

AxelSystems

Integrated Solution For
Effort Free Measurement

AXEL 7 2D

Inspection software for Optical Projectors

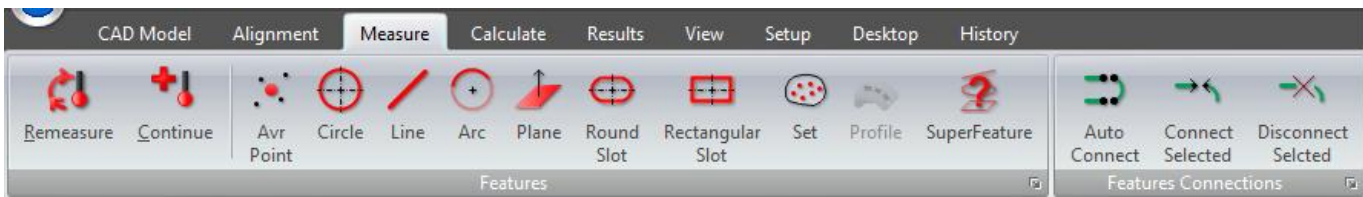


Optical Projector

Axel 7 2D

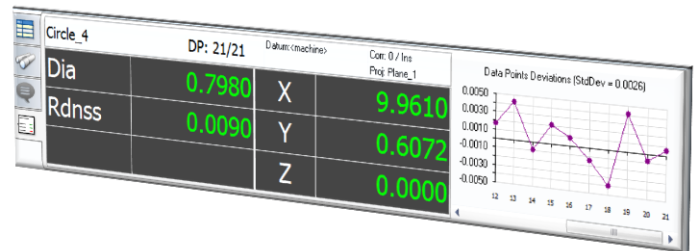
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ADVANCED FEATURES MAKE AXEL EASY TO USE



Key features

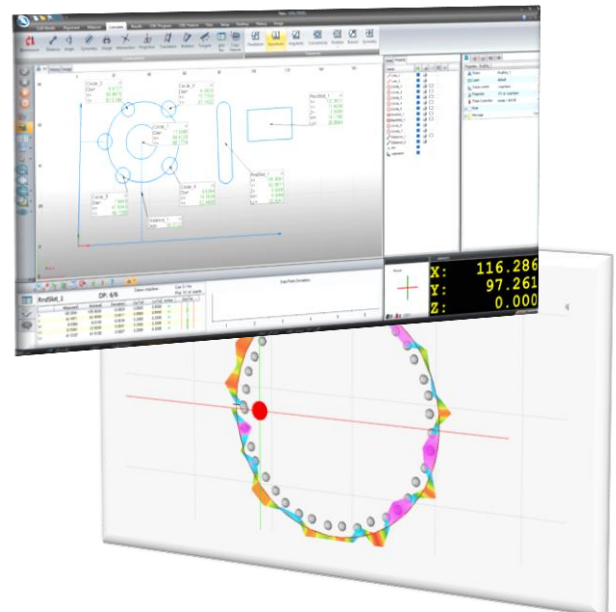
- ❑ **Office Ribbon User Interface** – Work smarter and faster with intuitive graphics interface.
- ❑ **Geometric Features** – full range of geometric inspection features.
- ❑ **Multiple Datum** – multiple datum systems and extensive alignment options with graphical representation in the Measure Window.
- ❑ **Geometric Dimensioning and Tolerancing**.
- ❑ **Constructions** - Intelligent context-sensitive constructions.
- ❑ **User Results** – Calculated results from user defined formulas
- ❑ **Reverse Engineering** – features to reverse engineer parts with export to CAD packages.
- ❑ **Go-Mode** – Automatic Feature List program creation for repetitive running of inspection routines with user defined messages.
- ❑ **Feature Guide** - Go mode feature to guide to last measured positions in order to increase repeatability of inspection.
- ❑ **CAD Import/Export** – Import CAD data to create part programs and extract dimensions and Export in CAD format.
- ❑ **Results Reporting** - User configurable, fully featured text and graphical Report Generator.
- ❑ **EXCEL/HTML templates** - Export results to MS Excel and HTML
- ❑ **Historical & SPC** – Pipe Wizard software allows multiple datums so that extra features can be displayed with respect to other datum on the tube assembly.



Results Window

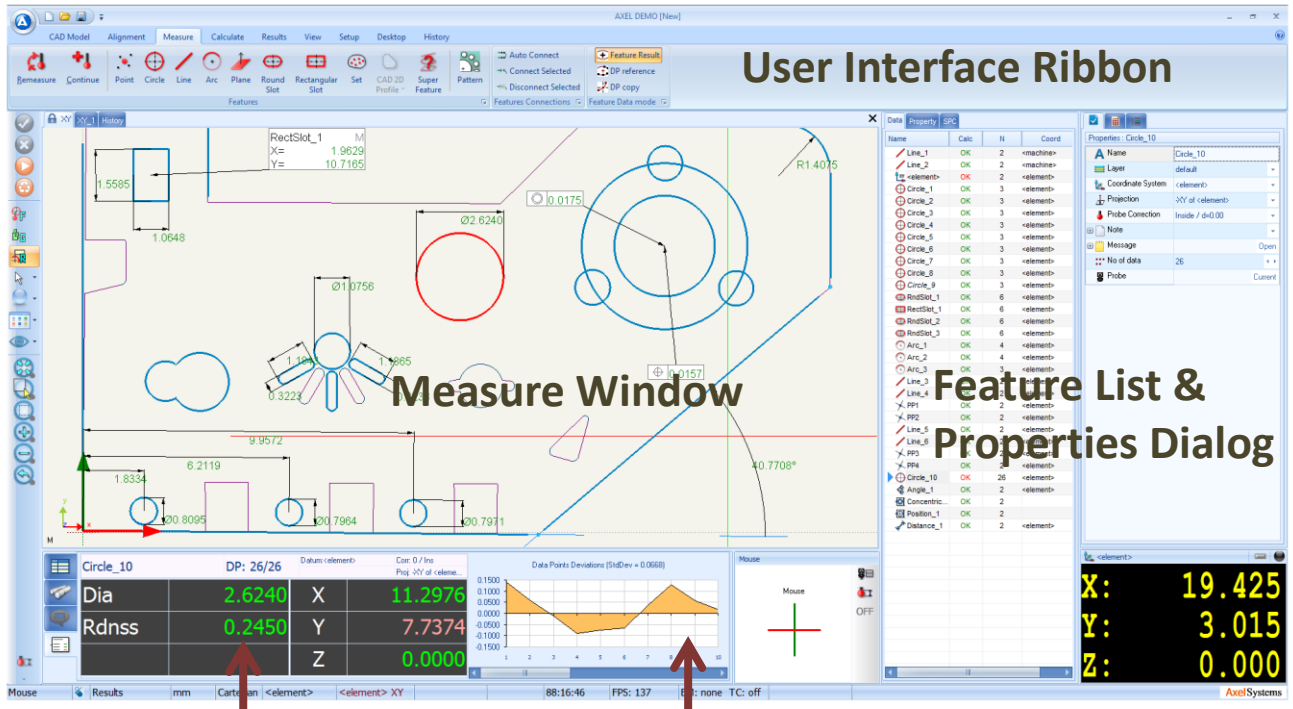
Feature	Measured	Nominal	Deviation	Up-Tol	Lo-Tol	U/I/O	Out-Tol
Rad	10.9684	8.6650	2.3034	0.0150	-0.0150	out	2.2884
Dia	21.9367	17.3300	4.6067	0.0300	-0.0300	out	4.5767
X	59.6002	58.4200	1.1802	0.0500	-0.0500	out	1.1302
Y	64.9246	65.1800	-0.2554	0.0500	-0.0500	out	0.2054
Z	0.0000	0.0000	0.0000	0.0500	-0.0500	in	0.0000
Rdnss	1.3170						
Pos	2.4150			0.2500			
Rdnss	10.2136	8.3800	1.8336	0.1000		out	1.0670
Rdnss	11.5306	8.9100	2.6206	0.1000	-0.1000	out	1.7336
PosMnc	2.4150			0.1000	-0.1000	out	2.5206
				0.1000		out	2.3150

Tolerances Input Table



ADVANCED FEATURES MAKE AXEL EASY TO USE

User Interface Ribbon



Results Window

Feature Deviations Graph

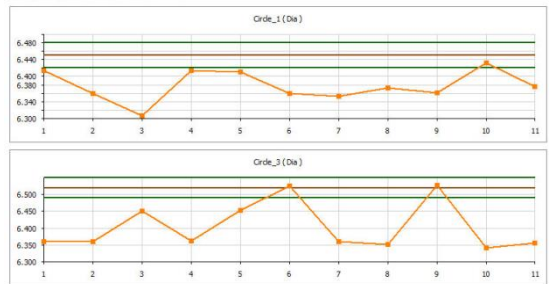
Axel Inspection Report

Features	Coordinates:	Probe	Probe Correction	Projection
Circle 1				
Results	Measured	Nominal	Deviation	Up-Tol
Dia	21.9591	22.0000	-0.0409	0.0000
X	59.8022	59.8000	0.0022	0.0000
Y	64.9246	65.0000	-0.0754	0.0000
Circle 2				
Results	Measured	Nominal	Deviation	Up-Tol
Dia	6.9727	6.9700	0.0027	0.0000
X	30.9879	30.9900	-0.0021	0.0000
Y	81.5198	81.5200	-0.0002	0.0000
Circle 3				
Results	Measured	Nominal	Deviation	Up-Tol
Dia	8.0933	8.0900	0.0033	0.0000
X	73.7733	73.7800	-0.0047	0.0000
Y	81.1432	81.1400	0.0032	0.0000
Circle 4				
Results	Measured	Nominal	Deviation	Up-Tol
Dia	8.6264	8.6200	0.0064	0.0000
X	74.2828	74.2800	0.0028	0.0000
Y	82.4806	82.4800	0.0006	0.0000
Circle 5				
Results	Measured	Nominal	Deviation	Up-Tol
Dia	7.9433	7.9300	0.0047	0.0000
X	47.8343	47.8300	0.0043	0.0000
Y	48.7392	48.7300	0.0092	0.0000
RndSlot 1				
Results	Measured	Nominal	Deviation	Up-Tol
X	105.9591	105.9600	-0.0009	0.0000
Y	62.9011	62.9000	0.0011	0.0000
W	8.0266	8.0100	-0.0034	0.0000
LC	33.0241	33.0000	0.0041	0.0000
LS	41.5107	41.5100	0.0007	0.0000
RectSlot 1				
Results	Measured	Nominal	Deviation	Up-Tol
X	132.3621	132.3600	0.0021	0.0000
Y	71.4026	71.4000	0.0026	0.0000
W	16.1785	16.1800	-0.0015	0.0000
LS	26.0544	26.0600	-0.0044	0.0000
Circle 6				
Results	Measured	Nominal	Deviation	Up-Tol
Dia	7.9639	7.9700	-0.0041	0.0000
X	37.9847	37.9800	0.0047	0.0000
Y	66.0190	66.0200	-0.0010	0.0000
Circle 7				
Results	Measured	Nominal	Deviation	Up-Tol
Dia	40.3197	40.3200	-0.0003	0.0000
X	59.3547	59.3300	0.0047	0.0000
Y	63.0140	63.0100	0.0040	0.0000
Distance 1				
Results	Measured	Nominal	Deviation	Up-Tol
Dia	63.0140	63.0100	0.0040	0.0000

Results Printout

Feature	Type	Print	Index	N of DP	Note							
Circle_1	Circle		8	15								
Result	Units	Nominal	Up-Tol	Low-Tol	Average	Min	Max	Range	StdDev	Cp	Cpk	Enabled
Dia		6.4000	0.0000	0.0000	6.2162	6.3064	6.4327	0.1263	0.0366	0.2728	-0.3880	✓
Measured Chart / Histogram / Table												
Sample	Measured	Deviation	In-Tol	Date	Valid							
1	6.3243	-0.0757	✓	28/10/2011 15:35:46	✓							
2	6.3043	-0.0957	✓	28/10/2011 15:41:38	✓							
3	6.3468	-0.0532	✓	28/10/2011 15:42:41	✓							
4	6.4228	0.0228	✓	28/10/2011 15:43:24	✓							
5	6.4694	0.0694	✓	28/10/2011 15:44:38	✓							
6	6.2773	-0.1227	✓	28/10/2011 15:45:47	✓							
Circle_2	Circle		7	85								
Result	Units	Nominal	Up-Tol	Low-Tol	Average	Min	Max	Range	StdDev	Cp	Cpk	Enabled
Dia		6.3800	0.0000	-0.0300	6.4118	6.2326	6.6118	0.1792	0.0227	0.0815	-0.0028	✓
In Pos		0.0000	0.0000	0.0000	0.2809	0.0607	0.4957	0.3150	0.0030	0.1818	-0.5895	✓
Measured Chart / Histogram / Table												
Circle_3	Circle		7	15								
Result	Units	Nominal	Up-Tol	Low-Tol	Average	Min	Max	Range	StdDev	Cp	Cpk	Enabled
Dia		6.5200	0.0000	0.0000	6.4441	6.2444	6.5274	0.1830	0.0713	0.1402	-0.4032	✓
In Pos		0.0000	0.0000	0.0000	0.9070	0.6031	1.0214	0.2183	0.0681	0.2496	-0.3811	✓
Circle_4	Circle		7	15								
Result	Units	Nominal	Up-Tol	Low-Tol	Average	Min	Max	Range	StdDev	Cp	Cpk	Enabled
Dia		6.5100	0.0000	0.0000	6.4993	6.4055	6.5999	0.1944	0.0542	0.1945	-0.0921	✓

Historical results



Charts

FEATURES AND BENEFITS

Axel 7 2D Applications

Axel 7 2D windows software works with optical projectors (optical comparators). It has been designed to compliment and enhance features found on DROs (Digital Readout Units) normally found with optical projectors. It interfaces with DRO via serial link or USB. The data points are gathered with the footswitch or automatically with Edge Detector if available.

Why use it with Optical Projector ?

User Interface – Work faster and smarter with intuitive user interface. Our already successful interface of tabs has been enhanced with Ribbon to accelerate the workflow. The Measure Window shows the graphical representation of measuring stage.

Measurement – *Multiple coordinate systems* and extensive alignment options galleries with graphical representation in the Measure Window are available. You will always know which way axes are pointing and where origin is when looking at Measure Window. Standard set of 2D geometrical features is provided together with full **geometrical tolerancing**.

Reporting – Fully featured text and graphical reports are generated by simply choosing what to show in the report. Graphical dimensional results boxes or dimensions are shown in the Measure Window. Results may be shown in Excel and HTML formats. Customizable templates to display great looking reports in Excel/HTML are provided. Results may also be sent to other applications via Auto-Link feature.

Historical Results & SPC – The batch inspection results are stored for historical and SPC analysis. Using the History feature, the results can be displayed as programmable charts, SPC data or grouped by part or individual features.

CAD Import/Export – CAD data can be imported into Axel to create part programs and to define part nominal dimensions. The inspection results and Reverse Engineering data are exported in CAD formats.

Reverse Engineering Capability – SET feature is used for Reverse Engineering. Additional features enhance part profile collection.

For more information, visit www.axelsystems.com

AxelSystems

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