

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

## AIR SUPPLY

**Air consumption:**  
Max. 160 NI/min

**Minimum air supply:**  
6 Bar

**Air quality:**  
Max. oil concentration:  
5 mg/m<sup>3</sup> (ISO 8573 - class 4)  
Max. particle size of contaminants:  
40 µm (ISO 8573 - class 5)  
Max. contaminants concentration:  
10 mg/m<sup>3</sup> (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/m

**Operating Temperature:**  
15 ÷ 35 °C

**Relative Humidity:**  
40 ÷ 80 % (non condensing)

**Acceptable Vibrations:**  
(vibration acceleration between peaks)  
30 mm/s<sup>2</sup> from 1 to 10 Hz  
15 mm/s<sup>2</sup> from 10 to 20 Hz  
50 mm/s<sup>2</sup> 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

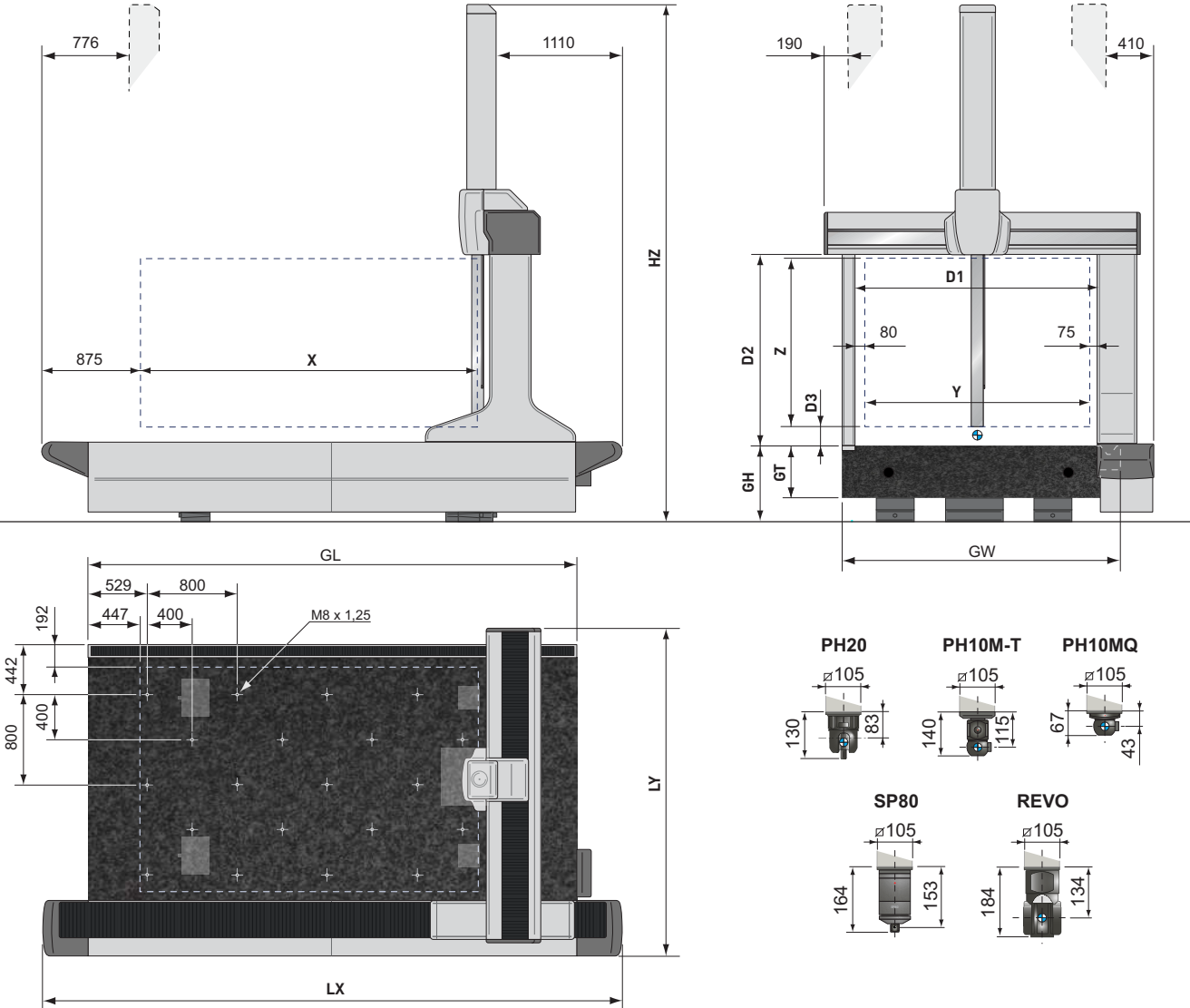


## CMM BRIDGE KRONOS/KRONOS NT

CNC BRIDGE COORDINATE  
MEASURING MACHINE



CMM BRIDGE | KRONOS/KRONOS NT



CMM KRONOS NT  
PERFORMANCE

| Environment<br>conditions | Models   | PH10M / MQ / T / PH20-TP20           |                                  |                          | PH10M / MQ / T -TP200                |                                  |                          | PH10M / PH10MQ-SP25M-REVO-SP80       |                                  |                          |                                  |                                   | Max. 3D              | Max. 3D              |
|---------------------------|----------|--------------------------------------|----------------------------------|--------------------------|--------------------------------------|----------------------------------|--------------------------|--------------------------------------|----------------------------------|--------------------------|----------------------------------|-----------------------------------|----------------------|----------------------|
|                           |          | MPE <sub>E0/150</sub> <sup>(1)</sup> | MPL <sub>RO</sub> <sup>(2)</sup> | MPE(PFTU) <sup>(3)</sup> | MPE <sub>E0/150</sub> <sup>(1)</sup> | MPL <sub>RO</sub> <sup>(2)</sup> | MPE(PFTU) <sup>(3)</sup> | MPE <sub>E0/150</sub> <sup>(1)</sup> | MPL <sub>RO</sub> <sup>(2)</sup> | MPE(PFTU) <sup>(3)</sup> | MPL <sub>RO</sub> <sup>(2)</sup> | MPT <sub>Tij</sub> <sup>(5)</sup> | Positioning<br>Speed | Acceleration         |
|                           |          | [μm]                                 |                                  |                          | [μm]                                 |                                  |                          | [μm]                                 |                                  |                          |                                  | [s]                               | [mm/s]               | [mm/s <sup>2</sup> ] |
| T <sub>1</sub><br>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 <sub>2</sub><br>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 <sub>E0/150</sub> <sup>(1)</sup> | MPL <sub>R0</sub> <sup>(2)</sup> | MPE(PFTU) <sup>(3)</sup> | MPE <sub>E0/150</sub> <sup>(1)</sup> | MPL <sub>R0</sub> <sup>(2)</sup> | MPE(PFTU) <sup>(3)</sup> | MPE <sub>E0/150</sub> <sup>(1)</sup> | MPL <sub>R0</sub> <sup>(2)</sup> | MPE(PFTU) <sup>(3)</sup> | MPL <sub>R0</sub> <sup>(2)</sup> | MPT <sub>Tij</sub> <sup>(5)</sup> | Positioning Speed | Acceleration |
|                           |          | [μm]                                 |                                  |                          | [μm]                                 |                                  |                          | [μm]                                 |                                  |                          |                                  |                                   | [s]               | [mm/s]       |
| T <sub>1</sub><br>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 <sub>2</sub><br>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 <sup>(1)</sup> |      |                   | Surface Plate     |     |      |      | Daylights |      |                   |                  | Weights      |                |        |
|----------|-------------------|------|------------------|-----------------------------------|------|-------------------|-------------------|-----|------|------|-----------|------|-------------------|------------------|--------------|----------------|--------|
|          | X                 | Y    | Z <sup>(2)</sup> | LX                                | LY   | HZ <sup>(3)</sup> | GH <sup>(3)</sup> | GT  | GW   | GL   | D1        | D2   | D3 <sup>(2)</sup> | Max. Part Weight | Plate Weight | Machine Weight |        |
|          |                   |      |                  |                                   |      |                   |                   |     |      |      |           |      | KRONOS NT         |                  |              |                | KRONOS |
|          | [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  |

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

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

- MPE<sub>E0</sub>/MPE(PFTU)/MPL<sub>R0</sub>: PH10M/PH10MQ/PH10T/PH20/TP20/TP200: stylus Ø4 mm, stylus length 10 mm. SP80 stylus Ø5 mm, stylus length 50 mm.
- MPE<sub>E150</sub>: 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<sub>E0/150</sub>: PH10MQ/SP25M: SM25-2 stylus Ø5 mm, stylus length 21 mm. REVO: RSP2/RSI175 - 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;  
T<sub>1</sub>: 18 ÷ 22 °C; Max. Gradients: 1,0 °C/h - 2,0 °C/24h - 1,0 °C/m  
T<sub>2</sub>: 16 ÷ 26 °C; Max. Gradients: 1,0 °C/h - 5,0 °C/24h - 1,0 °C/m

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

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

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

<sup>(4)</sup> 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

<sup>(5)</sup> 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