

Fully Automatic Image Measuring Instruments (flash Measuring Instruments) Image 3 Series

MEASURING SYSTEM



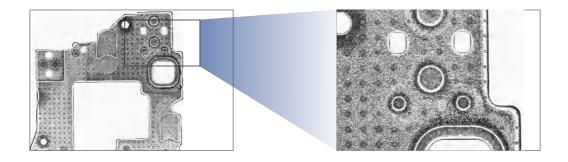
Detection Performance Upgrade

Placement And Measurement At The Touch Of A Button

Supports A Variety Of Measurements At The Touch Of A Button

Maximum support 300*200mm field of view range

Outstanding Edge Detection





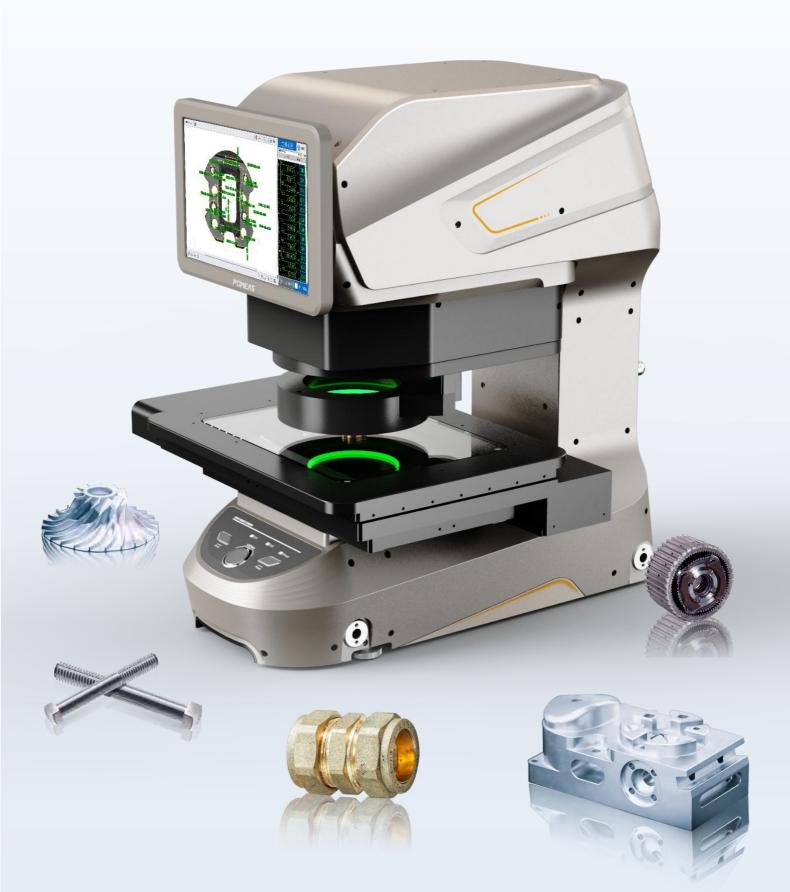
Dual Telecentric Lens Pairing
Dual 20 Megapixel Cmos



New Algorithm For Ai Edge Detection Make Edge Detection More Stable

Fully Automatic Image Measuring Instruments (flash Measuring Instruments) Image 3 Series

MEASURING SYSTEM



With The Image 3 Series

Automation Of Dimensional Measurement And Reduction Of Working Time

One-touch Measurement, One-touch Report Output

- Desktop structure, compact size, easy to transport, suitable for production line, line edge size measurement.
- Measurement can be done at the touch of a button after placement, or fully automated with the customer's IO signal.
- Reports can be automatically uploaded to client data management systems

New Generation Hardware With Powerful Ai Algorithmeasy To Complete The Surface Light High-precision Measurement

- Dual telecentric lenses with two 20-megapixel cameras and auto-raising multi-angle surface light and carefully customised surface coaxial light
- With independent powerful AI edge computing algorithms to easily achieve the surface accurate edge search, border clutter filtering invalid area
- Highly accurate measurement of surface dimensions and repeatability of surface light measurements to the same level as the base light.

Measures 100 Parts In One Second

- Measures 100 parts in 1 second, dramatically reducing measurement time
- Easy-to-understand software interface with step-by-step internal processes for easy measurement programming and report parameterisation
- With auto-focus, auto-positioning and auto-measurement functions, anyone can get consistent and stable results.

BEFORE PRODUCT INTRODUCTION

DIFFICULTIES INHERENT IN DIMENSIONAL INSPECTION

Slow

- Slow positioning of the product, consuming labour time.
- Fewer inspection positions and longer measurement times with more dimensions.

Biased

- Differences in the way the equipment is used can lead to different test results.
- Differences in testing personnel can lead to different results.

Difficult Operate

- Time-consuming to learn about measuring equipment.
- Cannot complete work without skilled surveyors on site.



Tool Microscope



Imaging Device



PROJECTORS



Dial Calipers



Micrometer

AFTER PRODUCT INTRODUCTION

THE IMAGE 3 SERIES SOLVES A WIDE RANGE OF CHALLENGES

Speedy

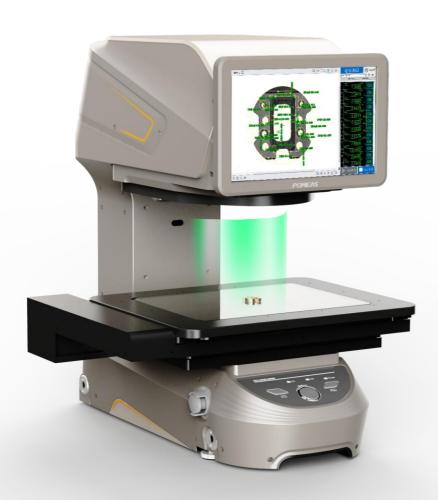
- No need to orientate the measurement object and origin.
- Up to 300 parts and 100 targets can be measured simultaneously.
- Measurement is performed after identifying all measurement areas at once from the image of the entire target.

Approximate

- "Measure with just one press of a button after placement" for easy operation to obtain stable results.
- Automatic focusing eliminates uneven focus.
- Automatic recognition of the measurement area for uniform results every time.

Simpler

- Easy setup and measurement.
- Measurement of virtual lines and virtual points can also be set up easily.
- Measurements can be easily performed without training.

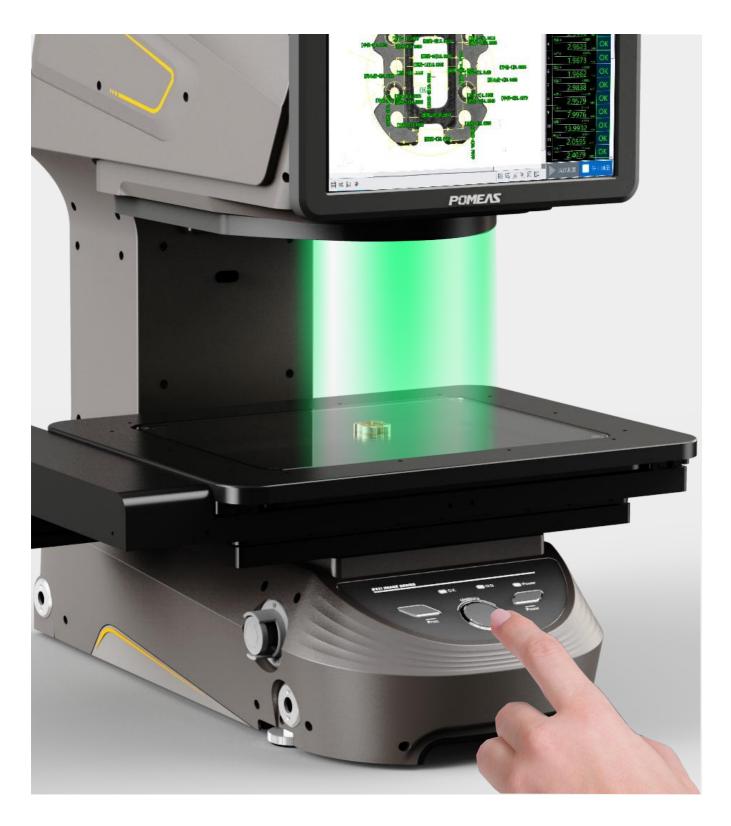


Make Dimensional Measurements "faster", "more Accurate" And "simpler"



Quick Measurement Of Products Within The Field Of View

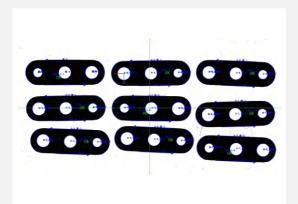
Measure products within your field of view at the touch of a button, and measure multiple products at the same time, significantly reducing measurement man-hours!





Automatic Recognition Reduces Set-up Time

Automatic identification of the position and direction of the real sense of the "placement of theand then press only one button to measure", greatly saving man-hours and Improve efficiency.



Simultaneous Measurement Of Multiple Products Reduces Costs

Measurement objects can be placed arbitrarily, multiple products can be measured at the same time, which greatlySave measuring time and reduce labour cost!



Ultra-large Field Of View Measurement For One-time Total Imaging

A field of view of up to 300mm x 200mm can be realised in a single pass. The imaging can be done in one go, even if the measuring position is increased, without spending any time on the measurement.

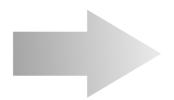
Make Dimensional Measurements "faster", "more Accurate" And "simpler"



APPROXIMATE Unaffected By Operator Skill Proficiency Levels

Before importing

- 1.Positioning error
- 2.Focusing error
- 3. Deviation due to operator's skillfulness



After importing

1. No fixture positioning required The software automatically identifies



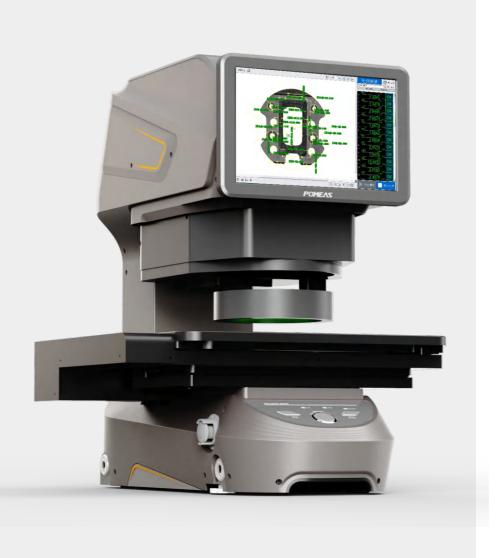
Bias due to positioning



Deviation due to focusing



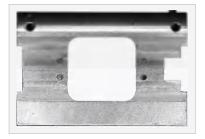
Deviation due to operation

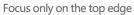


No Deviation Due To Focus Adjustment

Equipped with an optical lens specially designed for a large depth of field, the camera automatically focuses on targets that cannot be focused on at once due to uneven surfaces, depending on the measurement position, thus eliminating focusing errors caused by different operators. This eliminates focusing errors caused by different operators.

Targets With Large Height Differences

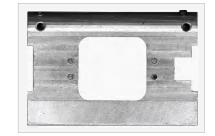






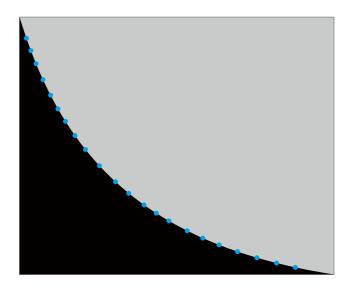
Focus on lower edge only

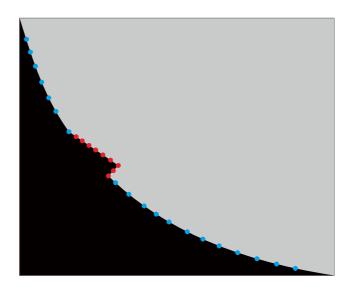
Automatic Focus Adjustment And Measurement



No Bias Due To Recognition Of Edge Parts

When the measurement position contains burrs or defects, it is also possible to exclude them from the fitting process as anomalies on the basis of automatic recognition.



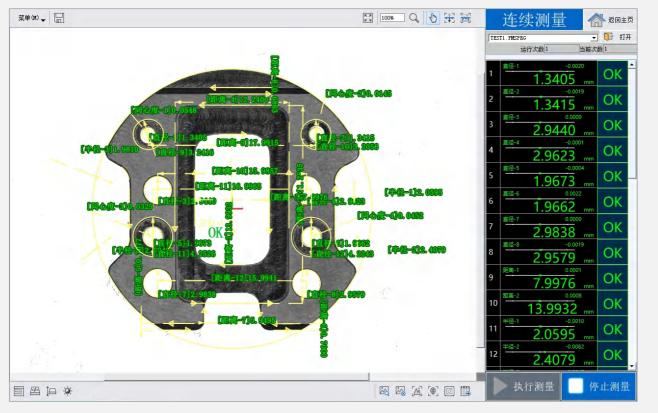




SIMPLER Simple To Measure At The Touch Of A Button After Placement.



The Software Interface Is Simple And Easy To Understand, So Anyone Can Operate It Easily And Get Stable Results.



Easier Data Traceability Management

Measurement results are automatically saved and can be searched by measurement date, product name, product material number, etc. Data traceability is easy to manage.



Excel Reports

		尺寸号	直径-1	直径-2	直径-3	直径-4	距离-1	距离-2	距离-3	距离-4	距离-5	距离-6
POMEAS		最大值(MAX)	5, 2622	5. 2661	4.0044	4,0007	19.5431	19, 5806	9. 9117	9, 9150	9, 9225	9. 9229
		最小值(MIN)	5, 2603	5. 2649	4.0029	3.9992	19.5396	19.5755	9.9101	9. 9125	9, 9204	9. 9204
		平均值	5. 2615	5. 2655	4.0037	4.0001	19.5411	19.5778	9.9110	9.9138	9.9212	9. 9216
		标准值	5. 2619	5. 2651	4.0032	3, 9998	19.5398	19.5753	9.9116	9.9145	9. 9206	9, 9228
		上公差	0.0200	0.0200	0.0200	0.0200	0.0200	0,0200	0.0200	0.0200	0.0200	0,0200
		下公差	(0, 0200)	(0.0200)	(0.0200)	(0,0200)	(0.0200)	(0.0200)	(0, 0200)	(0.0200)	(0.0200)	(0,0200
		极差	0.0019	0.0012	0.0015	0.0015	0.0035	0.0051	0.0016	0.0025	0.0021	0.0025
		CA	0.0180	0.0180	0.0240	0.0165	0.0655	0,1255	0.0300	0.0375	0,0320	0.0580
		CP	0.5242	0.4959	0.6052	0.4966	0.4819	0.6161	0.5186	0.5554	0.5369	0.4539
		CPK	0.5148	0.4870	0.5906	0.4884	0.4503	0.5388	0.5030	0.5346	0, 5198	0.4276
序号	测量结果	测量时间	实测数据									
1	2021. 05, 28, 14:26	OK	5, 2620	5. 2652	4.0036	3, 9997	19.5396	19, 5755	9, 9117	9. 9150	9, 9211	9, 9226
2	2021. 05. 28. 14:29	OK	5, 2621	5. 2651	4,0038	4,0007	19.5429	19, 5771	9, 9111	9, 9138	9, 9213	9, 9229
3	2021. 05. 28. 14:29	OK	5. 2610	5. 2661	4.0044	4.0004	19.5431	19.5764	9. 9112	9. 9144	9, 9209	9. 9217
4	2021. 05. 28. 14:30	OK	5. 2617	5. 2655	4.0040	4.0003	19.5400	19.5806	9.9110	9.9142	9. 9212	9. 9218
5	2021.05.28.14:30	OK	5. 2620	5. 2650	4.0034	4.0002	19.5406	19.5777	9.9104	9.9125	9.9210	9. 9225
6	2021.05.28.14:30	OK	5, 2603	5. 2656	4.0033	4.0002	19.5406	19.5786	9, 9109	9.9133	9, 9218	9, 9206
7	2021. 05. 28. 14:30	OK	5, 2612	5. 2658	4.0029	3, 9995	19.5420	19.5777	9.9106	9. 9141	9, 9225	9.9204
8	2021.05.28.14:30	OK	5, 2617	5. 2649	4.0038	4.0004	19.5414	19.5785	9.9115	9.9135	9,9204	9.9220
9	2021.05.28.14:30	OK	5. 2622	5. 2655	4.0037	3.9992	19.5408	19,5784	9. 9115	9.9128	9.9204	9. 9215
10	2021. 05. 28. 14:30	OK	5, 2612	5, 2659	4, 0039	4.0007	19,5401	19, 5776	9, 9101	9, 9139	9, 9218	9, 9204

Individual Product Measurement Report



Create Measurement Reports With One Click

Inspection reports and statistical reports can be produced with one click, without the need for tedious processes such as data transmission and computer input. No need for data transfer and computer input, and supports a variety of formats.

Advanced Technology For "all Kinds Of Measurements "

Dual 20 Megapixel Cameras

20 megapixels for both large and small fields of view, with the latest edge detection algorithm, realising the automatic measurement of surface light.automatic measurement of surface light;

Adjustable Light Source

Built-in brightness sensor, automatically adjustautomatically adjusts the light to achieve the best visual effect;

Double Magnification, High Telecentricitydouble Telecentric Lens

Low distortion with segment difference and edge position view Graphics are not distorted, no need to worry about measurement position.



8055 Point Spectral Confocal Sensor

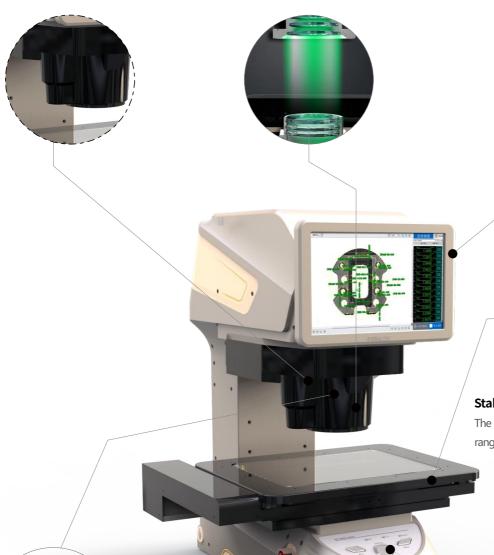
8055 Ultra Large Working Distance Spot Spectrum Confocal SensorSensor with visual positioning for fast measurement ofproduct height and transparent product thickness.

Adjustable Lifting Light Source

Built-in brightness sensor, automatically adjust the lightautomatically adjusts the light to achieve the best visual effect.

1200w Pixel Camera

1200W ultra-high pixel camera with the latestnew edge detection algorithm to achieve surfacelight automatic measurement.





Stabilisation Of Large Mobile Platforms

The load moving platform can move the measuring range up to 300*200*75(mm).

IMAGE 3 MAX

4k High Resolution Zoom Lens

4K class resolution, larger than the same class of measurementmeasurement field of view, to ensure the stability and accuracy of measurement at any position within the field of viewstability and accuracy of measurement at any position within the field of view.

Quick Measurement At The Touch Of A Button

The product is placed on the carrier table and the product is measured at the touch of a button. The product is placed on the carrier and measured with a single click.

Ultra High Precision Cmos

Adopts dual 20MP COMS cameras with new AI edge detection algorithm for more stable detection performance.



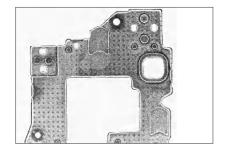
Dual 20-megapixel Cmos Sensors

Equipped with dual 20 megapixels that fully utilise the resolution of the lensindustrial camera with twice the number of pixels of conventional models*. This makes it possible to observe even the smallest edges that were previously difficult to observe.

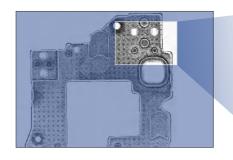


Dual Camera Simultaneous Measurement Optical System

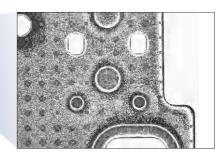
In one setup, measurement can be performed by switching between a ϕ 100 mm wide field camera and a 25 mm diameter high-precision camera. The external size or overall shape of the target object can be quickly captured by the wide-field camera. The wide field of view camera can be used to zoom in and capture the object quickly, while the position requiring fine shape and accuracy can be measured by switching to the high-precision camera, thus shortening the measurement time while improving the accuracy. The measurement time can be shortened while improving accuracy.



Images taken with a wide field of view camera



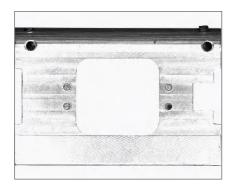
Switch to high-precision camera only at positions where accuracy is required



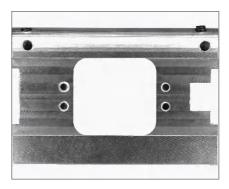
Enlarged image using a high-precision camera

Highly Accurate Linear Movement

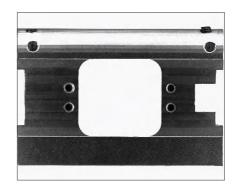
Equipped with an engine that stably detects edges with weak contrast between light and dark, a new algorithm has been developed to identify stably detectable edges from the surrounding edge information, enabling measurement with greater accuracy. This makes it possible to measure with greater precision.



death sentence



white background

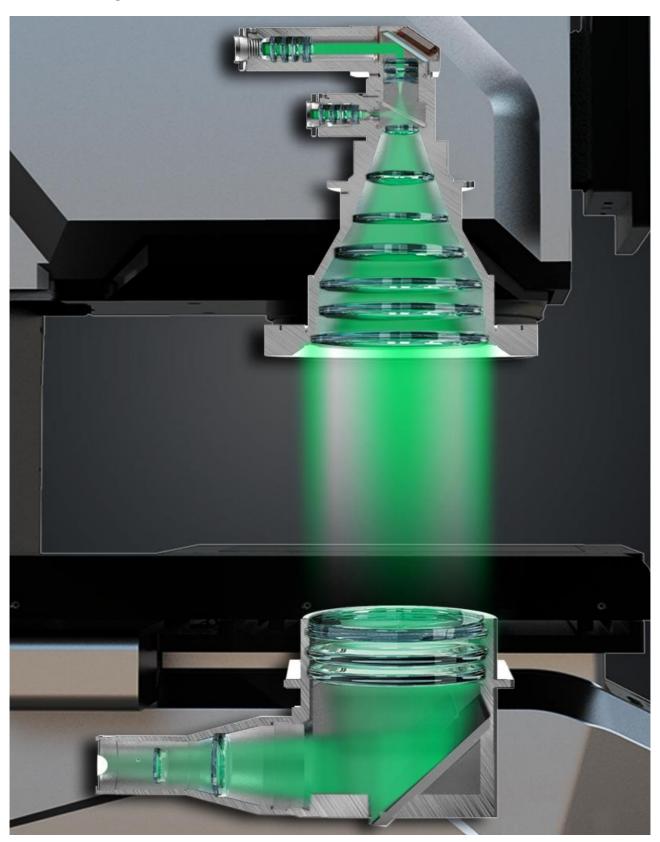


greenery

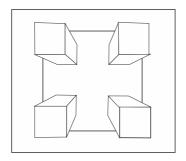
Bilateral double telecentric optics

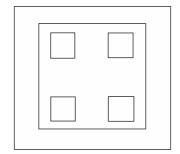
Pumice Lenses For More Accurate Measurements

Dual telecentric lenses with two 20 megapixel cameras and automatic lifting multi-angle surface light and carefully customised surface coaxial light, with independent powerful AI edge calculation algorithms to easilyWith the powerful AI edge calculation algorithm, it is easy to find the edge of the surface accurately, filter the invalid area by boundary clutter, and realise the high-precision measurement of the surface dimensions, and the repeatability of the surface light can be up to the same level as that of the bottom light.



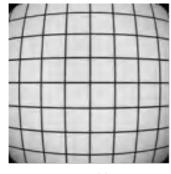
No Distortion Even If There Is A Segment Difference



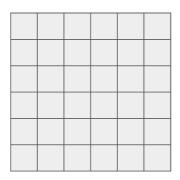


Low Distortion Images Without Distortion

Even when measuring at the edge of the lens, there is little image distortion, so you don't have to worry about where the measurement object is placed.



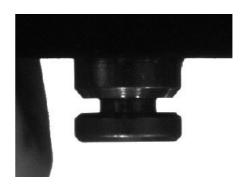




Pumice Lens

No Deviation Due To Focus Adjustment





With the large depth-of-field optical lens developed by Bumis, dimensions within the depth-of-field range can be measured clearly. In addition, the autofocus function allows you to measure the product at different heights without affecting the results. The measurement results are more accurate.

Advanced Technology To Realise "all Kinds Of Measurements"

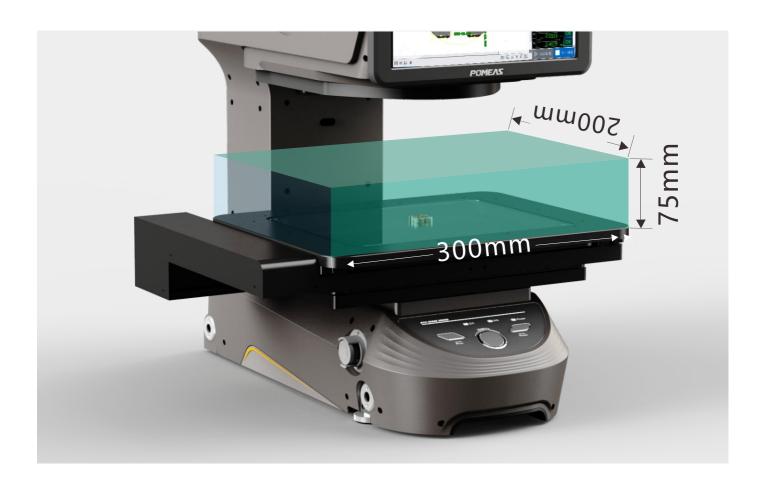
Stabilisation of large mobile platforms

Measuring Area Up To 300 Mm \times 200 Mm



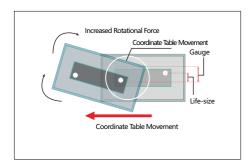
Measuring Field Of View Of 300 Mm × 200 Mm At 2 Times The Speed Of Conventional Models*. Of The Conventional Model

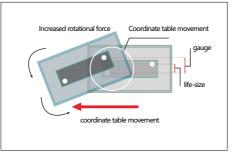
The maximum size of the target that can be measured is $300 \text{ mm} \times 200 \text{ mm}$ and the height is 75 mm, and the new design that reduces the resistance of the motor and feed screw to the limit has made it possible to reduce the travelling distance. The new design reduces the resistance of the motor and feed screw to the limit, and reduces the travelling distance, enabling high-speed and stable measurement without the need to fix the target.

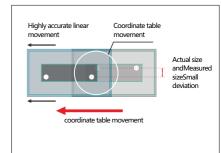


Realisation Of High-precision Drive Systems

By adjusting the movement of the crossed roller guide in µm steps, excellent straightness is achieved and errors due to movement of the coordinate table are eliminated.







Variable Lighting Units

Precise Edge Extraction Based On Optimal Lighting Conditions



Aggregate Multiple Lighting Units Into One

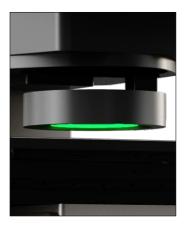
Light source collection of different light, according to the detection of different products, automatic debugging light brightness, switching the best colour light conditions, no need to replace other light sources to adapt to the different products.







White Ring Light



Green Annulus

Automatic Adjustment To Optimum Lighting Conditions

Combination of multiple variable adjustable lighting units, through the built-in brightness sensor for different ambient light, adjust the height, brightness and angle of the system light source to achieve the best visualeffect, accurate physical object edge.



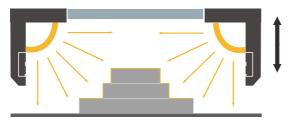






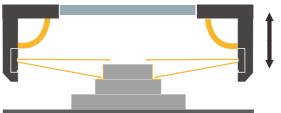
Principle Of Variable Lighting Units

Multi-angle Light Source Cross-sectional Area When Irradiated



Illuminated Over A Wide Area, The Overall Light Is Even When Placed In A Higher Position.as The Position Is Lowered, There Is A Contrast Between Light And Dark Due To The Height Difference.

Slit Ring Illumination Cross-sectional Area During Illumination



A thin strip of light beam is directed horizontally, and an illuminating unit placed at a certainThe illumination unit is placed at a certain height at the edge to be detected to create a sharp contrast at the target position.

Network Functions and Software

Measurement Setting Editor Software

You can add or change the measurement position of the data produced by the fully automatic image measuring machine (flash measuring machine) using a computer at your side. You can change settings even when you are not in the vicinity of the equipment. Even when you are not in the vicinity of the equipment, you can change the settings, and correct the setting instructions or print the measurement results from a distance when you are at home or operating remotely.



Data Transmission Software



The results measured by the fully automatic image measuring instrument (flash measuring instrument) can be automatically transferred to the specified computer's Table calculation software on a specified computer. If the inspection table has a fixed format, the measurement data can also be imported according to its format.measurement data.

Computer Software Usage Environment

Supported OS	Windows 10 Home/Pro/Enterprise (64-bit)
Hard drive free space	30 Gb or more

- Windows is a registered trademark or trademark of Microsoft Corporation in the United States and other countries.
- The official name of Windows is Windows operating system.

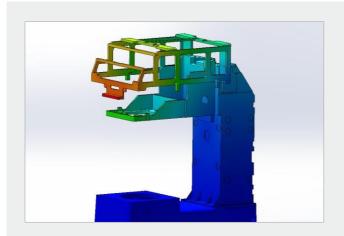
Performance And Reliability For Field Use





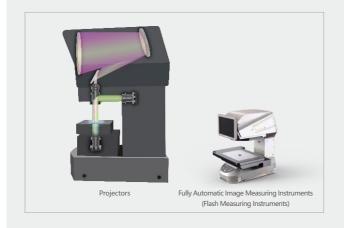
Calibration Certificates & Certificates Of Approval

Performs tests and calibrations and delivers calibration certificates. Purchase of this equipmentAfter purchasing this equipment, we are able to perform the same calibration and adjustment operations and deliver the Calibration and certification certificates.



Highly Rigid Body

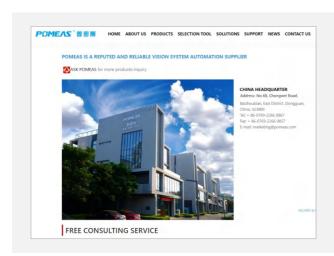
Adoption of a highly rigid body makes it possible to change the installation place when the layout etc. needs to be changed. change the installation place if there is a need to change the layout, etc. The design is optimised by topological analysis and strength analysis.and strength analysis optimise the design, making it possible to increase productivity.



Space-saving Design For Desktop Architecture

The miniaturisation of the main unit and the integration of the monitor and the main unit have significantly reduced the space required for installation. The space required for installation has been greatly reduced, enabling the measurement instrument to be installed in their the place where you want to measure. On the other hand, the monitor size has become larger and thethe screen is easier to view.

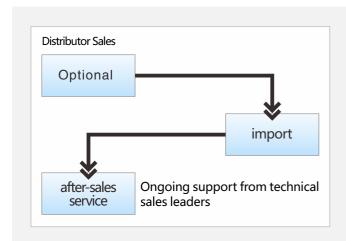
You Can Also Support The System With Confidence After Importing



Free upgrade to the new version

Upgrades to new versions of the software can be obtained by contacting us.

Well-established Service And Support System Overseas.



Overseas dealer system

After-sales service provided by a well-established overseas dealer system, covering technical support, warranty support, repair and maintenance services, training and education, etc. Distributors act as a bridge between customers and manufacturers to Maintaining a high standard of after-sales service, increasing customer satisfaction and building brand loyalty.



Multi-language Support

Multi-language software interfaces, marketing materials and instructions for use to support localised services to meet glo bal market demands.

Use Cases

Screws, Bolts

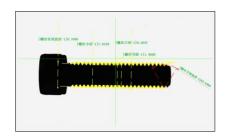
Machined Parts

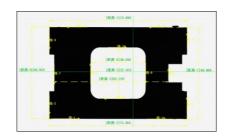
Artifact













Examples Of Applications

Suitable for all kinds of the of the of the of the of of the

Primary Inspection In-process Samplinginspection

Pre-shipment Inspection

Inventory Inspection

Automatic on the production lineDimensional measurement

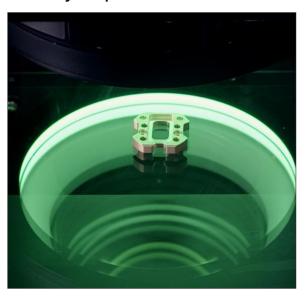
Automation at the production lineDimensional measurement

Laboratory HighPrecision Measurement

IMAGE 3 Series Application Examples

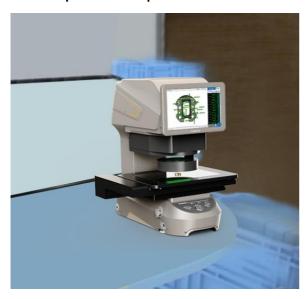
Suitable For Various Inspection Processes

Primary Inspection



- Increased productivity by reducing installation time
- No dependence on inspectors' experience
- Traceability measurements based on national (international) standards

Pre-shipment Inspection



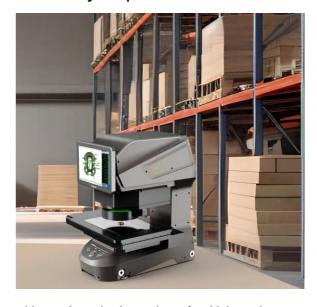
- Enables shipment inspection of products with short lead times.
- Reduction in man-hours required to produce inspection result forms
- Reduction in the time required to train inspectors and reduction in labour costs

In-process Sampling



- Improvement of equipment availability by shortening setup time
- Improvement of yield rate by improving the accuracy of equipment adjustments
- Management of aura in process

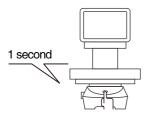
Inventory Inspection



- Manage incoming inspections of multiple products according to the required standards.
- \bullet Increase the number of inspections and reduce the risk of defects.
- Improve quality by measuring unchecked parts.

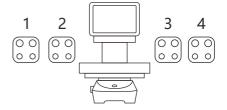
Suitable For Various Inspection Processes

Reduced detection time



Increase productivity and reduce costs by reducing inspection time.

Increase in the number of checks N



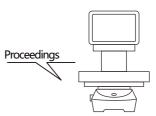
may increase the number of Ns examined, thereby reducing the risk of adverse occurrences.

Can be tested by non-testing personnel



Increase equipment availability by reducing the burden on the quality department.

Harmonisation of inspection standards



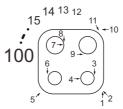
Inspection criteria can be standardised to ensure consistent quality.

Reduces the time required to record measurement data



Cut data management costs by reducing the time required to record inspection data.

Increase in the number of measuring parts



Unchecked areas can be measured without increasing the number of measurement man-hours, thus effectively improving quality.

System Configuration



PMS-C1 Vision Controller



IMAGE 3 Φ100mm moving platform with variable lighting unit



IMAGE 3 PLUS 200mm x 200mm mobile platform with variable lighting unit

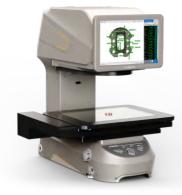


IMAGE 3 PRO 300mm x 200mm mobile platform with variable lighting unit



IMAGE 3 PRO-H 300mm x 200mm moving platform with variable illumination unit and 8055-point spectrum



IMAGE 3 MAX 300mm x 200mm moving platform with variable illumination unit and 8055-point spectrum



IMAGE 3 MAX2
Wide field of view measuring range 225*125*75mm
Equipped with Promise 8055 spectral probe

List Of Options

Exterior Lighting -



IMAGE-GCOL30 IMAGE 3 External Coaxial Optical Group

IMAGE Rapid Measurement System

Measurement Software



Contour Comparison Module Multi-sensor Measurement System MetX Software



Carrier Glass

IMAGE-G100 Φ113.6*6mm Version A Carrier Glass



IMAGE-G200 220.5*237.5*8mm Version B Carrier Glass



IMAGE-G300 320.5*237.5*8mm Version C Carrier Glass

Specification

	Equi	pment Mod	del	IMAGE 3	IMAGE 3 PLUS	IMAGE 3 PRO	IMAGE 3 PRO-H	IMAGE 3 MAX	IMAGE 3 MAX 2				
lmaging Measurement	Measuring	High precision measurement mode (X*Y*Z)		/	126*117*75	226*117*75	226*117*75	205*104*75	206*106*75				
	Range (mm)	Wide field of view measurement mode (X*Y*Z)		/	200*200*75	300*200*75	300*200*75	223*118*75	225*125*75				
	Lens field of	High-p measuren	recision nent mode		26		6.4×4.8 6x6						
	view (mm)		ld of view nent mode		Φ	18.8×14.1 25x25							
	Repeat		orecision nent mode		:	±1	±0.5						
	Accuracy (µm) Wide field of view measurement mode				:	±1.5	±1						
	Mea	High-precision Connectionless			:	±1							
	Measurement accuracy (μm)	measurement mode	Connected	/		±(1.5+L/50)							
	ent acc	Wide field of view	Connectionless	±4				±1.5					
	curacy	measurement mode	Connected	/		±(4+L/50)			±(2+L/50)				
Heig	1	Repeatability	(µm)		/		±2						
Height measurement	Meas	urement Acc	uracy (µm)		/		±(3.5+L/50)						
	Wo	orking Distan	ce(mm)		/		55						
ment		Range (mm)			/		±3						
	At The Opportune Moment				1" 20 Megapixel B	1" 12-megapixel black-and-white CMOS camera							
Optical System	Camera Shot				Double-magnification	4K HD Lens	Double-magnification bilateral telecentric lens						
al Sys	Matte			Liftable quad white ring light + green gap light source									
tem		Silhouette L	ight	Green parallel bottom light source									
		Coaxial Op	tical		Built-in co	Built-in coaxial light source							
	Spe	ctral Confoca	al Probes				8055 Opt						
Heig	Spectral	Measurement	t Range (mm)				122×100×75	145×95×75 135×100×75					
Height sensors	Mirro	or Measurem	ent Angle		/		±13.6°						
	Spot Size (µm)							17					
	Linear Accuracy			0.02%F.S.									
	Table load(kg)			5									
	measurement system			Al-Image (self-developed)									
	Supply Power Supply working environment			220V+20%, 50Hz									
				Temperature: 20±3°C; Humidity: 30-80% (no condensation); Vibration: <0.002g 15Hz									
	workin	ig environme	nt				0.1						
		ng environme n display unit					0.1						
	Minimum		(μm)	33	45	50	0.1	33	45				

Size

IMAGE 3

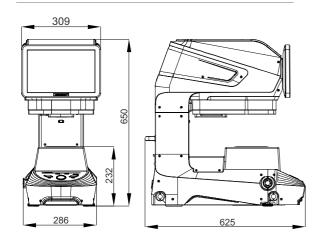


IMAGE 3 PLUS

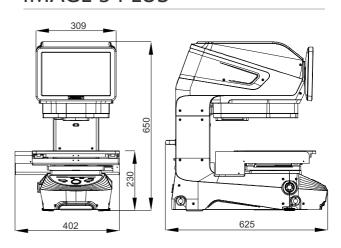


IMAGE 3 PRO

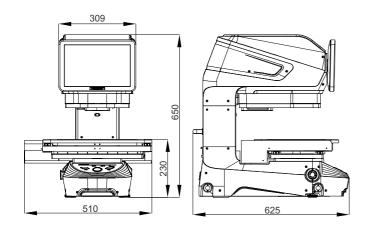


IMAGE 3 PRO-H

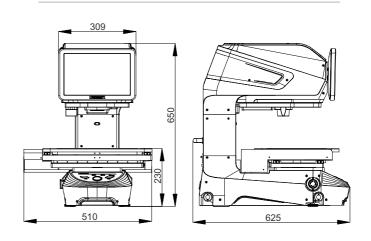


IMAGE 3 MAX

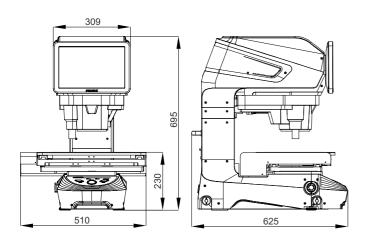
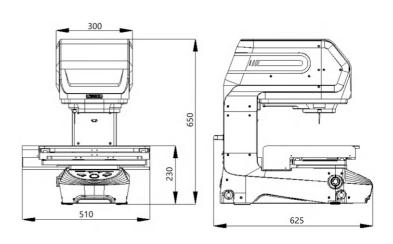


IMAGE 3 MAX 2



Size

PMS-C1

