



DC-3K right

▶ **Micromanipulator DC-3K 3 Axes Motor Drive**

	Specifications	Order Information
Manual Version: (travel range / readout)	X-axis = 37 mm / 0,1 mm Y-axis = 20 mm / 0,1 mm Z-axis = 20 mm / 0,1 mm	DC - 3K, right-sided Part No.: 00-45-201-0000  DC - 3K, left-sided Part No.: 00-45-202-0000
Motorized Version: (travel range / readout)	X-axis = 10 mm / 10 µm Y-axis = 10 mm / 10 µm Z-axis = 10 mm / 10 µm	<b>Accessories</b>  Controller MS 314 Part No.: 00-75-220-0814  Remote control for MS 314 Part No.: 00-75-220-1814  STM 3 joystick controller Part No.: 00-75-220-0804
Weight:	1.400 g	
<b>Features</b>	<p>The micromanipulator DC-3K offers the possibility for manual or motorized operation of all three axes (X, Y, and Z). The motorized fine positioning of the electrode is very smooth and possible without the interference of electronic noise, even in sub-micron range.</p> <p>The manual part is equivalent to our MM33. For the purpose of avoiding that the Z-axis will descend when working with weighty loads (drift), there is an optional break (Z-axis stop) available.</p> <p>The motorized movement ensues through three fine adjustment slides with built-in DC-motors and micrometer spindle with readout resolution 10 µm.</p> <p>The motorized X-axis can be tilted by 90° which allows an easy positioning of capillaries, electrodes, etc.</p> <p>The DC-3K includes a ½ inch mounting clamp.</p>	
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## ▶ DC-3K in conjunction with Controller MS 314

Quick User Guide

### Basic Operation

The forward and backward movements of the three axes of the micro manipulator DC3/DC3-K are controlled by 6 keys. If a key is pressed for less than 0.3 seconds, only one step of the micro manipulator results. Stay pressing for longer than 0.3 seconds, a continuous movement succeeds to the step as long as the key is pressed.

The step length can be set by "STEP SIZE" from 0.5 to 10  $\mu\text{m}$ , the continuous velocity by "CONTINUOUS SPEED" from 0 to 200  $\mu\text{m/s}$  (reduction gear 900:1). The settings of step length - "STEP SIZE" - and of the velocity of continuous movement - "CONTINUOUS SPEED" - are the same for all three axes. The velocity of the step movement cannot be modified externally. It is not possible to drive in more than one direction at any one time.

### Backlash Compensation

This control unit has built-in electronics, to compensate the backlash of the gears. If the direction is changed, the motor receives an extra current pulse, which corresponds to the backlash. This is very valuable in the step mode, as it avoids "missing steps" (motor turns, but no movement of the micro manipulator).

On the bottom of the case there is one adjusting screw for all three axes "BACKLASH COMPENSATION".

Thus the backlash compensation can be adapted to the manipulator individually.

