What's new in

PolyWorks® 2024

Dimensional Analysis &
Quality Control Solutions

Improve 3D Measurement Efficiency with our Re-Engineered User Interfaces

Our significant investments in improving software usability year after year directly reflect our core value of ensuring customer success. PolyWorks|Inspector™ 2024 delivers major gains in efficiency through its re-engineered user interfaces.

▶ Perform inspection tasks and discover new tools intuitively as we have merged all toolbars and the main menu bar into a new ribbon menu and adjusted the appearance and organization of interface widgets to offer a more logical workflow

▶ Access frequently used tools more directly, thereby reducing mouse movements and clicks

▶ Quickly find the functionalities that apply to selected objects by accessing a contextual tab or a simplified contextual menu

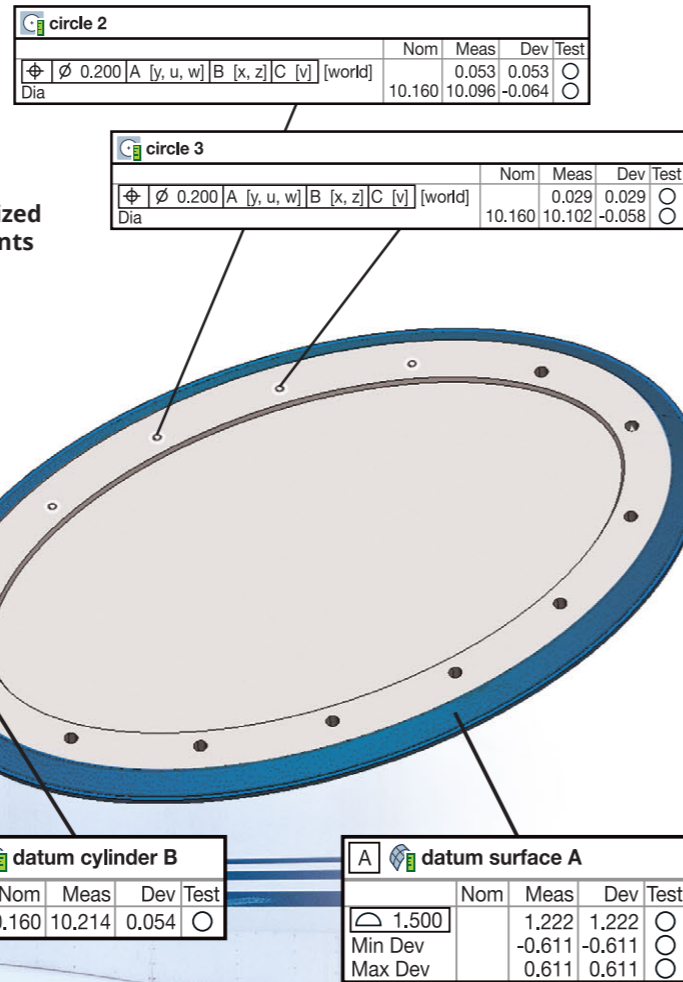▶ Adapt the ribbon menu to your needs by repositioning tools or integrating macro scripts

With PolyWorks|Inspector 2024, users are able to:

▶ Learn and master basic workflows more easily

▶ Retrieve their favorite tools more quickly

▶ Strengthen their skills by exploring various new tools at their fingertips

innovmetric

Empower Datum Reference Frames with Surface Features

Surface datum features allow evaluating GD&T in the optimized alignment required by the assembly, with all of the constraints and mobility intended. With PolyWorks|Inspector 2024:

▶ Simulate the real physical constraint of a surface datum feature by controlling the considered degrees of freedom

▶ Calculate the best measured control results possible by optimizing surface feature alignment within its full profile tolerance allowances

circle 2

	Nom	Meas	Dev	Test
⊕ Ø 0.200 A [y, u, w] B [x, z] C [v] [world]		0.053	0.053	○
Dia	10.160	10.096	-0.064	○

circle 3

	Nom	Meas	Dev	Test
⊕ Ø 0.200 A [y, u, w] B [x, z] C [v] [world]		0.029	0.029	○
Dia	10.160	10.102	-0.058	○

B datum cylinder B

	Nom	Meas	Dev	Test
Dia	10.160	10.214	0.054	○

A datum surface A

	Nom	Meas	Dev	Test
◯ 1.500		1.222	1.222	○
Min Dev		-0.611	-0.611	○
Max Dev		0.611	0.611	○

Control the Fit of Probed Features

With this new release, PolyWorks|Inspector now offers direct control over the fitting parameters of probed features, which enables users to:

▶ Predefine the fit type and constraints prior to probing to directly get the desired result

▶ Modify the fit type and constraints after probing and automatically update the result

cylinder 5

|	Nom	Meas	Dev	Test
Dia	72.000	71.926	-0.074	●
Len	72.300	24.243	-0.057	●

Improve Result Analysis and Reporting with Contextual Control Views

PolyWorks|Inspector already allows users to report 3D measurement results in multiple contexts using tables and snapshots. Version 2024 extends this capability to control views. Select a set of dimensional controls, choose a data alignment as well as a coordinate system, and create a contextual control view to:

▶ Analyze surface deviations in multiple alignments

With body alignment
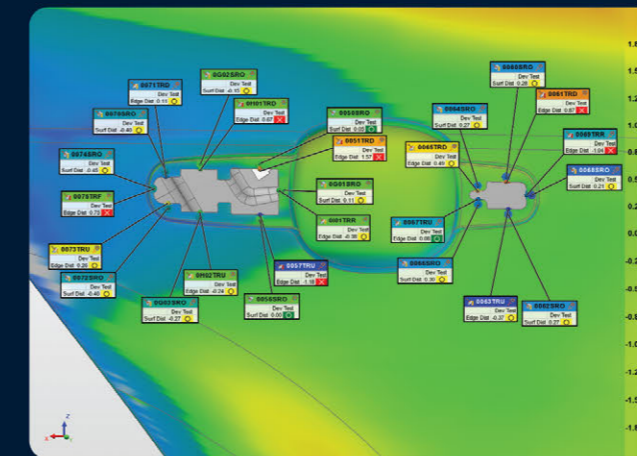
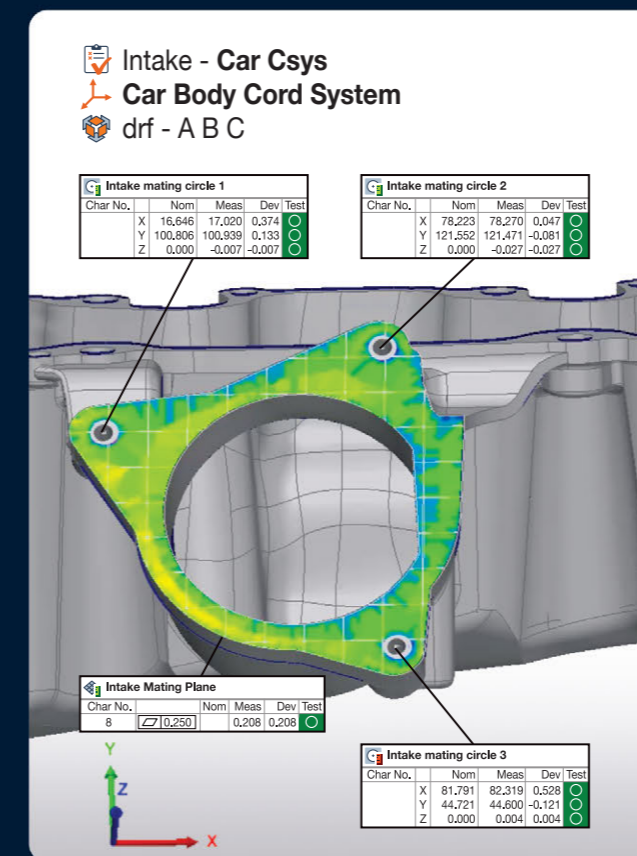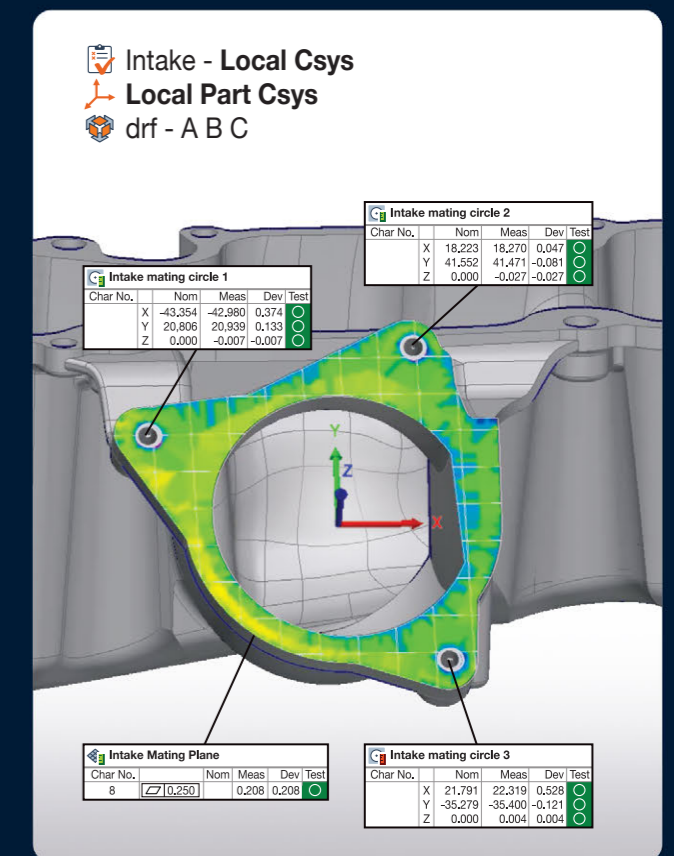With handle alignment
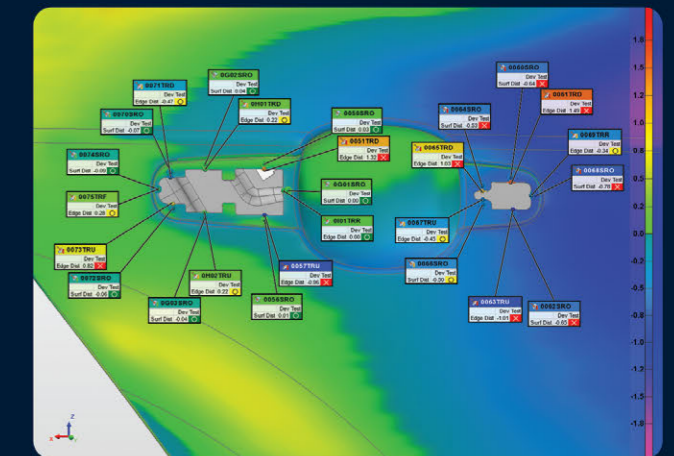
▶ Inspect dimensional controls in the tooling and assembly coordinate systems

With car body coordinate system

With intake part coordinate system

Intake - Car Csys
Car Body Cord System
drf - A B C

Intake mating circle 1

Char No.		Nom	Meas	Dev	Test
	X	16,646	17,020	0,374	○
	Y	100,806	100,939	0,133	○
	Z	0,000	-0,007	-0,007	○

Intake mating circle 2

Char No.		Nom	Meas	Dev	Test
	X	78,223	78,270	0,047	○
	Y	121,552	121,471	-0,081	○
	Z	0,000	-0,027	-0,027	○

Intake Mating Plane

Char No.		Nom	Meas	Dev	Test
8	◯ 0,250		0,208	0,208	○

Intake mating circle 3

Char No.		Nom	Meas	Dev	Test
	X	81,791	82,319	0,528	○
	Y	44,721	44,600	-0,121	○
	Z	0,000	0,004	0,004	○

Intake - Local Csys
Local Part Csys
drf - A B C

Intake mating circle 2

Char No.		Nom	Meas	Dev	Test
	X	18,223	18,270	0,047	○
	Y	41,552	41,471	-0,081	○
	Z	0,000	-0,027	-0,027	○

Intake mating circle 1

Char No.		Nom	Meas	Dev	Test
	X	-43,354	-42,980	0,374	○
	Y	20,806	20,939	0,133	○
	Z	0,000	-0,007	-0,007	○

Intake Mating Plane

Char No.		Nom	Meas	Dev	Test
8	◯ 0,250		0,208	0,208	○

Intake mating circle 3

Char No.		Nom	Meas	Dev	Test
	X	21,791	22,319	0,528	○
	Y	-35,279	-35,400	-0,121	○
	Z	0,000	0,004	0,004	○

Perform CADless Inspection Workflows on CNC CMMs

CNC CMM operators can now create measurement sequences without any CAD data:

▶ Prepare a CNC sequence easily by leveraging a new teach mode that records manually probed points and Go To points

▶ Automate multipiece measurement by converting probed features from the first piece into measurement guides for subsequent pieces

▶ Improve measurement repeatability by resampling measurement guides and generating uniformly distributed measurement points