



Our service

UNIMETRO is devoting to offer the best metrology products and solution, also offer the best after sales service.

Free on-line support, free software upgrade and fast reaction of after sales service ensure the satisfaction of our customers and dealers.

Global market

Dealers or distributors all over the world are welcome and we will offer full support in commercial and technical phase.

UNIMETRO is always providing products with the best price performance ratio and the best service.

OEM and special measuring solution

UNIMETRO is available for OEM service for our distributors.

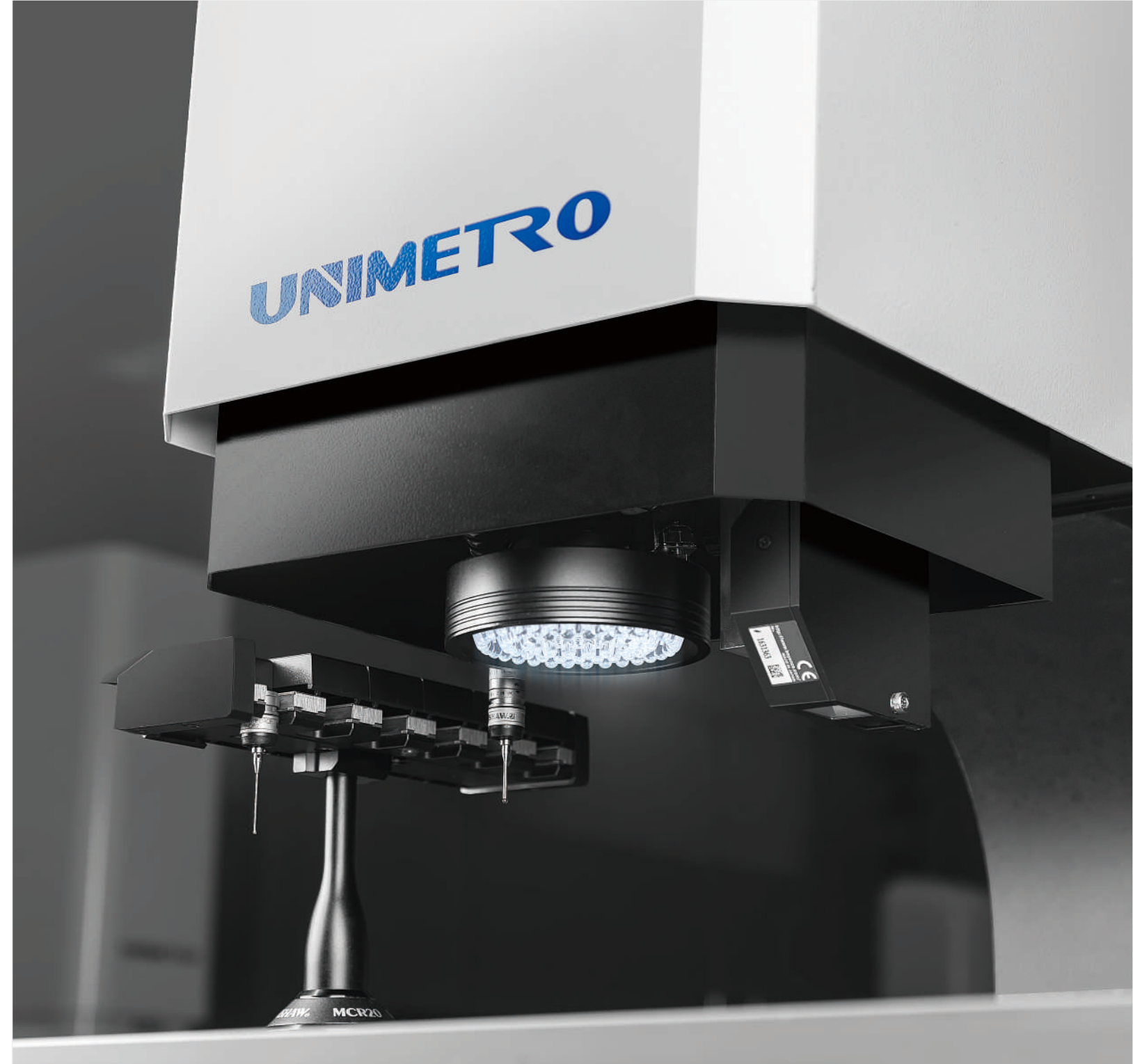
Thanks to the professional technical team of UNIMETRO, we are also capable for varies kinds of special measuring solution or devices development, please consult to our engineer if you have such kind of requirement.

UNIMETRO PRECISION MACHINERY CO., LTD.
UNIMETRO INTERNATIONAL TRADING CO., LTD. HONGKONG



Global partners

	CHINA TAIWAN	• TAICHUNG
	GERMANY	• MERCHWEILER
	MALAYSIA	• PENANG
	INDIA	• PUNE • BANGALORE • CHENNAI
	HUNGARY	• BUDAPEST
	RUSSIA	• MOSCOW
	BRAZIL	• SAO PAULO
	SOUTH KOREA	• INCHEON • BUSAN
	THAILAND	• BANGKOK
	SPAIN	• BARCELONA
	VIETNAM	• HANOI • HO CHI MINH CITY
	EGYPT	• RAMADAN
	MOROCCO	• CASABLANCA
	SINGAPORE	



Vision Measuring System

UNIMETRO
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UNIMETRO®
UNIVERSAL METROLOGY

Company Profile

Unimetro, the measuring expert and consultant of quality control and management.

Since established in 2008, Unimetro has always been devoting to researching, developing and manufacturing of measuring technology and products. Especially for the 2D 3D composite measuring Unimetro is the leader of the industry.

After more than 10 years development, the Unimetro products are sold to many countries and regions in the world. We have partners in more than 15 countries, offering high quality products and service to local customers and have earned their trust and compliment.

Our team is professional and passionate, which has more than 10 to 20 years experience in the metrology industry. We will use our knowledge and experience to offer our customers and distributors the best measuring solution, and this last in the process of model selecting, technology supporting, after sales service and continuous training service.

The Unimetro products are widely used in different industries such as metals, molding, PCB, electronics, plastic, pressing, horological industry, automobiles, and LCD. Our products are trusted partners in the process of quality control, product design and process control in customers' factories.

Unimetro will keep holding the faith of high quality and the best service, offering better products and solutions to our distributors and customers all over the world.



UNIMETRO METROLOGY GLOBAL SERVICE

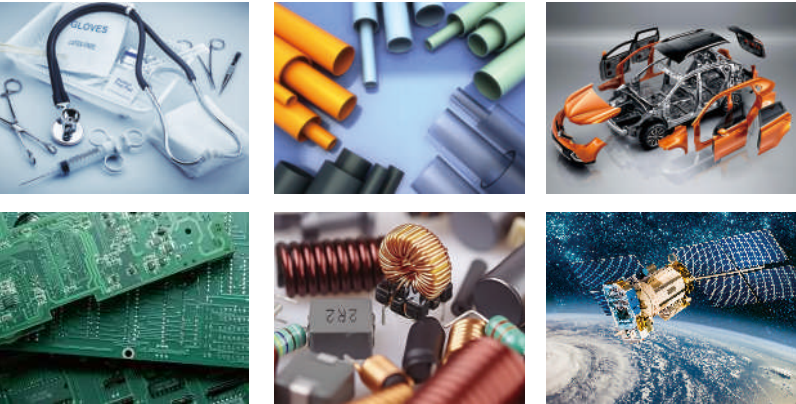
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Quality management system and R&D

- ISO9001 Quality Management System
- CE certificates
- Multiple patents



UNIMETRO vision measurement machine series has strong applicability and generality in the precise dimension measuring area, which allows UNIMETRO offering great contribution to the quality control process of different industries such as medical care, plastic injection, electronics, auto motive and aviation, etc.



UNIMETRO products core value

Compact and smart design
User-friendly with powerful function
Stable
Details oriented
Functional flexibility
Leading software
Innovation



ULTRA Series

CNC Automatic Vision Measurement Machine

ULTRA series CNC automatic Vision Measurement Machine is the latest model from UNIMETRO, which offers outstanding measuring performance. The full ULTRA series is config with high accuracy linear slide way, GIGA high resolution digital camera, 3 axis linear scales with 0.0001mm resolution, which ensure more stabe hardware dynamic performance and measuring accuracy.



Amazing quality

Aluminum work stage, makes the motion control fast reacting and flexible. Work stage with hard oxidation surface processing, anti-scratch. Standard with precise linear slide way, offers smarter mechanical structure and higher accuracy. Integrated control system, embedded with motion control, and all signal control as illumination and linear scale reading, ensures the performance of the machine is extremely stable.

High performance measuring device

With the External-Array RationalVue composite measuring software, the ULTRA series is capable to offer powerful 2D/3D composite measuring function. Multi types of non-contact sensors and fast fixturing system are for option, which can satisfy different measuring requirement from different customers. Movable color LED ring light is available for the ULTRA series, which makes the series more flexible and powerful to different parts with different kinds of materials or shapes, offers more powerful measuring application.

Flexible expansibility

Thanks to the flexible expansibility of ULTRA series, it is compatible with touch probe, non-contact measuring sensors and robot arm, highly increase the measuring efficiency.

Specification

Items		ULTRA300	ULTRA400	ULTRA500	ULTRA600
Dimension(mm)(L×W×H)		1600×780×1700	1750×920×1700	1850×1180×1700	1950×1280×1700
Measuring range(mm)(X×Y×Z)		300×200×200	400×300×200	500×400×200	600×500×200
Measuring Accuracy(μm)		2.5 + L / 200	2.5 + L / 200	2.5 + L / 200	2.5 + L / 200
Repeatability (μm)		2.5	2.5	2.5	2.5
Weight (kg)		320kg	390kg	460kg	560kg
Image and Measuring	CCD	2 million pixel HD GIGA digital camera			
	Lens	Fully automatic zoom objective 1~10X			
	Magnification	18 - 195X (For reference only, with different camera and lens combination, the value will be different.)			
	Field of View	8.1~1.3mm(For reference only, with different camera and lens combination, the value will be different.)			
	Working distance	108mm			
Linear scale resolution		0.1μm			
Driving system		CNC control, close-loop AC Servo driving system, joystick, mouse or keyboard control			
Illumination		Programmable 8 sections LED ring surface light, parallel LED contour light, (40 section LED ring light, co-axial light, movable multi color ring light for option)			

PEAK Series

Economical CNC Automatic Vision Measurement Machine

- _The most compact design CNC Vision Measurement Machine
- _The economical Universal Vision Measuring Solution
- _High adaptability to multiple measuring sensors
- _Flexible application scenario
- _Outstanding Imaging system
- _Powerful Measuring Software



*The electric control cabinet is optional



Simple & Stable

We carry the philosophy of simple and stable in the designing process of the PEAK series through to the end. We eliminate the unnecessary mechanical parts, integrate all the electronics inside the mechanical structure, optimize the wiring, to ensure the machine stability and easy maintenance.

High adaptability to multiple measuring sensors

The PEAK series support multiple measuring sensors solution. Touch probe, laser sensor and white light sensor are all compatible. Which allows much wider application range for different measuring requirement.

Economical vision measuring solution

The simple and integrated design allow us to build the machine with lower cost, in the mean time keep the high measuring accuracy and best performance. Users are able to enjoy the advantage of high efficiency and labor cost saving from a full CNC vision measurement machine with very low price.

Flexible application scenario

Thanks to the optimize design, powerful software function and great second development potential, the PEAK series can be applied for different industries and in different scenario.

Specification

Items		PEAK300	PEAK400
Dimension(mm)(L×W × H)		810×610×1055	960×710×1075
Measuring range(mm)(X×Y × Z)		300×200×200	400×300×200
Measuring Accuracy(μm)		3+L/200	3+L/200
Repeatability (μm)		3	3
Weight (kg)		330kg	380kg
Image and Measuring	CCD	Industrial grade color CCD camera	
	Lens	Manual dented zoom lens 0.7 - 4.5X(Optional manual electronic feedback signal zoom lens or automatic zoom lens)	
	Magnification	18 - 195X (For reference only. With different camera and lens the magnification will be different.)	
	Field of View	8.1~1.3mm(For reference only, with different camera and lens combination, the value will be different.)	
	Working distance	90mm	
Linear scale resolution		0.5μm	
Driving system		CNC control, close-loop AC Servo driving system, joystick, mouse or keyboard control	
Illumination		Programmable 8 sections LED ring surface light, parallel LED contour light, (40 section LED ring light, co-axial light, movable multi color ring light for option)	

EXTRA Series

Manual Vision Measurement Machine with Auto Focus

The EXTRA series manual vision measurement machine provides extra measuring function and user experience to customers over normal vision measuring products. The series configured with servo motor in Z axis, including manual pulse generator for fine potisioning fine adjusting, also with auto focus function, which highly increase the measuring process efficiency and end user experience.



Smart design

For the EXTRA series machines mechanical design we are following the concept of light weight, smart and compact, in the mean time keeps the rigidity and stability. With lowest space occupation offers the highest measuring range.

High accuracy transimtion system

The EXTRA series is using high accuracy linear slide way, which is totally different from the cross slide way used for other manual VMM, ensures much more stable and accurate transmitting of the work stage, also voiding the potential risk of the shorten traveling range which caused by the cross slide way.

3D measuring function

Working with the UNIMETRO professional 3D measuring software, the EXTRA series VMM will provide strong 3D measuring function, which becomes a powerful 2D/3D composite measuring device with extremely reasonable price.

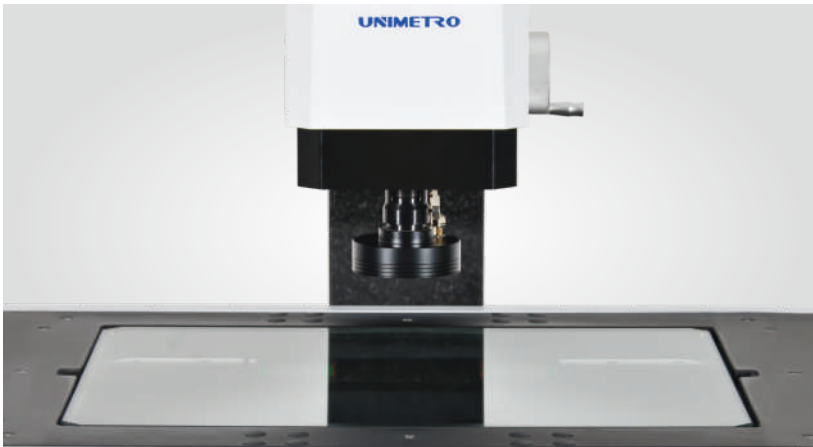
Specification

Items		EXTRA200	EXTRA300	EXTRA400	EXTRA500
Dimension(mm)(L×W × H)		550×540×930	600×740×980	700×840×980	800×940×980
Measuring range(mm)(X×Y × Z)		200×100×150	300×200×200	400×300×200	500×400×200
Measuring Accuracy(μm)		2.5+L / 100	2.5+L / 100	2.5+L / 100	3+L / 100
Repeatability (μm)		2.5	2.5	2.5	3
Weight (kg)		140kg	190kg	240kg	290kg
Image and Measuring	CCD	1.2 million pixel digital camera			
	Lens	Manual dented zoom lens with magnification signal feedback 0.7-4.5X			
	Magnification	18- 195X (For reference only. With different camera and lens the magnification will be different.)			
	Field of View	8.1~1.3mm(For reference only, with different camera and lens combination, the value will be different.)			
	Working distance	90mm			
Linear scale resolution		0.5μm			
Driving system		X / Y axis manual control, Z axis CNC full closed loop motion control (including auto focus function)			
Illumination		Programmable LED 4-zone ring surface light, LED bottom parallel light (optional: 8-zone ring light, coaxial light)			

BASIC Series

Manual Vision Measurement Machine

BASIC series optical measuring machine is an important instrument used in your products quality control process. It ensures your products dimension accuracy, makes your products more competitive.



High accuracy hardware configuration

The Series is configured with high accuracy linear guide way, provides unique dynamic performance and end user experience. Also includes full programmable 8 sections LED surface illumination ring, 3 axis 0.0005mm high resolution linear transducers, and powerful measuring software.

Reverse engineering

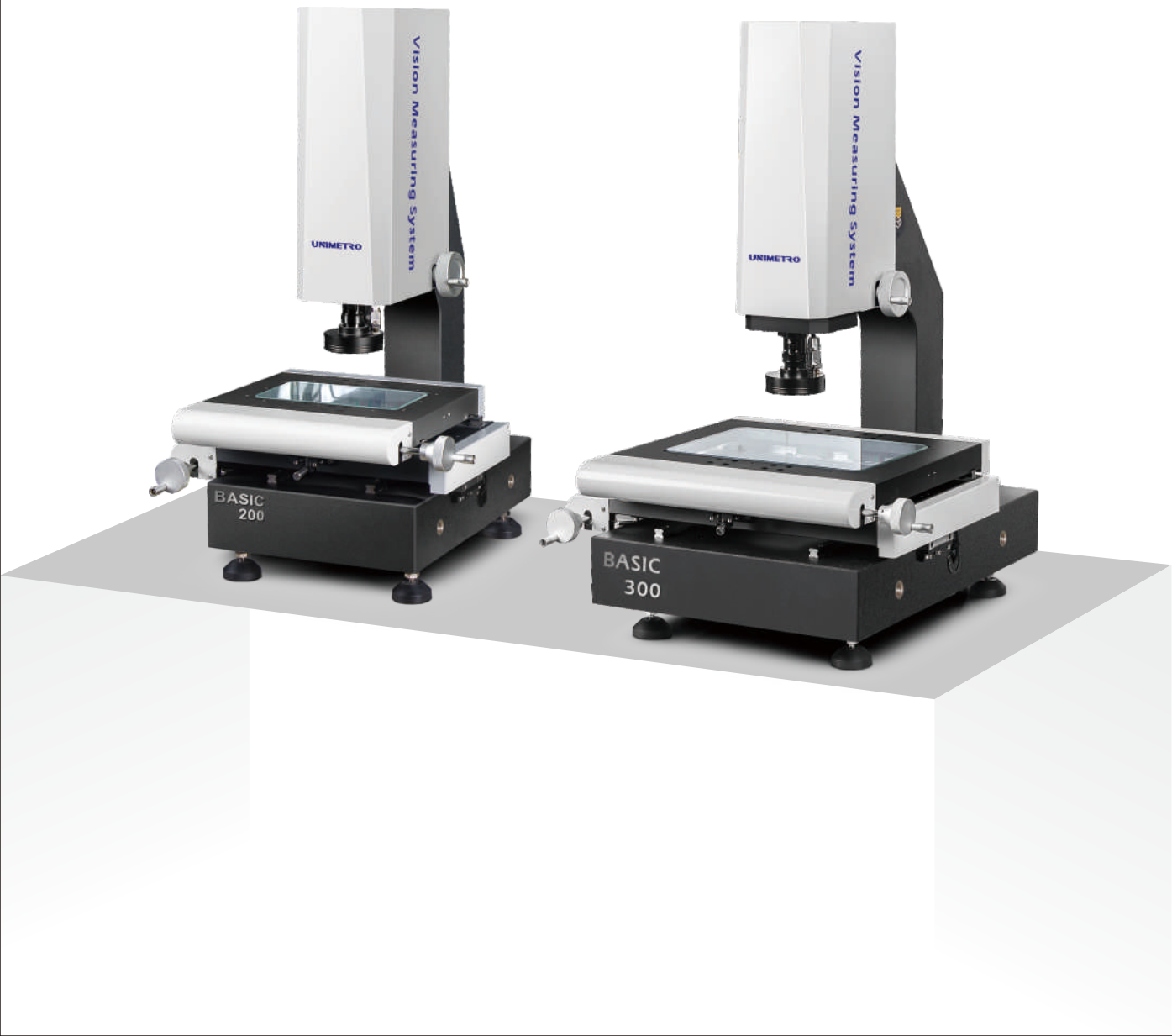
BASIC series VMM is compatible with Renishaw touch probe as optional configuration. Users can easily achieve 2D and 3D measuring function in one machine. The software can calculate the offset between the optical lens and touch probe, makes sure that all measuring results are within one coordinates system. The measuring results can be out put as 3D drawing for reverse engineering.

Compact and accurate

BASIC series VMM is the most common model for most of the factories manufacturing accurate parts. It is fit for small quantity samples measuring application. 3 axis manual control, with user friendly software, allows the operator to manage using the machine in very short time.

Specification

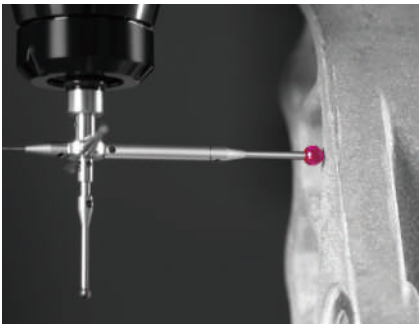
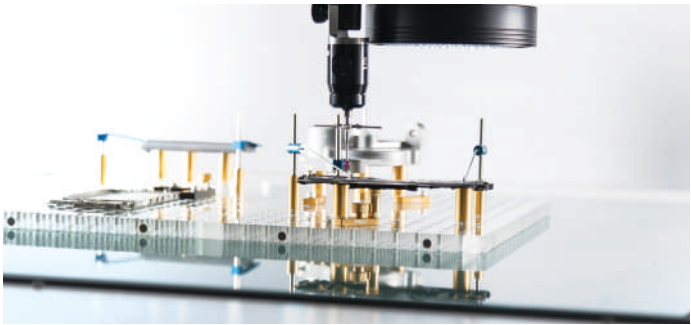
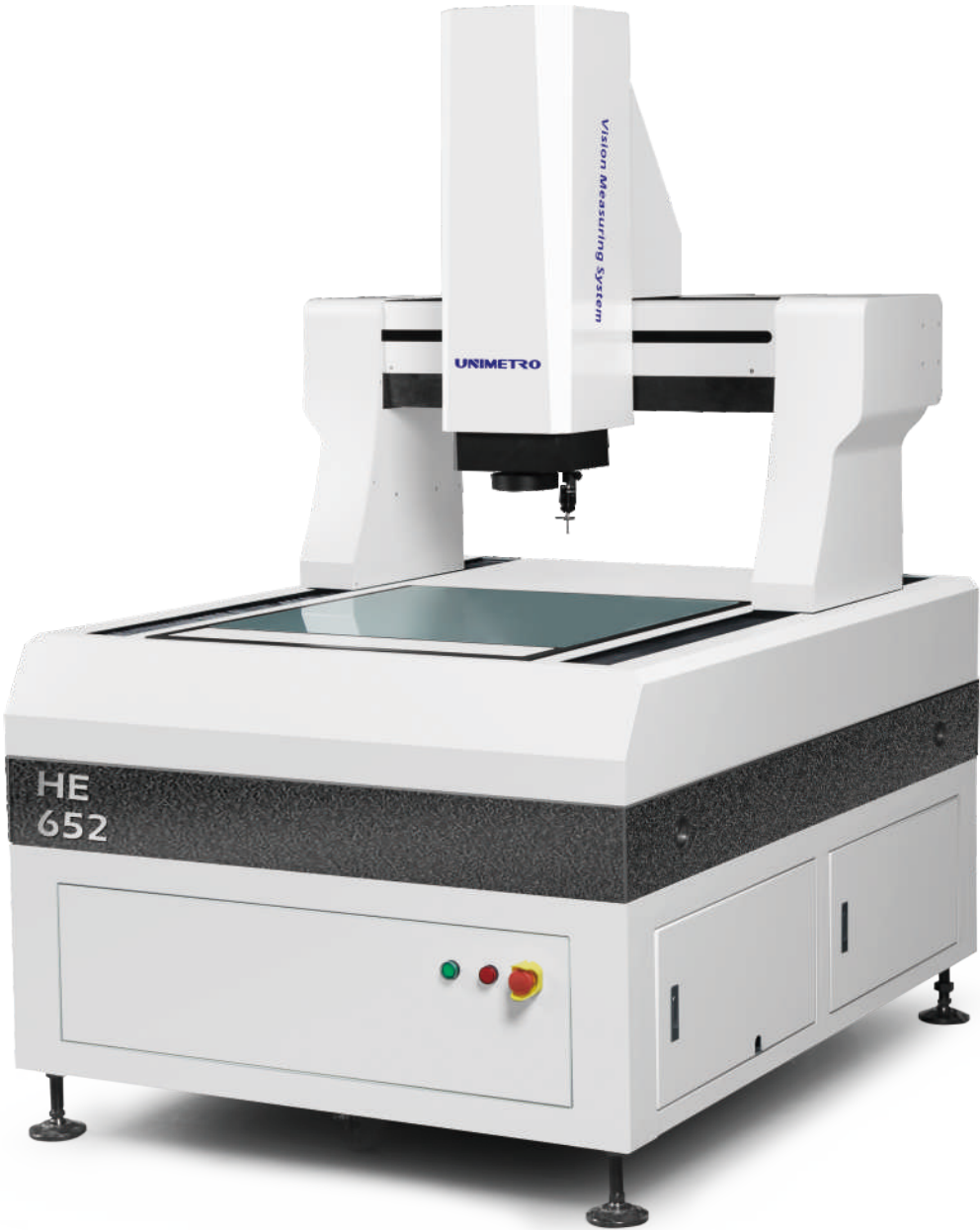
Items		BASIC 200	BASIC 300	BASIC 400	BASIC 500
Dimension(mm)(L×W×H)		550×540×830	600×740×890	700×840×890	800×940×890
Measuring range(mm)(X×Y×Z)		200×100×150	300×200×200	400×300×200	500×400×200
Measuring Accuracy(μm)		2.5+L/100	2.5+L/100	2.5+L/100	3+L/100
Repeatability (μm)		2.5	2.5	2.5	3
Weight (kg)		140kg	190kg	240kg	290kg
Image and Measuring	CCD	1.2 million pixel digital camera			
	Lens	Manual dented zoom lens 0.7 - 4.5X(Optional electronic magnification signal feedback lens)			
	Magnification	18 - 195X (For reference only. With different camera and lens the magnification will be different.)			
	Field of View	8.1~1.3mm(For reference only, with different camera and lens combination, the value will be different.)			
	Working distance	90mm			
Linear scale resolution		0.5μm			
Driving system		X/Y/Z axis manual control			
Illumination		Programmable LED8 zone ring surface light, LED bottom parallel light (optional: coaxial light)			



HE Series

Gantry Type CNC Automatic Vision Measurement Machine

The HE series high accuracy gantry type vision measurement machine combines high accuracy and high efficiency, offers high speed measuring for the geometric elements of different kinds of parts. The HE series is widely used in varies industries and products as PCB, copper clad laminate, pad glass, LCD modules, and insulation materials etc.



High rigidity

- Finite elements analysis is introduced in the designing process of the HE series, ensures high rigidity and accurate mechanical structure.
- The machine base is using closed frame movable bridge type structure, which is simple and offers high loading capability and the best motion performance.
- 000 grade granite machine base, offers high rigidity, corrosion resistance and high stability.

Flexibility and high accuracy

- -The work stage is able to preset multiple products fixturing solution, also multiple lens combination is for option, satisfy different measuring requirement from different customers.
- Full close loop motion control system, ensures the best movement and positioning performance.

Multiple sensors solution

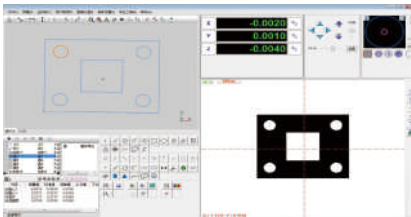
The HE series gantry type vision measurement machine can combine multiple measuring sensors in one machine, including image system, touch probe, laser sensor and white light sensor. Also supporting full line of Renishaw probe magazine, all the external measuring devices can run on the same coordinates system, which allows the HE series be compatible with different measurement application.

Specification

Items		HE652	HE862	HE1080	HE1210	HE1512	HE1812
Dimension(mm)(L×W×H)		1700×1180×1750	1700×1280×1750	1900×1480×1750	2100×1680×1750	2500×1880×1750	2700×1880×1750
Measuring range(mm)(X×Y×Z)		500×600×200	600×800×200	800×1000×200	1000×1200×200	1200×1500×200	1200×1800×200
Measuring Accuracy(μm)		3+L/200	3+L/200	3+L/200	3+L/200	3+L/200	3+L/200
Repeatability (μm)		3	3	3	4	4	4
Weight (kg)		1500kg	1800kg	2900kg	3200kg	4400kg	4800kg
Image and Measuring	CCD	2 million pixel HD GIGA digital camera					
	Lens	Fully automatic zoom lens 1~10X					
	Magnification	18 - 195X (For reference only. With different camera and lens the magnification will be different.)					
	Field of View	8.1~1.3mm(For reference only, with different camera and lens combination, the value will be different.)					
	Working distance	82mm					
Linear scale resolution		0.5μm(0.1μm for option)					
Driving system		CNC control, AC fully closed loop servo motor drive; rJoystick control, mouse/keyboard control					
Illumination		Programmable LED8 partition ring surface light, LED bottom parallel light (optional: 40 partition ring light, coaxial light, adjustable color light source)					

UNIMETRO-INSPECT standard measuring software

UNIMETRO - INSPECT standard measuring software is a self-developed VMM software from UNIMETRO Metrology, which is available for manual, semi-auto or full automatic 2D/3D composite measuring function. The UNIMETRO - INSPECT standard measuring software offers powerful 3D measuring function, compatible with full lines of UNIMETRO VMM products. UNIMETRO - INSPECT measuring software is supporting MCP or TP20 series touch probe kits, even star type styli kit, users are able to achieve full 3D measuring function with the software.



User friendly

The INSPECT software is with user friendly UI, which allows user to accomplish the measuring task with very high efficiency. All the main function keys are displayed in the main window page, which is easy to manage. User can use most of the complicated measuring function by only clicking and dragging the mouse.

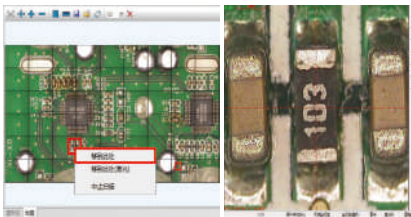


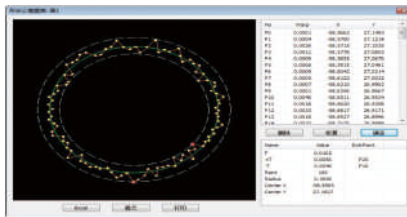
Image navigation

The INSPECT software is capable to control the machine to capture the complete picture of the part, or user can input a part picture directly, used as the navigation map, and the pixel points will be used as reference to locate the required measuring position. When user is measuring a large part, this function helps to locate the measuring position rapidly.



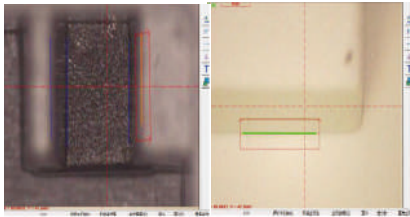
CAD input

By inputting the CAD file to the software, user can achieve automatic measuring without any element selecting operation, which is convenient for the coordinates measuring and contour comparison operation of the parts with complicated shape.



Auto tolerance calculation

The INSPECT software is offering complete tolerance setting and calculation function, including straightness, roundness, flatness, cylindricity, profile tolerance, parallelism, verticality, concentricity, and run-out. Including auto adjusting result OK/NG, and outputting graphical measuring reports.



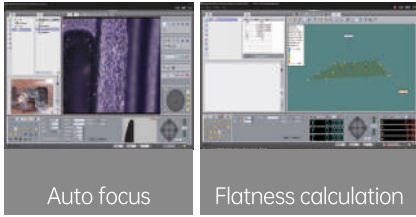
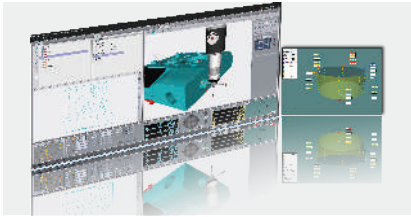
Powerful weak edge detecting

The INSPECT software is able to detect weak edge which is not very clear in the image. The edge detecting direction can be freely set, avoiding edge detecting error. The INSPECT software is also offering flexible parameters setting of edge detecting operation, eliminating the influence of noise points and burrs.



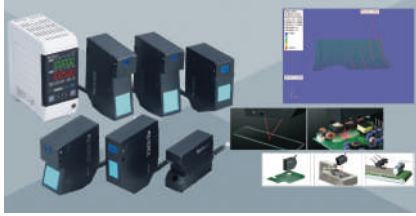
Rational Vue measuring software

RationalVue is the first vision measuring software including the CAD function, also the first to combine the vision, probe and laser sensor measuring function in one single software and all the function are freely switchable. RationalVue is with the features of easy use, 100% graphical, real time model comparison, multiple diagram format and advanced algorithm, ensures the reliability of the algorithm and in the mean time offers easy operation and powerful function.



Measure height and flatness by focusing

Thanks to the advanced focusing algorithm from RationalVue, the machine can achieve fast and precise focus operation to the parts, finish the focusing process within 2-3 seconds. The repeatability of the focusing can be up to 0.003mm, which is able to be used for measuring of height or flatness.



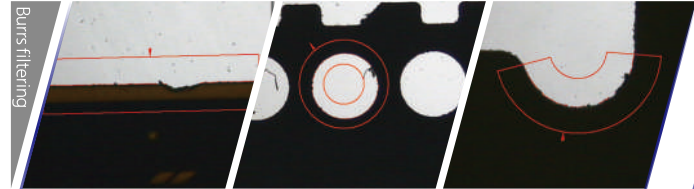
Supporting laser sensor measuring

The RationalVue software is supporting the KEYENCE and Panasonic laser sensors. RationalVue is offering professional laser measuring function, allows the users to set pace and achieve non-contact measuring function automatically, complete the calculation of height, flatness and profile tolerance of the curved surface.

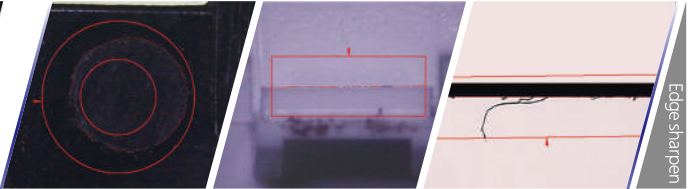
Comparison based on multiple 3D format

- The software allows users to input 3D files of Iges format or CAD files of DXF format.
- The CAD file can be used for guiding measuring, guiding the software to do comparison between the theoretical values and the measuring results.

Special edge measuring



RationalVue is able to filter the burrs of the measuring parts edge, increase the measuring accuracy. RationalVue is able to filter the burrs of the measuring parts edge, increase the measuring accuracy.



Self-developed advanced edge sharpen function, ensures the software can precisely detected blurry edge or edge with large burrs, which ensures the real automatic measuring function.



PTB certificate

The Rational Vue software has passed the PTB certificate (Physikalisch-Technischen Bundesanstalt). Which ensures the software accuracy and reliability by official authority.

Accessories

UNIMETRO is offering flexible optional accessories, to satisfy different measuring application requirement.



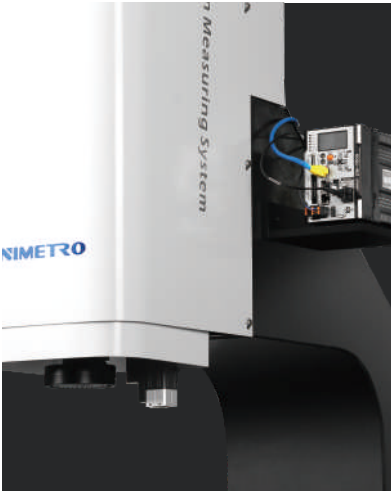
UNIMETRO ILLU - PRO series programmable movable color LED ring light

The ILLU - PRO series illumination system is including programmable gray level control, section control, single / mixing color, programmable movement and strobe/flash illuminating function. Offering reliable and high efficient illuminating solution for varies of complicated vision measuring application.



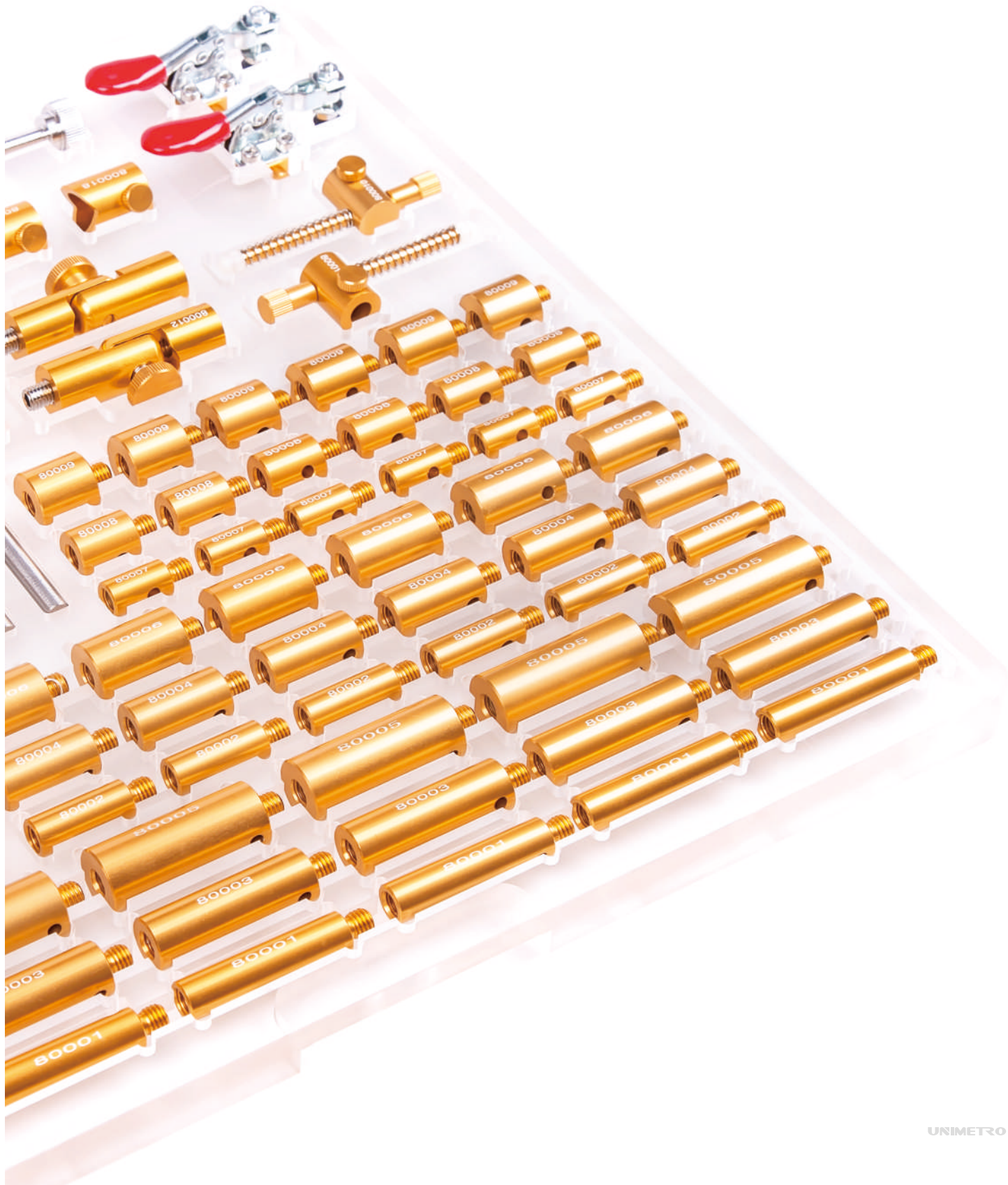
Renishaw touch probe series

The UNIMETRO VMM series products support full line of Renishaw touch probe series and probe magazine (For CNC models only). User can easily measure basic 3D element as plane, angular surface, curved surface, cylinder, ball, etc. Also for 3D dimension as flatness, 3D parallelism, 3D distance, etc. With RationalVue software user can achieve the IGES comparison function as on a CMM machine.



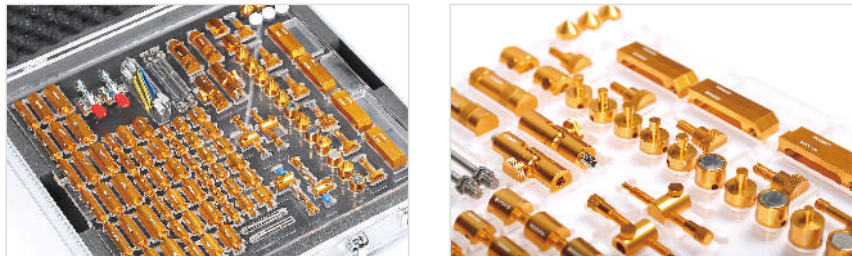
Non-contact measuring sensors

The UNIMETRO VMM series products support most of the popular models of non-contact measuring sensors in the market, including most of the brands as Keyence, Umron, and Precitec. User can achieve non-contact 3D measuring function such as height, flatness, curved surface, or curve with very low cost. The non-contact measurement technology is compatible with most of the measuring application regardless of the materials or color of the part, even for transparent materials. With the powerful software, the UNIMETRO VMM series is combining the traditional video measuring, contact measuring and non-contact measuring technology in one machine, highly increase the flexibility and praticality of the devise.



CMM Fixturing System

The UNIMETRO Flexfix series fixtures series are widely used in varies industries such as electronics, aerospace, automotive, plastic or medical care. It can be introduced to all sizes and models of CMM and VMM. They are the tools which make your measuring process flexible, repeatable, and standardized.



Modular Fixturing for your CMM

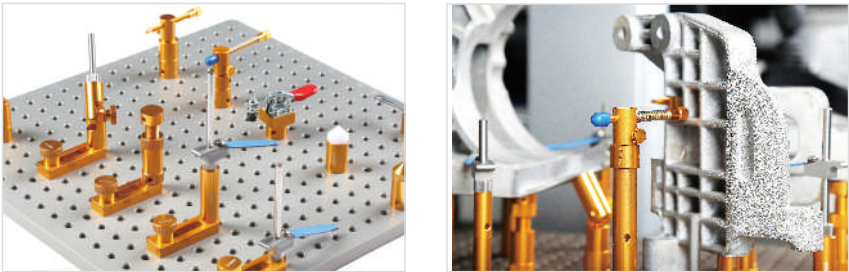
FlexFix series CMM fixtures system is designed and developed by UNIMETRO which means to help CMM users to improve the reproducibility and accuracy of the inspection process by providing quick and repeatable fixturing set-ups for the components. FlexFix series CMM fixtures are modular and can be expanded with user’s requirements to provide a complete fixturing solution for any part regardless of its size, shape or material.

For multiple applications such as electronics, aerospace, automotive, plastic or medical care, the FlexFix series can provide a full solution to the CMM fixturing requirements. The series offers fixture plates with M8 threaded fittings in a wide choice of standard sizes, which are made of high accurate aluminum material and with complex manufacturing process, to ensure the accuracy and reliability of the system. Perfect fixturing solutions can be assembled very quickly without any tools to increase throughput and avoid delays in inspection.

Choosing your fixturing kit

Flexfix series CMM fixtures are sold as kits to make a easy starting. A kit consists of one base board and a comprehensive set of components.

We are offering different sizes option for the base plates and user should select the suitable one based on the CMM machine size and measuring requirement.



CMM Fixtures Components

The Flexfix series Fixturing components are designed to hold components firmly with the minimum necessary force and without any special tools, all components are with different function including supporting, clamping or pressing. The reasonable design allows to avoid damage or distortion on the measuring part. With these flexible components users are able to create different type of fixturing combination for varies of parts. Also it is easy to set up a clear probe path of 3D measuring.

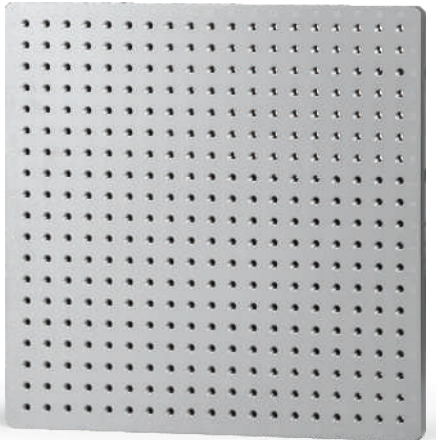
CMM base plates

Multiple sizes of base plates are available for option for the Flexfix series CMM fixtures. Which allows wide range of application for different size of CMM and also satisfying different size of components fixturing requirement.

A complex manufacturing process is required for the CMM fixtures base plates which includes CNC machining, precision grinding, anodise coating, and laser marking, to make the plates with high accuracy, flatness and reliability. And except the standard sizes we also offer customized sizes and threads holes.

The fixture plates are offering an alphanumeric grid pattern and each fixturing component has its part number easily visible. It makes the user set-up can be fully defined and documented by recording the assembly and location of each of the fixturing components, so that the same set-up can be quickly and accurately reproduced for subsequent inspections.

Plates sizes:
400*300mm, M8 Threaded holes
400*400mm, M8 Threaded holes
500*500mm, M8 Threaded holes
600*600mm, M8 Threaded holes
Other customized sizes



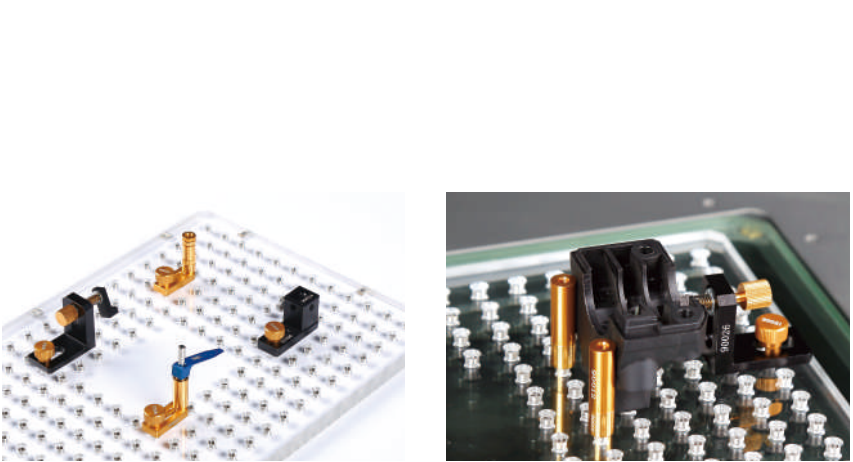
VMM fixtures

The vision measurement machine application is always coming with varies of different parts with different shapes or materials. Some are even without any effective reference plane to be correctly located on the work stage. Developing specific fixtures for each component should be with low efficiency and high cost. So we have developed the Flexfix series VMM fixtures kit and base plates, to help users saving time and cost but also be able to achieve fast and reliable fixturing during the VMM measuring process. The Flexfix series helps to improve the throughput, reproducibility and accuracy of the inspection process with quick and repeatable fixturing set-ups.



VMM fixture kits

The Flexfix series VMM fixtures are designed as a complete components kit. We have studied most of the VMM measuring application from our experience of VMM users, and have taken reference to different types of parts, to develop the fixtures kit components. The kit is including supporting, pressing, and holding components, which allow the user to manage the fixturing easily and no special tools as required. Regardless of shapes or materials, user can easily find the fixturing solution during measuring process.



Fixture kits Components

All components are made by precision manufacturing process and with anodise coating. Each part is with laser marking coding, so all the combination of the components can be repeatable for the subsequent inspections. Which helps to eliminate the variation of different parts or operators, and increasing the measuring accuracy and repeatability.

Base plates

For VMM measuring needs contour measuring application under most circumstances, we create the VMM fixtures base plate with high transmittance and flatness acrylic material, which to ensure the straight light path from the contour light, keeping the original measuring accuracy of the machine.

Metal M4 screw threads are mounted inside the base plate, the components can be firmly fixed and highly increase the life cycle of the base plate.

Also an L type magnetic fast mounting corner is offered, user only needs to put and measure, which largely increase the measuring efficiency.

Base plates sizes
300*200mm, M4 threads
400*300mm, M4 threads
300*300mm, M4 threads
400*400mm, M4 threads
Customized sizes

