

TECHNICAL DATA

5686-B Glass Capsule SPRT



Key features

- Miniature glass capsule SPRT designed for metrology work that requires small SPRTs.
- Temperatures range: $-260\text{ }^{\circ}\text{C}$ (13 K) to $232\text{ }^{\circ}\text{C}$ and offers stability typically of $0.001\text{ }^{\circ}\text{C}$ over a $100\text{ }^{\circ}\text{C}$ range.
- Ideal for applications such as cryogenics, calorimetry, and other metrology work where traditional SPRTs may be too long or awkward.
- True SPRT, with high-purity platinum wire hand-wound on a glass cross frame in a strain-free design.

Product overview: 5686-B Glass Capsule SPRT

The 5686 complies completely with ITS-90 and has the following resistance ratios:

$W(302.9146\text{ K}) \square 1.11807$

and

$W(234.3156\text{ K}) \square 0.844235$

The 5686 covers temperatures from $-260\text{ }^{\circ}\text{C}$ to $232\text{ }^{\circ}\text{C}$, so it's perfect for cryogenic applications. It is 5.8 mm in diameter and 56 mm long. Fixed-point calibrations are available for the model 5686 from $-200\text{ }^{\circ}\text{C}$ to $232\text{ }^{\circ}\text{C}$.

These SPRTs are small but meet customary SPRT performance for reproducibility, reliability, and stability. They solve many of the problems associated with taking precision measurements in situations unsuitable for traditional-length SPRTs.

Specifications: 5686-B Glass Capsule SPRT

Specifications	
Temperature Range	5686: -260 °C to 232 °C (13 K to 505 K)
Nominal R_{TPW}	25.5 Ω
Resistance Ratio	W(302.9146 K) \square 1.11807 W(234.3156 K) \square 0.844235
Drift Rate	5686: < 0.005 °C per year over the entire range
Self-heating at TPW	< 0.002 °C under 1 mA current
Reproducibility	\pm 0.001 °C or beer
R TPW Drift After Thermal Cycling	< 0.001 °C
Filling Gas	5686: helium
Lead Wires	Four platinum wires, 30 mm long (1.18 in)
Size	5686: 5.8 mm dia. x 56 mm long (0.23 x 2.2 in)

Ordering information

**5686-B**

Glass Capsule SPRT, -260 °C to 232 °C with Maple carrying case.

Calibration not included. Contact your Fluke Calibration representative for additional calibration options.

1911-4-9

PRT Calibration, -200 °C to 232 °C, NVLAP Accredited

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