



ATOS Instruments Marketing Services
297, Rainbow Drive, Sarjapur Road
Bangalore, Karnataka– 560035, India

Phone : +91-80-22585488
Email : atos@atosindia.com
Web : www.atosindia.com



MP-series – Multi-photon Microscope

Turn-key, Flexible, Multimodal, Compact

The MP-series multi-photon multimodal imaging platform is based on a modular concept. We offer three standard models where each can be upgraded with various options and accessories, to completely maximize the utility.

This offers every user the unique flexibility to design a multi-photon microscope tailored to their specific need and budget.

| | MP-1040 | MP-920F | MP-Tune |
|--|----------|----------|----------|
| Fixed wavelength: 1040 nm | ✓ | ✓ | ✓ |
| Fixed 2 nd wavelength: 920 nm (others upon request) | Optional | ✓ | X |
| Tunable 2 nd wavelength: 740 - 1250 nm | X | X | ✓ |
| Resonant - galvo-galvo scanning module | Optional | Optional | Optional |
| Single-photon fluorescence modality | Optional | Optional | Optional |
| Brightfield Epi-modality | Optional | Optional | Optional |

Basic Versions MP-series

| Laser source: Built-in femtosecond laser | MP-1040 | MP-920F | MP-Tune |
|--|---------|---------|---------|
| Fixed wavelength: 1040 nm All parameters @sample: 80 MHz (40 MHz*), >600 mW, <130 fs (using Nikon 16x objective) | ✓ | ✓ | ✓ |
| Fixed 2nd wavelength: 920 nm All parameters @sample: 80 MHz, >200 mW@920 nm & >500 mW @1040 nm, <130 fs (using Nikon 16x objective) | X | ✓ | X |
| Tunable 2nd wavelength: 740 - 1250 nm 80 MHz, >200 mW / output, <150 fs @sample (using Nikon 16x objective) | X | X | ✓ |

| MPI Signal Detection | |
|--|--|
| Epi-detection | Two ultrasensitive GaAsP PMTs, non-cooled, spectral response 380 nm - 720 nm, dark count rate <5000/s included. (up to 4 PMTs optional)* SHG & 2PEF fluorescence filter set included (notch and dichroic filters). Manual exchange of individual Filters. |
| Collection Optics | 12° collection angle |
| Transimpedance amplifiers (TIA) | Filter bandwidth & gain separately configured and controlled through software. |

| Controller | |
|------------------------------|--|
| Umbilical | Non-detachable umbilical between controller and scanhead, >2.0 m in length. |
| Embodiment | Stand-alone controller with handles and wheels. |
| Cooling | No chiller, fully aircooled |
| Power | Single phase, 85 - 240 VAC, 10 A max (max 800 W total power consumption). |
| Built-in PC hardware | ATX gaming board, AMD Ryzen 9 3900X, 64 GB RAM DDR4, 500 GB SSD NVMe, 4 TB HDD, Quadro RTX 4000 GPU. |
| Display | 31", Ultra HD 4K, <5ms, 100% REC 709, 100% sRGB |
| Keyboard and mouse | Included, QWERTY (or QERTZ) |
| Weight scanhead | 10 kg |
| Weight controller | 30 kg |
| Size scanhead | 50 cm x 40 cm x 15 cm (WxHxD). |
| Operating environment | 18°C - 28°C. Extended operating conditions available.* |
| Storage temperature | -15°C to +50°C |
| Humidity | 10% - 90% (non condensing). |
| Noise level | <70 dBa. |
| Altitude | 2500 m max. |

| Cockpit | |
|----------------------------------|--|
| Auxilliary control device | Main functions of the system can be controlled via auxilliary interface to gain quick and direct access to individual settings and controls. |

| (I) Modality MPI: Multi-photon Fluorescence Imaging | |
|--|---|
| Motorized laser power control | 0.5 % - 100 % |
| Laser polarization | Linear |
| Scan path | Resonant* - Galvo-Galvo Scanner |
| Scan speed | 1.6 fps at 512 x 512 Pixels 0.1 fps at 2048 x 2048 Pixels Pixel dwell time: 0.8 to 32 µs Speed depends on scan angles & dwell time |
| Field of view (FOV) | 20 mm Diagonal Square (Max) at the intermediate image plane. Typically 0.9 mm x 0.9 mm by using a Nikon 16x N16XLWD-PF objective. |
| Beam diameter @ objective back aperture plane | 20 mm |
| Point spread function | Depending on installed objective. |
| Scan zoom (digitally via ScanImage) | 1x to 99x |
| Scan resolution | Up to 2048 x 2048 Pixels (Both bi- and unidirectional). |

| Objectives | |
|-------------------------|---|
| Turret | 3-positions, motorized & software controlled. |
| Objectives | Nikon 16x N16XLWD-PF objective included. System requires infinity corrected, matched to 200 mm tube lens. |
| Turret threading | M34 x 1.0 |

| Software | |
|--|--|
| ScanImage Prof. V2020 or higher | Laser scanning |
| Chromogazer™ | System Monitoring & Modality Change |
| MS Windows™ 10 64-bit Prof. | PC Operating System |
| ImageJ (Fiji) | Image post-processing |
| Matlab | Scanimage and house-written acquisition scripts |
| µManager | ImageJ plugin for single-photon fluorescence acquisition |

* Optional, please enquire.