

铠装铂电阻 Armored thermal resistance



WZPK 系列
WZPK Series

P-068

WZPK 系列 铠装铂电阻

(采用引进铂电阻元件)

WZPK Series Armored thermal resistance

(adopted with advanced Pt resistance element)

概述

铠装铂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情况。本厂生产的WZPK系列铠装铂电阻采用引进铂电阻测温元件，因此，具有精确、灵敏、热响应时间快、质量稳定、使用寿命长等优点。

铠装铂电阻外保护套采用不锈钢，内充满高密度氧化物质绝缘体，因此，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情况。

铠装铂电阻可用于测量-200~500℃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输出特性，可为显示器、记录仪、调节器、扫描器、数据记录仪以及电脑提供精确的温度变化输入信号，应符合JB/T8622-1997标准。

工作原理

铠装铂电阻工作原理：在温度作用下铂电阻丝的电阻随之变化而变化。显示仪表将会指示出铂电阻产生的电阻值所对应的温度值。

主要技术指标 Main technical Index

分度号 Pt100: A级 $R_{100} = 100 \pm 0.06 \Omega$

B级 $R_{100} = 100 \pm 0.12 \Omega$ Graduation No

量程规格 Measuring range Standard

型号 Model	分度号 Graduation No	测温范围℃ Temperature Measuring range	精度等级 Accuracy degree	允许偏差Δt℃ Allowable difference
WZPK	Pt100	-200~500	A级	$\pm (0.15 \pm 0.002 t)$
			B级	$\pm (0.30 \pm 0.005 t)$

注：式中“t”为感温元件实测温度绝对值

Note: is the absolute value of actual temperature for temperature sensing.

Overall

Armored thermal resistance is a kind of temperature sensor, it has a smaller diameter comparing with The assembly type resistance. And it is easy to Bend with a good anti-vibration, so it is suitable to Install in the place where is not fit to install Assembly type resistance. WZPK series armored Pt resistance made by our company is adopted with Advanced pt resistance temperature measuring element, s So, it has the advantage of high accuracy, and flexible Sensitivity, fast thermal response time, steady quality And long life etc.

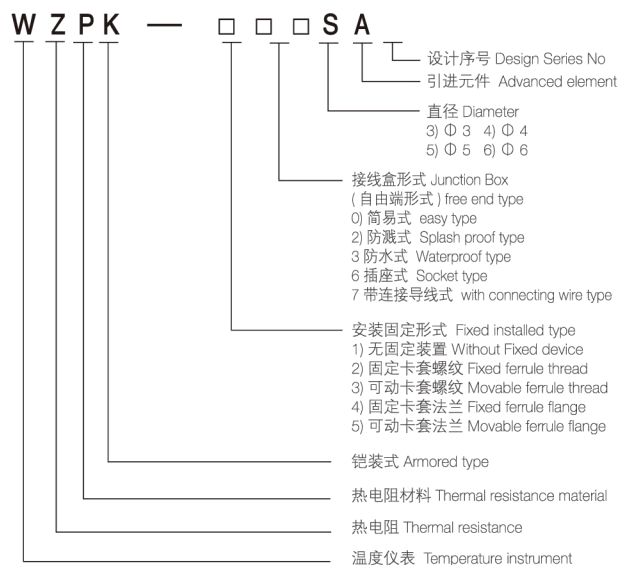
The outside protecting pipe of Armored Pt resistance is made by stainless steel, and the inner side is full Of oxidation material insulator with high density. Therefore, it has a strong anti-pollution property and Excellent mechanical strength, and it is suitable for Dangerous situation.

Armored pt resistance is used for measuring the Temperature from -200 to 500℃ and can be directly Connected with the copper wire and secondary instruments As it has a excellent electric output feature, it can Supply accurate temperature input signal to display instrument, Recorder, adjuster, scanner, data recorder and computer, and is in accord with standard, JB/T8622-1997.

Working principal

Sheathed platinum resistance working principle: platinum wire changes along with temperature change. Displayer will indicate the temperature value corresponding to resistance value.

型号表示 Model



公称压力

一般是指在常温下，保护管所能承受的静态外压而不破裂，实验压力一般采用公称压力的 1.5 倍。实际上，允许公称压力不仅与保护管材料、直径、壁厚有关，而且还与其结构形式、安装方法、置入深度以及被测介质的流速、种类有关。

热响应时间

在温度出现阶跃变化时，热电阻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 τ 表示。

热电阻绝缘电阻

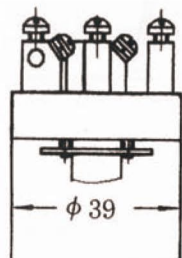
常温绝缘电阻的实验电压可取直流 10~100V 任意值，环境温度在 15~35℃ 范围内，相对湿度应不大于 80%；常温绝缘电阻应不小于 100M Ω 。

热电阻允许通过电流

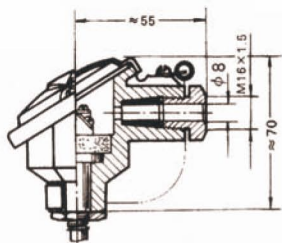
通过铠装铂电阻的测量电流最大不超过 5mA。

铠装铂电阻分类型式 Types of armored Pt resistance

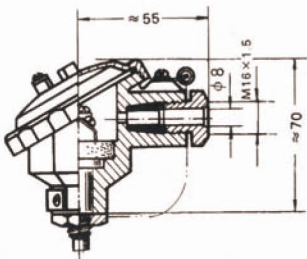
接线盒分类
 Classification of junction box
 简易式端子
 Easy type end



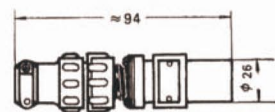
防溅式接线盒
 Splash proof junction box



防水式接线盒
 water-proof junction box



插座式端子
 Socket terminal



Nominal Pressure

Normally in the normal temperature, it's the static pressure the protecting pipe can withstand from outside without breaking, the testing pressure is usually adopted 1.5 times of Nominal pressure. Actually, the allowable PN not only has a relationship with the material, diameter, thickness of pipe, also has a close relationship with its structure, installation method, inserting depth, flow speed and property of measuring medium.

Thermal response time

When temperature step change occurs, thermal resistance output change is 50% of this step change, time needed is thermal response time, marked as τ .

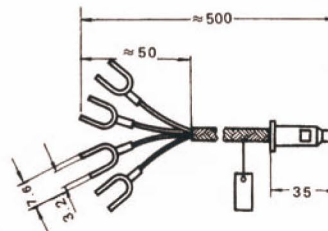
Thermal resistance insulated resistance

The test voltage can be taken any value between 10 to 100V, DC for Normal temperature insulated resistance Environment temperature should be from 15 $^{\circ}\text{C}$ to 35 $^{\circ}\text{C}$, The relative temperature should be not more than 80%. The normal temperature insulated value should be less than 100 M Ω .

Thermal resistance allowable electric current

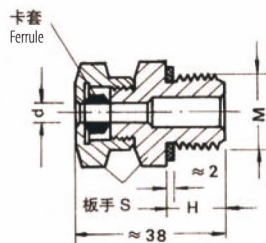
The Max value of measuring electric current though Pt resistance should not be more than 5 mA.

带连接导线 with connecting wire



安装固定形式 Fixed installation

卡套螺栓式 Ferrule Bolt type



固定卡套 Fixed ferrule



可动卡套 Movable ferrule



单位: mm

铠装热电阻外径 (d) Armored thermal resistance outside diameter	$\Phi 6$	$\Phi 5$	$\Phi 4$	$\Phi 4$	$\Phi 3$
	安装固定装置标准尺寸 Standard dimension for fixed installed device				
M	M16 x 1.5		M12 x 1.5		
S	22		19		

铠装铂电阻

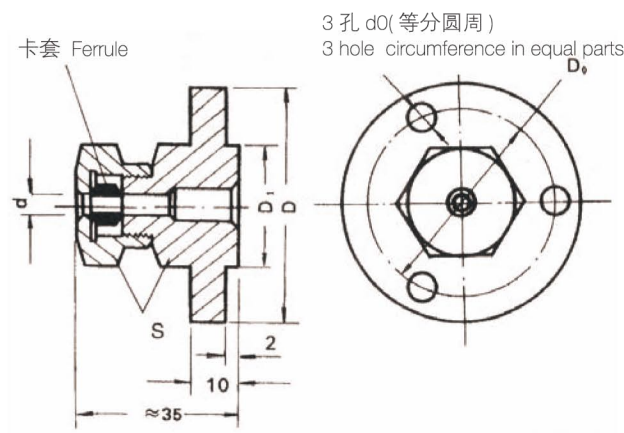
Armored thermal resistance



WZPK 系列
WZPK Series

P-070

卡套法兰式 Sleeve flange



铠装热电阻外径 (d) Armored thermal resistance outside diameter	Φ 6	Φ 4	Φ 4	Φ 3
安装固定装置标准尺寸 Standard dimension for fixed installed device				
D	Φ 60		Φ 50	
D ₀	Φ 42		Φ 36	
D ₁	Φ 24		Φ 20	
d ₀	Φ 9		Φ 7	
s	22		19	

型号规格 Type

单位: mm
Unit: mm

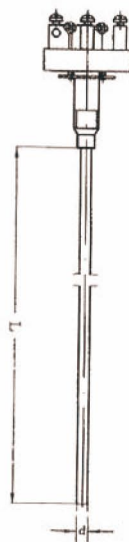
简易端子 Simple terminals

型号 Type	分度号 Graduation	测温范围 °C Temperature Range	精度等级 Precision class	热响应时间 heat respond time T 0.5s	直径 DN mm	长度 Length mm	安装固定装置 Mounting fixed device.	
WZPK - 103S	Pt100	-200~500	A 级或 B 级 Class A or B	≤3	Φ 3	单支长度 Single length	无固定装置 No fixed device	
WZPK - 104S				≤5	Φ 4			
WZPK - 105S				≤8	Φ 5			
WZPK - 106S				≤12	Φ 6			
WZPK ₂ - 105SA				≤8	Φ 5			
WZPK ₂ - 106SA				≤12	Φ 6			
WZPK - 203S				≤3	Φ 3			固定卡套螺栓 Fixed Ferrule Bolt
WZPK - 204S				≤5	Φ 4			
WZPK - 205S				≤8	Φ 5			
WZPK - 206S				≤12	Φ 6			
WZPK ₂ - 205SA				≤8	Φ 5			
WZPK ₂ - 206SA				≤12	Φ 6			
WZPK - 303S				≤3	Φ 3	可动卡套螺栓 Movable ferrule thread		
WZPK - 304S				≤5	Φ 4			
WZPK - 305S				≤8	Φ 5			
WZPK - 306S				≤12	Φ 6			
WZPK ₂ - 305SA				≤8	Φ 5			
WZPK ₂ - 306SA				≤12	Φ 6			
WZPK - 403S				≤3	Φ 3		固定卡套法兰 Fixed ferrule flange	
WZPK - 404S				≤5	Φ 4			
WZPK - 405S				≤8	Φ 5			
WZPK - 406S				≤12	Φ 6			
WZPK ₂ - 405SA				≤8	Φ 5			
WZPK ₂ - 406SA				≤12	Φ 6			
WZPK - 503S				≤3	Φ 3	可动卡套法兰 Movable ferrule flange		
WZPK - 504S				≤5	Φ 4			
WZPK - 505S				≤8	Φ 5			
WZPK - 506S				≤12	Φ 6			
WZPK ₂ - 505SA				≤8	Φ 5			
WZPK ₂ - 506SA				≤12	Φ 6			

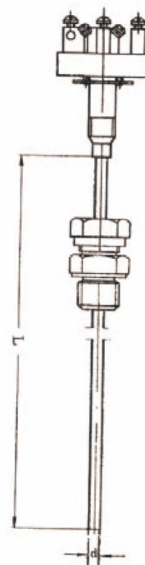
注: 1) 保护管材料和固定装置材料: 1Cr18Ni9Ti 不锈钢.
2) 双支为三线制引线

NOTE: 1) Protecting tube material and fixed outfit take material: 1Cr18Ni9Ti stainless steel.
2) Double piece is three wires system leading wire.

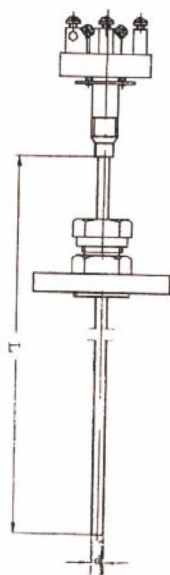




无固定装置
Without fixed device



固定卡套螺纹，可动卡套螺纹
Fixed ferrule thread, movable ferrule thread



固定卡套法兰、可动卡套法兰
Fixed ferrule flange, Movable ferrule flange

铠装铂电阻

Armored thermal resistance



WZPK 系列
WZPK Series

P-072

防溅式接线盒 Splash proof type junction box

型号 Type	分度号 Indexing	测温范围℃ Temperature range	精度等级 Precision class	热响应时间 heat respond time T 0.5s	直径 DN mm	长度 Length Mm	安装固定装置 Mounting fixed device.
WZPK - 123S	Pt100	-200~500	A 级 或 B 级 A class or B class	≤3	Φ 3	单支长度 Single length	无固定装置 Without fixed device
WZPK - 124S				≤5	Φ 4		
WZPK - 125S				≤8	Φ 5		
WZPK - 126S				≤12	Φ 6		
WZPK ₂ - 125SA				≤8	Φ 5		
WZPK ₂ - 126SA				≤12	Φ 6		
WZPK - 223S				≤3	Φ 3		
WZPK - 224S				≤5	Φ 4		
WZPK - 225S				≤8	Φ 5		
WZPK - 226S				≤12	Φ 6		
WZPK ₂ - 225SA				≤8	Φ 5		
WZPK ₂ - 226SA				≤12	Φ 6		
WZPK - 323S				≤3	Φ 3		
WZPK - 324S				≤5	Φ 4		
WZPK - 325S				≤8	Φ 5		
WZPK - 326S				≤12	Φ 6		
WZPK ₂ - 325SA				≤8	Φ 5		
WZPK ₂ - 326SA				≤12	Φ 6		
WZPK - 423S				≤3	Φ 3		
WZPK - 424S				≤5	Φ 4		
WZPK - 425S				≤8	Φ 5		
WZPK - 426S				≤12	Φ 6		
WZPK ₂ - 425SA				≤8	Φ 5		
WZPK ₂ - 426SA				≤12	Φ 6		
WZPK - 523S				≤3	Φ 3		
WZPK - 524S				≤5	Φ 4		
WZPK - 525S				≤8	Φ 5		
WZPK - 526S				≤12	Φ 6		
WZPK ₂ - 525SA				≤8	Φ 5		
WZPK ₂ - 526SA				≤12	Φ 6		

注: 1) 保护管材料和固定装置材料: 1Cr18Ni9Ti 不锈钢。
2) 双支为三线制引线 Double teams for three wire leads.

NOTE: 1) Protecting tube material and fixed outfit take material: 1Cr18Ni9Ti stainless steel.
2) Double teams for three wire leads.



无固定装置
No fixed device



固定卡套螺纹, 可动
卡套螺纹
Fixed ferrule thread,
movable ferrule thread



固定卡套法兰、
可动卡套法兰
Fixed ferrule flange,
movable ferrule flange



铠装铂电阻 Armored thermal resistance

WZPK 系列 WZPK Series

防水式接线盒 Waterproof connecting box

型号 Type	分度号 Indexing	测温范围℃ Range of temperature	精度等级 Precision class	热响应时间 heat respond time τ 0.5s	直径 DN mm	长度 Length Mm	安装固定装置 Mounting fixed device.
WZPK - 133S	Pt100	-200~500	A 级 或 B 级 A class or B class	≤ 3	$\Phi 3$	单支长度 Single length 100 150 200 250 300 400 500 750 1000 双支长度 Double length 100 150 200 250 300 400 500	无固定装置 No fixed device
WZPK - 134S				≤ 5	$\Phi 4$		
WZPK - 135S				≤ 8	$\Phi 5$		
WZPK - 136S				≤ 12	$\Phi 6$		
WZPK ₂ - 135SA				≤ 8	$\Phi 5$		
WZPK ₂ - 136SA				≤ 12	$\Phi 6$		
WZPK - 233S				≤ 3	$\Phi 3$		固定卡套螺栓 Fixed card set of bolt
WZPK - 234S				≤ 5	$\Phi 4$		
WZPK - 225S				≤ 8	$\Phi 5$		
WZPK - 226S				≤ 12	$\Phi 6$		
WZPK ₂ - 235SA				≤ 8	$\Phi 5$		
WZPK ₂ - 236SA				≤ 12	$\Phi 6$		
WZPK - 333S				≤ 3	$\Phi 3$		可动卡套螺栓 Moving card set of bolt
WZPK - 334S				≤ 5	$\Phi 4$		
WZPK - 335S				≤ 8	$\Phi 5$		
WZPK - 336S				≤ 12	$\Phi 6$		
WZPK ₂ - 335SA				≤ 8	$\Phi 5$		
WZPK ₂ - 336SA				≤ 12	$\Phi 6$		
WZPK - 433S				≤ 3	$\Phi 3$		固定卡套法兰 Fixed card set of flange
WZPK - 434S				≤ 5	$\Phi 4$		
WZPK - 435S				≤ 8	$\Phi 5$		
WZPK - 436S				≤ 12	$\Phi 6$		
WZPK ₂ - 435SA				≤ 8	$\Phi 5$		
WZPK ₂ - 436SA				≤ 12	$\Phi 6$		
WZPK - 533S				≤ 3	$\Phi 3$		可动卡套法兰 Moving card set of flange
WZPK - 534S				≤ 5	$\Phi 4$		
WZPK - 535S				≤ 8	$\Phi 5$		
WZPK - 536S				≤ 12	$\Phi 6$		
WZPK ₂ - 535SA				≤ 8	$\Phi 5$		
WZPK ₂ - 536SA				≤ 12	$\Phi 6$		



无固定装置
without fixed device



固定卡套螺纹，可动卡套螺纹
Fixed ferrule thread, movable ferrule
thread



固定卡套法兰、
可动卡套法兰
Fixed ferrule flange
Movable ferrule flange

注：1) 保护管材料和固定装置材料：1Cr18Ni9Ti 不锈钢。
2) 双支为三线制引线

NOTE: 1) Protecting tube material and fixed outfit take material: 1Cr18Ni9Ti stainless steel.
2) Double pieces is three wires system leading wires

铠装铂电阻 Armored thermal resistance



WZPK 系列
WZPK Series

P-074

插座式端子 Socket type terminals

型号 Type	分度号 Graduation	测温范围℃ Range of temperature	精度等级 Precision class	热响应时间 heat respond time T 0.5s	直径 DN mm	长度 Length Mm	安装固定装置 Mounting fixed device.	
WZPK — 163S	Pt100	-200~500	A 级 或 B 级 A class or B class	≤3	Φ 3	单支长度 Single length	无固定装置 Without fixed device	
WZPK — 164S				≤5	Φ 4			
WZPK — 165S				≤8	Φ 5			
WZPK — 166S				≤12	Φ 6			
WZPK ₂ — 165SA				≤8	Φ 5			
WZPK ₂ — 166SA				≤12	Φ 6			
WZPK — 263S				≤3	Φ 3	A 级 或 B 级 A class or B class	100	固定卡套螺栓 Fixed ferrule of bolt
WZPK — 264S				≤5	Φ 4			
WZPK — 265S				≤8	Φ 5			
WZPK — 266S				≤12	Φ 6			
WZPK ₂ — 265SA				≤8	Φ 5			
WZPK ₂ — 266SA				≤12	Φ 6			
WZPK — 363S				≤3	Φ 3	A 级 或 B 级 A class or B class	100	可动卡套螺栓 Moving ferrule of bolt
WZPK — 364S				≤5	Φ 4			
WZPK — 365S				≤8	Φ 5			
WZPK — 366S				≤12	Φ 6			
WZPK ₂ — 365SA				≤8	Φ 5			
WZPK ₂ — 366SA				≤12	Φ 6			
WZPK — 463S				≤3	Φ 3	A 级 或 B 级 A class or B class	100	固定卡套法兰 Fixed ferrule of flange
WZPK — 464S				≤5	Φ 4			
WZPK — 465S				≤8	Φ 5			
WZPK — 466S				≤12	Φ 6			
WZPK ₂ — 465SA				≤8	Φ 5			
WZPK ₂ — 466SA				≤12	Φ 6			
WZPK — 563S				≤3	Φ 3	A 级 或 B 级 A class or B class	100	可动卡套法兰 Moving ferrule of flange
WZPK — 564S				≤5	Φ 4			
WZPK — 565S				≤8	Φ 5			
WZPK — 566S				≤12	Φ 6			
WZPK ₂ — 565SA				≤8	Φ 5			
WZPK ₂ — 566SA				≤12	Φ 6			

注: 1) 保护管材料和固定装置材料: 1Cr18Ni9Ti 不锈钢。
2) 双支为三线制引线

NOTE: 1) Protecting tube material and fixed outfit take material: 1Cr18Ni9Ti stainless steel.
2) Double pieces is three wires system leading wires

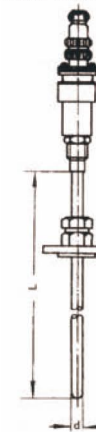


无固定装置
Without fixed device



固定卡套螺纹, 可动
卡套螺纹

Fixed ferrule thread,
movable ferrule thread



固定卡套法兰、
可动卡套法兰
Fixed ferrule flange,
movable ferrule flange

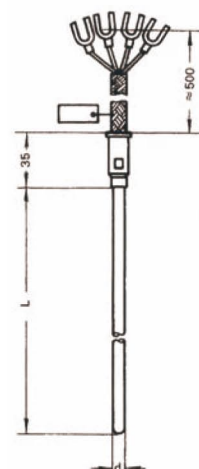


带延长导线 Extension wire

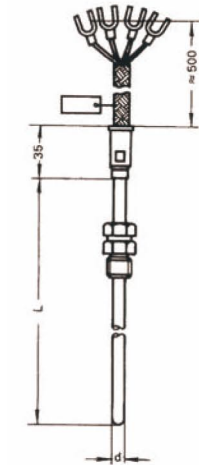
型号 Type	分度号 Graduation	测温范围℃ Range of temperature	精度等级 Precision class	热响应时间 heat respond time τ 0.5s	直径 DN mm	长度 Length mm	安装固定装置 Mounting fixed device.
WZPK - 173S	Pt100	-200~500	A 级 或 B 级 A class or B class	≤ 3	$\Phi 3$	单支长度 Single length 100 150 200 250 300 400 500 750 1000 双支长度 Double length 100 150 200 250 300 400 500	无固定装置 No fixed device
WZPK - 174S				≤ 5	$\Phi 4$		
WZPK - 175S				≤ 8	$\Phi 5$		
WZPK - 176S				≤ 12	$\Phi 6$		
WZPK ₂ - 175SA				≤ 8	$\Phi 5$		
WZPK ₂ - 176SA				≤ 12	$\Phi 6$		
WZPK - 273S				≤ 3	$\Phi 3$		固定卡套螺栓 Fixed ferrule bolt
WZPK - 274S				≤ 5	$\Phi 4$		
WZPK - 275S				≤ 8	$\Phi 5$		
WZPK - 276S				≤ 12	$\Phi 6$		
WZPK ₂ - 275SA				≤ 8	$\Phi 5$		
WZPK ₂ - 276SA				≤ 12	$\Phi 6$		
WZPK - 373S				≤ 3	$\Phi 3$		可动卡套螺栓 Moving ferrule of bolt
WZPK - 374S				≤ 5	$\Phi 4$		
WZPK - 375S				≤ 8	$\Phi 5$		
WZPK - 376S				≤ 12	$\Phi 6$		
WZPK ₂ - 375SA				≤ 8	$\Phi 5$		
WZPK ₂ - 376SA				≤ 12	$\Phi 6$		
WZPK - 473S				≤ 3	$\Phi 3$		固定卡套法兰 Fixed ferrule of flange
WZPK - 474S				≤ 5	$\Phi 4$		
WZPK - 475S				≤ 8	$\Phi 5$		
WZPK - 476S				≤ 12	$\Phi 6$		
WZPK ₂ - 475SA				≤ 8	$\Phi 5$		
WZPK ₂ - 476SA				≤ 12	$\Phi 6$		
WZPK - 573S				≤ 3	$\Phi 3$		可动卡套法兰 Moving ferrule of flange
WZPK - 574S				≤ 5	$\Phi 4$		
WZPK - 575S				≤ 8	$\Phi 5$		
WZPK - 576S				≤ 12	$\Phi 6$		
WZPK ₂ - 575SA				≤ 8	$\Phi 5$		
WZPK ₂ - 576SA				≤ 12	$\Phi 6$		

注: 1) 保护管材料和固定装置材料: 1Cr18Ni9Ti 不锈钢。
 2) 双支为三线制引线

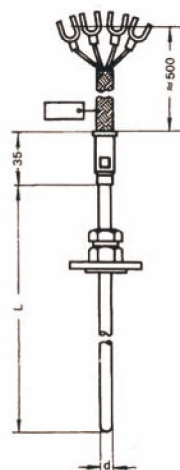
NOTE: 1) Protecting tube material and fixed outfit take material: 1Cr18Ni9Ti stainless steel.
 2) Double teams for three wire leads.



无固定装置
 No fixed device



固定卡套螺纹, 可动卡套螺纹
 Fixed ferrule thread, movable ferrule thread



固定卡套法兰、可动卡套法兰
 Fixed ferrule flange, movable ferrule flange