Mitutoyo

Form Measuring System
ROUNDTRACER FLASH

FORM MEASUREMENT

PRE1544

ROUNDTRACER Flash

Roundtracer Flash is the perfect solution for accurate quality control in the laboratory as well as in the production environment.

NEW Products

There is a wide measurement toolkit library that can easily solve any of the most typical measurement problems. These include dimensional, position, and form measurements both in static and dynamic mode. The library also includes thread measurement functions.

Roundtracer Flash is based upon state-of-the-art area image sensors and it can perform many micrometric-precision checks on parts with an unprecedented speed. Roundtracer Flash uses multiple image sensors integrated into fixed positions across the product structure to cover the entire measurement range. This gives the advantage that neither the image sensors nor the part being measured must travel along the Z-axis.

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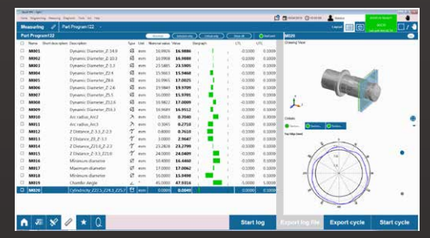
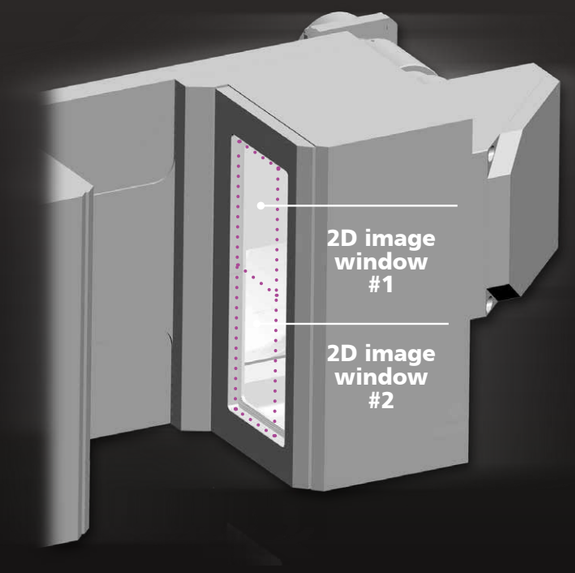
APPLICATION EXAMPLE



9x Dynamic Diameters
2x Arc Radii
4x Axial Distances
3x Groove Diameters
1x Cylindricity
1x Chamfer Angle
MEASURING CYCLE TIME: 5.6 seconds!

Roundtracer Flash is an optical measuring unit based on side-by-side 2D image architecture.
This means that images that are acquired by different sensors are perfectly combined together in order to generate one single resultant image of the part with zero discontinuities and no gaps at the stitching edges.
As a result, Roundtracer Flash is capable of measuring parts up to 300 mm in length without any vertical movement of the sensors or the part itself.



FAST
With the absence of Z-axis motion the optical acquisition of the complete part - which consumes time on other systems - is performed almost instantaneously on the Roundtracer Flash.
Therefore its cycle time is impressively fast. For example, it executes 100 static measurements in just 2 seconds irrespective of how the measurement sections are distributed along the shaft length!

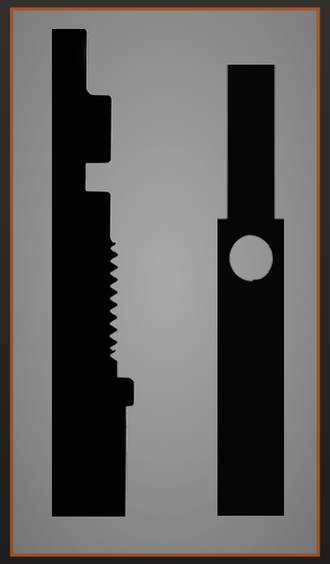
DURABLE
Fixed position sensors mean there is no mechanical stress.
The metrological performance of the Roundtracer Flash is consistent and stable over millions of cycles. There are also minimal maintenance requirements.

AUTOMOTIVE **ELECTRONICS** **AEROSPACE** **FASTENERS** **MEDICAL**

MEASUREMENT PRECISION AND "FLASH" CYCLE TIME: ALL-IN-ONE

The 2D image architecture sets a new benchmark in the measuring industry, with significant advantages for operators.

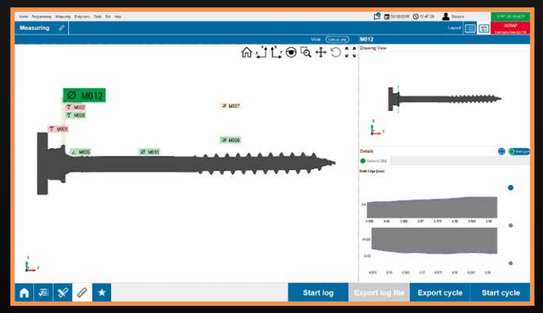
1. Unrivaled measuring speed, thanks to the no z-axis movements. Full 2D optic.
2. Image consistency: complex profiles and part geometries are acquired inside the same image frame, so removing from measurements any, even negligible machine mechanical error.
3. Axial run-out: the 2D image frame allows for the entire surface to be captured dynamically, at each angle, during the part rotation. That's why the Roundtracer Flash performs optical TIR better than any other traditional optical solution.
4. Thru-holes measurement: only a few milliseconds are necessary between the image acquisition and the thru-hole measurement execution.



FASTENER QUALITY CONTROL

Screws, pins, or rivets can be easily and quickly measured with the Roundtracer Flash.

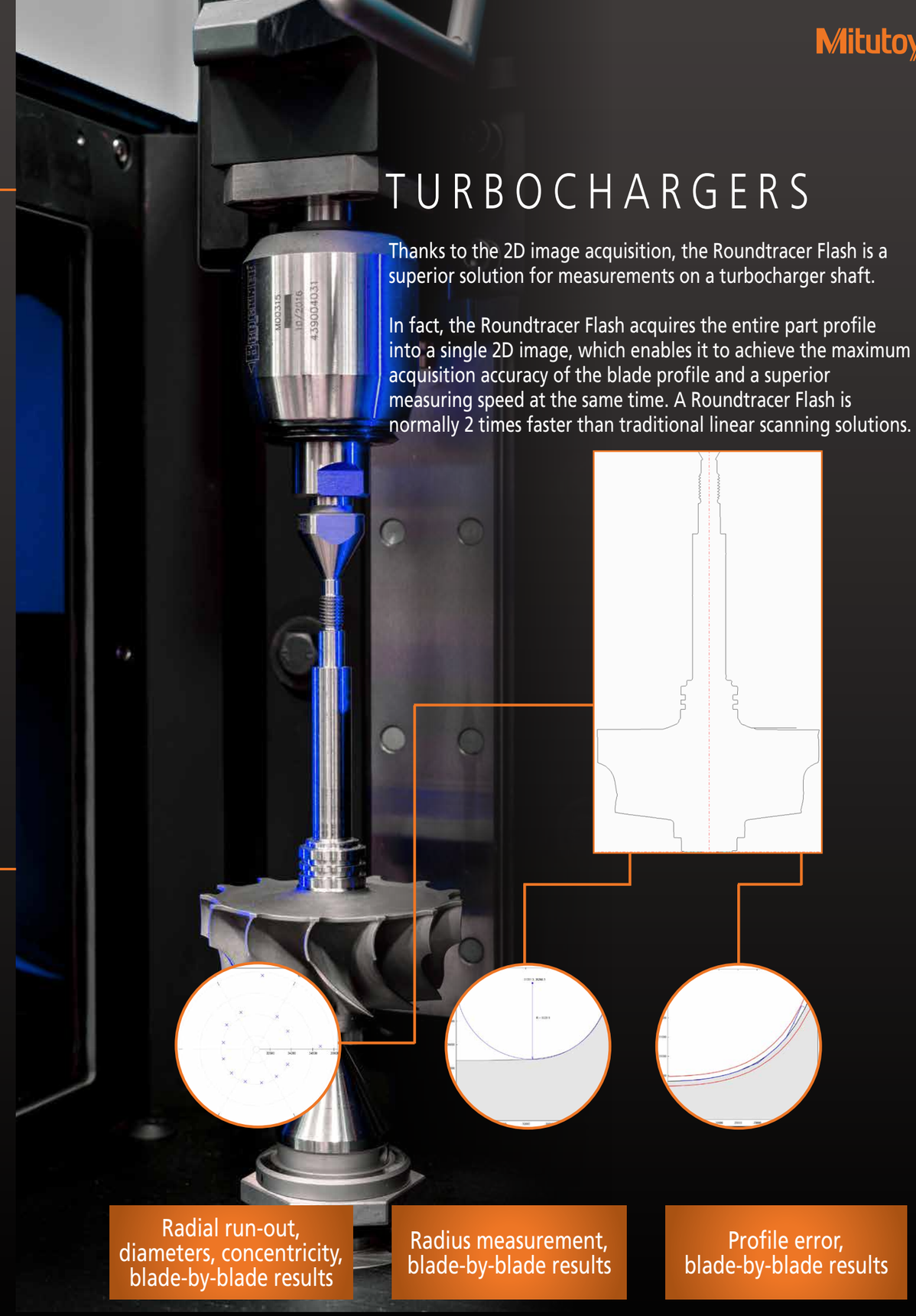
The standard measurement toolkit includes threads analysis: maximum and minimum diameter, pitch diameter, pitch value, thread angle, thread linearity, total thread length.



TURBOCHARGERS

Thanks to the 2D image acquisition, the Roundtracer Flash is a superior solution for measurements on a turbocharger shaft.

In fact, the Roundtracer Flash acquires the entire part profile into a single 2D image, which enables it to achieve the maximum acquisition accuracy of the blade profile and a superior measuring speed at the same time. A Roundtracer Flash is normally 2 times faster than traditional linear scanning solutions.



Radial run-out, diameters, concentricity, blade-by-blade results

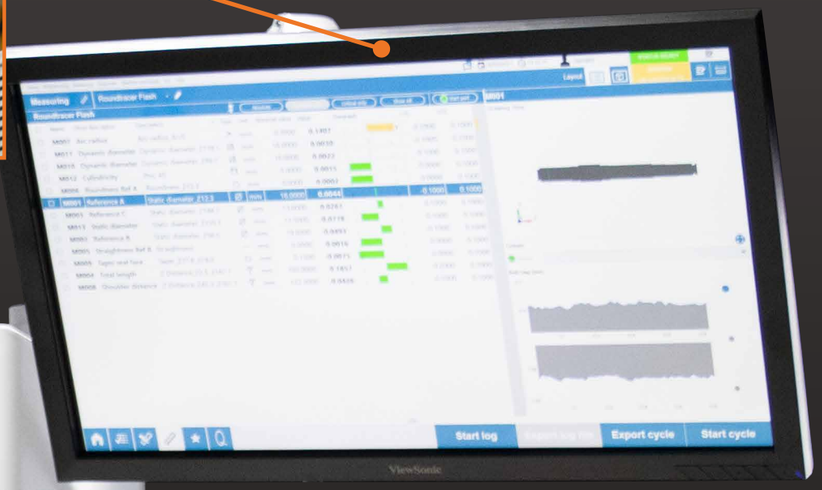
Radius measurement, blade-by-blade results

Profile error, blade-by-blade results

ROUNDTRACER Flash

Measurement & Analysis made easy

Flexible arm for optimal positioning



Individual software navigations for metrologists and instrument operator.

Single-button measurement

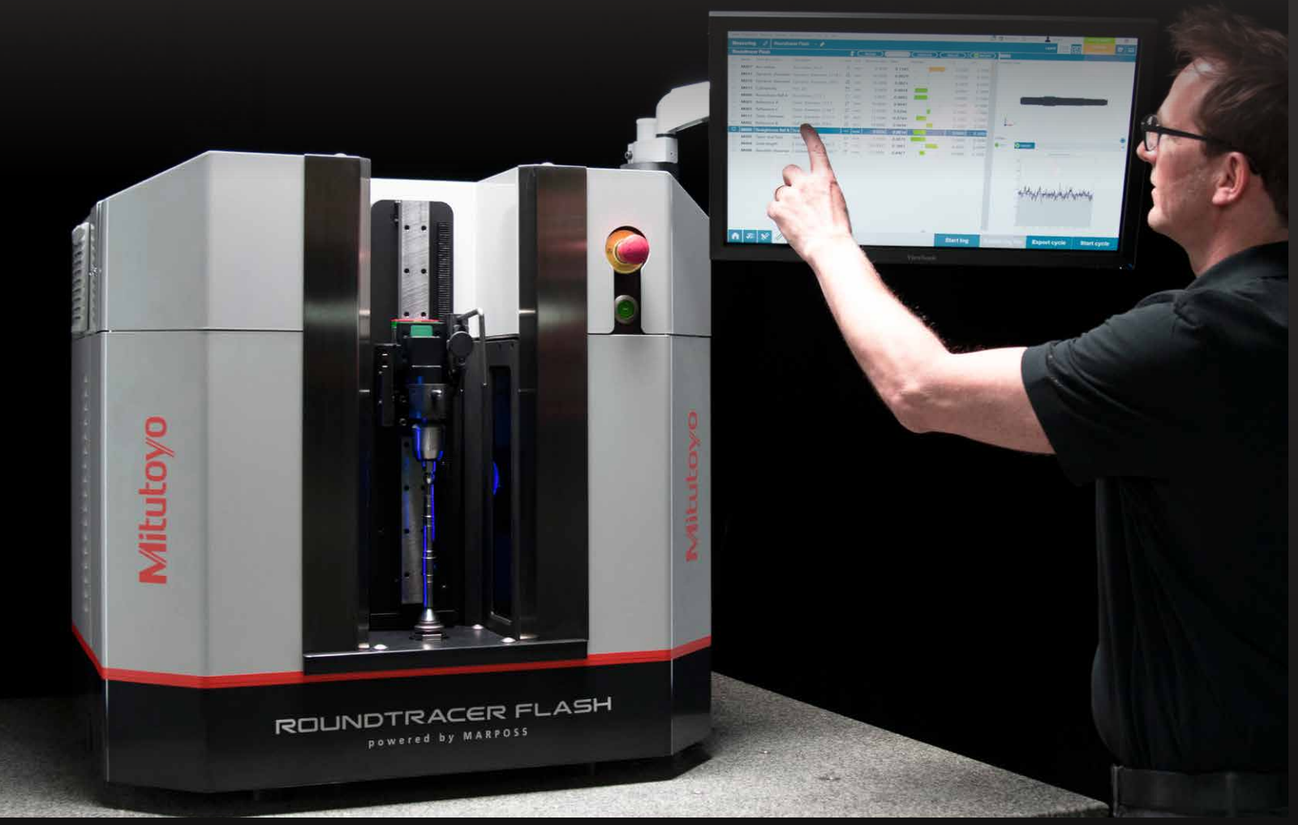
Quick and easy workpiece mounting

Roundtracer Flash is designed for ease of use: there is an open loading area with no obstructions and an ergonomic tailstock system for easy part clamping. The graphical user interface - via a touchscreen monitor - provides excellent ease of use.

ONE-CLICK
measuring cycle activation

CONNECTIVITY
integrated USB hub with 7 available ports for easy connection of printers, code readers, or external devices memory

MONITOR
on an optional flexible arm - can be installed on either side of the unit

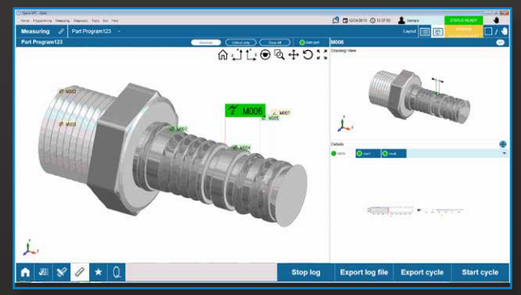


PART LOADING

PART TYPE CHANGE

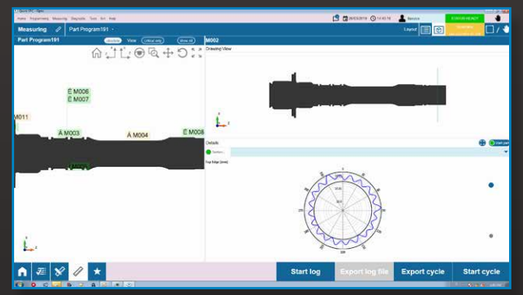
CORRECT PART LOADING INDICATOR

Roundtracer Flash is equipped with a state-of-the-art graphical user interface.



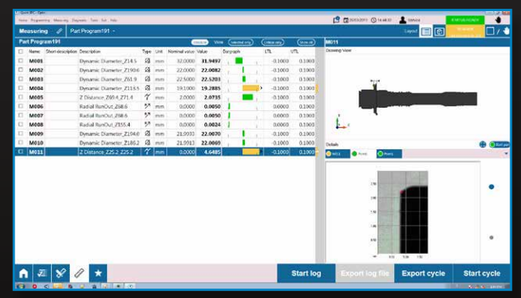
EASY TO USE

Eliminate training costs with an intuitive user interface. Features like the easy interpretation of the measurement results, part detail images, and graphical setups. Anyone can use and also configure new measurements on the Roundtracer Flash.



NEW FEATURES

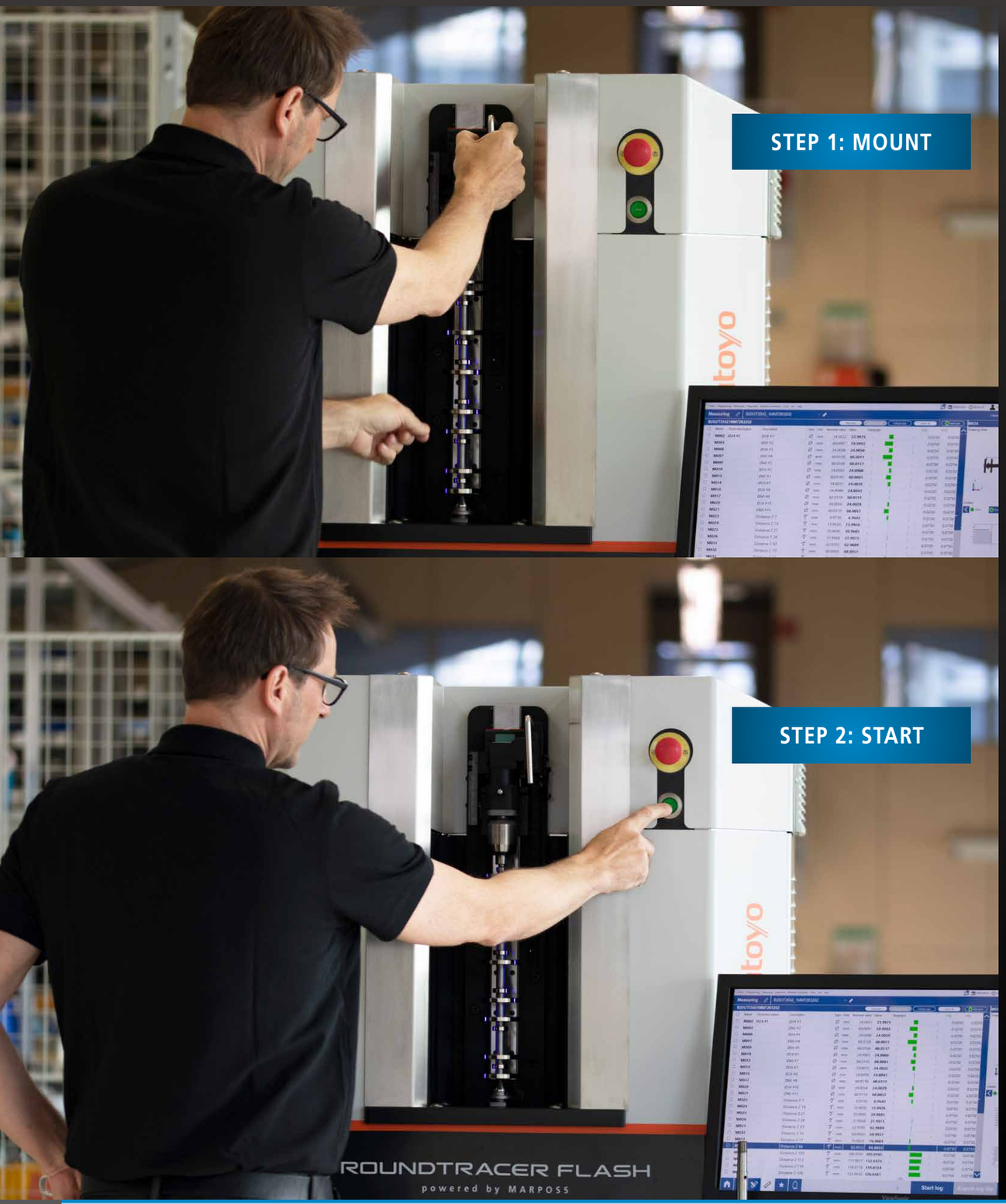
As measurements are archived, a smart search function provides part detail review by images and trend visualization.



SUPERIOR SETUP FLEXIBILITY

Allows the Roundtracer Flash to fit a large variety of application requirements with easy actions.

TWO STEP MEASUREMENT



SPECIFICATIONS

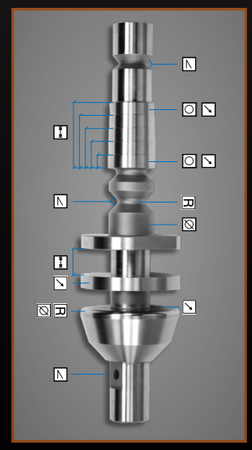
Roundtracer Flash	S100	S300
Code No.	**211-581-01MEU**	**211-583-01MEU**
Measuring Range [Max. part dimension] Length (mm) Diameter (mm)	100 [100] 60 [90]	300 [300] 60 [90]
Max. part weight (kg)	6	
Measuring uncertainty 1 Length (mm) Diameter (mm)	U95 (2+L[mm]/200) µm U95 (1+D[mm]/200) µm	
Part loading mode	Manual and automatic (by robot)	
Part rotation	Standard	
Measuring mode	Static and dynamic	
Dimension of the measuring system WxDxH (mm)	925 x 615 x 640	925 x 615 x 840

1) Calculated following DIN 1319 part 3 / ISO norms on a reference master.
Ambient temperature at 20°C ± 1K with a maximum variation of 0.5K/h. Part temperature 20°C ± 1K. After standard product calibration procedure.

TYPICAL MEASURING TASKS

Dimensional, position, form measurements

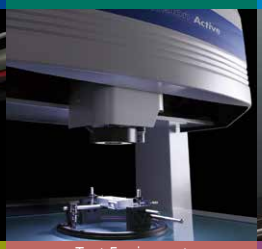
- ✓ Cylindricity
- ✓ Coaxiality
- ✓ Straightness
- ✓ Roundness
- ✓ Flatness
- ✓ Symmetry
- ✓ Parallelism
- ✓ Perpendicularity
- ✓ Cam profile



- ✓ Thread inspection
- ✓ Diameter
- ✓ Length
- ✓ Radius
- ✓ Chamfer
- ✓ Angle
- ✓ Radial run-out
- ✓ Axial run-out
- ✓ Concentricity

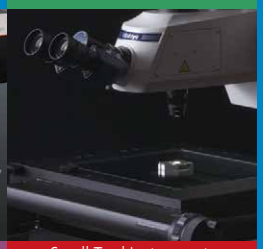
Coordinate Measuring Machines

Vision Measuring Systems



Form Measurement

Optical Measuring

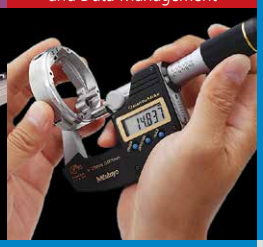


Sensor Systems

Test Equipment and Seismometers

Digital Scale and DRO Systems

Small Tool Instruments and Data Management



Whatever your challenges are, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top-quality measuring products but one that also offers qualified support for the lifetime of the equipment backed up by comprehensive services, ensuring your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test, and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.

Find additional product literature and our complete catalog here.

www.mitutoyo.eu

Mitutoyo

Mitutoyo Europe GmbH

Borsigstraße 8-10
41469 Neuss

Tel. +49 (0) 2137-102-0
Fax +49 (0) 2137-102-351

info@mitutoyo.eu
www.mitutoyo.eu