

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

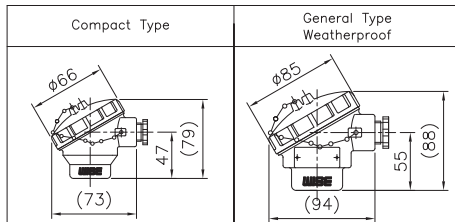
Element

- 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



Head material

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

Element outer diameter

- "K" type : 0.65, 1.0, 1.6, 2.3 and 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 |

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.

A large, empty rectangular box with a thin black border, intended for writing a memo.