



Baty Vision Systems - VuMaster 2D Manual / 2D CNC

VuMaster is a 2D vision system with a massive difference.

Due to its innovative absolute 2D scale system, the newly designed VuMaster does not have a conventional moving stage or encoders - just a floating measuring camera that moves anywhere in the measuring range. The result is fast, accurate, 'non contact' measurement over a much larger measuring range - 400mm x 300mm to be exact!

Because the camera moves and the part stays still, there is often no need for expensive and time consuming work holding devices.

VuMaster is either operated manually or inspection routines can be recorded and stored. When played back, these 'programs' guide the operator through a pre-defined inspection procedure recreating the same lighting conditions and using 'Video Edge Detection' to automatically 'capture' feature data.

Finally, a report is generated in the form of a fully dimensioned drawing of the measured part.

Features

- Large 400mm x 300mm measuring range
- Sturdy construction with a granite base
- Supplied with Fusion 2D vision software
- Colourmap measuring technology
- Programmable collimated profile lighting
- Teach and repeat part programming
- Advanced video edge detection
- Digital zoom
- Supplied with stand, rack mount PC and 22" monitor
- Programmable segmented LED surface ring light
- Motorised autofocus
- Image grab
- Auto inspection playback

new inspection program

- CNC and Manual models available

Baty's PC based Fusion Touch software is powerful and easy to use. The touch screen user interface minimises keyboard use and the need for multiple toolbars. The result is an intuitive touch screen software package that enables the user to produce a fully dimensioned drawing of the measured part in minutes!

Other standard reports include tabulated results and multiple part reports all of which can be exported to Excel®.

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.

Profile Scanning

The curve tool automatically traces the profile of an undefined part. The resulting data-point cloud can then be compared to a pre-toleranced DXF master for best fit analysis. Once 'fitted' the data points appear red or green to indicate whether in tolerance. In addition to best fit, conventional dimensions can also be applied to the scan.

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. SPC data can also be exported to Excel™ for further analysis.

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.

MANUAL SYSTEMS

	VM-4030 VuMaster	VI-2510 Venture	VI-3030 Venture
X Y Z measuring range (mm)	400 x 300	250 x 125 x 165	300 x 300 x 165
Workstage area (mm)	420 x 320	414 x 262	464 x 462
Max workpiece load (kg)	25	25	25
Drive type	Manual	Manual	Manual
Bearings	Air bearings	Cross roller rail guide	Cross roller rail guide
Camera type	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch
Optics / lighting	Fixed objective telecentric lens with programmable LED lighting	6.5:1 zoom lens. Fully programmable software controlled white LED segmented surface lighting head with understage and through the lens (TTL) lighting as standard	6.5:1 detent
Resolution	0.001mm	0.0005mm	0.0005mm
Accuracy	7.5µm	2+L / 100	2+L / 100
Max field of view (FOV)	12mm	16mm*	16mm*
Magnification	20x 350x	Optical zoom ratio 27x - 175x on 17" monitor with digital zoom enhancement to over 1200x	Optical zoom ratio 27x - 175x on 17" monitor with digital zoom enhancement to over 1200x
Touch probe option available	No	Yes	Yes
Probe type	N/A	Renishaw TP20	Renishaw TP20
Change rack compatible?	N/A	N/A	N/A

*using optional 0.5x adapter lens

CNC SYSTEMS

MANUAL SYSTEMS

	VM-4030 VuMaster	VI-2510 Venture	VI-3030 Venture	VP-6460 Venture Plus	VP-6490 Venture Plus	VP-100150 Venture Plus
X Y Z measuring range (mm)	400 x 300	250 x 125 x 165	300 x 300 x 165	640 x 600 x 250	640 x 900 x 250	1000 x 1500 x 400
Workstage area (mm)	420mm x 320mm	414mm x 262mm	464mm x 462mm	700mm x 940mm	700mm x 1240mm	1050mm x 1850mm
Max workpiece load (kg)	25	25	25	75	75	75

Drive type	CNC / handwheel	CNC / joystick	CNC / joystick	CNC / joystick	CNC / joystick	CNC / joystick
Bearings	Air bearings	Cross roller rail guide	Cross roller rail guide	Air bearings	Air bearings	Air bearings
Max drive speed	100mm / sec	200mm / sec	200mm / sec	350mm / sec	350mm / sec	350mm / sec
Camera type	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch	2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch
Optics / lighting	Fixed objective telecentric lens with programmable LED lighting	6.5:1 CNC zoom lens. Fully programmable software controlled white LED segmented surface lighting head with understage and through the lens (TTL) lighting as standard	6.5:1 CNC zoom lens. Fully programmable software controlled white LED segmented surface lighting head with understage and through the lens (TTL) lighting as standard	6.5:1 CNC zoom lens. Fully programmable software controlled white LED segmented surface lighting head with understage and through the lens (TTL) lighting as standard	6.5:1 CNC zoom lens. Fully programmable software controlled white LED segmented surface lighting head with understage and through the lens (TTL) lighting as standard	6.5:1 CNC zoom lens. Fully programmable software controlled white LED segmented surface lighting head with understage and through the lens (TTL) lighting as standard
Optional		12:1 CNC zoom lens option for increased FOV	12:1 CNC zoom lens option for increased FOV	12:1 CNC zoom lens option for increased FOV	12:1 CNC zoom lens option for increased FOV	12:1 CNC zoom lens option for increased FOV
Resolution	0.001mm	0.0005mm	0.0005mm	0.0005mm	0.0005mm	0.0005mm
Accuracy	7.5µm	2+L / 100	2+L / 100	2.4 + 0.4 / 100 Volumetric	2.4 + 0.4 / 100 Volumetric	3.8 + 0.4 / 100 Volumetric
Max field of view (FOV)	12mm	16mm*	16mm*	16mm*	16mm*	16mm*
Magnification	20x 350x					
Touch probe option available	No	Yes	Yes	Yes	Yes	Yes
Probe type	N/A	Renishaw TP20	Renishaw TP20	Renishaw TP20	Renishaw TP20	Renishaw TP20
Optional	N/A Renishaw SP25 scanning probe	Renishaw SP25 scanning probe	Renishaw SP25 scanning probe	Renishaw SP25 scanning probe		
Change rack compatible?	N/A	Yes	Yes	Yes	Yes	Yes

*using optional 0.5x adapter lens