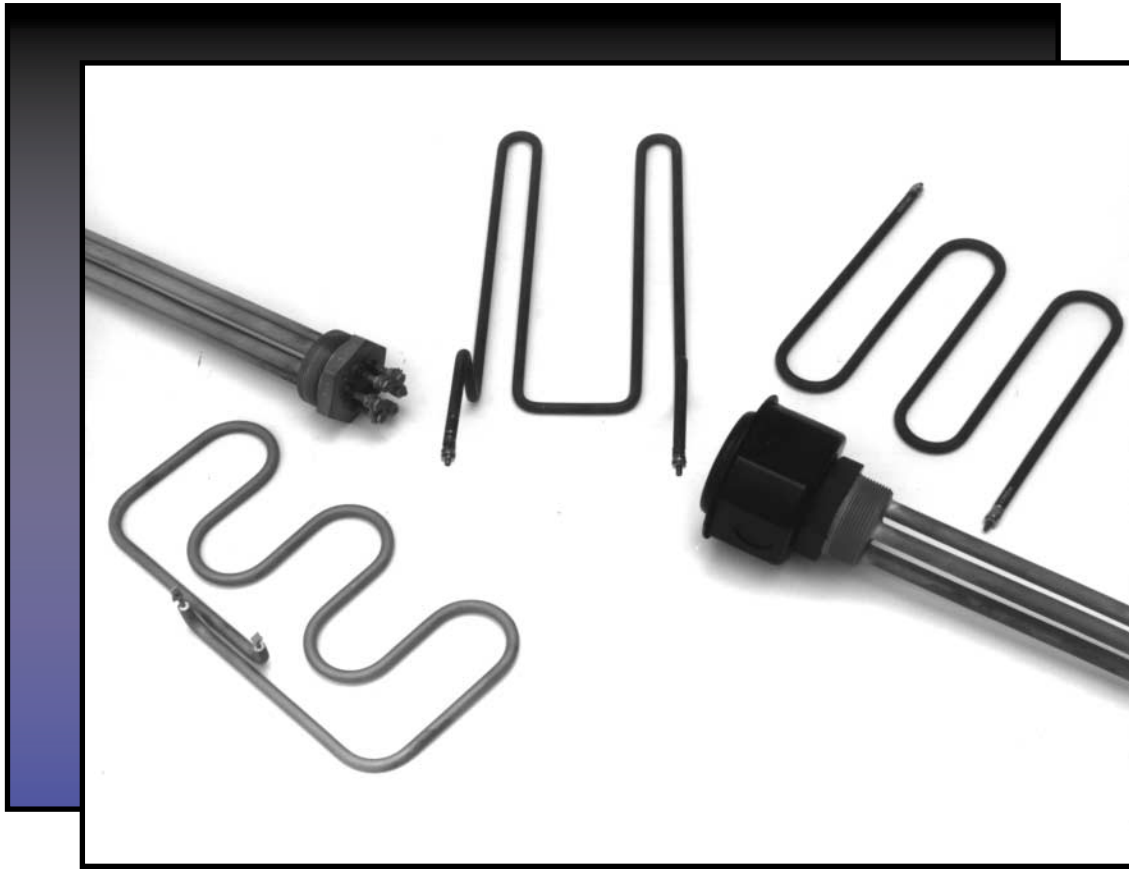


Tubular, Immersion, Screw-in and Flanged Heaters RAMA[®]TUBULAR



- Straight or bent to customer specifications
- Precision shapes, CAD engineered
- Largest custom manufacturer on the West Coast
- Order-to-delivery time is the fastest in the industry

Proheat

sales@proheat.net
techhelp@proheat.net

117 East Adam St.
P.O. Box 48
La Grange, KY 40031

Free: 800.626.2142
Tel: 502.222.1402
Fax: 502.222.0714

RAMA® TUBULAR

Rama's tubular heating elements can be applied to many industrial uses. Constructed from the highest quality materials, they meet stringent application requirements ranging from use in general industry to space age technology to nuclear power plants. These heaters offer the best quality product in the industry.

DESIGNED FOR VERSATILITY

Fully annealed for easy forming
Elements can be brazed or welded
Shapes range from simple to complex

ENGINEERED FOR STRENGTH

Our heaters can heat products ranging from:

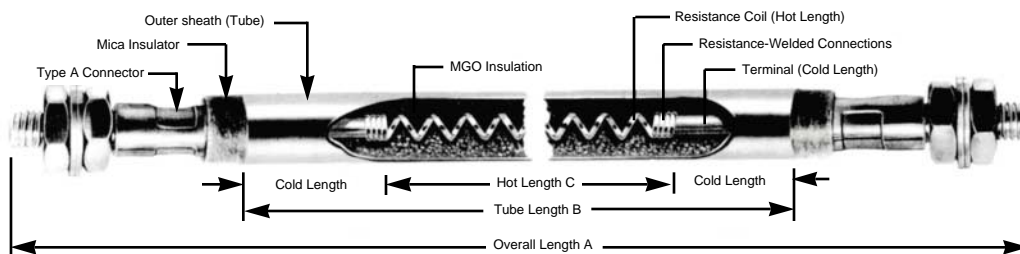
- Oil
 - Water
 - Plastics
 - Metals
 - Industrial gases
 - Process Air
- and much more...

MANUFACTURED FOR QUALITY

Precision wound resistors
Standard or profiled heat distribution
Magnesium oxide (MgO) compaction to the highest physical density

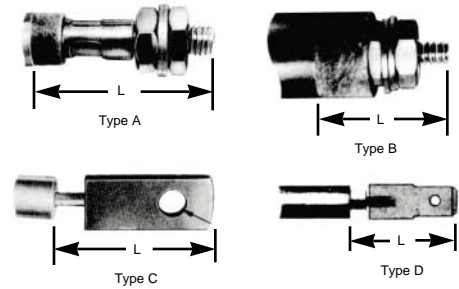
Specifications & Construction

Heater Dia. (inch)	Sheath Material	Max. Temp (F°)	Max. Volts	Resistance (O/I) measured cold		Terminal Configuration
				Min.	Max.	
.165 ± .003	Steel Stainless	750 1600	120	.45	8.3	C,D
.215 ± .003	Stainless Incoloy	1600 1700	120	.17	7.5	A,B,C,D
.245 ± .005	Incoloy	1700	240	.17	7.5	A,B,C,D
.315 ± .005	Copper Steel Stainless Incoloy	350 750 1600 1700	240	.10	5.0	A,B,C,D
.375 ± .005	Incoloy	1700	240	.07	4.7	A,B,C,D
.440 ± .005	Copper Steel	350 750	480	.07	4.7	A,B,C,D
.490 ± .005	Stainless Incoloy	1600 1700	480	.07	4.7	A,B,C,D



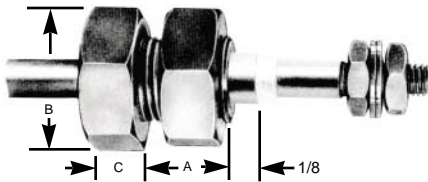
Standard Terminals

Heater Dia. (in)	Terminal Dimension L (inch)			
	Type A	Type B	Type C	Type D (max)
.165	with stainless or nickel plated steel nuts & washers. butt connector or standard		3/4	1
.215 to .250	1-1/8 10-32	3/4 6-32	3/4	1
.315	1-1/8 10-32	3/4 8-32	3/4	1
.440	1-1/4 10-32	3/4 8-32	1(max)	1
.490	1-1/4 10-32	7/8 8-32*	1(max)	1
Material	Steel, Brass or Stainless	Stainless (th'd terminal pin)	Stainless Steel	Nickel-plated Steel



*20A or higher, use 10-32

Bushings

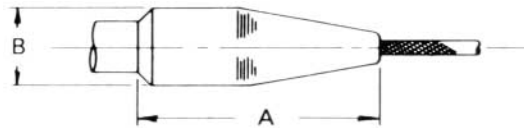


Htr Dia (in)	Dimensions (in)			Thread Size	Material
	A	B	C		
.315 or less	3/4	0.911	5/16	1/2-20	Steel
.440	1	1.263	1/2	3/4-16	
.440/.490				3/4-10	Stainless

Seals

Silicone Rubber Molded

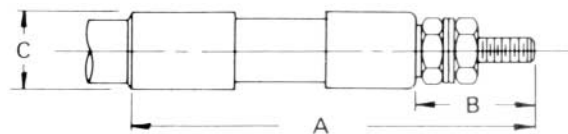
Heater Dia. (in.)	Dimension (In.)	
	A (Max)	B (Max)
.165 to .215	1.750	.375
.245 to .315	1.750	.500
.440 to .490	1.750	.750



Ceramic-to-metal

Hermetic ceramic-to-metal seals are available where temperatures up to 1000⁰ F are reached in the seal area. Nuts and washers are provided.

Heater Dia. (in.)	Dimension (in.)			THD	Ratings	
	A	B	C		Volts	Amps
.215	1.625	.437	.281	8-32	1000	20
.245	1.625	.437	.281	8-32	1000	20
.315	1.875	.437	.361	10-32	1500	30
.440	2.125	.687	.481	1/4-28	2500	60
.490	2.125	.687	.521	1/4-28	2500	60



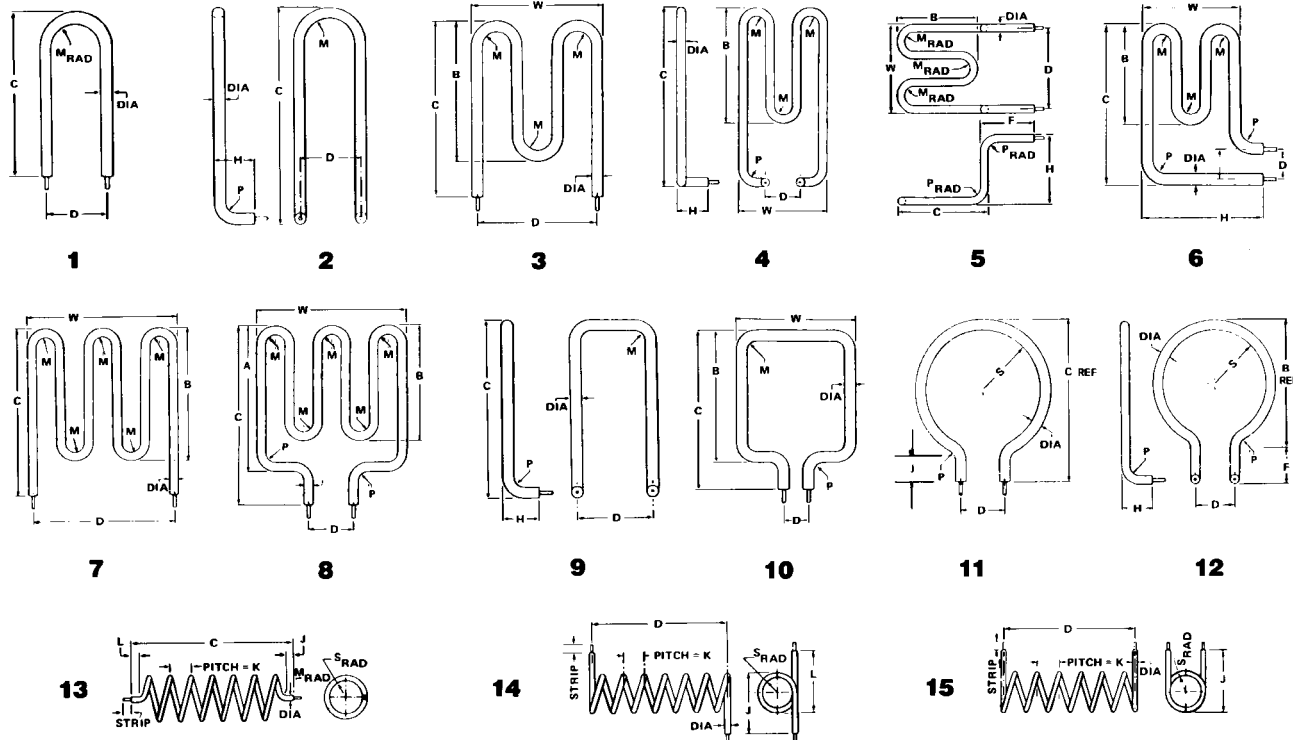
Special

RAMA can provide special epoxy seals, silicone varnish, or RTV seals under the mica insulator to meet customer requirements for moisture barriers where high humidity is present.

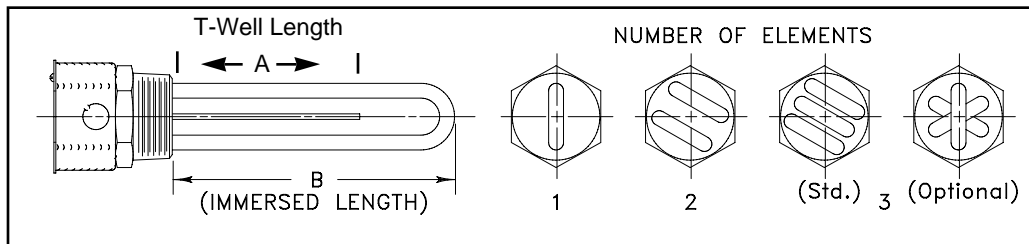
Tubular Heater Bend Configurations

Rama is equipped to bend heating elements in simple or complex shapes. The following are examples of bends, refer to these when ordering or preparing drawings and specifications. Customers who wish to bend heaters should bend heaters over a mandrel whose radius is greater than the heater diameter and never bend a hot-cold junction.

Heater Diameter (Inch)	.165	.215	.245	.315	.562	.625
Bend Radius (Inch)	1/4	5/16	3/8	7/16	9/16	5/8

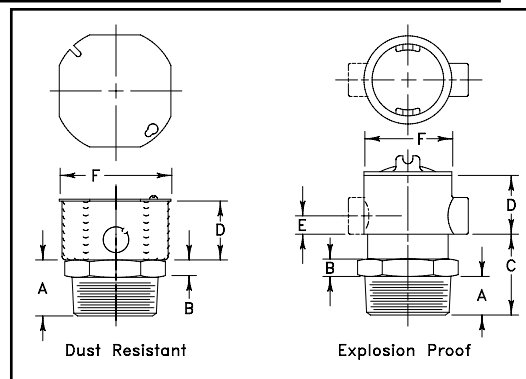


Screw-in Immersion



The most efficient method of electrically heating water, oil or other fluids is by using RAMA immersion heaters. Our heaters are made from the best quality materials and can be used in any containment vessel. Thermowells can be supplied for controller sensors.

Standard Terminal Covers



Flanged Immersion

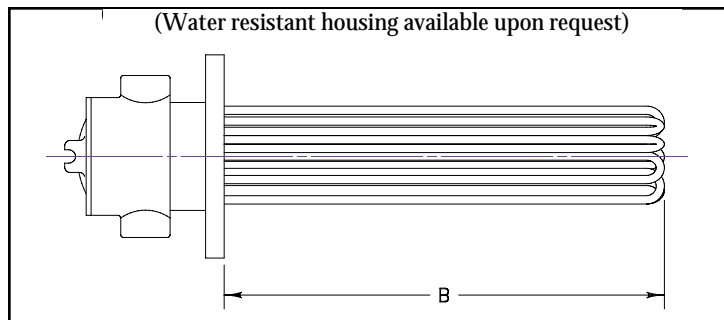
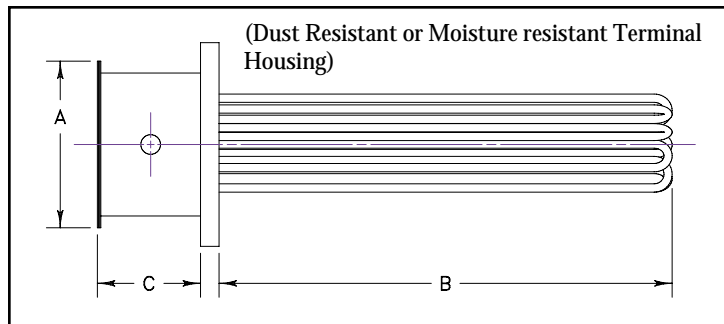


◆Standard

terminal housings are dust resistant or moisture resistant

- ◆We use standard explosion proof housings. Water resistant versions of our explosion proof housings are available upon request
- ◆Commercial 150 and 300 pound steel or stainless steel flanges are used.
- ◆Cold sections as required
- ◆Special terminal housings
- ◆Special flanges
- ◆Custom designs to meet your specifications are a RAMA specialty.

Flange Size (In.)	Number of Elements	Dimensions (Inch, max.)	
		A (DIA)	C
5	6	8-1/4	3-3/4
6	12	9-1/8	5-5/8
8	18	11-1/4	5-5/8
10	21	13-1/8	6-1/4



Cast Heaters

RAMA has supplied various industries the highest quality cast aluminum heaters for a wide range of industrial applications. Provide the factory with drawings and specifications for a cost-effective quotation.



FLANGED & SCREW-IN IMMERSION HEATER QUICK-QUOTE FAX FORM

Attn: Proheat Fax: (502) 222-0714

From: _____

Date: _____

Company: _____

Street: _____

Number of pages: _____

City, State, Zip: _____

Phone: _____ Fax: _____

In order to process your order we need the following information:

1. Volts: _____ Watts: _____

2. Phase: _____

3. Elements:
Number: _____ Material: _____

Diameter: _____

4. Watt density: _____ W/In.²

5. Maximum 'B' length: _____

6. Support ring: Yes ___ No ___ (Needed every 36")

7. Flange: _____ Inch (pipe size)
Pressure Class: 150lb ___ 300lb ___

8. Material: _____

9. Housing/Terminal Enclosure:
___ Dust resistant
___ Water resistant
___ Explosion resistant

10. Thermowell: Yes ___ No ___
If yes, diameter & length: _____

11. Minimum heater bundle diameter: _____

12. NPT pipe plug: _____ (screw-in only)

13. Operating pressure: _____ (screw-in only)

Options:

Integral thermostat: Yes ___ No ___

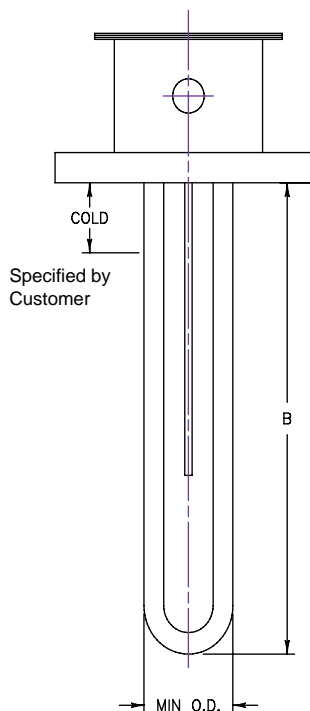
Range: _____

Any special requirements: Yes ___ No ___

If yes, please note below.

REMARKS: _____

Flanged Immersion



Screw-in Immersion

