Quick Image Color

Bulletin No. 1769

High-speed, 2-D vision measurement — in color with an extra-wide field of view.

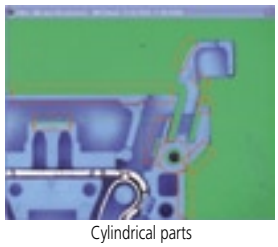
Mitutoyo

Quick Image Color
Faster, easier, more intelligent, more precise!

Quick Image Color is a 2-D color vision measuring instrument for reliable and easy non-contact precision measurement of small workpieces, surfaces and contours. The strength of this compact table-top unit lies in its precise measurement of difficult, very complex, soft or highly structured parts.

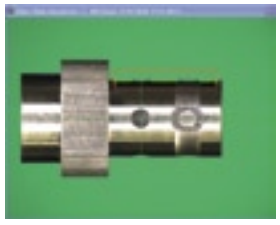
Combined with a desktop PC or laptop, Quick Image Color sets practically no limits on your mobility with efficient quality control, even on the production floor.

Quick Image Color is suitable for rapid and precise inspection of individual workpieces, as well as small series of parts.

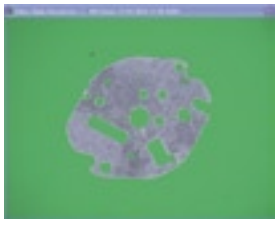


Cylindrical parts

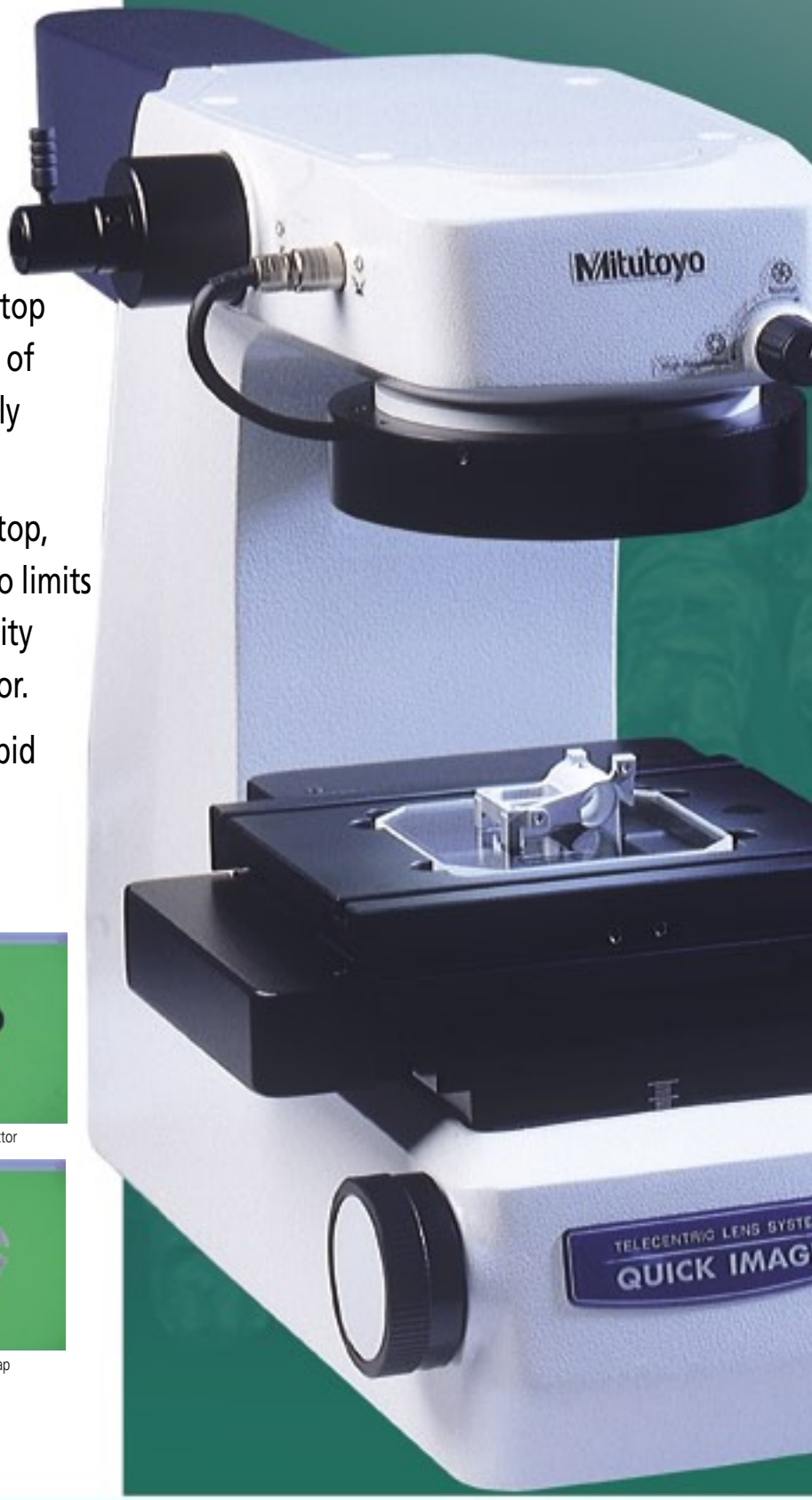
Molded-plastic connector



Press-formed parts



Molded-plastic key cap



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Easier and more accurate than a profile projector.
Quick Image Color captures the workpiece with a high-precision color CCD camera, and projects elevations and contours on to the screen with great accuracy and clarity. Workpieces can, if required, be analysed with extremely user-friendly image-processing tools or, using software, compared with overlaid and user-definable templates.

Compared to use of a profile projector, measurement error due to incorrect handling and comparison with inaccurate drawings is ruled out.

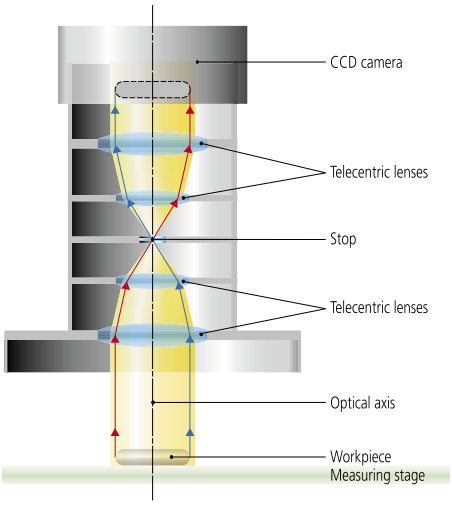
QIPAK software: Uncomplicated, versatile and fast,
Quick Image Color, with its integrated, high quality QIPAK software, comes standard with a high degree of analytical capability – for convenient, repeatable, programmable measuring sequences, high speed evaluation and automatic generation of reports.

With the optional MeasurLink module, measurements made can be subjected to multiple statistical analyses.

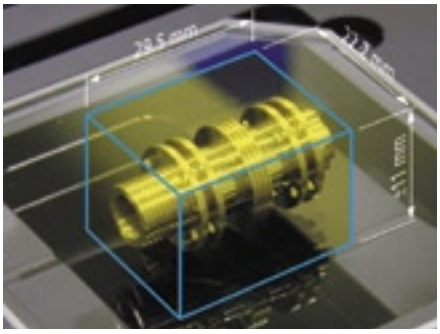
Experience and innovation. All wrapped up in one advanced system.

Wide field of view and distortion-free imaging

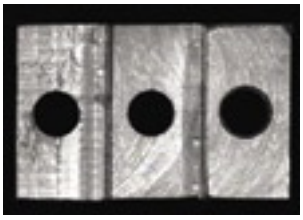
With Quick Image Color you have a significantly larger general view and greater depth of 2-D image processing. The extra-wide field of view of 1.26" x .94" (32 x 24 mm) permits complete capture of small workpieces in a single view – with a repeatability of 1 µm or a focal depth of up to .87" (22 mm). High-clarity focussing by the high-resolution CCD camera results in perfect conversion into a distortion-free image. With the double-telecentric lens system, workpieces of various heights and with stepped surfaces, for example turned parts or cutting tools, can be measured without any distortion, and without refocusing.



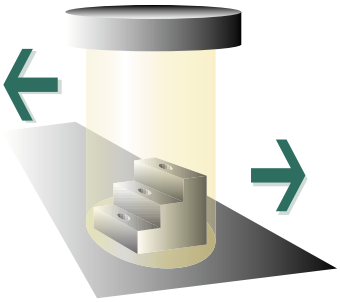
Quick Image Color has a double telecentric system. By eliminating rays that are not parallel to the optical axis, distortions of perspective are eliminated and an unusually high focal depth is achieved.

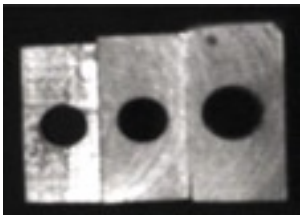


Wide field of view and depth



When a telecentric lens system is used

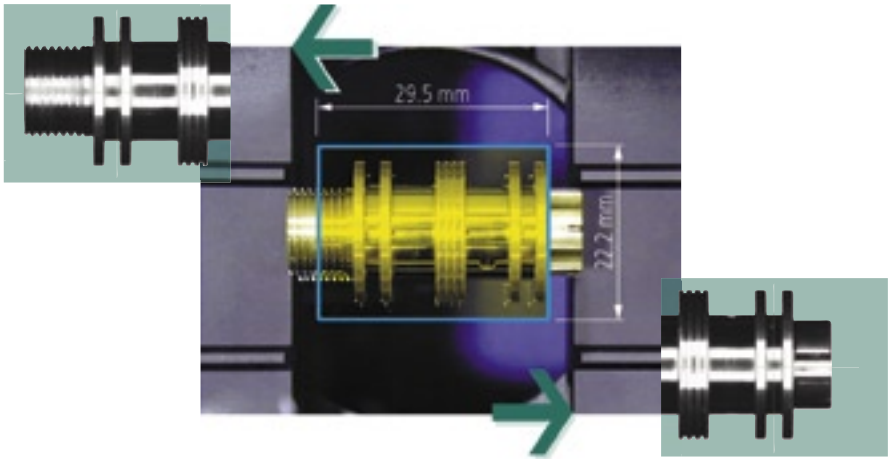




When a normal lens system is used

Measuring more with a wide field of view

With an amazing field of view of 1.26" x .94" (32 x 24 mm), Quick Image Color has most small parts fully in view. Various configurations allow a broad range of measurements: single workpiece measurement on screen as well as large and multiple workpieces.



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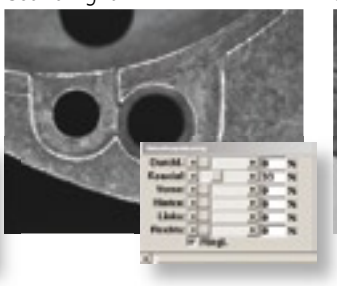
With transmitted, coaxial and ring lighting nothing goes unnoticed

Quick Image Color shows your workpieces in their true light. As an option, in addition to transmitted and coaxial lighting which come as standard equipment, there is also an innovative programmable four-quadrant LED ring light for particularly demanding measuring tasks.

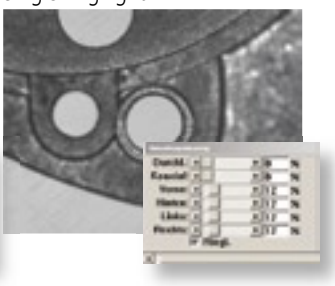
Optimum lighting can be selected for each measurement task: transmitted light, incident light, ring light or all the variants combined. The ring light for lateral illumination – with light intensities independently adjustable in four quadrants – creates perfect illumination for modelling and edge recognition.

Transmitted light

Coaxial light

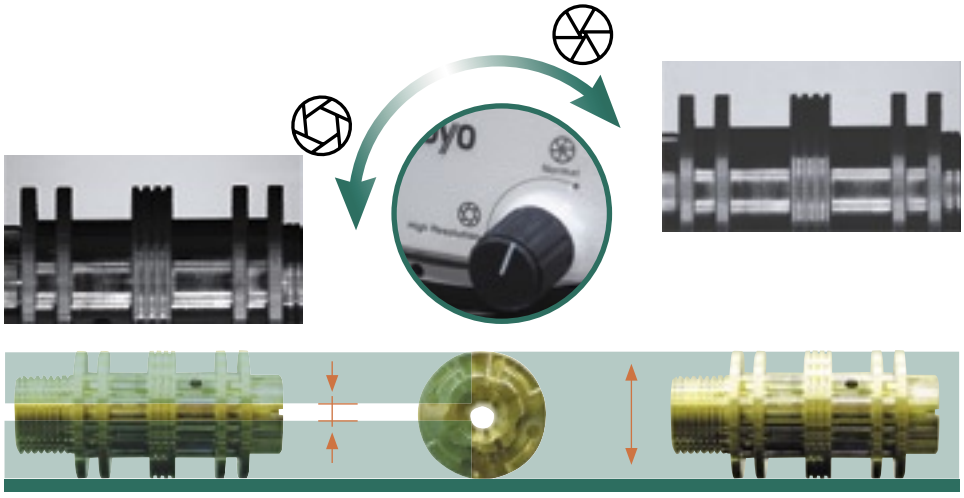


Single ring light



A clever twist gives precision results

An easy twist of the telecentric stop adjusts the light perfectly to the measuring task. In normal mode the focal depth is a high .87" (22 mm) with a repeatability of 2 µm, and in high resolution mode the repeatability is 1 µm with a depth of focus of .05" (1.2 mm).

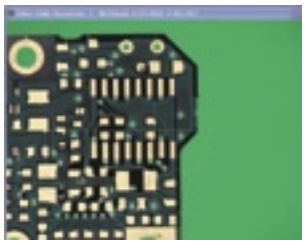


High resolution mode: Focal depth 1.2 mm
Repeatability 1 µm

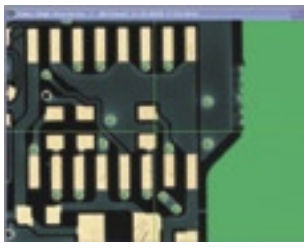
Normal mode: Focal depth 22 mm
Repeatability 2 µm

Measure precisely with the 1-4x digital zoom function

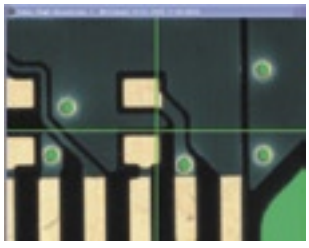
Quick Image Color provides a 1-4x digital zoom function for easy selection and magnification of complicated workpiece detail from a wide-angle overview.



1 x



2 x



4 x

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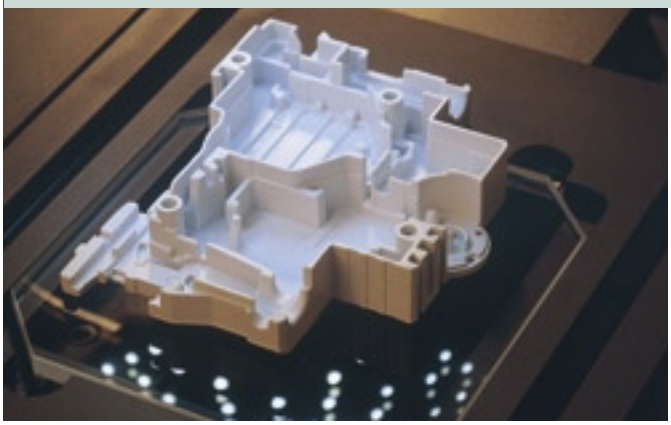
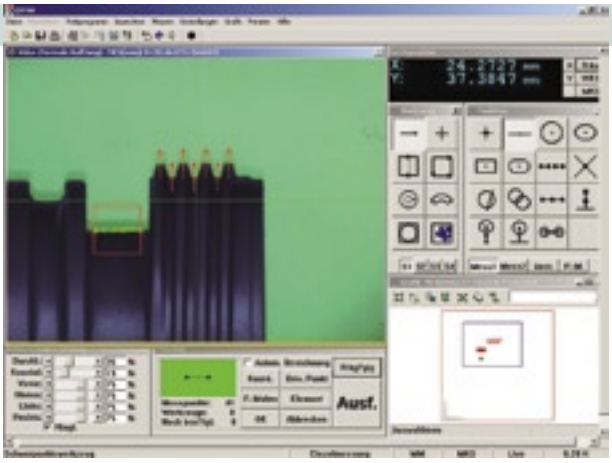
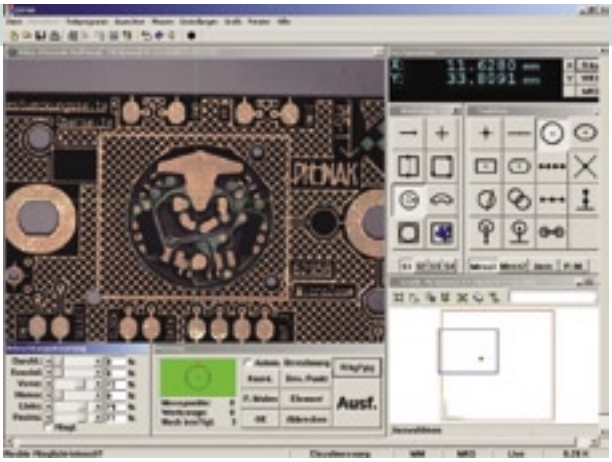
Measurement without compromise.







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With the large four-quadrant LED ring light, the light direction and intensity can be varied so even low contrast, finely detailed plastic parts become easily visible and measurable.

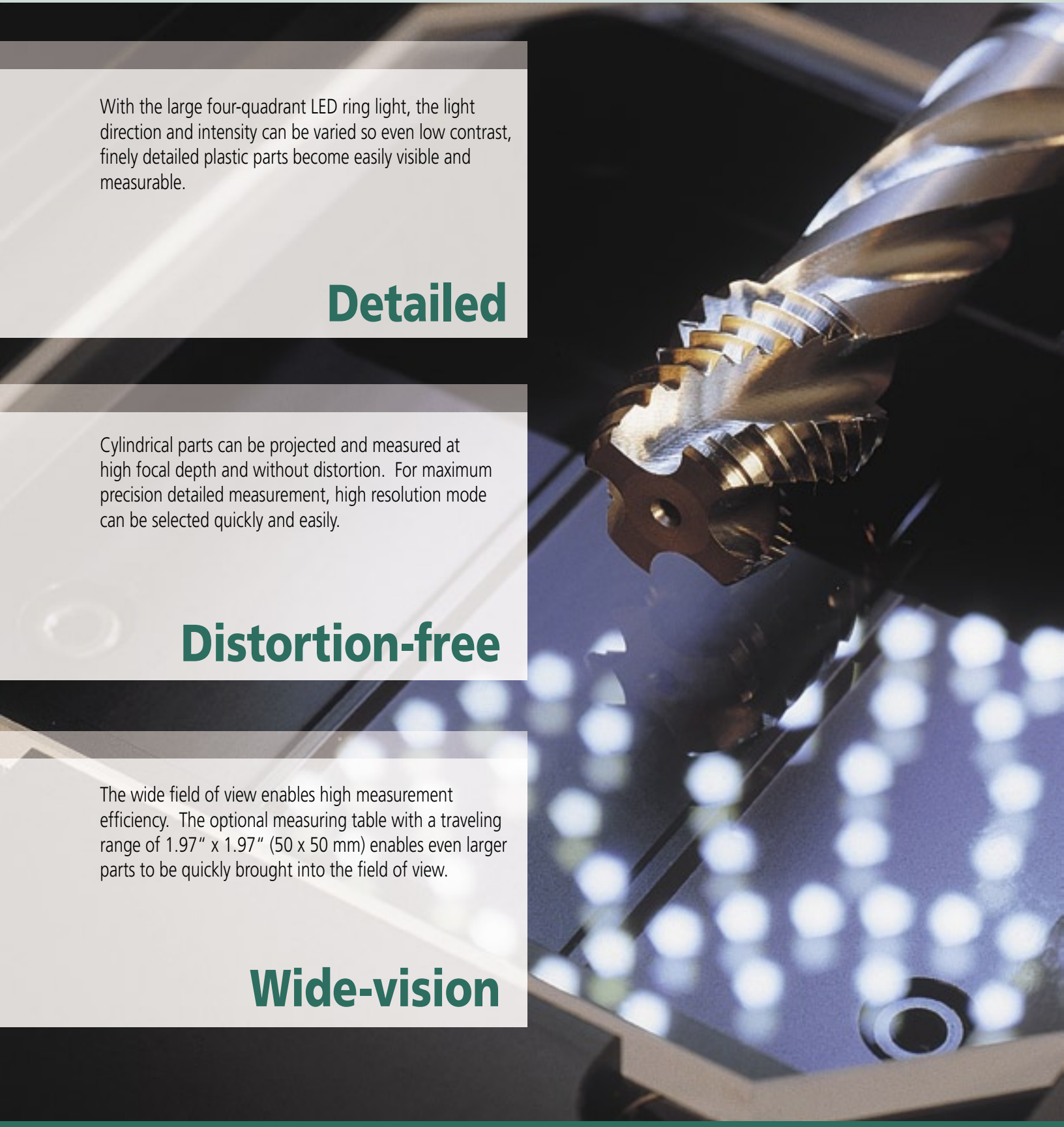
Detailed

Cylindrical parts can be projected and measured at high focal depth and without distortion. For maximum precision detailed measurement, high resolution mode can be selected quickly and easily.

Distortion-free

The wide field of view enables high measurement efficiency. The optional measuring table with a traveling range of 1.97" x 1.97" (50 x 50 mm) enables even larger parts to be quickly brought into the field of view.

Wide-vision



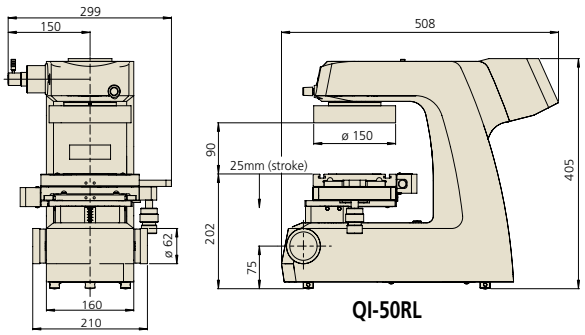
Quick Image Color — Simply better!

Quick Image Color requires only one view to see all it needs — making more intelligent, more precise measurement quicker and easier.

Measuring stage design

Model		QI	QI-RL	QI-50	QI-50RL	QI-100	QI-100RL	QI-200	QI-200RL
Field of View		1.26″ x .94″ (32 x 24mm)							
Measuring accuracy on screen		±5µm (High resolution mode)/±8µm (Normal mode)							
Measuring accuracy		—		±(5+4L/50)µm*		±(5+5L/200)µm*			
Travel Range	X-Y axis	—		2″(50mm)		4″x4″(100x100mm)		8″x4″(200x100mm)	
	Z axis	1″(25mm)		1″(25mm)		4″(100mm)		4″(100mm)	
CCD Camera		1.3M pixel 1/2 inch color							
Optical System	Magnification	0.2x (Both sides telecentric optical system)							
	Depth of focus	±0.6mm (High resolution mode)/±11(Normal mode)							
Illumination	Contour/Coaxial	0	0	0	0	0	0	0	0
	4-quadrant ring	—	0	—	0	—	0	—	0
Stage glass effective dimensions		3.39″x3.23″(86x82mm)				6.69″x6.69″(170x170mm)		9.53″x5.51″(242x140mm)	
Maximum workpiece load		11 lbs (5kg)						22 lbs (10kg)	

* L: Arbitrary measuring length (mm)



QI-50RL

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