CMM Manufacturers Guide

Company/Product	Machine Type	Range			Resolution (µin.)	Linear Accuracy					Temp. Range (°F)	Volumetric Accuracy	Repeatability (µin.)	Throughput (points/min)	Guide Method	Probe Type					Control		T' Comp.		
		X-axis (inches)	Y-axis (inches)	Z-axis (inches)		Accord. To VDI/VD	Accord. To B89	X-axis (µin.)	Y-axis (µin.)	Z-axis (µin.)		3-axis = 3X (µin.) 4-axis = 4X (µin.) 6-axis = 6X (µin.)				Analog	Switching	Laser	Contact	Vision System	Manual	D.C.C.	Manual Input	Part Sensor	Machine Sensor
A.A. Jansson Inc.																									
Ph. 248-674-4811 Fax 248-674-1234	Also distributes Faro, International Metrology Systems, Laser Design, Quality Control Solutions and used CMMs																								
The Inspector 10150	Horiz. Arm	Call	60	40	400		•		2,000	2,000		3X = 5,000			Mechanical				•		•				
The Inspector 12150	Horiz. Arm	Call	48	60	400				2,000	2,000		3X = 5,000			Mechanical				•		•				
The Inspector 15150	Horiz. Arm	Call	60	60	400		•		2,000	2,000		3X = 5,000			Mechanical				•		•				
The Inspector 18150	Horiz. Arm	Call	60	72	400				2,000	2,000		3X = 5,000			Mechanical				•		•				
The Inspector 20150	Horiz. Arm	Call	60	80	400		•		2,000	2,000		3X = 5,000			Mechanical				•		•				
The Inspector 25150	Horiz. Arm	Call	60	100	400		•		2,000	2,000		3X = 5,000			Mechanical				•		•				
The Inspector 30150	Horiz. Arm	Call	60	120	400		•		2,000	2,000		3X =5 ,000			Mechanical				•		•				
Acu-Gage Systems																									
Ph. 603-622-2481 Fax 603-626-1277																									
High Precision Line	Fixed Bridge	8–24	8–24	4–12	20			200	200	200	68 ±4		60		Mechanical					•		•			
Linear Motor Drive Series	Gantry	48	48–96	4–12	40			500	500	500	65–85		300		Mechanical				•	•		•			
MMR	Gantry	12–36	12–48	4–12	40			300	300	300	65–85		300		Mechanical				•	•	•	•			
Single Axis	Gantry	12–120			40			300			65–85		300		Mechanical					•	•				
American SIP Corp.																									
Ph. 859-534-5201 Fax 859-534-5212																									
CAPS4	Horiz. Arm	20	20	16	4	•					60–86	3X = 3 + L/0.8 µm		6,000	Hydrostatic	•									
CAPS5	Horiz. Arm	28	28	24	4	•					60–86	3X = 3 + L/0.8 µm		6,000	Hydrostatic	•									
Orion 5	Fixed Bridge	28	28	22	10 µ"	•		32+ L/0.8 µ"			68–72	3X = 0.8 + L/800 µm	300 µ"	6,000	Hydrostatic	•						•		•	•
Sirius 7	Fixed Bridge	39	34	32	4	•		56 + L/0.6 µm			60–86	3X = 6B + L/0.4 µm		6,000	Hydrostatic	•						•		•	•
Sirius 8	Fixed Bridge	39	60	32	4	•		56 + L/0.6 µm			60–86	3X = 6B + L/0.4 µm		6,000	Hydrostatic	•						•		•	•
Triga Series	Ring Bridge	16–120	16–60	16–40	10	•		60 + 1.5L			60–86	3X = 80 + 2.5L	24	6,000	Air	•						•		•	•
Axila Inc.																									
Ph. 248-426-0919 Fax 248-426-0940																									
ARM100	Port. Artic. Arm	8.3' Sphere					•				40–113	6X = 70 µm		4,800		•	•	•	•		•				
ARM2000 System 6	Port. Artic. Arm	6.6'–12' Sphere					•				40–113	6X = 60–120 µm		4,800		•	•	•	•		•				
ARM2500 System 6	Port. Artic. Arm	7.3'–12' Sphere					•				40–113	6X = 40–100 µm		4,800		•	•	•	•		•				
ARMTUBE	Artic. Arm	6.6'–23.3' Sphere					•				40–113	6X = from 35 µm		4,800		•	•	•	•		•				
Orbital 8 Axis	Artic. Arm	8'–20' Sphere					•				40–113	8X = 70–150 µm		4,800		•	•	•	•		•				
VPS Sensor Grid	Artic. Arm	17'–20' Sphere					•				40–113	140 µm				•	•	•	•		•				
Brown & Sharpe																									
Ph. 401-886-2000 Fax 401-886-2727																									
Beta SP	Gantry	101–203	60–101	40–60	40	•					68 ±1.8	3X = 280 + 80L—800 + 200L			Air				•			•			•
Beta SPM	Gantry	101–132	60–81	40–60	40	•					68 ±1.8	3X = 280 + 80L—640 + 150L							•			•			•
Bravo	Horiz. Arm	73–332	26–118	38–130	40	•					68 ±9	3X = 600 + 150L—2,000 + 450L							•			•			•
Delta SP	Gantry	132–254	81–101	60–73	40	•					68 ±1.8	3X = 200 + 60L—360 + 100L			Air				•			•			•
Gage 2000	Bridge-Vert.	18	20	16			•	200	200	200	68 ±1.8	3X = 400	160		Air		•		•		•		•		
Gage 2000A	Artic. Arm	48–144 Dia. Sphere						1,000–4,700									Hard Ball					•			
Ghibli Series	Bridge-Vert.	80–104	60	54			•					3X = 300	40	60	Air		•					•	•		
Ghibli Record Series	Bridge-Vert.	79–102	47	37			•				68 ±3.6	3X = 240													
Ghibli Trax Series	Bridge-Vert./Slant	79–102	47	37			•				68 ±3.6	3X = 270			Air							•			
GLOBAL Series	Bridge-Vert.	20–59	16–118	16–39							59–86	3X = 310–390	60–110		Air	•	•	•	•			•	•	•	•
Lambda	Gantry	130–640	130–254	101–162	40	•					68 ±1.8	3X = 400 + 140L–640 + 250L			Air				•			•			•

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		X-axis (inches)	Y-axis (inches)	Z-axis (inches)		Accord. To VDI/VD	Accord. To B89	X-axis (µin.)	Y-axis (µin.)	Z-axis (µin.)		3-axis = 3X (µin.) 4-axis = 4X (µin.) 6-axis = 6X (µin.)				Analog	Switching	Laser	Contact	Vision System	Manual	D.C.C.	Manual Input	Part Sensor	Machine Sensor
PMM-C	Fixed Bridge	47–95	39–47	28–39	2	ISO					63–73	(1.0+L/400) µm–(1.8+L/300) µm			Air	•						•		•	•
PMM Gantry Series	Gantry	118–256	79–150	63–138	4	•		100 + L/0.2			68 ±1.8	3X = 120 + L/0.15		25	Air	•			•			•	•	•	•
PMM Series	Fixed Bridge	16–48	12–40	8–24	4	•		20 + L/0.6			68 ±1.8	3X = 72 + L/0.4		40	Air	•			•	•		•	•	•	•
Scirocco ACTIV	Bridge-Vert.	55	34	26			•				64–82	3X = 350			Air		•					•	•	•	•
Scirocco Record	Bridge-Vert.	55–59	34–39	26–34			•				68 ±3.6	3X = 200–260													
Scirocco Series	Bridge-Vert.	40–100	34–52	26–40	20		•					3X = 300	40	60	Air		•					•	•		
Scirocco TRAX Series	Bridge-Vert./Slant	39–79	34–39	24–31			•				68 ±3.6	3X = 240–280			Air							•	•		
SIRIO	Horiz. Arm	24	32–48	32	4	•		40 + L/0.3				4X = 48 + L/0.25		50	Roller	•	•		•			•	•	•	•
Typhoon	Bridge-Vert.	80–132	60	32–52	40	•					68 ±9	3X = 520 + 100L–930 + 160L			Air/Mech.				•			•			•
Vento Series	Bridge-Vert.	236	55–63	63–102			•					3X = 3,100–4,400			Air	•	•	•	•			•	•		
CEJohansson																									
Ph. 949-809-9150 Fax 949-756-0051																									
Opal Series	Bridge-Vert.	79	24–138	24–79	4	•					59–104	3X = 366 + 8L			Air		•		•			•			•
Ruby Series	Gantry	16	16	16	4	•					59–104	3X = 315 + 8L					•		•			•	•		
Saphir Series	Bridge-Vert.	79	24–138	24–79	4	•					59–104	3X = 140 + 4L			Air		•		•			•			•
Topaz Series	Bridge-Vert.	79	24–138	24–79	4	•					59–104	3X = 160 + 4L			Air		•		•			•			•
Electronic Measuring Devices Inc.																									
Ph. 973-691-4755 Fax 973-691-4745																									
Legend Series	Horiz. Arm	12–14	12–22	12–24	1		•	40	40	40	68 ±2	3X = 80	20	18,000	Air	•			•	•		•			
ELM Systems																									
Ph. 847-526-5003 Fax 847-526-5022																									
Alliance	Gantry	36–84	60–168	18–60	20			600	700	250	68 ±1.8	3X = 800	200	60	Air		•	•	•	•		•	•	•	•
EQ	Horiz. Arm	24–120	24–48	24–48	20			500	500	500	68 ±1.8	3X = 1,000	200	60	Air		•	•	•	•	•	•	•	•	•
Equalizer	Horiz. Arm	24–240	24–84	24–96	20		•	560 + L/.15			68 ±1.8	3X = 1,000 + L/.06	200	60	Mechanical		•	•	•			•	•	•	•
Talon ELM-282818	Bridge	28	28	18	20		•	200	200	200	68 ±4	3X = 400	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-282824	Bridge	28	28	24	20		•	200	200	200	68 ±4	3X = 400	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-284024	Bridge	28	40	24	20		•	300	300	300	68 ±4	3X = 400	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-404824	Bridge	40	48	24	20		•	300	300	200	68 ±4	3X = 500	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-408040	Bridge	40	80	40	20		•	300	500	250	68 ±4	3X = 600	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-484824	Bridge	48	48	24	20		•	300	300	200	68 ±4	3X = 500	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-486024	Bridge	48	60	24	20		•	300	500	250	68 ±4	3X = 700	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-489640	Bridge	48	96	40	20		•	300	600	250	68 ±4	3X = 750	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-606040	Bridge	60	60	40	20		•	300	500	250	68 ±4	3X = 700	100	60	Air		•	•	•		•	•	•	•	•
Talon ELM-6010040	Bridge	60	100	40	20		•	400	700	250	68 ±4	3X = 750	100	60	Air		•	•	•		•	•	•	•	•
Titan LCMM	Horiz. Arm	24–720	24–96	24–108	40			500	500	500	68 ±1.8		100		Mechanical		•	•	•	•	•				
FARO Technologies Inc.																									
Ph. 800-736-0234 Fax 407-333-4181																									
Faro Control Station	Artic. Arm	48 x 144 x 264 capsule					•				32–113	6X = 1,000	1,000	5,400	Mechanical			•	•	•	•		•	•	•
Giddings & Lewis—Sheffield Measurement																									
Ph. 920-921-7100 Fax 920-906-7669																									
Discovery II	Gantry	20–30	24–40	16–24	4		•	160	180	140	59–104	3X = 400	100		Recirc. Ball		•					•		•	•
Endeavor	Bridge-Vert.	36–48	36–120	26–40	4		•	120	120	100		3X = 320	100		Porous Medium		•					•		•	•

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		X-axis (inches)	Y-axis (inches)	Z-axis (inches)		Accord. To VDI/VD	Accord. To B89	X-axis (µin.)	Y-axis (µin.)	Z-axis (µin.)		3-axis = 3X (µin.) 4-axis = 4X (µin.) 6-axis = 6X (µin.)				Analog	Switching	Laser	Contact	Vision System	Manual	D.C.C.	Manual Input	Part Sensor	Machine Sensor
Endeavor FlexScan	Bridge-Vert.	36–48	36–120	26–40	4		•	120	120	100		3X = 320	100		Porous Medium	•	•					•		•	•
Endeavor FlexScan High Accuracy	Bridge-Vert.	36–48	36–120	26–40	4		•	100	100	80		3X = 260	80		Porous Medium	•	•					•		•	•
Endeavor High Accuracy	Bridge-Vert.	36–48	36–120	26–40	4		•	100	100	80		3X = 260	80		Porous Medium		•					•		•	•
Helmel Engineering Products Inc.																									
Ph. 716-297-8644 Fax 716-297-9405																									
Checkmaster Model 112-102	Bridge-Vert.	12	12	10	20		•	180 + 6 µ"/in.			68 ±2	3X = 360	160		Mechanical		•		•	•	•	•			
Checkmaster Model 216-142	Bridge-Vert.	16	20	14	20		•	180 + 6 µ"/in.			68 ±2	3X = 380	120		Mechanical		•		•	•	•	•			
Microstar L Model 1260-401 DCC	Bridge-Vert.	60	120	40	40		•	200 + 9–10 µ"/in.			68 ±2	3X = 1,100	200		Mechanical		•	•	•	•		•	•		
Microstar L Model 845-401 DCC	Bridge-Vert.	45	80	40	40		•	200 + 9 µ"/in.			68 ±2	3X = 900	200		Mechanical		•	•	•	•		•	•		
Microstar Model 220-162	Bridge-Vert.	20	20	16	20		•	180 + 6 µ"/in.			68 ±2	3X = 440	160		Mechanical		•	•	•	•	•	•			
Microstar Model 320-162	Bridge-Vert.	20	30	16	20		•	180 + 6 µ"/in.			68 ±2	3X = 440	160		Mechanical		•	•	•	•	•	•			
Microstar Model 430-202	Bridge-Vert.	30	40	20–25	20		•	200 + 8µ"/in.			68 ±2	3X = 700	160		Mechanical		•	•	•	•	•	•	•		
Microstar Model 640–252	Bridge-Vert.	40	60	20–25	20		•	250 + 10 µ"/in.			68 ±2	3X = 800	200		Mechanical		•	•	•	•	•	•	•		
Microstar Model 850-252	Bridge-Vert.	50	80	25	20		•	250 + 10 µ"/in.			68 ±2	3X = 800	200		Mechanical		•	•	•	•	•	•	•		
PcMM Plus	Bridge-Vert.	20	30	16	40		•	180 + 7 µ"/in.			68 ±2	3X = 450	150		Mechanical		•	•	•	•		•			
International Metrology Systems Inc.																									
Ph. 248-374-0700 Fax 248-374-9700																									
Impact	Bridge-Vert.	20	24	18	20	•	•				68 ±2	3X = 2.5 + L/300	100	480	Air	•	•	•	•	•		•		•	•
Impact II	Bridge-Vert.	30	30	22	20	•	•				68 ±2	3X = 30 + L/300	100	480	Air	•	•	•	•	•		•	•	•	•
IMPEL	Horiz. Arm	40–240	30–80	40–100	20						68 ±2	3X = 23 + 22L/1,000	200	480	Air/Mechanical	•	•	•	•		•	•	•	•	•
Merlin 750 Series	Bridge-Vert.	30	44–88	20–30	20	•	•				68 ±2	3X = 3 + L/300	100	480	Air	•	•	•	•	•		•		•	•
Merlin 1100 Series	Bridge-Vert.	44	44–120	30–40	20	•	•				68 ±2	3X = 4 + L/300	100	480	Air	•	•	•	•	•		•	•	•	•
Merlin 1400 Series	Bridge-Vert.	55	60–120	30–50	20	•	•				68 ±2	3X = 5 + L/300	100	480	Air	•	•	•	•	•		•	•	•	•
Merlin 1600 Series	Bridge-Vert.	63	88–120	40–50	20	•	•				68 ±2	3X = 6 + L/300	140	480	Air	•	•	•	•	•		•	•	•	•
Merlin XL Series	Gantry	60–200	120–375	44–80							68 ±2	3X = 10 + 5L/1,000	200	480	Air	•	•	•	•			•	•	•	•
Umpire	Bridge-Vert.	14	14	12	20	•	•				68 ±2	3X = 3 + L/250	100	480	Linear Guides	•	•	•	•	•		•	•	•	•
Umpire II	Bridge-Vert.	20	20	16	20	•	•				68 ±2	3X = 3.5 + L/250	100	480	Linear Guides	•	•	•	•	•		•	•	•	•
Umpire III	Bridge-Vert.	30	20	16	20	•	•				68 ±2	3X = 3.5 + L/200	100	480	Linear Guides	•	•	•	•	•		•	•	•	•
Umpire S	Bridge-Vert.	20	14	12	20	•	•				68 ±2	3X = 3 + L/250	100	480	Linear Guides	•	•	•	•	•			•	•	•
Intra Corp. Inc.																									
Ph. 734-326-7030 Fax 734-326-1410																									
Fixture Mate	Bridge-Vert.	12–24	12–36	12–18	40		•	200	200	200	68 ±2	3X = 400	100		Air				•			•			
Laser Design Inc.																									
Ph. 952-884-9648 Fax 952-884-9653																									
DS Series	Fixed Bridge	20–60	16–120	16–40	40		•	220–320			68 ±3	3X = 600–1,000	240–280	864,000	Recirc. Bearings			•	•			•			
Leica Geosystems—IMS																									
Ph. 800-367-9453 Fax 770-734-1394																									
LR200	Port. Laser Scanner		0–24m		1 µm						40–105	3X = 100 µm at 10 m		30,000		Noncontact								•	•
LT300	Port. Laser Tracker		0–25m		1 µm						40–105	3X = 100 µm at 10 m	50 µm @ 10 m	30,000					•		•			•	•
LT500	Port. Laser Tracker		0–35m		1 µm						40–105	3X = 100 µm at 10 m	50 µm @ 10 m	30,000					•		•			•	•
LTD500	Port. Laser Tracker		0–35m		1 µm						40–105	3X = 100 µm at 10 m	50 µm @ 10 m	30,000					•		•			•	•
TDA5005 (Axyz-STM)	Port. Tracking		2–600m		10 µm						-4–122	3X = 300 µm at 20 m	100 µm	4+					•		•	•		•	
TM5100A (Axyz-MTM)	Port. Triangulation		0.6–10m		1 µm						-4–123	3X = 100 µm at 5 m	50 µm	4+		Noncontact			•		•			•	

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		X-axis (inches)	Y-axis (inches)	Z-axis (inches)		Accord. To VDI/VD	Accord. To B89	X-axis (µin.)	Y-axis (µin.)	Z-axis (µin.)		3-axis = 3X (µin.) 4-axis = 4X (µin.) 6-axis = 6X (µin.)				Analog	Switching	Laser	Contact	Vision System	Manual	D.C.C.	Manual Input	Part Sensor	Machine Sensor
V-STARS/S	Port. Camera Offline		2–25 m		1 µm	•					32–95	3X = 50 µm at 5 m	10 µm			Noncontact			•	•			•		
V-STARS/M	Port. Camera Online		2–10 m		1 µm						32–95	3X = 100 µm at 5 m	50 µm	60+		Noncontact			•	•			•		
LK Metrology Systems Inc.																									
Ph. 810-220-4360 Fax 810-220-4300																									
G90C 6.5.4	Bridge-Vert.	24	20	16	4		•	168	160	152	68 ±3.5	3X = 250	59		Air	•	•					•		•	•
G90C 8.7.6	Bridge-Vert.	32	28	24	4		•	184	176	168	68 ±3.5	3X = 270	69		Air	•	•					•		•	•
G90C XX.10.8	Bridge-Vert.	40–160	40	32	4		•		200	184	68 ±3.5	3X = 290	79		Air	•	•					•		•	•
G90C XX.12.10	Bridge-Vert.	40–160	48	40	4		•		216	200	68 ±3.5	3X = 310	89		Air	•	•					•		•	•
G90C XX.15.10	Bridge-Vert.	40–160	60	40	4		•		240	200	68 ±3.5	3X = 330	98		Air	•	•					•		•	•
G90C XX.15.12	Bridge-Vert.	40–160	60	48	4		•		240	216	68 ±3.5	3X = 370	118		Air	•	•					•		•	•
G90C XX.15.15	Bridge-Vert.	40–160	60	60	4		•		240	240	68 ±3.5	3X = 450	157		Air	•	•					•		•	•
HC90 XX.16.16	Horiz. Arm	160–320	64	64	4		•		248	248	68 ±3.5	3X = 760	236		Air	•	•					•		•	•
HC90 XX.16.20	Horiz. Arm	160–320	64	80	4		•		248	280	68 ±3.5	3X = 760	236		Air	•	•					•		•	•
HC90 XX.16.25	Horiz. Arm	160–320	64	100	4		•		248	320	68 ±3.5	3X = 760	236		Air	•	•					•		•	•
LY90S XX.16.16	Horiz. Arm	79–315	63	63	4		•		1,020	1,020	68 ±3.5	3X = 1,710	790		Mechanical	•	•					•		•	•
LY90S XX.16.20	Horiz. Arm	79–315	63	79	4		•		1,020	1,180	68 ±3.5	3X = 1,710	79		Mechanical	•	•					•		•	•
LY90S XX.16.25	Horiz. Arm	79–315	63	98	4		•		1,020	1,380	68 ±3.5	3X = 2,490	118		Mechanical	•	•					•		•	•
LY90S XX.20.16	Horiz. Arm	79–315	79	63	4		•		1,180	1,020	68 ±3.5	3X = 2,490	118		Mechanical	•	•					•		•	•
LY90S XX.20.20	Horiz. Arm	79–315	79	79	4		•		1,180	1,180	68 ±3.5	3X = 2,490	118		Mechanical	•	•					•		•	•
LY90S XX.20.30	Horiz. Arm	79–315	79	118					1,180	1,580	68 ±3.5	3X = 2,490	118		Mechanical	•	•					•		•	•
ULTRA 10.10.8	Bridge-Vert.	40	40	32	4		•	110	110	94	68 ±0.9	3X = 130	20		Air	•	•					•		•	•
ULTRA 15.10.8	Bridge-Vert.	60	40	32	4		•	150	110	94	68 ±0.9	3X = 130	20		Air	•	•					•		•	•
ULTRA 20.10.8	Bridge-Vert.	80	40	32	4		•	190	110	94	68 ±0.9	3X = 140	28		Air	•	•					•		•	•
ULTRA 25.10.8	Bridge-Vert.	100	40	32	4		•	230	110	94	68 ±0.9	3X = 140	28		Air	•	•					•		•	•
Mahr Federal Inc.—Multisensor Division																									
Ph. 800-969-1331 Fax 513-489-2020																									
C-400	Fixed Bridge	18	12	8	4	•		1.5 + L/300 µm			62–74	3X = 2.5 + L/200 µm	< 40	60+	Air			•	•	•		•		•	•
MS-Series	Fixed Bridge	10–18	8	8	20	•		1.9 + L/200 µm			64–72	3X = 2.9 + L/100 µm	< 40	60+	Mechanical			•	•	•		•		•	•
OMS-Series	Bridge-Vert.	16–53	16–39	10–23	4	•		0.9 + L/600 µm			62–74	3X = 1.9 + L/400 µm	< 40	60+	Air			•	•	•		•		•	•
OMS-802 (Dual Z Axis)	Bridge-Vert.	32	32	14/14	4	•		0.6 + L/700 µm			64–74	3X = 1.6 + L/500 µm	< 40	60+	Air			•	•	•		•		•	•
PMC 500	Bridge-Vert.	20	24	16	20	•					64–72	3X = 3.5 + L/300 µm	< 40	60+	Air			•	•	•		•			
PMC 650 and PMC 800	Bridge-Vert.	26–31	47–59	20–28	20	•					64–72	3X = 3 + L/350 µm	< 40	60+	Air			•	•	•		•			
MetricVision																									
Ph. 703-550-2945 Fax 703-550-2949																									
MetricVision MV200	Meas. Robot	Range, elev., azmth. = 945			1 µm		•	4,500			40–105	3X = L/100 @ 10m		250		Noncontact					•	•	•	•	•
Micro-Metric Inc.																									
Ph. 408-452-8505 Fax 408-452-8412																									
IMS Series	Bridge-Vert./Laser	4–16	4–16	4–16	0.8			4 ±10	4 ±10	4 ±10	50–95	3X = 4 ±17	±10/±5	6	Needle Bearing			•		•		•		•	
Micro-Vu Corp.																									
Ph. 707-838-6272 Fax 707-838-3985												XY-Axis / Z-Axis													
Excel	Gantry	24–60	24–48	6	01–5 µm	•						10–15 µm / 3+L/150 µm	2 µm		Mono-rail					•		•	•		
Quantum	Fixed Bridge	28–36	24	5.5–9	01–5 µm	•						3–5 µm / 10 µm	XY ±1µm, Z 2.5µm		Air					•		•	•		
Matrix	Fixed Bridge	24–36	18–24	6–12	1–2 µm	•						±1,000 µ" / 10 µm	XY 100–150, Z 180 µ"		Linear Way					•	•	•	•		

CMM Manufacturers Guide

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		X-axis (inches)	Y-axis (inches)	Z-axis (inches)		Accord. To VDI/VD	Accord. To B89	X-axis (µin.)	Y-axis (µin.)	Z-axis (µin.)		3-axis = 3X (µin.) 4-axis = 4X (µin.) 6-axis = 6X (µin.)				Analog	Switching	Laser	Contact	Vision System	Manual	D.C.C.	Manual Input	Part Sensor	Machine Sensor
												XY-Axis Z-Axis													
Vector	Fixed Bridge	6–12	6–12	6–12	0.5-2 µm							300–500 µ" 10 µm	±100 µ"		Cross Rollers					•	•	•	•		
Vertex		8–12	6–12	6–12	0.1-1 µm	•						2+L/250-2.6+L/175 µm 3+L/150 µm	2 µm		Mono-Rail					•		•	•		
Mitutoyo America Corp.																									
Ph. 630-820-9666 Fax 630-820-7403																									
Bright Apex 504	Bridge-Vert.	20	16	16	0.1 µm	ISO	•	(2.9 + 4L/1,000) µm			61–79	3X = (2.9 + 4L/1,000) µm		60	Air	•			•	•		•	•	•	•
Bright Apex 707	Bridge-Vert.	28	28	24	0.1 µm	ISO	•	(2.9 + 4L/1,000) µm			61–79	3X = (2.9 + 4L/1,000) µm		60	Air	•			•	•		•	•	•	•
Bright Apex 710	Bridge-Vert.	28	40	24	0.1 µm	ISO	•	(2.9 + 4L/1,000) µm			61–79	3X = (2.9 + 4 L/1,000) µm		60	Air	•			•	•		•	•	•	•
Bright Apex 910	Bridge-Vert.	36	40	24	0.1 µm	ISO	•	(3.9 + 4L/1,000) µm			61–79	3X = (3.9 + 4L/1,000) µm		60	Air	•			•	•		•	•	•	•
Bright Apex 916	Bridge-Vert.	36	64	24	0.1 µm	ISO	•	(3.9 + 4L/1,000) µm			61–79	3X = (3.9 + 4L/1,000) µm		60	Air	•			•	•		•	•	•	•
Bright Apex 1212	Bridge-Vert.	48	48	40	0.1 µm	ISO	•	(4.9 + 5L/1,000) µm			61–79	3X = (4.9 + 5L/1,000) µm		60	Air	•			•	•		•	•	•	•
Bright Apex 1220	Bridge-Vert.	48	80	40	0.1 µm	ISO	•	(4.9 + 5L/1,000) µm			61–79	3X = (4.9 + 5L/1,000) µm		60	Air	•			•	•		•	•	•	•
Bright Apex 1230	Bridge-Vert.	48	120	40	0.1 µm	ISO	•	(4.9 + 5L/1,000) µm			61–79	3X = (4.9 + 5L/1,000) µm		60	Air	•			•	•		•	•	•	•
BRTM 507	Bridge-Vert.	20	28	16	0.5 µm	ISO	•	(4 + 5L/1,000) µm			66–70	3X = (4 + 5L/1,000) µm			Air				•		•				
BRTM 707	Bridge-Vert.	28	28	24	0.5 µm	ISO	•	(5 + 5L/1,000) µm			66–70	3X = (5 + 5L/1,000) µm			Air				•		•				
BRTM 710	Bridge-Vert.	28	40	24	0.5 µm	ISO	•	(5 + 5L/1,000) µm			66–70	3X = (5 + 5L/1,000) µm			Air				•		•				
BRT Strato 707	Bridge-Vert.	28	28	24	0.1 µm	ISO	•	(1.4 + 3L/1,000) µm			64–72	3X = (1.4 + 3L/1,000) µm		60	Air	•			•	•		•	•	•	•
BRT Strato 710	Bridge-Vert.	28	40	24	0.1 µm	ISO	•	(1.4 + 3L/1,000) µm			64–72	3X = (1.4 + 3L/1,000) µm		60	Air	•			•	•		•	•	•	•
BRT Strato 910	Bridge-Vert.	36	40	24	0.1 µm	ISO	•	(1.7 + 3L/1,000) µm			64–72	3X = (1.7 + 3L/1,000) µm		60	Air	•			•	•		•	•	•	•
BRT Strato 916	Bridge-Vert.	36	64	24	0.1 µm	ISO	•	(1.7 + 3L/1,000) µm			64–72	3X = (1.7 + 3L/1,000) µm		60	Air	•			•	•		•	•	•	•
BRT Strato 1620, 1630, 1640	Bridge-Vert.	63	80–160	47/60	0.1 µm	ISO	•	(3.8 + 4L/1,000) µm			64–72	3X = (3.8 + 4L/1,000) µm		60	Air	•			•	•		•	•	•	•
LEGEX 707	Fixed Bridge	28	28	18/24	0.01 µm	ISO	•	(0.48 + L/1,000) µm			64–72	3X = (0.48 + L/1,000) µm		40	Air	•			•			•	•	•	•
LEGEX 910	Fixed Bridge	36	40	24	0.01 µm	ISO	•	(0.48 + L/1,000) µm			64–72	3X = (0.48 + L/1,000) µm		40	Air	•			•			•	•	•	•
MACH 403-04	Horiz. Arm	18	18	12	0.1 µm	ISO	•	(3.5 + 4L/1,000) µm			59–77	3X = (3.5 + 4L/1,000) µm		80	Ball Bearing	•			•			•	•	•	•
MACH 806-10	Horiz. Arm	40	32	24	0.1 µm	ISO	•	(3.5 + 4L/1,000) µm			59–77	3X = (3.5 + 4L/1,000) µm		80	Ball Bearing	•			•			•	•	•	•
Mycrona Inc.																									
Ph. 734-453-5880 Fax 734-453-4076																									
Altera I Multi-Sensor 401	Fixed Bridge	19	16	6–12	2	•		1.2 + L/400 µm			68 ±3.6	3X = 1.2 + L/400 µm	4	60+	Air			•	•	•		•	•		
Altera I Multi-Sensor 402	Fixed Bridge	17	16	12	2	•		0.6 + L/400 µm			68 ±3.2	3X = 1.2 + L/300 µm	4	60+	Air			•	•	•		•	•		
Altera II Multi-Sensor 601 and 602	Fixed Bridge	24–29	24	6–12	2	•		1.2 + L/400 µm			68 ±3.2	3X = 1.2 + L/400 µm	4	60+	Air			•	•	•		•	•		
Magnus I & II Multi-Sensor Series	Fixed Bridge	17–47	16–39	6–18	2	•		1.2 + L/400 µm			68 ±3.6	3X = 2.2 + L/300 µm	4	60+	Air			•	•	•		•	•		
Magnus MB Multi-Sensor	Bridge-Vert.	80	40	33		•		3.0 + L/300 µm			68 ±3.6	3X = 4.8 + L/200 µm		60+	Air			•	•	•		•	•		
Primus Multi-Sensor 300	Bridge-Vert.	12	6	6	4	•		2.3 + L/150 µm			68 ±3.6	3X = 3.3 + L/100 µm	8	60+	Needle Bearings			•	•	•		•	•		
Signum A Multi-Sensor 300	Bridge-Vert.	12	12	6–8	4	•		2.4 + L/400 µm			68 ±3.6	3X = 3.4 + L/400 µm	8	60+	Needle Bearings			•	•	•		•	•		
Signum B Multi-Sensor 400	Bridge-Vert.	16	8	6–10	4	•		2.4 + L/400 µm			68 ±3.6	3X = 3.4 + L/400 µm	8	60+	Needle Bearings			•	•	•		•	•		
Signum C Multi-Sensor 400	Bridge-Vert.	16	16	8–10	4	•		2.4 + L/400 µm			68 ±3.6	3X = 3.4 + L/300 µm	8	60+	Needle Bearings			•	•	•		•	•		
Signum D Multi-Sensor 600	Bridge-Vert.	24	20	6–10	4	•		3.6 + L/400 µm			68 ±3.6	3X = 4.6 + L/300 µm	8	60+	Needle Bearings			•	•	•		•	•		
Signum H.A. Multi-Sensor 201 and 202	Fixed Bridge	12–16	8–12	6–12	2	•		1.2 + L/400 µm			68 ±3.2	3X = 2.2 + L/300 µm	4	60+	Air			•	•	•		•	•		
Signum H.A. Multi-Sensor 401 and 402	Fixed Bridge	16	8–16	6–12	2	•		1.2 + L/400 µm			68 ±3.2	3X = 1.2 + L/400 µm	4	60+	Air			•	•	•		•	•		
Nikon Inc.																									
Ph. 800-526-4566 Fax 631-547-0306								XY-Axis	Z-Axis																
VM-150 Nexiv	Single Col., XY Stage	12	8	6	0.1 µm	•		3.5 + L/100	3 + L/50 µm		50–95							•		•		•	•		
VM-150 Veritas	Single Col., XY Stage	12	8	6	0.1 µm	•		3.5 + L/100	3 + L/50 µm		50–95							•	•	•		•			
VM-250 Nexiv	Single Col., XY Stage	10	8	6	0.1 µm	•		2.5 + L/250	3 + L/50 µm		50–95							•		•		•	•		

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		X-axis (inches)	Y-axis (inches)	Z-axis (inches)		Accord. To VDI/VD	Accord. To B89	X-axis (µin.)	Y-axis (µin.)	Z-axis (µin.)		3-axis = 3X (µin.) 4-axis = 4X (µin.) 6-axis = 6X (µin.)				Analog	Switching	Laser	Contact	Vision System	Manual	D.C.C.	Manual Input	Part Sensor	Machine Sensor
								XY-Axis		Z-Axis															
VM-250 Veritas	Single Col, XY Stage	10	8	6	0.1 µm	•		2.5+L/250		3+L/50 µm	50–95							•		•		•			
VM-1000 Nexiv	Fixed Bridge	40	32	6	0.1 µm	•		2.5+L/250		3+L/50 µm	50–95							•		•		•			
VM-6555 Nexiv	Fixed Bridge				0.1 µm	•		1.5+2.5L/1000		1.5+L/150 µm	50–95							•		•		•			
VMH-300 Nexiv	Single Col, XY Stage	12	12	6	0.01 µm	•		0.6+.7L/300		0.8 +L/150 µm	59–77							•		•		•			
VMR-3020 Nexiv	Single Col, XY Stage	12	8	6	0.1 µm	•		1.5+4L/1000		1.5+L/150 µm	50–95							•		•		•			
Operations Technology Inc. (OPTEK)																									
Ph. 908-362-6200 Fax 908-362-5966																									
OPTEK Innervision 462X	X-Y Transport	18	12		0.25-1 µm		•	V95 = 5 + L/200 µm			66–70		±8 µm		Linear Bearings					X-ray	•	•			
OPTEK Innervision 712X	X-Y Transport	28	26		0.25-1 µm		•	V95 = 5 + L/200 µm			66–70		±10 µm		Linear Bearings					X-ray	•	•			
OPTEK Innervision 942X	X-Y Transport	37	26		0.25-1 µm		•	V95 = 5 + L/200 µm			66–70		±10 µm		Linear Bearings						•	•			
OPTEK Innervision 1272X (LF)	Fixed Bridge	50	36		0.25 µm		•	V95 = 5 + L/200 µm			66–70		±15 µm							X-ray	•	•			
OPTEK VideoMic 1273V (LF)	Fixed Bridge	50	36	4	0.1–1 µm		•	V95 = 5 + L/200 µm			66–70		±6 µm		Air					•	•	•			
OPTEK VideoMic 463V	X-Y Transport	18	12	4	0.1–1 µm		•	V95 = 5 + L/200 µm			66–70		±3 µm		Linear Bearings					•	•	•			
OPTEK VideoMic 613V	X-Y Transport	24	18	4	0.1–1 µm		•	V95 = 5 + L/200 µm			66–70		±3 µm		Linear Bearings					•	•	•			
OPTEK VideoMic 712J	X-Y Transport	28	24		0.25-1 µm		•	V95 = 5 + L/200 µm			66–70		±6 µm		Linear & Air					•	•	•			
OPTEK VideoMic 713V	X-Y Transport	28	24	4	0.1–1 µm		•	V95 = 5 + L/200 µm			66–70		±4 µm		Linear Bearings					•	•	•			
OPTEK VideoMic 763V (LF)	Fixed Bridge	30	26	4	0.1–1 µm		•	V95 = 5 + L/200 µm			66–70		±4 µm		Air					•	•	•			
OPTEK VideoMic 863V	X-Y Transport	34	26	4	0.1–1 µm		•	V95 = 5 + L/200 µm			66–70		±4 µm		Linear Bearings					•	•	•			
Optical Gaging Products Inc.																									
Ph. 585-544-0400 Fax 585-544-0131								XY-Axis		Z-Axis		XY-axis Z-axis													
Avant Zip 300	Cantilever	12	12	6	10	•					65–75	2 + L/150 µm 4 + L/150 µm						•	•	•		•			
SmartScope Flare 200	Elevating Bridge	8	8	6	20	•					65–75	3 + 5L/1000 µm 5 + 6L/1000 µm						•	•	•		•			
SmartScope Flare 700	Cantilever	24	24	8	20	•					65–75	7.5 + 8L/1000 µm 6 + 8L/1000 µm						•	•	•		•			
SmartScope Flash 200	Elevating Bridge	8	8	6	20	•					65–75	2.5 + 5L/1000 µm 3 + 6L/1000 µm							•	•		•			
SmartScope Flash 700	Cantilever	24	24	8	20	•					65–75	7 + 8L/1000 µm 4 + 8L/1000 µm							•	•		•			
SmartScope Quest 250	Cantilever	12	6	8	4	•					65–75	1.7 + 4L/1000 µm 2.5 + 5L/1000 µm						•	•	•		•			
SmartScope Quest 450	Fixed Bridge	18	18	6	4	•		1.5 + 4L/1000		2.5 + 5L/1000 µm	65–75	3X = 2.0 + 5L/1000 µm						•	•	•		•			
SmartScope Quest 600	Fixed Bridge	18	24	6	4	•		1.5 + 4L/1000		2.5 + 5L/1000 µm	65–75	3X = 2.0 + 5L/1000 µm						•	•	•		•			
SmartScope Quest 650	Fixed Bridge	20	26	12	4	•		1.5 + 4L/1000		2.5 + 5L/1000 µm	65–75	3X = 3.0 + 6L/1000 µm						•	•	•		•			
SmartScope ZIP 250	Cantilever	10	6	6	10	•					65–75	2 + 4L/1000 µm 2.5 + 5L/1000 µm							•	•		•			
Romer Inc.																									
Ph. 800-218-7125 Fax 248-324-0525																									
3000i	Port. Artic. Arm	12' Dia. Sphere			100			2,000	2,000	2,000	32–115	2,800						•	•		•				
SMX Corp.																									
Ph. 610-444-2300 Fax 610-444-2323																									
Tracker 4500	Port. Tracking Laser	Unlimited			80		•				40–110		200						•		•			•	
The L.S. Starrett Co.																									
Ph. 978-249-3551 Fax 978-249-8495																									
Aurora RGC2828-24	Moving Bridge	28	28	24	20		•	200	200	200	68 ±2	3X = 300	120		Air		•			•	•				
Aurora RGC4028-24	Moving Bridge	28	40	24	20		•	200	300	200	68 ±2	3X = 300	100		Air		•			•	•				
Aurora RGC4040-24	Moving Bridge	40	40	24	20		•	300	300	200	68 ±2	3X = 300	100		Air		•			•	•				
Aurora RGDC2828-24	Moving Bridge	28	28	24	20		•	200	200	200	68 ±2	3X = 300	100	90	Air		•			•		•	•	•	•

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		X-axis (inches)	Y-axis (inches)	Z-axis (inches)		Accord. To		X-axis (µin.)	Y-axis (µin.)	Z-axis (µin.)		3-axis = 3X (µin.) 4-axis = 4X (µin.) 6-axis = 6X (µin.)				Analog	Switching	Laser	Contact	Vision System	Manual	D.C.C.	Manual Input	Part Sensor	Machine Sensor
						VDI/VD	B89																		
Aurora RGDC4028-24	Moving Bridge	28	40	24	20		•	200	300	200	68 ±2	3X = 360	100	90	Air		•			•		•	•	•	•
Aurora RGDC4040-24	Moving Bridge	40	40	24	20		•	300	300	200	68 ±2	3X = 500	100	90	Air		•			•		•	•	•	•
Aurora RGDC6440-24	Moving Bridge	40	64	24	20		•	300	400	200	68 ±2	3X = 600	100	90	Air		•			•		•	•	•	•
Premis HGC 2018-16	Moving Bridge	20	18	16	20		•	150	150	150	68 ±2	3X = 300	100		Air		•			•	•				
Premis HGC 2024-16	Moving Bridge	20	24	16	20		•	150	200	150	68 ±2	3X = 400	100		Air		•			•	•				
Premis HGC 3024-18	Bridge-Vert.	24	30	18	20		•	200	250	150	68 ±2	3X = 450	100				•			•	•				
Premis HGDC 2018-16	Moving Bridge	20	18	16	20		•	200	200	200	68 ±2	3X = 300	100	90	Air		•					•			
Premis HGDC 2024-16	Moving Bridge	20	24	16	20		•	200	200	200	68 ±2	3X = 300	100	90	Air		•					•			
Premis HGDC 3024-18	Bridge-Vert.	24	30	18	20		•	200	250	150	68 ±2	3X = 450	100				•			•		•			
Rapid Check 2	Gantry	24	24	18		•		200	200	150	68 ±2	3X = 400	120						•			•			
Vanguard RGDC4848-40	Moving Bridge	48	48	40	20		•	300	400	240	68 ±2	3X = 550	100	90	Air		•			•		•	•	•	•
Vanguard RGDC6448-40	Moving Bridge	48	64	40	20		•	300	500	240	68 ±2	3X = 600	100	90	Air		•			•		•	•	•	•
Vanguard RGDC8048-40	Moving Bridge	48	80	40	20		•	300	600	240	68 ±2	3X = 750	100	90	Air		•			•		•	•	•	•
Vanguard 120-48-40	Moving Bridge	48	120	40	20		•	300	800	240	68 ±2	3X = 300	100		Air		•			•					
TechTran Development Corp. **Ph. 201-816-8185 Fax 201-567-7470**																									
TTH	Horiz. Arm	300	72	48	20		•								Air				•			•			
TTV	Bridge-Vert.	60	300	50	2		•								Air				•			•			
View Engineering Inc. **Ph. 805-578-5000 Fax 805-578-5249**								XY-axis	Z-axis																
Pinnacle 250	Column, Vertical	10	7	4	0.1 µm	•		1.5 + L/200 µm	2.5 + L/100 µm		62–90				Linear Recirculating			•		•		•			•
Summit 450, 600 and 800	Fixed Bridge	18–30	18–32	6	0.1 µm	•		2.5 + L/200 µm	1.5 + L/50 µm						Linear Recirculating			•		•		•			•
View Voyager V6 x 12	Column, Vertical	12	6	6	0.1 µm	•		4 + L/100 µm	5 + L/150 µm		63–73				Cross Roller			•		•		•			•
View Voyager V12 x 12	Column, Vertical	12	12	6	0.1 µm	•		2 + L/200 µm	2.5 + L/100 µm		63–73				Linear Recirculating			•		•		•			•
Wenzel America Ltd. **Ph. 248-596-1193 Fax 248-596-1194**																									
LAF	Horiz. Rail	157–236	62	70	20	•		140 + L/0.20			64–72	3X = 200 + L/0.15	70	50	Air	•	•	•				•	•	•	•
LH Series	Bridge-Vert.	25–120	29–160	19–80	20	•		80 + L/0.35			68 ±2	3X = 100 + L/0.25	40	240	Air		•					•		•	•
LH µStar Series	Bridge-Vert.	25–120	29–160	19–80	20	•		60 + L/0.45			68 ±2	3X = 80 + L/0.45	28	8,000	Air	•						•		•	•
LHF	Bridge-Vert.	98–118	157–236	66–78	20	•		148 + L/0.30			64–72	3X = 168 + L/0.25	74	50	Air	•	•	•				•	•	•	•
RAD Plus	Dual Horiz. Arm	216–472	118	70–98	20	•		800 + L/0.07			60–75	3X = 1200 + L/0.04	400	70	Linear	•	•				•	•	•	•	•
RAF Plus	Horiz. Rail	157–236	40–63	48–83	20	•		600 + L/0.07			60–75	3X = 800 + L/0.05	300	70	Linear	•	•				•	•	•	•	•
RS Series	Horiz. Arm	80–180	40–64	48–96	20	•		590 + L/0.06			68 ±4	3X = 750 + L/0.03	350	120	Roller Bearing		•					•		•	•
RSD Series	Dual Horiz. Arm	180–480	88–120	72–96	20	•		1,180 + L/0.04			68 ±4	3X = 1,570 + L/0.02	600	50	Roller Bearing		•					•		•	•
Carl Zeiss IMT Corp. **Ph. 612-533-9990 Fax 612-533-0219**																									
Carmet	Horiz. Arm	244	102	83		•					68 ±7.2	3X = 30 + L/50 80				•						•			
Contura 7 Std.	Bridge-Vert.	28	39	24		•					65–72	3X = 2.7 + L/250			Air				•			•	•		
Contura 1000 HTG	Bridge-Vert.	39	63	24		•					65–79	3X = 2.5 + L/300			Air				•			•	•		
ECLIPSE 550	Bridge-Vert.	20	22	24		•					64–79	3X = 2.9 + L/250 µm			Air	•						•	•		
ECLIPSE 1000	Bridge-Vert.	39	39	39		•					64–79	3X = 4.9 + L/200 µm			Air	•						•	•		
Prismo Std.	Bridge-Vert.	35	71	26		•					64–79	3X = 2.3 + L/300			Air				•			•	•	•	
Prismo Super Acc.	Bridge-Vert.	35	47	26		•					64–72	3X = 1.2 + L/350			Air				•			•	•	•	