Micro 3D A

Coordinate Measuring Machines

MICRO 3D A
SPECIFICATIONS
Release 2022-04

microservice

DYNAMICS

			xx.07.05 M	xx.07.07 M	06.05.05	xx.07.05	xx.07.07	xx.09.07
Max. Cruise Speed	Motorized (axes)	mm/s	-	-	0 - 100	0 - 100	0 - 100	0 - 100
	CNC (vector)	mm/s	-	-	500	500	500	500
Max. Acceleration	CNC (vector)	mm/s²	-	-	1500	1500	1200	1000

SCANNING PROBE HEADS

Volumetric Length meas. Error, MPE as per ISO 10360-2:2009 [1]	E0/E150	µm	T1	-	-	2,5 + 3,0 L/1000	1,9 + L/333	2,3 + L/300	3,0 + L/300
	E0/E150	µm	T2	-	-	-	1,9 + L/250	2,3 + L/200	3,0 + L/200
Repeatability range, MPL as per ISO 10360-2:2009	R0	µm		-	-	2,5	1,8	2,2	2,8
Single stylus form error, MPE as per ISO 10360-5:2010	PFTU	µm		-	-	-	1,9	2,3	3,0
Single Stylus form error, scanning. MPE as per ISO 10360-4:2000 [3]	THP	µm		-	-	-	4,0	4,5	5,5
Required measuring time MPT	T	s		-	-	-	120	120	120
Single Stylus form error, scanning. MPE as per ISO 10360-4:2000 [3]	THN	µm		-	-	-	4,0	4,5	5,5
Required measuring time MPT	T	s		-	-	-	120	120	120
Form measurement error	RONt (MZCI) [2]	µm		-	-	-	2,0	2,4	3,1

INDEXING HEADS OR FIXED HEADS WITH STRAIN-GAUGE TRIGGER PROBE

Volumetric Length meas. Error, MPE as per ISO 10360-2:2009 [1]	E0/E150	µm	T1	-	-	2,7 + 3,0 L/1000	1,9 + L/333	2,3 + L/300	3,0
	E0/E150	µm	T2	-	-	-	1,9 + L/250	2,3 + L/200	3,0
Repeatability range, MPL as per ISO 10360-2:2009	R0	µm		-	-	2,2	1,8	2,2	2,9
Single stylus form error, MPE as per ISO 10360-5:2010	PFTU	µm		-	-	2,3	1,9	2,3	3,0

INDEXING HEADS OR FIXED HEADS WITH TRIGGER PROBE

Volumetric Length meas. Error, MPE as per ISO 10360-2:2009 [1]	E0/E150	µm	T1	3,0 + L/300	3,2 + L/300	2,5 + L/333	2,1 + L/333	2,5 + L/300	3,2
	E0/E150	µm	T2	-	-	-	2,1 + L/250	2,5 + L/200	3,2
Repeatability range, MPL as per ISO 10360-2:2009	R0	µm		3,0	3,2	2,5	2,1	2,5	3,2
Single stylus form error, MPE as per ISO 10360-5:2010	PFTU	µm		3,0	3,2	2,5	2,1	2,5	3,2

METROLOGICAL SPECIFICATIONS

TEMPERATURES

	Ambient T1	Ambient T2
Measuring Reference Temperature	18 °C to 22 °C	16 °C to 26 °C
Maximum air temperature variations	0,5 °C / h - 2,0 °C / 24h	1,0 °C / h - 5,0 °C / 24h
Maximum spatial gradient	0,5 °C / m	1,0 °C / m

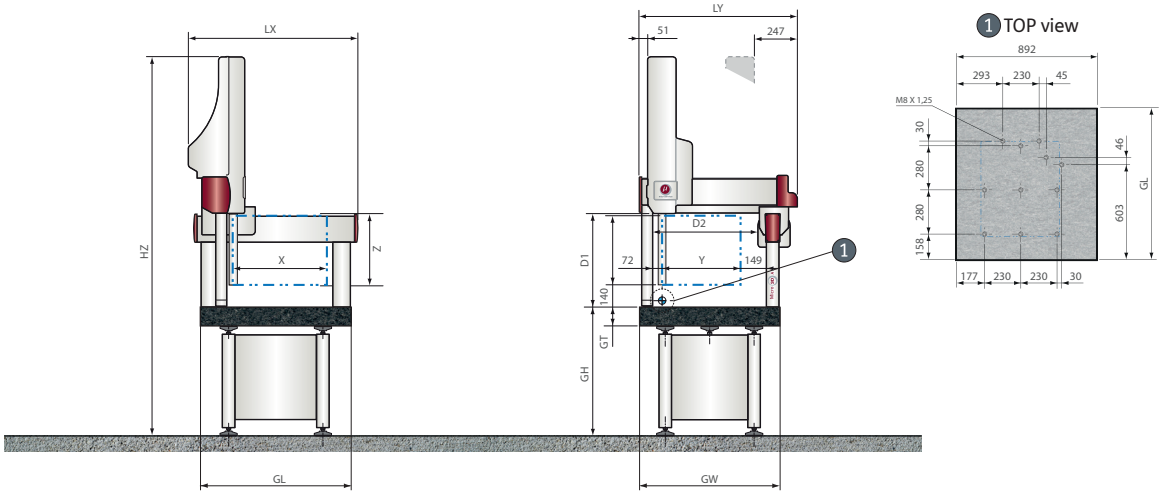
TOOLS / STYLUS CONFIGURATIONS

SP25	Stylus Ø5 x 50 mm
TP200	Standard Force Module and stylus Ø4 x 10 mm
Trigger Probe	Standard Force Module and stylus Ø4 x 10 mm

1) Measuring length L in mm.
2) RONt test available on SP80 probe head, with Stylus Ø5 x 50 mm, 50 mm ring gauge, speed 5 mm/s, located in the middle of the measuring Volume.
3) For MPE(THP/THN) and MPT(T): sphere is placed in the middle of the measuring volume.

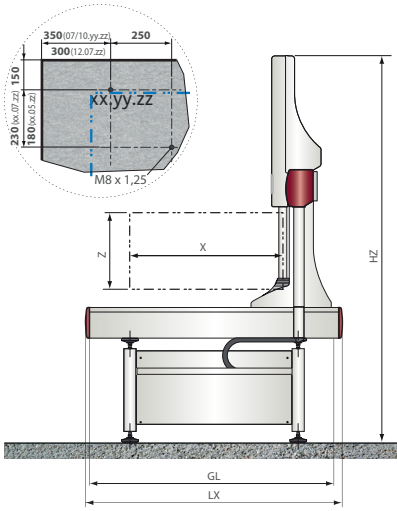
GENERAL DIMENSIONS

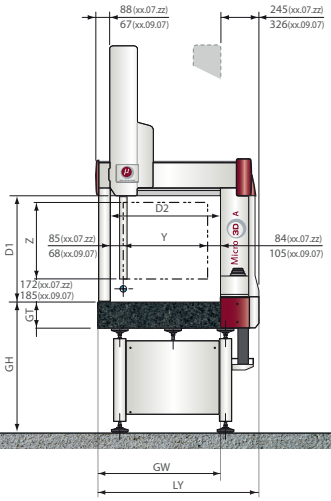
06.05.05



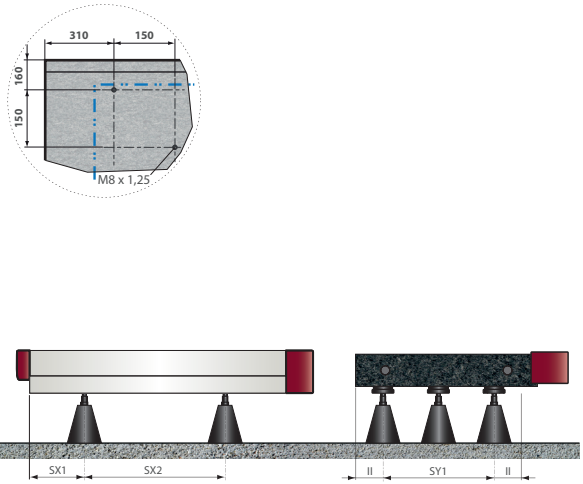
Sizes	Measuring range			Overall dimensions			Surface plate				Daylights		Weights	
	mm												daN	
	X	Y	Z[1]	Length	Width	Height	Height	Thickn.	Length	Width			Max. workpiece	Machine
	MX	MY	MZ	LX	LY	HZ	GH	GT	GL	GW	D1	D2		
06.05.05	600	500	500	1066	1018	2392	750	100	960	803	649	667	300	435

xx.yy.05/07





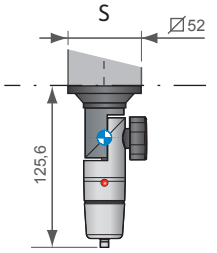
xx.09.07



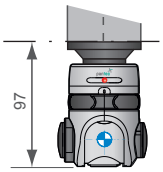
Sizes	Measuring range			Overall dimensions			Surface plate				Support Position			Daylights		Weights	
	mm															daN	
	X	Y	Z[1]	Length	Width	Height	Height	Thickn.	Length	Width						Max. workpiece	Machine
	MX	MY	MZ	LX	LY	HZ	GH	GT	GL	GW	SX1	SX2	SY1	D1	D2		
07.07.05	700	650	500	1380	1160	2429	750	170	1330	899	-	-	-	688	819	650	775
07.07.07	700	650	650	1380	1160	2734	750	170	1330	899	-	-	-	838	819	650	800
10.07.05	1000	650	500	1680	1160	2429	750	170	1630	899	-	-	-	688	819	700	925
10.07.07	1000	650	650	1680	1160	2734	750	170	1630	899	-	-	-	838	819	700	950
12.07.05	1200	650	500	1880	1160	2429	750	170	1830	899	-	-	-	688	819	700	990
12.07.07	1200	650	650	1880	1160	2734	750	170	1830	899	-	-	-	838	819	700	1015
13.09.07	1300	900	650	2110	1452	2687	690	250	1950	1135	472	1125	720	851	1053	1300	1720
16.09.07	1600	900	650	2410	1452	2687	690	250	2250	1135	475	1300	720	851	1053	1800	2250
19.09.07	1900	900	650	2710	1452	2687	690	250	2550	1135	542	1470	720	851	1053	2500	2650

PROBE HEADS

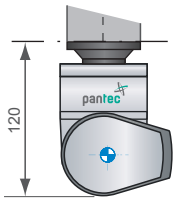
EAGLE.head S



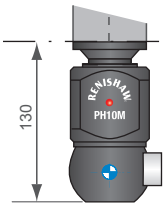
EAGLE.head i M8



EAGLE.head m 7.5 PKJ™



PH10M



quill

TECHNICAL FEATURES

Mechanical frame		Coordinate Measuring Machine, MAN and CNC type, with mobile traverse (XX,YY,04) or mobile bridge structure.	
Sliding guideways		**xx . yy . 05**	**xx . 07/09 . 05/07**
	Asse X	On anodized light alloy extrusion (right) Machined into the granite table (left)	Machined into the granite table
	Asse Y	On anodized alloy extrusion	Micromachined on anodized light alloy extrusion.
	Asse Z	On anodized light alloy extrusion	Micromachined on silicon carbide extrusion.
Sliding elements		Air bearings	
Drive system		Direct drive belt all axes	
Drives		DC servomotor or manual handles (xx.yy.04 M)	
Length measuring system		Free-moving linear transducers on carrier, resolution 0.1 µm	
Controller		Pantec EAGLE™ / Renishaw® UCC	
		Protection degree: IP40 (IP54 upon request)	
		Cooling system: Fan	
Surface Plate (part locking)		Granite, threated inserts M8x1,25: flatness according to DIN 876/3	
Vibration damping system [1]		Passive elastometer vibration damping	
Options		Automatic tip/tool changer, Automatic multisensor temperature compensation for sizes xx.yy.05/07 for T2 (16 °C to 26 °C), on top rotary table, manual and automated part loading system, active pneumatic vibration damping. [1]if requested, we will perform a vibration analysis.	

ELECTRIC AND COMPRESSED AIR SUPPLY

Power Supply	1/N/PE 115/230 V~ ± 10 %; 50 / 60 Hz (± 4 %)
Max. power consumption	2,5 kVA
Typ. power consumption	0,6 kVA

Compressed air supply	From 0,6 to 1,0 MPa, pre-cleaned
Operating Pressure	≤ 0,5 MPa
Consumption	≤ 100 Nl/min
Quality	According ISO 8573 part 1: class 4

ENVIRONMENT

Humidity	40 % to 70 % UR (non condensing)
Operating Temperature	From 15 °C to 35 °C
Acceptable Vibrations	(Peak to Peak acceleration) 30 mm/s² from 1 to 10 Hz 15 mm/s² from 10 to 20 Hz 50 mm/s² from 20 to 100 Hz

SAFETY

Regulations
Micro 3D A complies with EC machine directive 2006/42/EC and EMC directive 2004/108/EEC

Disposal
Microservice products and packaging returned to us are disposed of in accordance with applicable legal provisions.

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Specifications subject to change, due to the continuous improvement of the product.

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