
ZEISS O-INSPECT OI 442 – Multi-Sensor Coordinate Measuring Machine**Technical Specifications****Model:** ZEISS O-INSPECT OI 442**Measuring Range:**

- X-axis: 400 mm
- Y-axis: 400 mm
- Z-axis: 200 mm

Length Measurement Error according to ISO 10360-2 (with VAST XXT):

- $MPE_E = (1.9 + L/250) \mu m$
- $MPE_P = 1.9 \mu m$

Scanning Performance according to ISO 10360-4 (with VAST XXT):

- $MPE_{THP} = 3.5 \mu m$ in 68 seconds

Length Measurement Error according to VDI/VDE 2617 Part 6.1 (with Discovery Zoom Objective):

- $MPE_{E2D(OT)} = (1.9 + L/250) \mu m$

Permissible Temperature Range for Specifications:

- 19°C – 21°C

Machine Features and Equipment

- Bridge-type coordinate measuring machine with movable measuring table
- Table height approximately 850 mm
- Linear measuring system with 0.1 μm resolution
- Integrated vibration damping system
- Integrated PC-based scanning controller (ISC)
- Prepared for the Discovery Zoom optical camera system and the VAST XXT TL1 tactile scanning probe
- Integrated transmitted-light illumination system
- Numerical control panel with standard rotating operator shelf
- Calibration sphere, $\varnothing$ 25 mm
- Calibration ring
- Acceptance documentation and operating manuals included
- Remote service capability (teleservice) available throughout the warranty period

Highlights

The ZEISS O-INSPECT OI 442 combines optical and tactile measurement technology within a single highly precise multi-sensor coordinate measuring system. It is ideally suited for dimensional inspection, quality assurance, first article inspection, and high-precision measurement tasks in industries such as mechanical engineering, medical technology, precision manufacturing, plastics, and automotive supply.

VAST XXT TL1 for O-INSPECT**Part No.: 622810-9300-000****18-pin connection, ID-coded**

Consisting of:

- 1 × VAST XXT TL1 ID passive scanning probe
- **10** × TL1 ID-coded stylus holders for stylus lengths from 30 mm to 125 mm
- 1 × ID-coded reference stylus holder TL1
- 1 × Reference stylus, length 30 mm, ball diameter 5 mm
- Complete accessory package including tools

Features:

- Fully CNC-compatible stylus changing when used in combination with the XXT stylus rack magazine
- Requires CALYPSO software version 4.4 or later, or CMM-OS version 3.4 or later

Discovery Zoom Optical Sensor System

The optical sensor package consists of:

- Integrated CCD camera system
- Discovery Zoom objective lens with 12x magnification
- 8-segment ring light equipped with high-power dual-color LEDs (red/blue)
- Dual-color coaxial incident light illumination system for the zoom objective
- Mini ring light
- Transmitted light illumination system
- CALYPSO Image Analysis software option

Measurement Capabilities

The system enables highly accurate optical measurement and inspection of the following geometric elements:

- Point
- Circle
- Ellipse
- Line
- 2D Contour
- Plane

Advanced Image Processing

Image evaluation is performed in grayscale mode using advanced measurement algorithms, including:

- Dynamic Threshold
- Edge Detection (Edge Rise)
- Correlation Analysis

Additional Features

- Automatic single-point probing
 - Optical scanning measurement technology
 - Fully programmable illumination system
 - CALYPSO Image Analysis operating manual included
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Discovery Zoom Sensor Calibration Artifact
Calibration Artifact for Discovery Zoom Sensor

Including calibration of the artifact with official calibration certificate.

Part Clamping Kit for Workpiece Fixation

Part No.: 622810-9806-130

Part clamping kit designed for secure workpiece fixation on the transmitted-light measuring table.

Tactile Sensor Visualization (OI)

Part No.: 622810-8600-000

Visualization package for the tactile sensor system of the ZEISS O-INSPECT.

XXT-Stylus Rack for O-INSPECT

Part No.: 626100-9382-000

- XXT stylus rack for ZEISS O-INSPECT
- 3 storage positions for XXT TL1 stylus holders
- Including mounting bracket for direct installation on the O-INSPECT measuring machine

Stylus Holder ZSH-28-A-0 for XXT TL1

Part No.: 620161-8056-000

- Original ZEISS stylus holder ZSH-28-A-0
- Compatible with the VAST XXT TL1 probing system

Data Processing System

Part No.: 000000-1062-451

Complete data processing and control system for the ZEISS O-INSPECT measuring machine.

ZEISS Power Workstation HP

Part No.: 000000-0510-232

Consisting of:

- HP Workstation XW4600
- Intel Core 2 Duo Processor, 3.16 GHz
- 2 × 160 GB SATA Hard Drives (10,000 rpm)
- 4 GB DDR2-800 ECC RAM
- NVIDIA Quadro FX 1700 Graphics Card, 512 MB
- 2 × Broadcom Gigabit LAN Ports (10/100/1000)
- DVD±RW Dual Layer Drive
- USB Scroll Mouse
- Power Supply Unit 80+
- Keyboard not included
- Windows Vista Business 32-bit Recovery CD
- Downgrade option to Windows XP Professional 32-bit

Optional Accessories and Additional Equipment

Aluminum Grid Plate Pallet for ZEISS O-INSPECT

The aluminum grid plate pallet is hard-coated and highly wear-resistant, ensuring long-term durability and dimensional stability.

Features:

- Grid plate pattern:
 - 50 mm × 50 mm for CMB standard fixtures
 - 15 mm × 15 mm for the CMB mini fixture system
- Designed for precise and repeatable workpiece positioning
- In combination with the pallet mounting system, a highly reproducible pallet placement is achieved
- Equipped with ergonomic handles for easy handling and transportation

This fixture solution enables flexible and repeatable clamping of a wide variety of workpieces while maintaining maximum measurement accuracy.

ZEISS RT-OI Horizontal Complete

Part No.: 622810-9699-000

The ZEISS RT-OI Horizontal Complete is an original ZEISS rotary table specifically designed for integration with the ZEISS O-INSPECT multi-sensor coordinate measuring machine.

Features and Scope of Supply:

- Original ZEISS rotary table / rotary positioning unit for O-INSPECT
- Complete with transport case and accessories
- Designed for the measurement and inspection of rotationally symmetrical components
- Ideal for shafts, gears, turned parts, and high-precision mechanical components
- Enables automated rotational positioning for enhanced measurement efficiency and accuracy
- Significantly expands the machine's capabilities for complex geometric inspections
- Year of manufacture: 2011

ZEISS Calibration History

The machine has been regularly calibrated and inspected by ZEISS throughout its operational life. Corresponding calibration certificates and reports are available.

Documented ZEISS Calibrations

- October 2009
- November 2011
- November 2013
- January 2015
- January 2016
- January 2017
- January 2018
- February 2019
- January 2020
- March 2022
- April 2023
- April 2025

Remarks

The regular calibrations performed by ZEISS demonstrate continuous maintenance, proper operation, and the sustained accuracy of the measuring system. All relevant calibration reports and certificates can be made available for review upon serious purchase interest.

Key Highlights

- Year of Manufacture: 2008
- Regularly calibrated and inspected by ZEISS
- Most recent calibration: April 2025
- Complete calibration history available
- Extensive accessory package including:
 - VAST XXT TL1 tactile scanning probe
 - Discovery Zoom optical sensor
 - ZEISS RT-OI Horizontal Complete rotary table
 - Aluminum grid plate pallet
 - Glass frame for optical measurements
 - ZEISS CALYPSO software
- Original ZEISS documentation available

