

WSJS-X Bimetal Thermometer



WSJS-X bimetal thermometer is a temperature-measuring instrument in which the differential thermal expansion of thin dissimilar metals, bonded together into a narrow strip and coiled into the shape of a helix or spiral, is used to actuate a pointer and to show the temperature value. It is also known as differential thermometer. Facilitated with all stainless steel material, it is suitable for corrosive media and environments in chemical process, petroleum and other industry field.

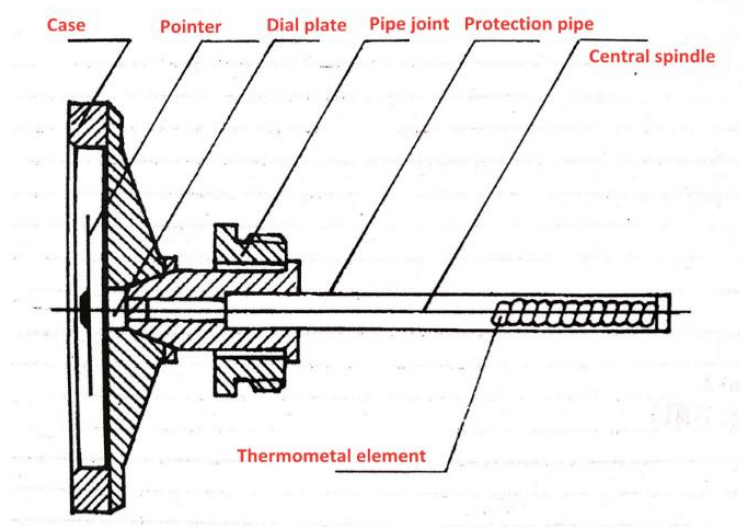
Bimetallic thermometer can be directly used to measure the temperature of various types of steam, gas and liquid medium. The measuring temperature ranges from $-40\sim 500^{\circ}\text{C}$, easy for using and reading, heavy building structure meets the needs of different occasions, particularly without any mercury which leads no harm to the environment. It also can be manufactured into electric contact bimetallic thermometer, flameproof bimetallic thermometer, either can be used on-site monitoring or for long-distance signal transmission.

Principle

The temperature measurement of the bimetal thermometer is realized through the temperature sensing of the helical spring bimetal sheet made of bimetal inside the system. Its bimetal material is composed of two indivisible metal pieces, because the thermal expansion coefficient of the two metal pieces is different and therefore in the case of temperature changes will occur in different degrees of stretching deformation. This stretching deformation is approximately proportional to temperature. One end of the sheet metal is fixed and the other end is fixed as a whole with the indicating shaft, thus driving the indicating shaft to rotate and indicating the corresponding temperature value on the dial when the sheet metal stretches and deforms.

The bimetal thermometer with electric contact is equipped with electric contact group, adjusting device and outlet box. When the temperature changes, the pointer (moving contact) and the pre-set temperature fixed contact (upper or lower limit) contact or disconnect the moment, so that the control line relay or contactor action, thus achieving automatic temperature or alarm function.

WSJS-X series bimetal thermometer includes three types as per installation: Bottom Mounted, Back Mounted, and Arbitrary Mounted.



Technical Specification

Nominal Size: 50, 63, 80, 100mm, 150mm

Accuracy: 1.0%, 1.6%, 2.5%

Ingress Protection: IP65

Connection: Fixed connection or Sliding connection. Thread or Flange or Customized. G1/4" or G1/2" or NPT or Customized.

Temperature Scale Range: -40°..+600°C

Sensing Element: Coiled bimetal sensing

Filling: Dry. Vibrant type with fillable Silicone oil

Operating Temperature: Ambient temperature -50°...+120°C

Dial Graduation: Standard in dual ranges °F and °C

Casing and Bezel Ring: Black steel; Chromed steel; Stainless steel

Probe Sensor: Stainless steel, length optional available.

Connection: Stainless steel

Window: Plain instrument glass

Pointer: Black painted aluminum

Dial Plate: Aluminum alloy

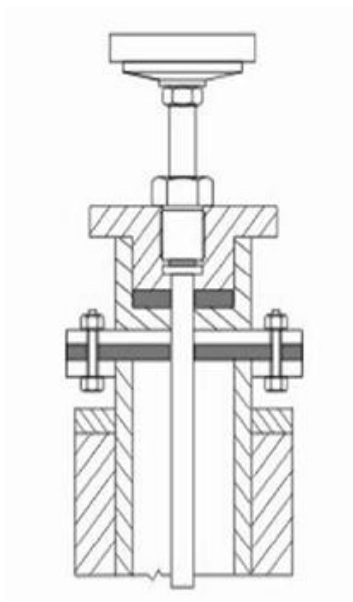
Model Selection

WSJS	Bimetal Thermometer	
	Dial diameter	E.g. -100 (100mm), or -4". etc.
-	(Temperature range)	e.g. (0-100°C) or (0-200°F) etc.
-	Type	None: bottom installation connection Z: back center installation connection T: edge installation connection A: Arbitrary adjustable installation connection
-	Material	-SS: SS case and SS wet parts -AS: Aluminum case and SS wet parts -O: specified For SS (stainless steel) , please specified 304SS or 316SS.
-	Filling	D: dry DF: dry but can be filled N: vibration-proof glycerin filled
-	Output	None: without J: with electric contact output S1: signal output 4-20mA S2: signal output 0-5V S3: signal output 0-10V S4: signal output RTD S5: signal output thermocouple S0: customer specified
-A	Installment type	1: fixed thread 2: slide adjustable thread 3: rotatable adjustable thread 4: flange 5: clamp 0: customer specified
	Thermo well	None: without

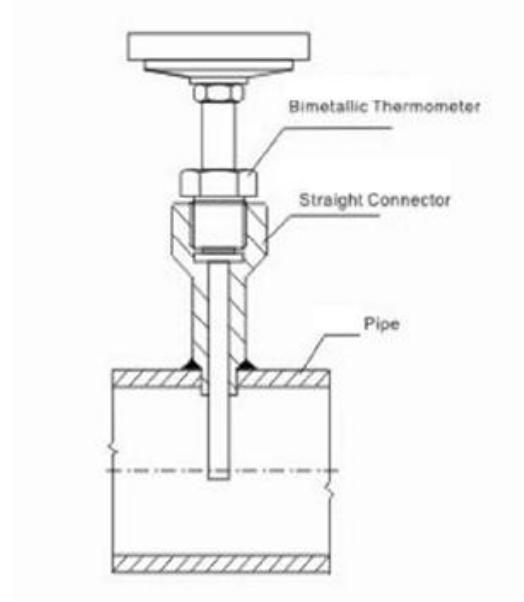
		TW: with thermo well
-	Size of installment	e.g. for A1, -1/2BSP or -M20*1.5 etc.; for A3, -2" or 3" etc.
-	(Probe length)	E.g. -200 (200mm), or -8". etc.

Installation

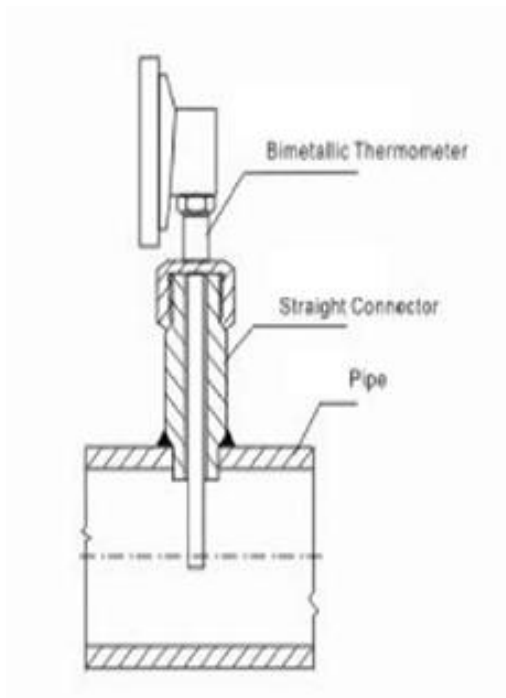
Flange



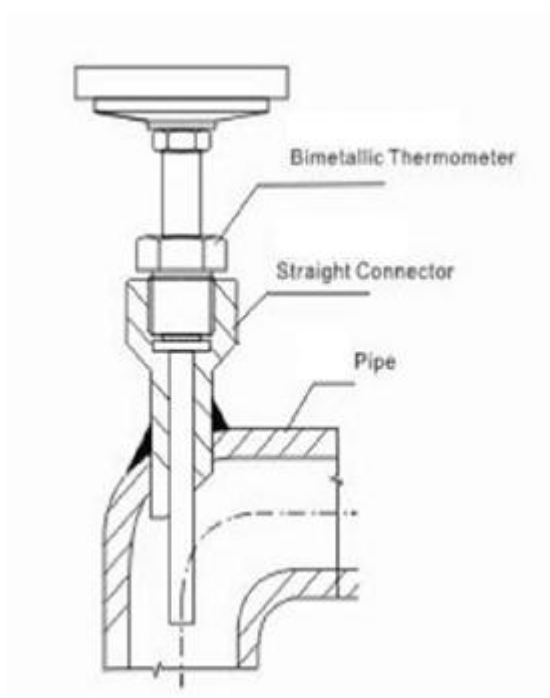
Upright Pipe



Upright Pipe



Bending Pipe



Vibrant-proof (oil filled) bimetal thermometer:



Bimetal thermometer with electric contact output:



Bimetal thermometer with signal transmission output:



Edge installation connection:



Thermowell: