HEATMAX HEATERS

SINCE 1952



PROCESS HEAT PRODUCT CATALOG

TABLE OF CONTENTS

GENERAL INFORMATION	PG 1
SCREWPLUG HEATERS	PG 2-17
FLANGED HEATERS	PG 18-39
CORROSION RESISTANT FLANGES	PG 40-43
L-SHAPED HEATERS	PG 44-53
TUBULAR ELEMENTS	PG 54-59
INDUSTRIAL DUCT HEATERS	PG 60-63
WARRANTY AND RETURNS	PG 64-65

AMERICAN-MADE. BUILT TO YOUR APPLICATION.

Since 1952, Heatmax has manufactured industrial electric heaters in Mentor, Ohio. We help equipment manufacturers, distributors and industrial customers heat their processes and protect equipment from freezing. We manufacture our heating elements in-house, giving us the flexibility to tailor each heater to your equipment, operating conditions and installation requirements.

WHAT WE BUILD

This catalog covers:

- Screwplug immersion heaters with NPT and BSPP threaded connections
- Flanged immersion heaters with ANSI and custom mounting designs
- Titanium and Hastelloy® C-276 flanged heaters for corrosive applications
- L-shaped immersion heaters for open tanks
- Tubular heating elements for integration into equipment
- Industrial duct heaters for air and gas heating

Our wider product range also includes over-the-side metal and fluoropolymer (PTFE) heaters designed specifically for the demands of the metal plating industry. Contact Heatmax for information on these products.

CUSTOMIZATION IS STANDARD

Specify the heater your application needs. Configurable options include wattage, voltage, phase, watt density, sheath and mounting materials, heated and unheated lengths, terminal enclosures, sensors and more. For replacement applications, we can evaluate an existing heater, drawing or sample and develop a suitable configuration. UL certification is available for selected heater designs and configurations. Please specify your certification requirements when requesting a quotation.

HOW TO USE THIS CATALOG

Use the product descriptions, application guidance and specification tables to identify a starting configuration. Final selection should account for the heated medium, chemical concentration, operating temperature, installation space and required heat output. The tables show commonly specified models; additional sizes, ratings and configurations are available by quotation. Specify voltage and phase when ordering, along with any required options.

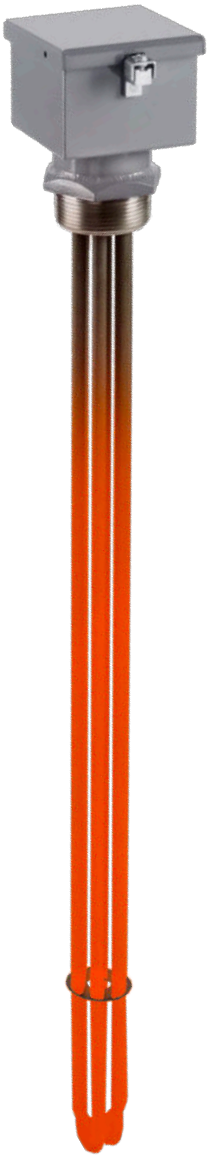
For a custom heater or assistance with selection, complete the relevant specification form or contact Heatmax or your authorized supplier. Include your application details, quantity and required delivery date.

R SERIES : SCREWPLUG HEATER

SCREWPLUG IMMERSION HEATERS

Heatmax screwplug heaters provide compact electric heating for tanks, vessels, and process systems. These immersion heaters install through a threaded coupling in a vessel or pipe wall. Their compact construction makes them particularly well suited to small tanks, confined installation spaces and OEM equipment.

Available with NPT and BSPP threads, Heatmax screwplug heaters can be configured with application-specific sheath materials, watt densities and electrical arrangements. Standard and custom designs are available for water, oils, process solutions and selected air or gas applications, as well as replacements for imported or existing equipment.



AT A GLANCE		
0.5-18 kW	120-600 V	Single or Three-Phase
1” to 3” NPT and 1-1/2” to 2” BSPP threads	4-60 W/in2	UL Recognized configurations available

PERFORMANCE CAPABILITIES

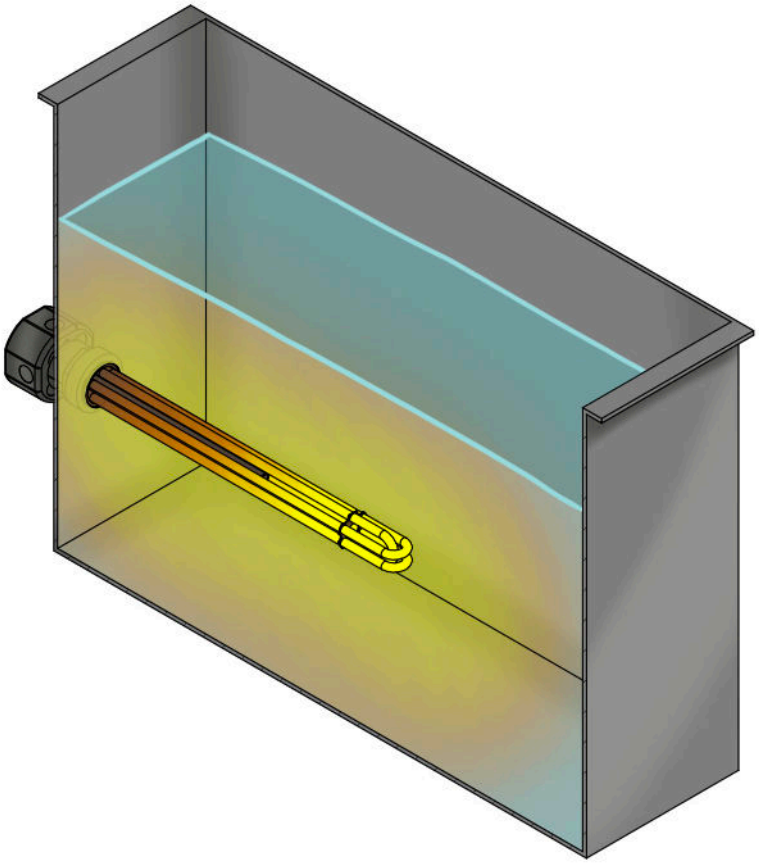
- Application-specific watt densities available for water, process solutions, oils, air and gas
- 120V to 600 V
- Single, and Three-Phase configurations available depending on screwplug size and heater configuration.
- Available sheath materials include Incoloy®, 304 Stainless Steel, 316 Stainless Steel, Copper, and Titanium. Availability varies by screwplug and configuration.
- UL Recognized configurations available to meet U.S. / Canadian safety standards.

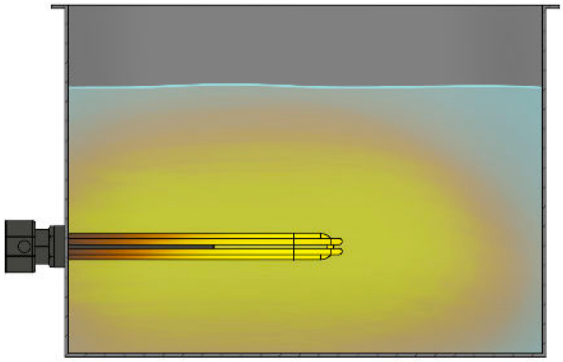
R SERIES : SCREWPLUG HEATER

FEATURES AND BENEFITS

- **Multiple screwplug sizes** from 1” through 3” NPT
- BSPP, Metric and other thread configurations available for imported equipment.
- **Incoloy®, stainless steel, copper, and titanium sheath options** for a wide range of heating applications.
- **Pressure-tested assemblies** help verify a pressure-tight element-to-plug seal.
- **Element supports on longer heaters** maintain spacing and reduce element-to-element contact
- **Optional integral thermowells, thermostats and temperature sensors** for process monitoring and control.
- **Multiple enclosure options** for general-purpose, moisture-resistant and corrosive environments

INSTALLATION DIAGRAM

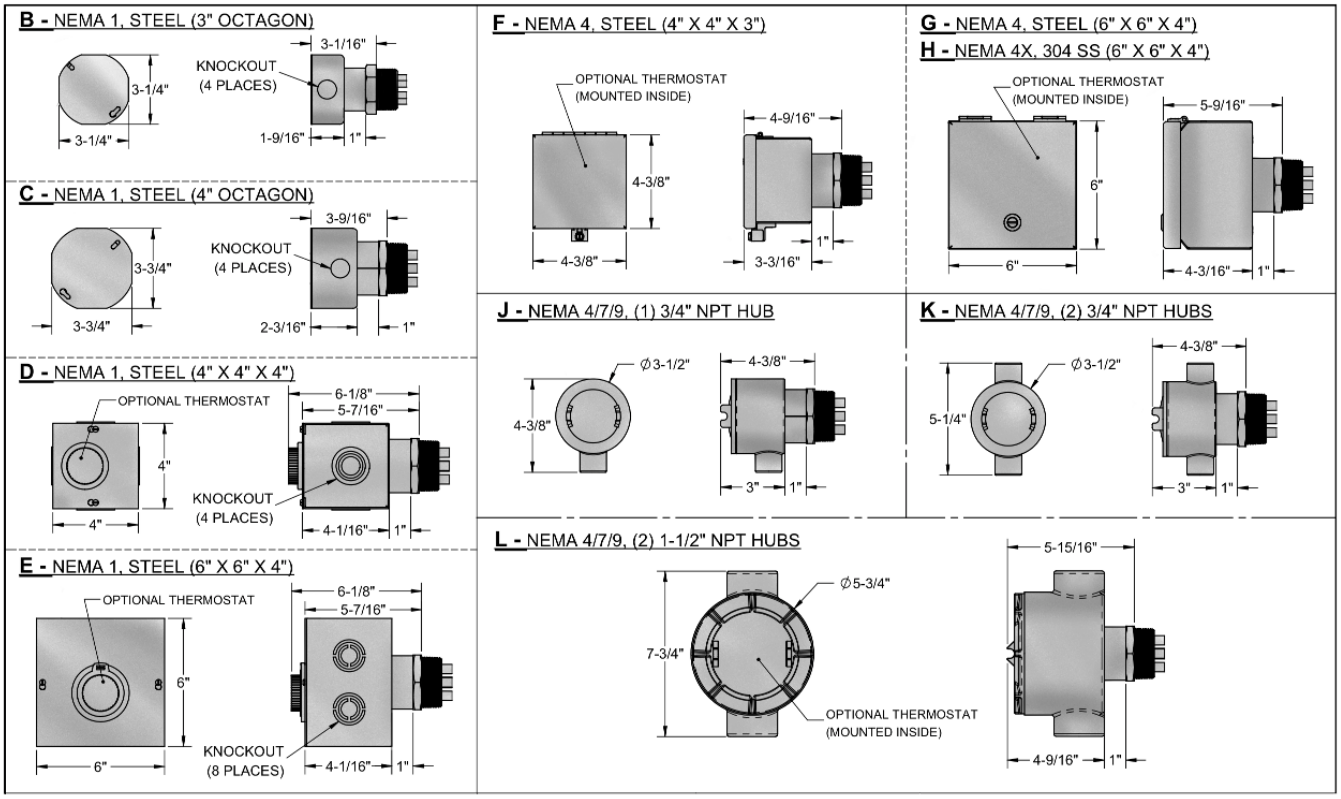




NOTE:
Standard configuration is intended for horizontal installation as shown. Consult Heatmax for other orientation/installment options.

R SERIES : SCREWPLUG HEATER

TERMINAL ENCLOSURES



TERMINAL ENCLOSURE TYPES

General Purpose

Standard enclosure for indoor, general purpose applications. Available with optional single or double-pole thermostat.

Moisture Resistant

Designed for applications requiring protection from water ingress. Optional thermostat configurations available.

Corrosion Resistant

For wet or corrosive industrial environments. Optional thermostat configurations available.

Explosion Resistant / Cast Enclosure

Heavy-duty cast enclosure option available for selected applications and configurations. Consult Heatmax for hazardous-location requirements.

R SERIES : SCREWPLUG HEATER

UL ENCLOSURE TYPE RATINGS

UL Type 1, Type 4 and Type 4X enclosure ratings are available for eligible UL-marked heater assemblies under File E544020. These enclosure ratings are limited to air and water-based applications up to 250°F (121°C). The enclosure rating must be specified when ordering and is available only as part of a complete UL-marked heater assembly. Rated construction may affect pricing. Hazardous-location requirements require separate review by Heatmax.

THERMOSTAT OPTIONS

Heatmax can provide single pole and double pole thermostats built into the enclosure to provide process or high limit temperature control. Thermostats are mounted inside terminal enclosure as shown above. Not all element/thermostat combinations are available. Please consult your Heatmax representative.

THERMOSTAT OPTIONS	
1-POLE OPTIONS	2-POLE OPTIONS
30-120 °F	0-100 °F
60-250 °F	60-250 °F
150-600 °F	100-550 °F

THERMOCOUPLES

Type-J or Type-K thermocouples are available for process-temperature or high-limit sensing. Thermocouples are provided with 6” lead wires for connection and operation requires an appropriate temperature controller, such as a Heatmax HCD control, which can be purchased separately.

WATTAGES AND VOLTAGES

Heatmax routinely provides immersion heaters with 120 to 600V as well as wattages from 0.5 to 18 kW. If required, Heatmax will configure custom wattage and voltage configurations within electrical limitations. For more information please consult your Heatmax representative.

R SERIES : SCREWPLUG HEATER

SELECTING AN R SERIES SCREWPLUG HEATER

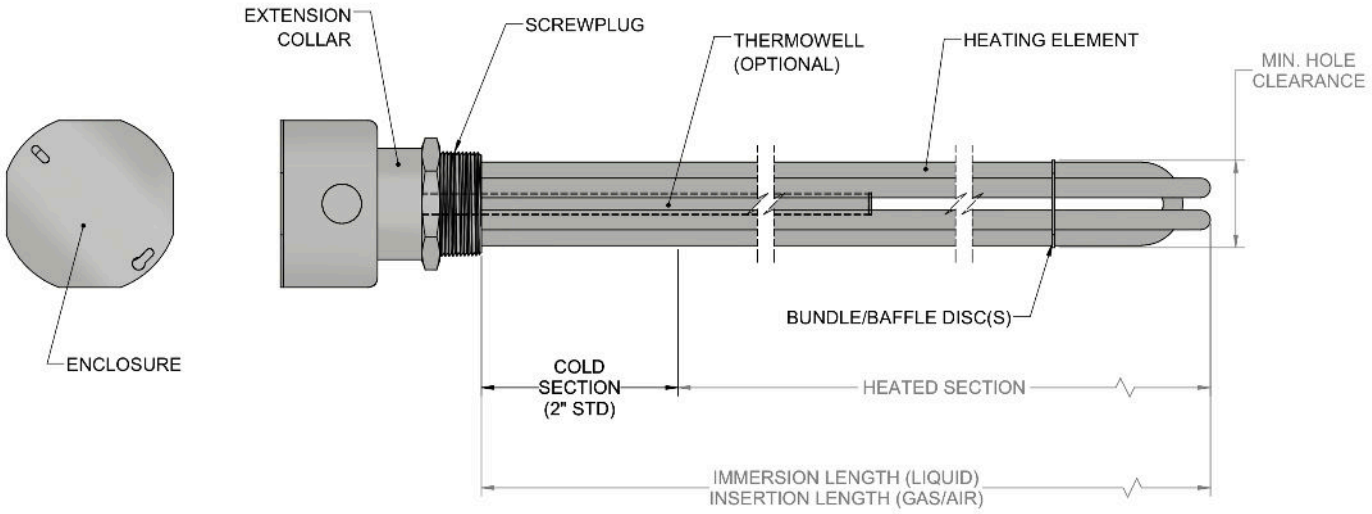
Proper heater selection depends on the process fluid, operating temperature, watt density, vessel material and installation conditions. Heatmax offers multiple sheath and screw plug materials to support water, oils and demanding process chemistries.

Always verify chemical compatibility based on concentration and operating temperature. Contact Heatmax for application assistance when heating corrosive, scaling or temperature-sensitive solutions.

SCREWPLUG HEATERS AND APPLICATIONS

The following part numbers leave a blank space for the voltage code, represented by an asterisk (*). Specify your required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.

R Series part number tables are coded for a General-Purpose terminal enclosure. Consult Heatmax for additional enclosure/rating options.



R SERIES : SCREWPLUG HEATER

Application: Clean Water, Industrial Deionized Water

1” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
60 W/in2 304S.S. Plug with 2- 316S.S. Elements (cURus)	1	6-1/2”	R1SP2S1*6B-2-BAAA
	1.5	8-1/2”	R1SP2S1.5*8B-2-BAAA
	2	11”	R1SP2S2*11-2-BAAA
	2.5	13”	R1SP2S2.5*13-2-BAAA
	3	15”	R1SP2S3*15-2-BAAA
	3.5	17-1/2”	R1SP2S3.5*17B-2-BAAA
	4	19-1/2”	R1SP2S4*19B-2-BAAA
	4.5	21-1/2”	R1SP2S4.5*21B-2-BAAA

DI water compatibility and purity requirements vary substantially by process.

Application: Light Weight Oils, Heat Transfer Oils

1” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
23 W/in2 304S.S. Plug with 2- 316S.S. Elements	0.5	7-1/2”	RSP2S05*7B-2-BAAA
	1	13”	RSP2S1*13-2-BAAA
	1.5	18-1/2”	RSP2S1.5*18B-2-BAAA
	2	24”	RSP2S2*24-2-BAAA
	2.5	29-1/2”	RSP2S2.5*29B-2-BAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

R SERIES : SCREWPLUG HEATER

Application: Clean Water, Industrial Deionized Water

1-1/4" NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
60 W/in2 304S.S. Plug with 2- 316S.S. Elements (cURus)	1	6-1/2"	R1SS2S1*6B-2-BAAA
	1.5	8-1/2"	R1SS2S1.5*8B-2-BAAA
	2	11"	R1SS2S2*11-2-BAAA
	2.5	13"	R1SS2S2.5*13-2-BAAA
	3	15"	R1SS2S3*15-2-BAAA
	3.5	17-1/2"	R1SS2S3.5*17B-2-BAAA
	4	19-1/2"	R1SS2S4*19B-2-BAAA
	4.5	21-1/2"	R1SS2S4.5*21B-2-BAAA

DI water compatibility and purity requirements vary substantially by process.

Application: Light Weight Oils, Heat Transfer Oils

1-1/4" NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
23 W/in2 304S.S. Plug with 2- 316S.S. Elements	0.5	8-1/4"	RSS2S05*8A-2-BAAA
	1	13"	RSS2S1*13-2-BAAA
	1.5	18-1/2"	RSS2S1.5*18B-2-BAAA
	2	24"	RSS2S2*24-2-BAAA
	2.5	29-1/2"	RSS2S2.5*29B-2-BAAA

R SERIES : SCREWPLUG HEATER

Application: Clean Water, Industrial Deionized Water

2” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
60 W/in2 304S.S. Plug with 3- 316S.S. Elements (cURus)	3	8-1/4”	R1SW3S3*8A-2-CAAA
	4.5	11-1/2”	R1SW3S4.5*11B-2-CAAA
	6	14-1/2”	R1SW3S6*14B-2-CAAA
	7.5	17-1/2”	R1SW3S7.5*17B-2-CAAA
	9	20-1/2”	R1SW3S9*20B-2-CAAA
	12	26-3/4”	R1SW3S12*26C-2-CAAA
	15	33”	R1SW3S15*33-2-CAAA
	18	39-1/4”	R1SW3S18*39A-2-CAAA

DI water compatibility and purity requirements vary substantially by process.

Application: Process Water

2” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
48 W/in2 304S.S. Plug with 3- 316S.S. Elements (cURus)	3	9-1/2”	R1SW3S3*9B-2-CAAA
	6	17”	R1SW3S6*17-2-CAAA
	9	24-1/2”	R1SW3S9*24B-2-CAAA
	12	32”	R1SW3S12*32-2-CAAA
	15	40”	R1SW3S15*40-2-CAAA
	18	48”	R1SW3S18*48-2-CAAA

Application: Salt Water, Brine and Selected Chloride Solutions

2” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
35 W/in2 Titanium Plug with 3- Titanium Elements (cURus)	3	12-1/2”	R1SW3T3*12B-2-CAAA
	6	23”	R1SW3T6*23-2-CAAA
	9	33”	R1SW3T9*33-2-CAAA
	12	43-1/2”	R1SW3T12*43B-2-CAAA
	15	54”	R1SW3T15*54-2-CAAA
	18	64”	R1SW3T18*64-2-CAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

R SERIES : SCREWPLUG HEATER

Application: Water Based Caustic Solutions & Degreasing Solutions

2” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
23 W/in2 304S.S. Plug with 3- Incoloy 800 Elements (cURus)	2	12-1/2”	R1SW3N2*12B-2-CAAA
	4	23”	R1SW3N4*23-2-CAAA
	6	34”	R1SW3N6*34-2-CAAA
	8	44”	R1SW3N8*44-2-CAAA
	10	54”	R1SW3N10*54-2-CAAA
	12	64-1/2”	R1SW3N12*64B-2-CAAA

Application: Light Weight Oils, Hydraulic Oils, Heat Transfer Oils

2” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
23 W/in2 304S.S. Plug with 3- 304S.S. Elements	2	12-1/2”	RSW3F2*12B-2-CAAA
	4	23”	RSW3F4*23-2-CAAA
	6	34”	RSW3F6*34-2-CAAA
	8	44”	RSW3F8*44-2-CAAA
	10	54”	RSW3F10*54-2-CAAA
	12	64-1/2”	RSW3F12*64B-2-CAAA

Application: Sodium Hypochlorite and Selected Oxidizing Solutions

2” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
18 W/in2 Titanium Plug with 3- Titani-um Elements (cURus)	1	8-3/4”	R1SW3T1*8C-2-CAAA
	1.5	12”	R1SW3T1.5*12-2-CAAA
	3	22”	R1SW3T3*22-2-CAAA
	4.5	32”	R1SW3T4.5*32-2-CAAA
	6	43”	R1SW3T6*43-2-CAAA
	7.5	53”	R1SW3T7.5*53-2-CAAA

R SERIES : SCREWPLUG HEATER

Application: Medium Weight Oils, Heat Transfer Oils

2” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
15 W/in2 304S.S. Plug with 3- 304S.S. Elements	1	10”	RSW3F1*10-2-CAAA
	2	18”	RSW3F2*18-2-CAAA
	3	26”	RSW3F3*26-2-CAAA
	4.5	38”	RSW3F4.5*38-2-CAAA
	6	50”	RSW3F6*50-2-CAAA
	7.5	62”	RSW3F7.5*62-2-CAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

R SERIES : SCREWPLUG HEATER

Application: Clean Water, Industrial Deionized Water

2-1/2" NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
60 W/in2 304S.S. Plug with 3- 316S.S. Elements (cURus)	3	8-1/4"	R1SX3S3*8A-2-CAAA
	4.5	11-1/2"	R1SX3S4.5*11B-2-CAAA
	6	14-1/2"	R1SX3S6*14B-2-CAAA
	7.5	17-1/2"	R1SX3S7.5*17B-2-CAAA
	9	20-1/2"	R1SX3S9*20B-2-CAAA
	12	26-3/4"	R1SX3S12*26C-2-CAAA
	15	33"	R1SX3S15*33-2-CAAA
	18	39-1/4"	R1SX3S18*39A-2-CAAA

DI water compatibility and purity requirements vary substantially by process.

Application: Process Water

2-1/2" NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
48 W/in2 304S.S. Plug with 3- 316S.S. Elements (cURus)	3	9-1/2"	R1SX3S3*9B-2-CAAA
	6	17"	R1SX3S6*17-2-CAAA
	9	24-1/2"	R1SX3S9*24B-2-CAAA
	12	32"	R1SX3S12*32-2-CAAA
	15	40"	R1SX3S15*40-2-CAAA
	18	48"	R1SX3S18*48-2-CAAA

Application: Water-Based Caustic Solutions & Degreasing Solutions

2-1/2" NPT Screw Plug Heater			
	KW	Immersion Length	Part Number
23 W/in2 304S.S. Plug with 3- Incoloy 800 Elements (cURus)	2	12-1/2"	R1SX3N2*12B-2-CAAA
	4	23"	R1SX3N4*23-2-CAAA
	6	34"	R1SX3N6*34-2-CAAA
	8	44"	R1SX3N8*44-2-CAAA
	10	54"	R1SX3N10*54-2-CAAA
	12	64-1/2"	R1SX3N12*64B-2-CAAA

R SERIES : SCREWPLUG HEATER

Application: Light Weight Oils, Hydraulic Oils, Heat Transfer Oils

2-1/2" NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
23 W/in2 304S.S. Plug with 3- 304S.S. Elements	2	12-1/2"	RSX3F2*12B-2-CAAA
	4	23"	RSX3F4*23-2-CAAA
	6	34"	RSX3F6*34-2-CAAA
	8	44"	RSX3F8*44-2-CAAA
	10	54"	RSX3F10*54-2-CAAA
	12	64-1/2"	RSX3F12*64B-2-CAAA

Application: Medium Weight Oils, Heat Transfer Oils

2-1/2" NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
15 W/in2 304S.S. Plug with 3- 304S.S. Elements	1	10"	RSX3F1*10-2-CAAA
	2	18"	RSX3F2*18-2-CAAA
	3	26"	RSX3F3*26-2-CAAA
	4.5	38"	RSX3F4.5*38-2-CAAA
	6	50"	RSX3F6*50-2-CAAA
	7.5	62"	RSX3F7.5*62-2-CAAA

Application: Bunker C & #6 Fuel Oils

2-1/2" NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
8 W/in2 304S.S. Plug with 3- 304S.S. Elements	1	17"	RSX3F1*17-2-CAAA
	1.5	25"	RSX3F1.5*25-2-CAAA
	2	32"	RSX3F2*32-2-CAAA
	2.5	40"	RSX3F2.5*40-2-CAAA
	3	48"	RSX3F3*48-2-CAAA
	3.5	55"	RSX3F3.5*55-2-CAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

R SERIES : SCREWPLUG HEATER

Application: Clean Water, Industrial Deionized Water

3” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
60 W/in2 304S.S. Plug with 6- 316S.S. Elements (cURus)	6	8-1/2”	R1SZ6S6*8B-2-CAAA
	7.5	9-3/4”	R1SZ6S7.5*9C-2-CAAA
	9	11-1/2”	R1SZ6S9*11B-2-CAAA
	10	12-1/2”	R1SZ6S10*12B-2-CAAA
	12	14-1/2”	R1SZ6S12*14B-2-CAAA
	15	17-1/2”	R1SZ6S15*17B-2-CAAA
	16.5	19”	R1SZ6S16.5*19-2-CAAA
	18	21”	R1SZ6S18*21-2-CAAA

DI water compatibility and purity requirements vary substantially by process.

Application: Process Water

3” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
48 W/in2 304S.S. Plug with 6- 316S.S. Elements (cURus)	9	13-1/2”	R1SZ6S9*13B-2-CAAA
	10	14-1/2”	R1SZ6S10*14B-2-CAAA
	12	17”	R1SZ6S12*17-2-CAAA
	15	21”	R1SZ6S15*21-2-CAAA
	16.5	23”	R1SZ6S16.5*23-2-CAAA
	18	25”	R1SZ6S18*25-2-CAAA

Application: Water-Based Caustic Solutions & Degreasing Solutions

3” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
23 W/in2 304S.S. Plug with 6- Incoloy 800 Elements (cURus)	9	26”	R1SZ6N9*26-2-CAAA
	10	28”	R1SZ6N10*28-2-CAAA
	12	34”	R1SZ6N12*34-2-CAAA
	15	42”	R1SZ6N15*42-2-CAAA
	16.5	45”	R1SZ6N16.5*45-2-CAAA
	18	50”	R1SZ6N18*50-2-CAAA

R SERIES : SCREWPLUG HEATER

Application: Light Weight Oils, Hydraulic Oils, Heat Transfer Oils

3” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
23 W/in2 304S.S. Plug with 6- 304S.S. Elements	9	26”	RSZ6F9*26-2-CAAA
	10	28”	RSZ6F10*28-2-CAAA
	12	34”	RSZ6F12*34-2-CAAA
	15	42”	RSZ6F15*42-2-CAAA
	16.5	45”	RSZ6F16.5*45-2-CAAA
	18	50”	RSZ6F18*50-2-CAAA

Application: Medium Weight Oils, Heat Transfer Oils

3” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
15 W/in2 304S.S. Plug with 6- 304S.S. Elements	7.5	32”	RSZ6F7.5*32-2-CAAA
	9	38”	RSZ6F9*38-2-CAAA
	10	42”	RSZ6F10*42-2-CAAA
	12	50”	RSZ6F12*50-2-CAAA
	15	61”	RSZ6F15*61-2-CAAA
	16.5	68”	RSZ6F16.5*68-2-CAAA

Application: Bunker C & #6 Fuel Oils

3” NPT Screw Plug Heater			
	KW	Immersion Length	Part Number**
8 W/in2 304S.S. Plug with 6- 304S.S. Elements	2	17”	RSZ6F2*17-2-CAAA
	3	25”	RSZ6F3*25-2-CAAA
	4.5	35”	RSZ6F4.5*35-2-CAAA
	6	48”	RSZ6F6*48-2-CAAA
	7.5	58”	RSZ6F7.5*58-2-CAAA
	9	68”	RSZ6F9*68-2-CAAA

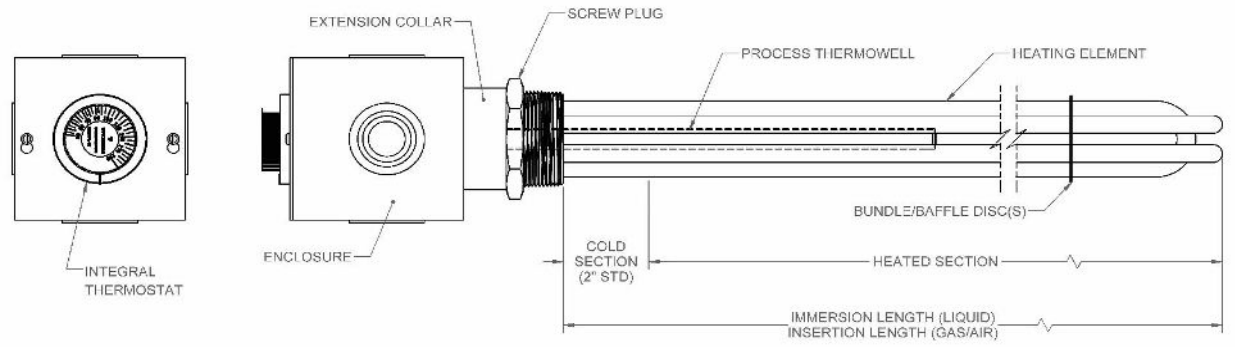
** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

R SERIES : SCREWPLUG HEATER

Don't see the screw plug heater you need? Heatmax routinely manufactures custom wattages, voltages, materials and configurations. Complete the following specification form and send it to your Heatmax representative or authorized reseller for a prompt quote.

SCREWPLUG QUOTE REQUEST SPECIFICATION FORM



Note: Drawing is for illustration purposes only. Screw Plug size, number of elements, enclosure configuration, etc. will vary based on options selected.

Operating Conditions

1. APPLICATION

☐ ***Immersion*** (Liquid)

☐ ***In-Line*** (Liquid) ____ Flow Rate (GPM)

☐ ***In-Line*** (Air) ____ Flow Rate (CFM)

2. SOLUTION HEATED: ____

3. TANK DIMENSIONS (*for immersion application*):

☐ Rectangular ____ Length (ft) ____ Width (ft)

____ Height (ft)

☐ Round ____ Diameter (ft) ____ Height (ft)

☐ Sides / Bottom Insulated ____ Thickness (in.)

☐ Open Top ☐ Insulated Top ____ Thickness (in.)

3. OPERATING TEMPERATURE: ____ °F

4. OPERATING PRESSURE: ____ psig

5. LOCATION: ☐ *Indoor* ☐ *Outdoor*

6. HAZARDOUS AREA ENVIRONMENT:

Class ____ *Div.* ____ *Group* ____

7. AMBIENT TEMPERATURE: ____ °F

8. ADDITIONAL DETAILS (*Describe in Detail*):

Heater Specifications

1. RATING ____ Volts ____ Phase ____ kW

2. SCREW PLUG SIZE, in. (Max. # of Elements) ☐ 1" NPT (1)

☐ 1.25" NPT (2) ☐ 1.5" NPT (3) ☐ 2" NPT (3)

☐ 2.5" NPT (3) ☐ 3" NPT (6) ☐ 1.5" BSPP (3)

☐ 2" BSPP (3) ☐ Other (Specify) ____

3. SCREW PLUG MATERIAL: ☐ 304 Stainless

☐ 316 Stainless ☐ Titanium ☐ Other: ____

4. SCREW PLUG RATING: ☐ Class 150 (Standard)

☐ Other (Specify) ____

5. HEATING ELEMENT SHEATH MATERIAL: ☐ 304SS ☐ 316SS

☐ 800 ☐ 840 (Air) ☐ Other (Specify) ____

6. HEATING ELEMENT LENGTHS:

Immersion: ____ in. Cold (2" STD): ____ in.

7. ENCLOSURE CONSTRUCTION: ☐ General Purpose

☐ Moisture Resistant ☐ Explosion Resistant

☐ Other: ____

8. INTEGRAL THERMOSTAT: ☐ None

☐ 0 - 100°F ☐ 60 - 250°F ☐ Other: ____

9. THERMOWELL: ☐ No ☐ Yes

10. HIGH-LIMIT SENSOR: ☐ Type-J ☐ Type-K

Other: ____

11. ELEMENT END SEAL: ☐ NONE (STANDARD)

☐ EPOXY ☐ SILICONE

R SERIES : SCREWPLUG HEATER

F SERIES : FLANGE HEATERS

FLANGED IMMERSION HEATERS

Heatmax flanged immersion heaters combine multiple tubular elements on a single mounting flange to provide higher kilowatt capacities in a compact industrial assembly.

Available with application-specific wetted materials, watt densities and electrical configurations, they can be engineered for water, oils, process solutions, air and gas. Standard ASME B16.5 flange sizes—commonly referred to as ANSI flanges—are available along with metric and custom OEM mounting designs.



AT A GLANCE		
0.5–340 kW	120–600 V	Single- or Three-Phase
2–12 in. Flange Options	Standard and Custom Designs	UL Recognized Configurations Available

PERFORMANCE CAPABILITIES

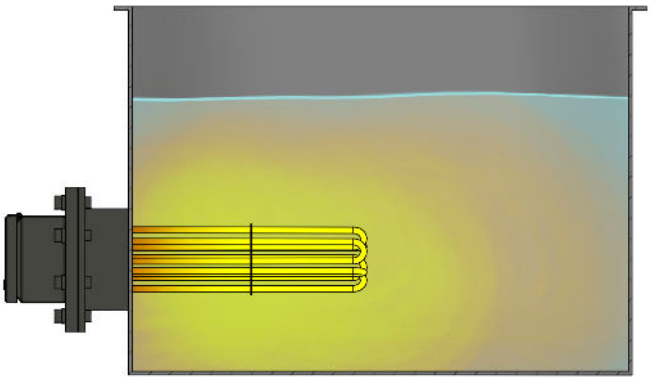
- Application-specific watt densities available for water, process solutions, oils, air and gas
- 120 to 600V.
- Single- and three-phase configurations available depending on flange size and heater configuration.
- Available sheath materials include Incoloy®, 304 stainless steel, 316 stainless steel, copper, titanium and Hastelloy®.
- UL Recognized configurations available to meet U.S. / Canadian safety standards.

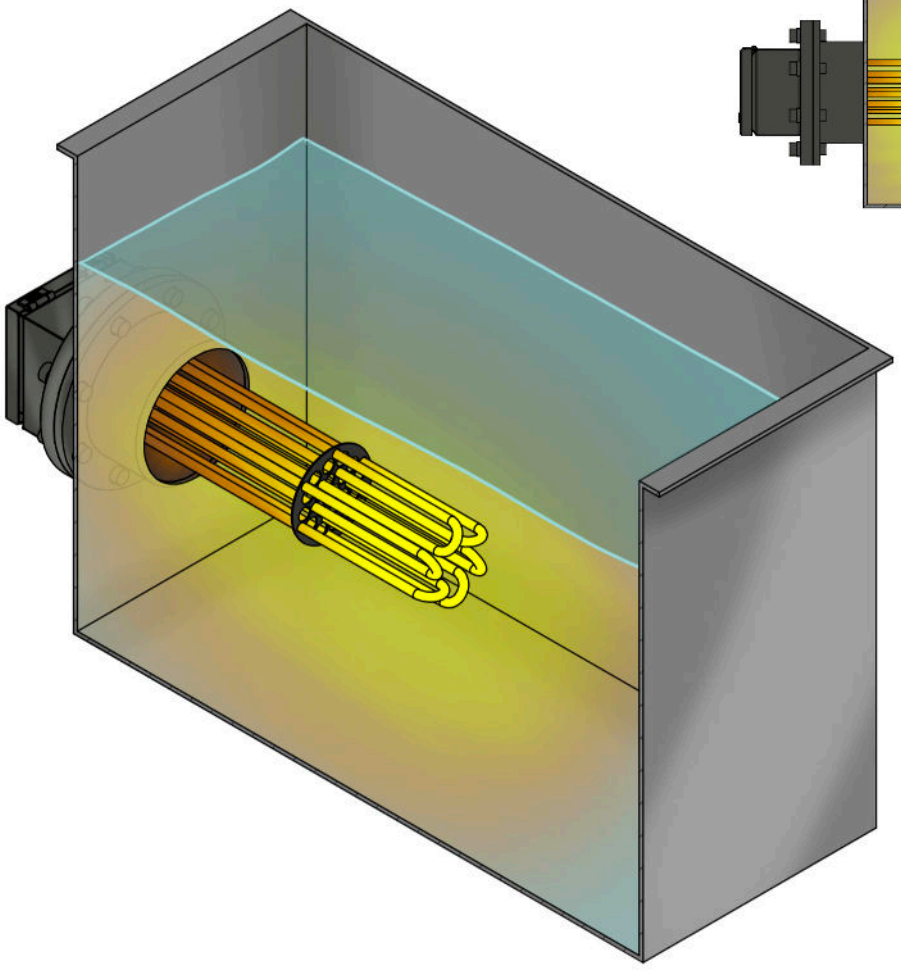
F SERIES : FLANGE HEATERS

FEATURES AND BENEFITS

- **Multiple flange sizes** include 2, 2-1/2, 3, 4, 5, 6, 8, 10 and 12 inch ANSI.
- Metric, Tri-Clamp and OEM round and square flanges also available.
- **Incoloy®, stainless steel, copper, titanium and Hastelloy® C-276 sheath options** for a wide range of heating applications.
- **Pressure-tested assemblies** help verify a pressure-tight element-to-flange seal.
- **Element supports on longer heaters** maintain spacing and reduce element-to-element contact
- **Optional integral thermowells, thermostats and temperature sensors** for process monitoring and control.
- **Multiple enclosure options** for general-purpose, moisture-resistant and corrosive environments

INSTALLATION DIAGRAM





NOTE:
Standard configuration intended for horizontal installation as shown. Consult Heatmax for other orientation/installment options.

F SERIES : FLANGE HEATERS

SELECTING AN F SERIES FLANGE HEATER

Proper heater selection begins with the process fluid and operating conditions. Element and flange materials must be compatible with the solution at the expected concentration and temperature.

Watt density—the heat produced per square inch of element surface—must also suit the application. Lower watt densities are generally recommended for viscous, scaling, solids-bearing or temperature-sensitive solutions. Flange size and element count then determine the available kilowatt range and practical immersion length.

Consult Heatmax when heating corrosive or mixed chemistries, air or gas, or solutions with uncertain composition.

TERMINAL ENCLOSURE TYPES

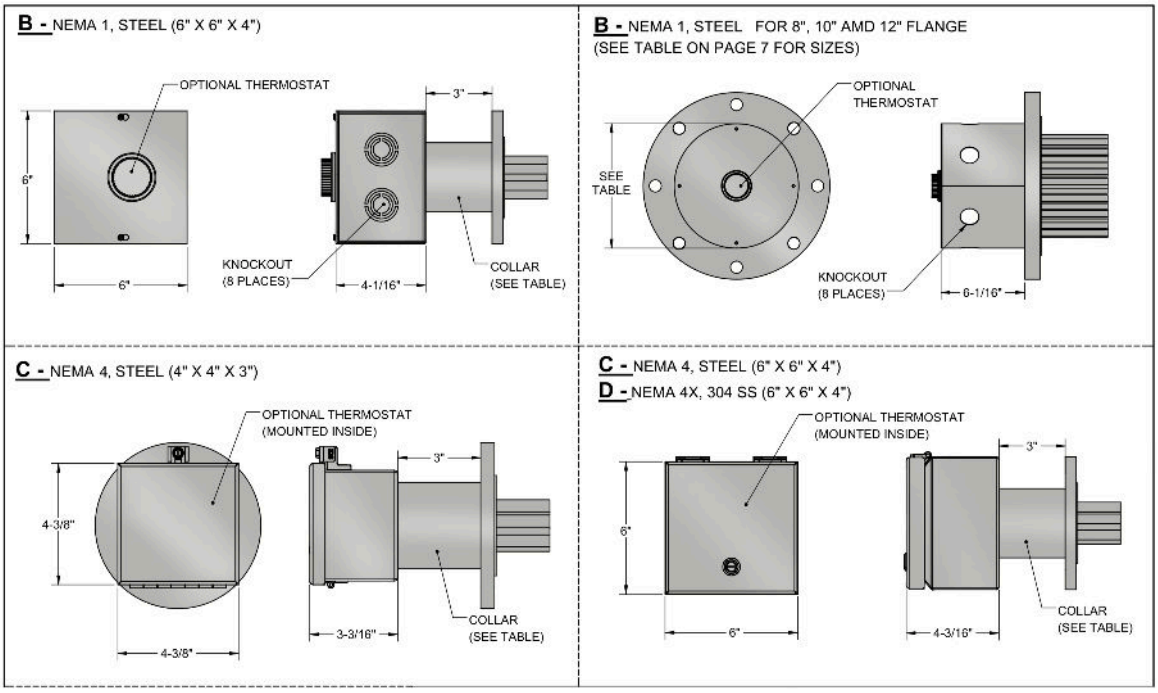
General Purpose
Standard enclosure for indoor, general-purpose applications. Available with optional single- or double-pole thermostat.

Moisture Resistant
Designed for applications requiring protection from water ingress. Optional thermostat configurations available.

Corrosion Resistant
For wet or corrosive industrial environments. Optional thermostat configurations available.

Explosion Resistant / Cast Enclosure
Heavy-duty cast enclosure option available for selected applications and configurations. Consult Heatmax for hazardous-location requirements.

F SERIES : FLANGE HEATERS



UL ENCLOSURE TYPE RATINGS

UL Type 1, Type 4 and Type 4X enclosure ratings are available for eligible UL-marked heater assemblies under File E544020. These enclosure ratings are limited to air and water-based applications up to 250°F (121°C). The enclosure rating must be specified when ordering and is available only as part of a complete UL-marked heater assembly. Rated construction may affect pricing. Hazardous-location requirements require separate review by Heatmax.

THERMOSTAT OPTIONS	
1-POLE OPTIONS	2-POLE OPTIONS
30-120 °F	0-100 °F
60-250 °F	60-250 °F
150-600 °F	100-550 °F

Heatmax can provide single pole and double pole thermostats built into the enclosure to provide process or high limit temperature control. Thermostats are mounted inside terminal enclosure as shown above. Not all element/thermostat combinations are available. Please consult your Heatmax representative.

F SERIES : FLANGE HEATERS

THERMOCOUPLES

Type J and Type K thermocouples are available for process-temperature or high-limit sensing. Sensors are supplied with lead wires for connection to an appropriate temperature controller, such as a Heatmax HCD control panel. The controller is purchased separately.

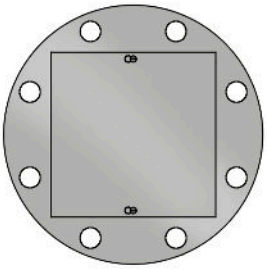
WATTAGES AND VOLTAGES

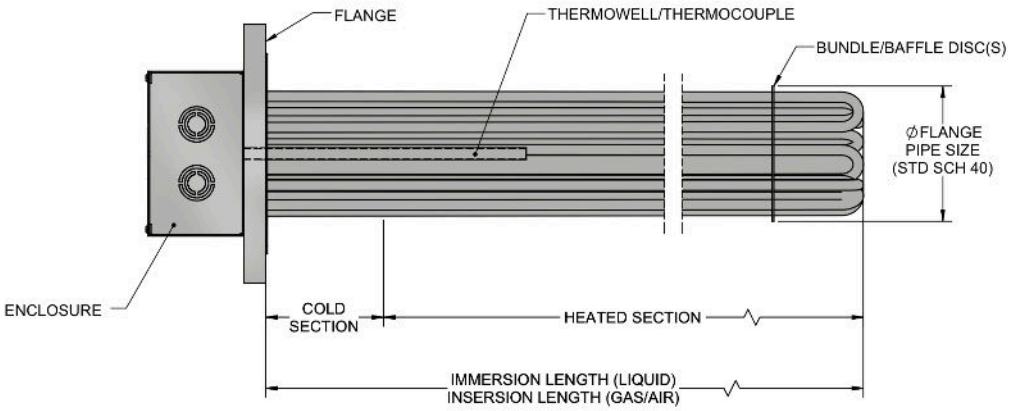
Heatmax routinely provides immersion heaters with 120 to 600V as well as wattages from 0.5 to 340 kW. If required, Heatmax will configure custom wattage and voltage configurations within electrical limitations. For more information please consult your Heatmax representative.

FLANGE HEATERS AND APPLICATIONS

The following part numbers leave a blank space for the voltage code, represented by an asterisk (*). Specify your required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.

F Series part number tables are coded for a General-Purpose terminal enclosure. Consult Heatmax for additional enclosure/rating options.





F SERIES : FLANGE HEATERS

F SERIES : FLANGE HEATERS

Application: Clean Water, Industrial Deionized Water

3” #150 Flange Heater			
	KW	Immersion Length	Part Number**
60 W/ in2 Steel Flange with 3- 316S.S. Elements	6	16-1/2”	F1H3AJ3S6*16B-4-BAAA
	9	22-1/2”	F1H3AJ3S9*22B-4-BAAA
	12	29”	F1H3AJ3S12*29-4-BAAA
	15	35”	F1H3AJ3S15*35-4-BAAA
	18	41”	F1H3AJ3S18*41-4-BAAA
	21	47”	F1H3AJ3S21*47-4-BAAA
	24	53-1/2”	F1H3AJ3S24*53B-4-BAAA
	30	66”	F1H3AJ3S30*66-4-BAAA

Application: Process Water

3” #150 Flange Heater			
	KW	Immersion Length	Part Number**
48 W/ in2 Steel Flange with 3- 316S.S. Elements	4.5	15-1/2”	F1H3AJ3S4.5*15B-4-BAAA
	6	19-1/4”	F1H3AJ3S6*19A-4-BAAA
	7.5	23”	F1H3AJ3S7.5*23-4-BAAA
	9	26-1/2”	F1H3AJ3S9*26B-4-BAAA
	12	34”	F1H3AJ3S12*34-4-BAAA
	15	42”	F1H3AJ3S15*42-4-BAAA
	18	49”	F1H3AJ3S18*49-4-BAAA
	21	57”	F1H3AJ3S21*57-4-BAAA

Application: Lightweight Oils, Heat Transfer Oils

3” #150 Flange Heater			
	KW	Immersion Length	Part Number**
23 W/ in2 Steel Flange with 3- 304S.S. Elements	3	20”	FH3AJ3F3*20-4-BAAA
	4.5	28”	FH3AJ3F4.5*28-4-BAAA
	6	35”	FH3AJ3F6*35-4-BAAA
	7.5	43”	FH3AJ3F7.5*43-4-BAAA
	9	51”	FH3AJ3F9*51-4-BAAA
	12	67”	FH3AJ3F12*67-4-BAAA

F SERIES : FLANGE HEATERS

Application: Mediumweight Oils, Heat Transfer Oils

3” #150 Flange Heater			
	KW	Immersion Length	Part Number**
16 W/ in2 Steel Flange with 3- 304S.S. Elements	2	19”	FH3AJ3F2*19-4-BAAA
	3	27”	FH3AJ3F3*27-4-BAAA
	4	34”	FH3AJ3F4*34-4-BAAA
	5	42”	FH3AJ3F5*42-4-BAAA
	6	49”	FH3AJ3F6*49-4-BAAA
	7	57”	FH3AJ3F7*57-4-BAAA
	8	65”	FH3AJ3F8*65-4-BAAA

Application: Bunker C and #6 Fuel Oils

3” #150 Flange Heater			
	KW	Immersion Length	Part Number**
8 W/ in2 Steel Flange with 3- 304S.S. Elements	1.5	27”	FH3AJ3F1.5*27-4-BAAA
	2	34”	FH3AJ3F2*34-4-BAAA
	2.5	42”	FH3AJ3F2.5*42-4-BAAA
	3	50”	FH3AJ3F3*50-4-BAAA
	3.5	57”	FH3AJ3F3.5*57-4-BAAA
	4	64”	FH3AJ3F4*64-4-BAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

F SERIES : FLANGE HEATERS

Application: Clean Water, Industrial Deionized Water

4” #150 Flange Heater			
	KW	Immersion Length	Part Number**
60 W/ in2 Steel Flange with 6- 316S.S. Elements	9	13-1/4”	F1H4AJ6S9*13A-4-BAAA
	12	16-1/2”	F1H4AJ6S12*16B-4-BAAA
	15	19-1/2”	F1H4AJ6S15*19B-4-BAAA
	18	22-1/2”	F1H4AJ6S18*22B-4-BAAA
	21	26”	F1H4AJ6S21*26-4-BAAA
	24	29”	F1H4AJ6S24*29-4-BAAA
	30	35”	F1H4AJ6S30*35-4-BAAA
	36	41”	F1H4AJ6S36*41-4-BAAA

Application: Process Water

4” #150 Flange Heater			
	KW	Immersion Length	Part Number**
48 W/ in2 Steel Flange with 6- 316S.S. Elements	9	15-1/2”	F1H4AJ6S9*15B-4-BAAA
	12	19”	F1H4AJ6S12*19-4-BAAA
	15	23”	F1H4AJ6S15*23-4-BAAA
	18	27”	F1H4AJ6S18*27-4-BAAA
	21	30-1/2”	F1H4AJ6S21*30B-4-BAAA
	24	34”	F1H4AJ6S24*34-4-BAAA
	27	38”	F1H4AJ6S27*38-4-BAAA
	30	42”	F1H4AJ6S30*42-4-BAAA

Application: Lightweight Oils, Heat Transfer Oils

4” #150 Flange Heater			
	KW	Immersion Length	Part Number**
23 W/ in2 Steel Flange with 6- 304S.S. Elements	7.5	24”	FH4AJ6F7.5*24-4-BAAA
	9	28”	FH4AJ6F9*28-4-BAAA
	12	36”	FH4AJ6F12*36-4-BAAA
	15	44”	FH4AJ6F15*44-4-BAAA
	18	52”	FH4AJ6F18*52-4-BAAA
	21	59”	FH4AJ6F21*59-4-BAAA

F SERIES : FLANGE HEATERS

Application: Mediumweight Oils, Heat Transfer Oils

4” #150 Flange Heater			
	KW	Immersion Length	Part Number**
16 W/ in2 Steel Flange with 6- 304S.S. Elements	4.5	21”	FH4AJ6F4.5*21-4-BAAA
	6	27”	FH4AJ6F6*27-4-BAAA
	7.5	32”	FH4AJ6F7.5*32-4-BAAA
	9	38”	FH4AJ6F9*38-4-BAAA
	12	49”	FH4AJ6F12*49-4-BAAA
	14	57”	FH4AJ6F14*57-4-BAAA
	16	64”	FH4AJ6F16*64-4-BAAA

Application: Bunker C and #6 Fuel Oils

4” #150 Flange Heater			
	KW	Immersion Length	Part Number**
8 W/ in2 Steel Flange with 6- 304S.S. Elements	3.5	31”	FH4AJ6F3.5*31-4-BAAA
	4	34”	FH4AJ6F4*34-4-BAAA
	4.5	38”	FH4AJ6F4.5*38-4-BAAA
	5	42”	FH4AJ6F5*42-4-BAAA
	6	50”	FH4AJ6F6*50-4-BAAA
	7	57”	FH4AJ6F7*57-4-BAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

F SERIES : FLANGE HEATERS

Application: Clean Water, Industrial Deionized Water

5” #150 Flange Heater			
	KW	Immersion Length	Part Number**
60 W/ in2 Steel Flange with 9- 316S.S. Elements	18	16-1/2”	F1H5AJ9S18*16B-4-BAAA
	27	22-1/2”	F1H5AJ9S27*22B-4-BAAA
	36	29”	F1H5AJ9S36*29-4-BAAA
	45	35”	F1H5AJ9S45*35-4-BAAA
	54	41”	F1H5AJ9S54*41-4-BAAA
	63	47”	F1H5AJ9S63*47-4-BAAA
	72	53-1/2”	F1H5AJ9S72*53B-4-BAAA
	81	60”	F1H5AJ9S81*60-4-BAAA

Application: Process Water

5” #150 Flange Heater			
	KW	Immersion Length	Part Number**
48 W/ in2 Steel Flange with 9- 316S.S. Elements	9	11-1/2”	F1H5AJ9S9*11B-4-BAAA
	18	19”	F1H5AJ9S18*19-4-BAAA
	27	26-1/2”	F1H5AJ9S27*26B-4-BAAA
	36	34”	F1H5AJ9S36*34-4-BAAA
	45	42”	F1H5AJ9S45*42-4-BAAA
	54	49”	F1H5AJ9S54*49-4-BAAA
	63	56-1/2”	F1H5AJ9S63*56B-4-BAAA
	72	64”	F1H5AJ9S72*64-4-BAAA

Application: Lightweight Oils, Heat Transfer Oils

5” #150 Flange Heater			
	KW	Immersion Length	Part Number**
23 W/ in2 Steel Flange with 9- 304S.S. Elements	14	29”	FH5AJ9F14*29-4-BAAA
	18	35”	FH5AJ9F18*35-4-BAAA
	22	43”	FH5AJ9F22*43-4-BAAA
	26	49”	FH5AJ9F26*49-4-BAAA
	30	56”	FH5AJ9F30*56-4-BAAA
	34	64”	FH5AJ9F34*64-4-BAAA

F SERIES : FLANGE HEATERS

Application: Mediumweight Oils, Heat Transfer Oils

5” #150 Flange Heater			
	KW	Immersion Length	Part Number**
16 W/ in2 Steel Flange with 9- 304S.S. Elements	6	19”	FH5AJ9F6*19-4-BAAA
	9	26-1/2”	FH5AJ9F9*26B-4-BAAA
	12	33-1/2”	FH5AJ9F12*33B-4-BAAA
	15	42”	FH5AJ9F15*42-4-BAAA
	18	49”	FH5AJ9F18*49-4-BAAA
	21	56”	FH5AJ9F21*56-4-BAAA
	24	64”	FH5AJ9F24*64-4-BAAA

Application: Bunker C and #6 Fuel Oils

5” #150 Flange Heater			
	KW	Immersion Length	Part Number**
8 W/in2 Steel Flange with 9- 304S.S. Elements	4	24”	FH5AJ9F4*24-4-BAAA
	6	34”	FH5AJ9F6*34-4-BAAA
	8	44”	FH5AJ9F8*44-4-BAAA
	10	54”	FH5AJ9F10*54-4-BAAA
	11	59”	FH5AJ9F11*59-4-BAAA
	12	64”	FH5AJ9F12*64-4-BAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

F SERIES : FLANGE HEATERS

Application: Clean Water, Industrial Deionized Water

6” #150 Flange Heater			
	KW	Immersion Length	Part Number**
60 W/ in2 Steel Flange with 15- 316S.S. Elements	20	12-1/4”	F1H6AJ15S20*12A-4-BAAA
	30	16-1/2”	F1H6AJ15S30*16B-4-BAAA
	50	24-1/2”	F1H6AJ15S50*24B-4-BAAA
	70	33”	F1H6AJ15S70*33-4-BAAA
	90	41”	F1H6AJ15S90*41-4-BAAA
	110	49-1/2”	F1H6AJ15S110*49B-4-BAAA
	130	58”	F1H6AJ15S130*58-4-BAAA
	150	66”	F1H6AJ15S150*66-4-BAAA

Application: Process Water

6” #150 Flange Heater			
	KW	Immersion Length	Part Number**
48 W/ in2 Steel Flange with 15- 316S.S. Elements	15	11-1/2”	F1H6AJ15S15*11B-4-BAAA
	30	19”	F1H6AJ15S30*19-4-BAAA
	45	26-1/2”	F1H6AJ15S45*26B-4-BAAA
	60	34”	F1H6AJ15S60*34-4-BAAA
	75	41-1/2”	F1H6AJ15S75*41B-4-BAAA
	90	49”	F1H6AJ15S90*49-4-BAAA
	105	56-1/2”	F1H6AJ15S105*56B-4-BAAA
	120	64”	F1H6AJ15S120*64-4-BAAA

Application: Lightweight Oils, Heat Transfer Oils

6” #150 Flange Heater			
	KW	Immersion Length	Part Number**
23 W/ in2 Steel Flange with 15- 304S.S. Elements	10	14-1/2”	FH6AJ15F10*14B-4-BAAA
	20	25”	FH6AJ15F20*25-4-BAAA
	30	35”	FH6AJ15F30*35-4-BAAA
	40	46”	FH6AJ15F40*46-4-BAAA
	50	56”	FH6AJ15F50*56-4-BAAA
	60	67”	FH6AJ15F60*67-4-BAAA

F SERIES : FLANGE HEATERS

Application: Mediumweight Oils, Heat Transfer Oils

6” #150 Flange Heater			
	KW	Immersion Length	Part Number**
16 W/in2 Steel Flange with 15- 304S.S. Elements	14	25”	FH6AJ15F14*25-4-BAAA
	18	31”	FH6AJ15F18*31-4-BAAA
	22	37”	FH6AJ15F22*37-4-BAAA
	26	43”	FH6AJ15F26*43-4-BAAA
	30	49”	FH6AJ15F30*49-4-BAAA
	34	55”	FH6AJ15F34*55-4-BAAA
	38	61”	FH6AJ15F38*61-4-BAAA

Application: Bunker C and #6 Fuel Oils

6” #150 Flange Heater			
	KW	Immersion Length	Part Number**
8 W/in2 Steel Flange with 15- 304S.S. Elements	10	34”	FH6AJ15F10*34-4-BAAA
	12	40”	FH6AJ15F12*40-4-BAAA
	14	46”	FH6AJ15F14*46-4-BAAA
	16	52”	FH6AJ15F16*52-4-BAAA
	18	58”	FH6AJ15F18*58-4-BAAA
	20	64”	FH6AJ15F20*64-4-BAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

F SERIES : FLANGE HEATERS

Application: Clean Water, Industrial Deionized Water

8” #150 Flange Heater			
	KW	Immersion Length	Part Number**
60 W/ in2 Steel Flange with 24-316S.S. Elements	50	19”	F1H8AJ24S50*19-6-BAAA
	75	25-1/2”	F1H8AJ24S75*25B-6-BAAA
	100	32”	F1H8AJ24S100*32-6-BAAA
	125	38-1/2”	F1H8AJ24S125*38B-6-BAAA
	150	45”	F1H8AJ24S150*45-6-BAAA
	175	51-1/2”	F1H8AJ24S175*51B-6-BAAA
	200	58”	F1H8AJ24S200*58-6-BAAA
	225	64-1/2”	F1H8AJ24S225*64B-6-BAAA

Application: Process Water

8” #150 Flange Heater			
	KW	Immersion Length	Part Number**
48 W/ in2 Steel Flange with 24-316S.S. Elements	25	14”	F1H8AJ24S25*14-6-BAAA
	50	22”	F1H8AJ24S50*22-6-BAAA
	75	30”	F1H8AJ24S75*30-6-BAAA
	100	38”	F1H8AJ24S100*38-6-BAAA
	125	46”	F1H8AJ24S125*46-6-BAAA
	150	53”	F1H8AJ24S150*53-6-BAAA
	175	61”	F1H8AJ24S175*61-6-BAAA
	200	68-1/2”	F1H8AJ24S200*68B-6-BAAA

Application: Lightweight Oils, Heat Transfer Oils

8” #150 Flange Heater			
	KW	Immersion Length	Part Number**
23 W/ in2 Steel Flange with 24-304S.S. Elements	36	30”	FH8AJ24F36*30-6-BAAA
	45	36”	FH8AJ24F45*36-6-BAAA
	54	42”	FH8AJ24F54*42-6-BAAA
	63	48”	FH8AJ24F63*48-6-BAAA
	72	54”	FH8AJ24F72*54-6-BAAA
	81	60”	FH8AJ24F81*60-6-BAAA

F SERIES : FLANGE HEATERS

Application: Mediumweight Oils, Heat Transfer Oils

8” #150 Flange Heater			
	KW	Immersion Length	Part Number**
16 W/ in2 Steel Flange with 24- 304S.S. Elements	20	25”	FH8AJ24F20*25-6-BAAA
	25	30”	FH8AJ24F25*30-6-BAAA
	30	35”	FH8AJ24F30*35-6-BAAA
	35	40”	FH8AJ24F35*40-6-BAAA
	40	45”	FH8AJ24F40*45-6-BAAA
	45	50”	FH8AJ24F45*50-6-BAAA
	50	55”	FH8AJ24F50*55-6-BAAA

Application: Bunker C and #6 Fuel Oils

8” #150 Flange Heater			
	KW	Immersion Length	Part Number**
8 W/in2 Steel Flange with 24- 304S.S. Elements	10	25”	FH8AJ24F10*25-6-BAAA
	15	34”	FH8AJ24F15*34-6-BAAA
	20	43”	FH8AJ24F20*43-6-BAAA
	25	53”	FH8AJ24F25*53-6-BAAA
	30	63”	FH8AJ24F30*63-6-BAAA
	32	67”	FH8AJ24F32*67-6-BAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

F SERIES : FLANGE HEATERS

Application: Clean Water, Industrial Deionized Water

10” #150 Flange Heater			
	KW	Immersion Length	Part Number**
60 W/ in2 Steel Flange with 36- 316S.S. Elements	160	34”	F1H10AJ36S160*34-6-BAAA
	180	38”	F1H10AJ36S180*38-6-BAAA
	200	41”	F1H10AJ36S200*41-6-BAAA
	220	45”	F1H10AJ36S220*45-6-BAAA
	240	48”	F1H10AJ36S240*48-6-BAAA
	260	52”	F1H10AJ36S260*52-6-BAAA
	280	55”	F1H10AJ36S280*55-6-BAAA
	300	59”	F1H10AJ36S300*59-6-BAAA

Application: Process Water

10” #150 Flange Heater			
	KW	Immersion Length	Part Number**
48 W/ in2 Steel Flange with 36- 316S.S. Elements	80	23”	F1H10AJ36S80*23-6-BAAA
	100	28”	F1H10AJ36S100*28-6-BAAA
	120	32”	F1H10AJ36S120*32-6-BAAA
	140	36”	F1H10AJ36S140*36-6-BAAA
	160	40”	F1H10AJ36S160*40-6-BAAA
	180	45”	F1H10AJ36S180*45-6-BAAA
	200	50”	F1H10AJ36S200*50-6-BAAA
	220	54”	F1H10AJ36S220*54-6-BAAA

Application: Lightweight Oils, Heat Transfer Oils

10” #150 Flange Heater			
	KW	Immersion Length	Part Number**
23 W/ in2 Steel Flange with 36- 304S.S. Elements	50	29”	FH10AJ36F50*29-6-BAAA
	60	33”	FH10AJ36F60*33-6-BAAA
	70	38”	FH10AJ36F70*38-6-BAAA
	80	43”	FH10AJ36F80*43-6-BAAA
	90	48”	FH10AJ36F90*48-6-BAAA
	100	53”	FH10AJ36F100*53-6-BAAA

F SERIES : FLANGE HEATERS

Application: Mediumweight Oils, Heat Transfer Oils

10” #150 Flange Heater			
	KW	Immersion Length	Part Number**
16 W/in2 Steel Flange with 36-304S.S. Elements	35	29”	FH10AJ36F35*29-6-BAAA
	40	32”	FH10AJ36F40*32-6-BAAA
	45	35”	FH10AJ36F45*35-6-BAAA
	50	39”	FH10AJ36F50*39-6-BAAA
	55	43”	FH10AJ36F55*43-6-BAAA
	60	46”	FH10AJ36F60*46-6-BAAA
	65	49”	FH10AJ36F65*49-6-BAAA

Application: Bunker C and #6 Fuel Oils

10” #150 Flange Heater			
	KW	Immersion Length	Part Number**
8 W/in2 Steel Flange with 36-304S.S. Elements	25	38”	FH10AJ36F25*38-6-BAAA
	28	43”	FH10AJ36F28*43-6-BAAA
	31	46”	FH10AJ36F31*46-6-BAAA
	34	50”	FH10AJ36F34*50-6-BAAA
	37	54”	FH10AJ36F37*54-6-BAAA
	40	58”	FH10AJ36F40*58-6-BAAA

** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

F SERIES : FLANGE HEATERS

Application: Clean Water, Industrial Deionized Water

12” #150 Flange Heater			
	KW	Immersion Length	Part Number**
60 W/ in2 Steel Flange with 45- 316S.S. Elements	200	31”	F1H12AJ45S200*31-6-BAAA
	220	34”	F1H12AJ45S220*34-6-BAAA
	240	39”	F1H12AJ45S240*39-6-BAAA
	260	42”	F1H12AJ45S260*42-6-BAAA
	280	45”	F1H12AJ45S280*45-6-BAAA
	300	48”	F1H12AJ45S300*48-6-BAAA
	320	51”	F1H12AJ45S320*51-6-BAAA
	340	54”	F1H12AJ45S340*54-6-BAAA

Application: Process Water

12” #150 Flange Heater			
	KW	Immersion Length	Part Number**
48 W/ in2 Steel Flange with 45- 316S.S. Elements	140	30”	F1H12AJ45S140*30-6-BAAA
	160	34”	F1H12AJ45S160*34-6-BAAA
	180	37”	F1H12AJ45S180*37-6-BAAA
	200	41”	F1H12AJ45S200*41-6-BAAA
	220	44”	F1H12AJ45S220*44-6-BAAA
	240	48”	F1H12AJ45S240*48-6-BAAA
	260	51”	F1H12AJ45S260*51-6-BAAA
	280	54”	F1H12AJ45S280*54-6-BAAA

Application: Lightweight Oils, Heat Transfer Oils

12” #150 Flange Heater			
	KW	Immersion Length	Part Number**
23 W/ in2 Steel Flange with 45- 304S.S. Elements	60	27”	FH12AJ45F60*27-6-BAAA
	75	33”	FH12AJ45F75*33-6-BAAA
	90	38”	FH12AJ45F90*38-6-BAAA
	105	43”	FH12AJ45F105*43-6-BAAA
	120	48”	FH12AJ45F120*48-6-BAAA
	135	54”	FH12AJ45F135*54-6-BAAA

F SERIES : FLANGE HEATERS

Application: Mediumweight Oils, Heat Transfer Oils

12” #150 Flange Heater			
	KW	Immersion Length	Part Number**
16 W/ in2 Steel Flange with 45- 304S.S. Elements	50	32”	FH12AJ45F50*32-6-BAAA
	60	37”	FH12AJ45F60*37-6-BAAA
	70	42”	FH12AJ45F70*42-6-BAAA
	80	47”	FH12AJ45F80*47-6-BAAA
	90	52”	FH12AJ45F90*52-6-BAAA
	100	57”	FH12AJ45F100*57-6-BAAA
	110	62”	FH12AJ45F110*62-6-BAAA

Application: Bunker C and #6 Fuel Oils

12” #150 Flange Heater			
	KW	Immersion Length	Part Number**
8 W/in2 Steel Flange with 45- 304S.S. Elements	25	31”	FH12AJ45F25*31-6-BAAA
	30	36”	FH12AJ45F30*36-6-BAAA
	35	41”	FH12AJ45F35*41-6-BAAA
	40	46”	FH12AJ45F40*46-6-BAAA
	45	51”	FH12AJ45F45*51-6-BAAA
	50	56”	FH12AJ45F50*56-6-BAAA

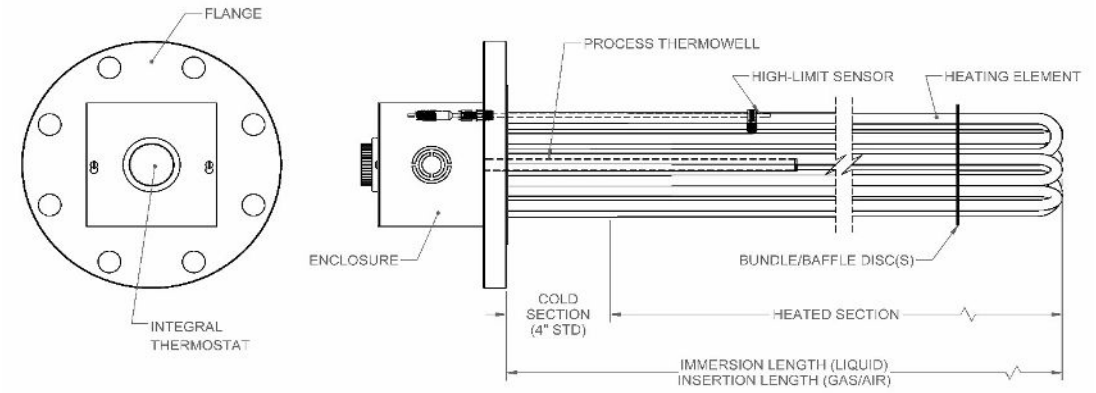
** Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.*

F SERIES : FLANGE HEATERS

Don't see the flange heater you need? Heatmax routinely manufactures custom wattages, voltages, materials and configurations. Complete the following specification form and send it to your Heatmax representative or authorized reseller for a prompt quote.

FLANGE HEATER QUOTE REQUEST SPECIFICATION FORM



Note: Drawing is for illustration purposes only. Flange size, number of elements, enclosure configuration, etc. will vary based on options selected.

Operating Conditions

1. APPLICATION

- ☐ ***Immersion*** (Liquid)
- ☐ ***In-Line*** (Liquid) ____ Flow Rate (GPM)
- ☐ ***In-Line*** (Air) ____ Flow Rate (CFM)

2. SOLUTION HEATED: ____

3. TANK DIMENSIONS (*for immersion application*):

- ☐ Rectangular ____ Length (ft) ____ Width (ft) ____ Height (ft)
- ☐ Round ____ Diameter (ft) ____ Height (ft)
- ☐ Sides / Bottom Insulated ____ Thickness (in.)
- ☐ Open Top ☐ Insulated Top ____ Thickness (in.)

3. OPERATING TEMPERATURE: ____ °F

4. OPERATING PRESSURE: ____ psig

5. LOCATION: ☐ *Indoor* ☐ *Outdoor*

6. HAZARDOUS AREA ENVIRONMENT:

Class ____ *Div.* ____ *Group* ____

7. AMBIENT TEMPERATURE: ____ °F

8. ADDITIONAL DETAILS (*Describe in Detail*):

Heater Specifications

1. RATING ____ Volts ____ Phase ____ kW

2. ANSI B16.5 FLANGE SIZE, in. (# of Elements)

- ☐ 2" (3) ☐ 2.5" (3) ☐ 3" (3) ☐ 3" (6) ☐ 4" (3)
- ☐ 4" (6) ☐ 5" (6) ☐ 5" (9) ☐ 6" (12) ☐ 6"(15)
- ☐ 8" (24) ☐ 10" (36) ☐ Other (Specify) ____

Non-ANSI FLANGE

- ☐ Round (*Dia. / Thk.*) ____ in.
- ☐ Square/Rectangular (*L x W x Thk.*) ____ in.
- ☐ Metric *Specify:* ____
- ☐ Quick-Disconnect *Specify:* ____

3. FLANGE MATERIAL: ☐ Carbon Steel ☐ 304 Stainless

☐ 316 Stainless ☐ Titanium ☐ Other: ____

4. FLANGE RATING: ☐ Class 150 ☐ Class 300

☐ Other (Specify) ____

5. HEATING ELEMENT SHEATH MATERIAL: ☐ 304SS ☐ 316SS

☐ 800 ☐ 840 (Air) ☐ Other (Specify) ____

6. HEATING ELEMENT LENGTHS:

Immersion: ____ in. Cold (4" STD): ____ in.

7. ENCLOSURE CONSTRUCTION: ☐ General Purpose

☐ Moisture Resistant ☐ Explosion Resistant

☐ Other: ____

8. INTEGRAL THERMOSTAT: ☐ None

☐ 0 - 100°F ☐ 60 - 250°F ☐ Other: ____

9. THERMOWELL: ☐ No ☐ Yes

10. HIGH-LIMIT SENSOR: ☐ Type-J ☐ Type-K

Other: ____

F SERIES : FLANGE HEATERS

FEATURED PRODUCT: MAX-TI SERIES

Grade 2 Titanium

Designed for applications where stainless steel provides insufficient corrosion resistance, MAX-Ti heaters feature Grade 2 titanium elements and flanges for reliable service in selected oxidizing, alkaline and chloride-rich solutions.

- All wetted metal surfaces are Grade 2 titanium.
- Custom immersion lengths and ratings up to 200 kW.
- Type 1, Type 4 and Type 4X terminal enclosures available.
- UL Recognized configurations available to meet U.S. / Canadian safety standards.

Common applications: metal finishing, galvanizing flux, sodium hypochlorite, wastewater treatment and chemical processing.



FLANGE HEATERS AND APPLICATIONS

* Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.
** Part numbers coded for a standard Moisture Resistant Terminal Enclosure. Consult Heatmax for additional enclosure options.

CORROSION RESISTANT FLANGE HEATERS

Application: Seawater, Brine, Selected Chloride Salt Solutions

3” #150 Titanium Flange Heater			
	KW	Immersion Length	Part Number**
35 W/in2 Titanium Flange with 3- Titanium Elements (cURus)	3	14-1/2”	F1H3AT3T3*14B-4-CAAA
	4.5	19-1/2”	F1H3AT3T4.5*19B-4-CAAA
	6	24-1/2”	F1H3AT3T6*24B-4-CAAA
	7.5	29-1/2”	F1H3AT3T7.5*29B-4-CAAA
	9	34-1/2”	F1H3AT3T9*34B-4-CAAA
	12	45”	F1H3AT3T12*45-4-CAAA
	15	55”	F1H3AT3T15*55-4-CAAA
	18	65”	F1H3AT3T18*65-4-CAAA

Application: Sodium Hypochlorite and Selected Aqueous Oxidizing Chlorine Solutions

4” #150 Titanium Flange Heater			
	KW	Immersion Length	Part Number**
20 W/in2 Titanium Flange with 6- Titanium Elements (cURus)	4	16”	F1H4AT6T4*16-4-CAAA
	6	22”	F1H4AT6T6*22-4-CAAA
	8	28”	F1H4AT6T8*28-4-CAAA
	10	34”	F1H4AT6T10*34-4-CAAA
	12	40”	F1H4AT6T12*40-4-CAAA
	14	46”	F1H4AT6T14*46-4-CAAA
	16	52”	F1H4AT6T16*52-4-CAAA
	18	58”	F1H4AT6T18*58-4-CAAA

Application: Galvanizing Flux and solids-bearing, scaling or variable process solutions

6” #150 Titanium Flange Heater			
	KW	Immersion Length	Part Number**
10 W/in2 Titanium Flange with 12- Titanium Elements	8	28”	F1H6AT12T8*28-4-CAAA
	12	39”	F1H6AT12T12*39-4-CAAA
	14	46”	F1H6AT12T14*46-4-CAAA
	16	52”	F1H6AT12T16*52-4-CAAA
	18	58”	F1H6AT12T18*58-4-CAAA
	20	64”	F1H6AT12T20*64-4-CAAA

FEATURED PRODUCT: MAX-DUTY SERIES

Hastelloy® C-276

MAX-Duty heaters combine Hastelloy® C-276 elements and flanges with a rugged industrial design for demanding acidic and corrosive applications.

- All wetted metal surfaces are Hastelloy® C-276
- Custom immersion lengths and ratings up to 200 kW
- Type 1, Type 4 and Type 4X terminal enclosures available

Common applications: wet scrubber sumps, chemical storage tanks, acid process tanks, waste treatment, chemical blending and batch tanks.



FLANGE HEATERS AND APPLICATIONS

* Part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.
** Part numbers coded for a standard General-Purpose Terminal Enclosure. Consult Heatmax for additional enclosure options.

CORROSION RESISTANT FLANGE HEATERS

Application: Dilute Hydrochloric acid and clean, well-characterized corrosive solutions

3” #150 Hastelloy Flange Heater			
	KW	Immersion Length	Part Number**
20 W/in2 Hastelloy Flange with 3- Hastelloy Elements	2	16”	FH3AH3H2*16-4-BAAA
	3	22”	FH3AH3H3*22-4-BAAA
	4	28”	FH3AH3H4*28-4-BAAA
	5	34”	FH3AH3H5*34-4-BAAA
	6	40”	FH3AH3H6*40-4-BAAA
	7	46”	FH3AH3H7*46-4-BAAA
	8	52”	FH3AH3H8*52-4-BAAA
	9	58”	FH3AH3H9*58-4-BAAA

Application: Severe acid, pickling and chemical service

4” #150 Hastelloy Flange Heater			
	KW	Immersion Length	Part Number**
15 W/in2 Hastelloy Flange with 6- Hastelloy Elements	5	24”	FH4AH6H5*24-4-BAAA
	6	28”	FH4AH6H6*28-4-BAAA
	7	32”	FH4AH6H7*32-4-BAAA
	8	36”	FH4AH6H8*36-4-BAAA
	9	40”	FH4AH6H9*40-4-BAAA
	10	44”	FH4AH6H10*44-4-BAAA
	11	48”	FH4AH6H11*48-4-BAAA
	12	52”	FH4AH6H12*52-4-BAAA

Application: Acidic wastewater, neutralization, scrubber and pollution-control solutions

6” #150 Hastelloy Flange Heater			
	KW	Immersion Length	Part Number**
10 W/in2 Hastelloy Flange with 12- Hastelloy Elements	8	28”	FH6AH12H8*28-4-BAAA
	12	39”	FH6AH12H12*39-4-BAAA
	14	46”	FH6AH12H14*46-4-BAAA
	16	52”	FH6AH12H16*52-4-BAAA
	18	58”	FH6AH12H18*58-4-BAAA
	20	64”	FH6AH12H20*64-4-BAAA

LS SERIES : L-SHAPED HEATERS

L-SHAPED IMMERSION HEATERS



Convenient, high-capacity heating for open-top tanks

Heatmax LS-Series heaters are installed from the top of an open tank, positioning multiple tubular elements near the bottom of the tank. Ideal for more uniform heat distribution and particularly useful for tanks with shallow or fluctuating liquid levels.

No threaded coupling or flanged connection is required. Horizontal heated length, vertical riser height, element count, sheath material, watt density and electrical configuration can be customized for the application.

NOTE: The LS-Series is our process heating range. For L-Shaped heaters designed for metal plating applications, consult Heatmax or refer to our Metal Plating Catalog.



AT A GLANCE	
120–600 V	Single- or three-phase
3-, 6-, 9- or 12-element configurations	Watt densities up to 48 W/in²
Custom horizontal and riser lengths	Type 4 and Type 4X enclosures
2 in. sludge legs standard	UL/CSA Listed configurations available

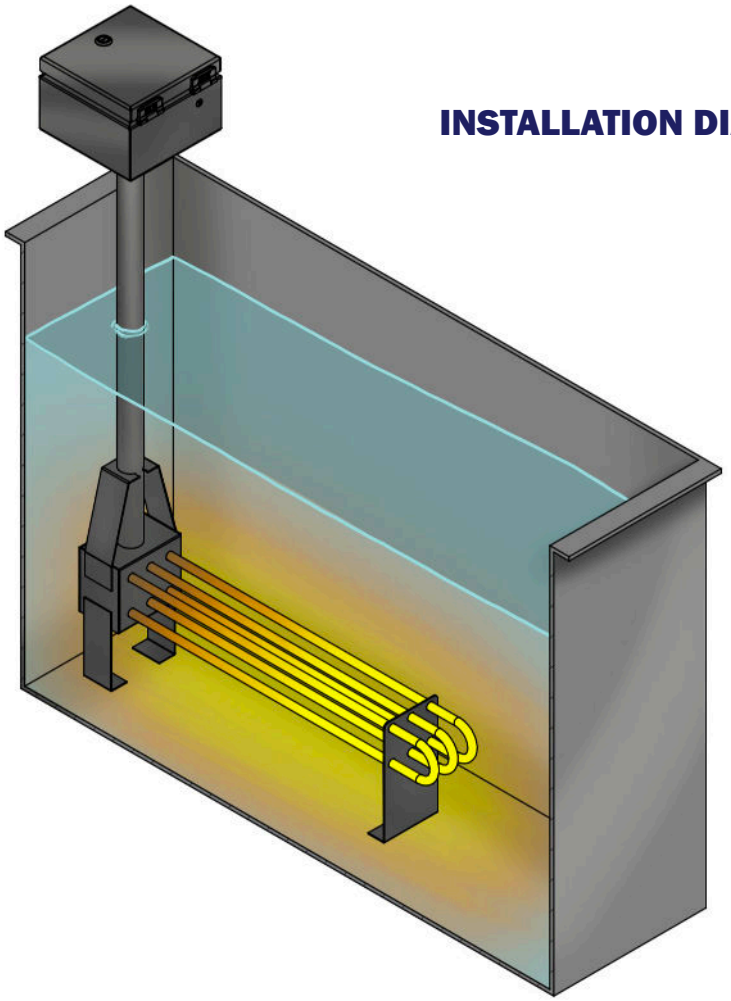
PERFORMANCE CAPABILITIES

- Watt densities up to 48 W/in².
- Wattages up to 39 kilowatts
- Voltages up to 600V. Single- and three-phase.
- UL Listed configurations available to meet U.S. / Canadian safety standards.

LS SERIES : L-SHAPED HEATERS

FEATURES AND BENEFITS

- **Three-, six-, nine- and twelve-element configurations** provide a wide range of kilowatt capacities and installation footprints.
- **Two-inch sludge legs** keep the elements above sediment and deposits; increased leg heights are available.
- **Non-heated, wetted alloys that are compatible with element sheath materials:**
  Standard LS-Series: Incoloy® 800, 304 or 316L stainless steel elements with compatible 316 stainless steel wetted construction.
  All titanium configurations: Grade 2 titanium elements with other wetted metal surfaces.
- **Integral thermostats, thermowells and thermocouples** are available for process or high-limit sensing.
- **Type 4 and Type 4X terminal enclosures** provide protection for wet, wash-down and corrosive industrial environments.
- **Terminal-block connection and 1-inch NPT conduit hub** simplify field wiring.
- **Optional gooseneck extension** moves the terminal enclosure away from corrosive tank vapors.

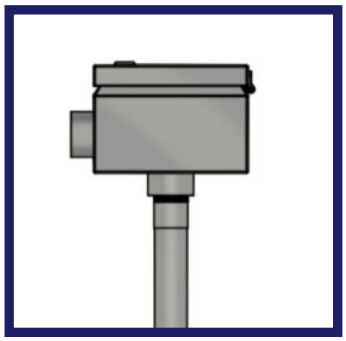


INSTALLATION DIAGRAM

NOTE:
While L-Shaped heaters are ideal for tanks with fluctuating liquid levels, the entire heated portion must remain fully immersed during operation as shown. High-limit or liquid-level protection is recommended where loss of solution or fluctuating liquid level could expose the elements.

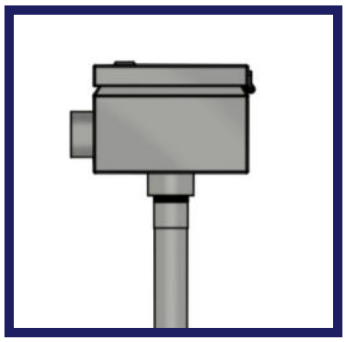
LS SERIES : L-SHAPED HEATERS

TERMINAL ENCLOSURE TYPES



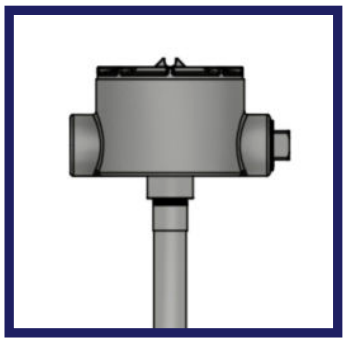
Type 4 – Moisture Resistant

6” x 6” x 4” painted steel enclosure designed for applications requiring protection from water ingress. Optional thermostat configurations available.



Type 4X – Corrosion Resistant

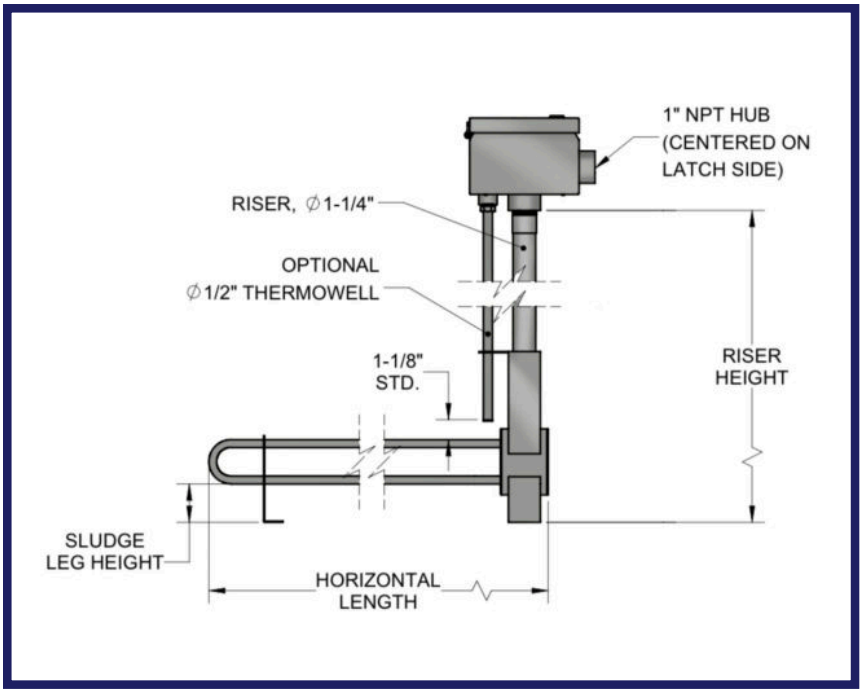
6” x 6” x 4” stainless steel enclosure intended for outdoor or corrosive industrial environments. Optional thermostat configurations available.



Cast Enclosure

Moisture resistant heavy-duty cast enclosure option available for selected applications and configurations. Consult Heatmax for hazardous-location requirements.

LS SERIES : L-SHAPED HEATERS



THERMOSTAT OPTIONS

Built-in single- or double-pole thermostats may be wired directly in line with the heater where their electrical rating permits. For higher-amperage heaters, the thermostat can provide pilot-duty control through an appropriate contactor.

THERMOSTAT OPTIONS *Thermostats available with riser lengths up to 59" maximum.*	
1-POLE OPTIONS	2-POLE OPTIONS
30-120 °F	0-100 °F
60-250 °F	60-250 °F
150-600 °F	100-550 °F

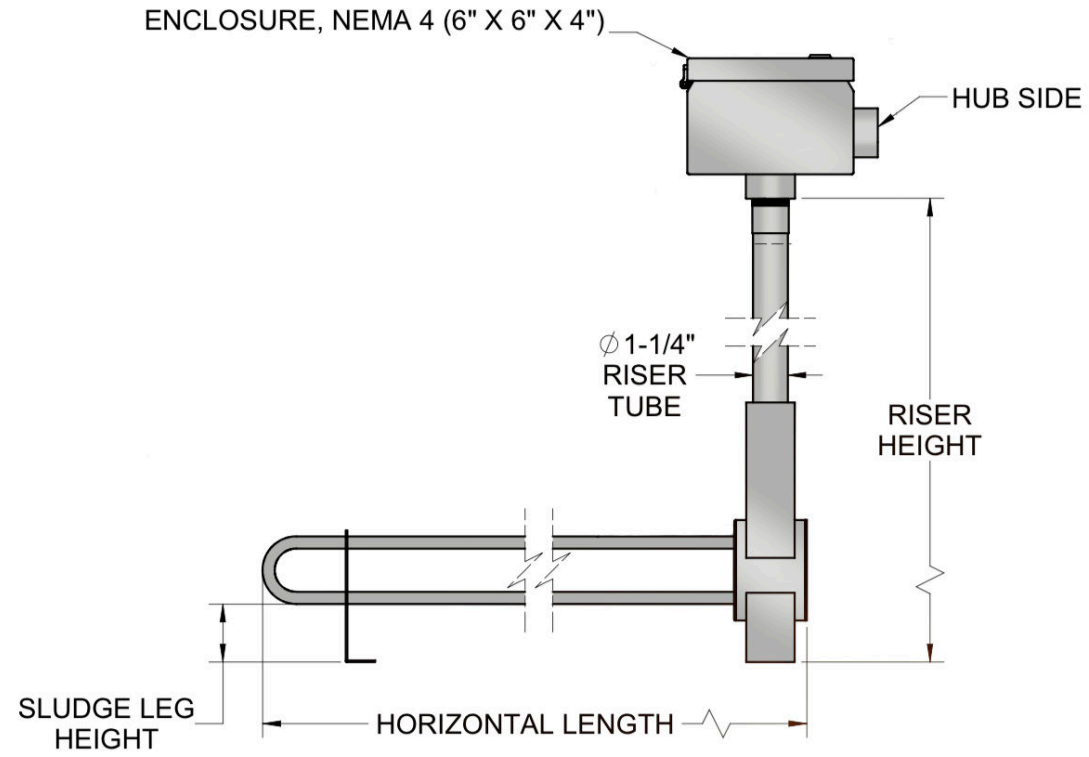
THERMOCOUPLES

Type J and Type K thermocouples are available for process-temperature or high-limit sensing. Sensors are supplied with lead wires for connection to an appropriate temperature controller.

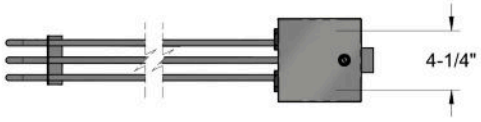
WATTAGES AND VOLTAGES

Heatmax routinely provides immersion heaters with 120 to 600V as well as wattages from 2 to 39kW. If required, Heatmax will configure custom wattage and voltage configurations within electrical limitations. For more information please consult your Heatmax representative.

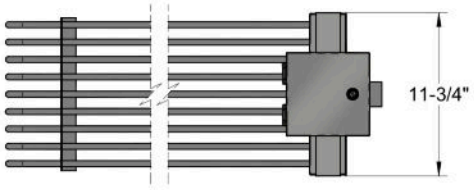
LS SERIES : L-SHAPED HEATERS



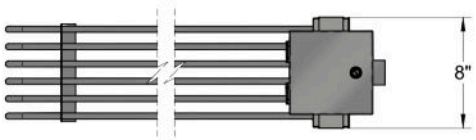
TOP VIEW: LS3



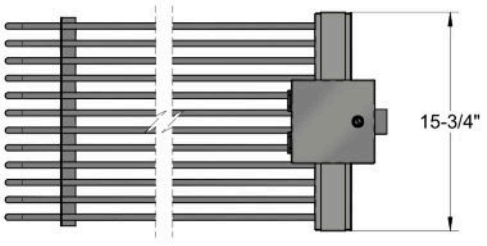
TOP VIEW: LS9



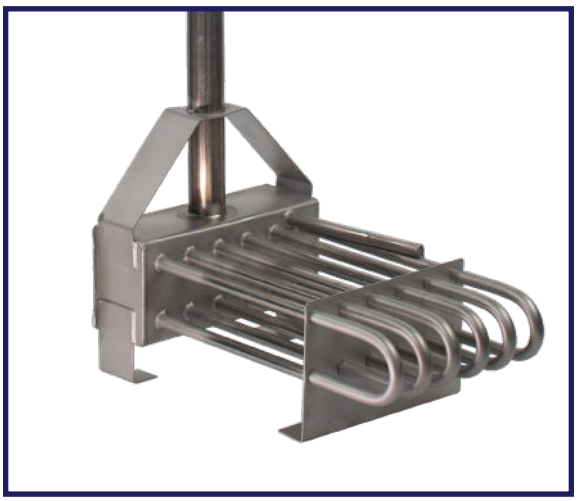
TOP VIEW: LS6



TOP VIEW: LS12



LS SERIES : L-SHAPED HEATERS



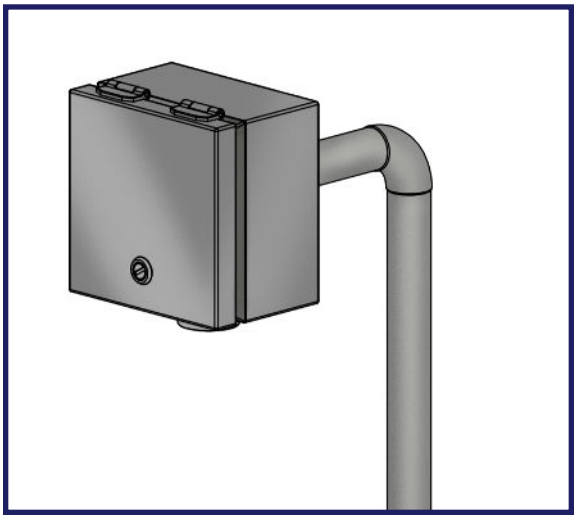
FEATURED CONFIGURATION: HIGH-CAPACITY, MULTI-ELEMENT

Six-, nine-, and twelve-element configurations provide increased kilowatt capacity without requiring multiple separate heaters. They are well suited to shallow tanks, restricted installation areas and processes requiring rapid heat-up or high operating temperatures.

FEATURED CONFIGURATION: VERTICAL STACKED ELEMENT

Designed for applications where the user wants to put the heat along the side of the tank these configurations are useful for applications that need to keep sufficient clearance at the bottom of a tank but still want to keep the elements as close to the bottom as possible.





FEATURED CONFIGURATION: GOOSENECK ENCLOSURE

Available for applications where users want to remove the enclosure from the path of any corrosive vapors.

LS SERIES : L-SHAPED HEATERS

LS SERIES : L-SHAPED HEATERS

SELECTING AN LS SERIES HEATER

LS-Series selection begins with the solution chemistry, concentration and operating temperature. These conditions determine the appropriate element sheath alloy and maximum watt density. Tank dimensions and liquid level determine the horizontal heated length, riser height and sludge-leg clearance. The required kilowatt capacity then determines whether a 3-, 6-, 9- or 12-element configuration is most appropriate.

Lower watt densities are generally recommended for viscous, scaling, solids-bearing or temperature-sensitive solutions. Consult Heatmax for corrosive or mixed chemistries, flammable liquids, uncertain solution composition or applications subject to sludge accumulation.

LS-SERIES STANDARD CONFIGURATION

The following part numbers leave voltage blank, denoted by asterisk (*).

Vertical riser height code is left blank, denoted by double asterisk (**). LS Series riser heights are measured in inches from bottom of heater sludge leg to the bottom of the terminal enclosure. Reference diagram on top of pg. 48. Specify riser height when ordering and your Heatmax representative will complete the part number with the appropriate number code.

All LS Series part numbers are standard coded for (3) elements. Larger (6), (9), and (12) element configurations are available. Consult factory.

48 WPSI / Incoloy® 800 for Process and Clean Water
35 WPSI / Titanium for Salt Water, Brine, and Selected Chloride Solutions
23 WPSI / 304 for Light Weight Oils, Hydraulic Oils, Heat Transfer Oils
15 WPSI / 304 for Medium Weight Oils, and Heat Transfer Solutions

LS SERIES : L-SHAPED HEATERS

Application: Process Water

LS3 L-Shaped Heater			
	KW	Horizontal Length	Part Number
48 W/in2 with 3-Incoloy 800 Elements	2	10"	LS3N2*10R**S2-N4
	3	12-1/2"	LS3N3*12BR**S2-N4
	4	15"	LS3N4*15R**S2-N4
	5	18"	LS3N5*18R**S2-N4
	6	20-1/2"	LS3N6*20BR**S2-N4
	8	26"	LS3N8*26R**S2-N4
	10	31"	LS3N10*31R**S2-N4
	12	36"	LS3N12*36R**S2-N4

Application: Salt Water, Brine and Selected Chloride Solutions

LS3 L-Shaped Heater			
	KW	Horizontal Length	Part Number
35 W/in2 with 3-Titanium Elements	2	17"	LS3T2*17R**S2-N4
	3	22"	LS3T3*22R**S2-N4
	4	26"	LS3T4*26R**S2-N4
	5	31"	LS3T5*31R**S2-N4
	6	36"	LS3T6*36R**S2-N4
	8	44"	LS3T8*44R**S2-N4
	10	55"	LS3T10*55R**S2-N4
	12	64"	LS3T12*64R**S2-N4

LS SERIES : L-SHAPED HEATERS

Application: Lightweight Oils, Hydraulic Oils, Heat Transfer Oils

LS3 L-Shaped Heater			
	KW	Horizontal Length	Part Number
23 W/ in2 with 3-304S.S. Elements	2	15"	LS3F2*15R**S2-N4
	3	21"	LS3F3*21R**S2-N4
	4	27"	LS3F4*27R**S2-N4
	5	32"	LS3F5*32R**S2-N4
	6	38"	LS3F6*38R**S2-N4
	8	48"	LS3F8*48R**S2-N4
	10	59"	LS3F10*59R**S2-N4

Application: Medium Weight Oils, Heat Transfer Oils

LS3 L-Shaped Heater			
	KW	Horizontal Length	Part Number
15 W/ in2 with 3-304S.S. Elements	2	21"	LS3F2*21R**S2-N4
	3	29"	LS3F3*29R**S2-N4
	4	37"	LS3F4*37R**S2-N4
	5	45"	LS3F5*45R**S2-N4
	6	54"	LS3F6*54R**S2-N4
	8	69"	LS3F8*69R**S2-N4

**All part numbers leave voltage code blank. Specify required voltage when ordering, and your Heatmax representative will complete the part number with the appropriate letter code.*

*** Vertical riser height code is left blank. See pg. 51.*

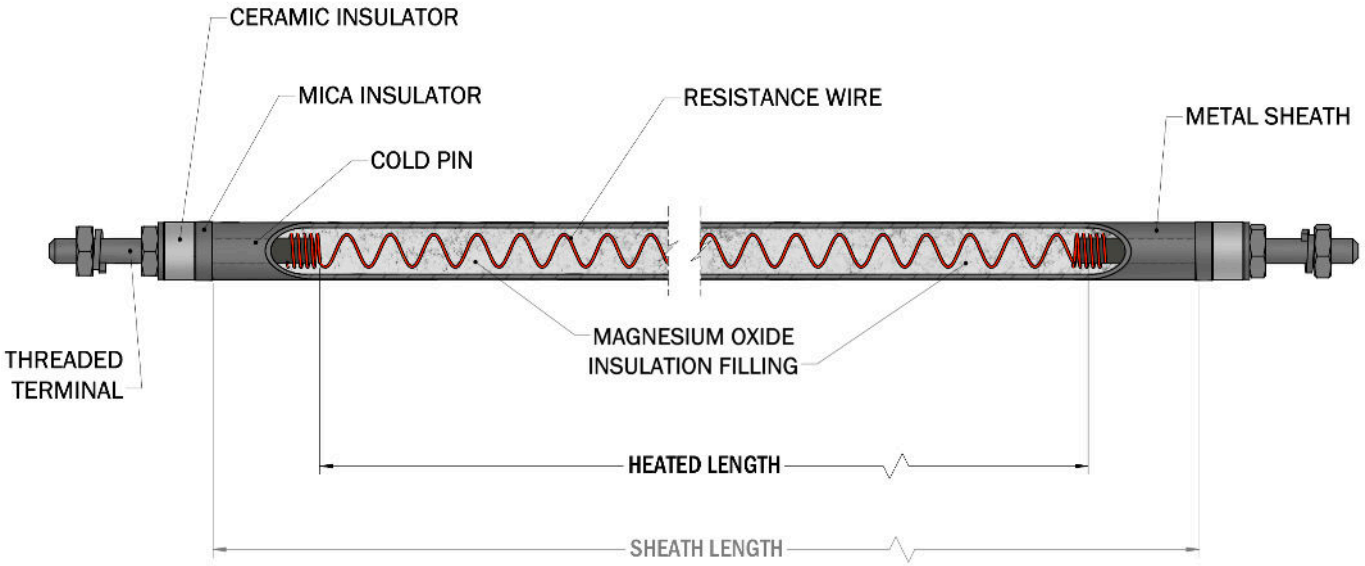
TUBULAR HEATING ELEMENTS

CUSTOM-FORMED TUBULAR ELEMENTS

A heater is only as reliable as the elements inside it. Heatmax manufactures tubular heating elements using precision-wound nickel-chromium resistance wire, compacted magnesium oxide insulation and durable metal sheaths selected for the application. Available in straight, U-shaped and custom-formed configurations, Heatmax tubular elements can be engineered for heating liquids, air, gases and other industrial equipment and process applications. Wattage, voltage, watt density, sheath material, element diameter, heated length, cold sections, bend formation and termination style can all be customized.



AT A GLANCE	
500–18,000 W	120–600 V
Single-phase only	Up to 60 W/in²
0.315, 0.430/0.440 in. diameters	Straight, U-shaped and custom formations
Multiple sheath-material options	UL Recognized configurations available



TUBULAR HEATING ELEMENTS

FEATURES AND BENEFITS

- **Rugged tubular construction** protects the resistance coil from the heated medium and provides excellent mechanical durability.
- **Precision-wound nickel-chromium resistance wire** distributes heat consistently along the heated section.
- **Compacted magnesium oxide insulation** provides electrical isolation while efficiently transferring heat to the sheath.
- **Welded cold-pin construction** provides a durable electrical connection between the resistance wire and terminal.
- **Multiple element diameters** accommodate different wattages, bend radii, installation spaces and operating conditions.
- **Application-specific sheath materials** provide options for water, oils, air, gases and corrosive process solutions.
- **Custom heated and unheated sections** position heat where it is needed while protecting terminals and mounting points.
- **Extensive forming capabilities** allow elements to be configured around tanks, ducts, molds, plates and equipment components.
- **Multiple termination and mounting options** simplify integration into new equipment or replacement applications.
- **Optional moisture seals** help protect element ends from humidity and process contamination.
- **UL Recognized configurations** available to meet U.S. / Canadian safety standards.

AVAILABLE SHEATH MATERIALS	
Sheath material	**Typical service considerations**
Copper	Clean water, heat transfer applications
304 Stainless Steel	Oils
316 Stainless Steel	Water, food equipment and general industrial service
Incoloy® 840	High-temperature air and gas
Incoloy® 800	Selected oxidizing and corrosive solutions
Grade 2 Titanium	Chloride and salt water applications
Hastelloy® C-276	Severe acid and chemical service

Material suitability depends on the complete solution chemistry, concentration, operating temperature and potential for scale or deposits. Consult Heatmax for corrosive or mixed-chemistry applications

TUBULAR HEATING ELEMENTS

DESIGN CAPABILITIES

Element Diameters

- 0.315 in.
- 0.430/0.440 in.

Element Formations (see pg. 58)

- Straight
- U-Shaped
- Hairpin and Multi-Hairpin
- Circular
- Custom formations from customer drawings, samples, or equipment dimensions.

Termination Options (see details on pg. 57)

- Threaded studs with standard hardware
- Screw lugs
- Flexible TGGT lead wires
- Custom Lead lengths and termination arrangements

Mounting Options (see right detail and pg. 57)

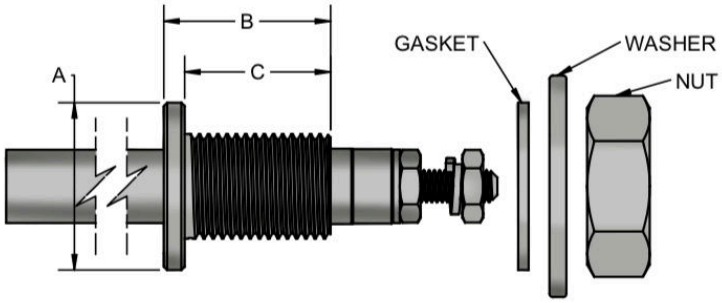
- Threaded bulkheads
- Mounting plates and brackets
- Single-leg brackets
- Locator washers
- Customer-specified fittings and hardware

END-SEAL OPTIONS

Seal Option	Maximum Published Seal Temperature
Epoxy	*194°F (90°C)*
Silicone RTV	*392°F (200°C)*
High-temperature silicone	*500°F (260°C)*

Seal Temperature refers to the temperature at the element termination, not the heated process or element sheath.

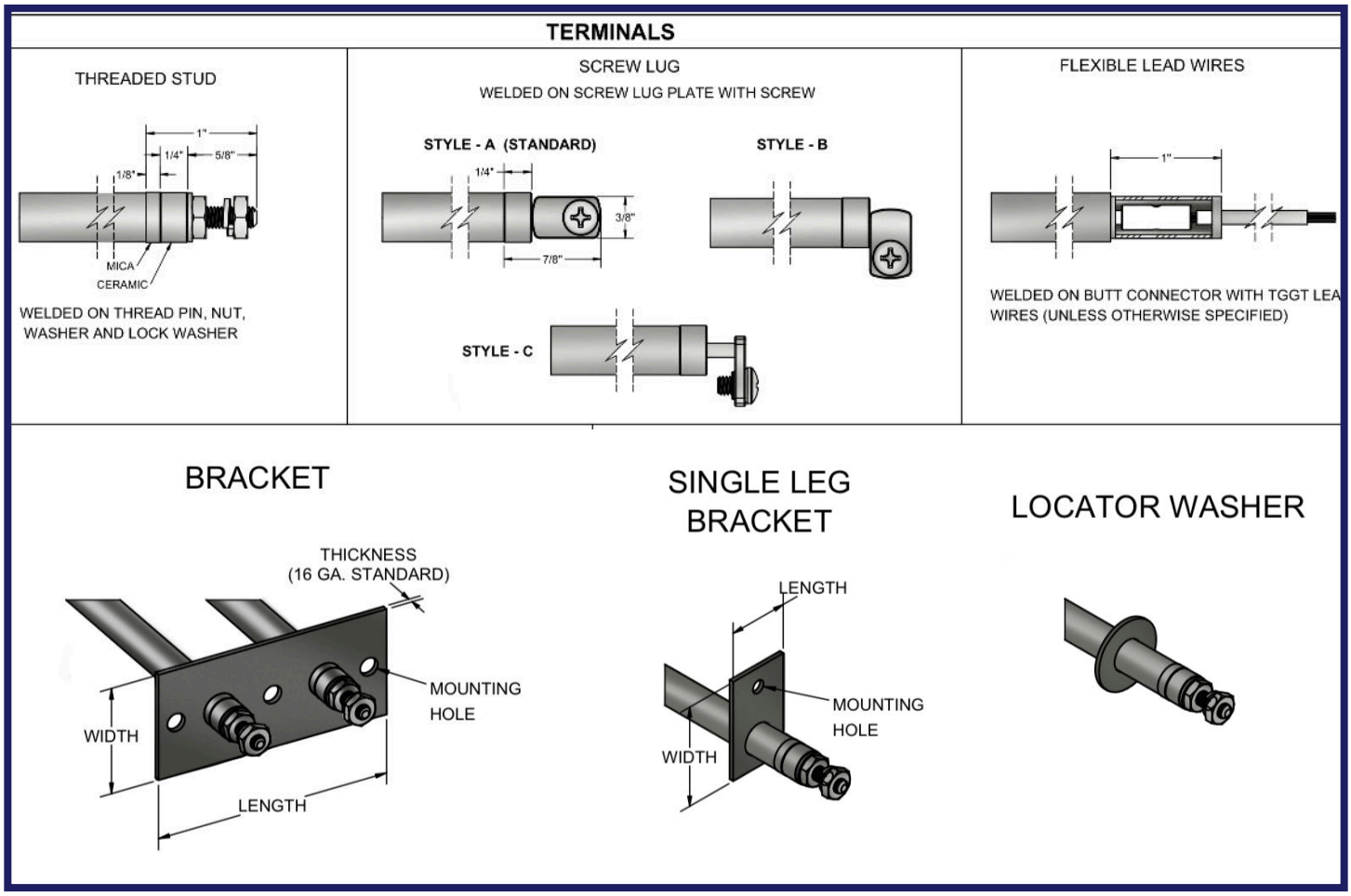
THREADED BULKHEADS



THREADED BULKHEAD SPECIFICATIONS

ELEMENT DIA.	THREAD SIZE	A FLANGE SIZE/STYLE	B OVERALL LENGTH	C THREADED LENGTH	STANDARD TERMINAL SIZE		
					THREADED STUD	SCREW LUG	FLEXIBLE LEAD WIRES
0.315”	*1/2-20 UNF*	*3/4” ROUND*	*7/8”*	*3/4”*	*#6-32*	*N/A*	*YES*
0.440”	*9/16-18 UNF*	*1” ROUND*	*1”*	*7/8”*	*#10-32*	*YES*	*YES*
	5/8-18 UNF	*1” ROUND*	*1”*	*7/8”*	*#10-32*	*YES*	*YES*
	3/4-16 UNF	*1” ROUND*	*1”*	*7/8”*	*#10-32*	*YES*	*YES*

TUBULAR HEATING ELEMENTS

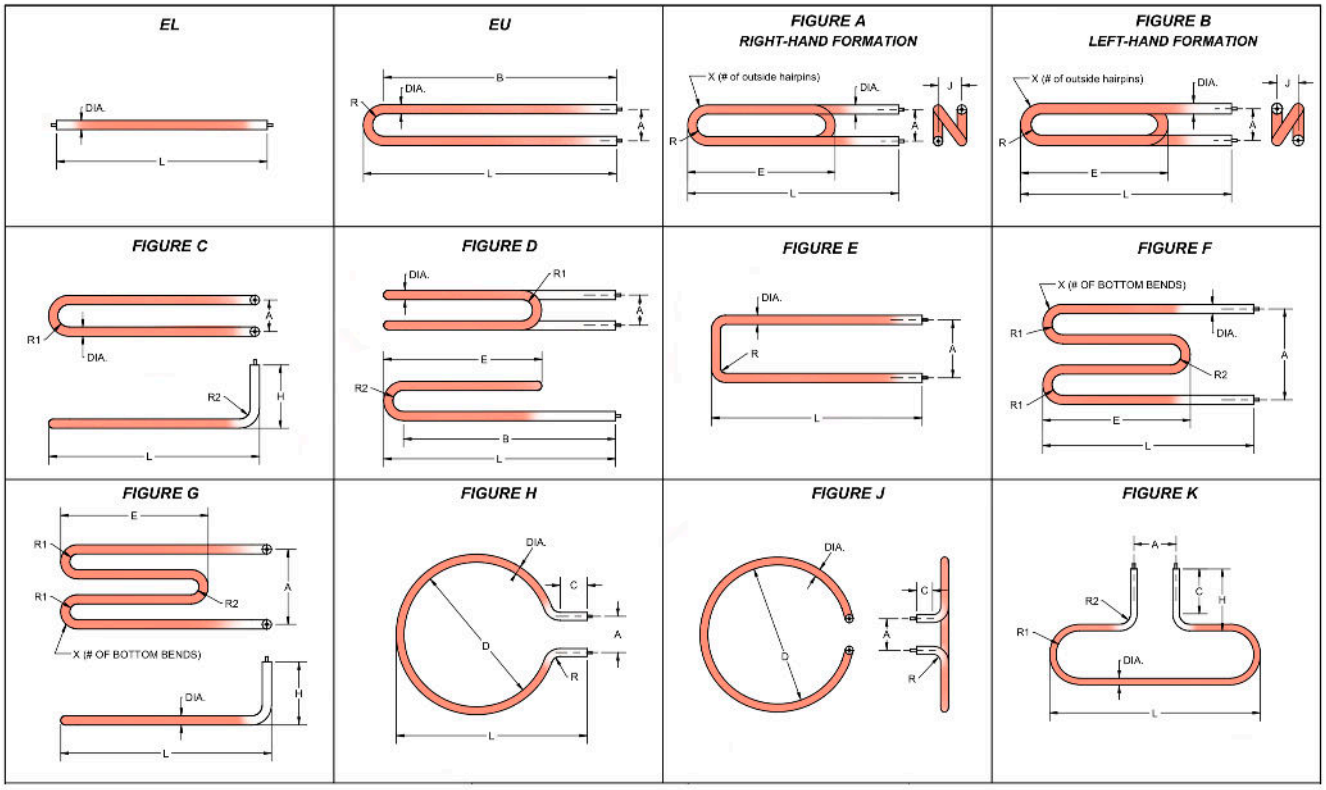


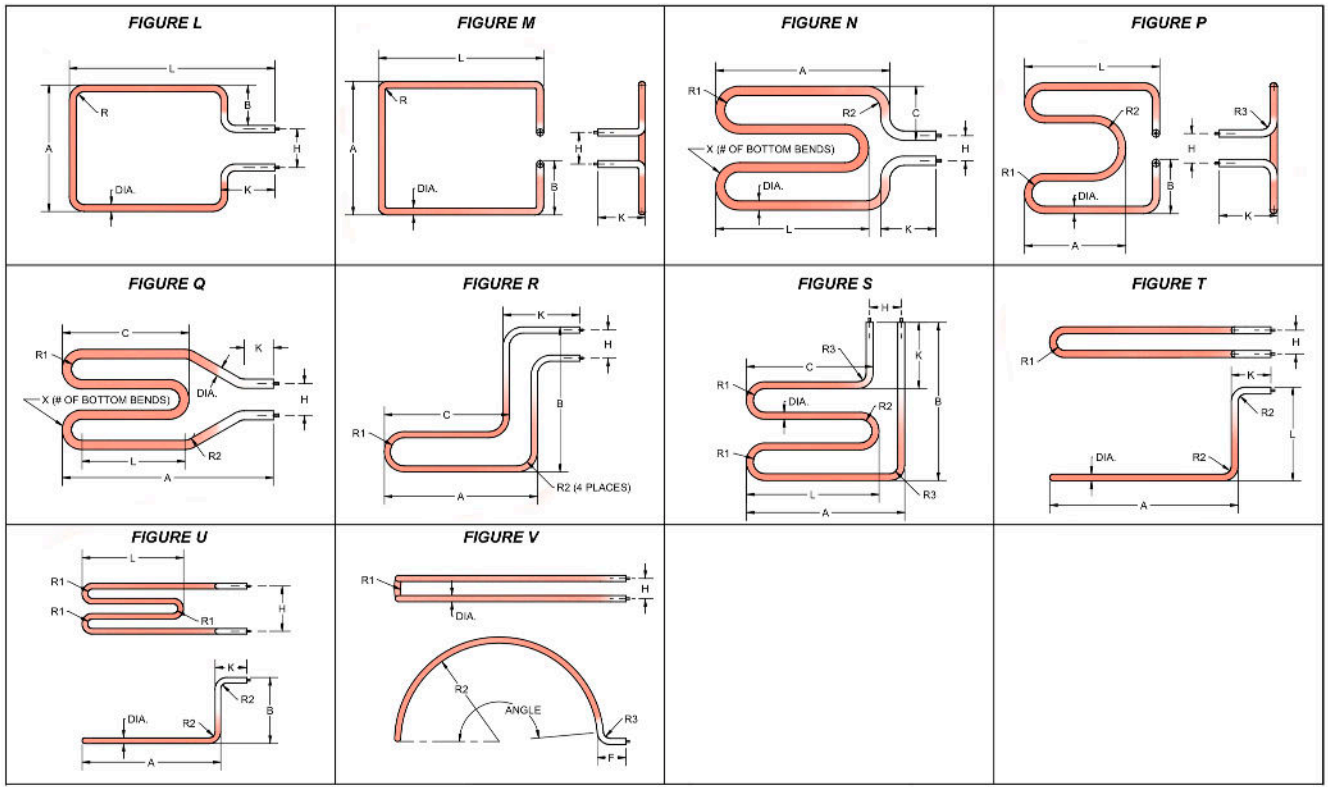
TYPICAL APPLICATIONS

- Immersion heating of liquids
- Industrial ovens and furnaces
- Duct air and gas heating
- Radiant and convection heating
- Humidifiers and steam-generating equipment
- Drying and curing systems
- Forming and packaging machinery
- Food-processing equipment
- Custom OEM heating assemblies

TUBULAR HEATING ELEMENTS

STANDARD ELEMENT BEND FORMATIONS





TUBULAR HEATING ELEMENTS

SELECTING A TUBULAR ELEMENT

Proper selection begins with the heated medium, required wattage and operating temperature. These conditions determine the appropriate sheath material, watt density and element diameter. Watt density—the heat produced per square inch of element surface—must be matched to the application. Lower watt densities are generally recommended for viscous, scaling, solids-bearing, stagnant or temperature-sensitive materials. Air and gas applications must also be evaluated based on airflow, inlet temperature and required outlet temperature.

The available installation space determines the element length, cold sections, bend radii and final formation. Mounting hardware, terminal style and moisture seals should then be selected according to the mechanical design and surrounding environment.

INFORMATION REQUIRED FOR QUOTATION

Please Provide:

- Heated material or process medium
- Operating and maximum temperatures
- Required wattage
- Voltage and phase
- Desired watt density, if known
- Element diameter
- Preferred sheath material
- Overall and heated lengths
- Required unheated or cold sections
- Bend-formation figure and dimensions
- Termination and lead-wire requirements
- Mounting or bulkhead requirements
- Seal requirements
- Quantity
- Required UL/CSA Recognition

Heatmax can also evaluate an existing element, customer drawing or equipment sample to develop a replacement or custom configuration.

DH SERIES : DUCT HEATERS

INDUSTRIAL DUCT HEATERS

Heatmax DH-Series duct heaters provide reliable electric heating for non-pressurized air and gas applications. Rugged 0.440 in. diameter Incoloy® 840 tubular elements are mounted to a heavy gauge steel flange for installation through the wall of a duct, oven or process-air system.

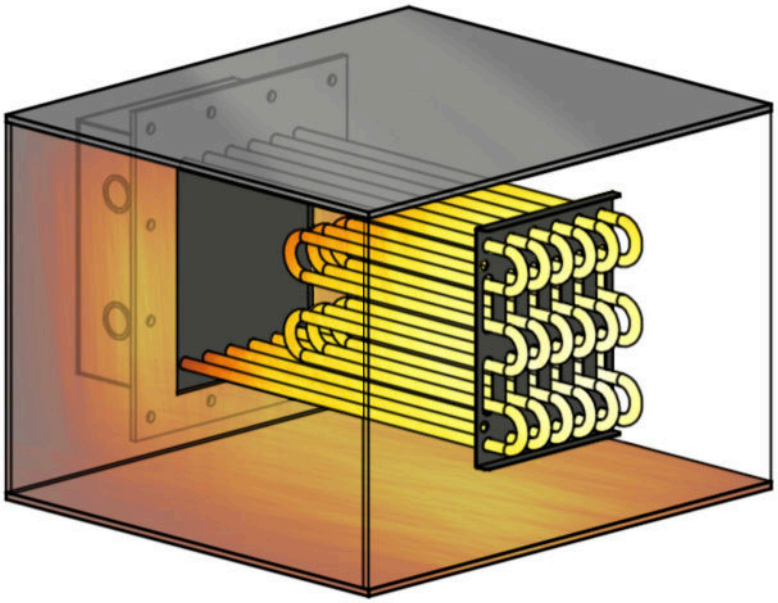


AT A GLANCE	
9–225 kW	120–600 V
Single or three-phase	0.440 in. Incoloy® 840 elements
Type 1 or Type 4 enclosures	Custom flange and insertion dimensions
Welded or replaceable elements	High-limit sensor options

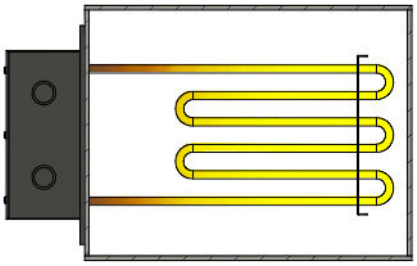
FEATURES AND BENEFITS

- **Rugged 0.440” diameter tubular-element construction** protects the resistance coil from the process air stream and provides greater mechanical durability than exposed open-coil designs.
- **Incoloy® 840 element sheaths** provide high-temperature strength and resistance to oxidation.
- **Application-specific watt densities** accommodate different airflow rates and operating temperatures.
- **Welded or field-replaceable elements** allow the construction to be matched to serviceability and cost requirements.
- **High-temperature terminal insulation** reduces heat transfer from the duct into the electrical enclosure. Standard insulation depth is 4”. Other depths available.
- **Type 1 and Type 4 terminal enclosures** are available for general-purpose or moisture-resistant installations.
- **Optional Type J or Type K thermocouples** provide sheath-temperature or over-temperature sensing.

INSTALLATION DIAGRAM



NOTE:
Horizontal mounting is recommended to reduce terminal enclosure temperature and promote heater life.



HIGH-TEMPERATURE CONFIGURATIONS

With an insulated terminal box, catalog duct heater configurations are available for:

- Process temperatures up to **800°F (427°C) at 20 W/in²**
- Process temperatures up to **750°F (399°C) at 30 W/in²**

Higher process temperatures are available but require custom design and, depending on airflow, potentially lower watt densities. Tubular heating elements sheath temperature should be kept below 1400°F in order to promote heater lifespan.

DH SERIES : DUCT HEATERS

TYPICAL APPLICATIONS

- Drying and curing ovens
- Paint-finishing systems
- Industrial process-air heating
- Heat-treating equipment
- Furnaces
- Reheating systems
- Plastics-processing equipment
- Load banks
- Industrial HVAC systems

ADVANTAGES OF ELECTRIC DUCT HEATING

DH-Series heaters offer several advantages over combustion-fired and open-coil heating systems:

- Precise temperature control and staging
- Durable, sheathed heating elements
- Flexible voltage, phase and circuit configurations
- No fuel supply, burners or flue required
- No combustion products introduced into the air stream
- Fast response to control inputs

SELECTING A DH SERIES HEATER

Proper selection begins with the required airflow, inlet temperature, outlet temperature and kilowatt capacity. These conditions determine the appropriate element watt density, insertion length and circuit arrangement.

Airflow must be distributed uniformly across the heating elements, and the heater must not operate without the minimum design airflow. High-limit protection and an airflow-proving interlock are recommended for every installation.

For quotation, provide:

- Duct flange or mounting dimensions,
- Required kilowatts,
- Voltage and Phase,
- Airflow in CFM,
- Available insertion length,
- Desired enclosure type.

DH SERIES : DUCT HEATERS

High Temperature Service - Nominal 20 W/in²						
Elements	kW	Volts	Circuits	Insertion Length	Flange Dim.	Part Number
3	9	240, 3-PH	1	23-1/2”	12” X 7-1/2”	DH12A3E923B-BBAAA
3	9	480, 3-PH	1	23-1/2”	12” X 7-1/2”	DH12A3M923B-BBAAA
6	18	240, 3-PH	1	23-1/2”	12” X 10-1/2”	DH12A6E1823B-BBAAA
6	18	480, 3-PH	1	23-1/2”	12” X 10-1/2”	DH12A6M1823B-BBAAA
9	27	240, 3-PH	3	23-1/2”	12” X 13-1/2”	DH13.5A9E2723B-BBAAA
9	27	480, 3-PH	1	23-1/2”	12” X 13-1/2”	DH13.5A9M2723B-BBAAA
12	36	240, 3-PH	2	23-1/2”	12” X 16-1/2”	DH16.5A12E3623B-BBAAA
12	36	480, 3-PH	1	23-1/2”	12” X 16-1/2”	DH16.5A12M3623B-BBAAA
15	45	240, 3-PH	5	23-1/2”	12” X 19-1/2”	DH19.5A15E4523B-BBAAA
15	45	480, 3-PH	5	23-1/2”	12” X 19-1/2”	DH19.5A15M4523B-BBAAA
18	54	240, 3-PH	3	23-1/2”	12” X 22-1/2”	DH22.5A18E5423B-BBAAA
18	54	480, 3-PH	3	23-1/2”	12” X 22-1/2”	DH22.5A18M5423B-BBAAA
21	63	240, 3-PH	7	23-1/2”	12” X 25-1/2”	DH25.5A21E6323B-BBAAA
21	63	480, 3-PH	7	23-1/2”	12” X 25-1/2”	DH25.5A21M6323B-BBAAA
27	79	480, 3-PH	3	23-1/2”	12” x 31-1/2”	DH31.5A27M7923B-BBAAA
36	105	480, 3-PH	3	23-1/2”	12” x 40-1/2”	DH40.5A36M10523B-BBAAA
45	131	480, 3-PH	5	23-1/2”	12” x 49-1/2”	DH49.5A45M13123B-BBAAA
54	150	480, 3-PH	6	23-1/2”	12” x 58-1/2”	DH58.5A54M15023B-BBAAA

Medium Temperature Service - Nominal 30 W/in²						
Elements	kW	Volts	Circuits	Insertion Length	Flange Dim.	Part Number
3	14	240, 3-PH	1	23-1/2”	12” X 7-1/2”	DH12A3E1423B-BBAAA
3	14	480, 3-PH	1	23-1/2”	12” X 7-1/2”	DH12A3M1423B-BBAAA
6	27	240, 3-PH	3	23-1/2”	12” X 10-1/2”	DH12A6E2723B-BBAAA
6	27	480, 3-PH	1	23-1/2”	12” X 10-1/2”	DH12A6M2723B-BBAAA
9	41	240, 3-PH	3	23-1/2”	12” X 13-1/2”	DH13.5A9E4123B-BBAAA
9	41	480, 3-PH	3	23-1/2”	12” X 13-1/2”	DH13.5A9M4123B-BBAAA
12	54	240, 3-PH	4	23-1/2”	12” X 16-1/2”	DH16.5A12E5423B-BBAAA
12	54	480, 3-PH	2	23-1/2”	12” X 16-1/2”	DH16.5A12M5423B-BBAAA
15	68	240, 3-PH	5	23-1/2”	12” X 19-1/2”	DH19.5A15E6823B-BBAAA
15	68	480, 3-PH	5	23-1/2”	12” X 19-1/2”	DH19.5A15M6823B-BBAAA
18	80	480, 3-PH	3	23-1/2”	12” X 22-1/2”	DH22.5A18M8023B-BBAAA
21	95	480, 3-PH	7	23-1/2”	12” X 25-1/2”	DH25.5A21M9523B-BBAAA
27	120	480, 3-PH	9	23-1/2”	12” x 31-1/2”	DH31.5A27M12023B-BBAAA
36	160	480, 3-PH	6	23-1/2”	12” x 40-1/2”	DH40.5A36M16023B-BBAAA
42	200	480, 3-PH	7	23-1/2”	12” x 46-1/2”	DH46.5A42M20023B-BBAAA
54	225	480, 3-PH	6	23-1/2”	12” x 58-1/2”	DH58.5A54M22523B-BBAAA

WARRANTY AND RETURNS

WARRANTY COVERAGE

Heatmax warrants its electric immersion heaters and controls to be free from defects in materials and workmanship under normal use and service. Unless otherwise stated, heaters are warranted for **twelve (12) months from the date of shipment.**

This warranty applies only when products are:

- Properly specified for the application
- Installed and operated in accordance with Heatmax recommendations
- Used within material, electrical, and temperature limits

At its discretion, Heatmax will repair or replace any product found to be defective during the warranty period.

WARRANTY EXCLUSIONS

This warranty does **not** cover failures resulting from:

- Improper application or incorrect material selection
- Exposure to incompatible or undisclosed chemicals or higher concentrations
- Operation above rated voltage, or temperature limits
- Dry firing, low liquid level operation, or insufficient liquid coverage
- Improper installation, wiring, or maintenance
- Normal wear, corrosion, scaling, or buildup associated with the process solution

Heatmax is not responsible for consequential damages, downtime, or labor costs associated with removal or installation.

RETURN POLICY

Most Heatmax products are built to order and are not returnable without prior authorization.

- All returns require a Return Material Authorization (RMA) number issued by Heatmax.
- Unauthorized returns will not be accepted.
- Custom or modified heaters are generally non-returnable.

WARRANTY AND RETURNS

WARRANTY EVALUATION AND RMA PROCESS

If a heater or control is suspected to be defective:
1. Contact Heatmax with the part number, serial number, and application details
2. Basic troubleshooting may be required prior to return authorization
3. If approved, an RMA number and return instructions will be provided

No material should be returned without an RMA number clearly marked on the shipment.

FREIGHT & LIABILITY

Products returned for warranty evaluations must be shipped freight prepaid unless otherwise authorized. Heatmax assumes no responsibility for damage incurred during transit.

CONTACT & SUPPORT

For pricing, lead times, and ordering, please contact: sales@heatmaxusa.com

For application support, safety questions, or warranty evaluation, Heatmax technical assistance is available to support both customers and authorized partners.
Email: info@heatmaxusa.com

HEATMAX HEATERS
Mentor, Ohio, USA

Technical Support & Product Information:
www.heatmaxusa.com

CATALOG PH-2026-11-12