Scientifica
Experts in Electrophysiology & Imaging

Micromanipulators

LBM-7 Manual Manipulator

Compact and robust - 7 axis manual manipulator

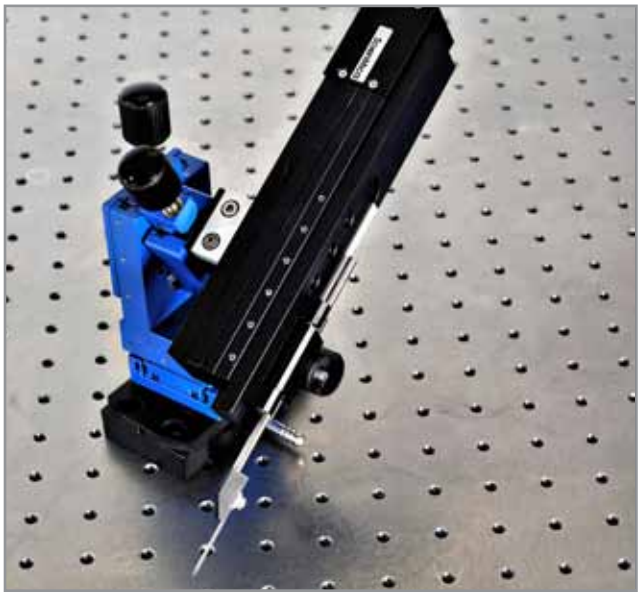
www.scientifica.uk.com/LBM-7

LBM-7 Manipulator

Robust yet versatile, manual manipulator

The LBM-7 was designed and developed in conjunction with scientists to provide absolute accuracy, reliability and increase productivity.

It bridges the gap between coarse manipulators and micromanipulators, offering fingertip control with accuracy of less than a micron.



Seven axes of fine control

The LBM-7 offers seven axes of movement, four linear and three rotational; providing positioning flexibility with micron accuracy. Offering 25 mm of travel in X and Z, with 12.7 mm in the Y axis.

With fingertip control, the lead screw, (driving movement within each stage), ensures zero backlash and minimal drift.

The provision for rotational adjustment allows the user to optimise pipette working angles and ensures quick and easy pipette exchange.

Stable and repeatable

The robust structure of the LBM-7 minimises drift and provides precise, repeatable electrode placement. Scientifica uses pre-loaded linear bearings in the stages of the LBM-7 for absolute accuracy and reliability.

The LBM-7 features a unique, mechanical memory system, allowing the user to return exactly to the same position after rotating away from the experimental area - pipette and electrode exchange can be accomplished in seconds.

This saves time, improves productivity and ensures absolute accuracy for more consistent results.

Flexible operation

The LBM-7 easily switches between left and right-handed operation, making it ideal for users who want the flexibility of placement either side of the microscope.

This greatly improves return-on-investment, and usefulness with the laboratory.

The LBM-7 can also be used in conjunction with Scientifica's *in vivo* manipulator (IVM-1000) - see page 5 for more details.

Versatile placement

The LBM-7 can easily be attached to a wide range of mounting platforms, including anti-vibration tables and Scientifica mounting systems.

Mounting holes fit industry standard 25 mm or 1-inch hole spacing.

Applications

Built to Scientifica's world-renown standards of reliability and durability, the LBM-7 manual manipulator offers precise, three-dimensional manual positioning. Initially designed for the alignment of stimulation electrodes, and perfusion pipettes, during patch clamp recording experiments, its characteristics are useful for a broader range of applications:

- Inserting extracellular recording probes
- Aligning perfusion systems
- Impaling Oocytes for two electrode voltage clamp (TEVC) studies
- Microinjection

LBM-7 accessories

Further flexibility

A range of accessories can adapt the LBM-7 manipulator to suit the users exact requirements, including:

Extension bracket

This bracket provides the freedom to position the probe in difficult places whilst maintaining absolute stability.

Sliding bracket

Allows the user to slide the pipette or electrode, in and out, of the experimental area with 75 mm of travel - making pipette exchange even easier.

Riser block

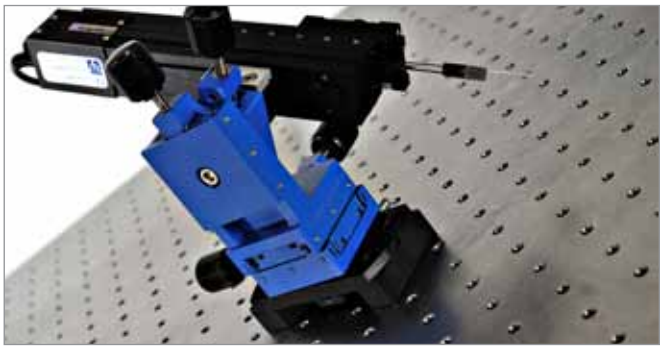
A 70 mm high riser block can be used to elevate the LBM-7 from the surface it is mounted on.

Extra smooth adjusters

The LBM-7 is extremely adjustable in all seven axes, but for users who want even more sensitivity, these larger diameter adjuster knobs enhance the level of control.

L-shaped bracket

Achieves steep angles and maintains the approach axis at a further distance from the manipulator with this additional mounting bracket.



LBM-7 fixed-mount (IVM mount)

Allows the user to mount the IVM on the LBM-7 either to the approach axis stage or to the sliding carriage attached to the approach axis stage.

LBM-7 with the IVM 1000 - a strong partnership

The LBM-7 can also be used in conjunction with Scientifica's IVM-1000 (*in vivo* manipulator). With the addition of a simple bracket the IVM can be mounted onto the crucial, approach axis of the LBM-7 adding motorisation for further, fine positioning control.

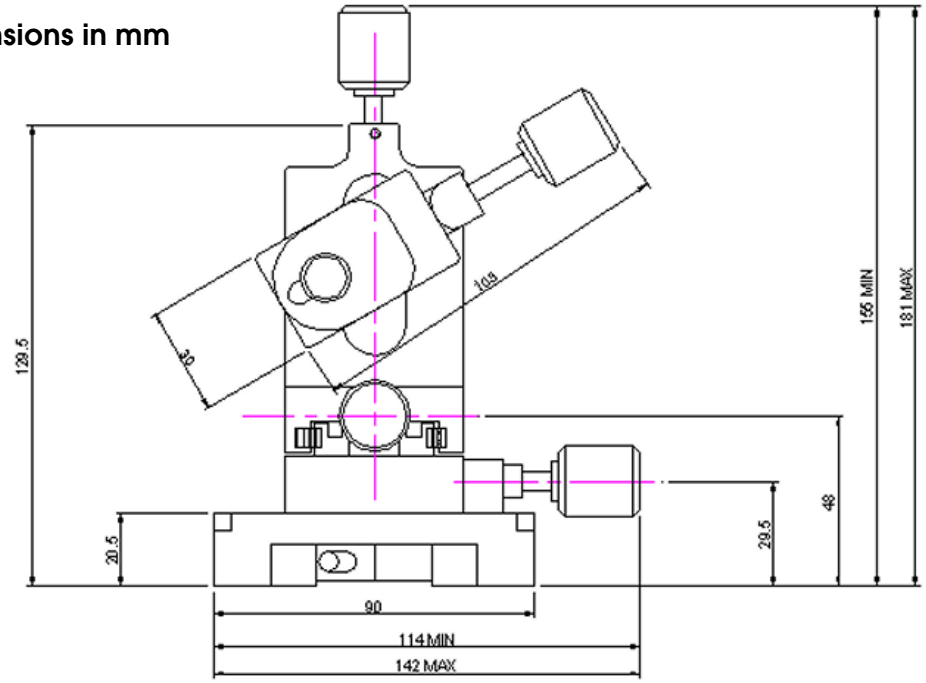
Motorised approach

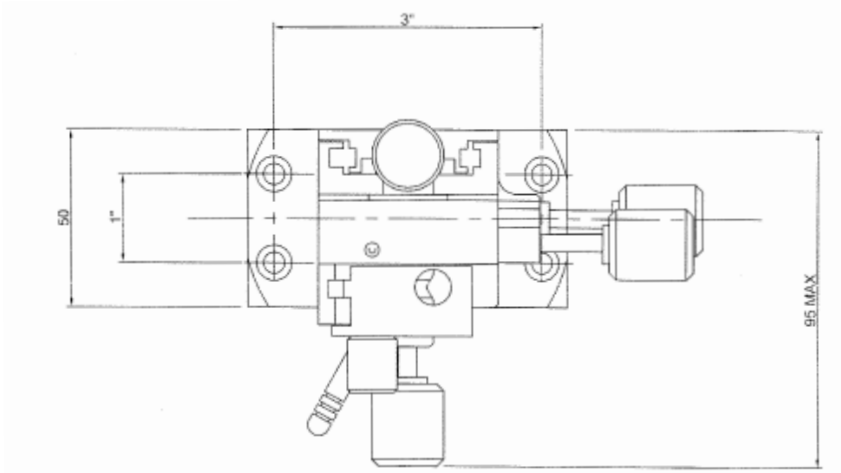
The IVM can be mounted in a number of ways to the LBM-7. A fixed mount allows the user to mount the IVM to the LBM-7, either to the approach axis stage or to the sliding carriage (attached to the approach axis stage). If mounted on the sliding bracket it can be mounted at 90° or in the same axis as the approach axis.

An adjustable bracket is also available for the IVM and Axon dovetail-mounted headstages. This allows the approach axis of the LBM-7 to be removed and the IVM to be mounted in its place. It can then be rotated and locked in position at the desired angle.

Schematics and specifications

All dimensions in mm





All dimensions in mm except where stated

Specifications	
Number of axis	4 Linear axes
Range of Motion	25 mm in X & Z axes, 12.7 mm in Y axis
Thread pitch on adjusters	X Y and Z axes 0.8 mm, Y axis 0.5 mm (per revolution)
Stages	Aluminium stages with preloaded linea ball bearing races
Weight	1 kg

Ordering information

Option	Code
LBM-7 manual manipulator	LBM-2000-00
Extension bracket	LBM-2005-00
Sliding bracket	LBM-2010-00
L-Shaped bracket	LBM-2020-00
Extra smooth adjusters	LBM-2025-00
LBM-7 fixed mount	IVM-505-00

Warranty and support

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 is 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.

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