Multisensor Coordinate Measuring Machines

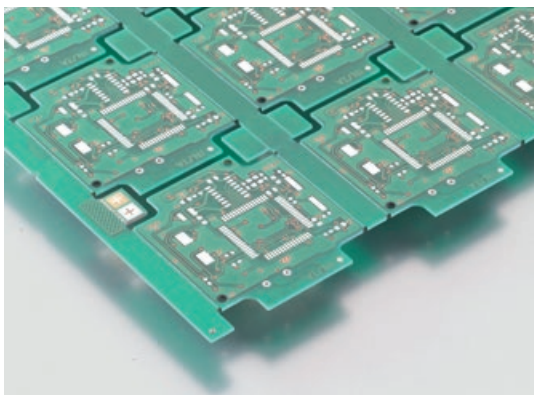
ZEISS O-INSPECT

Having all the necessary options for reliable measurements.

ZEISS O-INSPECT

// RELIABILITY
MADE BY ZEISS

The O-INSPECT multisensor measuring machines from ZEISS enable you to optimally measure each characteristic – optically or through contact measurement. The special feature: the ZEISS O-INSPECT delivers reliable 3D accuracy compliant with ISO standards at a temperature range of 18 – 30 °C.

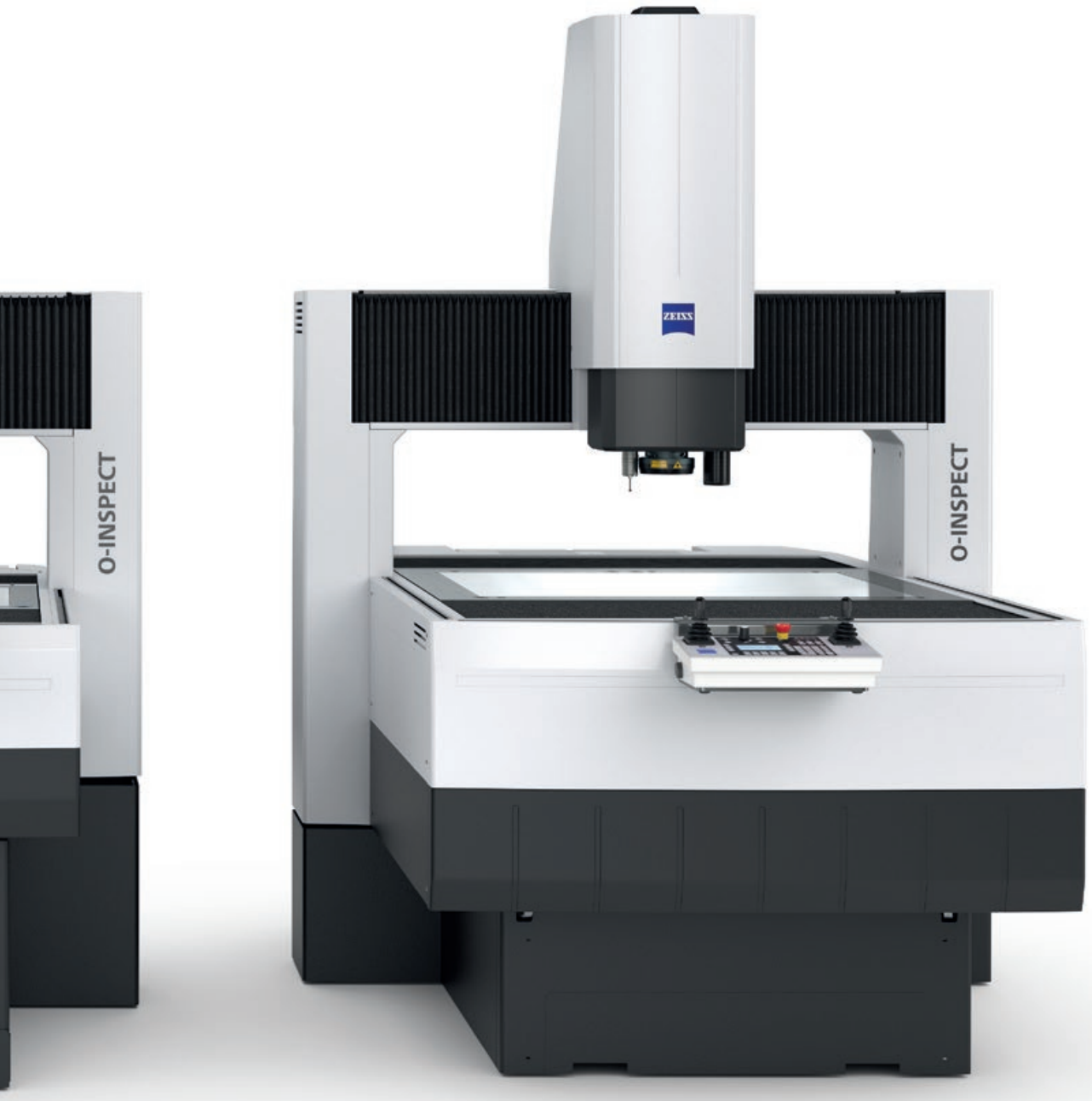


The flexibility of the ZEISS O-INSPECT makes it the ideal solution for inspection jobs in the medical technology, plastics technology, electronics and precision engineering industries

ZEISS O-INSPECT
Product family

ZEISS O-INSPECT 3/2/2
Measuring range [dm] 3/2/2
E0 from 1.6 µm

ZEISS O-INSPECT 5/4/3
Measuring range [dm] 5/4/3
E0 from 1.6 µm



ZEISS O-INSPECT 8/6/3

Measuring range [dm] 8/6/3

E0 from 1.9 µm


ZEISS
O-INSPECT

An expert in every discipline

The ZEISS O-INSPECT features premium sensors for leading-edge optical and contact performance – in full 3D without compromising software functionality. A particularly important highlight: ZEISS CALYPSO software not only delivers results easily, but also makes detecting and identifying defects straightforward.

The highlights

- VAST XXT contact scanning sensor: Minimal probing forces, small stylus tip diameter, many measurement points by using scanning for form inspections
- ZEISS Discovery.V12 zoom lens: Large, distortion-free field of view
- Chromatic-confocal white light sensor available as an accessory. Enables contactless measurements of small and sensitive workpiece surfaces.
- ZEISS CALYPSO reference software: Features the live image and result in one view, 3D CAD drawing, best fits
- Integrated pallet system with an interface for automatic temperature capture
- Optional rotary table for 360° measurements

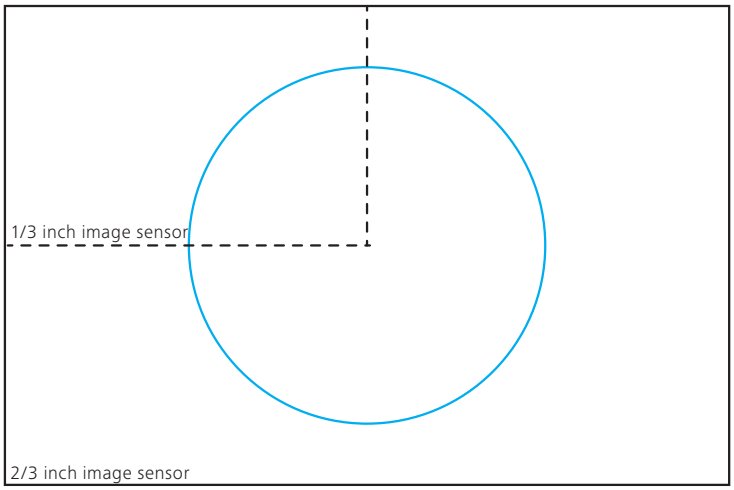

LASER KLASSE 2M
KLASSIFIZIERT NACH DIN EN 60825-1:2008-05

Large field of view, high image definition

ZEISS Discovery.V12 zoom lens

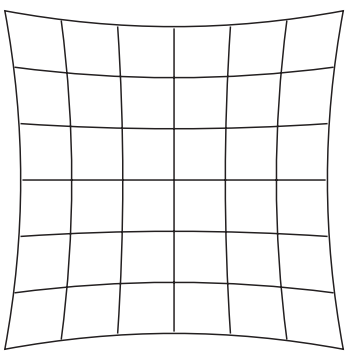
ZEISS Discovery.V12 comes from the ZEISS Microscopy division. Compared to standard lenses, it provides a 4x larger field of view and very good image definition, even in the peripheral zones. The result: excellent accuracy and a significant reduction in measuring time.

Large field of view for 2/3 inch sensor

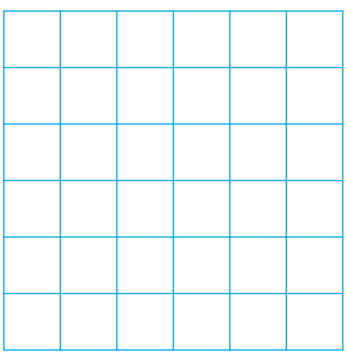


The large field of view on the ZEISS Discovery.V12 is fully covered by a 2/3 inch camera sensor, making it possible to completely capture e.g. a borehole with a single image. Camera travel and multiple image assembly is therefore not required.

Standard lens:
Distortion in the peripheral zone



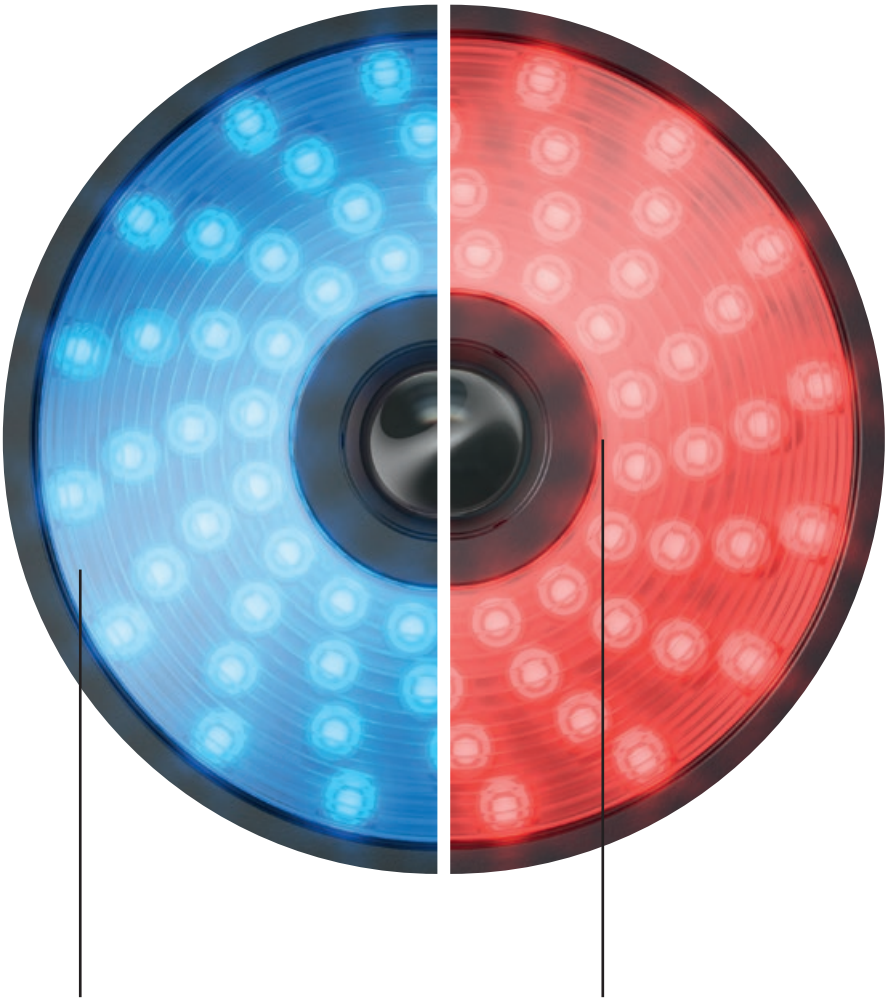
ZEISS Discovery.V12:
Practically distortion-free



Optimal contrast

The ZEISS O-INSPECT illumination system

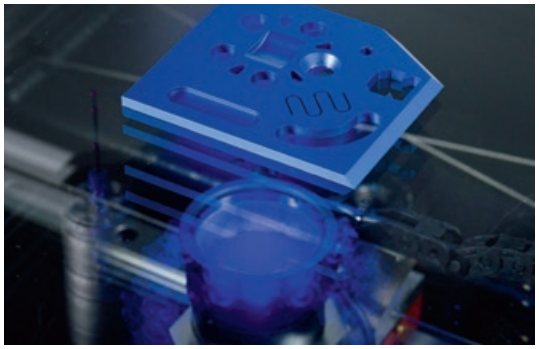
A high-contrast image is necessary for precise results. The ZEISS O-INSPECT features a highly versatile illumination system for this purpose. Extremely different shapes, textures and surface colors can be illuminated so that different angles of incidence can be realized, clearly accentuating edges.



Outer ring light in blue or red
The outer ring light is comprised of sixteen blue and sixteen red LEDs that can be individually controlled in eight segments. Together with the synchronized optic, the color LEDs enable the operator to filter out distracting ambient light and to illuminate e.g. colored materials with a high level of contrast.

Inner ring light in blue or red
The inner ring light also consists of sixteen blue and sixteen red LEDs. The inner ring light increases contrast in the surface texture, thus improving focusing – for more precise measuring results.

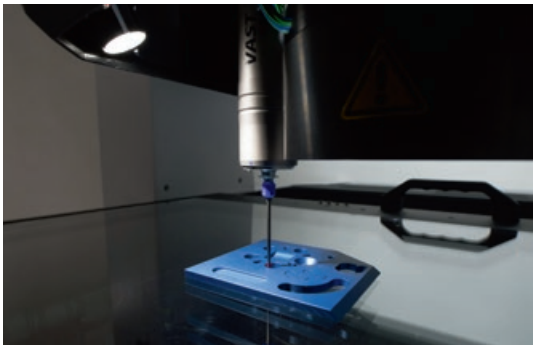
Backlight
Backlight generates the strongest light-dark contrasts, making it the ideal solution for outer edges and breaches.



Coaxial light
The depth of small boreholes can be illuminated using the coaxial light and determined precisely by focusing.

Coaxial laser pointer
The laser pointer integrated in the center of the lens simplifies navigation while programming.

Optional measuring lab illumination
The optional measuring lab illumination provides measuring technicians with an optimum view of the test piece and stylus at any time – regardless of ambient light.



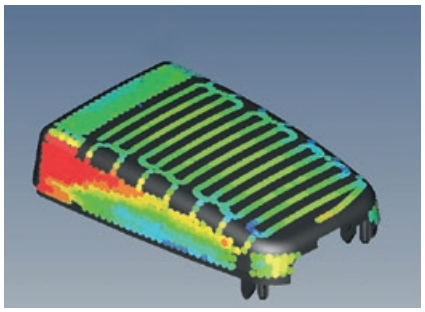
ZEISS DotScan

Scanning sensitive workpieces just got easier

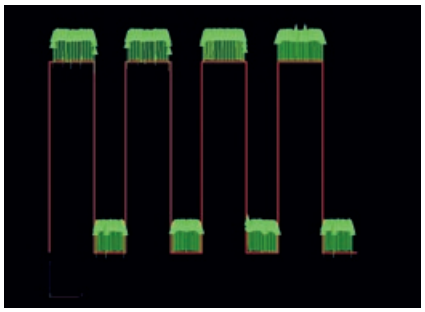
Chromatic-confocal white light sensors enable the non-contact capture of workpiece topography. These are generally employed when sensitive, reflective or low-contrast surfaces make it difficult to use other optical sensors.

The multisensor measuring machine is equipped with the ZEISS DotScan, a chromatic-confocal white light sensor. This can be seamlessly interchanged to enable the use of other contact or optical sensors during the measurement run – the addition of a rotary table enables four-axis scanning.
The ZEISS DotScan is available for a measuring range of one, three and ten millimeters and can easily be changed in or out as needed.

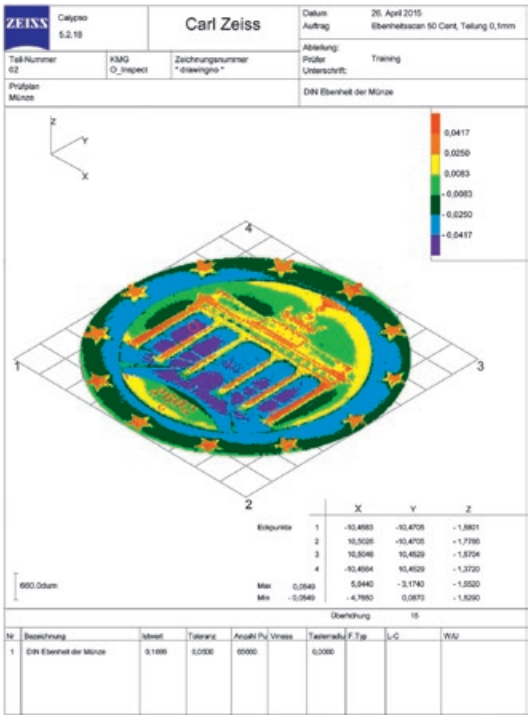
In the regulated mode, it is possible to scan a workpiece surface unconstrained. This ensures the reliable capture of data points, even with significant deviations. When performing thickness measurements on transparent materials, both the upper and lower side of a workpiece are captured, cutting the time required by more than half and enabling the operator to complete the measurement in a single run.



Plastic cover



Side view of a ribbed structure



Flatness scan of a fifty-cent coin

More measurement points, more information

ZEISS VAST XXT scanning sensor

With the ZEISS VAST XXT, the O-INSPECT system from ZEISS is equipped with a flexible, fast and highly precise contact sensor. This scanning sensor captures a large quantity of measurement points, providing relevant information on form and location – a unique feature in this class of system.

The ZEISS O-INSPECT enables scans with probing forces in the millinewton range, whereas other multisensor measuring machines can only measure in the single-point mode using relatively high probing force. This enables true 3D measurements of thin-walled plastic components – quickly and precisely.

Sensor versions

Two different sensors are available: the ZEISS VAST XXT TL1 features minimal measuring forces and is therefore ideal for scanning sensitive workpieces such as thin-walled, injection-molded plastic parts. The ZEISS VAST XXT TL3 accommodates higher stylus weights – for more flexibility with larger workpieces.

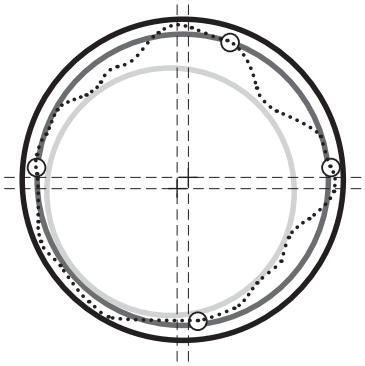
Free stylus selection

The ZEISS VAST XXT accommodates 30 – 125 mm styli so that is also possible to conveniently measure deep boreholes. Star styli with styli in three spatial directions and up to 65 mm projection ensure maximum flexibility. Even complex workpiece geometries can be measured without changing the stylus.

Faster stylus change-out

The stylus is also automatically detected when a change-out occurs, meaning time-consuming recalibration is not required.

With a star stylus, a stylus change-out is not required.



Minimum circumscribed circle determined using scanning values

Compensating circle calculated using 4 single points

Maximum inscribed circle determined using scanning values

Form evaluation

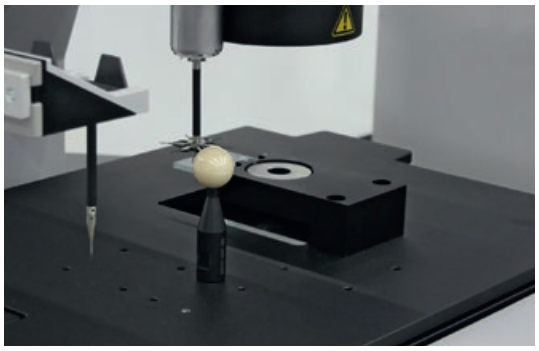
Single point (4-point measurement)

Different mid-point coordinates for minimum circumscribed/ maximum inscribed circle

Information on the form and location of a feature is only possible with a large number of measurement points (scanning).

Once it’s on the pallet, you’re ready to measure

Convenience and reliability are vital for everyday measurements. The pallet system, calibration objects and fixtures for the ZEISS O-INSPECT save time while ensuring greater reliability. A special feature: after mounting, the temperature of the workpieces on the pallet is automatically captured by four sensors and is used for temperature compensation.



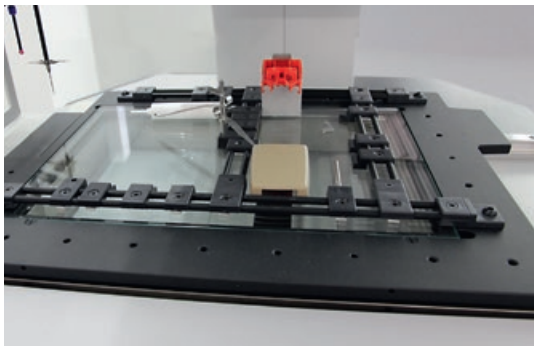
Calibration pallet
A reference sphere, a glass artifact and an adjusting ring can be mounted to the calibration pallet. The entire pallet is then moved to the machine table for calibrating the particular sensor, reducing setup time.

Glass pallet
The glass pallet is used for optical measurements performed with transmitted light. It protects the glass table of the machine and enables the remote setup of test pieces with the rail clamping system.

Hole grid pallet
The hole grid pallet supports all contact measuring methods and optical measurements using the reflected light method. Fixtures for clamping test pieces can be easily and reliably mounted to the hole grid.

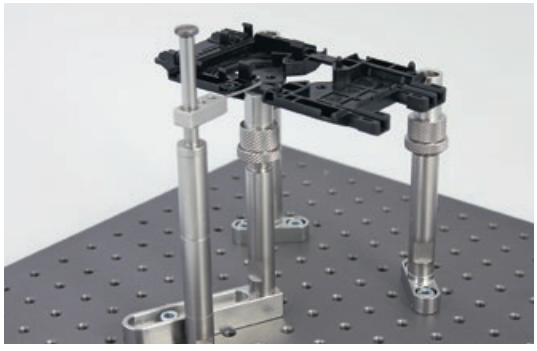
Rotary table

The optional rotary table enhances the ZEISS O-INSPECT with a programmable rotary axis, enabling the inspection of characteristics from all sides. You have the option of integrating it in a pallet to achieve different positions and shorten the setup time.



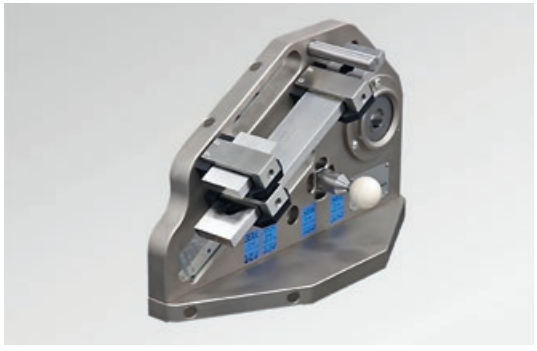
Rail clamping system

Correctly positioning and clamping workpieces is vital for guaranteeing precise measurements. The rail clamping system allows you to quickly and easily set up positioning or clamping equipment for optical and contact measurements.



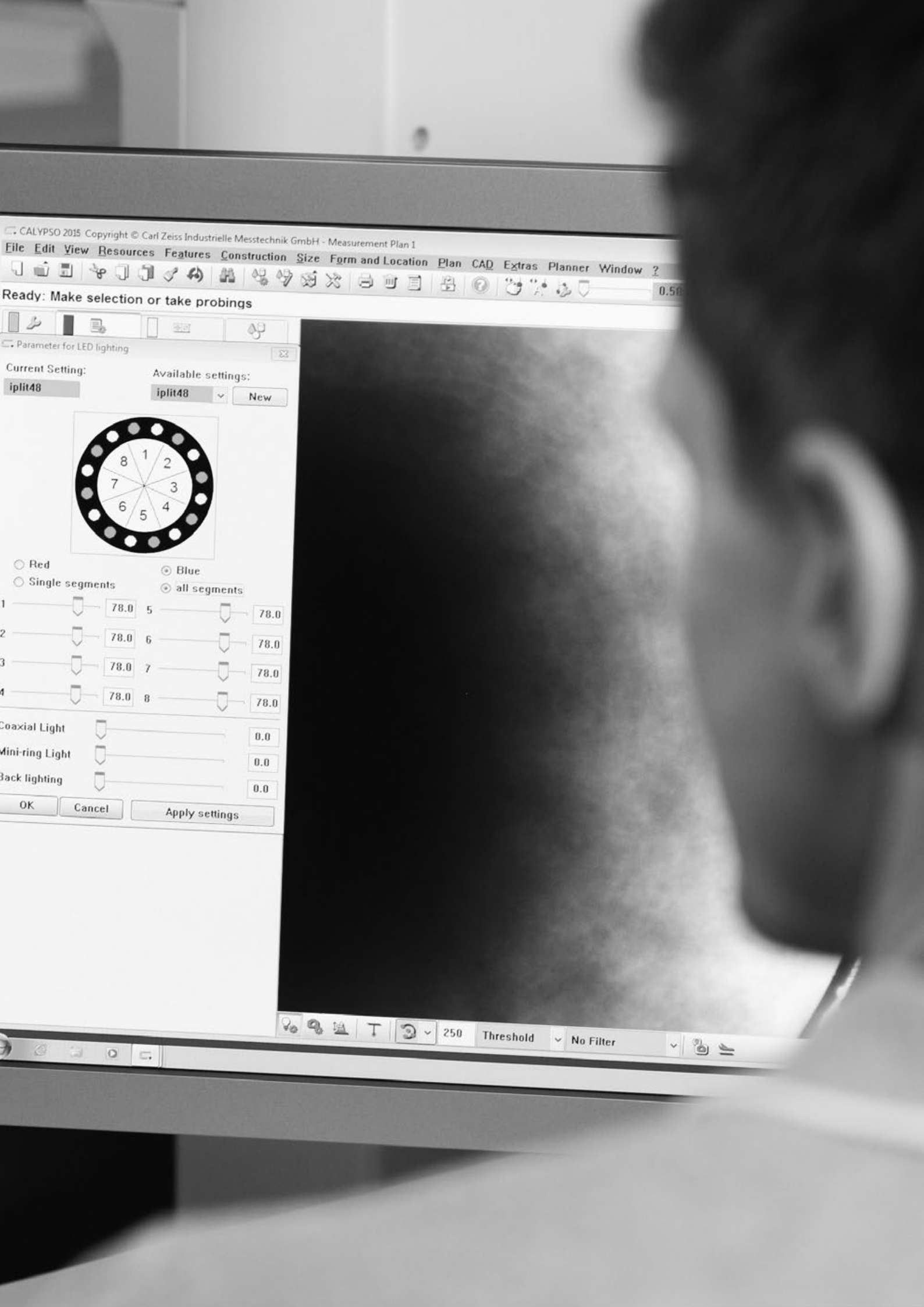
CARFIT CMK kit system

With the CARFIT CMK fixture kit system, parts can be easily mounted at a defined location on the hole grid pallet. All standard CARFIT components are compatible with each other and can be delivered on short notice.



Multisensor check

The multisensor check is a procedure for the standard-compliant monitoring of coordinate measuring machines with contact and optical sensors. The universal, calibrated test piece comes with the accompanying control and evaluation software.

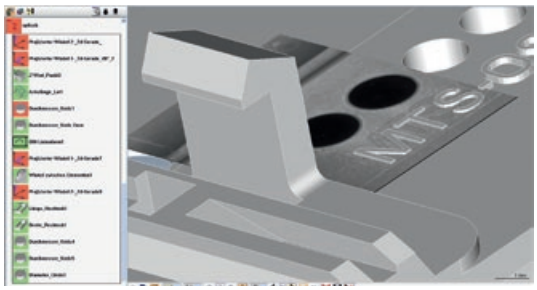

CALYPSO 2015 Copyright © Carl Zeiss Industrielle Messtechnik GmbH - Measurement Plan 1
File Edit View Resources Features Construction Size Form and Location Plan CAD Extras Planner Window ?
Ready: Make selection or take probings
Parameter for LED lighting
Current Setting:
iplit48
Available settings:
iplit48
New
1
2
3
4
5
6
7
8
Red
Blue
Single segments
all segments
78.0
Coaxial Light
Mini-ring Light
Back lighting
0.0
OK
Cancel
Apply settings
250
Threshold
No Filter

Seeing and understanding – with ZEISS CALYPSO

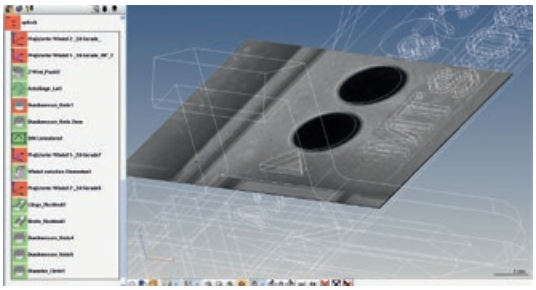
Camera image, CAD model and results in one view – ZEISS CALYPSO reference measuring software makes this possible. Its flexibility and simplicity put it squarely in the center of all industrial measuring technology.

Together with ZEISS CALYPSO measuring software, the ZEISS O-INSPECT opens up new visualization possibilities. You see the actual status, nominal display and a visualization of the errors for the component, making it particularly easy to properly allocate and interpret measurement results.

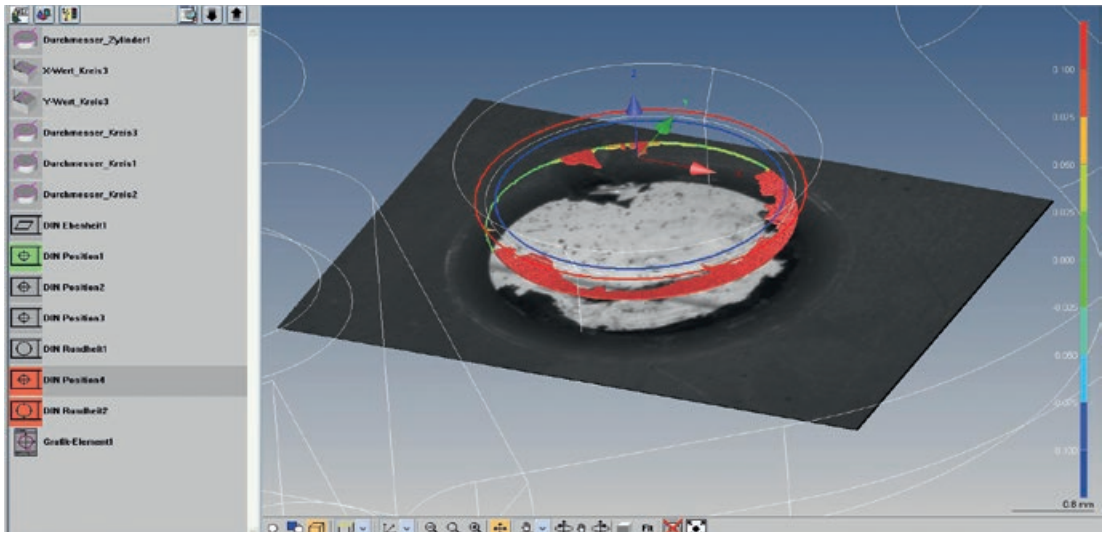
One piece of software for all measuring jobs
The ZEISS O-INSPECT does not skimp on software either. With ZEISS CALYPSO, you have access to the same software used to operate our other coordinate measuring machines. ZEISS CALYPSO combines a wide variety of functions and flexibility with a universal, intuitive operating concept. ZEISS CALYPSO allows you to quickly and easily complete a wide range of measuring jobs using various sensors in the same way.



CAD surface model and camera image



CAD line model and camera image

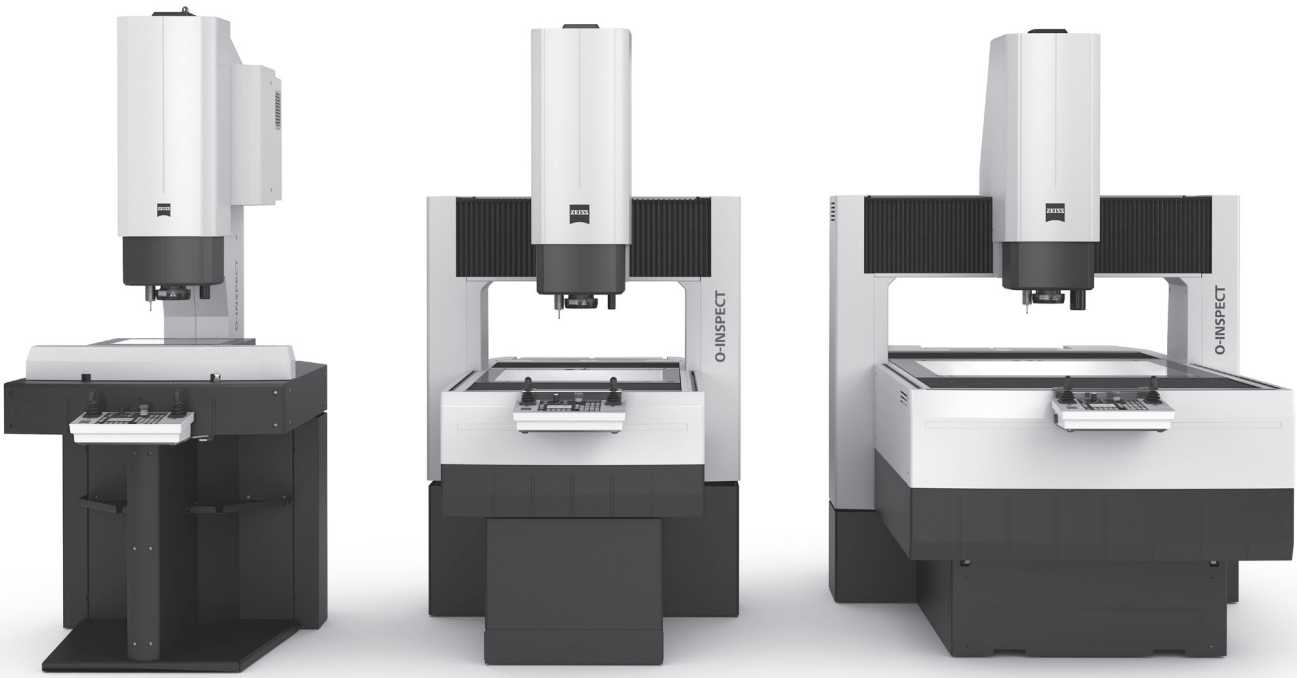


CAD model, camera image, actual and nominal features and errors

Carl Zeiss
Industrielle Messtechnik GmbH
73446 Oberkochen/Germany
Sales: +49 7364 20-6336
Service: +49 7364 20-6337
Fax: +49 7364 20-3870
info.metrology.de@zeiss.com
www.zeiss.de/imt

Carl Zeiss
Industrial Metrology, LLC
6250 Sycamore Lane North
Maple Grove, MN 55369/USA
Phone: +1 763 744-2400
Fax: +1 763 533-0219
info.metrology.us@zeiss.com
www.zeiss.com/metrology

EN_60_020_0002III Printed in Germany MAC-CZ-IV/2018 Uoo



ZEISS O-INSPECT

Specifications

Stand: 2025-11

Seeing beyond

System description

Type according to ISO 10360-1:2000	O-INSPECT 3/2/2: Column CMM, O-INSPECT 5/4/3 and 8/6/3: Fixed bridge CMM						
Operating mode	motorized / CNC						
Sensor mounts	Fixed installation						
Sensors	ZEISS VAST XXT (contact)/ ZEISS Discovery.V12 (optical)						
Software	ZEISS CALYPSO, ZEISS GEAR PRO (option)						
				3/2/2	**5/4/3**	**8/6/3**	**8/6/3 duo**
Travel speed	Motorized	in mm/s	Axes	0 to 100	0 to 100	0 to 100	0 to 100
	CNC	in mm/s	X, Y, Z axes	300/300/100	300/300/100	300/150/100	300/150/100
		in mm/s	Vector	435	435	350	350
Acceleration		in mm/s^2	X, Y, Z axes	500/500/500	500/500/500	500/200/500	500/200/500
		in mm/s^2	Vector	866	866	735	735

Sensors and accuracy

The functionality of the device and its specifications are only achievable when using original accessories by ZEISS. The specified parameters are observed in the application of the internal test instructions for acceptance testing and in the use of the released standards in accordance with the ISO 10360 series.

ZEISS VAST XXT [1]

Scanning and single point sensor. Measuring speed with ZVp (ZEISS VAST probing) appr. 1.2 seconds per single point and 2.5 seconds per single point without ZVp.
Up to 500 points per seconds in scanning mode. Max. stylus speed 5 mm/s.
VAST XXT TL1: Axial stylus length 30 - 125 mm; radial stylus length up to 40 mm (star stylus); stylus tip diameter of 0.1 to 8 mm, maximum stylus weight = 10 g;
VAST XXT TL3: Axial stylus length 30 - 150 mm; radial stylus length up to 65 mm (star stylus); stylus tip diameter of 0.3 to 8 mm, maximum stylus weight = 15 g;

				3/2/2	**5/4/3**	**8/6/3**	**8/6/3 duo**
Length measurement error [2] [3] MPE complies with ISO 10360-2:2009	E0 X/Y/Z (1D)	in µm	18 °C - 22 °C	1.6 + L/200	1.4 + L/250	1.5 + L/250	1.5 + L/250
	E0 XY (2D)	in µm	18 °C - 22 °C	1.9 + L/150	1.6 + L/250	1.8 + L/250	1.8 + L/250
	E0 (3D)	in µm	18 °C - 22 °C	2.4 + L/150	1.9 + L/250	2.2 + L/250	2.2 + L/250
Example: Extended temperature range (ZEISS TVA 1)	E0 (3D)	in µm	18 °C - 26 °C	2.7 + L/150	2.2 + L/100	2.5 + L/100	2.5 + L/100
Example: Extended temperature range (ZEISS TVA 2)	E0 (3D)	in µm	18 °C - 30 °C	2.9 + L/150	2.4 + L/80	2.7 + L/80	2.7 + L/80
Repeatability range MPL complies with ISO 10360-2:2009	R0	in µm		1.2	1.2	1.2	1.2
Scanning error MPE complies with ISO 10360-5:2020	$P_{Form.Sph.Scan:PP:Tact}$	in µm	18 °C - 22 °C	2.7	2.7	2.7	2.7
Required measuring time MPL	$\tau_{Sph.Scan:PP:Tact}$	in s	18 °C - 22 °C	55	55	55	55
Form measurement error [5] MPE for roundness complies with ISO 10360-5:2020	$P_{Form.Cir.Scan:PP.0:Tact}$ (MZCI)	in µm	18 °C - 22 °C	2.4	2.4	2.4	2.4
Single stylus form probing error MPE complies with ISO 10360-5:2020	$P_{Form.Sph.1x25:SS:Tact}$	in µm	18 °C - 22 °C	2.4	1.9	2.2	2.2
Multi-stylus form probing error MPE complies with ISO 10360-5:2020	$P_{Form.Sph.5x25:MS:Tact}$ [4]	in µm	18 °C - 22 °C	4.8	4.8	4.8	4.8
Multi-stylus dimension probing error MPE complies with ISO 10360-5:2020	$P_{Size.Sph.5x25:MS:Tact}$ [4]	in µm	18 °C - 22 °C	1.2	1.2	1.2	1.2
Multi-stylus location probing error MPL complies with ISO 10360-5:2020	$L_{Dia.5x25:MS:Tact}$ [4]	in µm	18 °C - 22 °C	2.9	2.9	2.9	2.9

1) ZEISS VAST XXT: acceptance test with TL3 module; stylus length of 70 mm and stylus tip diameter of 8 mm.
2) Measuring length L in mm with acceptance testing plate from ZEISS.
3) All accuracy specifications of the sensors can be increased by + 0.3 µm for TVA 1 and + 0.5 µm for TVA 2.
4) Measurement location near the qualification position to capture the sensor properties.
5) Filter used: 50 W/U; scanning speed for roundness: 5 mm/s, value valid XY direction

Sensors and accuracy

ZEISS Discovery.V12 [1]

Optical 2D camera sensor, CMOS Monochrom camera with GigE Vision interface, 2,35 MP, 1/1,2" chip, measuring speed up to 50 frames/s, with image processing functionality and autofocus, 12x zoom, 10 fixed zoom levels, max. probing speed 10 mm /s (Z-axis), laser pointer.
Illumination: Coaxial LED bright field toplight in red and blue, backlight blue.
standard 100 [3]: working distance 87 mm, 0.5 x - 6.3 x, sensor resolution 0.9 µm, FoV max.: 16,1 mm x 12,0 mm, 8 segment LED ring toplight each in red and blue
scout 160 [4]: working distance 55 mm, 0.8 x - 10 x, sensor resolution 0.6 µm, FoV max.: 10,1 mm x 7,5 mm, 8 segment LED ring toplight each in red and blue
scout 240 [5]: working distance 30 mm, 1.2 x - 15 x, sensor resolution 0.4 µm, FoV max.: 6,7 mm x 5,0 mm, no ring toplight available

Optical 2D camera sensor, CMOS color camera with GigE Vision interface, 5.1 MP, 2/3" chip, measuring speed up to 23 frames/s, with image processing functionality and autofocus, 12x zoom, 10 fixed zoom levels, max. probing speed 10 mm /s (Z-axis).
Illumination: Coaxial LED bright field toplight in white, backlight white.
scout 160 c, für duo [6]: working distance 55 mm, 0,8 x - 10 x, sensor resolution 0,3 µm, FoV max.: 10,48 mm x 8,6 mm, 16 Segment LED ring toplight in white

				3/2/2	5/4/3	8/6/3	8/6/3 duo
Length measurement error [2] [9] MPE complies with ISO 10360-7:2011	EU X/Y (1D) [3] [4] [5] [6]	in µm	18 °C - 22 °C	1.6 + L/200	1.4 + L/250	1.5 + L/250	1.5 + L/250
	EU XY (2D) [3] [4] [5] [6]	in µm	18 °C - 22 °C	1.9 + L/150	1.6 + L/250	1.8 + L/250	1.8 + L/250
	EU XYZ (3D) [6]	in µm	18 °C - 22 °C				2,2 + L/250
Repeatability range (of EU - MPL complies with ISO 10360-7:2011	RU XY (2D) [3] [4] [5] [6]	in µm	18 °C - 22 °C	1.2	1.2	1.2	1.2
Repeatability range (of EUZ L = 0 mm - MPL complies with ISO 10360-7:2011	RUZ [3] RUZ [4] [6] RUZ [5]	in µm	18 °C - 22 °C	1.9 1.7 1.5	1.9 1.7 1.5	1.9 1.7 1.5	– 1.7 –
Probing error MPE complies with ISO 10360-7:2011	PF2D [3] [4] [5] [6]	in µm	18 °C - 22 °C	1.9	1.6	1.8	1.8
Probing error of the image processing system MPE complies with ISO 10360-7:2011	PFV2D [3] PFV2D [4] [6] PFV2D [5]	in µm	18 °C - 22 °C	1.2 1.1 1.0	1.2 1.1 1.0	1.2 1.1 1.0	– 1.1 –

Optical white light distance sensor [7] **for ZEISS O-INSPECT 3/2/2, 5/4/3, 8/6/3 not possible for 8/6/3 duo**

ZEISS DotScan
Measuring range 1 mm [7]

White light distance sensor,
Scanning measuring rate up to 1000 points/s, Working distance 10,5 mm [8], resolution 28 nm,
measurable surface inclination to beaming direction 90° ±30° [7], measuring spot diameter 8 µm

Unidirectional length measurement error [9] MPE complies with ISO 10360-8:2013	$E_{Uni:Tr:ODS}$ in sensor direction	in µm	18 °C - 22 °C	1.9 + L/150
Dimension probing error MPE complies with ISO 10360-8:2013	$E_{Uni:Tr:ODS}$ in sensor direction	in µm	18 °C - 22 °C	5

ZEISS DotScan
Measuring range 3 mm [7]

White light distance sensor,
Scanning measuring rate up to 1000 points/s, Working distance 21,5 mm [8], resolution 36 nm,
measurable surface inclination to beaming direction 90° ±24° [7], measuring spot diameter 9 µm

Unidirectional length measurement error [9] MPE complies with ISO 10360-8:2013	$E_{Uni:Tr:ODS}$ in sensor direction	in µm	18 °C - 22 °C	2.2 + L/150
Dimension probing error MPE complies with ISO 10360-8:2013	$E_{Uni:Tr:ODS}$ in sensor direction	in µm	18 °C - 22 °C	5

ZEISS DotScan
Measuring range 10 mm [7]

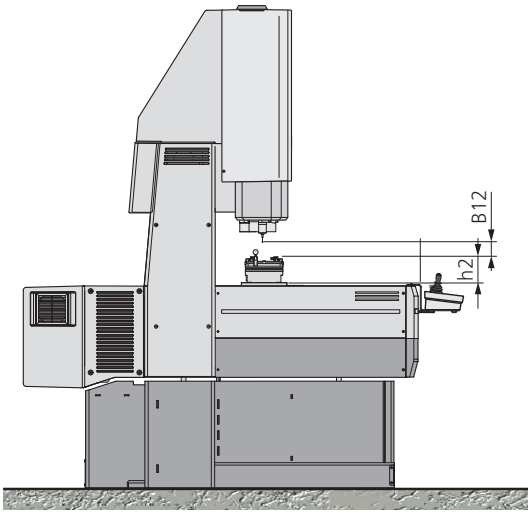
White light distance sensor,
Scanning measuring rate up to 1000 points/s, Working distance 55 [8] mm, resolution 60 nm,
measurable surface inclination to beaming direction 90° ±17° [7], measuring spot diameter 16 µm

Unidirectional length measurement error [9] MPE complies with ISO 10360-8:2013	$E_{Uni:Tr:ODS}$ in sensor direction	in µm	18 °C - 22 °C	3.2 + L/150
Dimension probing error MPE complies with ISO 10360-8:2013	$E_{Uni:Tr:ODS}$ in sensor direction	in µm	18 °C - 22 °C	5

1) Laser class 1: EN (IEC) 60825-1:2002.
2) Measuring length L in mm with acceptance testing plate from ZEISS.
3) standard 100, 6.3x magnification.
4) scout 160, 10x magnification.
5) scout 240, 15x magnification.
6) scout 160c, 10x magnification.
7) Depending on the reflection behavior of the surface.
8) To middle of measuring range.
9) All accuracy specifications of the sensors can be increased by + 0.3 µm for TVA 1 and + 0.5 µm for TVA 2.

Rotary table [1] **for ZEISS O-INSPECT 5/4/3 and 8/6/3, not possible for 8/6/3 duo**

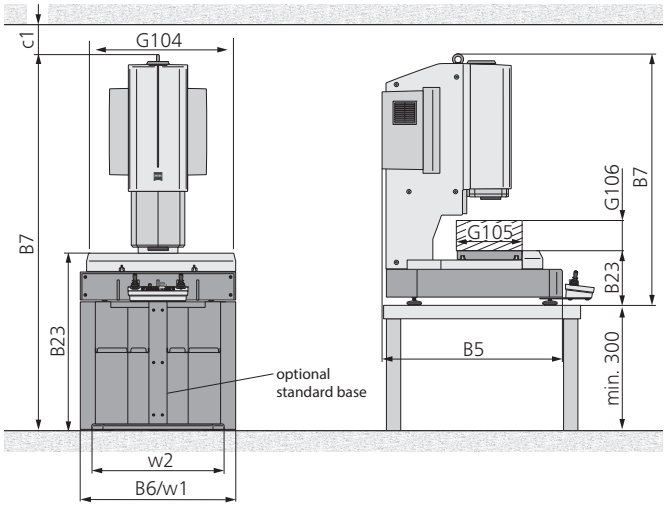
Dimensions and weight					
Masse		in kg		6.3	
Measuring system	Resolution	in "		0,07	
Working range	B12 With a vertical RT axis	in mm in mm		165	
Hight	h2 With a horizontal RT axis	in mm in mm		135	
Centre height with horizontal RT axis		in mm		100	
Max. workpiece diameter		in mm		150	
Dynamics					
Max. angular velocity		in °/s		50	
Rotation speed		in min^{-1}		8.3	
Load/moment					
Moment of tilt		in Nm in Nm	horizontal vertical	max. 2 centric	
Max. centering capacity [2]		in kg	vertical	9	
Max. mass moment of inertia		in kgm^2		0.1	
Tilt rigidity		in Nm/"		1	
Available drive torque	M	in Nm		3	
Max. external torque acting on the rotary axis		in Nm		3	
Max. distance of the load	to the jaw chuck	in mm		100	by approx. 1.5 kg
Accuracy [3]					
Angular position repeatability		in "	18 °C - 22 °C	±0.75	
Axial runout MPE complies with ISO 10360-3:2000	FA	in µm	18 °C - 22 °C	6	
Radial runout MPE complies with ISO 10360-3:2000	FR	in µm	18 °C - 22 °C	6	
Wobble MPE complies with ISO 10360-3:2000	FT	in µm	18 °C - 22 °C	6	

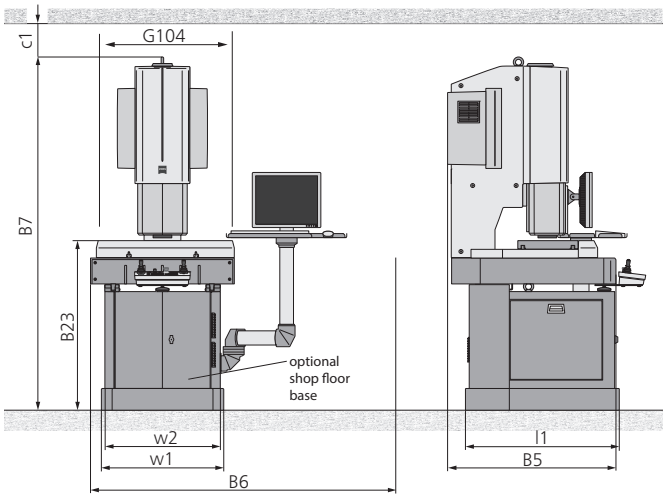


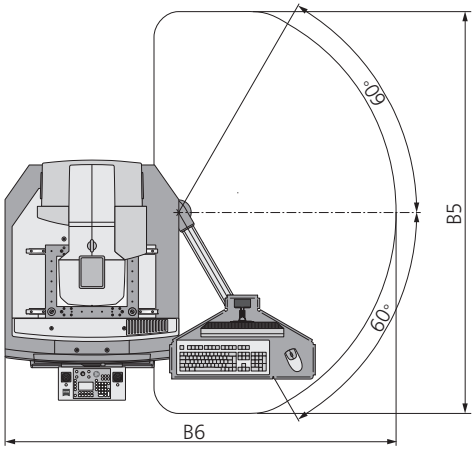
1) Optionally available.
2) Max. centric load capacity refers to the weight of the workpiece and any additional clamping devices required.
3) The rotary table specifications only apply when using original ZEISS 3D Alpha-Check for RT-RB-10-n, Δ h = 25 mm, r = 25 mm. A standard according to the specifications of ISO 10360-3:2000 is not possible due to its design.

ZEISS O-INSPECT 3/2/2	Dimensions in mm												
	Measuring range			Stylus data geometry						Overall machine dimensions			Working range (Max. workpiece size)
	X axis	Y axis	Z axis	ZEISS VAST XXT		ZEISS Discovery.V12		White light distance sensor		Width	Length	Height	Width
	G104	G105	G106	X	Y	X	Y	X	Y	B6	B5	B7	B17
Basic model	300	200	200	0	0	74.0	0	176	0	865[1]	1000 [2]	1405	∞
With standard base	300	200	200	0	0	74.0	0	176	0	865[1]	1000 [2]	2080	∞
With shopfloor base	300	200	200	0	0	74.0	0	176	0	approx. 1935	1960 [2]	2115	∞

	Dimensions in mm					Weight in kg	
	Footprint			Table height	Assembly clearance	Max. workpiece	Measuring machine
	Width		Length				
	w1	w2 [3]	l1	B23	c1		
Basic model	865	765	1000	305	≥200	20	325
with standard base	865	740	1021	980	≥200	20	440
With shopfloor base	732	-	920	1015	≥200	20	490







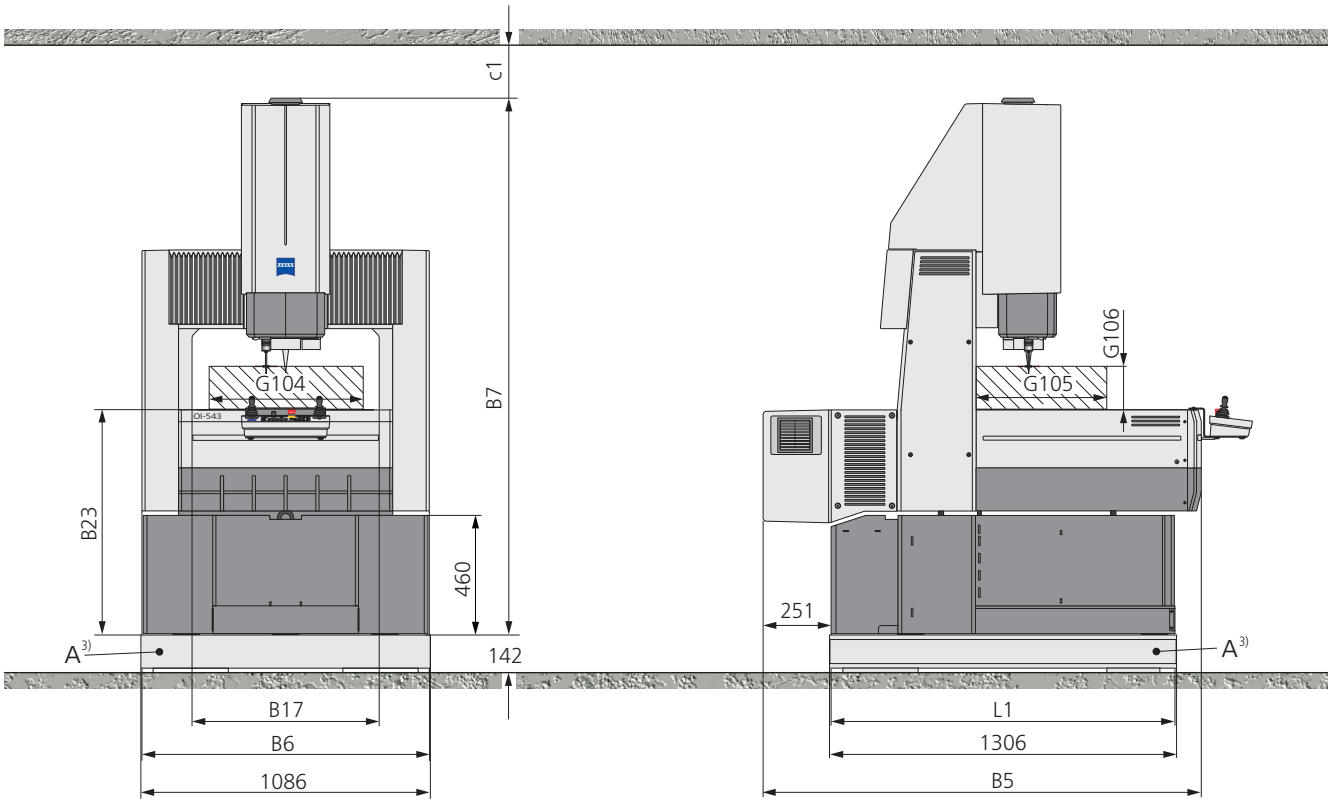
Note: the given dimensions and weights are approximate values. Subject to change. Actual appearance of specific sizes may vary from illustration.
Dimensioning based on DIN 4000-167:2009.

1) plus 2 x 500 mm assembly clearance.
2) plus 240 mm for control panel storage and 500 mm assembly clearance.
3) With disassembly of the cover parts during installation.

ZEISS O-INSPECT 5/4/3 Dimensions in mm

Measuring range			Stylus data geometry						Overall machine dimensions			Working range (Max. workpiece size)
X axis	Y axis	Z axis	ZEISS VAST XXT		ZEISS Discovery.V12		White light distance sensor		Width	Length	Height	Width
G104	G105	G106	X	Y	X	Y	X	Y	B6	B5	B7	B17
500	400	300	0	0	74.0	0	176	0	1090[1)]	1653[2)]	2030	700

Dimensions in mm				Weight in kg			
Footprint		Table height	Assembly clearance	Max. workpiece	Max. workpiece on glass plate	Measuring machine	Base
Width	Length						
B6	l1	B23	c1				
1090	1295	850	≥200	25	20	600	150



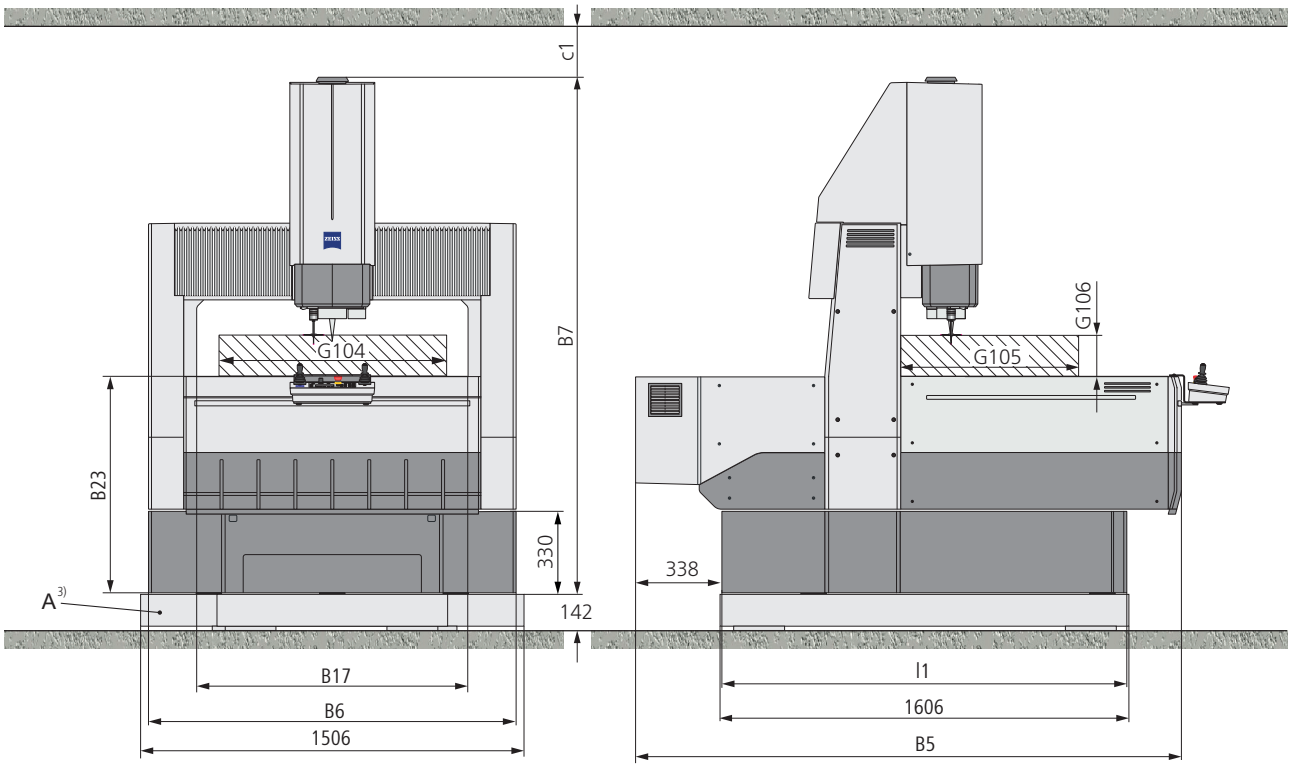
Note: the given dimensions and weights are approximate values. Subject to change. Actual appearance of specific sizes may vary from illustration.
Dimensioning based on DIN 4000-167:2009.

1) plus 2 x 500 mm assembly clearance.
2) plus 200 mm for control panel storage and 500 mm assembly clearance.
3) Optional: Pneumatic vibration insulation.

ZEISS O-INSPECT 8/6/3 Dimensions in mm

Measuring range			Stylus data geometry						Overall machine dimensions			Working range (Max. workpiece size)
X axis	Y axis	Z axis	ZEISS VAST XXT		ZEISS Discovery.V12		White light distance sensor		Width	Length	Height	Width
G104	G105	G106	X	Y	X	Y	X	Y	B6	B5	B7	B17
800	600	300	0	0	74.0	0	176	0	1440[1)]	2144[2)]	2030	1060

DIMENSIONS IN MM				Weight in kg			
Footprint		Table height	Assembly clearance	Max. workpiece	Max. workpiece on glass plate	Measuring machine	Base
Width	Length						
B6	l1	B23	c1				
1440	1591	850	≥200	100	20	1000	200



Note: the given dimensions and weights are approximate values. Subject to change. Actual appearance of specific sizes may vary from illustration.
Dimensioning based on DIN 4000-167:2009.

1) plus 2 x 500 mm assembly clearance.
2) plus 200 mm for control panel storage and 500 mm assembly clearance.
3) Optional: Pneumatic vibration insulation.

Requirements for operational readiness

Relative humidity	40 % - 70% (without condensation)			
Environmental temperature	17°C - 35°C			
Electrical power rating		**3/2/2**	**5/4/3**	**8/6/3 and 8/6/3 duo**
		1/N/PE 100 - 240V~(+10%); 50-60 Hz max. power consumption 600 VA Typical power consumption (thermal load): 130 W Amount of heat generated max. 2160 kJ/h	1/N/PE 100 - 240V~(+10%); 50-60 Hz max. power consumption 600 VA Typical power consumption (thermal load): 130 W Amount of heat generated max. 2160 kJ/h	1/N/PE 100 - 240V~(+10%); 50-60 Hz max. power consumption 600 VA Typical power consumption (thermal load): 130 W Amount of heat generated max. 2160 kJ/h

Environmental requirements

		3/2/2	**5/4/3**	**8/6/3 and 8/6/3 duo**
Permissible humidity (without condensation)		40 % - 70 %	40 % - 70 %	40 % - 70 %
Environmental temperature		18 °C - 22 °C	18 °C - 22 °C	18 °C - 22 °C
Temperature fluctuations	per day	2.0 K/d	2.0 K/d	2.0 K/d
	per hour	1.0 K/h	1.0 K/h	1.0 K/h
	spatial	1.0 K/m	1.0 K/m	1.0 K/m
Floor vibrations	ZEISS O-INSPECT is equipped with an integrated vibration damping system and is therefore highly resistant to vibrations.			

Technical features

		3/2/2	**5/4/3**	**8/6/3 and 8/6/3 duo**
Length measurement system		Optical scales; reflected light system, photoelectric, resolution 0.08 µm	Optical scales; reflected light system, photoelectric, resolution 0.08 µm	Optical scales; reflected light system, photoelectric, resolution 0.08 µm
Controller	Type	based on ZEISS C99m	based on ZEISS C99m	based on ZEISS C99m
	Protection type	IP53	IP53	IP53
Data technology		Delivered with a fully equipped workstation.	Delivered with a fully equipped workstation.	Delivered with a fully equipped workstation.
Accessories (optional)		Star stylus kit, part clamping set, pallet frame, optical confocal white light distance sensor, workpiece temperature sensor, measuring lab illumination, standard base, ShopFloor base, ProMax, Pneumatic vibration isolation.	Star stylus kit, part clamping set, pallet frame, rotary table, optical confocal white light distance sensor, workpiece temperature sensor, measuring lab illumination, Pneumatic vibration isolation.	Star stylus kit, part clamping set, pallet frame, rotary table, optical confocal white light distance sensor, workpiece temperature sensor, measuring lab illumination, Pneumatic vibration isolation.

Approvals

Regulations	ZEISS O-INSPECT complies with EC machinery directive 2006/42/EC, the EMC directive 2014/30/EU and the RoHS directive 2011/65/EU.
Disposal	ZEISS products and packaging returned to us are disposed of in accordance with applicable legal provisions.

Certifications/accreditations

Quality management system	ISO 9001:2015
Environmental management system	ISO 14001:2015
Occupational health & safety management systems	ISO 45001:2018
Accredited	ISO/IEC 17025

Carl Zeiss
Industrielle Messtechnik GmbH
73446 Oberkochen / Germany
Sales: +49 (0) 7364 20-6336
Service: +49 (0) 7364 20-6337
Fax: +49 (0) 7364 20-3870
Email: info.metrology.de@zeiss.com
Internet: www.zeiss.com/imt

Carl Zeiss
Industrial Metrology, LLC
6250 Sycamore Lane North
Maple Grove, MN 55369/USA
Phone: +1 763 744-2400
Fax: +1 763 533-0219
Email: info.metrology.us@zeiss.com
Internet: www.zeiss.com/metrology

EN_60_022_0343XXI Printed in Germany. CZ-XI/2025
Subject to changes in design and scope of delivery and due to ongoing technical development.
Printed on chlorine-free bleached paper.