

## METERS

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### pH-1 mini

The pH-1 mini is a precise fiber optic pH meter. It is used with pH sensors based on a 2 mm optical fiber. APC is connected to run the easy-to-use software and control measurements. pH-1 mini is equipped with an analogue out and a trigger input. pH sensors type HP5 & HP8 are compatible with the pH-1 mini and are optimized for physiological solutions.

- For use with non-invasive pH sensors & flow-through cells
- One calibration for a multitude of sensor spots
- Software included

## TECHNICAL

### Specifications

pH sensors	HP5 / HP8	
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)	
	Dual outputs, 0 - 4,095 mV, resolution 12 bit, accuracy $\pm 10$ mV (BNC connectors)	
	10 mV represent	
Analogue output specifications	pH	0.1 pH
	Temperature	1 °C
	Phase	0.25 °

## SENSORS

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### pH Dipping Probe DP-HP5

The pH dipping probe DP-HP5 consists of a polymer optical fiber where one end is coated with a pH sensitive foil. It is covered with a high grade steel tube to protect the fiber and the sensor material. The steel tube has an outer diameter of 4 mm and a length of 10 cm. Other lengths are available on request. Due to its slender shape the probe can be used for profiling applications in coarse sediments. As this probe is based on a polymer optical fiber it is compatible with temperatures up to + 50 °C.

- Pressure resistant (max. 5 bar)
- No reference electrode necessary
- No electrolyte solution to replenish
- Easy exchange of pre-calibrated sensor membranes
- Easy and effective one-point calibration or highly precise multi-point calibration supported by the software

## TECHNICAL

### Specifications\*

Measurement range	5.5 - 8.5 pH
Resolution	at pH = 7: $\pm 0.01$ pH
Accuracy	at pH = 7: $\pm 0.05$ pH
Drift	at pH = 7: $< 0.005$ pH per day (sampling interval of 1 min.)
Measurement temperature range	from + 5 to + 50 °C
Response time ( $t_{90}$ )**	$< 120$ sec.

### Properties\*

Compatibility	Aqueous solutions, ethanol (max. 10 % v/v), methanol (max. 10 % v/v), pH 2 - 10
Cross-sensitivity	Reduced to ionic strength (salinity); a high concentration of small fluorescent molecules in the visible range can interfere
Calibration	pH dipping probes are pre-calibrated; re-calibration is possible
Storage stability	18 months provided the sensor is stored in the dark

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

\*\*equilibrated dipping probe kept in well stirred solution at + 37 °C

## 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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