



*Helmwider*

# WMM Series



## Shaft measurement machines for measuring lengths up to 2200 mm

Measurements made easy!

- Measurement of all required geometric and positional features including length, diameter, radius, angle, chamfer
- 3D measurement with touch and scanning probe



Wir machen Qualität sichtbar  
Nous rendons la qualité visible  
Making quality visible

[ryfag.ch](http://ryfag.ch)

## MICROSCOPY + METROLOGY SERVICES

**Suisse made.**

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### Turned parts measured in seconds

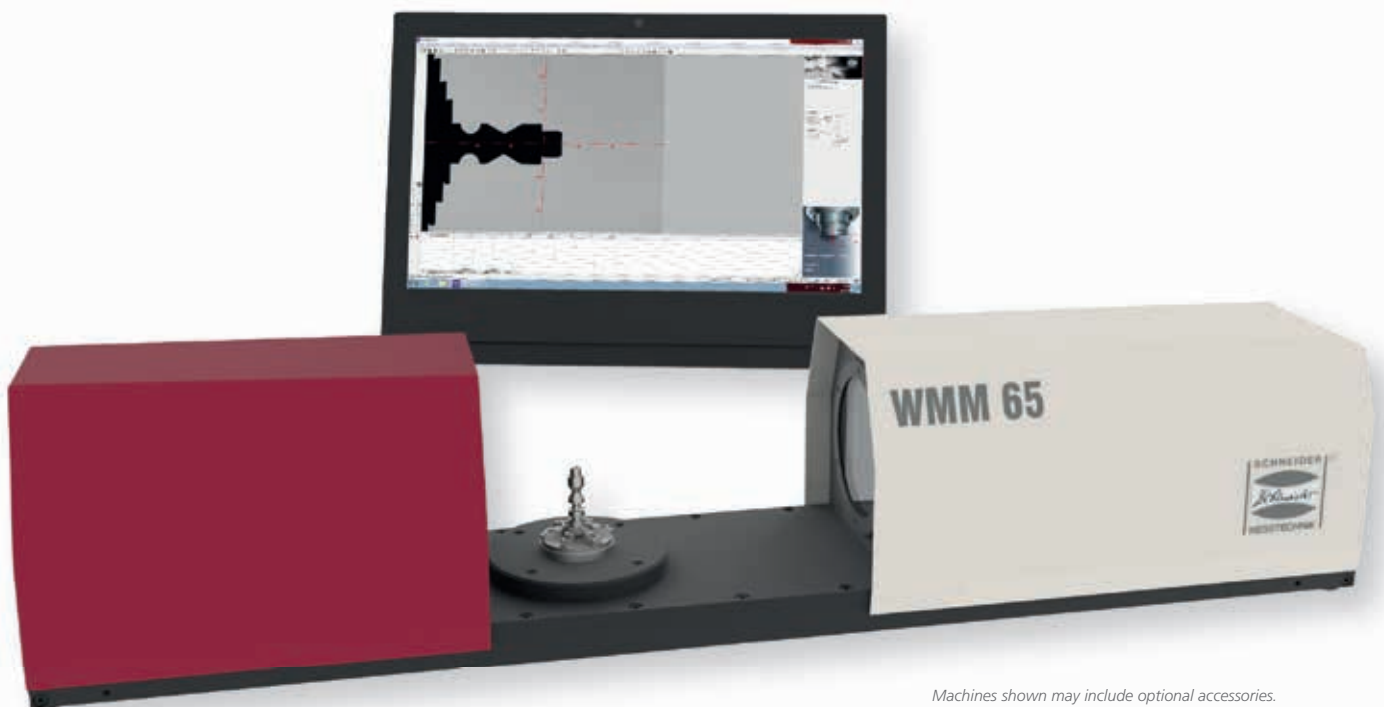
in the production line or at the workplace

#### WMM 65 Standard Equipment

- 5 megapixel CMOS B/W camera
- Telecentric lens for precise measurements
- 23.6" multi-touch panel PC with Windows operating system
- LAN and WLAN network connection
- Telecentric LED transmitted light illumination
- Green LED light and filter for reducing interferences
- Calibration certificate
- SAPHIR measurement and analysis software with SAPHIR shaft

#### WMM 65 Optional Features

- Customer-specific measurement ranges
- Motorised and digitised rotation axis
- Fixturing/holding tools:
  - Magnetic holder for workpieces
  - Precise manual centring via iris diaphragm
  - Six-jaw chuck
- I/O module for connection of automated handling systems



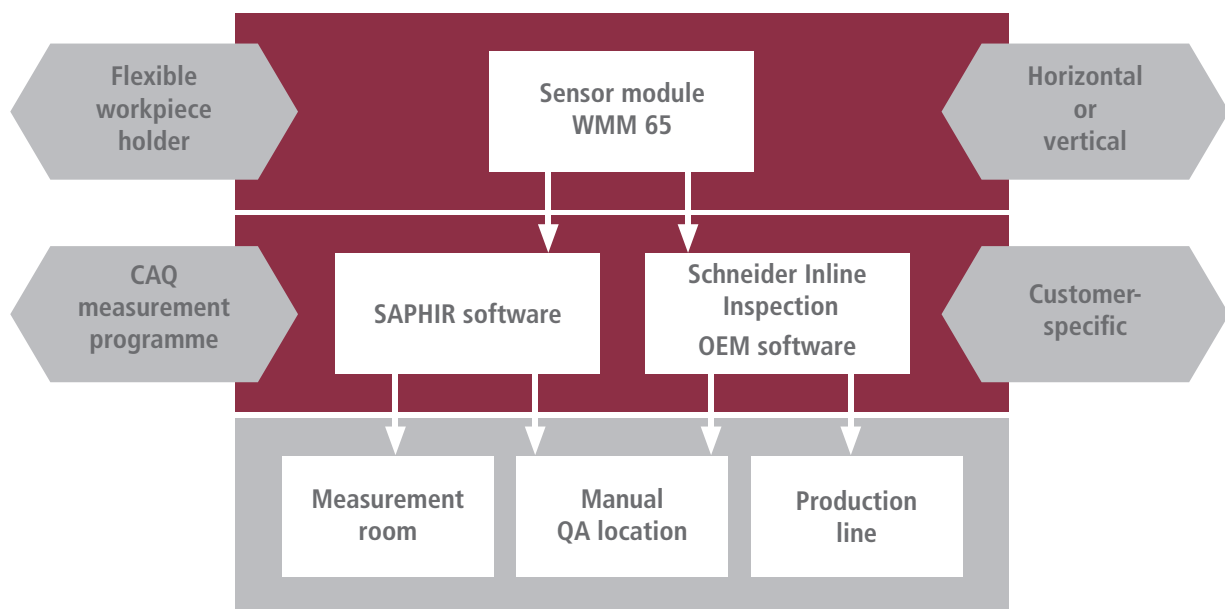
*Machines shown may include optional accessories.*

The WMM 65 modular optical measurement system can be configured to meet the demanding requirements of your quality assurance procedures.

Due to its flexible design the WMM 65 can be integrated into a production line or standalone workstation. With an adaptable workpiece holder and software connections positioned on the process side full network capability is possible.

### Highlights

- Simplified programme management
- Network integration
- Interface with your CAQ systems
- In-line measurement capabilities
- Plug & Play Installation
- Intuitive operation – Measurement in a matter of seconds



## Technical specifications for WMM 65

Model	WMM 65	
Measurement range <sup>1)</sup>	mm	65 x 52
Lens		telecentric
Magnification		0.08x ± 3%
Length measurement error <sup>2)</sup>		measurement length L in mm
optical (2D), DIN EN ISO 10360-7		$E_{UV, MPE} \leq (4.9 + L/50 \text{ mm}) \mu\text{m}$
Dimensions	mm	W 1020, D 195, H 220
Weight	kg	50
Electric power supply		220-240 VAC, 50-60 Hz, 1 kW

<sup>1)</sup> Horizontally/vertically configurable

<sup>2)</sup> Admissible ambient temperature  $20 \text{ °C} \pm 1 \text{ K}$ , temperature gradient  $\Delta t_{th} = 0.5 \text{ K/h}$ ,  $\Delta t_d = 4.0 \text{ K/d}$ , measured with a calibrated standard

### WMM 100 and 200 – Measurements made easy!

#### Fields of application for WMM 100 and 200

Thanks to a large field of view (100 x 60 mm) and a 16 megapixel CCD camera, an accurate and repeatable result can be achieved in seconds, by any user. Based on our proven and reliable SAPHIR software, **SAPHIR shaft** focuses on the essentials needed to program the shaft measurement process. In the truest sense of the word: **Simply precise!**

#### Standard equipment for the WMM 100 and 200

- Image field 100 x 60 mm
- 16 megapixel CCD camera
- Touchscreen panel PC
- Table top design

#### Highlights of the WMM 100 and 200

- Simple and quick measurements in seconds
- Intuitive user interface
- Reproducible measurement results
- Calibration in accordance with ISO 10360-7

*Machines shown may include optional accessories.*



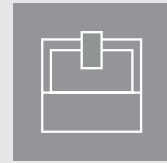
## Technical specifications for WMM 100 and 200

Model		WMM 100	WMM 200
<b>Measurement range</b>	mm		
length		100	200
diameter		60	60
<b>Lens</b>			
magnification	mm	0.3x	
image field	mm	100 x 60	
<b>Max. workpiece weight</b>	kg	3	
<b>Length measurement error<sup>1)</sup></b>		measurement length L in mm	
optical (2D), DIN EN ISO 10360-7		$E_{UV\ MPE} = (2.0 + L/100\text{ mm})\ \mu\text{m}$	$E_{UV\ MPE} = (2.0 + L/100\text{ mm})\ \mu\text{m}$
optical (2D), DIN EN ISO 10360-7			$E_{UXY\ MPE} = (2.0 + L/100\text{ mm})\ \mu\text{m}$
<b>Good to know</b>		$\beta = 0.3 \Delta$ lens 0.3x (image field 100 x 60 mm) – the measurement uncertainty refers to the given image field	
<b>Dimensions</b>	mm	W 800 D 1000 H 480	W 800 D 1000 H 580
<b>Weight</b>	kg	100	120
<b>Electric power supply</b>		220-240 VAC, 50-60 Hz, 1 kW	

<sup>1)</sup> Admissible ambient temperature  $20\text{ °C} \pm 1\text{ K}$ , temperature gradient  $\Delta_{th} = 0.5\text{ K/h}$ ,  $\Delta_{td} = 4.0\text{ K/d}$ , measured with a calibrated standard

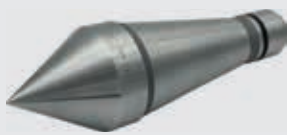
## Precision down to the last detail

Accessories contribute significantly to achieving consistent results. Our range of quality, precision made accessories and reference parts will ensure you get the best from your WMM system.



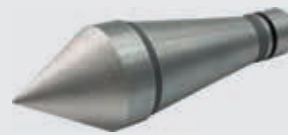
### Remote maintenance

High level of operational safety for your machine thanks to quick online assistance – worldwide.



**SK40 fixed – 60°**

High-precision standard centre pin with SK40 mount, 60° centre pin and retaining thread.



**SK40 fixed – 60° coated**

High-precision standard centre pin with SK40 mount, coated 60° centre pin for a better grip of the shaft during rotation and in the retaining thread.



**MK2 rotating – 60°**

Rotating precision centring cone 60° with MK2 mount and forcing nut.



**MK4 rotating – 60°**

Rotating precision centring cone 60° with MK4 mount, forcing nut and safety thread.

### SK40 6-jaw precision chuck

The 6-jaw precision chuck with hardened, cut and reversible top jaws for clamping workpieces without centre holes. The jaw arrangement also allows for measurement of the total length.



### SK40 Planar contact area

For workpieces without centre holes. The shaft is centrally placed on the planar contact area and centred by an aperture. Depending on the design of the contact surface, the total length may also be measured.



### Reference shaft 250

Length 250 mm – max. diameter 60 mm  
For checking calibration of shaft measurement machinery WMM 300 and WMM 450. Delivery possible with manufacturer or DakkS certificate and measurement programme.



### Reference shaft 500

Length 500 mm – max. diameter 150 mm  
For checking calibration of shaft measurement machinery WMM 600 and WMM 1000. Delivery possible with manufacturer or DakkS certificate and measurement programme.



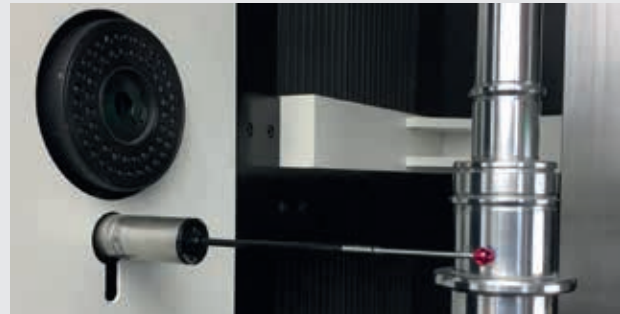


### Renishaw TP200 Touch-Trigger Probe

This compact 6-way probe with the option of automatic probe change boasts greater accuracy and longer service life when compared to conventional, mechanically triggered probes.

### SCR200 Probe Changer

Flexible changing system for automatically changing the TP200 probe.



### Renishaw SP25 Scanning Probe

The Renishaw SP25 scanning probe is the world's most compact and multifaceted probe system for scanning. Fast and extremely precise, it reliably completes the measurement.

### FCR25 Probe Changer

Flexible changing system for automatically changing the SP25 scanning and touch probes.

### Active vibration damping

Depending on where the measurement machine has been set up, active air dampening may be required for a stable and interference-free measurement. This is optionally available, in coordination with the respective device.



### Workstation 130/75/console

The right workstation to meet all requirements. Regardless of whether you wish to carry out the measurements standing up or sitting down, we have the right workstation for you.



## Shaft measurement technology for parts up to 2200 mm long

We have the right system for every workpiece length!

### Fields of application for the WMM series

With the standard machines from the WMM series, you have the ability to measure rotationally symmetrical parts up to 2200 mm in length and a maximum diameter of 400 mm.

In just one operation, lengths and diameters, radii, angles, chamfers, as well as all the required geometric and positional tolerances, can be identified, measured and reported.



WMM 450 is designed for the measurement of shafts up to 450 mm in length, with a diameter of 150 mm.

Machines shown may include optional accessories.



## All in one – the WMM series also reduces your throughput times!

Fast measurements, simple operation and the SAPHIR measurement and analysis software make this system the preferred partner for your workshop and measurement room. The distinct advantage over comparable systems is its high measurement accuracy, not only for diameters but also lengths, radii, chamfers and smallest contour details. Furthermore, there is the option to precisely measure blind bores, grooves and other contours and elements not measurable in transmitted light, **using incident light**. Should this prove insufficient, a **TP200 6-way touch-trigger probe** can be integrated from WMM 300 and a **SP25 scanning probe** from WMM 450. The 2D shaft measurement machine then becomes a **3D shaft measurement machine**.

The **mathematically integrated CNC rotation axis** and the option of individually illuminating the measurement point with the switchable **sector incident light** guarantee a complete and consistently precise measurement. There are also **no additional measurement devices** required when carrying out the **complete measurement with the shaft measurement machine**. Both time and money are saved thanks to the elimination of transport and handling.

*Optional, touch-trigger or scanning probes for special form measurements, such as toothing, non-cylindrically symmetric contours, impeller wheels, etc.*

## The modular principle of the WMM series also facilitates customer-specific solutions.

Do you require a longer measurement length? A special clamping device? Or are there other requirements your measurement device needs to meet that are not covered by the standard configuration? Not a problem! Customer-specific solutions can be realised for all machines within the WMM series; economic, efficient and meeting your measurement tasks 100 percent.





*When ordering, you can choose between different workstations that allow you to sit or stand.*



### Advantages of the WMM series

- Fully integrated CNC rotation axis with holder for SK40, SK50, HSK63 or support of a customer-specific interface
- Sector incident light for measuring bores, grooves, oil channel bores, blind holes and milling contours
- Optionally with a touch-trigger or scanning probe for special form measurements, such as gears, non-cylindrically symmetric contours, impeller wheels, etc.
- Digitisation and best-fit for 2D and 3D measurements
- Optionally available: Fixturing/holding tools such as live and dead centres in standard and special designs, precision vices and chucks, female centres, etc.
- SAPHIR shaft – the shaft measurement software is setting the standard

## Special features for the WMM series

- Measurement length up to 2200 mm and diameter up to 400 mm
- Ultra-fast measurement technology thanks to triggered measurements with a high-resolution CCD matrix camera and live images
- High-precision measurement of lengths through camera focal axis, even outside the middle axis
- Teach-in programming
- Automatic generation of a measurement log with table and graphics, as well as initial sample test report according to VDA
- Special customer-specific solutions available

### Highlights of the WMM series

- High measurement accuracy
- Simple operation
- Superb documentation
- Large measurement range
- Ergonomic design with excellent accessibility

For more detailed information, please visit our website at [www.dr-schneider.de](http://www.dr-schneider.de)

*Machines shown may include optional accessories.*



## SAPHIR measurement and analysis software

Efficient, economic workflows start with the right choice of equipment. **SAPHIR** is a tailored measurement software that covers all of your requirements. For further information, please request our free “**SAPHIR**” and “**SAPHIR shaft**” brochures.



The latest news and information can also be found on our Facebook page.



A range of interesting product videos and useful information are available on YouTube.

## Technical specifications for the WMM series

Model		WMM 300	WMM 450	WMM 600	WMM 600/400	WMM 1000	WMM 1000/400	WMM 1200	
<b>Measurement range</b>									
length	mm	300	450	600	600	1000	1000	1200	
diameter	mm	80	150	200	400	200	400	200	
<b>Lens</b>		telecentric							
image field	mm	5.6 x 4.1							
<b>Probe (optional features)</b>		TP200	TP200 or SP25						
		(fixed installation)	(infeed axis)						
<b>Resolution</b>		mm							
		0.0001							
<b>Motorised axle adjustment</b>		4 axles							
<b>Max. workpiece weight<sup>1)</sup></b>		kg	50	50	50	50	50	50	
optional	kg	–	–	200	200	200	200	200	
<b>Length measurement error<sup>2)</sup></b>		measurement length L in mm							
optical (1D), DIN EN ISO 10360-7 <sup>3)</sup>		$E_{UY} \text{ MPE} = (1.0 + L/100 \text{ mm}) \mu\text{m}$							
optical (2D), DIN EN ISO 10360-7 <sup>4)</sup>		$E_{UXY} \text{ MPE} = (2.0 + L/200 \text{ mm}) \mu\text{m}$							
touch-trigger (2D), DIN EN ISO 10360-2 <sup>5)</sup>		$E_{0XY} \text{ MPE} = (2.0 + L/200 \text{ mm}) \mu\text{m}$							
<b>Dimensions</b>		mm	W 620	W 850	W 950	W 1400	W 950	W 1400	W 950
			D 640	D 850	D 1000	D 1370	D 1000	D 1370	D 1000
			H 1870	H 2010	H 2200	H 2200	H 2500	H 2500	H 2800
workstation table 130	mm	–	–	1300 x 900					–
<b>Weight</b>		kg	400	630	3000	4700	3500	4700	4300
<b>Electric power supply</b>		220-240 VAC, 50-60 Hz, 1 kW							

<sup>1)</sup> Including clamping tools

<sup>2)</sup> Admissible ambient temperature  $20 \text{ }^\circ\text{C} \pm 1 \text{ K}$ , temperature gradient  $\Delta t_{th} = 0.5 \text{ K/h}$ ,  $\Delta t_{td} = 4.0 \text{ K/d}$ , measured with a calibrated standard

<sup>3)</sup> Diameter measurement, smoothed part surface

<sup>4)</sup> Grinded workpiece surface

<sup>5)</sup> For optional design with TP200 or SP25, standard probing system with straight probe Length 50 mm, probe tip  $\varnothing 4 \text{ mm}$