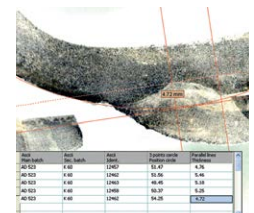




## MICROSCOPY & IMAGE ANALYSIS

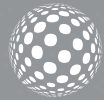
# IMAGIN







# IMAGIN



## 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,
- Image Archiving
- Calibration
- Grain size determination in accordance with ASTM E112 and EN ISO 643
- Instant detection of Grain boundaries
- Direct transfer to Excel

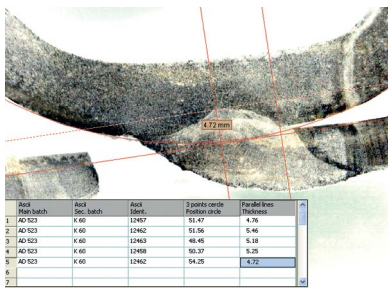
## NODULA 200

- Image Capture
- Image Archiving
- 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.



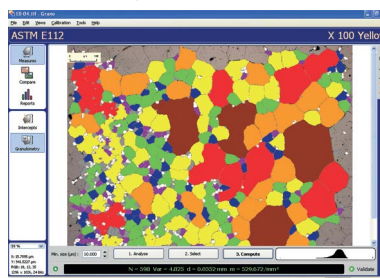
With 'Annotation' facility, it is possible to add comments, graphics, arrows etc. directly on the image allowing you to label specific areas of interest.

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.

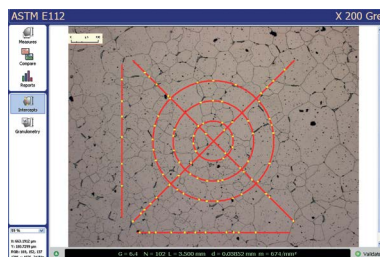
## GRANO 200

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;

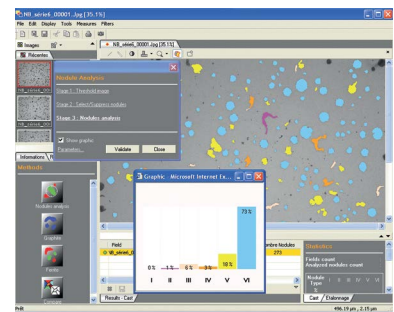


"Intercept Method" counts the number of intersection in each field and the grain size is calculated by Abrams 3-circle or Linear Equations. "Area Method" determines the size of each individual grain by area after which the grains are categorized for the calculation of fractions.



## 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.

## UPM 902 Upright Metallurgical Microscope

### Observation mode:

- Brightfield on transmitted light
- Brightfield
- Simple polarized light
- Oblique illumination on incident light

**Epi-illumination:** X-LED with white 8 W LED (6.300 K) with brightness control. With aperture and field diaphragms, and oblique illumination system.

**Head:** Trinocular (fixed 50/50), 30° inclined, 360° rotating.

**Interpupillary distance:** Adjustable between 50 and 75 mm.

**Dioptric adjustment:** On the left eyepiece tube.

**Eyepieces:** WF10x/22 mm, high eye-point and with rubber cups.

**Nosepiece:** 5-position revolving nosepiece, rotation on ball bearings.

### Objectives (strain-free):

IOS W-PLAN MET 5x/0.12

IOS W-PLAN MET 10x/0.25

IOS W-PLAN MET 20x/0.40

IOS W-PLAN MET 50x/0.75

**Specimen stage:** Double layer rackless mechanical stage, 233x147 mm, 78x54 mm X-Y range. With tempered glass plate.

**Focusing:** Coaxial coarse (adjustable tension) and fine focusing mechanism

**Dimensions:** Height (mm) 505

Width (mm) 270

Depth (mm) 550

**Weight:** 12.5 kg

### Order No:

**60 04**

**62 40** Ergonomic binocular head 30°-60°

**62 41** Eyepiece EWF10x/22mm

**62 42** Eyepiece WF15x/16mm

**62 43** Eyepiece micrometer EWF10X/22mm

**60 41** 26x76mm micrometric slide. R:1mm, div:0,01mm

**60 74** Photo adapter for IMAGINE HARDWARE SET

0.5x focusable



## IMM 902 Inverted Metallurgical Microscope

**Observation mode:** Brightfield, simple polarized light on incident light.

**Epi-illumination:** Halogen 12 V/50 W with brightness control. With aperture and field (centreable) diaphragms.

**Head:** Trinocular (2-position 100/0, 50/50), 45° inclined.

**Interpupillary distance:** Adjustable between 50 and 75 mm.

**Dioptric adjustment:** On the left eyepiece tube.

**Eyepieces:** WF10x/22 mm, high eye-point

**Nosepiece:** 5-positions revolving nosepiece, rotation on ball bearings.

### Objectives:

IOS LWD U-PLAN MET 5x/0.15

IOS LWD U-PLAN MET 10x/0.30

IOS LWD U-PLAN MET 20x/0.45

IOS LWD U-PLAN MET 50x/0.55

All with anti-fungus treatment.

**Specimen stage:** Fixed stage, 250x160 mm, with metal stage insert.

**Focusing:** Coaxial coarse (adjustable tension) and fine focusing mechanism.

**Dimensions:** Height (mm) 39

Width (mm) 230

Depth (mm) 680

**Weight:** 9 kg

### Order no:

**60 05**

**60 25** Holder for metallurgical samples(15 mm hole)

**60 45** Mechanical stage, IMM 902

**62 42** Eyepiece WF15x/16mm

**62 53** Eyepiece micrometer PL10x/22mm

**60 41** 26x76mm micrometric slide. R:1mm, div:0,01mm

**60 55** Objective 100x/0,80 (dry)

**60 74** Photo adapter for IMAGINE HARDWARE SET,

0.5x focusable

**60 65** 12V/50W halogen bulb



## PST 901-S Trinocular Stereo Zoom Microscope



PST 901 Trinocular Stereo Zoom Microscope

**Optical System:** Greenough

**Head:** Trinocular 45° inclined, 360° rotatable

**Stand:** Large stand, pillar type, coaxial macro & micro focusing knobs

**Eyepieces:** WF10x/22mm, high-point

**Objective:** Zoom 0,67x ...4,5x

**Working Distance:** 100 mm.

**Photo/Video Beam Splitter:** 1 port

**Illumination:** Ring light LED illuminator, with continuous and external brightness control. Complete with dust cover

Automatic voltage sensing, 100/240 Vac, 50/60 Hz.

**Order No:** 60 08

**62 75** Eyepiece (pair) WF15x/16 mm, with dioptic adjustment & rubber cup

**62 76** Eyepiece (pair) WF20x/12 mm, with dioptic adjustment & rubber cup

**62 77** Micrometric eyepiece WF10x/22 mm, with dioptic adjustment & rubber cup

**61 74** Additional Lens 0,3x

**61 75** Additional Lens 0,5x

**61 76** Additional Lens 2x

**60 77** Photo adapter for IMAGINE HARDWARE SET, 0.5x focusable

**60 70** Special protective glass, PST 901-S

**60 66** Cleaning kit

## PST 902 Trinocular Stereo Zoom Microscope



**Head:** Binocular, 360° rotating on all stands and 30° inclined.

**Interpupillary distance:** Adjustable between 52 and 75 mm.

**Dioptic adjustment:** On both eyepieces.

**Working distance:** 80mm (with 1x objective)

**Eyepieces:** WF10x/24 mm, high eye-point.

**Body:** Parfocal achromatic zoom 0.8x...6.4x [zoom factor 8:1].

**Zoom positioning:** By click-stop mechanism

**Objective lens:** Plan Achromatic 1x.

**Stand:** Large plain stand, fixed arm type, with LED illumination, coaxial coarse and fine focusing knobs

**Optical system:** Galilean [Parallel, infinity corrected].

**Dimensions:** Height (mm) 600 (at highest point), (mm) 500 (at lowest point)

Width (mm) 330

Depth (mm) 290

**Weight:** 8 kg

**Order no:** 60 07

**62 71** Eyepiece (pair) WF15x/16 mm, with dioptic adjustment & rubber cup

**62 72** Eyepiece (pair) WF20x/12 mm, with dioptic adjustment & rubber cup

**62 73** Micrometric eyepiece WF10x/24 mm, with dioptic adjustment & rubber cup

**61 71** Objective 0,3x(w.d. 280mm)

**61 72** Objective 0,5x(w.d. 118mm)

**61 73** Objective 2x(w.d. 32,5mm)

**60 76** Photo adapter for IMAGINE HARDWARE SET, 0.5x focusable

**60 69** Special protective glass, PST 902

**60 66** Cleaning kit

# IPP 902 Polarization Laboratory Microscope

**Observation mode:** Brightfield, transmitted/incident polarized light and conoscopy.

**Epi-illumination and filters:** X-LED with white 8 W LED (6.300 K) with brightness control. With polarizer and rotating analyzer for incident illumination, aperture and field diaphragm. With additional filter holder.

**Bertrand lens and polarizing attachment:** Swing-out type with centering mechanism for observation in conoscopy/orthoscopy. Rotatable analyzer from 0° to 90° with graduated scale.

**Tint plates:** 1° order red (); /4; Quartz wedge.

**Head:** Trinocular (fixed 50/50), 30° inclined, 360° rotating.

**Interpupillary distance:** Adjustable between 50 and 75 mm.

**Dioptric adjustment:** On the left eyepiece tube.

**Eyepieces:** WF10x/22 mm, high eye-point and with rubber cups. One with crosshair.

**Nosepiece:** 4-Positions revolving nosepiece, rotation on ball bearings. Centering system for each objective.

**Objectives (strain-free):**

IOS LWD W-PLAN POL 5x/0.12, W.D. 15.5 mm

IOS LWD W-PLAN POL 10x/0.25, W.D. 10.0 mm

IOS LWD W-PLAN POL 20x/0.40, W.D. 5.8 mm

IOS LWD W-PLAN POL 50x/0.75, W.D. 0.32 mm

All with anti-fungus treatment.

**Specimen stage:** Rotatable stage with locking mechanism and centering knobs. Vernier scale with accuracy 0.1 mm. Diameter 145 mm. Specimen slide clamps.

**Dimensions:** Height [mm] 505

Width [mm] 270

Depth [mm] 550

**Weight:** 12.5 kg



**Order No:**

**60 06**

**62 42**

Eyepiece WF15x/16mm

**62 43**

Eyepiece micrometer EWF10x/22mm

**60 41**

26x76mm micrometric slide. R:1mm, div:0,01mm

**60 58**

60x/0.80 achromatic objective

**61 81**

Blue filter, 45mm diameter

**61 82**

Green filter, 45mm diameter

**61 83**

Yellow filter, 45mm diameter

**61 84**

Frosted glass filter, 45mm diameter

**62 60**

Eyecup (pair)

**60 74**

Photo adapter for IMAGINE HARDWARE SET, 0.5x focusable

**60 66**

Cleaning kit

# SPECIFICATIONS

## IMAGIN Hardware Set

CMOS Color Camera, Resolution 5.0 M. Pixels with Interpole Mod USB2 - PC Interface, C Mount - Microscope Interface. Including DUROLINE, IMM or PST adapter according to application.

Order No: 66 10

## IMAGIN MESURA 200

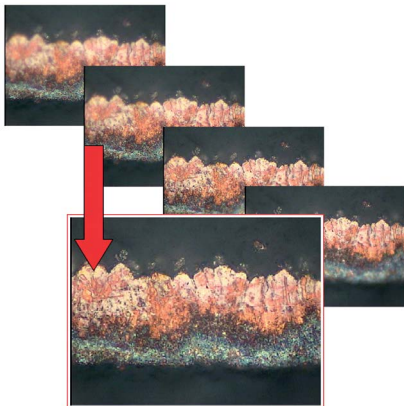
Image capture, Image archiving, Image enhancement, Calibration, measure Length, thickness, width, angle, radius, curve perimeter, area. Multi Image Alignment, Multi Focus Function. Phase content analysis, Add Text & Marker Arrow and Calibration Scale, Image annotation, Image report generator, Automatically measurements and threshold function, Direct transfer to Excel.

Order No: 66 02

## IMAGIN GRANO 200

Image capture, save and calibration, Grain sizing software in compliance with ASTM E1382 / E112 and EN ISO 643, Horizontal, vertical, diagonal or circles interception methods. Instant detection of Grain Boundaries, Powerful report generator, Direct transfer to Excel.

Order No: 66 04



## IMAGIN NODULA 200

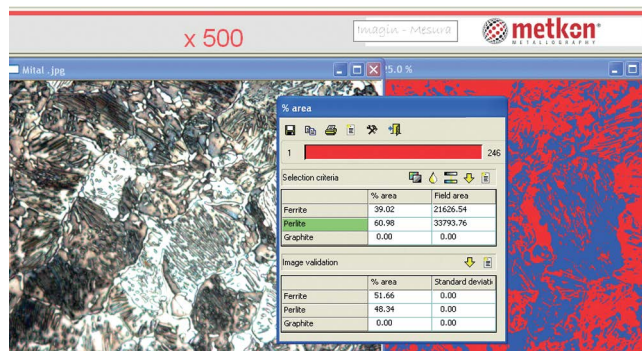
Image capture, save and calibration, Graphite nodules automatically detected and colored with regards to shape and size, Cast iron analysis in compliance with ASTM A247 including nodularity, Ferrite / Perlite fraction. Automatically count Sphericity %, gray iron flakes, calculates percent, graphite and classifies the flakes by size. Powerful report generator, Direct transfer to Excel.

Order No: 66 05

## IMAGIN TRIO

A complete set for image analysis. Including IMAGIN Hardware Set and all software modules (IMAGIN MESURA 200, IMAGIN GRANO 200 ve IMAGIN GRANO 200).

Order No: 66 07



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

