Baty Vision Systems - Venture Plus

The Venture Plus range includes all of the standard Venture features with a little more... measuring range, that is.

Large Measurement Volume

The Venture Plus is available in four models:

VP-6460-CNC with 640mm x 600mm x 250mm measuring range

VP-6490-CNC with 640mm x 900mm x 250mm measuring range

VP-100100-CNC with 1000mm x 1000mm x 400mm measuring range

VP-100150-CNC with 1000mm x 1500mm x 400mm measuring range

The bridge type construction is all aluminium resulting in low inertia and low thermal mass. Air bearings are used on all axes and a granite Y beam is used for increased accuracy. This ensures that the machine will expand and contract uniformly with temperature changes ensuring minimal distortion and subsequent errors. Ambient temperature can be compensated for within the Fusion software making Venture Plus ideal for use on the shop floor.

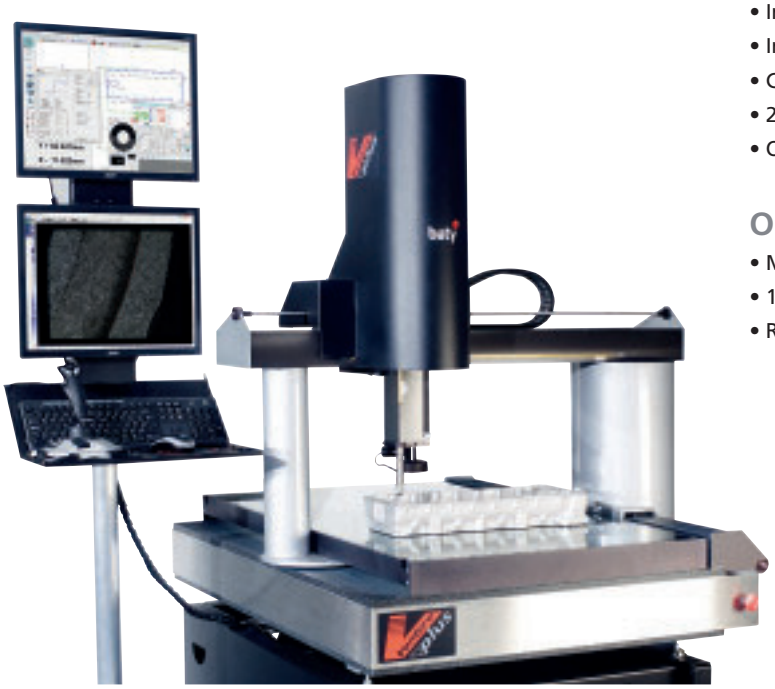
Complete with our standard zoom optics and programmable, segmented LED surface lighting, Venture Plus offers the same level of camera based functionality as every other Venture.

The use of a touch probe is optimised on a CNC system. Measurements from data points taken using the touch probe can be combined with those taken using Video Edge Detection for optimum speed and reduced inspection times.

A probe changer rack can be installed so that probe modules fitted with a variety of pre- calibrated styli can also be used in the same inspection. When a change of stylus is required, the system automatically puts the current probe module back in the rack and picks up the next to continue the inspection process. This functionality can be combined with our sophisticated Edge Detection to offer the ultimate in large format multi-sensing Vision systems - Venture Plus.

Standard CNC System features include:

- Teach and repeat programming
- Programmable segmented LED lighting
- High resolution 0.5µm scales for increased accuracy
- Optional CAD import / export
- Adding DXF scanning and best fitting
- Fully dimensioned part view
- SPC included
- One click output to Excel™
- Autofocus
- Renishaw TP20 touch probe joint
- Integrated machine stand



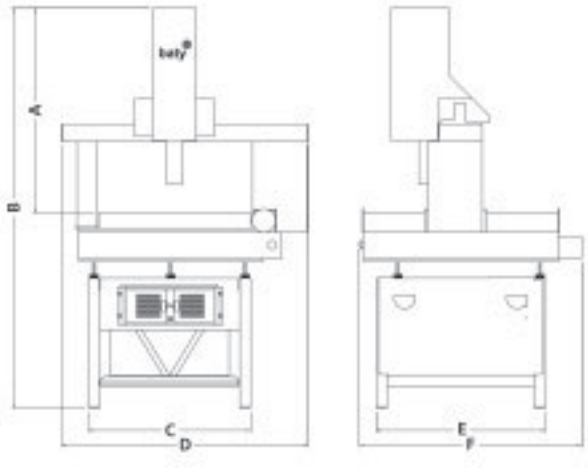
Venture Plus additional features include:

- Rigid, low mass bridge construction
- Integral 6.5:1 CNC zoom optics
- Teach and repeat programming
- Programmable segmented LED lighting
- High resolution 0.5µm scales for increased accuracy
- Optional CAD import / export
- Adding DXF scanning and best fitting
- Fully dimensioned part view
- SPC included
- One click output to Excel™
- Autofocus
- Renishaw TP20 touch probe joint
- Integrated machine stand
- Includes PC controller
- CNC controlled collimated profile lighting
- 250/400mm Z axis measuring range
- Optional automatic temperature compensation

Options include:

- Multi-function remote joystick with colour touch screen
- 12:1 zoom optics
- Renishaw SP25 scanning probe

Baty Vision Systems - Venture Plus



VP-100100-CNC with 1000mm x 1000mm x 400mm measuring range

VP-100150-CNC with 1000mm x 1500mm x 400mm measuring range

VP-100100-CNC with 1000 x 1000 x 400mm measuring range

VENTURE PLUS

Code No	Description	Dimn - A	Dimn - B	Dimn - C	Dimn - D	Dimn - E	Dimn - F
VP-6460-CNC	Venture Plus (640 x 600 x 250mm)	950mm	1851mm	750mm	1140mm	783mm	1030mm
VP-6490-CNC	Venture Plus (640 x 900 x 250mm)	950mm	1851mm	750mm	1140mm	1083mm	1330mm
VP-100100-CNC	Venture Plus (1000 x 1000 x 400mm)	1440mm	2250mm	1380mm	1470mm	1350mm	1470mm
VP-100150-CNC	Venture Plus (1000 x 1000 x 400mm)	1440mm	2250mm	1380mm	1470mm	1350mm	1470mm

For more information contact optical@bowersgroup.co.uk

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

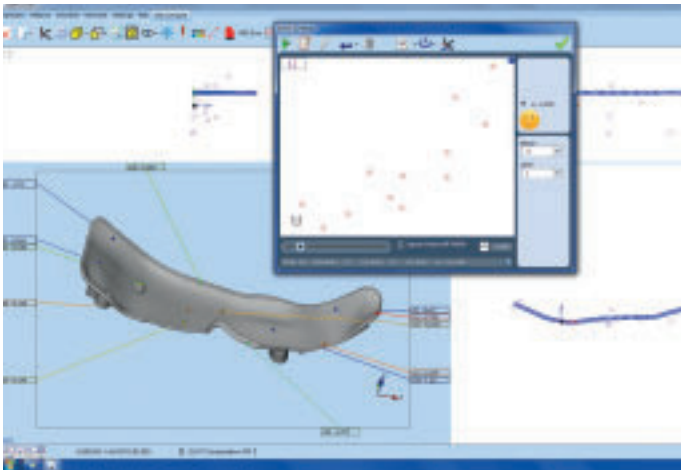
Measured results are displayed in the form of a fully dimensioned drawing. Dimensions within the specified tolerance are shown in green whilst dimensions out of tolerance are shown in red for immediate visual status of the measured part. Geometric tolerances can also be displayed using the standard drawing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

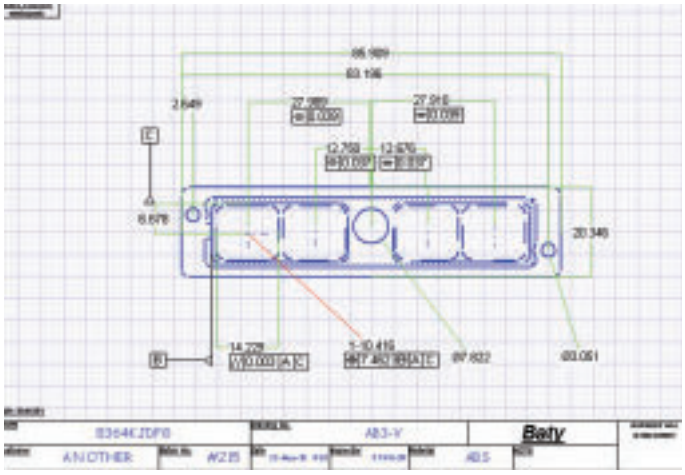
SPC Included

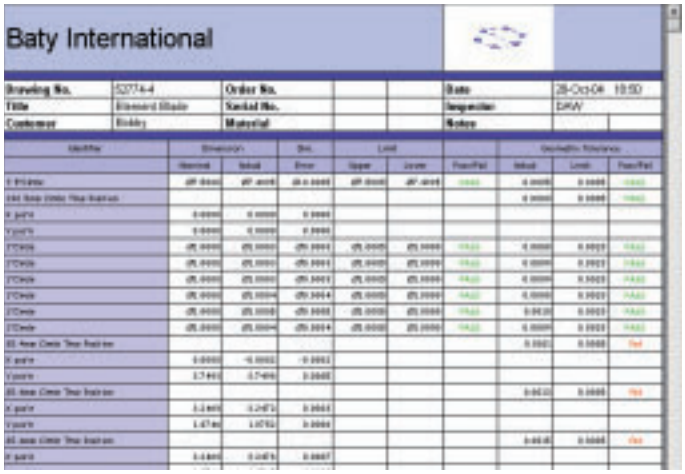
Baty Fusion software will also display SPC batch information for multiple components. Information given includes maximum value in batch, minimum value, user definable sigma value, CP and CPK value, mean shift and also plots two different charts of the batch data.

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.







Fusion Software

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

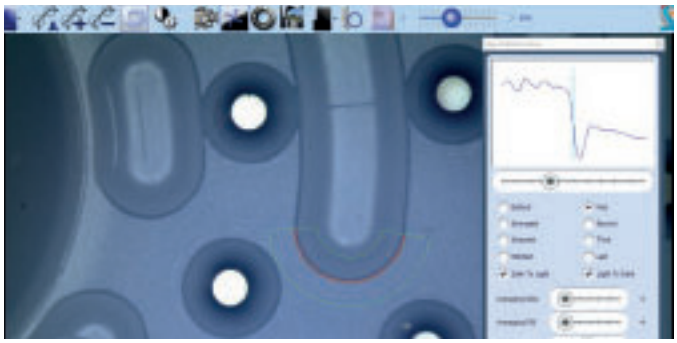
A camera image can be taken and stored every time the XY stage is paused. These images may be "stitched" together to allow the user to zoom out and view the entire component in the camera image view. Imported dxf files may be used as overlays which can be super imposed on top of the stitched image, providing 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 feature to be measured using the "one click" feature or "all features in an area" tools.

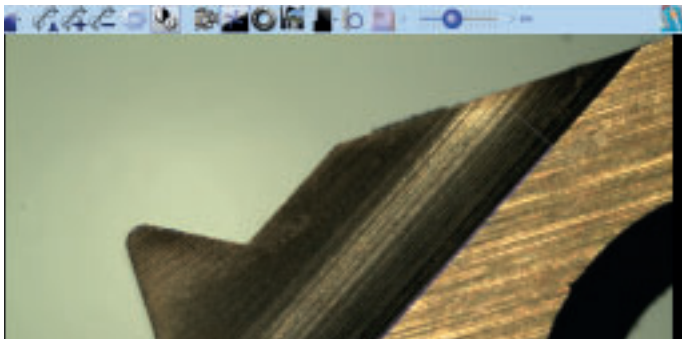
Touch Probe Compatible

Fusion metrology software is ready to accept touch probe measurements as well as optical and camera based. Offsets for each measuring system can be calculated enabling you to use a 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.

CNC Operation

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.