

Single-core heater with real cold ends (customized design)

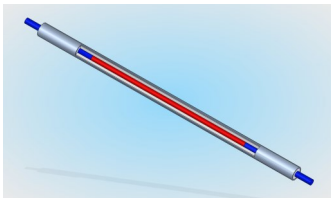
Core material	K = Constantan	Ni=Nickel	NC= NiCr80/20	BA=NiFe70/30				
Sheath material	VA=AISI 304L	VA2=AISI 304	VA3=AISI 316L	VA4=AISI 321	VA5=AISI 316TI	VA6=AISI 314	VA7=AISI 309	VA8=AISI 310S
	I=Inconel600	I2=Inconel601	I3=Inconel625	I4=Inconel800	I5=Inconel825			

Encoding scheme for requests and orders:

C - H – sheath material - line resistance [Ohm/m] - Ø [mm] - hot part lengths [mm] – 2x - C – cold part lengths [mm]

Example:

C-H-I-7,0-2,0-6000-2x-C-1000mm: customized single core heater with real cold ends, sheath: „I“ (Inconel600), line resistance: 70Ohm/m +/-10%, 2,0mm sheath diameter, hot part length: 6000mm +/- 5%, cold part length min. 1000mm



Heater with real cold ends are without any change in diameter between heated part and cold ends.

ThermSys manufactures heaters in standard and customized designs with dedicated properties in line resistance and sheath materials.

Variants in line resistance		Standard		High	
Sheath-Ø [mm]	Minimum hot part length [mm]	Line resistance		Line resistance	
		Hot part	Cold end	Hot part	Cold end
1,0	250	12,5	< 0,6	-	-
1,5	300	5,5	< 0,3	12,5	< 0,5
2,0	250	3,1	< 0,15	7,0	< 0,2
2,5	500	2,0	< 0,1	4,5	< 0,15
3,0	500	1,4	< 0,07	3,1	< 0,1
3,5	500	1,0	< 0,05	2,3	< 0,07
4,0	500	0,8	< 0,04	1,8	< 0,06

**Technical data's / Handling:**

- Resistance tolerance: +/-10% (standard)
- Sheath-Ø-tolerance: +/-0,05mm
- Core material: NiCr80/20 (standard)
- Sheath material: VA4 or I (standard)
- Bending radius: 2 - 3 x sheath-Ø
- Do not bend heater to often - depending from bending ratio and accumulated plastic deformations of the heater materials !
- Hot part length tolerance: hot part < 1m: +/-10%, above +/-5% (but min +/-100mm)
- Cold part length: customized
- Max. voltage / power over sheath depending on sheath diameter, temperature gradient heater to heated parts / thermodynamic max. possible flow energy from heater to heated part and heating up cycles. Please refer to our technical sheet "Handling and operation of ThermSys mineral insulated heaters and applications" we send on request or you can download on our website.
- Mineral insulation: Magnesium Oxide (MgO), other insulation on request
- Recommended use:  
Stainless steel sheath up to 600°C,  
Inconel600 sheath up to 1000°C