

# Chordal type thermocouple

## Model : R980 series

Spec. sheet no. RD09-09

### Service intended

Normally, Chordal type thermocouple is installed on the outer wall of the tube to measure the temperature, however, to measure the temperature more precisely and quickly, it is directly inserted into the boiler tube after generating a hole on the tube. Generally, the tube will be manufactured by the boiler maker, and the thermocouple will be inserted and calibrated by the manufacturer.



### Application

- Boiler tube skin temperature
- Other various tube wall temperature measurement

### Standard feature

#### Element

K, E, J, T

#### Accuracy

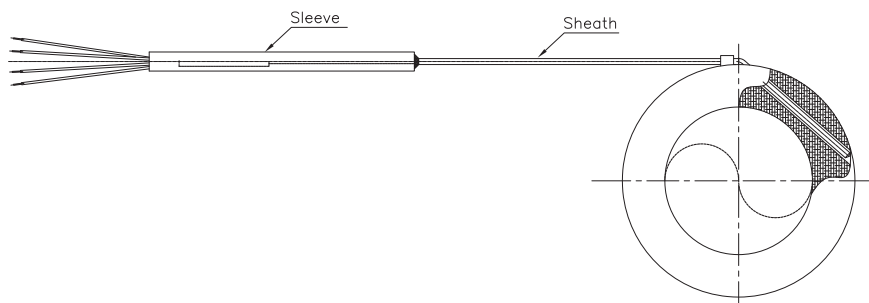
Standard : 0.75 % (For reading temp.)

Special : 0.4 % (For reading temp.)

#### Sheath outer diameter (mm)

1.6, 2.3 and 3.2

### Standard product drawing



**1. Base model**

- R981** Chordal type thermocouple (Single element)  
**R982** Chordal type thermocouple  
 (Double (Duplex) element)

**2. Head type**

- A** Explosion proof and ungrounded  
**B** Explosion proof and grounded  
**C** General (Weatherproof) and ungrounded  
**D** General (Weatherproof) and grounded  
**P** Non head and ungrounded  
**Q** Non head and grounded

**3. Element**

- K** K (0.75)  
**J** J (0.75)  
**T** T (0.75)  
**E** E (0.5)  
**1** K (0.4)  
**2** J (0.4)  
**3** T (0.4)  
**4** E (0.4)  
**Z** Other

**4. Sheath material**

- 1** 316SS  
**2** Inconel 600  
**3** 310SS  
**4** 446SS  
**5** 347SS  
**6** 321SS  
**7** 316L SS  
**9** Other

**5. Sheath outer diameter (mm)**

- A** 1.6  
**B** 2.3  
**C** 3.2  
**Z** Other

**6. Conduit connection**

- 1** ½" PF (Only for weatherproof head)  
**2** ½" PT (Only for weatherproof head)  
**3** ½" NPT  
**4** ¾" PF (Only for weatherproof head)  
**5** ¾" PT (Only for weatherproof head)  
**6** ¾" NPT  
**7** None  
**8** M20 x 1.5P  
**9** Other

**7. Mounting type**

- X** Refer to connection type (11<sup>th</sup> character)

**8. Connection type**

- XX** Refer to insert length 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  
**2** Epoxy coated ALDC head  
**3** Head material : 304SS  
**4** Head material : 316SS

1	2	3	4	5	6	7	8	9	10	Sample ordering code
R981	A	K	1	A	1	X	XX	X	0	

### Mounting, connection type and insert length table - 11<sup>th</sup> thru 14<sup>th</sup> characters

11 <sup>th</sup> character		12 <sup>th</sup> character		13 <sup>th</sup> character		14 <sup>th</sup> character	
Code	Mounting	Code	Connection size and connector material	Code	Connection type	Code	Insert length (mm)
A	None	A	None	A	None	A	100
	Fixed thread lag length	B	1/8" and 304SS	B	PT	B	200
B	80 mm	C	1/4" and 304SS	C	NPT	C	300
C	100 mm	D	3/8" and 304SS	D	PF	D	400
D	150 mm	E	1/2" and 304SS	E	NPS	E	500
E	200 mm	F	3/4" and 304SS	F	UNF	F	600
F	Other	G	1" and 304SS	G	BSPT	G	700
	Fixed flange lag length	H	1 1/4" and 304SS	H	BSPF	H	800
G	80 mm	J	1 1/2" and 304SS	J	MM	J	900
H	100 mm	K	2" and 304SS	K	B16.5 Class 150 RF	K	1,000
J	150 mm	L	3" and 304SS	L	B16.5 Class 150 FF	L	1,500
K	200 mm	M	7/16" and 304SS	M	B16.5 Class 300 RF	M	2,000
L	Other	N	1/2" and 316SS	N	B16.5 Class 300 FF	N	2,500
M	Movable thread	P	1/4" and 316SS	O	Sanitary	P	3,000
N	Movable flange	Q	3/8" and 316SS	P	B16.5 Class 600 RF	Q	3,500
P	Compression fitting	R	1/2" and 316SS	Q	B16.5 Class 600 FF	R	4,000
	Union and nipple length	S	3/4" and 316SS	R	JIS 5K RF	S	4,500
Q	100 mm length	T	1" and 316SS	S	JIS 5K FF	T	5,000
R	150 mm length	U	1 1/4" and 316SS	T	JIS 10K RF	U	6,000
S	Other	V	1 1/2" and 316SS	U	JIS 10K FF	V	7,000
	Nipple length	W	2" and 316SS	V	JIS 20K RF	W	8,000
T	50 mm	X	3" and 316SS	W	JIS 20K FF	X	9,000
U	100 mm	Y	7/16" and 316SS	X	B16.5 Class 1,500 RTJ	Y	10,000
V	150 mm	Z	Other	Y	B16.5 Class 2,500 RTJ	Z	Other
W	Other			Z	Other		
X	Fixed thread						
Z	Other						

- Note for 14<sup>th</sup> character, please choose a code of next higher length if applicable length is not. Actual length shall be specified.

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