

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

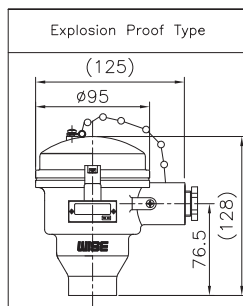
Element

- 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

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

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 %)

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

Certificates

KCS Ex d IIC T6 IP65

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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)

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

5. Outer protection tube diameter (mm)

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

6. Outer protection tube material

- | | |
|----------------------------|----------------------|
| 0 316SS | 5 Inconel 600 |
| 1 SSA-S (8~25 mm) | 6 446SS |
| 3 HB (8~21 mm) | 7 Other |
| 4 GK-SiC (25~40 mm) | 8 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 (12th and 13th character)

9. Insert length

- X** Refer to insert length table (14th 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 - 12th thru 14th characters

12 th character		13 th character		14 th 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	B16.5 Class 150 RF	E	500
J	1½" (40A)	L	B16.5 Class 150 FF	F	600
K	2" (50A)	M	B16.5 Class 300 RF	G	700
L	2½" (65A)	N	B16.5 Class 300 FF	H	800
M	3" (80A)	P	B16.5 Class 600 RF	J	900
Z	Other	Q	B16.5 Class 600 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.