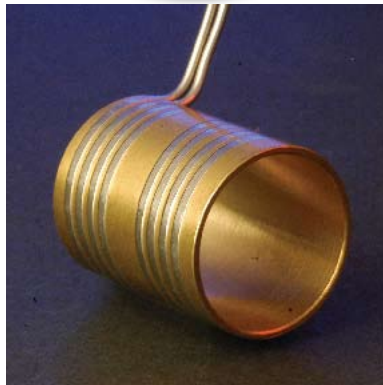
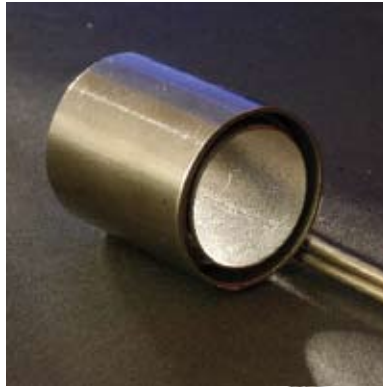


Coil Heaters



hotset - COIL HEATERS

There are many different types of applications for a hotset coil heater. A few examples are plastic processing, packaging, medical equipment and hot melt. Coil heaters are essential for these and other types of applications. When precise temperature profile and exact heating is needed, the coil heater offers an efficient solution for most individual requirements.

Hotset looks back on years of experience in development and manufacturing of powerful coil heaters. Coil heaters are built with quality and durability in mind.

Hotset coil heaters can be delivered from stock in various sizes and wattages at 230V and 240V, to cover most applications. Lead wire options, as well as lead protection such as braided metal sleeving and armor cable, are available at the customer's request. With individual customer requirements very much in mind, the hotset coil heaters stand out due to the wide range of optional features available:

- Voltage and wattage according to customer requirements.
- Choice of lengths of heated and unheated zones for a total length of up to 118" maximum.
- Straight and pliable – bearing in mind the minimum possible bending radius – or coiled delivery available.
- Additional clamping band or pressed on sheath available.
- Heaters can be embedded in brass.
- Additional cooling available as an option. Available with cast in Brass only.

The hotset coil heater (except the Mini) offers the option to place the thermocouple, insulated by the heater sheath, anywhere within the heated zone.

At a low processing temperature, this type of temperature measurement has been proven the most reliable. At high process temperatures the last winding with the integrated thermocouple may lift up due to the heat expansion and the thermocouple will only then indicate the temperature of the heater. A surface type thermocouple is recommended for these circumstances. This device has proven to be most accurate in practical use.

SAFETY & INSTALLATION INSTRUCTIONAL

GUIDELINES:

- Heaters should be connected by authorized personnel only.
- Minimum bending radius of 1/4" must be taken into consideration.
- DO NOT re-bend any area which has already been bent.
- Do not bend +.20" from the welded transition or any other bend.
- Do not hold the transition head to bend or pull the heater.
- Heaters should be screwed onto the nozzle to the required position. DO NOT PUSH STRAIGHT ONTO NOZZLE.
- For coil heaters with an inbuilt thermocouple, the thermocouple location must have positive contact to the tool.
- Tools must be ground and the heater must have a tight metal to metal contact with tool.
- Carefully follow ALL safety features for electrical equipment.



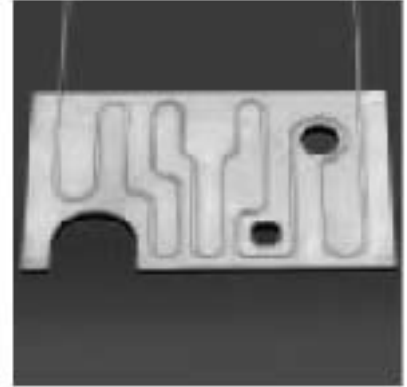
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Coil Heater Innovations

Hotslot Flat Plate Heaters

- Heating element inserted into a carrying plate with a wall thickness of min. 2.0 mm;
- Any wattage distribution possible considering the min. bending radius of 3.0 mm;
- With holes and cut-outs of any shape and position;
- Application temperature up to 650° C at small installation dimensions.



Hotslot Nozzle Heating with Inner Heating Element

- Heating element inserted into a bent carrying plate with a wall thickness of min. 2.0 mm
- Contour-precise heat transfer due to inner heating element with any wattage distribution possible (considering the min. bending radius of 3.0 mm), which can be reproduced at any time;
- With holes and cut outs of any shape and position.



Hotlock delivers precise, durable nozzle heating — with a locking mechanism for ultimate positioning and thermocouple placement

- Unique locking mechanism locates the Hotlock heater for precise location on the nozzle;
- Inner diameter/outer diameter sheath with sealed end rings for superior durability;
- Bore through thermocouple hole held in place by Hotlock locking mechanism;
- Flexible cold section for routing of leads.



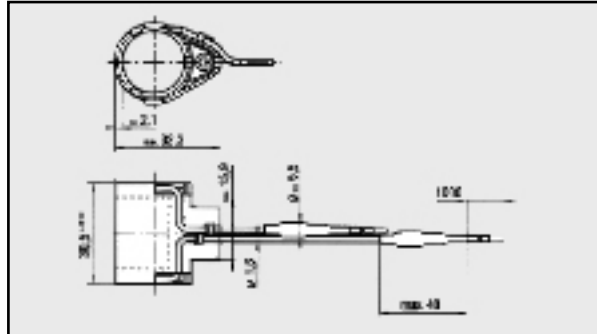
Inner Diameter and Outer Diameter Sheath/Pressed on Sheath

- Increases efficiency through reduction of wattage;
- Improved fit over entire nozzle length;
- Uniform heating profile through controlled expansion when compared to open coil.



Flat Mini Coil

Round Mini Coil – includes clamping band



Technical Data for Coil Heaters from stock:

- Leads: 72" teflon
- Voltage: 220/230/240V

Forming specifications:

- Inside diameter: 3/4" or 7/8"
- Length of clamping band: 1" or 1.2"
- Wattage: 125/137/149
237/245/268
- For special sizes, wattage or voltage please consult factory.

Example for Purchasing:

- Inside diameter: 3/4"
- Length: 1.2"
- Wattage: 268
- Voltage: 240

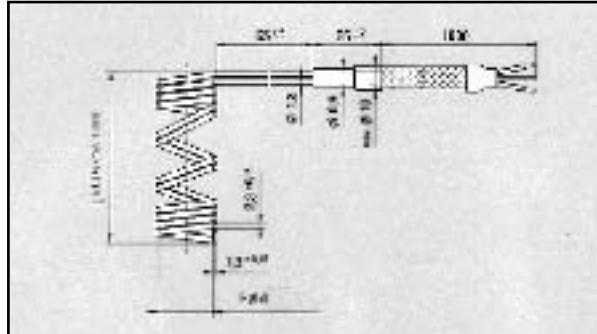
Options:

- Type J or K thermocouple wound with coil heater.
- Wattage tolerance +/-2% for flat mini axial.
- Wattage tolerance +/-10% for round mini.



I.D.	WIDTH	VOLTS	WATTS	LOCKUP
3/4"	1.2"	240	149	Axial/Flange
3/4"	1.2"	230	137	Axial/Flange
3/4"	1.2"	220	125	Axial/Flange
3/4"	1.2"	240	268	Axial/Flange
3/4"	1.2"	230	250	Axial/Flange
3/4"	1.2"	220	237	Axial/Flange
7/8"	1.2"	240	268	Axial/Flange
7/8"	1.2"	230	250	Axial/Flange
7/8"	1.2"	220	237	Axial/Flange

Flat mini-coil – .051" X .090"
Round Mini Coil – .070"



Technical Data for Mini-coil Heaters from stock:

- Leads: 72" teflon
- Voltage: 220/230/240V

Forming specifications:

- Inside diameter Minimum radius .125"
 - Length of clamping band to 3.15
 - Wattage 120 to 450, >
- other sizes on request with consideration of technical information

Example for Purchasing:

- Inside diameter: 3/4"
- Length: 2"
- Wattage: 300
- Voltage: 230

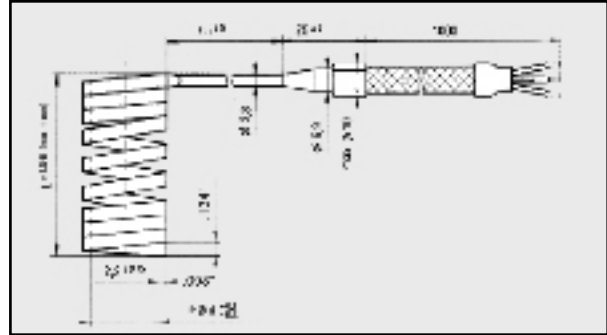
Tolerances of I.D.:

- With pressed on sheath +0.002" to +0.006"
- Without pressed on sheath -0.002" to -0.008"

Options:

- For special sizes, consult factory.
- Pressed on sheath.
- Clamping strap.
- Ground wire
- Wattage tolerance + -10%
- External Thermocouple

FLAT COIL HEATER – .098" X .134"
Flat Coil Heater
Flat Coil Heater with J – Thermocouple
Flat Coil Heater with K – Thermocouple



Technical Data for Coil Heaters from stock:

- Unheated zone: 2.56"
- Connection head: 1"
- Leads: 48" teflon
- Voltage: 230V

Forming specifications from available stock:

- Coiled length: 1" and larger
- Inside diameter: Minimum radius: .25"
- Exit: Axial, radial or tangential, and with 90 degree bend
- Total length: 14.06" to 90" (stock)
- Heated length: 10.5" to 86.6"
- Wattage: 215 W to 1300 W
- With or without thermocouple: Type J/K

Other sizes and variations on request with consideration of technical information.

Example when ordering:

- Coil heater type: (Flat coil heater with Type J thermocouple)
- Inside diameter: 7/8"
- Coiled length: 4"
- Wattage: 700 W
- Voltage: 240V
- Leads: 48" teflon leads with braided metal sleeving
- Exit: Tangential
- Thermocouple: Type J

Optional features:

- For special sizes, consult factory
- Pressed on sheath
- Clamping strap

• Best in class lead time
• Coiled from stock - 6 business hours
• Build to order 5 business days

STOCK STRAIGHT LENGTHS



Heated Length (Inch)	Unheated Length (Inch)	Total Length (Inch)	Watt	Volt
10.5	3.56	14.5	215	240
12.5	3.56	16.5	250	240
16	3.56	20	325	240
19	3.56	23	390	240
22	3.56	26	470	240
26	3.56	30	520	240
30	3.56	34	610	240
36	3.56	40	630	240
38	3.56	42	700	240
42	3.56	46	800	240
45	3.56	49	850	240

COMMON COIL SIZES

Coil I.D. Width	Coil Width	Heated Length	Total Straight Length	Wattage	Lead Length
1/2"	1"	10.5	14.06	215	48" TEFLON
1/2"	1 1/2"	12.5	16.06	250	48" TEFLON
1/2"	2"	16.0	19.56	325	48" TEFLON
1/2"	2 1/2"	19.0	22.56	390	48" TEFLON
1/2"	3"	19.0	22.56	390	48" TEFLON
1/2"	3 1/2"	22.0	25.56	470	48" TEFLON
1/2"	4"	26.0	29.56	520	48" TEFLON
1/2"	4 1/2"	26.0	29.56	520	48" TEFLON
1/2"	5"	26.0	29.56	520	48" TEFLON
1/2"	6"	30.0	33.56	610	48" TEFLON
1/2"	7"	30.0	33.56	610	48" TEFLON
1/2"	8"	36.0	39.56	630	48" TEFLON
5/8"	1"	12.5	16.06	250	48" TEFLON
5/8"	1 1/2"	12.5	16.06	250	48" TEFLON
5/8"	2"	19.0	22.56	390	48" TEFLON
5/8"	2 1/2"	22.0	25.56	470	48" TEFLON
5/8"	3"	22.0	25.56	470	48" TEFLON
5/8"	3 1/2"	22.0	29.56	520	48" TEFLON
5/8"	4"	26.0	33.56	610	48" TEFLON

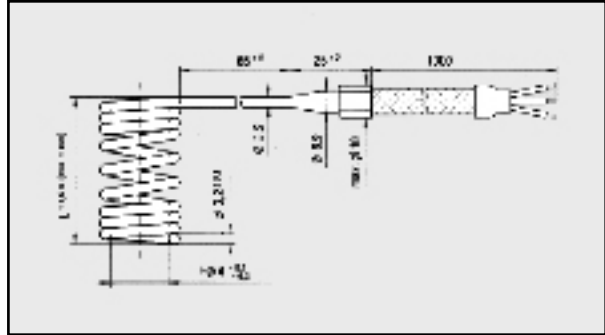
Standard 240V and 2.56" unheated section

COMMON COIL SIZES

Coil I.D. Width	Coil Width	Heated Length	Total Straight Length	Wattage	Lead Length
5/8"	4 1/2"	30.0	33.56	610	48" TEFLON
5/8"	5"	30.0	33.56	610	48" TEFLON
5/8"	6"	36.0	39.56	630	48" TEFLON
5/8"	7"	38.0	41.56	700	48" TEFLON
5/8"	8"	42.0	45.56	800	48" TEFLON
3/4"	1"	12.5	16.06	250	48" TEFLON
3/4"	1 1/2"	16.0	19.56	325	48" TEFLON
3/4"	2"	22.0	25.56	470	48" TEFLON
3/4"	3"	30.0	33.56	610	48" TEFLON
3/4"	4"	36.0	39.56	630	48" TEFLON
3/4"	5"	36.0	39.56	630	48" TEFLON
3/4"	6"	36.0	39.56	630	48" TEFLON
3/4"	7"	42.0	45.56	800	48" TEFLON
7/8"	1"	16.0	19.56	325	48" TEFLON
7/8"	1 1/2"	19.0	22.56	390	48" TEFLON
7/8"	2"	26.0	29.56	520	48" TEFLON
7/8"	3"	30.0	33.56	610	48" TEFLON
7/8"	4"	38.0	41.56	700	48" TEFLON
7/8"	5"	42.0	45.56	800	48" TEFLON
7/8"	6"	45.0	48.56	850	48" TEFLON
1"	1"	19.0	22.56	390	48" TEFLON
1"	1 1/2"	22.0	25.56	470	48" TEFLON
1"	2"	30.0	33.56	610	48" TEFLON
1"	3"	38.0	41.56	700	48" TEFLON
1"	4"	45.0	48.56	850	48" TEFLON
1 1/4"	1 1/2"	26.0	29.56	520	48" TEFLON
1 1/4"	2"	36.0	39.56	630	48" TEFLON
1 1/4"	3"	42.0	41.56	700	48" TEFLON
1 1/2"	1 1/2"	30.0	33.56	610	48" TEFLON
1 1/2"	2"	42.0	45.56	800	48" TEFLON
1 1/2"	4	45.0	48.56	850	48" TEFLON
1 1/2"	6	65.8	69.36	830	48" TEFLON
1 1/2"	7	75.3	78.84	1050	48" TEFLON
1 1/2"	8	75.3	78.84	1050	48" TEFLON
1 1/2"	9	79.0	82.56	1150	48" TEFLON
1 1/2"	10	79.0	90.16	1300	48" TEFLON
1 1/2"	11	86.6	90.16	1300	48" TEFLON
2"	1"	36.0	39.56	630	48" TEFLON
2"	1 1/2"	42.0	45.56	800	48" TEFLON

Standard 240V and 2.56" unheated section

.125 ROUND COIL HEATER
.125 Round
.125 Round with Type J Thermocouple
.125 Round with Type K Thermocouple



Example when ordering:

- Coil heater type: Round
- Inside diameter: .79"
- Length: 3.94 "
- Wattage: 630 W
- Voltage: 230V
- Leads: 48" teflon leads with 36" armor cable
- Exit: Radial
- Thermocouple: Type J

Optional Features:

- For special sizes, please consult factory
- Pressed on sheath
- Clamping strap

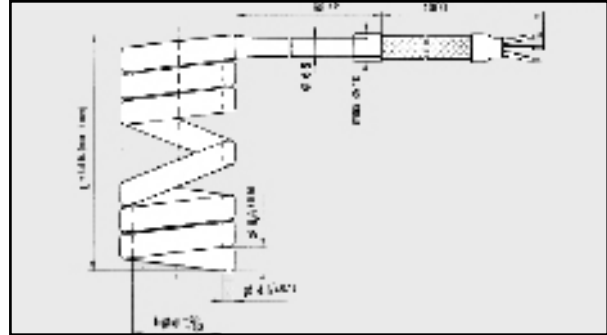


MAXI COIL HEATER .181" X .338" (flat profile)

Maxi Coil Heater

Maxi Coil Heater with Type J Thermocouple

Maxi Coil Heater with Type K Thermocouple



Technical Data for Coil Heaters from stock:

- Unheated zone: 2.00" cold section + 2.00" Transition Head
- Lead length: 48" teflon leads
- Voltage: 230V • 380VAC

Forming specifications from available stock:

- Coiled length: 1.57 and greater
- Inside diameter: Minimum radius: .375"
- Exit: Axial, radial or tangential
- Wattage: 300 - 1000
- With or without thermocouple: Type J/K

Other sizes on request with consideration of technical information.

Example when ordering:

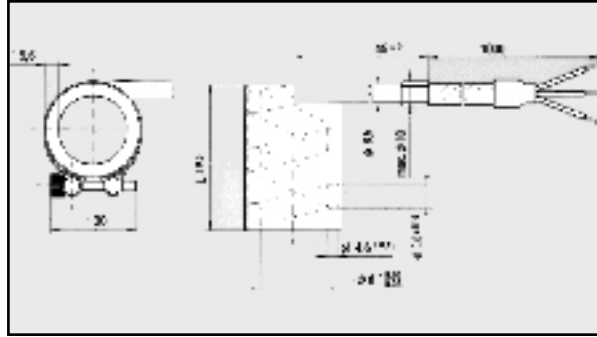
- Coil heater type: Flat Maxi
- Inside diameter: 1.97"
- Length: 3.15 "
- Wattage: 1000 W
- Voltage: 230V
- Leads: 48" teflon
- Exit: Radial
- Thermocouple: Type J

STOCK LIST (Germany)

Total Length in Millimeters	Heated Length in Millimeters	Total Length in Inches	Heated Length in Inches	Unheated Zone	Wattage
315	250	12.40	9.84	65mm	300
415	350	16.34	13.78	65mm	450
515	450	20.28	17.72	65mm	550
715	650	28.15	25.59	65mm	800
915	850	36.02	33.46	65mm	1000

*All rated at 230V with 48" teflon leads, ground wire and fiberglass sleeving. Consult factory for availability.

**MAXI COIL HEATER .181" X .338" (flat profile)
with Clamping Band:
Maxi Coil Heater
Maxi Coil Heater with Type J Thermocouple
Maxi Coil Heater with Type K Thermocouple**



Technical Data for Coil Heaters from stock:

- Unheated zone: 2.00" cold section + 2.00" Transition Head
- Lead length: 48" teflon leads
- Voltage: 230V

Forming specifications from available stock:

- Coiled length: 1.57 and greater
- Inside diameter: Minimum radius: .357"
- Exit: Axial, radial or tangential
- With or without thermocouple: Type J/K

Other sizes on request with consideration of technical information.

Example when ordering:

- Coil heater type: Flat Maxi
- Inside diameter: 1.97"
- Length: 3.15 "
- Wattage: 1000 W
- Voltage: 230V
- Leads: 48" teflon
- Exit: Radial
- Thermocouple: Type J

COMMON MAXI COIL SIZES

I.D.	LENGTH	WATTAGE	LEADS
3/4"	1-1/2"	300	48" Teflon
	2-3/8"	450	48" Teflon
	3"	550	48" Teflon
	4"	550	48" Teflon
	4-3/4"	800	48" Teflon
	5-1/2"	800	48" Teflon
	6-1/4"	800	48" Teflon
7/8"	1-1/2"	300	48" Teflon
	2-3/8"	450	48" Teflon
	3"	550	48" Teflon
	4"	800	48" Teflon
	4-3/4"	800	48" Teflon
	5-1/2"	800	48" Teflon
	6-1/4"	800	48" Teflon
1"	1-1/2"	300	48" Teflon
	2-3/8"	550	48" Teflon
	3"	550	48" Teflon
	4"	800	48" Teflon
	4-3/4"	1000	48" Teflon
	5-1/2"	1000	48" Teflon
	6-1/4"	1000	48" Teflon
1-1/8"	1-1/2"	450	48" Teflon
	2-3/8"	550	48" Teflon
	3"	550	48" Teflon
	4"	800	48" Teflon
	4-3/4"	1000	48" Teflon
	5-1/2"	1000	48" Teflon
	6-1/4"	1000	48" Teflon
1-1/4"	1-1/2"	450	48" Teflon
	2-3/8"	550	48" Teflon
	3"	800	48" Teflon
	4"	1000	48" Teflon
	4-3/4"	1000	48" Teflon
	5-1/2"	1000	48" Teflon
1-3/8"	1-1/2"	450	48" Teflon
	2-3/8"	550	48" Teflon
	3"	800	48" Teflon
	4"	1000	48" Teflon
1-1/2"	1-1/2"	450	48" Teflon
	2-3/8"	550	48" Teflon
	3"	800	48" Teflon
	4"	1000	48" Teflon

I.D.	LENGTH	WATTAGE	LEADS
1-5/8"	1-1/2"	550	48" Teflon
	2-3/8"	1000	48" Teflon
	3"	1000	48" Teflon
1-3/4"	1-1/2"	550	48" Teflon
	2-3/8"	1000	48" Teflon
	3"	1000	48" Teflon
2"	1-1/2"	550	48" Teflon
	2-3/8"	1000	48" Teflon
	3"	1000	48" Teflon
2-1/8"	1-1/2"	800	48" Teflon
2-1/4"	1-1/2"	800	48" Teflon
2-3/8"	1-1/2"	800	48" Teflon
2-1/2"	3/4"	800	48" Teflon
	1-1/2"	300	48" Teflon
	2-3/8"	800	48" Teflon
2-5/8"	6-1/4"	1000	48" Teflon
	3/4"	300	48" Teflon
	1-1/2"	800	48" Teflon
2-3/4"	3/4"	300	48" Teflon
	1-1/2"	800	48" Teflon
2-7/8"	3/4"	300	48" Teflon
	1-1/2"	800	48" Teflon
3"	3/4"	300	48" Teflon
	1-1/2"	1000	48" Teflon
3-1/8"	3/4"	300	48" Teflon
	1-1/2"	1000	48" Teflon
3-1/4"	3/4"	300	48" Teflon
	1-1/2"	1000	48" Teflon
3-3/8"	3/4"	300	48" Teflon
	1-1/2"	1000	48" Teflon
3-1/2"	3/4"	450	48" Teflon
	1-1/2"	1000	48" Teflon
3-5/8"	3/4"	450	48" Teflon
	1-1/2"	1000	48" Teflon
3-3/4"	3/4"	450	48" Teflon
	1-1/2"	1000	48" Teflon
3-7/8"	3/4"	450	48" Teflon
	1-1/2"	1000	48" Teflon
4"	3/4"	450	48" Teflon
	1-1/2"	1000	48" Teflon

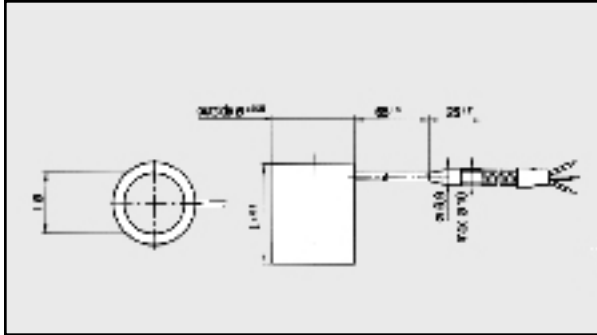
*All rated at 230V. All are available with or without type J thermocouple from stock. Consult factory for availability. Armor cable or braided metal sleeving may be added.

COIL HEATER IN BRASS

Brass

Brass with Type J Thermocouple

Brass with Type K Thermocouple



HOTSET Cast in Brass/Pressed in Brass Coil Heater

Worldwide standard in solution of demanding heating applications.

Advantages

- Tight fit on nozzle
- Optimal heat distribution
- Up to 1200 degrees F at inner brass casing
- Superior heat transfer
- Highly non-corrosive

Technical Data:

- Cast in Brass Coil heaters/Pressed in Machined Brass Body
- Outer case made of stainless steel
- Teflon leads
- Connection leads 48" long (standard) Other lengths available on request
- Connecting voltage up to 250V
- Rating up to 97 W.in² on cast coil heater
- Insulation resistance (cold) 5M Ω at 500 VDC
- Wall thickness of heater .18" to .22"

Tolerances:

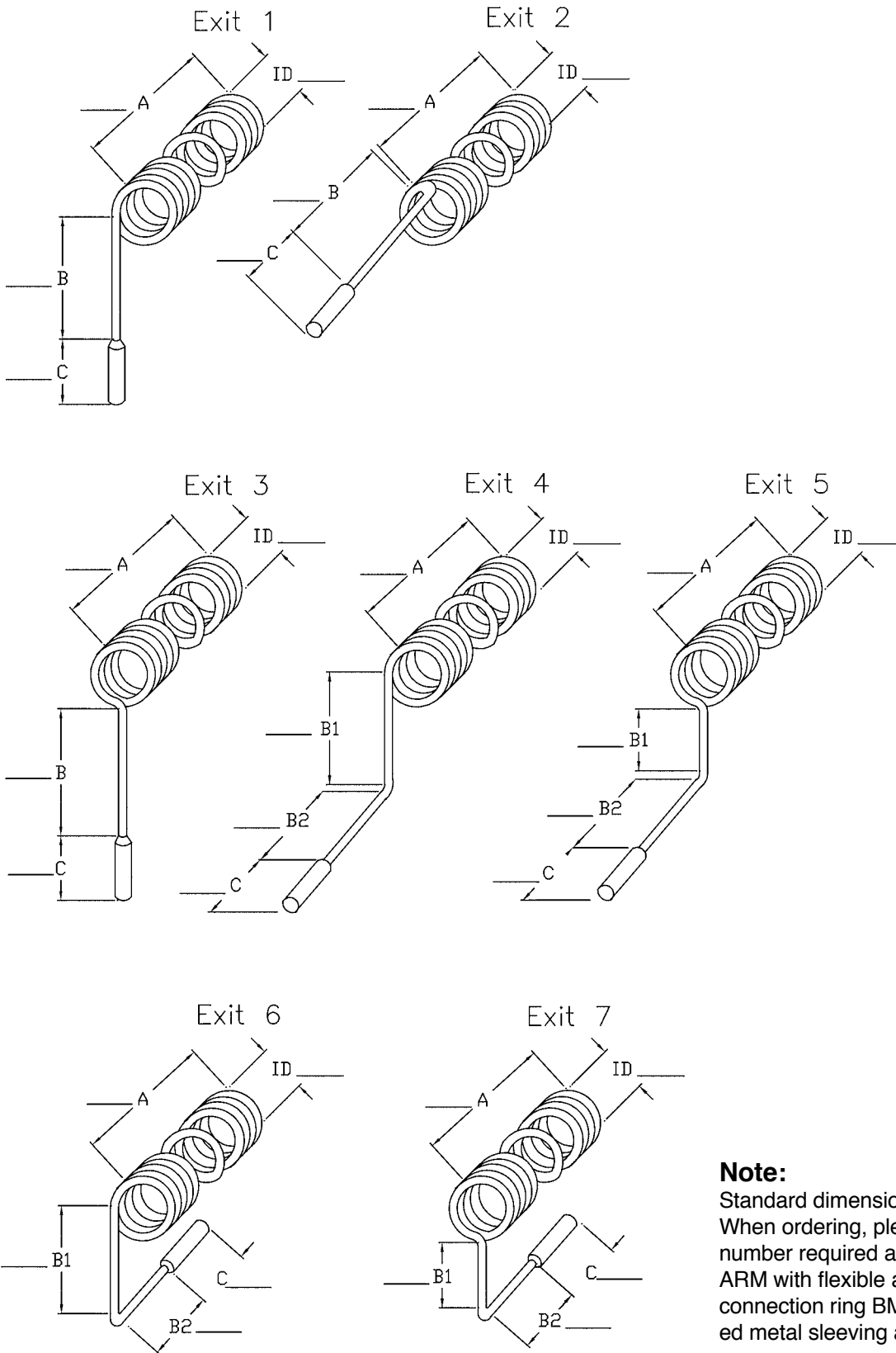
- Wattage +/- 10%
- Inside diameter + 0.5mm, Minimum radius: .18"
- Length + .02"
- Outside diameter + .01"
- Tolerance of co-axiality of inside diameter to outside diameter 0.5mm

Options:

- Inbuilt thermocouple Type J or Type K
- Thermocouple is located at the unheated part at the bottom
- Thermocouple grounded (welded to heater bottom)
- Thermocouple placement optional upon request.
- Reinforcement tube over unheated zone as protection against mechanical damage

EXIT VARIATIONS AVAILABLE

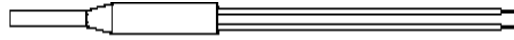
Available on all coils except mini coil



CONNECTIONS AND LEADS OPTIONS

(Standard Coil Heaters are Manufactured with Teflon Leads)

HTL High Temperature
Fiberglass Leads



SLI Fiberglass Sleeve



ARM Armor Cable



BMS Stainless Steel Braid



Notes: _____

COIL HEATER STANDARD TECHNICAL SPECIFICATION

Mini Coil w/ strap

heater sheath	Cr-Ni steel
insulation material	highly compressed MgO
heat conductor	NiCr 8020
sheath temperature	Max 1382 deg. F
high voltage stability	800 VAC
insulation resistance	$\geq 5M$ ohm at 500 -DC
leakage current	≤ 0.1 mA at 253V-AC
length tolerance	-.040"
wattage tolerance	$\pm 2\%$; $\pm 10\%$ also available
voltage	max 250
wattage	38.7 W/in ²
minimum bending radius	1/8"
thermocouple	Type J or K integrated
length of unheated zone	minimum 1", maximum 10"
standard connection	72" teflon to 500 deg. F

Flat and Round Mini Coil

heater sheath	Cr-Ni steel
insulation material	highly compressed MgO
heat conductor	NiCr 8020
sheath temperature	Max 1382 deg. F
high voltage stability	800 VAC
insulation resistance	$\geq 5M$ ohm at 500 -DC
leakage current	≤ 0.1 mA at 253V-AC
maximum total straight	118.11"
length tolerance	heated $\pm 2.5\%$; unheated $\pm 5\%$
wattage tolerance	$\pm 10\%$ (smaller on request)
voltage	max 250
wattage	38.7 W/in ²
minimum bending radius	1/8"
thermocouple	Type J or K integrated
length of unheated zone	minimum 1", maximum 10"
standard connection	72" teflon to 500 deg. F

Flat and Round Standard Coil Heater

heater sheath	Cr-Ni steel
insulation material	highly compressed MgO
heat conductor	NiCr 8020
sheath temperature	Max 1382 deg. F
high voltage stability	800 VAC
insulation resistance	$\geq 5M$ ohm at 500 -DC
leakage current	≤ 0.1 mA at 253V-AC
maximum total straight	118.11"
length tolerance	heated: $\pm 1\%$ Flat/ $\pm 2.5\%$ Round unheated: $\pm 2.5\%$ Flat/ $\pm 5\%$ Round
wattage tolerance	$\pm 10\%$ (smaller on request)
voltage	max 250
wattage	38.7 W/in ²
minimum bending radius	1/4"
thermocouple	inbuilt Type J or K
length of unheated zone	2.56" heater; 1" transition
standard connection	48" teflon leads

COIL HEATER TECHNICAL INFORMATION

Maxi Coil	heater sheath insulation material heat conductor sheath temperature high voltage stability insulation resistance leakage current maximum total straight length tolerance wattage tolerance voltage wattage minimum bending radius thermocouple length of unheated zone standard connection	Cr-Ni steel highly compressed MgO NiCr 8020 Max 1382 deg. F 1200 VAC $\geq 5M$ ohm at 500 -DC ≤ 0.1 mA at 253V-AC 118.11" $\pm 1\%$ $\pm 10\%$ (smaller on request) max 440 max 97 W/in ² 3/8" inbuilt Type J or K 2.56" heater; 1" transition 48" teflon leads
Coil in Brass	heater sheath insulation material heat conductor sheath temperature high voltage stability insulation resistance leakage current length tolerance wattage tolerance voltage wattage minimum bending radius thermocouple length of unheated zone standard connection I.D. tolerance	stainless steel & brass see internal heater information see internal heater information 1200 deg. F 800 VAC $\geq 5M$ ohm at 500 -DC ≤ 0.1 mA at 253V-AC ± 0.5 mm $\pm 10\%$ max 250 max 97 W/in ² n/a inbuilt Type J or K 2.56" heater; 1" transition 48" teflon leads +0.002

Notes: _____

Discussion Items:

ID _____
OD _____
Length/Width _____
Watts _____
Volts _____
Exit Style _____
Lead Wire/Protection _____
Operating Application Temperature _____
Environment _____
Average Heater Life _____
Problem you are trying to solve? _____

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