Cartridge Heater

MALTEC-H

A cartridge heater is a tube-shaped, industrial heating element that can be inserted into drilled holes. Cartridge heaters provide localized and precise heating and are commonly used in the heating process industry. Cartridge heater are high temperature heating elements providing excellent heat transfer efficiency. Cartridge heater are used for heating metal parts and can also be fitted with threaded bushings for liquid heating for certain applications. Cartridge heater will reach metal temperatures of up to 1,400°F (760°C) with the appropriate material, watt density, and fit selections. Cartridge heater can be considered “component heaters” that are used to generate heat in many different applications. Cartridge heater have the versatility of being able to carry thermocouple inside to help control temperatures of the heater more accurately. Various diameters allow for it to be used in any cavity and can be custom designed with any cold section.

Application

Cartridge heaters are designed for the heating of metallic parts (moulds, dies, plates, bolts, etc.) and liquids.

- Liquid Immersion
- Plastic Molds
- Dies
- Labeling
- Medical Equipment
- Platens
- Packaging Equipment
- Hot Stamping
- Sealing
- Injection Molding
- Mass spectrometry
- Rubber molding
- Food production
- Immersion tank heating
- HVAC compressors
- Fuel cells
- Semiconductors

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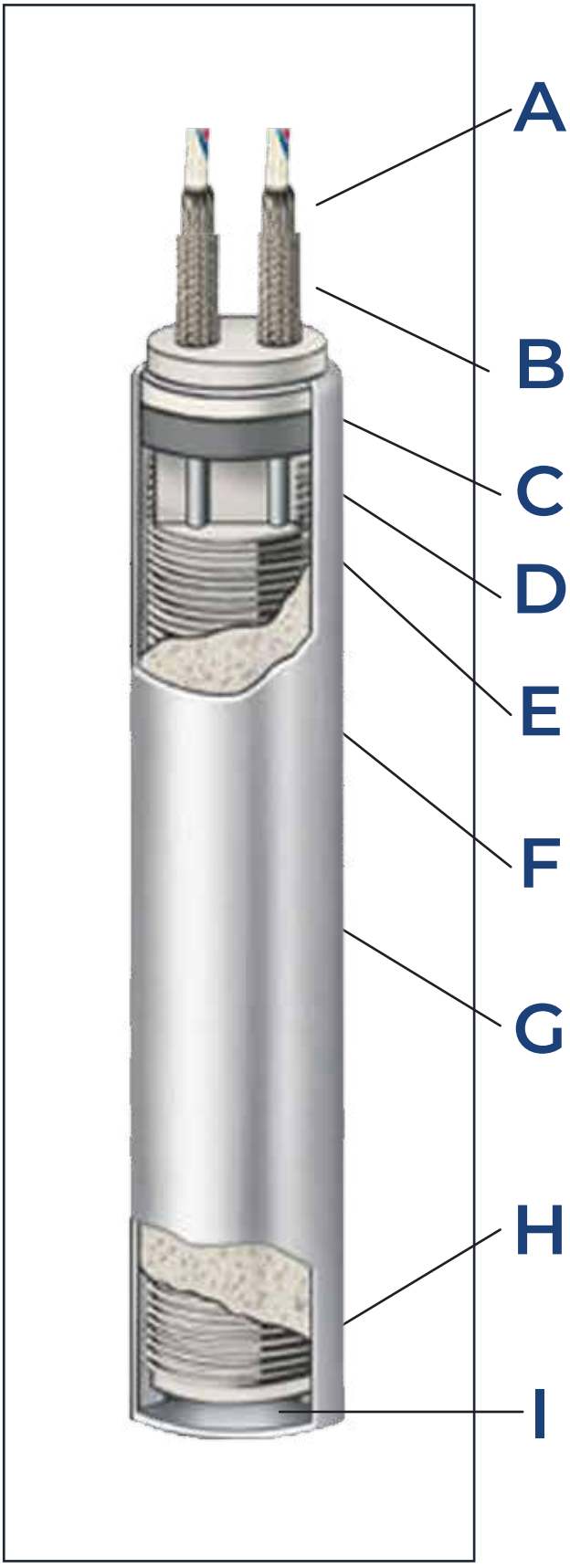

The standard termination for Hi-Density Cartridge Heaters is Type ÒNÓ, consisting of 10Ó (254mm) externally connected leads to 1 1/4Ó (32 mm) solid nickel connectors. The leads are stranded nickel wire with high temperature fiberglass/Teflon¨ tape insulation, UL approved for 300 Volt or 600 Volt service, rated at a continuous operating temperature of 482¡F (250¡C). To meet the requirements of your application we offer over 40 standard termination styles to select from that will solve many of the most common application problems.

Double wall thickness high temperature fiberglass sleeve provides maximum electrical insulation to the connector used to splice the nickel conductors to the flexible leads.

Ceramic end cap prevents nickel conductors from shorting out against sheath when sharp bending of the leads is required.

Ceramic end cap and swaged-in lava plug protect the internal cartridge from outer contamination. Other types of seals can also be provided.

For maximum current carrying capacity large diameter solid nickel conductors are used to insure a good electrical connection between the resistance wire and the nickel lead wires.

Specially selected grain size high purity Magnesium Oxide (MgO) is used to fill all remaining space inside the sheath. Heater is then swaged, which compacts the magnesium oxide grains into a solid mass, thereby increasing thermal conductivity and dielectric strength.

Alloy 321 Stainless Steel is used to provide high temperature strength, good thermal conductivity and resistance to corrosion and scaling. Alloy 321 is a Nickel-Chromium Stainless Steel modified with the addition of Titanium. For higher operating temperatures or corrosive immersion heating application Incoloy¨ 800 and Alloy 316 Stainless Steel are available.

Grade “A” Nickel-Chrome resistance wire is precisely wound on a high purity magnesium oxide core, placing the resistance wire as close to the inside of the sheath as possible while still maintaining dielectric strength. This provides excellent heat transfer, and results in the highest possible watt densities and longer heater life.

Heli-arc welded end disc made from same material as the sheath provides a positive seal against moisture and other contaminants. Pennybottom™ heaters have a flat copper end disc.

Options & Accessories

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We offer you 8 options and 5 accessories you will find on this page.

IMPORTANT : An option and an accessory can be set up on the same cartridge.

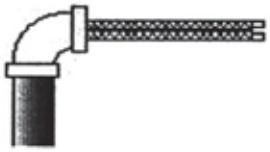
Options on standard cartridges

Ceramic beads Option 1

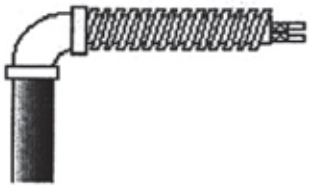
Straight GMF Option 2

Straight braid leads Option 3

Bended Option 5



Bended GMF Option 6



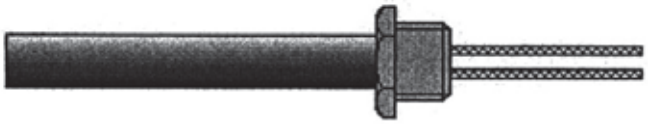
Leads exit 90° Option 7

GMF 90°Option 8

Accessories on standard and special cartridges

Threaded fitting simple internal Accessory 11

Threaded fitting simple external Accessory 12

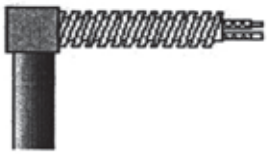


Mounting flange Accessory 13

Abutment Accessory 14

Anchor clip Accessory 19

Options & accessories of CCMC



Braid leads 90°Option 9

Standard Cartridges (Metric Series)

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The cartridge heater is of pipe form. Form one end of which lead wires are drawn out. Effective heating is obtained simply by inserting it into the substance to be heated.

Cat. No.	Dia	Watts	Volts	Length
MT 65000CH	6.5	100	230	40
MT 65001CH	6.5	125	230	40
MT 65005CH	6.5	100	230	50
MT 65006CH	6.5	160	230	50
MT 65009CH	6.5	125	230	60
MT 65010CH	6.5	200	230	60

Cat. No.	Dia	Watts	Volts	Length
MT 65013CH	6.5	125	230	80
MT 65014CH	6.5	180	230	80
MT 65015CH	6.5	280	230	80
MT 65017CH	6.5	160	230	50
MT 65018CH	6.5	220	230	60
MT 65019CH	6.5	350	230	60

Cat. No.	Dia	Watts	Volts	Length
MT 80020CH	8.0	100	230	40
MT 80021CH	8.0	160	230	40
MT 80024CH	8.0	125	230	50
MT 80025CH	8.0	200	230	50
MT 80028CH	8.0	100	230	60
MT 80029CH	8.0	140	230	60
MT 80030CH	8.0	220	230	60
MT 80033CH	8.0	160	230	80
MT 80034CH	8.0	200	230	80
MT 80035CH	8.0	315	230	80

Cat. No.	Dia	Watts	Volts	Length
MT 80037CH	8.0	180	230	100
MT 80038CH	8.0	280	230	100
MT 80039CH	8.0	400	230	100
MT 80040CH	8.0	250	230	130
MT 80041CH	8.0	400	230	130

Cat. No.	Dia	Watts	Volts	Length
MT 10042CH	10.0	100	230	40
MT 10043CH	10.0	125	230	40
MT 10044CH	10.0	200	230	40
MT 10047CH	10.0	100	230	50
MT 10048CH	10.0	160	230	50
MT 10049CH	10.0	250	230	50
MT 10052CH	10.0	125	230	60
MT 10053CH	10.0	180	230	60
MT 10054CH	10.0	315	230	60
MT 10057CH	10.0	160	230	80
MT 10058CH	10.0	250	230	80
MT 10059CH	10.0	400	230	80

Cat. No.	Dia	Watts	Volts	Length
MT 10062CH	10.0	220	230	100
MT 10063CH	10.0	350	230	100
MT 10064CH	10.0	560	230	100
MT 10067CH	10.0	315	230	130
MT 10068CH	10.0	500	230	130
MT 10069CH	10.0	800	230	130
MT 10070CH	10.0	400	230	160
MT 10071CH	10.0	630	230	160

Standard Cartridges (Metric Series)

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Cat. No.	Dia	Watts	Volts	Length
MT 10072CH	12.5	100	230	40
MT 10073CH	12.5	160	230	40
MT 10074CH	12.5	250	230	40
MT 10077CH	12.5	100	230	50
MT 10078CH	12.5	200	230	50
MT 10079CH	12.5	315	230	50
MT 10082CH	12.5	125	230	60
MT 10083CH	12.5	200	230	60
MT 10084CH	12.5	315	230	60
MT 10087CH	12.5	200	230	80
MT 10088CH	12.5	315	230	80
MT 10089CH	12.5	500	230	80

Cat. No.	Dia	Watts	Volts	Length
MT 10092CH	12.5	250	230	100
MT 10093CH	12.5	400	230	100
MT 10094CH	12.5	630	230	100
MT 10097CH	12.5	400	230	130
MT 10098CH	12.5	630	230	130
MT 10099CH	12.5	1000	230	130
MT 10101CH	12.5	500	230	160
MT 10102CH	12.5	800	230	160
MT 10103CH	12.5	1250	230	160
MT 10104CH	12.5	630	230	200
MT 10105CH	12.5	900	230	200

Cat. No.	Dia	Watts	Volts	Length
MT 10106CH	16.0	100	230	40
MT 10107CH	16.0	250	230	40
MT 10110CH	16.0	160	230	50
MT 10111CH	16.0	250	230	50
MT 10112CH	16.0	400	230	50
MT 10115CH	16.0	160	230	60
MT 10116CH	16.0	250	230	60
MT 10117CH	16.0	400	230	60
MT 10120CH	16.0	280	230	80
MT 10121CH	16.0	400	230	80
MT 10122CH	16.0	630	230	80
MT 10125CH	16.0	350	230	100
MT 10126CH	16.0	500	230	100
MT 10127CH	16.0	800	230	100

Cat. No.	Dia	Watts	Volts	Length
MT 10130CH	16.0	500	230	130
MT 10131CH	16.0	700	230	130
MT 10132CH	16.0	1100	230	130
MT 10135CH	16.0	630	230	160
MT 10136CH	16.0	900	230	160
MT 10137CH	16.0	1600	230	160
MT 10139CH	16.0	800	230	200
MT 10140CH	16.0	1250	230	200
MT 10141CH	16.0	2000	230	200
MT 10142CH	16.0	1000	230	250
MT 10143CH	16.0	1600	230	250
MT 10144CH	16.0	1250	230	300
MT 10145CH	16.0	1800	230	300

Cat. No.	Dia	Watts	Volts	Length
MT 10146CH	20.0	200	230	60
MT 10147CH	20.0	315	230	60
MT 10148CH	20.0	500	230	60
MT 10151CH	20.0	350	230	80
MT 10152CH	20.0	500	230	80
MT 10153CH	20.0	800	230	80
MT 10156CH	20.0	450	230	100
MT 10157CH	20.0	630	230	100
MT 10158CH	20.0	1000	230	100
MT 10161CH	20.0	630	230	130
MT 10162CH	20.0	900	230	130
MT 10163CH	20.0	1400	230	130

Cat. No.	Dia	Watts	Volts	Length
MT 10166CH	20.0	800	230	160
MT 10167CH	20.0	1100	230	160
MT 10168CH	20.0	1800	230	160
MT 10170CH	20.0	1600	230	200
MT 10171CH	20.0	1600	230	200
MT 10172CH	20.0	2500	230	200
MT 10173CH	20.0	1250	230	250
MT 10174CH	20.0	2000	230	250
MT 10175CH	20.0	1600	230	300
MT 10176CH	20.0	2200	230	300