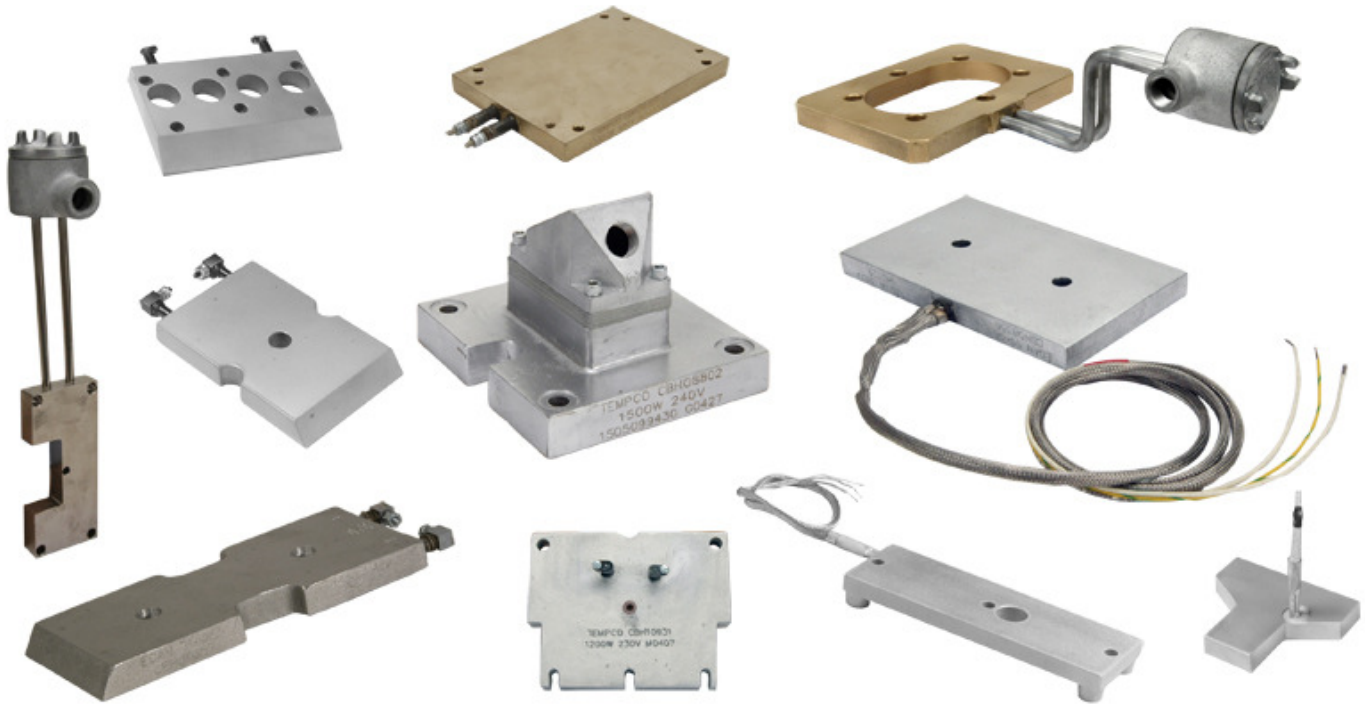


### Cast-In Aluminum and Bronze Platen Die Heaters for Plastics Processing Equipment



Cast-In Platen Heaters are widely accepted as the industry standard for heating critical, temperature-sensitive plastics processing downstream equipment. Typically, plastic die applications are highly temperature sensitive and require extreme heater uniformity and reliability. Cast-In Aluminum Platen Heaters are a logical choice to satisfy these critical application parameters, as the aluminum alloy has excellent thermal conductivity and a highly reliable, computer designed heating element which provides good contamination resistance. Optional cooling tubes can be cast-in to more precisely regulate the temperature of your process. The result is a highly efficient, uniform heater which, if used properly, can be expected to provide years of trouble-free service. Cast-In Platen Heaters are generally manufactured in aluminum but can also be made in bronze or brass alloys to meet higher temperature processing requirements.

### Design Features

- Computer designed, precisely formed tubular heating element, optimizing the heat transfer pattern
- A variety of termination options including terminal enclosure housings
- Optional 1/4", 3/8", or 1/2" cooling tubes cast into the platen for liquid cool function
- A variety of shapes and sizes made to your specifications
- Through-holes, tapped holes or cutouts to facilitate mounting or obstructions
- Precision machining of one or all surfaces of casting—specify your individual requirements.

### Applications

- Sheet dies
- Plastic molds
- Plastic welding equipment
- Cast film dies
- Calendaring dies
- Screen changer equipment

### Stock and Standard (Non-Stock) Platen Die Heaters

The sizes and ratings listed are among the most commonly used. They will provide the shortest lead times.

Length in	Width in	Thickness in	Wattage	Volts	Notes	Part Number
4	3	0.75	400	230	(1) 5/8"D hole	CBH02755
4.5	3.5	0.75	600	230	(1) 5/8"D hole	CBH03065
3.875	3.5	0.75	500	230	(1) 5/8"D hole	CBH03468
3.875	3.5	0.75	500	230	(1) 5/8"D hole	CBH03147
4	4	0.75	600	240	(1) 9/16"D hole - 60" Leads w/58" Armor Cable	CBH05665
4.75	4.5	0.75	800	220	(1) 5/8"D hole - 144" Leads W/120" SS Braid	CBH04845
5	5	0.75	900	220	(4) 5/16"D holes, (1) 1/8" NPT, C2 box	CBH01045
5.5	3.5	0.75	600	240	(1) 9/16"D hole - 66" Leads w/64" SS Braid	CBH03869
5.5	4.5	0.75	900	230	(1) 9/16"D hole - 48" Leads w/36" SS Braid	CBH02698
5.875	3.875	0.75	750	230	(1) 5/8"D hole - 30° at front	CBH02255
5.875	3.875	0.75	750	230	(1) 5/8"D hole - 30° at front w/Ground Screw	CBH04170
6	3.5	0.75	800	230	(1) 5/8"D hole - (1) #10-32 tap	CBH05693
6	4.5	0.75	800	460	(2) 5/8"D holes	CBH04104
6.25	5.469	1.938	1000	230	(2) 3/8-16 tap - (2) 5/16-18 tap	CBH01090
7	4	0.625	800	240	(1) 1/2"D hole - P1 cup - (4) 5/16"D holes	CBH08409
7.5	3	1	1000	110	(2) 9/16"D hole - 52" Leads w/48" Wire Braid	CBH03453
7.5	5.5	1	1350	230	(1) 5/8"D hole - 208" Leads w/180" SS Braid	CBH04234
8	6.25	1	1200	230	(2) 13/32"D holes - (1) 1/8" NPT tap - (3) 13/32" slots	CBH01091
8.66	7.874	0.433	1250	220	(3) .213"D holes - 24" Leads w/10" braid - (2) .234"D holes	CBH04086
9.5	6.25	1	1700	230	(3) 13/32"D holes - (3) 13/32" slots - (1) 1/8" NPT tap	CBH01088
11.5	3.375	0.75	1900	240	(1) 5/8"D hole - C2 box - (8) bolt holes,	CBH07511
23.875	11.875	0.75	4300	240	(226) 1/4"D holes	CBH05195
13.25	11.625	1	3450	230	(7) 13/32"D holes - (3) 13/32" slots - (1) 1/8" NPT tap	CBH01089
21.653	7.48	0.866	4500	280	(6) bolt holes - P1 cup	CBH05054
22	10.75	0.625	5000	240	(2) elements	CBH06970
22.75	18	0.75	10000	480	(403) 1/4"D holes - 30" Leads - 3-phase	CBH06162
22.75	18	0.75	10000	240	(403) 1/4"D holes - 30" Leads - 3-phase	CBH06225
22.75	22	0.75	12200	480	(344) 1/4"D holes - 31" Leads - 3-phase	CBH07475
23.875	11.875	0.75	4300	240	(226) 1/4"D holes - S: 8-32 - Dual element	CBH06947
23.875	11.875	0.75	8000	240	(226) 1/4"D holes - S: 8-32 - Dual element	CBH06948
26	22.75	0.75	13200	480	(305) 1/4"D holes - 16" Leads - 3-phase	CBH07477
26.5	3.375	0.75	4000	240	(1) 5/8"D hole - (18) bolt holes - C2 box	CBH07594

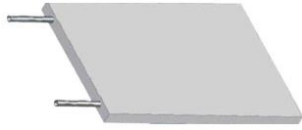
### Custom Manufacturing

For sizes and ratings not listed, Thermal Solutions will design and manufacture a Platen Heater to meet your requirements. Specify the following:

- Length
- Width
- Thickness
- Wattage / Voltage
- Termination type
- Alloy (Aluminum or Bronze)
- Special Features
- Machining Specifications
- Detailed Drawing

**Cooling Tube Exit Locations**

Typical cooling tube exit locations for cast-in Thermo-Platens



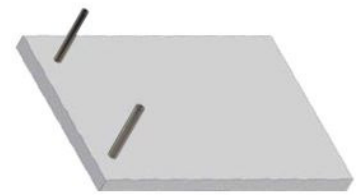
**Type CT1**

Cooling tubes exiting through the thickness toward the ends of the width or length.



**Type CT2**

Cooling tubes exiting opposite of each other towards the ends of the width or length.



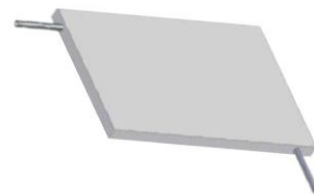
**Type CT3**

Cooling tubes exiting at the ends of the width or length through the top surface.



**Type CT4**

Cooling tubes exiting through the thickness at opposite ends of each other toward the ends of the width or length.



**Type CT5**

Cooling tubes exiting through the thickness at opposite ends of each other with one in the width and one in the length.

**Cooling Tube Fittings**



**Type FF – Flared Seal**

Brass flared seal fittings are well adapted for low to medium pressure, resistant to mechanical pullout. Available for 3/8" and 1/2" diameter tubing with SAE 45° flare.



**Type HS – Hi-Seal**

Hi-Seal brass fittings are highly dependable under the most adverse conditions. Available for 3/8" and 1/2" diameter tubing. Male thread is 1/2" NPT for 1/2" and 3/8" tube.



**Type RA – 90° Copper Elbow**

90° copper elbow is brazed to the heater cooling tube extension for connecting cooling lines. Available for 3/8" and 1/2" diameter tubing. If required, specify.



**Type RT – Cast Brass 90° Threaded Elbow**

90° threaded elbow is brazed to the cooling tube extension, for quick and easy connect to cooling lines. Available for 3/8" and 1/2" NPT internal threads.



**Type R3 – Straight Threaded Copper**

Straight threaded fitting is brazed to the cooling tube extensions for connecting cooling lines. Available for 3/8" and 1/2" diameter tubing with internal threads.



**Type BF Brazed Seal**

Brazed seals are excellent for high pressures and temperatures. Recommend factory installation to assure good braze seals. Available for 3/8" and 1/2" diameter tubing.

**Heating Element Exit Locations**



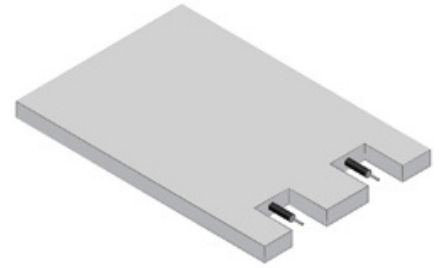
**Type TE1**

Elements exiting through the thickness toward the ends of the width or length.



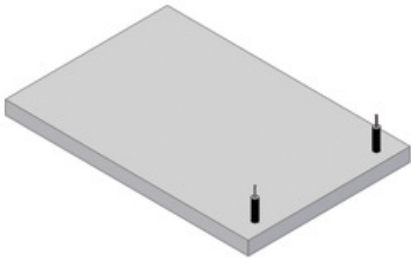
**Type TE2**

Elements exiting through the thickness toward the center of the width or length.



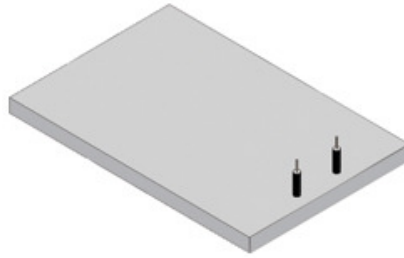
**Type TE3**

Exit through thickness and recessed to protect screw terminals from damage. Located at end or center.



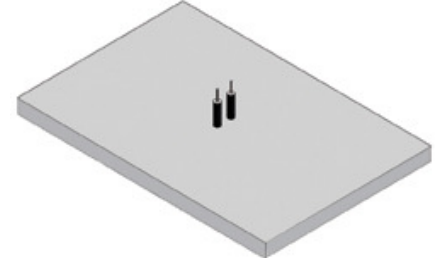
**Type TE4**

Elements exiting toward the ends of the width or length through the top surface.



**Type TE5**

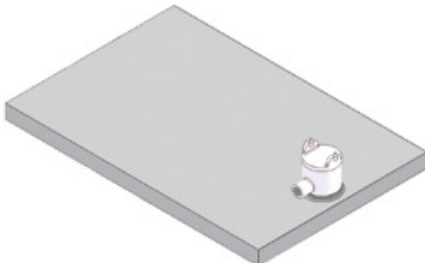
Elements exiting at the end and toward the center of the width or length through the top surface.



**Type TE6**

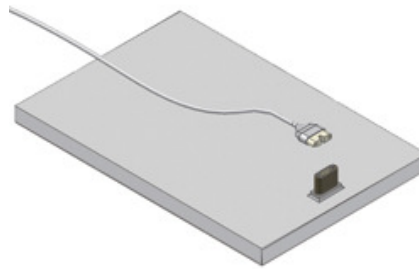
Elements exiting toward the center of the length and width and through the top surface.

**Terminal Box Options**



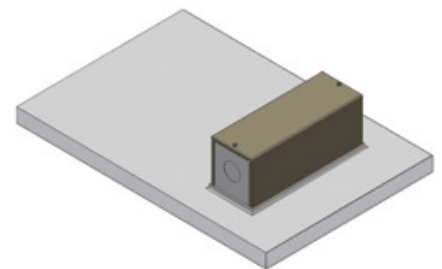
**Type EP**

Explosion and/or moisture resistant box.



**Type P1**

Quick-disconnect cup assembly mounted to casting.

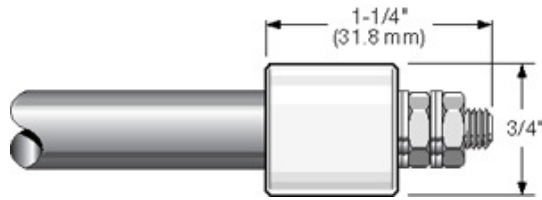


**Type C2**

Sheet metal terminal box with 5/8" knockouts.

**Terminations for Cast-In Heaters**

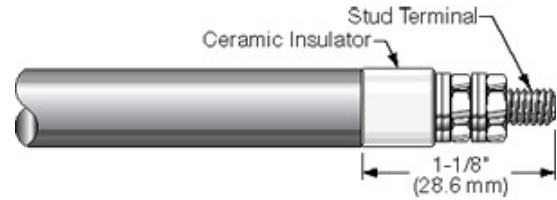
Select the termination style that meets your requirements for space, accessibility and reliability.



**Type S Standard**

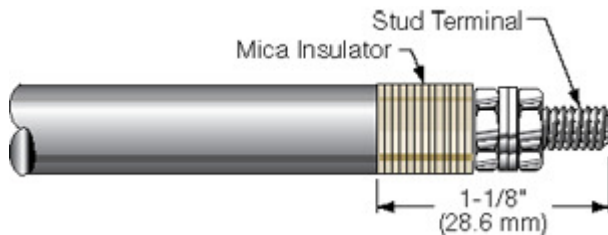
**Heavy Duty Ceramic Insulators**

.315" diameter heater has 8-32 screw terminals.  
.430" diameter heater has 10-32 screw terminals



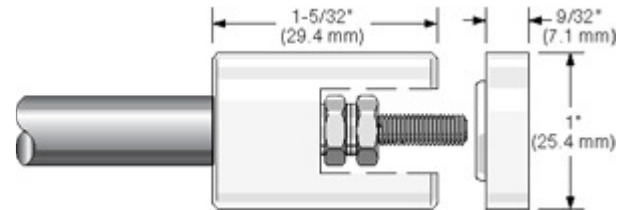
**Type T7 Ceramic Insulator**

.260" diameter heater has 6-32 screw terminals  
.315" diameter heater has 8-32 screw terminals  
.430" diameter heater has 10-32 screw terminals



**Type T - MICA Insulator**

.260" diameter heater has 6-32 screw terminals.  
.315" diameter heater has 8-32 screw terminals.  
.430" diameter heater has 10-32 screw terminals.



**Type C4**

**Heavy duty ceramic insulator**

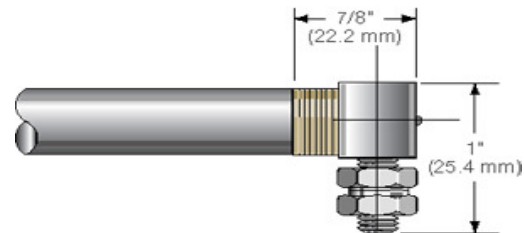
.315" diameter heater has 10-32 screw terminals.  
.430" diameter heater has 10-32 screw terminals.



**Type P - Plain Pin**

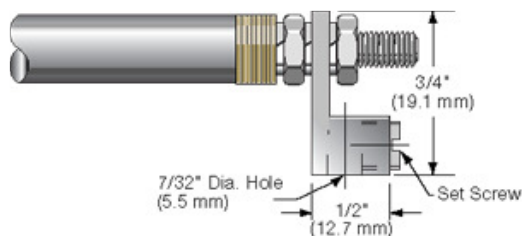
Plain terminal pin. Specify Length Std 1/2" pin length

Element Dia.		Nominal Pin Dia.	
In.	mm	In.	mm
.260	6.6	.091	2.3
.315	8.0	.100	2.5



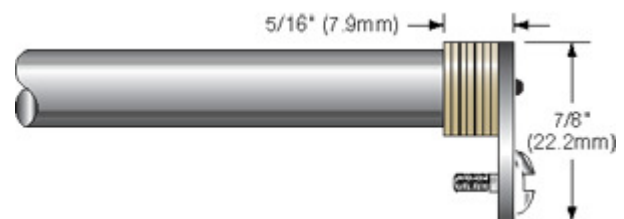
**Type R - MICA Washers w/Screw Terminal**

Mica washers with 90° blockhead screw terminal with 10-32 screw threads. Available for .315" and .430" diameter heaters.



**Type R2 - MICA Washers w/Blockhead**

Mica washers with blockhead and through hole for lead wire connection. Available for .315" and .430" diameter heaters. Accepts 6-14 gauge wire.



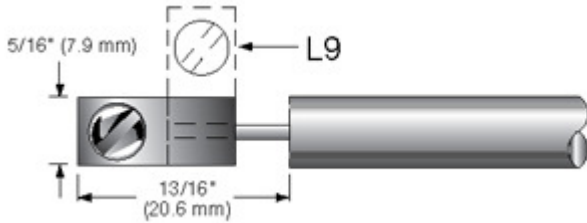
**Type E - Right Angle Lug**

Right-angle lug welded to pin with mica washer insulators and 10-32 binding head screw. Available for .260", .315" and .430" diameter heaters.



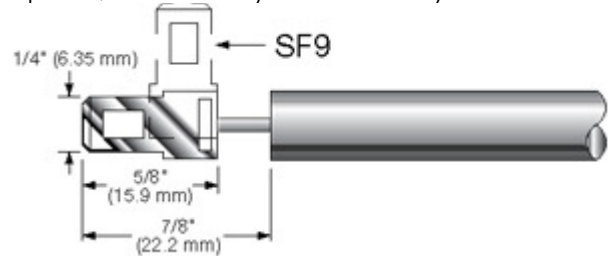
**Terminations for Cast-In Heaters** *(continued)*

Select the termination style that meets your requirements for space, accessibility and reliability.



**Type L & L9 – Terminal Lug Spot**

Terminal lug spot welded to pin with 10-32 binding head screw. Available for .260", .315" and .430" diameter heaters. Type L represents straight; Type L9 represents 90° to pin. Specify lug orientation.



**Type SF & SF9 – Quick Disconnect**

Quick-disconnect spade tabs spot welded to pin. Available for .260", .315" and .430" diameter heaters. Type SF represents straight. Type SF9 represents 90° to pin. Specify tab orientation.



**Type F – Flexible Lead**

Insulated stranded wire crimped to cold pin. Crimp connection is insulated with fiberglass sleeving. Available for .260", .315" and .430" diameter heaters. Specify lead length.



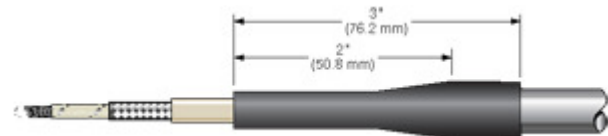
**Type R1 - Flexible Stainless Steel Armor Cable**

Available for .260", .315" and .430" diameter heaters. Specify cable length and lead length. Style may vary from depiction depending on heater diameter and cable diameter used.



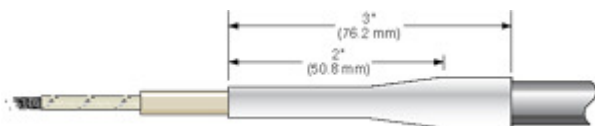
**Type R1A - Stainless Steel Wire Overbraid**

Provides flexibility and protection to lead wires. Available for .260", .315" and .430" diameter heaters. Specify stainless steel wire overbraid length and lead length.



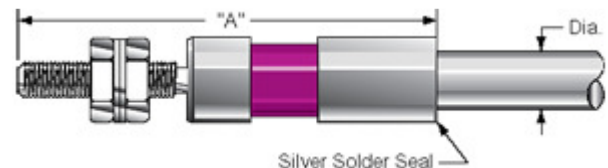
**Type MR – Moisture Resistant**

Strain relief and lead wire with or without stainless steel overbraid. Available for .260", .315" and .430" diameter heaters. Specify lead wire and overbraid length. Max operating temperature is 350°F (177°C).



**Type TS – Teflon Seal**

Contamination seal shrink-down Teflon® sleeving over the heater and lead wire splice. Maximum operating temperature 500°F (260°C). Available for .260", .315" and .430" and diameter heaters. Specify lead length.



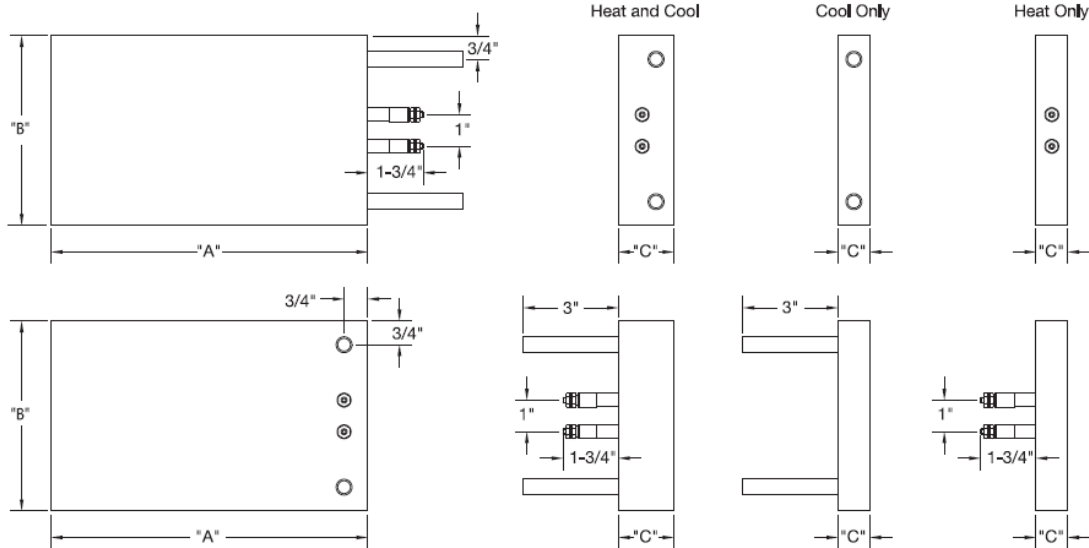
**Type H – Hermetic Seal**

Ceramic to metal hermetic seal screw terminal. Maximum operating temperature is 1000°F (538°C).

<b>Diameter</b>	.260"	.315"	.430"
<b>"A" Dim.</b>	1-11/16"	1-11/16"	2-1/8"
<b>Thread</b>	8-32	10-32	1/4-28

### Thermo-Platen Quote Request Form

To process your order or quotation, please specify the following information. Cast-In Thermo-Platens are made to customer specifications. When ordering, please provide detailed drawings including dimensions, critical tolerances and any other feature or special requirements.



<b>THERMO-PLATEN TYPE</b>	<input type="checkbox"/> Heat Only	<input type="checkbox"/> Cool Only	<input type="checkbox"/> Heat and Cool
<b>DIMENSIONS</b>	Length "A" _____	Width "B" _____	Thickness "C" _____
<b>MATERIAL SPECIFICATIONS</b>	<input type="checkbox"/> Aluminum	<input type="checkbox"/> Bronze	<input type="checkbox"/> Brass
<b>ELECTRICAL SPECIFICATIONS</b>	Watts/Element _____	Volts/Element _____	Phase _____
<b>ELEMENT EXIT LOCATION</b>	<input type="checkbox"/> TE1	<input type="checkbox"/> TE2	<input type="checkbox"/> TE3
	<input type="checkbox"/> Other: _____	<input type="checkbox"/> TE4	<input type="checkbox"/> TE5
			<input type="checkbox"/> TE6
			<i>Provide detailed drawing</i>
<b>TERMINATION STYLE</b>	<input type="checkbox"/> S-Post Terminals	<input type="checkbox"/> T7-Post Terminals	<input type="checkbox"/> T-Post Terminals
	<input type="checkbox"/> R-90° Blockhead	<input type="checkbox"/> SF-Quick Disconnect Spade Tab	<input type="checkbox"/> R1-Armor Cable
	<input type="checkbox"/> F-Plain Leads	<input type="checkbox"/> SF9	
	<input type="checkbox"/> R1A-S/S Overbraid	<input type="checkbox"/> TS-Leads & Shrink Sleeve	
	<input type="checkbox"/> Other: (Specify) _____		
<b>TERMINAL PROTECTION BOX</b>	<input type="checkbox"/> None	<input type="checkbox"/> MR1-Moisture Resistant	<input type="checkbox"/> EP-Explosion Resistant
	<input type="checkbox"/> C2-Standard	<input type="checkbox"/> P1- Quick-Disconnect Cup assembly	
<b>COOLING TUBE EXIT LOCATIONS</b>	<input type="checkbox"/> Type CT1	<input type="checkbox"/> Type CT2	<input type="checkbox"/> Type CT3
	<input type="checkbox"/> Type CT4	<input type="checkbox"/> Type CT5	
<b>COOLING TUBE SPECIFICATIONS</b>	<input type="checkbox"/> 1/4" OD Stainless	<input type="checkbox"/> 3/8" OD Stainless	<input type="checkbox"/> 1/2" OD Stainless
	<input type="checkbox"/> 3/8" OD Incoloy	<input type="checkbox"/> 1/2" OD Incoloy	<input type="checkbox"/> Dual Cooling Tubes
	<input type="checkbox"/> Std Wall Thickness	<input type="checkbox"/> Other Thickness: (Specify) _____	
<b>COOLING TUBE FITTINGS</b>	<input type="checkbox"/> FF-Flared Seal	<input type="checkbox"/> HS-Hi Seal	<input type="checkbox"/> RA-90° Elbow
	<input type="checkbox"/> RT-90° Brass Elbow	<input type="checkbox"/> R3-Straight Threaded	<input type="checkbox"/> BF-Brazed Seal
<b>SURFACE FINISH</b>	<input type="checkbox"/> Machined or As-Cast (Indicate Surfaces to be machined)		
<b>SPECIAL CAST-IN FEATURES</b>	<input type="checkbox"/> Holes or Cutouts	<input type="checkbox"/> Slots	<input type="checkbox"/> Bevels
	<input type="checkbox"/> Stand-offs	<input type="checkbox"/> Tapered Angles	<input type="checkbox"/> Mounting Studs
	For special features, a detailed drawing is required.		