VISIUS

VISIUS 3.2.2

VISIUS 4.3.2

VISIUS 5.4.2

Design principle

- Floor stand optical CMM with integral XY cross-table and fixed Z column, machine base and Z column made of granite, solid steel machine stand
- Three-axis full servo closed-loop control system
- DC servo motors, grinding screw drive
- Vision sensor with motorised CNC zoom and CMOS colour camera, variable illumination with LED top / back / ring light
- Overview camera for a live navigation view of the workpiece on the measuring stage
- Metus measuring software
- **Options:** Chromatic white light sensor (CWS), HH-T touch probe, rotary indexing table

XYZ axis travel

		3.2.2	4.3.2	5.4.2
Travel [mm]	X	300	400	500
	Y	200	300	400
	Z	200	200	200

Measuring accuracy

		3.2.2	4.3.2	5.4.2
Vision sensor accuracy [µm] [1]	$E_{UXY,MPE}$	2.5 + L / 200 [4]	2.5 + L / 200 [4]	3.0 + L / 200 [4]
	$E_{UZ,MPE}$	5.0 + L / 150 [4]	5.0 + L / 150 [4]	5.0 + L / 150 [4]
	$P_{FV2D,MPE}$	1.5	1.5	1.5
	$P_{F2D,MPE}$	2.5	2.5	3.0
HH-T touch probe accuracy [µm] [2]	$E_{0Z,MPE}$	3.0 + L / 200 [4]	3.0 + L / 200 [4]	3.0 + L / 200 [4]
CWS chromatic white light sensor accuracy [µm] [3]	$E_{0Z,MPE}$	3.0 + L / 200 [4]	3.0 + L / 200 [4]	3.0 + L / 200 [4]

[1] Vision sensor accuracy according to ISO 10360-7:2011, with an optical resolution of ≤ 1 µm/pixel (please see table “Vision sensor properties“ on page 3)

[2] HH-T touch probe accuracy according to ISO 10360-2:2009

[3] CWS chromatic white light sensor accuracy according to internal acceptance test procedures following ISO 10360-2:2009

[4] L = measuring length [mm]

Footprint, weight, table payload

		3.2.2	4.3.2	5.4.2
Footprint [mm]	Lx	710	867	1070
	Ly	895	1045	1195
	Lz	1650	1780	1780
Weight [kg]		375	465	555
Table payload [kg]		15	15	15

Dynamics

		3.2.2	4.3.2	5.4.2
Resolution of the scales [µm]	X / Y / Z	0.4		
Travel speed [mm/s]	X / Y / Z	200 / 200 / 80		
	Vector	294		
Acceleration [mm/s²]	X / Y / Z	2000 / 2000 / 800		
	Vector	2939		

Environmental specification of the measuring environment

- Environmental temperature 20 °C ± 2.0 °C
- Temperature gradient 2.0 K/d, 0.8 K/h, 1.0 K/m
- Relative humidity 40 - 70 %, non-condensing

Supply data

	3.2.2	4.3.2	5.4.2
Input voltage	230 V~ ± 10 % [1]		
Frequency	50 / 60 Hz		
Max. power consumption	1000 VA		
Grounding resistance	< 4 Ω		

[1] 110 V~ is supported in combination with an external voltage transformer.

Safety regulations

VISIUS complies with the following standards:

- EN ISO 12100
- EN 60204-1
- EN IEC 61000-6-2
- EN IEC 61000-6-4
- EN IEC 63000

Vision sensor

- Camera sensor for non-contact high-speed measurements
- 6x motorised CNC zoom with digital high-resolution CMOS colour camera with Gigabit Ethernet interface
- Flexible illumination with coaxial LED top light, telecentric LED back light and LED ring light with 6 rings and 8 segments each

Vision sensor properties

	6x motorised CNC zoom
Lens	Standard
Optical magnification	0.76x to 4.45x
Working distance [mm]	95 ± 2
Clearance height [mm] [1]	54
Maximum field of view [mm]	9.40 x 7.05
Minimum field of view [mm]	1.61 x 1.21
Resolution [µm/pixel]	5.88 to 1.01

[1] Distance between part surface and bottom edge of the ring light.

Overview camera

- Live navigation view of the workpiece on the measuring stage
- Quick point-and-click navigation of the vision sensor

Overview camera properties

	Overview camera
Type, resolution	1.3 MP colour camera
Angle of view [°] [2]	78
Frame rate [fps]	25
Output format	MJPG

[2] Field of view approx. 60 x 50 mm.

Option: HH-T touch probe

- Capturing discrete measuring points in Z direction for typical measurements of height features and flatness on a workpiece

Touch probe properties

	HH-T
Stylus mounting	M3
Stylus length [mm]	21
Trigger force [N]	0.11
Measuring direction	+ Z
Probe repeatability 1D (2σ) [µm] [3]	< 0.75

[3] Test conditions: stylus length 21 mm, trigger force setting 0.11 N, touch speed 8 mm/s.

Option: Chromatic white light sensor (CWS)

- Non-contact point distance sensor for surface-independent height and flatness measurements in Z direction
- Thickness measurement of transparent objects

CWS properties

	CWS
Measuring range [mm]	4
Working distance [mm]	37.5 ± 0.9
Axial resolution [nm]	180
Lateral resolution [µm]	8
Measurement angle to surface [°]	90 ± 20
Dimensions (outside) [mm]	Diameter = 36, length = 67

Option: Rotary indexing table

- Automatic part rotation during a Metus measuring routine
- Measuring features from different rotational positions with no need for multiple part setups

Rotary indexing table properties

	Rotary indexing table	
Base material	Aluminium alloy	
Dimensions [mm] [1]	VISIUS 3.2.2	508 x 425 x 88
	VISIUS 4.3.2	608 x 525 x 88
	VISIUS 5.4.2	706 x 625 x 88
Weight [kg]	8	
Moment load capacity [kg-15 cm]	0.113, off-axis loading 0.113, on-axis loading [2]	
Positioning accuracy [arcsec] [3]	± 8.2	
Position repeatability [arcsec] [3]	± 8.2	
Resolution [arcsec] [3]	3.6	

[1] Dimensions do not include fixture.

[2] With symmetrically distributed load.

[3] Specifications may vary with off-axis loading.

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