BONTRON CO., LTD.

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TEMPERATURE PROBES , THERMOCOUPLE SURFACE TYPE

SF001C

◆ Proximity Surface Probe (3 slice)
Miniature, fast response probe with 400°C max. (800°C for 1 slice) surface temperature. Ideal for surface temperatures of small electronic parts. "Class 1" or "Class 2" Sensor selectable.

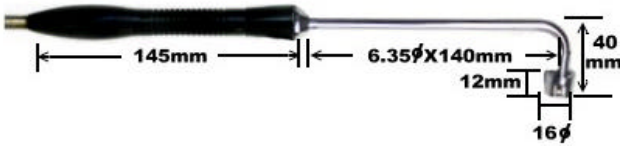
SF001D

◆ Proximity Surface Probe (1 slice), Superior Class
Miniature, "Class 1" Sensor with 300°C max. surface temperature. Ideal for surface temperatures of small electronic parts.

SF002A

◆ General Stationary Surface Probe
Extend, 130 mm reach version of the Surface Probe. Fast response design with 400°C for 3 slice (800°C for 1 slice) max. surface temperature for use in oven and furnaces. "Class 1" or "Class 2" Sensor selectable.

SF003B



◆ General Stationary Surface Probe
Right-angle probe for fast response times. Sheath length is 140 mm. Max. surface temperature is 400°C for 3 slice (800°C for 1 slice). "Class 1" or "Class 2" Sensor selectable.

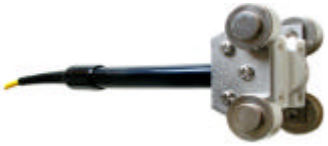
SF005AB

◆ Roller Surface Probe, Teflon Rollers
A roller-surface probe, for use on moving or rotating, smooth surfaces. Max. surface temperature of 250°C, Teflon roller of 19mm diameter. "Class 1" or "Class 2" Sensor selectable.

SF005BA

◆ Extension Roller Surface Probe, Right-angle, SUS Rollers
A right-angle extended roller-surface probe, for use on moving or rotating, smooth surfaces. Max. surface temperature of 250°C , SUS roller of 19mm diameter. "Class 1" or "Class 2" Sensor selectable.

SF005BB



◆ Roller Surface Probe, SUS Rollers
A roller-surface probe, for use on moving or rotating, smooth surfaces. Max. surface temperature of 250°C, SUS roller of 19mm diameter. "Class 1" or "Class 2" Sensor selectable.

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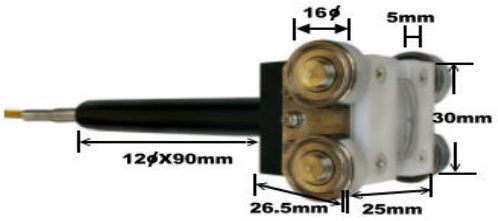
TEMPERATURE PROBES , THERMOCOUPLE SURFACE TYPE

SF005C



◆ Roller Surface Probe, Bearing Rollers

A miniature roller-surface probe, ideal for measuring temperatures of smooth plastic or steel piping and moving or rotating surfaces. Max. surface temperature of 250°C, Bearing roller of 16mm diameter. "Class 1" or "Class 2" Sensor selectable.

SF005D

◆ Roller Surface Probe, Teflon Rollers

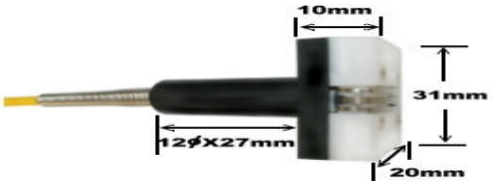
A miniature roller-surface probe, ideal for measuring moving or rotating surfaces in food processing. Max. surface temperature of 250°C, Teflon roller of 16mm diameter. "Class 1" or "Class 2" Sensor selectable.

SF006A

◆ Magnetic Surface Probe, Head type (3 slice)

Magnetic surface probes designed for stationary surfaces required attachment with magnet. Max. surface temperature of 250°C, 1.8M Silicon cable lead.
Customer Replaceable Element included : probe is supplied with one additional (3 slice) element.

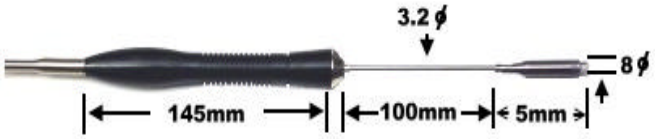
SF006



◆ Magnetic Surface Probe, Handler type

Magnetic surface probes designed for stationary surfaces. Built-in magnets allow these probes to be attached to measure targets. Max. surface temperature of 250°C

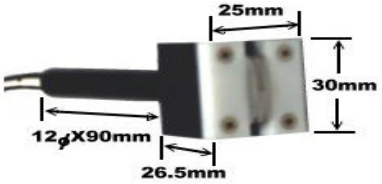
SF007



◆ General Stationary Surface Probe, with Spring

Ceramic tip probe features a spring-loaded thermocouple to ensure consistent readings; tip rated to 800°C

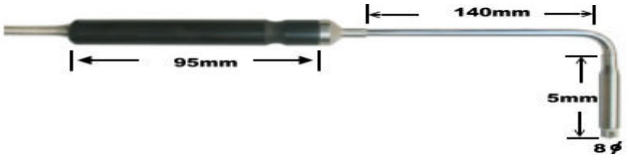
SF008



◆ Moving Surface Probe

Ideal for measurements of moving or stationary flat, smooth surfaces. Max. surface temperature of 250°C allows for use on both metal and plastic surfaces. "Class 1" or "Class 2" Sensor selectable.

SF009



◆ General Stationary Surface Probe, with Spring

Right-angle Ceramic tip probe features a spring-loaded thermocouple to ensure consistent readings; tip rated to 800°C

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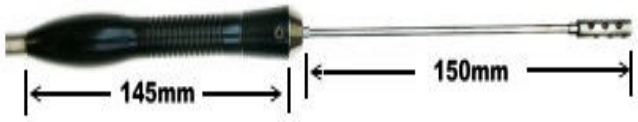
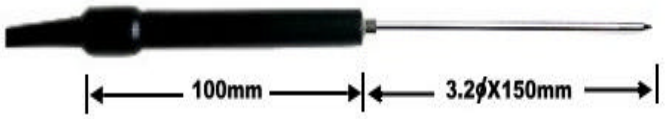
TEMPERATURE PROBES , THERMOCOUPLE INTERNAL TYPE

SF010  	◆ Air Probe Air probe; drilled end exposes bead to air flow for fast measurements; 6.4 mm diameter shield head and 150 mm SUS shaft, tip rated to 800°C
SF011  	◆ Air Probe Air probe; drilled end exposes bead to air flow for fast measurements; 4.8 mm diameter shield head and 150 mm SUS shaft, tip rated to 800°C
SF013A  	◆ Immersion Probe, Superior Class General purpose immersion probe; "Class 1" Sensor , 3.2 mm dia., K type, SUS 304, tip rated to 400°C
SF014  	◆ Penetration Probe, Needle type Superior Class Pointed tip design "Class 1" Sensor, ideal for measuring soft and semi-frozen material, molten plastics and rubbers. 150mm sheath, 400°C max service temperature, 3.2 mm diameter, K type, SUS 304
SF015  	◆ Penetration Probe, Widened Flat type Flat tip design, ideal for measuring smooth and flat material. 150mm sheath, 400°C max service temperature, 3.2 mm diameter, K type, SUS 304
SF016  	◆ Penetration Probe, Cone type Superior Class Penetration probe conical tip designed for penetration into semi-frozen objects; "Class 1" Sensor, tip rated to 400°C, K type, SUS 304

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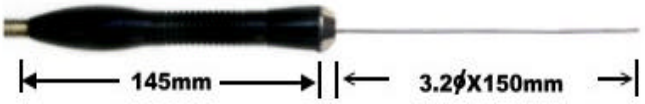
TEMPERATURE PROBES , THERMOCOUPLE INTERNAL TYPE

SHJ001 	◆ General Internal Probe, Thermocouple, Type J General internal tip, Thermocouple probe; 3.2 mm diameter at tip; tip rated for temperatures up to 450°C, J type, SUS 316
SH005-1 	◆ General Internal Probe, Thermocouple, Type K General internal tip, Thermocouple probe; 3.2 mm diameter at tip; tip rated for temperatures up to 800°C, K type, SUS 316
SH005 	◆ Immersion Probe General internal tip, fast-response probe; 3.2 mm diameter at tip; tip rated for temperatures up to 800°C, K type, SUS 316. (Thermocouple type K, J or T selectable)
SH006 	◆ Penetration Probe, Needle type Penetration probe NEEDLE tip designed for penetration into semi-frozen objects; tip rated to 800°C , 3.2 mm diameter, K type, SUS 316. (Thermocouple type K, J or T selectable)
SH007 	◆ Penetration Probe, Chisel type Penetration probe Chisel tip designed for penetration into semi-frozen objects; tip rated to 800°C , 3.2 mm diameter, K type, SUS 316. (Thermocouple type K, J or T selectable)

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TEMPERATURE PROBES , RTD

PT001

◆ General Internal Probe, RTD

General internal tip, RTD probe; "Class A" or "Class B" Sensor selectable, 3.2 mm diameter at tip; tip rated for temperatures up to 250°C, PT100, SUS 304, 1M PVC cable lead, Connector 3 pin Mini Plug.

PT002

◆ General Internal Probe, RTD

General internal tip, RTD probe; "Class A" or "Class B" Sensor selectable, 3.2 mm diameter at tip; tip rated for temperatures up to 250°C, PT100, SUS 304, 1M PVC cable lead, Connector DIN Mini Plug.

PT003

◆ General Internal Probe, RTD

General internal tip, RTD probe; "Class A" or "Class B" Sensor selectable, 3.2 mm diameter at tip; tip rated for temperatures up to 250°C, PT100, SUS 304, 1M PVC cable lead, Connector Plug

PT004

◆ General Air Probe, RTD

General internal tip, RTD probe; "Class A" or "Class B" Sensor selectable, 3.2 mm diameter at tip; tip rated for temperatures up to 250°C, PT100, SUS 304, 1M PVC cable lead

PT005

◆ Proximity Surface Probe, RTD

Miniature, fast response probe with 250°C max. surface temperature, PT100, SUS 304. Ideal for surface temperatures of small electronic parts.

PT005A

◆ Immersion Probe, RTD

General internal tip "Class A" or "Class B" Sensor selectable, fast-response probe; 3.2 mm diameter at tip; tip rated for temperatures up to 250°C, PT100, SUS 304, Handler length 95mm

PT010A

◆ Air Probe, RTD

Air probe; drilled end exposes bead to air flow for fast measurements; "Class A" or "Class B" Sensor selectable, PT100, 6.4 mm diameter shield and 150 mm shaft, rated to 300°C, Handler length 95mm

PT016A

◆ Penetration Probe, Cone type, RTD

Penetration probe conical tip designed for penetration into semi-frozen objects; tip rated to 250°C, PT100, SUS 304

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TEMPERATURE PROBES , QUICK CONNECT / SPECIAL TYPE (THERMOCOUPLE / RTD)

SH001

◆ Transition Joint Probe

Sheath or SUS Tube selectable for thermocouple

SH002

◆ Quick Connect Probe

General purpose probe with miniature connector; 3.2 mm dia. Sheath shaft, tip rated to 250°C

SH003

◆ Quick Connect Probe, T connector

Probe with T connector ; TS or TL connector selectable

PT006

◆ Quick Connect Probe, RTD

General purpose probe with miniature connector and Mating connector, Sheath or SUS Tube selectable

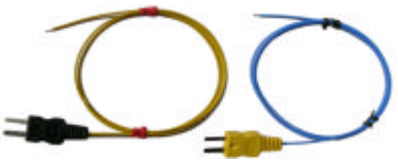
SH009

◆ Teflon Coated Probe, Acid-proof Thermocouple

For corrosive chemical solutions in industrial and laboratory environments.

Superior corrosion resistance (acid-resisting and alkali-resisting) of Teflon allows to measure the temperature of sulfuric, hydrochloric, nitric, chromic acids, and caustic compounds.

SH023



◆ Thermo Leads

Teflon beaded wire with miniature connector and colored by thermocouple type K or J

Transition Joint Probes

◆ Rugged Transition Joint Probes, with or without connector

ALL Custom Made, Sheath or SUS Tube selectable.

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Selection Guide?

	SHAFT	TYPE	MATERIAL	DIAMETER
THERMOCOUPLE	Sheath	K, E, J, T, N	SUS316, Inconel	1.0, 1.6, 2.4, 3.2, 4.8, 6.4, 8.0 mm
	Tube	K, E, J, T, B, R, S	SUS 304, 316, 310 Ceramic Tube (Alumina / Al_2O_3)	SUS -- 3.2, 4.8, 5.0, 6.0, 6.4, 8.0, 9.5, 10, 12, 12.7, 15, 15.9, 20.4, 21.7 mm Ceramic Tube -- 6.0, 8.0, 10, 12, 15, 17 mm
RTD	Sheath	JIS and DIN	SUS316	3.2, 4.8, 6.4, 8.0mm
	Tube		SUS304, 316 Titanium (Ti) Tube	SUS -- 3.2, 4.8, 5.0, 6.0, 6.35, 8.0, 9.5, 10, 12, 12.7, 15, 15.9, 20.4, 21.4 mm Ti Tube -- 6.4, 12.7 mm

<NOTE>

1. **Thermocouple Tolerance (Limits of Error) : "Class 1" - 0.4% | "Class 2" - 0.75% ; RTD Tolerance : "Class A" – 0.06% | "Class B" – 0.12%**
2. **Surface Type Temperature Probes are available for Thermocouple Type K, Type J, Type E and RTD only.**
3. **Standard Cable Lead 2M PU for Thermocouple, 1M PVC for RTD & 1.8M for SF006A. The length & material of Cable Lead are changeable by customer request.**
4. **All specifications of components, including Sensor Class may be revised, modified, or upgraded as the customized products based on the special requirement or specific application.**