

CMM U-CONTROL SPECIFICATIONS

Models	Specification according to UNI EN ISO 10360-2:2010				Max. 3D Pos. Speed [mm/s]	Max. 3D Acc. [mm/s ²]
	MOTORIZED					
	MH20i/PH10T/M/PH20-TP20		PH10T/M-TP200			
	⁽¹⁾ MPE _{E0/150}	⁽²⁾ MPL _{R0}	⁽¹⁾ MPE _{E0/150}	⁽²⁾ MPL _{R0}		
06.05.05	2,7 + 3,0 L/1000	2,5	2,5 + 3,0 L/1000	2,5	500	1500

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

- MPE_{E0}/MPL_{R0}: MH20i/PH10M/PH10T/PH20-TP20/TP200: Tip diameter Ø 4 mm, Stylus length 10 mm.

- MPE_{E150}: PH10M-TP20/TP200: Tip diameter Ø 4 mm, Stylus length 40 mm.
PH20/MH20i: EM1 STDF, Tip diameter Ø 4 mm, Stylus length 20 mm.
PH10T: PEL2, Tip diameter Ø 4 mm, Stylus length 10 mm

- L = measuring length in mm
- Ambient temperature Range:

T: 18 ± 22 °C; Max. Gradients: 0,5 °K/h - 2,0 °K/24h - 0,5 °K/m

⁽¹⁾ Maximum Permissible Error according UNI EN ISO 10360-2:2010

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

CMM U-CONTROL PERFORMANCE VERIFICATION

MPE_{E0} : Maximum Permissible Error for size measurements with minimum probe offset

Measurement of a set of 5 different sizes, measured through two different probing points on two nominal parallel planes. The set of 5 sizes are placed in 7 different position aligned along the 3 linear axes and along 4 volumetric diagonal directions. Each size is measured 3 times for a total of 105 measurements. All 105 E_L values must be within the limit of tolerance MPE_{E0}.

MPE_{E150} : Maximum permissible Error for size measurements with probe offset 150mm

Measurement of a set of 5 different size measured 3 times in the YZ- or XZ plane with opposite styli, mounted 150 mm off the Z spindle axis. All 30 values E_L must be within the limit of tolerance MPE_{E150}.

MPL_{R0} : Maximum permissible limit of the repeatability range

Evaluation of 35 repeatability values calculated as the maximum value minus the minimum value of the 3 different measured size for each of 5 sizes for each of 7 positions. Each of these 35 values R₀ has to be minor than the maximum permissible limit MPL_{R0}.



CMM BRIDGE U-CONTROL

06.05.05 MOT

HALF-GANTRY TYPE CNC COORDINATE
MEASURING MACHINE



TouchDMIS

CMM BRIDGE | U-CONTROL

STRUCTURE

Coordinate Measuring Machine, CNC, with aluminum alloy mobile half-gantry structure on granite table machine base.

Surface Plate: granite table with integrated guide-ways with flatness to DIN876/III and M8 threaded insert grid.

CMM Basement

U-CONTROL: CNC controller & PC integrated into CMM basement. Adjustable stand arm for monitor/keyboard and Joystick.

U-CONTROL-u: STD CMM Basement

Guideways

X axis machined into granite table (left) and micromachined and hard anodized alloy extrusions (right).

Y axis micro-machined and hard anodized alloy extrusions

Z axis micro-machined and hard anodized alloy extrusions

OPTION

Active vibration insulating system
Multi-wire cable

POWER SUPPLY

Power Supply Voltage:

230 V ± 10%; 50 Hz ± 2% (single phase) - 8 A
115 V ± 10%; 60 Hz ± 2% (single phase) - 16A

AIR SUPPLY

Air Consumption:

90 NI/min

Minimum Air Supply:

5 Bar (71PSI)

PROBING SYSTEM

Manual Probe Head:

TPC3, MIH, MH20, MH20i, MH8, RTP20

Motorized Probe Head:

PH10T, PH10M, PH20

Point-to-point Trigger Probe:

TP20, TP200, TP200B

Stylus and Probe Changer:

Fully automated stylus and probe changers

Drive Method: NC drive via DC motors with zero hysteresis friction drive on steel bar to all axes

Bearing System: air bearings to all axes

Measuring System: high resolution (0,1µm) free floating linear scales mounted in carriers

Motion Control: DC servomotor on all axes

Counterbalance: adjustable pneumatic on Z ram

Thermal compensation: multi-sensors temperature compensation system (total 4 sensors) in Option.

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:

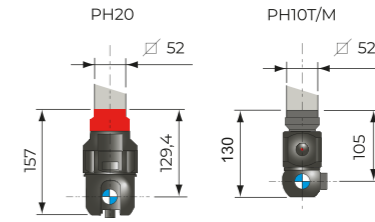
(vibration acceleration between peaks)

30 mm/s² from 1 to 10 Hz

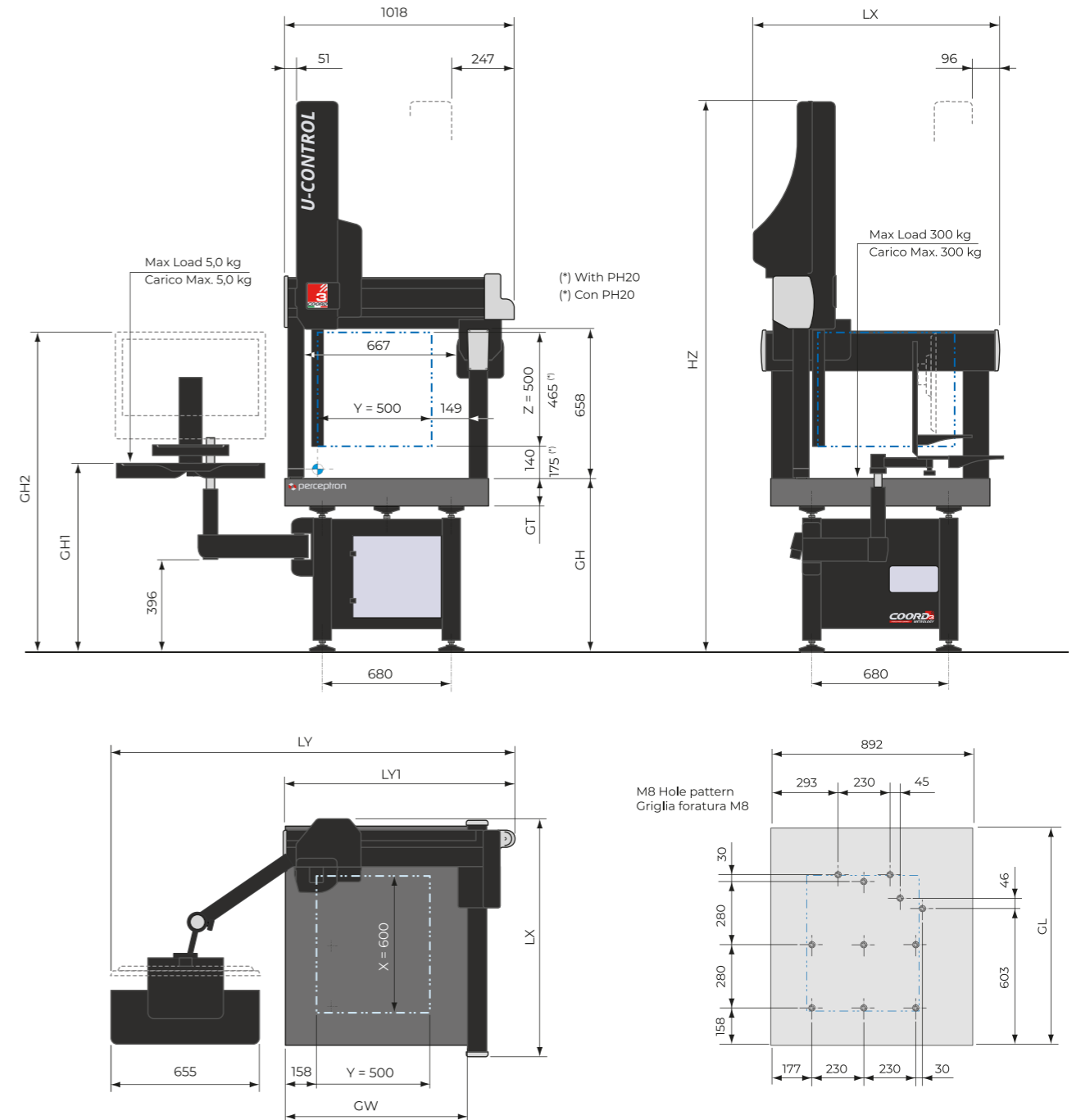
15 mm/s² from 10 to 20 Hz

50 mm/s² from 20 to 100 Hz

CMM U-CONTROL STROKES, DIMENSIONS, WEIGHTS



U-CONTROL is also available w/o intergrated controller and mobile arm. Need a UNITABLE desk (1200 x 800 x 715 mm) for controller and PC/Monitor/keyboard. U-CONTROL è anche disponibile senza controllo integrato e braccio articolato. Necessita di scrivania UNITABLE (1200 x 800 x 715 mm) per controllo, PC, video e tastiera.



Models	Measuring Strokes			Overall Dimensions				Surface Plate					Weights		
	X	Y	Z ^(a)	LX	LY	LY1 ^(c)	HZ	GH	GT	GL	GW	GH1	GH2	Max. Part Weight	Machine Weight ^(b)
	[mm]			[mm]				[mm]					[kg]		
06.05.05	600	500	500	1066	1800÷1930	1018	2392	750	100	960	803	800÷1200	1395÷1825	300	435

^(a)With PH20 Probe Head Z Measuring stroke will be reduced to 470 mm

^(b)Weigh includes CMM, Basement. Weight does not include Control and PC, keyboard and Video Terminal (approx. 20 kg)

^(c)U-CONTROL-u w/o integrated control and articulated arm - Need a UNITABLE desk for controller and PC