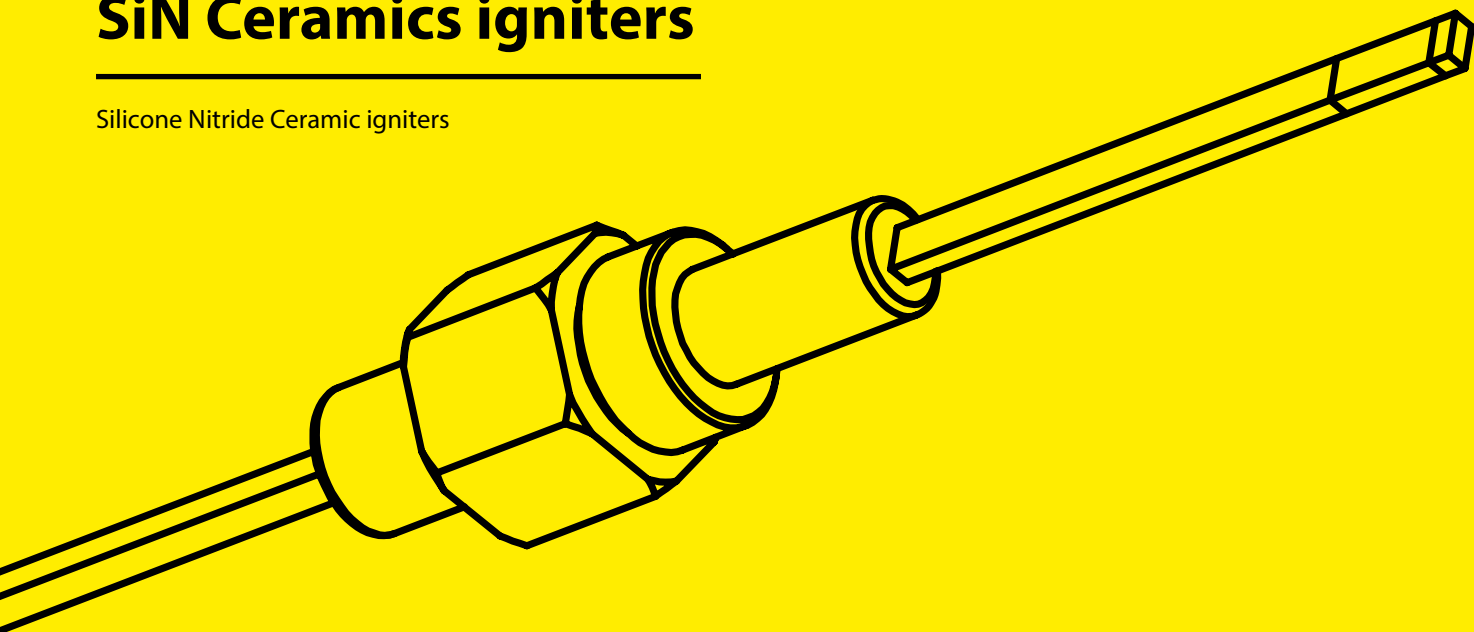


FKK

Silicon nitride igniter
2021 Catalog

SiN Ceramics igniters

Silicone Nitride Ceramic igniters



FKK Corporation producing OEM custom order ceramic silicon nitride igniters for gas and oil energy-efficient equipments. FKK Corporation is now one of the world's leading producers of ceramic igniters for compact boilers and tankless water heater as well as Fuel Cell SOFC/PEFC appliances, covering Asia and America .

Features

Long Rated life

While standards igniters only last 2 or 3 years, FKK ceramics igniters are made to last at least 90000 hours (nearly 10 years) according to Japanese standard and made to be very resistant in all conditions (high humidity, freezing temperatures, strong vibrations, etc.). We are the unique maker in the world to be able to design SiN igniters with average life greater than 90,000 hours in continuous operation at nearly 1400°C.

High temperature, high constraint

FKK ceramics igniters can reach 1400°C. However, due to perfect sealing process, lead wire junction temperature do not exceed 150°C. You can miniturize your system, make it safer and prolonged the rated life of other components.

Faster

Rising temperature is faster: up to 1000°C in 6 seconds.

High efficiency

High-watt density discharge allow high thermic efficiency.

Superior properties

Highly resistant to mechanical strength, high temperature strength and thermal shock. Excellent electrical insulation, dielectric strength and thermal shock resistance.

No electromagnetic discharge

Contrary to spark electrode, ceramic igniters generate no electromagnetic interference so it can be safely use in systems and applications sensitive to electromagnetic discharge.

Material

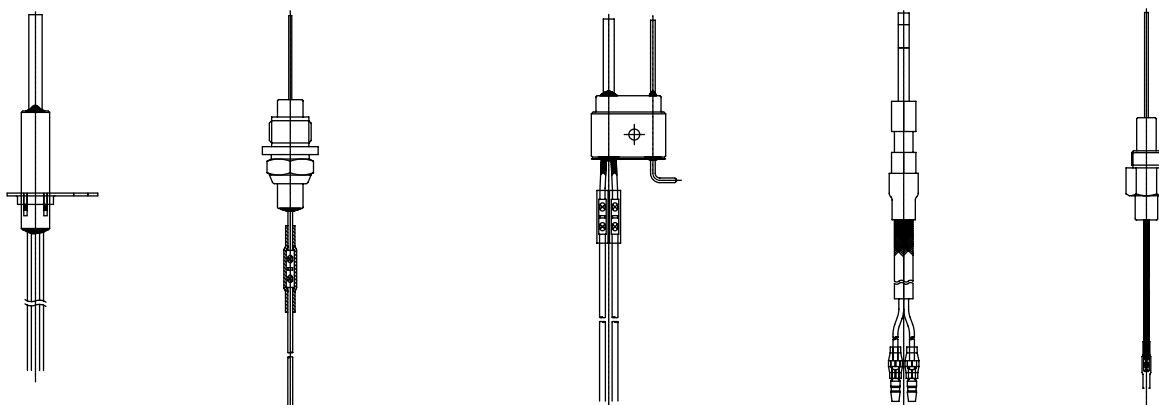
- Silicone Nitride Si_3N_4

Range of temperature

- 1100~1400 °C

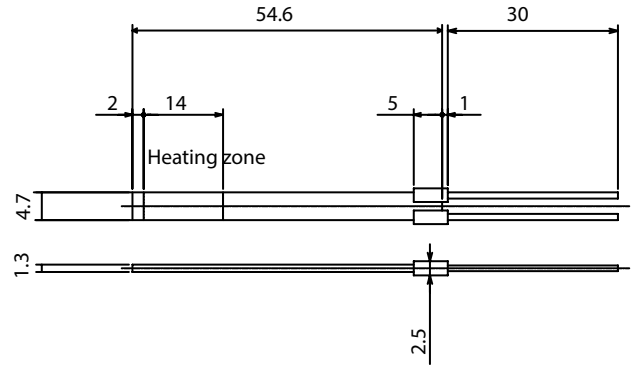
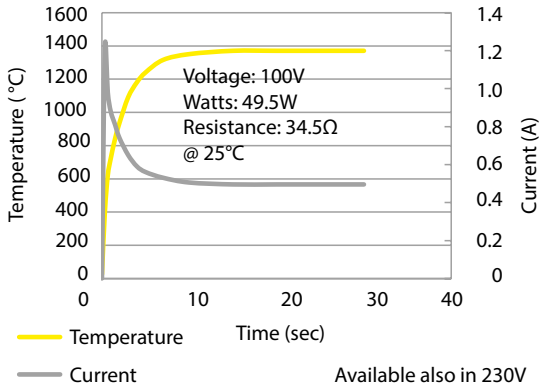
Application

- Furnace, burner, kiln
- Gas, oil water heater, boiler or other heating equipment
- SOFC, PEFC Fuel Cell MCHP burner and re-former
- Gas reforming
- Post gas combustion
- Laboratory equipment

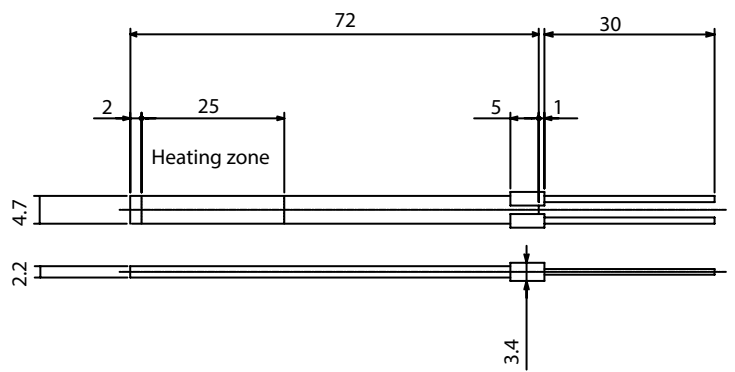
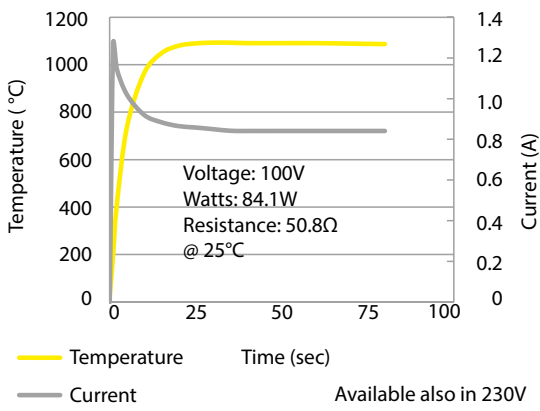


Si₃N₄ Igniter 54.6L

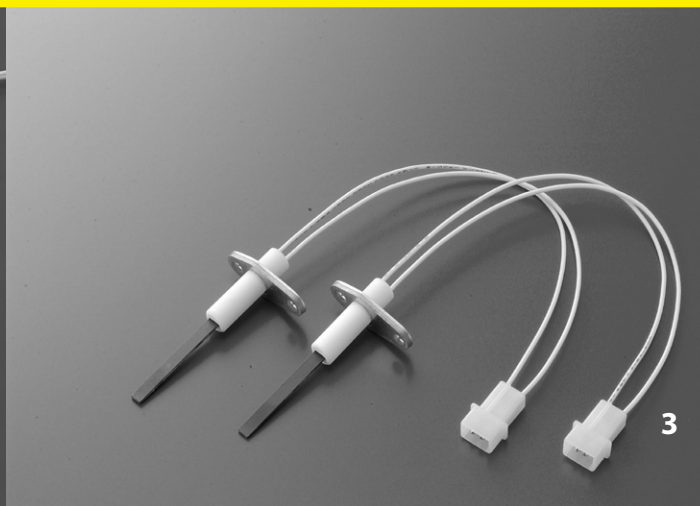
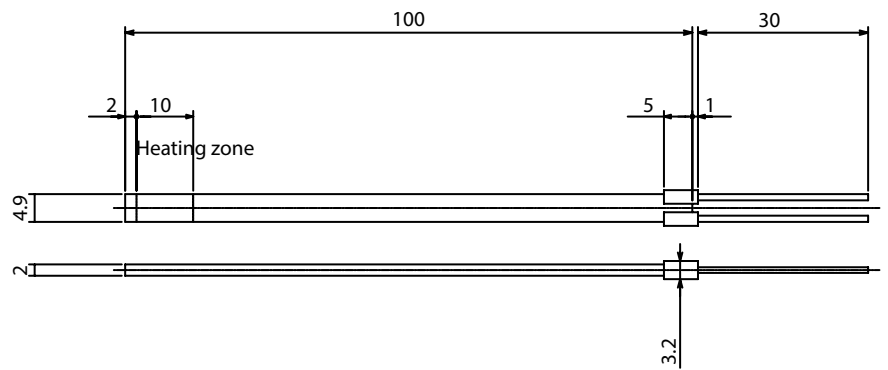
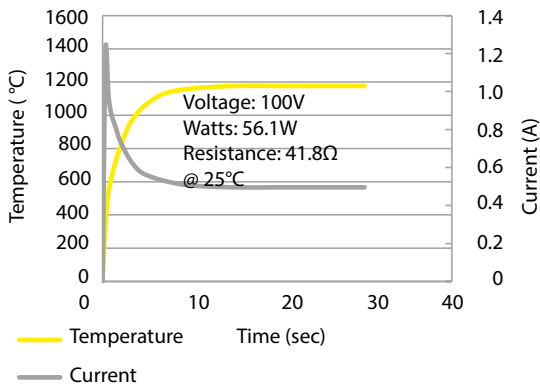
Unit (mm)



Si₃N₄ Igniter 72L



Si₃N₄ Igniter 100L



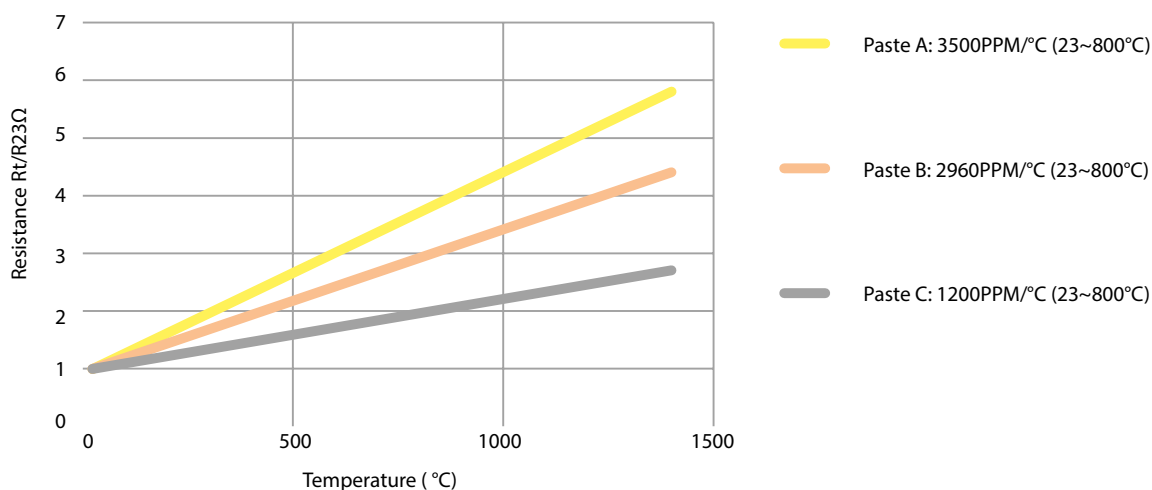
SiN Ceramic igniters properties

Si₃N₄ Ceramics igniters properties

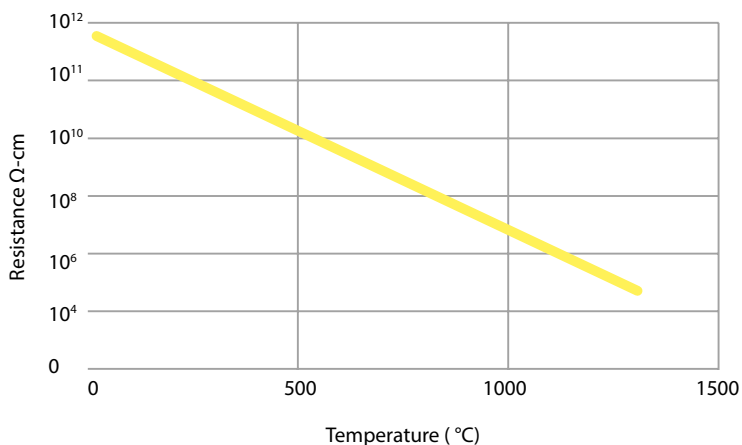
Mechanical and Thermal Properties

Items	Unit	SiN Igniter	
		SN220	SN362
Maximum temperature	°C	1300	1400
Typical temperature	°C	1200	1300
Thermal conductivity	w/mk	25	31
Linear expansion coefficient	/°C(40-800°C)	3.2x10 ⁻⁶	3.7x10 ⁻⁶
Vickers hardness (500g load)	GPa	14.7	17.1
Bending strength	MPa	590	900
High-temperature strength (Flexural strength at 800°C)	MPa	600	900
Thermal shock resistance	°C	600	900

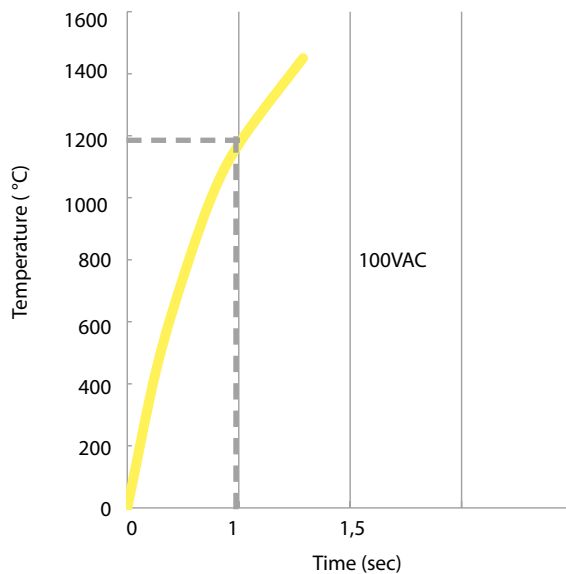
Temperature coefficient of resistance



Resistance

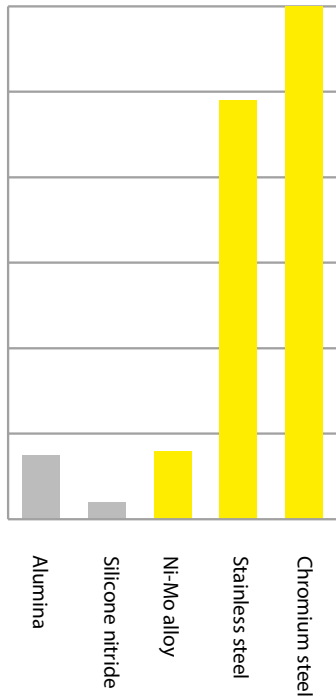


High speed type

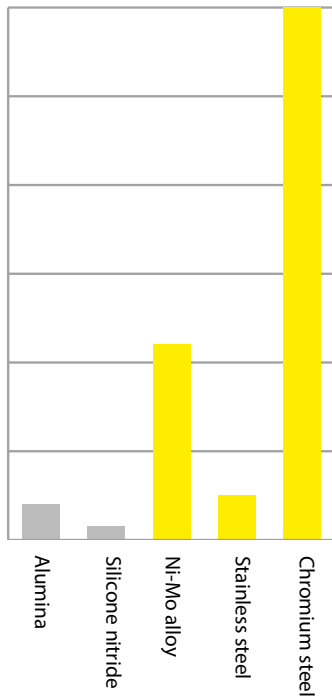


Chemical characteristics (nitric acid resistance)

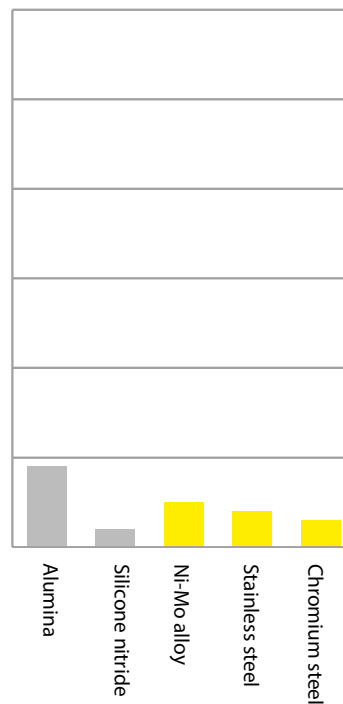
Corrosion Loss - 60% H₂SO₄



Corrosion Loss - 60% HNO₃



Corrosion Loss - 60% NaOH



All drawings and data-sheets are available for download at : <https://www.plug.fkk-corporation.com/en/products/sin-ceramic-igniter>

You can also scan the QR code to go directly on the related page.



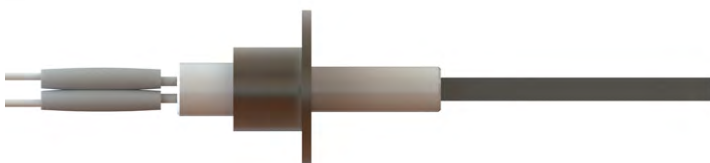
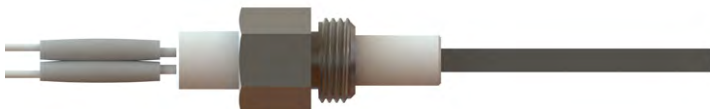
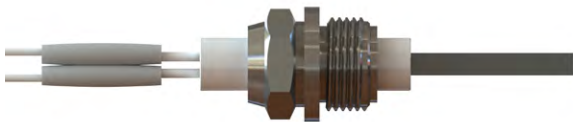
SNx series igniters line up

Silicone Nitride Ceramics igniters standard products

Features

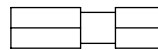
- High temperature 1200~1400°C
- 1000°C in 6 seconds
- High resistance to thermal shock (600~900°C)
- Designed for over 90000h of powering
- 90~120V , 220~240V current available
- Totally customizable solution, many design available

Line up



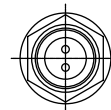
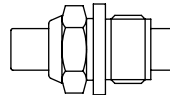
SNx-1

D.8mm x L40mm ceramic flange
1200°C type



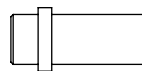
SNx-2

M18 thread nut flange
1200°C type



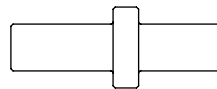
SNx-3

D14mm x L30mm ceramic flange
1200°C type



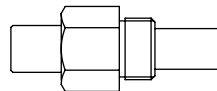
SNx-4

D19mm x L50mm ceramic flange
1300°C type



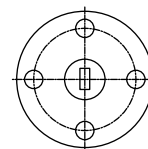
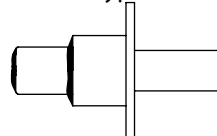
SNx-5

M16 thread nut flange
1300°C type



SNx-6

32mm round metal flange
1300°C type



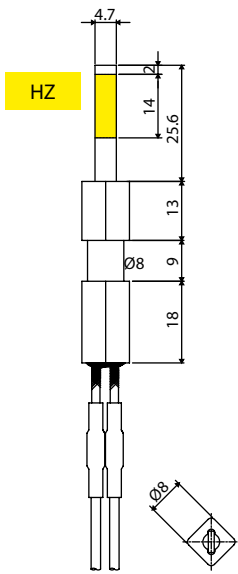
Line up

Unit (mm)

1200°C type

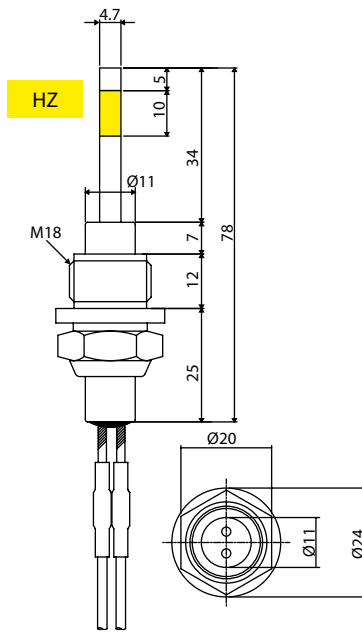
HZ = Heating zone

SNx-1



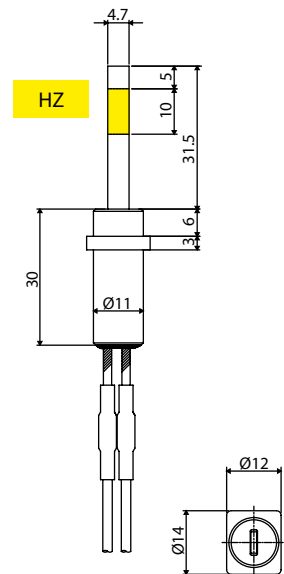
32~45W - 1200°C

SNx-2



32~45W - 1200°C

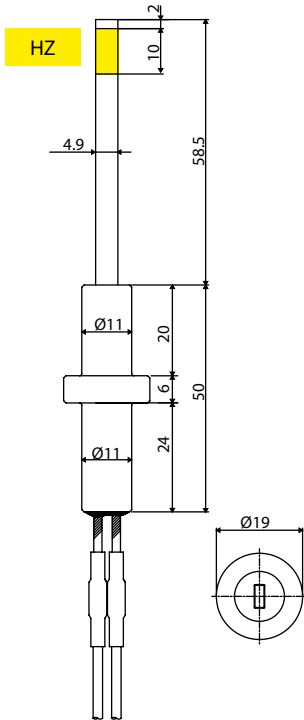
SNx-3



44~63W - 1200°C

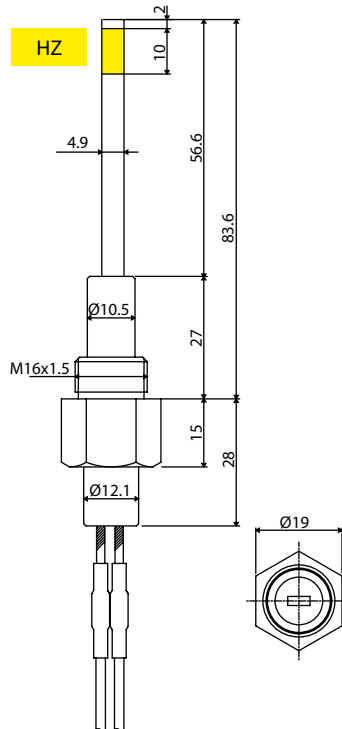
1300°C type

SNx-4



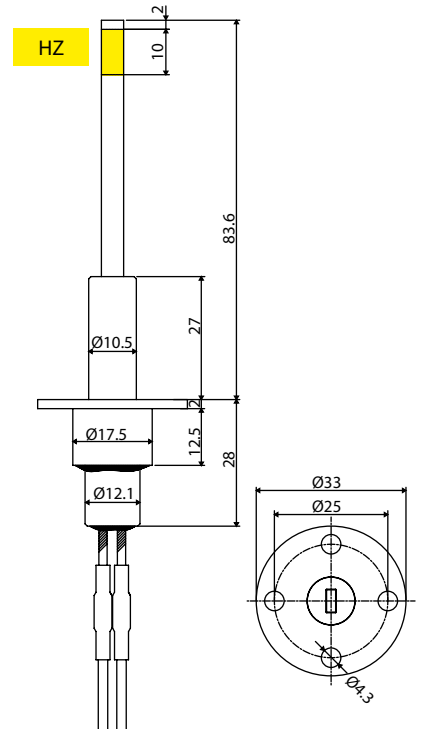
47~65W - 1300°C

SNx-5



47~65W - 1300°C

SNx-6



47~65W - 1300°C

Type	Reference	Flange type	Heater length (mm)	Available voltage (V)	Cable length (mm)
32~45W 1200°C	SNx-1	Ceramic 8 x 40mm	38	100~120	350mm
	SNx-2	M18 flange 24mm	34	100~120	
	SNx-3	Ceramic 14 x 30mm	41	100~120, 220~240	
47~65W 1300°C	SNx-4	Ceramic 19 x 50mm	56.5	100~120, 220~240	*All lengths available upon request
	SNx-5	M16 flange 19mm	56.6	100~120, 220~240	
	SNx-6	Metal flange 32mm	56.6	100~120, 220~240	

