



## Certificate of Calibration ISO-230 2006

**Customer:** ABC Company  
**Description:** HMC

**Model No:** 12345  
**Serial No:** 67890

*This certifies that the above equipment was calibrated in compliance with ISO-230 Standard to the following limits:*

Linear/Angular Displacement Range	Systematic Positional Deviation (E)	Linear/Angular Accuracy (A @ CF=2)
X 28.0000 Inches	X ± 0.000087 Inches	X ± 0.000131 Inches
Y 25.0000 Inches	Y ± 0.000044 Inches	Y ± 0.000075 Inches
Z 28.0000 Inches	Z ± 0.000106 Inches	Z ± 0.000125 Inches
A 360.0000 Degrees	A ± 0.007485 Degrees	A ± 0.009240 Degrees
Linear/Angular Periodic Error	Linear/Angular Max Reversal (B)	Linear/Angular Repeatability (R @ CF=2)
X 0.000049 Inches	X 0.000046 Inches	X 0.000125 Inches
Y 0.000014 Inches	Y 0.000022 Inches	Y 0.000085 Inches
Z 0.000054 Inches	Z 0.000027 Inches	Z 0.000157 Inches
A 0.005510 Degrees	A 0.005570 Degrees	A 0.012440 Degrees

**Uncertainty (k=2)** Laser=± (75µin +3L)µin  
L= Laser distance measured in inches

**BallBar = ± (145.7µin +0.00002L+0.4V)µin**  
L= BallBar length in inches V= Radial error in µin

**Telescopic BallBar Performance**

Length = 5.9055 Inches	Plane = XY	Direction = CCW	Deviation = 0.000361 Inches
Length = 5.9055 Inches	Plane = YZ	Direction = CCW	Deviation = 0.000457 Inches
Length = 5.9055 Inches	Plane = ZX	Direction = CW	Deviation = 0.000314 Inches

**Environment (Nominal)**

**Air Temperature:** 74.32 °F      **Humidity:** 51.56 %  
**Material Temperature:** 72.48 °F      **Pressure:** 29.37 mm of Hg

At planned intervals, MD Calibrations' measurement standards are calibrated by comparison to, or measurement against national or international standards. Supporting documentation relative to traceability is on file and is available for examination upon request. MD Calibrations', calibration intervals are per manufacturer recommendations. The equipment serial numbers and calibration due dates are:

	Serial Number	Calibration Date	Cal Due Date
XL80 Laser	H52091	15 March 2011	15 March 2014
XC80 Environmental Unit	7R0961	15 February 2012	15 February 2013
QC10 BallBar	H48229	10 October 2011	10 October 2012
Zerodur Gage	H23404	10 October 2011	10 October 2012
RX10 Rotary Calibrator	9P6642	05 July 2011	05 July 2014

**Certificate No:** MDCXXX-12  
**Calibration Date:** xx/xx/xxxx

**MD Calibrations LLC**

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