

CMM GANTRY | MCT Starlight / Starlight NT

STRUCTURE

CNC Coordinate Measuring Machine, Gantry type Architecture

Guideways:

X Axis: guideways on stabilized welded steel beams
Y Axis: guideways on stabilized welded steel beam
Z Axis: micromachined anodized light alloy extrusion (SL), Silicon Carbide extrusion (SL NT)

Drive Method:

X Axis: rack & pinion system, Dual Drive system on both X beam for section 30.20 and 30.25
Y Axis: rack & pinion system
Z Axis: zero hysteresis friction drive

Sliding System:

Air bearings on all axes

Motion Control:

DC servomotor on all axes

Thermal Compensation:

Multi-sensors temperature compensation system for part and scale (Optional)

Measuring System:

Linear scales, System Resolution: 0,1 µm.
Dual Scale/Reader on X axis (Optional on NT Light)



CMM GANTRY MCT Starlight MCT Starlight NT

CNC GANTRY COORDINATE
MEASURING MACHINE

OPTION

Training c/o Coord3 Center or Agents
Installation by Coord3 or Agents
PC & Printer
Multi-wire cable

POWER SUPPLY

Power supply voltage:

230 V ± 10%; 50 Hz ± 2% single phase
115 V ± 10%; 60 Hz ± 2% single phase

AIR SUPPLY

Air consumption:

Max. 300 NI/min

Minimum air supply:

6 Bar

Air quality:

Max. oil concentration:
5 mg/m³ (ISO 8573 - class 4)
Max. particle size of contaminants:
40 µm (ISO 8573 - class 5)
Max. contaminants concentration:
10 mg/m³ (ISO 8573 - class 5)
Max. dew point:
10 °C (ISO 8573 - class 6)

ENVIRONMENT

Temperature Range for Metrological Specification:

Ambient Temperature Range: 18 ÷ 22 °C
Max. gradient per hour: 1,0 °C/h
Max. gradient per day: 2,0 °C/24h
Max. gradient in space: 1,0 °C

Operating Temperature:

15 ÷ 35 °C

Relative Humidity:

40 ÷ 80 % (non condensing)

Acceptable Vibrations:

(vibration acceleration between peaks)
30 mm /s² from 1 to 10 Hz
15 mm /s² from 10 to 20 Hz
50 mm /s² from 20 to 100 Hz

PROBING SYSTEM

Manual Probe Head:

MIH, MH20, MH20i

Motorized Probe Head:

PH10M, PH10MQ

Motorized Continuous Probe Head:

PH20, REVO

Point-to-point Trigger Probe:

TP2, TP20, TP200

Analog Contact Probe:

SP600, SP25M, SP80

Laser Probe:

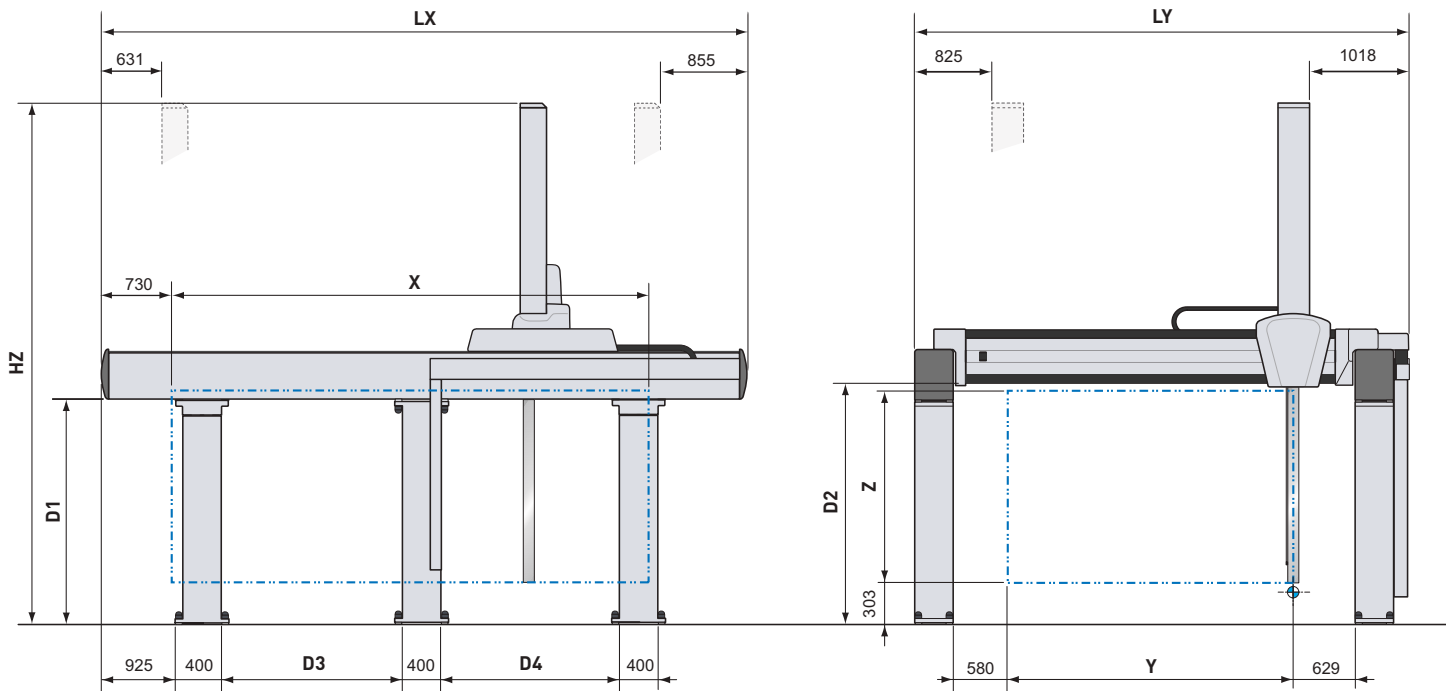
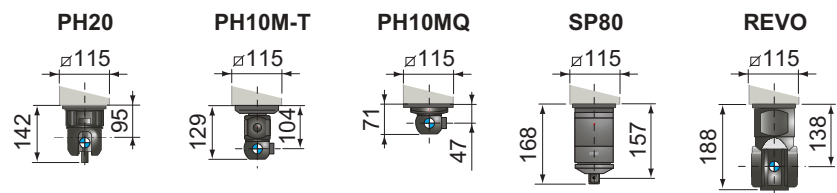
SLK25

Stylus and Probe Changer:

Fully automated stylus and probe changers



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STROKES, DIMENSIONS, WEIGHTS

Models	Measuring Strokes			Overall Dimensions ⁽¹⁾			Daylights				n° Pillars	Weights	
	X	Y	Z	LX	LY	HZ	D1	D2	D3	D4		Max. Part Weight	Machine Weight
	[mm]			[mm]			[mm]					[Kg]	
40.20.20	4000	2000	2000	5750	4160	5395	2248	2420	3100	-	2 + 2	10000	6500
50.20.20	5000	2000	2000	6750	4160	5395	2248	2420	1850	1850	2 + 3	10000	8000
60.20.20	6000	2000	2000	7750	4160	5395	2248	2420	2350	2350	2 + 3	10000	8700
40.25.18	4000	2500	1800	5750	4660	4995	2048	2220	3100	-	2 + 2	10000	6500
50.25.18	5000	2500	1800	6750	4660	4995	2048	2220	1850	1850	3 + 3	10000	8000
60.25.18	6000	2500	1800	7750	4660	4995	2048	2220	2350	2350	3 + 3	10000	8800
40.25.20	4000	2500	2000	5750	4660	5395	2248	2420	3100	-	2 + 2	10000	6500
50.25.20	5000	2500	2000	6750	4660	5395	2248	2420	1850	1850	3 + 3	10000	8000
60.25.20	6000	2500	2000	7750	4660	5395	2248	2420	2350	2350	3 + 3	10000	8800
40.30.20 ⁽²⁾	4000	3000	2000	5750	4660	5395	2248	2420	3100	-	2 + 2	10000	6700
50.30.20 ⁽²⁾	5000	3000	2000	6750	5160	5395	2248	2420	1850	1850	3 + 3	10000	8200
60.30.20 ⁽²⁾	6000	3000	2000	7750	5160	5395	2248	2420	2350	2350	3 + 3	10000	9000
80.30.20 ⁽²⁾	8000	3000	2000	9750	5160	5395	2248	2420	3350	3350	3 + 3	15000	10400
60.30.25 ⁽²⁾	6000	3000	2500	7750	5160	6395	2748	2920	2350	2350	3 + 3	10000	9500
70.30.25 ⁽²⁾	7000	3000	2500	8750	5160	6395	2748	2920	2850	2850	3 + 3	10000	11000
80.30.25 ⁽²⁾	8000	3000	2500	9750	5160	6395	2748	2920	3350	3350	3 + 3	15000	12000

⁽¹⁾ Table control cabinet (1200 x 800 x 715 mm) not included
⁽²⁾ Dual Drive

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PERFORMANCE

Environment conditions	Models	PH10M / MQ / T / PH20-TP20			PH10M / MQ / T -TP200			PH10M / PH10MQ-SP25M-REVO-SP80					Max. 3D	Max. 3D
		MPE _{E0/150} ⁽¹⁾	MPL _{RO} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{RO} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{RO} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{Tij} ⁽⁴⁾	MPT _{Tij} ⁽⁵⁾	Positioning Speed	Acceleration
		[μm]			[μm]			[μm]				[sec]	[mm/sec]	[mm/s ²]
T ₁ 18÷22°C	xx.20.20	5,0 + 5,0 L/1000	5,0	5,0	4,5 + 5,0 L/1000	4,5	4,5	4,5 + 5,0 L/1000	4,5	4,5	9,0	120	530	800
	xx.25.18	5,0 + 5,5 L/1000	5,0	5,0	4,5 + 5,5 L/1000	4,5	4,5	4,5 + 5,5 L/1000	4,5	4,5	9,0	120	530	800
	xx.25.20	6,0 + 6,0 L/1000	6,0	6,0	5,5 + 6,0 L/1000	5,5	5,5	5,5 + 6,0 L/1000	5,5	5,5	11,0	120	530	800
	xx.30.20	6,5 + 7,0 L/1000	6,5	6,5	6,0 + 7,0 L/1000	6,0	6,0	6,0 + 7,0 L/1000	6,0	6,0	12,0	120	530	800
	xx.30.25	7,0 + 7,0 L/1000	7,0	7,0	6,5 + 7,0 L/1000	6,5	6,5	6,5 + 7,0 L/1000	6,5	6,5	13,0	120	530	800
T ₂ 16÷26°C	xx.20.20	6,5 + 9,5 L/1000	6,5	6,5	6,0 + 9,5 L/1000	6,0	6,0	6,0 + 9,5 L/1000	6,0	6,0	12,0	120	530	800
	xx.25.18	6,5 + 10,0 L/1000	6,5	6,5	6,0 + 10,0 L/1000	6,0	6,0	6,0 + 10,0 L/1000	6,0	6,0	12,0	120	530	800
	xx.25.20	7,5 + 10,5 L/1000	7,5	7,5	7,0 + 10,5 L/1000	7,0	7,0	7,0 + 10,5 L/1000	7,0	7,0	14,0	120	530	800
	xx.30.20	8,0 + 11,5 L/1000	8,0	8,0	7,5 + 11,5 L/1000	7,5	7,5	7,5 + 11,5 L/1000	7,5	7,5	15,0	120	530	800
	xx.30.25	8,5 + 11,5 L/1000	8,5	8,5	8,0 + 11,5 L/1000	8,0	8,0	8,0 + 11,5 L/1000	8,0	8,0	16,0	120	530	800

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PERFORMANCE

Environment conditions	Models	PH10M / MQ / T / PH20-TP20			PH10M / MQ / T -TP200			PH10M / PH10MQ-SP25M-REVO-SP80					Max. 3D	Max. 3D
		MPE _{E0/150} ⁽¹⁾	MPL _{RO} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{RO} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{RO} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{Tij} ⁽⁴⁾	MPT _{Tij} ⁽⁵⁾	Positioning Speed	Acceleration
		[μm]			[μm]			[μm]				[sec]	[mm/sec]	[mm/s ²]
T ₁ 18÷22°C	xx.20.20	7,0 + 7,0 L/1000	7,0	7,0	6,5 + 7,0 L/1000	6,5	6,5	6,5 + 7,0 L/1000	6,5	6,5	13,0	120	530	800
	xx.25.18	7,0 + 8,0 L/1000	7,0	7,0	6,5 + 8,0 L/1000	6,5	6,5	6,5 + 8,0 L/1000	6,5	6,5	13,0	120	530	800
	xx.25.20	8,0 + 9,0 L/1000	8,0	8,0	7,5 + 9,0 L/1000	7,5	7,5	7,5 + 9,0 L/1000	7,5	7,5	15,0	120	530	800
	xx.30.20	9,0 + 10,0 L/1000	9,0	9,0	8,5 + 10,0 L/1000	8,5	8,5	8,5 + 10,0 L/1000	8,5	8,5	17,0	120	530	800
	xx.30.25	11,0 + 11,0 L/1000	11,0	11,0	10,5 + 11,0 L/1000	10,5	10,5	10,5 + 11,0 L/1000	10,5	10,5	21,0	120	530	800
T ₂ 16÷26°C	xx.20.20	9,0 + 12,0 L/1000	9,0	9,0	8,5 + 12,0 L/1000	8,5	8,5	8,5 + 12,0 L/1000	8,5	8,5	17,0	120	530	800
	xx.25.18	9,0 + 13,0 L/1000	9,0	9,0	8,5 + 13,0 L/1000	8,5	8,5	8,5 + 13,0 L/1000	8,5	8,5	17,0	120	530	800
	xx.25.20	10,0 + 14,0 L/1000	10,0	10,0	5,5 + 14,0 L/1000	9,5	9,5	5,5 + 14,0 L/1000	9,5	9,5	19,0	120	530	800
	xx.30.20	11,0 + 15,0 L/1000	11,0	11,0	10,5 + 15,0 L/1000	10,5	10,5	10,5 + 15,0 L/1000	10,5	10,5	21,0	120	530	800
	xx.30.25	13,0 + 16,0 L/1000	13,0	13,0	12,5 + 16,0 L/1000	12,5	12,5	12,5 + 16,0 L/1000	12,5	12,5	25,0	120	530	800

Performance data are only valid if the following specifications are met:

- MPE_{E0}/MPE(PFTU)/MPL_{RO}: PH10M/PH10MQ/PH10T/PH20/TP20/TP200.
stylus Ø4 mm, stylus length 10 mm.
SP80 stylus Ø5 mm, stylus length 50 mm.
- MPE_{E150}: PH10M/PH10MQ/TP20/TP200: stylus Ø4 mm, stylus length 40 mm.
PH20: EM1 STDF, stylus Ø4 mm, stylus length 20 mm.
PH10T: PEL2, stylus Ø4 mm, stylus length 10 mm.
SP80: SH80 cube, MS EXT L100 stylus Ø5 mm, stylus length 50 mm.
- MPE_{E0/150}: PH10MQ/SP25M: SM25-2 stylus Ø5 mm, stylus length 21 mm.
REVO: RSP2/RSR175 - RSP3-1/SH25-1, stylus Ø5 mm, stylus length 21 mm.
PH10T: PEL2, stylus Ø4 mm, stylus length 10 mm.
SP80: SH80 cube, MS EXT L100 stylus Ø5 mm, stylus length 50 mm.

- L = measuring length in mm
- Environment temperature conditions;
T₁: 18 ÷ 22 °C; Max. Gradients: 1,0 °C/h - 2,0 °C/24h - 1,0 °C/m
T₂: 16 ÷ 26 °C; Max. Gradients: 1,0 °C/h - 5,0 °C/24h - 1,0 °C/m

⁽¹⁾ Maximum Permissible Error of Length measurement in according UNI EN ISO 10360-2:2010

⁽²⁾ Maximum Permissible Limit of Repeatability range in according UNI EN ISO 10360-2:2010

⁽³⁾ Maximum Permissible Single Stylus Error in according UNI EN ISO 10360-5:2010

⁽⁴⁾ Maximum Permissible Scanning Probing Error in according UNI EN ISO 10360-4:2005, applicable to the SP25M/SP80 probes only, reference sphere Ø25 mm - REVO RSP3-1

⁽⁵⁾ Maximum Permissible Time for Scanning test in according UNI EN ISO 10360-4:2005, applicable to the SP25M/SP80 probes only, reference sphere Ø25 mm - REVO RSP3-1