

铠装铂热电阻

Brief introduction to sheathed platinum thermal resistance

铠装铂热电阻是一种温度传感器，它比装配式铂电阻直径小，易弯曲，抗震性好，适宜安装在装配式铂电阻无法安装的场合。本公司生产的WZPK系列铠装铂电阻采用进口铂电阻测温元件，具有精确、灵敏、热响应时间快、质量稳定、使用寿命长等优点。

Sheathed platinum thermal resistance is a type of temperature sensor. Its diameter is less than that of packaged platinum resistance. Easy to bend and good in earthquake resistance, it is suitable to the places where the packaged platinum resistance cannot be fitted. The WZPK series sheathed platinum resistance produced by our company adopt the imported platinum resistance element for thermometry, having the advantages of accuracy, sensitiveness, short thermal response time, stable quality and long service life.

铠装铂热电阻外保护套采用不锈钢，管内充满高密度氧化物质绝缘体，它具有很强的抗污染性能和优良的机械强度，适合安装在环境恶劣的场合。

The sheathed platinum thermal resistance has a strong anti pollution and fine mechanical strength and can be installed into places with bad environment condition for its outer protecting sleeve is made of stainless steel and the inside of its tube is filled with high density oxide insulator.

铠装热电阻可用于测量-70~600℃范围内温度，可直接用铜导线和二次仪表相连接使用。由于它具有良好的电阻输出特性，可为显示仪表、记录仪、调节器、扫描器、数据记录仪以及DCS系统提供精确的温度变化输出信号，符合JB/T8622-1997标准。

Sheathed thermal resistance can be used to measure the temperature within -70~600℃. It can also be made use of by connecting directly the copper conductor with secondary meter. With good electric output property, it can provide accurate output signal of temperature variation for display instrument, recorder, accommodator, scanner, data logger and computer. It shall comply with JB/T8622-1997 standard.



温度测量范围及允差 Temperature measurement range and tolerance

类型Type	分度号 Graduation mark	测量范围(℃) Measuring range	允许偏差Δt(℃) Tolerance
铂热电阻 Platinum thermal resistance	Pt100	-70~+600	A级: ±(0.15+0.002 t) B级: ±(0.30+0.005 t)

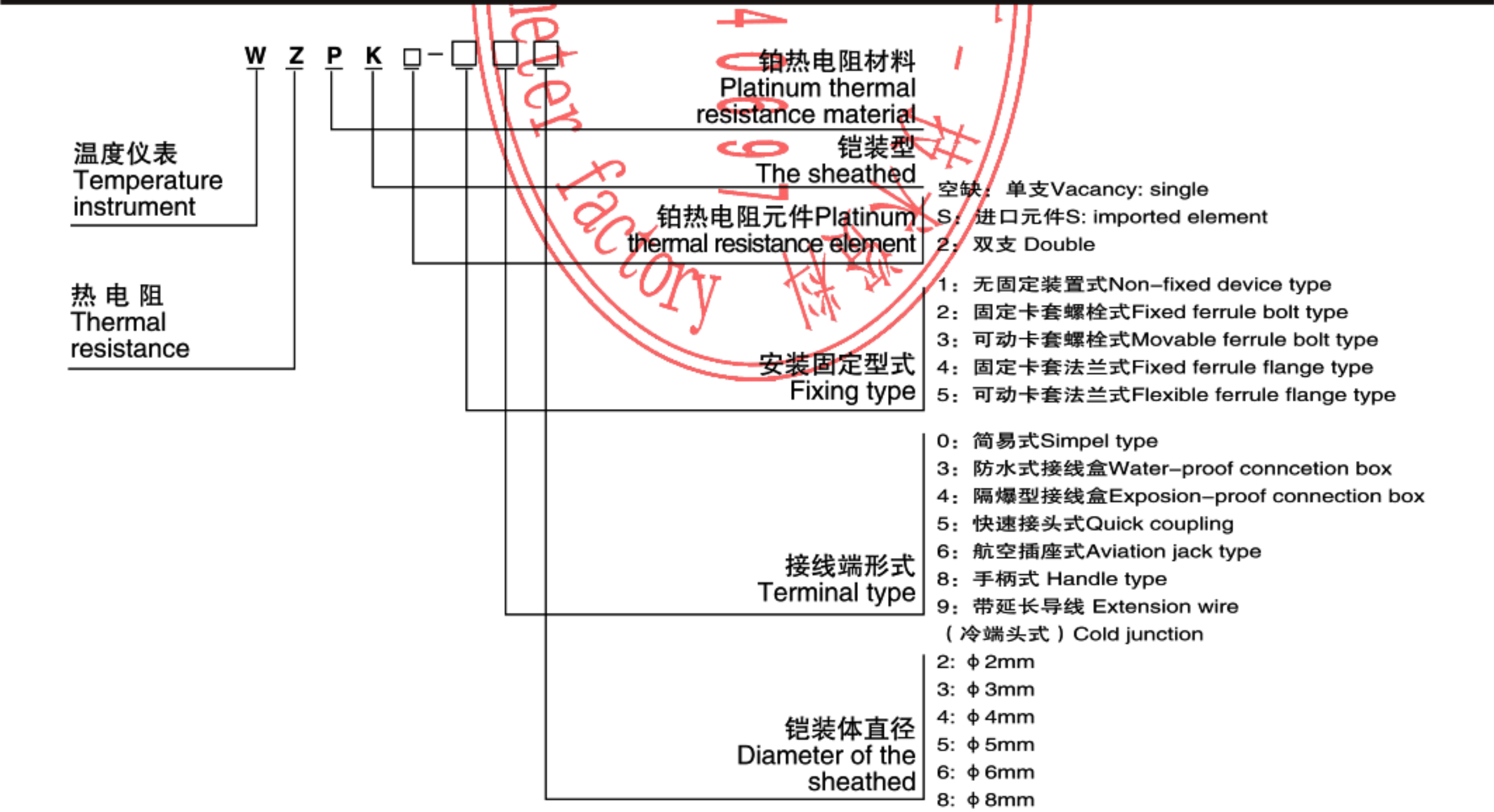
铠装铂热电阻的热响应时间及可供长度

Thermal response time and available length of sheathed platinum thermal resistance

d(mm)	热响应时间τ0.5(s)Thermal response time	保护管材料 Protection tube material	L (mm)
φ3	≤3	*1Cr18Ni9Ti	100 400 1000 4000 10000 150 450 1500 4500 12000 200 500 2000 5000 13000 250 650 2500 6000 14000 300 750 3000 7000 15000 350 900 3500 8000 20000
φ4	≤5		
φ5	≤8		
φ6	≤12		
φ8	≤18		

注：铠装热电阻的测量端部分100mm内不能弯曲，可绕半径不应小于铠装体直径的5倍。“*” 常规供货为1Cr18Ni9Ti，如需要其他材质另行注明。
Note: The measuring terminal part of the sheathed thermal resistance shall not bend within 100mm, and the windable radius behind the former part shall not less than 5 times of the daimeter of the sheathed. The ordinary order is 1Cr18Ni9Ti. Pleaser mark it seperately if other material is required.

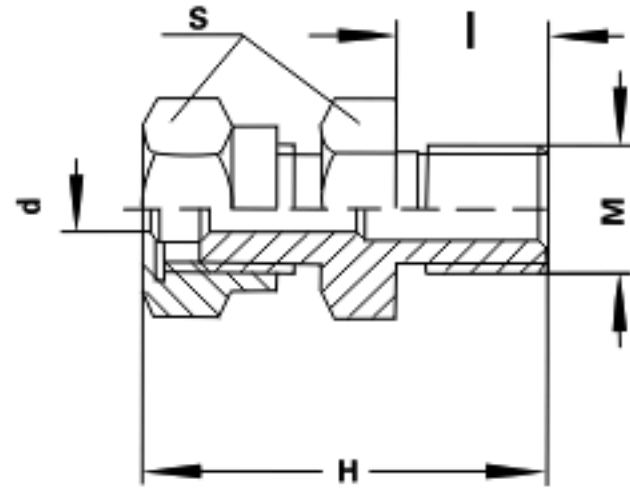
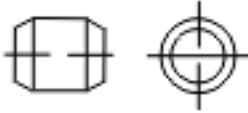
型号命名Type designation



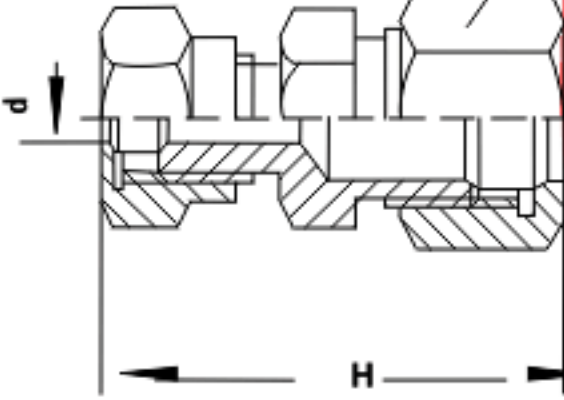
热电偶热电阻用配件

Accessories of thermocouple and thermal resistance

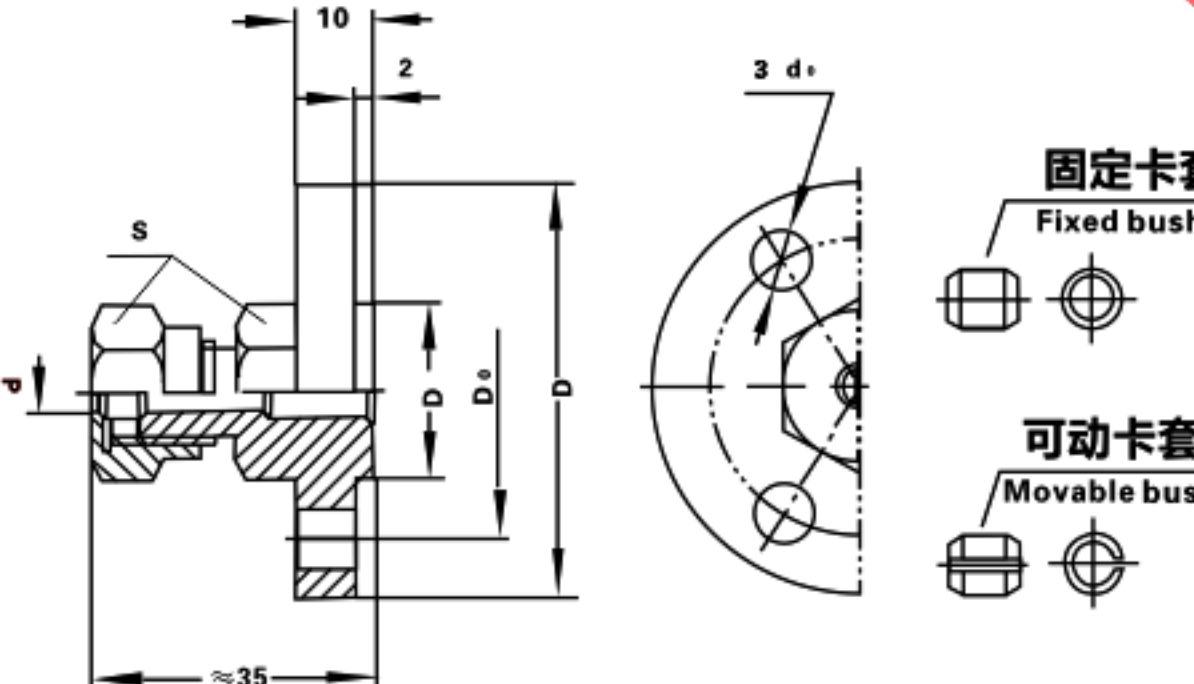
卡套螺栓 Ferrulebolt

	固定卡套 Fixed bush		d	φ2	φ3	φ4	φ5	φ6	φ8	
			基本参数 Basic parameter							
	可动卡套 Movable bush		M	M12×1.5			M16×1.5			
			S	19			22			
			H	≈42			≈42			
	公称压力 Nominal pressure	固定卡套 Fixed ferrule	2.5MPa							
		可动卡套 Movable ferrule	常压 Normal pressure							

可动卡套活接头 Movable ferrule joint

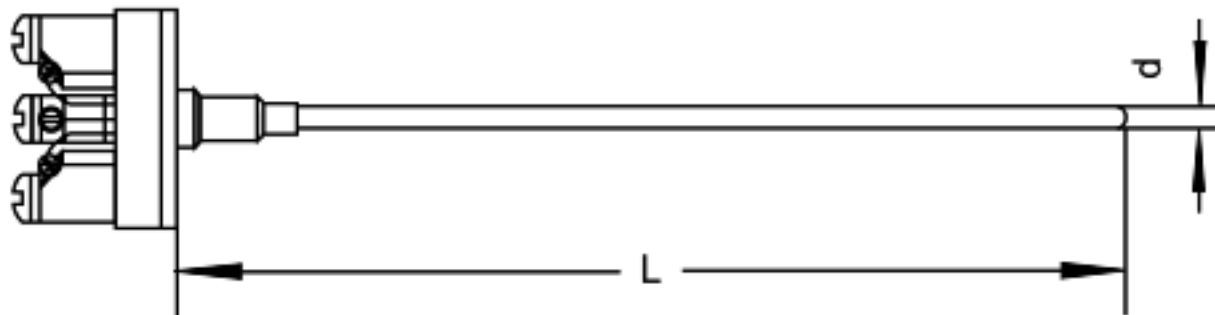
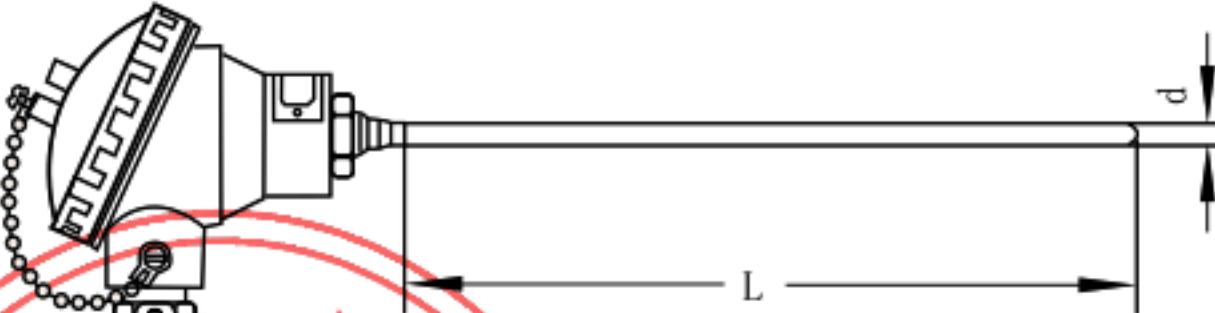
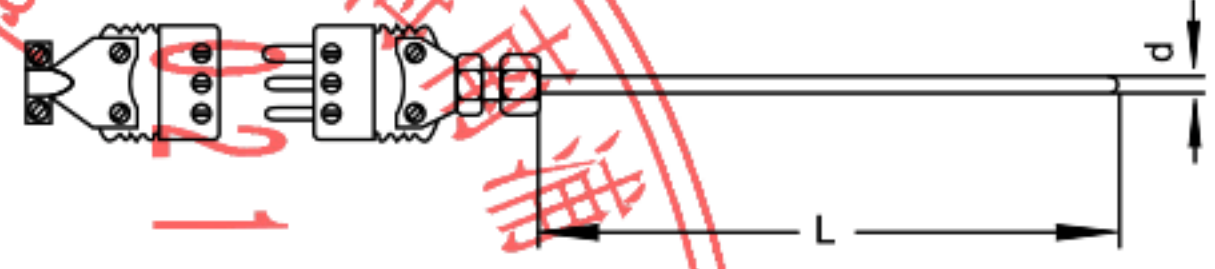
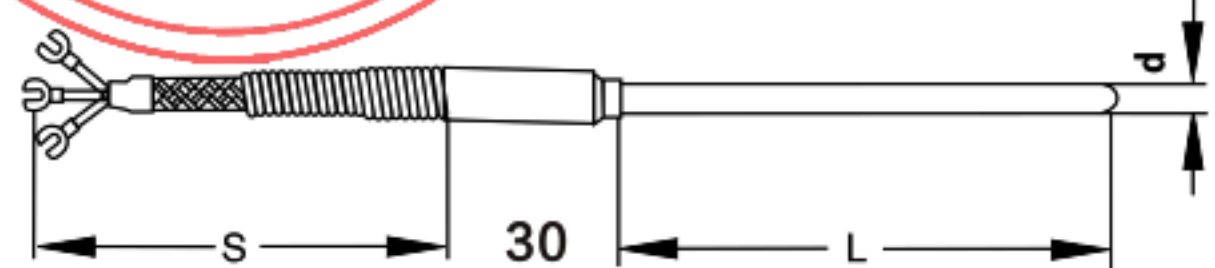
	可动卡套 Movable bush	S	D	d	H
		24	φ12	φ3 φ4 φ5 φ6 φ8	≈50
			φ16		
		30	φ20		
		33	φ22		

卡套法兰 Ferrule flange

	d	$\phi 2$	$\phi 3$	$\phi 4$	$\phi 5$	$\phi 6$	$\phi 8$
	基本参数 Basic parameter						
	D	$\phi 50$			$\phi 60$		
	D_0	36			ϕ	$\phi 42$	
	D_1	20			ϕ	$\phi 24$	
	d	$\phi 7$			$\phi 9$		
	S	$\phi 19$			$\phi 22$		
	固定卡套 Fixed ferrule	2.5MPa					
	可动卡套 Movable ferrule	常压 Normal pressure					

结构型式Structure shape

无固定装置式铠装铂热电阻Non-fixed device sheathed platinum thermal resistance

接线端型式Terminal type	型号Model	示意图Schematic diagram
简易式 Simple type	WZPK-10□S WZPK ₂ -10□S	
防水式 Water-proof Type	WZPK-13□S WZPK ₂ -13□S	
快速接头式 Quick coupling type	WZPK-15□S WZPK ₂ -15□S	
航空插座式 Aviation jack type	WZPK-16□S WZPK ₂ -16□S	
手柄式 Handle type	WZPK-18□S WZPK ₂ -18□S	
带延长导线式 Extension wire	WZPK-19□S WZPK ₂ -19□S	

注：(1) WZPK-10□S可用于装配式铂热电阻铠装元件更换。其长度的正确选用应为保护管总长度“L”再增加30mm。

(2) 带延长导线式，尾线常规附带1500mm，如需增加请注明长度。

(3) 选择铠装热电阻的分度号、测量范围、热响应时间、直径、可供长度可按照用户要求。

(4) 型号后加“S”为进口元件。

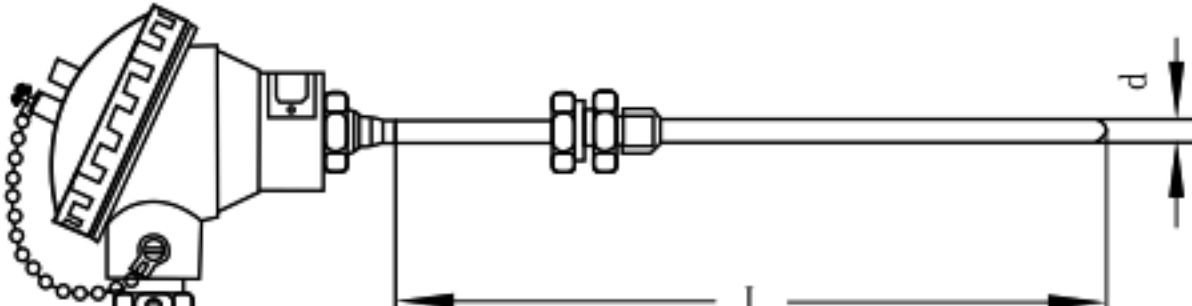
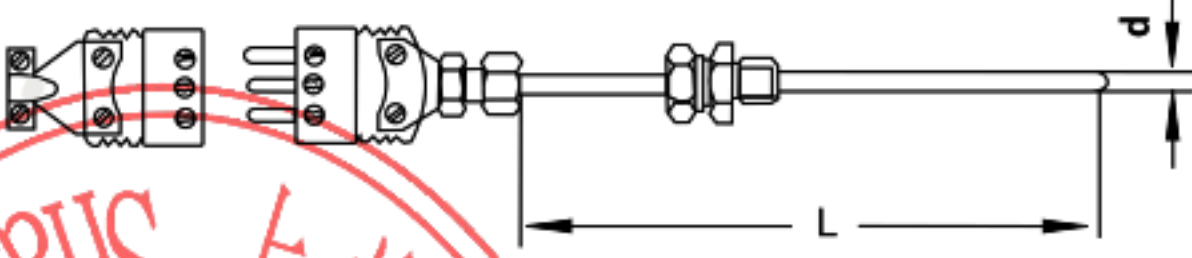
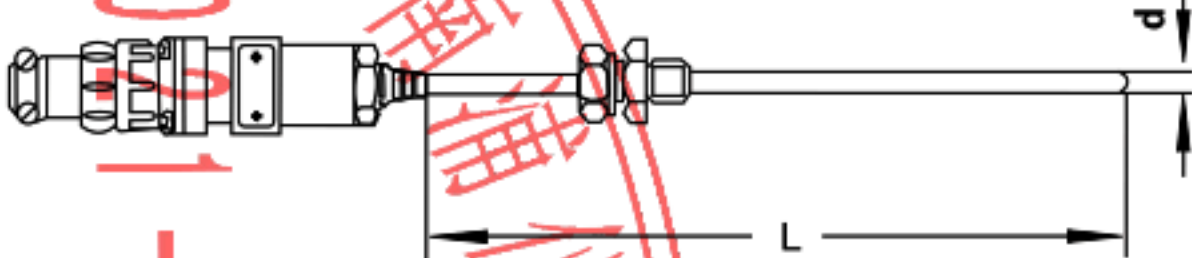
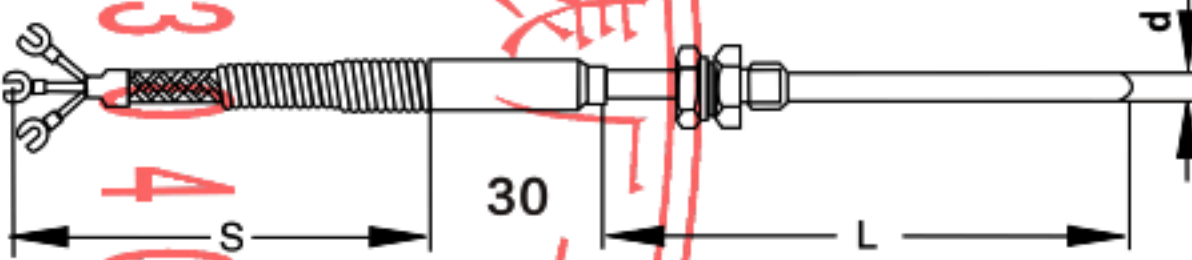
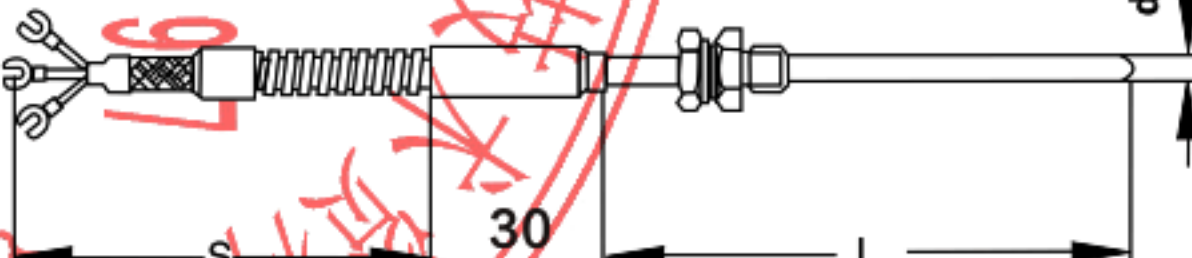
Note: (1) WZPK-10□S is applicable to replacement of sheathed elements of packaged platinum thermal resistance. Its length shall be the overall length “L” of the outer protecting tube plus 30mm.

(2) Of the extension wire type, the buttcock line always is attached to 500mm. If it need to add, please indicate the length.

(3) Refer to select the graduation mark, measuring range, thermal response time, diameter and available length of the sheathed thermal resistance.

(4) The type with a “S” attached to is imported element.

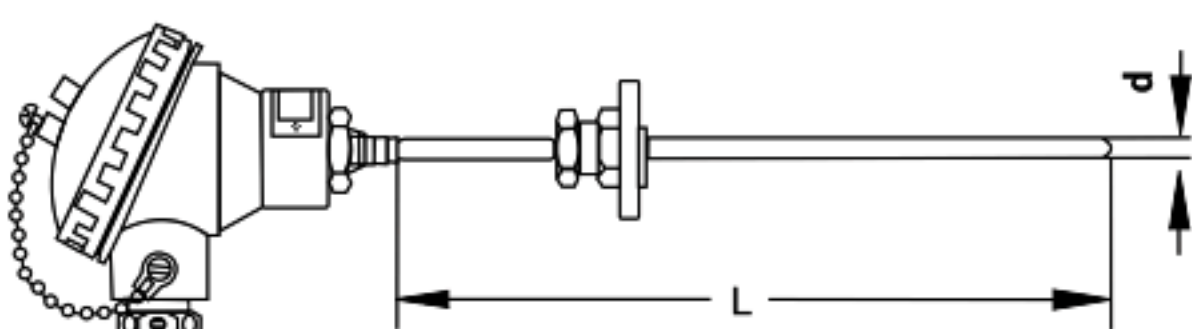
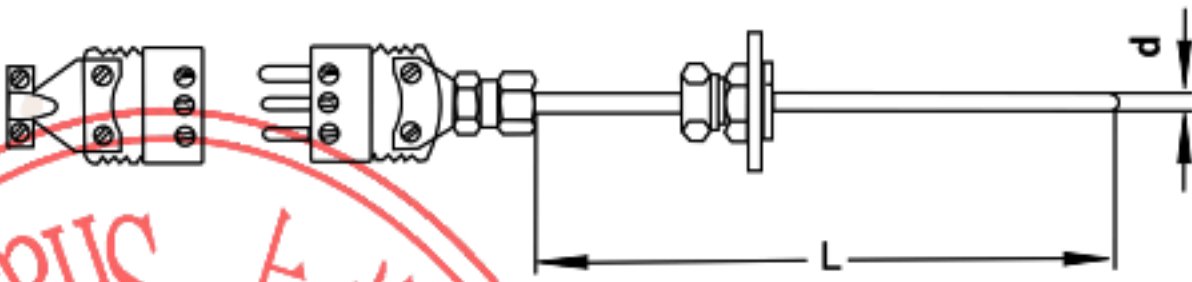
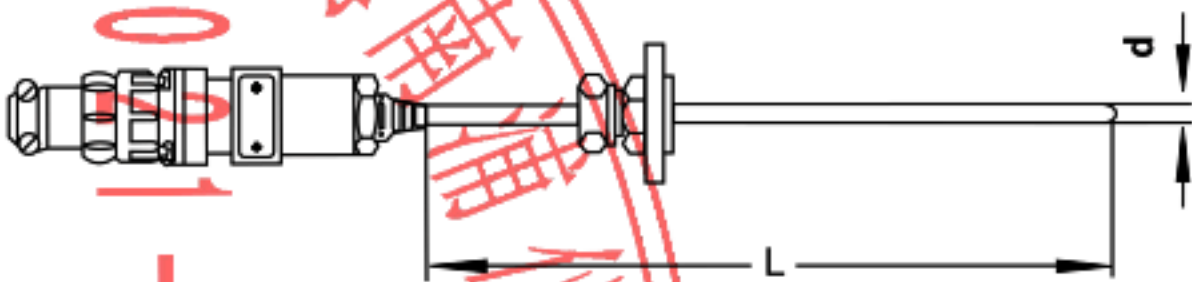
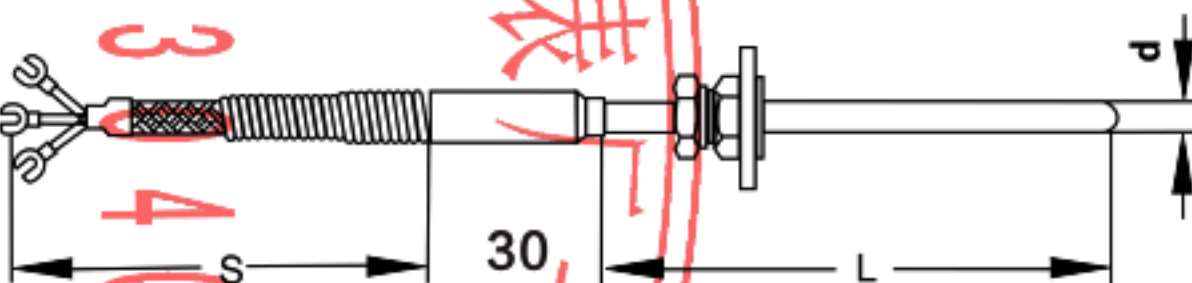
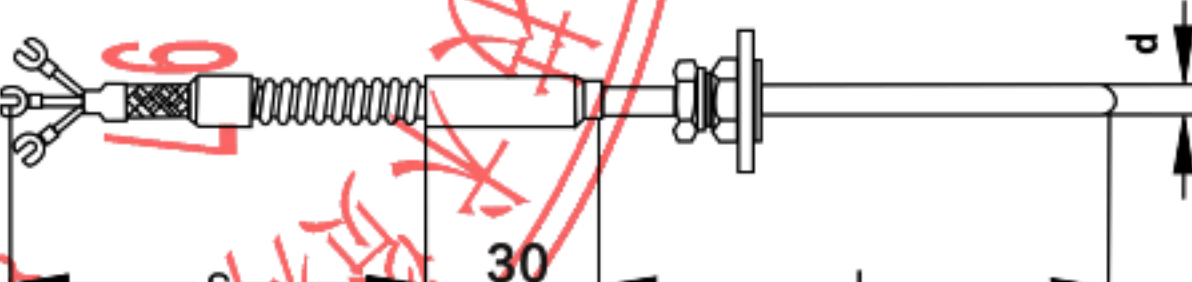
卡套螺栓式铠装铂热电阻 Ferrule bolt sheathed platinum thermal resistance

接线端型式 Terminal type	型号 Model	示意图 Schematic diagram
防水式 Water-proof Type	WZPK-23□S WZPK ₂ -23□S WZPK-33□S WZPK ₂ -33□S	
快速接头式 Quick coupling type	WZPK-25□S WZPK ₂ -25□S WZPK-35□S WZPK ₂ -35□S	
航空插座式 Aviation jack type	WZPK-26□S WZPK ₂ -26□S WZPK-36□S WZPK ₂ -36□S	
带延长导线式 Extension wire	WZPK-29□S WZPK ₂ -29□S WZPK-39□S WZPK ₂ -39□S	
带延长导线式 (不锈钢软管) Extension wire (stainless steel soft tube)	WZPK-29□SP3A WZPK ₂ -29□SP3A WZPK-39□SP3A WZPK ₂ -39□SP3A	

注：(1) 铠装热电阻直径，卡套螺栓的螺栓常规供货为M16×1.5。
(2) 固定卡套螺栓公称压力：2.5Mpa。活动卡套螺栓公称压力为常压。
(3) 卡套螺栓规格为16*1.5，可按照用户要求制作螺纹。
(4) 型号后加“S”为进口元件。

Note: (1) The diameter of sheathed thermal resistance is not less than. The common shipment of ferrule bolt bolt is M16×1.5; and
(2) The fixed ferrule bolt's nominal pressure is 2.5Mpa, while the movable ferrule bolt's nominal pressure is nominal pressure.
(3) Refer for the specification of ferrule bolt.
(4) The type with a "S" attached to is imported element.

卡套法兰式铠装铂热电阻 Ferrule flange sheathed platinum thermal resistance

接线端型式 Terminal type	型号 Model	示意图 Schematic diagram
防水式 Water-proof Type	WZPK-43□S WZPK ₂ -43□S WZPK-53□S WZPK ₂ -53□S	
快速接头式 Quick coupling type	WZPK-45□S WZPK ₂ -45□S WZPK-55□S WZPK ₂ -55□S	
航空插座式 Aviation jack type	WZPK-46□S WZPK ₂ -46□S WZPK-56□S WZPK ₂ -56□S	
带延长导线式 Extension wire	WZPK-49□S WZPK ₂ -49□S WZPK-59□S WZPK ₂ -59□S	
带延长导线式 (不锈钢软管) Extension wire (stainless steel soft tube)	WZPK-49□SP3A WZPK ₂ -49□SP3A WZPK-59□SP3A WZPK ₂ -59□SP3A	

注：(1) 铠装热电阻直径，卡套法兰盘常规供货为 $\phi 60$ ；
(2) 固定卡套法兰公称压力：2.5Mpa。可动卡套螺栓公称压力为常压。(3) 卡套法兰规格。
(4) 型号后加“S”为进口元件。

Note: (1) The diameter of sheathed thermal resistance is not less than 5, The common shipment of ferrule flange is $\phi 60$; and $\phi 4$ is $\phi 50$.
(2) The fixed ferrule flange's nominal pressure is 2.5Mpa, while the flexible ferrule flange's nominal pressure is nominal pressure.
(3) Refer for the specification of ferrule flange.
(4) The type with a "S" attached to is imported element.

端面热电阻、热电偶

End-face thermal resistance and end-face thermocouple

WZCM、WZPM型端面热电阻和WRNM、WREM型端面热电偶，与常规热电阻、热电偶相比，能更迅速、更准确的反应被测表面实际温度。适用于测量轴瓦或其它机体表面的温度。

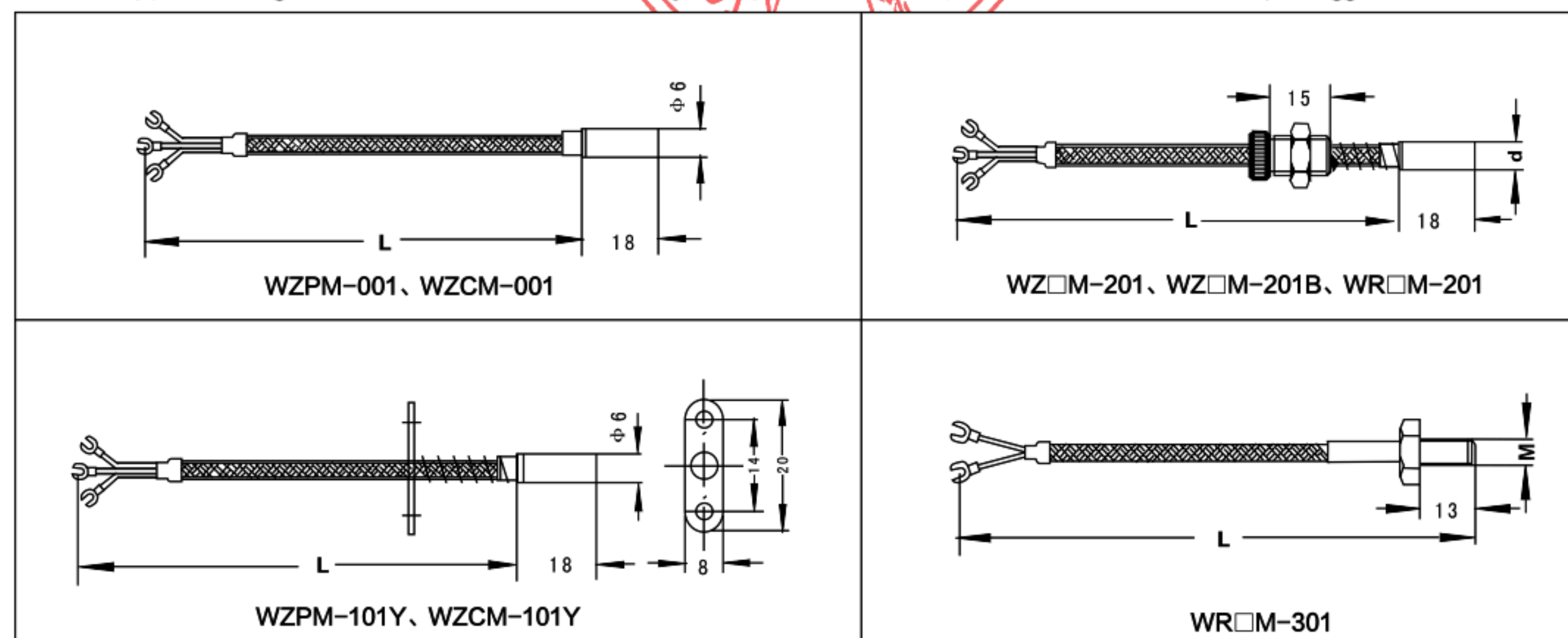
End-face thermal resistance of WZCM and WZPM type and end-face thermocouple of WRNM and WREM type, compared with the conventional thermal resistance and thermocouple, can reflect the true temperature of the surface to be detected both quickly and accurately. They are suitable to measure the surface temperature of bearing shell and other machines.

端面热电阻、热电偶End-face thermal resistance and end-face thermocouple

型号Type	分度号Graduation mark	测量范围Measuring range (°C)	热响应时间Thermal response time $\tau_{0.5}(s)$	保护管材料Protection tube material	L(mm)	允许偏差Tolerance $\Delta t(^{\circ}C)$	规格Specification (mm)
WZPM-001-1	Pt100	-70~+200	≤ 10	Cu	500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000	$\pm (0.3+0.005 t)$	d ϕ 6
WZCM-001-1	Cu50	-50~+100	≤ 15			$\pm (0.3+0.006 t)$	
WZPM-201-2	Pt100	-70~+200	≤ 10			$\pm (0.3+0.005 t)$	d ϕ 6 M8 $\times$ 0.75
WZCM-201-2	Cu50	-50~+100	≤ 15			$\pm (0.3+0.006 t)$	
WZPM-201-3	Pt100	-70~+200	≤ 10			$\pm (0.3+0.005 t)$	
WZCM-201-3	Cu50	-50~+100	≤ 15			$\pm (0.3+0.006 t)$	
WRNM-201	K	0~200	≤ 5	1Cr18Ni9Ti		$\pm 2.5^{\circ}C$	d ϕ 8.7 M10 $\times$ 1
WREM-201	E	0~200					
WZPM-201	Pt100	-50~+200	≤ 10	Cu		$\pm (0.3+0.005 t)$	d ϕ 6 W=14 W=20 W=28
WZCM-201	Cu50	-50~+100	≤ 15			$\pm (0.3+0.006 t)$	
WZPM-101-Y	Pt100	-70~+200	≤ 10	Cu		$\pm (0.3+0.005 t)$	M6 $\times$ 1
WZCM-101-Y	Cu50	-50~+100	≤ 15			$\pm (0.3+0.006 t)$	
WRNM-301	K	0~400	≤ 5	1Cr18Ni9Ti		$\pm 2.5^{\circ}C$ or $\pm 0.0075 t $	
WREM-301	E						

注：(1) |t|为实测温度绝对值。(2) 型号后加-1为三线制带屏蔽导线，型号后加-2为二线制无屏蔽带耐油护套导线；型号后加-3为三线制无屏蔽带耐油护套导线，型号后加-4为三线制带屏蔽、耐油护套导线。引出线类型可根据用户要求选定。(3) 热电阻引出线超出5m选用四线制。(4) “*”表示允许偏差两者中取其大者。

Note: (1) |t| is the absolute value of the measured temperature. (2) The type with -1 is three-wire system shielded conductor, and that with -2 is two-wire system unshielded conductor with oil-proof sheath, and that with -3 is three-wire system unshielded conductor with oil-proof sheath and that with -4 is three-wire system shielded conductor with oil-proof sheath. The type for leading-out wire can be selected as the users required. (3) The leading-out wire over 5m selects four-wire system. (4) “*” indicates that between the two tolerances, the bigger one is selected.



铠装铂电阻热电偶安装示意图

Installation fixed form of sheathed platinum thermal resistance thermocouple

