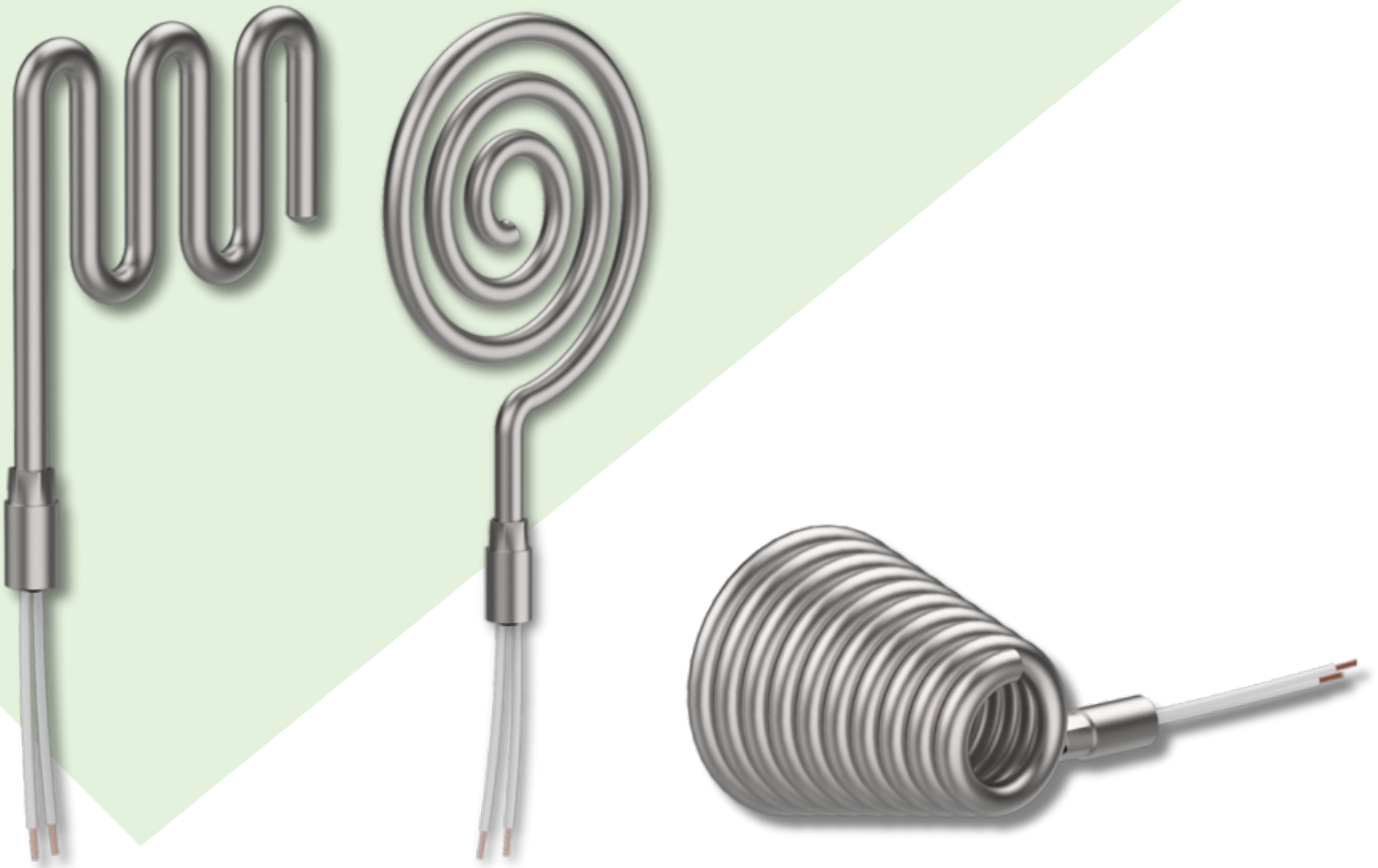




Heating Technologies

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COIL HEATERS

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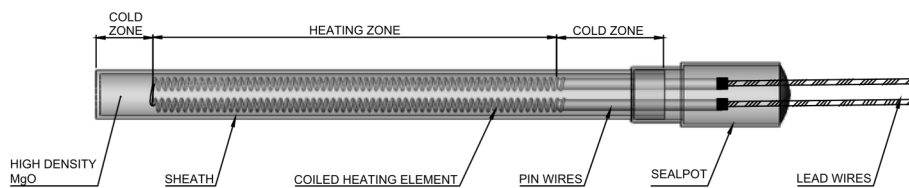
heat&cool.in



Coil Heater

Are a cutting-edge idea in thermal engineering that control temperature and react quickly. Types 'J' and 'K' thermocouples, also referred to as high performance tube heaters, can be terminated anywhere cable heaters exist. High heating profiles are provided by coil heaters, both within and outside of the coil section. excellent performance up to temperatures as high as available with a range of surface loads, wattages, and temperatures up to 750°C. Available in a range of diameters and cross sections, Personalized mounting, wall thickness, and heat dispersion In addition to being straight and coil-shaped, coil heaters can also be Coil heaters have been used in a wide range of shapes, including nearly any geometric design. Coil heaters are a viable industry from an economic standpoint. Coil heaters come in a variety of exit types and configurations that can be stretched to meet scattered wattage requirements, or they can be tightly wrapped to give concentrated heat. coil heaters according to the application's needs.

Construction



- For the longest longevity, use a nickel-chromium-resistant wire.
- For optimal dielectric strength and thermal conductivity, high-purity magnesium oxide fill was chosen, and it was compacted to maximize heat transfer.
- Inconel or stainless steel sheaths are resistant to corrosion and oxidation in a wide range of environments.
- Type 'J' and type 'K' thermocouples for accurate temperature control Coil heaters come with different clamping choices, exit styles, coil configurations, and termination options.

Coiling Option

Circular Profile



Rectangular/Square Profile



Option of Termination :

One End Termination



Both End Termination



Configurations of Coils :



With distributed wattage, coiled



Coiled in Tandem



Conical



The spiral



Wander

Styles of Exit :



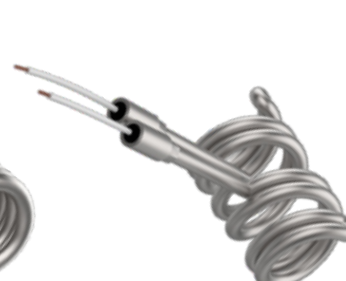
Tangential



Axial



Radial



Central

Clamping and Additional Choices :



Metal Sleeve

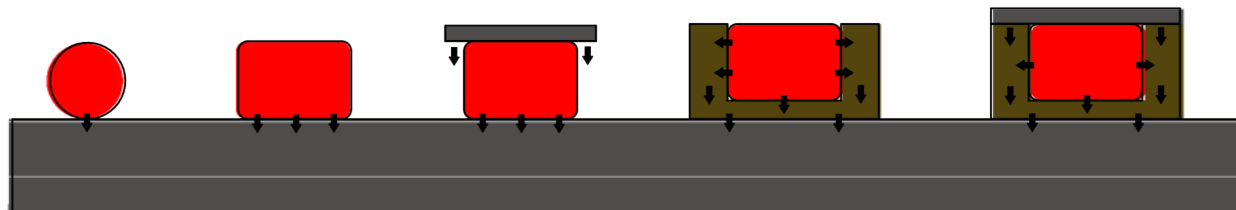


Axial Clamping



Tangential Clamping

Allowable Watt Densities



ROUND
6W/cm²
39W/inch

FLAT
7.5W/cm²
48W/inch

FLAT+
RADIANT
7.5W/cm²
48W/inch

PRESSED
12.5W/cm²
81W/inch²

PRESSED +
RADIANT
15W/cm²
97W/inch²



Technical Details :

Heater	FCH-FT- 1 x 1.6	FCH-FT- 1.3 x 2.3	FCH-FT- 1.8 x 3.2	FCH-FT- 2.5 x 4.3	FCH-FT- 3.4 x 3.4	FCH-RD- 1.8	FCH-RD- 2.7	FCH-RD- 3.5	FCH-RD- 4.5	FCH-RD- 5.7	FCH-FT- 4.1 x 6.7
Sizes (mm)	1.0 x 1.6	1.3 x 2.3	1.8 x 3.2	2.5 x 4.3	3.4 x 3.4	1.8	2.7	3.5	4.5	5.7	4.1 x 6.7
Specification	Flat					Round					Flat
Sheath Material	Stainless Steel / Incoloy										
Maximum Sheath temperature	Max 750°C										
Maximum Wattage (W)	200	450	600	1000	1000	450	600	700	800	2000	2000
Maximum Voltage	230 V									415 V	
Wattage tolerance	± 10%										
Resistance Tolerance	± 10%										
Length tolerance	± 5%										
Minimum Bending Radius	Twice the Sheath Diameter/Width										
Inner diameter Tolerance Ø<12 mm	-0.05 to -0.2										
Inner diameter Tolerance Ø<30 mm	-0.1 to -0.3										
Inner diameter Tolerance Ø<40 mm	-0.2 to -0.4										
Unheated Zone Length	10 mm on bottom end, 50 mm at the terminal end. Larger lengths available on request.										

Availability (△)

Sizes (mm)	1.0 x 1.6	1.3 x 2.3	1.8 x 3.2	2.5 x 4.3	3.4 x 3.4	4.1 x 6.7	1.8	2.7	3.5	4.5	5.7
Thermocouple (Type J/ Type K)	External	External	Internal	Internal	Internal	Internal	External	Internal	Internal	Internal	Internal
Tangential Clamping	△	△	△	△	△	△	△	△	△	△	△
Axial Clamping		△									
Metal sleeve	△	△	△	△	△	△	△	△	△	△	△

It should be noted that all heaters can be made to a range of lengths and wattages up to the maximum amount that is given.

Options for lead wire

Wire Type	Temperature Rating	Maximum Recommended Temperature	Comments
Ultralead	250°C	450°C	Excellent, durable wire, good for high temperature application
Teflon	250°C	250°C	Good dielectric strength
Silicon Rubber	200°C	200°C	Good moisture resistance
Braided Silicon rubber	200°C	200°C	Inexpensive wire good for non abrasive applications.
Fibre Glass	400°C	400°C	Excellent resistance to heat, flame, abrasion, oil, and chemicals. Excellent dielectric properties.



Termination of Lead Wire Protection:

- **Stainless Steel Braid:** This type of braid allows the leads to bend within a precise radius while offering superior abrasion protection. **Stainless Steel Flexible Conduit:**
- Although flexible conduit can't bend as sharply as stainless steel braid, it offers the best protection against abrasion for leads. **Fiberglass sleeving** gives lead wires greater flexibility and protects them from abrasion.

Utilization :

- Die Casting Machine for Zinc.
- Packaging machines with jaws and a sealing bar.
- Machine nozzles used in the die casting and plastics industries.
- Bushings, distribution plates, and nozzles make up the hot runner system.
- Extrusion of tubes.
- Forming pipes.
- heating of a small manifold.
- Punches and dies for hot metal forming.
- producing semiconductors and processing wafers.

Options for End Seals

- **Teflon Seal:** When an efficient barrier against moisture and oil contamination is needed, Teflon seal is utilized. To create an efficient barrier, teflon lead wire and teflon seal are combined.
- **Silicon Rubber Seal:** Up to 400°F (200°C), a high temperature silicon rubber seal combined with silicon rubber lead wires effectively seals moisture. Out of all the moisture sealants, it is the most impenetrable.
- **Epoxy Seal:** Compared to silicon rubber, epoxy potting creates a better moisture seal with greater mechanical strength. Epoxylite is rated at 350°C, while regular epoxy is rated at 260°C.
- **Although** it is not waterproof, cement potting offers defense against some heavier liquids and dust. Additionally, it can shatter in applications with severe vibration or impact because it is rather brittle. utilized at temperatures as high as 1425°C.
- **Glass Seal:** Suitable for temperatures up to 1200°C, glass seal effectively prevents moisture and oil contamination.

Benefits :

- high prominence of heating in small areas.
- Excellent performance and cost-effectiveness.
- Accurate temperature regulation.
- quick reaction time.
- A thermocouple that is integrated.