

De Fonbrune-Type Stage-Mounted Micromanipulator



Joystick and Receiver



Detail of Receiver

- Pneumatic joystick control provides virtually zero drift or backlash; not possible with hydraulic or mechanical manipulators
- Smooth, positive response to your every move
- Can be used with any microscope, alone or in clusters
- 1/4 the size of freestanding model
- Movement sensitivity at maximum ratio is ~1 μm
- User setup for either right or left-handed use

The stage-mounted De Fonbrune type of stage mount micromanipulator uses the same type of pneumatic technology as our free standing De Fonbrune series. This micromanipulator mounts directly onto a microscope stage, providing a more integrated (stable) platform. The micromanipulator can either be mounted as a single unit or several units mounted together on the same stage in a 'cluster'. The mounting process may be considered to provide positional control on the scale of centimeters, especially if the receiver is mounted on a simple slide mount. The receiver coarse adjustment provides control on the scale of millimeters and the joystick provides control on the micron scale (+1 μm).

This micromanipulator is extremely compact and is about 1/4 of the size of the free-standing system. As with the free-standing unit this micromanipulator provides smooth positive movement that is virtually free from drift or backlash, unique features that cannot be achieved in either a mechanical or hydraulic type of micromanipulator.

The separate joystick and receiver units are connected by pneumatic tubing and may be set up for either right or left-handed use. Through the microscope the micro-tool that is attached to the receiver appears to move exactly the same way as the hand. The single joystick interface controls movements in all three axes, X, Y, and Z, leaving the operator's other hand free to control another joystick controlled micromanipulator or conduct other operations. The chuck in the receiver allows any suitable microprobe, micro-tool, or microelectrode to be quickly sealed to the chuck with a miniature o-ring compression fitting. Micro-tools of various kinds can be readily fabricated using the De Fonbrune Microforge.

Specifications

Movement Sensitivity	~1 μm
Coarse Axial Dynamic Range	15 mm
Fine Axial Dynamic Range	0.5 mm
Coarse Lateral Dynamic Range	15 mm
Fine Lateral Dynamic Range	0.6 mm
Coarse Vertical Dynamic Range	15 mm
Fine Vertical Dynamic Range	0.5 mm
Ratio Range	20:1 to 400:1
Wet Chuck O-Ring	Size 001
Transmission Tubes Inside Diameter	15 mm
Receiver Size	71 x 38 x 48 mm (2.8 x 1.5 x 1.9 in)
Receiver Weight (Without Mount)	156 g (5.5 oz)
Chuck Holder Load Limit	15 g (0.5 oz)
Shipping Weight	1.8 kg (4 lb)

Catalog No. Product

CGS 8000.75 De Fonbrune-Type Stage-Mounted Micromanipulator