

TWD系列压力式温度计

TWD Series Pressure Thermometer

应用 Application

TWD系列压力式温度计适用于各种工业设备温度测量，可在离开设备处指示温度。

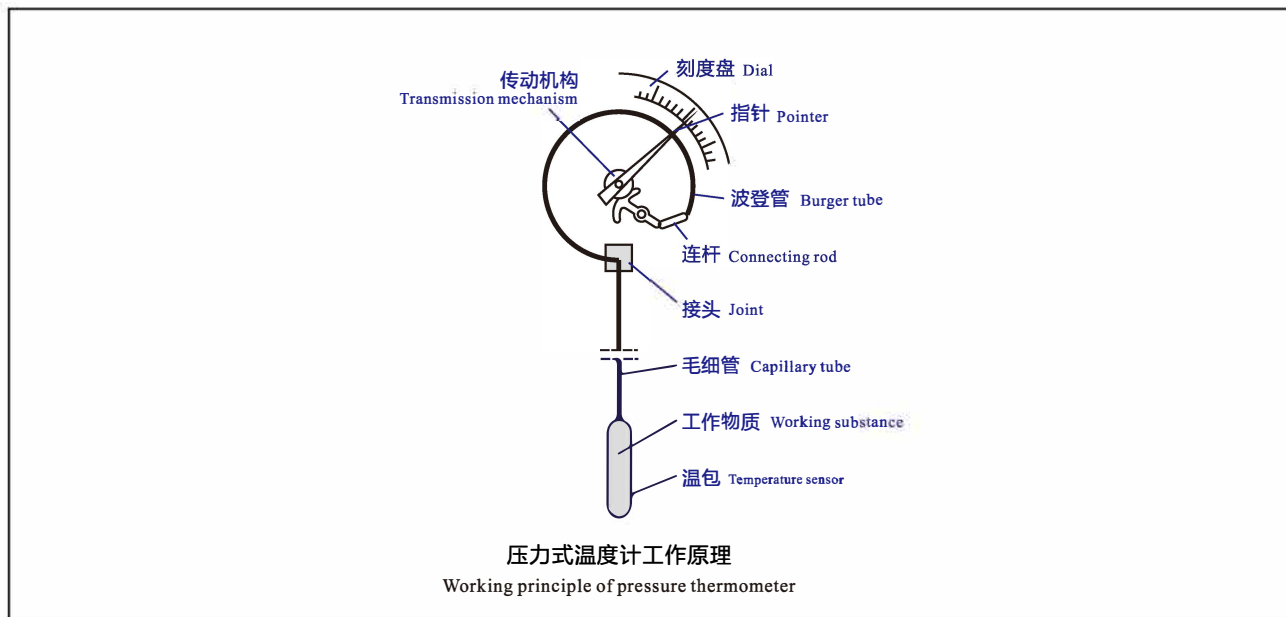
TWD series pressure type thermometer is suitable for temperature measurement of various industrial equipment. Temperature can be indicated at the departure point of the equipment.

工作原理 Working Principle

压力式温度计是利用封闭容器内的液体，气体或饱和蒸气受热后产生体积膨胀或压力变化作为测信号。它的基本结构是由温包、毛细管和指示表三部分组成。是基于密闭测温系统内蒸发液体的饱和蒸气压力和温度之间的变化关系，而进行温度测量的。当温包感受到温度变化时，密闭系统内饱和蒸气产生相应的压力，引起弹性元件曲率的变化，使其自由端产生位移，再由齿轮放大机构把位移变为指示值，这种温度计具有温包体积小，反应速度快、灵敏度高、读数直观等特点，几乎集合了玻璃棒温度计、双金属温度计、气体压力温度计的所有优点，它可以制造成防震、防腐型，并且可以实现远传

触点信号、热电阻信号、0-10mA或4-20mA信号。是目前使用范围最广、性能最全面的一种机械式测温仪表。

The pressure type thermometer uses the liquid, gas or saturated vapor in the closed container to generate volume expansion or pressure change as the measurement signal after being heated. Its basic structure is composed of three parts: temperature package, capillary and indicator. The temperature measurement is based on the relationship between saturated vapor pressure and temperature of evaporated liquid in a closed temperature measuring system. When the temperature package feels the temperature change, the saturated vapor in the closed system generates the corresponding pressure, which causes the curvature change of the elastic element and causes the free end to shift. Then the displacement is changed to the indicated value by the gear amplifying mechanism. This kind of thermometer has the characteristics of small temperature package volume, fast response speed, high sensitivity and intuitive reading. It has almost all the advantages of glass thermometer, bimetal thermometer and gas pressure thermometer. It can be made into shock-proof and anticorrosive type, and can realize remote contact signal, thermal resistance signal, 0-10mA or 4-20mA signal. It is a kind of mechanical temperature measuring instrument with the widest range of use and the most comprehensive performance.



产品特点 Application

结构简单，机械强度高，不怕震动。价格低廉，不需要外部能源，它具有温包体积小，反应速度快、灵敏度高、读数直观等特点。

Simple structure, high mechanical strength, not afraid of vibration. Low price. No external energy is needed. It has the characteristics of small volume of temperature sensor, fast response, high sensitivity and direct reading, etc.

主要技术参数

Main technical parameters

1. 产品执行标准：JB/T8803-1998；
2. 标度盘工称直径：60/80/100/150；
3. 精度等级：1.5级；
4. 热响应时间： $\leq 40s$ ；
5. 回差：温度计回差应不大于基本误差的绝对值；
6. 重复性：温度计重复性极限范围切应不大于基本误差限的绝对值的1/2；
7. 测温范围： $-40\sim 60$ ， $-20\sim 60$ ， $0\sim 100$ ， $0\sim 120$ ， $0\sim 150$ ， $0\sim 200$ ， $0\sim 300$ ， $0\sim 400$ ， $0\sim 500$ 。

1.Product execution standard:JB/T8803-1998.

2.Scale dial diameter:60/80/100/150.

3.Precision grade:1.5级.

4.Thermal response time: $<40s$.

5.Backtracking: the backtracking of the thermometer should not be greater than the absolute value of the basic error.

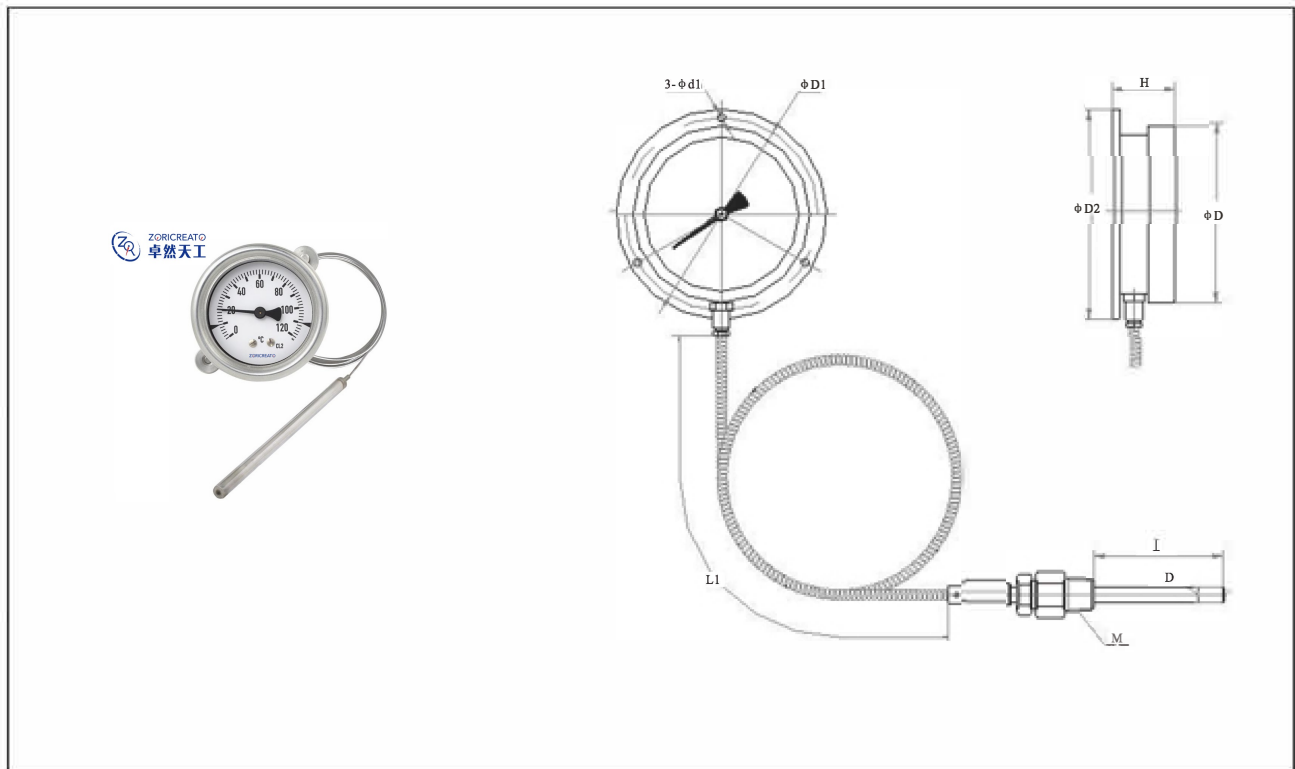
6.Repeatability: the repeatability limit range of thermometer shall not be greater than 1 / 2 of the absolute value of the basic error limit.

7.Temperature measurement range

$-40\sim 60$, $-20\sim 60$, $0\sim 100$, $0\sim 120$, $0\sim 150$, $0\sim 200$, $0\sim 300$, $0\sim 400$, $0\sim 500$.

安装尺寸（径向带后边）

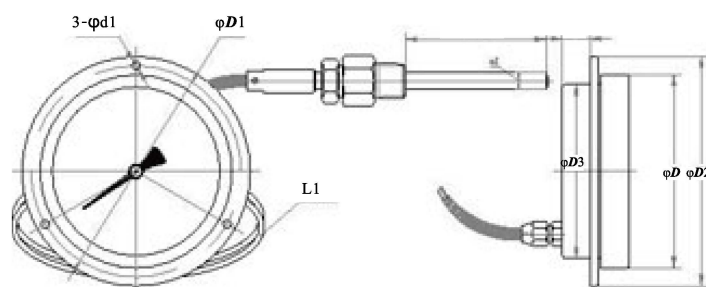
Installation Dimensions (Rear edge of radial belt)



φD	H	$\varphi D1$	φd	$\varphi D2$	$\varphi D3$	φd	L	L1	M
110	16	129	5	141	100	$\varphi 10$	100	5m	1/2NPT
160	30	176	5.5	195	150	$\varphi 12$	150	7m 10m	3/4BPP 3/4NPT

安装尺寸 (轴向带前边)

Installation Dimensions (Axial with front edge)



ϕD	H	$\phi D1$	$\phi d1$	$\phi D2$	$\phi D3$	ϕd	L	L1	M
110	16	129	5	141	100	$\phi 10$	100	5m 7m	1/2NPT 3/4BPP
160	30	176	5.5	195	150	$\phi 12$	150	10m	3/4NPT

型号命名方法

Model Naming Method

