



# Scientifica Buyer's Guide

## **Multiphoton Imaging Systems**

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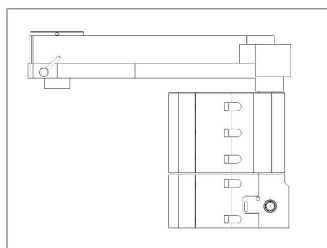
# Multiphoton Imaging Systems

The components of Scientifica multiphoton systems are designed to be as flexible and modular as possible. Here we demonstrate the different combinations of frames, scan heads and detectors available, to suit your experimental requirements. We have also listed the various options that are available for each component, to help you choose the best for your research.

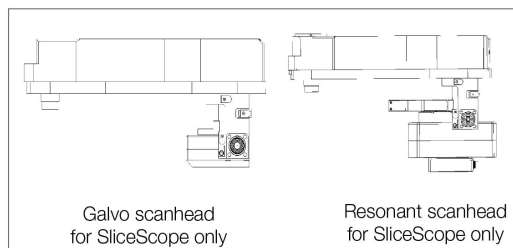
All Scientifica multiphoton systems are available as complete hardware solutions. Alternatively, modules can be purchased separately for integration into existing systems.

Model	Scan head	Objectives	Detector Compatibility	Frame	Software	Applications
<a href="#">HyperScope</a>	Single or dual scan head with galvo, res or RGG (3 scan mirrors)	Large back aperture objectives	MDU, MDU XL, Chromoflex, FLIM	VivoScope SliceScope (in vivo or in vitro)	SciScan ScanImage Custom software	<b>(in vivo or in vitro)</b> Three-photon imaging Two-photon imaging Second harmonic generation Two-photon photostimulation Fluorescence lifetime imaging All-optical interrogation of neurons
<a href="#">MP-1000</a>	Galvo	Small back aperture objectives	MDU, Chromoflex, FLIM	SliceScope (in vivo or in vitro)	SciScan ScanImage Custom software	<b>(in vivo or in vitro)</b> Two-photon imaging Second harmonic generation Fluorescence lifetime imaging
<a href="#">MP-2000</a>	Galvo	Large back aperture objectives	MDU, MDU XL, Chromoflex, FLIM	SliceScope (in vivo or in vitro)	SciScan ScanImage Custom software	<b>(in vivo or in vitro)</b> Three-photon imaging Two-photon imaging Second harmonic generation Fluorescence lifetime imaging
<a href="#">MP-2050</a>	Res	Large back aperture objectives	MDU, MDU XL, Chromoflex, FLIM	SliceScope (in vivo or in vitro)	SciScan ScanImage Custom software	<b>(in vivo or in vitro)</b> Three-photon imaging Two-photon imaging Second harmonic generation Fluorescence lifetime imaging
<a href="#">MP-2070</a>	Res	Large back aperture objectives	MDU, MDU XL, Chromoflex, FLIM	VivoScope (in vivo)	SciScan ScanImage Custom software	<b>(in vivo)</b> Three-photon imaging Two-photon imaging Second harmonic generation Fluorescence lifetime imaging
<a href="#">MP-100794</a>	Galvo	Large back aperture objectives	MDU, MDU XL, Chromoflex, FLIM	VivoScope (in vivo)	SciScan ScanImage Custom software	<b>(in vivo)</b> Three-photon imaging Two-photon imaging Second harmonic generation Fluorescence lifetime imaging

## Scan heads



MP-1000

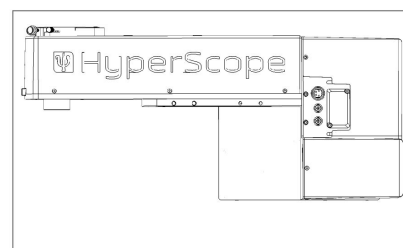


Galvo scanhead  
for SliceScope only

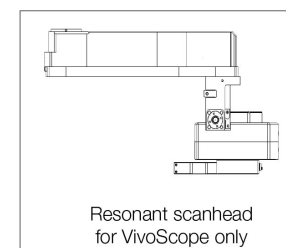
Resonant scanhead  
for SliceScope only

MP-2000

MP-2050



HyperScope



Resonant scanhead  
for VivoScope only

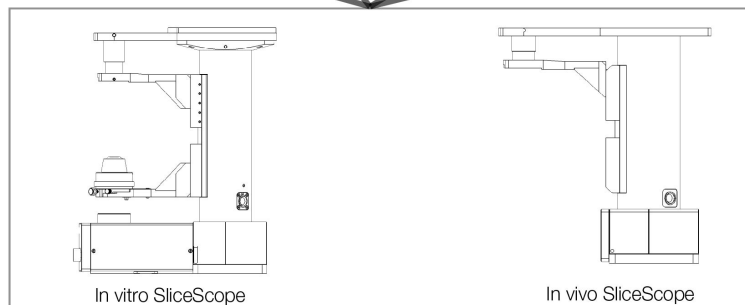
MP-2070



Galvo scanhead  
for VivoScope only

100794

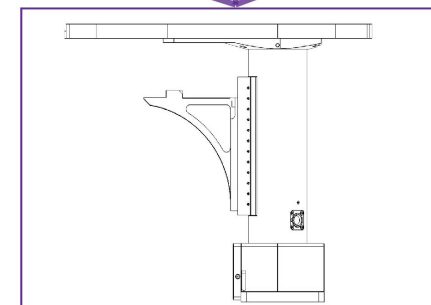
## Frames



In vitro SliceScope

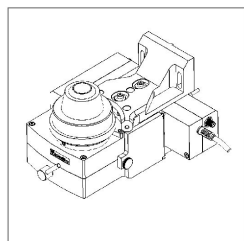
In vivo SliceScope

SliceScope



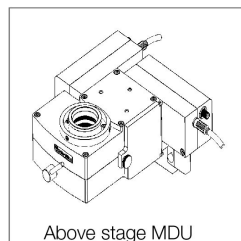
VivoScope

## Detectors



\*Substage MDU

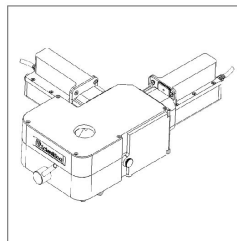
Options available:  
1 GaAsP & 1 Multialkali  
2 Multialkalis  
C-mount



Above stage MDU

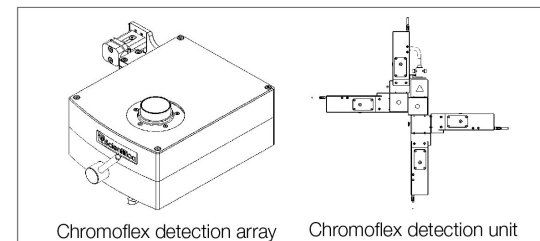
MDU

Options available:  
1 GaAsP & 1 Multialkali  
2 GaAsP  
2 Multialkalis  
C-mount



MDU XL

Options available:  
2 Gated GaAsP PMTs  
2 Protected GaAsP PMTs

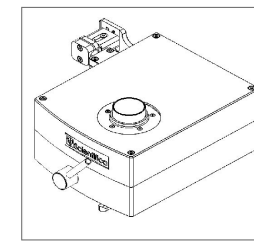


Chromoflex detection array

Chromoflex detection unit

Chromoflex

Options available:  
Up to 4 Gated or Protected  
GaAsP detectors



FLIM

With the PicoQuant  
upgrade kit, supplied by  
Scientifica

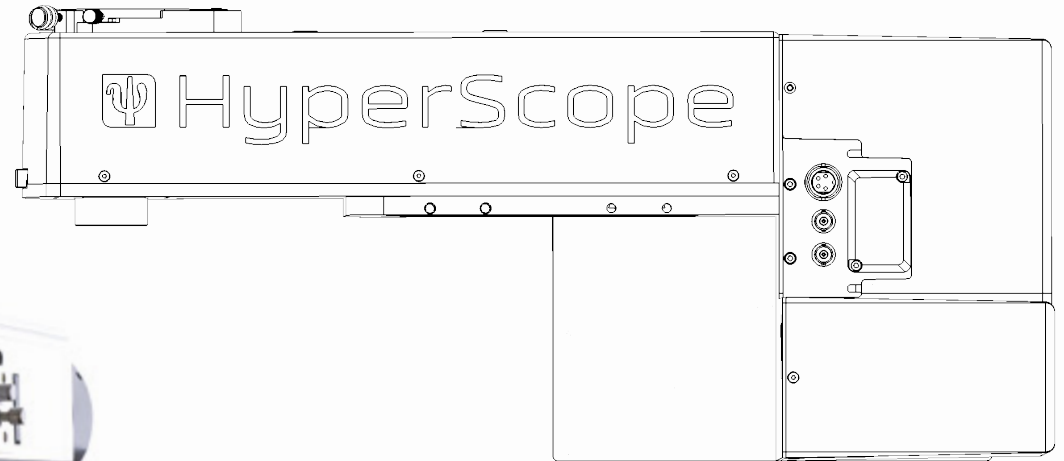
\*Only compatible with SliceScope frames

# HyperScope

**Flexible system with various scanning configurations for large back aperture objectives**

The HyperScope can be a single scan head for imaging or a dual scan head for simultaneous imaging and photostimulation/uncaging. A variety of scanning configurations are available; scan mirrors on the imaging path can be arranged as a galvo-galvo (X,Y), resonant-galvo(X,Y) or resonant – galvo – galvo (X,X,Y) scan head.

The HyperScope scan head is available with either VivoScope or SliceScope frames.



## Applications

**(in vivo or in vitro)**

- Three-photon imaging
- Two-photon imaging
- Second harmonic generation
- Two-photon photostimulation
- Fluorescence lifetime imaging
- All-optical interrogation of neurons

Find out more



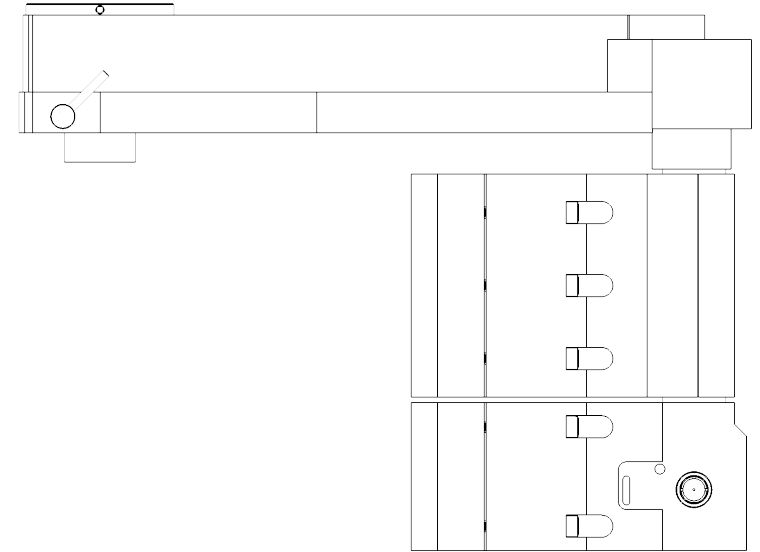


# MP-1000

## Galvo system for small back aperture objectives

The MP-1000 is a multiphoton galvanometer scanning system designed for small back aperture objectives and compatible with the SliceScope frame.

It consists of one separated pair of X and Y galvanometers with 3mm scan mirrors. The system is designed to obtain diffraction limited resolution with small back aperture objectives (<10mm). The scan head is compatible with the use of standard epifluorescence and CCD/CMOS camera imaging.



## Applications

(in vivo or in vitro)

- Two-photon imaging
- Second harmonic generation
- Fluorescence lifetime imaging

Find out more

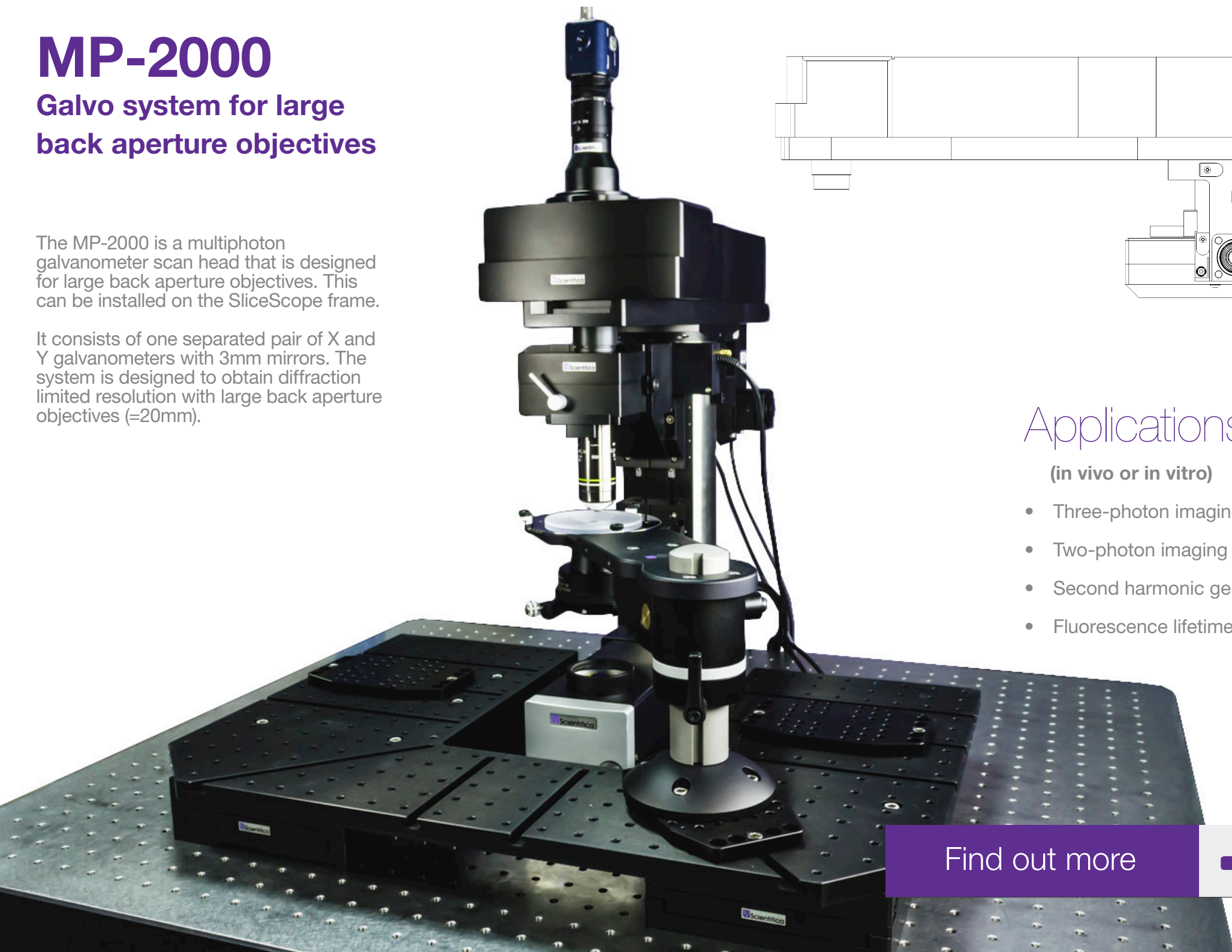
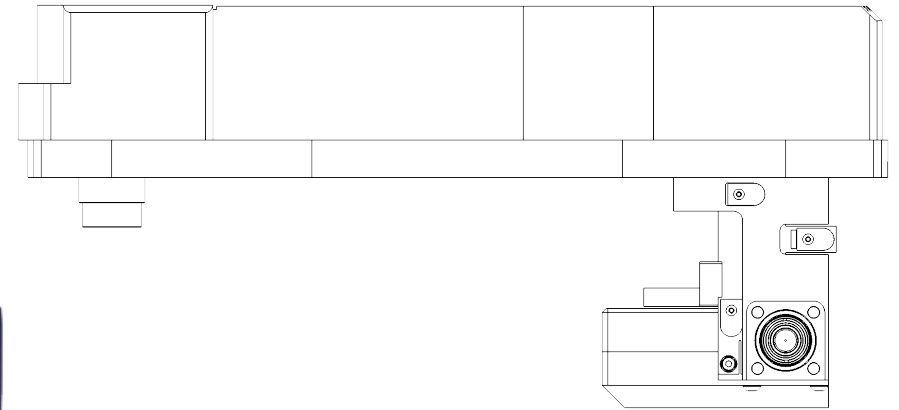


# MP-2000

## Galvo system for large back aperture objectives

The MP-2000 is a multiphoton galvanometer scan head that is designed for large back aperture objectives. This can be installed on the SliceScope frame.

It consists of one separated pair of X and Y galvanometers with 3mm mirrors. The system is designed to obtain diffraction limited resolution with large back aperture objectives ( $\approx 20\text{mm}$ ).



## Applications

(in vivo or in vitro)

- Three-photon imaging
- Two-photon imaging
- Second harmonic generation
- Fluorescence lifetime imaging

Find out more

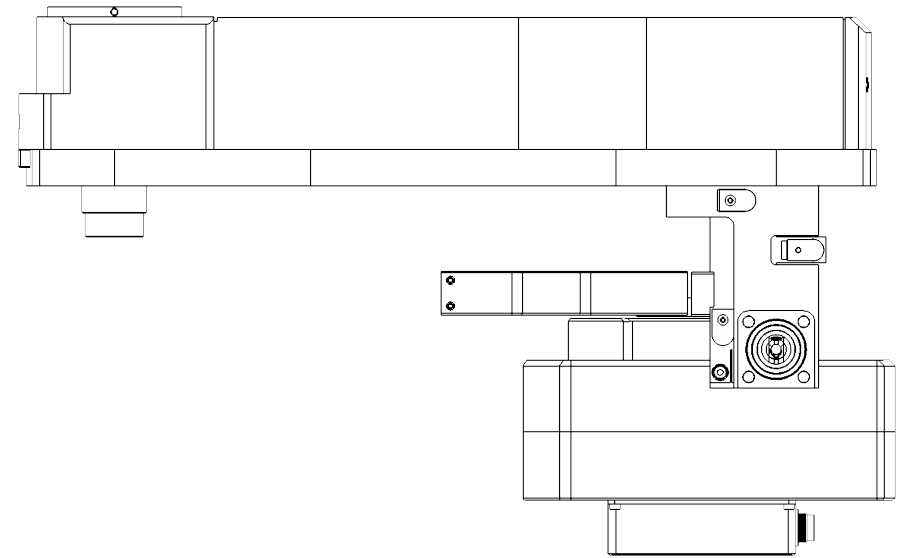


# MP-2050

## Resonant system for large back aperture objectives

The MP-2050 is a resonant scan head that can be installed on the SliceScope frame.

It consists of a separated X resonant galvanometer (8kHz) and Y galvanometers with 4mm mirrors. The system is designed to obtain diffraction limited resolution with large back aperture objectives (=20mm).



## Applications

(in vivo or in vitro)

- Three-photon imaging
- Two-photon imaging
- Second harmonic generation
- Fluorescence lifetime imaging

Find out more



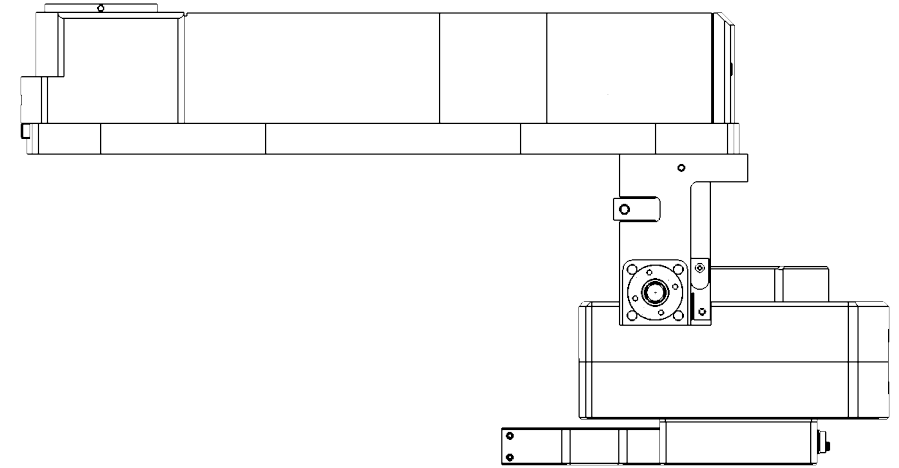


# MP-2070

## VivoScope resonant system for large back aperture objectives

The MP-2070 is a resonant scan head that can be installed on the VivoScope frame, for in vivo multiphoton imaging.

It consists of a separated X resonant galvanometer (8kHz) and Y galvanometers with 4mm mirrors. The system is designed to obtain diffraction limited resolution with large back aperture objectives (<20mm).



## Applications

(in vivo)

- Three-photon imaging
- Two-photon imaging
- Second harmonic generation
- Fluorescence lifetime imaging

Find out more



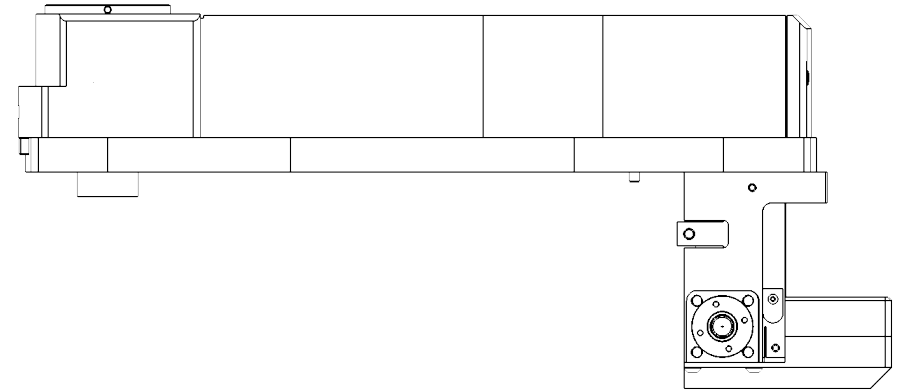


# MP-100794

## VivoScope galvo system for large back aperture objectives

The 100794 is a galvo scan head that can be installed on the VivoScope frame, for in vivo multiphoton imaging.

It consists of one separated pair of X and Y galvanometers with 3mm scanning mirrors. The system is designed to obtain diffraction limited resolution with large back aperture objectives ( $\approx 20\text{mm}$ ). The scan head is compatible with the Scientifica VivoScope and provides extra distance between the objective and the VivoScope column (215mm).



## Applications

(in vivo)

- Three-photon imaging
- Two-photon imaging
- Second harmonic generation
- Fluorescence lifetime imaging

Find out more

