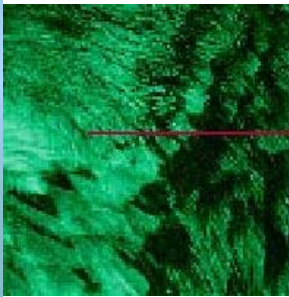


Measuring Microscope VMM300



Precise measuring microscope with binocular or video tube, hand driven or motorized, for the measurement of large products (up to 420 x 300 mm).





Measuring all and Seeing all

The modular concept offers each and every customer his own tailor-made unit configuration.

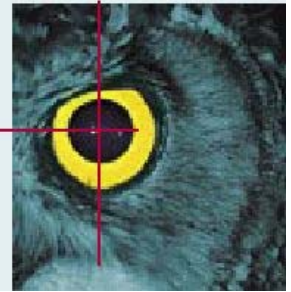
- Industrial fields of application: Machines and equipment construction, automobile production plants, aircraft and aerospace industries, electrical engineering and electronic industry, precision mechanics and optical fields, and medical technology.
- Technical Engineering and Universities.
- Laboratories: Inspection and calibrating laboratories, and technical laboratories for crime investigation.
- Operational research areas: Quality control, parts production, research and development, tools and moulds construction, and materials engineering.
- Spectrum of parts: Machining and chipless of producing parts, bended and perforated parts, die-casting parts, motor and gear parts, screws, cutting tools, electrodes for spark eroding, templates, stencils, scales, and medical implants.
- Task settings: Measurements of lengths and angles, profile forms, thickness of layers, material analysis, material fractures (cracks).
- Materials: Metals, plastics, ceramics, glass, rubber.

The Mechanical Basis

- Solid and massive base body of granite.
- Extreme high stability of measuring arrangement with very low sensitivity against short-time temperature changes.
- Utmost stable measuring stage with roll bearing guides.
- Highly permitted stage load.
- Measuring stages with measuring ranges (X/Y) of 350 x 200 and 420 x 300 mm.
- Fast positioning of measuring stage via free shifting of hand and comfortable precise adjustment of each coordinating direction via screws. Optionally available with motor drive.



Introduction



The Measuring Systems

- Opto-electronic measuring systems based on incremental-divided scales; resolution 0.0001 mm.
- Optional with digital measuring system in coordinate direction Z, measuring range 150 mm.
- Highly accurate since very low error possibility.
- Feed-back possibility on PTB Certificated Calibration Norm.
- Tested positioning accuracy according to VDI/VDE 2617.

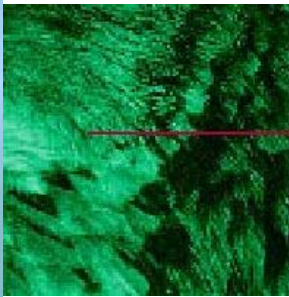
The Optic is essential

- Measuring objectives TELEPLAN for measurements of lengths and forms.
- Micro objectives PLAN FLUOR for surface observations, e.g. metallurgy.
- Objectives with telecentric ray path meaning even by inexact focusing of object viewing, the image size stays unchanged – an indispensable condition for high accurate measurements.
- Objectives of highest optical quality, perfectly corrected, plane and distortionless images - all *designed by Leica*.
- Large working distances for high work-pieces.
- Easy exchangeable objective with a single hand grip via the bayonet mount.
- Video camera connection for further image processing.
- Binocular tube.
- Image viewing through bright-field and dark-field, with and without polarised light as well as differential interference contrast (DIC).

The Light

- External cold light source with reflective halogen lamp (30 -250 W).
- Light supply by fibre optic light guide, thereby no heat transfer.
- Illuminating variants: Transmitted light, incident light, oblique incident light and ring light.
- For metallurgical examination: Bright-field, dark-field, interference contrast and polarisation.





Introduction



Processing of measured values

The matching software for each application.

• QC 200

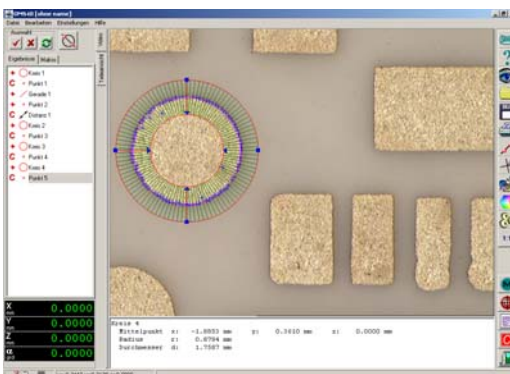
The compact digital read-out unit with display of 2-4 axes and integrated calculating functions without image processing for quick measurements in the shopfloor.



• Metlogix M2

Advanced multi-touch application on a tablet PC. Clear user interface with displays and symbols. Digital read-out, graphical part view and report with tolerance evaluation and comprehensive data export facilities are the main features.

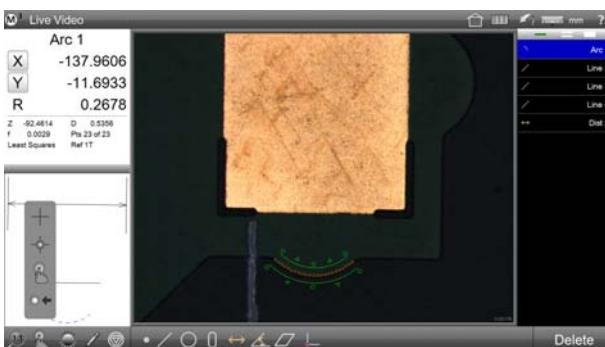
Can be used with manual microscopes.



• OMS

The flexible, easy-to-learn measuring software from UHL; ideally for measuring of first-off samples and small batches. Flexible on-screen masks and measuring lines (distance / angle) for easy visual inspection. Multiple measuring tools with automatic edge detection

Can be used with manual and motorized microscopes.

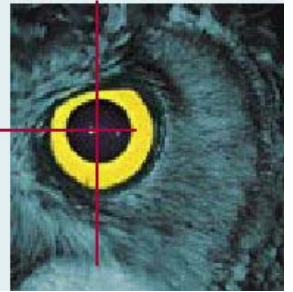


• Metlogix M3

Enhancement of the M2 software with imaging functions. Elements can be measured just by fingertip on the touch screen or classically by mouse.

Can be used with manual and motorized microscopes.

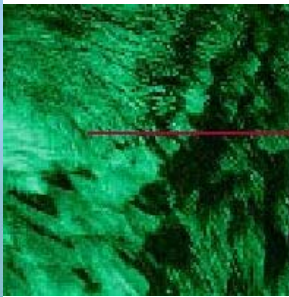




Accessories

- Field inserts with crosshair and concentric circles for radius measurements.
- Angle measuring insert with digital measuring system (Q).
- Centre support in conjunction with aperture iris insert and interference slit insert for diameter illumination of cylinders.
- Micro optical attachment for micro objectives.
- Ring light and oblique incident light.



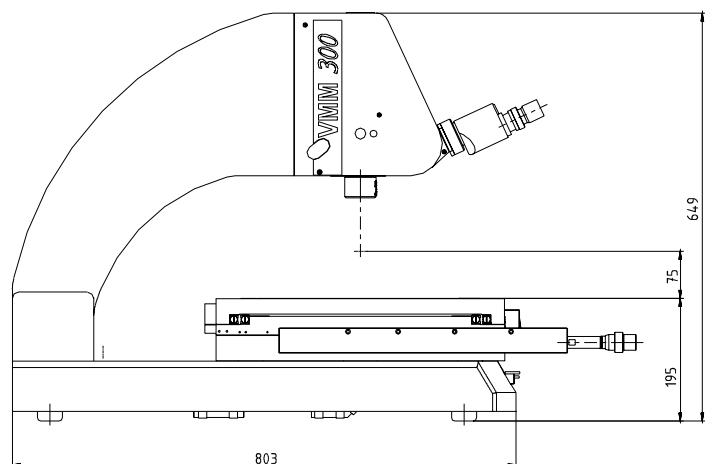
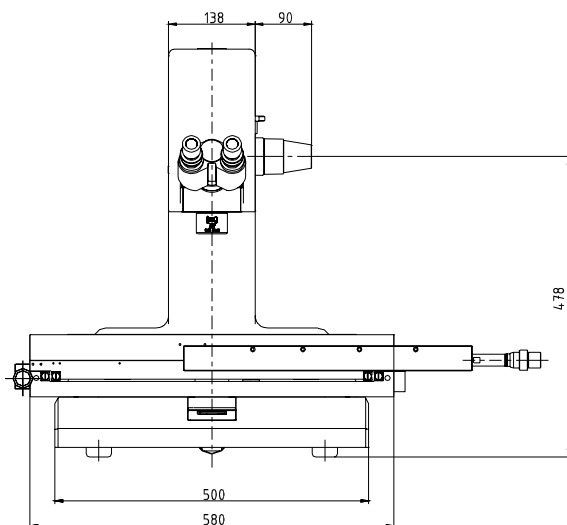


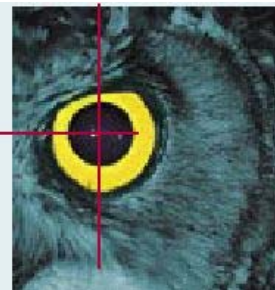
Technical data

Measuring Microscope VMM 300

Main Unit with Measuring Stage

Main unit:	solid granite base
Optics holder:	guided roll bearing, coaxial coarse and fine focus; optional Z-measurement (opto-electronic linear scale).
Movement range:	150 mm
Measuring stages:	
Measuring range:	350 x 200 mm and 420 x 300 mm
Guiding:	roll bearing
Movement:	fast and fine adjustment
Max. weight limit:	20 kg
Measuring system:	opto-electronic with incremental-divided scale
Resolution:	0.0001 mm
Accuracy limit for a coordinate direction, valid for working temperature range:	$1.8 \mu\text{m} + 0.005 \times L \mu\text{m}$
Lighting:	coaxial incident and transmitted light, transmitted light with aperture iris control.
Light sources (accessories):	with stepless brightness control, separately arranged
Light supply:	through fibre optic light guide





Optical System

Measuring tube:	binocular with dioptric compensation
Eye-pieces:	10x with eye cups, (FOV18)
Viewing angle:	25 °
Image:	upright and laterally true image
Total magnification:	see table for objectives
Measuring objectives:	changeable, telecentric ray path
Measuring or video tube reception:	bayonet mount
Further technical data:	refer to "Accessories"
Micro objectives:	for viewing surface structures
Technical data:	refer to "Accessories"

General

Operating temperature:	10° C to 40° C
Working temperature:	20 +/- 0,5° C
Storage temperature:	-10° C to 60° C
Power supply:	120/230 Vac, 50/60 Hz
Weight (net)	
Main unit No.VM4-BT01:	140 kg
Protective mode	
(CEI/IEC 529,DIN 40 050):	IP40
Electromagnetic amiability:	EN 50081-1, EN 50082-1, EN 61000-4, EN 61010-1

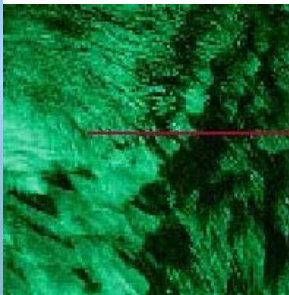
Manual-operated Measuring Microscopes

Equipment variants of ready-to-use Measuring Microscopes VMM 300 with binocular measuring tubes for metrological application.

Variants	Main unit with binocular measuring tube stage / measuring range 350 x 200 mm 420 x 300 mm KT8-LHMA KT9-LHMA		Measuring system coordinate direction Z	Digital read-out QUADRA-Check		Order No.
	VM5-110	VM5-111	VM4-101	QC220	QC230	
1		●	●		●	VM5-BT01
2	●		●		●	VM5-BT02
3		●		●		VM5-BT03
4	●			●		VM5-BT04

All types are also available as motorized version, incl. joystick and 3 axis motion controller (e.g. VM5-BT01M).





Manual Main Units

Main Unit with Binocular Measuring Tube UHL Measuring Microscope VMM 300

(with measuring stage, without digital read-out)

Consisting of following components:

Order No.

1 Base body VMM 300 of granite, vertical column with adjusted Z-guiding (movement range 150 mm), fibre optic light guide for transmitted illumination, measurement stage KT8-LHMA **measurement range 350 x 200 mm** (coordinate direction X and Y), roll guided bearings for stage movement, stage surface 410 x 360 mm, opto-electronic measuring systems, based on incremental linear glass scales, fast and fine adjustment.

VM5-110

VM5-111

1 Base body VMM 300 of granite, vertical column with adjusted Z-guiding (movement range 150 mm), fibre optic light guide for transmitted illumination, measurement stage KT9-LHMA **measurement range 420 x 300 mm** (coordinate direction X and Y), roll guided bearings for stage movement, stage surface 580 x 460 mm, opto-electronic measuring systems, based on incremental linear glass scales, fast and fine adjustment.

- 1 Mechanical fast and fine adjustment of focus
- 1 Binocular measuring tube*, with dioptric compensation, bayonet mount for measuring objectives or micro optical attachment, reception for the eye-pieces, connection for video camera adapter plus angle measuring device etc., with fibre optic light guide for coaxial incident illumination
- 1 Field insert with crosshair 90° and 2 additional lines $\pm 60^\circ$, usable in conjunction with binocular measuring tube
- 2 Eye-pieces, 10x magnification, with eye cups
- 1 Measuring objective 2:1, free-working distance $a = 85 \text{ mm}$
- 1 Aperture iris insert for transmitted light, knurled wheel for aperture iris control
- 2 Cold light sources with reflective halogen lamp, 30 W, stepless brightness control

VM4-200

VM4-300

VM4-301

WX10XL

OP1-M02

VM4-512

VMP-GL



* optional with angle-adjustable binocular tube VM4-300S

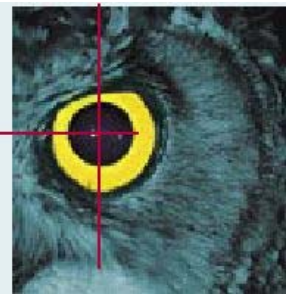
Measuring system for coordinate direction Z

Opto-electronic measuring system for coordinate direction Z, incremental-divided scale, resolution 0.0001 mm

Order No.

VM4-101





- Digital output RS 232.
- Printer connection.

Processing of measuring signal and result output

- Compact Digital Read-out units for 2-4 axes
- Numerical and alphanumerical displays for functions.
- Numerical interval 0.0001 mm.
- Selectable languages:
German, French, English, Italian, Spanish and Russian.
- Calculable alignment of work-pieces.
- Calculating functions for geometrical combination of the measured values.
- Programmable measuring sequences.
- Memory for measured values.

Digital Read-out unit QC 200

Order No.

2-axis digital read-out

QC220

2-axis digital read-out with additional Q-axis for angle measuring insert VM4-302

QC221

3-axis digital read-out

QC230

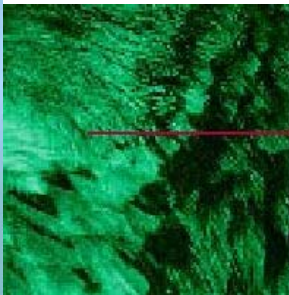
3-axis digital read-out with additional Q-axis for angle measuring insert VM4-302

QC231

Programmable Measuring Functions

• Measuring without manual calculation.	• Combination of up to 50 measured values per geometrical element.	• Location of origin points upon user's choice.	• PRESET function	• Graphical view of geometry elements		
• No mechanical work-piece alignment owing to the calculated transformation of coordinates.						
• Measuring of circle diameters with 3 to 50 points.						
• Right-angled cartesian and polar coordinate systems.						





Motorized Main Units

Motorized Measuring Microscopes

Equipment variants of automated and semi-automated Measuring Microscopes VMM 300 with binocular measuring tubes or video tubes for metrological application.

Ordering code VMM 300:

VM5-BO22

Component description
Measuring microscope
VMM 300

Measuring stage:

- 1 = KT8-LSMA (measuring range 350 x 200 mm)
- 2 = KT9-LSMA (measuring range 420 x 300 mm)

Video adapter for binocular tube:

- 0 = n.a. for video tube
- 1 = C-Mount 1,2x (VM4-410)
- 2 = C-Mount 0,4 - 1,2x (VM4-411)

Image Processing System:

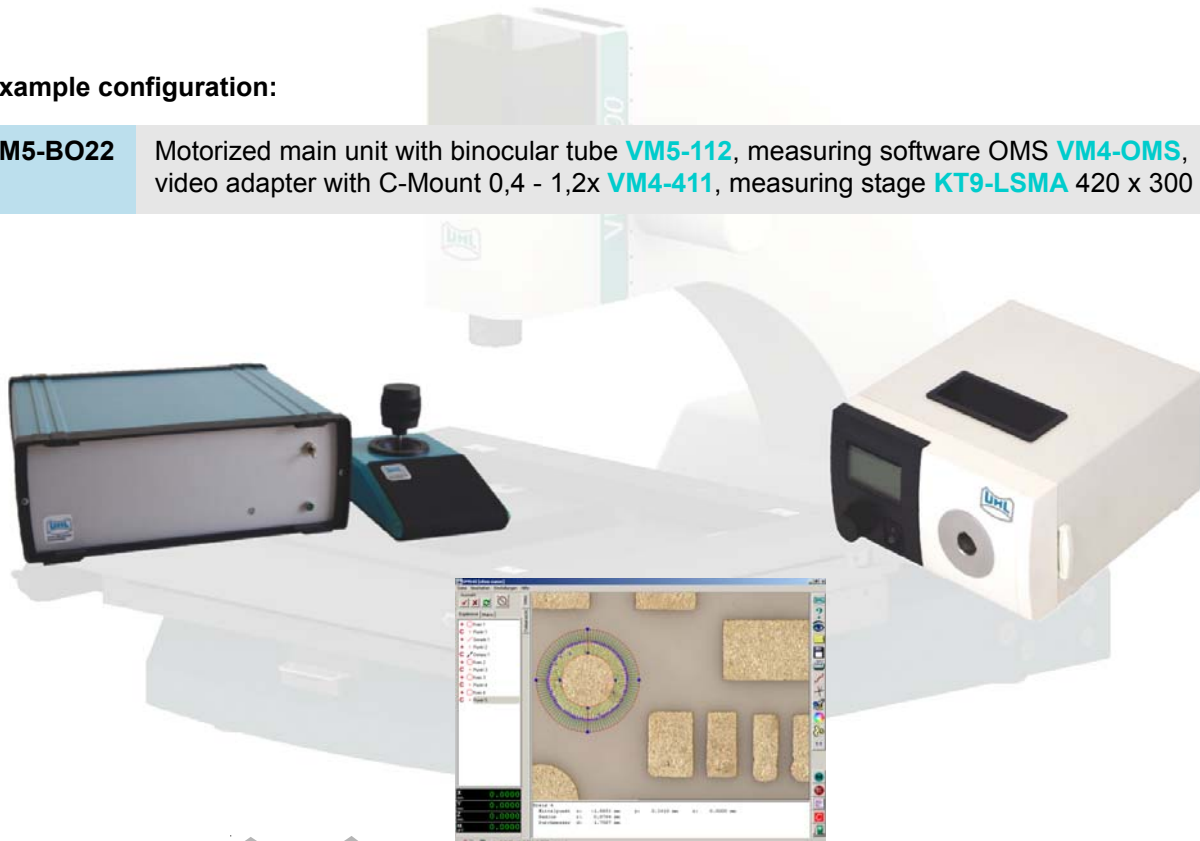
- O = OMS (VM4-OMS)
- M = Metlogix M3 (VM4-M3)

Main unit:

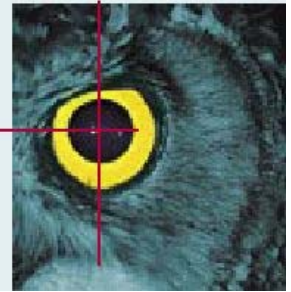
- A = motorized, with video tube (VM5-113)
- B = motorized, binocular tube (VM5-112)

Example configuration:

VM5-BO22 Motorized main unit with binocular tube **VM5-112**, measuring software OMS **VM4-OMS**, video adapter with C-Mount 0,4 - 1,2x **VM4-411**, measuring stage **KT9-LSMA** 420 x 300 mm



Motorized Main Units

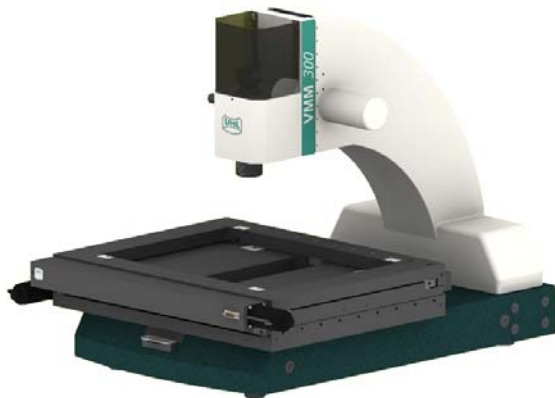


Main Unit with Video Measuring Tube UHL Measuring Microscope VMM 300

(with measuring stage and without image processing system)

Order No. VM5-113

consisting of following components:



1 Base body VMM 300 of granite, vertical column with adjusted guiding (movement 150 mm), fibre optic light guide for transmitted illumination	VM5-002
1 Motorized Z-drive for focusing, with reception for measuring tube	VM4-204
1 Measuring system for coordinate direction Z	VM4-101
1 Video measuring tube, bayonet mount for measuring objectives or micro optical attachment, with C-Mount adapter for a video camera and fibre optic light guide for coaxial incident illumination	VM4-303
1 Measuring objective, 2:1, free-working distance $a = 85 \text{ mm}$	OP1-M02
1 Aperture iris insert for transmitted light	VM4-512
1 Motorized measuring stage 420x300 mm	KT9-LSMA

Main Unit with Binocular Measuring Tube UHL Measuring Microscope VMM 300

(with measuring stage and without image processing system)

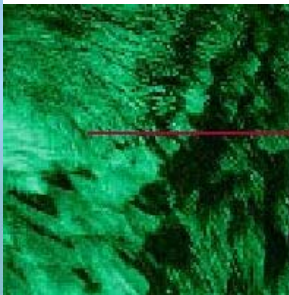
Order No. VM5-112

Similar version as above-mentioned (VM4-113) but instead of VM4-303, with:



1 Binocular measuring tube*	VM4-300
2 Eye-pieces, 10x magnification; Order no. for one piece	WF10XL

* optional with angle-adjustable binocular tube VM4-300S

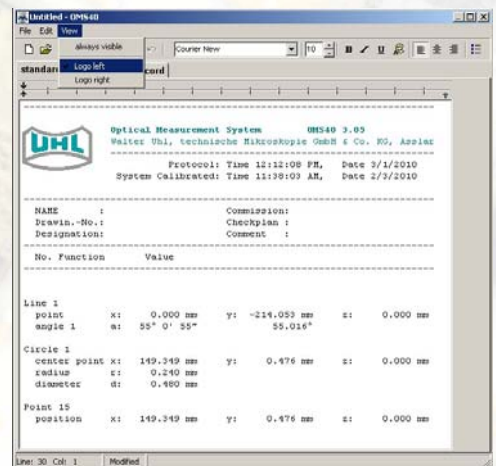
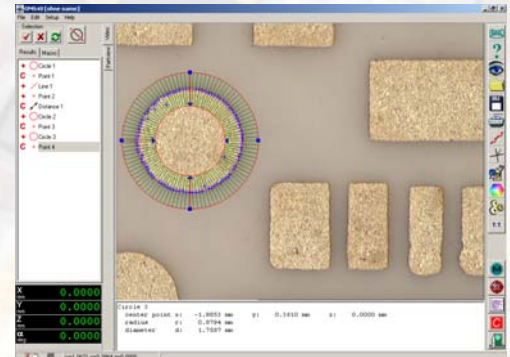


Motorized Main Units

OMS

The flexible, easy-to-learn measuring software for two dimensional measurements of primary samples and small batches by either hand-operated or motorized-operated measuring microscopes, for use in laboratories or production areas.

- Element-related combination of geometrical forms in a tree structure.
- Simple manual placement of the measuring points in the video image via the mouse.
- Immediate result display in a text protocol.
- Easy in memorizing or programming of measuring sequences and additionally the possibility of automated edge findings.
- Rectangular, circular, lattice and interactive image screen masks can be created as measuring frames for quick, visual control.

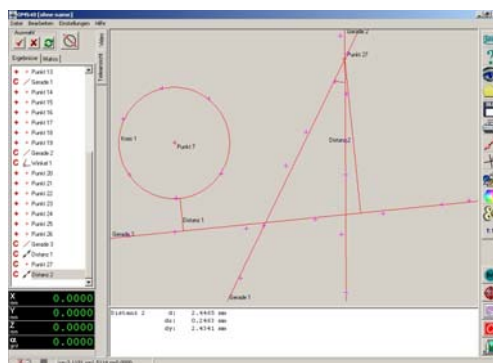
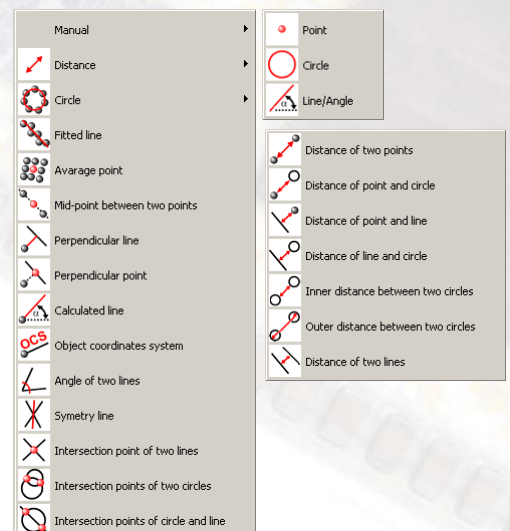


Measuring Software System UHL OMS Complete system for 3 axes

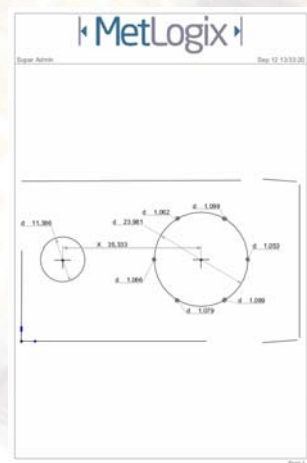
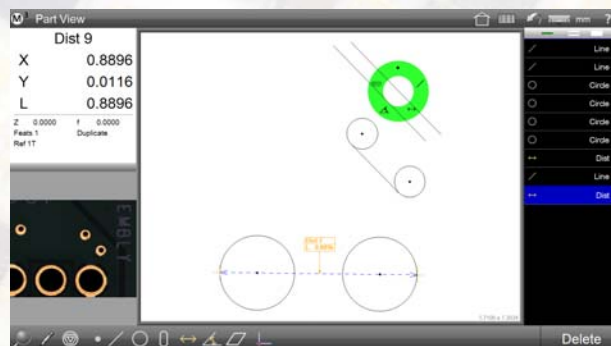
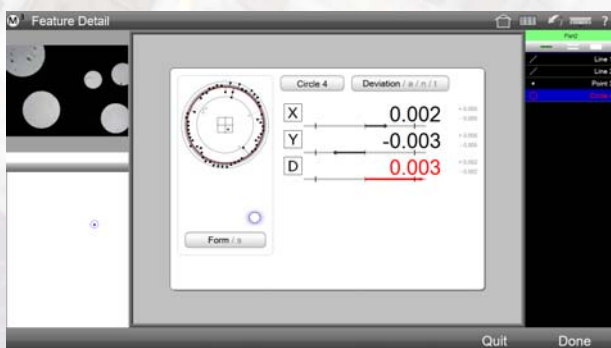
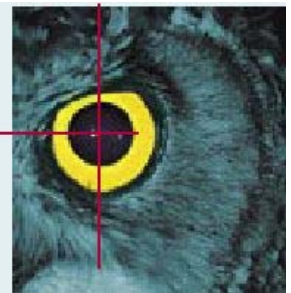
Order No. **VM4-OMS**

consisting of following components:

- 1 Desktop-PC with a 19 " TFT monitor
- 1 Software Package OMS
- 1 3-axis stepper motor control system with Joystick
- 2 Cold light sources, remote controlled
- 1 High resolution color camera



Motorized Main Units



Circle	X	Y	Z	R	D	F	Phi	Deviation	Form	Feature	Feature	Feature
Circle 1	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002
Circle 2	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002
Circle 3	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002
Circle 4	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002
Circle 5	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002
Circle 6	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002
Circle 7	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002
Circle 8	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002
Circle 9	137.9606	11.6933	92.4814	0.2678	0.5306	0.0029	23	0.002	0.002	0.002	0.002	0.002

Metlogix M3

- comes with following standard functions:

- Intelligent imaging functions to measure regular 2D geometry elements
- Combinations and relations from measured elements
- Leveling and alignment functions
- Part programs
- Tolerance evaluation according to Din/ISO
- Multiple coordinate systems
- Multilingual
- Data export and printout with graphic
- Dimensioning of the part view
- Image export with/without measuring result
- DXF module to compare the measurements with the drawing, good/bad evaluation
- Light control
- Optimal edge detection by „Measure Logic“ or active/fixed crosshair

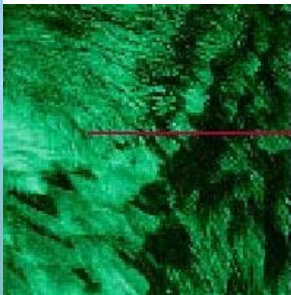
Measuring software system Metlogix M3 Complete system for 3 axes

Order No. VM4-M3

consisting of following components:

- 1 All-In-One PC with touchscreen and the software Metlogix M3
- 1 Motion controller for 3 axes
- 2 Cold light sources, remote controlled
- 1 High resolution color camera





Accessories

UHL Measuring Microscope with Binocular Measuring Tube

A video camera with C-mount connector can be assembled when using one of the following adaptors.

C-Mount Adapter with 1.2x magnification

Order No. **VM4-410**

consisting of following components:

1 Video adapter with 1.2x magnification	VM4-400
1 C-Mount camera connecting piece	VM4-402

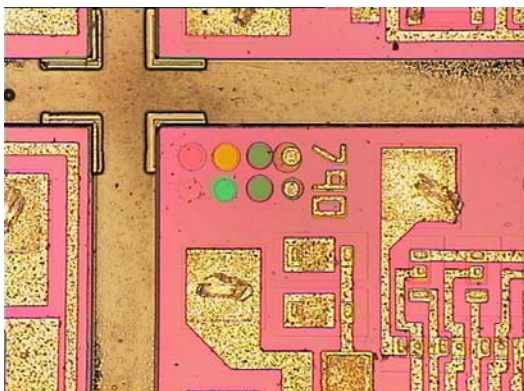


C-Mount Adapter with integrated magnification changer

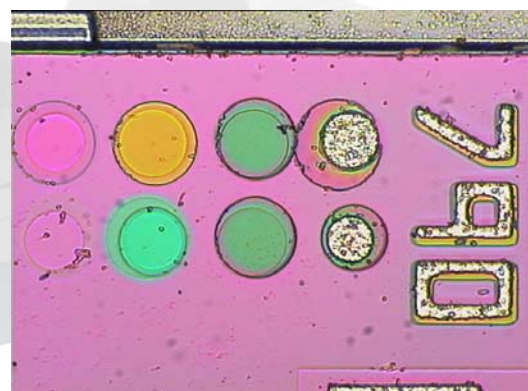
Order No. **VM4-411**

consisting of following components:

1 Video adapter with integrated magnification changer 0.4x / 1.2x, suitable only for 1/2" cameras	VM4-401
1 C-Mount camera connecting piece	VM4-402

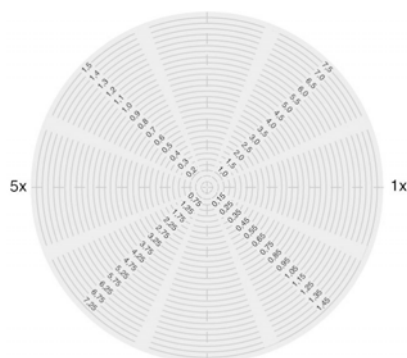
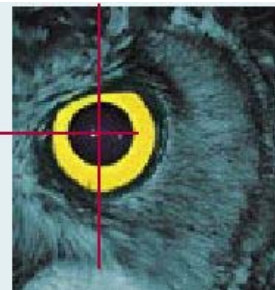


- Semiconductor, bright-field, 20x Plan-Fluor with video adapter 0.4x.



- Semiconductor, bright-field, 20x Plan-Fluor with video adapter 1.2x.





Field insert with crosshair and concentric circles

Order No. **VM4-304**

Crosshair 90° with 2 additional lines $\pm 60^\circ$ as well as each 2 sets of 30 concentric circles

Usable in conjunction with binocular measuring tube VM4-300

Total magnification	Diameter	Increments
10x	0.25 to 7.50 mm	0.250 mm
20x	0.25 to 3.75 mm	0.125 mm
50x	0.05 to 1.50 mm	0.050 mm
100x	0.05 to 0.75 mm	0.025 mm



Angle measuring insert with digital measuring system

Order No. **VM4-302**

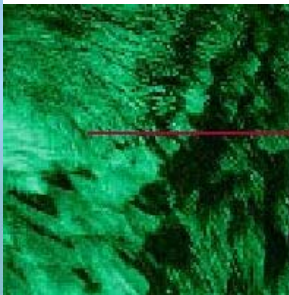
Rotatable crosshair combined with opto-electronic measuring system, based on an incremental-scale, usable in conjunction with binocular measuring tube VM4-300

Illumination Unit for Oblique Incident Light

Order No. **VM4-503**

Suitable for measuring objectives 1:1 to 10:1, with dual arm fibre optic light guide, swivel holder $\pm 45^\circ$ around the optical axis, cold light source VMP-GL





Accessories

Ring Light - Illumination Unit

Order No. **VM4-506**

Suitable for all OP1-M measuring objectives, with one fibre optic light guide.

For use in connection with cold light source VMP-GL or VMP-GLL.

add-on devices:

Set of polarisation filters **RL2.09**

Diffusor **RL2.10**

Segment aperture **RL2.11**



Manual Cold Light Source

Order No. **VMP-GL**

Manually-adjustable with reflective halogen lamp 12V 30 W, and stepless brightness control

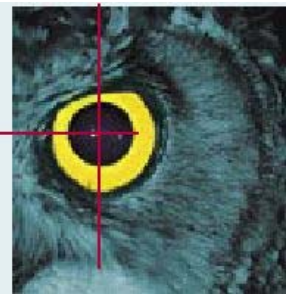


Automatic LED Cold Light Source

Order No. **VMP-GLL**

Hand- or computer-driven (by USB), approx. 640 lumen, stepless brightness control





4 Segment LED Ring Light - Illumination Unit

Order No. **VM4-508Q**

Suitable for all OP1-M measuring objectives, with power supply and intensity control, 40 LEDs



4 Segment LED Ring Light - Illumination Unit

Order No. **VM4-509**

Suitable for all OP1-M measuring objectives, with power supply and intensity control, 80 LEDs

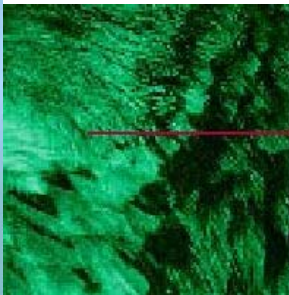


4 Segment LED Ring Light - Illumination Unit remote controlled

Order No. **VM4-507**

Suitable for all OP1-M measuring objectives, with power supply and intensity control, remote control unit for IMS/OMS software via USB/RS232





Accessories

Measuring objectives

Telecentrical measuring objectives of highest quality *designed by LEICA*, perfectly corrected, plane and distortionless images allowing a definable and precise edge detection.

Large working distances for measuring test objects e.g. disturbance edges or in bore holes.

Easily and quickly changeable secured fixing via the bayonet mount.



Lens magnification	Total magnification	Object-field diameter	Numerical aperture	Free-working distance	Sharpness depth	~ Probing accuracy	Order-No.
1 : 1	10-fold	20 mm	0,03	88	0,3	5	OP1-M01
2 : 1	20-fold	10 mm	0,06	85	0,08	3	OP1-M02*
5 : 1	50-fold	4 mm	0,13	62	0,02	1.5	OP1-M05
10 : 1	100-fold	2 mm	0,20	52	0,01	1	OP1-M10
20 : 1	200-fold	1 mm	0,35	30	0,002	1	OP1-M20

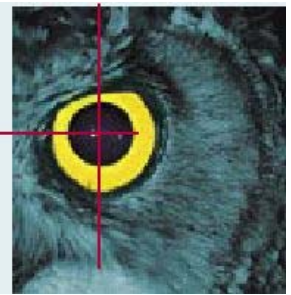
* Measuring objective 2:1 included in basic version of UHL Measuring Microscope VMM 300.

Single bayonet mount for micro objectives

Order No. **VM4-308**

Adapter for micro objectives 1.25:1 to 150:1, suitable for coaxial incident light and transmitted light (without coaxial dark-field incident light)





* Reduces the maximum specimen height to 135 mm

Micro Optical Attachment for 6 micro objectives*

Order No. **VM4-310**

consisting of:

1 Base body with changer for 6 micro objectives Plan Fluor 1.25:1 to 150:1

VM4-306

1 Fibre optic light guide

GF7

1 Triple illumination module (assembled in base body) for coaxial incident light (bright-field and dark-field)

VM4-307

1 Polarisation insert

VM4-363

optional: motor driven

VM4-310M

Micro Optical Attachment for 6 micro objectives and image viewing with polarised light as well as differential interference contrast (DIC)*

Order No. **VM4-311**

consisting of:

1 Base body with changer for 6 micro objectives Plan Fluor 1.25:1 to 150:1

VM4-306

1 Fibre optic light guide

GF7

1 Triple illumination module (assembled in base body) for coaxial incident light (bright-field and dark-field)

VM4-307

1 Polarisation insert

VM4-363

1 Plug-in unit for differential interference contrast (DIC) with adjustable Wollaston-Prism

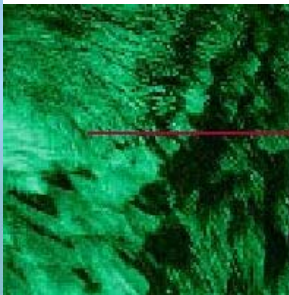
VM4-364

optional: motor driven

VM4-311M



* Reduces the maximum specimen height to 135 mm



Accessories



Micro Objectives OLYMPUS Plan Fluor for image viewing with and without polarised light as well as differential interference contrast (DIC)

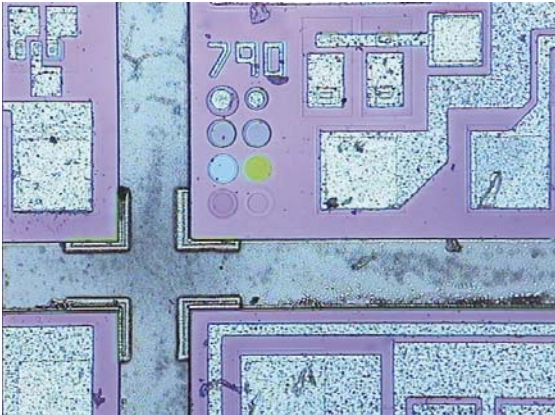
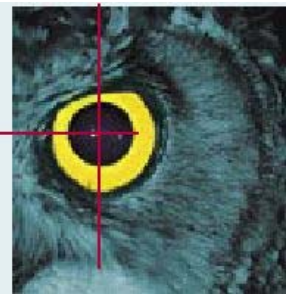
Suitable for both transmitted light and coaxial incident light; for use with the micro optical attachment VM4-311, and additionally usable in conjunction with the single bayonet mount VM4-308, or the micro optical attachment VM4-310. Objectives suitable for differential interference contrast are marked with „IK“ on the engraving.

Lens magnification	Total magnification	Field of view diameter	Numerical aperture	Free-working distance	Depth of focus (µm)	~ Probing accuracy	Order-No.
1.25 : 1	20 x	14.4 mm	0.04	3.5	170	5	OP1-LO001*
2.5 : 1	20 x	7.2 mm	0.08	10.7	43	3	OP1-LO002*
5 : 1	50 x	3.6 mm	0.13	15.0	16	1.5	OP1-LO005
10 : 1	100 x	1.8 mm	0.25	10.0	5	1	OP1-LO010
20 : 1	200 x	0.9 mm	0.4	12.0	2	1	OP1-LO020
50 : 1	500 x	0.36 mm	0.5	10.60	1	0.5	OP1-LO050
100 : 1	1000 x	0.18 mm	0.8	3.40	0.5	0.3	OP1-LO100
150 : 1	1500 x	0.12 mm	0.9	1.0	0.4	0.2	OP1-LO150

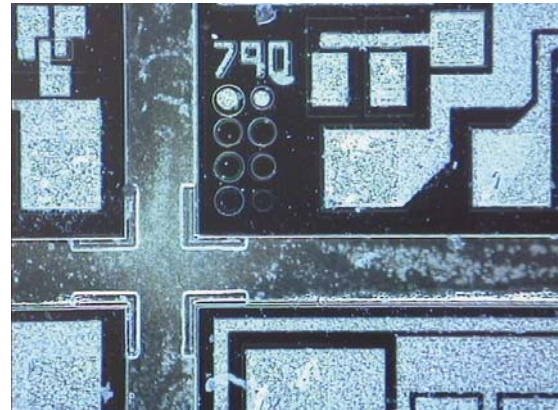
* not suitable for differential interference contrast



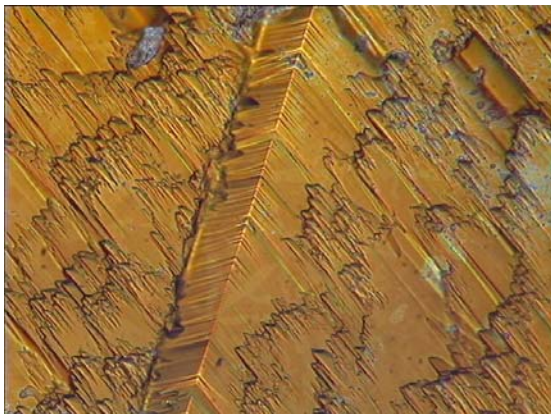
Accessories



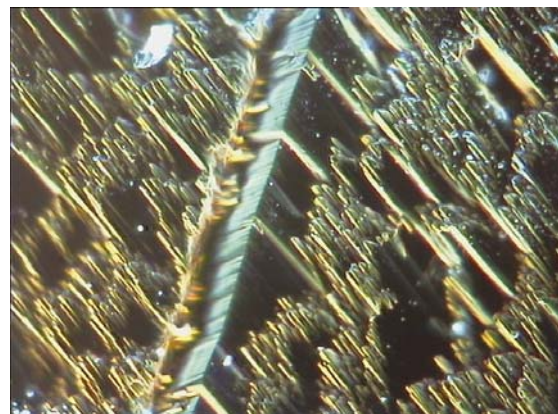
• Semiconductor, bright-field, 20x Plan-Fluor.



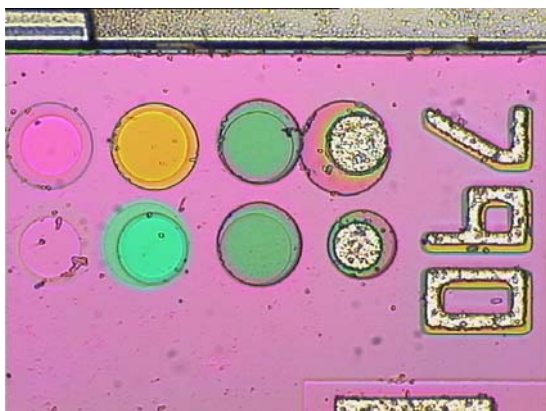
• Semiconductor, dark-field, 20x Plan-Fluor.



• Solar cell, bright-field, 50x Plan-Fluor.



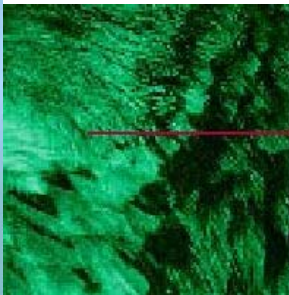
• Solar cell, dark-field, 50x Plan-Fluor.



• Semiconductor, bright-field, 50x Plan-Fluor.



• Halbleiter, bright-field with differential interference contrast DIC, 50x Plan-Fluor.



Accessories

Micro Optical Attachment for 4 micro objektives with extra long working distance*

Order No. **VM4-312**

Revolving attachment for 4 micro objektives 2.5:1 to 100:1



* Reduces the maximum specimen height to 125 mm



Apochromatic incident light objektives with extra long working distances, parfocalizing length 95 mm, RMS thread

Lens magnification	Total magnification	Field of view diameter	Numerical aperture	Free-working distance	Depth of focus (μm)	~ Probing accuracy	Order-No.
2 : 1	20x	9 mm	0,06	35,6	76	5	OP1-VX02
5 : 1	50x	3,6 mm	0,14	35	14	3	OP1-VX05
10 : 1	100x	1,8 mm	0,28	35	4	1.5	OP1-VX10
20 : 1	200x	0,9 mm	0,42	20,2	2	1	OP1-VX20
50 : 1	500x	0,36 mm	0,55	13,1	1	1	OP1-VX50
100 : 1	1000x	0,18 mm	0.52	14,1	1	0.5	OP1-VX99

Ring Light - Illumination Unit

Order No. **MS3-504**

Suitable for all OP1-VX objektives, with one fibre optic light guide.

For use in connection with cold light source VMP-GL or VMP-GLL.





LED Ring Light - Illumination Unit



Order No. RL8-LED

Suitable for all OP1-VX objectives,
8 LEDs

related power supplies:

Transformer with power supply

TR7-N

Transformer with power supply,
remote controlled

TR7-NS

USB digital color camera



Order-No. VM4-USB

Digital camera for the c-mount
adapters VM4-410/411 (not included)
to store images or view live picture.

Resolution of the CMOS-sensor:
1280x1024 pixel

USB 2.0 interface

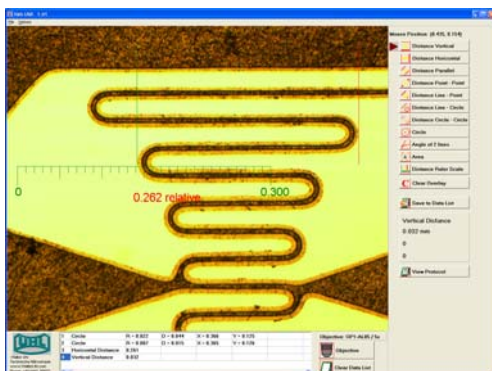
incl. PC-software for the image acquisition

Optional:

VMS-USB

Easy software to measure samples in the
video image, movable video scale with
distance measurement, images can be
watermarked and saved with a comment.

VMS is available in german or english.



A special design using parts of our component system is possible at any time:

Special design of a wafer inspection microscope with integrated imaging system, matrix-code reader and white-light interferometer for the geometric measurement of laser marks. Measuring range 420 x 300 mm. The depth measurement of the laser marks has a measuring accuracy of ± 50 nm.



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Specifications are about to change without notice!



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