

# Fusion Software

Fusion metrology software has been the foundation for Baty's camera based inspection systems for the last decade. The combination of ease of use, Advanced Edge Detection and graphical reporting has established this remarkable software as the standard by which other vision packages are measured.



## Dimensioned Part View

Measured results are displayed in the form of a fully dimensioned drawing. Dimensions within the specified tolerance are shown in green whilst dimensions out of tolerance are shown in red for immediate visual status of the measured part.

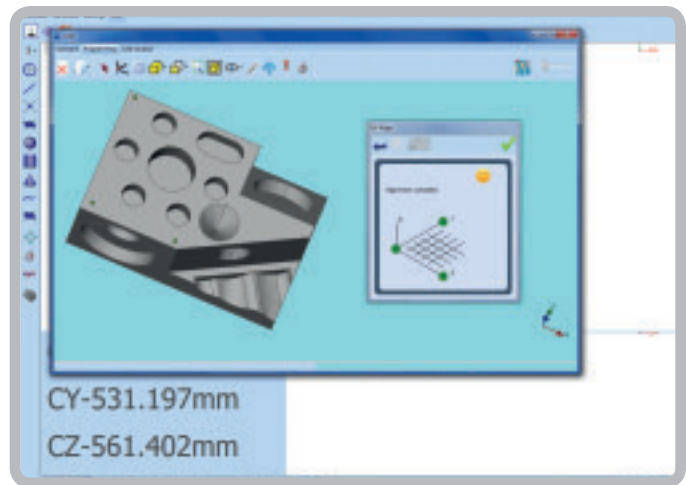
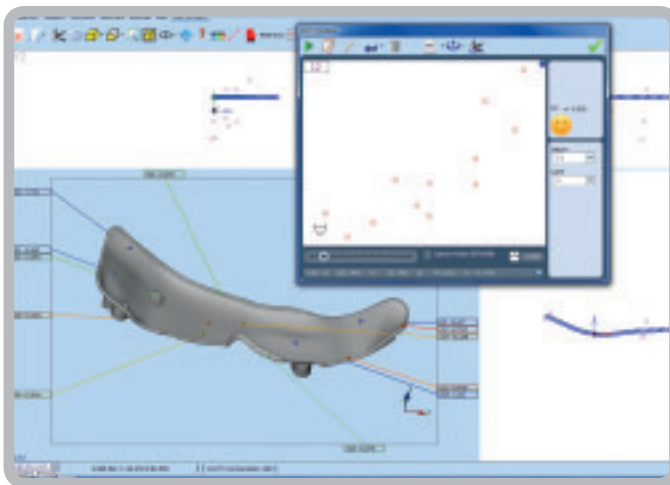
Geometric tolerances can also be displayed using the standard drawing practice. The final dimensioned part view can then be printed as an engineering drawing with a traditional drawing frame containing company details, customer and part details, date and inspection name.

## SPC Included

Baty Fusion software will also display SPC batch information for multiple components. Information given includes maximum value in batch, minimum value, user definable sigma value, CPK value, mean shift and also plots two different charts of the batch data.

## Easy Reporting

In addition to the graphical representation above, detailed reports can be instantly created showing the feature name, nominal dimension, actual, error, upper and lower limits and a green pass or red fail label for each measured dimension in tabulated format. Geometric tolerance details can also be displayed along with a thumbnail view of the part and batch/customer information. The entire report can be duplicated as an Excel workbook for email.



Baty International									
Drawing No.	507744	Order No.		Date	28-Oct-08 18:50				
Title	Element Guide	Serial No.		Inspector	DW				
Customer	Bobby	Material		Notes					
Feature	Dimension	Actual	Min	Upper	Lower	Pass/Fail	Min	Lower	Pass/Fail
T Fit	Ø1.000	Ø1.000	Ø0.999	Ø1.000	Ø1.000	Pass	0.000	0.000	Pass
Ø1.000 Clear The Groove					Ø1.000	Pass	0.000	0.000	Pass
X pos	0.000	0.000	0.000						
Y pos	0.000	0.000	0.000						
Z pos	0.000	0.000	0.000	0.000	0.000	Pass	0.000	0.000	Pass
Z pos	0.000	0.000	0.000	0.000	0.000	Pass	0.000	0.000	Pass
Z pos	0.000	0.000	0.000	0.000	0.000	Pass	0.000	0.000	Pass
Z pos	0.000	0.000	0.000	0.000	0.000	Pass	0.000	0.000	Pass
Z pos	0.000	0.000	0.000	0.000	0.000	Pass	0.000	0.000	Pass
Z pos	0.000	0.000	0.000	0.000	0.000	Pass	0.000	0.000	Pass
Z pos	0.000	0.000	0.000	0.000	0.000	Pass	0.000	0.000	Pass
Ø1.000 Hole The Groove	0.000	0.000	0.000				0.000	0.000	Fail
X pos	0.000	0.000	0.000						
Y pos	0.000	0.000	0.000						
Ø1.000 Hole The Groove	0.000	0.000	0.000				0.000	0.000	Fail
X pos	0.000	0.000	0.000						
Y pos	0.000	0.000	0.000						
Ø1.000 Hole The Groove	0.000	0.000	0.000				0.000	0.000	Fail
X pos	0.000	0.000	0.000						
Y pos	0.000	0.000	0.000						

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### Video Edge Detection

Video Edge Detection (VED) ensures a repeatable result without relying on the skill of the operator. Hundreds of data points can be taken in an instant to calculate standard geometric features. Standard VED tools include arc, circle, line, point, focus and curve.

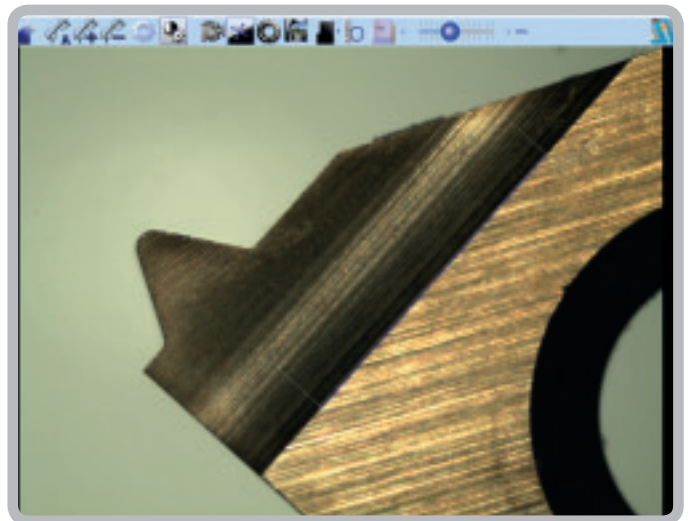
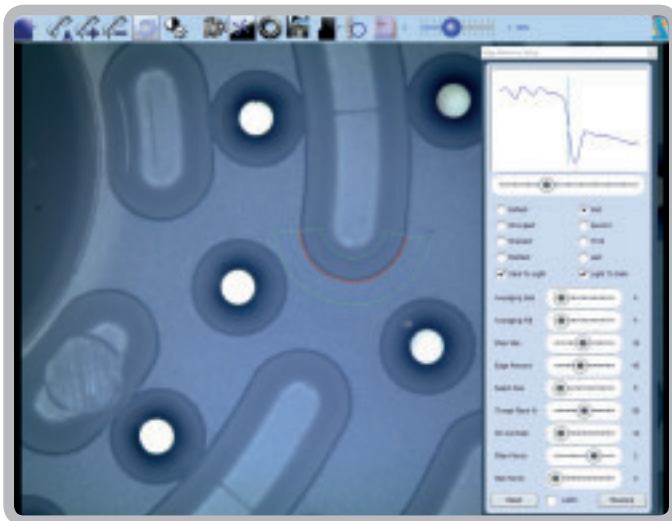
### Image Stitching and Profile Scanning

A camera image can be taken and stored every time the XY stage is paused. These images may be 'stitched' together to allow the user to zoom out and view the entire component in the camera image view. Imported dxf files may be used as overlays which can be superimposed on top of the stitched image, providing a visual comparison of the entire part to the tolerance bands shown on the dxf. If a profile measurement is required the curve tool can be used to automatically trace the profile of the part. The resulting data-point cloud can then be viewed both in the part view for reporting as well as the stitched camera image. A profile dimension can easily be added to define the best fit profile error. Image stitching can also be used to quickly grab all of the features of a large 2D component. A CNC inspection routine can then be created by simply clicking on the features to be measured using the 'one click feature' or 'all features in area' tools.

### Touch Probe Compatible

Fusion metrology software is ready to accept touch probe measurements as well as camera based. Offsets for each measuring system can be calculated enabling the combination of non-contact measurements in the same inspection. An optional probe storage rack can also be used to allow automatic probe changes mid program. For touch probe scanning applications, Renishaw's SP25 scanning probe option can be specified.

The CNC option enables fully automatic part inspection with teach and repeat programming and manual joystick control. Parts can be palletised for batch inspection and reports are generated automatically.



### CAD Option

Allows measurement data points taken anywhere on the part surface to be compared to a 3D IGES or STEP CAD model.

