

CMM BRIDGE | KRONOS/KRONOS NT

STRUCTURE

CNC Coordinate Measuring Machine, Bridge type:
Architecture with mobile bridge structure on granite table machine base

Guideways:
X Axis: integral dovetail machined into granite table
Y Axis: micromachined anodized light alloy extrusion
Z Axis: micromachined anodized light alloy extrusion or Silicon Carbide extrusion (NT)

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

OPTION

Active vibration isolation system (AVM)
Steel base plate
Training c/o Coord3 Center or Agents
Installation by Coord3 or Agents
PC & Printer
Multi-wire cable

POWER SUPPLY

Power supply voltage:
230 V \pm 10%; 50 Hz \pm 2% single phase
115 V \pm 10%; 60 Hz \pm 2% single phase

AIR SUPPLY

Air consumption:
Max. 160 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 \div 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/m

Operating Temperature:
15 \div 35 °C

Relative Humidity:
40 \div 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

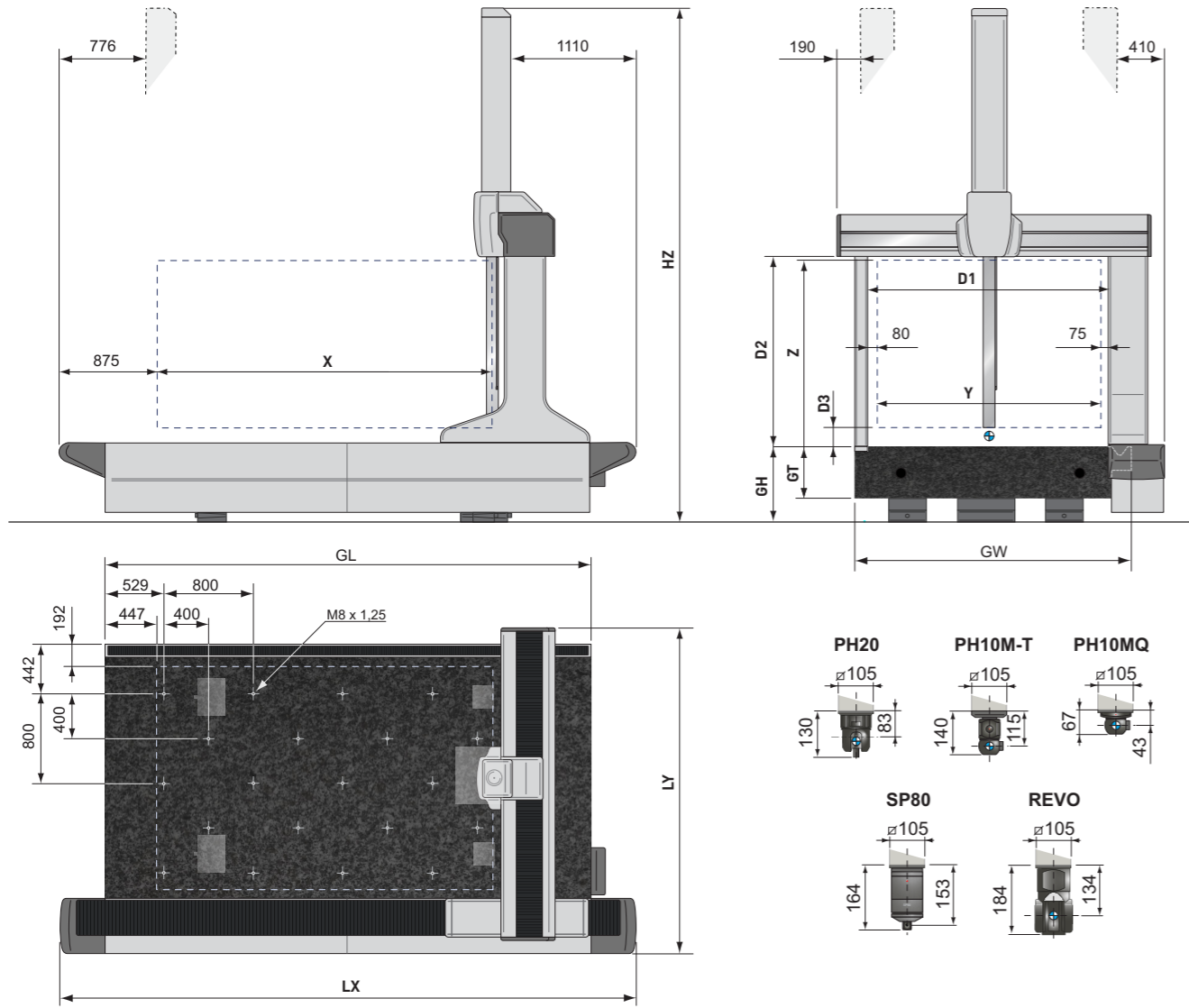


CMM BRIDGE KRONOS/KRONOS NT

CNC BRIDGE COORDINATE
MEASURING MACHINE



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CMM KRONOS 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 _{R0} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{R0} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{R0} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPL _{R0} ⁽²⁾	MPT _{Tij} ⁽⁵⁾	Positioning Speed	Acceleration
		[μm]			[μm]			[μm]					[s]	[mm/s]
T ₁ 18÷22°C	xx.15.15	3,5 + 3,5 L/1000	3,5	3,5	3,5 + 3,5 L/1000	3,3	3,3	3,2 + 3,5 L/1000	3,2	3,2	6,5	100	500	800
	xx.20.15	4,0 + 4,0 L/1000	4,0	4,0	3,8 + 4,0 L/1000	3,8	3,8	3,6 + 4,0 L/1000	3,6	3,6	7,5	100	500	800
T ₂ 16÷26°C	xx.15.15	6,0 + 7,0 L/1000	6,0	6,0	5,0 + 7,0 L/1000	5,0	5,0	4,7 + 7,0 L/1000	4,7	4,7	9,0	100	500	800
	xx.20.15	6,5 + 7,5 L/1000	6,5	6,5	5,5 + 7,5 L/1000	5,5	5,5	5,2 + 7,5 L/1000	5,2	5,2	10,0	100	500	800

CMM KRONOS 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 _{R0} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{R0} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{R0} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPL _{R0} ⁽²⁾	MPT _{Tij} ⁽⁵⁾	Positioning Speed	Acceleration
		[μm]			[μm]			[μm]					[s]	[mm/s]
T ₁ 18÷22°C	xx.15.15	5,5 + 5,0 L/1000	5,5	5,5	5,0 + 5,0 L/1000	5,0	5,0	4,7 + 5,0 L/1000	4,7	4,7	9,0	100	500	800
	xx.20.15	6,0 + 5,5 L/1000	6,0	6,0	5,5 + 5,5 L/1000	5,5	5,5	5,2 + 5,5 L/1000	5,2	5,2	10,0	100	500	800
T ₂ 16÷26°C	xx.15.15	8,0 + 8,5 L/1000	8,0	7,0	7,0 + 8,5 L/1000	7,0	7,0	6,7 + 8,5 L/1000	6,7	6,7	12,5	100	500	800
	xx.20.15	8,5 + 9,0 L/1000	8,5	8,5	7,5 + 9,0 L/1000	7,5	7,5	7,2 + 9,0 L/1000	7,2	7,2	11,5	100	500	800

CMM KRONOS/KRONOS NT STROKES, DIMENSIONS, WEIGHTS

Models	Measuring Strokes			Overall Dimensions ⁽¹⁾			Surface Plate				Daylights				Weights		
	X	Y	Z ⁽²⁾	LX	LY	HZ ⁽³⁾	GH ⁽³⁾	GT	GW	GL	D1	D2	D3 ⁽²⁾		Max. Part Weight	Plate Weight	Machine Weight
	[mm]			[mm]			[mm]				[mm]				[Kg]		
30.15.15	3000	1500	1500	5146	2409	4580	663	450	1950	4350	1655	1706	171	181	5000	10330	11560
33.15.15	3300	1500	1500	5446	2409	4580	663	450	1950	4650	1655	1706	171	181	5000	11040	12275
40.15.15	4000	1500	1500	6146	2409	4580	663	450	1950	5350	1655	1706	171	181	5000	12685	13950
50.15.15	5000	1500	1500	7146	2409	4580	663	450	1950	6350	1655	1706	171	181	5000	14642	15915
30.20.15	3000	2000	1500	5146	2909	4580	663	450	2450	4350	2155	1706	171	181	5000	13120	14370
33.20.15	3300	2000	1500	5446	2909	4580	663	450	2450	4650	2155	1706	171	181	5000	14015	15275
40.20.15	4000	2000	1500	6146	2909	4580	663	450	2450	5350	2155	1706	171	181	5000	16115	17400
50.20.15	5000	2000	1500	7146	2909	4530	613	500	2450	6350	2155	1706	171	181	5500	21190	22480

⁽¹⁾ Table control cabinet (1200 x 800 x 715 mm) not included.
⁽²⁾ With REVO, Z decreases and D3 increases by 15 mm.
⁽³⁾ Possible variation with AVI. Refer to specific layout.

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

- MPE_{E0}/MPE(PFTU)/MPL_{R0}: 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/RSH175 - 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