

CMM ARES NT-L MAN SPECIFICATIONS

Models	T ₁ : 18 - 22 °C			T ₂ : 16 - 26 °C		
	MH20i / MH8 / MIH / PH1 / PH6 - TP20			MH20i / MH8 / MIH / PH1 / PH6 - TP20		
	MPE _{E0/150} ⁽¹⁾	MPL _{RO} ⁽²⁾	MPE(PFTU) ⁽³⁾	MPE _{E0/150} ⁽¹⁾	MPL _{RO} ⁽²⁾	MPE(PFTU) ⁽³⁾
	[μm]	[μm]	[μm]	[μm]	[μm]	[μm]
XX.07.05	3,5 + 3,5 L/1000	3,5	3,6	3,5 + 6,0 L/1000	3,5	3,6
XX.07.07	3,8 + 3,7 L/1000	3,8	3,9	3,8 + 6,2 L/1000	3,8	3,9

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	[μm]	[μm]	[μm]	[μm]	[μm]	[μm]
XX.07.05	3,1 + 3,8 L/1000	3,1	3,2	3,1 + 5,8 L/1000	3,1	3,2
XX.07.07	3,5 + 4,0 L/1000	3,5	3,6	3,5 + 6,0 L/1000	3,5	3,6

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

- MPE_{E0} / MPE(PFTU) / MPL_{RO}: tip diameter ø4 mm, stylus length 10 mm.
- MPE_{E150}: tip diameter ø4 mm, stylus length 40 mm.
- L = measuring length in mm
- Ambient temperature Range:
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 indication for size measurement according UNI EN ISO 10360-2:2010

⁽²⁾ Maximum Permissible Probing Error according UNI EN ISO 10360-2:2010

⁽³⁾ Maximum Permissible Shape Error with single stylus according UNI EN ISO 10360-5:2010

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PERFORMANCE VERIFICATION

MPE_{E0}: Maximum Permissible Error on length measurement with standard probe OFFSET

Measurement of a set of 5 sizes, taken through two opposite probing points on two nominally parallel planes. The sizes are positioned with direction on the 4 volume diagonals and in 3 different positions chosen by the customer (or along the axes according to the standard) in the measurement volume. Each size is measured 3 times for a total of 105 measurements. All 105 measurements (100 %) must be within the specified MPE_{E0}.

MPE_{E150}: Maximum Permissible Error on length measurement with probe OFFSET 150 mm

Measurement of 1 set of 5 different sizes in 2 diagonal positions on the XZ or YZ plane with a probe OFFSET of 150 mm. All 30 measurements must be less than the Maximum Permissible Error MPE_{E150}.

MPL_{RO}: Maximum Permissible Repeatability Limit

Evaluation of the 35 repeatability values calculated from the difference between the maximum and minimum values of the 3 different measurements made on the same length size on each of the 5 samples in each of the 7 positions. Each of these 35_{RO} value must be less than the maximum permissible limit MPL_{RO}.



CMM BRIDGE ARES NT/NT-L MAN

BRIDGE TYPE
MANUALLY-CONTROLLED
COORDINATE MEASURING MACHINE



CMM BRIDGE | ARES NT/NT-L MAN

STRUCTURE

Coordinate Measuring Machine, manual type, with aluminium alloy mobile bridge structure on granite table machine base. Single-block granite surface plate with integral tracks, planarity according to DIN 876/111 and insert grid with M8x1.25 threaded holes

Guideways:

X axis: dovetail guideways machined into the granite table
Y axis: micromachined anodized light alloy extrusion
Z axis: micromachined anodized light alloy extrusion {NT-L} or Silicon Carbide (NT)

Sliding System:

Air bearings on all axes

Motion Control:

Via manual knobs with zero hysteresis friction drive on steel bar to all axes. Micrometric handwheels are optional to allow accurate and fine axis displacement

Axis Locking:

Via manually operated pneumatic valves

Thermal Lompensation:

Multi-sensors temperature compensation system (total 4 sensors) in option

Measuring System:

High resolution (0,1µm) free floating linear scales mounted in carriers

ENVIRONMENT

Temperature Range for Metrological Specification:

Ambient Temperature Range: 18 ÷ 22 °C
Max. gradient for hour: 0,5 °K/h
Max. gradient for day: 2,0 °K/24h
Max. gradient in space: 0,5 °K/m

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

Optional

- Metrology Room or CMM protection system

OPTION

Passive vibration insulating system
Active vibration insulation system (AVM)

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:

100 NI/min

Minimum Air Supply:

5 Bar (71 PSI)

PROBING SYSTEM

Manual Probe Head:

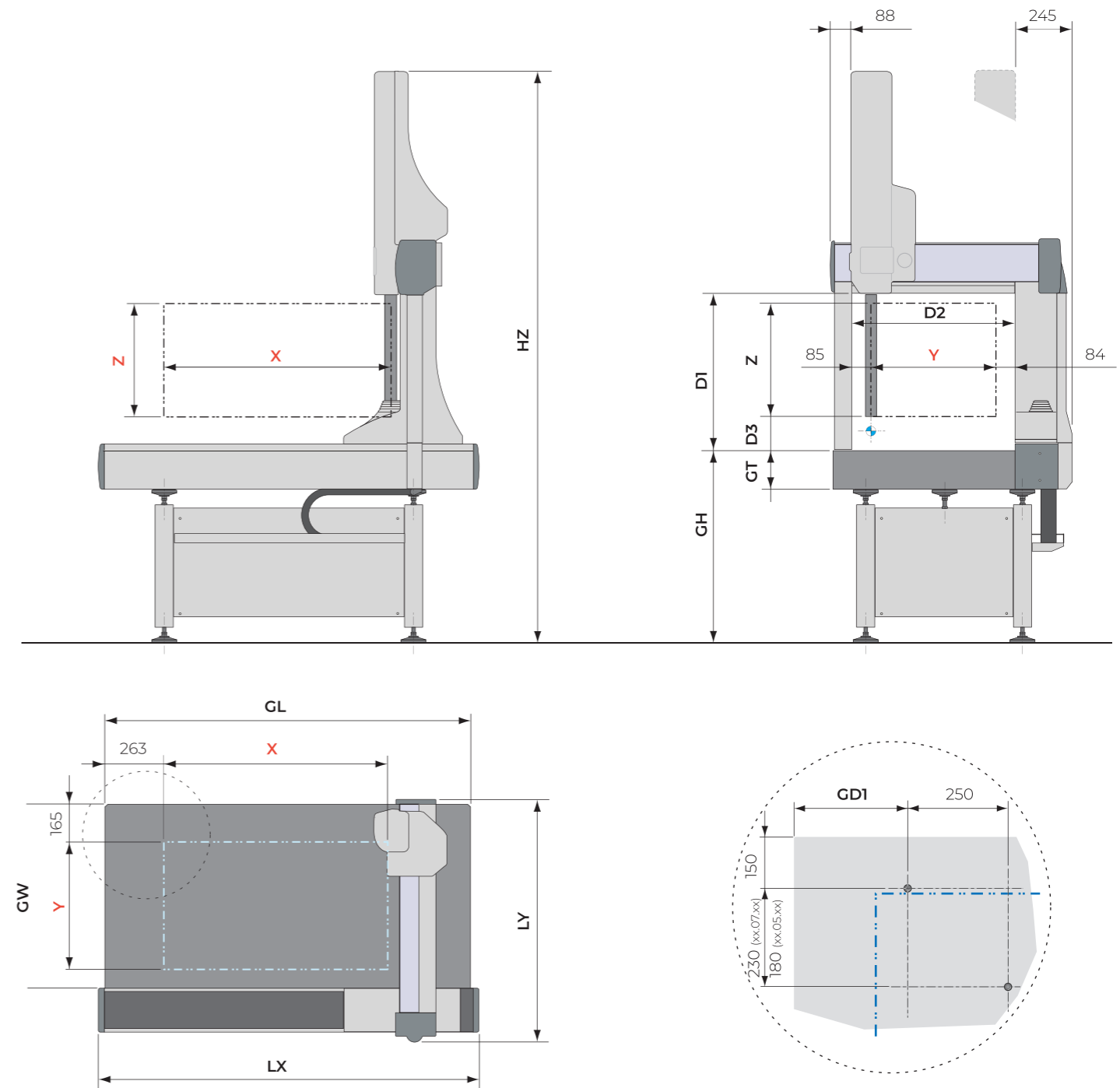
MH20i, MH8, MIH, PH6, PH1

Point-to-point Trigger Probe:

TP20

CMM ARES NT / NT-L

STROKES, DIMENSIONS, WEIGHTS



Models	Measuring strokes			Overall dimensions			Surface plate					Daylights				Weight	
	X	Y	Z	LX	LY	HZ	Height	Thickness	Length	Width	Holes	D1	D2	D3 NT	D3 NT-L	Max. part weight	Machine weight
							GH	GT	GL	GW	GD1						
07.07.05	700	650	500	1380	1160	2429	750	170	1330	899	350	688	819	172,5	177,5	650	775
10.07.05	1000	650	500	1680	1160	2429	750	170	1630	899	350	688	819	172,5	177,5	700	925
12.07.05	1200	650	500	1880	1160	2429	750	170	1830	899	300	688	819	172,5	177,5	700	990
07.07.07	700	650	650	1380	1160	2734	750	170	1330	899	350	838	819	172,5	177,5	650	800
10.07.07	1000	650	650	1680	1160	2734	750	170	1630	899	350	838	819	172,5	177,5	700	950
12.07.07	1200	650	650	1880	1160	2734	750	170	1830	899	300	838	819	172,5	177,5	700	1015