

Cesium Beam Tube Replacements



Summary

All cesium instruments contain a cesium beam tube with an operating life expectancy of 7 to 12 years. Cesium beam tube replacements are a cost-effective means of extending the life of a cesium instrument past that of the tube. We offer cesium beam tube replacements for the following cesium frequency references:

- 5071A and 5071B series
- 4310B series
- PRS-4400 series
- PRS-4500 series

The cesium beam tube for these models can be replaced regardless of the initial manufacturer of the instrument. You can self-install the 5071A series beam replacement tube, get it installed on site by our trained technician or send it to us for tube replacement service. For self-installation, a field kit is provided with all necessary material and instructions to perform the installation. All other cesium instrument models must be sent to us for tube replacement.

Key Benefits

- Renews primary frequency standard system life span
- Restores primary frequency standard performance
- Replacement tube meets or exceeds original performance specifications

Specifications

Self installation: 5071A and 5071B series only

5071A and 5071B Cesium Beam Tubes¹

Part Number	10890B	10891B
Description	Standard performance	High performance
Warranty	12 year	7 year
Accuracy	$\pm 1.0E^{-12}$	$\pm 5.0E^{-13}$
Stability (Allan Deviation)		
1s	$\leq 1.2E^{-11}$	$\leq 5.0E^{-12}$
10s	$\leq 8.5E^{-12}$	$\leq 3.5E^{-12}$
100s	$\leq 2.7E^{-12}$	$\leq 8.5E^{-13}$
1,000s	$\leq 8.5E^{-13}$	$\leq 2.7E^{-13}$
10,000s	$\leq 2.7E^{-13}$	$\leq 8.5E^{-14}$
100,000s	$\leq 8.5E^{-14}$	$\leq 2.7E^{-14}$
5 days	$\leq 5.0E^{-14}$	$\leq 1.0E^{-14}$
30 days	$\leq 5.0E^{-14}$	$\leq 1.0E^{-14}$
Flicker floor (typical)	$\leq 1.5E^{-14}$	$\leq 5.0E^{-15}$

1. 10890B and 10891B are fully compatible with both the 5071A and 5071B series cesium frequency references

Accuracy will be restored to the same specifications that were in effect at time of instrument purchase.

Factory Installation

Please contact us for installation services on the 5071A, 5071B, 4310B, and PRS series cesium standards