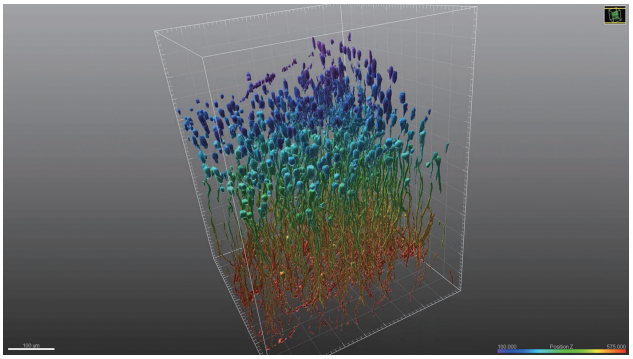
IVIM Light up Your World

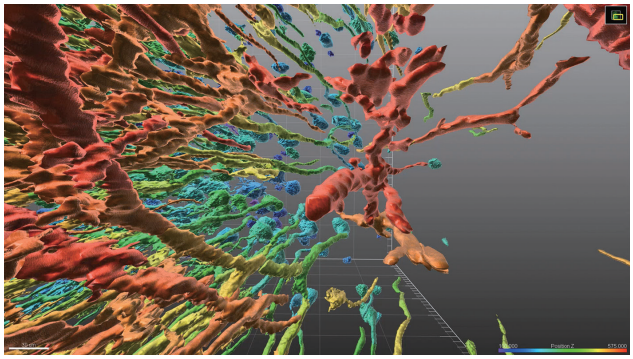
IVM-M3 (Two-Photon v. 3)

The New All-in-One Intravital Imaging Platform

Deep Tissue Imaging, High-Resolution, Tunable Laser

IVM-M3 stands out as a distinguished member of The New All-in-One IVM Series, combining the flexibility of a traditional converted microscope with the high-resolution imaging capabilities of second-harmonic generation microscopy. It features a fully automated tunable fs-pulse NIR laser system, making it an ideal choice for users requiring deeper tissue imaging using the less-scattering NIR wavelength. The complete control functionality of the fs-laser system is seamlessly integrated with the two-photon imaging software, ensuring user convenience with various automation algorithms.





Key Features

- Deep Tissue Imaging with a Tunable Long-Wavelength NIR fs-Laser System
- Fully Integrated *In Vivo* Maintenance Unit/Animal Stage
  (e.g., Monitoring & Homeostatic Regulation of Animal Vitality)
- Ultra High-Speed Imaging (max. 50 fps - 512 x 512 pixels)
- 4D Animal Motion Compensation (XYZ & Time)
- Label-Free, Non-Linear Second Harmonic Generation Ability

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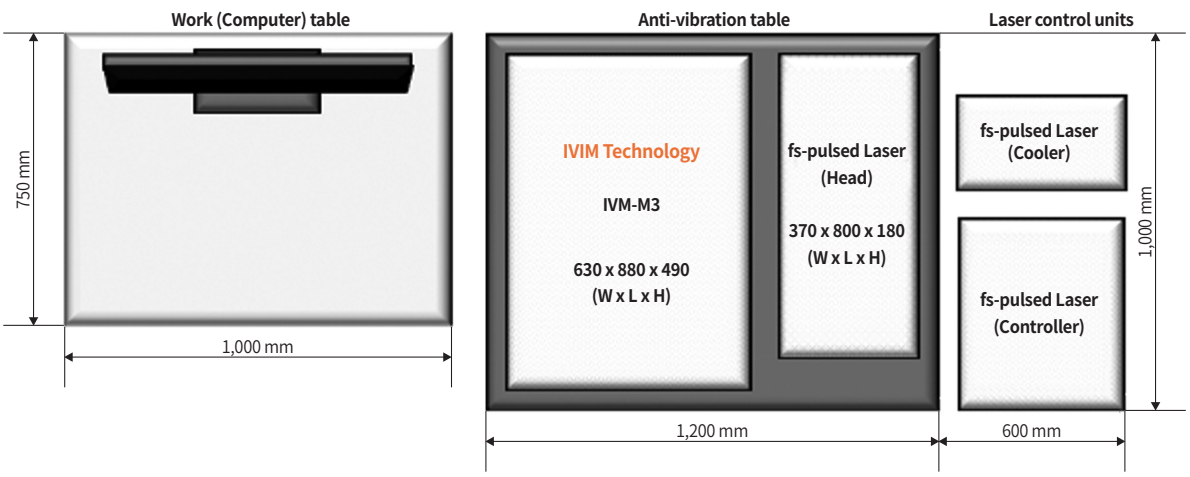
SPECIFICATIONS

Laser	Tunable Two-photon Laser Unit	• Ti: Sapphire laser • Wavelength: 690 - 1,050nm, Pulse width < 75 fs, Rep. rate: 80 MHz • Avg. power > 2.5 W, Dispersion compensation: 0 to -43,000 fs^2
Fluorescence Detector	Two-photon Detector	• Wavelength: 450 - 750 nm (DAPI, CFP, GFP, YFP, RFP, Cy5, Cy5.5, etc.) • 4 high quantum efficiency PMTs (UV to Near IR, Ultra High Sensitivity, Low Dark Current)
	Emission Filter	• Individual filter can be mounted on each of four detectors
Scan Head	Scanner	• Polygonal mirror (Fast axis scanning, Max. 66 kHz) • Galvano scanner (Slow axis scanning, Max. 200 µs/step)
Imaging Head	Objectives	• Max. 5 objectives are mountable on IVM Engine Software controlled motorized turret (1X - 100X) • Compatible for commercial objectives
Image	FOV	• 100 x 100 $µm^2$ - 10 x 10 mm^2
	Pixel Resolution	• Max. 2,048 x 2,048 pixels
	Imaging Speed	• Standard: 30 fps @ 512 x 512 pixels • (Optional) High Speed: 50 fps @ 512 x 512 pixels
Animal / Sample Stage	Movable Stage	• Travel Range: 50,000 x 50,000 x 75,000 µm (XYZ) • Micromanipulation (Max. 0.2 µm resolution) • 3-axis independent control with Jog Dial & IVM Engine software
	Specimen Holder	• Flexible-design universal *in vivo / ex vivo / in vitro* specimen holders can be mounted. • (Optional) Homeothermic warming system, Holders for window chamber
	Monitoring Camera	• Real-time live animal / sample monitoring
	LED Light	• Installed inside the machine to assist in the observation of live animals or samples
Animal Motion Compensation (Tissue stabilization)	4D *In vivo* Imaging Motion Compensation	• XY motion compensation: Averaged image acquisition with motion artifact compensation • Z motion compensation: Image-based sample Z position adjustment for long-term intravital microscopic imaging & sample tracking (Feedback-loop automatic stage control) • T motion compensation: Image-based image XY position adjustment for long-term intravital microscopic imaging & sample tracking (Feedback-loop automatic stage control) • Combination of above three compensations for 4D *in vivo* motion compensation • Controllable by IVM Engine software
Accessories Add-on	Live Animal Maintenance Unit	• Body Temp. Monitoring & Feedback Heater Control, including tablet PC. • 4CH Rectal Probe, Body Plate Heater, Thermometer Sensor & Cover Glass Heater
	In vivo Imaging Chamber Sets	• Dorsal Skinfold Chamber • Lung Imaging Chamber • Cranial Window Imaging • Abdominal Imaging Window • Pancreas Imaging Window • Mammary Imaging Window • Heart Imaging Chamber • Uterus Imaging Window
	Inhalation Anesthesia System	• Whole Rodent Animal Inhalation Anesthesia System • Anesthesia Mask and Connections for Longitudinal Imaging
	Antibodies / Dyes	• Fluorescent labeling agents, vascular dyes and conjugated antibodies
Engine & Studio Software	Image Display	• Independent 4 single channel display (RGBA channel) • Overlay channel display (Selection among RGBA channel)
	In vivo Imaging Modes	• Mosaic imaging (XY), Z-stack imaging (Z), Time-lapse imaging (T) • Time-lapse imaging at Multi-position (T - M) • Time-lapse & Z-stack imaging (TZ) • Time-lapse & Z-stack imaging at Multi-position (TZ - M)

New All-in-One IVM Series Size Information



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