Turbular Heater

Description

Heating elements for a wide range of heating applications. High power density and easy installation provide a solution for most heating applications. The elements can be adapted to most requirements. Various sheath materials are available.

Features

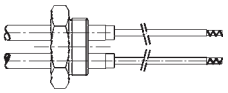
- Controllable heat by resistance wire technology
- Resistance wire embedded in magnesium oxide thereby insulated from the metall sheath
- Heat transfer by conduction, convection or radiation.

Design Characteristics

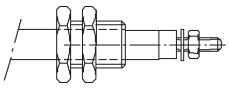
- Sheath diameter: 8.5mm
- Sheath length from 400 to 4300mm
- Connection area unheated, unheated lengths as required preferably 50, 75, 105, 140, 180, 280 and 900mm.
- Operating voltage up to 500V
- Power output tolerance conforming to DIN EN 60335 (VDE 0700) - Sheath bendable, annealed, bending as required, preferred bending radii R15, R20, R25, R30, R35, R45, R50, R60, R70, R80, R100
- Corrosion-proof by choice of adequate material
- Sheath materials 1.4541, 1.4571, 1.4435 and 1.4876 other materials on request
- Electrical terminations: threaded stud M4
  unthreaded stud diam. 2.5 and 3.5mm blade terminal 6.3
  Lead wires

Design

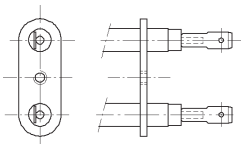
- Bent according to drawing or sample
- If desired we will make proposals for optimum configuration of the heating elements
- Please note that the transition from heated to unheated section must not be located in a bend
- Minimum bending radii are R=15mm for 1.4876 R=20mm



Threaded nipple G1, with lead connection



Threaded nipple M14, threaded connection M4



Oval flat flanges, blade terminal

Lead connection bead-insulated with end sleeve

Mounting

Various mounting configurations are available:

- threaded nipples soldered, welded or pressed on
- threaded flanges
- flat flanges round or rectangular
- metal bases customized design

Available Nipples

For pressing on	G 1/4" x 12 x Ø 18	St 37
	G 1/4" x 12 x Ø 18	stainless steel
For soldering	G 1/4" x 12 SW 17	brass
	G 1/4" x 35 SW 17	stainless steel
	M 14 x 18 SW 19	brass
	M 14 x 24 SW 19	brass
	M 14 x 35 SW 19	brass
For welding	G 1/4" x 16 SW 17	stainless steel

Applications

- Grills, baking ovens, broilers, baking plates
- Washing machines, dishwashers
- Instantaneous water heaters, boilers, water heaters
- Heating of dies, moulds and tools
- Comfort heaters, air heaters, radiation heaters
- Steam generators, evaporators, dryers
- Deep fat fryers and frying pans

Inquiries and orders should indicate/include:

- Formation, dimensions
- Intended use, substance to be heated
- Tube diameter, material, unheated tube length
- Mounting and fastening devices
- Electrical connection
- Voltage and performance
- Desired quantity

Applications * Instantenaous Heater		Temperature of substance to be heated	Admissible Surface Load in W/cm²		
			1.4541	1.4876	1.4435
Heating of Gases	Still Air	250°C	2,5	3	
	Forced Air 2 m/s	250°C	3,2	4	
	Forced Air 10m/s	250°C	7	8	
Heating of Liquids	Still Water	100°C	10	10	10
	Flowing Water*	100°C	20	20	20
	Water (Dry Run Heater)	95°C	5	6	6
	Acid Baths	100°C	6		
	Thinned Acids	100°C		2,5	2
	Phosphat Acids	90°C	4		4
	Liquid Oils	50°C	3,5		
	Liquid Oils	250°C	2		
	Viscous Oils	300°C	1,2		
	Glycerine	150°C	2		
	Tar	150°C	1		
	Lead Bath	500°C	4		
Heating od Solids	Contact Heating of Metals	250°C	4	5	
	Indirect Heating		4	4	
	Cast in soft metal with control	250°C	25		
	Cast in soft metal w/o control		6		

DBK's knowledge of thermal management gives us the experience to guide and support you with your technical challenges - we can manage the complete project from concept to full production release.