



**GELLER
MICROANALYTICAL
LABORATORY**

426e BOSTON ST., TOPSFIELD, MA 01983-1216

TEL 978 887-7000 FAX 978-887-6671

http://www.gellermicro.com



CALIBRATION

Certified to ISO-9001 and ISO-17025

Certification Date: 15-Feb-2013

** Recertification Due: _____

CERTIFICATION OF MEASUREMENT

MR-1 10-01

Increments	0.010 mm	0.100 mm	10 mm
	0.0000	0.0000	0.0000
	0.0100	0.1000	10.0000
	0.0195	0.2000	20.0000
	0.0300	0.3005	30.0000
	0.0400	0.3995	40.0000
	0.0500	0.5000	50.0000
	0.0595	0.6000	60.0000
	0.0695	0.7000	70.0000
	0.0800	0.8000	80.0000
	0.0900	0.9000	89.9995
	0.1000	1.0005	100.0000
	0.1105	1.1000	110.0000
	0.1205	1.2000	119.9995
	0.1305	1.3000	130.0000
	0.1400	1.4005	139.9995
	0.1495	1.5000	150.0005

* NPL Uncertainty (+/-):
0.00025 0.0005 0.0025

Combined uncertainty, 2s, (+/-):
0.0011 0.0011 0.0029

Measurements taken at 20°C. Coefficient of linear expansion is $9 \times 10^{-6} / ^\circ\text{C}$

** Receritfication date to be determined by the customer's quality control manager.

* MR-1 s/n 5-01 was measured by the National Physical Laboratory in the U.K.
Report #LR0401/01055/ML75/81.

Certified by
Paul D. Engle

*** End of Report ***



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CALIBRATION
 ACLASS Cert #AC-1236

Certification of Measurement

Micro-Ruler

<p><u>As Received Condition:</u></p> <p><input type="checkbox"/> New</p> <p><input type="checkbox"/> Like New</p> <p><input type="checkbox"/> Contaminated (needs cleaning)</p> <p><input type="checkbox"/> Damaged (comments below)</p> <p><input type="checkbox"/> Cannot be certified (comments below)</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><u>Returned Condition:</u></p> <p><input type="checkbox"/> New</p> <p><input type="checkbox"/> Recertified as New</p> <p><input type="checkbox"/> Cleaned</p> <p><input type="checkbox"/> Rejected (cannot be certified, comments below)</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
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Test Method: (in compliance with ISO-17025)

All measurements are performed in a temperature measured environment. The temperature at the time of measurement is noted on the certificate. The measurements are made on a modified optical instrument with a traceable linear encoder. The accuracy of the encoder is compared to a National Physical Laboratory (NIST counterpart in the U.K.) measured Micro-Ruler thereby establishing an unbroken link of traceability. The uncertainties of their measurements and ours are on the certificate. Measurements are made with reference to the "0" point on the scale and then in increments of 0.010, 0.100 and 10 mm.

Notices:

1. Results reported here relate only to the specific device measured. Physical damage to the device incurred after calibration invalidates the reported measurements. This certification shall not be reproduced except in full, without prior written approval of Geller MicroAnalytical Laboratory.
2. Recertification date is to be determined per ISO-17025 procedure whereby the customer specifies the date. That date should be reported to Geller MicroAnalytical Laboratory.

Cleaning and Handling Instructions:

1. To clean the Micro-Ruler we recommend using a soft cotton swab saturated with isopropanol. Do not "scrub" the surface.
2. Do not scratch the chromium pattern. Do not contaminate the surface. Do not subject to excessive heat or place in contact with acids or other solvent which may dissolve the glass or chromium or chromium oxide.

Please be sure to return your registration form. We will advise you of product updates as they become available. If you have any questions about Micro-Ruler applications, don't hesitate to call.