



MICROSCOPY

IMM

902



metken[®]
Technology behind Specimen

20
YEARS

IMM[®]

902



IMM 902 is purposely designed for metallographic applications, combining a sturdy but compact structure with dedicated components for this industry, including IOS metallographic 5x, 10x, 20x and 50x objectives, working in absence of cover slide for processing large and heavy samples.

IMM 902

The new IMM 902 Inverted Metallurgical Microscope provides a more comfortable user experience with its compact and ergonomic design. IMM 902 is suitable for bright field and simple polarizing observations. Its compact design with sturdy, robust construction, and high performance optics, make it an ideal solution for the examination and analysis of metals and metal alloys.

The IMM 902 is made of sturdy, robust Dye-cast frame, with high stability and ergonomics, for reflected light observation. A particularly simple and ingenious optical design allows stable alignments and smooth and accurate movements.

High performance optics guarantee excellent image contrast and resolution. Observe even the most complex samples with Infinity-Corrected IOS optics. High quality dry objectives guarantee an excellent image even at high magnifications. Extra-wide field eyepiece 10x/22 mm ensures easy and ergonomic observation of the image.

The large mechanical stage with 247 x 230 mm travel with right hand coaxial drop-down controls can easily accommodate wide and tall components.



Focusing



Nosepiece 5 positions, with bidirectional rotation on ball bearings are adjusted vertically for focusing samples.

Coaxial coarse and fine focusing mechanism with limit stop to prevent the contact between objective and specimen. Adjustable tension of coarse focusing knob.

INTUITIVE, EASY USE FOR ALL LEVELS OF EXPERIENCE

- » Ergonomic controls for fast and efficient investigations
- » Excellent optics with high numerical aperture for brilliant images
- » Compact footprint to save space

FAST, EFFICIENT INVESTIGATIONS

- » Easy to use aperture diaphragm to adjust your brightfield view
- » Bright images also with light-demanding techniques as phase contrast

DESIGNED TO FACILITATE YOUR DAILY ROUTINE

- » Easy set-up of phase contrast with pre-centered slider
- » Contemporary ergonomic design

EXTEND YOUR COMFORT WITH OPTIONAL ACCESSORIES

- » Mechanical stage with X-Y translation
- » More space on the stage with load-bearing side extensions

EXCELLENT CONTRAST & RESOLUTION

- » Comprehensive range of objectives for extended versatility
- » Full chromatic correction and field planarity for 22mm field
- » Enhanced image quality, high contrast and brightness

OBSERVE EVEN THE MOST COMPLEX SAMPLES

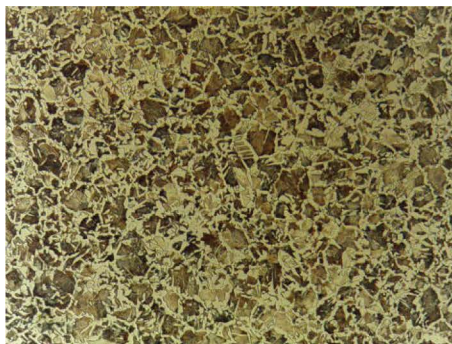
- » Equipped with Infinity-Corrected IOS optics
- » High-quality dry objectives for metallographic applications

EASY INTEGRATION WITH DIGITAL WORLD

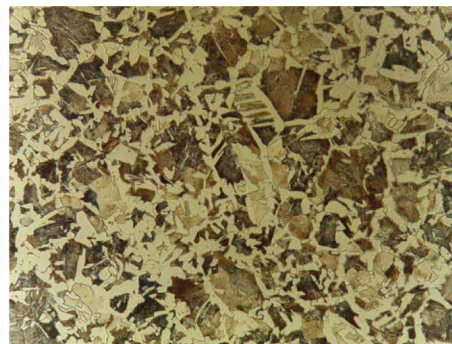
- » Trinocular head with photo ports, activated with a touch of a lever
- » Complete range of adapters for all kinds of camera

SOFTWARE TO SIMPLIFY YOUR WORKFLOW

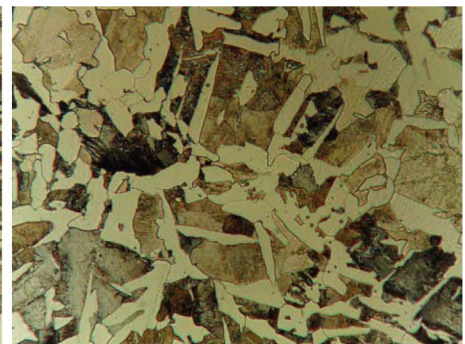
- » Effective image capturing and live videos
- » Get fast, user-friendly, high resolution imaging
- » Annotate your images and measure distances



100x, AISI 1040 Carbon Steel



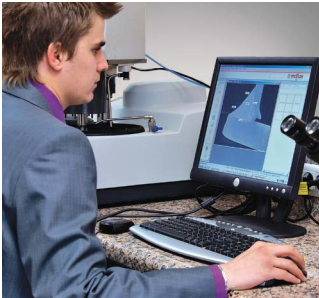
200x, AISI 1040 Carbon Steel



500x, AISI 1040 Carbon Steel

Part	Description
Objectives	Infinity corrected optical system IOS (Infinity Optical System). Plan-achromatic LWD objectives infinity corrected, made by following objectives: - Plan-achromatic IOS 5X LWD, N.A. 0,15, W.D. 10,8 mm - Plan-achromatic IOS 10X LWD, N.A. 0,3, W.D. 10 mm - Plan-achromatic IOS 20x LWD, N.A. 0,45, W.D. 4 mm - Plan-achromatic IOS 50X LWD, N.A. 0,55, W.D. 7,9 mm All objectives are treated with an anti-fungus treatment.
Diaphragms	Field and aperture diaphragms (centrable).
Illumination	12V/50W halogen bulb in external case. Centrable bulb and brightness control on left side of the frame.
Filtersets	Polarizer filter, rotatable analyzer filter, blue and green filter.

IMAGE ANALYSIS



MESURA 200

Image Capture
Image Archiving
Image Enhancement
Calibration
Interactive Measurement
Phase Content Analysis
Annotation
Report Generation
Direct Transfer to Excel

GRANO 200

Image Capture, Save & Calibration
Grain size determination in accordance with ASTM E112 and EN ISO 643
Instant detection of Grain boundaries
Direct transfer to Excel

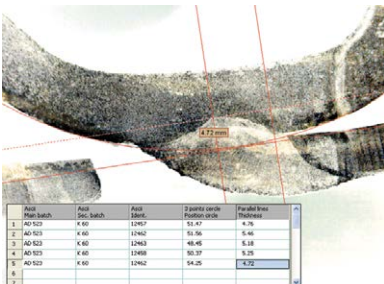
NODULA 200

Image Capture, Save & Calibration
Automatic detection and coloring of Graphite Nodules.
Cast iron analysis according to EN ISO 945 including nodularity
Ferrite/Pearlite fractions etc.
Report Generation
Direct transfer to Excel

MESURA 200

IMAGIN MESURA 200 allows you to view the live microscope image, compare it with stored images and if necessary save it to the system. Several databases can be created according to the customers, projects, materials or specimens.

IMAGIN MESURA 200 has several measurement tools for performing manual measurements of lines, curves, angles, areas etc. after which they can be saved and archived. Many application areas exist like "Weld Assessments, Macro analysis, PCB component measurements etc.



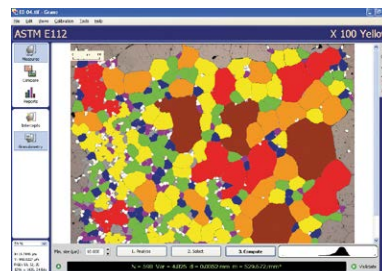
With 'Annotation' facility, it is possible to add comments, graphics, arrows etc. directly on the image allowing you to label specific areas of interest.

IMAGIN MESURA 200 allows you to design your own template or select one of METKON's standard templates for "Report Generation" where the text and images are automatically placed. When required, it is also possible to transfer data directly to Excel for further processing.

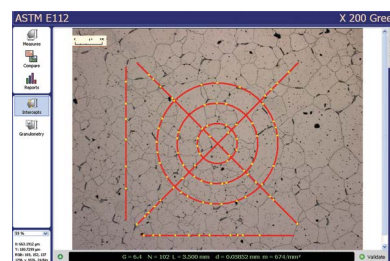
GRANO 200

Customer requirements for imaging applications increase in parallel to the complexity of material applications in research field as well as in industry.

IMAGIN GRANO module has been designed for automatic measurement of grain size according to ASTM E112 and EN ISO 643. Firstly, the grain boundaries are detected after which the grain size can be calculated in different ways;

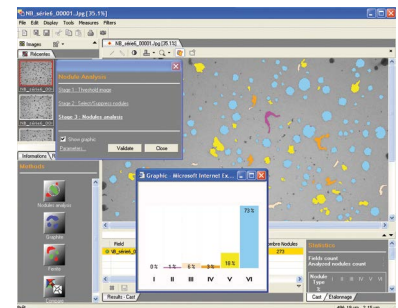


"Intercept Method" counts the number of intersection in each field and the grain size is calculated by Abrams 3-circle or Linear Equations. "Area Method" determines the size of each individual grain by area after which the grains are categorized for the calculation of fractions.



NODULA 200

IMAGIN Modular Imaging System offers flexibility to the customer to select and build his own system according to his individual needs. More modules can be added at any time when needs grow.



IMAGIN NODULA 200 module is designed for the analysis of graphite in cast irons especially in Ductile and Gray Iron Foundries and Quality Control Labs. Nodularity assessment is made by percent count and nodules proportion. It is also possible to measure "Area percent ferrite, Area percent graphite and Area percent Pearlite". Archiving of all images with calibration and generating Reports creates an additional advantage to increase productivity and repeatability.

Statistics

Fields count : 3
Analyzed nodules count : 819

Nodule Type	I	II	III	IV	V	VI
%	0	1	6	3	18	73

Details

Class	1	2	3	4	5	6	7	8
%	0	0	0	0	0	7	32	61

Details

Max Nodule diameter type VI. (mm) : 0.035
Max. fiber length (mm) : 0.059
Nodule Density (/mm²) : 653.1
Surface Density % : 10.3
% Ferrite : 83.0
% Graphite : 10.0
% Pearlite : 7.0
% Ferrite/Matrix : 92.2
% Pearlite/Matrix : 7.8
% Ferrite/Pearlite : 1185.7

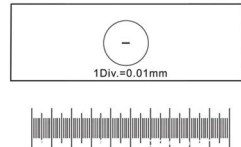
ACCESSORIES

Eyepiece



62 42 for IMM 902

Micrometric slide



60 41 for IMM 902

Objective



60 55 for IMM 902

Eyepiece micrometer



62 53 for IMM 902

Mechanical Stage



60 45 for IMM 902

Holder for metallurgical samples(15 mm hole)



60 25 for IMM 902

Photo Adapter for IMAGIN HARDWARE SET



60 75 for IMM 902

Special protective dust cover

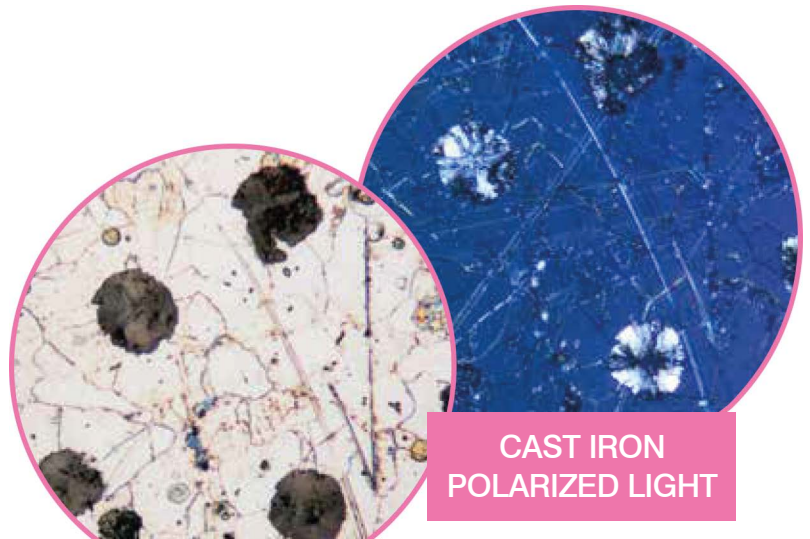


60 67 for IMM 902

Halogen bulb, 12V/50W



60 65 for IMM 902



CAST IRON
BRIGHTFIELD

CAST IRON
POLARIZED LIGHT

Specifications

Objective	N.A.	W.D. (mm)	10x		15x	
Field number (mm)			22		16	
Objective	N.A.	W.D. (mm)	Total magnification	Field of view (mm)	Total magnification	Field of view (mm)
5x	0.15	10.80	50x	4.40	75x	3.20
10x	0.30	10	100x	2.20	150x	1.60
20x	0.45	4	200x	1.10	300x	0.80
50x	0.55	7.90	500x	0.44	750x	0.32
100x	0.80	2	1000x	0.22	1500x	0.16

Order No	: 60 05
Head	: Trinocular, 45° inclined.
Eyepieces	: WF10x/22mm.
Nosepiece	: 5-positions.
Objectives	: 5x/0.15, 10x/0.3, 20x/0.45, 50x/0.55.
Magnifications	: 50x, 100x, 200x, 500x.
Focusing system	: Coaxial coarse and fine.
Stage	: 250x230mm; mechanical stage with lowered ergonomic coaxial controls.
X-Y range	: 120x80mm.
Diaphragms	: Diaphragms: Field and aperture diaphragms (centrable).
Illumination	: 12V/50W halogen bulb in external case. Centrable bulb and brightness control.
Filters	: Blue, polarizer & analyzer

Order no:

60 25	Holder for metallurgical samples(15 mm hole)
60 45	Mechanical stage, IMM 902
62 42	Eyepiece WF15x/16mm
62 53	Eyepiece micrometer EWF10x/22mm
60 41	26x76mm micrometric slide. R:1mm, div:0,01mm
61 55	Objective 100x/0,80
60 55	Objective 100x/0,80
60 75	Photo adapter for IMAGINE HARDWARE SET
60 65	12V/50W halogen bulb
60 67	Special protective dust cover, IMM 902

* Other voltages and frequencies available upon request.
Please state when ordering.
All specifications are subject to change without notice.



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