

QV STREAM PLUS

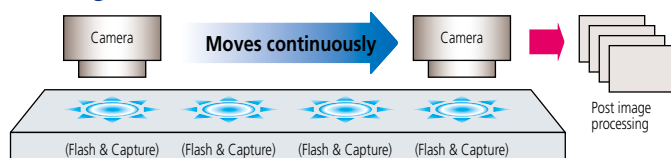
SERIES 363 – CNC Vision Measuring System

- A 3D CNC Vision Measuring System offering accuracy in the 1.8 μm class (measuring 100 mm).
- This advanced machine is hugely productive on most workpieces because of its high-intensity-LED stroboscopic image-capturing technique that operates while the stage is moving.
- Programmable ring lighting enables achievement of maximum surface contrast for best imaging resolution, and hence accuracy, on the more problematic workpiece.
- The fixed bridge, moving table design is used for the ultimate in rigidity.
- A programmable power turret provides control of magnification for optimal viewing.



QV STREAM PLUS 606

STREAM MODE



SPECIFICATIONS

Model		QV STREAM PLUS 302	QV STREAM PLUS 404	QV STREAM PLUS 606
Code No.		363-116	363-136	363-156
Measuring range	X	300 mm	400 mm	600 mm
	Y	200 mm	400 mm	650 mm
	Z	200 mm	250 mm	250 mm
Resolution		0.1 μm		
High-resolution CCD camera		B&W, progressive scan CCD		
Accuracy* ¹	E _{1xy}	±(1.5+0.3L/100) μm		
	E _{1z}	±(1.5+0.4L/100) μm		
	E _{2xy}	±(2.0+0.4L/100) μm		
Illumination	Surface	Hi-intensity LED [stroboscopic (B) and continuous (RGB & W) illumination, switchable]		
	Contour	Hi-intensity LED [stroboscopic (B) and continuous (B) illumination, switchable]		
	Programmable ring light	Hi-intensity LED [stroboscopic (B) and continuous (RGB & W) illumination, switchable]		
Magnification change system		Programmable power turret		
Max. drive speed (X/Y/Z-axis)		300 mm/s	XY: 400 mm/s, Z: 300 mm/s	
Max. measuring speed		40 mm/s		
Stage glass size		399 x 271 mm	493 x 551 mm	697 x 758 mm
Max. stage loading		20 kg	40 kg	50 kg
Dimensions (W x D x H)		859 x 951 x 1609 mm	1027 x 1407 x 1778 mm	1309 x 1985 x 1794 mm
Mass* ²		360 kg	579 kg	1450 kg

*¹ Programmable power turret: 1X, objective set: 2.5X, L = measured distance between two arbitrary points (mm).

*² Including machine stand.

FEATURES



Non-stop Vision Measurement Means Extreme Improvement in Throughput*

Conventional vision measuring systems endlessly repeat the cycle of stage displacement, stage stop, measurement, stage start and stage displacement again. This mode of operation is a fundamental limitation on improving measurement throughput.

In contrast, the Quick Vision Stream system uses an innovative image capture technique that avoids the need to repeatedly stop the stage so measurement can be continuous, but measuring accuracy is retained. Eliminating the time needed to accelerate, decelerate and then hold the stage motionless while a measurement is made achieves an extreme improvement in productivity.

*Comparison of measurement throughput (using a Mitutoyo sample workpiece) with that of Mitutoyo conventional systems.

Measurement Throughput Comparison between QV STREAM and the Conventional System

STREAM PLUS series: more than 5 times

STREAM Mode

The measurement mode of a non-stop vision measuring system is referred to as the STREAM mode.

Newly Developed Stroboscopic Illumination System

The development of a high-intensity LED flash illuminator made non-stop vision measurement possible. At the precise moment the stage reaches a measurement point the illuminator creates an extremely short, high-intensity flash that effectively freezes all motion. The illuminator turns on and off so fast that no image blur occurs and the image is captured in full and accurate detail.

This innovative design takes full advantage of high-density, high-intensity LED arrays aided by collimating lenses and dichroic mirrors to produce ultra bright, directional and efficient illumination.

High-density mounting of ultra-high-intensity LED elements

