

DIGITAL CAMERA FOR MICROSCOPES CODE ISM-CM63

ATTENTION: ADAPTERS ARE NEEDED
ACCORDING TO MICROSCOPES



- 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

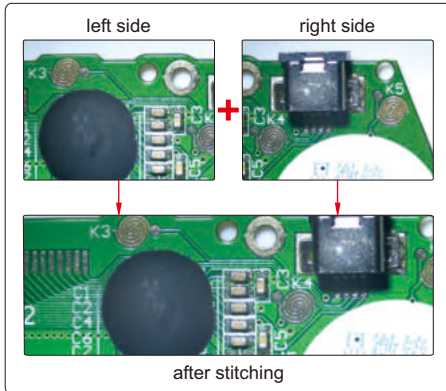
adapter 0.75X
(optional)



application



automatic image stitching (expand field of view)



software (included)

selectable resolution

histogram (quantify the distribution of color and brightness)

measurement items

real time gray calibration

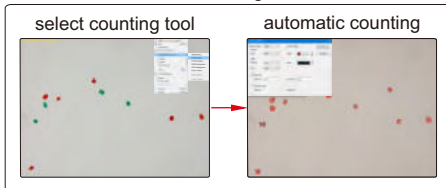
black balance (reduce color difference)

flat field correction (reduce brightness difference)

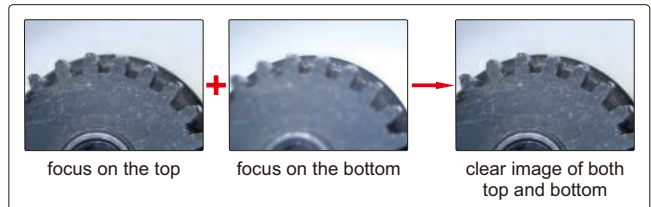
dark field correction (reduce thermal noise)

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.

counting



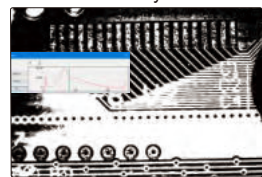
focus stacking



Measuring tools:

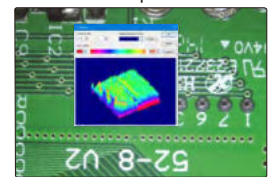
- | | | | |
|--|---|--|--|
| | measure length of line or distance between two points | | measure rectangle |
| | measure distance between two parallel lines | | measure width and diameter of ring |
| | measure angle | | measure diameter, length, perimeter angle of arc |
| | measure radius, girth and 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



separate target and background

3D plot



Visualize the distribution of image brightness and color

To be continued

Continued from previous page

SPECIFICATION

Sensor (back-up)	1/1.8" CMOS
Resolution	3072x2048
Pixel	6.3M
Single pixel size	2.4x2.4µm
Spectral range	380-650nm (with infrared cut filter)
Frame rate	30fps
Sampling average	1x1
Exposure time	0.1ms~15s
Power supply	USB port
Weight	400g

STANDAER DELIVERY

Camera (USB cable included)	1 pc
Software	1 pc

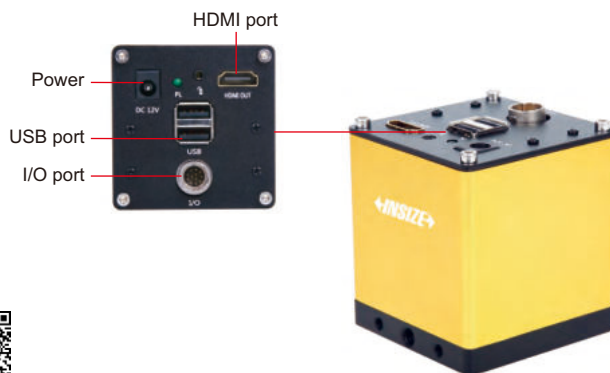
COMPUTER REQUIREMENT

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
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**SMART CAMERA
CODE ISM-MV10**



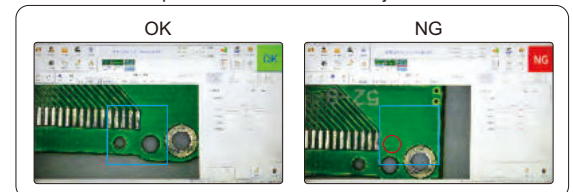
- Built-in software, operated by mouse.
- Automatically calculate, store the test results and export to Excel.
- Camera with PLC control input and output interface, can be integrated with automation equipment.
- Functions: presence or absence of objects, position tilt correction, object counting, color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

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	3.75x3.75µm
Resolution	1920x1080
Frame rate	60fps
Video output	HDMI port
Lens connection	standard C port

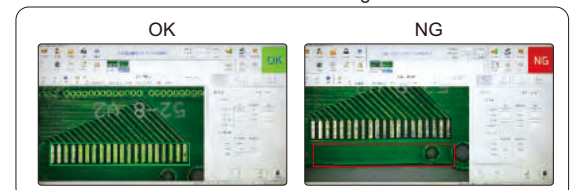
SOFTWARE

presence or absence of objects



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

automatic counting



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

dimension measurement



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

STANDAER DELIVERY

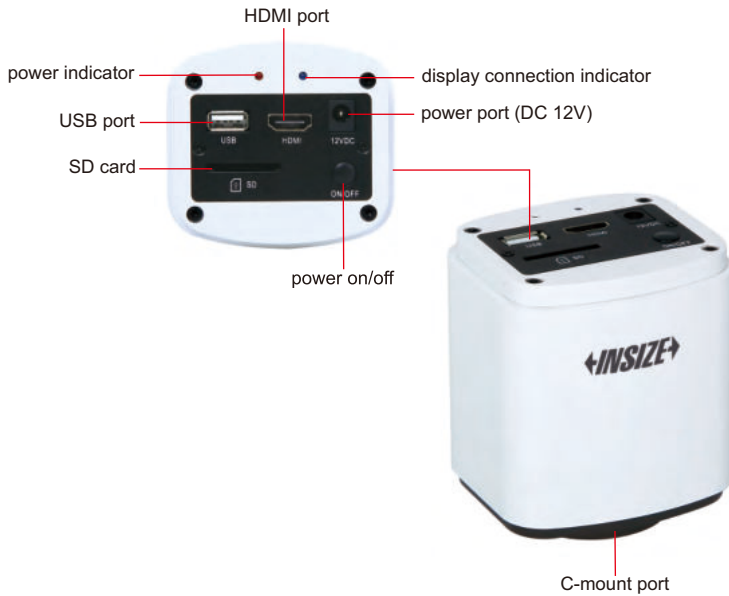
Camera (with HDMI cable)	1 pc
Software	1 pc

DIGITAL CAMERA FOR MICROSCOPES CODE ISM-CM20

ATTENTION: ADAPTERS ARE NEEDED
ACCORDING TO MICROSCOPES

FOCUS
STACKING

AUTOMATIC IMAGE
STITCHING



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




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

To be continued

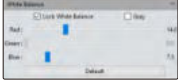
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PROFESSIONAL MEASURING SOFTWARE (INCLUDED, FOR COMPUTERS)


selectable resolution



white balance
(balance color based on actual light source)



histogram
(quantify the distribution of color and brightness)



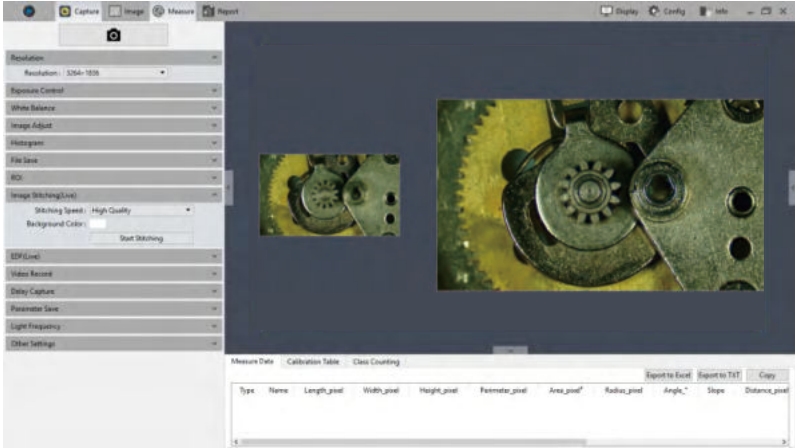

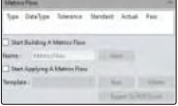


Image coloring, fluorescence synthesis, binary, image smoothing, color filter/color extraction/color inversion, delay capture, focus stacking, automatic image stitching, metrics flow, manual counting, dynamic and static measurement, layered measurement, report generation and printing, delay record, flat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

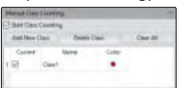
flat field correction






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



manual counting
(class counting)



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

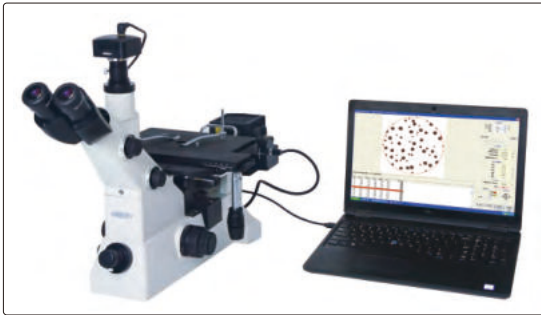
Adapter 0.5X	ISM-MAS-ADAPTER
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METALLURGICAL ANALYSIS SOFTWARE AND CAMERA CODE ISM-MAS100

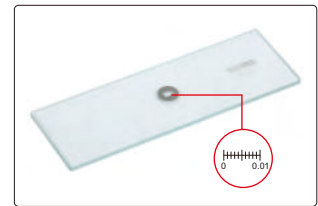
- More than 100 standards (ISO, ASTM, JIS, etc.)
- For metallurgical microscopes
- The camera can be inserted into the eyepiece tube or camera connector of microscopes
- Metallurgical analysis software is included, which can make comparative analysis, measurement and evaluation of various materials



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 metallurgical microscopes for acquisition, processing, analysis, report generation of metallurgical images

metallurgical module list

Select subanalysis item

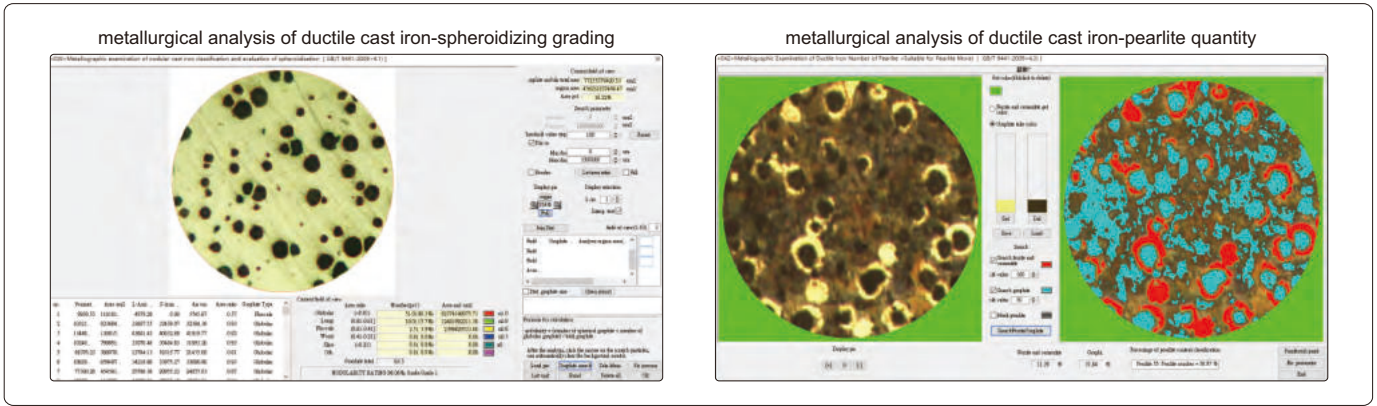
- [001] METHOD OF AVERAGE GRAIN SIZE - AREA OF METAL
- [002] METAL AVERAGE GRAIN SIZE - CUTTING POINT METHOD
- [003] METAL AVERAGE GRAIN SIZE COMPARISON METHOD
- [004] Details of Average Grain Size Testing for Other Metals and Alloys
- [005] Standard for Dual Grain Size Characterization Test Method Area Fraction Evaluation Comparison Chart
- [006] Standard for Dual Grain Size Characterization Test Method .M1. Micrographs of Dual Grain Size Types
- [007] Standard for Dual Grain Size Characterization Test Method .M2. Micrographs of Dual Grain Size Types
- [008] Standard for Dual Grain Size Characterization Test Method .M3. Application of Statistical Program for Determining Grain Size Distribution
- [009] steel apparent grain size of micrographic estimating (planimetry) EN
- [010] steel apparent grain size of micrographic estimating (transversal) method EN
- [011] Determination of nonmetallic inclusion content in steel by standard grading diagram
- [012] Evaluation Method of Inclusion Content in Steel, method (short field of view method)
- [013] Evaluation Method of Inclusion Content in Steel, method (Low Inclusion Content Method)
- [014] Evaluation Method of Inclusion Content in Steel, method
- [015] Metallurgical examination method, Microscopic examination of non-metallic inclusions in high quality steel by metallurgical diagram
- [016] Metallurgical examination of precious metal cuprous oxide
- [017] Determination of decarburization depth of steel
- [018] DETERMINATION OF FERRITIC PHASE SIZE OF LOW CARBON STEEL OR LOW ALLOY STEEL GRAIN CLANGING
- [019] Determination of Phase Area Content of Stainless Steel
- [020] Metallurgical Examination of Gray Cast Iron Graphite Distribution Shape
- [021] Metallurgical Examination of Gray Cast Iron Graphite Length (Manual Analysis)
- [022] Metallurgical Inspection of Gray Cast Iron Graphite Length (Automatic Analysis)
- [023] Metallurgical Examination of Gray Cast Iron Number of Pearlite
- [024] Metallurgical Examination of Gray Cast Iron Number of Carbides
- [025] Metallurgical Examination of Gray Cast Iron Number of Phosphorus Eutectic
- [026] Metallurgical Examination of Gray Cast Iron Determination of the Number of Eutectic Groups of Cast Iron
- [027] Metallurgical examination of gray cast iron Phosphorus eutectic type etc
- [028] Quantitative metallurgical determination
- [029] Iron cementite
- [030] Pearlite in Low Carbon Deformed Steel
- [031] Cementite
- [032] Microstructure EISOP
- [033] Microstructure Assessment of Steel Calculation of Trusite Content
- [034] Metallurgical Hardness Needle Length Rating of Carburized Gears For Automobile
- [035] Metallurgical Carbon Rating of Carburized Gears For Automobile
- [036] Metallurgical Retained Austenite Rating of Carburized Gears For Automobile

Multi-module grad 2000-011 OK Cancel

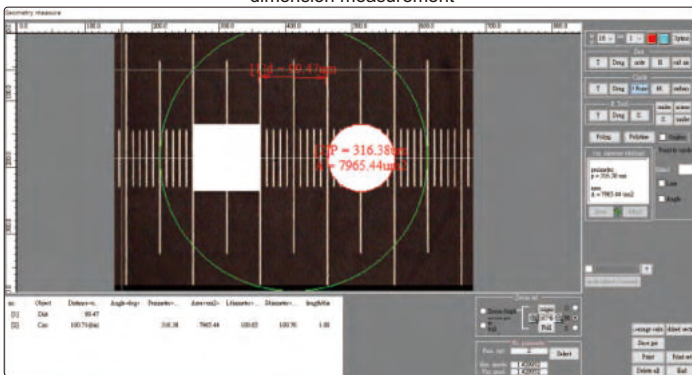
To be continued

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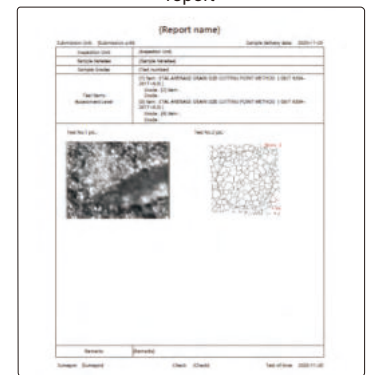
examples of metallurgical analysis



dimension measurement



report



focus stacking

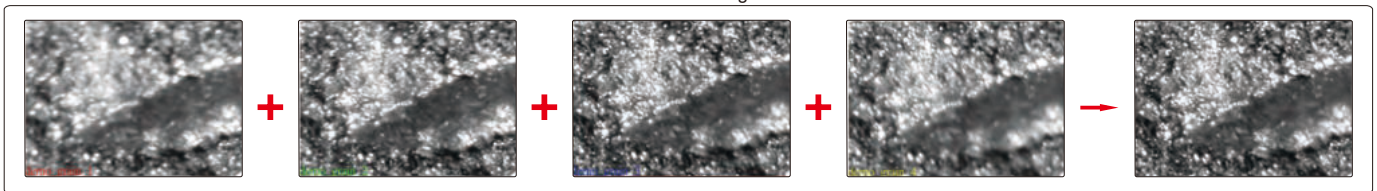
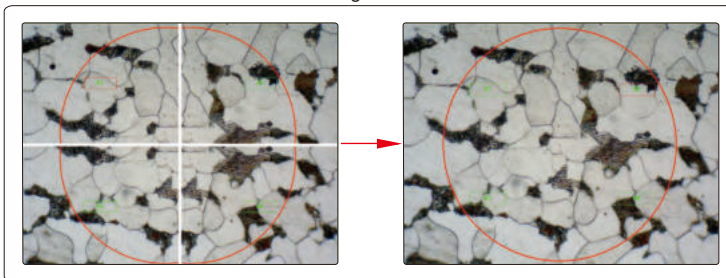
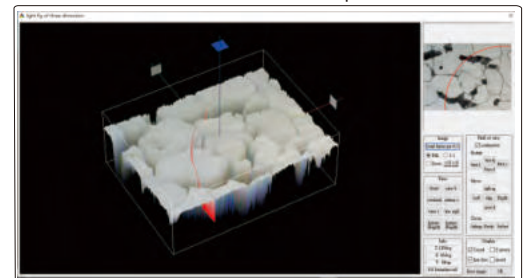


image stitch



three dimension map



SPECIFICATION

Sensor	1/2" CMOS
Pixel	3M
Resolution	2048x1536
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



Ø23.2/30mm eyepiece adapter (included)



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



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



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



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

application

inserted into eyepiece tube



inserted into camera connector



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

18



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

MAGNIFIERS WITH ILLUMINATION

- Glass lens
- Powered by 3xAAA batteries (included)



Code	Magnification	Lens diameter (ØD)	L	h
7513-2	2X	Ø75mm	170mm	90mm
7513-4	4X	Ø50mm	145mm	90mm



MAGNIFIER WITH TWO LENSES

- Resin lens
- Interchangeable lenses
- Powered by 3 pcs AAA batteries (included)



Code	Lens number	Magnification	Lens diameter (ØD)
7522-610	2 pcs	6X	50mm
		10X	37mm



MAGNIFIER WITH ILLUMINATION

- Two magnifications
- LED illumination
- Powered by 2 pcs AAA batteries (included)
- Resin lens

Code	Magnification	Lens size
7518-26	2X/6X	90x55mm



MAGNIFIER WITH ILLUMINATION

- Handheld and desk-type use
- Two magnifications
- LED illumination
- Powered by 2xAA batteries (included)
- Resin lens



Code	Magnification	Lens diameter (ØD)
7519-26	2X/6X	90mm

