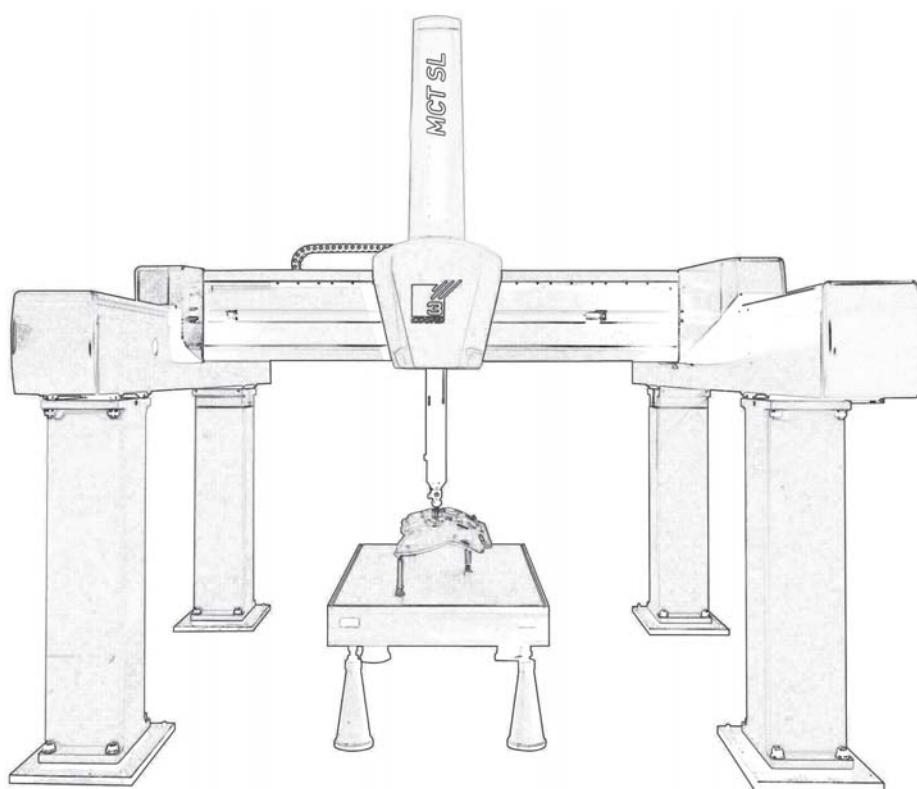


MCT

StarLight

StarLight NT

CNC GANTRY COORDINATE MEASURING MACHINE



MCT STARLIGHT

STRUCTURE: CNC Coordinate Measuring Machine, Gantry type architecture

GUIDEWAYS: X Axis: guideways on stabilized welded steel beams

Y Axis: guideways on stabilized welded steel beam

Z Axis: micromachined anodized light alloy extrusion (SL), Silicon Carbide extrusion (SL NT)

DRIVE SYSTEMS: CNC drive via DC motors, X Axis: rack & pinion system, Dual Drive system on both X beam for section 30.20 and 30.25

Y Axis: rack & pinion system

Z Axis: zero hysteresis friction drive

BEARING SYSTEM: Air bearings to all axes

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

COUNTERBALANCE: Adjustable pneumatic on Z ram

THERMAL COMPENSATION: Optional multi-sensors for measuring scales and part (Optional)

MCT STARLIGHT NT: SPECIFICATIONS

Models	Maximum Permissible Error ISO 10360-2 / ISO 10360-4 MPE [µm], L [mm], t [sec]									Max. 3D Pos. Speed	Max. 3D Accel.	
	T _i : 18±22 °C											
	PH10M/Q/PH20-TP20		PH10M/Q-TP200		PH10M/Q-SP25M-REVO			SP80				
	⁽¹⁾ MPE _E	⁽²⁾ MPE _P	⁽¹⁾ MPE _E	⁽²⁾ MPE _P	⁽¹⁾ MPE _E	⁽²⁾ MPE _P	⁽³⁾ MPE _{THP}	⁽¹⁾ MPE _E	⁽²⁾ MPE _P			⁽³⁾ MPE _{THP}
[µm]		[µm]		[µm]						[mm/s]	[mm/s ²]	
xx.20.20	5,0 + 5,0 L/1000	5,0	4,5 + 5,0 L/1000	4,5	4,5 + 5,0 L/1000	4,5	9,0/120	4,3 + 5,0 L/1000	4,3	8,5/120	530	800
xx.25.20	6,0 + 6,0 L/1000	6,0	5,5 + 6,0 L/1000	5,5	5,5 + 6,0 L/1000	5,5	11,0/120	5,3 + 6,0 L/1000	5,3	10,5/120	530	800
xx.30.20 ⁽¹⁾	6,5 + 7,0 L/1000	6,5	6,0 + 7,0 L/1000	6,0	6,0 + 7,0 L/1000	6,0	12,0/120	5,8 + 7,0 L/1000	5,8	12,0/120	530	800
xx.30.25 ⁽¹⁾	7,0 + 7,0 L/1000	7,0	6,5 + 7,0 L/1000	6,5	6,5 + 7,0 L/1000	6,5	13,0/120	6,0 + 7,0 L/1000	6,0	12,0/120	530	800

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

- TP2/TP20-5W/TP200: Std. Force Module, Stylus length 10 mm, Tip diameter 4 mm
- SP25: SM1, Stylus length 50 mm, Tip diameter 5 mm
- REVO: RSP2/RSH175 - RSP3-1/SH25-1, stylus length 20 mm
- SP80: Stylus length 50 mm, Tip diameter 5 mm
- L = measuring length in mm
- CMM equipped with Multisensor temperature compensation system

- Ambient temperature Range:

T_i: 18 ± 22 °C; Max. Gradients: 1,0 °C/h - 2,0 °C/24h - 0,5 °C/m

⁽¹⁾ Maximum Permissible Error of indication for size measurement according ISO 10360-2

⁽²⁾ Maximum Permissible Probing Error according ISO 10360-2

⁽³⁾ Maximum Permissible Scanning Probing Error according ISO 10360-4, applicable to the SP25M/SP80/REVO probes only, reference sphere Ø 25 mm

MCT STARLIGHT: SPECIFICATIONS

Models	Maximum Permissible Error ISO 10360-2 / ISO 10360-4 MPE [µm], L [mm], t [sec]									Max. 3D Pos. Speed	Max. 3D Accel.	
	T _i : 18±22 °C											
	PH10M/Q/PH20-TP20		PH10M/Q-TP200		PH10M/Q-SP25M-REVO			SP80				
	⁽¹⁾ MPE _E	⁽²⁾ MPE _P	⁽¹⁾ MPE _E	⁽²⁾ MPE _P	⁽¹⁾ MPE _E	⁽²⁾ MPE _P	⁽³⁾ MPE _{THP}	⁽¹⁾ MPE _E	⁽²⁾ MPE _P			⁽³⁾ MPE _{THP}
[µm]		[µm]		[µm]						[mm/s]	[mm/s ²]	
xx.20.20	7,0 + 7,0 L/1000	7,0	6,5 + 7,0 L/1000	6,5	6,5 + 7,0 L/1000	6,5	13,0/120	6,0 + 7,0 L/1000	6,0	12,0/120	530	800
xx.25.18	7,0 + 8,0 L/1000	7,0	6,5 + 8,0 L/1000	6,5	6,5 + 8,0 L/1000	6,5	13,0/120	6,0 + 8,0 L/1000	6,0	12,0/120	530	800
xx.25.20	8,0 + 9,0 L/1000	8,0	7,5 + 9,0 L/1000	7,5	7,5 + 9,0 L/1000	7,5	15,0/120	7,0 + 9,0 L/1000	7,0	14,0/120	530	800
xx.30.20 ⁽¹⁾	9,0 + 10,0 L/1000	9,0	8,5 + 10,0 L/1000	8,5	8,5 + 10,0 L/1000	8,5	17,0/120	8,0 + 10,0 L/1000	8,0	16,0/120	530	800
xx.30.25 ⁽¹⁾	9,0 + 10,0 L/1000	9,0	8,5 + 10,0 L/1000	8,5	8,5 + 10,0 L/1000	8,5	17,0/120	8,0 + 10,0 L/1000	8,0	16,0/120	530	800

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

- TP2/TP20-5W/TP200: Std. Force Module, Stylus length 10 mm, Tip diameter 4 mm
- SP25: SM1, Stylus length 50 mm, Tip diameter 5 mm
- REVO: RSP2/RSH175 - RSP3-1/SH25-1, stylus length 20 mm
- SP80: Stylus length 50 mm, Tip diameter 5 mm
- L = measuring length in mm
- CMM equipped with Multisensor temperature compensation system

- Ambient temperature Range:

T_i: 18 ± 22 °C; Max. Gradients: 1,0 °C/h - 2,0 °C/24h - 1,0 °C/m

⁽¹⁾ Maximum Permissible Error of indication for size measurement according ISO 10360-2

⁽²⁾ Maximum Permissible Probing Error according ISO 10360-2

⁽³⁾ Maximum Permissible Scanning Probing Error according ISO 10360-4, applicable to the SP25M/SP80/REVO probes only, reference sphere Ø 25 mm

PERFORMANCE VERIFICATION

MPE_E : Maximum Permissible Error of indication for size measurement

Measurement of a set of 5 sizes, taken through two opposite probing points on two nominally parallel planes. The set of 5 sizes is placed in 7 different positions/directions within the measuring volume. Each size is measured 3 times for a total of 105 measurements. All 105 measurements (100%) must be within the specified MPE_E.

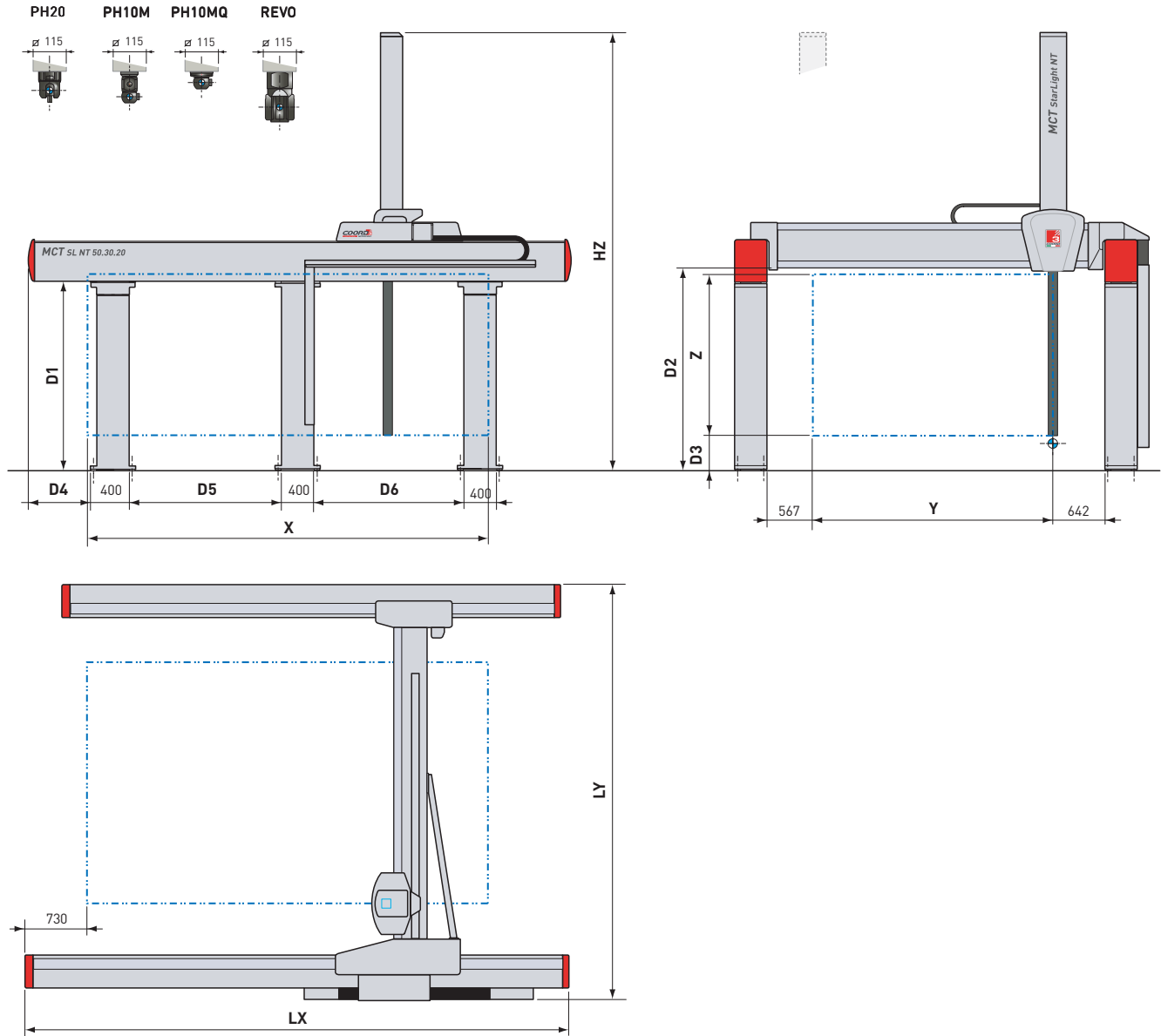
MPE_P : Maximum Permissible Probing Error

A reference sphere is measured with 25 equally distributed probeings. The probing performance shall be verified in one position, placed in the middle of the CMM measure volume. Using all 25 measurements, compute the Gaussian associated sphere. For each of the 25 measurements, calculate the Gaussian radial distance R. Calculate the probing error P, as the range of the 25 Gaussian distances, R_{max} - R_{min}. The probing error P must be within the specified MPE_P.

MPE_{THP/t} : Maximum Permissible Scanning Probing Error

MPE_{THP/t} is the Maximum Permissible Scanning Probing Error of the range of all measured sphere radii (sphere form error), with high point density and predefined path scanning, where t is the specified time (seconds) needed to perform the verification test. The scanning probing performance shall be verified in one single position, placed in the middle of the CMM measure volume. A reference sphere is measured by scanning 4 target scan lines to determine the range of the radial distance R. The scanning probing error THP is calculated as the range of sphere radii between the measured centre and all of the valued scan points. The measured THP and the time to perform the scanning test must be within the specified MPE_{THP/t}.

STROKES, DIMENSIONS, WEIGHTS



Models	Measuring Strokes			Overall Dimensions			Daylights						Pillars N	Weights	
	X	Y	Z	LX	LY	HZ	D1	D2	D3	D4	D5	D6		Max. Part Weight	Machine Weight
	[mm]			[mm]			[mm]						[kg]		
40.20.20	4000	2000	2000	5750	4154	5387	2242	2400	332	925	3100	-	2 + 2	10000	6500
50.20.20	5000	2000	2000	6750	4154	5387	2242	2400	332	925	1850	1850	3 + 3	10000	8000
60.20.20	6000	2000	2000	7750	4154	5387	2242	2400	332	925	2350	2350	3 + 3	10000	8800
40.25.18	4000	2500	1800	5750	4654	4987	2042	2200	332	925	3100	-	2 + 2	10000	6500
50.25.18	5000	2500	1800	6750	4654	4987	2042	2200	332	925	1850	1850	3 + 3	10000	8000
60.25.18	6000	2500	1800	7750	4654	4987	2042	2200	332	925	2350	2350	3 + 3	10000	8800
40.25.20	4000	2500	2000	5750	4654	5387	2242	2400	332	925	3100	-	2 + 2	10000	6500
50.25.20	5000	2500	2000	6750	4654	5387	2242	2400	332	925	1850	1850	3 + 3	10000	8000
60.25.20	6000	2500	2000	7750	4654	5387	2242	2400	332	925	2350	2350	3 + 3	10000	8800
40.30.20	4000	3000	2000	5750	5164	5387	2242	2400	332	925	3100	-	2 + 2	10000	6700
50.30.20	5000	3000	2000	6750	5164	5387	2242	2400	332	925	1850	1850	3 + 3	10000	8200
60.30.20	6000	3000	2000	7750	5164	5387	2242	2400	332	925	2350	2350	3 + 3	10000	9000
80.30.20	8000	3000	2000	9750	5164	5387	2242	2400	332	925	3350	3350	3 + 3	15000	10400
60.30.25	6000	3000	2500	7750	5164	6392	2742	2900	332	925	2350	2350	3 + 3	10000	9500
70.30.25	7000	3000	2500	8750	5164	6392	2742	2900	332	925	2850	2850	3 + 3	10000	11000
80.30.25	8000	3000	2500	9750	5164	6392	2742	2900	332	925	3350	3350	3 + 3	15000	12000

TECHNICAL CHARACTERISTICS

STRUCTURE

CNC Coordinate Measuring Machine, Gantry type architecture

Guideways:

X Axis: guideways on stabilized welded steel beams

Y Axis: guideways on stabilized welded steel beam

Z Axis: micromachined anodized light alloy extrusion (SL), Silicon Carbide extrusion (SL NT)

Drive Method:

X Axis: rack & pinion system, Dual Drive system on both X beam for section 30.20 and 30.25

Y Axis: rack & pinion system

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.

Dual Scale/Reader on X axis

PROBING SYSTEM

Manual Probe Head:

MIH, MH20, MH20i

Motorized Probe Head:

PH10M, PH10MQ

Motorized Continuous Probe Head:

PH20, REVO

Point-to-point Trigger Probe:

TP2, TP20, TP200

Analog Contact Probe:

SP600, SP25M, SP80

Stylus and Probe Changer:

Fully automated stylus and probe changers

OPTION

Multi-wire cable

ENVIRONMENT

Temperature Range for Metrological Specification:

Temperature Range: 18 ÷ 22 °C

Max. gradient per hour: 1,0 °K/h

Max. gradient per day: 2,0 °K/24h

Max. gradient in space: 0,5 °K/m (SL NT) - 1,0 °K (SL)

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

AIR SUPPLY

Air Consumption:

max. 300 NL/min

Minimum Air Supply:

6 Bar

POWER SUPPLY

Power Supply Voltage:

230 V ± 10%; 50 Hz ± 2% (single phase)

115 V ± 10%; 60 Hz ± 2% (single phase)

WARRANTY

12 months from the date of acceptance test or a maximum of 15 months from date of shipment.

Distribuito da / Authorized Dealer / Vertrieben durch:



Perceptron North America
Perceptron, Inc.
47827 Halyard Drive
Plymouth, MI 48170 - U.S.A.
Tel: +1 734 414 6100
info@perceptron.com

Perceptron EMEA (Europe, Middle East, Africa)
Perceptron GmbH
Stahlgruberring 7
D - 81829 München - Germany
Tel: +49-89-960-980
emea@perceptron.com

Perceptron England
Perceptron Metrology UK Ltd
Fort Dunlop, Fort Parkway
Birmingham, B24 9FE - UK
Tel: +44 121 6297794
uk@perceptron.com

Perceptron Italy
COORD3-Perceptron Italia Srl
Strada Statale 25, n°3
10050 Bruzolo (TO) - Italy
Tel: +39 011 9635511
italy@perceptron.com

Perceptron China
Perceptron Trading (Shanghai) Co., Ltd.
Units B & C, 3rd Floor, Building 1
No. 180 ZhangHeng Road, ZhangJiang Hi-Tech Park
Shanghai 201204 - China
Tel: +86 21 3393-2262
china@perceptron.com

Perceptron South America
Perceptron do Brasil Ltda.
Rua Helena 218, Suite 205 - Vila Olimpia
São Paulo 04552-050 - Brazil
Tel: +55 11 3044-1950
brazil@perceptron.com

Perceptron Singapore
Perceptron Asia Pte. Ltd.
18 Boon Lay Way #10-143 TradeHub 21
Singapore 609966
Tel: +65-6795-5280
singapore@perceptron.com

Perceptron Japan
Perceptron Asia Pacific, Ltd.
Shinbashi Annex 1F, 5-35-10 Shinbashi,
Minato-ku
Tokyo 105-0004 - Japan
Tel: +81 3 5425-1080
japan@perceptron.com

Perceptron India
Perceptron Non-Contact Metrology Solutions Pvt. Ltd.
12/2, McNichols Road Chetpet
Chennai 600 031 - India
Tel +91 44 4284-9610
india@perceptron.com