AxelSystems

Integrated Metrology Suite for
Effort Free Measurement
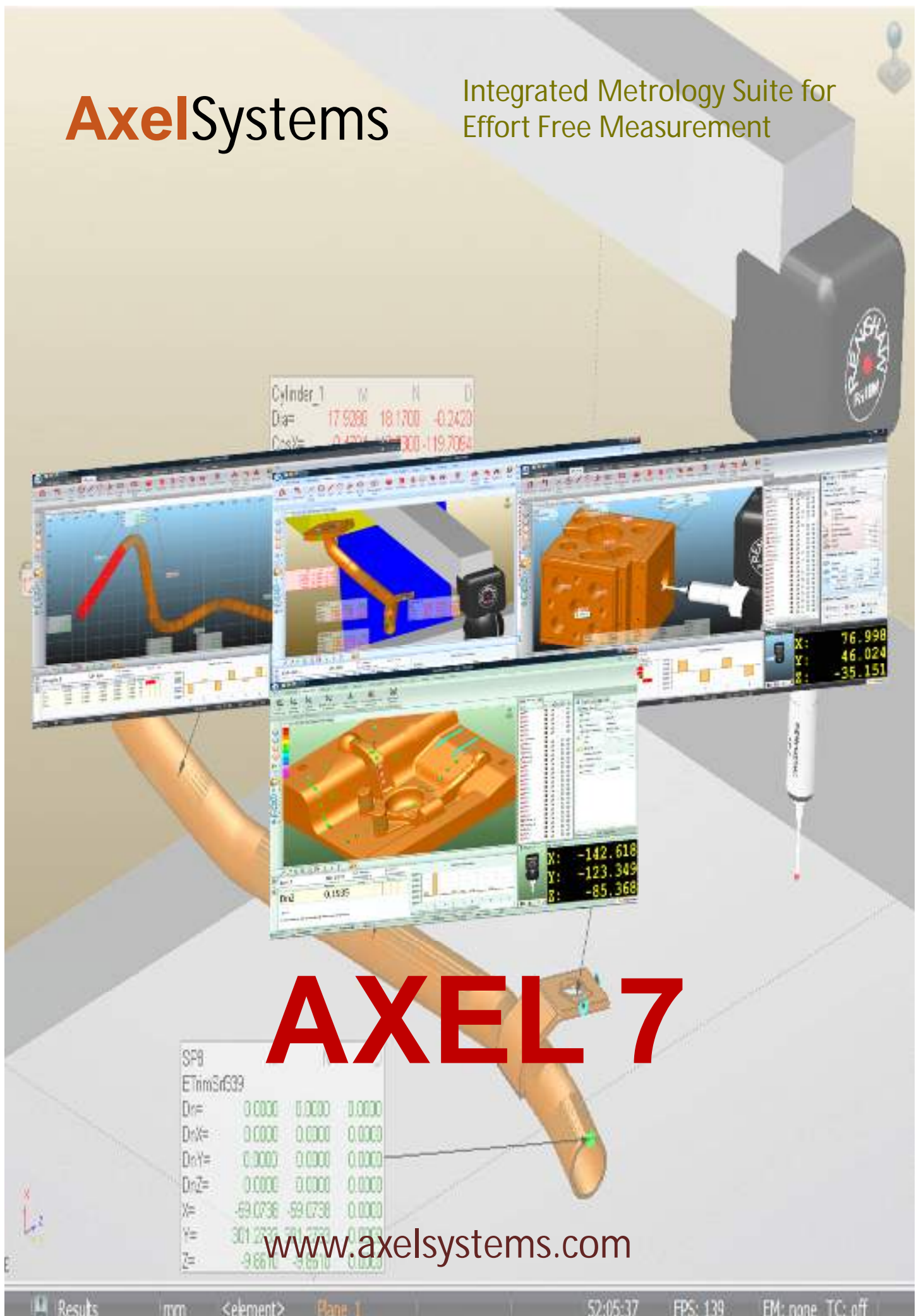
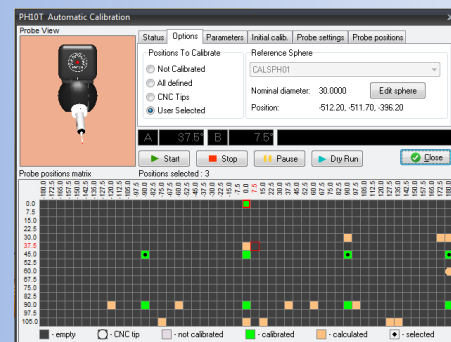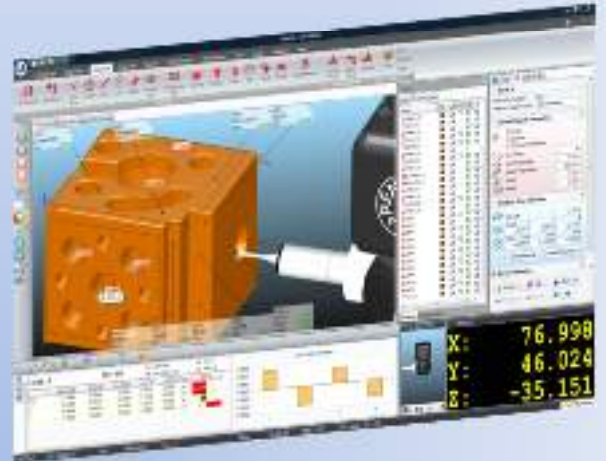# AXEL 7

www.axelsystems.com

ADVANCED FEATURES MAKE AXEL EASY TO USE

- ❑ Work smarter and faster with intuitive graphic interface. Our already successful interface of tabs and toolbars has been enhanced with Ribbon which accelerates the personal workflow and quarantees more efficiency in daily business.

- ❑ Geometric , surface and tube inspection within single metrology framework

- ❑ Algorithms tested with PTB and NPL standard data sets

- ❑ Multiple Coordinate Systems & extensive alignment options with graphical representation in the Measure Window

- ❑ Multiple Measure Window part views with graphical zoom & rotate, solid or wireframe views

- ❑ Geometric Dimensioning & Tolerancing

- ❑ *Intelligent constructions* with context sensitive results

- ❑ Calculated results from user defined formula

- ❑ Reverse engineering features for performing part digitizing

- ❑ Special scan features for *articulated arms*

- ❑ Mouse rotation / pan & zoom /' view grid / adjustable shadows & lighting

- ❑ '*Go mode*' for running manual measurement sequences

- ❑ Go mode auto view play to enhance feature inspection

- ❑ DDE / File / Serial Data export to SPC & Excel

- ❑ Export results to *MS Excel and HTML* with multiple templates

- ❑ User configurable, fully featured text & Graphical Report Generator

Axel CNC

Adds the ability to inspect on automatic CMMs

Run	Stop	Step	Pause	Reset	Dry Run	Abort	From Fetaure	Single Fetaure	Single Move	Program Manager	DMIS editor	Learn mode

Program Control — Partial Run — Editors
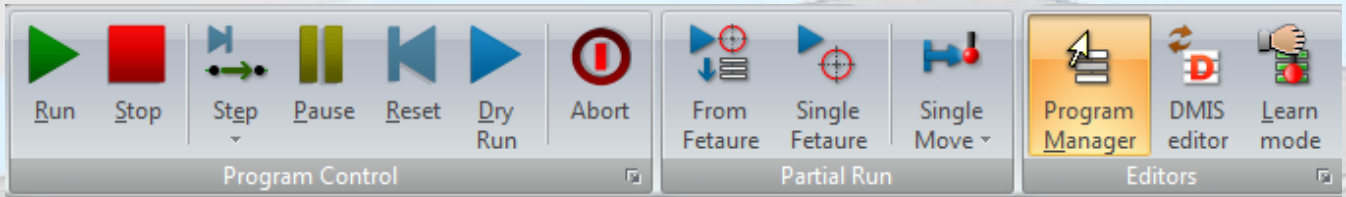
- Click and Measure functionality. Axel Suite strikes perfect balance between power and ease of use. Majority of applications can be handled with Click and Measure functionality whereas for those special tough jobs

- Automatic collision avoidance strategies find the best route between measured features

- CAD initial alignment to place the CAD model within CMM envelope

- Extensive set of feature extraction tools from CAD models

- Graphical program editing to quickly introduce program changes

- Direct measurement of CAD model via joystick or onscreen control

- Automatic selection of Renishaw probe positions

- Automatic CNC probe calibration

- DMIS / Text Program import / export

- XYZ / YBC coordinate data entry & XYZ to YBC conversion
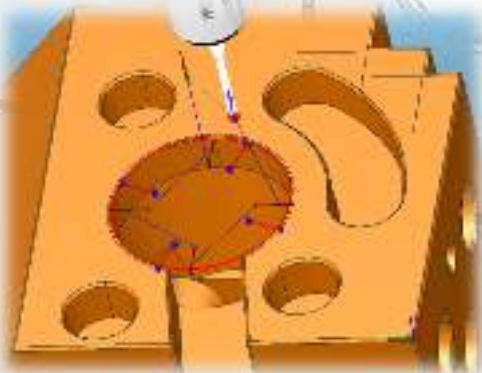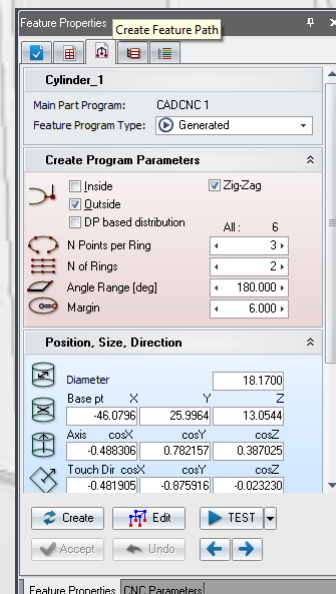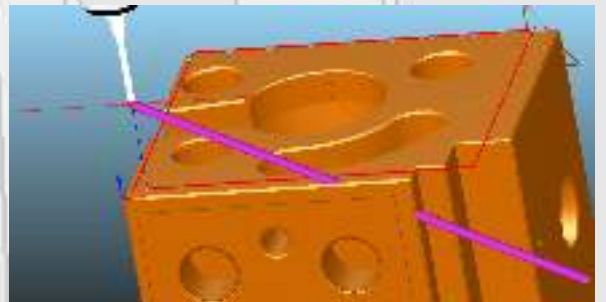
Axel Surface — Adds the ability to inspect against CAD models

Axel Surface adds surface inspection features providing a truly integrated geometrical and surface inspection environment allowing to measure complex shapes on manual CMMs, measuring arms or CNC CMMs.

- Part inspected against nominal CAD data
- Parametric / Bspline / trimmed surface inspection
- Part alignment with 3D best-fit method, multi-entity or Reference Point System (RPS)
- Graphical representation of surface errors
- Interfaces available to various CAD formats – DXF / IGES / CATIA v4 & 5 / ProEngineer / STEP / VDA
- Surface Point, Surface Edge & Surface Block inspection
- Metal thickness compensation
- CAD feature interrogation & capture / layer & CAD entity control
- CAD transformation
- Extensive CAD feature extraction methods
- Label / vector / colour-coded representation of surface errors
- Rendered or wire-frame graphical views
- Mouse rotation / pan & zoom /' view grid / adjustable shadows & lighting
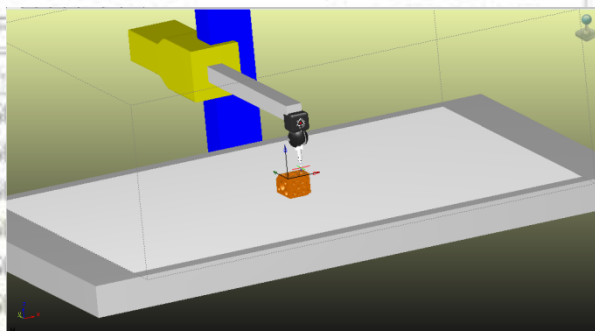- Adjustable search range & error magnification

Axel Pipe

ADDS THE ABILITY TO INSPECT TUBES

- Fully integrated with existing measurement functions allowing tube, geometric and CAD features to be measured in the same operation

- Rapid inspection of pipe fixtures with respect to pipe nominal data

- Automatic generation of 3D pipe graphic from nominal data

- Automatic generation of pipe inspection sequence

- Nominal data entry from CAD

- Nominal data conversion from car line to tube line.

- XYZ / YBC coordinate data entry & XYZ to YBC conversion

- Pipe inspection against nominal model with comprehensive selectable fit on start points / intersection points & brackets

- Custom designed graphical reports & measured pipe summary

- Data manipulation allowing rotation of tube into a 'flat' orientation allowing efficient fixture design

- Bracket / end fitting / additional feature measurement

- Pipe line / car line / aircraft line data entry

- Interface to pipe benders via serial link or network

Axel Pipe

ADDS THE ABILITY TO INSPECT TUBES

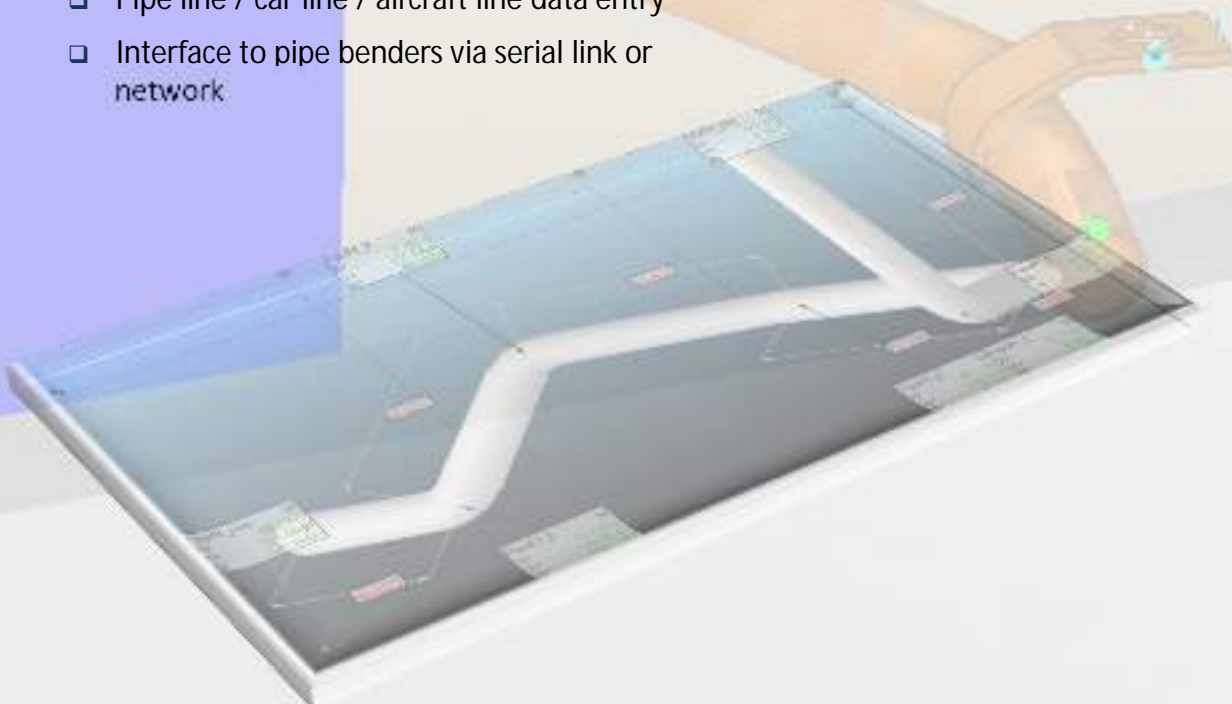- Fully integrated with existing measurement functions allowing tube, geometric and CAD features to be measured in the same operation

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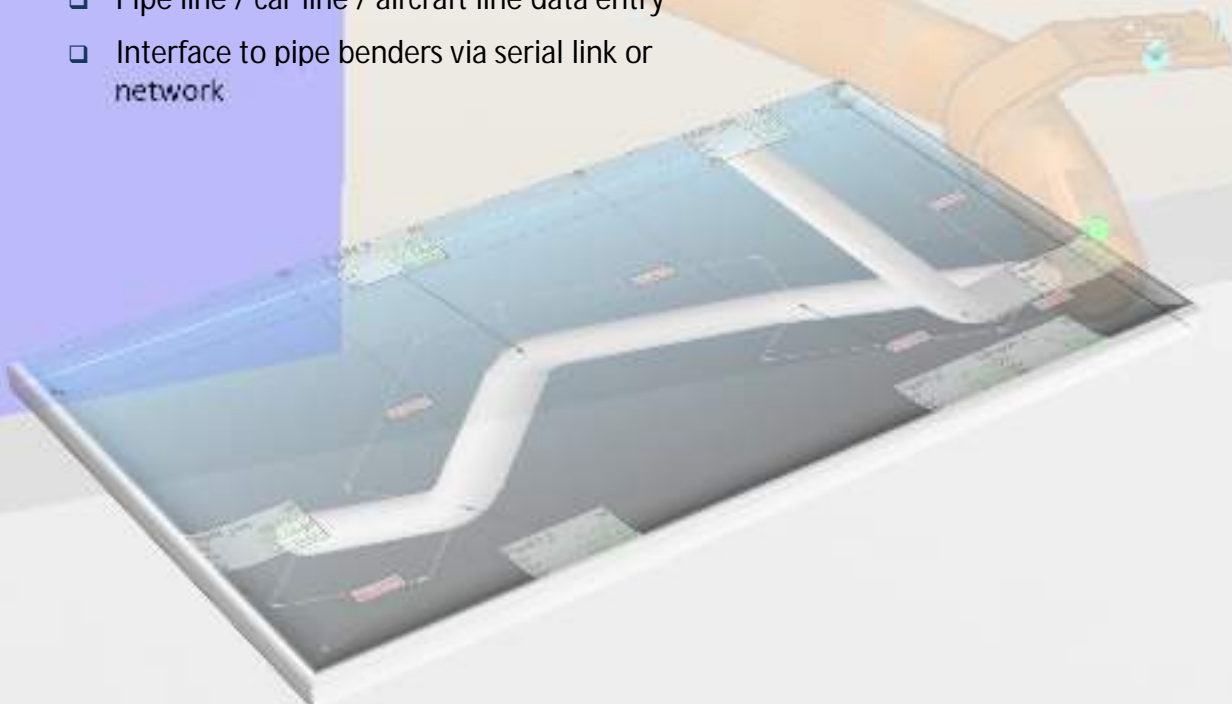
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Key features

Integrated Environment Measuring

- New Ribbon user interface with Axel button
- Geometric, surface and tube inspection within single metrology framework

Geometrical Measurements

- Algorithms tested with PTB and NPL standard data sets
- Set of 3D geometrical features
- Multiple coordinate Systems & extensive alignment options with graphical representation in Measure Window
- Geometrical Dimensioning and Tolerancing
- Intelligent constructions with context sensitive results
- Calculated results from user defined formula
- Reverse Engineering features for performing digitizing

Graphical Environment

- Multiple Measure Window Part views
- Mouse rotation / pan & zoom / 'view grid' / adjustable shadows & lighting

Results Presentation

- User configurable , fully featured text & Graphical Report Generator
- Graphical Results boxes and dimensions in the Measure Window

Interfaces

- DDE / File / Serial Data export to SPC & Excel
- Export Results to MS Excel and HTML with multiple templates

CNC Programming

- Placement of CAD model within CMM envelope
- Extraction of geometric and measured features from CAD model
- Click & Measure functionality
- Collision detection & avoidance
- DMIS import/ export

Surface Measurements

- Part inspected against CAD model
- Part allignment with 3D best fit method, multientity or Reference Points System (RPS)
- Metal thickness compensation
- Placement of CAD model within CMM envelope
- Extraction of geometric and measured features from CAD model
- Interfaces to Catia / DXF / IGES / ProEngineer / STEP / VDA

Pipe Inspection

- Fully integrated with existing measurement functions allowing tube, geometrica and CAD features to be measured in the same operation
- Rapid measurement of pipe fixtures with respect to pipe nominal data
- Interface to pipe benders
- Bracket / end fitting / additional feature measurement
- Pipe line/ car line / aircraft line data entry
- Nominal data entry from CAD

The Axel Software is currently available in the following languages

For sales information telephone: +44 (0) 208 1336999 or email sales@axelsystems.co.uk