635)	BGS725A6C	10 (5)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	3.0	1	25 (635)	BGS725A7C	10 (5)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	4.0	1	32 1/2 (826)	BGS732J6C	11 (5)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	4.0	1	32 1/2 (826)	BGS732J7C	11 (5)	N/A	N/A	C/F	C/F	C/F	C/F
	120/240	5.0	1	40 (1016)	BGS740A6C	12 (6)	C/F	C/F	C/F	C/F	N/A	N/A
	240/480	5.0	1	40 (1016)	BGS740A7C	12 (6)	N/A	N/A	C/F	C/F	C/F	C/F
240/480	6.0	1	47 1/2 (1207)	BGS747J7C	13 (6)	N/A	N/A	C/F	C/F	C/F	C/F	
23 W/in ² Steel Plug 3-Steel Elements (3.6 W/cm ²)	120	1.5	1	9 1/2 (241)	BHS79J1C	8 (4)	C/F	C/F	N/A	N/A	N/A	N/A
	240	1.5	3	9 1/2 (241)	BHS79J3C	8 (4)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	1.5	3	9 1/2 (241)	BHS79J13C	8 (4)	N/A	N/A	N/A	N/A	C3-116	C3-118
	120	3.0	1	17 1/2 (445)	BHS717J1C	10 (5)	C/F	C/F	N/A	N/A	N/A	N/A
	240	3.0	3	17 1/2 (445)	BHS717J3C	10 (5)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	3.0	3	17 1/2 (445)	BHS717J5C	10 (5)	N/A	N/A	N/A	N/A	C3-116	C3-118
	120	4.5	1	25 (635)	BHS725A1C	12 (6)	C/F	C/F	N/A	N/A	N/A	N/A
	240	4.5	3	25 (635)	BHS725A3C	12 (6)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	4.5	3	25 (635)	BHS725A5C	12 (6)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	6.0	3	32 1/2 (826)	BHS732J3C	15 (7)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	6.0	3	32 1/2 (826)	BHS732J5C	15 (7)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	7.5	3	40 (1016)	BHS740A3C	16 (8)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	7.5	3	40 (1016)	BHS740A5C	16 (8)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	9.0	3	47 1/2 (1207)	BHS747J3C	16 (8)	N/A	N/A	C3-94	C3-93	N/A	N/A
	480	9.0	3	47 1/2 (1207)	BHS747J5C	16 (8)	N/A	N/A	N/A	N/A	C3-116	C3-118
	240	12.5	3	64 (1626)	BHS764A3C	20 (9)	N/A	N/A	C3-114	C3-115	N/A	N/A
480	12.5	3	64 (1626)	BHS764A5C	20 (9)	N/A	N/A	N/A	N/A	C3-116	C3-118	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us
N/A - Not available

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

Immersion Heaters



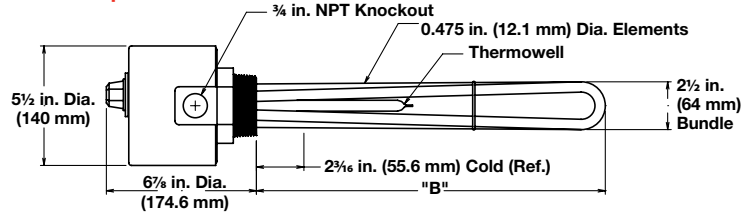
WATROD and FIREBAR Screw Plug Immersion Heaters



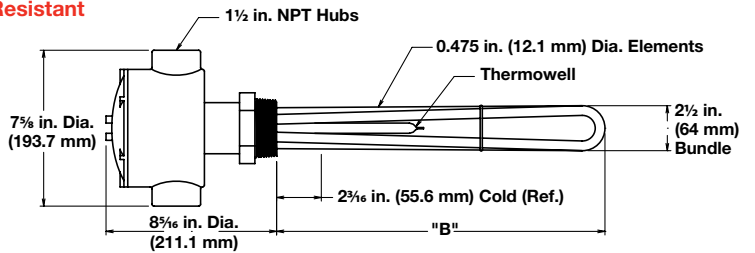
Application: Lightweight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
 - WATROD elements
 - With thermostat (DPST), Type 4, 5A or 7A
- 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
 - 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C
23 W/in ² ® Steel Plug 3-Steel Elements (3.6 Wcm ²)	240	3.0	3	17 1/4 (438)	10 (5)	BLS717E3S4	C/F	C/F	BLS717E3S5A	C/F	C/F	BLS717E3S7A	C/F	C/F
	480	3.0	3	17 1/4 (438)	10 (5)	BLS717E5S4	C/F	C/F	BLS717E5S5A	C/F	C/F	BLS717E5S7A	C/F	C/F
	240	4.5	3	24 3/4 (629)	13 (6)	BLS724N3S4	C/F	C/F	BLS724N3S5A	C/F	C/F	BLS724N3S7A	C/F	C/F
	480	4.5	3	24 3/4 (629)	13 (6)	BLS724N5S4	C/F	C/F	BLS724N5S5A	C/F	C/F	BLS724N5S7A	C/F	C/F
	240	6.0	3	32 1/4 (819)	15 (7)	BLS732E3S4	C/F	C/F	BLS732E3S5A	C/F	C/F	BLS732E3S7A	C/F	C/F
	480	6.0	3	32 1/4 (819)	15 (7)	BLS732E5S4	C/F	C/F	BLS732E5S5A	C/F	C/F	BLS732E5S7A	C/F	C/F
	240	7.5	3	39 3/4 (1010)	16 (8)	BLS739N3S4	C/F	C/F	BLS739N3S5A	C/F	C/F	BLS739N3S7A	C/F	C/F
	480	7.5	3	39 3/4 (1010)	16 (8)	BLS739N5S4	C/F	C/F	BLS739N5S5A	C/F	C/F	BLS739N5S7A	C/F	C/F
240	9.0	3	47 1/4 (1200)	18 (9)	BLS747E3S4	C/F	C/F	BLS747E3S5A	C/F	C/F	BLS747E3S7A	C/F	C/F	
						Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
23 W/in ² ® Steel Plug 3-Steel Elements (3.6 Wcm ²)	240	3.0	3	17 1/4 (438)	13 (6)	BLS717E3C4	C/F	C/F	BLS717E3C5A	C/F	C/F	BLS717E3C7A	C/F	C/F
	480	3.0	3	17 1/4 (438)	13 (6)	BLS717E5C4	C/F	C/F	BLS717E5C5A	C/F	C/F	BLS717E5C7A	C/F	C/F
	240	4.5	3	24 3/4 (629)	16 (8)	BLS724N3C4	C/F	C/F	BLS724N3C5A	C/F	C/F	BLS724N3C7A	C/F	C/F
	480	4.5	3	24 3/4 (629)	16 (8)	BLS724N5C4	C/F	C/F	BLS724N5C5A	C/F	C/F	BLS724N5C7A	C/F	C/F
	240	6.0	3	32 1/4 (819)	18 (9)	BLS732E3C4	C/F	C/F	BLS732E3C5A	C/F	C/F	BLS732E3C7A	C/F	C/F
	480	6.0	3	32 1/4 (819)	18 (9)	BLS732E5C4	C/F	C/F	BLS732E5C5A	C/F	C/F	BLS732E5C7A	C/F	C/F
	240	7.5	3	39 3/4 (1010)	19 (9)	BLS739N3C4	C/F	C/F	BLS739N3C5A	C/F	C/F	BLS739N3C7A	C/F	C/F
	480	7.5	3	39 3/4 (1010)	19 (9)	BLS739N5C4	C/F	C/F	BLS739N5C5A	C/F	C/F	BLS739N5C7A	C/F	C/F
240	9.0	3	47 1/4 (1200)	21 (10)	BLS747E3C4	C/F	C/F	BLS747E3C5A	C/F	C/F	BLS747E3C7A	C/F	C/F	

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)

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



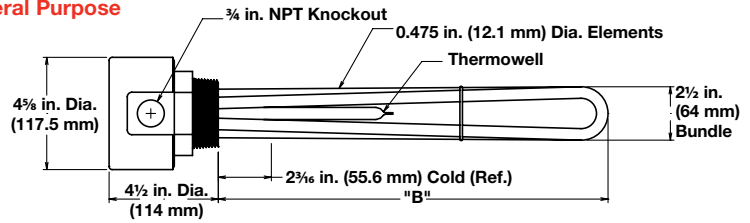
WATROD and FIREBAR Screw Plug Immersion Heaters



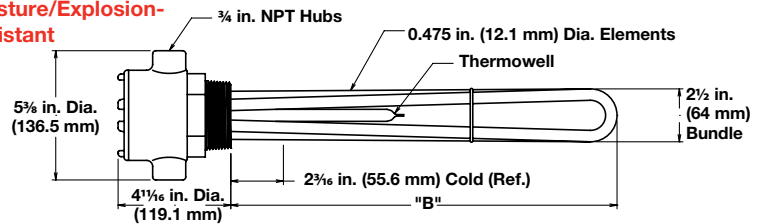
Application: Lightweight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture /Explosion- Resistant Enclosure	Type J T/C
23 W/in ² ⑥ Steel Plug 3-Steel Elements (3.6 Wcm ²)	120	3.0	1	17 1/4 (438)	BLS717E1S	9 (4)	C/F	C/F	BLS717E1C	12 (6)	C/F	C/F
	240	3.0	3	17 1/4 (438)	BLS717E3S	9 (4)	C2-50	C2-92	BLS717E3C	12 (6)	C3-94	C3-93
	480	3.0	3	17 1/4 (438)	BLS717E5S	9 (4)	C2-43	C2-35	BLS717E5C	12 (6)	C3-116	C3-118
	120	4.5	1	24 3/4 (629)	BLS724N1S	12 (6)	C/F	C/F	BLS724N1C	15 (7)	C/F	C/F
	240	4.5	3	24 3/4 (629)	BLS724N3S	12 (6)	C2-50	C2-92	BLS724N3C	15 (7)	C3-94	C3-93
	480	4.5	3	24 3/4 (629)	BLS724N5S	12 (6)	C2-43	C2-35	BLS724N5C	15 (7)	C3-116	C3-118
	240	6.0	3	32 1/4 (819)	BLS732E3S	14 (7)	C2-50	C2-92	BLS732E3C	17 (8)	C3-94	C3-93
	480	6.0	3	32 1/4 (819)	BLS732E5S	14 (7)	C2-43	C2-35	BLS732E5C	17 (8)	C3-116	C3-118
	240	7.5	3	39 3/4 (1010)	BLS739N3S	15 (7)	C2-50	C2-92	BLS739N3C	18 (9)	C3-94	C3-93
	480	7.5	3	39 3/4 (1010)	BLS739N5S	15 (7)	C2-43	C2-35	BLS739N5C	18 (9)	C3-116	C3-118
	240	9.0	3	47 1/4 (1200)	BLS747E3S	17 (8)	C2-50	C2-92	BLS747E3C	20 (9)	C3-94	C3-93
	480	9.0	3	47 1/4 (1200)	BLS747E5S	17 (8)	C2-43	C2-35	BLS747E5C	20 (9)	C3-116	C3-118
	240	12.5	3	63 3/4 (1619)	BLS763N3S	20 (9)	C2-236	C2-214	BLS763N3C	23 (11)	C3-114	C3-115
	480	12.5	3	63 3/4 (1619)	BLS763N5S	20 (9)	C2-43	C2-35	BLS763N5C	23 (11)	C3-116	C3-118
	240	15.0	3	76 1/4 (1937)	BLS776E3S	23 (11)	C2-236	C2-214	BLS776E3C	26 (12)	C3-114	C3-115
	480	15.0	3	76 1/4 (1937)	BLS776E5S	23 (11)	C2-43	C2-35	BLS776E5C	26 (12)	C3-116	C3-118

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

⑤ No third party recognition

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

Immersion Heaters



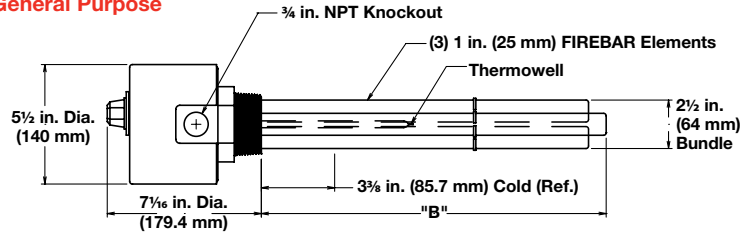
WATROD and FIREBAR Screw Plug Immersion Heaters



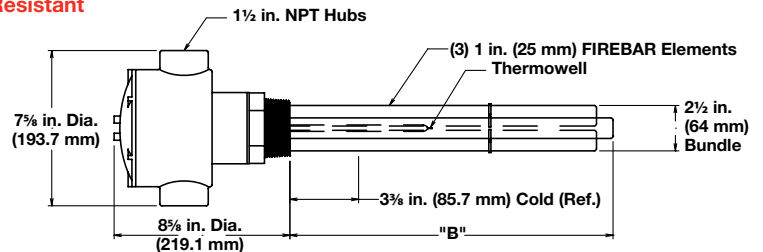
Application: Lightweight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
 - FIREBAR elements
 - With thermostat (DPST), Type 5A or 7A
- 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
 - 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	General Purpose Enclosure
30 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (4.7 W/cm ²)	240	5.0	3	15 1/8 (384.2)	12 (6)	BLNF15C12S5A	C/F	C/F	BLNF15C12S7A	C/F	C/F
	480	5.0	3	15 1/8 (384.2)	12 (6)	BLNF15C13S5A	C/F	C/F	BLNF15C13S7A	C/F	C/F
	240	6.5	3	18 1/8 (460.4)	13 (6)	BLNF18C12S5A	C/F	C/F	BLNF18C12S7A	C/F	C/F
	480	6.5	3	18 1/8 (460.4)	13 (6)	BLNF18C13S5A	C/F	C/F	BLNF18C13S7A	C/F	C/F
	240	8.5	3	23 1/8 (587.4)	15 (7)	BLNF23C12S5A	C/F	C/F	BLNF23C12S7A	C/F	C/F
23 W/in ² ⑧ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.8	3	15 1/8 (384.2)	12 (6)	BLNF15C20S5A	C/F	C/F	BLNF15C20S7A	C/F	C/F
	240	4.9	3	18 1/8 (460.4)	13 (6)	BLNF18C20S5A	C/F	C/F	BLNF18C20S7A	C/F	C/F
	240	6.4	3	23 1/8 (587.4)	15 (7)	BLNF23C20S5A	C/F	C/F	BLNF23C20S7A	C/F	C/F
	480	6.4	3	23 1/8 (587.4)	15 (7)	BLNF23C19S5A	C/F	C/F	BLNF23C19S7A	C/F	C/F
	240	7.9	3	28 5/8 (727.1)	18 (9)	BLNF28L20S5A	C/F	C/F	BLNF28L20S7A	C/F	C/F
	240	9.6	3	33 5/8 (854.1)	19 (9)	BLNF33L20S5A	C/F	C/F	BLNF33L20S7A	C/F	C/F
						Moisture/ Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/ Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
30 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (4.7 W/cm ²)	240	5.0	3	15 1/8 (384.2)	14 (7)	BLNF15C12C5A	C/F	C/F	BLNF15C12C7A	C/F	C/F
	480	5.0	3	15 1/8 (384.2)	14 (7)	BLNF15C13C5A	C/F	C/F	BLNF15C13C7A	C/F	C/F
	240	6.5	3	18 1/8 (460.4)	16 (8)	BLNF18C12C5A	C/F	C/F	BLNF18C12C7A	C/F	C/F
	480	6.5	3	18 1/8 (460.4)	16 (8)	BLNF18C13C5A	C/F	C/F	BLNF18C13C7A	C/F	C/F
	240	8.5	3	23 1/8 (587.4)	18 (9)	BLNF23C12C5A	C/F	C/F	BLNF23C12C7A	C/F	C/F
23 W/in ² ⑧ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.8	3	15 1/8 (384.2)	14 (7)	BLNF15C20C5A	C/F	C/F	BLNF15C20C7A	C/F	C/F
	240	4.9	3	18 1/8 (460.4)	16 (8)	BLNF18C20C5A	C/F	C/F	BLNF18C20C7A	C/F	C/F
	240	6.4	3	23 1/8 (587.4)	18 (9)	BLNF23C20C5A	C/F	C/F	BLNF23C20C7A	C/F	C/F
	480	6.4	3	23 1/8 (587.4)	18 (9)	BLNF23C19C5A	C/F	C/F	BLNF23C19C7A	C/F	C/F
	240	7.9	3	28 5/8 (727.1)	21 (10)	BLNF28L20C5A	C/F	C/F	BLNF28L20C7A	C/F	C/F
	240	9.6	3	33 5/8 (854.1)	22 (10)	BLNF33L20C5A	C/F	C/F	BLNF33L20C7A	C/F	C/F

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



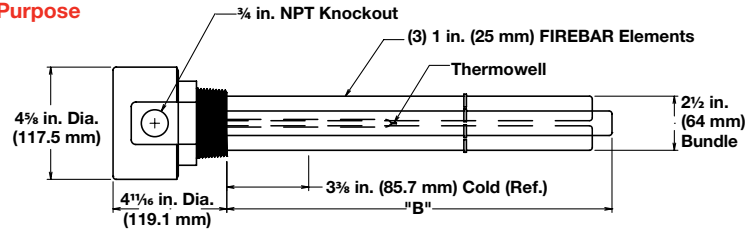
WATROD and FIREBAR Screw Plug Immersion Heaters



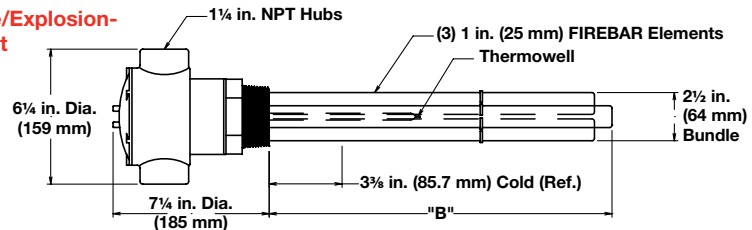
Application: Lightweight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Type J T/C	Type K T/C
30 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (4.7 W/cm²)	240	5.0	3	15 1/8 (384.2)	BLNF15C12S	11 (5)	C2-50	C2-92	BLNF15C12C	14 (7)	C3-94	C3-93
	480	5.0	3	15 1/8 (384.2)	BLNF15C13S	11 (5)	C2-43	C2-35	BLNF15C13C	14 (7)	C3-116	C3-118
	240	6.5	3	18 1/8 (460.4)	BLNF18C12S	12 (6)	C2-50	C2-92	BLNF18C12C	15 (7)	C3-94	C3-93
	480	6.5	3	18 1/8 (460.4)	BLNF18C13S	12 (6)	C2-43	C2-35	BLNF18C13C	15 (7)	C3-116	C3-118
	240	8.5	3	23 1/8 (587.4)	BLNF23C12S	14 (7)	C2-50	C2-92	BLNF23C12C	17 (8)	C3-94	C3-93
	480	8.5	3	23 1/8 (587.4)	BLNF23C13S	14 (7)	C2-43	C2-35	BLNF23C13C	17 (8)	C3-116	C3-118
	240	10.5	3	28 5/8 (727.1)	BLNF28L12S	17 (8)	C2-236	C2-214	BLNF28L12C	20 (9)	C3-114	C3-115
	480	10.5	3	28 5/8 (727.1)	BLNF28L13S	17 (8)	C2-43	C2-35	BLNF28L13C	20 (9)	C3-116	C3-118
	240	12.8	3	33 5/8 (854.1)	BLNF33L12S	18 (9)	C2-236	C2-214	BLNF33L12C	21 (10)	C3-114	C3-115
	480	12.8	3	33 5/8 (854.1)	BLNF33L13S	18 (9)	C2-43	C2-35	BLNF33L13C	21 (10)	C3-116	C3-118
	240	17.0	3	44 1/8 (1120.8)	BLNF44C12S	20 (9)	C2-236	C2-214	BLNF44C12C	23 (11)	C3-114	C3-115
	480	17.0	3	44 1/8 (1120.8)	BLNF44C13S	20 (9)	C2-43	C2-35	BLNF44C13C	23 (11)	C3-116	C3-118
	480	21.5	3	54 5/8 (1387.5)	BLNF54L13S	22 (10)	C2-225	C2-226	BLNF54L13C	25 (12)	C3-117	C3-119
	23 W/in² ⑧ 304 SS Plug 3-Alloy 800 Elements (3.6 W/cm²)	240	3.8	3	15 1/8 (384.2)	BLNF15C20S	11 (5)	C2-50	C2-92	BLNF15C20C	14 (7)	C3-94
240		4.9	3	18 1/8 (460.4)	BLNF18C20S	12 (6)	C2-50	C2-92	BLNF18C20C	15 (7)	C3-94	C3-93
240		6.4	3	23 1/8 (587.4)	BLNF23C20S	14 (7)	C2-50	C2-92	BLNF23C20C	17 (8)	C3-94	C3-93
480		6.4	3	23 1/8 (587.4)	BLNF23C19S	14 (7)	C2-43	C2-35	BLNF23C19C	17 (8)	C3-116	C3-118
240		7.9	3	28 5/8 (727.1)	BLNF28L20S	17 (8)	C2-50	C2-92	BLNF28L20C	20 (9)	C3-94	C3-93
480		7.9	3	28 5/8 (727.1)	BLNF28L19S	17 (8)	C2-43	C2-35	BLNF28L19C	20 (9)	C3-116	C3-118
240		9.6	3	33 5/8 (854.1)	BLNF33L20S	18 (9)	C2-50	C2-92	BLNF33L20C	21 (10)	C3-94	C3-93
480		9.6	3	33 5/8 (854.1)	BLNF33L19S	18 (9)	C2-43	C2-35	BLNF33L19C	21 (10)	C3-116	C3-118
240		12.8	3	44 1/8 (1120.8)	BLNF44C20S	20 (9)	C2-236	C2-214	BLNF44C20C	23 (11)	C3-114	C3-115
480		12.8	3	44 1/8 (1120.8)	BLNF44C19S	20 (9)	C2-43	C2-35	BLNF44C19C	23 (11)	C3-116	C3-118
240		16.1	3	54 5/8 (1387.5)	BLNF54L20S	22 (10)	C2-236	C2-214	BLNF54L20C	25 (12)	C3-114	C3-115
480		16.1	3	54 5/8 (1387.5)	BLNF54L19S	22 (10)	C2-43	C2-35	BLNF54L19C	25 (12)	C3-116	C3-118

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

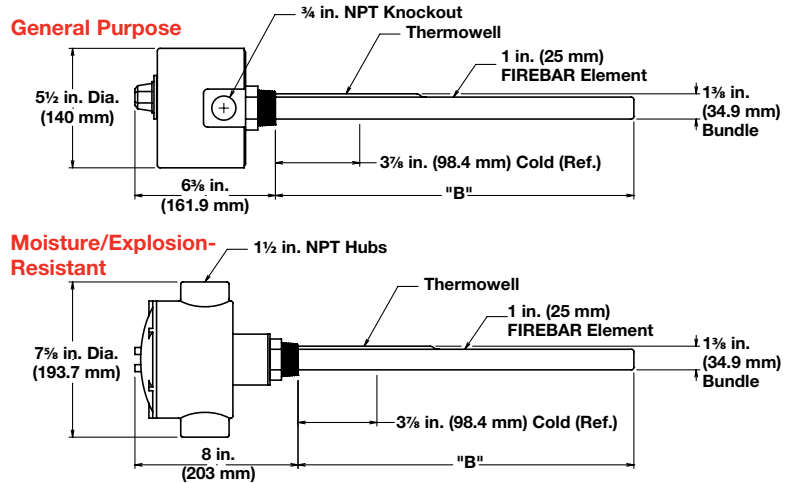


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST), Type 5A or 7A
- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	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	C/F	C/F	BDNF13A29S7A	C/F	C/F
	240	0.83	3	15 1/2 (394)	8 (4)	BDNF15J29S5A	C/F	C/F	BDNF15J29S7A	C/F	C/F
	240	1.00	3	18 (457)	9 (4)	BDNF18A29S5A	C/F	C/F	BDNF18A29S7A	C/F	C/F
	240	1.33	3	22 1/2 (572)	10 (5)	BDNF22J29S5A	C/F	C/F	BDNF22J29S7A	C/F	C/F
	480	1.33	3	22 1/2 (572)	10 (5)	BDNF22J30S5A	C/F	C/F	BDNF22J30S7A	C/F	C/F
	240	1.67	3	27 1/2 (699)	11 (5)	BDNF27J29S5A	C/F	C/F	BDNF27J29S7A	C/F	C/F
	480	1.67	3	27 1/2 (699)	11 (5)	BDNF27J30S5A	C/F	C/F	BDNF27J30S7A	C/F	C/F
	240	2.00	3	32 1/2 (826)	12 (6)	BDNF32J29S5A	C/F	C/F	BDNF32J29S7A	C/F	C/F
	480	2.00	3	32 1/2 (826)	12 (6)	BDNF32J30S5A	C/F	C/F	BDNF32J30S7A	C/F	C/F
	240	2.67	3	42 (1067)	14 (7)	BDNF42A29S5A	C/F	C/F	BDNF42A29S7A	C/F	C/F
	480	2.67	3	42 (1067)	14 (7)	BDNF42A30S5A	C/F	C/F	BDNF42A30S7A	C/F	C/F
	240	3.33	3	51 1/2 (1308)	16 (8)	BDNF51J29S5A	C/F	C/F	BDNF51J29S7A	C/F	C/F
480	3.33	3	51 1/2 (1308)	16 (8)	BDNF51J30S5A	C/F	C/F	BDNF51J30S7A	C/F	C/F	
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	C/F	C/F	BDNF13A29C7A	C/F	C/F
	240	0.83	3	15 1/2 (394)	11 (5)	BDNF15J29C5A	C/F	C/F	BDNF15J29C7A	C/F	C/F
	240	1.00	3	18 (457)	12 (6)	BDNF18A29C5A	C/F	C/F	BDNF18A29C7A	C/F	C/F
	240	1.33	3	22 1/2 (572)	13 (6)	BDNF22J29C5A	C/F	C/F	BDNF22J29C7A	C/F	C/F
	480	1.33	3	22 1/2 (572)	13 (6)	BDNF22J30C5A	C/F	C/F	BDNF22J30C7A	C/F	C/F
	240	1.67	3	27 1/2 (699)	14 (7)	BDNF27J29C5A	C/F	C/F	BDNF27J29C7A	C/F	C/F
	480	1.67	3	27 1/2 (699)	14 (7)	BDNF27J30C5A	C/F	C/F	BDNF27J30C7A	C/F	C/F
	240	2.00	3	32 1/2 (826)	15 (7)	BDNF32J29C5A	C/F	C/F	BDNF32J29C7A	C/F	C/F
	480	2.00	3	32 1/2 (826)	15 (7)	BDNF32J30C5A	C/F	C/F	BDNF32J30C7A	C/F	C/F
	240	2.67	3	42 (1067)	17 (8)	BDNF42A29C5A	C/F	C/F	BDNF42A29C7A	C/F	C/F
	480	2.67	3	42 (1067)	17 (8)	BDNF42A30C5A	C/F	C/F	BDNF42A30C7A	C/F	C/F
	240	3.33	3	51 1/2 (1308)	19 (9)	BDNF51J29C5A	C/F	C/F	BDNF51J29C7A	C/F	C/F
480	3.33	3	51 1/2 (1308)	19 (9)	BDNF51J30C5A	C/F	C/F	BDNF51J30C7A	C/F	C/F	

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

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



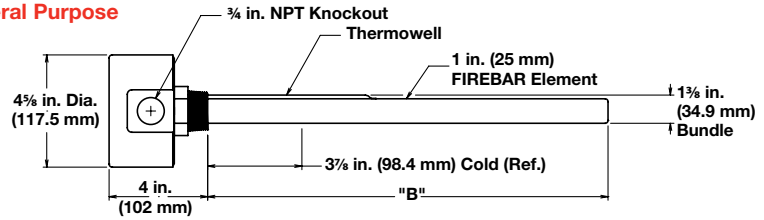
WATROD and FIREBAR Screw Plug Immersion Heaters



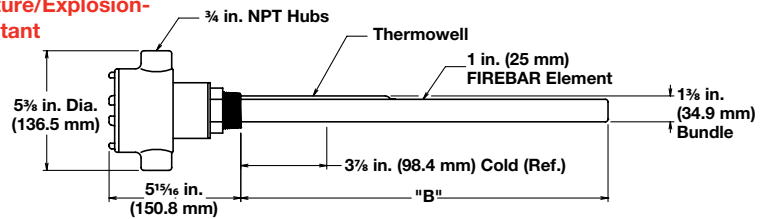
Application: Medium Weight Oils and Heat Transfer Oils

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
15 W/in ² ③ 304 SS Plug 1-Alloy 800 Element (2.3 W/cm ²)	240	0.67	3	13 (330)	BDNF13A29S	6 (3)	C2-50	C2-92	BDNF13A29C	9 (4)	C3-94	C3-93
	240	0.83	3	15 1/2 (394)	BDNF15J29S	7 (4)	C2-50	C2-92	BDNF15J29C	10 (5)	C3-94	C3-93
	240	1.00	3	18 (457)	BDNF18A29S	8 (4)	C2-50	C2-92	BDNF18A29C	11 (5)	C3-94	C3-93
	240	1.33	3	22 1/2 (572)	BDNF22J29S	9 (4)	C2-50	C2-92	BDNF22J29C	12 (6)	C3-94	C3-93
	480	1.33	3	22 1/2 (572)	BDNF22J30S	9 (4)	C2-43	C2-35	BDNF22J30C	12 (6)	C3-116	C3-118
	240	1.67	3	27 1/2 (699)	BDNF27J29S	10 (5)	C2-50	C2-92	BDNF27J29C	13 (6)	C3-94	C3-93
	480	1.67	3	27 1/2 (699)	BDNF27J30S	10 (5)	C2-43	C2-35	BDNF27J30C	13 (6)	C3-116	C3-118
	240	2.00	3	32 1/2 (826)	BDNF32J29S	11 (5)	C2-50	C2-92	BDNF32J29C	14 (7)	C3-94	C3-93
	480	2.00	3	32 1/2 (826)	BDNF32J30S	11 (5)	C2-43	C2-35	BDNF32J30C	14 (7)	C3-116	C3-118
	240	2.67	3	42 (1067)	BDNF42A29S	13 (6)	C2-50	C2-92	BDNF42A29C	16 (8)	C3-94	C3-93
	480	2.67	3	42 (1067)	BDNF42A30S	13 (6)	C2-43	C2-35	BDNF42A30C	16 (8)	C3-116	C3-118
	240	3.33	3	51 1/2 (1308)	BDNF51J29S	15 (7)	C2-50	C2-92	BDNF51J29C	18 (9)	C3-94	C3-93
	480	3.33	3	51 1/2 (1308)	BDNF51J30S	15 (7)	C2-43	C2-35	BDNF51J30C	18 (9)	C3-116	C3-118

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

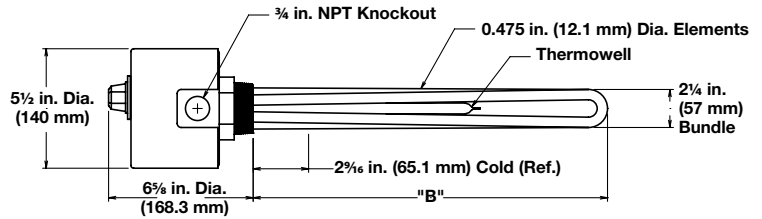


Application: Medium Weight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

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

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.

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- ③ Wired for 3-phase operation only

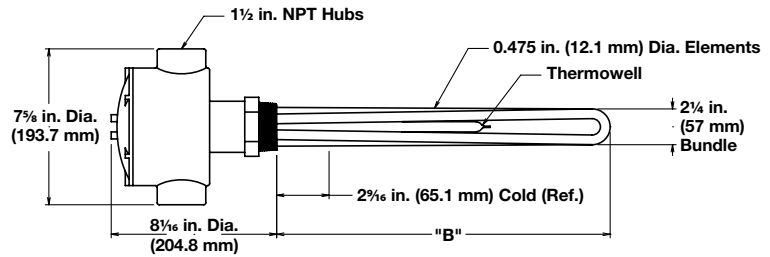


WATROD and FIREBAR Screw Plug Immersion Heaters

Application: Medium Weight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A

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

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

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



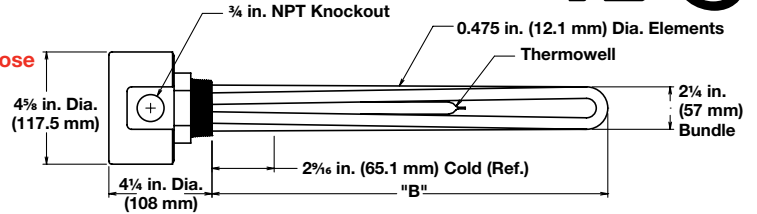
WATROD and FIREBAR Screw Plug Immersion Heaters



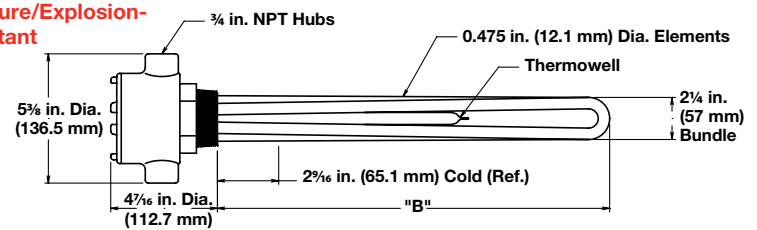
Application: Medium Weight Oils and Heat Transfer Oils

- 2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
16 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm²)	240	1.0	3	9 ³ / ₄ (248)	BHN79N12S	5 (3)	C2-50	C2-92	BHN79N12C	8 (4)	C3-94	C3-93
	480	1.0	3	9 ³ / ₄ (248)	BHN79N13S	5 (3)	C2-43	C2-35	BHN79N13C	8 (4)	C3-116	C3-118
	240	1.5	3	13 ¹ / ₄ (337)	BHN713E12S	6 (3)	C2-50	C2-92	BHN713E12C	9 (4)	C3-94	C3-93
	480	1.5	3	13 ¹ / ₄ (337)	BHN713E13S	6 (3)	C2-43	C2-35	BHN713E13C	9 (4)	C3-116	C3-118
	240	2.0	3	17 ³ / ₄ (451)	BHN717N12S	7 (4)	C2-50	C2-92	BHN717N12C	10 (5)	C3-94	C3-93
	480	2.0	3	17 ³ / ₄ (451)	BHN717N13S	7 (4)	C2-43	C2-35	BHN717N13C	10 (5)	C3-116	C3-118
	240	2.5	3	20 ¹ / ₄ (514)	BHN720E12S	8 (4)	C2-50	C2-92	BHN720E12C	11 (5)	C3-94	C3-93
	480	2.5	3	20 ¹ / ₄ (514)	BHN720E13S	8 (4)	C2-43	C2-35	BHN720E13C	11 (5)	C3-116	C3-118
	240	3.0	3	25 ¹ / ₄ (641)	BHN725E12S	9 (4)	C2-50	C2-92	BHN725E12C	12 (6)	C3-94	C3-93
	480	3.0	3	25 ¹ / ₄ (641)	BHN725E13S	9 (4)	C2-43	C2-35	BHN725E13C	12 (6)	C3-116	C3-118
	240	4.0	3	32 ³ / ₄ (832)	BHN732N12S	9 (4)	C2-50	C2-92	BHN732N12C	12 (6)	C3-94	C3-93
	480	4.0	3	32 ³ / ₄ (832)	BHN732N13S	9 (4)	C2-43	C2-35	BHN732N13C	12 (6)	C3-116	C3-118
	240	5.0	3	40 ¹ / ₄ (1022)	BHN740E12S	10 (5)	C2-50	C2-92	BHN740E12C	13 (6)	C3-94	C3-93
	480	5.0	3	40 ¹ / ₄ (1022)	BHN740E13S	10 (5)	C2-43	C2-35	BHN740E13C	13 (6)	C3-116	C3-118
	240	6.0	3	47 ³ / ₄ (1213)	BHN747N12S	11 (5)	C2-50	C2-92	BHN747N12C	14 (7)	C3-94	C3-93
	480	6.0	3	47 ³ / ₄ (1213)	BHN747N13S	11 (5)	C2-43	C2-35	BHN747N13C	14 (7)	C3-116	C3-118
15 W/in² Steel Plug 3-Steel Elements (2.3 W/cm²)	240	1.5	3	13 ¹ / ₄ (337)	BHSS13E3S	6 (3)	C2-50	C2-92	BHSS13E3C	9 (4)	C3-94	C3-93
	480	1.5	3	13 ¹ / ₄ (337)	BHSS13E13S	6 (3)	C2-43	C2-35	BHSS13E13C	9 (4)	C3-116	C3-118
	240	2.0	3	17 ¹ / ₂ (445)	BHSS17J3S	7 (4)	C2-50	C2-92	BHSS17J3C	10 (5)	C3-94	C3-93
	480	2.0	3	17 ¹ / ₂ (445)	BHSS17J5S	7 (4)	C2-43	C2-35	BHSS17J5C	10 (5)	C3-116	C3-118
	240	2.5	3	20 ¹ / ₂ (521)	BHSS20J3S	8 (4)	C2-50	C2-92	BHSS20J3C	11 (5)	C3-94	C3-93
	480	2.5	3	20 ¹ / ₂ (521)	BHSS20J5S	8 (4)	C2-43	C2-35	BHSS20J5C	11 (5)	C3-116	C3-118
	240	3.0	3	25 (635)	BHSS25A3S	9 (4)	C2-50	C2-92	BHSS25A3C	12 (6)	C3-94	C3-93
	480	3.0	3	25 (635)	BHSS25A5S	9 (4)	C2-43	C2-35	BHSS25A5C	12 (6)	C3-116	C3-118
	240	4.0	3	32 ¹ / ₂ (826)	BHSS32J3S	9 (4)	C2-50	C2-92	BHSS32J3C	12 (6)	C3-94	C3-93
	480	4.0	3	32 ¹ / ₂ (826)	BHSS32J5S	9 (4)	C2-43	C2-35	BHSS32J5C	12 (6)	C3-116	C3-118
	240	5.0	3	40 (1016)	BHSS40A3S	10 (5)	C2-50	C2-92	BHSS40A3C	13 (6)	C3-94	C3-93
	480	5.0	3	40 (1016)	BHSS40A5S	10 (5)	C2-43	C2-35	BHSS40A5C	13 (6)	C3-116	C3-118
	240	6.0	3	47 ¹ / ₂ (1207)	BHSS47J3S	11 (5)	C2-50	C2-92	BHSS47J3C	14 (7)	C3-94	C3-93
	480	6.0	3	47 ¹ / ₂ (1207)	BHSS47J5S	11 (5)	C2-43	C2-35	BHSS47J5C	14 (7)	C3-116	C3-118
	240	7.5	3	58 ¹ / ₂ (1486)	BHSS58J3S	14 (7)	C2-50	C2-92	BHSS58J3C	17 (8)	C3-94	C3-93
	480	7.5	3	58 ¹ / ₂ (1486)	BHSS58J5S	14 (7)	C2-43	C2-35	BHSS58J5C	17 (8)	C3-116	C3-118
240	9.0	3	69 ³ / ₄ (1772)	BHSS69N3S	16 (8)	C2-50	C2-92	BHSS69N3C	19 (9)	C3-94	C3-93	

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

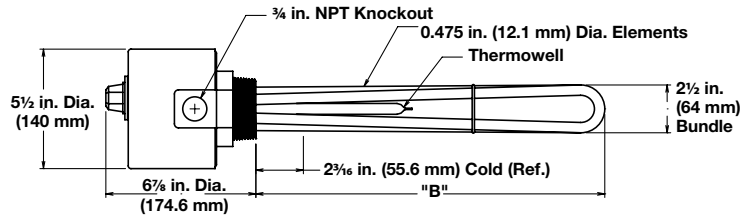


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A
- 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	WATCONNECT		Part Number	WATCONNECT		Part Number	WATCONNECT	
							Type J T/C	Type K T/C		Type J T/C	Type K T/C		Type J T/C	Type K T/C
16 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm ²)	240	1.0	3	9 ³ / ₈ (238.1)	7 (4)	BLN79G12S4	C/F	C/F	BLN79G12S5A	C/F	C/F	BLN79G12S7A	C/F	C/F
	480	1.0	3	9 ³ / ₈ (238.1)	7 (4)	BLN79G13S4	C/F	C/F	BLN79G13S5A	C/F	C/F	BLN79G13S7A	C/F	C/F
	240	1.5	3	12 ⁷ / ₈ (327.0)	8 (4)	BLN712R12S4	C/F	C/F	BLN712R12S5A	C/F	C/F	BLN712R12S7A	C/F	C/F
	480	1.5	3	12 ⁷ / ₈ (327.0)	8 (4)	BLN712R13S4	C/F	C/F	BLN712R13S5A	C/F	C/F	BLN712R13S7A	C/F	C/F
	240	2.0	3	17 ³ / ₈ (441.3)	10 (5)	BLN717G12S4	C/F	C/F	BLN717G12S5A	C/F	C/F	BLN717G12S7A	C/F	C/F
	480	2.0	3	17 ³ / ₈ (441.3)	10 (5)	BLN717G13S4	C/F	C/F	BLN717G13S5A	C/F	C/F	BLN717G13S7A	C/F	C/F
	240	2.5	3	19 ⁷ / ₈ (504.8)	12 (6)	BLN719R12S4	C/F	C/F	BLN719R12S5A	C/F	C/F	BLN719R12S7A	C/F	C/F
	480	2.5	3	19 ⁷ / ₈ (504.8)	12 (6)	BLN719R13S4	C/F	C/F	BLN719R13S5A	C/F	C/F	BLN719R13S7A	C/F	C/F
	240	3.0	3	24 ⁷ / ₈ (631.8)	13 (6)	BLN724R12S4	C/F	C/F	BLN724R12S5A	C/F	C/F	BLN724R12S7A	C/F	C/F
	480	3.0	3	24 ⁷ / ₈ (631.8)	13 (6)	BLN724R13S4	C/F	C/F	BLN724R13S5A	C/F	C/F	BLN724R13S7A	C/F	C/F
	240	4.0	3	32 ³ / ₈ (822.3)	15 (7)	BLN732G12S4	C/F	C/F	BLN732G12S5A	C/F	C/F	BLN732G12S7A	C/F	C/F
	480	4.0	3	32 ³ / ₈ (822.3)	15 (7)	BLN732G13S4	C/F	C/F	BLN732G13S5A	C/F	C/F	BLN732G13S7A	C/F	C/F
	240	5.0	3	39 ⁷ / ₈ (1012.8)	16 (8)	BLN739R12S4	C/F	C/F	BLN739R12S5A	C/F	C/F	BLN739R12S7A	C/F	C/F
	480	5.0	3	39 ⁷ / ₈ (1012.8)	16 (8)	BLN739R13S4	C/F	C/F	BLN739R13S5A	C/F	C/F	BLN739R13S7A	C/F	C/F
	240	6.0	3	47 ³ / ₈ (1203.3)	18 (9)	BLN747G12S4	C/F	C/F	BLN747G12S5A	C/F	C/F	BLN747G12S7A	C/F	C/F
	480	6.0	3	47 ³ / ₈ (1203.3)	18 (9)	BLN747G13S4	C/F	C/F	BLN747G13S5A	C/F	C/F	BLN747G13S7A	C/F	C/F

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

③ Wired for 3-phase operation only

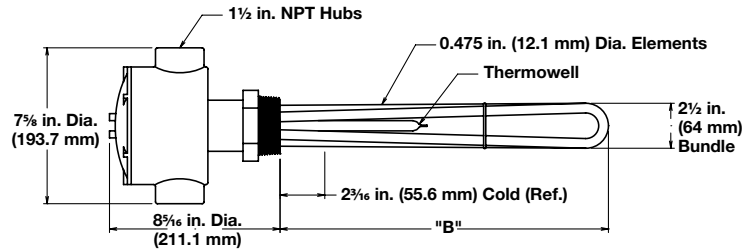
Immersion Heaters



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), Type 4, 5A or 7A
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							Moisture/ Explosion- Resistant Enclosure ⑤	Type J T/C		Type K T/C	Moisture/ Explosion- Resistant Enclosure ⑤		Type J T/C	Type K T/C
16 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm ²)	240	1.0	3	9 3/8 (238.1)	10 (5)	BLN79G12C4	C/F	C/F	BLN79G12C5A	C/F	C/F	BLN79G12C7A	C/F	C/F
	480	1.0	3	9 3/8 (238.1)	10 (5)	BLN79G13C4	C/F	C/F	BLN79G13C5A	C/F	C/F	BLN79G13C7A	C/F	C/F
	240	1.5	3	12 7/8 (327.0)	11 (5)	BLN712R12C4	C/F	C/F	BLN712R12C5A	C/F	C/F	BLN712R12C7A	C/F	C/F
	480	1.5	3	12 7/8 (327.0)	11 (5)	BLN712R13C4	C/F	C/F	BLN712R13C5A	C/F	C/F	BLN712R13C7A	C/F	C/F
	240	2.0	3	17 3/8 (441.3)	13 (6)	BLN717G12C4	C/F	C/F	BLN717G12C5A	C/F	C/F	BLN717G12C7A	C/F	C/F
	480	2.0	3	17 3/8 (441.3)	13 (6)	BLN717G13C4	C/F	C/F	BLN717G13C5A	C/F	C/F	BLN717G13C7A	C/F	C/F
	240	2.5	3	19 7/8 (504.8)	15 (7)	BLN719R12C4	C/F	C/F	BLN719R12C5A	C/F	C/F	BLN719R12C7A	C/F	C/F
	480	2.5	3	19 7/8 (504.8)	15 (7)	BLN719R13C4	C/F	C/F	BLN719R13C5A	C/F	C/F	BLN719R13C7A	C/F	C/F
	240	3.0	3	24 7/8 (631.8)	16 (8)	BLN724R12C4	C/F	C/F	BLN724R12C5A	C/F	C/F	BLN724R12C7A	C/F	C/F
	480	3.0	3	24 7/8 (631.8)	16 (8)	BLN724R13C4	C/F	C/F	BLN724R13C5A	C/F	C/F	BLN724R13C7A	C/F	C/F
	240	4.0	3	32 3/8 (822.3)	18 (9)	BLN732G12C4	C/F	C/F	BLN732G12C5A	C/F	C/F	BLN732G12C7A	C/F	C/F
	480	4.0	3	32 3/8 (822.3)	18 (9)	BLN732G13C4	C/F	C/F	BLN732G13C5A	C/F	C/F	BLN732G13C7A	C/F	C/F
	240	5.0	3	39 7/8 (1012.8)	19 (9)	BLN739R12C4	C/F	C/F	BLN739R12C5A	C/F	C/F	BLN739R12C7A	C/F	C/F
	480	5.0	3	39 7/8 (1012.8)	19 (9)	BLN739R13C4	C/F	C/F	BLN739R13C5A	C/F	C/F	BLN739R13C7A	C/F	C/F
	240	6.0	3	47 3/8 (1203.3)	21 (10)	BLN747G12C4	C/F	C/F	BLN747G12C5A	C/F	C/F	BLN747G12C7A	C/F	C/F
	480	6.0	3	47 3/8 (1203.3)	21 (10)	BLN747G13C4	C/F	C/F	BLN747G13C5A	C/F	C/F	BLN747G13C7A	C/F	C/F

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

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters

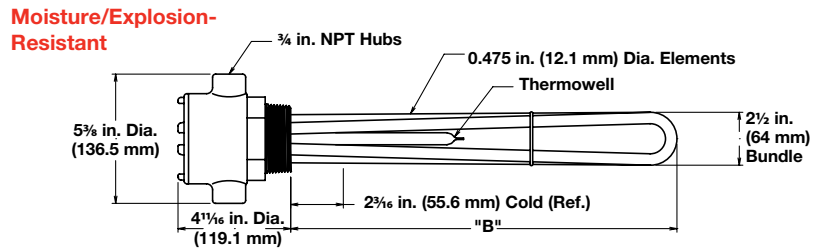
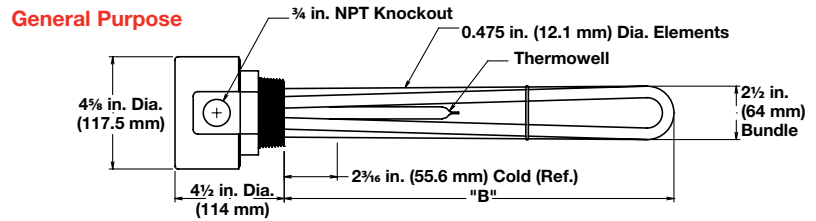


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
16 W/in² ③ 304 SS Plug 3-Alloy 800 Elements (2.5 W/cm²)	240	1.0	3	9 ³ / ₈ (238.1)	BLN79G12S	6 (3)	C2-50	C2-92	BLN79G12C	9 (4)	C3-94	C3-93
	480	1.0	3	9 ³ / ₈ (238.1)	BLN79G13S	6 (3)	C2-43	C2-35	BLN79G13C	9 (4)	C3-116	C3-118
	240	1.5	3	12 ⁷ / ₈ (327.0)	BLN712R12S	7 (4)	C2-50	C2-92	BLN712R12C	10 (5)	C3-94	C3-93
	480	1.5	3	12 ⁷ / ₈ (327.0)	BLN712R13S	7 (4)	C2-43	C2-35	BLN712R13C	10 (5)	C3-116	C3-118
	240	2.0	3	17 ³ / ₈ (441.3)	BLN717G12S	9 (4)	C2-50	C2-92	BLN717G12C	12 (6)	C3-94	C3-93
	480	2.0	3	17 ³ / ₈ (441.3)	BLN717G13S	9 (4)	C2-43	C2-35	BLN717G13C	12 (6)	C3-116	C3-118
	240	2.5	3	19 ⁷ / ₈ (504.8)	BLN719R12S	11 (5)	C2-50	C2-92	BLN719R12C	14 (7)	C3-94	C3-93
	480	2.5	3	19 ⁷ / ₈ (504.8)	BLN719R13S	11 (5)	C2-43	C2-35	BLN719R13C	14 (7)	C3-116	C3-118
	240	3.0	3	24 ⁷ / ₈ (631.8)	BLN724R12S	12 (6)	C2-50	C2-92	BLN724R12C	15 (7)	C3-94	C3-93
	480	3.0	3	24 ⁷ / ₈ (631.8)	BLN724R13S	12 (6)	C2-43	C2-35	BLN724R13C	15 (7)	C3-116	C3-118
	240	4.0	3	32 ³ / ₈ (822.3)	BLN732G12S	14 (7)	C2-50	C2-92	BLN732G12C	17 (8)	C3-94	C3-93
	480	4.0	3	32 ³ / ₈ (822.3)	BLN732G13S	14 (7)	C2-43	C2-35	BLN732G13C	17 (8)	C3-116	C3-118
	240	5.0	3	39 ⁷ / ₈ (1012.8)	BLN739R12S	15 (7)	C2-50	C2-92	BLN739R12C	18 (9)	C3-94	C3-93
	480	5.0	3	39 ⁷ / ₈ (1012.8)	BLN739R13S	15 (7)	C2-43	C2-35	BLN739R13C	18 (9)	C3-116	C3-118
	240	6.0	3	47 ³ / ₈ (1203.3)	BLN747G12S	17 (8)	C2-50	C2-92	BLN747G12C	20 (9)	C3-94	C3-93
	480	6.0	3	47 ³ / ₈ (1203.3)	BLN747G13S	17 (8)	C2-43	C2-35	BLN747G13C	20 (9)	C3-116	C3-118

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



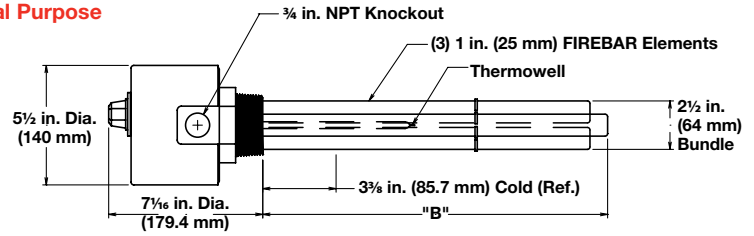
WATROD and FIREBAR Screw Plug Immersion Heaters



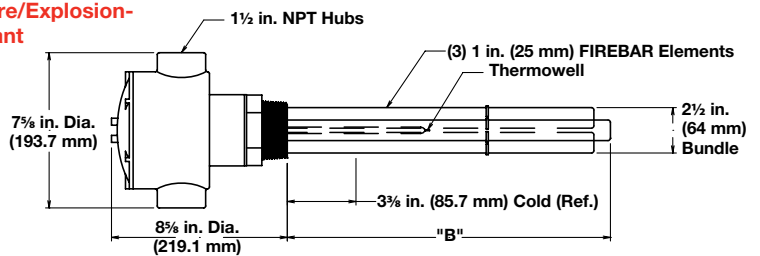
Application: Medium Weight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
 - FIREBAR elements
 - With thermostat (DPST), Type 5A or 7A
- 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
 - 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	Type J T/C	Type K T/C	General Purpose Enclosure	Type J T/C	Type K T/C
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	C/F	C/F	BLNF12A29S7A	C/F	C/F
	240	2.5	3	14 1/2 (368)	12 (6)	BLNF14J29S5A	C/F	C/F	BLNF14J29S7A	C/F	C/F
	240	3.0	3	17 (432)	13 (6)	BLNF17A29S5A	C/F	C/F	BLNF17A29S7A	C/F	C/F
	240	4.0	3	21 1/2 (546)	15 (7)	BLNF21J29S5A	C/F	C/F	BLNF21J29S7A	C/F	C/F
	480	4.0	3	21 1/2 (546)	15 (7)	BLNF21J30S5A	C/F	C/F	BLNF21J30S7A	C/F	C/F
	240	5.0	3	26 1/2 (673)	18 (9)	BLNF26J29S5A	C/F	C/F	BLNF26J29S7A	C/F	C/F
	480	5.0	3	26 1/2 (673)	18 (9)	BLNF26J30S5A	C/F	C/F	BLNF26J30S7A	C/F	C/F
	240	6.0	3	31 1/2 (800)	19 (9)	BLNF31J29S5A	C/F	C/F	BLNF31J29S7A	C/F	C/F
	480	6.0	3	31 1/2 (800)	19 (9)	BLNF31J30S5A	C/F	C/F	BLNF31J30S7A	C/F	C/F
	240	8.0	3	41 (1041)	21 (10)	BLNF41A29S5A	C/F	C/F	BLNF41A29S7A	C/F	C/F
240	10.0	3	50 1/2 (1283)	23 (11)	BLNF50J29S5A	C/F	C/F	BLNF50J29S7A	C/F	C/F	
						Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C	Moisture/Explosion-Resistant Enclosure ⑤	Type J T/C	Type K T/C
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	C/F	C/F	BLNF12A29C7A	C/F	C/F
	240	2.5	3	14 1/2 (368)	15 (7)	BLNF14J29C5A	C/F	C/F	BLNF14J29C7A	C/F	C/F
	240	3.0	3	17 (432)	16 (8)	BLNF17A29C5A	C/F	C/F	BLNF17A29C7A	C/F	C/F
	240	4.0	3	21 1/2 (546)	18 (9)	BLNF21J29C5A	C/F	C/F	BLNF21J29C7A	C/F	C/F
	480	4.0	3	21 1/2 (546)	18 (9)	BLNF21J30C5A	C/F	C/F	BLNF21J30C7A	C/F	C/F
	240	5.0	3	26 1/2 (673)	21 (10)	BLNF26J29C5A	C/F	C/F	BLNF26J29C7A	C/F	C/F
	480	5.0	3	26 1/2 (673)	21 (10)	BLNF26J30C5A	C/F	C/F	BLNF26J30C7A	C/F	C/F
	240	6.0	3	31 1/2 (800)	22 (10)	BLNF31J29C5A	C/F	C/F	BLNF31J29C7A	C/F	C/F
	480	6.0	3	31 1/2 (800)	22 (10)	BLNF31J30C5A	C/F	C/F	BLNF31J30C7A	C/F	C/F
	240	8.0	3	41 (1041)	24 (11)	BLNF41A29C5A	C/F	C/F	BLNF41A29C7A	C/F	C/F
240	10.0	3	50 1/2 (1283)	26 (11)	BLNF50J29C5A	C/F	C/F	BLNF50J29C7A	C/F	C/F	

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.

C/F - Contact factory, go to www.watlow.com/en/contact-us

③ Wired for 3-phase operation only

⑤ No third party recognition

Immersion Heaters



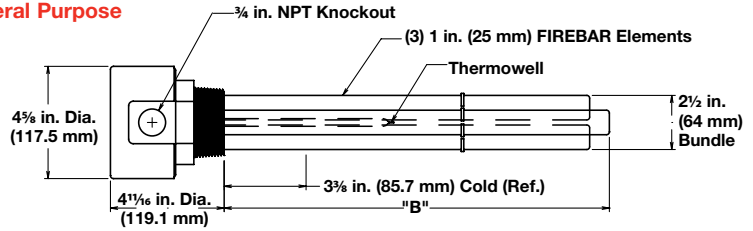
WATROD and FIREBAR Screw Plug Immersion Heaters



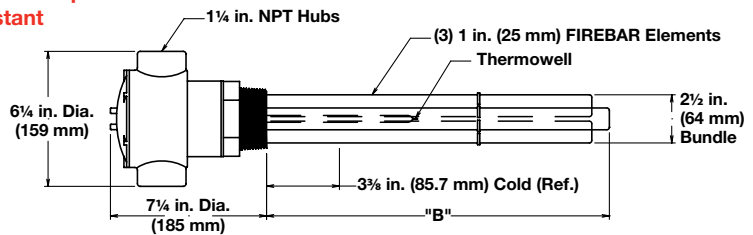
Application: Medium Weight Oils and Heat Transfer Oils

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- 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		WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
					General Purpose Enclosure		Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
15 W/in ² ③ 304 SS Plug 3-Alloy 800 Elements (2.3 W/cm ²)	240	2.0	3	12 (305)	BLNF12A29S	10 (5)	C2-50	C2-92	BLNF12A29C	13 (6)	C3-94	C3-93
	240	2.5	3	14 1/2 (368)	BLNF14J29S	11 (5)	C2-50	C2-92	BLNF14J29C	14 (7)	C3-94	C3-93
	240	3.0	3	17 (432)	BLNF17A29S	12 (6)	C2-50	C2-92	BLNF17A29C	15 (7)	C3-94	C3-93
	240	4.0	3	21 1/2 (546)	BLNF21J29S	14 (7)	C2-50	C2-92	BLNF21J29C	17 (8)	C3-94	C3-93
	480	4.0	3	21 1/2 (546)	BLNF21J30S	14 (7)	C2-43	C2-35	BLNF21J30C	17 (8)	C3-116	C3-118
	240	5.0	3	26 1/2 (673)	BLNF26J29S	17 (8)	C2-50	C2-92	BLNF26J29C	20 (9)	C3-94	C3-93
	480	5.0	3	26 1/2 (673)	BLNF26J30S	17 (8)	C2-43	C2-35	BLNF26J30C	20 (9)	C3-116	C3-118
	240	6.0	3	31 1/2 (800)	BLNF31J29S	18 (9)	C2-50	C2-92	BLNF31J29C	21 (10)	C3-94	C3-93
	480	6.0	3	31 1/2 (800)	BLNF31J30S	18 (9)	C2-43	C2-35	BLNF31J30C	21 (10)	C3-116	C3-118
	240	8.0	3	41 (1041)	BLNF41A29S	20 (9)	C2-50	C2-92	BLNF41A29C	23 (11)	C3-94	C3-93
	480	8.0	3	41 (1041)	BLNF41A30S	20 (9)	C2-43	C2-35	BLNF41A30C	23 (11)	C3-116	C3-118
	240	10.0	3	50 1/2 (1283)	BLNF50J29S	22 (10)	C2-50	C2-92	BLNF50J29C	25 (12)	C3-94	C3-93
	480	10.0	3	50 1/2 (1283)	BLNF50J30S	22 (10)	C2-43	C2-35	BLNF50J30C	25 (12)	C3-116	C3-118

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

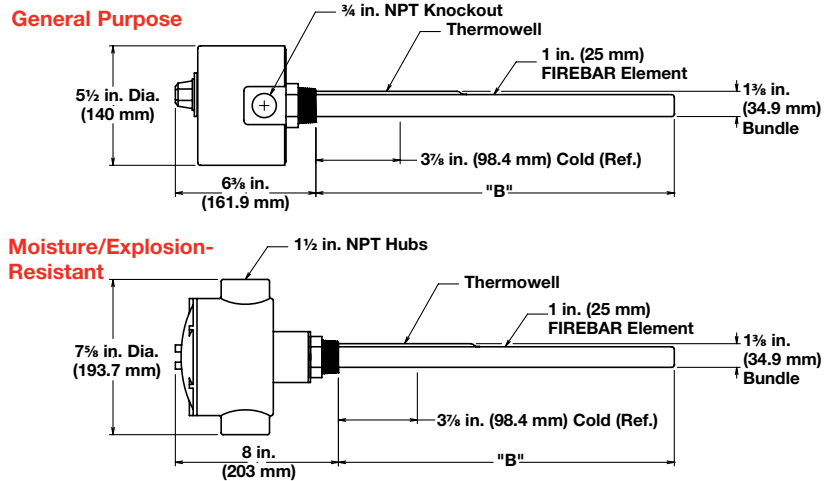


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST), Type 5A or 7A
- General purpose enclosure
- 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 (60-250°F)			Type 7A (100-550°F)		
						Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose	Type J T/C		Type K T/C	General Purpose
8 W/in ² ③ 304 SS Plug 1-Alloy 800 Element (1.3 W/cm ²)	240	0.43	3	16 ¹ / ₈ (409.6)	8 (4)	BDNF16G22S5A	C/F	C/F	BDNF16G22S7A	C/F	C/F
	240	0.55	3	19 ¹ / ₈ (485.8)	9 (4)	BDNF19G22S5A	C/F	C/F	BDNF19G22S7A	C/F	C/F
	240	0.70	3	24 ³ / ₈ (619.1)	10 (5)	BDNF24L22S5A	C/F	C/F	BDNF24L22S7A	C/F	C/F
	480	0.70	3	24 ³ / ₈ (619.1)	10 (5)	BDNF24L21S5A	C/F	C/F	BDNF24L21S7A	C/F	C/F
	240	0.88	3	29 ⁵ / ₈ (752.5)	11 (5)	BDNF29R22S5A	C/F	C/F	BDNF29R22S7A	C/F	C/F
	480	0.88	3	29 ⁵ / ₈ (752.5)	11 (5)	BDNF29R21S5A	C/F	C/F	BDNF29R21S7A	C/F	C/F
	240	1.08	3	34 ⁵ / ₈ (879.5)	12 (6)	BDNF34R22S5A	C/F	C/F	BDNF34R22S7A	C/F	C/F
	480	1.08	3	34 ⁵ / ₈ (879.5)	12 (6)	BDNF34R21S5A	C/F	C/F	BDNF34R21S7A	C/F	C/F
	240	1.40	3	45 ¹ / ₈ (1146.2)	14 (7)	BDNF45G22S5A	C/F	C/F	BDNF45G22S7A	C/F	C/F
	480	1.40	3	45 ¹ / ₈ (1146.2)	14 (7)	BDNF45G21S5A	C/F	C/F	BDNF45G21S7A	C/F	C/F
	240	1.80	3	55 ⁵ / ₈ (1412.9)	16 (8)	BDNF55R22S5A	C/F	C/F	BDNF55R22S7A	C/F	C/F
	480	1.80	3	55 ⁵ / ₈ (1412.9)	16 (8)	BDNF55R21S5A	C/F	C/F	BDNF55R21S7A	C/F	C/F
8 W/in ² ③ 304 SS Plug 1-Alloy 800 Element (1.3 W/cm ²)	240	0.43	3	16 ¹ / ₈ (409.6)	11 (5)	BDNF16G22C5A	C/F	C/F	BDNF16G22C7A	C/F	C/F
	240	0.55	3	19 ¹ / ₈ (485.8)	12 (6)	BDNF19G22C5A	C/F	C/F	BDNF19G22C7A	C/F	C/F
	240	0.70	3	24 ³ / ₈ (619.1)	13 (6)	BDNF24L22C5A	C/F	C/F	BDNF24L22C7A	C/F	C/F
	480	0.70	3	24 ³ / ₈ (619.1)	13 (6)	BDNF24L21C5A	C/F	C/F	BDNF24L21C7A	C/F	C/F
	240	0.88	3	29 ⁵ / ₈ (752.5)	14 (7)	BDNF29R22C5A	C/F	C/F	BDNF29R22C7A	C/F	C/F
	480	0.88	3	29 ⁵ / ₈ (752.5)	14 (7)	BDNF29R21C5A	C/F	C/F	BDNF29R21C7A	C/F	C/F
	240	1.08	3	34 ⁵ / ₈ (879.5)	15 (7)	BDNF34R22C5A	C/F	C/F	BDNF34R22C7A	C/F	C/F
	480	1.08	3	34 ⁵ / ₈ (879.5)	15 (7)	BDNF34R21C5A	C/F	C/F	BDNF34R21C7A	C/F	C/F
	240	1.40	3	45 ¹ / ₈ (1146.2)	17 (8)	BDNF45G22C5A	C/F	C/F	BDNF45G22C7A	C/F	C/F
	480	1.40	3	45 ¹ / ₈ (1146.2)	17 (8)	BDNF45G21C5A	C/F	C/F	BDNF45G21C7A	C/F	C/F
	240	1.80	3	55 ⁵ / ₈ (1412.9)	19 (9)	BDNF55R22C5A	C/F	C/F	BDNF55R22C7A	C/F	C/F
	480	1.80	3	55 ⁵ / ₈ (1412.9)	19 (9)	BDNF55R21C5A	C/F	C/F	BDNF55R21C7A	C/F	C/F

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

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



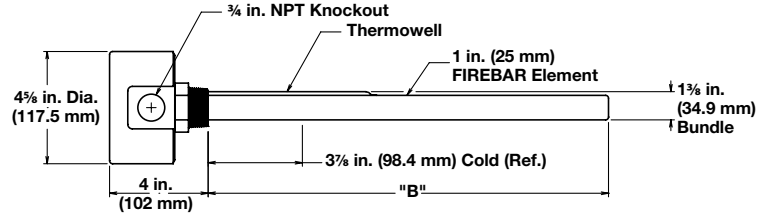
WATROD and FIREBAR Screw Plug Immersion Heaters



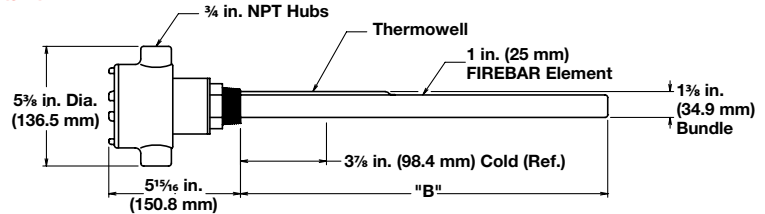
Application: Bunker C, Asphalt and #6 Fuel Oil

- 1 1/4 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- 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)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
8 W/in ² ③ 304 SS Plug 1-Alloy 800 Element (1.3 W/cm ²)	240	0.43	3	16 1/8 (409.6)	BDNF16G22S	7 (4)	C2-50	C2-92	BDNF16G22C	10 (5)	C3-94	C3-93
	240	0.55	3	19 1/8 (485.8)	BDNF19G22S	8 (4)	C2-50	C2-92	BDNF19G22C	11 (5)	C3-94	C3-93
	240	0.70	3	24 3/8 (619.1)	BDNF24L22S	9 (4)	C2-50	C2-92	BDNF24L22C	12 (6)	C3-94	C3-93
	480	0.70	3	24 3/8 (619.1)	BDNF24L21S	9 (4)	C2-43	C2-35	BDNF24L21C	12 (6)	C3-116	C3-118
	240	0.88	3	29 5/8 (752.5)	BDNF29R22S	10 (5)	C2-50	C2-92	BDNF29R22C	13 (6)	C3-94	C3-93
	480	0.88	3	29 5/8 (752.5)	BDNF29R21S	10 (5)	C2-43	C2-35	BDNF29R21C	13 (6)	C3-116	C3-118
	240	1.08	3	34 5/8 (879.5)	BDNF34R22S	11 (5)	C2-50	C2-92	BDNF34R22C	14 (7)	C3-94	C3-93
	480	1.08	3	34 5/8 (879.5)	BDNF34R21S	11 (5)	C2-43	C2-35	BDNF34R21C	14 (7)	C3-116	C3-118
	240	1.40	3	45 1/8 (1146.2)	BDNF45G22S	13 (6)	C2-50	C2-92	BDNF45G22C	16 (8)	C3-94	C3-93
	480	1.40	3	45 1/8 (1146.2)	BDNF45G21S	13 (6)	C2-43	C2-35	BDNF45G21C	16 (8)	C3-116	C3-118
	240	1.80	3	55 5/8 (1412.9)	BDNF55R22S	15 (7)	C2-50	C2-92	BDNF55R22C	18 (9)	C3-94	C3-93
	480	1.80	3	55 5/8 (1412.9)	BDNF55R21S	15 (7)	C2-43	C2-35	BDNF55R21C	18 (9)	C3-116	C3-118

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



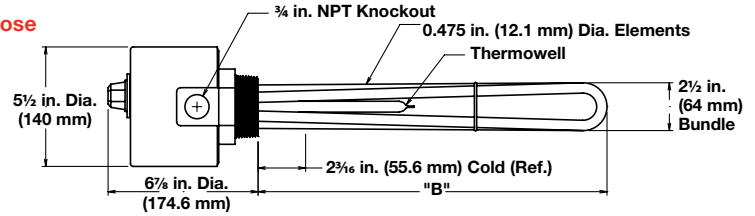
WATROD and FIREBAR Screw Plug Immersion Heaters



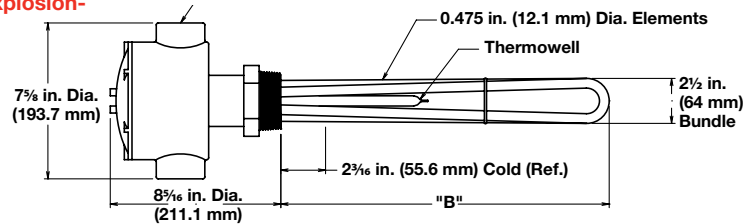
Application: Bunker C, Asphalt and #6 Fuel Oil

- 2 1/2 inch NPT screw plug
- WATROD elements
- With thermostat (DPST), Type 4, 5A or 7A
- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		Part Number	WATCONNECT Part Number		
							General Purpose Enclosure	Type J T/C		Type K T/C	General Purpose Enclosure		Type J T/C	Type K T/C	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	C/F	C/F	BLS717E12S5A	C/F	C/F	BLS717E12S7	C/F	C/F	
	480	1.0	3	17 1/4 (438)	10 (5)	BLS717E13S4	C/F	C/F	BLS717E13S5A	C/F	C/F	BLS717E13S7	C/F	C/F	
	240	1.5	3	24 3/4 (629)	13 (6)	BLS724N12S4	C/F	C/F	BLS724N12S5A	C/F	C/F	BLS724N12S7	C/F	C/F	
	480	1.5	3	24 3/4 (629)	13 (6)	BLS724N13S4	C/F	C/F	BLS724N13S5A	C/F	C/F	BLS724N13S7	C/F	C/F	
	240	2.0	3	32 1/4 (819)	15 (7)	BLS732E12S4	C/F	C/F	BLS732E12S5A	C/F	C/F	BLS732E12S7	C/F	C/F	
	480	2.0	3	32 1/4 (819)	15 (7)	BLS732E13S4	C/F	C/F	BLS732E13S5A	C/F	C/F	BLS732E13S7	C/F	C/F	
	240	2.5	3	39 3/4 (1010)	16 (8)	BLS739N12S4	C/F	C/F	BLS739N12S5A	C/F	C/F	BLS739N12S7	C/F	C/F	
	480	2.5	3	39 3/4 (1010)	16 (8)	BLS739N13S4	C/F	C/F	BLS739N13S5A	C/F	C/F	BLS739N13S7	C/F	C/F	
	240	3.0	3	47 1/4 (1200)	18 (9)	BLS747E12S4	C/F	C/F	BLS747E12S5A	C/F	C/F	BLS747E12S7	C/F	C/F	
	480	3.0	3	47 1/4 (1200)	18 (9)	BLS747E13S4	C/F	C/F	BLS747E13S5A	C/F	C/F	BLS747E13S7	C/F	C/F	
	240	4.0	3	63 3/4 (1619)	21 (10)	BLS763N12S4	C/F	C/F	BLS763N12S5A	C/F	C/F	BLS763N12S7	C/F	C/F	
	480	4.0	3	63 3/4 (1619)	21 (10)	BLS763N13S4	C/F	C/F	BLS763N13S5A	C/F	C/F	BLS763N13S7	C/F	C/F	
	240	5.0	3	76 1/4 (1937)	24 (11)	BLS776E12S4	C/F	C/F	BLS776E12S5A	C/F	C/F	BLS776E12S7	C/F	C/F	
	480	5.0	3	76 1/4 (1937)	24 (11)	BLS776E13S4	C/F	C/F	BLS776E13S5A	C/F	C/F	BLS776E13S7	C/F	C/F	
	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	C/F	C/F	BLS717E12C5A	C/F	C/F	BLS717E12C7A	C/F	C/F
		480	1.0	3	17 1/4 (438)	13 (6)	BLS717E13C4	C/F	C/F	BLS717E13C5A	C/F	C/F	BLS717E13C7A	C/F	C/F
240		1.5	3	24 3/4 (629)	16 (8)	BLS724N12C4	C/F	C/F	BLS724N12C5A	C/F	C/F	BLS724N12C7A	C/F	C/F	
480		1.5	3	24 3/4 (629)	16 (8)	BLS724N13C4	C/F	C/F	BLS724N13C5A	C/F	C/F	BLS724N13C7A	C/F	C/F	
240		2.0	3	32 1/4 (819)	18 (9)	BLS732E12C4	C/F	C/F	BLS732E12C5A	C/F	C/F	BLS732E12C7A	C/F	C/F	
480		2.0	3	32 1/4 (819)	18 (9)	BLS732E13C4	C/F	C/F	BLS732E13C5A	C/F	C/F	BLS732E13C7A	C/F	C/F	
240		2.5	3	39 3/4 (1010)	19 (9)	BLS739N12C4	C/F	C/F	BLS739N12C5A	C/F	C/F	BLS739N12C7A	C/F	C/F	
480		2.5	3	39 3/4 (1010)	19 (9)	BLS739N13C4	C/F	C/F	BLS739N13C5A	C/F	C/F	BLS739N13C7A	C/F	C/F	
240		3.0	3	47 1/4 (1200)	21 (10)	BLS747E12C4	C/F	C/F	BLS747E12C5A	C/F	C/F	BLS747E12C7A	C/F	C/F	
480		3.0	3	47 1/4 (1200)	21 (10)	BLS747E13C4	C/F	C/F	BLS747E13C5A	C/F	C/F	BLS747E13C7A	C/F	C/F	
240		4.0	3	63 3/4 (1619)	24 (11)	BLS763N12C4	C/F	C/F	BLS763N12C5A	C/F	C/F	BLS763N12C7A	C/F	C/F	
480		4.0	3	63 3/4 (1619)	24 (11)	BLS763N13C4	C/F	C/F	BLS763N13C5A	C/F	C/F	BLS763N13C7A	C/F	C/F	
240		5.0	3	76 1/4 (1937)	27 (13)	BLS776E12C4	C/F	C/F	BLS776E12C5A	C/F	C/F	BLS776E12C7A	C/F	C/F	
480		5.0	3	76 1/4 (1937)	27 (13)	BLS776E13C4	C/F	C/F	BLS776E13C5A	C/F	C/F	BLS776E13C7A	C/F	C/F	

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

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters

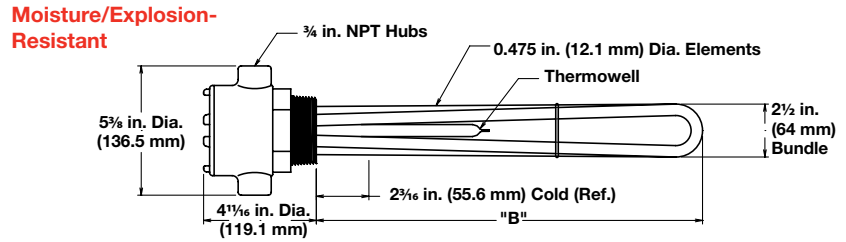
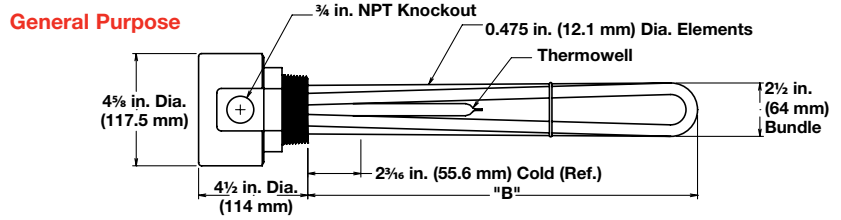


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 2 1/2 inch NPT screw plug
- WATROD elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Part Number	Ship Wt. lbs (kg)	WATCONNECT Part Number		Part Number ⑤	Ship Wt. lbs (kg)	WATCONNECT Part Number	
							Type J T/C	Type K T/C			Moisture/Explosion- Resistant Enclosure	Type J T/C
8 W/in² ③ Steel Plug 3-Steel Elements (1.3 W/cm²)	240	1.0	3	17 1/4 (438)	BLS717E12S	9 (4)	C2-50	C2-92	BLS717E12C	12 (6)	C3-94	C3-93
	480	1.0	3	17 1/4 (438)	BLS717E13S	9 (4)	C2-43	C2-35	BLS717E13C	12 (6)	C3-116	C3-118
	240	1.5	3	24 3/4 (629)	BLS724N12S	12 (6)	C2-50	C2-92	BLS724N12C	15 (7)	C3-94	C3-93
	480	1.5	3	24 3/4 (629)	BLS724N13S	12 (6)	C2-43	C2-35	BLS724N13C	15 (7)	C3-116	C3-118
	240	2.0	3	32 1/4 (819)	BLS732E12S	14 (7)	C2-50	C2-92	BLS732E12C	17 (8)	C3-94	C3-93
	480	2.0	3	32 1/4 (819)	BLS732E13S	14 (7)	C2-43	C2-35	BLS732E13C	17 (8)	C3-116	C3-118
	240	2.5	3	39 3/4 (1010)	BLS739N12S	15 (7)	C2-50	C2-92	BLS739N12C	18 (9)	C3-94	C3-93
	480	2.5	3	39 3/4 (1010)	BLS739N13S	15 (7)	C2-43	C2-35	BLS739N13C	18 (9)	C3-116	C3-118
	240	3.0	3	47 1/4 (1200)	BLS747E12S	17 (8)	C2-50	C2-92	BLS747E12C	20 (9)	C3-94	C3-93
	480	3.0	3	47 1/4 (1200)	BLS747E13S	17 (8)	C2-43	C2-35	BLS747E13C	20 (9)	C3-116	C3-118
	240	4.0	3	63 3/4 (1619)	BLS763N12S	20 (9)	C2-50	C2-92	BLS763N12C	23 (11)	C3-94	C3-93
	480	4.0	3	63 3/4 (1619)	BLS763N13S	20 (9)	C2-43	C2-35	BLS763N13C	23 (11)	C3-116	C3-118
	240	5.0	3	76 1/4 (1937)	BLS776E12S	23 (11)	C2-50	C2-92	BLS776E12C	26 (12)	C3-94	C3-93
	480	5.0	3	76 1/4 (1937)	BLS776E13S	23 (11)	C2-43	C2-35	BLS776E13C	26 (12)	C3-116	C3-118

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



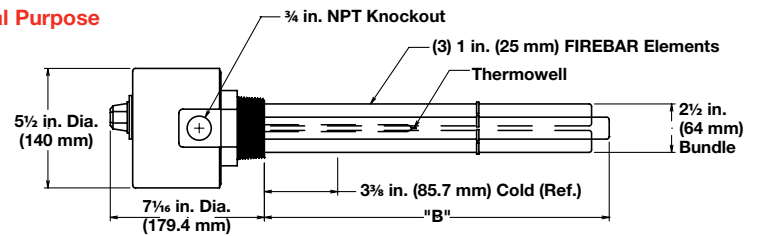
WATROD and FIREBAR Screw Plug Immersion Heaters



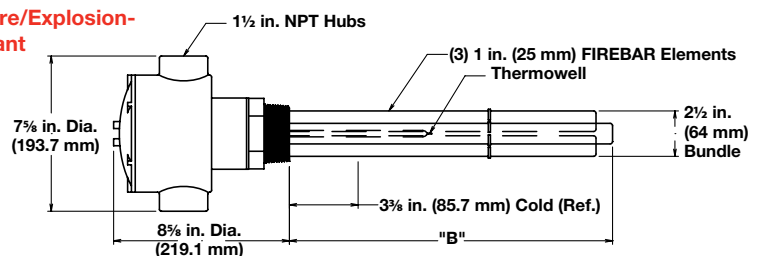
Application: Bunker C, Asphalt and #6 Fuel Oil

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- With thermostat (DPST), Type 5A or 7A
- General purpose enclosure
- 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	WATCONNECT Part Number		Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	Type J T/C		Type K T/C	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	C/F	C/F	BLNF15C22S7A	C/F	C/F
	240	1.63	3	18 1/8 (460.4)	13 (6)	BLNF18C22S5A	C/F	C/F	BLNF18C22S7A	C/F	C/F
	240	2.13	3	23 1/8 (587.4)	15 (7)	BLNF23C22S5A	C/F	C/F	BLNF23C22S7A	C/F	C/F
	480	2.13	3	23 1/8 (587.4)	15 (7)	BLNF23C21S5A	C/F	C/F	BLNF23C21S7A	C/F	C/F
	240	2.63	3	28 5/8 (727.1)	18 (9)	BLNF28L22S5A	C/F	C/F	BLNF28L22S7A	C/F	C/F
	480	2.63	3	28 5/8 (727.1)	18 (9)	BLNF28L21S5A	C/F	C/F	BLNF28L21S7A	C/F	C/F
	240	3.19	3	33 5/8 (854.1)	19 (9)	BLNF33L22S5A	C/F	C/F	BLNF33L22S7A	C/F	C/F
	480	3.19	3	33 5/8 (854.1)	19 (9)	BLNF33L21S5A	C/F	C/F	BLNF33L21S7A	C/F	C/F
	240	4.25	3	44 1/8 (1120.8)	21 (10)	BLNF44C22S5A	C/F	C/F	BLNF44C22S7A	C/F	C/F
	480	4.25	3	44 1/8 (1120.8)	21 (10)	BLNF44C21S5A	C/F	C/F	BLNF44C21S7A	C/F	C/F
	240	5.38	3	54 5/8 (1387.5)	23 (11)	BLNF54L22S5A	C/F	C/F	BLNF54L22S7A	C/F	C/F
	480	5.38	3	54 5/8 (1387.5)	23 (11)	BLNF54L21S5A	C/F	C/F	BLNF54L21S7A	C/F	C/F
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	C/F	C/F	BLNF15C22C7A	C/F	C/F
	240	1.63	3	18 1/8 (460.4)	16 (8)	BLNF18C22C5A	C/F	C/F	BLNF18C22C7A	C/F	C/F
	240	2.13	3	23 1/8 (587.4)	18 (9)	BLNF23C22C5A	C/F	C/F	BLNF23C22C7A	C/F	C/F
	480	2.13	3	23 1/8 (587.4)	18 (9)	BLNF23C21C5A	C/F	C/F	BLNF23C21C7A	C/F	C/F
	240	2.63	3	28 5/8 (727.1)	21 (10)	BLNF28L22C5A	C/F	C/F	BLNF28L22C7A	C/F	C/F
	480	2.63	3	28 5/8 (727.1)	21 (10)	BLNF28L21C5A	C/F	C/F	BLNF28L21C7A	C/F	C/F
	240	3.19	3	33 5/8 (854.1)	22 (10)	BLNF33L22C5A	C/F	C/F	BLNF33L22C7A	C/F	C/F
	480	3.19	3	33 5/8 (854.1)	22 (10)	BLNF33L21C5A	C/F	C/F	BLNF33L21C7A	C/F	C/F
	240	4.25	3	44 1/8 (1120.8)	24 (11)	BLNF44C22C5A	C/F	C/F	BLNF44C22C7A	C/F	C/F
	480	4.25	3	44 1/8 (1120.8)	24 (11)	BLNF44C21C5A	C/F	C/F	BLNF44C21C7A	C/F	C/F
	240	5.38	3	54 5/8 (1387.5)	26 (11)	BLNF54L22C5A	C/F	C/F	BLNF54L22C7A	C/F	C/F
	480	5.38	3	54 5/8 (1387.5)	26 (11)	BLNF54L21C5A	C/F	C/F	BLNF54L21C7A	C/F	C/F

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
C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters

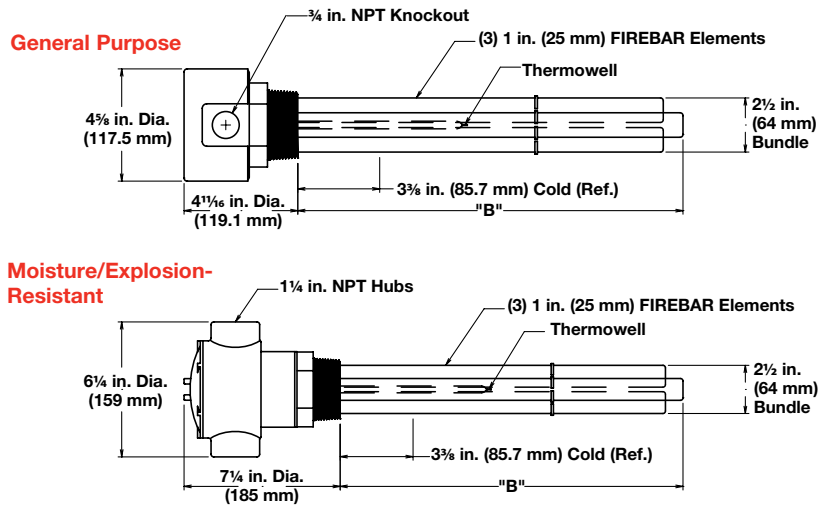


WATROD and FIREBAR Screw Plug Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 2 1/2 inch NPT screw plug
- FIREBAR elements
- Without thermostat
- General purpose enclosure
- Moisture/Explosion-Resistant enclosure (suitable for use in non-classified areas only)



Description	Volts	kW	Ph	"B" Dim. in. (mm)	General Purpose Enclosure		WATCONNECT Part Number		Moisture/Explosion-Resistant Enclosure		WATCONNECT Part Number	
					Part Number	Ship Wt. lbs (kg)	Type J T/C	Type K T/C	Part Number ⑤	Ship Wt. lbs (kg)	Type J T/C	Type K T/C
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	11 (5)	C2-50	C2-92	BLNF15C22C	14 (7)	C3-94	C3-93
	240	1.63	3	18 1/8 (460.4)	BLNF18C22S	12 (6)	C2-50	C2-92	BLNF18C22C	15 (7)	C3-94	C3-93
	240	2.13	3	23 1/8 (587.4)	BLNF23C22S	14 (7)	C2-50	C2-92	BLNF23C22C	17 (8)	C3-94	C3-93
	480	2.13	3	23 1/8 (587.4)	BLNF23C21S	14 (7)	C2-43	C2-35	BLNF23C21C	17 (8)	C3-116	C3-118
	240	2.63	3	28 5/8 (727.1)	BLNF28L22S	17 (8)	C2-50	C2-92	BLNF28L22C	20 (9)	C3-94	C3-93
	480	2.63	3	28 5/8 (727.1)	BLNF28L21S	17 (8)	C2-43	C2-35	BLNF28L21C	20 (9)	C3-116	C3-118
	240	3.19	3	33 5/8 (854.1)	BLNF33L22S	18 (9)	C2-50	C2-92	BLNF33L22C	21 (10)	C3-94	C3-93
	480	3.19	3	33 5/8 (854.1)	BLNF33L21S	18 (9)	C2-43	C2-35	BLNF33L21C	21 (10)	C3-116	C3-118
	240	4.25	3	44 1/8 (1120.8)	BLNF44C22S	20 (9)	C2-50	C2-92	BLNF44C22C	23 (11)	C3-94	C3-93
	480	4.25	3	44 1/8 (1120.8)	BLNF44C21S	20 (9)	C2-43	C2-35	BLNF44C21C	23 (11)	C3-116	C3-118
	240	5.38	3	54 5/8 (1387.5)	BLNF54L22S	22 (10)	C2-50	C2-92	BLNF54L22C	25 (12)	C3-94	C3-93
	480	5.38	3	54 5/8 (1387.5)	BLNF54L21S	22 (10)	C2-43	C2-35	BLNF54L21C	25 (12)	C3-116	C3-118

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

Part Number

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

Stock Screw Plug Part Number

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

Optional Terminal Enclosures

S =	General purpose enclosure
W =	NEMA 4 enclosure
C =	CSA Type 4/Explosion proof enclosure

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

Optional Bulb & Capillary Thermostats or Thermocouple 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 517.

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

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® Screw Plug Immersion Heaters

WATROD™ 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. 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

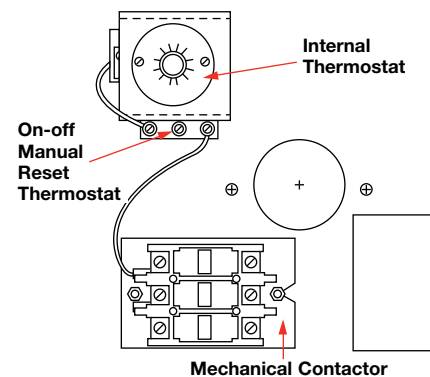
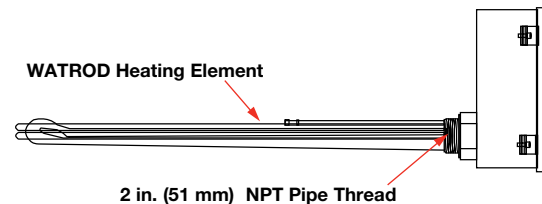
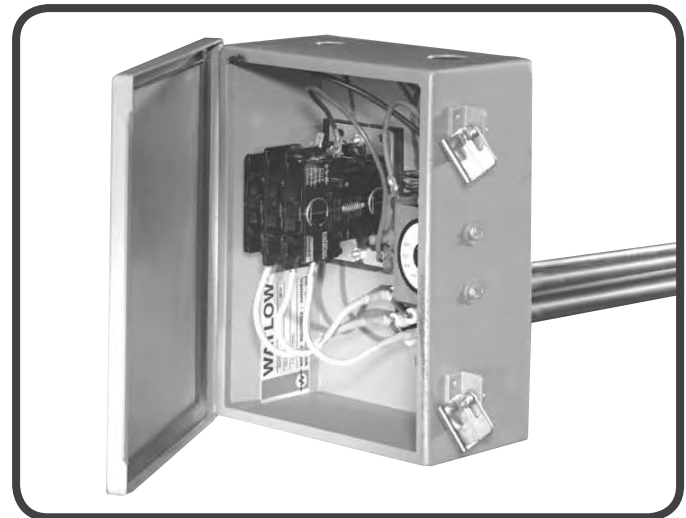
- Accommodates 3/4 in. (19 mm) NPT conduit fittings

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 149 for details.

Accessories

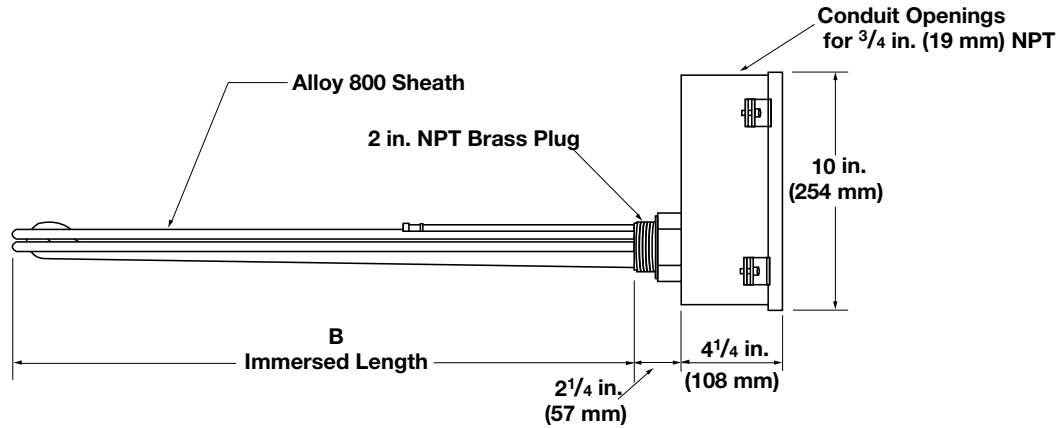
Clamping Nut, Gasket and Washers—for mounting to thin-wall tanks, use optional clamping nut, gasket and washers. To order, specify **NGW**.

Immersion Heaters



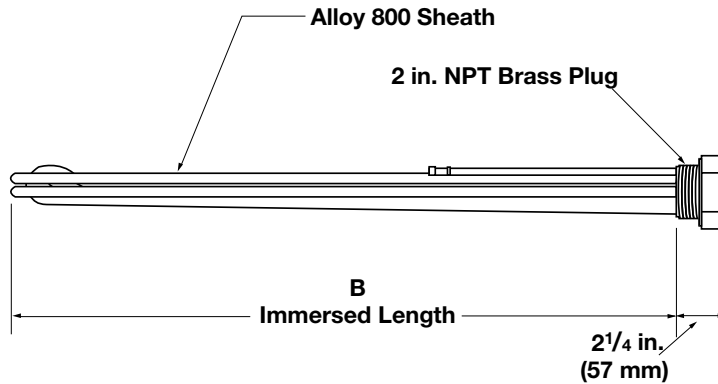
WATROD and FIREBAR Screw Plug Immersion Heaters

WATROD Screw Plug with Control Assembly (Continued)



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

WATROD Desc.	kW	Immersed Length in. (mm)	Part Number					Est. Net Wt. lbs (kg)
			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)
Brass Plug	12	30 (762.0)	BHNB30A2W2C11	BHNB30A3W2C11	BHNB30A8W2C11	BHNB30A5W2C11	BHNB30A16W2C11	24 (11)
3-Alloy 800	16	35% (904.8)	BHNB35L2W2C11	BHNB35L3W2C11	BHNB35L8W2C11	BHNB35L5W2C11	BHNB35L16W2C11	25 (11)
(7.8 W/cm ²)	20	45% (1158.8)		BHNB45L3W2C11	BHNB45L8W2C11	BHNB45L5W2C11	BHNB45L16W2C11	27 (12)



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

WATROD Desc.	kW	Immersed Length in. (mm)	Part Number					Est. Net Wt. lbs (kg)
			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)
Brass Plug	12	30 (762.0)	BHNB30A2	BHNB30A3	BHNB30A8	BHNB30A5	BHNB30A16	22 (10)
Alloy 800	16	35% (904.8)	BHNB35L2	BHNB35L3	BHNB35L8	BHNB35L5	BHNB35L16	23 (10)
(7.8 W/cm ²)	20	45% (1158.8)		BHNB45L3	BHNB45L8	BHNB45L5	BHNB45L16	25 (11)

Immersion Heaters



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

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)

Features and Benefits

ANSI and ANSI compatible 2, 2½, 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

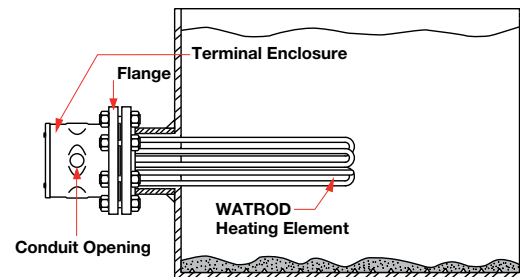
- Ensures element-to-flange pressure seals do not leak

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

- Facilitates lifting during installation

WATROD hairpins are repressed (recompacted)

- Provides improved heater life, insulation resistance and heat transfer



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

Immersion Heaters



WATROD ANSI Flange 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
- Process air equipment
- Boiler equipment
- Freeze protection of any fluid
- Anti-freeze (glycol) solutions
- Paraffin

Options

WATCONNECT® Standard Control Panels



WATCONNECT® standard control panels are configured to work with Watlow's ANSI flange immersion heaters. They are quickly configured for process heating applications and delivered within two weeks. WATCONNECT panels integrate Watlow's high-quality heater, sensor, temperature

controller and power controller products for a complete thermal solution. Normally, competitive custom panels require significantly longer lead times. The broad range of standard features allow customers to quickly configure panels for each process heater included in this catalog.

Features and Benefits

Lead times of two weeks or less

- Provides faster delivery than competition

Full documentation provided for WATCONNECT control panels at the time of quotation

- Eliminates lengthy approval process and phone calls

Incorporates Watlow's temperature and power controllers

- Provides a turnkey solution for process heating applications

Range of standard input/output (I/O) options

- Provides the user with a higher level of monitoring and control assuring an efficient and safe operation

WATCONNECT enclosure easily mounts to wall or frame

- Decreases installation time

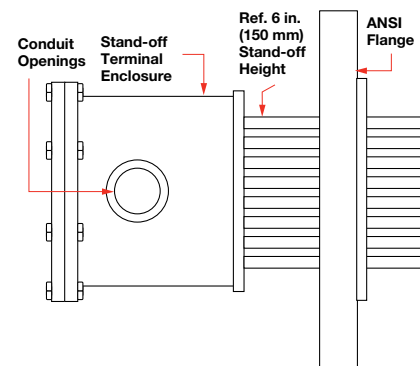
Options (Continued)

Note: The WATCONNECT part number associated with a heater is only a suggestion. The following installation details need to be compared to panel capabilities to assure a compatible match:

- Minimum and maximum ambient temperature where panel will be installed
- Statutory and regulatory requirements at installation site
- Sun loading, if any, at installation site
- Presence of any hazardous gases, dusts or fibers, if any
- Verification of process sensor type
- Verification of limit sensor type
- Input/Output (I/O) requirements

For additional product information see the **WATCONNECT landing page at www.watlow.com/watconnect**. On the WATCONNECT landing page you will find a complete specification sheet along with other tools to help you properly select your control panel. If you would like to know the specific configuration of a WATCONNECT part number, please use the Product Configuration Lookup Tool on Watlow.com.

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**.



WATROD ANSI Flange Immersion Heaters

Options (Continued)

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 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 226. 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 227 to 280. Specify class and group, if applicable.



Caution

Certified explosion proof and/or flame proof 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.

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 514 to 518.

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 561 and 562 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
- Process temperature (°F)
- Maximum working pressure (MWP) of application (psig)
- Media being heated

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.

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 flange heaters:

Standard Sheath Materials

WATROD	Alloy 800, 840 316 SS Copper clad steel Steel
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Exotic Sheath Materials

Contact your Watlow representative for details and availability.

Immersion Heaters



WATROD ANSI Flange Immersion Heaters

Options (Continued)

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 standardly supplied with 120 in. (3050 mm) leads. 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 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 °F (°C)
	Positive	Negative	
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.

Flanges

Flange Sizes and Styles

Standard: 2^①, 2^{1/2}^①, 3 to 14 inch ANSI raised face/blind flanges.

Made-to-Order: 16 to 48 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

^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

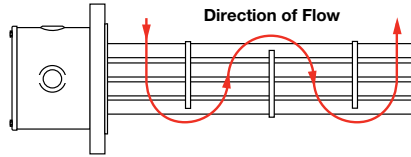
^③ Depends on metal gasket material.



WATROD 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
- Inlet and outlet orientation
- Inlet location in relation to flange, (Inlet near flange or Inlet away from flange)

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

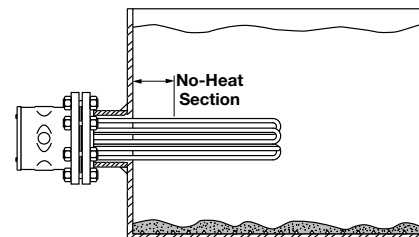
Bright annealing available to meet cosmetic demands.

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 550 to 553. 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.
- 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.

Immersion Heaters

**EXTENDED
CAPABILITY**



Extended Capabilities for WATROD 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 flange heaters:

Extended Sheath Materials

WATROD	Titanium 304 and 321 SS Hastelloy C276 Alloy 600 Inconel®/Steel Monel®
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Flanges

Flange Materials

Extended	Exotic materials to meet specific application needs ①
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Pressure Classes

Extended	Over 300 lb ①
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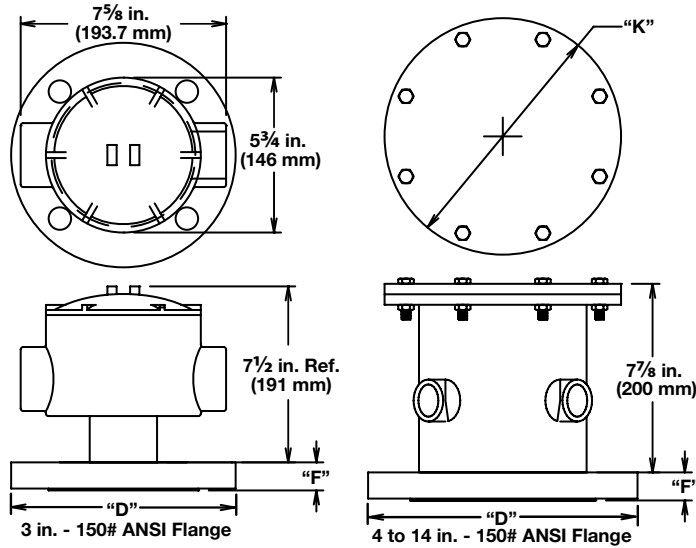
① Contact your Watlow representative

Immersion Heaters



WATROD ANSI Flange Immersion Heaters

Optional CSA Type 4/Explosion Proof Enclosure Without Thermostat



Terminal Enclosure Dimensions

General Purpose or NEMA 4 Enclosure

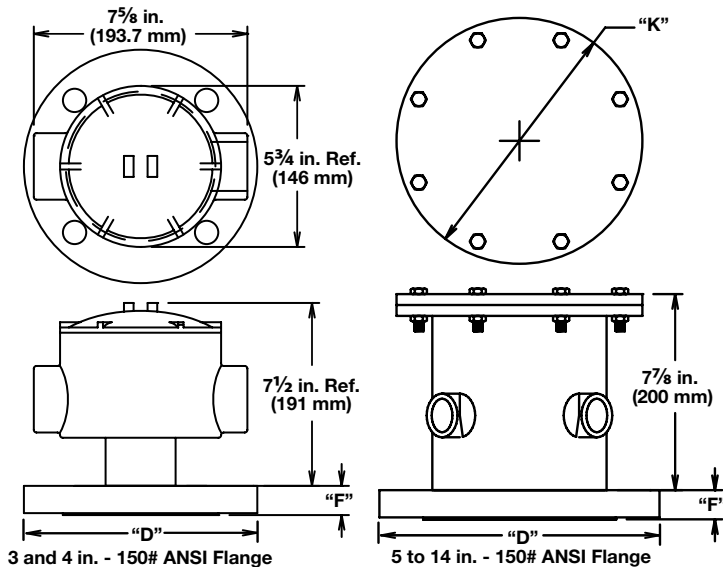
ANSI Flange Size in.	"F" Thickness in. (mm)	"K" With Thermostat	"K" Without Thermostat	"D" in. (mm)
3	15/16 (23.8)	5 3/4 (146)	See heater dwg.	7 1/2 (191)
4	15/16 (23.8)	5 3/4 (146)	See heater dwg.	9 (229)

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

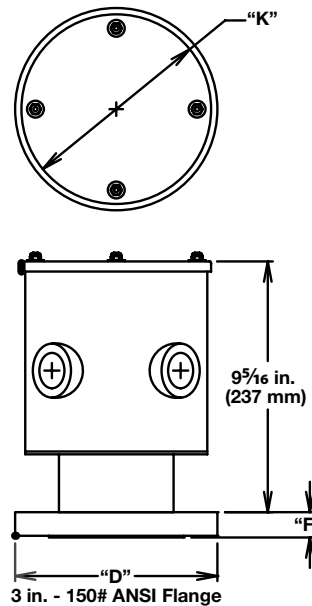
CSA Type 4/Explosion Proof Enclosures

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)

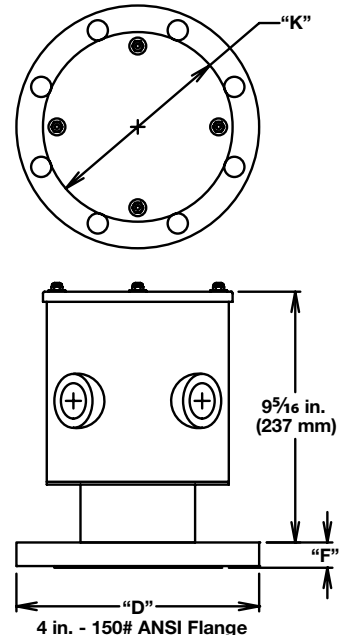
Optional CSA Type 4/Explosion Proof Enclosure With Thermostat



Optional General Purpose/or NEMA 4 Enclosure With Thermostat



Optional NEMA 4 Enclosure With Thermostat



To order: Reference the *Ordering Information* on page 281.

Note: Dimensions for all 5 to 14 in. flange heaters with General Purpose or NEMA 4 Enclosure with thermostats are identical to units supplied without thermostats.

Immersion Heaters

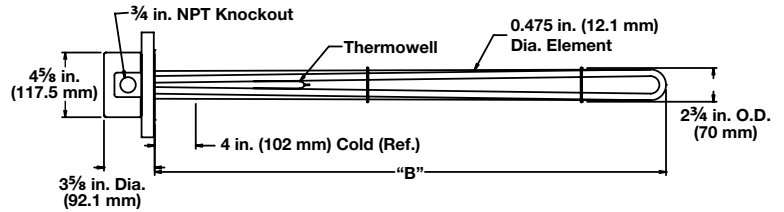


WATROD ANSI Flange Immersion Heaters

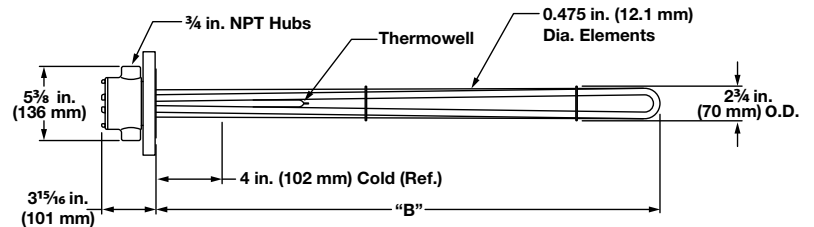
Application: Clean Water

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure
- Single circuit

General Purpose



NEMA 4 Enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		WATCONNECT Part Number	
						General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FMN715J10W	C/F	C/F
	240	6.0	3	15 1/2 (394)	22 (10)	FMN715J3S	FMN715J3W	C2-50	C2-92
	480	6.0	1	15 1/2 (394)	22 (10)	FMN715J11S	FMN715J11W	C/F	C/F
	480	6.0	3	15 1/2 (394)	22 (10)	FMN715J5S	FMN715J5W	C2-43	C2-35
	120	9.0	1	21 1/2 (546)	25 (12)	FMN721J10S	FMN721J10W	C/F	C/F
	240	9.0	3	21 1/2 (546)	25 (12)	FMN721J3S	FMN721J3W	C2-50	C2-92
	480	9.0	1	21 1/2 (546)	25 (12)	FMN721J11S	FMN721J11W	C/F	C/F
	480	9.0	3	21 1/2 (546)	25 (12)	FMN721J5S	FMN721J5W	C2-43	C2-35
	240	12.0	3	27 (686)	27 (13)	FMN727A3S	FMN727A3W	C2-236	C2-214
	480	12.0	1	27 (686)	27 (13)	FMN727A11S	FMN727A11W	C/F	C/F
	480	12.0	3	27 (686)	27 (13)	FMN727A5S	FMN727A5W	C2-43	C2-35
	240	15.0	3	32 1/2 (826)	28 (13)	FMN732J3S	FMN732J3W	C2-236	C2-214
	480	15.0	1	32 1/2 (826)	28 (13)	FMN732J11S	FMN732J11W	C/F	C/F
	480	15.0	3	32 1/2 (826)	28 (13)	FMN732J5S	FMN732J5W	C2-43	C2-35
	240	18.0	3	38 (965)	30 (14)	FMN738A3S	FMN738A3W	C2-236	C2-236
	480	18.0	1	38 (965)	30 (14)	FMN738A11S	FMN738A11W	C/F	C/F
	480	18.0	3	38 (965)	30 (14)	FMN738A5S	FMN738A5W	C2-43	C2-35
	480	25.0	1	51 (1295)	34 (16)	FMN751A11S	FMN751A11W	C/F	C/F
	480	25.0	3	51 (1295)	34 (16)	FMN751A5S	FMN751A5W	C2-225	C2-226
	480	30.0	1	60 1/2 (1537)	36 (17)	FMN760J11S	FMN760J11W	C/F	C/F
480	30.0	3	60 1/2 (1537)	36 (17)	FMN760J5S	FMN760J5W	C2-225	C2-226	

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



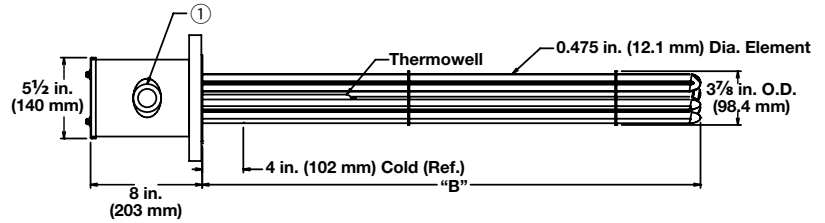
WATROD ANSI Flange Immersion Heaters



Application: Clean Water

- 4 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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)	FON715J10S	FON715J10W	C/F	C/F
	240	12.0	3	1	15 1/2 (394)	31 (14)	FON715J3S	FON715J3W	C2-236	C2-214
	480	12.0	1	1	15 1/2 (394)	31 (14)	FON715J11S	FON715J11W	C/F	C/F
	480	12.0	3	1	15 1/2 (394)	31 (14)	FON715J5S	FON715J5W	C2-43	C2-35
	240	18.0	1	2	21 1/2 (546)	34 (16)	FON721J10S	FON721J10W	C/F	C/F
	240	18.0	3	1	21 1/2 (546)	34 (16)	FON721J3S	FON721J3W	C2-236	C2-214
	480	18.0	1	1	21 1/2 (546)	34 (16)	FON721J11S	FON721J11W	C/F	C/F
	480	18.0	3	1	21 1/2 (546)	34 (16)	FON721J5S	FON721J5W	C2-43	C2-35
	240	24.0	1	2	27 (686)	36 (17)	FON727A10S	FON727A10W	C/F	C/F
	240	24.0	3	2	27 (686)	36 (17)	FON727A3S	FON727A3W	C2-218	C2-224
	480	24.0	1	1	27 (686)	36 (17)	FON727A11S	FON727A11W	C/F	C/F
	480	24.0	3	1	27 (686)	36 (17)	FON727A5S	FON727A5W	C2-225	C2-226
	240	30.0	3	2	32 1/2 (826)	39 (18)	FON732J3S	FON732J3W	C2-218	C2-224
	480	30.0	1	2	32 1/2 (826)	39 (18)	FON732J11S	FON732J11W	C/F	C/F
	480	30.0	3	1	32 1/2 (826)	39 (18)	FON732J5S	FON732J5W	C2-225	C2-226
	240	36.0	3	2	38 (965)	43 (20)	FON738A3S	FON738A3W	C2-218	C2-224
	480	36.0	1	2	38 (965)	43 (20)	FON738A11S	FON738A11W	C/F	C/F
	480	36.0	3	1	38 (965)	43 (20)	FON738A5S	FON738A5W	C2-225	C2-226
	480	50.0	3	2	51 (1295)	48 (22)	FON751A5S	FON751A5W	C2-229	C2-230
	480	60.0	3	2	60 1/2 (1537)	52 (24)	FON760J5S	FON760J5W	C2-229	C2-230

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



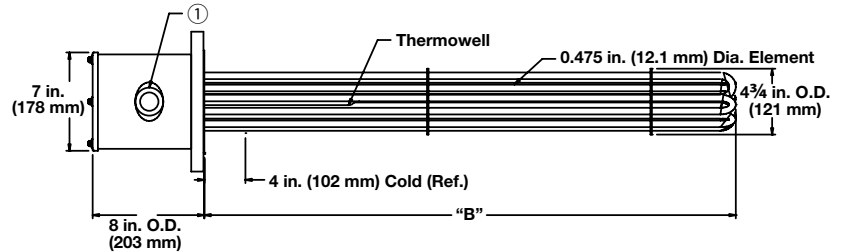
WATROD ANSI Flange Immersion Heaters



Application: Clean Water

- 5 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
60 W/in ² Steel Flange 6-Alloy 800 Elements (9.3 W/cm ²)	240	12.0	1	2	15 1/2 (394)	35 (16)	FNN715J10S	FNN715J10W	C/F	C/F
	240	12.0	3	1	15 1/2 (394)	35 (16)	FNN715J3S	FNN715J3W	C2-236	C2-214
	480	12.0	1	1	15 1/2 (394)	35 (16)	FNN715J11S	FNN715J11W	C/F	C/F
	480	12.0	3	1	15 1/2 (394)	35 (16)	FNN715J5S	FNN715J5W	C2-43	C2-35
	240	18.0	1	2	21 1/2 (546)	38 (18)	FNN721J10S	FNN721J10W	C/F	C/F
	240	18.0	3	1	21 1/2 (546)	38 (18)	FNN721J3S	FNN721J3W	C2-236	C2-214
	480	18.0	1	1	21 1/2 (546)	38 (18)	FNN721J11S	FNN721J11W	C/F	C/F
	480	18.0	3	1	21 1/2 (546)	38 (18)	FNN721J5S	FNN721J5W	C2-43	C2-35
	240	24.0	1	3	27 (686)	40 (19)	FNN727A10S	FNN727A10W	C/F	C/F
	240	24.0	3	2	27 (686)	40 (19)	FNN727A3S	FNN727A3W	C2-218	C2-224
	480	24.0	1	3	27 (686)	40 (19)	FNN727A11S	FNN727A11W	C/F	C/F
	480	24.0	3	1	27 (686)	40 (19)	FNN727A5S	FNN727A5W	C2-225	C2-226
	240	30.0	3	2	32 1/2 (826)	43 (20)	FNN732J3S	FNN732J3W	C2-218	C2-224
	480	30.0	1	2	32 1/2 (826)	43 (20)	FNN732J11S	FNN732J11W	C/F	C/F
	480	30.0	3	1	32 1/2 (826)	43 (20)	FNN732J5S	FNN732J5W	C2-225	C2-226
	240	36.0	3	2	38 (965)	47 (22)	FNN738A3S	FNN738A3W	C2-218	C2-224
	480	36.0	1	2	38 (965)	47 (22)	FNN738A11S	FNN738A11W	C/F	C/F
	480	36.0	3	1	38 (965)	47 (22)	FNN738A5S	FNN738A5W	C2-224	C2-226
	480	50.0	3	2	51 (1295)	52 (24)	FNN751A5S	FNN751A5W	C2-229	C2-230
	480	60.0	3	2	60 1/2 (1537)	56 (26)	FNN760J5S	FNN760J5W	C2-229	C2-230

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



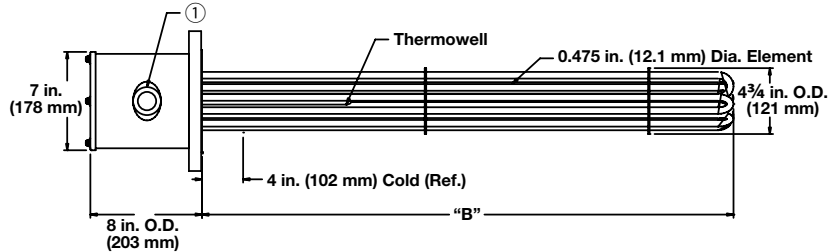
WATROD ANSI Flange Immersion Heaters



Application: Clean Water

- 5 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FNN715J10XW	C/F	C/F
	240	18.0	3	1	15 1/2 (394)	38 (18)	FNN715J3XS	FNN715J3XW	C2-236	C2-214
	480	18.0	1	1	15 1/2 (394)	38 (18)	FNN715J11XS	FNN715J11XW	C/F	C/F
	480	18.0	3	1	15 1/2 (394)	38 (18)	FNN715J5XS	FNN715J5XW	C2-43	C2-35
	240	27.0	1	3	21 1/2 (546)	42 (19)	FNN721J10XS	FNN721J10XW	C/F	C/F
	240	27.0	3	3	21 1/2 (546)	42 (19)	FNN721J3XS	FNN721J3XW	C4-143	C4-142
	480	27.0	1	3	21 1/2 (546)	42 (19)	FNN721J11XS	FNN721J11XW	C/F	C/F
	480	27.0	3	1	21 1/2 (546)	42 (19)	FNN721J5XS	FNN721J5XW	C2-225	C2-226
	240	36.0	3	3	27 (686)	45 (21)	FNN727A3XS	FNN727A3XW	C4-144	C4-145
	480	36.0	1	3	27 (686)	45 (21)	FNN727A11XS	FNN727A11XW	C/F	C/F
	480	36.0	3	1	27 (686)	45 (21)	FNN727A5XS	FNN727A5XW	C2-225	C2-226
	240	45.0	3	3	32 1/2 (826)	48 (22)	FNN732J3XS	FNN732J3XW	C4-144	C4-145
	480	45.0	1	3	32 1/2 (826)	48 (22)	FNN732J11XS	FNN732J11XW	C/F	C/F
	480	45.0	3	3	32 1/2 (826)	48 (22)	FNN732J5XS	FNN732J5XW	C4-150	C4-151
	240	54.0	3	3	38 (965)	53 (24)	FNN738A3XS	FNN738A3XW	C4-144	C4-145
	480	54.0	1	3	38 (965)	53 (24)	FNN738A11XS	FNN738A11XW	C/F	C/F
	480	54.0	3	3	38 (965)	53 (24)	FNN738A5XS	FNN738A5XW	C4-150	C4-151
	480	75.0	3	3	51 (1295)	60 (28)	FNN751A5XS	FNN751A5XW	C4-152	C4-153
	480	90.0	3	3	60 1/2 (1537)	66 (30)	FNN760J5XS	FNN760J5XW	C4-152	C4-153

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



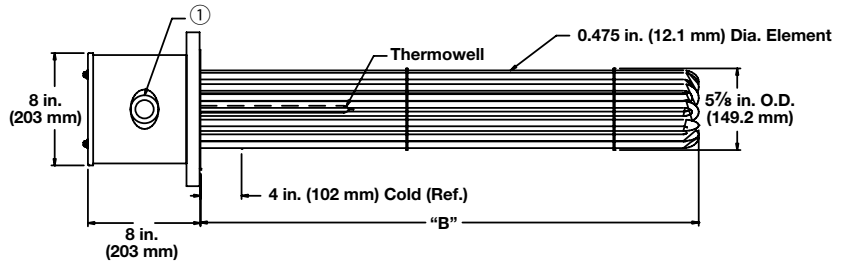
WATROD ANSI Flange Immersion Heaters



Application: Clean Water

- 6 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FPN715G10W	C/F	C/F
	240	24.0	3	2	15 ³ / ₈ (390.5)	73 (33)	FPN715G3S	FPN715G3W	C2-218	C2-224
	480	24.0	1	2	15 ³ / ₈ (390.5)	73 (33)	FPN715G11S	FPN715G11W	C/F	C/F
	480	24.0	3	1	15 ³ / ₈ (390.5)	73 (33)	FPN715G5S	FPN715G5W	C2-225	C2-226
	240	36.0	1	4	21 ³ / ₈ (542.9)	78 (36)	FPN721G10S	FPN721G10W	C/F	C/F
	240	36.0	3	2	21 ³ / ₈ (542.9)	78 (36)	FPN721G3S	FPN721G3W	C2-218	C2-224
	480	36.0	1	2	21 ³ / ₈ (542.9)	78 (36)	FPN721G11S	FPN721G11W	C/F	C/F
	480	36.0	3	1	21 ³ / ₈ (542.9)	78 (36)	FPN721G5S	FPN721G5W	C2-225	C2-226
	240	48.0	3	4	26 ⁷ / ₈ (682.6)	81 (37)	FPN726R3S	FPN726R3W	C4-148	C4-149
	480	48.0	1	3	26 ⁷ / ₈ (682.6)	81 (37)	FPN726R11S	FPN726R11W	C/F	C/F
	480	48.0	3	2	26 ⁷ / ₈ (682.6)	81 (37)	FPN726R5S	FPN726R5W	C2-229	C2-230
	240	60.0	3	4	32 ³ / ₈ (822.3)	85 (39)	FPN732G3S	FPN732G3W	C4-148	C4-149
	480	60.0	1	3	32 ³ / ₈ (822.3)	85 (39)	FPN732G11S	FPN732G11W	C/F	C/F
	480	60.0	3	2	32 ³ / ₈ (822.3)	85 (39)	FPN732G5S	FPN732G5W	C2-229	C2-230
	240	72.0	3	4	37 ⁷ / ₈ (962.0)	92 (42)	FPN737R3S	FPN737R3W	C4-148	C4-149
	480	72.0	3	2	37 ⁷ / ₈ (962.0)	92 (42)	FPN737R5S	FPN737R5W	C2-229	C2-230
480	100.0	3	4	50 ⁷ / ₈ (1292.2)	100 (45)	FPN750R5S	FPN750R5W	C4-156	C4-157	
480	120.0	3	4	60 ³ / ₈ (1533.5)	110 (50)	FPN760G5S	FPN760G5W	C4-156	C4-157	

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



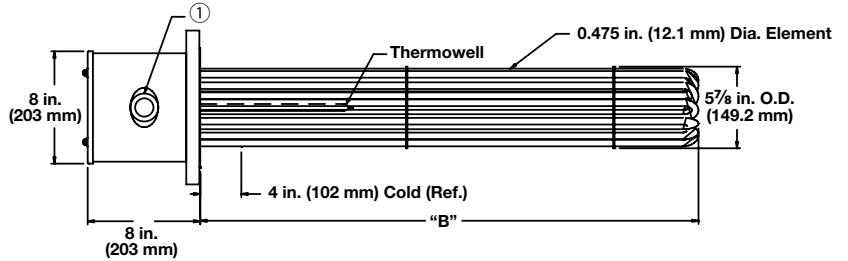
WATROD ANSI Flange Immersion Heaters



Application: Clean Water

- 6 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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. lb (kg)	Part Number	Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FPN715G10XW	C/F	C/F
	240	30.0	3	5	15 ³ / ₈ (390.5)	76 (35)	FPN715G3XS	FPN715G3XW	C4-144	C4-145
	480	30.0	1	3	15 ³ / ₈ (390.5)	76 (35)	FPN715G11XS	FPN715G11XW	C/F	C/F
	480	30.0	3	1	15 ³ / ₈ (390.5)	76 (35)	FPN715G5XS	FPN715G5XW	C2-225	C2-226
	240	45.0	1	5	21 ³ / ₈ (542.9)	82 (38)	FPN721G10XS	FPN721G10XW	C/F	C/F
	240	45.0	3	5	21 ³ / ₈ (542.9)	82 (38)	FPN721G3XS	FPN721G3XW	C4-144	C4-145
	480	45.0	1	3	21 ³ / ₈ (542.9)	82 (38)	FPN721G11XS	FPN721G11XW	C/F	C/F
	480	45.0	3	5	21 ³ / ₈ (542.9)	82 (38)	FPN721G5XS	FPN721G5XW	C4-150	C4-151
	240	60.0	3	5	26 ⁷ / ₈ (682.6)	85 (39)	FPN726R3XS	FPN726R3XW	C/F	C/F
	480	60.0	1	3	26 ⁷ / ₈ (682.6)	85 (39)	FPN726R11XS	FPN726R11XW	C/F	C/F
	480	60.0	3	5	26 ⁷ / ₈ (682.6)	85 (39)	FPN726R5XS	FPN726R5XW	C4-152	C4-153
	240	75.0	3	5	32 ³ / ₈ (822.3)	90 (41)	FPN732G3XS	FPN732G3XW	C/F	C/F
	480	75.0	1	5	32 ³ / ₈ (822.3)	90 (41)	FPN732G11XS	FPN732G11XW	C/F	C/F
	480	75.0	3	5	32 ³ / ₈ (822.3)	90 (41)	FPN732G5XS	FPN732G5XW	C4-152	C4-153
	240	90.0	3	5	37 ⁷ / ₈ (962.0)	98 (45)	FPN737R3XS	FPN737R3XW	C/F	C/F
	480	90.0	3	5	37 ⁷ / ₈ (962.0)	98 (45)	FPN737R5XS	FPN737R5XW	C4-152	C4-153
	480	125.0	3	5	50 ⁷ / ₈ (1292.2)	108 (49)	FPN750R5XS	FPN750R5XW	C/F	C/F
	480	150.0	3	5	60 ³ / ₈ (1533.5)	120 (55)	FPN760G5XS	FPN760G5XW	C/F	C/F

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



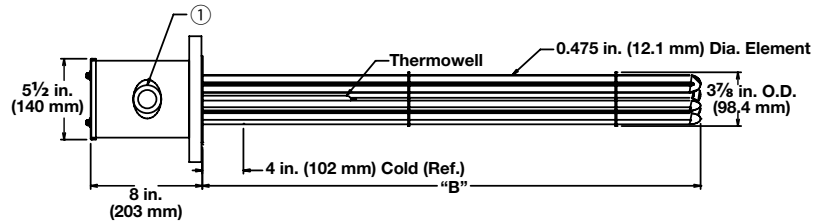
WATROD ANSI Flange Immersion Heaters



Application: Deionized or Demineralized Water

- 4 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
									Type J T/C	Type K T/C
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	FOR716A10W	C/F	C/F
	240	12.0	3	1	16 (406)	31 (14)	FOR716A3S	FOR716A3W	C2-236	C2-214
	480	12.0	1	1	16 (406)	31 (14)	FOR716A11S	FOR716A11W	C/F	C/F
	480	12.0	3	1	16 (406)	31 (14)	FOR716A5S	FOR716A5W	C2-43	C2-35
	240	18.0	1	2	22 (559)	34 (16)	FOR722A10S	FOR722A10W	C/F	C/F
	240	18.0	3	1	22 (559)	34 (16)	FOR722A3S	FOR722A3W	C2-236	C2-214
	480	18.0	1	1	22 (559)	34 (16)	FOR722A11S	FOR722A11W	C/F	C/F
	480	18.0	3	1	22 (559)	34 (16)	FOR722A5S	FOR722A5W	C2-43	C2-35
	240	24.0	1	2	27 1/2 (699)	36 (17)	FOR727J10S	FOR727J10W	C/F	C/F
	240	24.0	3	2	27 1/2 (699)	36 (17)	FOR727J3S	FOR727J3W	C2-218	C2-224
	480	24.0	1	1	27 1/2 (699)	36 (17)	FOR727J11S	FOR727J11W	C/F	C/F
	480	24.0	3	1	27 1/2 (699)	36 (17)	FOR727J5S	FOR727J5W	C2-225	C2-226
	240	30.0	3	2	33 (838)	39 (18)	FOR733A3S	FOR733A3W	C2-218	C2-224
	480	30.0	1	2	33 (838)	39 (18)	FOR733A11S	FOR733A11W	C/F	C/F
	480	30.0	3	1	33 (838)	39 (18)	FOR733A5S	FOR733A5W	C2-225	C2-226
	240	36.0	3	2	38 1/2 (978)	43 (20)	FOR738J3S	FOR738J3W	C2-218	C2-226
	480	36.0	1	2	38 1/2 (978)	43 (20)	FOR738J11S	FOR738J11W	C/F	C/F
	480	36.0	3	1	38 1/2 (978)	43 (20)	FOR738J5S	FOR738J5W	C2-225	C2-226
	480	50.0	3	2	51 1/2 (1308)	48 (22)	FOR751J5S	FOR751J5W	C2-229	C2-230
	480	60.0	3	2	61 (1549)	52 (24)	FOR761A5S	FOR761A5W	C2-229	C2-230

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



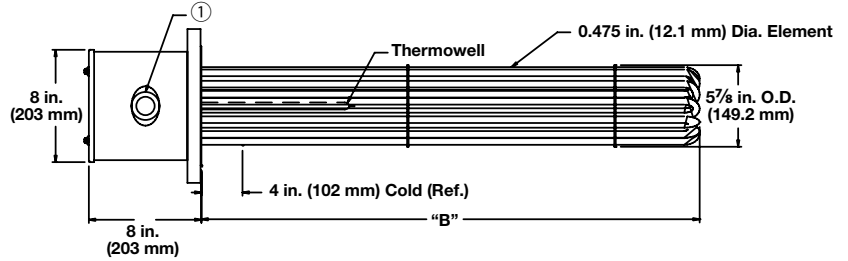
WATROD ANSI Flange Immersion Heaters



Application: Deionized or Demineralized Water

- 6 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FPR715N10W	C/F	C/F
	240	24.0	3	2	15 ³ / ₄ (400)	73 (33)	FPR715N3S	FPR715N3W	C2-218	C2-224
	480	24.0	1	2	15 ³ / ₄ (400)	73 (33)	FPR715N11S	FPR715N11W	C/F	C/F
	480	24.0	3	1	15 ³ / ₄ (400)	73 (33)	FPR715N5S	FPR715N5W	C2-225	C2-226
	240	36.0	1	4	21 ³ / ₄ (552)	78 (36)	FPR721N10S	FPR721N10W	C/F	C/F
	240	36.0	3	2	21 ³ / ₄ (552)	78 (36)	FPR721N3S	FPR721N3W	C2-218	C2-224
	480	36.0	1	2	21 ³ / ₄ (552)	78 (36)	FPR721N11S	FPR721N11W	C/F	C/F
	480	36.0	3	1	21 ³ / ₄ (552)	78 (36)	FPR721N5S	FPR721N5W	C2-225	C2-226
	240	48.0	3	4	27 ¹ / ₄ (692)	81 (37)	FPR727E3S	FPR727E3W	C4-148	C4-149
	480	48.0	1	3	27 ¹ / ₄ (692)	81 (37)	FPR727E11S	FPR727E11W	C/F	C/F
	480	48.0	3	2	27 ¹ / ₄ (692)	81 (37)	FPR727E5S	FPR727E5W	C2-229	C2-230
	240	60.0	3	4	32 ³ / ₄ (832)	85 (39)	FPR732N3S	FPR732N3W	C4-148	C4-149
	480	60.0	1	3	32 ³ / ₄ (832)	85 (39)	FPR732N11S	FPR732N11W	C/F	C/F
	480	60.0	3	2	32 ³ / ₄ (832)	85 (39)	FPR732N5S	FPR732N5W	C2-229	C2-230
	240	72.0	3	4	38 ¹ / ₄ (972)	92 (42)	FPR738E3S	FPR738E3W	C4-148	C4-149
	480	72.0	3	2	38 ¹ / ₄ (972)	92 (42)	FPR738E5S	FPR738E5W	C2-229	C2-230
	480	100.0	3	4	51 ¹ / ₄ (1302)	100 (45)	FPR751E5S	FPR751E5W	C4-156	C4-157
480	120.0	3	4	60 ³ / ₄ (1543)	110 (50)	FPR760N5S	FPR760N5W	C4-156	C4-157	

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

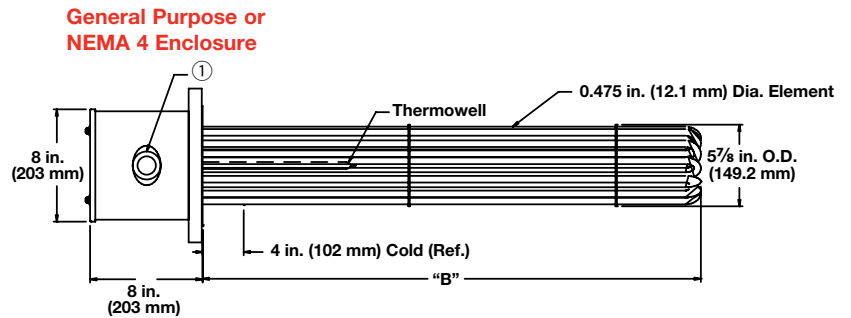
Immersion Heaters



WATROD ANSI Flange Immersion Heaters

Application: Deionized or Demineralized Water

- 6 inch - 150 lb ANSI flange
- WATROD element
- Without thermostat
- General purpose or NEMA 4 enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FPR715N10XW	C/F	C/F
	240	30.0	3	5	15 ³ / ₄ (400)	76 (35)	FPR715N3XS	FPR715N3XW	C4-144	C4-145
	480	30.0	1	3	15 ³ / ₄ (400)	76 (35)	FPR715N11XS	FPR715N11XW	C/F	C/F
	480	30.0	3	1	15 ³ / ₄ (400)	76 (35)	FPR715N5XS	FPR715N5XW	C2-225	C2-226
	240	45.0	1	5	21 ³ / ₄ (552)	82 (38)	FPR721N10XS	FPR721N10XW	C/F	C/F
	240	45.0	3	5	21 ³ / ₄ (552)	82 (38)	FPR721N3XS	FPR721N3XW	C4-144	C4-145
	480	45.0	1	3	21 ³ / ₄ (552)	82 (38)	FPR721N11XS	FPR721N11XW	C/F	C/F
	480	45.0	3	5	21 ³ / ₄ (552)	82 (38)	FPR721N5XS	FPR721N5XW	C4-150	C4-151
	240	60.0	3	5	27 ¹ / ₄ (692)	85 (39)	FPR727E3XS	FPR727E3XW	C/F	C/F
	480	60.0	1	3	27 ¹ / ₄ (692)	85 (39)	FPR727E11XS	FPR727E11XW	C/F	C/F
	480	60.0	3	5	27 ¹ / ₄ (692)	85 (39)	FPR727E5XS	FPR727E5XW	C4-152	C4-153
	240	75.0	3	5	32 ³ / ₄ (832)	90 (41)	FPR732N3XS	FPR732N3XW	C/F	C/F
	480	75.0	1	5	32 ³ / ₄ (832)	90 (41)	FPR732N11XS	FPR732N11XW	C/F	C/F
	480	75.0	3	5	32 ³ / ₄ (832)	90 (41)	FPR732N5XS	FPR732N5XW	C4-152	C4-153
	240	90.0	3	5	38 ¹ / ₄ (972)	98 (45)	FPR738E3XS	FPR738E3XW	C/F	C/F
	480	90.0	3	5	38 ¹ / ₄ (972)	98 (45)	FPR738E5XS	FPR738E5XW	C4-152	C4-153
480	125.0	3	5	51 ¹ / ₄ (1302)	108 (49)	FPR751E5XS	FPR751E5XW	C/F	C/F	
480	150.0	3	5	60 ³ / ₄ (1543)	120 (55)	FPR760N5XS	FPR760N5XW	C/F	C/F	

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



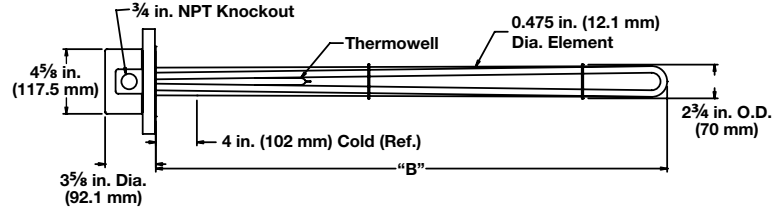
WATROD ANSI Flange Immersion Heaters



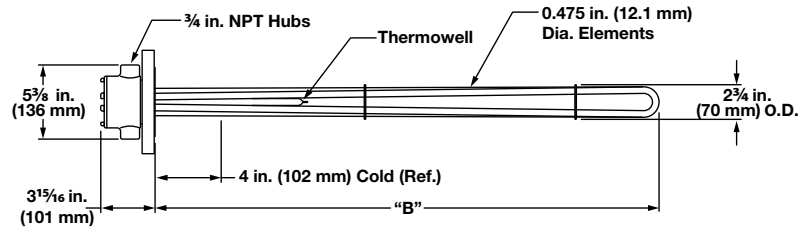
Application: Process Water

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure
- Single circuit

General Purpose



NEMA 4 Enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		WATCONNECT Part Number	
						General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
48 W/in ² ® Steel Flange 3-Alloy 800 Elements (7.5 W/cm ²)	240	4.5	1	13 1/2 (343)	22 (10)	FMN713J10S	FMN713J10W	C/F	C/F
	240	4.5	3	13 1/2 (343)	22 (10)	FMN713J3S	FMN713J3W	C2-50	C2-92
	480	4.5	1	13 1/2 (343)	22 (10)	FMN713J11S	FMN713J11W	C/F	C/F
	480	4.5	3	13 1/2 (343)	22 (10)	FMN713J5S	FMN713J5W	C2-43	C2-35
	240	6.0	1	18 (457)	23 (11)	FMN718A10S	FMN718A10W	C/F	C/F
	240	6.0	3	18 (457)	23 (11)	FMN718A3S	FMN718A3W	C2-50	C2-92
	480	6.0	1	18 (457)	23 (11)	FMN718A11S	FMN718A11W	C/F	C/F
	480	6.0	3	18 (457)	23 (11)	FMN718A5S	FMN718A5W	C2-43	C2-35
	240	7.5	1	20 1/2 (521)	25 (12)	FMN720J10S	FMN720J10W	C/F	C/F
	240	7.5	3	20 1/2 (521)	25 (12)	FMN720J3S	FMN720J3W	C2-50	C2-92
	480	7.5	1	20 1/2 (521)	25 (12)	FMN720J11S	FMN720J11W	C/F	C/F
	480	7.5	3	20 1/2 (521)	25 (12)	FMN720J5S	FMN720J5W	C2-43	C2-35
	240	9.0	1	25 1/2 (648)	27 (13)	FMN725J10S	FMN725J10W	C/F	C/F
	240	9.0	3	25 1/2 (648)	27 (13)	FMN725J3S	FMN725J3W	C2-50	C2-92
	480	9.0	1	25 1/2 (648)	27 (13)	FMN725J11S	FMN725J11W	C/F	C/F
	480	9.0	3	25 1/2 (648)	27 (13)	FMN725J5S	FMN725J5W	C2-43	C2-35
	240	12.0	3	33 (838)	28 (13)	FMN733A3S	FMN733A3W	C2-236	C2-214
	480	12.0	1	33 (838)	28 (13)	FMN733A11S	FMN733A11W	C/F	C/F
	480	12.0	3	33 (838)	28 (13)	FMN733A5S	FMN733A5W	C2-43	C2-35
	240	15.0	3	40 1/2 (1029)	30 (14)	FMN740J3S	FMN740J3W	C2-236	C2-214
	480	15.0	1	40 1/2 (1029)	30 (14)	FMN740J11S	FMN740J11W	C/F	C/F
	480	15.0	3	40 1/2 (1029)	30 (14)	FMN740J5S	FMN740J5W	C2-43	C2-35
	240	18.0	3	48 (1219)	32 (15)	FMN748A3S	FMN748A3W	C2-236	C2-214
	480	18.0	1	48 (1219)	32 (15)	FMN748A11S	FMN748A11W	C/F	C/F
480	18.0	3	48 (1219)	32 (15)	FMN748A5S	FMN748A5W	C2-43	C2-35	

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

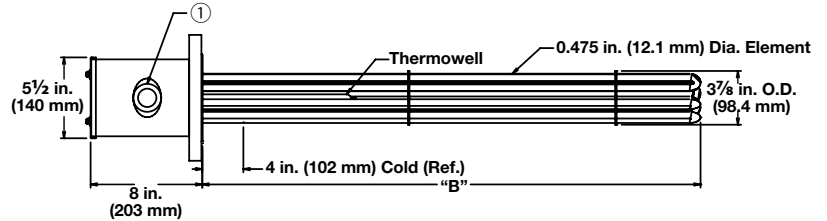
® Can be rewired wye to produce 1/3 of the original kW and watt density (3-phase only)

WATROD ANSI Flange Immersion Heaters

Application: Process Water

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FON713J10W	C/F	C/F
	240	9.0	3	1	13 ¹ / ₂ (343)	29 (14)	FON713J3S	FON713J3W	C2-50	C2-92
	480	9.0	1	1	13 ¹ / ₂ (343)	29 (14)	FON713J11S	FON713J11W	C/F	C/F
	480	9.0	3	1	13 ¹ / ₂ (343)	29 (14)	FON713J5S	FON713J5W	C2-43	C2-35
	240	12.0	1	2	18 (457)	32 (15)	FON718A10S	FON718A10W	C/F	C/F
	240	12.0	3	1	18 (457)	32 (15)	FON718A3S	FON718A3W	C2-236	C2-214
	480	12.0	1	1	18 (457)	32 (15)	FON718A11S	FON718A11W	C/F	C/F
	480	12.0	3	1	18 (457)	32 (15)	FON718A5S	FON718A5W	C2-43	C2-35
	240	15.0	1	2	20 ¹ / ₂ (521)	34 (16)	FON720J10S	FON720J10W	C/F	C/F
	240	15.0	3	1	20 ¹ / ₂ (521)	34 (16)	FON720J3S	FON720J3W	C2-236	C2-214
	480	15.0	1	1	20 ¹ / ₂ (521)	34 (16)	FON720J11S	FON720J11W	C/F	C/F
	480	15.0	3	1	20 ¹ / ₂ (521)	34 (16)	FON720J5S	FON720J5W	C2-225	C2-226
	240	18.0	1	2	25 ¹ / ₂ (648)	36 (17)	FON725J10S	FON725J10W	C/F	C/F
	240	18.0	3	1	25 ¹ / ₂ (648)	36 (17)	FON725J3S	FON725J3W	C2-236	C2-214
	480	18.0	1	1	25 ¹ / ₂ (648)	36 (17)	FON725J11S	FON725J11W	C/F	C/F
	480	18.0	3	1	25 ¹ / ₂ (648)	36 (17)	FON725J5S	FON725J5W	C2-43	C2-35
	240	24.0	1	2	33 (838)	39 (18)	FON733A10S	FON733A10W	C/F	C/F
	240	24.0	3	2	33 (838)	39 (18)	FON733A3S	FON733A3W	C2-218	C2-224
	480	24.0	1	1	33 (838)	39 (18)	FON733A11S	FON733A11W	C/F	C/F
	480	24.0	3	1	33 (838)	39 (18)	FON733A5S	FON733A5W	C2-225	C2-226
240	30.0	3	2	40 ¹ / ₂ (1029)	43 (20)	FON740J3S	FON740J3W	C2-218	C2-224	
480	30.0	1	2	40 ¹ / ₂ (1029)	43 (20)	FON740J11S	FON740J11W	C/F	C/F	
480	30.0	3	1	40 ¹ / ₂ (1029)	43 (20)	FON740J5S	FON740J5W	C2-225	C2-226	
240	36.0	3	2	48 (1219)	48 (22)	FON748A3S	FON748A3W	C2-218	C2-224	
480	36.0	1	2	48 (1219)	48 (22)	FON748A11S	FON748A11W	C/F	C/F	
480	36.0	3	1	48 (1219)	48 (22)	FON748A5S	FON748A5W	C2-225	C2-226	

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters



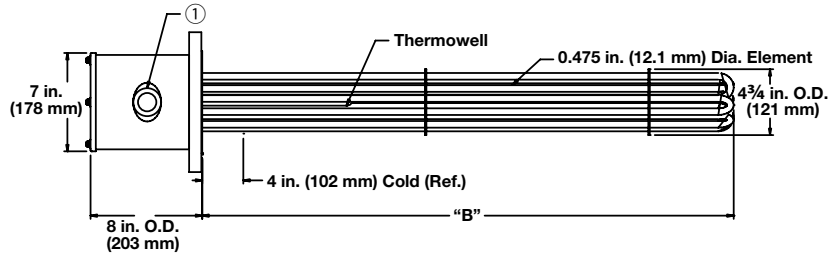
WATROD ANSI Flange Immersion Heaters



Application: Process Water

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FNN713J10W	C/F	C/F
	240	9.0	3	1	13 ¹ / ₂ (343)	33 (15)	FNN713J3S	FNN713J3W	C2-50	C2-92
	480	9.0	1	1	13 ¹ / ₂ (343)	33 (15)	FNN713J11S	FNN713J11W	C/F	C/F
	480	9.0	3	1	13 ¹ / ₂ (343)	33 (15)	FNN713J5S	FNN713J5W	C2-43	C2-35
	240	12.0	1	2	18 (457)	36 (17)	FNN718A10S	FNN718A10W	C/F	C/F
	240	12.0	3	1	18 (457)	36 (17)	FNN718A3S	FNN718A3W	C2-236	C2-214
	480	12.0	1	1	18 (457)	36 (17)	FNN718A11S	FNN718A11W	C/F	C/F
	480	12.0	3	1	18 (457)	36 (17)	FNN718A5S	FNN718A5W	C2-43	C2-35
	240	15.0	1	2	20 ¹ / ₂ (521)	38 (18)	FNN720J10S	FNN720J10W	C/F	C/F
	240	15.0	3	1	20 ¹ / ₂ (521)	38 (18)	FNN720J3S	FNN720J3W	C2-236	C2-214
	480	15.0	1	1	20 ¹ / ₂ (521)	38 (18)	FNN720J11S	FNN720J11W	C/F	C/F
	480	15.0	3	1	20 ¹ / ₂ (521)	38 (18)	FNN720J5S	FNN720J5W	C2-43	C2-35
	240	18.0	1	2	25 ¹ / ₂ (648)	40 (19)	FNN725J10S	FNN725J10W	C/F	C/F
	240	18.0	3	1	25 ¹ / ₂ (648)	40 (19)	FNN725J3S	FNN725J3W	C2-236	C2-214
	480	18.0	1	1	25 ¹ / ₂ (648)	40 (19)	FNN725J11S	FNN725J11W	C/F	C/F
	480	18.0	3	1	25 ¹ / ₂ (648)	40 (19)	FNN725J5S	FNN725J5W	C2-43	C2-35
	240	24.0	1	3	33 (838)	43 (20)	FNN733A10S	FNN733A10W	C/F	C/F
	240	24.0	3	2	33 (838)	43 (20)	FNN733A3S	FNN733A3W	C2-218	C2-224
	480	24.0	1	1	33 (838)	43 (20)	FNN733A11S	FNN733A11W	C/F	C/F
	480	24.0	3	1	33 (838)	43 (20)	FNN733A5S	FNN733A5W	C2-225	C2-226
240	30.0	3	2	40 ¹ / ₂ (1029)	47 (22)	FNN740J3S	FNN740J3W	C2-218	C2-224	
480	30.0	1	2	40 ¹ / ₂ (1029)	47 (22)	FNN740J11S	FNN740J11W	C/F	C/F	
480	30.0	3	1	40 ¹ / ₂ (1029)	47 (22)	FNN740J5S	FNN740J5W	C2-225	C2-226	
240	36.0	3	2	48 (1219)	52 (24)	FNN748A3S	FNN748A3W	C2-218	C2-224	
480	36.0	1	2	48 (1219)	52 (24)	FNN748A11S	FNN748A11W	C/F	C/F	
480	36.0	3	1	48 (1219)	52 (24)	FNN748A5S	FNN748A5W	C2-225	C2-226	

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



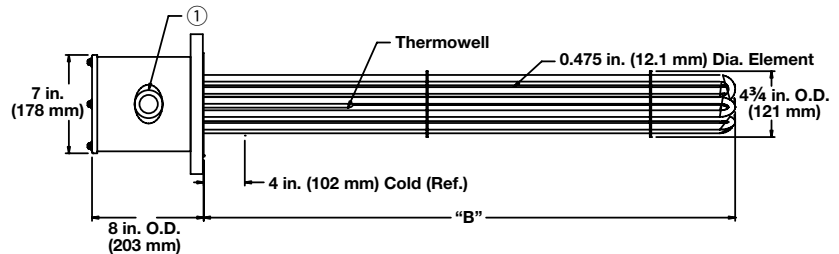
WATROD ANSI Flange Immersion Heaters



Application: Process Water

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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)	FNN713J10XS	FNN713J10XW	C/F	C/F
	240	14.0	3	1	13 1/2 (343)	35 (16)	FNN713J3XS	FNN713J3XW	C2-236	C2-214
	480	14.0	1	1	13 1/2 (343)	35 (16)	FNN713J11XS	FNN713J11XW	C/F	C/F
	480	14.0	3	1	13 1/2 (343)	35 (16)	FNN713J5XS	FNN713J5XW	C2-43	C2-35
	240	18.0	1	3	18 (457)	39 (18)	FNN718A10XS	FNN718A10XW	C/F	C/F
	240	18.0	3	1	18 (457)	39 (18)	FNN718A3XS	FNN718A3XW	C2-236	C2-214
	480	18.0	1	1	18 (457)	39 (18)	FNN718A11XS	FNN718A11XW	C/F	C/F
	480	18.0	3	1	18 (457)	39 (18)	FNN718A5XS	FNN718A5XW	C2-43	C2-35
	240	23.0	1	3	20 1/2 (521)	42 (19)	FNN720J10XS	FNN720J10XW	C/F	C/F
	240	23.0	3	3	20 1/2 (521)	42 (19)	FNN720J3XS	FNN720J3XW	C4-143	C4-142
	480	23.0	1	1	20 1/2 (521)	42 (19)	FNN720J11XS	FNN720J11XW	C/F	C/F
	480	23.0	3	1	20 1/2 (521)	42 (19)	FNN720J5XS	FNN720J5XW	C2-225	C2-226
	240	27.0	1	3	25 1/2 (648)	45 (21)	FNN725J10XS	FNN725J10XW	C/F	C/F
	240	27.0	3	3	25 1/2 (648)	45 (21)	FNN725J3XS	FNN725J3XW	C4-143	C4-142
	480	27.0	1	3	25 1/2 (648)	45 (21)	FNN725J11XS	FNN725J11XW	C/F	C/F
	480	27.0	3	1	25 1/2 (648)	45 (21)	FNN725J5XS	FNN725J5XW	C2-225	C2-226
	240	36.0	3	3	33 (838)	48 (22)	FNN733A3XS	FNN733A3XW	C4-144	C4-145
	480	36.0	1	3	33 (838)	48 (22)	FNN733A11XS	FNN733A11XW	C/F	C/F
	480	36.0	3	1	33 (838)	48 (22)	FNN733A5XS	FNN733A5XW	C2-225	C2-226
	240	45.0	3	3	40 1/2 (1029)	53 (24)	FNN740J3XS	FNN740J3XW	C4-144	C4-145
480	45.0	1	3	40 1/2 (1029)	53 (24)	FNN740J11XS	FNN740J11XW	C/F	C/F	
480	45.0	3	3	40 1/2 (1029)	53 (24)	FNN740J5XS	FNN740J5XW	C4-150	C4-151	
240	54.0	3	3	48 (1219)	60 (28)	FNN748A3XS	FNN748A3XW	C4-144	C4-145	
480	54.0	1	3	48 (1219)	60 (28)	FNN748A11XS	FNN748A11XW	C/F	C/F	
480	54.0	3	3	48 (1219)	60 (28)	FNN748A5XS	FNN748A5XW	C4-150	C4-151	

- 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 224

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Immersion Heaters



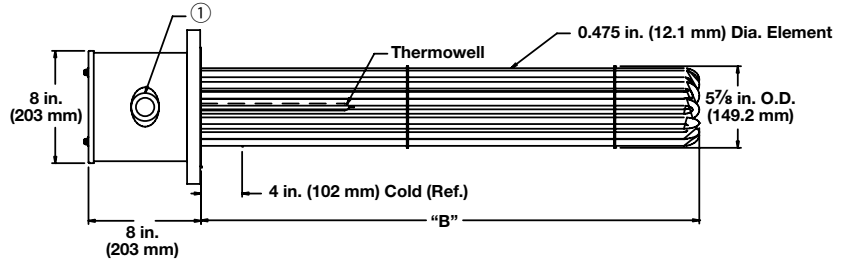
WATROD ANSI Flange Immersion Heaters



Application: Process Water

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FPN713G10W	C/F	C/F
	240	18.0	3	1	13 ³ / ₈ (339.7)	73 (33)	FPN713G3S	FPN713G3W	C2-236	C2-214
	480	18.0	1	1	13 ³ / ₈ (339.7)	73 (33)	FPN713G11S	FPN713G11W	C/F	C/F
	480	18.0	3	1	13 ³ / ₈ (339.7)	73 (33)	FPN713G5S	FPN713G5W	C2-43	C2-35
	240	24.0	1	3	17 ⁷ / ₈ (454.0)	75 (34)	FPN717R10S	FPN717R10W	C/F	C/F
	240	24.0	3	2	17 ⁷ / ₈ (454.0)	75 (34)	FPN717R3S	FPN717R3W	C2-218	C2-224
	480	24.0	1	2	17 ⁷ / ₈ (454.0)	75 (34)	FPN717R11S	FPN717R11W	C/F	C/F
	480	24.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPN717R5S	FPN717R5W	C2-225	C2-226
	240	30.0	1	3	20 ³ / ₈ (517.5)	78 (36)	FPN720G10S	FPN720G10W	C/F	C/F
	240	30.0	3	2	20 ³ / ₈ (517.5)	78 (36)	FPN720G3S	FPN720G3W	C2-218	C2-224
	480	30.0	1	2	20 ³ / ₈ (517.5)	78 (36)	FPN720G11S	FPN720G11W	C/F	C/F
	480	30.0	3	1	20 ³ / ₈ (517.5)	78 (36)	FPN720G5S	FPN720G5W	C2-225	C2-226
	240	36.0	1	4	25 ³ / ₈ (644.5)	81 (37)	FPN725G10S	FPN725G10W	C/F	C/F
	240	36.0	3	2	25 ³ / ₈ (644.5)	81 (37)	FPN725G3S	FPN725G3W	C2-218	C2-224
	480	36.0	1	2	25 ³ / ₈ (644.5)	81 (37)	FPN725G11S	FPN725G11W	C/F	C/F
	480	36.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPN725G5S	FPN725G5W	C2-225	C2-226
	240	48.0	3	4	32 ⁷ / ₈ (835.0)	85 (39)	FPN732R3S	FPN732R3W	C4-148	C4-149
	480	48.0	1	3	32 ⁷ / ₈ (835.0)	85 (39)	FPN732R11S	FPN732R11W	C/F	C/F
	480	48.0	3	2	32 ⁷ / ₈ (835.0)	85 (39)	FPN732R5S	FPN732R5W	C2-229	C2-230
	240	60.0	3	4	40 ³ / ₈ (1025.5)	92 (42)	FPN740G3S	FPN740G3W	C4-148	C4-149
480	60.0	1	3	40 ³ / ₈ (1025.5)	92 (42)	FPN740G11S	FPN740G11W	C/F	C/F	
480	60.0	3	2	40 ³ / ₈ (1025.5)	92 (42)	FPN740G5S	FPN740G5W	C2-229	C2-230	
240	72.0	3	4	47 ⁷ / ₈ (1216.0)	100 (46)	FPN747R3S	FPN747R3W	C4-148	C4-149	
480	72.0	3	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPN747R5S	FPN747R5W	C2-229	C2-230	

- 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 224

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Immersion Heaters



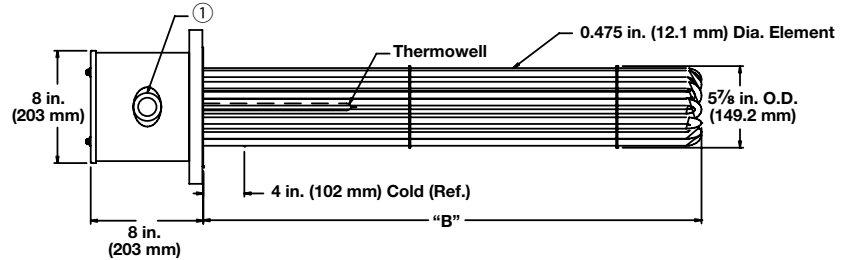
WATROD ANSI Flange Immersion Heaters



Application: Process Water

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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)	FPN713G10XS	FPN713G10XW	C/F	C/F
	240	23.0	3	5	13 ³ / ₈ (339.7)	76 (35)	FPN713G3XS	FPN713G3XW	C4-143	C4-142
	480	23.0	1	1	13 ³ / ₈ (339.7)	76 (35)	FPN713G11XS	FPN713G11XW	C/F	C/F
	480	23.0	3	1	13 ³ / ₈ (339.7)	76 (35)	FPN713G5XS	FPN713G5XW	C2-225	C2-226
	240	30.0	1	3	17 ⁷ / ₈ (441.3)	78 (36)	FPN717R10XS	FPN717R10XW	C/F	C/F
	240	30.0	3	5	17 ⁷ / ₈ (441.3)	78 (36)	FPN717R3XS	FPN717R3XW	C4-144	C4-145
	480	30.0	1	3	17 ⁷ / ₈ (441.3)	78 (36)	FPN717R11XS	FPN717R11XW	C/F	C/F
	480	30.0	3	1	17 ⁷ / ₈ (441.3)	78 (36)	FPN717R5XS	FPN717R5XW	C2-225	C2-226
	240	38.0	1	5	20 ³ / ₈ (517.5)	82 (38)	FPN720G10XS	FPN720G10XW	C/F	C/F
	240	38.0	3	5	20 ³ / ₈ (517.5)	82 (38)	FPN720G3XS	FPN720G3XW	C4-144	C4-145
	480	38.0	1	3	20 ³ / ₈ (517.5)	82 (38)	FPN720G11XS	FPN720G11XW	C/F	C/F
	480	38.0	3	1	20 ³ / ₈ (517.5)	82 (38)	FPN720G5XS	FPN720G5XW	C2-225	C2-226
	240	45.0	1	5	25 ³ / ₈ (644.5)	85 (39)	FPN725G10XS	FPN725G10XW	C/F	C/F
	240	45.0	3	5	25 ³ / ₈ (644.5)	85 (39)	FPN725G3XS	FPN725G3XW	C4-144	C4-145
	480	45.0	1	3	25 ³ / ₈ (644.5)	85 (39)	FPN725G11XS	FPN725G11XW	C/F	C/F
	480	45.0	3	5	25 ³ / ₈ (644.5)	85 (39)	FPN725G5XS	FPN725G5XW	C4-150	C4-151
	240	60.0	3	5	32 ⁷ / ₈ (835.0)	90 (41)	FPN732R3XS	FPN732R3XW	C/F	C/F
	480	60.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPN732R11XS	FPN732R11XW	C/F	C/F
	480	60.0	3	5	32 ⁷ / ₈ (835.0)	90 (41)	FPN732R5XS	FPN732R5XW	C4-152	C4-153
	240	75.0	3	5	40 ³ / ₈ (1025.5)	98 (45)	FPN740G3XS	FPN740G3XW	C/F	C/F
480	75.0	1	5	40 ³ / ₈ (1025.5)	98 (45)	FPN740G11XS	FPN740G11XW	C/F	C/F	
480	75.0	3	5	40 ³ / ₈ (1025.5)	98 (45)	FPN740G5XS	FPN740G5XW	C4-152	C4-153	
240	90.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPN747R3XS	FPN747R3XW	C/F	C/F	
480	90.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPN747R5XS	FPN747R5XW	C4-152	C4-153	

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



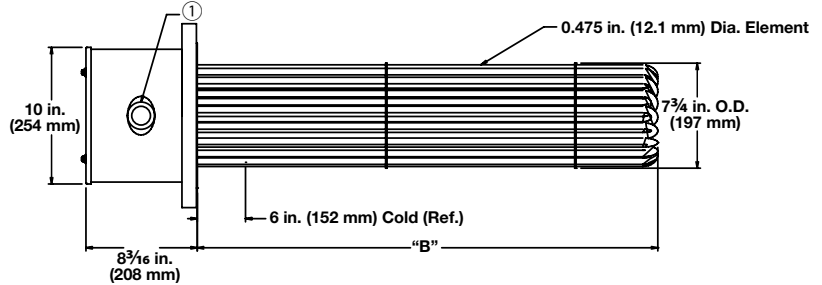
WATROD ANSI Flange Immersion Heaters



Application: Process Water

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FRN725N3W	C4-144	C4-145
	480	50.0	1	3	25 ³ / ₄ (654.0)	121 (55)	FRN725N11S	FRN725N11W	C/F	C/F
	480	50.0	3	2	25 ³ / ₄ (654.0)	121 (55)	FRN725N5S	FRN725N5W	C2-229	C2-230
	240	75.0	3	6	35 ³ / ₄ (908.0)	130 (59)	FRN735N3S	FRN735N3W	C/F	C/F
	480	75.0	3	2	35 ³ / ₄ (908.0)	130 (59)	FRN735N5S	FRN735N5W	C2-229	C2-230
	240	100.0	3	6	44 ¹ / ₄ (1124.0)	132 (60)	FRN744E3S	FRN744E3W	C/F	C/F
	480	100.0	3	3	44 ¹ / ₄ (1124.0)	132 (60)	FRN744E5S	FRN744E5W	C2-229	C2-230
	240	125.0	3	6	54 ¹¹ / ₁₆ (1389.1)	140 (64)	FRN754M3S	FRN754M3W	C/F	C/F
	480	125.0	3	6	54 ¹¹ / ₁₆ (1389.1)	140 (64)	FRN754M5S	FRN754M5W	C/F	C/F
	480	150.0	3	6	63 ¹¹ / ₁₆ (1617.6)	145 (66)	FRN763M5S	FRN763M5W	C/F	C/F
	480	175.0	3	6	73 ³ / ₁₆ (1859.0)	151 (69)	FRN773D5S	FRN773D5W	C/F	C/F
	480	200.0	3	6	82 ¹¹ / ₁₆ (2100.3)	157 (72)	FRN782M5S	FRN782M5W	C/F	C/F
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	FRN726D3XW	C4-148	C4-149
	480	67.0	1	3	26 ³ / ₁₆ (665.2)	129 (59)	FRN726D11XS	FRN726D11XW	C/F	C/F
	480	67.0	3	2	26 ³ / ₁₆ (665.2)	129 (59)	FRN726D5XS	FRN726D5XW	C2-229	C2-230
	240	100.0	3	8	36 ³ / ₁₆ (919.2)	142 (65)	FRN736D3XS	FRN736D3XW	C/F	C/F
	480	100.0	3	4	36 ³ / ₁₆ (919.2)	142 (65)	FRN736D5XS	FRN736D5XW	C4-156	C4-157
	240	133.0	3	8	44 ¹¹ / ₁₆ (1135.1)	147 (67)	FRN744M3XS	FRN744M3XW	C/F	C/F
	480	133.0	3	4	44 ¹¹ / ₁₆ (1135.1)	147 (67)	FRN744M5XS	FRN744M5XW	C4-156	C4-157
	240	167.0	3	8	54 ¹¹ / ₁₆ (1389.1)	158 (72)	FRN754M3XS	FRN754M3XW	C/F	C/F
	480	167.0	3	8	54 ¹¹ / ₁₆ (1389.1)	158 (72)	FRN754M5XS	FRN754M5XW	C/F	C/F
	480	200.0	3	8	63 ¹¹ / ₁₆ (1617.6)	166 (76)	FRN763M5XS	FRN763M5XW	C/F	C/F
	480	233.0	3	8	73 ³ / ₁₆ (1859.0)	175 (80)	FRN773D5XS	FRN773D5XW	C/F	C/F
	480	267.0	3	8	82 ¹¹ / ₁₆ (2100.3)	184 (84)	FRN782M5XS	FRN782M5XW	C/F	C/F

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters

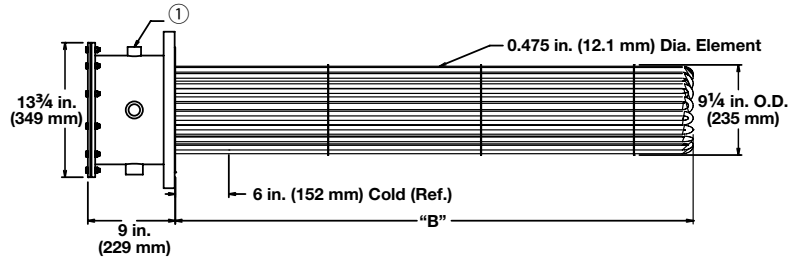


WATROD ANSI Flange Immersion Heaters

Application: Process Water

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



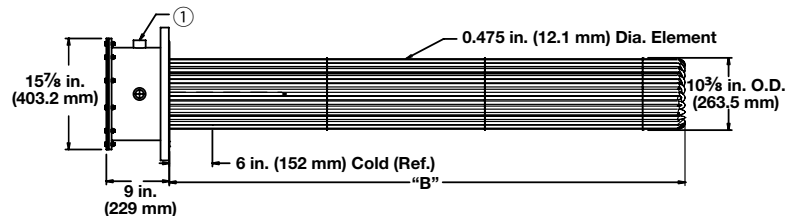
① The number and size of the conduit opening will comply with the National Electrical Code® standards.

Description	Volts	kW	Ph	# Circ.	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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)	FSN754N5S	FSN754N5W	C/F	C/F
	480	262.0	3	9	73 ¹ / ₄ (1861)	260 (118)	FSN773E5S	FSN773E5W	C/F	C/F

Application: Process Water

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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)	FTN754L5S	FTN754L5W	C/F	C/F
	480	350.0	3	12	73 ¹ / ₈ (1857.4)	291 (132)	FTN773C5S	FTN773C5W	C/F	C/F

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



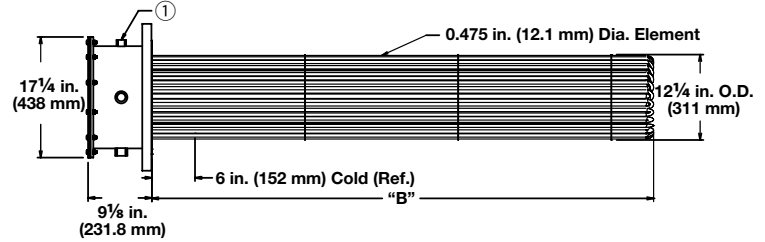
WATROD ANSI Flange Immersion Heaters



Application: Process Water

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FWN754J5W	C/F	C/F
	480	375.0	3	15	63 1/2 (1613)	310 (141)	FWN763J5S	FWN763J5W	C/F	C/F

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



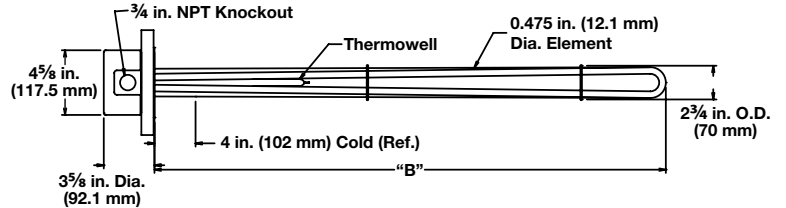
WATROD ANSI Flange Immersion Heaters



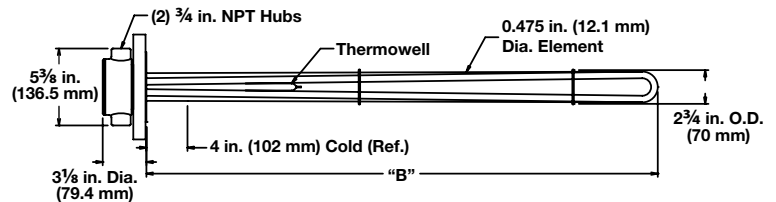
Application: Forced Air and Caustic Solutions

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure
- Single circuit

General Purpose



NEMA 4 Enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number	Part Number	WATCONNECT Part Number	
						General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² Ⓢ Steel Flange 3-Alloy 800 Elements (3.6 W/cm ²)	240	3.0	1	18 (457)	23 (11)	FMNA18A10S	FMNA18A10W	C1-17	C1-13
	240	3.0	3	18 (457)	23 (11)	FMNA18A3S	FMNA18A3W	C2-50	C2-92
	480	3.0	1	18 (457)	23 (11)	FMNA18A11S	FMNA18A11W	C/F	C/F
	480	3.0	3	18 (457)	23 (11)	FMNA18A5S	FMNA18A5W	C2-43	C2-35
	240	4.5	1	25½ (648)	27 (13)	FMNA25J10S	FMNA25J10W	C/F	C/F
	240	4.5	3	25½ (648)	27 (13)	FMNA25J3S	FMNA25J3W	C2-50	C2-92
	480	4.5	1	25½ (648)	27 (13)	FMNA25J11S	FMNA25J11W	C/F	C/F
	480	4.5	3	25½ (648)	27 (13)	FMNA25J5S	FMNA25J5W	C2-43	C2-35
	240	6.0	1	33 (838)	28 (13)	FMNA33A10S	FMNA33A10W	C/F	C/F
	240	6.0	3	33 (838)	28 (13)	FMNA33A3S	FMNA33A3W	C2-50	C2-92
	480	6.0	1	33 (838)	28 (13)	FMNA33A11S	FMNA33A11W	C/F	C/F
	480	6.0	3	33 (838)	28 (13)	FMNA33A5S	FMNA33A5W	C2-43	C2-35
	240	7.5	1	40½ (1029)	30 (14)	FMNA40J10S	FMNA40J10W	C/F	C/F
	240	7.5	3	40½ (1029)	30 (14)	FMNA40J3S	FMNA40J3W	C2-50	C2-92
	480	7.5	1	40½ (1029)	30 (14)	FMNA40J11S	FMNA40J11W	C/F	C/F
	480	7.5	3	40½ (1029)	30 (14)	FMNA40J5S	FMNA40J5W	C2-43	C2-35
	240	9.0	1	48 (1219)	32 (15)	FMNA48A10S	FMNA48A10W	C/F	C/F
	240	9.0	3	48 (1219)	32 (15)	FMNA48A3S	FMNA48A3W	C2-50	C2-92
	480	9.0	1	48 (1219)	32 (15)	FMNA48A11S	FMNA48A11W	C/F	C/F
	480	9.0	3	48 (1219)	32 (15)	FMNA48A5S	FMNA48A5W	C2-43	C2-35
	240	12.5	3	64½ (1638)	37 (17)	FMNA64J3S	FMNA64J3W	C2-236	C2-214
	480	12.5	1	64½ (1638)	37 (17)	FMNA64J11S	FMNA64J11W	C/F	C/F
	480	12.5	3	64½ (1638)	37 (17)	FMNA64J5S	FMNA64J5W	C2-43	C2-35
	240	15.0	3	77 (1956)	42 (19)	FMNA77A3S	FMNA77A3W	C2-236	C2-214
	480	15.0	1	77 (1956)	42 (19)	FMNA77A11S	FMNA77A11W	C/F	C/F
	480	15.0	3	77 (1956)	42 (19)	FMNA77A5S	FMNA77A5W	C2-43	C2-35

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters



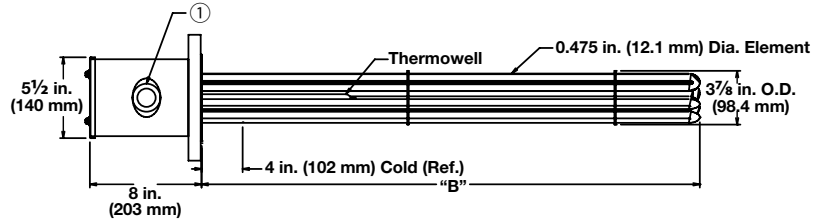
WATROD ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² ⑥ Steel Flange 6-Alloy 800 Elements (3.6 W/cm ²)	240	6.0	1	1	18 (457)	32 (15)	FONA18A10S	FONA18A10W	C/F	C/F
	240	6.0	3	1	18 (457)	32 (15)	FONA18A3S	FONA18A3W	C2-50	C2-92
	480	6.0	1	1	18 (457)	32 (15)	FONA18A11S	FONA18A11W	C/F	C/F
	480	6.0	3	1	18 (457)	32 (15)	FONA18A5S	FONA18A5W	C2-43	C2-35
	240	9.0	1	1	25 1/2 (648)	36 (17)	FONA25J10S	FONA25J10W	C/F	C/F
	240	9.0	3	1	25 1/2 (648)	36 (17)	FONA25J3S	FONA25J3W	C2-50	C2-92
	480	9.0	1	1	25 1/2 (648)	36 (17)	FONA25J11S	FONA25J11W	C/F	C/F
	480	9.0	3	1	25 1/2 (648)	36 (17)	FONA25J5S	FONA25J5W	C2-43	C2-35
	240	12.0	1	2	33 (838)	39 (18)	FONA33A10S	FONA33A10W	C/F	C/F
	240	12.0	3	1	33 (838)	39 (18)	FONA33A3S	FONA33A3W	C2-236	C2-214
	480	12.0	1	1	33 (838)	39 (18)	FONA33A11S	FONA33A11W	C/F	C/F
	480	12.0	3	1	33 (838)	39 (18)	FONA33A5S	FONA33A5W	C2-43	C2-35
	240	15.0	1	2	40 1/2 (1029)	43 (20)	FONA40J10S	FONA40J10W	C/F	C/F
	240	15.0	3	1	40 1/2 (1029)	43 (20)	FONA40J3S	FONA40J3W	C2-236	C2-214
	480	15.0	1	1	40 1/2 (1029)	43 (20)	FONA40J11S	FONA40J11W	C/F	C/F
	480	15.0	3	1	40 1/2 (1029)	43 (20)	FONA40J5S	FONA40J5W	C2-43	C2-35
	240	18.0	1	2	48 (1219)	48 (22)	FONA48A10S	FONA48A10W	C/F	C/F
	240	18.0	3	1	48 (1219)	48 (22)	FONA48A3S	FONA48A3W	C2-236	C2-214
	480	18.0	1	1	48 (1219)	48 (22)	FONA48A11S	FONA48A11W	C/F	C/F
	480	18.0	3	1	48 (1219)	48 (22)	FONA48A5S	FONA48A5W	C2-43	C2-35
240	25.0	3	2	64 1/2 (1638)	53 (24)	FONA64J3S	FONA64J3W	C2-236	C2-214	
480	25.0	1	2	64 1/2 (1638)	53 (24)	FONA64J11S	FONA64J11W	C/F	C/F	
480	25.0	3	1	64 1/2 (1638)	53 (24)	FONA64J5S	FONA64J5W	C2-225	C2-226	
240	30.0	3	2	77 (1956)	61 (28)	FONA77A3S	FONA77A3W	C2-236	C2-214	
480	30.0	1	2	77 (1956)	61 (28)	FONA77A11S	FONA77A11W	C/F	C/F	
480	30.0	3	1	77 (1956)	61 (28)	FONA77A5S	FONA77A5W	C2-225	C2-226	

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters

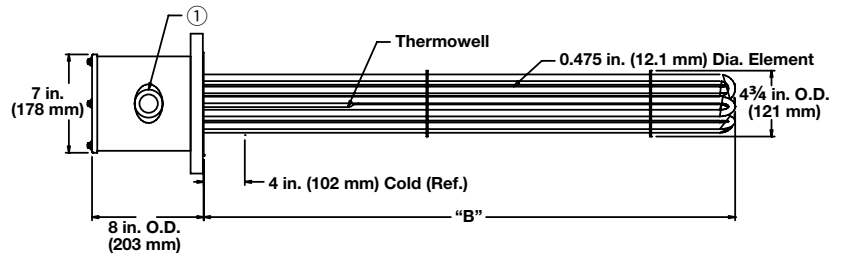


WATROD ANSI Flange Immersion Heaters

Application: Forced Air and Caustic Solutions

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² ⑥ Steel Flange 6-Alloy 800 Elements (3.6 W/cm ²)	240	6.0	1	1	18 (457)	36 (17)	FNNA18A10S	FNNA18A10W	C/F	C/F
	240	6.0	3	1	18 (457)	36 (17)	FNNA18A3S	FNNA18A3W	C2-50	C2-92
	480	6.0	1	1	18 (457)	36 (17)	FNNA18A11S	FNNA18A11W	C/F	C/F
	480	6.0	3	1	18 (457)	36 (17)	FNNA18A5S	FNNA18A5W	C2-43	C2-35
	240	9.0	1	1	25 ¹ / ₂ (648)	40 (19)	FNNA25J10S	FNNA25J10W	C/F	C/F
	240	9.0	3	1	25 ¹ / ₂ (648)	40 (19)	FNNA25J3S	FNNA25J3W	C2-50	C2-92
	480	9.0	1	1	25 ¹ / ₂ (648)	40 (19)	FNNA25J11S	FNNA25J11W	C/F	C/F
	480	9.0	3	1	25 ¹ / ₂ (648)	40 (19)	FNNA25J5S	FNNA25J5W	C2-43	C2-35
	240	12.0	1	2	33 (838)	43 (20)	FNNA33A10S	FNNA33A10W	C/F	C/F
	240	12.0	3	1	33 (838)	43 (20)	FNNA33A3S	FNNA33A3W	C2-236	C2-214
	480	12.0	1	1	33 (838)	43 (20)	FNNA33A11S	FNNA33A11W	C/F	C/F
	480	12.0	3	1	33 (838)	43 (20)	FNNA33A5S	FNNA33A5W	C2-43	C2-35
	240	15.0	1	2	40 ¹ / ₂ (1029)	47 (22)	FNNA40J10S	FNNA40J10W	C/F	C/F
	240	15.0	3	1	40 ¹ / ₂ (1029)	47 (22)	FNNA40J3S	FNNA40J3W	C2-236	C2-214
	480	15.0	1	1	40 ¹ / ₂ (1029)	47 (22)	FNNA40J11S	FNNA40J11W	C/F	C/F
	480	15.0	3	1	40 ¹ / ₂ (1029)	47 (22)	FNNA40J5S	FNNA40J5W	C2-43	C2-35
	240	18.0	1	2	48 (1219)	52 (24)	FNNA48A10S	FNNA48A10W	C/F	C/F
	240	18.0	3	1	48 (1219)	52 (24)	FNNA48A3S	FNNA48A3W	C2-236	C2-214
	480	18.0	1	1	48 (1219)	52 (24)	FNNA48A11S	FNNA48A11W	C/F	C/F
	480	18.0	3	1	48 (1219)	52 (24)	FNNA48A5S	FNNA48A5W	C2-43	C2-35
	240	25.0	3	2	64 ¹ / ₂ (1638)	57 (26)	FNNA64J3S	FNNA64J3W	C2-218	C2-224
	480	25.0	1	2	64 ¹ / ₂ (1638)	57 (26)	FNNA64J11S	FNNA64J11W	C/F	C/F
	480	25.0	3	1	64 ¹ / ₂ (1638)	57 (26)	FNNA64J5S	FNNA64J5W	C2-225	C2-226
	240	30.0	3	2	77 (1956)	65 (30)	FNNA77A3S	FNNA77A3W	C2-218	C2-224
480	30.0	1	2	77 (1956)	65 (30)	FNNA77A11S	FNNA77A11W	C/F	C/F	
480	30.0	3	1	77 (1956)	65 (30)	FNNA77A5S	FNNA77A5W	C2-225	C2-226	

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters



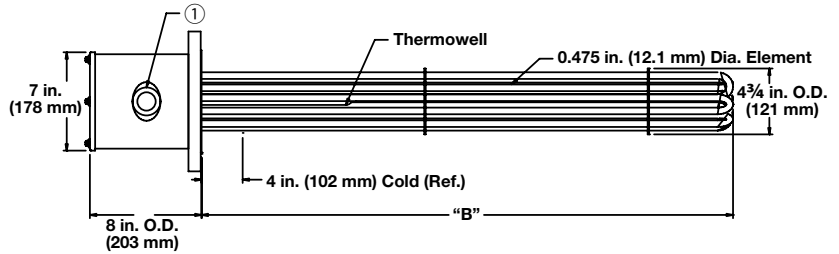
WATROD ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² ⑥ Steel Flange 9-Alloy 800 Elements (3.6 W/cm ²)	240	9.0	1	1	18 (457)	39 (18)	FNNA18A10XS	FNNA18A10XW	C/F	C/F
	240	9.0	3	1	18 (457)	39 (18)	FNNA18A3XS	FNNA18A3XW	C2-50	C2-92
	480	9.0	1	1	18 (457)	39 (18)	FNNA18A11XS	FNNA18A11XW	C/F	C/F
	480	9.0	3	1	18 (457)	39 (18)	FNNA18A5XS	FNNA18A5XW	C2-43	C2-35
	240	14.0	1	3	25 ¹ / ₂ (648)	45 (21)	FNNA25J10XS	FNNA25J10XW	C/F	C/F
	240	14.0	3	1	25 ¹ / ₂ (648)	45 (21)	FNNA25J3XS	FNNA25J3XW	C2-236	C2-214
	480	14.0	1	1	25 ¹ / ₂ (648)	45 (21)	FNNA25J11XS	FNNA25J11XW	C/F	C/F
	480	14.0	3	1	25 ¹ / ₂ (648)	45 (21)	FNNA25J5XS	FNNA25J5XW	C2-43	C2-35
	240	18.0	1	3	33 (838)	48 (22)	FNNA33A10XS	FNNA33A10XW	C/F	C/F
	240	18.0	3	1	33 (838)	48 (22)	FNNA33A3XS	FNNA33A3XW	C2-236	C2-214
	480	18.0	1	1	33 (838)	48 (22)	FNNA33A11XS	FNNA33A11XW	C/F	C/F
	480	18.0	3	1	33 (838)	48 (22)	FNNA33A5XS	FNNA33A5XW	C2-43	C2-35
	240	23.0	1	3	40 ¹ / ₂ (1029)	53 (24)	FNNA40J10XS	FNNA40J10XW	C/F	C/F
	240	23.0	3	3	40 ¹ / ₂ (1029)	53 (24)	FNNA40J3XS	FNNA40J3XW	C4-143	C4-142
	480	23.0	1	1	40 ¹ / ₂ (1029)	53 (24)	FNNA40J11XS	FNNA40J11XW	C/F	C/F
	480	23.0	3	1	40 ¹ / ₂ (1029)	53 (24)	FNNA40J5XS	FNNA40J5XW	C2-225	C2-226
	240	27.0	1	3	48 (1219)	60 (28)	FNNA48A10XS	FNNA48A10XW	C/F	C/F
	240	27.0	3	3	48 (1219)	60 (28)	FNNA48A3XS	FNNA48A3XW	C4-143	C4-142
	480	27.0	1	3	48 (1219)	60 (28)	FNNA48A11XS	FNNA48A11XW	C/F	C/F
	480	27.0	3	1	48 (1219)	60 (28)	FNNA48A5XS	FNNA48A5XW	C2-225	C2-226
	240	38.0	3	3	64 ¹ / ₂ (1638)	68 (31)	FNNA64J3XS	FNNA64J3XW	C4-144	C4-145
	480	38.0	1	3	64 ¹ / ₂ (1638)	68 (31)	FNNA64J11XS	FNNA64J11XW	C/F	C/F
	480	38.0	3	1	64 ¹ / ₂ (1638)	68 (31)	FNNA64J5XS	FNNA64J5XW	C2-225	C2-226
	240	45.0	3	3	77 (1956)	78 (36)	FNNA77A3XS	FNNA77A3XW	C4-144	C4-145
480	45.0	1	3	77 (1956)	78 (36)	FNNA77A11XS	FNNA77A11XW	C/F	C/F	
480	45.0	3	3	77 (1956)	78 (36)	FNNA77A5XS	FNNA77A5XW	C4-150	C4-151	

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters

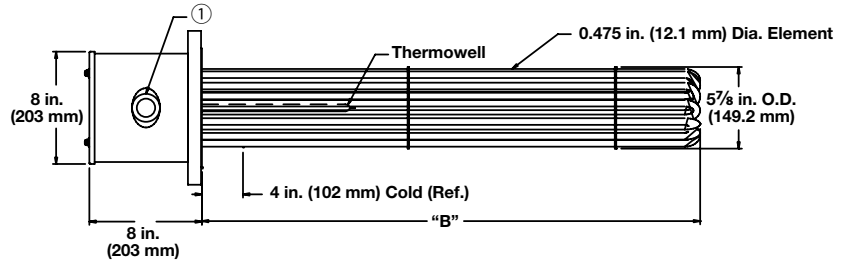


WATROD ANSI Flange Immersion Heaters

Application: Forced Air and Caustic Solutions

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² ⑥ Steel Flange 12-Alloy 800 Elements (3.6 W/cm ²)	240	12.0	1	2	17 ⁷ / ₈ (454.0)	75 (34)	FPNA17R10S	FPNA17R10W	C/F	C/F
	240	12.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPNA17R3S	FPNA17R3W	C2-236	C2-214
	480	12.0	1	1	17 ⁷ / ₈ (454.0)	75 (34)	FPNA17R11S	FPNA17R11W	C/F	C/F
	480	12.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPNA17R5S	FPNA17R5W	C2-43	C2-35
	240	18.0	1	2	25 ³ / ₈ (644.5)	81 (37)	FPNA25G10S	FPNA25G10W	C/F	C/F
	240	18.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPNA25G3S	FPNA25G3W	C2-236	C2-214
	480	18.0	1	1	25 ³ / ₈ (644.5)	81 (37)	FPNA25G11S	FPNA25G11W	C/F	C/F
	480	18.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPNA25G5S	FPNA25G5W	C2-43	C2-35
	240	24.0	1	3	32 ⁷ / ₈ (835.0)	85 (39)	FPNA32R10S	FPNA32R10W	C/F	C/F
	240	24.0	3	2	32 ⁷ / ₈ (835.0)	85 (39)	FPNA32R3S	FPNA32R3W	C2-218	C2-224
	480	24.0	1	2	32 ⁷ / ₈ (835.0)	85 (39)	FPNA32R11S	FPNA32R11W	C/F	C/F
	480	24.0	3	1	32 ⁷ / ₈ (835.0)	85 (39)	FPNA32R5S	FPNA32R5W	C2-225	C2-226
	240	30.0	1	3	40 ³ / ₈ (1025.5)	92 (42)	FPNA40G10S	FPNA40G10W	C/F	C/F
	240	30.0	3	2	40 ³ / ₈ (1025.5)	92 (42)	FPNA40G3S	FPNA40G3W	C2-218	C2-224
	480	30.0	1	2	40 ³ / ₈ (1025.5)	92 (42)	FPNA40G11S	FPNA40G11W	C/F	C/F
	480	30.0	3	1	40 ³ / ₈ (1025.5)	92 (42)	FPNA40G5S	FPNA40G5W	C2-225	C2-226
	240	36.0	1	4	47 ⁷ / ₈ (1216.0)	100 (46)	FPNA47R10S	FPNA47R10W	C/F	C/F
	240	36.0	3	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPNA47R3S	FPNA47R3W	C2-218	C2-224
	480	36.0	1	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPNA47R11S	FPNA47R11W	C/F	C/F
	480	36.0	3	1	47 ⁷ / ₈ (1216.0)	100 (46)	FPNA47R5S	FPNA47R5W	C2-225	C2-226
240	50.0	3	4	64 ³ / ₈ (1635.1)	110 (50)	FPNA64G3S	FPNA64G3W	C4-148	C4-149	
480	50.0	1	3	64 ³ / ₈ (1635.1)	110 (50)	FPNA64G11S	FPNA64G11W	C/F	C/F	
480	50.0	3	2	64 ³ / ₈ (1635.1)	110 (50)	FPNA64G5S	FPNA64G5W	C2-229	C2-230	
240	60.0	3	4	76 ⁷ / ₈ (1952.4)	118 (54)	FPNA76R3S	FPNA76R3W	C4-148	C4-149	
480	60.0	1	3	76 ⁷ / ₈ (1952.4)	118 (54)	FPNA76R11S	FPNA76R11W	C/F	C/F	
480	60.0	3	2	76 ⁷ / ₈ (1952.4)	118 (54)	FPNA76R5S	FPNA76R5W	C2-229	C2-230	

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters



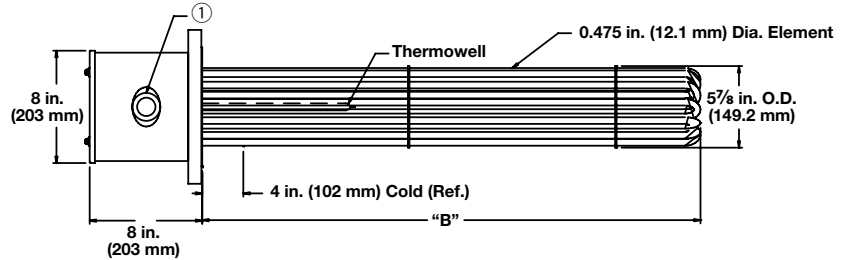
WATROD ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² ® Steel Flange 15-Alloy 800 Elements (3.6 W/cm ²)	240	15.0	1	3	17 ⁷ / ₈ (454.0)	78 (36)	FPNA17R10XS	FPNA17R10XW	C/F	C/F
	240	15.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPNA17R3XS	FPNA17R3XW	C2-236	C2-214
	480	15.0	1	1	17 ⁷ / ₈ (454.0)	78 (36)	FPNA17R11XS	FPNA17R11XW	C/F	C/F
	480	15.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPNA17R5XS	FPNA17R5XW	C2-43	C2-35
	240	23.0	1	3	25 ³ / ₈ (644.5)	85 (39)	FPNA25G10XS	FPNA25G10XW	C/F	C/F
	240	23.0	3	5	25 ³ / ₈ (644.5)	85 (39)	FPNA25G3XS	FPNA25G3XW	C4-143	C4-142
	480	23.0	1	1	25 ³ / ₈ (644.5)	85 (39)	FPNA25G11XS	FPNA25G11XW	C/F	C/F
	480	23.0	3	1	25 ³ / ₈ (644.5)	85 (39)	FPNA25G5XS	FPNA25G5XW	C2-225	C2-226
	240	30.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPNA32R10XS	FPNA32R10XW	C/F	C/F
	240	30.0	3	5	32 ⁷ / ₈ (835.0)	90 (41)	FPNA32R3XS	FPNA32R3XW	C4-144	C4-145
	480	30.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPNA32R11XS	FPNA32R11XW	C/F	C/F
	480	30.0	3	1	32 ⁷ / ₈ (835.0)	90 (41)	FPNA32R5XS	FPNA32R5XW	C2-224	C2-226
	240	38.0	1	5	40 ³ / ₈ (1025.5)	98 (45)	FPNA40G10XS	FPNA40G10XW	C/F	C/F
	240	38.0	3	5	40 ³ / ₈ (1025.5)	98 (45)	FPNA40G3XS	FPNA40G3XW	C4-144	C4-145
	480	38.0	1	3	40 ³ / ₈ (1025.5)	98 (45)	FPNA40G11XS	FPNA40G11XW	C/F	C/F
	480	38.0	3	1	40 ³ / ₈ (1025.5)	98 (45)	FPNA40G5XS	FPNA40G5XW	C2-225	C2-226
	240	45.0	1	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPNA47R10XS	FPNA47R10XW	C/F	C/F
	240	45.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPNA47R3XS	FPNA47R3XW	C4-144	C4-145
	480	45.0	1	3	47 ⁷ / ₈ (1216.0)	108 (49)	FPNA47R11XS	FPNA47R11XW	C/F	C/F
	480	45.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPNA47R5XS	FPNA47R5XW	C4-152	C4-153
240	63.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPNA64G3XS	FPNA64G3XW	C/F	C/F	
480	63.0	1	3	64 ³ / ₈ (1635.1)	120 (55)	FPNA64G11XS	FPNA64G11XW	C/F	C/F	
480	63.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPNA64G5XS	FPNA64G5XW	C4-152	C4-153	
240	75.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPNA76R3XS	FPNA76R3XW	C/F	C/F	
480	75.0	1	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPNA76R11XS	FPNA76R11XW	C/F	C/F	
480	75.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPNA76R5XS	FPNA76R5XW	C4-152	C4-153	

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

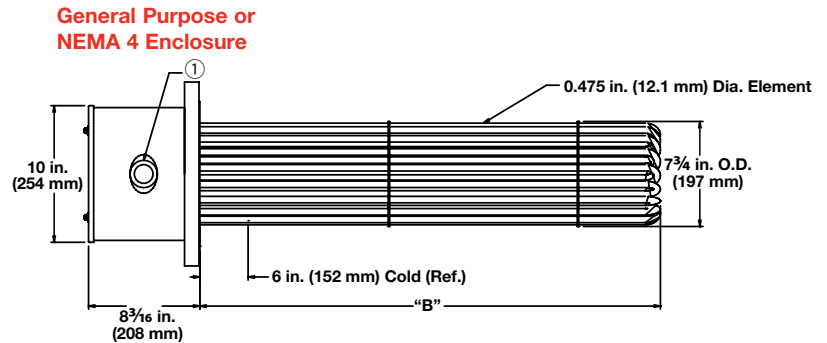
Immersion Heaters



WATROD ANSI Flange Immersion Heaters

Application: Forced Air and Caustic Solutions

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² ⑥ Steel Flange 18-Alloy 800 Elements (3.6 W/cm ²)	240	30.0	1	3	32 ³ / ₄ (832.0)	130 (59)	FRNA32N10S	FRNA32N10W	C/F	C/F
	240	30.0	3	2	32 ³ / ₄ (832.0)	130 (59)	FRNA32N3S	FRNA32N3W	C2-218	C2-224
	480	30.0	1	2	32 ³ / ₄ (832.0)	130 (59)	FRNA32N11S	FRNA32N11W	C/F	C/F
	480	30.0	3	1	32 ³ / ₄ (832.0)	130 (59)	FRNA32N5S	FRNA32N5W	C2-225	C2-226
	240	40.0	3	3	43 ¹ / ₄ (1099.0)	132 (60)	FRNA43E3S	FRNA43E3W	C4-144	C4-145
	480	40.0	1	2	43 ¹ / ₄ (1099.0)	132 (60)	FRNA43E11S	FRNA43E11W	C/F	C/F
	480	40.0	3	3	43 ¹ / ₄ (1099.0)	132 (60)	FRNA43E5S	FRNA43E5W	C4-150	C4-151
	240	50.0	3	3	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRNA51M3S	FRNA51M3W	C4-144	C4-145
	480	50.0	1	3	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRNA51M11S	FRNA51M11W	C/F	C/F
	480	50.0	3	2	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRNA51M5S	FRNA51M5W	C2-229	C2-230
23 W/in ² ⑥ Steel Flange 24-Alloy 800 Elements (3.6 W/cm ²)	240	40.0	1	4	33 ³ / ₁₆ (843.0)	142 (65)	FRNA33D10XS	FRNA33D10XW	C/F	C/F
	240	40.0	3	4	33 ³ / ₁₆ (843.0)	142 (65)	FRNA33D3XS	FRNA33D3XW	C4-146	C4-147
	480	40.0	1	2	33 ³ / ₁₆ (843.0)	142 (65)	FRNA33D11XS	FRNA33D11XW	C/F	C/F
	480	40.0	3	2	33 ³ / ₁₆ (843.0)	142 (65)	FRNA33D5XS	FRNA33D5XW	C2-227	C2-228
	240	53.0	3	4	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRNA43M3XS	FRNA43M3XW	C4-148	C4-149
	480	53.0	1	3	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRNA43M11XS	FRNA43M11XW	C/F	C/F
	480	53.0	3	2	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRNA43M5XS	FRNA43M5XW	C2-229	C2-230
	240	67.0	3	4	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRNA51M3XS	FRNA51M3XW	C4-148	C4-149
	480	67.0	1	3	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRNA51M11XS	FRNA51M11XW	C/F	C/F
	480	67.0	3	2	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRNA51M5XS	FRNA51M5XW	C2-229	C2-230

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

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

Immersion Heaters



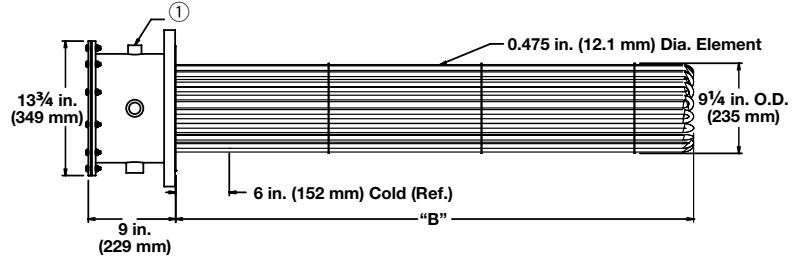
WATROD ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in² Steel Flange 27-Alloy 800 Elements (3.6 W/cm²)	240	45.0	3	3	33 ¹ / ₄ (845)	165 (75)	FSNA33E3S	FSNA33E3W	C4-144	C4-145
	480	45.0	3	3	33 ¹ / ₄ (845)	165 (75)	FSNA33E5S	FSNA33E5W	C4-150	C4-151
	240	60.0	3	3	43 ³ / ₄ (1111)	195 (89)	FSNA43N3S	FSNA43N3W	C4-144	C4-145
	480	60.0	3	3	43 ³ / ₄ (1111)	195 (89)	FSNA43N5S	FSNA43N5W	C4-150	C4-151
	240	75.0	3	9	51 ³ / ₄ (1314)	230 (105)	FSNA51N3S	FSNA51N3W	C/F	C/F
	480	75.0	3	3	51 ³ / ₄ (1314)	230 (105)	FSNA51N5S	FSNA51N5W	C4-152	C4-153

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



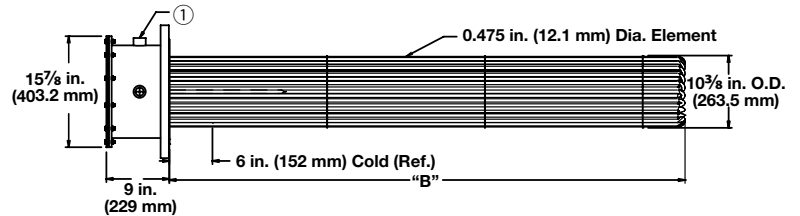
WATROD ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FTNA33C5W	C4-150	C4-151
	480	80.0	3	3	43 ⁵ / ₈ (1108.1)	240 (109)	FTNA43L5S	FTNA43L5W	C4-152	C4-153
	480	100.0	3	3	51 ⁵ / ₈ (1311.3)	280 (127)	FTNA51L5S	FTNA51L5W	C4-152	C4-153

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



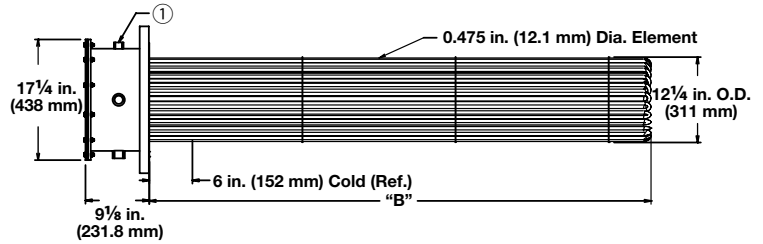
WATROD ANSI Flange Immersion Heaters



Application: Forced Air and Caustic Solutions

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FWNA33A5W	C4-152	C4-153
	480	100.0	3	3	43 1/2 (1105)	255 (116)	FWNA43J5S	FWNA43J5W	C4-152	C4-153
	480	125.0	3	5	51 1/2 (1308)	300 (136)	FWNA51J5S	FWNA51J5W	C/F	C/F

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters

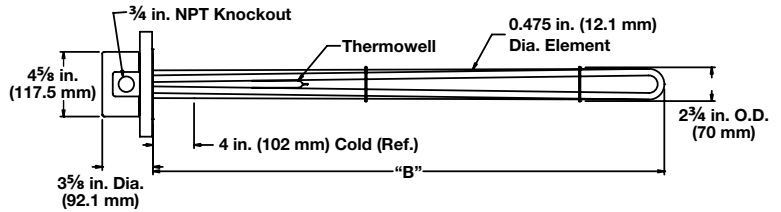


WATROD ANSI Flange Immersion Heaters

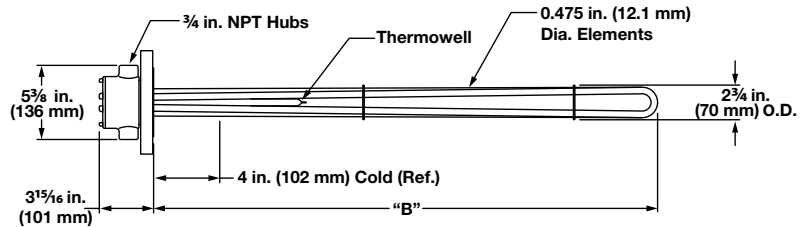
Application: Lightweight Oils and Heat Transfer Oils

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure
- Single circuit

General Purpose



NEMA 4 Enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		WATCONNECT Part Number	
						General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² Steel Flange 3-Steel Elements (3.6 W/cm ²)	240	3.0	1	18 (457)	23 (11)	FMS718A10S	FMS718A10W	C1-17	C1-13
	240	3.0	3	18 (457)	23 (11)	FMS718A3S	FMS718A3W	C2-50	C2-92
	480	3.0	1	18 (457)	23 (11)	FMS718A11S	FMS718A11W	C/F	C/F
	480	3.0	3	18 (457)	23 (11)	FMS718A5S	FMS718A5W	C2-43	C2-35
	240	4.5	1	25 1/2 (648)	27 (13)	FMS725J10S	FMS725J10W	C/F	C/F
	240	4.5	3	25 1/2 (648)	27 (13)	FMS725J3S	FMS725J3W	C2-50	C2-92
	480	4.5	1	25 1/2 (648)	27 (13)	FMS725J11S	FMS725J11W	C/F	C/F
	480	4.5	3	25 1/2 (648)	27 (13)	FMS725J5S	FMS725J5W	C2-43	C2-35
	240	6.0	1	33 (838)	28 (13)	FMS733A10S	FMS733A10W	C/F	C/F
	240	6.0	3	33 (838)	28 (13)	FMS733A3S	FMS733A3W	C2-50	C2-92
	480	6.0	1	33 (838)	28 (13)	FMS733A11S	FMS733A11W	C/F	C/F
	480	6.0	3	33 (838)	28 (13)	FMS733A5S	FMS733A5W	C2-43	C2-35
	240	7.5	1	40 1/2 (1029)	30 (14)	FMS740J10S	FMS740J10W	C/F	C/F
	240	7.5	3	40 1/2 (1029)	30 (14)	FMS740J3S	FMS740J3W	C2-50	C2-92
	480	7.5	1	40 1/2 (1029)	30 (14)	FMS740J11S	FMS740J11W	C/F	C/F
	480	7.5	3	40 1/2 (1029)	30 (14)	FMS740J5S	FMS740J5W	C2-43	C2-35
	240	9.0	1	48 (1219)	32 (15)	FMS748A10S	FMS748A10W	C/F	C/F
	240	9.0	3	48 (1219)	32 (15)	FMS748A3S	FMS748A3W	C2-50	C2-92
	480	9.0	1	48 (1219)	32 (15)	FMS748A11S	FMS748A11W	C/F	C/F
	480	9.0	3	48 (1219)	32 (15)	FMS748A5S	FMS748A5W	C2-43	C2-35
	240	12.5	3	64 1/2 (1638)	37 (17)	FMS764J3S	FMS764J3W	C2-236	C2-214
	480	12.5	1	64 1/2 (1638)	37 (17)	FMS764J11S	FMS764J11W	C/F	C/F
	480	12.5	3	64 1/2 (1638)	37 (17)	FMS764J5S	FMS764J5W	C2-43	C2-35
	240	15.0	3	77 (1956)	42 (19)	FMS777A3S	FMS777A3W	C2-236	C2-214
	480	15.0	1	77 (1956)	42 (19)	FMS777A11S	FMS777A11W	C/F	C/F
	480	15.0	3	77 (1956)	42 (19)	FMS777A5S	FMS777A5W	C2-43	C2-35

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



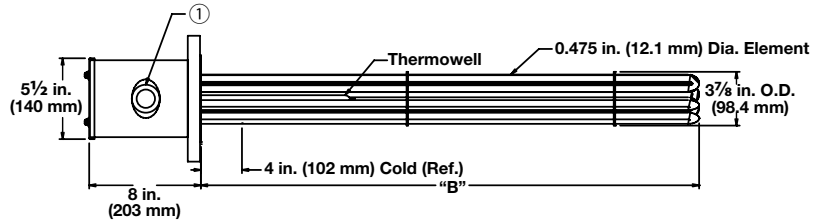
WATROD ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in² Steel Flange 6-Steel Elements (3.6 W/cm²)	240	6.0	1	1	18 (457)	32 (15)	FOS718A10S	FOS718A10W	C/F	C/F
	240	6.0	3	1	18 (457)	32 (15)	FOS718A3S	FOS718A3W	C2-50	C2-92
	480	6.0	1	1	18 (457)	32 (15)	FOS718A11S	FOS718A11W	C/F	C/F
	480	6.0	3	1	18 (457)	32 (15)	FOS718A5S	FOS718A5W	C2-43	C2-35
	240	9.0	1	1	25 1/2 (648)	36 (17)	FOS725J10S	FOS725J10W	C/F	C/F
	240	9.0	3	1	25 1/2 (648)	36 (17)	FOS725J3S	FOS725J3W	C2-50	C2-92
	480	9.0	1	1	25 1/2 (648)	36 (17)	FOS725J11S	FOS725J11W	C/F	C/F
	480	9.0	3	1	25 1/2 (648)	36 (17)	FOS725J5S	FOS725J5W	C2-43	C2-35
	240	12.0	1	2	33 (838)	39 (18)	FOS733A10S	FOS733A10W	C/F	C/F
	240	12.0	3	1	33 (838)	39 (18)	FOS733A3S	FOS733A3W	C2-236	C2-214
	480	12.0	1	1	33 (838)	39 (18)	FOS733A11S	FOS733A11W	C/F	C/F
	480	12.0	3	1	33 (838)	39 (18)	FOS733A5S	FOS733A5W	C2-43	C2-35
	240	15.0	1	2	40 1/2 (1029)	43 (20)	FOS740J10S	FOS740J10W	C/F	C/F
	240	15.0	3	1	40 1/2 (1029)	43 (20)	FOS740J3S	FOS740J3W	C2-236	C2-214
	480	15.0	1	1	40 1/2 (1029)	43 (20)	FOS740J11S	FOS740J11W	C/F	C/F
	480	15.0	3	1	40 1/2 (1029)	43 (20)	FOS740J5S	FOS740J5W	C2-43	C2-35
	240	18.0	1	2	48 (1219)	48 (22)	FOS748A10S	FOS748A10W	C/F	C/F
	240	18.0	3	1	48 (1219)	48 (22)	FOS748A3S	FOS748A3W	C2-236	C2-214
	480	18.0	1	1	48 (1219)	48 (22)	FOS748A11S	FOS748A11W	C/F	C/F
	480	18.0	3	1	48 (1219)	48 (22)	FOS748A5S	FOS748A5W	C2-43	C2-35
	240	25.0	3	2	64 1/2 (1638)	53 (24)	FOS764J3S	FOS764J3W	C2-218	C2-224
	480	25.0	1	2	64 1/2 (1638)	53 (24)	FOS764J11S	FOS764J11W	C/F	C/F
	480	25.0	3	1	64 1/2 (1638)	53 (24)	FOS764J5S	FOS764J5W	C2-225	C2-226
	240	30.0	3	2	77 (1956)	61 (28)	FOS777A3S	FOS777A3W	C2-218	C2-224
480	30.0	1	2	77 (1956)	61 (28)	FOS777A11S	FOS777A11W	C/F	C/F	
480	30.0	3	1	77 (1956)	61 (28)	FOS777A5S	FOS777A5W	C2-225	C2-226	

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



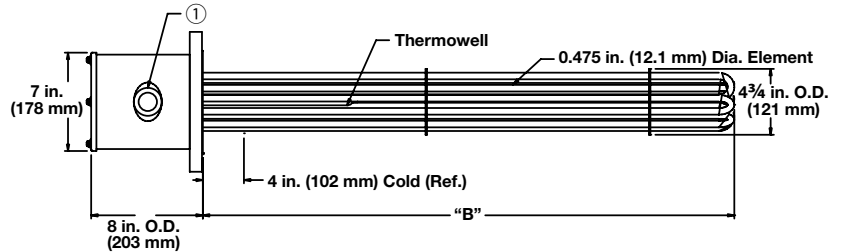
WATROD ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² Steel Flange 6-Steel Elements (3.6 W/cm ²)	240	6.0	1	1	18 (457)	36 (17)	FNS718A10S	FNS718A10W	C/F	C/F
	240	6.0	3	1	18 (457)	36 (17)	FNS718A3S	FNS718A3W	C2-50	C2-92
	480	6.0	1	1	18 (457)	36 (17)	FNS718A11S	FNS718A11W	C/F	C/F
	480	6.0	3	1	18 (457)	36 (17)	FNS718A5S	FNS718A5W	C2-43	C2-35
	240	9.0	1	1	25 ^{1/2} (648)	40 (19)	FNS725J10S	FNS725J10W	C/F	C/F
	240	9.0	3	1	25 ^{1/2} (648)	40 (19)	FNS725J3S	FNS725J3W	C2-50	C2-92
	480	9.0	1	1	25 ^{1/2} (648)	40 (19)	FNS725J11S	FNS725J11W	C/F	C/F
	480	9.0	3	1	25 ^{1/2} (648)	40 (19)	FNS725J5S	FNS725J5W	C2-43	C2-35
	240	12.0	1	2	33 (838)	43 (20)	FNS733A10S	FNS733A10W	C/F	C/F
	240	12.0	3	1	33 (838)	43 (20)	FNS733A3S	FNS733A3W	C2-236	C2-214
	480	12.0	1	1	33 (838)	43 (20)	FNS733A11S	FNS733A11W	C/F	C/F
	480	12.0	3	1	33 (838)	43 (20)	FNS733A5S	FNS733A5W	C2-43	C2-35
	240	15.0	1	2	40 ^{1/2} (1029)	47 (22)	FNS740J10S	FNS740J10W	C/F	C/F
	240	15.0	3	1	40 ^{1/2} (1029)	47 (22)	FNS740J3S	FNS740J3W	C2-236	C2-214
	480	15.0	1	1	40 ^{1/2} (1029)	47 (22)	FNS740J11S	FNS740J11W	C/F	C/F
	480	15.0	3	1	40 ^{1/2} (1029)	47 (22)	FNS740J5S	FNS740J5W	C2-43	C2-35
	240	18.0	1	2	48 (1219)	52 (24)	FNS748A10S	FNS748A10W	C/F	C/F
	240	18.0	3	1	48 (1219)	52 (24)	FNS748A3S	FNS748A3W	C2-236	C2-214
	480	18.0	1	1	48 (1219)	52 (24)	FNS748A11S	FNS748A11W	C/F	C/F
	480	18.0	3	1	48 (1219)	52 (24)	FNS748A5S	FNS748A5W	C2-43	C2-35
	240	25.0	3	2	64 ^{1/2} (1638)	57 (26)	FNS764J3S	FNS764J3W	C2-218	C2-224
	480	25.0	1	2	64 ^{1/2} (1638)	57 (26)	FNS764J11S	FNS764J11W	C/F	C/F
	480	25.0	3	1	64 ^{1/2} (1638)	57 (26)	FNS764J5S	FNS764J5W	C2-225	C2-226
	240	30.0	3	2	77 (1956)	65 (30)	FNS777A3S	FNS777A3W	C2-218	C2-224
480	30.0	1	2	77 (1956)	65 (30)	FNS777A11S	FNS777A11W	C/F	C/F	
480	30.0	3	1	77 (1956)	65 (30)	FNS777A5S	FNS777A5W	C2-225	C2-226	

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



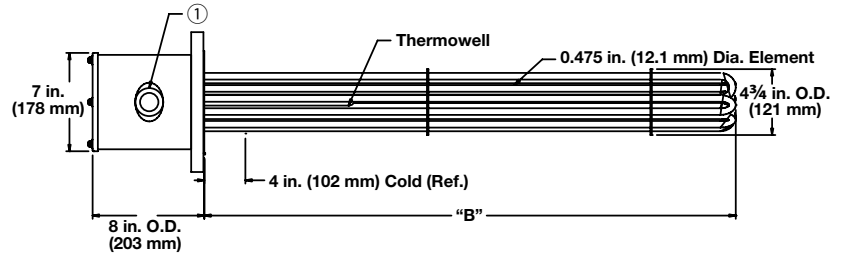
WATROD ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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. lb (kg)	Part Number	Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² Steel Flange 9-Steel Elements (3.6 W/cm ²)	240	9.0	1	1	18 (457)	39 (18)	FNS718A10XS	FNS718A10XW	C/F	C/F
	240	9.0	3	1	18 (457)	39 (18)	FNS718A3XS	FNS718A3XW	C2-50	C2-92
	480	9.0	1	1	18 (457)	39 (18)	FNS718A11XS	FNS718A11XW	C/F	C/F
	480	9.0	3	1	18 (457)	39 (18)	FNS718A5XS	FNS718A5XW	C2-43	C2-35
	240	14.0	1	3	25 1/2 (648)	45 (21)	FNS725J10XS	FNS725J10XW	C/F	C/F
	240	14.0	3	1	25 1/2 (648)	45 (21)	FNS725J3XS	FNS725J3XW	C2-236	C2-214
	480	14.0	1	1	25 1/2 (648)	45 (21)	FNS725J11XS	FNS725J11XW	C/F	C/F
	480	14.0	3	1	25 1/2 (648)	45 (21)	FNS725J5XS	FNS725J5XW	C2-43	C2-35
	240	18.0	1	3	33 (838)	48 (22)	FNS733A10XS	FNS733A10XW	C/F	C/F
	240	18.0	3	1	33 (838)	48 (22)	FNS733A3XS	FNS733A3XW	C2-236	C2-214
	480	18.0	1	1	33 (838)	48 (22)	FNS733A11XS	FNS733A11XW	C/F	C/F
	480	18.0	3	1	33 (838)	48 (22)	FNS733A5XS	FNS733A5XW	C2-43	C2-35
	240	23.0	1	3	40 1/2 (1029)	53 (24)	FNS740J10XS	FNS740J10XW	C/F	C/F
	240	23.0	3	3	40 1/2 (1029)	53 (24)	FNS740J3XS	FNS740J3XW	C4-143	C4-142
	480	23.0	1	1	40 1/2 (1029)	53 (24)	FNS740J11XS	FNS740J11XW	C/F	C/F
	480	23.0	3	1	40 1/2 (1029)	53 (24)	FNS740J5XS	FNS740J5XW	C2-225	C2-226
	240	27.0	1	3	48 (1219)	60 (28)	FNS748A10XS	FNS748A10XW	C/F	C/F
	240	27.0	3	3	48 (1219)	60 (28)	FNS748A3XS	FNS748A3XW	C4-143	C4-142
	480	27.0	1	3	48 (1219)	60 (28)	FNS748A11XS	FNS748A11XW	C/F	C/F
	480	27.0	3	1	48 (1219)	60 (28)	FNS748A5XS	FNS748A5XW	C2-225	C2-226
240	38.0	3	3	64 1/2 (1638)	68 (31)	FNS764J3XS	FNS764J3XW	C4-144	C4-145	
480	38.0	1	3	64 1/2 (1638)	68 (31)	FNS764J11XS	FNS764J11XW	C/F	C/F	
480	38.0	3	1	64 1/2 (1638)	68 (31)	FNS764J5XS	FNS764J5XW	C2-225	C2-226	
240	45.0	3	3	77 (1956)	78 (36)	FNS777A3XS	FNS777A3XW	C4-144	C4-145	
480	45.0	1	3	77 (1956)	78 (36)	FNS777A11XS	FNS777A11XW	C/F	C/F	
480	45.0	3	3	77 (1956)	78 (36)	FNS777A5XS	FNS777A5XW	C4-150	C4-151	

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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



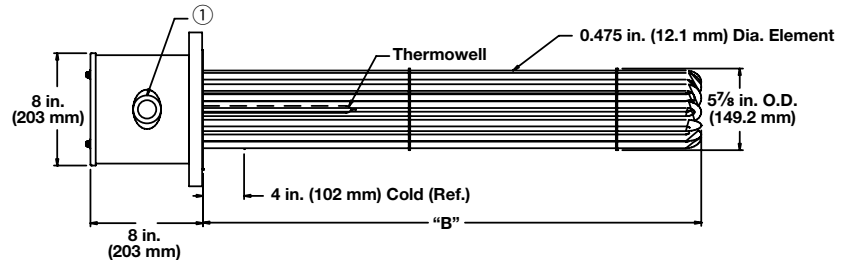
WATROD ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FPS717R10W	C/F	C/F
	240	12.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPS717R3S	FPS717R3W	C2-236	C2-214
	480	12.0	1	1	17 ⁷ / ₈ (454.0)	75 (34)	FPS717R11S	FPS717R11W	C/F	C/F
	480	12.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPS717R5S	FPS717R5W	C2-43	C2-35
	240	18.0	1	2	25 ³ / ₈ (644.5)	81 (37)	FPS725G10S	FPS725G10W	C/F	C/F
	240	18.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPS725G3S	FPS725G3W	C2-236	C2-214
	480	18.0	1	1	25 ³ / ₈ (644.5)	81 (37)	FPS725G11S	FPS725G11W	C/F	C/F
	480	18.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPS725G5S	FPS725G5W	C2-43	C2-35
	240	24.0	1	3	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R10S	FPS732R10W	C/F	C/F
	240	24.0	3	2	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R3S	FPS732R3W	C2-218	C2-224
	480	24.0	1	2	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R11S	FPS732R11W	C/F	C/F
	480	24.0	3	1	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R5S	FPS732R5W	C2-225	C2-226
	240	30.0	1	3	40 ³ / ₈ (1025.5)	92 (42)	FPS740G10S	FPS740G10W	C/F	C/F
	240	30.0	3	2	40 ³ / ₈ (1025.5)	92 (42)	FPS740G3S	FPS740G3W	C2-218	C2-224
	480	30.0	1	2	40 ³ / ₈ (1025.5)	92 (42)	FPS740G11S	FPS740G11W	C/F	C/F
	480	30.0	3	1	40 ³ / ₈ (1025.5)	92 (42)	FPS740G5S	FPS740G5W	C2-225	C2-226
	240	36.0	1	4	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R10S	FPS747R10W	C/F	C/F
	240	36.0	3	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R3S	FPS747R3W	C2-218	C2-224
	480	36.0	1	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R11S	FPS747R11W	C/F	C/F
	480	36.0	3	1	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R5S	FPS747R5W	C2-225	C2-226
240	50.0	3	4	64 ³ / ₈ (1635.1)	110 (50)	FPS764G3S	FPS764G3W	C4-148	C40149	
480	50.0	1	3	64 ³ / ₈ (1635.1)	110 (50)	FPS764G11S	FPS764G11W	C/F	C/F	
480	50.0	3	2	64 ³ / ₈ (1635.1)	110 (50)	FPS764G5S	FPS764G5W	C2-229	C2-230	
240	60.0	3	4	76 ⁷ / ₈ (1952.4)	118 (54)	FPS776R3S	FPS776R3W	C4-148	C4-149	
480	60.0	1	3	76 ⁷ / ₈ (1952.4)	118 (54)	FPS776R11S	FPS776R11W	C/F	C/F	
480	60.0	3	2	76 ⁷ / ₈ (1952.4)	118 (54)	FPS776R5S	FPS776R5W	C2-229	C2-230	

- 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 224

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Immersion Heaters



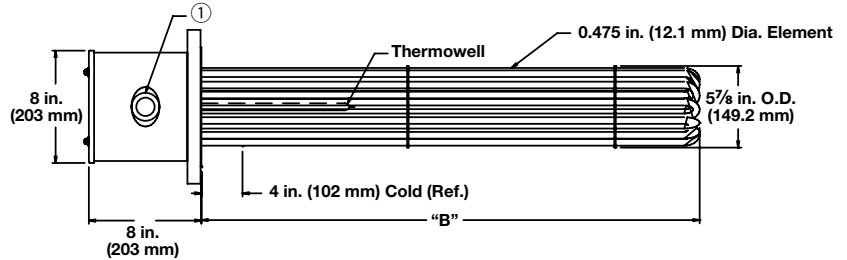
WATROD ANSI Flange Immersion Heaters



Application: Lightweight Oils and Heat Transfer Oils

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² Steel Flange 15-Steel Elements (3.6 W/cm ²)	240	15.0	1	3	17 ⁷ / ₈ (454.0)	78 (36)	FPS717R10XS	FPS717R10XW	C/F	C/F
	240	15.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPS717R3XS	FPS717R3XW	C2-236	C2-214
	480	15.0	1	1	17 ⁷ / ₈ (454.0)	78 (36)	FPS717R11XS	FPS717R11XW	C/F	C/F
	480	15.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPS717R5XS	FPS717R5XW	C2-43	C2-35
	240	23.0	1	3	25 ³ / ₈ (644.5)	85 (39)	FPS725G10XS	FPS725G10XW	C/F	C/F
	240	23.0	3	5	25 ³ / ₈ (644.5)	85 (39)	FPS725G3XS	FPS725G3XW	C4-143	C4-142
	480	23.0	1	1	25 ³ / ₈ (644.5)	85 (39)	FPS725G11XS	FPS725G11XW	C/F	C/F
	480	23.0	3	1	25 ³ / ₈ (644.5)	85 (39)	FPS725G5XS	FPS725G5XW	C2-225	C2-226
	240	30.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R10XS	FPS732R10XW	C/F	C/F
	240	30.0	3	5	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R3XS	FPS732R3XW	C4-144	C4-145
	480	30.0	1	3	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R11XS	FPS732R11XW	C/F	C/F
	480	30.0	3	1	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R5XS	FPS732R5XW	C2-225	C2-226
	240	38.0	1	5	40 ³ / ₈ (1025.5)	98 (45)	FPS740G10XS	FPS740G10XW	C/F	C/F
	240	38.0	3	5	40 ³ / ₈ (1025.5)	98 (45)	FPS740G3XS	FPS740G3XW	C4-144	C4-145
	480	38.0	1	3	40 ³ / ₈ (1025.5)	98 (45)	FPS740G11XS	FPS740G11XW	C/F	C/F
	480	38.0	3	1	40 ³ / ₈ (1025.5)	98 (45)	FPS740G5XS	FPS740G5XW	C2-225	C2-226
	240	45.0	1	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R10XS	FPS747R10XW	C/F	C/F
	240	45.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R3XS	FPS747R3XW	C4-144	C4-145
	480	45.0	1	3	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R11XS	FPS747R11XW	C/F	C/F
	480	45.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R5XS	FPS747R5XW	C4-150	C4-151
	240	63.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPS764G3XS	FPS764G3XW	C/F	C/F
	480	63.0	1	3	64 ³ / ₈ (1635.1)	120 (55)	FPS764G11XS	FPS764G11XW	C/F	C/F
	480	63.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPS764G5XS	FPS764G5XW	C4-152	C4-153
	240	75.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPS776R3XS	FPS776R3XW	C/F	C/F
480	75.0	1	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPS776R11XS	FPS776R11XW	C/F	C/F	
480	75.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPS776R5XS	FPS776R5XW	C4-152	C4-153	

- 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 224

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Immersion Heaters

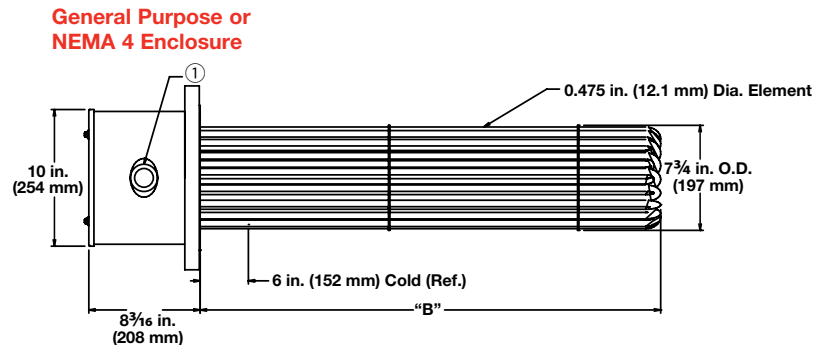


WATROD ANSI Flange Immersion Heaters

Application: Lightweight Oils and Heat Transfer Oils

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FRS732N10W	C/F	C/F
	240	30.0	3	2	32 ³ / ₄ (832.0)	130 (59)	FRS732N3S	FRS732N3W	C2-218	C2-224
	480	30.0	1	2	32 ³ / ₄ (832.0)	130 (59)	FRS732N11S	FRS732N11W	C/F	C/F
	480	30.0	3	1	32 ³ / ₄ (832.0)	130 (59)	FRS732N5S	FRS732N5W	C2-225	C2-226
	240	40.0	3	3	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E3S	FRS743E3W	C4-144	C4-145
	480	40.0	1	2	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E11S	FRS743E11W	C/F	C/F
	480	40.0	3	2	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E5S	FRS743E5W	C2-227	C2-228
	240	50.0	3	3	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M3S	FRS751M3W	C4-144	C4-145
	480	50.0	1	3	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M11S	FRS751M11W	C/F	C/F
	480	50.0	3	2	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M5S	FRS751M5W	C2-229	C2-230
	240	60.0	3	6	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D3S	FRS762D3W	C4-144	C4-145
	480	60.0	1	3	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D11S	FRS762D11W	C/F	C/F
	480	60.0	3	2	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D5S	FRS762D5W	C2-229	C2-230
	240	70.0	3	6	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M3S	FRS770M3W	C/F	C/F
	480	70.0	1	6	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M11S	FRS770M11W	C/F	C/F
	480	70.0	3	2	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M5S	FRS770M5W	C2-229	C2-230
	240	80.0	3	6	79 ¹¹ / ₁₆ (2024.1)	172 (78)	FRS779M3S	FRS779M3W	C/F	C/F
	480	80.0	3	3	79 ¹¹ / ₁₆ (2024.1)	172 (78)	FRS779M5S	FRS779M5W	C4-152	C4-153
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	FRS733D10XW	C/F	C/F
	240	40.0	3	4	33 ³ / ₁₆ (843.0)	142 (65)	FRS733D3XS	FRS733D3XW	C4-146	C4-147
	480	40.0	1	2	33 ³ / ₁₆ (843.0)	142 (65)	FRS733D11XS	FRS733D11XW	C/F	C/F
	480	40.0	3	2	33 ³ / ₁₆ (843.0)	142 (65)	FRS733D5XS	FRS733D5XW	C2-227	C2-228
	240	53.0	3	4	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M3XS	FRS743M3XW	C4-148	C4-149
	480	53.0	1	3	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M11XS	FRS743M11XW	C/F	C/F
	480	53.0	3	2	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M5XS	FRS743M5XW	C2-229	C2-230
	240	67.0	3	4	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M3XS	FRS751M3XW	C4-148	C4-149
	480	67.0	1	3	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M11XS	FRS751M11XW	C/F	C/F
	480	67.0	3	2	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M5XS	FRS751M5XW	C2-229	C2-230
	240	80.0	3	8	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D3XS	FRS762D3XW	C4-148	C4-149
	480	80.0	1	4	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D11XS	FRS762D11XW	C/F	C/F
	480	80.0	3	4	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D5XS	FRS762D5XW	C4-154	C4-155
	240	93.0	3	8	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M3XS	FRS770M3XW	C/F	C/F
	480	93.0	1	6	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M11XS	FRS770M11XW	C/F	C/F
	480	93.0	3	4	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M5XS	FRS770M5XW	C4-156	C4-157
	240	107.0	3	8	79 ¹¹ / ₁₆ (2024.1)	181 (82)	FRS779M3XS	FRS779M3XW	C/F	C/F
	480	107.0	3	4	79 ¹¹ / ₁₆ (2024.1)	181 (82)	FRS779M5XS	FRS779M5XW	C4-156	C4-157

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



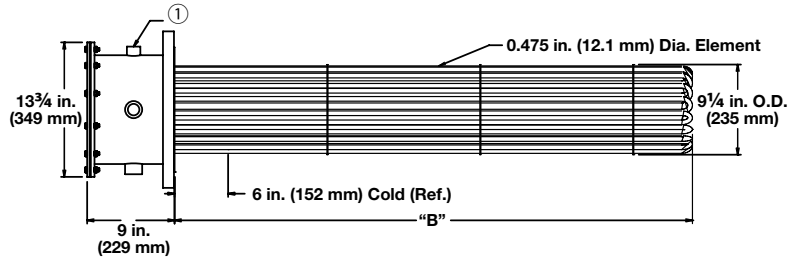
WATROD ANSI Flange Immersion Heaters



Application: Light Weight Oils and Heat Transfer Oils

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² Steel Flange 27-Steel Elements (3.6 W/cm ²)	240	45.0	3	3	33 ¹ / ₄ (845)	165 (75)	FSS733E3S	FSS733E3W	C4-144	C4-145
	480	45.0	3	3	33 ¹ / ₄ (845)	165 (75)	FSS733E5S	FSS733E5W	C4-150	C4-151
	240	60.0	3	3	43 ³ / ₄ (1111)	195 (89)	FSS743N3S	FSS743N3W	C4-144	C4-145
	480	60.0	3	3	43 ³ / ₄ (1111)	195 (89)	FSS743N5S	FSS743N5W	C4-150	C4-151
	240	75.0	3	9	51 ³ / ₄ (1314)	230 (105)	FSS751N3S	FSS751N3W	C/F	C/F
	480	75.0	3	3	51 ³ / ₄ (1314)	230 (105)	FSS751N5S	FSS751N5W	C4-152	C4-153
	480	90.0	3	3	62 ¹ / ₄ (1581)	250 (114)	FSS762E5S	FSS762E5W	C4-152	C4-153
	480	105.0	3	3	70 ³ / ₄ (1797)	258 (117)	FSS770N5S	FSS770N5W	C4-152	C4-153
	480	120.0	3	3	78 ³ / ₄ (2000)	265 (121)	FSS778N5S	FSS778N5W	C4-152	C4-153

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters



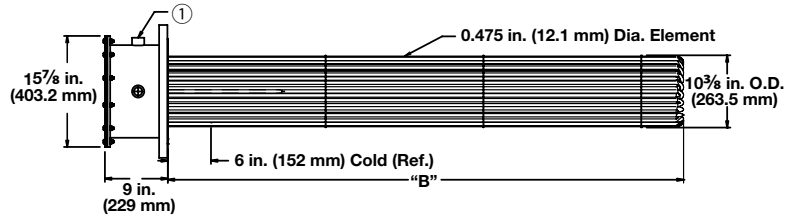
WATROD ANSI Flange Immersion Heaters



Application: Light Weight Oils and Heat Transfer Oils

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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. lb (kg)	Part Number	Part Number	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FTS733C5W	C4-150	C4-151
	480	80.0	3	3	43 ⁵ / ₈ (1108.1)	240 (109)	FTS743L5S	FTS743L5W	C4-152	C4-153
	480	100.0	3	3	51 ⁵ / ₈ (1311.3)	280 (127)	FTS751L5S	FTS751L5W	C4-152	C4-153
	480	120.0	3	3	62 ¹ / ₈ (1578.0)	285 (130)	FTS762C5S	FTS762C5W	C4-152	C4-153
	480	140.0	3	4	70 ⁵ / ₈ (1793.9)	290 (132)	FTS770L5S	FTS770L5W	C4-156	C4-157
	480	160.0	3	4	78 ⁵ / ₈ (1997.1)	300 (136)	FTS778L5S	FTS778L5W	C4-156	C4-157

- 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 224

Immersion Heaters



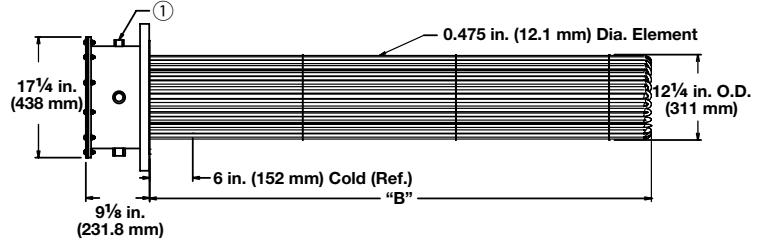
WATROD ANSI Flange Immersion Heaters



Application: Light Weight Oils and Heat Transfer Oils

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
23 W/in ² Steel Flange 45-Steel Elements (3.6 W/cm ²)	480	75.0	3	3	33 (838)	225 (102)	FWS733A5S	FWS733A5W	C4-152	C4-153
	480	100.0	3	3	43 1/2 (1105)	255 (116)	FWS743J5S	FWS743J5W	C4-152	C4-153
	480	125.0	3	5	51 1/2 (1308)	300 (136)	FWS751J5S	FWS751J5W	C/F	C/F
	480	150.0	3	5	62 (1575)	310 (141)	FWS762A5S	FWS762A5W	C/F	C/F
	480	175.0	3	5	70 1/2 (1791)	318 (145)	FWS770J5S	FWS770J5W	C/F	C/F
	480	200.0	3	5	78 1/2 (1994)	330 (150)	FWS778J5S	FWS778J5W	C/F	C/F

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

Immersion Heaters

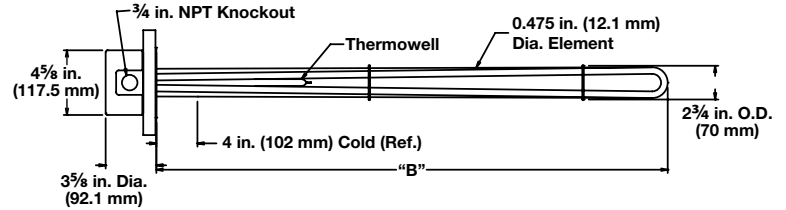


WATROD ANSI Flange Immersion Heaters

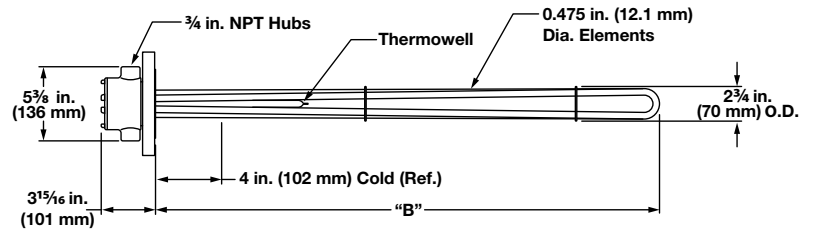
Application: Medium Weight Oils and Heat Transfer Oils

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure
- Single circuit

General Purpose



NEMA 4 Enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		WATCONNECT Part Number	
						General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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)	FMN713J12S	FMN713J12W	C2-50	C2-92
	480	1.5	3	13 1/2 (343)	22 (10)	FMN713J13S	FMN713J13W	C2-43	C2-35
	240	2.0	3	18 (457)	23 (11)	FMN718A12S	FMN718A12W	C2-50	C2-92
	480	2.0	3	18 (457)	23 (11)	FMN718A13S	FMN718A13W	C2-43	C2-35
	240	2.5	3	20 1/2 (521)	25 (12)	FMN720J12S	FMN720J12W	C2-50	C2-92
	480	2.5	3	20 1/2 (521)	25 (12)	FMN720J13S	FMN720J13W	C2-43	C2-35
	240	3.0	3	25 1/2 (648)	27 (13)	FMN725J12S	FMN725J12W	C2-50	C2-92
	480	3.0	3	25 1/2 (648)	27 (13)	FMN725J13S	FMN725J13W	C2-43	C2-35
	240	4.0	3	33 (838)	28 (13)	FMN733A12S	FMN733A12W	C2-50	C2-92
	480	4.0	3	33 (838)	28 (13)	FMN733A13S	FMN733A13W	C2-43	C2-35
	240	5.0	3	40 1/2 (1029)	30 (14)	FMN740J12S	FMN740J12W	C2-50	C2-92
	480	5.0	3	40 1/2 (1029)	30 (14)	FMN740J13S	FMN740J13W	C2-43	C2-35
	240	6.0	3	48 (1219)	32 (15)	FMN748A12S	FMN748A12W	C2-50	C2-92
	480	6.0	3	48 (1219)	32 (15)	FMN748A13S	FMN748A13W	C2-43	C2-35

- 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 224

^③ Wired for 3-phase operation only

Immersion Heaters



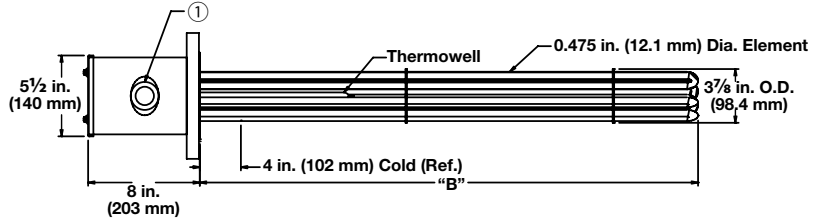
WATROD ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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. lb (kg)	Part Number		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
16 W/in² ③ Steel Flange 6-Alloy 800 Elements (2.5 W/cm²)	240	3.0	3	1	13 ¹ / ₂ (343)	29 (14)	FON713J12S	FON713J12W	C2-50	C2-92
	480	3.0	3	1	13 ¹ / ₂ (343)	29 (14)	FON713J13S	FON713J13W	C2-43	C2-35
	240	4.0	3	1	18 (457)	32 (15)	FON718A12S	FON718A12W	C2-50	C2-92
	480	4.0	3	1	18 (457)	32 (15)	FON718A13S	FON718A13W	C2-43	C2-35
	240	5.0	3	1	20 ¹ / ₂ (521)	34 (16)	FON720J12S	FON720J12W	C2-50	C2-92
	480	5.0	3	1	20 ¹ / ₂ (521)	34 (16)	FON720J13S	FON720J13W	C2-43	C2-35
	240	6.0	3	1	25 ¹ / ₂ (648)	36 (17)	FON725J12S	FON725J12W	C2-50	C2-92
	480	6.0	3	1	25 ¹ / ₂ (648)	36 (17)	FON725J13S	FON725J13W	C2-43	C2-35
	240	8.0	3	1	33 (838)	39 (18)	FON733A12S	FON733A12W	C2-50	C2-92
	480	8.0	3	1	33 (838)	39 (18)	FON733A13S	FON733A13W	C2-43	C2-35
	240	10.0	3	1	40 ¹ / ₂ (1029)	43 (20)	FON740J12S	FON740J12W	C2-50	C2-92
	480	10.0	3	1	40 ¹ / ₂ (1029)	43 (20)	FON740J13S	FON740J13W	C2-43	C2-35
	240	12.0	3	1	48 (1219)	48 (22)	FON748A12S	FON748A12W	C2-236	C2-214
	480	12.0	3	1	48 (1219)	48 (22)	FON748A13S	FON748A13W	C2-43	C2-35

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 224

③ Wired for 3-phase operation only

Immersion Heaters



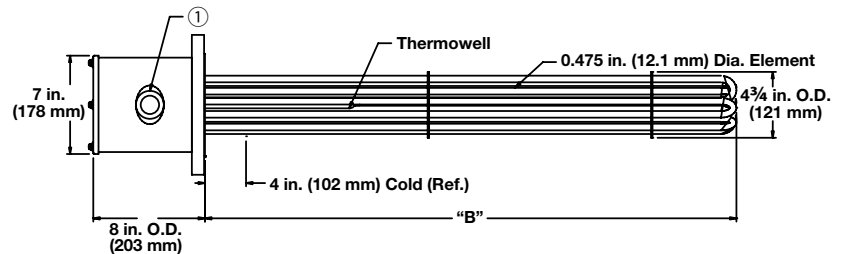
WATROD ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FNN713J12W	C2-50	C2-92
	480	3.0	3	1	13 ¹ / ₂ (343)	36 (17)	FNN713J13S	FNN713J13W	C2-43	C2-35
	240	4.0	3	1	18 (457)	40 (19)	FNN718A12S	FNN718A12W	C2-50	C2-92
	480	4.0	3	1	18 (457)	40 (19)	FNN718A13S	FNN718A13W	C2-43	C2-35
	240	5.0	3	1	20 ¹ / ₂ (521)	43 (20)	FNN720J12S	FNN720J12W	C2-50	C2-92
	480	5.0	3	1	20 ¹ / ₂ (521)	43 (20)	FNN720J13S	FNN720J13W	C2-43	C2-35
	240	6.0	3	1	25 ¹ / ₂ (648)	47 (22)	FNN725J12S	FNN725J12W	C2-50	C2-92
	480	6.0	3	1	25 ¹ / ₂ (648)	47 (22)	FNN725J13S	FNN725J13W	C2-43	C2-35
	240	8.0	3	1	33 (838)	52 (24)	FNN733A12S	FNN733A12W	C2-50	C2-92
	480	8.0	3	1	33 (838)	52 (24)	FNN733A13S	FNN733A13W	C2-43	C2-35
	240	10.0	3	1	40 ¹ / ₂ (1029)	57 (26)	FNN740J12S	FNN740J12W	C2-50	C2-92
	480	10.0	3	1	40 ¹ / ₂ (1029)	57 (26)	FNN740J13S	FNN740J13W	C2-43	C2-35
	240	12.0	3	1	48 (1219)	65 (30)	FNN748A12S	FNN748A12W	C2-236	C2-214
	480	12.0	3	1	48 (1219)	65 (30)	FNN748A13S	FNN748A13W	C2-43	C2-35
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	FNN713J12XW	C2-50	C2-92
	480	4.5	3	1	13 ¹ / ₂ (343)	39 (18)	FNN713J13XS	FNN713J13XW	C2-43	C2-35
	240	6.0	3	1	18 (457)	45 (21)	FNN718A12XS	FNN718A12XW	C2-50	C2-92
	480	6.0	3	1	18 (457)	45 (21)	FNN718A13XS	FNN718A13XW	C2-43	C2-35
	240	7.5	3	1	20 ¹ / ₂ (521)	48 (22)	FNN720J12XS	FNN720J12XW	C2-50	C2-92
	480	7.5	3	1	20 ¹ / ₂ (521)	48 (22)	FNN720J13XS	FNN720J13XW	C2-43	C2-35
	240	9.0	3	1	25 ¹ / ₂ (648)	53 (24)	FNN725J12XS	FNN725J12XW	C2-50	C2-92
	480	9.0	3	1	25 ¹ / ₂ (648)	53 (24)	FNN725J13XS	FNN725J13XW	C2-43	C2-35
	240	12.0	3	1	33 (838)	60 (28)	FNN733A12XS	FNN733A12XW	C2-236	C2-214
	480	12.0	3	1	33 (838)	60 (28)	FNN733A13XS	FNN733A13XW	C2-43	C2-35
	240	15.0	3	1	40 ¹ / ₂ (1029)	68 (31)	FNN740J12XS	FNN740J12XW	C2-236	C2-214
	480	15.0	3	1	40 ¹ / ₂ (1029)	68 (31)	FNN740J13XS	FNN740J13XW	C2-43	C2-35
	240	18.0	3	1	48 (1219)	78 (36)	FNN748A12XS	FNN748A12XW	C2-236	C2-214
	480	18.0	3	1	48 (1219)	78 (36)	FNN748A13XS	FNN748A13XW	C2-43	C2-35

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 224

③ Wired for 3-phase operation only

Immersion Heaters



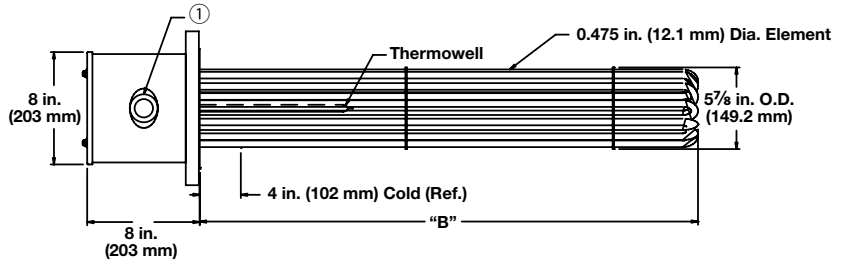
WATROD ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FPN713G12W	C2-50	C2-92
	480	6.0	3	1	13 ³ / ₈ (339.7)	73 (33)	FPN713G13S	FPN713G13W	C2-43	C2-35
	240	8.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPN717R12S	FPN717R12W	C2-50	C2-92
	480	8.0	3	1	17 ⁷ / ₈ (454.0)	75 (34)	FPN717R13S	FPN717R13W	C2-43	C2-35
	240	10.0	3	1	20 ³ / ₈ (517.5)	78 (36)	FPN720G12S	FPN720G12W	C2-50	C2-92
	480	10.0	3	1	20 ³ / ₈ (517.5)	78 (36)	FPN720G13S	FPN720G13W	C2-43	C2-35
	240	12.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPN725G12S	FPN725G12W	C2-236	C2-214
	480	12.0	3	1	25 ³ / ₈ (644.5)	81 (37)	FPN725G13S	FPN725G13W	C2-43	C2-35
	240	16.0	3	1	32 ⁷ / ₈ (835.0)	85 (39)	FPN732R12S	FPN732R12W	C2-236	C2-214
	480	16.0	3	1	32 ⁷ / ₈ (835.0)	85 (39)	FPN732R13S	FPN732R13W	C2-43	C2-35
	240	20.0	3	2	40 ³ / ₈ (1025.5)	92 (42)	FPN740G12S	FPN740G12W	C2-219	C2-220
	480	20.0	3	1	40 ³ / ₈ (1025.5)	92 (42)	FPN740G13S	FPN740G13W	C2-43	C2-35
	240	24.0	3	2	47 ⁷ / ₈ (1216.0)	100 (46)	FPN747R12S	FPN747R12W	C2-219	C2-220
	480	24.0	3	1	47 ⁷ / ₈ (1216.0)	100 (46)	FPN747R13S	FPN747R13W	C2-225	C2-226
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	FPN713G12XW	C2-50	C2-92
	480	7.5	3	1	13 ³ / ₈ (339.7)	76 (35)	FPN713G13XS	FPN713G13XW	C2-43	C2-35
	240	10.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPN717R12XS	FPN717R12XW	C2-50	C2-92
	480	10.0	3	1	17 ⁷ / ₈ (454.0)	78 (36)	FPN717R13XS	FPN717R13XW	C2-43	C2-35
	240	12.5	3	1	20 ³ / ₈ (517.5)	82 (38)	FPN720G12XS	FPN720G12XW	C2-236	C2-214
	480	12.5	3	1	20 ³ / ₈ (517.5)	82 (38)	FPN720G13XS	FPN720G13XW	C2-43	C2-35
	240	15.0	3	1	25 ³ / ₈ (644.5)	85 (39)	FPN725G12XS	FPN725G12XW	C2-236	C2-214
	480	15.0	3	1	25 ³ / ₈ (644.5)	85 (39)	FPN725G13XS	FPN725G13XW	C2-43	C2-35
	240	20.0	3	5	32 ⁷ / ₈ (835.0)	90 (41)	FPN732R12XS	FPN732R12XW	C4-143	C4-142
	480	20.0	3	1	32 ⁷ / ₈ (835.0)	90 (41)	FPN732R13XS	FPN732R13XW	C2-43	C2-35
	240	25.0	3	5	40 ³ / ₈ (1025.5)	98 (45)	FPN740G12XS	FPN740G12XW	C4-143	C4-142
	480	25.0	3	1	40 ³ / ₈ (1025.5)	98 (45)	FPN740G13XS	FPN740G13XW	C2-225	C2-226
	240	30.0	3	5	47 ⁷ / ₈ (1216.0)	108 (49)	FPN747R12XS	FPN747R12XW	C4-144	C4-145
	480	30.0	3	1	47 ⁷ / ₈ (1216.0)	108 (49)	FPN747R13XS	FPN747R13XW	C2-225	C2-226

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 224

③ Wired for 3-phase operation only

Immersion Heaters



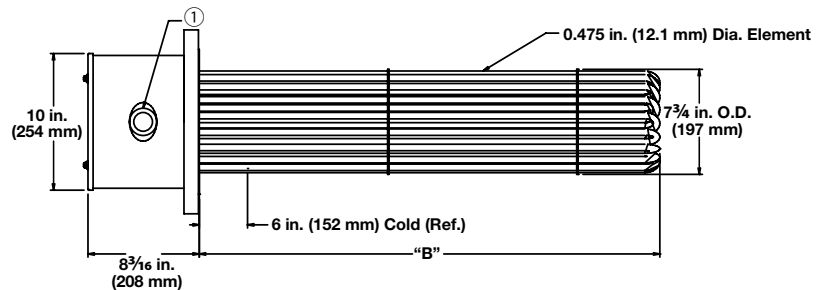
WATROD ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
16 W/in ² ③ Steel Flange 18-Alloy 800 Elements (2.5 W/cm ²)	240	17.0	3	1	25 3/4 (654.0)	121 (55)	FRN725N12S	FRN725N12W	C2-236	C2-214
	480	17.0	3	1	25 3/4 (654.0)	121 (55)	FRN725N13S	FRN725N13W	C2-43	C2-35
	240	25.0	3	2	35 3/4 (908.0)	130 (59)	FRN735N12S	FRN735N12W	C2-219	C2-220
	480	25.0	3	1	35 3/4 (908.0)	130 (59)	FRN735N13S	FRN735N13W	C2-225	C2-226
	240	33.0	3	2	44 1/4 (1124.0)	132 (60)	FRN744E12S	FRN744E12W	C2-218	C2-224
	480	33.0	3	1	44 1/4 (1124.0)	132 (60)	FRN744E13S	FRN744E13W	C2-225	C2-226
	240	42.0	3	3	54 1/16 (1389.1)	140 (64)	FRN754M12S	FRN754M12W	C4-144	C4-145
	480	42.0	3	2	54 1/16 (1389.1)	140 (64)	FRN754M13S	FRN754M13W	C2-229	C2-230
	480	50.0	3	2	63 1/16 (1617.6)	145 (66)	FRN763M13S	FRN763M13W	C2-229	C2-230
	480	58.0	3	2	73 3/16 (1859.0)	151 (69)	FRN773D13S	FRN773D13W	C2-229	C2-230
480	67.0	3	2	82 1/16 (2100.3)	157 (72)	FRN782M13S	FRN782M13W	C2-229	C2-230	
16 W/in ² ③ Steel Flange 24-Alloy 800 Elements (2.5 W/cm ²)	240	23.0	3	2	26 3/16 (665.2)	129 (59)	FRN726D12XS	FRN726D12XW	C2-218	C2-224
	480	23.0	3	1	26 3/16 (665.2)	129 (59)	FRN726D13XS	FRN726D13XW	C2-225	C2-226
	240	33.0	3	2	36 3/16 (919.2)	142 (65)	FRN736D12XS	FRN736D12XW	C2-218	C2-224
	480	33.0	3	1	36 3/16 (919.2)	142 (65)	FRN736D13XS	FRN736D13XW	C2-225	C2-226
	240	44.0	3	4	44 1/16 (1135.1)	147 (67)	FRN744M12XS	FRN744M12XW	C4-148	C4-149
	480	44.0	3	2	44 1/16 (1135.1)	147 (67)	FRN744M13XS	FRN744M13XW	C2-229	C2-230
	240	56.0	3	4	54 1/16 (1389.1)	158 (72)	FRN754M12XS	FRN754M12XW	C4-148	C4-149
	480	56.0	3	2	54 1/16 (1389.1)	158 (72)	FRN754M13XS	FRN754M13XW	C2-229	C2-230
	480	67.0	3	2	63 1/16 (1617.6)	166 (76)	FRN763M13XS	FRN763M13XW	C2-229	C2-230
	480	77.0	3	2	73 3/16 (1859.0)	175 (80)	FRN773D13XS	FRN773D13XW	C2-229	C2-230
480	89.0	3	4	82 1/16 (2100.3)	184 (84)	FRN782M13XS	FRN782M13XW	C4-156	C4-157	

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 224

③ Wired for 3-phase operation only

Immersion Heaters



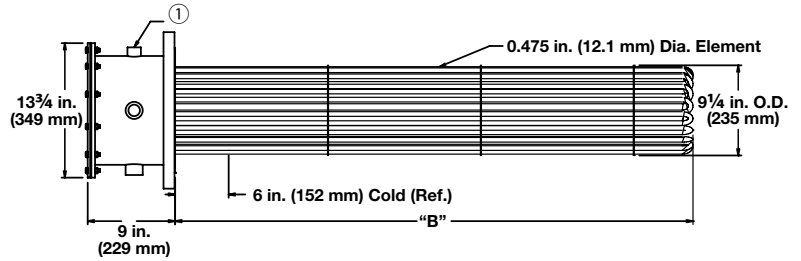
WATROD ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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)	FSN754N13S	FSN754N13W	C4-152	C4-153
	480	75.0	3	3	63 ³ / ₄ (1619)	250 (114)	FSN763N13S	FSN763N13W	C4-152	C4-153
	480	87.0	3	3	73 ¹ / ₄ (1861)	260 (118)	FSN773E13S	FSN773E13W	C4-152	C4-153

- 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 224

③ Wired for 3-phase operation only

Immersion Heaters



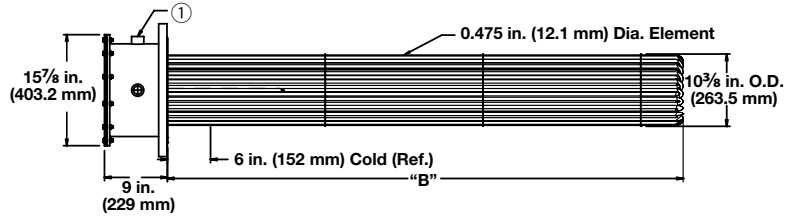
WATROD ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FTN754L13W	C4-152	C4-153
	480	117.0	3	3	73 ¹ / ₈ (1857.4)	291 (132)	FTN773C13S	FTN773C13W	C4-152	C4-153

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 224

③ Wired for 3-phase operation only

Immersion Heaters



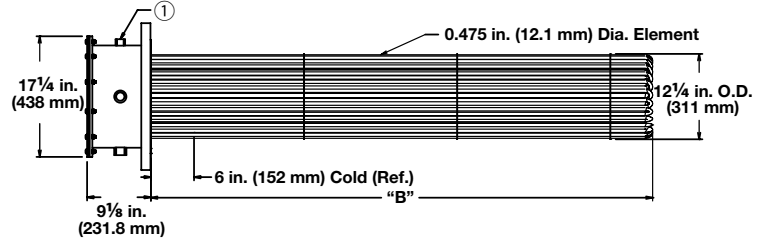
WATROD ANSI Flange Immersion Heaters



Application: Medium Weight Oils and Heat Transfer Oils

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FWN754J13W	C4-152	C4-153
	480	125.0	3	5	63 1/2 (1613)	310 (141)	FWN763J13S	FWN763J13W	C/F	C/F

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

③ Wired for 3-phase operation only

Immersion Heaters



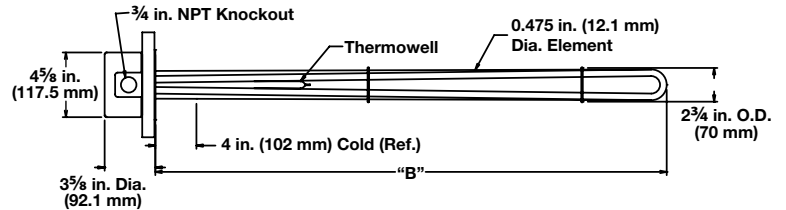
WATROD ANSI Flange Immersion Heaters



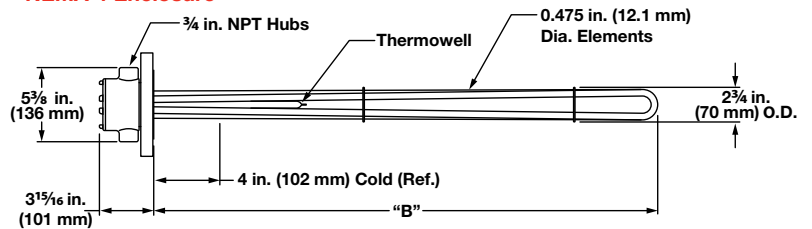
Application: Bunker C, Asphalt and #6 Fuel Oil

- 3 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure
- Single circuit

General Purpose



NEMA 4 Enclosure



Description	Volts	kW	Ph	"B" Dim. in. (mm)	Ship Wt. lbs (kg)	Part Number		WATCONNECT Part Number	
						General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
8 W/in ² ③ Steel Flange 3-Steel Elements (1.3 W/cm ²)	240	2.0	3	33 (838)	28 (13)	FMS733A12S	FMS733A12W	C2-50	C2-92
	480	2.0	3	33 (838)	28 (13)	FMS733A13S	FMS733A13W	C2-43	C2-35
	240	3.0	3	48 (1219)	32 (15)	FMS748A12S	FMS748A12W	C2-50	C2-92
	480	3.0	3	48 (1219)	32 (15)	FMS748A13S	FMS748A13W	C2-43	C2-35
	240	4.0	3	64 1/2 (1638)	37 (17)	FMS764J12S	FMS764J12W	C2-50	C2-92
	480	4.0	3	64 1/2 (1638)	37 (17)	FMS764J13S	FMS764J13W	C2-43	C2-35
	240	5.0	3	77 (1956)	42 (19)	FMS777A12S	FMS777A12W	C2-50	C2-92
	480	5.0	3	77 (1956)	42 (19)	FMS777A13S	FMS777A13W	C2-43	C2-35

- 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 224

③ Wired for 3-phase operation only

Immersion Heaters



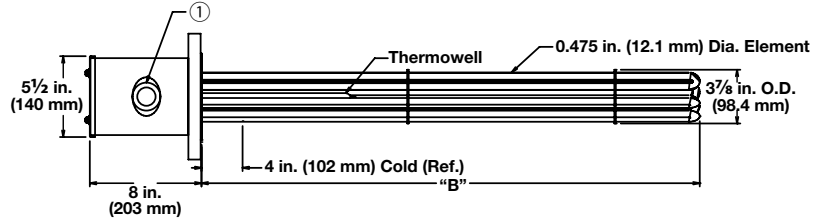
WATROD ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 4 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FOS740J12W	C2-50	C2-92
	480	5.0	3	1	40 ¹ / ₂ (1029)	43 (20)	FOS740J13S	FOS740J13W	C2-43	C2-35
	240	6.0	3	1	48 (1219)	48 (22)	FOS748A12S	FOS748A12W	C2-50	C2-92
	480	6.0	3	1	48 (1219)	48 (22)	FOS748A13S	FOS748A13W	C2-43	C2-35
	240	8.0	3	1	64 ¹ / ₂ (1638)	53 (24)	FOS764J12S	FOS764J12W	C2-50	C2-92
	480	8.0	3	1	64 ¹ / ₂ (1638)	53 (24)	FOS764J13S	FOS764J13W	C2-43	C2-35
	240	10.0	3	1	77 (1956)	61 (28)	FOS777A12S	FOS777A12W	C2-50	C2-92
	480	10.0	3	1	77 (1956)	61 (28)	FOS777A13S	FOS777A13W	C2-43	C2-35

- 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 224

③ Wired for 3-phase operation only

Immersion Heaters



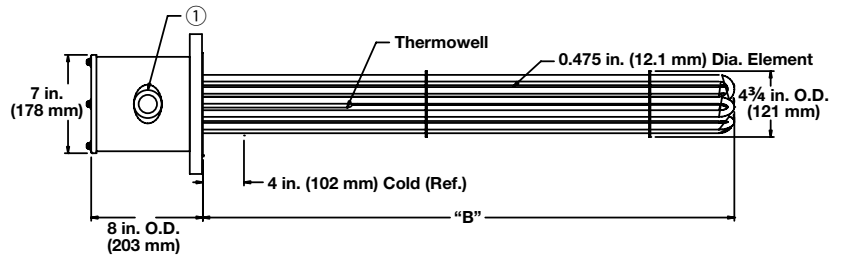
WATROD ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 5 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FNS740J12W	C2-50	C2-92
	480	5.0	3	1	40 ¹ / ₂ (1029)	47 (22)	FNS740J13S	FNS740J13W	C2-43	C2-35
	240	6.0	3	1	48 (1219)	52 (24)	FNS748A12S	FNS748A12W	C2-50	C2-92
	480	6.0	3	1	48 (1219)	52 (24)	FNS748A13S	FNS748A13W	C2-43	C2-35
	240	8.0	3	1	64 ¹ / ₂ (1638)	57 (26)	FNS764J12S	FNS764J12W	C2-50	C2-92
	480	8.0	3	1	64 ¹ / ₂ (1638)	57 (26)	FNS764J13S	FNS764J13W	C2-43	C2-35
	240	10.0	3	1	77 (1956)	65 (28)	FNS777A12S	FNS777A12W	C2-50	C2-92
	480	10.0	3	1	77 (1956)	65 (28)	FNS777A13S	FNS777A13W	C2-43	C2-35
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	FNS740J12XW	C2-50	C2-92
	480	7.5	3	1	40 ¹ / ₂ (1029)	53 (24)	FNS740J13XS	FNS740J13XW	C2-43	C2-35
	240	9.0	3	1	48 (1219)	60 (28)	FNS748A12XS	FNS748A12XW	C2-50	C2-92
	480	9.0	3	1	48 (1219)	60 (28)	FNS748A13XS	FNS748A13XW	C2-43	C2-35
	240	12.0	3	1	64 ¹ / ₂ (1638)	68 (31)	FNS764J12XS	FNS764J12XW	C2-236	C2-214
	480	12.0	3	1	64 ¹ / ₂ (1638)	68 (31)	FNS764J13XS	FNS764J13XW	C2-43	C2-35
	240	15.0	3	1	77 (1956)	78 (36)	FNS777A12XS	FNS777A12XW	C2-236	C2-214
	480	15.0	3	1	77 (1956)	78 (36)	FNS777A13XS	FNS777A13XW	C2-225	C2-226

- 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 224

③ Wired for 3-phase operation only

Immersion Heaters



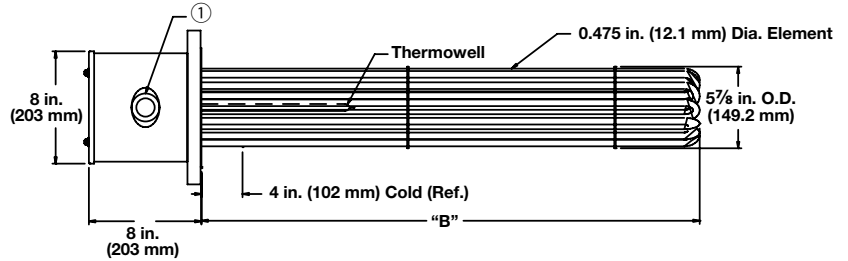
WATROD ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 6 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
8 W/in ² ③ Steel Flange 12-Steel Elements (1.3 W/cm ²)	240	8.0	3	1	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R12S	FPS732R12W	C2-50	C2-92
	480	8.0	3	1	32 ⁷ / ₈ (835.0)	85 (39)	FPS732R13S	FPS732R13W	C2-43	C2-35
	240	10.0	3	1	40 ³ / ₈ (1025.5)	92 (42)	FPS740G12S	FPS740G12W	C2-50	C2-92
	480	10.0	3	1	40 ³ / ₈ (1025.5)	92 (42)	FPS740G13S	FPS740G13W	C2-43	C2-35
	240	12.0	3	1	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R12S	FPS747R12W	C2-236	C2-214
	480	12.0	3	1	47 ⁷ / ₈ (1216.0)	100 (46)	FPS747R13S	FPS747R13W	C2-43	C2-35
	240	16.5	3	1	64 ³ / ₈ (1635.1)	110 (50)	FPS764G12S	FPS764G12W	C2-236	C2-214
	480	16.5	3	1	64 ³ / ₈ (1635.1)	110 (50)	FPS764G13S	FPS764G13W	C2-43	C2-35
	240	20.0	3	2	76 ⁷ / ₈ (1952.4)	118 (54)	FPS776R12S	FPS776R12W	C2-236	C2-214
	480	20.0	3	1	76 ⁷ / ₈ (1952.4)	118 (54)	FPS776R13S	FPS776R13W	C2-43	C2-35
8 W/in ² ③ Steel Flange 15-Steel Elements (1.3 W/cm ²)	240	10.0	3	1	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R12XS	FPS732R12XW	C2-50	C2-92
	480	10.0	3	1	32 ⁷ / ₈ (835.0)	90 (41)	FPS732R13XS	FPS732R13XW	C2-43	C2-35
	240	12.5	3	1	40 ³ / ₈ (1025.5)	98 (45)	FPS740G12XS	FPS740G12XW	C2-236	C2-214
	480	12.5	3	1	40 ³ / ₈ (1025.5)	98 (45)	FPS740G13XS	FPS740G13XW	C2-43	C2-35
	240	15.0	3	1	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R12XS	FPS747R12XW	C2-236	C2-214
	480	15.0	3	1	47 ⁷ / ₈ (1216.0)	108 (49)	FPS747R13XS	FPS747R13XW	C2-43	C2-35
	240	21.0	3	5	64 ³ / ₈ (1635.1)	120 (55)	FPS764G12XS	FPS764G12XW	C4-143	C4-142
	480	21.0	3	1	64 ³ / ₈ (1635.1)	120 (55)	FPS764G13XS	FPS764G13XW	C2-225	C2-226
	240	25.0	3	5	76 ⁷ / ₈ (1952.4)	131 (60)	FPS776R12XS	FPS776R12XW	C4-143	C4-142
	480	25.0	3	1	76 ⁷ / ₈ (1952.4)	131 (60)	FPS776R13XS	FPS776R13XW	C2-224	C2-226

- 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 224
- ③ Wired for 3-phase operation only

Immersion Heaters

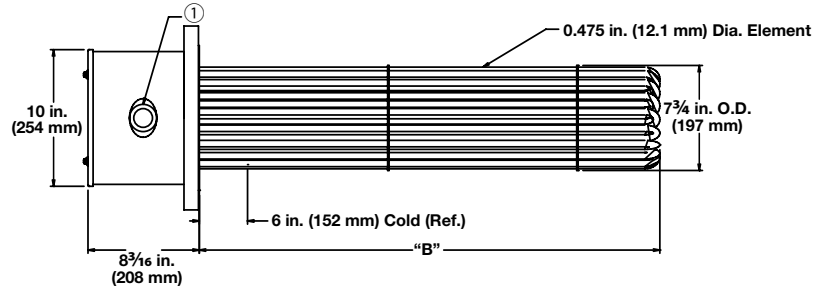


WATROD ANSI Flange Immersion Heaters

Application: Bunker C, Asphalt and #6 Fuel Oil

- 8 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
8 W/in ² ③ Steel Flange 18-Steel Elements (1.3 W/cm ²)	240	12.5	3	1	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E12S	FRS743E12W	C2-236	C2-214
	480	12.5	3	1	43 ¹ / ₄ (1099.0)	132 (60)	FRS743E13S	FRS743E13W	C2-43	C2-35
	240	16.5	3	1	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M12S	FRS751M12W	C2-236	C2-214
	480	16.5	3	1	51 ¹¹ / ₁₆ (1312.9)	137 (63)	FRS751M13S	FRS751M13W	C2-43	C2-35
	240	20.0	3	2	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D12S	FRS762D12W	C2-219	C2-220
	480	20.0	3	1	62 ³ / ₁₆ (1579.6)	154 (70)	FRS762D13S	FRS762D13W	C2-43	C2-50
	240	24.0	3	2	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M12S	FRS770M12W	C2-218	C2-224
	480	24.0	3	1	70 ¹¹ / ₁₆ (1795.5)	160 (73)	FRS770M13S	FRS770M13W	C2-225	C2-226
	240	27.0	3	2	79 ¹¹ / ₁₆ (2024.1)	172 (78)	FRS779M12S	FRS779M12W	C2-218	C2-224
480	27.0	3	1	79 ¹¹ / ₁₆ (2024.1)	172 (78)	FRS779M13S	FRS779M13W	C2-225	C2-226	
8 W/in ² ③ Steel Flange 24-Steel Elements (1.3 W/cm ²)	240	17.0	3	1	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M12XS	FRS743M12XW	C2-236	C2-214
	480	17.0	3	1	43 ¹¹ / ₁₆ (1109.7)	147 (67)	FRS743M13XS	FRS743M13XW	C2-43	C2-35
	240	22.0	3	2	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M12XS	FRS751M12XW	C2-218	C2-224
	480	22.0	3	1	51 ¹¹ / ₁₆ (1312.9)	154 (70)	FRS751M13XS	FRS751M13XW	C2-225	C2-226
	240	27.0	3	2	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D12XS	FRS762D12XW	C2-218	C2-224
	480	27.0	3	1	62 ³ / ₁₆ (1579.6)	166 (76)	FRS762D13XS	FRS762D13XW	C2-225	C2-226
	240	32.0	3	2	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M12XS	FRS770M12XW	C2-218	C2-224
	480	32.0	3	1	70 ¹¹ / ₁₆ (1795.5)	175 (80)	FRS770M13XS	FRS770M13XW	C2-225	C2-226
	240	36.0	3	2	79 ¹¹ / ₁₆ (2024.1)	181 (82)	FRS779M12XS	FRS779M12XW	C2-218	C2-224
480	36.0	3	1	79 ¹¹ / ₁₆ (2024.1)	181 (82)	FRS779M13XS	FRS779M13XW	C2-224	C2-226	

- 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 224

③ Wired for 3-phase operation only

Immersion Heaters



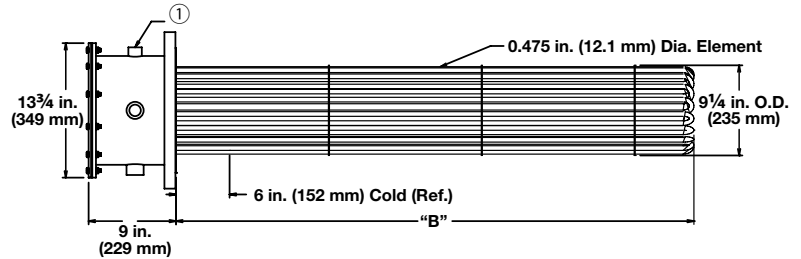
WATROD ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 10 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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		WATCONNECT Part Number	
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
8 W/in² ③ Steel Flange 27-Steel Elements (1.3 W/cm²)	240	25.0	3	3	51 ³ / ₄ (1314)	230 (105)	FSS751N12S	FSS751N12W	C4-143	C4-142
	480	25.0	3	1	51 ³ / ₄ (1314)	230 (105)	FSS751N13S	FSS751N13W	C2-225	C2-226
	240	30.0	3	3	62 ¹ / ₄ (1581)	250 (114)	FSS762E12S	FSS762E12W	C4-143	C4-142
	480	30.0	3	1	62 ¹ / ₄ (1581)	250 (114)	FSS762E13S	FSS762E13W	C2-225	C2-226
	240	35.0	3	3	70 ³ / ₄ (1797)	258 (117)	FSS770N12S	FSS770N12W	C4-144	C4-145
	480	35.0	3	1	70 ³ / ₄ (1797)	258 (117)	FSS770N13S	FSS770N13W	C2-225	C2-226
	240	40.0	3	3	78 ³ / ₄ (2000)	265 (121)	FSS778N12S	FSS778N12W	C4-144	C4-145
	480	40.0	3	1	78 ³ / ₄ (2000)	265 (121)	FSS778N13S	FSS778N13W	C2-225	C2-226

- 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 224

③ Wired for 3-phase operation only

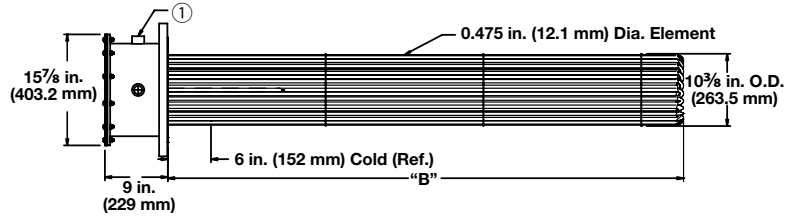


WATROD ANSI Flange Immersion Heaters

Application: Bunker C, Asphalt and #6 Fuel Oil

- 12 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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)	WATCONNECT Part Number			
							General Purpose Enclosure	NEMA 4 Enclosure	Type J T/C	Type K T/C
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	FTS751L12W	C2-218	C2-224
	480	34.0	3	1	51 ⁵ / ₈ (1311.3)	280 (127)	FTS751L13S	FTS751L13W	C2-225	C2-226
	240	40.0	3	2	62 ¹ / ₈ (1578.0)	285 (130)	FTS762C12S	FTS762C12W	C2-218	C2-224
	480	40.0	3	1	62 ¹ / ₈ (1578.0)	285 (130)	FTS762C13S	FTS762C13W	C2-225	C2-226
	240	47.0	3	3	70 ⁵ / ₈ (1793.9)	290 (132)	FTS770L12S	FTS770L12W	C4-144	C4-145
	480	47.0	3	2	70 ⁵ / ₈ (1793.9)	290 (132)	FTS770L13S	FTS770L13W	C2-229	C2-230
	240	54.0	3	3	78 ⁵ / ₈ (1997.1)	300 (136)	FTS778L12S	FTS778L12W	C4-144	C4-145
	480	54.0	3	2	78 ⁵ / ₈ (1997.1)	300 (136)	FTS778L13S	FTS778L13W	C2-229	C2-230

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 224

③ Wired for 3-phase operation only

Immersion Heaters



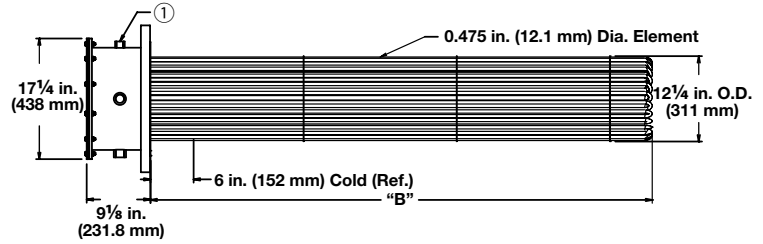
WATROD ANSI Flange Immersion Heaters



Application: Bunker C, Asphalt and #6 Fuel Oil

- 14 inch - 150 lb ANSI flange
- WATROD elements
- Without thermostat
- General purpose or NEMA 4 enclosure

General Purpose or NEMA 4 Enclosure



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	WATCONNECT Part Number	
							General Purpose Enclosure	Moisture-Resistant Enclosure	Type J T/C	Type K T/C
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	FWS751J12W	C4-144	C4-145
	480	42.0	3	3	51 1/2 (1308)	300 (136)	FWS751J13S	FWS751J13W	C4-150	C4-151
	240	50.0	3	3	62 (1575)	310 (141)	FWS762A12S	FWS762A12W	C4-144	C4-145
	480	50.0	3	3	62 (1575)	310 (141)	FWS762A13S	FWS762A13W	C4-150	C4-151
	240	60.0	3	3	70 1/2 (1791)	318 (145)	FWS770J12S	FWS770J12W	C4-144	C4-145
	480	60.0	3	3	70 1/2 (1791)	318 (145)	FWS770J13S	FWS770J13W	C4-150	C4-151
	240	67.0	3	5	78 1/2 (1994)	330 (150)	FWS778J12S	FWS778J12W	C/F	C/F
	480	67.0	3	3	78 1/2 (1994)	330 (150)	FWS778J13S	FWS778J13W	C4-152	C4-153

- 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 224

C/F - Contact factory, go to www.watlow.com/en/contact-us

③ Wired for 3-phase operation only

Immersion Heaters



WATROD ANSI Flange Immersion Heaters

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 =	NEMA 4 enclosure
C =	CSA Type 4/explosion proof enclosure

Note: Catalog listings include either a general purpose enclosure or NEMA 4 enclosure. Substitute enclosure options are noted.

Optional Bulb & Capillary Thermostats or Thermocouple 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
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 517.

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.

Example Part Number: FPS732R12 S 2 HJ

Immersion Heaters



WATROD™ 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

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

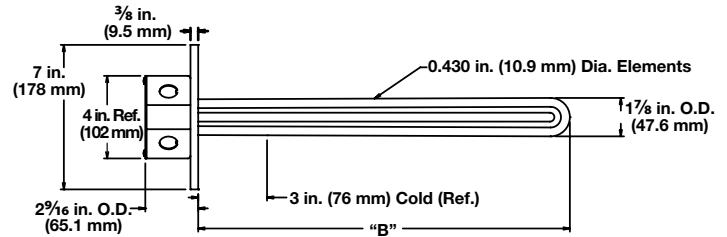


WATROD Plate Flange Immersion Heaters

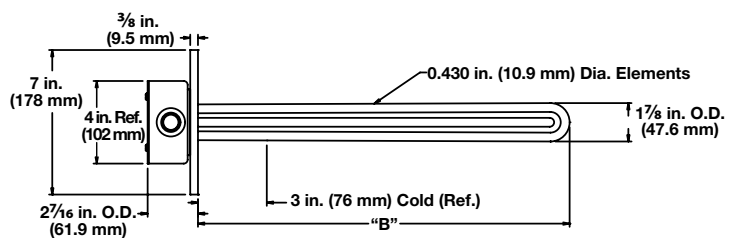
Application: Clean Water

- 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	
							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	FLN18A10W
	240	12.0	3	1	18 (457)	22 (10)	FLN18A3S	FLN18A3W
	480	12.0	1	1	18 (457)	22 (10)	FLN18A11S	FLN18A11W
	480	12.0	3	1	18 (457)	22 (10)	FLN18A5S	FLN18A5W
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	FLN17N10W
	240	9.0	3	1	17 ³ / ₄ (451)	22 (10)	FLN17N3S	FLN17N3W
	480	9.0	1	1	17 ³ / ₄ (451)	22 (10)	FLN17N11S	FLN17N11W
	480	9.0	3	1	17 ³ / ₄ (451)	22 (10)	FLN17N5S	FLN17N5W
	240	18.0	1	3	30 (762)	27 (13)	FLN30A10S	FLN30A10W
	240	18.0	3	1	30 (762)	27 (13)	FLN30A3S	FLN30A3W
	480	18.0	1	1	30 (762)	27 (13)	FLN30A11S	FLN30A11W
	480	18.0	3	1	30 (762)	27 (13)	FLN30A5S	FLN30A5W
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	FLN12J10W
	240	4.5	3	1	12 ¹ / ₂ (318)	21 (10)	FLN12J3S	FLN12J3W
	480	4.5	1	1	12 ¹ / ₂ (318)	21 (10)	FLN12J11S	FLN12J11W
	480	4.5	3	1	12 ¹ / ₂ (318)	21 (10)	FLN12J5S	FLN12J5W

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

Immersion Heaters

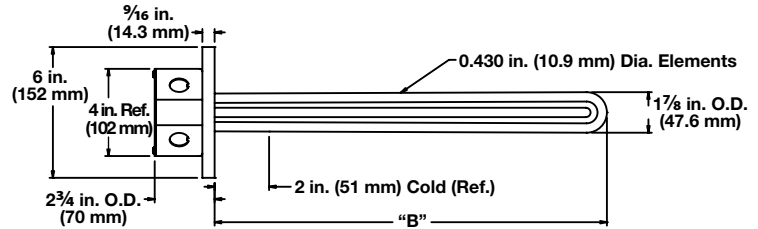


WATROD Plate Flange Immersion Heaters

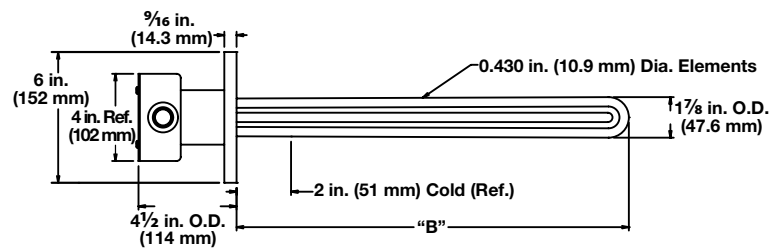
Application: Process Water

- 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	
							General Purpose Enclosure	Moisture-Resistant Enclosure
45 W/in ² Steel Flange 3-Alloy 800 Elements (7 W/cm ²)	240	4.5	1	1	16 (406)	22 (10)	FKN16A10S	FKN16A10W
	240	4.5	3	1	16 (406)	22 (10)	FKN16A3S	FKN16A3W
	480	4.5	1	1	16 (406)	22 (10)	FKN16A11S	FKN16A11W
	480	4.5	3	1	16 (406)	22 (10)	FKN16A5S	FKN16A5W
	240	9.0	1	1	29 (737)	27 (13)	FKN29A10S	FKN29A10W
	240	9.0	3	1	29 (737)	27 (13)	FKN29A3S	FKN29A3W
	480	9.0	1	1	29 (737)	27 (13)	FKN29A11S	FKN29A11W
	480	9.0	3	1	29 (737)	27 (13)	FKN29A5S	FKN29A5W
45 W/in ² Steel Flange 3-Alloy 800 Elements (7 W/cm ²)	240	9.0	1	1	28 (711)	27 (13)	FKN28A10S	FKN28A10W
	240	9.0	3	1	28 (711)	27 (13)	FKN28A3S	FKN28A3W
	480	9.0	1	1	28 (711)	27 (13)	FKN28A11S	FKN28A11W
	480	9.0	3	1	28 (711)	27 (13)	FKN28A5S	FKN28A5W

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

Immersion Heaters

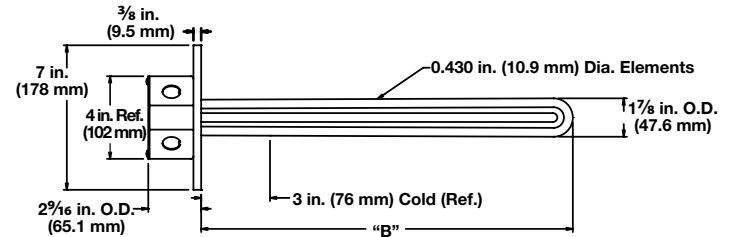


WATROD Plate Flange Immersion Heaters

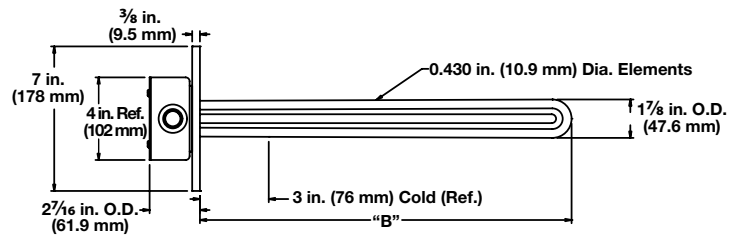
Application: Forced Air and Caustic Solutions

- 2 1/2 inch 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	Part Number
									General Purpose Enclosure	Moisture-Resistant Enclosure
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	FLN17N12W
	480	3.0	3	1	17 ³ / ₄	(451)	22	(10)	FLN17N13S	FLN17N13W
	240	4.0	3	1	18	(457)	22	(10)	FLN18A12S	FLN18A12W
	480	4.0	3	1	18	(457)	22	(10)	FLN18A13S	FLN18A13W
	240	6.0	3	1	30	(762)	27	(13)	FLN30A12S	FLN30A12W
	480	6.0	3	1	30	(762)	27	(13)	FLN30A13S	FLN30A13W

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

Immersion Heaters

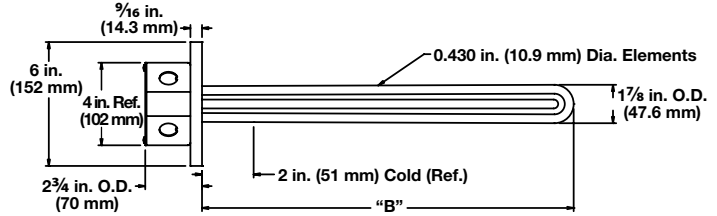


WATROD Plate Flange Immersion Heaters

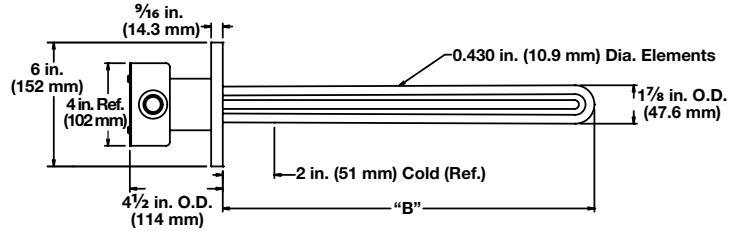
Application: Lightweight Oils and Ethylene Glycol (100%)

- 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.		Ship Wt.		Part Number	Part Number
					in.	(mm)	lbs	(kg)	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	FKS29A10W
	240	6.0	3	1	29	(737)	27	(13)	FKS29A3S	FKS29A3W
	480	6.0	1	1	29	(737)	27	(13)	FKS29A11S	FKS29A11W
	480	6.0	3	1	29	(737)	27	(13)	FKS29A5S	FKS29A5W

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

Immersion Heaters

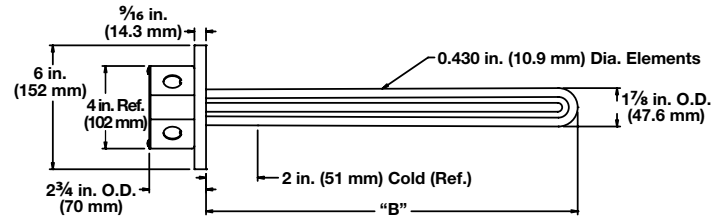


WATROD Plate Flange Immersion Heaters

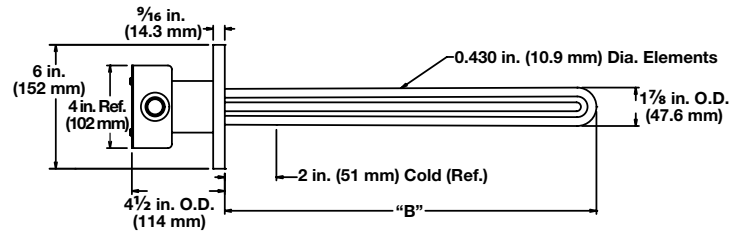
Application: Medium Weight Oils and Heat Transfer Oils

- 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	Part Number
									General Purpose Enclosure	Moisture-Resistant Enclosure
15 W/in² Steel Flange 3-Alloy 800 Elements (2.3 W/cm²)	240	3.0	3	1	28	(711)	27	(13)	FKN28A12S	FKN28A12W
	480	3.0	3	1	28	(711)	27	(13)	FKN28A13S	FKN28A13W
10 W/in² Steel Flange 3-Steel Elements (1.6 W/cm²)	240	2.0	3	1	29	(737)	27	(13)	FKS29A12S	FKS29A12W
	480	2.0	3	1	29	(737)	27	(13)	FKS29A13S	FKS29A13W

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

Immersion Heaters



WATROD™ and FIREBAR® 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

2 1/2, 3 1/8 and 4 1/2 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)

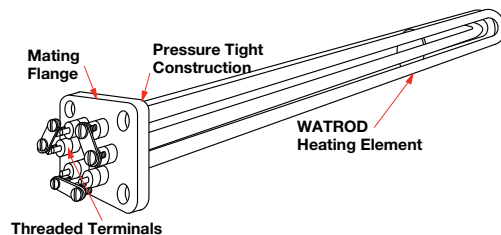
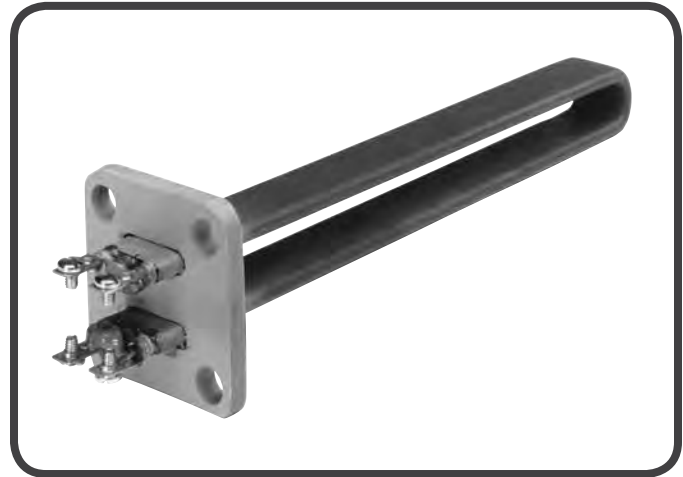
- Helps maintain MgO density, dielectric strength, heat transfer and life

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

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

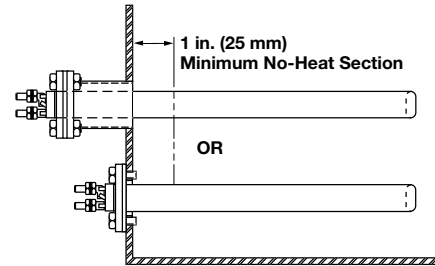


WATROD and FIREBAR Square Flange Immersion Heaters

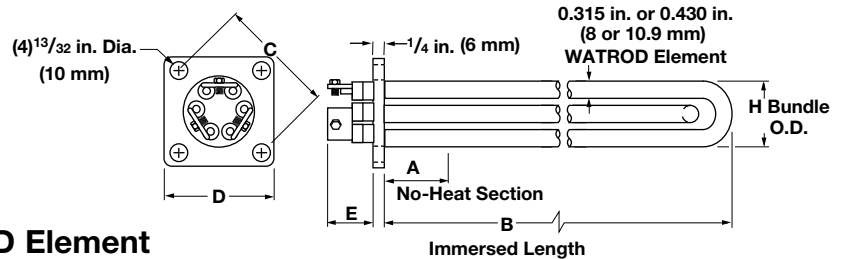
Application Hints

- Determine recommended sheath materials and watt densities by using the *Element and Assembly Selection Guide* on pages 549 to 550. 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	FHN11N3	FHN11N11	FHN11N5	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 3.75	18 1/2 (470.0) 23 1/16 (585.8)	FHN18J10 FHN23B10	FHN18J3 FHN23B3	FHN18J11 FHN23B11	FHN18J5 FHN23B5	19 (9) 20 (9)
25 W/in ² 304 SS Flange 3-Alloy 800 (3.9 W/cm ²)	1.5	12 (305.0)	FHN12A10	FHN12A3	FHN12A11	FHN12A5	18 (8)

Applications: Bunker C and #6 Fuel Oils

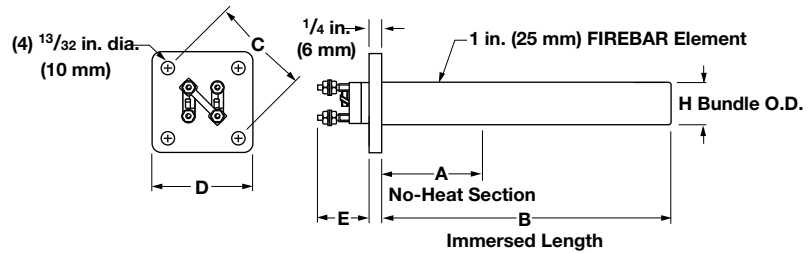
10 W/in ² 304 SS Flange 3-Alloy 800 (1.6 W/cm ²)	1.0 1.25	18 1/2 (470.0) 23 1/16 (585.8)		FHN18J12 FHN23B12		FHN18J13 FHN23B13	19 (9) 20 (9)
8 W/in ² 304 SS Flange 3-Alloy 800 (1.3 W/cm ²)	0.5	12 (305.0)		FHN12A12		FHN12A13	18 (8)

Immersion Heaters



WATROD and FIREBAR 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)



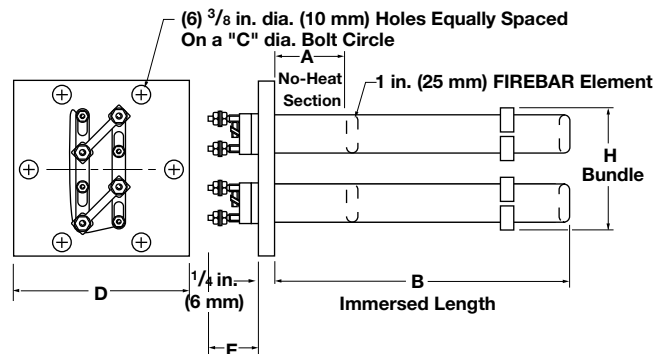
2 1/2 inch Square Flange—FIREBAR Element

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	lbs	Wt. (kg)

Applications: Clean and Potable Water

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

Applications: Clean and Potable Water

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

Immersion Heaters

**EXTENDED
CAPABILITY**

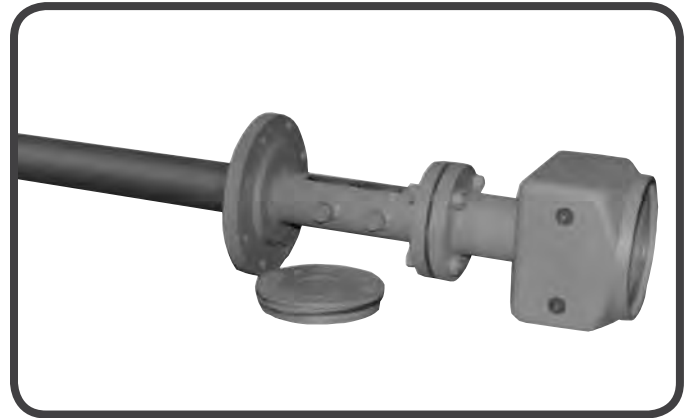


WATROD™ and FIREBAR® Flange Immersion Heaters

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. The 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

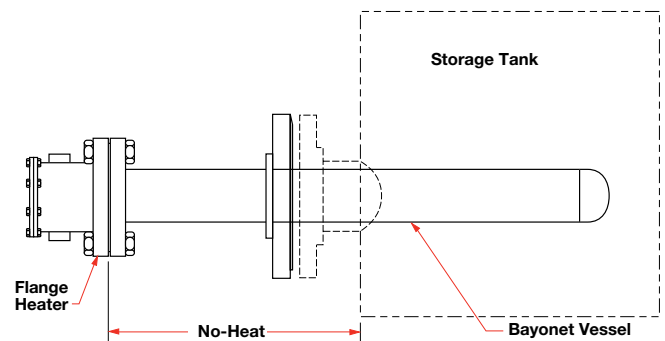
- Ensures pressure seal

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



Immersion Heaters

**EXTENDED
CAPABILITY**



WATROD and FIREBAR Flange Immersion Heaters

Extended Capabilities for Bayonet/Pipe Insert Immersion Heaters (Continued)

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 220 to 281, or *Screw Plug Immersion Heaters*, pages 145 to 219.

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



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

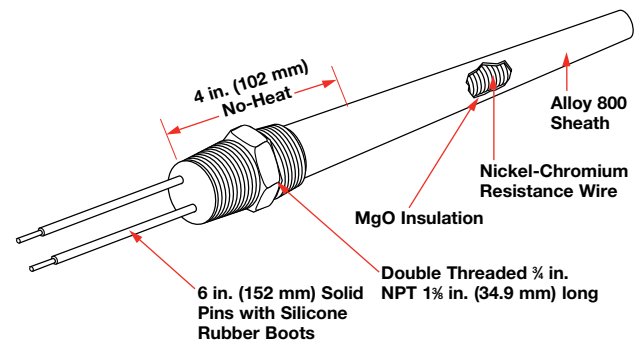
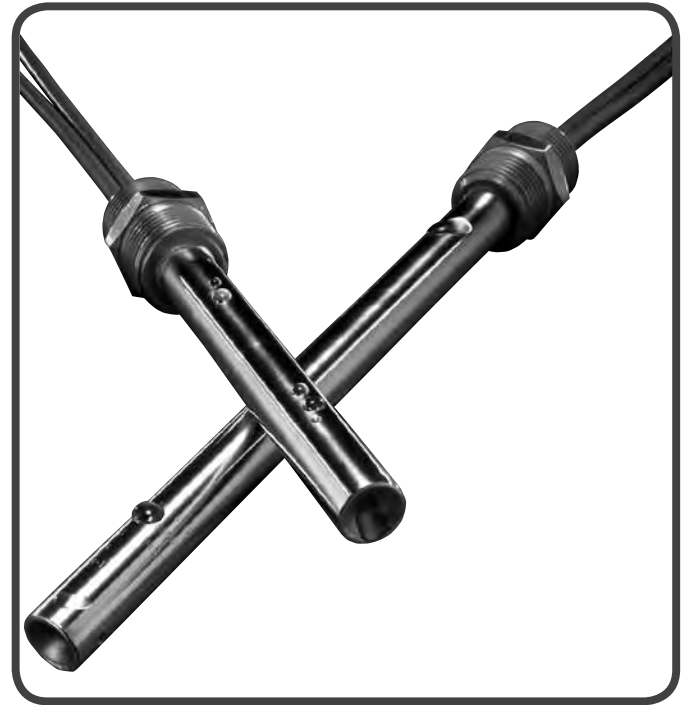
- Offer availability for use in corrosive applications

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 multi-heater 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 stainless steel. 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		Volts	Watts	Watt Density		Approx. Net Wt.		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)	L6EX12B
	6 ¹ / ₄	(159)	240	500	127	(19.7)	0.58	(0.26)	L6EX13B
	6 ¹ / ₄	(159)	120	750	191	(29.6)	0.58	(0.26)	L6EX14B
	6 ¹ / ₄	(159)	240	750	191	(29.6)	0.58	(0.26)	L6EX15B
	6 ¹ / ₄	(159)	120	1,000	254	(39.4)	0.58	(0.26)	L6EX16B
	6 ¹ / ₄	(159)	240	1,000	254	(39.4)	0.58	(0.26)	L6EX17B
	6 ³ / ₄	(172)	240	1,500	300	(46.5)	0.60	(0.27)	L6NX7B
	6 ³ / ₄	(172)	480	1,500	300	(46.5)	0.60	(0.27)	L6NX8B
	7 ³ / ₄	(197)	240	2,000	291	(45.1)	0.66	(0.30)	L7NX5B
	7 ³ / ₄	(197)	480	2,000	291	(45.1)	0.66	(0.30)	L7NX6B
	8 ¹ / ₂	(216)	240	2,500	300	(46.5)	0.68	(0.31)	L8JX16B
	8 ¹ / ₂	(216)	480	2,500	300	(46.5)	0.68	(0.31)	L8JX17B
	9 ¹ / ₄	(235)	240	3,000	300	(46.5)	0.72	(0.33)	L9EX11B
	9 ¹ / ₄	(235)	480	3,000	300	(46.5)	0.72	(0.33)	L9EX12B
	11	(279)	240	4,000	300	(46.5)	0.80	(0.36)	L11AX59B
	11	(279)	480	4,000	300	(46.5)	0.80	(0.36)	L11AX60B
	12 ³ / ₄	(324)	240	5,000	300	(46.5)	0.89	(0.41)	L12NX4B
	12 ³ / ₄	(324)	480	5,000	300	(46.5)	0.89	(0.41)	L12NX5B
	14 ¹ / ₂	(368)	240	6,000	300	(46.5)	0.95	(0.43)	L14JX8B
	14 ¹ / ₂	(368)	480	6,000	300	(46.5)	0.95	(0.43)	L14JX9B
	18	(457)	240	8,000	295	(45.7)	1.14	(0.52)	L18AX43B
	18	(457)	480	8,000	295	(45.7)	1.14	(0.52)	L18AX44B
	21 ¹ / ₄	(540)	240	10,000	300	(46.5)	1.30	(0.59)	L21EX1B
	21 ¹ / ₄	(540)	480	10,000	300	(46.5)	1.30	(0.59)	L21EX2B
	24 ³ / ₄	(629)	480	12,000	300	(46.5)	1.50	(0.68)	L24NX1B
	29 ³ / ₄	(756)	480	15,000	300	(46.5)	1.80	(0.82)	L29NX5B
	35	(889)	480	18,000	300	(46.5)	2.00	(0.91)	L35AX5B

