DIGITAL CAMERA FOR MICROSCOPES
CODE ISM-CM63

VIDEO

- To be used with computers
- Sony Exmor back-illuminated CMOS sensor
- USB3.0 transmission
- Automatic exposure, gain adjustment, white balance, chrominance adjustment, saturation adjustment, gamma correction, luminance adjustment, contrast adjustment
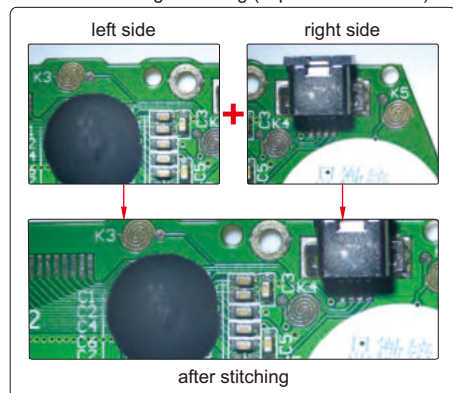
C-mount port

adapter 0.75X (**optional**)

application

automatic image stitching (expand field of view)

left side   right side

+

after stitching

software (included)

selectable resolution

measurement items

real time gray calibration

histogram (quantify the distribution of color and brightness)

black balance (reduce color difference)

flat field correction (reduce brightness difference)

dark field correction (reduce thermal noise)

counting

select counting tool   automatic counting

The software can control image completely, including measurement, image stitching, extend focus depth, image gray processing, RGB histogram observation, image color sampling, 3D plot (3D representation of image intensity), image exposure, white balance, black balance, image bit depth, flat field correction and dark field correction, etc.
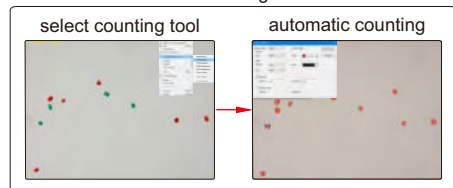
focus stacking

focus on the top   focus on the bottom   clear image of both top and bottom

+
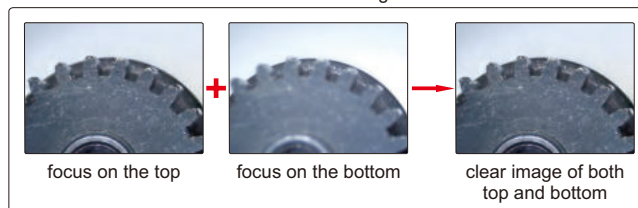
**Measuring tools:**

⊢	measure length of line or distance between two points	▭	measure rectangle
⫻	measure distance between two parallel lines	◎	measure width and diameter of ring
∡	measure angle	⌒	measure diameter, length, perimeter angle of arc
⊙	measure radius, girth and area of circle	⬠	measure area of polygon
⬯	measure axis lengths, girth and area of ellipse	✎	measure center distance between two circles
▦	calibration	⌐	measure length of open curve

Binary
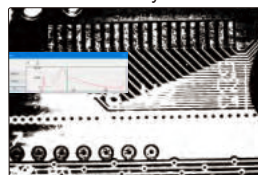
3D plot

separate target and background
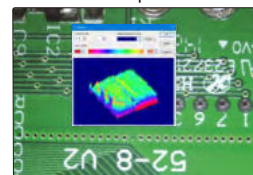
Visualize the distribution of image brightness and color

To be continued

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SPECIFICATION

Sensor (back-up)	1/1.8" CMOS
Resolution	3072×2048
Pixel	6.3M
Single pixel size	2.4×2.4µm
Spectral range	380-650nm (with infrared cut filter)
Frame rate	30fps
Sampling average	1×1
Exposure time	0.1ms~15s
Power supply	USB port
Weight	400g

STANDAER DELIVERY

Camera (USB cable included)	1 pc
Software	1 pc

COMPUTER REQUIREMENT

Operation system	Windows/7/8/10
CPU	Intel Core 2 2.8Hz or above
Memery	2GB or above
USB port	USB3.0 (recommand) or USB2.0
Display	17" or above

OPTIONAL ACCESSORY

Adapter 0.75X	ISM-AD-0D75

SMART CAMERA
CODE ISM-MV10
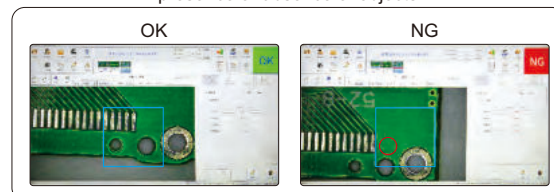
HDMI port
Power
USB port
I/O port

VIDEO
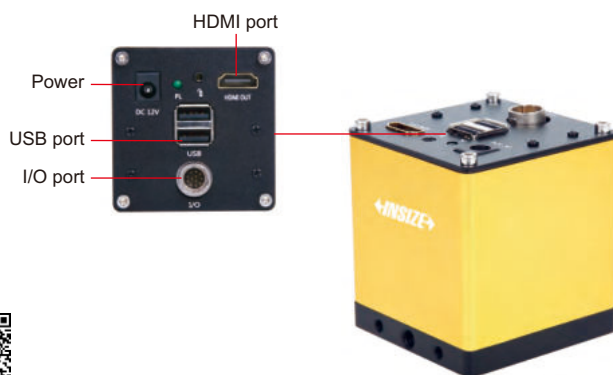
- Built-in software, operated by mouse.
- Automatically calculate, store the test results and export to Excel.
- Camera with PLC control input and output interface, can be integrated with automation equipment.
- Functions: presence or absence of objects, position tilt correction, object counting, color detection, stain detection, dimension measurement, position guide, etc.
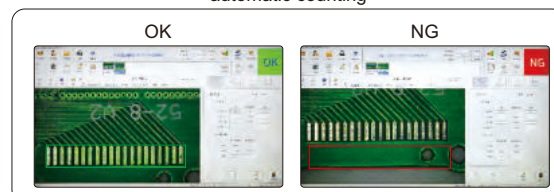
SOFTWARE

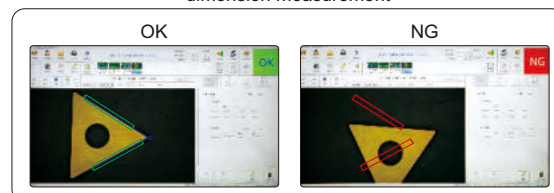presence or absence of objects

OK   NG

select the area and specify the target, the camera will automatically detect the presence or absence of the target.

automatic counting

OK   NG

select the area and specify the target,
the camera will automatically calculate the number of targets.

dimension measurement

OK   NG

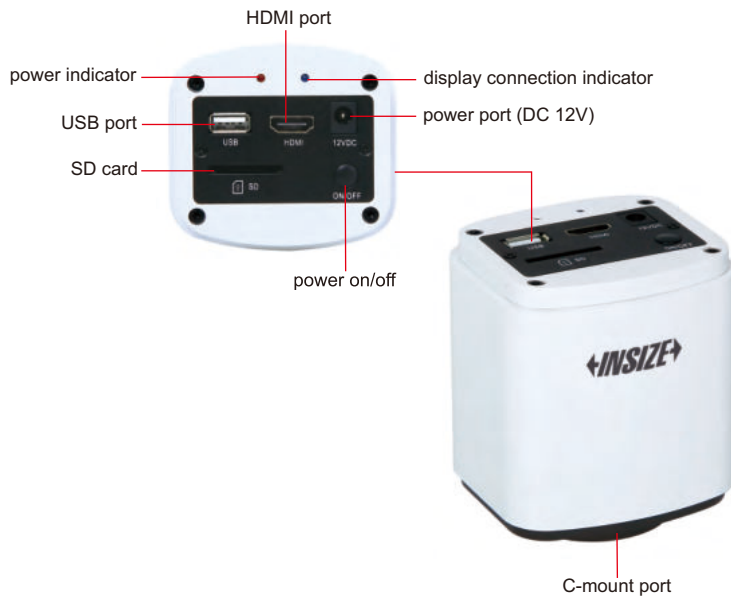measuring angle, distance, radius, center distance, etc.

SPECIFICATION

Chip structure	FPGA+ARM
Opreating system	Linux 3.10
Kernel structure	dual-core Cortex-A9
Frequency	1GHZ
I/O port	3 sets of input and output (can be connected to photoelectric switch, wire switch, PLC, etc.)
Working temperature	-10~70°C
Sensor	1/2" CMOS
Single pixel size	3.75×3.75µm
Resolution	1920×1080
Frame rate	60fps
Video output	HDMI port
Lens connection	standard C port

STANDAER DELIVERY

Camera (with HDMI cable)	1 pc
Software	1 pc

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DIGITAL CAMERA FOR MICROSCOPES
CODE ISM-CM20

ATTENTION: ADAPTERS ARE NEEDED ACCORDING TO MICROSCOPES

FOCUS STACKING

AUTOMATIC IMAGE STITCHING

HDMI port

power indicator

display connection indicator

USB port

power port (DC 12V)

SD card

power on/off

C-mount port
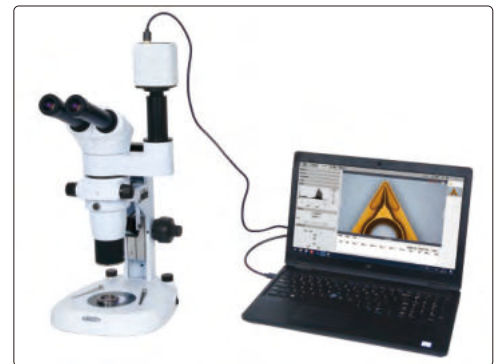
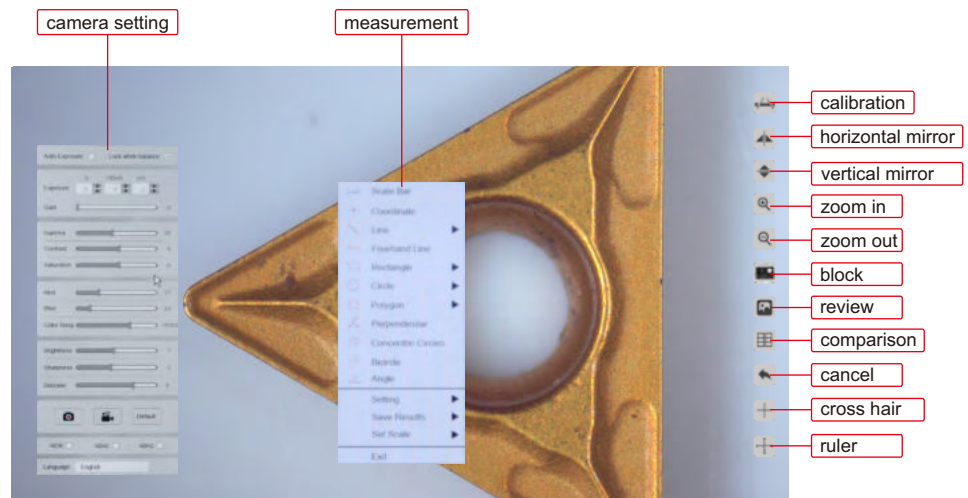VIDEO

adapter 0.5X (**optional**)

application

- 1080P high-definition image
- Can be connected with displays or computers
- Built-in simple measuring software for displays, without computer
- Professional measuring software for computers is included
- For bright field, dark field or fluorescent field
- Automatic exposure, white balance, gain adjustment, gamma correction, brightness contrast adjustment, saturation adjustment, chroma sharpness adjustment
- Focus stacking, automatic image stitching

SIMPLE MEASURING SOFTWARE (BUILT-IN, FOR DISPLAYS)

- **Measuring tools:**

  measure length of line or distance between two points

  measure distance between point and line

  measure rectangle

  measure concentric circles

  measure circle

  measure curve

  measure polygon

  measure center distance of two circles

  measure angle of two lines

camera setting

measurement

calibration

horizontal mirror

vertical mirror

zoom in

zoom out

block

review

comparison

cancel

cross hair

ruler

Auto exposure, white balance, gain adjustment, gamma, chroma contrast adjustment, brightness sharpness adjustment, size measurement
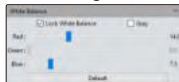
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To be continued

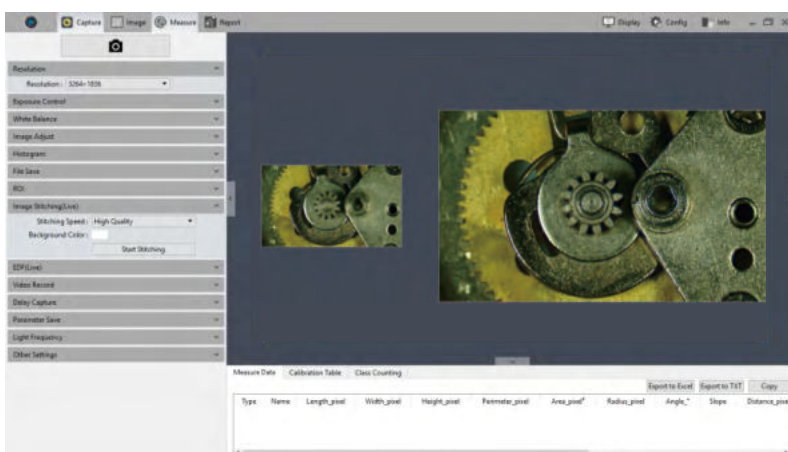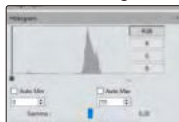## PROFESSIONAL MEASURING SOFTWARE (INCLUDED, FOR COMPUTERS)

selectable resolution

white balance
(balance color based
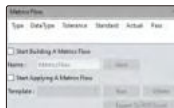on actual light source)

histogram
(quantify the distribution
of color and brightness)

flat field correction

metrics flow
(create templates,
set tolerances and
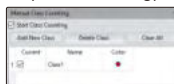build metrics flow)

manual counting
(class counting)

Image coloring, fluorescence synthesis, binary, image smoothing, color filter/color extraction/
color inversion, delay capture, focus stacking, automatic image stitching, metrics flow, manual
counting, dynamic and static measurement, layered measurement, report generation
and printing, delay record, flat field correction, image adjustment, histogram.

focus stacking

focus on the top

focus on the bottom

clear image of both top and bottom

automatic image stitching

slowly move the workpiece to generate a stitched image automatically (this image can not be used for size measurement)

SPECIFICATION

Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	30fps
Power supply	power adapter
Output	HDMI/USB
Lens connection	C-mount

COMPUTER (optional) REQUIREMENT

Operation system	Windows 7/8/10 (64 bit)
CPU	Intel Core i5 or above
Memory	8GB or above
USB port	USB 3.0

DISPLAY (optional) REQUIREMENT

Size	13" or above
Resolution	1080P or above
HDMI port	TYPE A

STANDARD DELIVERY

|	
Main unit	1 pc
16G memory card and holder	1 pc
Mouse	1 pc
HDMI cable	1 pc
USB cable	1 pc
Power supply	1 pc

OPTIONAL ACCESSORY

Adapter 0.5X	ISM-MAS-ADAPTER

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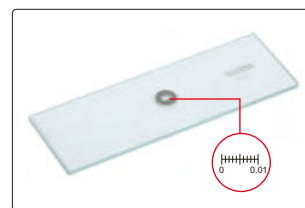# METALLURGICAL ANALYSIS SOFTWARE AND CAMERA
CODE ISM-MAS100

- More than 100 standards (ISO, ASTM, JIS, etc.)
- For metallurgical microscopes
- The camera can be inserted into the eyepiece tube or camera connector of microscopes
- Metallurgical analysis software is included, which can make comparative analysis, measurement and evaluation of various materials
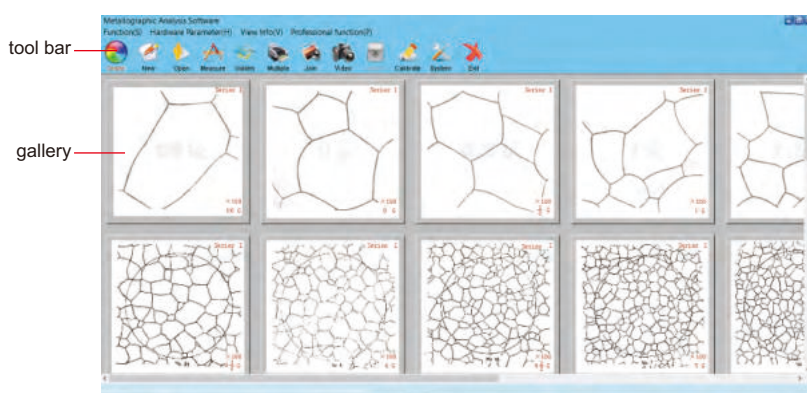
application
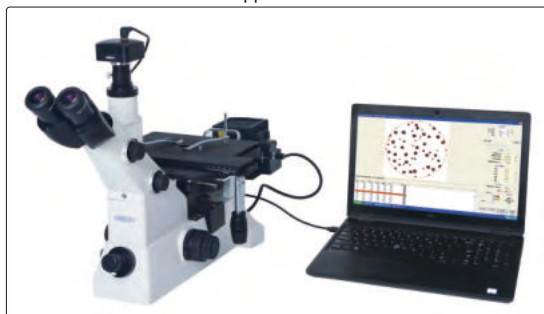
software CD
(included)

glass calibration rule
(included, graduation 0.01mm)

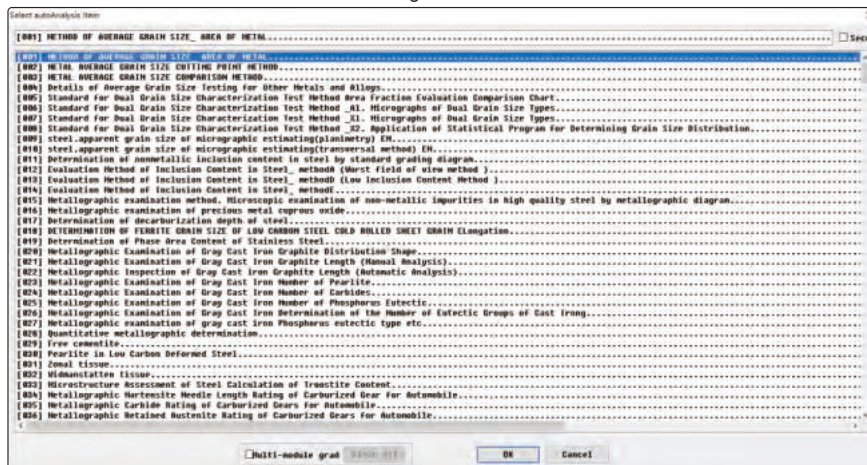metallurgical analysis software (included)

tool bar

gallery

This software can be used with variety of metallographic microscopes for acquisition, processing, analysis, report generation of metallurgical images
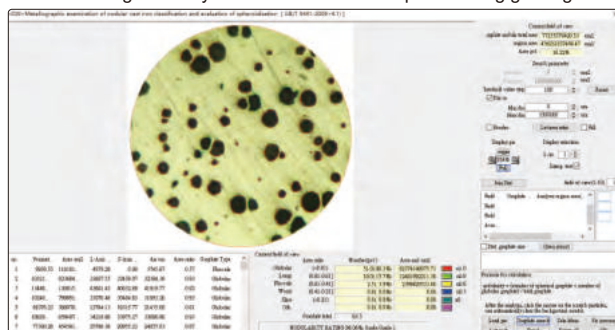
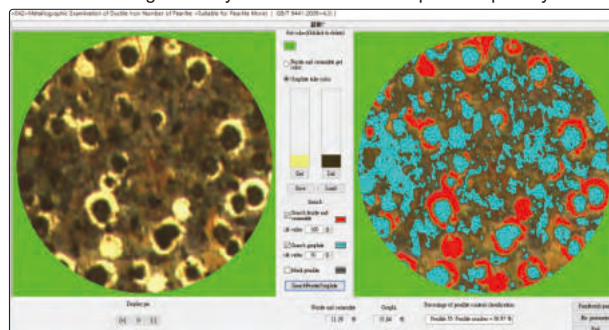metallurgical module list

To be continued
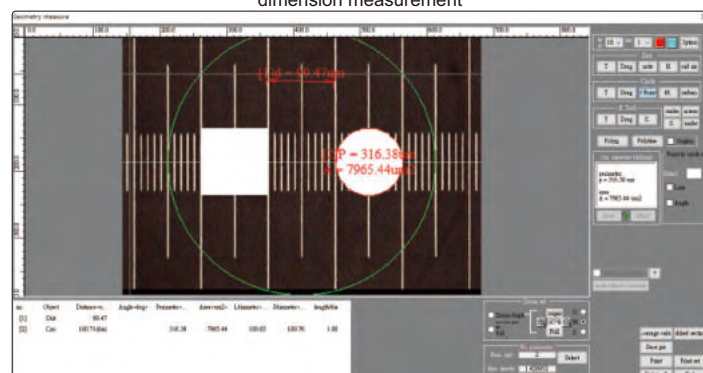
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examples of metallurgical analysis

metallurgical analysis of ductile cast iron-spheroidizing grading
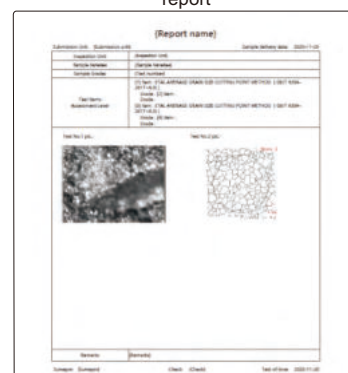

metallurgical analysis of ductile cast iron-pearlite quantity

dimension measurement

report

focus stacking
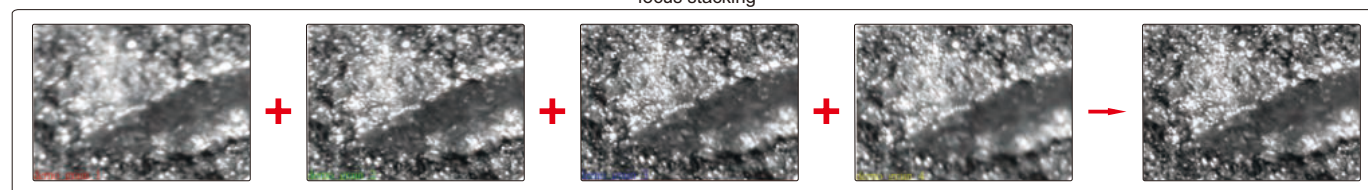
image stitch
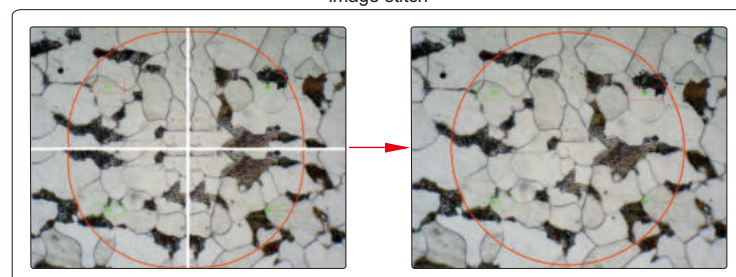
three dimension map

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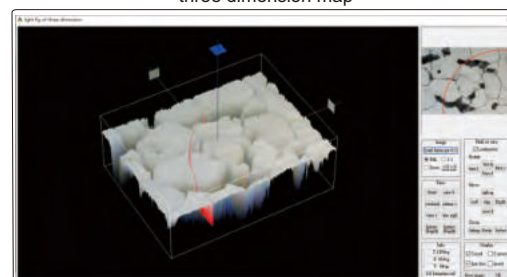
SPECIFICATION

Sensor	1/2" CMOS
Pixel	3M
Resolution	2048×1536
Frame rate	6fps
Exposure	manual or automatic, adjustable exposure time
Power supply	USB port
Weight	400g

STANDAER DELIVERY IS

Camera (USB cable included)	1 pc
Software	1 pc
Glass calibration rule (graduation 0.01mm)	1 pc

CAMERA ADAPTERS

- Ø23.2/30mm eyepiece adapter is included
- Suitable for digital cameras **ISM-CM20, ISM-CM63, ISM-ZS70-S**

0.5X camera adapter (fixed focus distance) ISM-AD-0D5

0.75X camera adapter (fixed focus distance) ISM-AD-0D75

application

inserted into eyepiece tube

Ø23.2/30mm eyepiece adapter (included)

focus distance adjustment ring

0.5X camera adapter (adjustable focus distance) ISM-AD-A0D5

focus distance adjustment ring

0.75X camera adapter (adjustable focus distance) ISM-AD-A0D75

inserted into camera connecter

SPECIFICATION

Code	ISM-AD-0D5	ISM-AD-A0D5 *	ISM-AD-0D75	ISM-AD-A0D75
Type	fixed focus distance	adjustable focus distance	fixed focus distance	adjustable focus distance
Magnification	0.5X	0.41X~0.58X	0.75X	0.64X~0.86X

* There may be shadows on the edge of image when **ISM-AD-A0D5** is used

PORTABLE MEASURING MICROSCOPES

10X eyepiece with graduation

10X eyepiece

pen light

focus adjustment

10X objective

ISM-PM100

SPECIFICATION

Code	ISM-PM20	ISM-PM40	ISM-PM50	ISM-PM100
Total magnification	20X	40X	50X	100X
Eyepiece	10X with graduation	10X with graduation	10X with graduation	10X with graduation
Objective (achromatic)	2X (numerical aperture: 0.05)	4X (numerical aperture: 0.1)	5X (numerical aperture: 0.12)	10X (numerical aperture: 0.25)
Working distance	17.2mm	18mm	17.6mm	7mm
Graduation	0.05mm	0.025mm	0.02mm	0.01mm
Viewing field	Ø9mm	Ø4.5mm	Ø3.6mm	Ø1.8mm
Focus range	30mm			
Illumination	LED light			
Diameter of base	Ø63mm			
Height	210mm			
Weight	650g			

STANDARD DELIVERY

Main unit	1 pc
Pen light	1 pc
Battery (AAA)	2 pcs

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