

PARTNERS IN PRECISION





# Page No.



` '		$\sim$	Sys	+^	$\mathbf{m}$
w	101		71/9		
•		$\mathbf{v}$	_ v .		

Baty vision Systems - Vulviaster 2D Ivianual / 2D CNC	
Baty Vision Systems - Venture Touch	4
Baty Vision Systems - Venture 3D CNC	5
Baty Options & Accessories - Profile Projector	6
Baty Vision Systems - Venture Plus	7-8

### **Software**

Fusion Software 9-10

Page 3

### **Fixtures**

Flexmaster Fixtures 11



# **Technical Specification**

Baty Vision Systems - Technical Specification

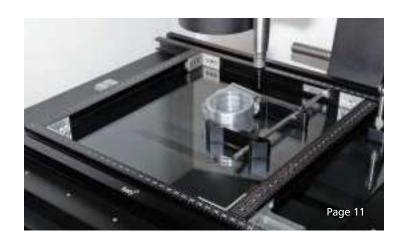
12

### **Casting Materials**

Reprorubber - Metrology Grade Casting Material 13-14

Notes 15







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

The BATY 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.

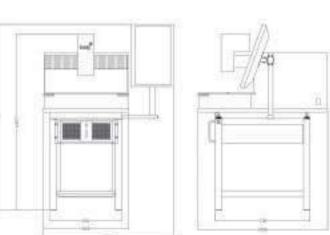
Because the camera moves and the part stays still, there is often no need for expensive and time consuming work holding devices.

VuMaster is either operated manually or inspection routines can be recorded and stored. When played back, these 'programs' either run automatically, (CNC). or 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 the latest Mark 4 Fusion 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
- Auto inspection playback
- CNC and Manual models available





VUMASTER	
Code No	Description
VM-4030-MAN	Manual VuMaster including 22" LCD monitor
VM-4030-CNC	CNC VuMaster including 22" LCD monitor



**Baty Vision Systems - Venture Touch** 

The highly successful Venture Touch range combines both manual and CNC axis that cover two differing stage sizes.

#### Venture Touch 3D

This advanced Vision system combines a manually operated X-Y measuring stage with a motorised Z axis. The advantage of this is that the servo motor driven Z axis can provide the all-important autofocus function for Z axis measurement without operator influence.

Suitable for the shop floor, the rugged design features a steel / granite base with fully integrated PC controller running Baty's all new 3 axis touch screen software - Fusion Touch. The full HD touch screen can be mounted on an adjustable arm and the software is arranged in a portrait layout for ease of use.

Fusion Touch software features full geometric functionality so circles, lines, arcs and points can be measured using dedicated tools. Data points are automatically taken along the edge of the feature using Video Edge Detection then all measurements are automatically saved should the inspection need to be replayed for a batch of parts.

All measured features appear in the part view where they can be dimensioned. The dimensional part view that can then be printed or exported to CAD Tolerances are set for each dimension so that the final inspection reports can classify each dimension as a pass or fail.

### Inspection playback

During this process the operator is guided through the inspection routine via the graphical part view. Once the stage has been positioned so that the feature appears in the camera's view, the Video Edge Detection tools take over and measure the feature automatically. If features are on different planes, the Z axis drives under CNC control to the correct position as defined by the original inspection. All lighting and magnification conditions are also recorded and re-created as each feature is visited. The end result is a highly repeatable process with no operator influence.

### Lighting

The programmable LED lighting is also controlled using the touch screen. Segmented surface illumination,co-axial, through the lens and profile lighting conditions which can be adjusted to ensure that the feature edge is perfectly illuminated.

<b>VENTURE TOU</b>	CH
Code No	Description
VI-2510-Touch	Venture Manual with motorised Z and autofocus, Fusion Touch software, 250 x 125 x 155 X, Y, Z measuring range
VI-3030-Touch-XT	Venture Manual with motorised Z and autofocus, Fusion Touch software, 300 x 300 x 300 X, Y, Z measuring range
VI-Vision-Stand	All steel machine stand with granite top



# Standard Fusion Touch System features include:

- 22" HD touch screen monitor
- Motorised autofocus for accurate Z axis measurements
- Fully dimensioned part view
- CAD import / export
- Profile scanning and best fit to CAD master
- SPC batch information including control charts
- Auto output to excel
- 64 LED programmable segmented surface illumination
- Advanced video edge detection
- Heavy duty stage with cross roller rail guides
- TTL light and collimated profile illumination

### **Optional**

• Steel machine stand with granite top

### **Venture Touch**

As with all Ventures, a high precision zoom lens is featured as standard. This CNC version has 6 preset zoom positions which provide a magnification range from approx.  $30x - 200x^*$  which can be extended with the use of auxiliary lenses. Each preset position is pre-calibrated enabling the user to quickly select the optimum magnification for each measurement and continue measuring.

### **Easy Reporting**

In addition to a graphical representation of the measured part, 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 Vision Systems - Venture 3D CNC**

The Venture XT- CNC has Fusion 3D software, a 300mm  $\times$  300mm  $\times$  200mm XYZ stage and includes a controller and 2  $\times$  19 inch monitors.

Venture CNC models take the power of fusion software one stage further by completely automating the inspection process. Now advanced features like scanning and best fitting can be done quickly without taking up the time of skilled operators.

CNC programming is a simple teach and repeat process. Just measure the part once and a full CNC program is created automatically. The zoom lens can also be controlled so that magnification and auto focus changes are all recorded into the program.

### **CNC Functionality**

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.

When programming using the touch probe, use only the minimum points required to define each element. Then simply edit in the optimum number of points for each element. The new probe path is then automatically created when the program is played, cutting down both programming and inspection time. Alternatively, features can be programmed directly from an imported 3D CAD model.

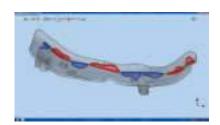


VENTURE X	r-cnc
Code No	Description
VI-3030-CNC-XT	Venture XT CNC with Fusion 3D software,
	300mm x 300mm x 200mm stage,
	inc controller and 2 x 19" monitors
VI-2510-CNC	Venture 2510 CNC with Fusion 3D software,
	250mm x 125mm x 155mm stage,
	incl controller and 2 x 19" monitors
TP-20 Kit	Touch probe kit incl ref ball, module and stylus
	·



### Standard CNC system features include:

- Teach and Repeat programming
- Programmable segmented LED lighting
- 6.5:1 zoom optics (with optional CNC control)
- Optional 12x zoom optics
- High resolution 0.5µm scales for increased accuracy
- Optional CAD import / export
- Auto program from CAD
- Adding DXF scanning and best fitting
- Fully dimensioned part view
- SPC included
- One click output to Excel™
- Autofocus
- 250mm x 125mm and 300mm x 300mm XY stages available









# **Baty Options & Accessories**

### **CAD**

3D CAD models (STEP or IGES) can be imported and are shown in a floating window. After alignment to the CAD model, points are taken anywhere on the part surface and displayed on the CAD model. The points appear colour coded so as to indicate their distance from the nominal surface. These models can be used for off-line programming or CAD comparison.

### **CAD Comparison**

3D CAD models (STEP or IGES format) can be imported and displayed in a floating window. Following a simple part coordinate alignment to the CAD model, data points can be taken anywhere on the part surface. These data points are then displayed on the CAD model and classified according to their distance from the nominal surface for 3D profile analysis.

### **SA-196**

Cast vee blocks and extended centres for the 2510 and 3030 Venture models.

### **UFB3030**

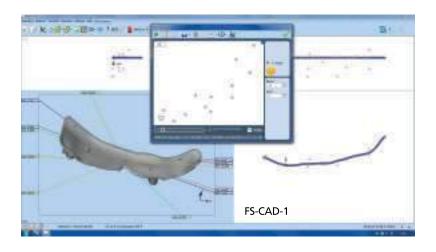
Universal fixture base provides fixture mounting slots compatible with all projector accessories.

### **Vision Stand**

Rigid steel stand with granite top and integral PC / controller shelf for Venture 2510 and 3030 models.

### **Glass Reference Standard**

Calibration standard with nominal diameters for field of view measurement verification and pixel calibration.



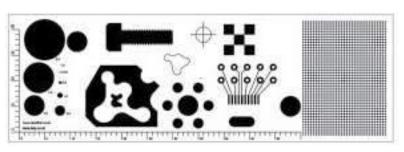






VENTURE OPT	IONS
Code No	Description
AB3D-CAD-Comp	CAD comparison software
AB3D-CAD-Prog	CAD programming software
SB-A-1371-0163	Probe module change rack - 6 port
SA-196-EXT	Dual vee block and centres
VI-3030-UFB	Universal fixture base
VI-Vision-Stand	All steel machine stand with granite top

Glass calibration artefact



CAL-MAG-2

CAL-MAG-2

# **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:

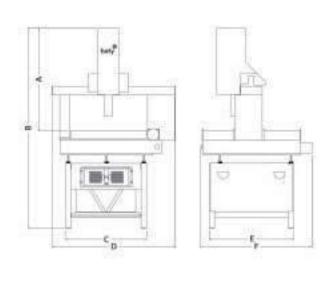
- Rigid, low mass bridge construction
- Integral 6.5:1 CNC zoom optics
- Teach and repeat programming
- Programmable segmented LED lighting
- High resolution 0.5µm scales for increased accuracy
- Optional CAD import / export
- Adding DXF scanning and best fitting
- Fully dimensioned part view
- SPC included
- 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

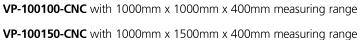
### **Options include:**

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



# **Baty Vision Systems - Venture Plus**







VENTURE P	LUS						
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



### **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**

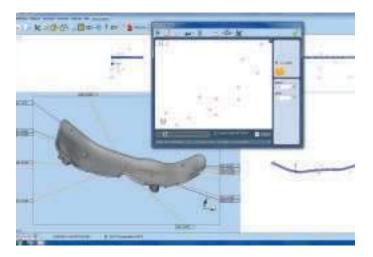
Measured results are displayed in the form of a fully dimensioned drawing. Dimensions within the specified tolerance are shown in green whilst dimensions out of tolerance are shown in red for immediate visual status of the measured part. Geometric tolerances can also be displayed using the standard drawing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

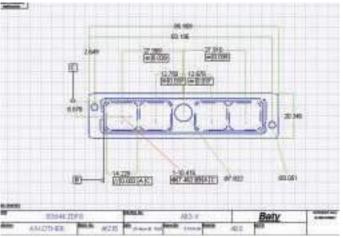
### **SPC Included**

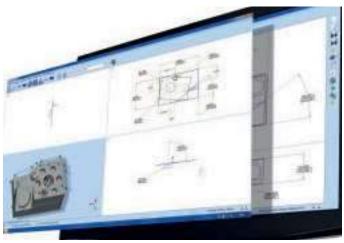
Baty Fusion software will also display SPC batch information for multiple components. Information given includes maximum value in batch, minimum value, user definable sigma value, CP and CPK value, mean shift and also plots two different charts of the batch data.

### **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.







Browing No	10794	100	Order No.				Name		28-50004	+(215)
Title	Enwirds	Davie .	Smilel No.				(equile)		DAM	200
Continue	Binkley		Material				Soler			
100	_		THE REAL PROPERTY.	<b>E</b>	and the	_	_	Marie .	and the same	_
		2010	9440	(feet)	Team	1000	140/161	1	1	Panife
(+1+4)		25.440	(F) part	-	pt too	85.600	-000	1000	11005	-
Milber Des The S	refer:	10	-0.00	0.00				10000	11000	
ram		21000	2.000	1000				1,000		
YEAR'S		2-9440	0.040	0.6990						
77000		A.111	10 mars	90.1411	14 mm	63 (544)		4 1000	11000	
17908		(A) 450	25,546	45.000	25,440	25 (21)	196	1000	1,1977	(2711)
PONS.		45,940	- Million	-95 1441	-95,000	W 1944	1640	1.000	E.5669	DAN
PORE -		RHH	30 1444	(81)864	(Altered	-fittees	760	1,046	13900	-Whi
17mm		25,000	<b>(8)</b> (8)	45,5444	- JR 6000	B(1044	-00	144.0	0.0404	1888
Deb		<b>(6)</b>	IN move	(95.89)4	_M.668	JRI (Me)	-96	- d Japan	1000	77
H to Cap be to		100	5-61/11	100	11000	1000		A feet	0.0000	-
TATE	AL .	1996	+010	9.880						
TOWY:		8546	4744	1.1446						
id the line he to	1100							1900	1-1100	-
Carrie		sales	1095	Page 1				111111111111111111111111111111111111111		
TORY!		2416	1600	is street						
of section by to								1444	1.0004	199
Terr		5440	0.044	0.0007						

### **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**

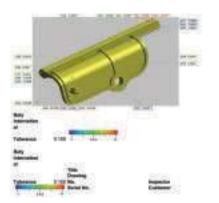
The CNC option enables fully automatic part inspection with teach and repeat programming and manual joystick control. Parts can be palletised for batch inspection and reports are generated automatically.

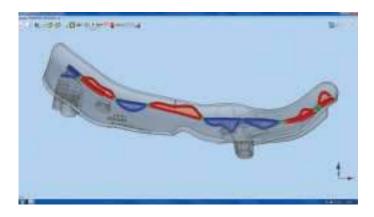




### **CAD Option**

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







### **Flexmaster Fixtures**

Flexmaster components introduce new technology. Our self-wedging clamps offer near zero clamping force. Sliding t-nut tooling blocks provide an infinite variety of fixture solutions.

Even the corner joiners for our frame are dual purpose, providing ridges that allow backlighting to illuminate edges for inspection.

### Fixture frame assembly, includes the following:

- 4 off linear slide-frames with t-slots, and laser marked reference scales
- 4 off ridged two-way T-nuts for corner joining and part location
- 4 off sliding hold-down brackets with slots for 2 axis adjustment to mount t-slot frames to venture stage frame

#### **Fasteners**

- 30 off stainless grub screws
- 3 off long T-nuts
- 6 off short T-nuts
- 2 off T-nuts with machined vee in end
- 12 off locknut with threaded ID. (For use with clamp rods, thumbscrew, and spherical locator pin)

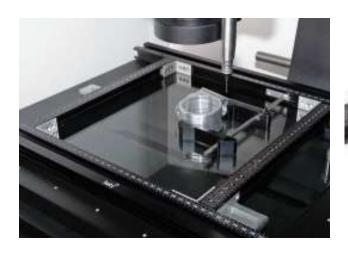
### **Clamps and Rods**

- 2 off narrow 'soft-touch' self-wedging tail-spring clamp
- 2 off wide 'soft-touch' self-wedging tail-spring clamp
- 2 off self-wedging V-clamp
- 2 off ridged corner locator clamp
- 3 off stainless clamp rod.
  (Use with locknut to attach rods to slideframe, for self-wedging clamps)
- 3 off stainless clamp rod
- 2 off stainless clamp rod

#### **Locators**

- 3 off sliding tool blocks with threaded holes for vertical clamp and adjustment
- 4 off adjustable rest button, stainless, spherical top
- 2 off additional ridged two-way t-nuts for part location
- 1 off case







# TECHNICAL SPECIFICATION



# **Baty Vision Systems - Technical Specification**

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

<sup>\*</sup>using optional 0.5x adapter lens

Change rack compatible?

	(	INC SYSTEMS			
VM-4030	VI-2510	VI-3030	VP-6460	VP-6490	VP-100150
VuMaster	Venture	Venture XT CNC	Venture Plus	Venture Plus	Venture Plus
400 x 300	250 x 125 x 165	300 x 300 x 200	640 x 600 x 250	640 x 900 x 250	1000 x 1500 x 400
420 x 320	414 x 262	464 x 462	700 x 940	700 x 1240	1050 x 1850
25	25	25	75	75	75
CNC / handwheel	CNC / joystick	CNC / joystick	CNC / joystick	CNC / joystick	CNC / joystick
Air bearings	Cross roller	Cross roller	Air bearings	Air bearings	Air bearings
	rail guide	rail guide			
100mm / sec	200mm / sec	200mm / sec	350mm / sec	350mm / sec	350mm / sec
	2048 x 1590 p	ixel colour USB2 camer	a with 8 x 9mm chip a	nd dynamic latch	
Fixed objective telecentric		6.5:1 CNC zoom lens.	Fully programmable sof	tware controlled white	
lens with programmable		LED segmented su	ırface lighting head wit	h understage and	
LED lighting		through th	ne lens (TTL) lighting as	standard	
	12:1 CNC	12:1 CNC	12:1 CNC	12:1 CNC	12:1 CNC
	zoom lens	zoom lens	zoom lens	zoom lens	zoom lens
	option for	option for	option for	option for	option for
	increased FOV	increased FOV	increased FOV	increased FOV	increased FOV
0.001mm	0.0005mm	0.0005mm	0.0005mm	0.0005mm	0.0005mm
7.5µm	2+L / 100	2+L / 100	2.4 + 0.4	2.4 + 0.4	3.8 + 0.4
			/ 100 Volumetric	/ 100 Volumetric	/ 100 Volumetric
12mm	16mm*	16mm*	16mm*	16mm*	16mm*
		20x 350x			
No	Yes	Yes	Yes	Yes	Yes
N/A	Renishaw TP20	Renishaw TP20	Renishaw TP20	Renishaw TP20	Renishaw TP20
N/A	Renishaw SP25	Renishaw SP25	Renishaw SP25	Renishaw SP25	Renishaw SP25
	scanning probe	scanning probe	scanning probe	scanning probe	scanning probe
N/A	Yes	Yes	Yes	Yes	Yes
	VuMaster  400 x 300  420 x 320  25  CNC / handwheel  Air bearings  100mm / sec  Fixed objective telecentric lens with programmable LED lighting  0.001mm  7.5µm  12mm  No  N/A  N/A	VM-4030         VI-2510           VuMaster         Venture           400 x 300         250 x 125 x 165           420 x 320         414 x 262           25         25           CNC / handwheel         CNC / joystick           Air bearings         Cross roller rail guide           100mm / sec         200mm / sec           2048 x 1590 p           Fixed objective telecentric lens with programmable LED lighting         12:1 CNC zoom lens option for increased FOV           0.001mm         0.0005mm           7.5μm         2+L / 100           12mm         16mm*           No         Yes           N/A         Renishaw TP20           N/A         Renishaw SP25 scanning probe	VM-4030         VI-2510         VI-3030           VuMaster         Venture         Venture XT CNC           400 x 300         250 x 125 x 165         300 x 300 x 200           420 x 320         414 x 262         464 x 462           25         25         25           CNC / handwheel         CNC / joystick         CNC / joystick           Air bearings         Cross roller cross roller rail guide         Cross roller rail guide           100mm / sec         200mm / sec         200mm / sec           2048 x 1590 pixel colour USB2 camer         LED segmented sc           Fixed objective telecentric lens with programmable LED lighting         LED segmented sc           LED lighting         through th           12:1 CNC         12:1 CNC           zoom lens option for increased FOV         option for increased FOV           0.001mm         0.0005mm         0.0005mm           7.5μm         2+L / 100         2+L / 100           12mm         16mm*         16mm*           20x 350x         Yes         Yes           N/A         Renishaw TP20         Renishaw TP20           Renishaw SP25 scanning probe         scanning probe	VM-4030         VI-2510         VI-3030         VP-6460           VuMaster         Venture         Venture XT CNC         Venture Plus           400 x 300         250 x 125 x 165         300 x 300 x 200         640 x 600 x 250           420 x 320         414 x 262         464 x 462         700 x 940           25         25         25         75           CNC / handwheel         CNC / joystick         CNC / joystick         CNC / joystick           Air bearings         Cross roller         Cross roller         Air bearings           100mm / sec         200mm / sec         200mm / sec         350mm / sec           2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip a         Second lens         Second lens           Fixed objective telecentric lens with programmable         LED segmented surface lighting head with through the lens (TTL) lighting as         LED segmented surface lighting head with through the lens (TTL) lighting as           12:1 CNC         12:1 CNC         12:1 CNC         12:1 CNC           200 lighting         12:1 CNC         12:1 CNC         12:1 CNC           200 lighting         200 lighting         200 lighting         200 lighting           12:1 CNC         12:1 CNC         12:1 CNC         12:1 CNC           200 lighting         200 lighting<	VM-4030 VuMaster         VI-2510 Venture         VI-3030 Venture XT CNC         VP-6460 Venture Plus         VP-6490 Venture Plus           400 x 300         250 x 125 x 165 25         300 x 300 x 200 464 x 462         640 x 600 x 250 700 x 940         640 x 900 x 250 75         75           CNC / bandwheel         CNC / joystick CNC / joystick         Air bearings Air bearings         Air bearings Air bearings           100mm / sec         200mm / sec         200mm / sec         350mm / sec         350mm / sec           2048 x 1590 pixel colour USB2 camera with 8 x 9mm chip and dynamic latch         LED segmented surface lighting head with understage and through the lens (TTL) lighting as standard           LED lighting         12:1 CNC         12:1 CNC         12:1 CNC         12:1 CNC           200m lens         200m lens         200m lens         200m lens         200m lens           LED lighting         12:1 CNC         12:1 CNC         12:1 CNC         12:1 CNC           200m lens         200m lens         200m lens         200m lens         200m lens           0.001mm         0.0005mm         0.0005mm         0.0005mm         0.0005mm         0.0005mm           7.5µm         16mm*

<sup>\*</sup>using optional 0.5x adapter lens



## **CASTING MATERIALS**

# **Reprorubber - Metrology Grade Casting Material**

Reprorubber offers numerous advantages over other hard-copy replicating materials:

- Quick casting zero shrinkage
- No release agent required will not stick to part
- Surface finish replication is exact with excellent optical properties easily checked on an optical comparator or video inspection machine
- Copies can be re-copied from original mould
- Replicas are permanent will not leach out, ooze out, or gas out
- No more 16 hour cure time as with RTV silicones
- More accurate than all other RTV compounds

### Original Reprorubber® Thin Pour - Final Colour: LIGHT GREEN

For internal-shape applications where a thin pour will completely fill the cavity without voids. A complete replica casting is quickly formed.

- Manipulation time is approx 2 minutes and cure time is approximately 10 minutes
- Start to finish: approximately 12 minutes
- Kits include graduated mixing cups, wooden spatulas and instructions

### Original Reprorubber® Quick Setting Putty - Final Colour: LIGHT BLUE

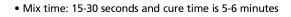
Roll two equal-sized balls of catalyst putty and base putty and simply knead them together like dough. Excellent for external shapes.

Simply spread over master pushing down with fingers and wait for cure 8-10minutes. Manipulation time is 1 to 2 minutes. Therefore 12 minutes start to finish.

You can also cast internal shapes and cavities but some pressure should be applied such as a weighted object on top.

### New Reprorubber® Orange – Medium Body Pre-filled Cartridges - Final Colour: ORANGE

New Medium Body (Medium Viscosity – Medium Durometer) casting material ideal for both internal and external applications. Disposable pre-filled dual barrel 50ml cartridges can quickly dispense casting material utilising the REPRO-MIX II Gun System.







# **Reprorubber - Metrology Grade Casting Material**

# Applications - You can take impressions of:

- All metals
- Non metals
- Paper or cardboard items
- Wood, marble etc
- All plastics
- Rubber
- Ceramic and glass items

#### Other Uses Include:

- Prototypes of rubber type components such as gaskets, washers, etc
- Making joints where flexibility is required
- As a mask for high temperature plasma spray of metallic coatings
- Fixturing where semi-rigid structure is desired

### Physical advantages over the hard-copy replicas:

- Replica is easy to remove even if they are in under cuts or grooves
- Cross-sectioning of replica is easily accomplished with a knife or razor
- It can then be checked on an optical comparator or microscope
- Surface finish replication is exact with excellent optical properties
- Reprorubber copies can be re-copied (copy from a 'female mould' yields a male-shaped replica)
- Replicas are permanent will not leach or ooze out nor gas out
- No more 16 hour cure time as with RTV silicones
- More accurate than all other RTV compounds
- Reprorubber putty will withstand up to 600°F (or more)

	REPRORUBBER THIN POUR 15-30 seconds	REPRORUBBER MEDIUM BODY ORANGE 15-30 seconds	REPRORUBBER QUICK SETTING PUTTY Approximately 1 minute
Working Time (Manipulation Time)	2 minutes	2.5 minutes	1-2 minutes (from beginning of mix)
Setting Time (at room temperature)	10-15 minutes	5-6 minutes	8-10 minutes
Permanent Deformation	0.2%	0.3%	0.3%
Dimensional Stability	less than 0.50%	less than 0.40%	less than 0.25%
Tear Strength	44 pounds per sq. inch	300 pounds per sq. inch	105 pounds per sq. inch
Elongation	60% at break	70% at break	6.3% at break
Durometer (Shore A-2)	30 (at 15 minutes)	40 (at 10 minutes)	50 (at 7 minutes)
Temperature Stability	1 week @ 23°C (72°F)	1 week @ 23°C (72°F)	1 week @ 23°C (72°F)
Detail Reproduction	EXCELLENT	EXCELLENT	EXCELLENT

Code No	Description
Ordering Co	mplete Kits:
16300	Reprorubber Thin Pour (Green) Quick Dispense Cartridge System Kit Complete
16305	Reprorubber Orange (Medium Body) Quick Dispense Cartridge System Kit Complete
16309	Reprorubber Combo Kit Quick Dispense Cartridge System Kit,
	Includes 3 each Thin Pour & 3 each Orange

Ordering Original Mix Your Own Kits: Original Reprorubber® Thin Pour - Final Colour: LIGHT GREEN		
16116	Thin Pour 130ml Mix Your Own Trial Kit - Final Colour: Light Green	
16135	Thin Pour 380ml Mix Your Own Kit - Final Colour: Light Green	
16137	Case of 10 each 380ml Mix Your Own Kits - Final Colour: Light Green	



System Refil	ls	
16301	Reprorubber Thin Pour (Green) 50ml Cartridge, 1 each	
16302	Reprorubber Thin Pour (Green) 50ml Cartridges, 6 pack	
16306	Reprorubber Orange (Medium Body) 50ml Cartridge, 1 each	
16307	Reprorubber Orange (Medium Body) 50ml Cartridges, 6 pack	
16311	Repro-Mix II Dispensing Gun (reusable)	
16313	Repro-Mix II Helix Mixing Nozzles, 15 Pack	
16316	Repro-Mix II Helix Mixing Nozzles, 100 Pack	
16315	Quick Dispense Cartridge System Fitted Case (without contents)	
16314	Micro Injector Snap-On Nozzle, Pack of 15	



16301



16306



# **BATY INTERNATIONAL** - MADE IN THE UK

### **Venture XT**

Baty International has been in business since 1932 and in 2018 unveiled the Venture XT, a high precision contact and non-contact hybrid machine. The Venture XT along with Baty's other machines are still manufactured in Sussex, England to this day in accordance with ISO 9001:2008.















總公司:新北市 235 中和區連城路 258 號 3F-3 (遠東世紀廣場 I 棟) Tel: 02- 82271200 Fax: 02-82271266 Http:// www.fullbright.com.tw E-mail: sales@fullbright.com.tw

台北 Tel: 02-82271227 Fax: 02-82271191 台中 Tel: 04-24736300 Fax: 04-24734733 高雄 Tel: 07-5567600 Fax: 07-5590064 昆山 Tel: 512-57751291 Fax: 512-57751293 東莞 Tel: 769-85847220 Fax: 769-85847229

www.fullbright.com.tw