

## Inverted Motorised Movable Top Plate (IMMTP)

Compatibility with minimal electrical noise



## Inverted Motorised Movable Top Plate

To combine electrophysiology with a range of imaging techniques (that require a stationary microscope) and allowing for “hands-free” remote control, the IMMTP fits around any Inverted microscope.

This allows the user to scan their sample and offers up to 50 selectable memory position in XY and focus. This motorised version offers height of between 285mm and 430mm.



**Inverted Motorised Movable Base Plate**

### Compatibility

The IMMTP is compatible with inverted microscopes from all major manufacturers, including Zeiss, Olympus, Leica and Nikon.

This is due to a careful top plate design and versatile, height adjustable legs. This ensuring that the IMMTP is guaranteed to fit users current setup as well as remaining compatible with any future experimental setups

### 50 memory positions stored

50 memory positions can be stored and returned to via the control device (page 6).

In addition, an unlimited number of positions can be set via Scientifica's, free LinLab software. The unique “Follow Function” within the LinLab software enables the user to “virtually link” multiple manipulators to the IMMTP movement and the microscope focus.

### Ultra low noise

The IMMTP has been carefully engineered to reduce electrical noise to a minimum. This ensures that even single-channel recordings are not masked by a background of equipment noise.

For this reason, when using a Scientifica system there is no need to turn off motorised products while recordings are taking place, making them vastly more convenient and trouble-free.

### Superior motorised movement

The completely smooth, trouble-free movement of the IMMTP owes its success to over a decade of development.

Superior crossed roller bearings ensure that movement is perfectly linear across the entire travel range, as well as preventing sample damage from jerky, lagged movement. The 25 mm of movement in X and Y, with an impressive 20 nm resolution, offers ample travel for larger preparations.



IMMP with the Nikon Eclipse TI inverted microscope

## Benefits

A central component in any electrophysiology setup, is a good mounting system. This will ensure complete stability during recordings and prove intuitive and “problem-free” in operation.



### Efficient sample space

The IMMTP has been designed to accommodate industry standard 108 mm and 110 mm diameter chamber adapters. A ferro-magnetic ring allows convenient arrangement of magnetic perfusion cannulae, such as the Scientifica Bath Perfusion Tool.

The inverted platform features a deep sample chamber more suitable for techniques using cultured or dissociated cells, with a locking chamber.

### Flexible mounting

The IMMTP's tracks accept lockable sliding carriages, usually used for mounting micromanipulators.

This unique mounting system offers unrestricted freedom of movement to precisely position and fix your manipulators as close to your sample as you need. This ensures users can make the most of their manipulator's travel range by starting in an ideal 'home' position.



### Semi-automated processes

50 memory positions on the device and unlimited memory via Scientifica's LinLab software allows for the return to areas marked as being of an interest area.

When combining this with the software's unique "Follow Function" (where pipettes can be kept in the field-of-view and then "left behind" at interest areas when not needed) this can improve workflow efficiency. In addition, this can also assist in semi-automating processes, therefore enabling users to expedite their research findings.

### Anti-vibration table freedom

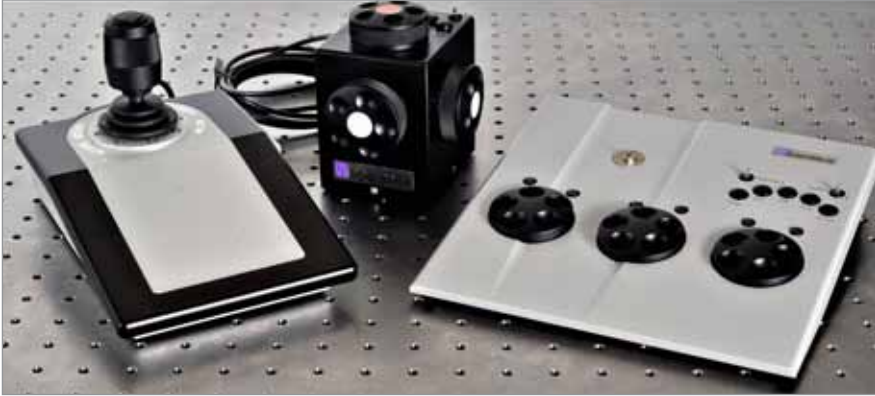
To allow complete freedom to arrange the rig on the anti-vibration table, the IMMTP features Scientifica's clever slotted inserts on its feet.

The slotted inserts accept metric or english bolts making them universally compatible with tapped anti-vibration tables.

The legs of the IMMTP can be adjusted and locked, to give a stable working height of between 285 mm and 430 mm. This allows perfect compatibility with the focal height of the inverted microscope.

## Control options

Scientifica's ambition to make its equipment as accessible and easy to use as possible, Scientifica offer a range of control options that can be configured with the entire range of manipulation and translation products.



Joystick, Control Cube and PatchPad (left to right)

### Control Cube

Compact and comfortable to use, this popular wheeled design gives fingertip control and excellent functionality. An array of buttons and switches gives fast access to a variety of functions; activating the "approach" axis, adjusting speed, setting and recalling memory positions and more. The three wheels, each corresponding to an axis of movement, can be converted by the user between left and right-handed use and customised to your preferences.

### The PatchPad

With this flat panel design, each axis of movement can be allocated a wheel on the panel, adding flexibility of control to suit the users spatial and personal requirements.

A touchscreen variant is also available, increasing the number of devices that can be controlled from the two that the standard device can switch between.

### Joystick

An alternative is the Scientifica joystick with an ergonomic design that offers intuitive directional control in all three axes. With movement speed proportional to the amount of deflection applied, a speed change button enables the user to customise the device to their preference.

This functionality enables the user to comfortably and naturally use the joystick whilst concentrating entirely on the experiment taking place.

### LinLab Software

While all our equipment can be operated without connecting it to a PC, some users prefer to customise their systems. Each motorised Scientifica product includes the free Scientifica LinLab software. LinLab will allow you to set the speed and direction of movement, step sizes, positional display and memory positions.

Users can accurately read approach angles from the manipulators, use the "Follow Function" to virtually link the movement of multiple motorised products and take advantage of other unique capabilities.

## Complete setups

### PatchPro 5000

The PatchPro 5000 system cost-effectively integrates the IMMTP into a complete patch clamping solution, complete with micromanipulators and control hardware.



#### PatchPro 5000

PatchPro systems allow the user to control manipulators, microscope platforms, microscope focus (where compatible) and temperature control, all from two neat, simple consoles, perfect for your current and future experimental needs.

The PatchPro 5000 applies the IMMTP in combination with either PatchStar or MicroStar manipulators, creating a cost-effective and perfectly integrated inverted patch clamp system.

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#### Advantages

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Future-proof modular system allows you to add or subtract equipment at a later date

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Compatibility guaranteed for peace-of-mind and trouble free operation

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Fully upgradeable software control and customisation

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The ability to use the LinLab "follow function" with current or future microscopes

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## Technical Specifications

Specifications	
Number of Axes	2
X Travel:	25 mm
Y Travel:	25 mm
Travel resolution	20 $\mu$ m

## Ordering Information

Product Option	Order number
Inverted Motorised Movable Top Plate with English Carriages	IMMTP-3400-50
Inverted Motorised Movable Top Plate with Imperial Carriages	IMMTP-3400-00

All IMMTP's include the following as standard: 3 mounting carriages, Slice Recording Chamber Kit (containing 2 Bath Plate tools, Cover Slips, Plastic Bath Chamber, Ferromagnetic Ring & RTV sealant), 2 Protective splash covers, 1U Control Rack and Linlab Software for Windows (with all future upgrades).

These order numbers should be appended with the following codes to designate your choice of control option:

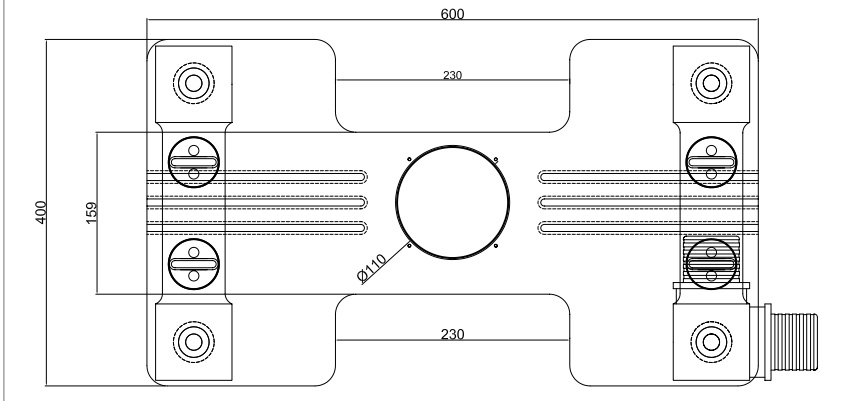
C = Control Cube      P = PatchPad  
 J = JoyStick          PT = PatchPad Touch

Please speak to a member of our product specialist team if you need assistance in selecting the most appropriate equipment for your requirements.

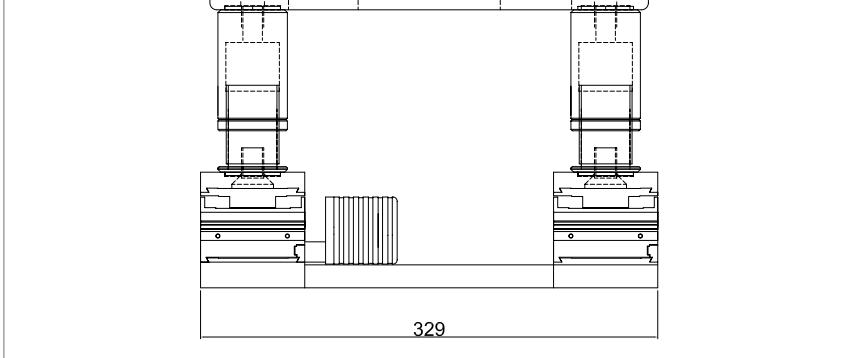


# Schematics

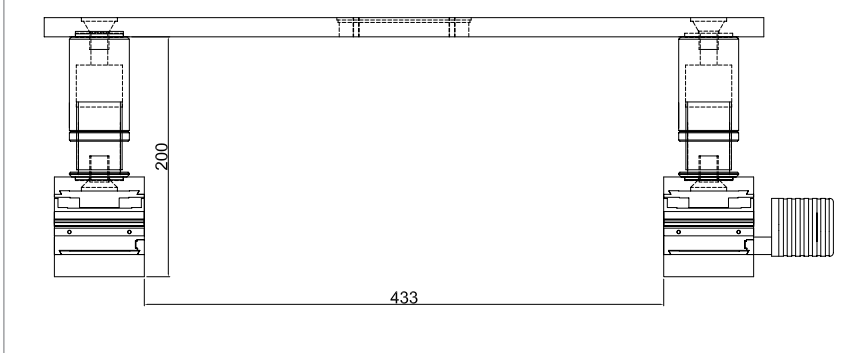
IMMTP Top View



IMMTP Side View



IMMTP Front View



## Warranty

Scientifica's success is founded on supplying superior support and application of our significant manufacturing experience.

We would therefore really value the opportunity to understand your applications better and to offer no obligation advice on equipment, configurations and compatibility.

All Scientifica instruments are sold with a two-year warranty giving you complete peace of mind.

This covers all defects in manufacturing and materials. In this unlikely event, Scientifica will remedy either by repair or replacement.

Our team of customer support engineers are dedicated to providing you with the very best advice and support, should you experience any difficulties with our products.

With all products we offer a complete installation support service.



# A guide to Scientifica mounting range

## Movable Microscope



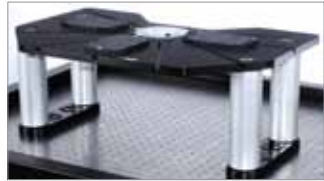
Universal Motorised Stage

OR



Manual XY Stage

+  
One of the following  
platform systems



SlicePlatform



Post & Platform



Inverted Fixed Platform

The Post & Platform, SlicePlatform and Inverted Fixed Platform are combined with our Universal Motorised Stage (UMS) for smooth microscope movement.

## Fixed Microscope

### Movable Top Plate



Movable Top Plate    Motorised Movable Top Plate

### Motorised Movable Base Plate



### Inverted Movable Top Plate



Inverted Movable Top Plate    Inverted Motorised Movable Top Plate

### Complete Systems

All of the mounting options above are available as a package with Manipulators and a Microscope (either SliceScope or most major upright and inverted Microscopes) - a complete turnkey solution for your research.



Revision 1.3

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