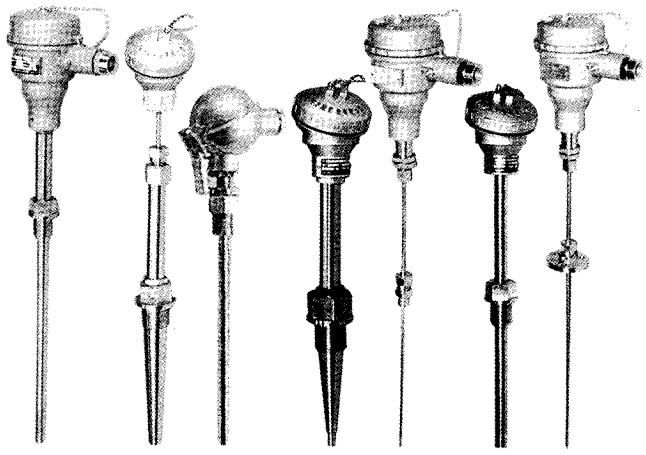
铠装热电偶、铠装铂热电阻
MINERAL INSULATED THERMOCOUPLES (MITC), MINERAL INSULATED (MI) Pt-RTD

铠装热电偶、铠装铂热电阻具有细长、容易弯曲、热响应时间快、耐振动、耐温、抗压和坚固耐用等优点。它可用作直接测量，也可以作为装配式热电偶、热电阻的内芯元件，以取代传统的瓷珠串套式元件。尤其适宜安装在管道之间狭窄、弯曲和要求快速反应，微型化和特殊测温场合。铠装铂热电阻可用于测量-200 ~ +500℃范围内温度。

MITC、Pt-RTD is slim, flexible, solid with fast thermal response. It can be used for direct measurement,or used as inner element of assembled TC & RTD to replace the traditional one. It's suitable to use in narrow, inaccessible locations, and where flexibility and fast response are required. Its temperature measuring range is -200 to +500℃.



主要技术指标
MAIN TECHNICAL SPECIFICATION

铠装热电偶类型、测量范围与允差
Measuring Range and Tolerance of Various TC Type

类 型 Type	代 号 Code	铠装直径(mm) Diameter of MI(mm)	测量范围(℃) Measuring Range(℃)	最高使用温度(℃) Upper Limit Temp(℃)	允许偏差△t(℃) (两者中取其大者) Tolerance △t(℃) (Whichever is more)	
					I	II
K NiCr-NiSi	WRNK	⩾ø3	0～800	950	±1.5℃ or ±0.4% t	±2.5℃ or ±0.75% t
E NiCr-CuNi	WREK		0～600	700		
J Fe-CuNi	WRJK		0～500	600		
T Cu-CuNi	WRTK		-40～+350	400	±0.5℃ or ±0.4% t	±1℃ or ±0.75% t
S PtRt10-Pt	WRPK	ø5～ø8	0～1100	1150	II	
					±1.5℃ or ±0.25% t	

注：t为实测温度值。
Note:t:Actually measured value.

温度测量范围及允差
Temperature Measuring Range and Tolerance

类 型 Type	分度号 Grad. Symb.	测量范围（℃） Measuring Range(℃).	允许偏差△t（℃） Tolerance △t（℃）
铂热电阻 Pt-RTD	Pt10	-200~+600	A:± (0.15+0.002 | t |)
	Pt100	-200~+500	B:± (0.30+0.005 | t |)

铠装铂热电阻的热响应时间及可供长度
Thermal Response Time and Available length of MI Pt-RTD

d(mm)	热响应时间t0.5(s) Thermal Response Time t0.5(s)	保护管材料 Protection Tube Material	L(mm)				
ø3	⩽3	*1Cr18Ni9Ti	100	400	1000	4000	10000
ø4	⩽5		150	450	1500	4500	12000
ø5	⩽8		200	550	2000	5000	13000
ø6	⩽12		250	650	2500	6000	14000
ø8	⩽18		300	750	3000	7000	15000
			350	900	3500	8000	20000

注：铠装热电阻的测量端部分100mm内不能弯曲，在其之后的可绕半径不应小于铠装直径的5倍。＊常规供货为1Cr18Ni9Ti，如需其它材质另行注明。
Note:The first 100mm of the measuring end of MIRTD can not be bent. The Coiling radius after the 100mm of the measuring end should be no less than 5 times of its outside diameter. ＊Regular protection tube materials is 1Cr18Ni9Ti. User can specify, if different.

铠装热电偶可供长度及热响应时间
Available Length And Thermal Response Time of MITC

在温度发生阶跃变化时，热电偶的输出变化至相当于该阶跃变化的50%，所需的时间称为热响应时间，用t 0.5表示，试验介质通常为水。

When temperature has step changes, the time required for the TC to respond to 50% of the step change is defined as Thermal Response Time and can be expressed as t 0.5, the test medium usually is water.

铠装热电偶直径 d(mm) Outside Diameter of MITC d(mm)	可供长度 (m) Available Length(m)	保护管材料 Protection Tube material	热响应时间t 0.5(s) Thermal Response Time t 0.5(s)			测量端结构型式 Forms of measuring Junction
			露端式 Exposed junction	接壳式 Ground junction	绝缘式 Insulated junction	
ø3	⩽50	*1Cr18Ni9Ti	0.4	0.6	1.2	露端式 Exposed Junction
ø4	⩽45		0.5	0.8	2.5	接壳式 Ground junction
ø5	⩽40		0.7	1.2	4.0	绝缘式 Insulated Junction
ø6	⩽35		0.8	2.0	6.0	双支分离绝缘式 Dual divided insulated junction
ø8	⩽20		1.0	4.0	8.0	

注：*常规供货为1Cr18Ni9Ti，如需其它材质另行注明。
Note:*Regular order is 1Cr18Ni9Ti, please clearly state material, if other material is required.