

一、应用

双金属温度计是一种测量中低温度的现场检测仪表。可以直接测量各种生产过程中的-80℃ ~ +500℃范围内液体、蒸汽和气体介质温度。

二、特点

- 现场显示温度，直观方便
- 安全可靠，使用寿命长；
- 多种结构形式，可满足不同要求；

三、工作原理

双金属温度计是基于绕制成环性弯曲状的双金属片组成。一端受热膨胀时，带动指针旋转，工作仪表便显示出热电势所应的温度值。

四、主要技术参数

- 产品执行标准
- JB/T8803-1998
- GB3836-83
- 标度盘公称直径：60,100,150
- 精度等级：(1.0),1.5
- 热响应时间：≤ 40s

1.Application

It is one kind of thermometers to measure middle and low temperature on the spot. It could be used to directly measure temperature of liquid, vapor and gas ranging from -80℃ to 500℃.

2.Features

- directly display temperature on the spot
- high reliability and long life expectancy
- many structure forms to meet different demands

3.Operation Theory

Bimetallic thermometer is based on bimetal bended into ring shape. One side of bimetal expands in time of being heated, which results in revolving of indicator, then the meter indicates corresponding temperature value to pyroelectric potential.

4.Main Technical Parameters

- Executive Standard
JB/T8803-1998
GB3836-83
- Nominal Diameter of Dial: 60, 100, 150
- Accuracy Class: (1.0),1.5
- Thermal Response Time: ≤ 40s

- 防护等级: IP55
- 角度调整误差
角度调整误差应不超过其量程的 1.0%
- 回差
温度计回差应不大于基本误差限的绝对值
- 重复性
温度计重复性极限范围切应不大于基本误差限绝对值的 1/2
- 测温范围

- Protection Class: IP55
- Angle-adjusting Error
It shall be no more than 1% of its measuring range
- Return Error
It shall be no more than the absolute value of basic error limit.
- Repeat
The repeat range shall be no more than 1/2 of absolute value of basic error limit.
- Measuring Range

测温范围°C Measuring Range	适应范围 Application Range	
	工业、商业 for Industry & Commerce	实验室、小型 for Laboratory
-80~+40	✓	✓
-40~+80	✓	✓
0~50	✓	✓
0~100	✓	✓
0~150	✓	✓
0~200	✓	✓
0~300	✓	✓
0~400	✓	-
0~500	✓	-

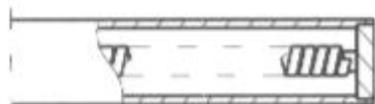
• 正常工作大气条件

• Ambient Condition for Normal Operation

工作场所 Working Place	温度 Temperature(°C)	相对湿度 Relative Humidity %
掩蔽场所 Sheltered Place	-25~+25	5~100
户外场所 Outdoor	-40~+85	5~100

• 测量端形式

• Measuring End



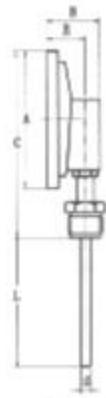
一体式
Integration Type



抽芯式
Core Type



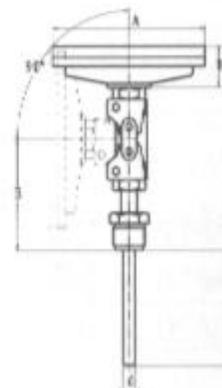
轴向型
Axial



径向型
Radial



135° 向型
135° Angle



万向型
Universal

• 外形尺寸

• Figure & Size

形式 Structure	A	B	C	E	L	D
轴向型 Axial	65	23	73	-	75	Φ6 Φ8 Φ10
	105	23	73	-	100	
	155	23	73	-	150	
径向型 Radial	65	50	110	34	200	
	105	50	110	34	300	
	155	50	110	34	400	
135° 向型 135° Angle	105	23	85	-	500	
	155	23	85	-	750	
万向型 Universal	105	23	178	120	1000	
	155	23	178	120		

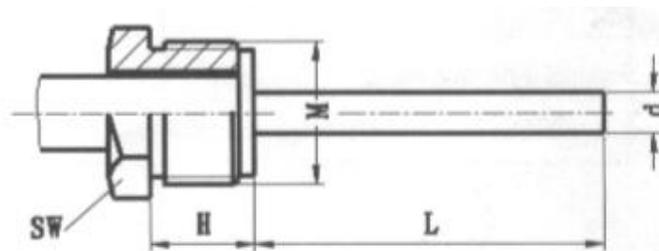
五、安装固定形式

可动外螺纹管接头

M	H	SW	
M16 × 1.5	12	18	Φ6 Φ8 Φ10
M20 × 1.5	16	22	
M27 × 2	20	30	
NPT1/4	15	18	
NPT1/2	19	22	
NPT3/4	25	30	

5.Mounting & Fixing

Movable Outer Threaded Tube Connector



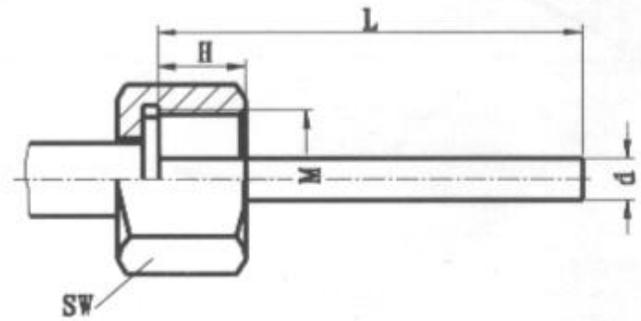
可动外螺纹管接头

Movable Outer Threaded Tube Connector

可动内螺纹管接头

M	H	SW	Φ6 Φ8 Φ10
M16 × 1.5	12	18	
M20 × 1.5	16	22	
M27 × 2	20	30	
NPT1/4	15	18	
NPT1/2	19	22	
NPT3/4	25	30	

Movable Inner Threaded Tube Connector



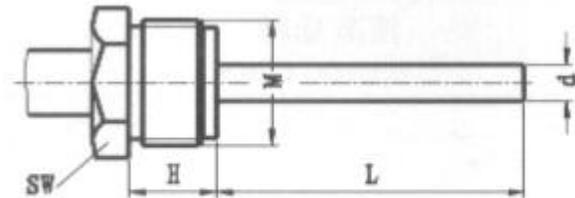
可动内螺纹管接头

Movable Inner Threaded Tube Connector

固定螺纹接头

M	H	SW	Φ6 Φ8 Φ10
M16 × 1.5	12	18	
M20 × 1.5	16	22	
M27 × 2	20	30	
NPT1/4	15	18	
NPT1/2	19	22	
NPT3/4	25	30	

Threaded Connector



固定螺纹接头

Threaded Connector

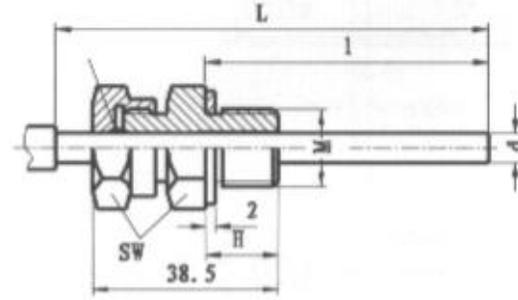
卡套螺纹接头

M	H	SW	d
M12 × 1.5	15	19	Φ6
M16 × 1.5	15	22	Φ8
M20 × 1.5	16	24	Φ10

卡套法兰接头

D	D ₀	D ₁	SW	d ₀	d
Φ60	Φ42	Φ24	Φ22	Φ9	Φ8 Φ10

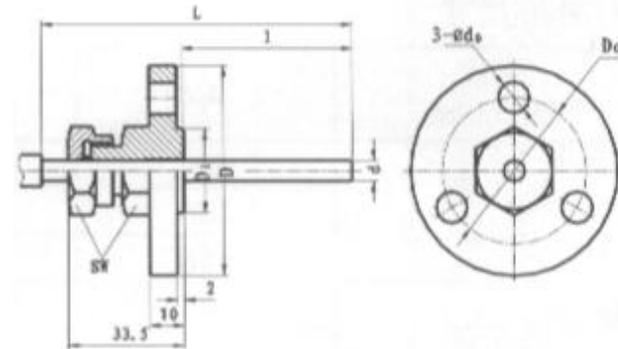
Threaded Connector with Fastener



卡套螺纹接头

Threaded Connector with Fastener

Flange with Fastener



卡套法兰接头

Flange with Fastener

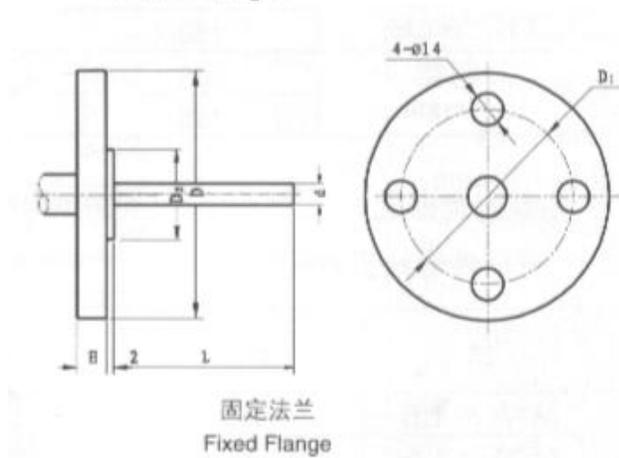
固定法兰

D	D ₁	D ₂	H	d ₀	d
Φ105	Φ75	Φ5	Φ16	Φ14	Φ8 Φ10

注：可提供 ANSI、JB、HG 等标准法兰

Remarks: We may provide flanges of ANSI, JB, HG or other standard.

Fixed Flange



六、型号命名方法

6.Type Naming Method

W 温度仪表 W Temperature Instrument

S 金属膨胀式 S Metal Expansion Type

S 感温元件双金属片 S Bimetal Thermal Element

表壳公称直径	Nominal Shell Diameter
3 60	3 60
4 100	4 100
5 150	5 150

位置特征	Location
0 轴向 (直型)	0 Axial
1 径向 (角型)	1 Radial
2 135° 向 (钝角型)	2 135° Angle
8 万向 (可调角型)	8 Universal

安装固定装置	Mounting & Fixing
0 无固定装置	0 without fixing device
1 可动外螺纹	1 Movable Outer Threaded Connector
2 可动内螺纹	2 Movable Inner Threaded Connector
3 固定螺纹	3 Threaded Connector
4 固定法兰	4 Fixed Flange
5 卡套螺纹	5 Threaded Connector with Fastener
6 卡套法兰	6 Flange with Fastener

防护形式	Protection Type
无 (未标注) 普通型 blank	Common Type
W 防护型 W	Protection Type
F 防腐型 F	Corrosion-resistant Type

W S S 4 8 1 W 典型型号示例 Model Example