

HYPER SPECTRAL IMAGING TECHNOLOGY

Hyperspectral Imaging Microscope

RM Series · 400 nm – 1700 nm · VNIR + NIR



The RM Series integrates a pushbroom hyperspectral camera with a precision microscope, enabling simultaneous high-resolution spatial imaging and full spectral acquisition at the micro scale. Internal scanning eliminates stage movement and image distortion. Compatible with Olympus, Zeiss, and other major microscope brands.

Reflectance & Transmittance

Dual-mode spectral imaging for versatile sample analysis

Coaxial Multi-Channel View

Eyeiece, visible camera, and hyperspectral share the same FOV

Built-in Scan No Stage Movement

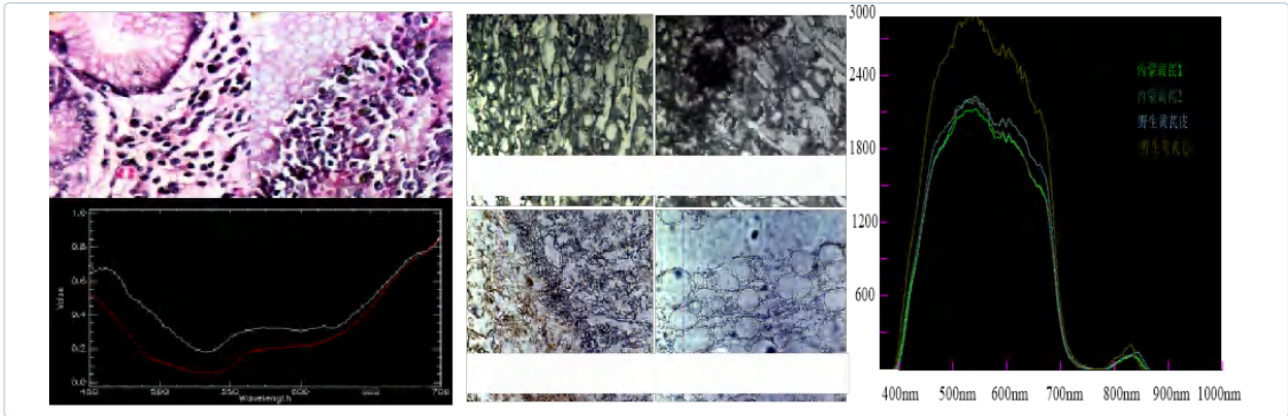
Internal scanning eliminates distortion; compact design

< 1 μ m Spatial Resolution

Sub-micron resolving power for cellular and microstructure analysis

Application Showcase

The RM Series combines hyperspectral imaging with microscope optics to reveal spectral signatures at the cellular and microstructural level. Applications span biomedical research, materials science, forensic analysis, and semiconductor inspection.



Hyperspectral microscopy: tissue samples and spectral curve analysis

Microscopy Hyperspectral Analysis

Biomedical & Life Science

Cell classification, cancer tissue screening, drug development, and pathology research via spectral biomarker detection.

Materials Science

Micro-scale material identification, compositional mapping, and defect analysis in polymers, minerals, and coatings.

Forensic & Document Analysis

Trace evidence examination, ink differentiation, and document authentication through spectral fingerprinting.

Semiconductor & Electronics

Wafer inspection, thin-film analysis, and display panel quality control with sub-micron spatial resolution.

Key Features

Multi-Brand Compatibility

Mounts on Olympus, Zeiss, and other upright biological, fluorescence, and metallurgical microscopes via standard C-mount or trinocular adapter.

Coaxial Field of View

Eyepiece, visible-light camera, and hyperspectral channel share the identical optical path for precise region-of-interest targeting.

Full-Spectrum Illumination

Dedicated broadband light source supports both transmittance and reflectance modes across the full 400-1700 nm range.

Internal Scan Mechanism

Built-in scanning — no need to move the microscope stage. Images remain distortion-free and in perfect focus.

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Technical Specifications

Table 1. VNIR Microscope Hyperspectral Imager — 400 nm to 1000 nm

Parameter	RM-10-U	RM-10-S
Spectral Range	400 – 1000 nm	400 – 1000 nm
Spectral Resolution	< 2.8 nm	< 2.3 nm
F-Number	F/2.6	F/2.4
Detector	CMOS	CMOS
Detector Interface	GigE / USB3.0	GigE
Detector Power Supply	12-24V DC, 3W	12V DC, 4.3W
Detector Format	1/1.2"	1.1"
Detector Resolution	1920 x 1200	1600 x 1100
Pixel Size	5.86 µm x 5.86 µm	9 µm x 9 µm
Effective Bit Depth	12 bit	12 bit
Slit Width	25 µm	30 µm
Binning Mode	4 x 4	4 x 4
Spatial Pixels	480	390
Spectral Bands	300	228
Frame Rate	50 / 128 fps	68 fps
Microscope Type	Upright Metallurgical	Research-Grade Upright
Spatial Resolution	< 1 µm	< 1 µm
Field of View	0.22 – 4.4 mm	0.25 – 5 mm
Eyepiece	PL10 x 22 mm	PL10 x 25 mm
Objective	Plan Apochromatic Metallurgical	Semi-Apochromatic Metallurgical
Stage Travel	76 x 42 mm	105 x 102 mm
Visible Camera	—	5 MP
Light Source	24V / 150W Halogen	12V / 100W Halogen
Operating Temperature	0 – 40 °C	0 – 40 °C
Storage Temperature	0 – 50 °C	0 – 50 °C
Software	Acquisition + SDK	Acquisition + SDK

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Technical Specifications

Table 2. NIR Microscope Hyperspectral Imager — 900 nm to 1700 nm

Parameter	RM-30-U
Spectral Range	900 – 1700 nm
Spectral Resolution	< 6 nm
F-Number	F/2.0
Detector	InGaAs (TE-Cooled)
Detector Interface	GigE
Detector Power Supply	12V DC, 8.4W / 16W
Detector Format	9.6 x 7.68 mm
Detector Resolution	640 x 512
Pixel Size	15 µm x 15 µm
Effective Bit Depth	10 / 12 bit
Slit Width	30 µm
Binning Mode	1 x 1
Spatial Pixels	640
Spectral Bands	512
Frame Rate	175 fps
Microscope Type	NIR Microscope
Spatial Resolution	< 1 µm
Field of View	1.92 – 0.192 mm
Eyepiece	PL10 x 22 mm
Objective	Plan Semi-Apochromatic IR (4 pcs standard)
Stage Travel	445 x 240 mm
Visible Camera	5 MP
Light Source	12V / 100W Halogen
Operating Temperature	0 – 40 °C
Storage Temperature	0 – 50 °C
Software	Acquisition + SDK

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