

Digital Measuring Microscope / Projector Ryf-Nikon MM200-M3-Mot

Motorized Super-12x Ryeco Zoom with coaxial illumination



RYF-NIKON PROFILE & MEASURING PROJECTOR / MEASURING MICROSCOPE MM-200 ZOOM WITH M3- Software, motorized RYECO 12X SUPERZOOM

⇒ **Extremely fast and with high precision**

- Intuitive touch application, gently touch & already measured!
- The easy to learn & clear user interface.
- User independent measurement results.
- No nested menus.
- Standard: with Ryeco Super Zoom 12x/6 steps, motorized
- Standard: LED coaxial illumination for more accurate measurements
- All-in-one PC /Pro HP with touch screen 24".
- Just Measure & Evaluate = precise, fast and easy.

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Ryf-Nikon MM200-M3 Measurement Software

The new standard for the measurement of parts using DXF/PDF comparison:
Precise, fast, simple and good value!

Features and functions of the software:

- Intelligent image processing for measuring 2D geometries
- Constructions and relations of measured elements
- Alignment function
- Part programs
- Tolerance check according to DIN/ISO
- Multiple coordinate systems
- Multilingual (d/f/e/i)
- Data export and print, including graphics
- Dimensioning of the parts view
- Image memory with/without measurement result
- DXF module to compare the measurement versus a drawing with a tolerance band and good/bad detection
- Automatic measurement processes, pallet measurement
- Lighting control via the software (all 3 illuminators are integrated)
- Stitching (automatically mount and measure images in the Y and X axis)



Turnkey: complete and ready to use measuring projector system:

Microscope Nikon MM200 | "Compact & Space Saving"
Measuring table range of motion X-Y 50mm x 50mm,
Precision zoom lens 12X (motorized.w/ 6 programmed Steps) 51x, 71x, 110x, 180x, 275x und 450x
LED transmitted light, 4-segment ring light (coax LED included), controllable via the software
5MP Digital Camera, M3 Control Box and M3 Software/DXF Overlay
HP Windows PRO all-in-one PC with HD screen EIZO 24"
Installation, calibration, measurement protocol and training included.

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Precision

- Scale resolution of 0.4µm
- Custom Nikon precision 3+L/50 µm without software correction
- Steel tripod and column with precision guides
- X-Y made from steel with Nikon precision glass scales

Standard Equipment

- Nikon MM200 tripod with adjustable LED transmitted light
- High-performance Ryf LED NKL12LED segment ring light, adjustable
- Up to 4 lights controllable/operable via the software (all lights are programmable)
- Integrated precision measuring table with 50mm x 50mm travel and integrated 360° turntable

Optical Quality

- Standard camera **5MP**, CMOS/ USB3 (2448 x 2048px/frame rate min. 60 images/sec.)
- Quality screen 24" HD resolution
- Optical zoom lens 1:12x (motorized with 6 programmed steps from 51x up to 450x included)
- With built-in LED coaxial illumination

Operation

- Easy to use and intuitive measurement software matched to our Nikon-Ryf configuration
- DXF overlay
- Link to an Excel log with a mouse click

Examples of Application

Measurement of small precision-turned parts

Watch plates

Dials

Screws, axles, implants

Gears

Precision milled parts, bridge parts, circuit boards, electronic components/PCB boards

Suitable for all metals and plastics

Specification:	12x Ryeco Zoom lens with 6 Steps, motorized
Optical System	12x Zoom Ryeco Lens, new developed LED Coaxial-illuminator, controllable via the Software M3
X-Y-Z axis travel path	50mm X 50mm X 120mm (Z-Axis know with 120mm !)
Precision of the measuring stage	2.5 + L/50 µm (with LEC), 3 + L/50 µm (L= measuring length)
Scale resolution	0.4 µm
Max. Stage load	2 kg max. for the guaranteed accuracy / 5 kg max. possible
PC	All-in-one PC von HP-Pro with 24" Screen
Enlargement accuracy	0.1%
Enlargements	51x - 450x with 24" HP Screen
3 light sources included	Ryf NKL12_LED segment ringlight (4 segments, white Daylight LED 5'700°K, dimmable 0-100%), green stage transluence LED and with coaxial LED (complete LED units are Swiss made)
Dimensions & weight	316 x 455 x 533 mm (L x B x H), 46 kg
Operating voltage	100V – 240 V (max. 1.8 A) / 50-60Hz
	*for higher X-Y-Z travel please refer to the brochures of the Ryf-NIKON MM400-M3 or MM800-M3

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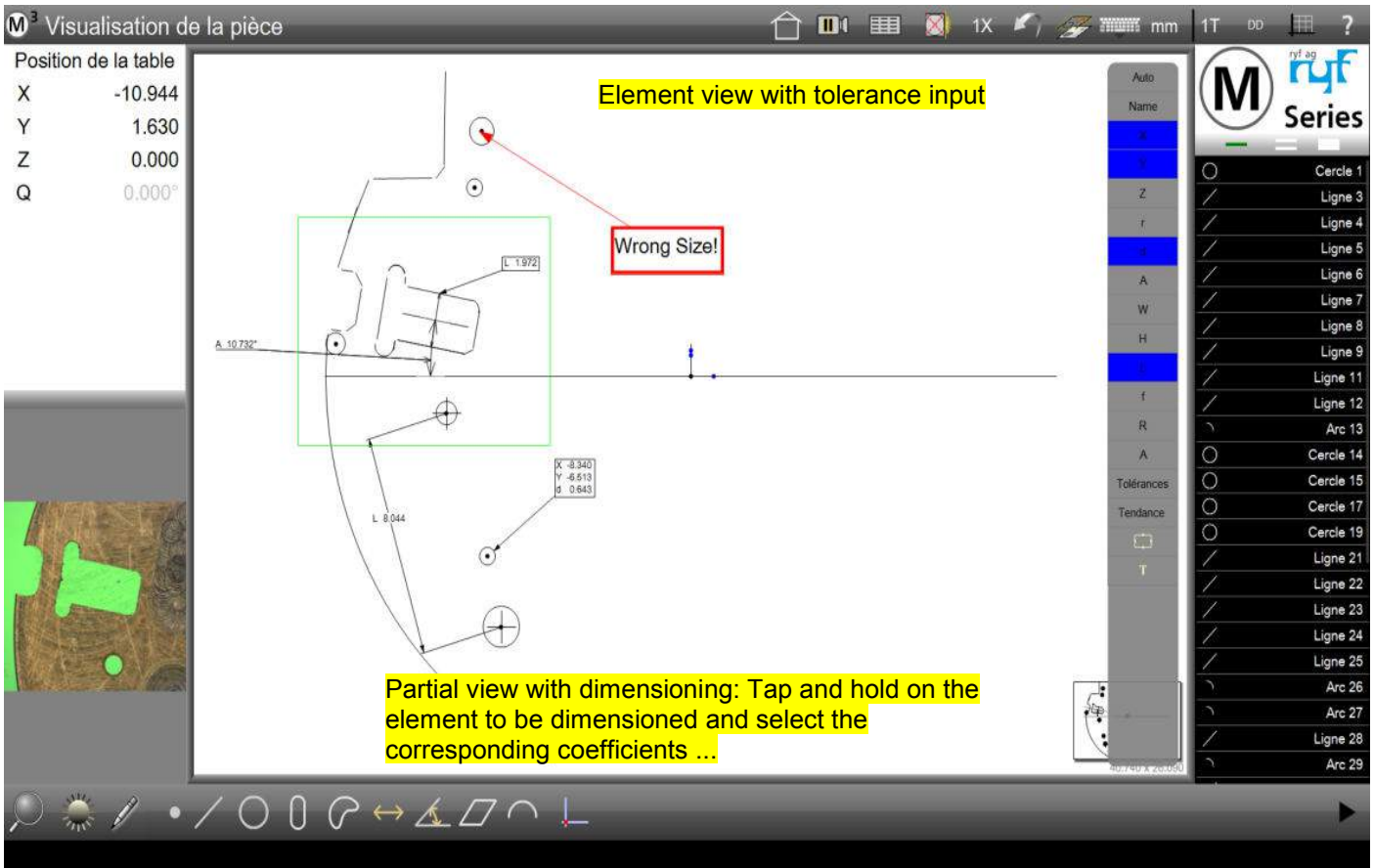
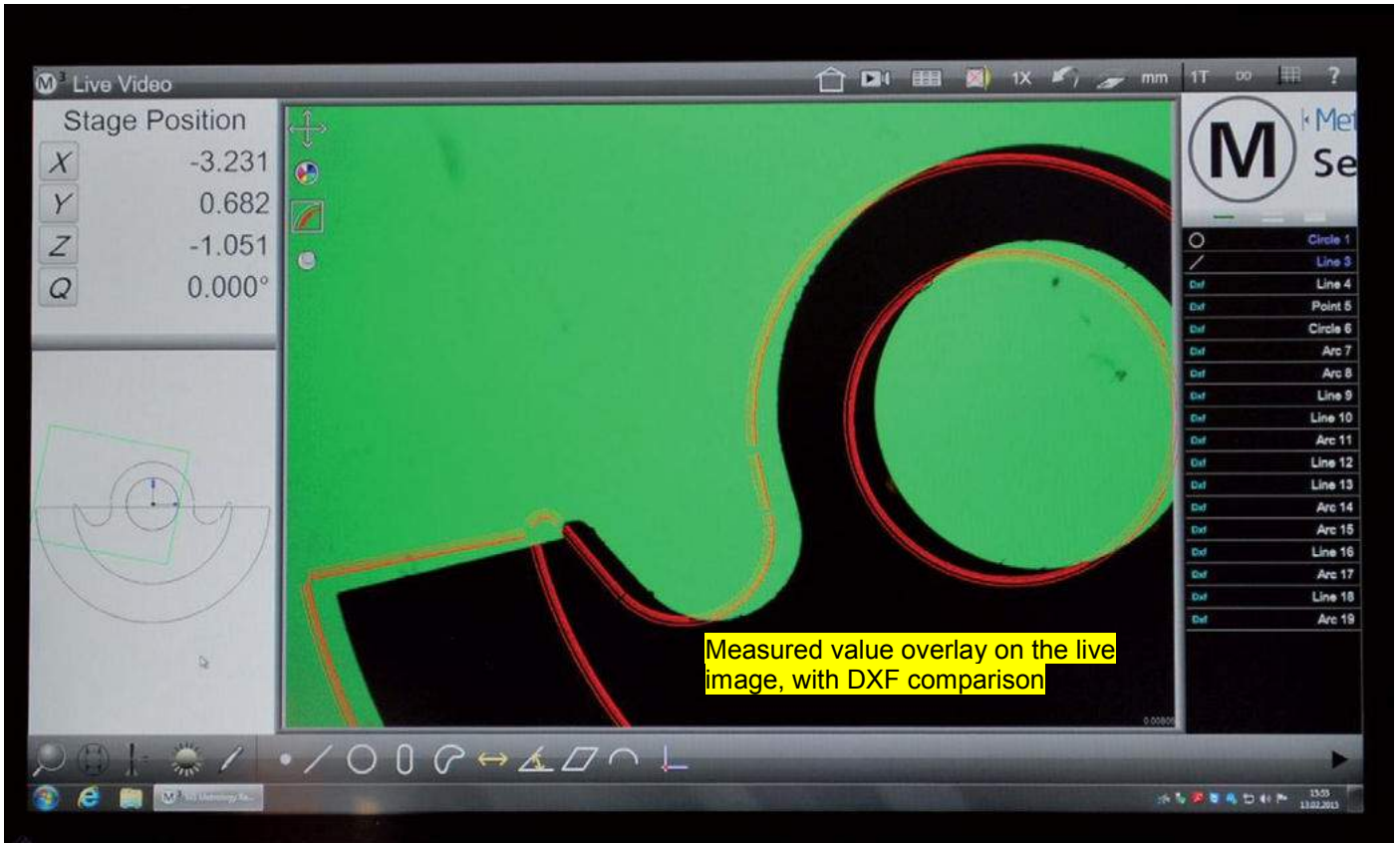


Live video: Optimum edge detection using "Measure Logic" or and active or fixed cross-hair

Function list: Selection of measuring tools, measuring functions and data export



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12x Zoom Lens → 51x bis 450x

Typically Ryf: Customizing Made in Switzerland
The development and production of customized accessories and supplementary parts is one of the core competences of Ryf AG.

Whether special LED ring illuminators, microscope stands, optics holders or microscope drives: Our development and production team with over 10 CNC lathes and milling machines here in Grenchen always finds a solution.

Everything from one source

The subsidiary Ryf Prototec AG manufactures and develops product-specific small parts, equipment and customizing products for us, our partners and our customers.

Table in mm of the MM200-M3 motorized with Ryeco Zoom Lens 12x with 6 Steps / *screen 24" 1920x1200px:

Zoom 12x Motorized steps	Magnification 1:1	Scaled*	Enlargement 1:1 In the Field of View	Skaliert* In the field of view	Pixel Size in mm
Position:	Factor	Factor	FOV X-Y / mm	FOV X-Y / mm	
M1	51x	22x	7.5 / 4.7	13 / 10.8	0.0053
M2	71x	31x	5.5 / 3.5	9.5 / 7.95	0.0038
M3	110x	48x	3.5 / 2.2	6.1 / 5.1	0.0025
M4	180x	79x	2.1 / 1.3	3.7 / 3.1	0.00152
M5	275x	120x	1.4 / 0.8	2.4 / 2	0.00099
M6	450x	200x	0.88 / 0.55	1.51 / 1.26	0.00062

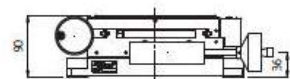
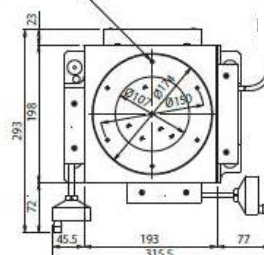
*Remark: with 24 Inch screen.

Easy to use: The Digital-video-based M3 is multi-touch software that can pan and zoom with the touch of a finger....

It works with active part views and live video feeds as well as a conventional mouse interface. Along with a host of other features, the M3 offers simple machine/camera calibration with popular video measurement system correction-methods.



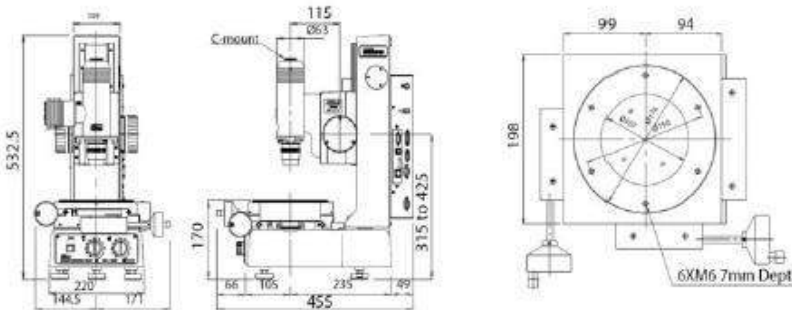
6-M6 depth 7 tool
Installation screw hole?



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Application example with the larger MM400-M3, which has a similar design



Ryf Service: at your service



Maintenance and Service

After-Sales Service Ryf Ltd.:

Measuring instruments and microscopes must be checked, calibrated and cleaned at regular intervals. A maintenance and service contract with Ryf AG protects you from nasty surprises, as at the agreed time (after 6, 12, 18 or 24 months), we automatically contact you and perform the maintenance expertly and competently. Of course, we also carry out all work without a maintenance agreement.