

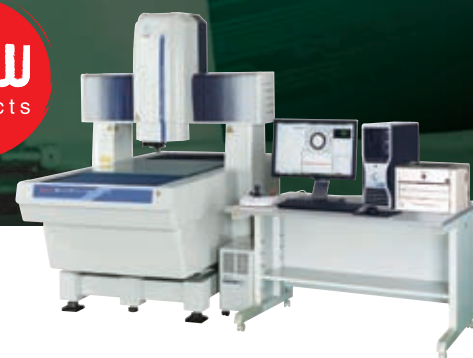
Non-stop CNC Vision Measuring System with Tracking Auto Focus (TAF) Quick Vision QV STREAM PLUS



Mitutoyo Corporation
80th Anniversary
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Captures and tracks without stopping for astounding throughput

Vision Measuring Systems



Catalog No. E14017

Mitutoyo

Non-stop CNC Vision Measuring System with Tracking Auto Focus (TAF) Quick Vision QV STREAM PLUS



FEATURES

- Enables high-throughput measurement—more than five times higher than earlier models. *Using Mitutoyo sample workpieces
- New method captures the image continuously without stopping the stage.
- Includes a tracking auto focus (TAF) feature that tracks the contours of waves and warpage on the surface of the workpiece and maintains focus. This eliminates time wasted during autofocusing.

SPECIFICATIONS

Specifications for QV STREAM PLUS Series systems with TAF

Order No.	363-176	363-186	363-196
Model	QV-X302T1S-D	QV-X404T1S-D	QV-X606T1S-D
Main unit			
Measuring range (XxYxZ)	300x200x200mm	400x400x250mm	600x650x250mm
Performance			
Accuracy E1	X, Y axes (image)	(1.5+3L/1000) μm *1	
	Z axis (image)	(1.5+4L/1000) μm *1	
Accuracy E2	XY plane (image)	(2+4L/1000) μm *1	
Resolution		0.1 μm	
TAF Z-axis resolution		0.3 μm	
Operating temperature range		20±1°C	
Main equipment and features			
Imaging Device		B&W CCD	
Illumination Unit	Co-axial Light	Color LED	
	Transmitted Light	Blue LED	
	PRL	Color LED (quadrant)	
Observation unit		PPT 1X-2X-6X	

*1 Determined using Mitutoyo inspection methods. Optical magnification for which accuracy guaranteed: 2.5X objective (QV-HR2.5X or QV-SL2.5) + 2X tube lens

Tracking Auto Focus (TAF)

The TAF feature focuses continuously, adjusting to changes in the height of the object being measured. Automatic tracking of surface waves and warpage (in the Z axis height direction) improves measurement throughput. The feature also cuts out the hassle of focusing during manual measurement, reducing the work burden for measuring system operators.

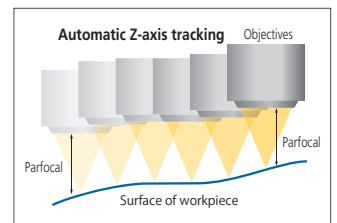
Note: Continuous measurement of displacement is not performed.

Tracking Auto Focus (TAF)

AF principle	Objective coaxial autofocusing (knife edge method)				
Suitable objectives	QV-HR1x	QV-SL1x	QV-HR2.5x	QV-SL2.5x	QV-5x
Tracking range*2	6.3mm (±3.15mm)	6.3mm (±3.15mm)	1mm (±0.5 mm)	1mm (±0.5 mm)	0.25mm (±0.125mm)
Spot diameter*3	5.2 μm	8.0 μm	2.1 μm	3.1 μm	1.5 μm
Laser source	Semiconductor laser (peak wavelength: 690nm)				
Laser power	0.9mW				
Laser safety	Class 2 (JIS C6802:2011, EN/IEC 60825-1:2007)				

*2 Varies according to workpiece surface texture and reflectance.

*3 These are design values.



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