

CONVENTIONAL TYPE THERMOCOUPLE ASSEMBLIES

NEW-FLOW conventional type thermocouple is high precision and reliability measuring temperature sensor.

Technical Data

Head housing: IP65 & IP67. Explosion proof available.
R type available.

Insulator Dial Size: $\varnothing 4.0 \sim \varnothing 6.0$ mm on request

Insulated material: Ceramic

Protection tube material: Metal, Non-metal. Refer to protection tube table.

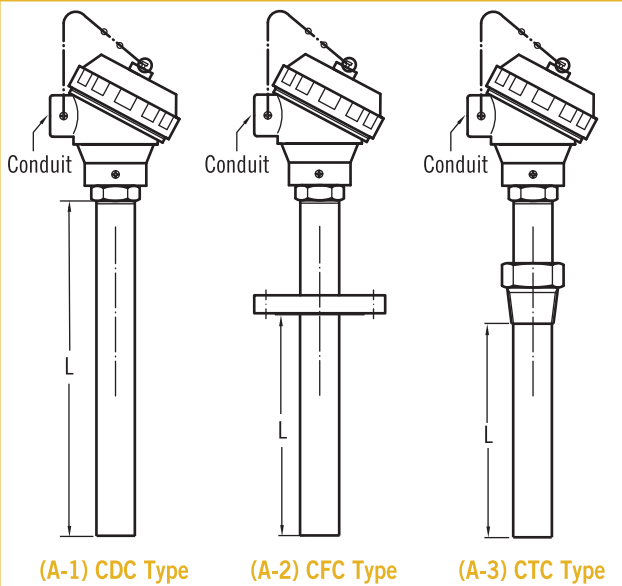
Working temperature limited: $-200 \sim 1700^{\circ}\text{C}$
according to applicable standards table.

Measuring junction type: Grounded type, Ungrounded type, Ungrounded separated type



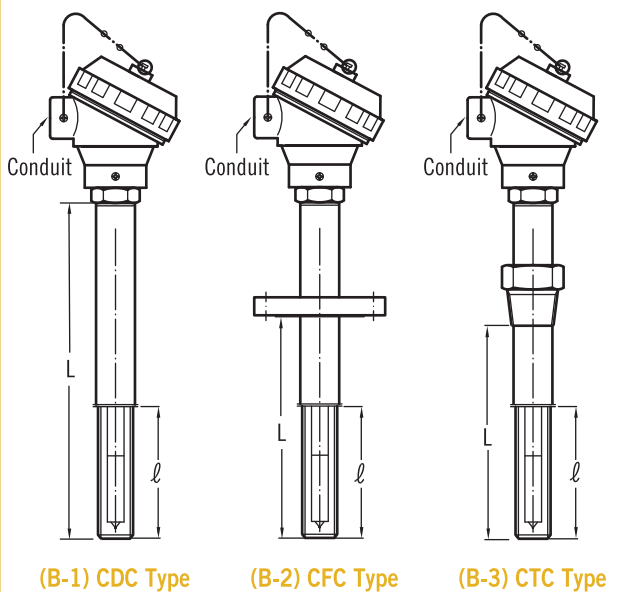
Thermocouple Model

Protection Well: Metal



Protection Well: Non-Metal

* Ceramic Tube Style Type

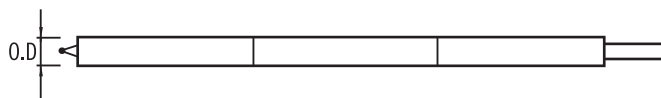


Applicable Standards Table

Standard	IEC 584-2-1982 / JIS C1605-1995			ASTM E230-1996				
	Symbol	Class	Temp. Range($^{\circ}\text{C}$)	Tolerance	Class	Temp. Range($^{\circ}\text{C}$)	Tolerance	
B		2	600~1700	$\pm 0.0025 t $	STD.	870~1700	$\pm 0.5\%$	
		3	600~800	± 4				
			800~1700	$\pm 0.005 t $				
R & S		1	0~1100	± 1	STD.	0~1450	± 1.5 or $\pm 0.25\%$	
		2	0~600	± 1.5			SP.	± 0.6 or $\pm 0.1\%$
			600~1600	$\pm 0.0025 t $				
N		1	-40~+375	± 1.5	STD.	0~1260	± 2.2 or $\pm 0.75\%$	
			+375~+1000	$\pm 0.004 t $				
		2	-40~+133	± 2.5	SP.	± 1.1 or $\pm 0.4\%$		
			+333~+1200	$\pm 0.0075 t $				
		3	-167~40	± 2.5	STD.	-200~0	± 2.2 or $\pm 2\%$	
			-200~-167	$\pm 0.015 t $				

*|t| : display temperature ($^{\circ}\text{C}$) on request range.

Wire Element With Ceramic Insulator



O.D. $\varnothing 4.0$ $\varnothing 6.0$

Thermowell Tube Table

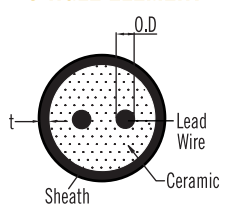
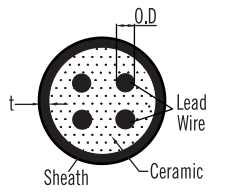
A. Metal

Material	Max. Temp. Limit (°C)		Symbol	Dimension (∅mm)		Max Length (mm)
	Nor.	Max.		O.D	I.D	
SS316	850	950	C	10	7	2000
				12	9	
				15	11	3950
				21.7	15.7	
SS316L	850	950	CL	10	7	2000
				12	9	
				15	11	3950
				21.7	16.1	
SS304	850	950	A	10	7	2000
				12	9	
				15	11	3950
				21.7	15.7	
SS310S	1050	1100	D	15	7	3950
				21.7	16.1	
				27.2	21.4	
Titanium	250	500	T	15	11	3950
				17.3	12.7	
				21.7	16.1	
				27.2	21.6	
Kanthal AF	1100	1300	K	22	16	3950
NCF600 (Inconel 600)	1000	1250	B	22	16	3950
Sandvik P4	1050	1100	P	21.7	16.1	3950
				21.3	16	
				26.9	21.6	
UMCo 50	1150	1200	U	22	16	3950
				27	21	

B. Non-Metal

Material	Max. Temp. Limit (°C)		Symbol	Dimension (∅mm)		Max Length (mm)
	Nor.	Max.		O.D	I.D	
Silicon Carbide	1650	-	GK	20	12	1000
				by25	17	
				30	20	
				35	25	
				40	25	
				45	30	
Alumina	1600	1700	P1	8	5	1000
				10	6	
				13	9	
				15	11	
				17	13	
				20	15	
High Alumina	1700	1900	P0	8	5	1000
				10	6	
				13	9	
				15	11	
				20	16	
				15	6	
20	10					

Working Temperature Limits In Wire Of Element Dimension Size

 SINGLE ELEMENT	Thermocouple Type	Wire Dia.		Working Temperature Limit (°C)		Available Dimensions Protection Tube (∅ mm)	
		Symbol	O.D.	Nor.	Max.	Metal Tube	Non-Metal Tube
 DOUBLE ELEMENT	B	L	0.5	1500	1700	—	15x11
	R	L	0.5	1400	1600	—	15x11
	S	L	0.5	1400	1600	—	15x11
	N	A	1.0	950	1000	21.7x16.1	—
B		1.6	1050	1100	21.7x16.1	—	
C		2.3	1100	1150	15x11	—	
D		3.2	1200	1250	12x9	—	

Measuring Junction Type



(A) Grounded Type



(B) Ungrounded Type



(C) Ungrounded Separated Type

- (A) It is not suitable for using in location such as electromagnetic induction interfered by radio frequency.
 (B) It has response slower than grounded. But ensured a long life, it is available for measuring in various location.
 (C) It could be used in two control loop separately.

