



Master Calibrated Springs

- ISO/IEC 17025:2017 Traceable Calibration •
- ISO 9000 Verification Compliance • Convenient Force Standard •

What Are Master Calibrated Springs?

Larson Systems' Master Calibrated Springs are specifically designed with characteristics that make them very reliable and convenient as a force standard: low mechanical stress levels, multiple coils, exacting end squareness, multiple presetting to eliminate set and low rate. Calibration includes multiple tests and is NIST traceable. A Spring Calibration Certificate is provided with every Master Calibrated Spring.

Intended Uses of Master Calibrated Springs

Master Calibrated Springs are intended to verify the force calibration of spring testers. With a five-minute procedure, Master Calibrated Springs can provide confidence and compliance with your ISO-9000 equipment verification procedures. A Master Calibrated Spring is not intended to calibrate spring testing equipment, since calibration requires a more exact standard.

Master Calibrated Springs can also be used in a variety of testing applications where a known force must be applied.

How to Use Master Calibrated Springs

The spring should be placed on the tester with the painted stripe to the front and on top. Some care should be taken to center the spring on the platforms. The best testing repeatability is accomplished by careful and consistent placement of the spring on the platform.

If you are using a manual spring tester like LSI's SDHT, DHT, or CDHT, compress the spring to the first length correlating with the length shown on the Calibration Report. Record the force. Increase the load to the second length and again record the force. Repeat the process until either the 10th testing point is complete or the maximum force of the tester is reached.

When using Larson's FLASH tester, a test can be developed (as in the previous paragraph) and saved as a test program with the appropriate tolerances. Verification is made more convenient and efficient. Permanent records should still be made.

Evaluation of Results

Compare the measured force to the actual force and if the error is larger than the tester tolerance then an investigation should be undertaken to determine why. If no answer is found, calibration and or service should be undertaken.

Frequency of Verification

Verification should be done initially soon after arrival of new equipment or immediately after calibration to establish a baseline. Thereafter the procedure should be repeated on a weekly basis. Depending on the usage of the tester and the precision of the testing requirement this frequency could be increased to as often as daily or as infrequently as monthly.

Care of the Master Calibrated Spring

The spring should be protected from mechanical damage, rust and corrosion. While not fatigue rated, there is no limit to the number of times that the spring can be used. Larson Systems Inc. should recalibrate the spring on at least an annual basis.



Master Calibrated Spring History Tracker File

Master Calibrated Springs include a History Tracker File. This is an Excel spreadsheet used to track testing results two ways:

1. Testing on the same tester on multiple days.
2. Testing on multiple testers on the same day.

Part Number	Outside Ø	Free Length	Max. Force
025-0000-1489-01	0.970" OD	2" Free Length	10 lbf
025-0000-1489-02	0.970" OD	3" Free Length	10 lbf
025-0000-1489-03	1.400" OD	5" Free Length	100 lbf
025-0000-1489-04	1.937" OD	4" Free Length	250 lbf
025-0000-1489-05	1.937" OD	6" Free Length	250 lbf
025-0000-1489-06	2.000" OD	6" Free Length	750 lbf
025-0000-1489-07	2.500" OD	5" Free Length	1,000 lbf
025-0000-1489-08	1.500" OD	3" Free Length	400 lbf
025-0000-1489-09	1.500" OD	2.5" Free Length	550 lbf
025-0000-1489-10	1.170" OD	6" Free Length	200 lbf
025-0000-1489-12	0.970" OD	2.75" Free Length	35 lbf
025-0000-1489-13	2.000" OD	4.5" Free Length	100 lbf
025-0000-1489-14	2.000" OD	4.5" Free Length	500 lbf
025-0000-1489-15	2.000" OD	4.5" Free Length	1,000 lbf
025-0000-1489-16	2.000" OD	5.0" Free Length	1,500 lbf



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