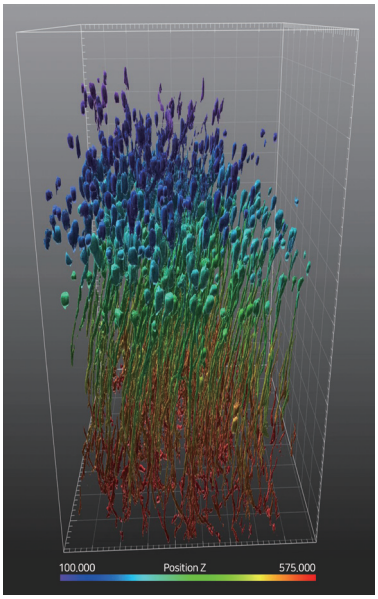
IVM-MS2 (Two-Photon Smart Ver.2)

Compact Two-Photon Imaging Platform

IVIM TECHNOLOGY



The most compact Two-Photon System in the world

IVM-MS2 is the All-in-One IntraVital Two-Photon Microscopy System, optimized for in vivo imaging experiments and equipped with a new compact high-efficiency fs-pulse laser module. Especially, because it integrates a compact high-stability maintenance-free fs-pulse laser into a single box, the IVM-MS2 is the ideal solution for customers in need of a two-photon microscope with limited resources of space and budget.

Key features of IVM-MS2 (Two-Photon Smart Ver.2)

- The smallest Two-Photon Microscopy System in the world
- Ultra High-Speed Imaging (max. 100 fps - 512x512 pixels)
- 4D Animal Motion Compensation (X,Y,Z & Time)
- Simple hand-free turn-key operation of 920 nm NIR fs-laser for deeper tissue imaging
- Cost-saving, Space-saving, Hands-free, Maintenance-free

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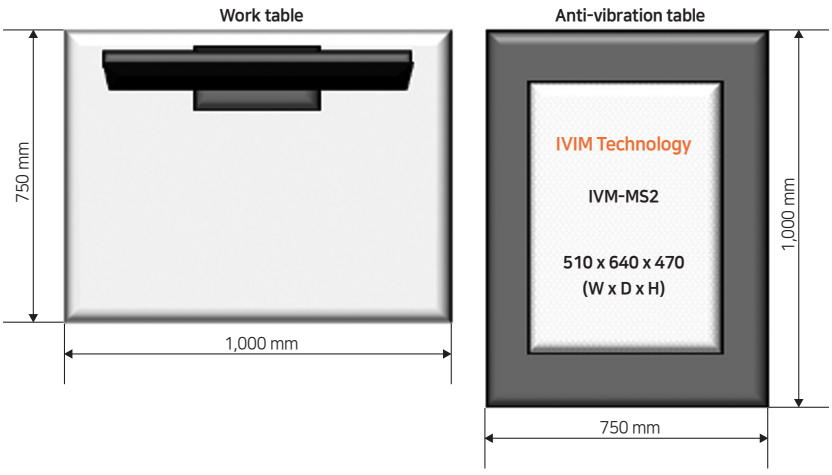
Specifications

Laser	Compact Two-Photon Laser Unit	• Air cooled fs-fiber laser system with bulit-in power control • Wavelength : 920 nm, Pulse width <150 fs, Rep. rate : 80 MHz • Avg. power >0.8 W, Dispersion compensation : 0 to -22,000 fs^2
Fluorescence Detector	Two-Photon Detector	• Wavelength : 185 - 760 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)
	Variable Emission Filter (Optional)	• 6 or 2 emission filters 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 S/W 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 : 60 fps @ 512 x 512 pixels • (Optional) Ultra High Speed : 100 fps @ 512 x 512 pixels
In Vivo Animal Stage	3D Stage	• Travel Range : 50,000 x 50,000 x 75,000 μm (XYZ) • Micromanipulation (Max. 0.2μm resolution) • 3-axis independent control with Jog Dial & S/W
Animal Motion Compensation	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 compensation for 4D in vivo motion compensation
Additional In Vivo Modules	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 SET	• Standard Dorsal Skinfold Chamber SET • Lung Imaging Chamber SET • Cranial Window SET • Abdominal Imaging Window SET • Pancreas Imaging Window SET • Mammary Imaging Window SET
	Inhalation Anesthesia System	• Rodent Animal Inhalation Anesthesia System
Engine & Studio Software	Image Display	• Independent 4 single channel display (RGBA channel) • Overlay channel display (Selection among RGBA channel)
	In Vivo Imaging Mode	• 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)



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