

# Model **BS** series

## General Internal Probes

### BS模式系列

BS模式系列产品是适用于液体或半固态物体温度测试的内部温度感应器。通过组合各个规格的组件，可以按照客户的用途进行个性选配。

Model BS series probes are internal temperature sensors designed to measure the temperatures of liquid or semi-solid materials.

Specific components may be combined to customize products for the needs of a customer's specific application.

モデルBSシリーズは、液体または半固形物の温度測定に適した内部用温度センサです。各パーツの仕様を組み合わせる事により、お客様の用途に合わせてカスタマイズする事が出来ます。

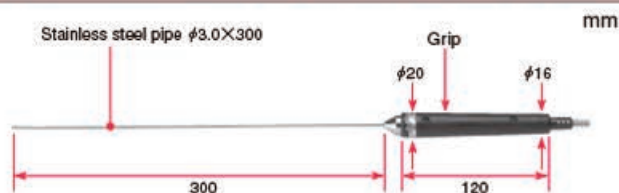
## Typical probes of BS series

### Type K Model **BS-21K-010-TC1-ANP** Type E Model **BS-21E-010-TC1-ANP**



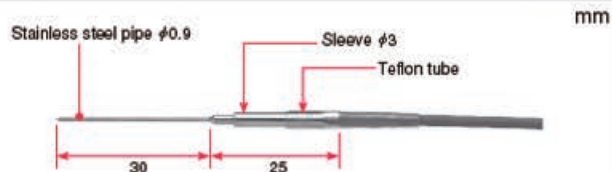
Temp. range	Tolerance	Response time	Durability
-200~500°C	±2.5°C (at 100°C)	2.5 s	B

### Type K Model **BS-31K-030-TC1-ANP** Type E Model **BS-31E-030-TC1-ANP**



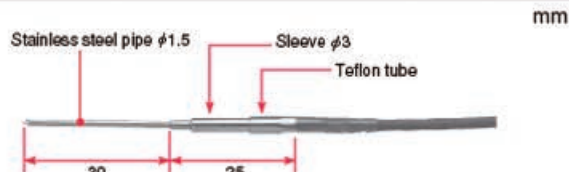
Temp. range	Tolerance	Response time	Durability
-200~500°C	±2.5°C (at 100°C)	3.0 s	B

### Type K Model **BS-91K-003-TS1-ANP** Type E Model **BS-91E-003-TS1-ANP**



Temp. range	Tolerance	Response time	Durability
-200~300°C	±2.5°C (at 100°C)	0.5 s	C

### Type K Model **BS-11K-003-TS1-ANP** Type E Model **BS-11E-003-TS1-ANP**



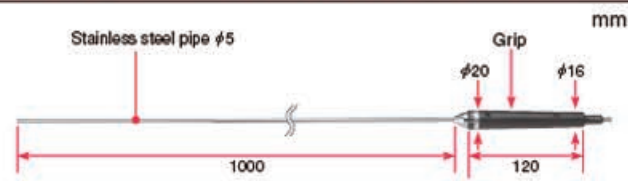
Temp. range	Tolerance	Response time	Durability
-200~300°C	±2.5°C (at 100°C)	1.5 s	C

### Type K Model **BS-22K-010-TC1-ANP** Type E Model **BS-22E-010-TC1-ANP**



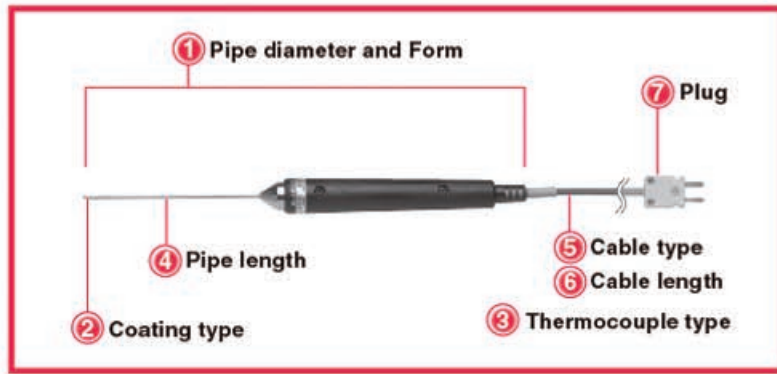
Temp. range	Tolerance	Response time	Durability
-200~200°C	±2.5°C (at 100°C)	20 s	B

### Type K Model **BS-51K-100-TC1-ANP** Type E Model **BS-51E-100-TC1-ANP**



Temp. range	Tolerance	Response time	Durability
-200~500°C	±2.5°C (at 100°C)	5 s	B

# How to order of BS series



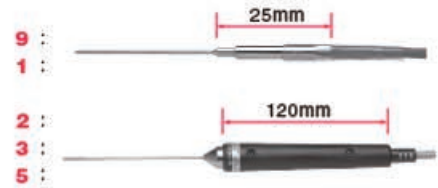
**BS-21K-010-TC1-ANP**

① ② ③ ④ ⑤ ⑥ ⑦

① Pipe diameter and Form (Max. temp.)	<b>9</b> : $\phi$ 0.9mm: Sleeve type (300°C) <b>1</b> : $\phi$ 1.5mm: Sleeve type (300°C) <b>2</b> : $\phi$ 2.1mm: Grip type (500°C) <b>3</b> : $\phi$ 3.0mm: Grip type (500°C) <b>5</b> : $\phi$ 5.0mm: Grip type (500°C)	
② Coating type	<b>1</b> : Non-coating <b>2</b> : Teflon coating (BS-5*cannot be manufactured.)	
③ Thermocouple type	<b>K</b> : Chromel-Alumel <b>E</b> : Chromel-Constantan	
④ Pipe length	<b>003</b> : 30mm <b>005</b> : 50mm <b>008</b> : 80mm <b>010</b> : 100mm <b>015</b> : 150mm <b>020</b> : 200mm <b>030</b> : 300mm <b>040</b> : 400mm <b>050</b> : 500mm <b>100</b> : 1000mm	The pipe length is fixed for certain pipe diameters. For more information, see the table to the right.
⑤ Cable type (See page 5)	<b>TS</b> : For BS-9*, BS-1* (Sleeve type) <b>TC</b> : For BS-2*, BS-3*, BS-5* (Grip type)	
⑥ Cable length	<b>1</b> : 1m <b>1.5</b> : 1.5m <b>2</b> : 2m <b>2.5</b> : 2.5m .....	
⑦ Plug (See page 4)	<b>ANP</b> <b>ASP</b> <b>W</b>	

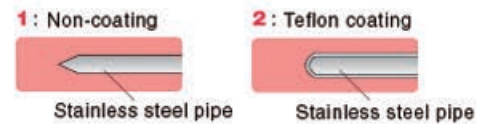
## ① Pipe diameter and Form

You can choose pipe diameter and form as below.



## ② Coating type

You can choose coating type as below.



The operating temperature limit of Teflon-coated probes is 200°C, regardless of pipe diameter.

## ④ Pipe length

	Pipe diameter (mm)				
	BS-9* ( $\phi$ 0.9)	BS-1* ( $\phi$ 1.5)	BS-2* ( $\phi$ 2.1)	BS-3* ( $\phi$ 3.0)	BS-5* ( $\phi$ 5.0)
<b>003</b> :	●	●			
<b>005</b> :	●	●	●		
<b>008</b> :	●	●			
<b>010</b> :	●	●	●	●	
<b>015</b> :		●	●	●	
<b>020</b> :			●	●	
<b>030</b> :				●	
<b>050</b> :				●	●
<b>100</b> :					●

## Specifications

Pipe diameter	Response time	Tolerance	Durability rank
BS-9*	0.5 s	$\pm 2.5^{\circ}\text{C}$	C
BS-1*	1.5 s	$\pm 2.5^{\circ}\text{C}$	C
BS-2*	2.5 s	$\pm 2.5^{\circ}\text{C}$	B
BS-3*	3.0 s	$\pm 2.5^{\circ}\text{C}$	B
BS-5*	5.0 s	$\pm 2.5^{\circ}\text{C}$	B
Teflon coating	20 s	$\pm 2.5^{\circ}\text{C}$	—*

\*Varies with pipe diameter.