

CARTRIDGE HEATERS

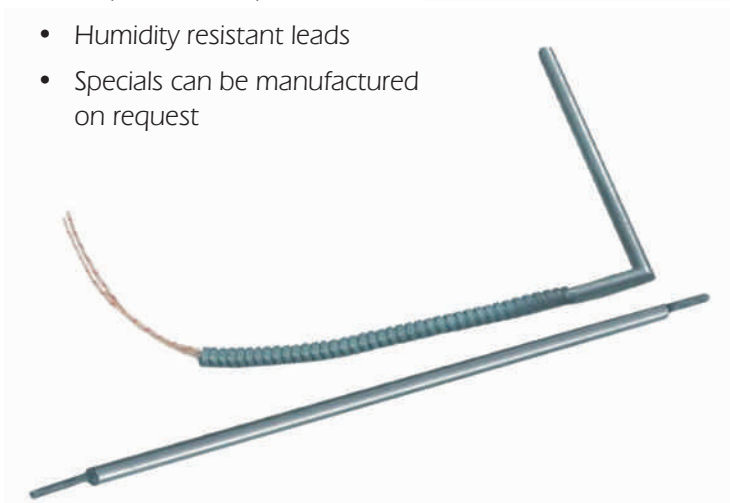
STANDARD FEATURES

- Compacted cartridge heaters have a supporting core which is centrally located very close to the outer sheath
- The inner space is filled with pure magnesium oxide powder and is highly compressed
- The bottom end of the cartridge heater is gas tight welded and the outside sheath ground for precision tolerance
- Diameters vary from standard to non-standard 6.0 - 25mm including imperial sizes



OPTIONS

- Built-in thermocouple (Type J, K)
- Surface loads can vary from 5W/cm² to 30W/cm²
- Humidity resistant leads
- Specials can be manufactured on request



Standard Tolerances

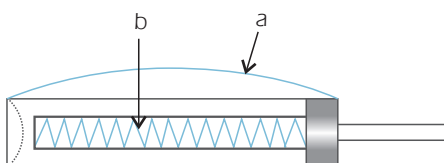
Diameter	+ 0 - 0.05mm
Length	< 130mm ± 2%
	> 130mm ± 1%
Wattage	± 10%

Special tolerances can be supplied on request

Diameter	+ 0 - 0.01mm
Length	± 0mm

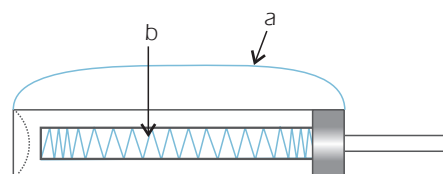
PROFILE CARTRIDGES

Elements with special heat distribution can be supplied on request. A profile cartridge heater is recommended to evenly heat in sealing bar applications.



Standard heat distribution

- a - Temperature curve
b - Resistance (on heating wire)



Profile heat distribution

- a - Temperature curve
b - Resistance (on heating wire)

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CARTRIDGE HEATERS WITH BUILT-IN TYPE 'J' THERMOCOUPLES

1m NFg 'O' TAILS & 1m type 'J' Thermocouple cable	
Diameter X length (mm)	Wattage at 230V
6.5 x 40	160
6.5 x 50	200
6.5 x 60	250
8.0 x 50	250
8.0 x 60	250
8.0 x 80	315
10.0 x 40	200

These are available ex-stock. Other sizes and wattages can be manufactured as a special

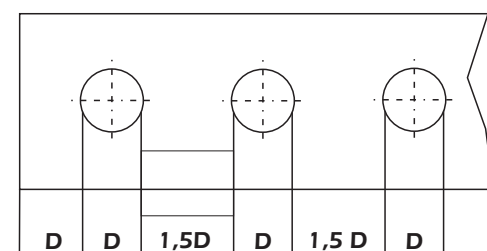


SPLIT CARTRIDGES

- Suitable for higher operating temperatures as the heater expands and fits tightly into the mould / die eg. Die casting machines
- Better performance in long cavities or worn holes
- Standard sizes available (12.5, 16mm diameter)
- Easier to remove from mould / die
- Even heat distribution over the length of the cartridge

INSTALLATION OF CARTRIDGE ELEMENTS

- For good heat transfer between the cartridge and the mould a precise bore (ISO H7) is required
- For high powered cartridges with a surface load in excess of 20 Watt/cm² a press fit is necessary Uneven bore surface or excessive tolerance of the bore results in hot spots, thus reducing the life span of the element
- Excessive length of the cartridge protruding out of the tool will lead to overheating of the exposed length and eventual failure
- The distance between cartridge and external tool surface should be at least equal to the diameter of the cartridge
- The use of non-conductive anti-seize paste is recommended to allow easy removal of the cartridge once they need to be replaced



POSITION OF HEATING CARTRIDGE INSIDE THE MOULD

The distance in between the heating cartridges inside a mould should not fall below 1,5 x D. Distance to outer wall must be at least 1x D