

PolyWorks | Inspector™ basic probing applications for portable metrology

Objective

The objective of this 2-day training is to enable metrology operators, technicians, and engineers, who have little or no knowledge of the PolyWorks Metrology Suite, to perform 3D inspections using tools found in PolyWorks | Inspector™. More specifically, it covers the key concepts of a typical inspection workflow for portable metrology devices such as articulated arms with probing capabilities.

Prerequisites

- Trainees must have basic knowledge of metrology and be able to read engineering drawings.
- Trainees must have basic computer skills (Windows operating systems).

Outline

- Manage files and navigate through the PolyWorks® interface
- Define a measurement plan
- Measure surface deviations and control part dimensions by probing
- Align measured part to the CAD model
- Review, report, and share inspection results
- Inspect multiple pieces

Content

Manage files and navigate through the PolyWorks® interface

- Navigate through the PolyWorks Workspace manager interface
- Create and save a workspace
- Navigate through the PolyWorks | Inspector interface
- Create and save a PolyWorks | Inspector project

Define a measurement plan

- Define the steps of a typical inspection workflow
- Import a CAD model and use as a Reference object
- Create features and comparison points
- Set dimensional and GD&T controls and tolerances

Measure surface deviations and control part dimensions by probing

- Configure a probing device

- Probe measurement objects
 - Features and comparison points
- Acquire data in different device positions
- Build & inspect

Align measured part to the CAD model

- Align using Surface Points
- Align using objects
 - Perpendicular Planes
 - Plane, Axis, Center Point
 - Best-Fit Measurement Objects
- Align using Datum Reference Frames
- Create coordinate systems

Review, report, and share inspection results

- Review measurement results using the Control Reviewer
- Structure measurement results using control views
- Create formatted reports using snapshots and tables
- Share and review inspection results using PolyWorks | Reviewer™

Inspect multiple pieces

- Create a piece template for multipiece inspections
- Repeat an inspection automatically
- Review SPC results from multipiece inspections