

Silicone Nitride Heaters (343-HEATER-SIN-xxx)

The fully ceramic heating elements made from Silicone Nitride are ideal for in-vacuum and in-air use. They have a number of advantages in comparison to metallic heating elements:

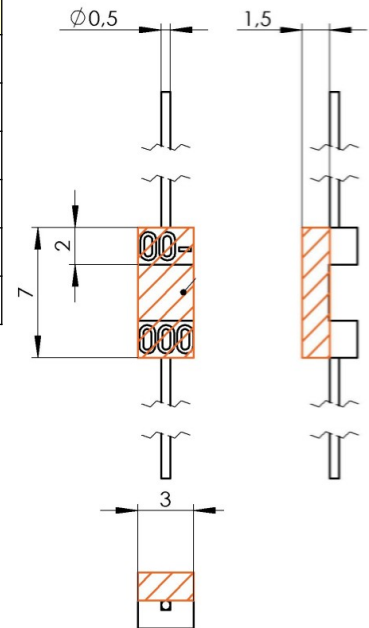
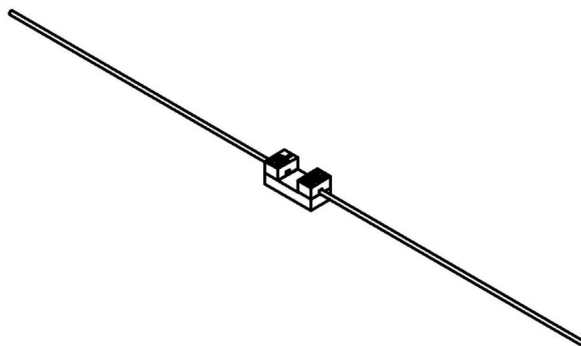
- Temperatures up to 1000°C
- low mass / fast response
- Temperature shock resistance 500K
- high mechanical strength (2000 MPa compressive) and very low self-deformation
- high dielectric strength (25KV/mm) and high insulation resistivity (10^{13} Ohm @ 20°C)
- fully UHV compatible, but can be used in air as well to the max. specified temperature

The contacts are made from Nickel wire, they are brazed to the heating elements. This contact area is limited to 500°C. For heaters designed for 1000°C, a non-heated zone is added to keep the contact area below 500°C

The smallest heater is just 3x3x7mm, circular heaters up to 300mm Ø or right angular heating plates bigger than 200x200mm are available on request.

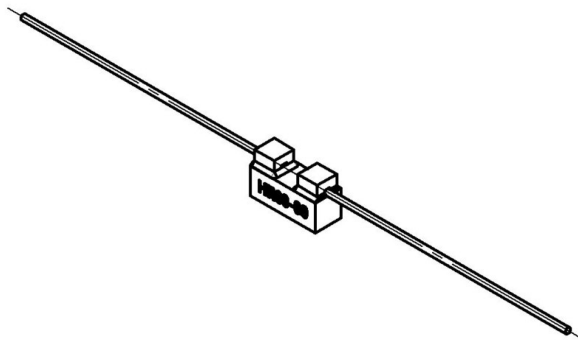
For UHV applications, typically small components are of interest.

Art. Nr	343-HEATER-SIN-7x3
Size	7x3mm, ~3mm high
Max. Temperature	500°C
Nominal Voltage	24V
Nominal Resistivity	19 Ohm @20°C
Max. Power	30W
Connection	2x 0.5mm Ø Nickel wire, 40mm long

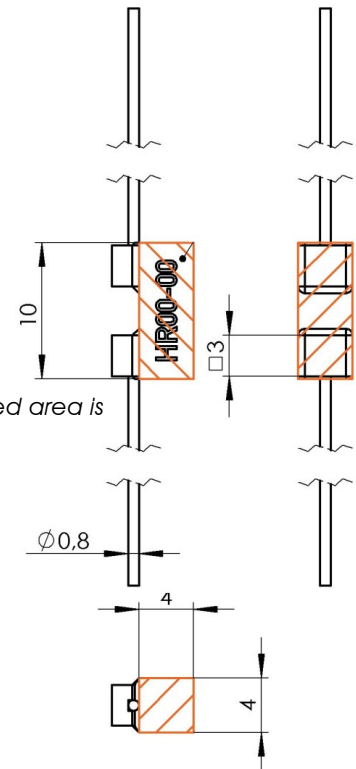


The brown hatched area is the heated part

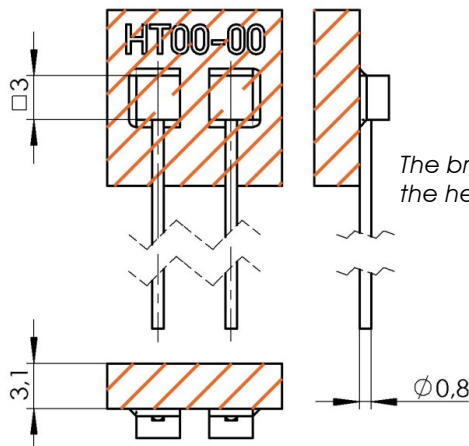
Art. Nr	343-HEATER-SIN-10x4
Size	10x4mm, ~6mm high
Max. Temperature	500°C
Nominal Voltage	24V
Nominal Resistivity	14 Ohm @20°C
Max. Power	40W
Connection	2x 0.8mm \varnothing Nickel wire, 40mm long



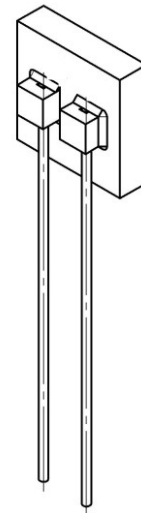
The brown marked area is the heated part



Art. Nr	343-HEATER-SIN-12x12
Size	12x12mm, ~5.1mm high
Max. Temperature	500°C
Nom. Voltage	24V
Nom. Resistivity	18.3 Ohm @20°C
Max. Power	31W
Connection	2x 0.8mm \varnothing

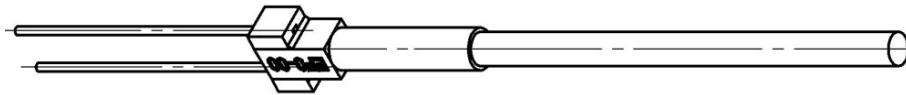


The brown marked area is the heated part

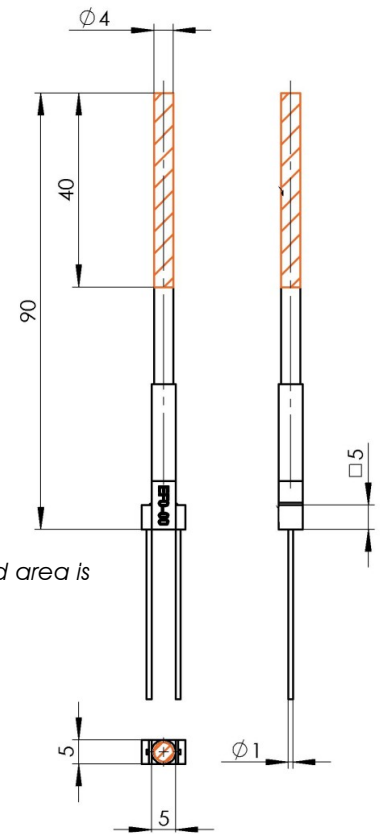


Art. Nr	343-HEATER-SIN-40x4
Size	5x5mm, 90mm long, 4mmø x 60mm (see drawing)
Heated area	4.0mm ø, 40mm long
Max. Temperature	1000°C
Nom. Voltage	70V
Nom. Resistivity	50 Ohm @20°C
Max. Power	100W
Connection	2x 1mm ø Nickel wire, 35mm long

Typical application is insertion in a circular hole in metal parts.



*the brown maked area is
the heated part*



A line drawing of a satellite dish antenna. The dish is a large, shallow parabola with a small central feed horn. It is supported by two legs that are angled outwards and downwards. Each leg has a rectangular base or support structure near the dish.