

LBM-7 Manual Manipulator



Productivity Through Control

LBM-7



The LBM-7 was designed and developed in conjunction with scientists to achieve absolute practicality, accuracy and increased productivity. It bridges the gap between coarse manipulators and micromanipulators.

Built to Scientifica's trademark standards of reliability, precision and durability, the LBM-7 manual manipulator offers real world performance and flexibility.

Seven axes of movement, four linear and three rotational, combine with a margin of error smaller than $1\mu\text{m}$ to provide the complete positioning tool for scientists.

Known affectionately as the Little Blue Manipulator, this device was designed to serve the scientist in a broad range of applications that include:

- *Positioning stimulating electrodes*
- *Inserting extracellular recording probes*
- *Aligning perfusion systems*
- *Impaling Oocytes with two electrodes*

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The LBM-7's range of strengths include:

Memory

The LBM-7 features a unique repeatable mechanical memory system that allows you to return to exactly the same position after rotating away from the experimental area and then returning to the user-defined mechanical stops.

Pipette and electrode exchange can now be accomplished in seconds. Once you have set the mechanical stop, the mechanism will return to precisely the right place each and every time. This saves time, raises productivity and ensures absolute accuracy and replication of position for more consistent results.

Stable

Once the mechanical stops are set, the LBM-7 ensures absolute stability for the duration of the experiment. The manipulator will not move again until you want it to. In our tests we have measured less than $1\mu\text{m}$ of drift per hour.

Control with Flexibility

Precision equipment requires absolute fingertip control, achieved in this case with a lead screw to position each stage. This approach ensures zero backlash and extreme sensitivity.

Four linear and three rotational axes of movement provide maximum flexibility, meeting all your positioning needs.

Usable

The LBM-7 switches easily between left and right-handed operation, making the system ideal for applications that require positioning of stimulating electrodes, puffer pipettes and probes.

The lightweight manipulator was designed with substantial input from scientists who highly value ease of use in manual manipulators. This experience translates to greater productivity in lab time and greater value for your money.

Compatible

The LBM-7 can easily be attached to a wide range of standard mounting platforms, including vibration isolation tables and the Scientifica Universal Post and Platform Mount. Mounting holes fit a 25mm or 1-inch pattern, the industry standards.

Reliable

Simplicity of design, high quality materials and the pursuit of engineering excellence in each and every component provides a highly durable product that will work perfectly now and years into the future.

Scientifica uses pre-loaded linear bearings in the stages of the LBM-7 for absolute accuracy. The rugged construction of the LBM-7 minimizes drift and provides lasting reliability.

LBM-7 Manual Manipulator

Features

- *Smooth, stable and predictable adjustments*
- *Movement along seven axes, four linear and three rotational, for fast and accurate positioning and high productivity*
- *Sensitivity <math><1\mu\text{m}</math> for total control*
- *No backlash; minimal drift*
- *Can be easily changed between left and right-handed operation*
- *Easy to use*



Accessories

A range of accessories can adapt this manipulator to suit your requirements, including:



1. Extension Bracket

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

2. Sliding Bracket

Safely slide your pipette or electrode in and out of the experimental area with 75mm of travel to make pipette exchange even easier.

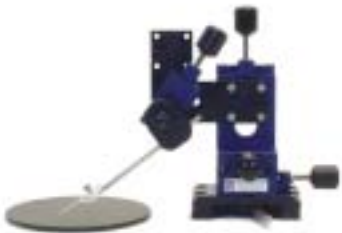
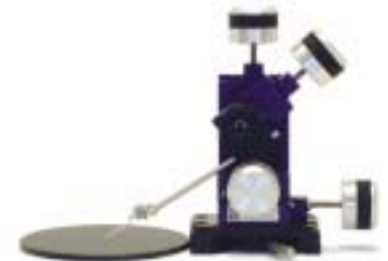


3. Inchworm Bracket

Specifically designed for use with the Burleigh Inchworm™ motor, this bracket provides a stable support during in-vivo or thick slice experiments.

4. Extra Smooth Adjusters

The Little Blue Manipulator is supremely adjustable in all seven axes, but for scientists who want even more sensitivity, these new, larger diameter adjuster knobs perfectly complement the standard device.



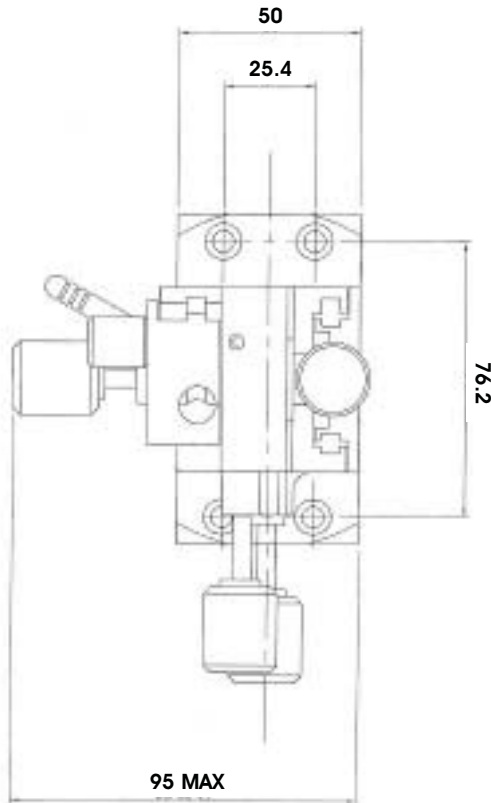
5. L-Shaped Bracket

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

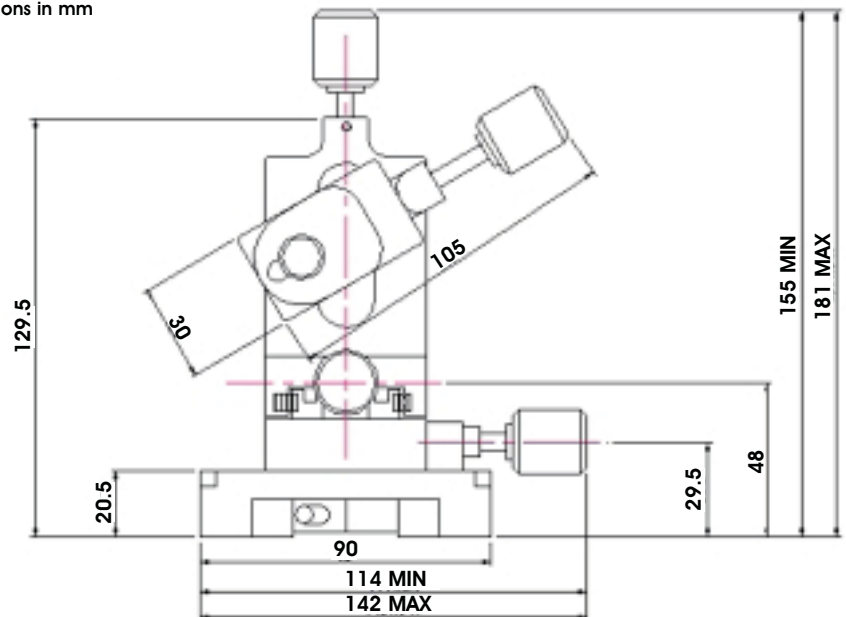
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Technical Specifications

Colour	Blue
Number of Axes	4 Linear Axes 3 Rotary Axes (one horizontal and two vertical)
Range of Motion	
<i>X, Z and approach axes</i>	25 mm (1")
<i>Y axis</i>	12.7 mm ($1/2$ ")
Thread Pitch on adjusters	
<i>X Y and Z axes</i>	0.8 mm per revolution
<i>Approach axis</i>	0.5 mm per revolution
Resolution	1 μ m
Type of Stages	Aluminium stages with preloaded linear ball bearing races
Weight	1 kg (2.2 lb)



All dimensions in mm



Ordering Information

To order within the UK and Eire, please contact Scientifica directly. Outside these areas, please contact your local sales representative. Using the part numbers below, please specify your chosen LBM-7 system.

Product	Part No.
LBM-7 Manual Manipulator	LBM-2000-00
Extension Bracket	LBM-2005-00
Sliding Bracket	LBM-2010-00
Inchworm™ Motor Mounting Bracket	LBM-2015-00
L-Shaped Bracket	LBM-2020-00
Extra Smooth Adjusters	LBM-2025-00

Warranty

All Scientifica instruments are sold with a two year warranty to give you complete peace of mind. This covers all defects in manufacturing and materials, providing the system is registered with us within 30 days of delivery. An extended warranty can be purchased if desired after this two year period.

For more information please contact your local distributor or visit our website www.scientifica.uk.com

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