GORGEOUS



XIAMEN GORGEOUS NEW MATERIAL CO., LTD.

Ceramic Heater Product Catalog

DEDICATED TO BECOMING A LEADER IN CHINA'S CERAMIC HEATING ELEMENT INDUSTRY

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GORGEOUS

COMPANY PROFILE

Established in 2010 and located in the Torch High-tech Industrial Development Zone in Xiang'an, Xiamen, China, GORGEOUS CERAMICS (GGS Ceramic) is a leading national high-tech enterprise specializing in the production of advanced ceramics. Our products are exported to more than 60 countries and regions worldwide.

We possess robust R&D capabilities, supported by a provincially recognized technical R&D platform and in-house laboratories, along with a professional R&D team of over 20 experts. Whether exploring entirely new application areas or expanding into existing markets for technical ceramics, GORGEOUS CERAMICS (GGS Ceramic) brings deep professional expertise and a solid technical foundation.

We excel at identifying the latent needs of various industries, precisely defining the development direction for ceramic materials, and driving technological innovation through continuous R&D investment. Committed to ongoing research and development, we provide our clients with insights into cutting-edge technical advancements and professional industry guidance.



CERAMIC HEATER PRODUCT CATALOG

Dimensions and Precision 1

Example of Heating Characteristics 2

Ceramic Pwllet Ignition 3

E-cig/3D Printers Ceramic Heating Elements 4

Ceramic Heater for Oxygen Sensor 5

Smart Bidet/Water Dispense/Instant Water Heater Element 6

Ceramic Heater for Soldering Iron/Soldering Station 7

Aluminum Ceramic Heating Plate/Metalized Ceramic 8

Aluminum Nitride/AIN Heater 9

Ceramic lgnition Rod for Intelligent Moxibustion Instrument 10

Ceramic Heating Rod for Automated Dental Floss Dispensers 11

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DIMENSIONS AND PRECISION

Configuration	Dimension			Precision	Resistor Tolerance
Plate	Lenght L(mm)	Width W(mm)	Thickness T(mm)	L*W : ≤20±0.3; ≥20±1 T : ≤1±0.1; ≥1±0.15	±10%
	10-120	2-60	0.55-2		
	Lenght L(mm)	Diameter (mm)		I : ≥30±0.5; 30-100±1; ≥100±1.5 OD : ≤5±0.1; 5-9±0.2; ≥9±0.3	
Rod	8-121	2.5-8			±10%
Tube	8-121	2.5-20			±10%

MATERIAL ANALYSIS

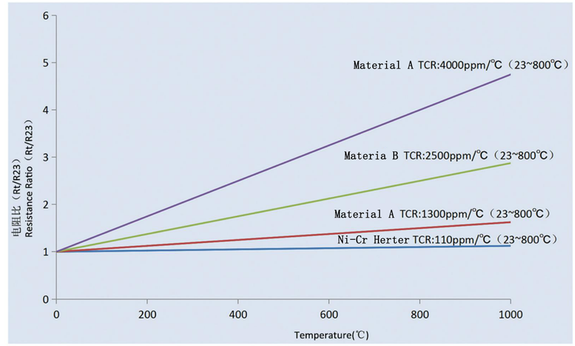
	Silicon Nitride	Aluminum Nitride	Aluminum Ceramic
Color	Black	Grey	White
Chemical Composition(℃)	Si3N4	AIN	Al2O3
Max.Working Temperature (10^-6/℃)	1300	600	1050
Working Temperature (℃)	1200	500	850
Coefficient of Expansion (10^-6/℃)	3.0-3.2×10^{-6}	4.5-4.6×10^{-6}	7.0-8.5×10^{-6}
Flexural of Expansion (MPa)	800-1000	300-400	250-400
Vickers Hardness(GPa)	14.7	≧11	13.5
Density(g/cm^3)	3.44	3.2	3.8
Thermal Conductivity 25℃/(m.k)	20-30	170-260	20-30
Fracture Toughness	6-8	2.5-3.5	2.5-3.5

The values provided above are parameters determined through testing of the products. Actual characteristic values may vary depending on the product's shape and the conditions under which it is used. For further details, please consult our sales department.

EXAMPLES OF HEATING CHARACTERISTICS

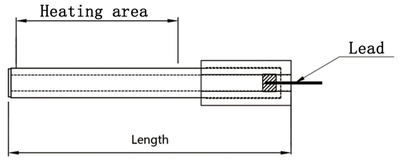
Resistance Ratio vs. Temperature

Materials / Tem	Material A	Materia B	Materia C	Ni-Cr Herter
23℃	1	1	1	1
450℃	1.559	2.075	2.935	1.0473
800℃	2.014	2.95	4.51	1.0858



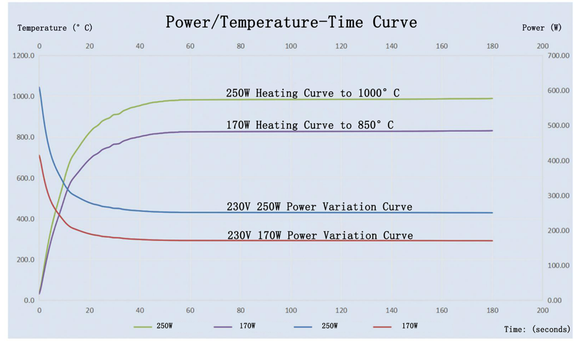
Tubular Heating Element

Configuration



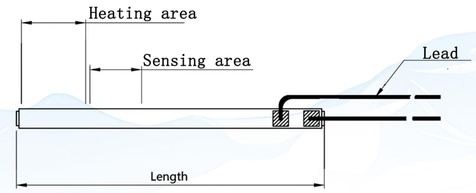
Properties

Room temperature	23℃	Room temperature	23℃
Operating voltage	230V	Operating voltage	230V
Resistance	85Ω	Resistance	140Ω
Watts	250W	Watts	170W



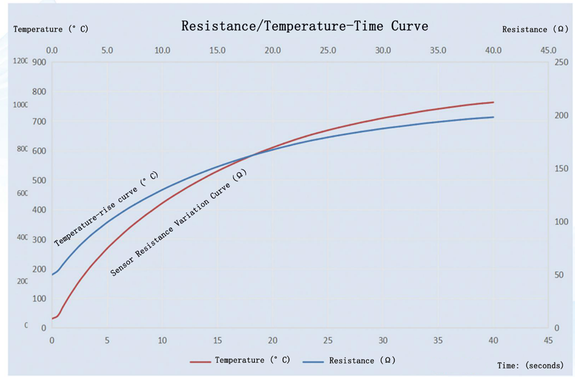
Heating Element With Sensor

Configuration



Properties

Room temperature	23℃
Sensor Resistance(@23℃)	50Ω
Sensor Resistance(@750℃)	190Ω
Watts	50W



HEATER CHARACTERISTIC AND APPLICATION

◉ Ceramic Pwllet Ignition







★GORGEOUS CERAMICS (GGS Ceramic) offers igniters made of aluminum oxide and silicon nitride.

★These products are designed for use in ignition blowers and can ignite materials such as wood chips, firewood, and coal briquettes. Thermal energy is transferred from the heating element via the surrounding air, with operating temperatures reaching 800° C to 1200° C.

★Products can be customized to meet specific customer requirements.

HEATER CHARACTERISTIC AND APPLICATION

◉ E-cig/3D Printers Ceramic Heating Elements





★Suitable for a wide range of low-voltage (battery-powered) devices, such as e-cigarettes and 3D printers.

★The ceramic heating element provides uniform heat, allowing for simultaneous heating of both inner and outer surfaces; it is lead-free, safe, and environmentally friendly.

★The surface is easy to clean, and the ceramic walls can be as thin as 0.55 mm.

★Products can be customized according to customer requirements.

HEATER CHARACTERISTIC AND APPLICATION

◉ Ceramic Heater for Oxygen Sensor

Thimble

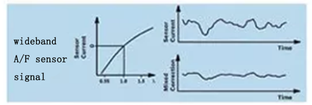


Planar



Wideband



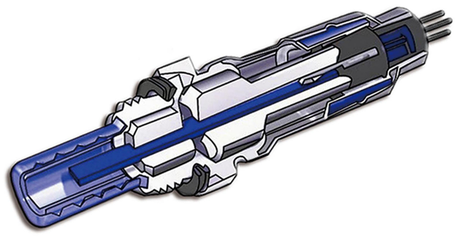


1. Patented Thimble Ceramic Element
2. Fast Acting Heater (on 3-, 4- and 5-wire sensors only)
3. Planar Sensor Element with Integrated Heater
4. Wideband Sensor Element (combination of Nernst concentration cell and oxygen-pump cell)
5. Wideband Pumping Current Wire (red wire)



Nete: The signal from the wideband sensor does not toggle around 450 mV!

Features



★Rapid light-off (activation) time;

★Excellent insulation properties;

★Available in various types: pump-current (wide-range/linear) and conventional (switching/binary) configurations;

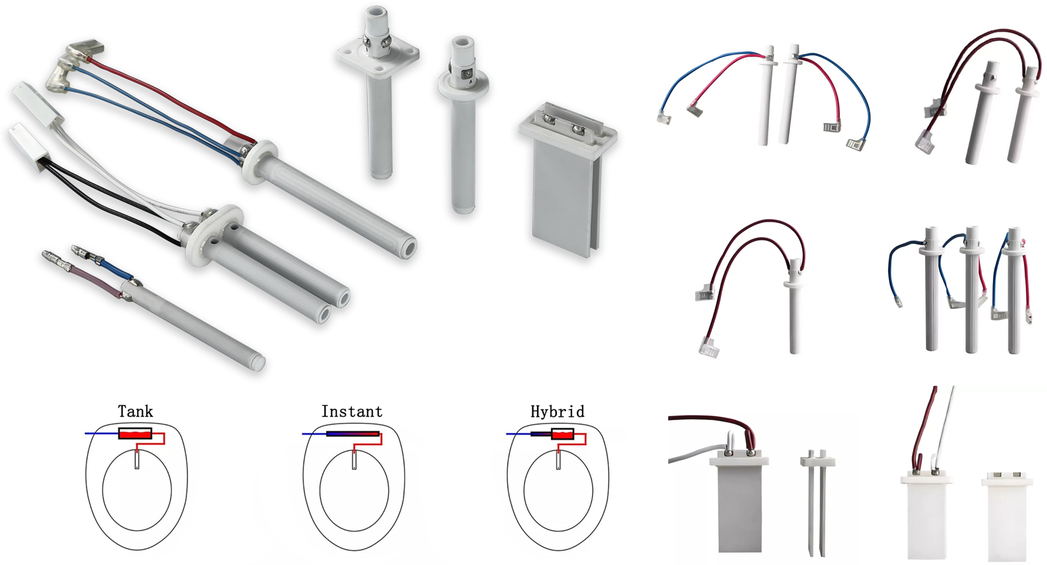
★Heating elements available in both aluminum oxide and silicon nitride;

★Widely used in oxygen sensor systems for automobiles and motorcycles;

★Products can be customized to meet specific customer requirements.

HEATER CHARACTERISTIC AND APPLICATION

◉ Smart Bidet/Water Dispense/Instant Water Heater Element



Bidet Water Heater

★Suitable for instant water heating applications, such as smart toilet seats, tankless water heaters, coffee machines, tea makers, and water dispensers. These ceramic heating elements are compact yet high-powered, capable of heating water to the desired temperature almost instantly; they are also safe and corrosion-resistant.

★Products can be customized to meet specific customer requirements.

HEATER CHARACTERISTIC AND APPLICATION

◉ Ceramic Heater for Soldering Iron/Soldering Station



★Suitable for electronic tools such as soldering irons, high-precision soldering stations, and glue guns.

★Products can be customized according to customer requirements.



HEATER CHARACTERISTIC AND APPLICATION

◉ Aluminum Ceramic Heating Plate/Metalized Ceramic



★Ceramic heating elements are suitable for use in small household appliances, such as electric kettles, hair straighteners, and curling irons.

★Ceramic metallization can be customized according to customer requirements.

HEATER CHARACTERISTIC AND APPLICATION

◉ Aluminum Nitride/AlN Heater



★High-temperature resistance, high thermal conductivity, and low thermal expansion rate.

★Rapid heating and rapid cooling

★Maximum operating temperature 400° C - 600° C

★The heater can incorporate a built-in K-type thermocouple, offering excellent temperature-sensing characteristics and safe operation.

★Products can be customized according to customer requirements.

HEATER CHARACTERISTIC AND APPLICATION

◉ Ceramic Ignition Rod for Intelligent Moxibustion Instrument



★Suitable for smart moxibustion equipment, such as smart moxibustion beds, smart "yang-boosting" moxibustion devices, smart moxibustion stools, and various other types of moxibustion apparatus.

★Ignites quickly, burns without an open flame, safe and convenient, highly efficient and energy-saving; lead-free, safe and eco-friendly.

★Products can be customized according to customer requirements.

HEATER CHARACTERISTIC AND APPLICATION

◉ Ceramic Heating Rod for Automated Dental Floss Dispensers





★Suitable for automated dental floss pick manufacturing equipment and integrated dental floss production machines.

★Utilizes rapid, flameless thermal cutting—safe, convenient, efficient, and energy-saving. Lead-free, safe, and environmentally friendly.

★Products can be customized according to customer requirements.

CERTIFICATE OF HONOR

















