

CMM GANTRY | MCT NT/NT Light

STRUCTURE

CNC Coordinate Measuring Machine, Gantry type:
Architecture with mobile beam on micromachined anodized light alloy extrusion

Guideways:
X Axis: on stabilized welded steel beams
Y Axis: micromachined anodized light alloy extrusion
Z Axis: Silicon Carbide extrusion or micromachined anodized light alloy extrusion (NT Light)

Drive Method:
X Axis: rack & pinion system
Y Axis: zero hysteresis friction drive
Z Axis: zero hysteresis friction drive

Sliding System:
X Axis: air bearings and recirculating ball bearings
Y-Z Axes: air bearings

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 NT/NT Light

CNC GANTRY COORDINATE
MEASURING MACHINE

OPTION

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

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. 150 NI/min

Minimum air supply:
5,5 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:
PH10T, PH10M, PH10MQ, PH20, REVO

Point-to-point Trigger Probe:
TP2, TP20, TP200

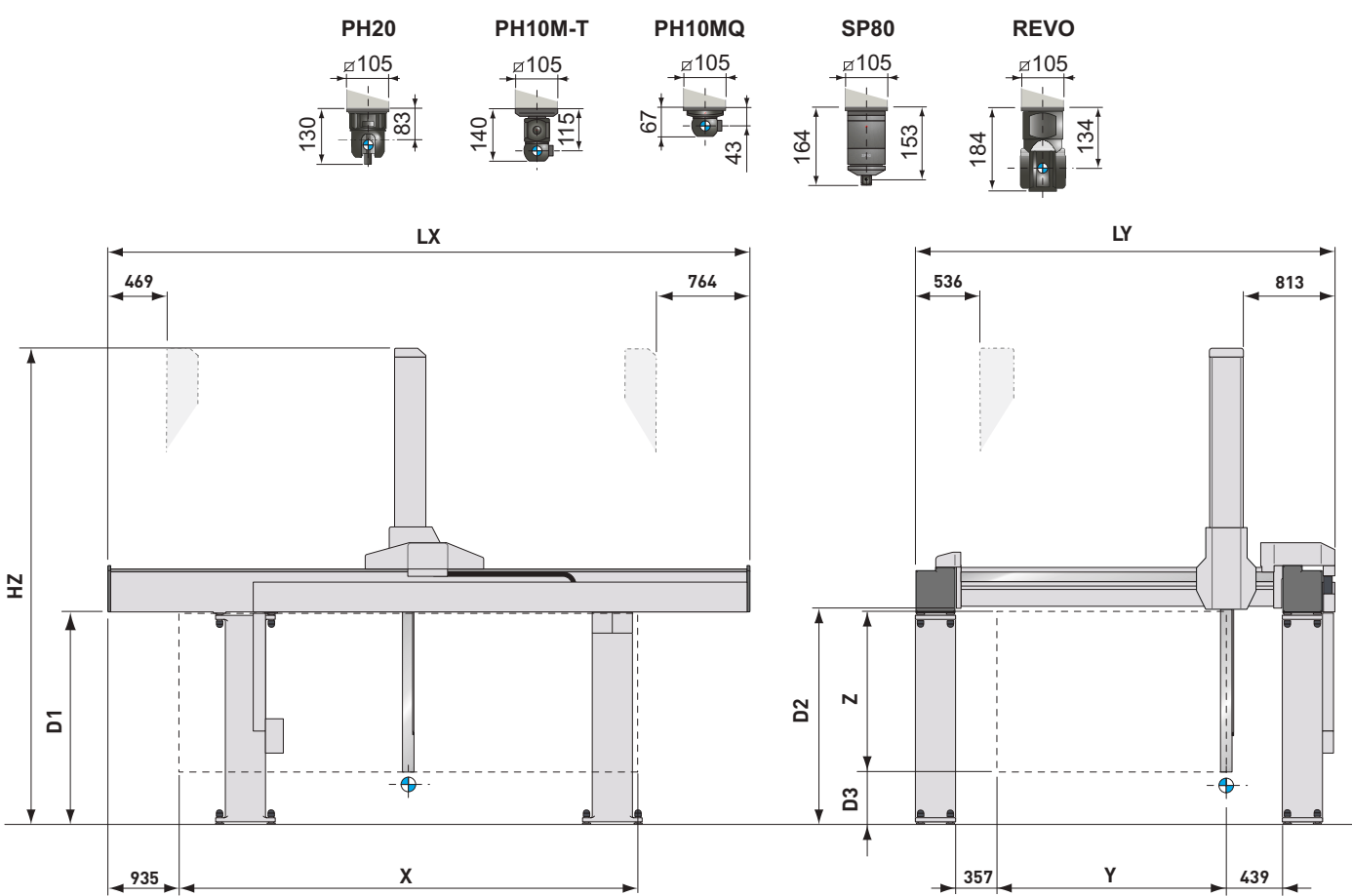
Analog Contact Probe:
SP600, SP25M, SP80

Laser Probe:
SLK25

Stylus and Probe Changer:
Fully automated stylus and probe changers



CMM GANTRY | MCT NT / NT Light



CMM MCT NT / NT Light
STROKES, DIMENSIONS, WEIGHTS

Models	Measuring Strokes			Overall Dimensions ⁽¹⁾			Daylights				n° Pillars	Weights	
	X	Y	Z	LX	LY	HZ	D1	D2	D3			Max. Part Weight	Machine Weight
									NT	NT Light			
	[mm]			[mm]			[mm]					[Kg]	
30.20.10	3000	2000	1000	4600	3690	3718	1850	1886	851	865	2 + 2	8000	3650
40.20.10	4000	2000	1000	5600	3690	3718	1850	1886	851	865	2 + 2	8000	4150
30.20.15	3000	2000	1500	4600	3690	4218	1850	1886	351	365	2 + 2	8000	3660
40.20.15	4000	2000	1500	5600	3690	4218	1850	1886	351	365	2 + 2	8000	4160
50.20.15	5000	2000	1500	6600	3690	4218	1850	1886	351	365	2 + 2	10000	4660
40.25.15	4000	2500	1500	5600	4190	4218	1850	1886	351	365	2 + 2	8000	4260
50.25.15	5000	2500	1500	6600	4190	4218	1850	1886	351	365	2 + 2	10000	4760
60.25.15	6000	2500	1500	7600	4190	4218	1850	1886	351	365	3 + 3	10000	5260
40.25.18	4000	2500	1800	5600	4190	4818	2150	2187	351	365	2 + 2	8000	4370
50.25.18	5000	2500	1800	6600	4190	4818	2150	2187	351	365	2 + 2	10000	4870
60.25.18	6000	2500	1800	7600	4190	4818	2150	2187	351	365	3 + 3	10000	5370

Dimensions & weights refer to CMM without optional bellows cover
⁽¹⁾ Table control cabinet (1200 x 800 x 715 mm) not included

CMM MCT NT
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]
T ₁ 18÷22°C	xx.20.10	4,8 + 4,0 L/1000	4,8	4,8	4,5 + 4,0 L/1000	4,5	4,5	4,3 + 4,0 L/1000	4,3	4,3	6,0	120	500	1200
	xx.20.15	5,5 + 5,0 L/1000	5,5	5,5	5,0 + 5,0 L/1000	5,0	5,0	5,0 + 5,0 L/1000	5,0	5,0	9,0	120	500	1200
	xx.25.15	6,5 + 6,5 L/1000	6,5	6,5	6,0 + 6,5 L/1000	6,0	6,0	6,0 + 6,5 L/1000	6,0	6,0	11,0	120	500	1200
	xx.25.18	8,0 + 8,0 L/1000	8,0	8,0	7,5 + 8,0 L/1000	7,5	7,5	7,5 + 8,0 L/1000	7,5	7,5	12,0	120	500	1000
T ₂ 16÷26°C	xx.20.10	6,8 + 9,0 L/1000	6,8	6,8	6,5 + 9,0 L/1000	6,5	6,5	6,3 + 9,0 L/1000	6,3	6,3	9,0	120	500	1200
	xx.20.15	7,5 + 10,0 L/1000	7,5	7,5	7,0 + 10,0 L/1000	7,0	7,0	7,0 + 10,0 L/1000	7,0	7,0	12,0	120	500	1200
	xx.25.15	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	14,0	120	500	1200
	xx.25.18	10,0 + 13,0 L/1000	10,0	10,0	9,5 + 13,0 L/1000	9,5	9,5	9,5 + 13,0 L/1000	9,5	9,5	16,0	120	500	1000

CMM MCT NT Light
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]
T ₁ 18÷22°C	xx.20.10	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	8,0	120	500	1200
	xx.20.15	8,0 + 8,0 L/1000	8,0	8,0	7,5 + 8,0 L/1000	7,5	7,5	7,5 + 8,0 L/1000	7,5	7,5	9,5	120	500	1200
	xx.25.15	10,0 + 10,0 L/1000	10,0	10,0	9,5 + 10,0 L/1000	9,5	9,5	9,5 + 10,0 L/1000	9,5	9,5	13,0	120	500	1200
	xx.25.18	12,0 + 10,0 L/1000	12,0	12,0	11,5 + 10,0 L/1000	11,5	11,5	11,5 + 10,0 L/1000	11,5	11,5	15,0	120	500	1000
T ₂ 16÷26°C	xx.20.10	8,0 + 11,0 L/1000	8,0	8,0	7,5 + 11,0 L/1000	7,5	7,5	7,5 + 11,0 L/1000	7,5	7,5	11,0	120	500	1200
	xx.20.15	10,0 + 13,0 L/1000	10,0	10,0	9,5 + 13,0 L/1000	9,5	9,5	9,5 + 13,0 L/1000	9,5	9,5	12,5	120	500	1200
	xx.25.15	12,0 + 15,0 L/1000	12,0	12,0	11,5 + 15,0 L/1000	11,5	11,5	11,5 + 15,0 L/1000	11,5	11,5	16,0	120	500	1200
	xx.25.18	14,0 + 15,0 L/1000	14,0	14,0	13,5 + 15,0 L/1000	13,5	13,5	13,5 + 15,0 L/1000	13,5	13,5	18,0	120	500	1000

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

- MPE_{E0} /MPE(PFTU)/MPL_{RO}: PH10M/PH10MQ/PH10T/PH20/TP20/TP200.
stylus $\varnothing 4$ mm, stylus length 10 mm.
SP80 stylus $\varnothing 5$ mm, stylus length 50 mm.
- MPE_{E150}: PH10M/PH10MQ/TP20/TP200: stylus $\varnothing 4$ mm, stylus length 40 mm.
PH20: EM1 STDF, stylus $\varnothing 4$ mm, stylus length 20 mm.
PH10T: PEL2, stylus $\varnothing 4$ mm, stylus length 10 mm.
SP80: SH80 cube, MS EXT L100 stylus $\varnothing 5$ mm, stylus length 50 mm.
- MPE_{E0/150}: PH10MQ/SP25M: SM25-2 stylus $\varnothing 5$ mm, stylus length 21 mm.
REVO: RSP2/RSR175 - RSP3-1/SH25-1, stylus $\varnothing 5$ mm, stylus length 21 mm.
PH10T: PEL2, stylus $\varnothing 4$ mm, stylus length 10 mm.
SP80: SH80 cube, MS EXT L100 stylus $\varnothing 5$ 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 $\varnothing 25$ 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 $\varnothing 25$ mm - REVO RSP3-1