

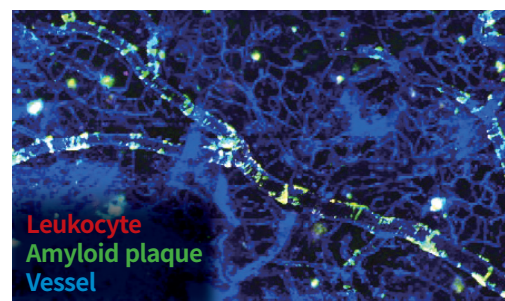
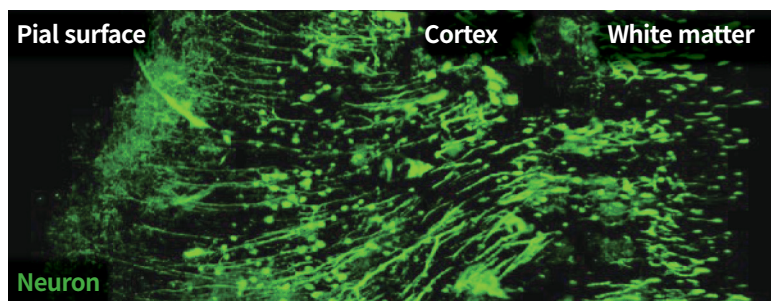
# IVM-MS3 (Two-Photon Smart v. 3)

## The New All-in-One Intravital Imaging Platform



### Cost-Saving, Hands-Free

IVM-MS3 represents the smart evolution of IVM-M3, offering an All-in-One Two-Photon Intravital Microscopy solution optimized for *In Vivo* imaging. This system integrates a compact, high-stability, and maintenance-free fs-pulse laser unit into a single box, streamlining the imaging process. With a fixed wavelength of 920nm, IVM-MS3 excels at imaging deep tissues, making it an ideal choice for researchers with specific targets but limited resources and budget constraints.



### Key Features

- Simple and Hands-Free Turn-Key Operation of 920 nm NIR fs-Laser for Deep Tissue Imaging
- Label-free, Non-Linear Second Harmonic Generation Ability
- 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)

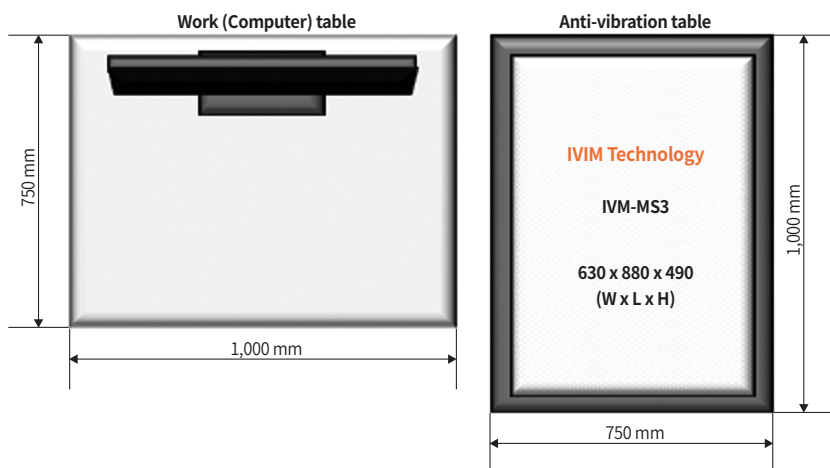
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### SPECIFICATIONS

|  |  |   |
|--|--|---|
| <b>Laser</b>   | <b>Compact Two-photon Laser Unit</b>                 | <ul style="list-style-type: none"> <li>Air-cooled fs-fiber laser system with built-in power control</li> <li>Wavelength: 920 nm, Pulse width &lt; 100 fs, Rep. rate: 80 +/-2 MHz</li> <li>Avg. power &gt; 1.5 W, Dispersion compensation: 0 to -60,000 fs<sup>2</sup></li> </ul>  |
| <b>Fluorescence Detector</b>                             | <b>Two-photon Detector</b>                           | <ul style="list-style-type: none"> <li>Wavelength: 450 - 750 nm (DAPI, CFP, GFP, YFP, RFP, Cy5, Cy5.5, etc.)</li> <li>4 high quantum efficiency PMTs (UV to Near IR, Ultra High Sensitivity, Low Dark Current)</li> <li>Emission Filter: Individual filter can be mounted on each of four detectors</li> </ul>  |
| <b>Scan Head</b>   | <b>Scanner</b>                                       | <ul style="list-style-type: none"> <li>Polygonal mirror (Fast axis scanning, Max. 66 kHz)</li> <li>Galvano scanner (Slow axis scanning, Max. 200 μs/step)</li> </ul>  |
| <b>Imaging Head</b>                                      | <b>Objectives</b>                                    | <ul style="list-style-type: none"> <li>Max. 5 objectives are mountable on IVM Engine Software controlled motorized turret (1X - 100X)</li> <li>Compatible for commercial objectives</li> </ul>  |
| <b>Image</b>   | <b>FOV</b>   | • 100 x 100 μm <sup>2</sup> - 10 x 10 mm <sup>2</sup>   |
|  | <b>Pixel Resolution</b>                              | • Max. 2,048 x 2,048 pixels   |
|  | <b>Imaging Speed</b>                                 | <ul style="list-style-type: none"> <li>Standard: 30 fps @ 512 x 512 pixels</li> <li>(Optional) High Speed: 50 fps @ 512 x 512 pixels</li> </ul>   |
| <b>Animal / Sample Stage</b>                             | <b>Movable Stage</b>                                 | <ul style="list-style-type: none"> <li>Travel Range: 50,000 x 50,000 x 75,000 μm (XYZ)</li> <li>Micromanipulation (Max. 0.2 μm resolution)</li> <li>3-axis independent control with Jog Dial &amp; IVM Engine software</li> </ul>   |
|  | <b>Specimen Holder</b>                               | <ul style="list-style-type: none"> <li>Flexible-design universal <i>in vivo</i> / <i>ex vivo</i> / <i>in vitro</i> specimen holders can be mounted.</li> <li>(Optional) Homeothermic warming system, Holders for window chamber</li> </ul>  |
|  | <b>Monitoring Camera</b>                             | • Real-time live animal / sample monitoring   |
|  | <b>LED Light</b>                                     | • Installed inside the machine to assist in the observation of live animals or samples  |
| <b>Animal Motion Compensation (Tissue stabilization)</b> | <b>4D <i>In vivo</i> Imaging Motion Compensation</b> | <ul style="list-style-type: none"> <li>XY motion compensation: Averaged image acquisition with motion artifact compensation</li> <li>Z motion compensation: Image-based sample Z position adjustment for long-term intravital microscopic imaging &amp; sample tracking (Feedback-loop automatic stage control)</li> <li>T motion compensation: Image-based image XY position adjustment for long-term intravital microscopic imaging &amp; sample tracking (Feedback-loop automatic stage control)</li> <li>Combination of above three compensations for 4D <i>in vivo</i> motion compensation</li> <li>Controllable by IVM Engine software</li> </ul> |
| <b>Accessories Add-on</b>                                | <b>Live Animal Maintenance Unit</b>                  | <ul style="list-style-type: none"> <li>Body Temp. Monitoring &amp; Feedback Heater Control, including tablet PC.</li> <li>4CH Rectal Probe, Body Plate Heater, Thermometer Sensor &amp; Cover Glass Heater</li> </ul>   |
|  | <b><i>In vivo</i> Imaging Chamber Sets</b>           | <ul style="list-style-type: none"> <li>Dorsal Skinfold Chamber</li> <li>Lung Imaging Chamber</li> <li>Cranial Imaging Window</li> <li>Abdominal Imaging Window</li> <li>Pancreas Imaging Window</li> <li>Mammary Imaging Window</li> <li>Heart Imaging Chamber</li> <li>Uterus Imaging Chamber</li> </ul>   |
|  | <b>Inhalation Anesthesia System</b>                  | <ul style="list-style-type: none"> <li>Whole Rodent Animal Inhalation Anesthesia System</li> <li>Anesthesia Mask and Connections for Longitudinal Imaging</li> </ul>  |
|  | <b>Antibodies / Dyes</b>                             | • Fluorescent labeling agents, vascular dyes, and conjugated antibodies   |
| <b>Engine &amp; Studio Software</b>                      | <b>Image Display</b>                                 | <ul style="list-style-type: none"> <li>Independent 4 single channel display (RGBA channel)</li> <li>Overlay channel display (Selection among RGBA channel)</li> </ul>   |
|  | <b><i>In vivo</i> Imaging Modes</b>                  | <ul style="list-style-type: none"> <li>Mosaic imaging (XY), Z-stack imaging (Z), Time-lapse imaging (T)</li> <li>Time-lapse imaging at Multi-position (T - M)</li> <li>Time-lapse &amp; Z-stack imaging (TZ)</li> <li>Time-lapse &amp; Z-stack imaging at Multi-position (TZ - M)</li> </ul>  |

### New All-in-One IVM Series Size Information



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