

装配热电偶

应用

通常和显示仪表、记录仪表、电子计算机等配套使用。直接测量各种生产过程中的 $0^{\circ}\text{C}\sim 1300^{\circ}\text{C}$ 范围内液体、蒸汽和气体介质以及固体表面温度。

特点

1. 装配简单, 更换方便;
2. 压簧式感温元件, 抗振性能好;
3. 测量范围大;
4. 机械强度高, 耐压性能好;

工作原理

热电偶的电极由两根不同导体材质组成。当测量端与参比端存在温差时, 就会产生热电势, 工作仪表便显示出热电势所对应的温度值。

主要技术参数

产品执行标准

IEC584

JB/T9238-1999

常温绝缘电阻

热电偶在环境温度为 $20\pm 15^{\circ}\text{C}$, 相对湿度不大于80%, 试验电压为 $500\pm 50\text{V}$ (直流) 电极与外套管之间的绝缘电阻 $\geq 1000\text{M}\Omega\cdot\text{m}$

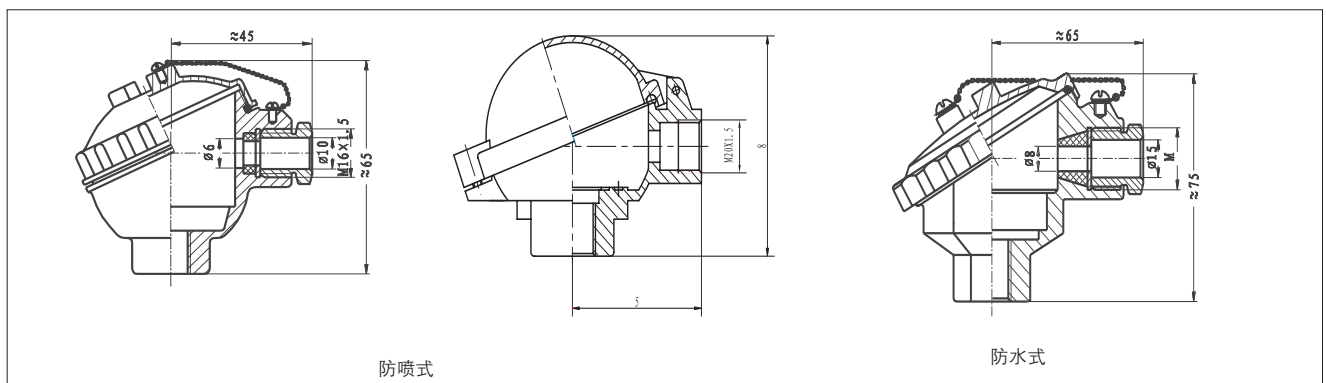
即1m长的试样的绝缘电阻为 $1000\text{M}\Omega$;

10m长的试样的绝缘电阻为 $100\text{M}\Omega$;

测温范围及允差

| 型号 | 分度号 | 允差等级 | | | |
|--------|-----|---------------------------|-------------------------|---------------------------|-------------------------|
| | | I | | II | |
| | | 允差值 | 测温范围 $^{\circ}\text{C}$ | 允差值 | 测温范围 $^{\circ}\text{C}$ |
| TP-WRN | K | $\pm 1.5^{\circ}\text{C}$ | $-40\sim +375$ | $\pm 2.5^{\circ}\text{C}$ | $-40\sim +333$ |
| | | $\pm 0.004\text{tI}$ | $375\sim 1000$ | $\pm 0.0075\text{tII}$ | $333\sim 1200$ |
| TP-WRM | N | $\pm 1.5^{\circ}\text{C}$ | $-40\sim +375$ | $\pm 2.5^{\circ}\text{C}$ | $-40\sim +333$ |
| | | $\pm 0.004\text{tI}$ | $375\sim 1000$ | $\pm 0.0075\text{tII}$ | $333\sim 1200$ |
| TP-WRE | E | $\pm 1.5^{\circ}\text{C}$ | $-40\sim +375$ | $\pm 2.5^{\circ}\text{C}$ | $-40\sim +333$ |
| | | $\pm 0.004\text{tI}$ | $375\sim 800$ | $\pm 0.0075\text{tII}$ | $333\sim 900$ |
| TP-WRF | J | $\pm 1.5^{\circ}\text{C}$ | $-40\sim +375$ | $\pm 2.5^{\circ}\text{C}$ | $-40\sim +333$ |
| | | $\pm 0.004\text{tI}$ | $375\sim 750$ | $\pm 0.0075\text{tII}$ | $333\sim 750$ |
| TP-WRC | T | $\pm 0.5^{\circ}\text{C}$ | $-40\sim +125$ | $\pm 1.0^{\circ}\text{C}$ | $-40\sim +133$ |
| | | $\pm 0.004\text{tI}$ | $125\sim 350$ | $\pm 0.0075\text{tII}$ | $133\sim 350$ |

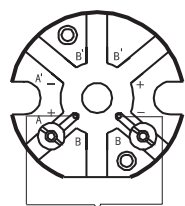
接线盒形式



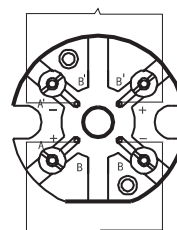
型号及规格

| | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|--------|
| TP- W 温度仪表 | | | | | | | | | |
| R 热电偶 | | | | | | | | | |
| 感温元件材料 | | | | | | | | | |
| N 镍铬-镍硅 | | | | | | | | | |
| M 镍铬硅-镍硅 | | | | | | | | | |
| E 镍铬-铜硅 | | | | | | | | | |
| C 铜-铜镍 | | | | | | | | | |
| F 铁-铜镍 | | | | | | | | | |
| 偶丝对数 | | | | | | | | | |
| 无 单支 | | | | | | | | | |
| 2 双支 | | | | | | | | | |
| 安装固定形式 | | | | | | | | | |
| 1 无固定装置 | | | | | | | | | |
| 2 固定螺纹 | | | | | | | | | |
| 3 活动法兰 | | | | | | | | | |
| 4 固定法兰 | | | | | | | | | |
| 5 活络管接头式 | | | | | | | | | |
| 6 固定螺纹锥形式 | | | | | | | | | |
| 7 直形管接头式 | | | | | | | | | |
| 接线盒形式 | | | | | | | | | |
| 2 防喷式 | | | | | | | | | |
| 3 防水式 | | | | | | | | | |
| 保护管直径 | | | | | | | | | |
| 0 $\Phi 16$ | | | | | | | | | |
| 1 $\Phi 20$ | | | | | | | | | |
| 2 $\Phi 16$ 高铝质管 | | | | | | | | | |
| 3 $\Phi 20$ 高铝质管 | | | | | | | | | |
| 附加形式 | | | | | | | | | |
| G 变截面 | | | | | | | | | |
| B 带温度变送器 | | | | | | | | | |
| TP- W | R | N | 2 | - | 2 | 3 | 1 | G | 典型型号示例 |

接线方式

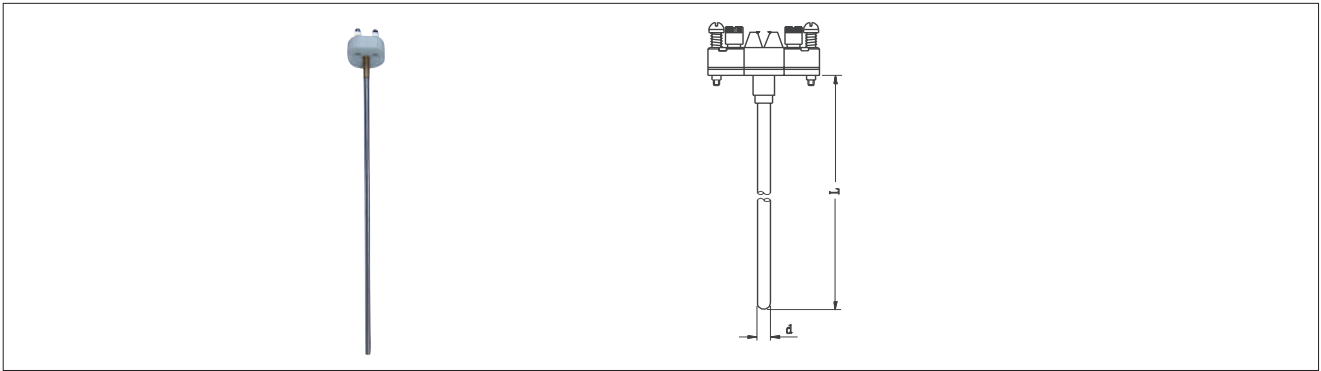


单支接线方法



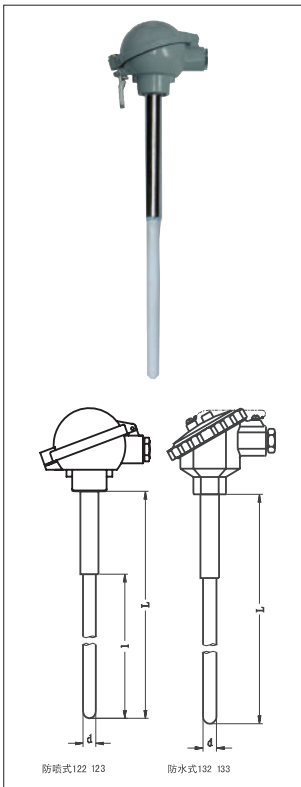
双支接线方法

感温元件



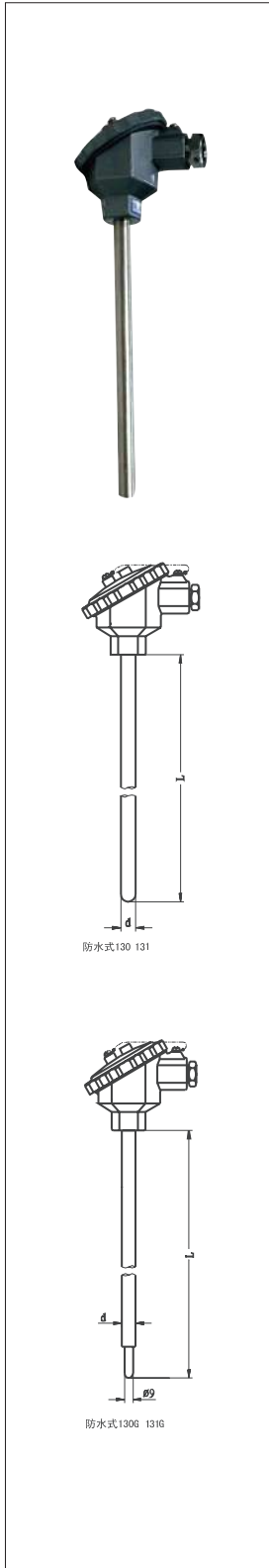
| 名称 | 型号 | 分度号 | 测温范围 °C | 规格 | |
|--------|--------------------------|-----|---------|----|------|
| | | | | d | L |
| 镍铬硅—镍铬 | TP-WRM-101 | N | 0~1000 | Φ3 | 310 |
| | TP-WRM ₂ -101 | | | | 360 |
| 镍铬—镍硅 | TP-WRN-101 | K | 0~1000 | Φ4 | 410 |
| | TP-WRN ₂ -101 | | | | 460 |
| 镍铬—铜镍 | TP-WRE-101 | E | 0~800 | Φ5 | 510 |
| | TP-WRE ₂ -101 | | | | 560 |
| 铜—铜镍 | TP-WRC-101 | T | 0~350 | Φ6 | 660 |
| | TP-WRC ₂ -101 | | | | 910 |
| 铁—铜镍 | TP-WRF-101 | J | 0~600 | Φ8 | 1160 |
| | TP-WRF ₂ -101 | | | | |

无固定装置热电偶



| 型号 | 分度号 | 测温范围 °C | 热响应时间 | 保护管材料 | 规格 | |
|--------------------------|---------|---------|-------|-------|-----------|---------|
| | | | | | d | L |
| TP-WRM-122 | N | 0~1200 | <240s | 高铝质 | Φ16 | 300×150 |
| TP-WRM ₂ -122 | | | | | | 350×200 |
| TP-WRN-122 | 400×250 | | | | | |
| TP-WRN ₂ -122 | Φ20 | | | | 450×300 | |
| TP-WRM-123 | | | | | 500×350 | |
| TP-WRM ₂ -123 | | | | | 550×400 | |
| TP-WRN-123 | Φ16 | | | | 650×500 | |
| TP-WRN ₂ -123 | | | | | 900×750 | |
| TP-WRM-132 | | | | | 1150×1000 | |
| TP-WRM ₂ -132 | Φ20 | | | | 1650×1500 | |
| TP-WRN-132 | | | | | 2150×2000 | |
| TP-WRN ₂ -132 | | | | | | |
| TP-WRM-133 | N | | | | | |
| TP-WRM ₂ -133 | | | | | | |
| TP-WRN-133 | K | | | | | |
| TP-WRN ₂ -133 | | | | | | |

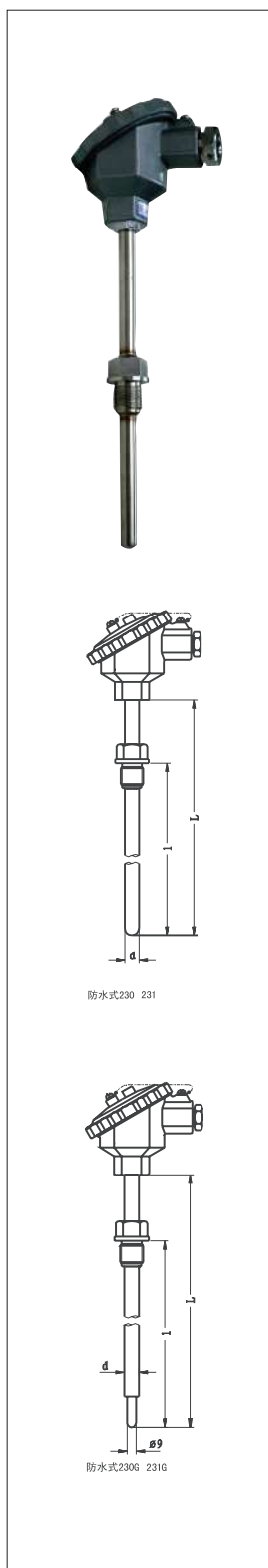
- 1)型号122为防喷式,防护等级IP65; 型号132为防水式,防护等级IP55;
2)保护管其余材质根据协议订货。



| 型号 | 分度号 | 测温范围 °C | 热响应时间 | 保护管材料 | 规格 | |
|---------------------------|-----|---------|-------|------------|------|--|
| | | | | | d | L |
| TP-WRM-130 | N | 0~800 | <90s | 1Cr18Ni9Ti | Φ 16 | 150 200 250 300 350 400 500 750 1000 1500 2000 2150 |
| TP-WRM ₂ -130 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-130G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -130G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-130 | K | 0~800 | <90s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -130 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-130G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -130G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-130 | E | 0~700 | <90s | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -130 | | | <24s | | | |
| TP-WRE-130G | | | | | | |
| TP-WRE ₂ -130G | | | | | | |
| TP-WRC-130 | T | 0~350 | <90s | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -130 | | | <24s | | | |
| TP-WRC-130G | | | | | | |
| TP-WRC ₂ -130G | | | | | | |
| TP-WRF-130 | J | 0~600 | <90s | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -130 | | | <24s | | | |
| TP-WRF-130G | | | | | | |
| TP-WRF ₂ -130G | | | | | | |
| TP-WRM-131 | N | 0~800 | <90s | 1Cr18Ni9Ti | Φ 20 | |
| TP-WRM ₂ -131 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-131G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -131G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-131 | K | 0~800 | <120s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -131 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-131G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -131G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-131 | E | 0~700 | <120s | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -131 | | | <24s | | | |
| TP-WRE-131G | | | | | | |
| TP-WRE ₂ -131G | | | | | | |
| TP-WRC-131 | T | 0~350 | <120s | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -131 | | | <24s | | | |
| TP-WRC-131G | | | | | | |
| TP-WRC ₂ -131G | | | | | | |
| TP-WRF-131 | J | 0~600 | <120s | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -131 | | | <24s | | | |
| TP-WRF-131G | | | | | | |
| TP-WRF ₂ -131G | | | | | | |

- 1) 型号130、131为防水式，防护等级IP55;
- 2) 型号120、121为防喷式，防护等级IP65，其它参数同130、131
- 3) 保护管其余材质根据协议订货

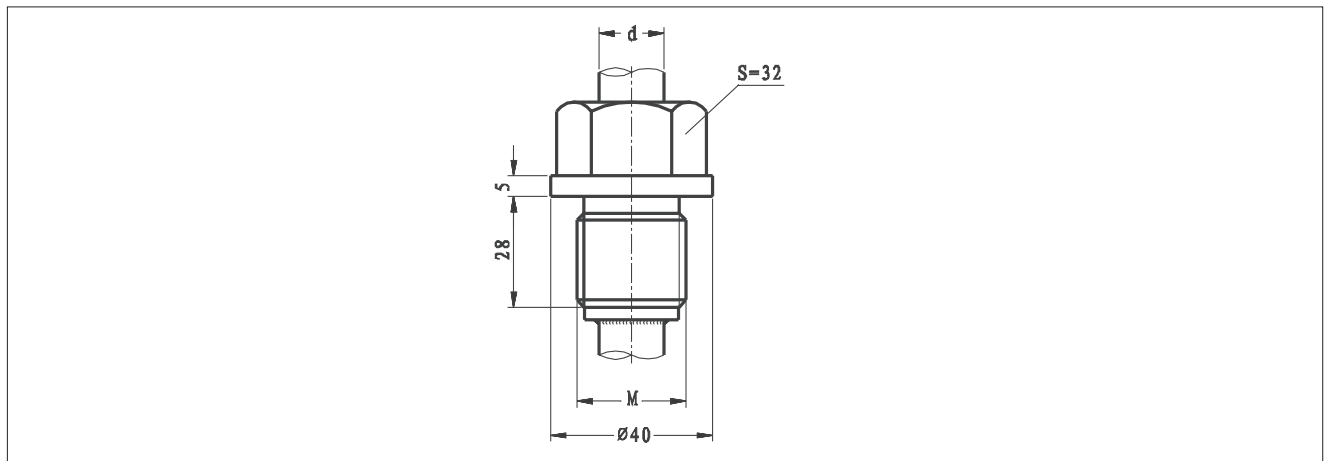
固定螺纹式热电偶



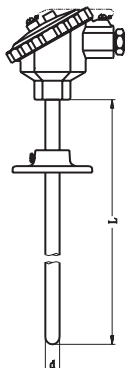
| 型号 | 分度号 | 测温范围 °C | 热响应时间 | 保护管材料 | 规格 | |
|---------------------------|-----|---------|-------|------------|------|---|
| | | | | | d | L |
| TP-WRM-230 | N | 0~800 | <90s | 1Cr18Ni9Ti | Φ 16 | 300×150 350×200 400×250 450×300 500×350 550×400 650×500 900×750 1150×1000 1650×1500 2150×2000 |
| TP-WRM ₂ -230 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-230G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -230G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-230 | K | 0~800 | <90s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -230 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-230G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -230G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-230 | E | 0~700 | <90s | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -230 | | | <24s | | | |
| TP-WRE-230G | | | | | | |
| TP-WRE ₂ -230G | | | | | | |
| TP-WRC-230 | T | 0~350 | <90s | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -230 | | | <24s | | | |
| TP-WRC-230G | | | | | | |
| TP-WRC ₂ -230G | | | | | | |
| TP-WRF-230 | J | 0~600 | <90s | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -230 | | | <24s | | | |
| TP-WRF-230G | | | | | | |
| TP-WRF ₂ -230G | | | | | | |
| TP-WRM-231 | N | 0~800 | <120s | 1Cr18Ni9Ti | Φ 20 | |
| TP-WRM ₂ -231 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-231G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -231G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-231 | K | 0~800 | <120s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -231 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-231G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -231G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-231 | E | 0~700 | <120s | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -231 | | | <24s | | | |
| TP-WRE-231G | | | | | | |
| TP-WRE ₂ -231G | | | | | | |
| TP-WRC-231 | T | 0~350 | <120s | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -231 | | | <24s | | | |
| TP-WRC-231G | | | | | | |
| TP-WRC ₂ -231G | | | | | | |
| TP-WRF-231 | J | 0~600 | <120s | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -231 | | | <24s | | | |
| TP-WRF-231G | | | | | | |
| TP-WRF ₂ -231G | | | | | | |

- 1) 型号230、231为防水式，防护等级IP55；型号220、221为防喷式，防护等级IP65，其它参数同230、231
- 2) 保护管其余材质根据协议订货；
- 3) 公称压力为10MPa

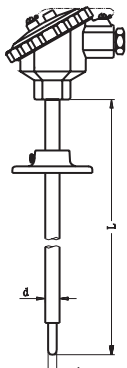
| 型号示例 | 螺纹规格 | | d |
|--------------|------|--------|------|
| | 代号 | M | |
| TP-WRN-230 | | M27×2 | Φ 16 |
| TP-WRN-230A | A | G3/4 | |
| TP-WRN-230C | C | NPT3/4 | |
| TP-WRN-231G | | M27×2 | Φ 20 |
| TP-WRN-231GA | A | G3/4 | |
| TP-WRN-231GC | C | NPT3/4 | |



| 型号 | 分度号 | 测温范围 °C | 热响应时间 | 保护管材料 | 规格 | |
|---------------------------|-----|---------|-------|------------|------|--|
| | | | | | d | L |
| TP-WRM-330 | N | 0~800 | <90s | 1Cr18Ni9Ti | Φ 16 | 150 200 250 300 350 400 500 750 1000 1500 2000 2150 |
| TP-WRM ₂ -330 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-330G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -330G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-330 | K | 0~800 | <90s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -330 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-330G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -330G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-330 | E | 0~700 | <90s | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -330 | | | <24s | | | |
| TP-WRE-330G | | | | | | |
| TP-WRE ₂ -330G | | | | | | |
| TP-WRC-330 | T | 0~350 | <90s | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -330 | | | <24s | | | |
| TP-WRC-330G | | | | | | |
| TP-WRC ₂ -330G | | | | | | |
| TP-WRF-330 | J | 0~600 | <90s | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -330 | | | <24s | | | |
| TP-WRF-330G | | | | | | |
| TP-WRF ₂ -330G | | | | | | |
| TP-WRM-331 | N | 0~800 | <120s | 1Cr18Ni9Ti | Φ 20 | |
| TP-WRM ₂ -331 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-331G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -331G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-331 | K | 0~800 | <120s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -331 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-331G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -331G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-331 | E | 0~700 | <120s | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -331 | | | <24s | | | |
| TP-WRE-331G | | | | | | |
| TP-WRE ₂ -331G | | | | | | |
| TP-WRC-331 | T | 0~350 | <120s | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -331 | | | <24s | | | |
| TP-WRC-331G | | | | | | |
| TP-WRC ₂ -331G | | | | | | |
| TP-WRF-331 | J | 0~600 | <120s | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -331 | | | <24s | | | |
| TP-WRF-331G | | | | | | |
| TP-WRF ₂ -331G | | | | | | |

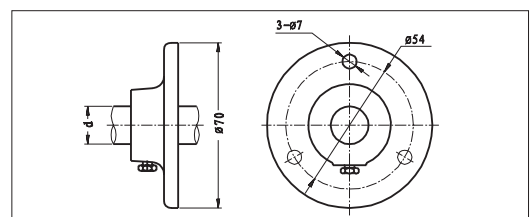


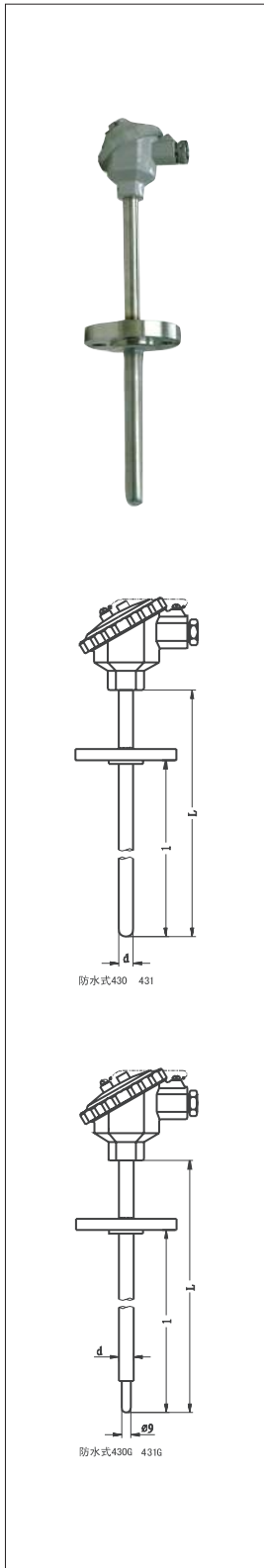
防水式330 331



防水式330G 331G

- 1) 型号330、331为防水式，防护等级IP55;
- 2) 型号320、321为防喷式，防护等级IP65，其它参数同330、331
- 3) 保护管其余材质根据协议订货



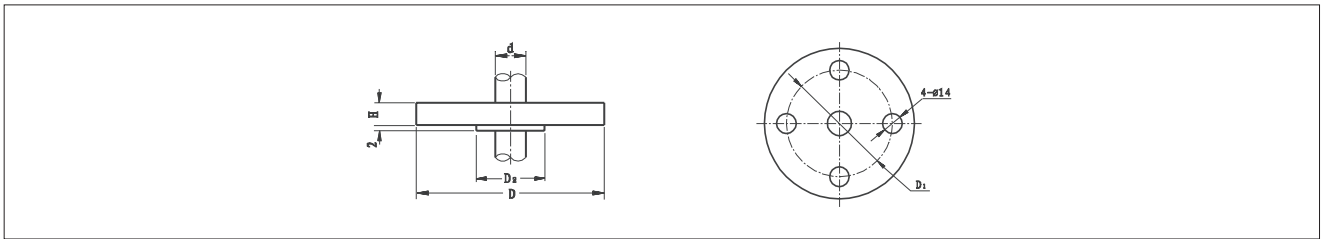


| 型号 | 分度号 | 测温范围 °C | 热响应时间 | 保护管材料 | 规格 | |
|---------------------------|-----|---------|-------|------------|------|---|
| | | | | | d | L |
| TP-WRM-430 | N | 0~800 | <90s | 1Cr18Ni9Ti | Φ 16 | 300×150 350×200 400×250 450×300 500×350 550×400 650×500 900×750 1150×1000 1650×1500 2150×2000 |
| TP-WRM ₂ -430 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-430G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -430G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-430 | K | 0~800 | <90s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -430 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-430G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -430G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-430 | E | 0~700 | <90s | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -430 | | | <24s | | | |
| TP-WRE ₂ -430G | | | | | | |
| TP-WRC-430 | T | 0~350 | <90s | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -430 | | | <24s | | | |
| TP-WRC ₂ -430G | | | | | | |
| TP-WRF-430 | J | 0~600 | <90s | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -430 | | | <24s | | | |
| TP-WRF ₂ -430G | | | | | | |
| TP-WRM-431 | N | 0~800 | <120s | 1Cr18Ni9Ti | Φ 20 | |
| TP-WRM ₂ -431 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-431G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -431G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-431 | K | 0~800 | <120s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -431 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-431G | | 0~800 | <24s | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -431G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-431 | E | 0~700 | <120s | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -431 | | | <24s | | | |
| TP-WRE ₂ -431G | | | | | | |
| TP-WRC-431 | T | 0~350 | <120s | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -431 | | | <24s | | | |
| TP-WRC ₂ -431G | | | | | | |
| TP-WRF-431 | J | 0~600 | <120s | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -431 | | | <24s | | | |
| TP-WRF ₂ -431G | | | | | | |

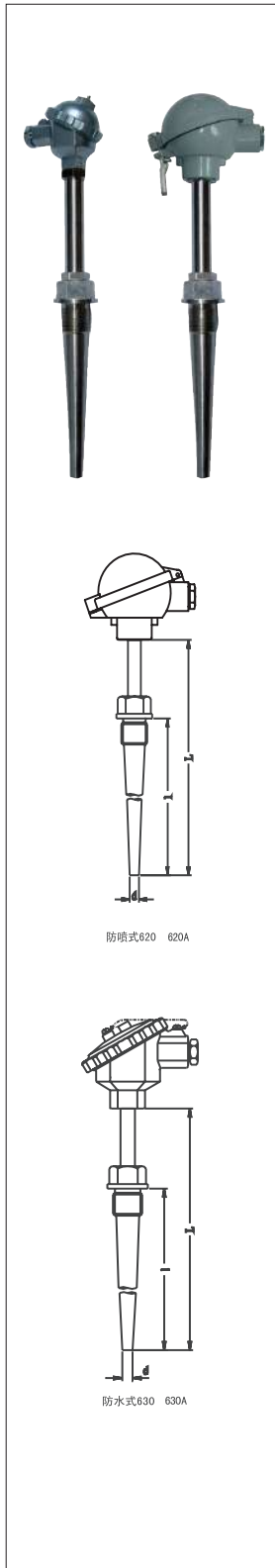
- 1) 型号430、431为防水式，防护等级IP55;
- 2) 型号420、421为防喷式，防护等级IP65，其它参数同430、431
- 3) 公称压力为2.50MPa

| 型号示例 | 法兰规格(mm) | | | | |
|-------------|----------|----------------|----------------|----|------|
| | D | D ₁ | D ₂ | H | d |
| TP-WRN-430 | Φ 105 | Φ 75 | Φ 55 | 16 | Φ 16 |
| TP-WRN-430G | Φ 105 | Φ 75 | Φ 55 | | |
| TP-WRN-431 | Φ 115 | Φ 85 | Φ 65 | 16 | Φ 20 |
| TP-WRN-431G | Φ 115 | Φ 85 | Φ 65 | | |
| TP-WRN-430 | Φ 95 | Φ 65 | Φ 46 | 14 | Φ 16 |
| TP-WRN-430G | Φ 95 | Φ 65 | Φ 46 | | |

可按用户约定要求提供法兰：详见 P 84



固定螺纹锥式热电偶



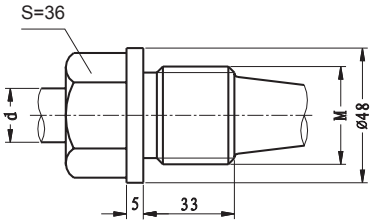
| 型号 | 分度号 | 测温范围 °C | 热响应时间 | 保护管材料 | 规格 | |
|---------------------------|-----|---------|------------|------------|------|---|
| | | | | | d | L |
| TP-WRM-620 | N | 0~800 | <90s | 1Cr18Ni9Ti | Φ 15 | 300×150 350×200 400×250 450×300 500×350 550×400 650×500 |
| TP-WRM ₂ -620 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRM-620G | | 0~800 | | 1Cr18Ni9Ti | | |
| TP-WRM ₂ -620G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-620 | K | 0~800 | | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -620 | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRN-620G | | 0~800 | | 1Cr18Ni9Ti | | |
| TP-WRN ₂ -620G | | 0~1000 | | 0Cr25Ni20 | | |
| TP-WRE-620 | E | 0~700 | | 1Cr18Ni9Ti | | |
| TP-WRE ₂ -620 | | | | | | |
| TP-WRE-620G | | | | | | |
| TP-WRE ₂ -620G | | | | | | |
| TP-WRC-620 | T | 0~350 | | 1Cr18Ni9Ti | | |
| TP-WRC ₂ -620 | | | | | | |
| TP-WRC-620G | | | | | | |
| TP-WRC ₂ -620G | | | | | | |
| TP-WRF-620 | J | 0~600 | | 1Cr18Ni9Ti | | |
| TP-WRF ₂ -620 | | | | | | |
| TP-WRF-620G | | | | | | |
| TP-WRF ₂ -620G | | | | | | |
| TP-WRM-630 | N | 0~800 | 1Cr18Ni9Ti | | | |
| TP-WRM ₂ -630 | | 0~1000 | 0Cr25Ni20 | | | |
| TP-WRM-630G | | 0~800 | 1Cr18Ni9Ti | | | |
| TP-WRM ₂ -630G | | 0~1000 | 0Cr25Ni20 | | | |
| TP-WRN-630 | K | 0~800 | 1Cr18Ni9Ti | | | |
| TP-WRN ₂ -630 | | 0~1000 | 0Cr25Ni20 | | | |
| TP-WRN-630G | | 0~800 | 1Cr18Ni9Ti | | | |
| TP-WRN ₂ -630G | | 0~1000 | 0Cr25Ni20 | | | |
| TP-WRE-630 | E | 0~700 | 1Cr18Ni9Ti | | | |
| TP-WRE ₂ -630 | | | | | | |
| TP-WRE-630G | | | | | | |
| TP-WRE ₂ -630G | | | | | | |
| TP-WRC-630 | T | 0~350 | 1Cr18Ni9Ti | | | |
| TP-WRC ₂ -630 | | | | | | |
| TP-WRC-630G | | | | | | |
| TP-WRC ₂ -630G | | | | | | |
| TP-WRF-630 | J | 0~600 | 1Cr18Ni9Ti | | | |
| TP-WRF ₂ -630 | | | | | | |
| TP-WRF-630G | | | | | | |
| TP-WRF ₂ -630G | | | | | | |

1) 型号620、620G为防喷式，防护等级IP65；型号630、630G为防水式，防护等级IP55；

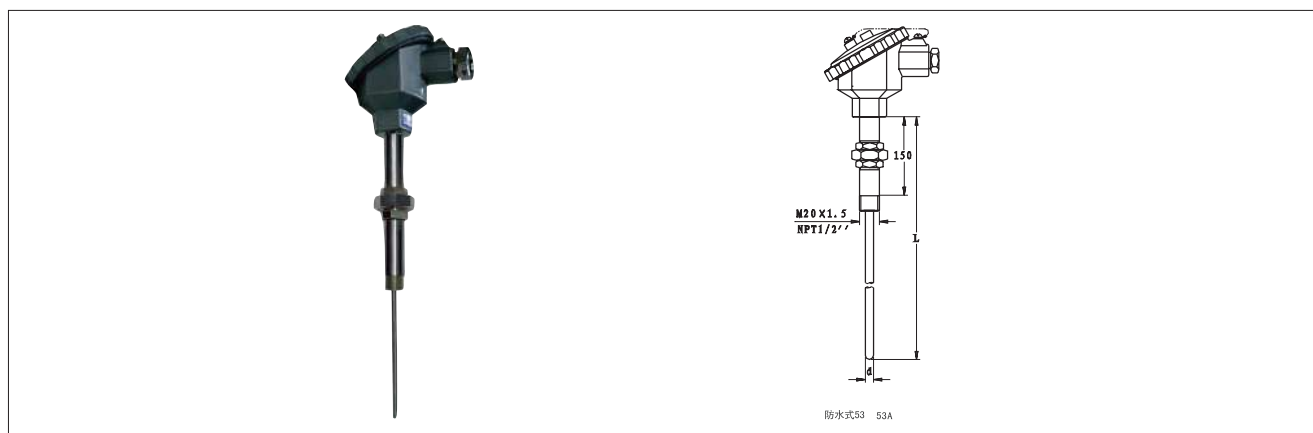
2) 保护管其余材质根据协议订货；

3) 公称压力为≤30MPa

| 型号示例 | 螺纹规格 | |
|-------------|------|-------|
| | 代号 | M |
| TP-WRN-620 | | M33×2 |
| TP-WRN-620A | A | NPT1 |
| TP-WRN-630 | | M33×2 |
| TP-WRN-630A | A | NPT1 |



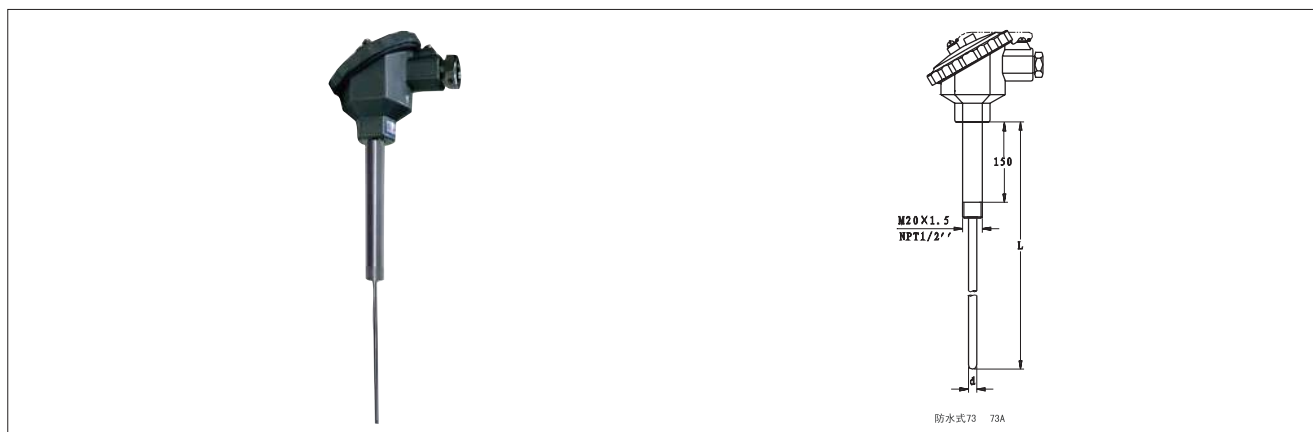
活络管接头式热电偶



| 型号 | 分度号 | 测温范围 °C | 连接尺寸 | 保护管材料 | 规格 | |
|--|-----|---------|---------|------------|----|--|
| | | | | | d | L |
| TP-WRM-53 TP-WRM ₂ -53 | N | 0~1000 | M20×1.5 | 1Cr18Ni9Ti | Φ3 | 245 270 295 345 395 445 545 645 745 899 1149 |
| TP-WRM-53A TP-WRM ₂ -53A | | | NPT1/2 | | | |
| TP-WRN-53 TP-WRN ₂ -53 | K | | M20×1.5 | | | |
| TP-WRN-53A TP-WRN ₂ -53A | | | NPT1/2 | | | |
| TP-WRE-53 TP-WRE ₂ -53 | E | 0~700 | M20×1.5 | | Φ4 | |
| TP-WRE-53A TP-WRE ₂ -53A | | | NPT1/2 | | Φ5 | |
| TP-WRC-53 TP-WRC ₂ -53 | T | 0~350 | M20×1.5 | | Φ6 | |
| TP-WRC-53A TP-WRC ₂ -53A | | | NPT1/2 | | Φ8 | |
| TP-WRF-53 TP-WRF ₂ -53 | J | 0~600 | M20×1.5 | | | |
| TP-WRF-53A TP-WRF ₂ -53A | | | NPT1/2 | | | |

- 1) 型号53、53A为防水式，防护等级IP55；
- 2) 型号52、52A为防喷式，防护等级IP65，其它参数同53、53A
- 3) 如无特殊之约定，L 仅为参考尺寸，热电偶插入深度应为热安装套管U尺寸；
- 4) 热安装套管形式详见P117

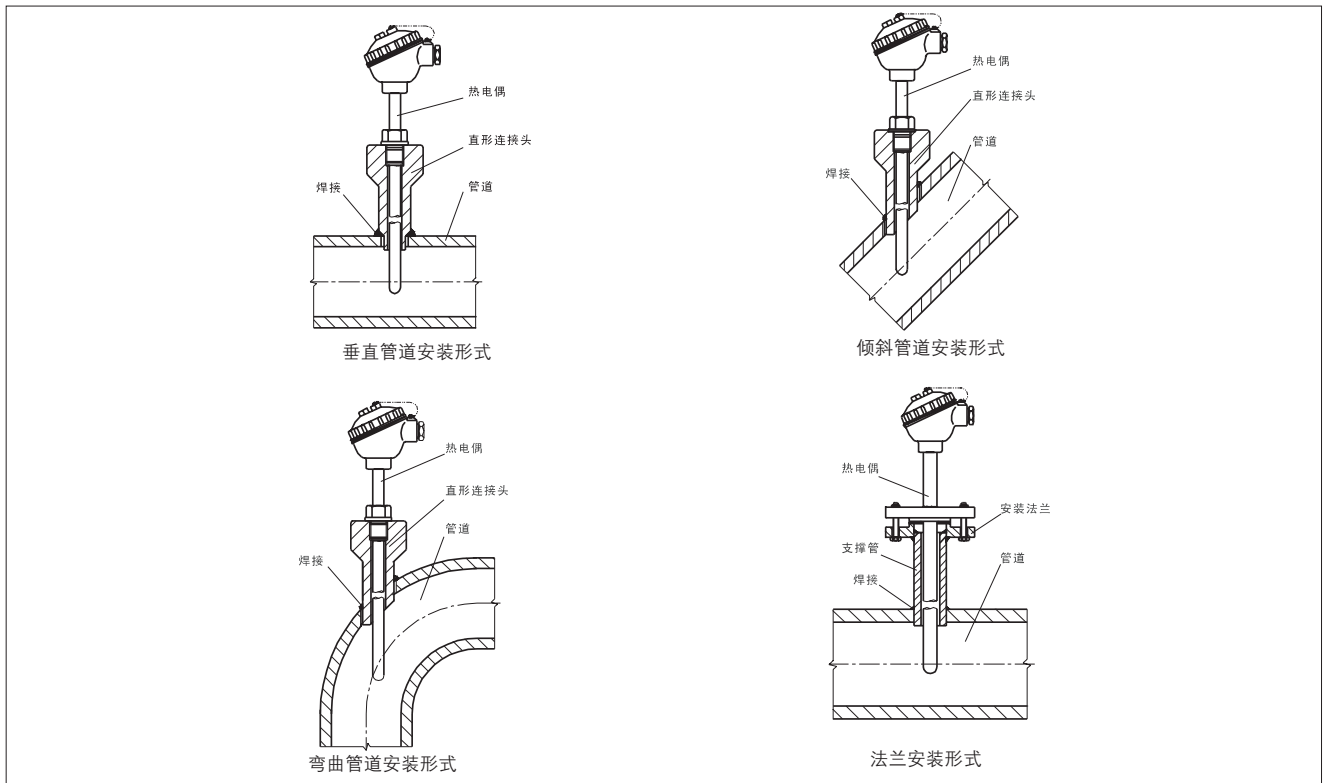
直形管接头式热电偶



| 型号 | 分度号 | 测温范围 °C | 连接尺寸 | 保护管材料 | 规格 | | |
|--|-----|---------|---------|------------|-----|-----|------|
| | | | | | d | L | |
| TP-WRM-73 TP-WRM ₂ -73 | N | 0~1000 | M20×1.5 | 1Cr18Ni9Ti | Φ3 | 245 | |
| TP-WRM-73A TP-WRM ₂ -73A | | | NPT1/2 | | | | |
| TP-WRN-73 TP-WRN ₂ -73 | K | | M20×1.5 | | | | 270 |
| TP-WRN-73A TP-WRN ₂ -73A | | | NPT1/2 | | | | 295 |
| TP-WRE-73 TP-WRE ₂ -73 | E | | M20×1.5 | | | | 345 |
| TP-WRE-73A TP-WRE ₂ -73A | | | NPT1/2 | | | | 395 |
| TP-WRC-73 TP-WRC ₂ -73 | T | 0~350 | M20×1.5 | | 445 | | |
| TP-WRC-73A TP-WRC ₂ -73A | | | NPT1/2 | | 545 | | |
| TP-WRF-73 TP-WRF ₂ -73 | J | 0~600 | M20×1.5 | | 645 | | |
| TP-WRF-73A TP-WRF ₂ -73A | | | NPT1/2 | | 745 | | |
| | | | | | | 899 | 1149 |

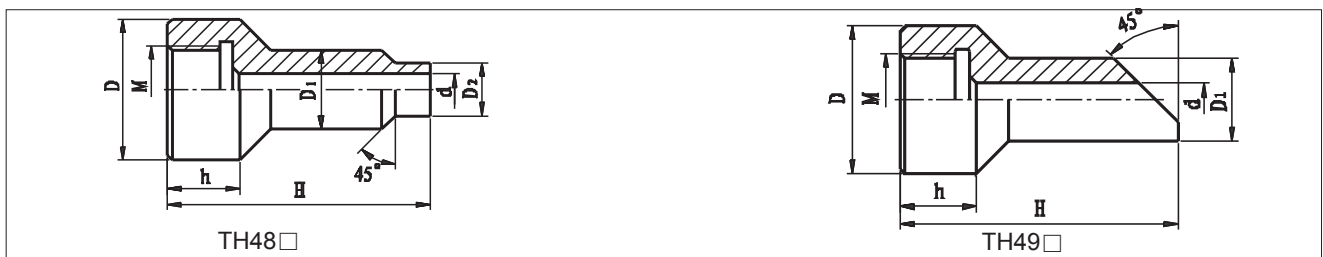
- 1) 型号73、73A为防水式，防护等级IP55；
- 2) 型号72、72A为防喷式，防护等级IP65，其它参数同73、73A
- 3) 如无特殊之约定，L 仅为参考尺寸，热电偶插入深度应为热安装套管U尺寸；
- 4) 热安装套管形式详见P117

安装形式



直形接头

| 代号 | M | D | D ₁ | D ₂ | d | h | H |
|-------|---------|-----|----------------|----------------|-----|----|--------|
| TH48A | M12×1.5 | Φ32 | Φ18 | Φ12 | Φ7 | 27 | 60,120 |
| TH48B | M16×1.5 | Φ36 | Φ18 | Φ14 | Φ7 | 27 | 80 |
| TH48C | M20×1.5 | Φ40 | Φ18 | Φ14 | Φ7 | 27 | 60 |
| TH48D | M27×2 | Φ47 | Φ28 | Φ22 | Φ17 | 32 | 60 |
| TH48E | M33×2 | Φ55 | Φ36 | Φ30 | Φ21 | 34 | 120 |
| TH48F | NPT1/2 | Φ39 | Φ27 | Φ21 | Φ16 | 35 | 60 |
| TH48G | NPT3/4 | Φ47 | Φ31 | Φ25 | Φ20 | 40 | 120 |
| TH48H | NPT1 | Φ47 | Φ41 | Φ35 | Φ30 | 45 | |



| 代号 | M | D | D ₁ | d | h | H |
|-------|--------|-----|----------------|-----|----|-----|
| TH49A | M27×2 | Φ47 | Φ28 | Φ18 | 30 | 90 |
| TH49B | M33×2 | Φ55 | Φ36 | Φ24 | 30 | 150 |
| TH49C | NPT1/2 | Φ39 | Φ27 | Φ16 | 30 | 90 |
| TH49D | NPT3/4 | Φ47 | Φ31 | Φ20 | 35 | 90 |
| TH49E | NPT1 | Φ47 | Φ41 | Φ30 | 40 | 150 |