



1093°C (2000°F) HIGH TEMP. CARTRIDGE HEATER



INFORMATION

High-temperature insertion heaters are engineered for extreme temperature capabilities, providing precise and uniform heating through multiple independently controllable zones. Designed for easy insertion and removal, these heaters are ideal for demanding applications that require reliable performance.

KEY FEATURES:

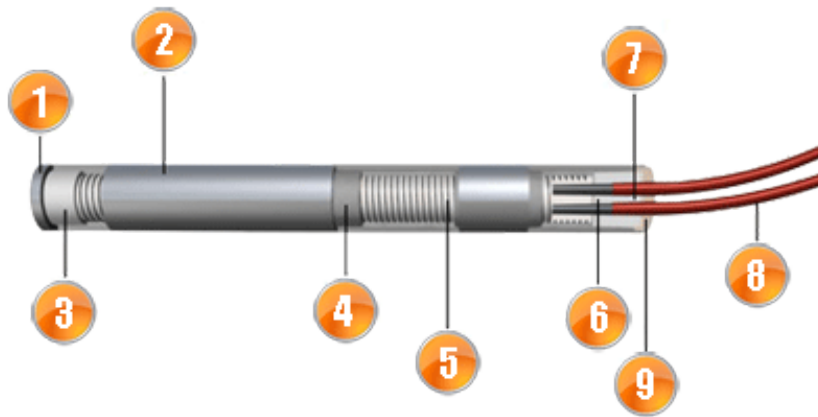
- **TEMPERATURE RANGE:** Effective from 1,500°F to 2,000°F (815°C to 1,093°C).
- **INDEPENDENTLY CONTROLLABLE ZONES:** Options for 2 to 6 zones enhance temperature uniformity, surpassing traditional single-sheathed heaters.
- **SHEATH MATERIAL:** Constructed from Inconel® 600, with an oxidized outer sheath that improves emissivity for superior heat transfer and durability.
- **RADIANT HEAT TRANSFER:** Facilitates loose insertion in heated environments, minimizing maintenance downtime.
- **BENDING CAPABILITIES:** Custom bending options (e.g., straight, 45°, 90°, crank) ensure fit for specific applications while maintaining heater integrity.
- **DIAMETER OPTIONS:** Available in standard diameters of 0.495" (12.5 mm), 0.685" (17.4 mm), and 0.935" (23.75 mm), with lengths ranging from 18 inches (457 mm) to 15 feet (4,572 mm).
- **QUICK DISCONNECT:** Equipped with a quick disconnect plug and jack for efficient operation, allowing for rapid element replacement without interrupting processes.

PERFORMANCE SPECIFICATIONS:

- **WATTAGE AND RESISTANCE TOLERANCES:**
 - Wattage: +5% / -10%.
 - Resistance: +10% / -5%.
- **POWER RATINGS:** 30 to 50 W/in².
- **VOLTAGE OPTIONS:** 110 to 480 Vac.

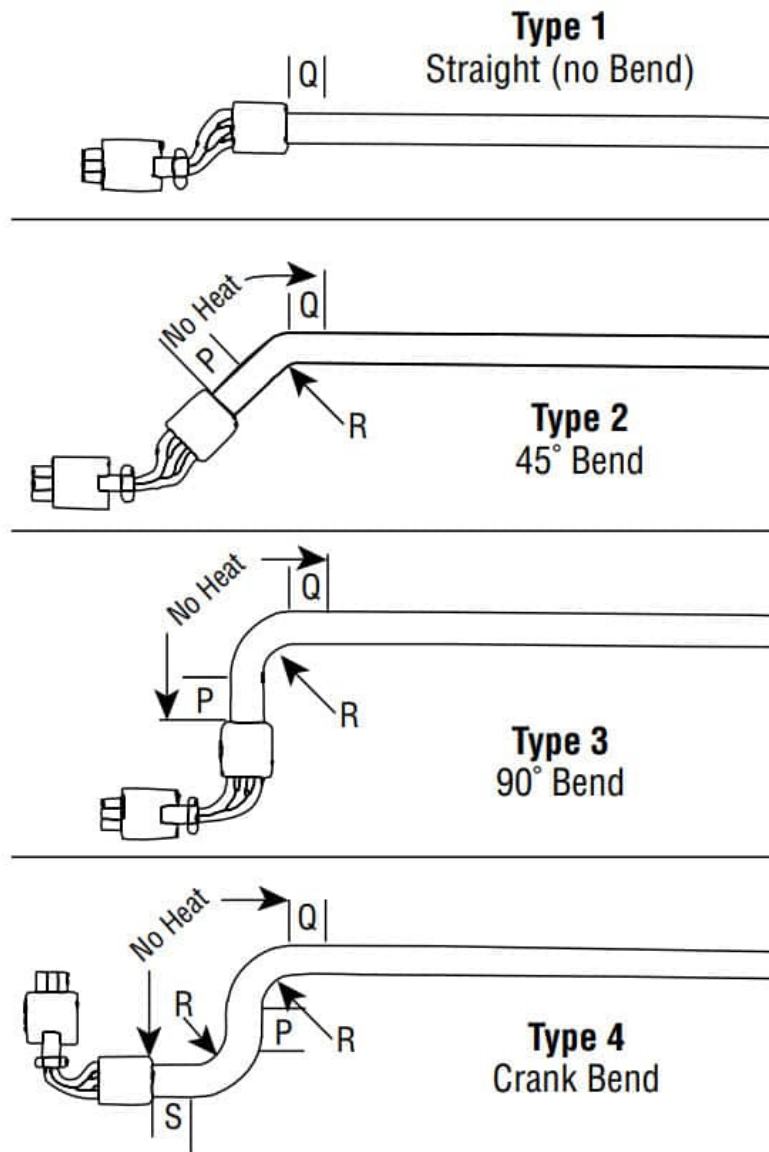
For further customization or specific application details, users are encouraged to consult technical sales offices for tailored solutions

CONSTRUCTION



1. WELDED DISC
2. STAINLESS STEEL TUBE IN 304/316/321/
INCOLOY
3. CERAMIC DISC INSULATOR
4. PURE MAGNESIUM OXIDE
5. NICKEL-CHROME 80/20 HEATER WIRE
6. CERAMIC CORE
7. HARD CERAMIC HEAD
8. LEAD WIRE
9. OPTIONAL POTTING COMPOUND

STANDARD CONSTRUCTION TYPES



DIAMETERS

We can also manufacture heaters to exact diameters – ex. 0.496"
Diameter Heaters

Diameter Sizes Available and Tolerances

SIZES – ROUND					SIZES – SQUARE			
Nom Dia	Min Dia	Max Dia	Max Amps	Max Volts	Nom Size	Min Size	Max Size	Max Amps
1/8"	0.119	0.124	3.6	240	3/8"x3/8"	0.369	0.374	9
1/4"	0.244	0.249	9	30	1/2"x1/2"	0.494	0.499	9
6.5mm	0.25	0.255	9	300	5/8"x5/8"	0.619	0.624	15
8mm	0.309	0.314	9	300	SIZES – RECTANGLE			
1/8"	0.369	0.374	9	480	Nom Size	Max Width	Max Depth	Min Watts
10mm	0.388	0.393	15	480	1/8"x1/4"	0.124	0.249	10
7/16"	0.432	0.437	15	600	1/8"x3/8"	0.124	0.374	10
12mm	0.466	0.471	15	600	1/4"x5/8"	0.249	0.624	10
12.5mm	0.486	0.491	15	600	1/4"x1"	0.249	0.999	10
1/2"	0.494	0.499	15	600				
13mm	0.506	0.511	15	600				
17/32"	0.525	0.53	15	600				
14mm	0.545	0.55	26	600				
5/8"	0.619	0.624	26	600				
16mm	0.624	0.629	26	600				
17mm	0.663	0.668	26	600				
11/16"	0.682	0.687	26	600				
19mm	0.742	0.747	26	600				
3/4"	0.744	0.749	26	600				
20mm	0.782	0.786	26	600				
25mm	0.978	0.983	26	600				
1"	0.994	0.999	26	600				

- LENGTH TOLERANCE is +/- 3% or +/- 3/32, whichever is greater (*excludes disc and lead end varied formation lengths)
- CAMBER TOLERANCE is .025" per foot of length. Slight camber is normally not a problem since the heater will flex enough to enter a clean hole.
- WATTAGE TOLERANCE is +5%, -10%

LEAD WIRE OPTIONS

Picture	Type	Max Temp	Notes
	MGT 1000°C	1832°F / 1000°C	Flexible, Not Waterproof
	MGT 750°C	1382°F / 750°C	Flexible, Not Waterproof
	Duraflex	1022°F / 550°C	Flexible, Not Waterproof
	MGT	842°F / 450°C	Flexible, Not Waterproof
	TGGT	482°F / 250°C	Durable, Flexible, Not Waterproof
	Teflon	500°F / 260°C	Abrasion Resistant, Small OD, Waterproof
	Silicone Rubber	355°F / 180°C	Very Flexible, Waterproof, Easy to Nick
	SEW2	392°F / 200°C	Very Flexible, Fair Abrasion Resist, Waterproof

END SEAL OPTIONS

Type	Max Temp	Moisture Protection	Contaminant Protection	Mech. Strength	Vibration Resist.
Ceramic	2500°F 1371°C	Poor	Poor	Excellent	Excellent
Teflon	300°F 149°C	Excellent	Excellent	Very Good	Excellent
Lava	3000°F 1649°C	Poor	Good	Good	Poor

Cement Potting	1800°F 982°C	Poor	Fair	Good	Poor
EpoxyLite Potting	650°F 343°C	Fair	Very Good	Very Good	Excellent
Epoxy Potting	265°F 129°C	Good	Good	Excellent	Excellent
Silicone Rubber	500°F 260°C	Excellent	Excellent	Fair	Excellent