VICIVISION
a division of VICI & C.

OPTICAL MEASURING SYSTEMS

for shopfloor quality control



FROM MICROCOMPONENTS TO LARGE SHAFTS

Measure faster. Produce better.

EN



BRING METROLOGY INTO PRODUCTION

Faster decisions. Better quality. Higher productivity.

Get dimensional feedback while production is still running

VICIVISION provides fast, high-precision optical measurement directly on the shop floor, helping operators identify dimensional drift sooner and react before non-conforming parts accumulate. Our non-contact measuring systems inspect turned and ground components in seconds, helping manufacturers reduce scrap, minimise machine downtime and keep every production batch under control.

WHY MANUFACTURERS CHOOSE VICIVISION

Instead of measuring parts after production, manufacturers control the process while production is running. The result is a smarter, leaner and more profitable manufacturing workflow.

Reduce scrap

Detect dimensional drift before it becomes a batch of non-conforming parts.

Reduce machine downtime

Immediate feedback helps operators compensate for tool wear faster.

Increase productivity

Inspect every batch without slowing production.

Automatic, traceable quality data

Automatic reports, full traceability and production data are always available.

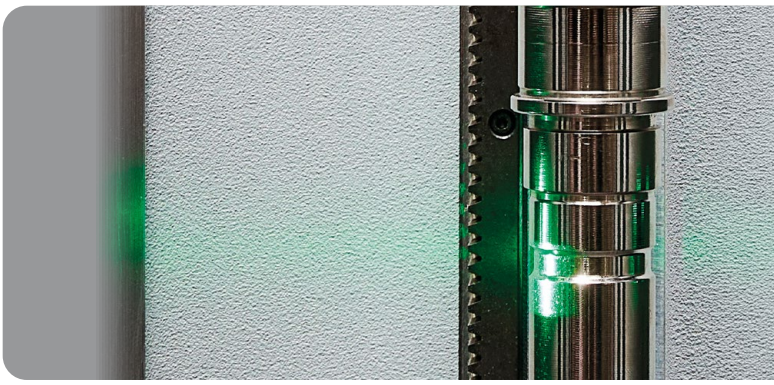
1 PRODUCE → 2 MEASURE → 3 CORRECT

KEEP THE PROCESS CENTRED

INDUSTRIES AND APPLICATIONS

Trusted across industries.

From shafts and threaded parts to complex microcomponents, VICIVISION covers different geometries, sizes and production environments.



MEDICAL AND DENTAL

- dental implants
- abutments and prosthetic components
- dental burs
- surgical instruments
- medical screws and microscrews
- orthopedic components
- implantable medical device components
- needles and cannulas

AEROSPACE AND DEFENCE

- drive shafts and spline shafts
- fuel pipes
- pins, axles and bushings
- turned components
- gears
- rifle barrels and bullets
- CNC-machined components

AUTOMOTIVE

- drive shafts
- half shafts
- crankshafts
- camshafts
- pins and axles
- pistons
- injection system components
- brake system components
- electrical and data transmission connectors
- bushings and spacers
- seals
- rotors

MICROMECHANICS

- microshafts
- pins and micropins
- pinions and small gears
- screws and microscrews
- precision turned components
- miniaturised components
- components for watch movements

ENERGY

- pump shafts
- turbine components

HYDRAULICS

- connectors
- adapters
- valve components

OUR CLIENTS SAY:

“ The machine in our metrology room has allowed us to cut inspection time in half „

Sarbo S.p.A. - Italy

“ We’re no longer restricted by inspection time and can inspect an entire batch whenever required „

David Paull Engineering - UK

“ We can now measure each part in just 30 to 50 seconds „

Panelfisa - Spain

Discover the case studies on our website

BUILT FOR THE SHOPFLOOR

Designed to operate directly in production environments, VICIVISION systems combine speed, precision and ease of use, helping production operators perform reliable measurements with minimal training.

THE RIGHT SYSTEM FOR YOUR PRODUCTION NEEDS

Your first step from manual measurement to automated quality control.

PRIMA SERIES

For turning shops and production departments that want to replace manual gauges with fast, repeatable shopfloor inspection. PRIMA makes automated optical measurement accessible without requiring specialist metrology personnel.

Choose PRIMA if: your priority is a simple, cost-effective transition from manual measurement to automated inspection close to the machine tool.

Measure faster, standardise the inspection process and give operators earlier feedback on dimensional drift.



Available measuring ranges:

Diameter	from 60 mm to 140 mm
Length	from 300 mm to 900 mm
Load capacity	up to 30 kg

Extended measuring range for demanding shaft inspection.

TECHNO SERIES

For manufacturers that need to inspect a wider mix of shafts, turned and ground components, including larger and heavier parts. TECHNO extends the VICIVISION shopfloor concept to demanding dimensional ranges and advanced sensing or automation options.

Choose TECHNO if: you need to go beyond measurement automation, with larger and heavier components, more complex inspection requirements, and higher metrological performance in terms of resolution and accuracy.

Use one flexible platform across a broader production mix and reduce the need to route different parts through different inspection processes.



Available measuring ranges:

Diameter	from 40 mm to 250 mm
Length	from 300 mm to 2000 mm
Load capacity	up to 200 kg



X SERIES



High-precision inspection for complex microcomponents.

Designed for small parts with complex external geometries and tight tolerances. X brings non-contact optical measurement to medical, dental, precision micromechanics and watchmaking applications where component size and geometry make manual inspection slow or difficult.

Choose X if: the component is small, geometrically complex and requires reliable dimensional inspection without contact.

Inspect complex microgeometries without contact, reducing the risk of influencing or damaging delicate features during measurement.

Available measuring ranges:

Diameter	from 8 mm to 60 mm
Length	from 100 mm to 300 mm
Load capacity	up to 10 kg

FLOW SERIES



Automatic handling, inspection and reject management in one process.

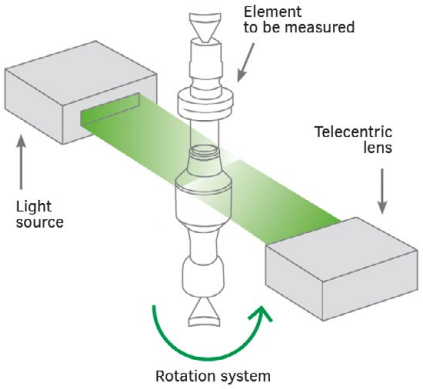
FLOW combines automatic handling, measurement, selection and reject management in a continuous process. It is designed for applications where inspection must no longer be a sampled activity, but an integrated part of production.

Choose FLOW if: you need every component to be checked automatically without creating a separate inspection bottleneck.

Move from sampled inspection to continuous dimensional control while keeping production flow automated.

FROM MULTIPLE MANUAL CHECKS TO ONE AUTOMATIC CYCLE

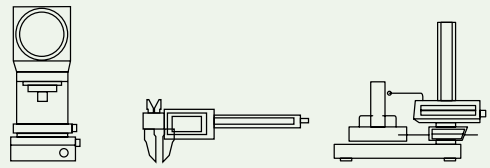
Replace multiple manual inspection steps with one automatic measuring process and get feedback while production is still running.



Using manual instruments, quality control can easily become an operation prone to errors. VICIVISION MTL machines embody the experience of thousands of customers worldwide. A single instrument combines the functions of profile projectors, micrometers and roundness testers, reducing operator-dependent variability during measurement acquisition and automatically managing measurement data.

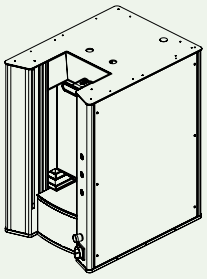
TRADITIONAL MEASUREMENT SYSTEM VS VICIVISION MEASUREMENT SYSTEM

10 to 30 minutes of measurement time	VS	**30 to 60 seconds of measurement time**
Data dependent on human intervention	VS	**Objective measurement results, independent of the operator**
Difficult to use	VS	**One-button automatic cycle**
Need for data collection	VS	**Automatic data collection**



PROFILE PROJECTOR **HAND TOOLS** **ROUNDNESS TESTER**

VS



VICIVISION SOLUTION

MULTIPLE MEASUREMENTS, ONE SYSTEM

STATIC MEASUREMENTS
- diameter
- length
- angle
- radius
- chamfer

DYNAMIC MEASUREMENTS
- coaxiality
- run-out
- circularity
- cylindricity
- conicity

THREAD MEASUREMENTS
- nominal diameter
- pitch diameter
- minor diameter
- flank angle
- pitch
- useful lenght
- rol dimension

NUT MEASUREMENTS
- wrench size
- asymmetry
- keying

PROFILE MEASUREMENTS
- comparison with DXF
- DXF export

CONTACT MEASUREMENTS
- total axial run-out
- undercuts
- keyways: depth, width, length

SPECIAL APPLICATIONS
- cams
- eccentrics
- turbines

GO BEYOND OPTICAL MEASUREMENT

Extend measurement capabilities, connect quality data and integrate inspection directly into the production flow.

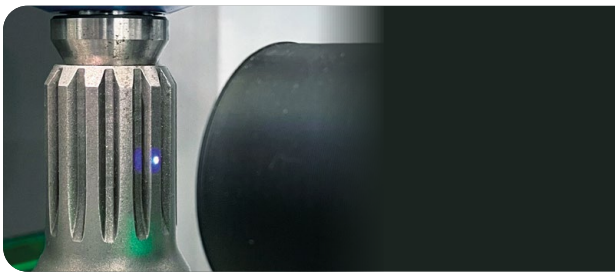
1. MEASURE MORE

Extend what you can inspect on one system.



TOUCH PROBE

Add contact measurement for features that optical inspection alone cannot reach. The Renishaw scanning probe enables the measurement of axial and total axial run-out, as well as dimensions within undercuts and keyways, extending the range of inspections performed on the same system.



CONFOCAL

Inspect complex profiles and features that require additional optical information. Confocal measurement supports the inspection of splined shafts and enables the reconstruction of the complete profile, adding further dimensional information without moving the part to a separate measuring system.

More measurable features. Fewer separate inspection steps.

2. CONNECT DATA

Turn measurement results into production information.

VICIVISION systems can connect dimensional inspection with production management and quality systems. Measurement data can be collected automatically, analysed statistically and used for Statistical Process Control (SPC), giving production and quality teams a clearer view of process performance. By moving from isolated measurements to structured data, dimensional inspection becomes a tool for monitoring trends, identifying deviations and supporting continuous process improvement.

From measurement data to process control.

3. AUTOMATE INSPECTION

Close the loop between measurement and machining with Tool Loop.



VICIVISION systems can be integrated into automated measuring cells, production lines and robotic loading applications. But the value of automation goes beyond part handling. Tool Loop is the VICIVISION software that uses measurement results to manage machine-tool compensation, creating a direct connection between dimensional inspection and the machining process. In this way, the data collected during inspection can be used to correct the process more quickly, reduce manual intervention and keep production under control.

Applications:
Tool Loop for machine-tool compensation · Automated measuring cells · Automated production lines · Robotic loading

From measurement results to machine-tool compensation.

SPECIFICATIONS

Models	Measuring field	Max. loadable sizes	Accuracy[1] Ø - L	Repeatability[2] Ø - L	Size L x D x H mm
MTL X5	100x16 mm	270x90 mm - 3 kg	(1,5 + D[mm]/100) µm (4 + L[mm]/100) µm	0,4 µm / 3 µm	560x660x860 mm
MTL X10	100x8 mm	270x90 mm - 3 kg			560x660x860 mm
MTL X360	300x60 mm	300x120 mm - 10 kg	(1 + D[mm]/200) µm (3 + L[mm]/200) µm	0,3 µm / 1,2 µm	595x845x950 mm
X5 FLOW EVO	clamping Ø ≤ 3,5 mm L 100 mm	clamping Ø ≤ 3,5 mm L 100 mm	(1,5 + D[mm]/100) µm (4 + L[mm]/100) µm	0,4 µm / 3 µm	1400x830x2208 mm
306 PRIMA	300x60 mm	300x120 mm - 10 kg	(1,5 + D[mm]/200) µm (3,5 + L[mm]/200) µm	0,4 µm / 2 µm	595x845x950 mm
309 PRIMA	300x90 mm	300x120 mm - 30 kg			595x845x950 mm
314 PRIMA	300x140 mm	300x240 mm - 30 kg			920x1055x1795 mm
606 PRIMA	600x60 mm	625x120 mm - 30 kg	(1,5 + D[mm]/200) µm (3,5 + L[mm]/200) µm	0,4 µm / 2 µm	595x845x1315 mm
609 PRIMA	600x90 mm	625x120 mm - 30 kg			595x845x1315 mm
614 PRIMA	600x140 mm	625x240 mm - 30 kg			920x1055x2000 mm
909 PRIMA	900x90 mm	925x120 mm - 30 kg	(1,5 + D[mm]/200) µm (3,5 + L[mm]/200) µm	0,4 µm / 2 µm	595x845x1980 mm
914 PRIMA	900x140 mm	925x240 mm - 30 kg			920x1055x2000 mm
M304 TECHNO	300x40 mm	300x120 mm - 10 kg	(1 + D[mm]/200) µm (3 + L[mm]/200) µm	0,3 µm / 1,2 µm	595x845x950 mm
M306 TECHNO	300x60 mm	300x120 mm - 10 kg			595x845x950 mm
M309 TECHNO	300x90 mm	300x120 mm - 30 kg			595x845x950 mm
M314 TECHNO	300x140 mm	300x240 mm - 30 kg			920x1055x1795 mm
M318 TECHNO	300x180 mm	300x240 mm - 30 kg			920x1055x1795 mm
M604 TECHNO	600x40 mm	625x120 mm - 30 kg	(1 + D[mm]/200) µm (3 + L[mm]/200) µm	0,3 µm / 1,2 µm	595x845x1315 mm
M606 TECHNO	600x60 mm	625x120 mm - 30 kg			595x845x1315 mm
M609 TECHNO	600x90 mm	625x120 mm - 30 kg			595x845x1315 mm
M614 TECHNO	600x140 mm	625x240 mm - 30 kg			920x1055x2000 mm
M618 TECHNO	600x180 mm	625x240 mm - 30 kg			920x1055x2000 mm
M625 TECHNO	600x250 mm	600x300 mm - 200 kg	(1,5 + D[mm]/200) µm (4 + L[mm]/200) µm	0,8 µm / 2,5 µm	1151x1113x2004 mm
M906 TECHNO	900x60 mm	925x120 mm - 30 kg	(1 + D[mm]/200) µm (3 + L[mm]/200) µm	0,3 µm / 1,2 µm	595x845x1980 mm
M909 TECHNO	900x90 mm	925x120 mm - 30 kg			595x845x1980 mm
M914 TECHNO	900x140 mm	925x240 mm - 60 kg			920x1055x2000 mm
M918 TECHNO	900x180 mm	925x240 mm - 60 kg			920x1055x2000 mm
M1209 TECHNO	1250x90 mm	1300x120 mm - 30 kg	(1,5 + D[mm]/100) µm (4 + L[mm]/100) µm	0,4 µm / 3 µm	595x845x2170 mm
M1214 TECHNO	1250x140 mm	1300x240 mm - 60 kg			920x1055x2010 mm
M1218 TECHNO	1250x180 mm	1300x240 mm - 60 kg			920x1055x2010 mm
M2018 TECHNO	2000x180 mm	2000x240 mm - 100 kg			920x1125x2770 mm

[1] Maximum permissible error according to EN ISO 10360-7, specifically for optical shaft measuring machines, determined using reference artifacts made of steel, with ground surfaces and standard geometry, calibrated by an EN ISO 17025-accredited laboratory (including calibration master uncertainties U(d): 0.5 µm and U(l): 1 µm). Environmental conditions: 20 ± 0.5 °C, with a maximum temperature gradient of 0.5 K/h. The estimated uncertainty is based on a coverage factor of k=2, corresponding to a confidence level of approximately 95%.
[2] Repeatability calculated from 10 repeated measurements on ground surfaces.

Find the right measuring system for your part.

Send us your part or drawing. Our application specialists will identify the most suitable VICIVISION series and measurement configuration.

Request an application assessment or book a measurement demo

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