Precision for People

QVI

FlexPoint

Flexible Multisensor Coordinate Measuring Systems

Floor Model Series

QVI FlexPoint

Coordinate Measuring Systems

FlexPoint™ is the new generation of large format multisensor coordinate measuring systems from QVI®. FlexPoint offers a unique combination of sensors, and CAD based programming, to solve a wide variety of dimensional measurement problems for large format parts.

The Multisensor Advantage

FlexPoint systems are true multisensor systems, supporting a wide range of tactile and non-contact sensors including TP20 / TP200, SP25, point and line scan lasers, white light sensors, and a unique QVI video sensor, all powered by QVI ZONE3® CAD based metrology software.

The VersaFlex™ multisensor head offers up to three simultaneously available sensors on an articulating probe head. With several sensors simultaneously available, there is no down time while individual sensors are exchanged from a change rack, and no need to recalibrate each time a sensor is used.

Powerful ZONE3 Software

QVI ZONE3 CAD based metrology software provides complete flexibility for multisensor measurements – with or without a CAD model. An entirely graphical user interface, visual validation for every step, and graphical reporting make ZONE3 the easiest and most intuitive 3D metrology software available.

High Quality Construction

FlexPoint systems feature a stable transport design with carefully selected materials, rigid body members, air bearings on all axes, and active temperature compensation, to perform in shop floor environments. Unique and patented design features enable a larger measuring volume within a compact footprint.

Precise Calibration

Factory volumetric calibration using the Etalon® Trac-Cal laser system ensures the lowest possible calibration uncertainty. In the field, machine accuracy verification is performed according to ISO 10360-2:2009.

FlexPoint is offered in three X,Z base configurations, each with a choice of Y-axis range to suit a wide variety of manufacturing needs.

TP20 or SP25 Probe Heads

VersaFlex™ Articulating Sensor Cluster

QVI Laser Line Scan Head

System Performance and Accuracy Specifications

Motion Dynamics

Velocity (mm/s)	CNC (3D Vector)	max. 500
Acceleration (mm/s²)	3D Vector	max. 1350

Accuracy & Repeatability

FlexPoint Model		**7-Series**	**9-Series**	**12-Series**
TP20/TP200 (per ISO 10360-2:2009)				
Length measurement errors	$E_{0, MPE}$	3.1 + 3L/1000[1,2,4,5]	3.4 + 3L/1000[1,2,4,5]	3.7 + 3L/1000[1,2,4,5]
Repeatability of length measurement errors	$R_{0, MPL}$	3.2[2,4,5]	3.2[2,4,5]	3.8[2,4,5]
TP20/TP200 (per ISO 10360-5:2010)				
Single stylus form error (µm)	$P_{FTU, MPE}$	4.6[2,4]	4.9[2,4]	5.3[2,4]
SP25 (per ISO 10360-2:2009)				
Length measurement errors	$E_{0, MPE}$	2.4 + 3L/1000[1,2,3]	2.7 + 3L/1000[1,2,3]	3.0 + 3L/1000[1,2,3]
Repeatability of length measurement errors	$R_{0, MPL}$	1.4[2,3]	1.5[2,3]	2.2[2,3]
SP25 (per ISO 10360-5:2010)				
Single stylus form error (µm)	$P_{FTU, MPE}$	2.7[2,3]	3.0[2,3]	3.3[2,3]
SP25 (per ISO 10360-4:2000)				
Scanning probe errors	$MPE_{,THP}$	3.6[2,3,6]	3.9[2,3,6]	4.1[2,3,6]
Time for scanning probe errors (sec.)	$MPE_{,\tau}$	65	65	70
TeleStar® Probe Laser Performance (per ISO 10360-8:2013)				
Probing size error All	$P_{[Size.Sph.All:Tr:ODS], MPE}$	3.5 µm²	3.5 µm²	3.5 µm²
TeleStar® Probe Laser Accuracy				
Laser measurement accuracy		1.0 µm[2,7]	1.0 µm[2,7]	1.0 µm[2,7]
QVI Video Sensor				
Imaging probe length measurement error (µm)	$E_{UV,MPE}$	3.0[2]	3.0[2]	3.0[2]

Environmental Conditions

T1 - Standard Linear Temperature Compensation T2 - Optional Instrumentation Package and Thermal Compensation	**Ambient T1**	**Ambient T2**
Measuring Reference Temperature	18 °C to 22 °C	16 °C to 26 °C
Maximum rate of temperature change	1.0 °C/h - 2.0 °C/24h	1.0 °C/h - 4.0 °C/24h
Maximum vertical gradient	1.0 °C/m	1.2 °C/m

System Utilities

Power	100 - 120 / 200 - 240 VAC, 50/60 Hz, 1 phase, 700 W
Air	Clean, dry air at 90 psi, 7 SCFM (620 kPa at 200 L/min)

NOTES

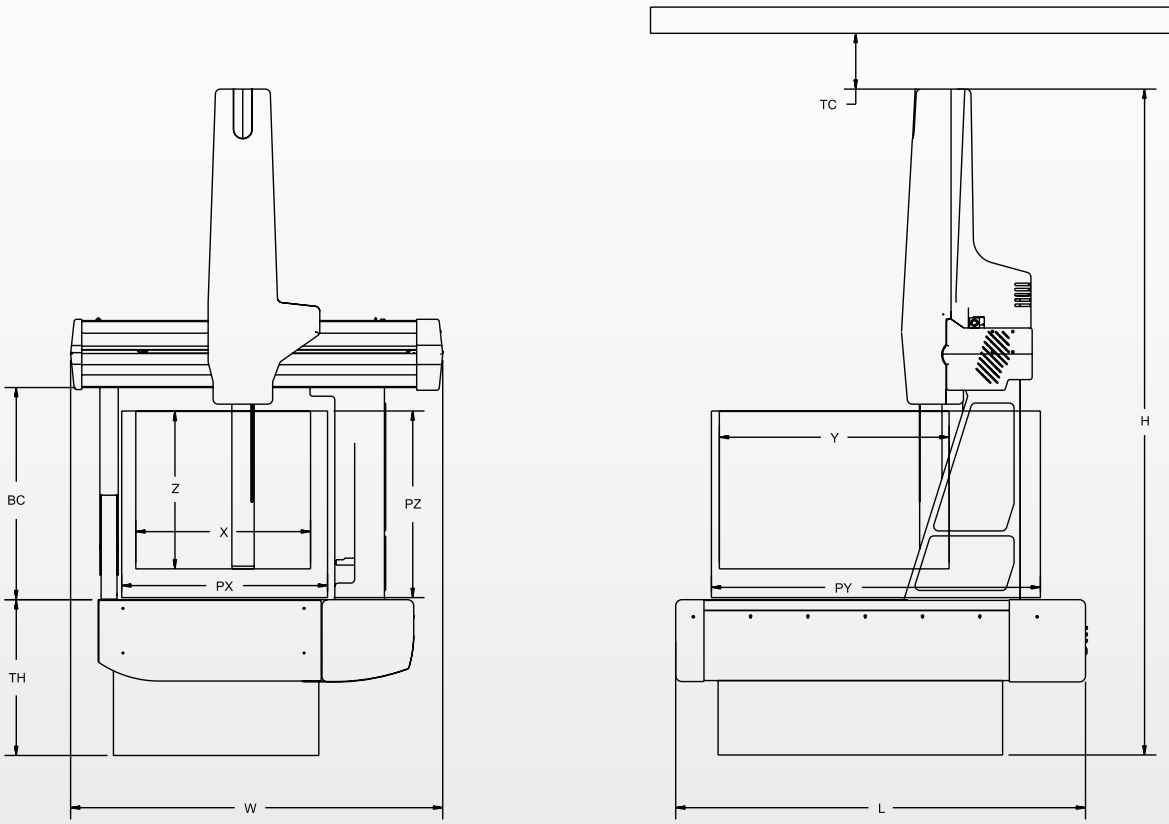
1. Where L = measuring length in mm | 2. Applies to a thermally stable system in the rated environment, operated in accordance with the procedures in the operating manual | 3. Using SP25 with SM25-2 module with 3.0 mm x 21 mm A-5000-3553 stylus | 4. Using TP20 with standard force module and 10 mm stylus length; TP200 with standard force module and 50 mm stylus length | 5. On-site verification optional | 6. Target tip deflection 0.35 µm | 7. Accuracy on hozirontal specular surfaces within the measuring range

System Dimensions

All dimensions in MM

Model	Measuring Range			Overall Dimensions			Maximum Workpiece Size			Bridge Clearance	Table Height	Min. Top Clearance	Machine Weight (kg)	Maximum Workpiece Weight* (kg)
	X	Y	Z	W	L	H	PX	PY	PZ	BC	TH	TC		
7.7.6	700	700	600	1500	1650	2680	825	1230	780	854	625	100	1130	500
7.11.6	700	1100	600	1500	2050	2680	825	1630	780	854	625	100	1430	800
7.15.6	700	1500	600	1500	2450	2680	825	2030	780	854	625	100	1730	1000
9.12.8	900	1200	800	1700	2450	3170	1020	1980	980	1054	675	100	2400	1200
9.16.8	900	1600	800	1700	2850	3170	1020	2380	980	1054	675	100	2800	1500
9.20.8	900	2000	800	1700	3250	3170	1020	2780	980	1054	675	100	3200	1800
12.15.10	1200	1500	1000	2000	2750	3700	1320	2280	1180	1254	775	100	4170	2000
12.20.10	1200	2000	1000	2000	3250	3700	1320	2780	1180	1254	775	100	5000	2500
12.30.10	1200	3000	1000	2000	4250	3700	1320	3780	1180	1254	775	100	6680	3000

*Evenly distributed load



QUALITY VISION INTERNATIONAL – Precision for People®

Quality Vision International (QVI®) is the world's largest vision metrology company. Founded in 1945, QVI is the world leader in optical, electronic and software technologies for vision and multisensor measuring systems.

Precision for People is more than just our slogan. It's our commitment to delivering our worldwide customers precision metrology systems, designed with the people who use them in mind. Precision for People - it's what we stand for.