KEYENCE

Wide-Area 3D Measurement System

VR-3000 Series



3D SURFACE MEASUREMENTS IN AS LITTLE AS 4 SECONDS

High-end model with motorized XY stage

VR-3200

- XY-axis motorized control
- Z-axis motorized control
- Color imaging
- Wide-field/ high-magnification camera





Standard model with color/high-magnification imaging capabilities

VR-3100

- XY-axis manual control
- Z-axis motorized control
- Color imaging
- Wide-field/ high-magnification camera

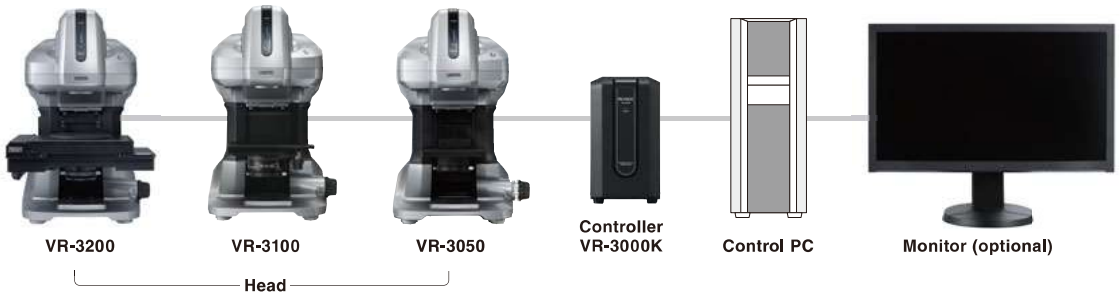




Basic model

VR-3050

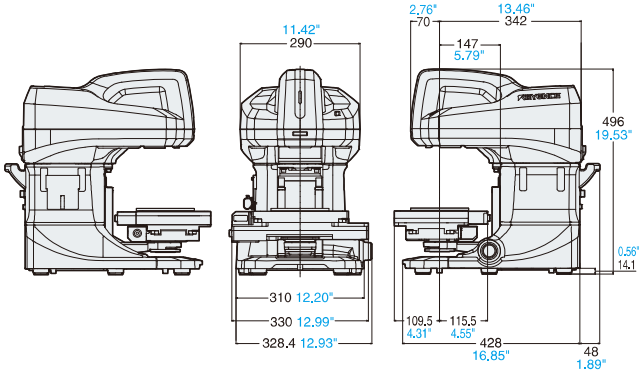
- Z-axis manual control
- Wide-field camera



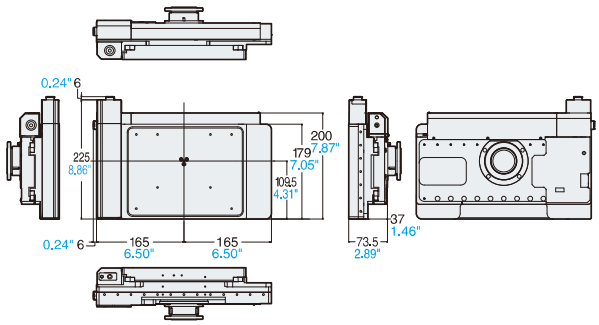
Model	Controller	VR-3000K		
	Head	VR-3200	VR-3100	VR-3050
Motorized XY stage	VR-S200	Standard	Optional	Optional
XYθ stage	OP-87715	—	Standard	Optional
Manual slider for stitching	OP-87717	—	Optional	Optional
100 mm 3.94" spacer	OP-87708	Optional	Optional	Optional
Tilt stage	OP-87709	Standard	Standard	Optional
Calibration standard	OP-87710	Standard	Standard	Standard
Viewer software	VR-H2VE	Required	Required	Required
Analyzer software	VR-H2AE	Required	Required	Required
Stitching module	VR-H2J	Optional	Optional	Optional
Comparative measurement module	VR-H2P	Optional	Optional	Optional
3D-CAD comparative module	VR-H2CA	Optional	Optional	Optional

Unit: mm inch

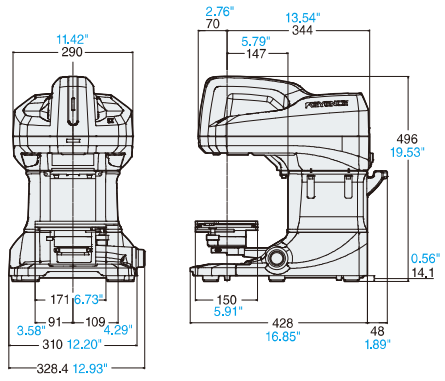
Head VR-3200



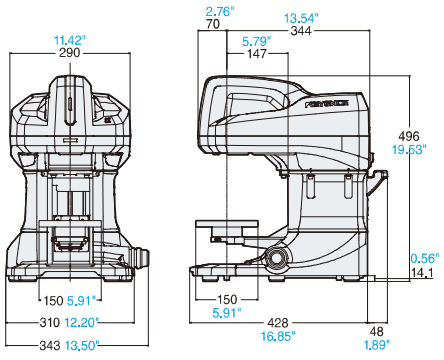
Motorized XY stage VR-S200



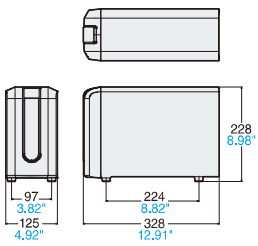
Head VR-3100

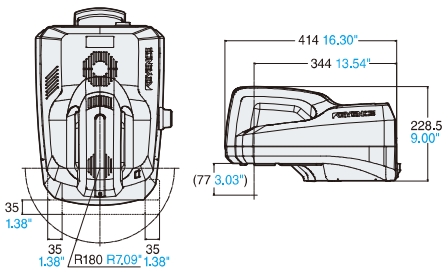


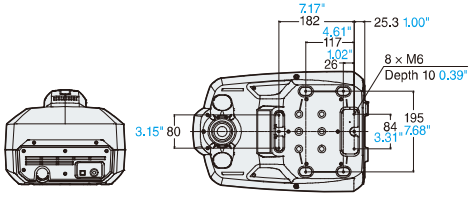
Head VR-3050



Controller VR-3000K







VR Head/Controller

Model	Controller	VR-3000K																			
	Head	VR-3200								VR-3100								VR-3050			
		Wide-field mode				High magnification mode				Wide-field mode				High magnification mode				Wide-field mode			
Magnification on a 15" monitor		12×	25×	38×	50×	40×	80×	120×	160×	12×	25×	38×	50×	40×	80×	120×	160×	12×	25×	38×	50×
Field-of-view	Horizontal (H): mm inch	24.0 0.94"	12.0 0.47"	8.0 0.31"	6.0 0.24"	7.6 0.30"	3.8 0.15"	2.5 0.10"	1.9 0.07"	24.0 0.94"	12.0 0.47"	8.0 0.31"	6.0 0.24"	7.6 0.30"	3.8 0.15"	2.5 0.10"	1.9 0.07"	24.0 0.94"	12.0 0.47"	8.0 0.31"	6.0 0.24"
	Vertical (V): mm inch	18.0 0.71"	9.0 0.35"	6.0 0.24"	4.5 0.18"	5.7 0.22"	2.9 0.11"	1.9 0.07"	1.4 0.06"	18.0 0.71"	9.0 0.35"	6.0 0.24"	4.5 0.18"	5.7 0.22"	2.9 0.11"	1.9 0.07"	1.4 0.06"	18.0 0.71"	9.0 0.35"	6.0 0.24"	4.5 0.18"
Zoom		1× to 4×																			
Measurable height *1		10 mm 0.39" (±5 mm ±0.20")				1 mm 0.04" (±0.5 mm ±0.02")				10 mm 0.39" (±5 mm ±0.20")				1 mm 0.04" (±0.5 mm ±0.02")				10 mm 0.39" (±5 mm ±0.20")			
Standard scale *2		0.1 µm																0.5 µm			
Repeatability (σ) *3	Height measurement	0.5 µm																			
	Width measurement	1 µm				0.5 µm				1 µm				0.5 µm				1 µm			
Measurement accuracy *3	Height measurement	±3 µm																			
	Width measurement	±5 µm				±2 µm				±5 µm				±2 µm				±5 µm			
Stitching function *4		Full automatic (XY stage automatic control + auto focus) measurement								Manual (XY, Z)											
		Auto adjustment, Auto template analysis								–											
Stage	XY stroke	184 × 88 mm 7.24" × 3.46" (motorized)								70 mm 2.76" *5 (200 mm *6) (manual)											
	Z stroke	90 mm 3.54" (motorized)								90 mm 3.54" (motorized)								88 mm 3.46" (manual)			
	Rotation	±180° (sample rotating stage)								±90°(θ stage)								–			
	Tilt	±30° or more								±30° or more								–			
Working distance		75 mm 2.95"																			
Image receiving element		4 megapixel monochrome CMOS																			
Transmitter lens		Two, double-telecentric lenses																			
Receiver lens		Double-telecentric lens																			
Light sources	Observation light source	LED ring light (red, green, blue)																LED ring light (white)			
	Measurement light source	White LED																			
Image size		1024 × 768 pixels, 2048 × 1536 pixels																			
Data processing		Dedicated PC specified by KEYENCE (OS: Windows 7) *7																			
Power source	Supply voltage	100 to 240 VAC ±10%, 50/60 Hz																			
	Power consumption	150 VA																			
Environmental resistance	Ambient temperature for usage	15 to 30°C 59 to 86°F																			
	Relative humidity for usage	35 to 80% (no condensation)																			
Weight	Controller	3.8 kg																			
	Head *8	28.0 kg								22.5 kg								20.6 kg			

*1 Wide-field ±5 mm ±0.20" and high magnification ±0.5 mm ±0.02" around the focal point position. *2 Height measurement resolution.
*3 Value obtained using KEYENCE's specified standard gauge with measurement in KEYENCE's specified measurement mode (ambient temperature: 23±1°C 73.4±1.8°F). *4 The stitching module (VR-H2J) is required.
*5 The VR-3050 requires the XYθ stage (OP-87715). *6 When the OP-87717 manual slider for stitching used.
*7 Windows 7 Professional and Ultimate. *8 Weight of measurement unit: 10.8 kg

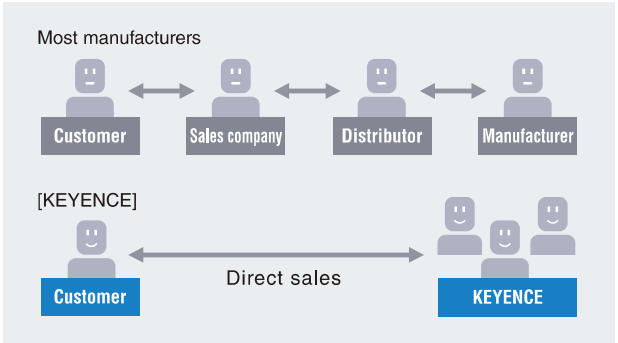
Motorized XY stage VR-S200

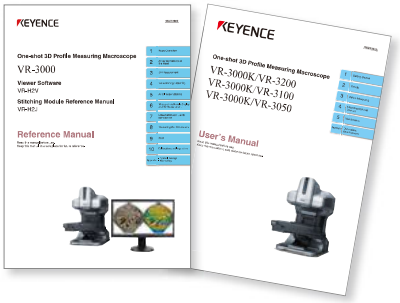
Travel speed	10 mm 0.39"/sec (max.)
Travel range	184 × 88 mm 7.24" × 3.46"
Stage size	Top surface: 215 × 165 mm 8.46" × 6.50" (rotary plate: ø140 mm ø5.51")
Weight	6.5 kg

* Optional item mountable on VR-3100 or VR-3050.

First-class customer support that only a direct service system can provide

KEYENCE employs a direct sales system that eliminates intermediaries, such as distributors and dealers, from our sales channel. Our experienced, highly-skilled sales engineers respond quickly to customers' inquiries, providing them with exceptional after-sales service and support.
KEYENCE also offers free on-site inspection services and provides equipment loans free of charge in the event of a failure. With this level of service, KEYENCE provides post-sales support you can rely on.





In addition to the "Getting Started Guide" provided with the product, a full color manual is also available.

KEYENCE

CALL TOLL FREE | TO CONTACT YOUR LOCAL OFFICE **1-888-KEYENCE** 1-888-539-3623

www.keyence.com

SAFETY INFORMATION
Please read the instruction manual carefully in order to safely operate any KEYENCE product.

CONTACT YOUR NEAREST OFFICE FOR RELEASE STATUS

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