Fowler®

HIGH PRECISION

Rapid Measuring Systems

NEW One-touch measurement in seconds

www.fowlerprecision.com

Simple Operation

One-Touch Precision Measurement

The RM series of Fowler, Rapid Measuring Machines achieves fast dimensional measurement with one-key operation using proven precision image analysis algorithms using double telecentric lenses. In CNC mode, after placing workpieces on the measuring table, the operator only needs to press the start button, for the instrument to measures and evaluate multiple dimensions quickly. Consequently, the RM series is a one-key, image measuring machine.

Simple Operation

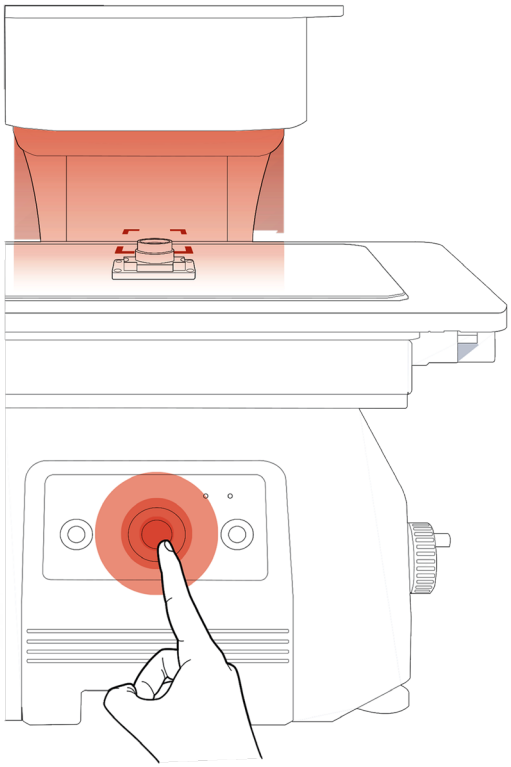
Load the program
Supports importing DXF files

↓

Place the workpiece
Anywhere on the measuring table

↓

One-touch measurement
Press the measure key



Efficient Measurement

The RM series is equipped with double telecentric optical lenses with high depth of field and large field of view.

High Depth Of Field: Without focusing multiple times, accurate measurements are achieved over the entire of depth of field.

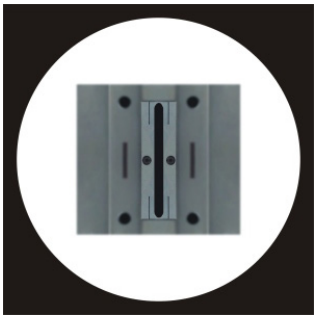
Large Field Of View: Measure all the features of on objects in the field within seconds.

5000	1024	2
Up to 5000 dimensions	Up to 1024 workpieces	Finish measurement in 2 seconds

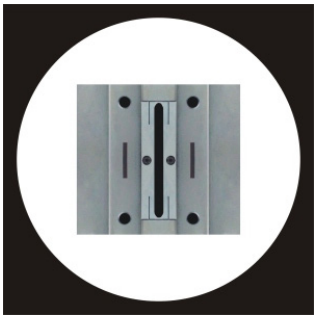
Optical Lenses

Clear images at varying heights

Thanks to the double telecentric optical lenses with high depth of field and high resolution, images are clear even at different heights. Measuring data can be obtained correctly without tedious adjustment of the focal point.



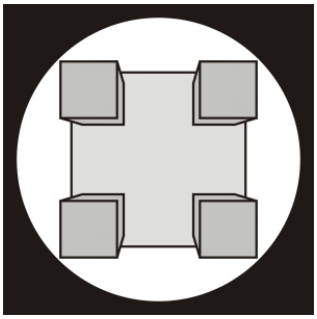
Normal lenses



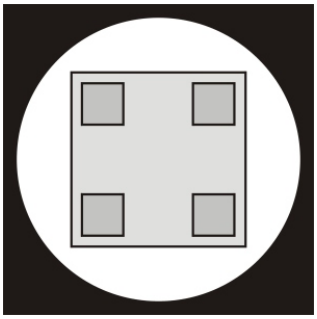
Dedicated lenses for RM series

Always real size even if there are stages

Sizes of objects in images are always actual. Measuring data can be obtained correctly even for concave-convex areas.



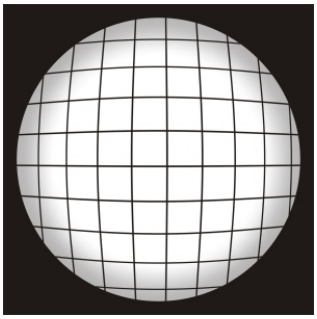
Normal lenses



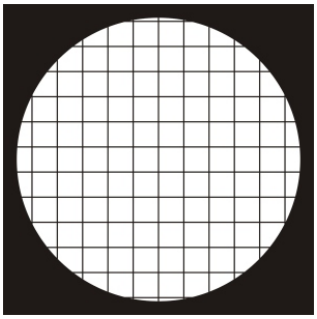
Dedicated lenses for RM series

Zero distortion in the full field of view

Practically zero distortion of the image in the full field of view. Same results in any position on the measuring stage.



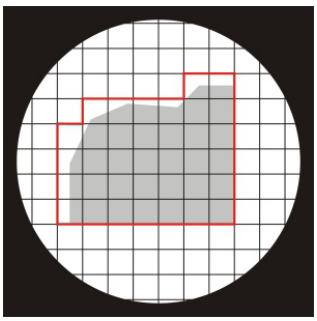
Normal lenses



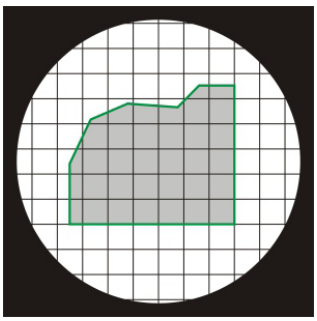
Dedicated lenses for RM series

Sub-Pixel processing of edges

Thanks to algorithms of high-order interpolation and numerical fitting, the software can perform sub-pixel processing on the edges, and high-precision measurement with sub-pixel level is applied in a large field of view.



Normal lenses



Dedicated lenses for RM series

RM3100

Double Telecentric Optical Lens

Viewing Screen

Intelligent Lighting System

Motorized Measuring Stage

Motorized Focusing System

One Press Measuring

Technical Specifications			Model No. 54-830-310-0
Image Sensor			2x 5M monochrome CMOS
Monitor	Built-In		10.4" LCD (XGA: 1024 x 768)
	Outside		24" LCD (XGA: 1920 x 1080)
Acceptance Lens			Double Telecentric Lens
Light	Ring		Four-segment illumination (White light/green light)
	Bottom		Telecentric transmission illumination (Green light)
F.O.V	Large Field		Ø100mm x L200mm
	High Precision		W20mm x L130mm
Repeatability of Image Meas.	Large Field	Without Stitching*1	± 1μm
		With Stitching*2	± 2μm
	High Precision	Without Stitching*1	± 0.5μm
		With Stitching*2	± 1.5μm
Accuracy of Image Meas.	Large Field	Without Stitching*1	± 5μm
		With Stitching*2	± (7 + 0.02L) μm
	High Precision	Without Stitching*1	± 2μm
		With Stitching*2	± (4 + 0.02L) μm
Software			VisionX
Resolution			0.1μm
Physical Probe			No
XY Object Table	X Travel Range		110mm
	Y Travel Range		—
	Loading Capacity		3 kg.
Z-Axis Travel Range			35mm (Motorized)
Size (L x W x H)			500mm x 280mm x 670mm
Weight			31 kg.
Input			AC-100-240V, 50/60Hz, 2A
Working Environment			Temp. 10°C - 35°C, Humidity 20-80%, Vibration <0.002g, Less than 15Hz

Remark: *1 In the focus position, the environment temperature is +20 °C ± 1.0 °C
*2 In the focus position, the environment temperature is +20 °C ± 1.0 °C, and the load on the table is 1 kg or less; L is the moving range of the table (mm)

RM3200

Technical Specifications			Model No. 54-830-320-0
Image Sensor			2x 5M monochrome CMOS
Monitor		Built-In	10.4" LCD (XGA: 1024 x 768)
		Outside	24" LCD (XGA: 1920 x 1080)
Acceptance Lens			Double Telecentric Lens
Light		Ring	Four-segment illumination (White light/green light)
		Bottom	Telecentric transmission illumination (Green light)
F.O.V		Large Field	200mm x 200mm (4 Angles R50)
		High Precision	130mm x 130mm
Repeatability of Image Meas.	Large Field	Without Stitching*1	± 1μm
		With Stitching*2	± 2μm
	High Precision	Without Stitching*1	± 0.5μm
		With Stitching*2	± 1.5μm
Accuracy of Image Meas.	Large Field	Without Stitching*1	± 5μm
		With Stitching*2	± (7 + 0.02L) μm
	High Precision	Without Stitching*1	± 2μm
		With Stitching*2	± (4 + 0.02L) μm
Resolution			0.1μm
XY Object Table		X Travel Range	110mm
		Y Travel Range	110mm
		Loading Capacity	5 kg.
Z-Axis Travel Range			75mm (Motorized)
Size (L x W x H)			531mm x 386mm x 731mm
Weight			49 kg.
Input			AC-100-240V, 50/60Hz, 2A
Working Environment			Temp. 10°C - 35°C, Humidity 20-80%, Vibration <0.002g, Less than 15Hz

Remark: *1 In the focus position, the environment temperature is +20 °C ± 1.0 °C
*2 In the focus position, the environment temperature is +20 °C ± 1.0 °C, and the load on the table is 2 kg or less; L is the moving range of the table (mm)

RM8300

- Double Telecentric Optical Lens
- Viewing Screen
- Motorized Focusing System
- Intelligent Lighting System
- Motorized Measuring Stage
- One Press Measuring

Technical Specifications			Model No. 54-830-830-0
Image Sensor			2x 20M monochrome CMOS
Monitor	Built-In		10.4" LCD (XGA: 1024 x 768)
	Outside		24" LCD (XGA: 1920 x 1080)
Acceptance Lens			Double Telecentric Lens
Light	Ring		Four-segment illumination (White light/green light)
	Bottom		Telecentric transmission illumination (Green light)
F.O.V	Large Field		300mm x 200mm (4 Angles R50)
	High Precision		230mm x 130mm
Repeatability of Image Meas.	Large Field	Without Stitching*1	± 1μm
		With Stitching*2	± 2μm
	High Precision	Without Stitching*1	± 0.5μm
		With Stitching*2	± 1.5μm
Accuracy of Image Meas.	Large Field	Without Stitching*1	± 3μm
		With Stitching*2	± (5 + 0.02L) μm
	High Precision	Without Stitching*1	± 1.5μm
		With Stitching*2	± (3 + 0.02L) μm
Resolution			0.1μm
Height Meas. (Physical Probe Optional)	Measuring Range (X*Y)		120*110mm
	Max Hole/Depth Ratio		1.5
	Dia. of Beam		Ø38μm
	Resolution		0.25μm
	Z Non-Movement	Range (Z)	± 3.5mm
		Accuracy	± 2μm
	Z Movement	Range (Z)	75mm
		Accuracy	± (6 + 0.01H) μm, H is Z movement height in mm
Horizontal Rotary Unit (Optional)	Rotation Angle		Range 360°, Resolution 0.01°
	Rotation Speed		0.2 - 2rev/s
	Max Diameter		Ø60mm
XY Object Table	X Travel Range		210mm
	Y Travel Range		110mm
	Loading Capacity		5 kg.
Z-Axis Travel Range			75mm (Motorized)
Size (L x W x H)			531mm x 503mm x 731mm
Weight			7.5 kg.
Input			AC-100-240V, 50/60Hz, 2A
Working Environment			Temp. 10°C - 35°C, Humidity 20-80%, Vibration <0.002g, Less than 15Hz

Remark: *1 In the focus position, the environment temperature is +20 °C ± 1.0 °C
*2 In the focus position, the environment temperature is +20 °C ± 1.0 °C, and the load on the table is 2 kg or less; L is the moving range of the table (mm)

Applications

The RM Series of Rapid Measuring Machine is in every industry, including machinery, electronics, injection molding, hardware, rubber, low-voltage electrical appliances, magnetic materials, precision stamping, connectors, terminals, mobile phones, home appliances, printed circuit boards, medical equipment, watches, tools, etc.


Phone case


Phone accessories


Watch parts


Watch accessories

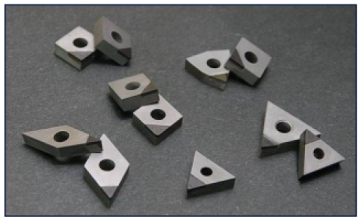

Machined parts


Stamped parts


Sheet metal parts

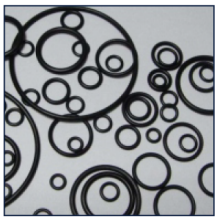

Injection molding


Magnetic elements


Cutting tools


Small metal parts


Gears


Rubber rings


Springs


Threads and shafts

Accessories

Order Number	Description
54-830-099-0	Rapid measuring system workstation
54-830-005-0	Transparent acrylic V-shaped block with two grooves 3mm, 6mm
54-830-010-0	CAD importing software module
54-830-015-0	Optical probe for height measurement
54-830-020-0	Horizontal rotary unit
54-830-025-0	Checkerboard master gage for camera calibration
54-830-030-0	300mm glass ruler for calibration of glass-scale (only available for RM8300)
54-830-035-0	Coaxial light source
54-830-040-0	Glass countertop for RM8300
54-830-045-0	Glass gage for accuracy verification, size: 65mm x 65mm
54-830-050-0	Jig with central symmetry
54-830-055-0	Metal V-shaped block
54-830-060-0	Data exchanging software module
54-830-065-0	Q-DAS software module
54-830-070-0	Foot pedal board (Work as "Start" button)

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