

## METERS

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### pH-1 micro

The pH-1 micro is a precise fiber optic pH meter. It is temperature compensated and used with pH microsensors based on a 140  $\mu\text{m}$  optical fiber. A PC is connected to run the user-friendly software. pH-1 micro is additionally equipped with an analogue output and a trigger input.

- For use with pH microsensors
- Simple one-point calibration possible
- Software included

## TECHNICAL

### Specifications

pH sensors	HP5	
Temperature sensor	1 x Pt1000 temperature connector (sensor included)	
Temperature performance	0 °C to + 50 °C, resolution $\pm 0.1$ °C, accuracy $\pm 1.0$ °C	
Power supply	18 VDC / 5 W (110 - 240 VAC, 50/60 Hz, adapter included)	
Temperature: operating / storage	0 °C to + 50 °C / - 10 °C to + 60 °C	
Relative humidity	up to 80 % (non condensing)	
Dimensions	210 mm x 120 mm x 50 mm	
Weight	0.65 kg	
Digital interface	RS232 interface (with RJ connector to serial port, cable included)	
External trigger	TTL compatible with galvanic isolation (BNC connector)	
Analogue output specifications	Dual outputs, 0 - 4.095 mV, resolution 12 bit, accuracy $\pm 10$ nV (BC connectors) 10 mV represent	
	pH	0.1 pH
	Temperature	1 °C
	Phase	0.25 °

## SENSORS

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### Implantable pH Microsensor IMP-HP5



The implantable pH Microsensor IMP-HP5 is not mounted into any additional housing and therefore ideally suited for implementation in customized applications. The bare glass fiber tip can be mounted to your own housings, steel tubes, catheters, etc. This tiny probe has a tip size of 150  $\mu\text{m}$ , while the outer diameter ranges from 140  $\mu\text{m}$  to 900  $\mu\text{m}$ . As the IMP-HP5 is free of metal, it can be used in the presence of high electromagnetic fields and even NMR environment.

- High spatial resolution
- Measurement in smallest volumes
- Designed for customized applications
- Integration into plant and animal tissue
- Optimized for culture media and physiological solutions
- Independent of electromagnetic fields

## TECHNICAL

### Specifications\*

Measurement range	5.5 - 8.5 pH
Resolution	at pH = 7: $\pm 0.02$ pH
Accuracy	at pH = 7: $\pm 0.1$ pH with sensor calibration
Drift	at pH = 7: $< 0.05$ per day (sampling interval of 1 sec.)
Measurement temperature range	from 5 to + 50 °C
Response time ( $t_{90}$ )	at 25 °C: $< 30$ sec.

### Properties\*

Compatibility	Aqueous solutions, ethanol (max. 10 % v/v), methanol (max. 10 % v/v), pH 2 - 10
No cross-sensitivity	Electrical fields, proteins
Cross-sensitivity	Reduced to ionic strength (salinity); a high concentration of small fluorescent molecules in the visible range can interfere
Sterilization procedure	Ethylene oxide (EtO), recalibration recommended
Cleaning procedure	Water, Acrylan, pepsin solution
Calibration	pH sensors are pre-calibrated, recalibration is possible
Storage stability	24 months provided the sensor is stored in the dark

\* provided pH sensors are used without further handling in physiological solutions

## ACCESSORIES



### Manual Micromanipulator MM33

The Manual Micromanipulator MM33 offers high resolution control when working with PreSens microsensors. The system allows moving the microsensor vibration-free in 3 axes with  $\mu\text{m}$  reading accuracy. The MM33 is equipped with a tilting platform - so mounted to the Heavy Stand it can be adjusted and used in any required position. It can additionally be equipped with the Safe-Insert accessory. This allows to insert the microsensor retracted in its steel needle securely into your area of interest. The sensor tip can then be extended delicately and safely with  $\mu\text{m}$  reading accuracy, without risk of breaking the sensor fiber.

- Tilting mechanism
- Vibration-free micromanipulation in 3D
- Fine drive with  $\mu\text{m}$  reading accuracy

## TECHNICAL

### Specifications

Compatibility	Needle-type Housed (NTH), Profiling (PM) and Implantable (IMP) oxygen & pH microsensors
Dimensions	160 mm x 90 mm x 190 mm
Weight	1000 g
Travel range	x-axis: 37 mm, fine drive: 10 mm y-axis: 20 mm z-axis: 25 mm
Reading accuracy	Coarse adjustment: 0.1 mm Fine adjustment: 0.01 mm
Coarse positioning	x-axis: 70 mm
Rotatability	360°
Material	Aluminum & steel

## ACCESSORIES



### Heavy Stand (HS)

The Heavy Stand (HS) ensures safe mounting and operation of the Automated Micromanipulator. The heavy base plate enables a most stable and vibration-free set-up. The HS comes with two square profile rails of different lengths, so the micromanipulator can be installed in different heights, and is adaptable to different samples. Additionally, two metal rods can be attached to the HS to install further measurement equipment, like VisiSens, cameras or lighting next to the AM. The HS can be balanced with its three adjusting feet and the spirit level integrated in the base plate if required.

- Adjustable micromanipulator height and orientation & can be balanced
- For AM & MM33
- Additional mounting rods for further equipment

## TECHNICAL

### Specifications

Dimensions (H x W x D)	Base plate: 60 mm x 400 mm x 600 mm Posts (H): 500 mm (long post) / 300 mm (short post)
Weight	14 kg
Mounting	M6 screws
Material	Aluminium & stainless steel (screws & mounting rods)
Features	3 x adjustable feet, 1 x circular level, 2 x mounting rods (Ø 12 mm)

## GET IN CONTACT

- [Request more info](#)
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