



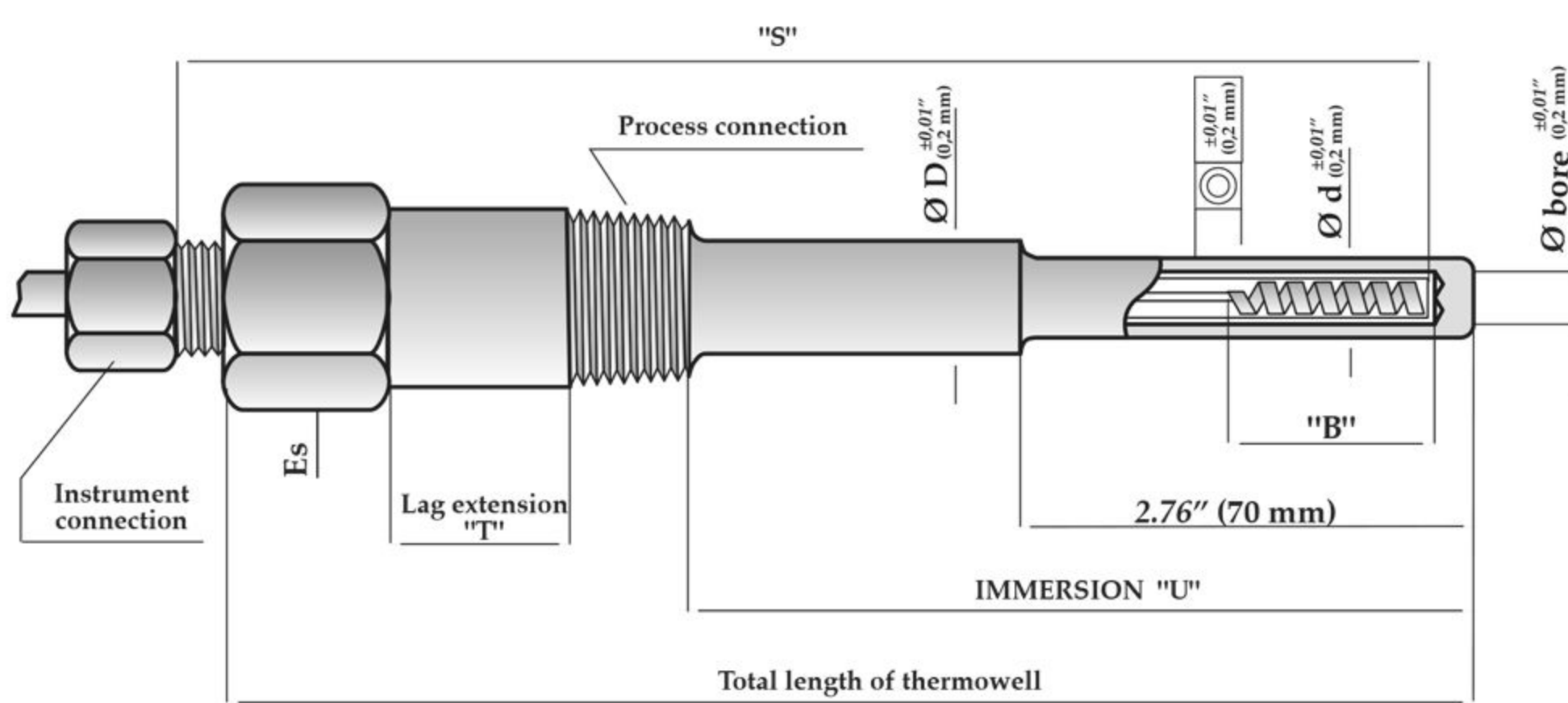
Thermowell

Model No. EFS-SS5090 Series



Summary

Thermowells are used to protect bulbs from the effects of corrosion and process fluid flow, due to the high speed at which the process fluid flows, and to flows and to enable the thermometer to be interchanged recalibrated, or replaced, without disturbing the process



DEFINITION

Immersion "U"

This is the part of the thermowell extending from the underside of the process connection (threaded or flanged) to the tip of the shank that is inserted into the process fluid. The length varies from a minimum of 50mm to a maximum of 400mm and is sized to suit the length of the sensitive part of thermometer bulbs and section of the process pipe

Lag extension " T "

This is the part of the well between the upper tip of the process connection (thread or flanged) to the lower edge of the hexagon and it is used to space the body of the temperature instrument or the electrical connections in the case of thermocouples and thermal resistors, away from the process pipe.

shank style

The shank is the portion of the thermowell that is inserted into the process, and its shape depends on the characteristics of the process fluid. A tapered shank style, for example, is the most suitable for applications with vapor at high temperature and speed, because it is particularly resistant to the effects of vibrations produced by the speed of the process fluid

" S " dimension

This dimension related to the temperature sensors, rather than the thermowells. However, it is essential for obtaining a perfect coupling between the two. The "S" dimension can be calculated as follows: total length of the thermowell minus 10 mm.

Sensitive portion " B "

This is another dimension of the temperature sensors and not of the thermowells. When a temperature sensor is connected to a thermowell the sensitive part of the bulb must be located within the "U" immersion area.

GUIDE TO CHOOSING A THERMOWELL MATERIALS

The choice of materials is generally based upon considerations of resistance to corrosion by the process fluid. Mirror polishing of the part that is immersed in the process confers maximal corrosion-resistance to the thermowell. In addition to the standard materials detailed on the following pages, rod-machined thermowells can also be constructed from MONEL 400, Hastelloy C276, Alloy 825, Alloy 625, Duplex SAF 2205, AND DUPLEX SAF 2507. For special corrosion-resistance requirements, some thermowell may also be coated in PTFE

PROCESS CONNECTIONS

The threads on thermowell connectors conform to the ASME B1.20.1 standards for NPT threads, and to DIN 3852 from A for Gas threads (UNI 338-bsp). Flanged thermowells have special threaded connectors which are welded to flanges that conform to the ANSI B16.5 or DIN-UNI standards. In these thermowells, the mechanical strength is assured by the threaded connection between the flange and thermowell, while the weld merely acts as a seal.

IMMERSION DEPTH "U"

For optimal measurement accuracy of the temperature sensing element (thermometer or thermistor), it is essential that the sensitive portion of the element be located entirely within the immersion

Therefore, when selecting a thermowell it is essential to know the exact length of the sensitive portion of the temperature instrument. On bimetallic thermometers and those filled with inert gases and liquid, the sensitive portions vary depending on the measuring range.

THERMOWELL BORE

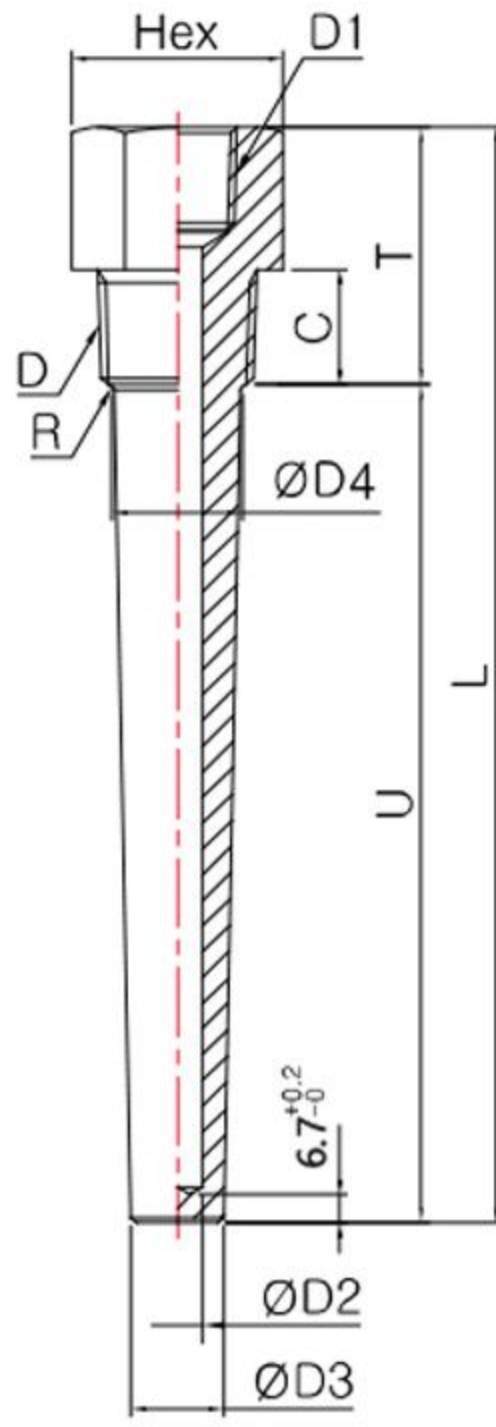
Different installations require a variety of different instruments for the measurement of temperature.



Thermowell

Model No. EFS-SS5090 Series

Model No. | SS-5091D



Dimensions (mm)

Model No.	Con'n(D)	Con'n(D1)	T	U	L	D2	D3
SS-5091D	1 NPTM	1/2 NPTF	52	160	212	4	16