



CleverArm
Micromanipulator

Besides these innovations, the CleverArm manipulator inherited some useful features from brands:

▲ **Modularity**

All three manipulator stages are identical. This makes it very easy to reconfigure a right-handed manipulator into a left-handed manipulator. It also gives you more options with future additions and alterations to your setup.

▲ **Easy Electrode Exchange**

The CleverArm manipulator body can rotate on its base, and the headstage bracket allows you to slide the assembly away from the sample and rotate the headstage upwards, to make electrode exchange quick and easy.



▲ **Home Functions and Repeatable stops**

The CleverArm manipulator has integrated repeatable stops, which makes electrode exchange easy and enables you to use the "Working Position" function with confidence.

▲ **Virtual Electrode axis**

The CleverArm has an angular detector on the vertical rotation plate, which detects the angle that the electrode is locked at. When you enable the detector by pushing the Diagonal Angle button on the CleverControl Cuboid, combined movement of the x and z-axes moves the electrode along this angle, which can be essential when working in tissue slices

For demonstrations and quotations, please contact us on:

info@mci-neuroscience.com
(0) 1825 890 858

| Specification | Description |
|------------------------|---|
| Resolution/Smoothness | 20nm |
| Travel | 25nm |
| Maximum speed | 3mm/sec |
| Stability | Drift Less than 0.5um/hr Stepper motors |
| Drive Mechanism | Stepper motors |
| Weight | 7.5kg |
| Display Size on Cuboid | 3" LCD Screen |
| Carrying capacity | 500g |
| Electrical Noise | Low/no noise. May require grounding |

The MCI CleverArm Micromanipulator The next generation in micromanipulator technology.

The best manipulator options designed for the electrophysiologist display some features that any experienced experimenter would expect from a leading brand. All the essential elements were integrated into the genetic material of the CleverArm micromanipulator.

▲ Stability

We conduct an individual drift-test on every manipulator before it gets couriered to your laboratory. You'll get your manipulator delivered with a birth-certificate – a short video showing an electrode mounted onto your manipulator over a 2-hour period under a 40x objective. An MCI manipulator won't leave the factory without passing a stability test of less than 500nm movement over an hour, using a real pipette holder and headstage used in a typical laboratory environment.

▲ Low Noise Levels

Our stepper motor technology is optimally shielded to prevent electrical noise. We also added a new level of innovation to further reduce potential sources of electrical noise (see section on "Commitment to Innovation").

The CleverArm manipulator with the Electrode Extension Plate attached, adding longer reach for certain setups



Cleverarm with CleverControl Cuboid
(Left-handed Configuration)

▲ Smooth movement

The CleverArm's resolution of 20nm means you will be able to patch onto the smallest structures.

▲ Easy and intuitive navigation

The CleverControl Cuboid interface features highly responsive control wheels for the three manipulator axes (and the virtual diagonal axis), allowing you to comfortably navigate to your target cell. The menu options on the CleverControl Cuboid enable you to customise your manipulator's features so that you can easily get used to controlling your new manipulator.

▲ Reliability

The CleverArm has robust stepper motors at its core – we can therefore confidently offer a 3-year warranty on our manipulators.

So, this is what everyone would expect from a good micromanipulator. What would make a manipulator great?



Side view

Top view

With MCI's focus on innovation, you can rest assured that a lifetime of free updates on CleverControl Software will keep your manipulator up to date with the latest developments.

The CleverControl Cuboid and CleverControl Software offer user logins to instantly recall settings. This feature may be very valuable on shared rigs or where work is being done on several different samples.

▲ Commitment to Innovation

MCI have gone wireless...The CleverArm has only one single, flexible cable supplying power to the control circuit board, which is mounted on the manipulator. Each stepper motor is connected to this circuit board via a short, flexible cable. This approach gets rid of the typical bird's nest of cables around manipulators, which makes cable management so much easier.

Fewer and shorter cables also reduce the chances of electrical noise being generated by a cable acting as an antenna.

The CleverControl Cuboid interface and CleverControl software embody MCI's global and diverse approach by having displays available in 4 of the most-spoken languages¹.

We also know that 1 out of 10 scientists are left-handed...reconfiguring the CleverControl Cuboid from right-handed to left-handed configuration takes only 8 seconds (see online video for demonstration), which means the left-handed user won't feel left out when sharing a rig.

The CleverControl Cuboid can control up to 8 devices from a single interface, which offers more upgrade options for future expansions.

The CleverControl Software interface offers similar customization features to the CleverControl Cuboid. In addition, you can calibrate the "Stalker" function (when you're using a MCI motorised stage in combination with the CleverArm) and use the flexible memory position library.



CleverControl Cuboid

1. English, Chinese, German and French