

Non-metallic protection tube thermocouple

Model : R700 series

Spec. sheet no. RD07-01

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

Tolerances 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%)

Head type

Compact Type	General Type Weatherproof

Head material

- ALDC (Standard)
- 304SS (Not available compact type)
- 316SS (Not available compact type)

Element outer diameter

- "K" type : 3.2 mm
- "R", "S", "B" type : 0.5 mm

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

Main order

Ordering information

1. Base model

- R701** Non-metallic protection tube thermocouple
(Single element)
- R702** Non-metallic protection tube thermocouple
(Double (Duplex) element)

2. Head type

- 0** General (Weatherproof)
- 2** None

3. Element

- K** K (0.75)
- B** B (0.5)
- 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 outer 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 |
| 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 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
- 5** Head material : 304SS
- 6** Head material : 316SS
- 7** Accessories and epoxy coated ALDC head
- 8** Accessories and head material : 304SS
- 9** Accessories and head material : 316SS

1	2	3	4	5	6	7	8	9	10
R701	0	K	B	00	7	0	XX	X	4

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	Z	Other
		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.

