

# Explosion proof Non-metallic protection tube thermocouple Model : R970 series

Spec. sheet no. **RD09-08**

## Service intended

This thermocouple is the combination of a precious metal such as platinum and rhodium alloy with non-metallic materials such as alumina and ceramic which can withstand a high temperature.

It is mainly used in a furnace, kilns, and a production line of glass and ceramic.

- Furnaces, kilns and ovens
- Furnaces with oxidizing and neutral atmosphere
- Glass, fiber and ceramic industries



## Standard features

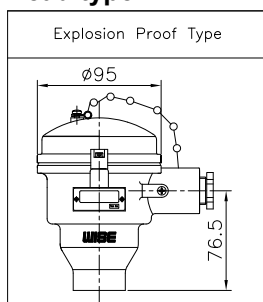
### Element

- Type R (87% Pt, 13% Rh/Pt)
- Type S (90% Pt, 10% Rh/Pt)
- Type B (70% Pt, 30% Rh / 94% Pt, 6% Rh)
- Type K

### Head material

ALDC (Standard)  
316SS (Not available compact type)

### Head type



### Element outer diameter (mm)

"K" type : 0.65, 1.0, 1.6, 2.3 and 3.2  
"R", "S" and "B" type : 0.5

### Protecting tube material and outer diameter

Material	Outer diameter (mm)
SSA-S (99.5% Alumina)	8, 10, 13, 15, 17, 21, 25
HB (60% Alumina, 40% Silica)	8, 10, 13, 15, 17, 21, 25
GK-SiC (90% SiC)	25, 30, 40

### Tolerance on temperature reading

"K" type : Class 2 (0.75%)  
Standard (0.75%)  
"R", "S" type : Class 2 (0.25%)  
Standard (0.5%)  
"B" type : Class 3 (0.5%)  
Standard (0.5%)

### Certificates

KCS Ex d IIC T6 IP65

**WISE®**

## Main order

## Ordering information

### 1. Base model

- R971** Single element  
**R972** Double(Duplex) element

### 2. Head and tip shape type

- A** ALDC head and ungrounded  
**B** 316SS head and ungrounded

### 3. Element

- K** K (0.75)  
**B** B (0.5)  
**1** K (0.4)  
**R** R (0.25)  
**S** S (0.25)

### 4. Mounting type and extension length (mm)

- |                             |                               |
|-----------------------------|-------------------------------|
| <b>A</b> None               | <b>K</b> Fixed flange (300)   |
| <b>B</b> Support tube (100) | <b>L</b> Movable thread (100) |
| <b>C</b> Support tube (150) | <b>M</b> Movable thread (150) |
| <b>D</b> Support tube (300) | <b>N</b> Movable thread (300) |
| <b>E</b> Fixed thread (100) | <b>P</b> Movable flange (100) |
| <b>F</b> Fixed thread (150) | <b>Q</b> Movable flange (150) |
| <b>G</b> Fixed thread (300) | <b>R</b> Movable flange (300) |
| <b>H</b> Fixed flange (100) | <b>Z</b> Other                |
| <b>J</b> Fixed flange (150) |                               |

### 5. Outer protection tube diameter (mm)

- |              |              |
|--------------|--------------|
| <b>00</b> 8  | <b>40</b> 21 |
| <b>10</b> 10 | <b>50</b> 25 |
| <b>20</b> 13 | <b>60</b> 30 |
| <b>25</b> 15 | <b>70</b> 40 |
| <b>30</b> 17 |              |

### 6. Outer protection tube material

- |                            |                      |
|----------------------------|----------------------|
| <b>0</b> 316SS             | <b>5</b> Inconel 600 |
| <b>1</b> SSA-S (8~25 mm)   | <b>6</b> 446SS       |
| <b>3</b> HB (8~21 mm)      | <b>7</b> Other       |
| <b>4</b> GK-SiC (25~40 mm) | <b>8</b> 310SS       |

### 7. Inner tube material

- 0** None  
**1** SSA-S  
**3** HB  
**5** Inconel  
**9** Other

### 8. Connection type

- XX** Refer to connection type table (12<sup>th</sup> and 13<sup>th</sup> character)

### 9. Insert length

- X** Refer to insert length table (14<sup>th</sup> character)

### 10. Option

- 0** None  
**1** Accessories  
**4** Epoxy coated ALDC head  
**6** Accessories and epoxy coated ALDC head

1	2	3	4	5	6	7	8	9	10
R971	A	K	A	00	0	0	XX	X	1

Sample  
ordering code

## Mounting, connection type and insert length table - 12<sup>th</sup> thru 14<sup>th</sup> characters

12 <sup>th</sup> character		13 <sup>th</sup> character		14 <sup>th</sup> character	
Code	Connection size	Code	Connection type	Code	Insertion length (mm)
A	None	A	None	A	100
E	½" (15A)	B	PT	B	200
F	¾" (20A)	C	NPT	C	300
G	1" (25A)	D	PF	D	400
H	1¼" (32A)	K	ANSI 150 Lb RF	E	500
J	1½" (40A)	L	ANSI 150 Lb FF	F	600
K	2" (50A)	M	ANSI 300 Lb RF	G	700
L	2½" (65A)	N	ANSI 300 Lb FF	H	800
M	3" (80A)	P	ANSI 600 Lb RF	J	900
Z	Other	Q	ANSI 600 Lb FF	K	1,000
		R	JIS 5K RF	L	1,500
		S	JIS 5K FF	M	2,000
		T	JIS 10K RF		
		U	JIS 10K FF		
		V	JIS 20K RF		
		W	JIS 20K FF		
		Z	Other		

Note : Please choose a code of next higher length if applicable length is not. Actual length shall be specified.

