# METERS

## 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. A PC 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 ± 0.1 °C, accuracy ± 1.0 °C |
| Power supply | 18 VDC / 5 W (110 - 240 VAC, 50/60 Hz, adapter included) |
| Temerature: 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 ± 10 mV (BNC connectors) |

| | 10 mV represent |
|---|---|
| pH | 0.1 pH |
| Temperature | 1 °C |
| Phase | 0.25 ° |

## SENSORS

# 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: ± 0.01 pH |
| Accuracy | at pH = 7: ± 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

## Automated Micromanipulator AM

The Automated Micromanipulator is specifically designed for profiling applications with the PreSens profiling microsensor (PM), and can also be operated with needle-type housed (NTH) and implantable (IMP) microsensors. With this system the microsensor can be moved vibration-free with µm reading accuracy and it enables exact localization of the sensor in the sample. Automated profiling can be performed along one dimension in µm resolution. The micromanipulator additionally comprises a tilting platform so the microsensor can be adjusted at an angled position. The associated user-friendly, and database-supported software PreSens Profiling Studio allows easy control of the AM and the respective oxygen or pH meter via USB. The AM is compatible with PreSens oxygen meters Microx 4, Microx 4 trace, Microx TX3, Microx TX3 trace (with PSt1 sensor type), and the pH meter pH-1 micro. The software offers multiple features from clear data organization and export, easy creation of profiling templates, to analysis functions.

- Fully automated system
- No electrical interference due to optical measurement
- Adaptable to any sample
- Software PreSens Profiling Studio included
- Easy USB connection
- Individual profile and step-zone definition
- Compact, with additional manual motor control

# TECHNICAL

| Specifications | |
|---|---|
| Compatibility | Profiling (PM), Needle-type Housed (NTH) and Implantable (IMP) oxygen & pH microsensors |
| Dimensions | 275 mm x 95 mm x 220 mm |
| Weight | 2 kg |
| Travel range automated | x-axis: 75 mm |
| Travel range manual | x-axis: 37 mm, fine drive: 10 mm<br>y-axis: 20 mm<br>z-axis: 25 mm |
| Resolution | 1 µm |
| Repeatability | < 2.5 µm |
| Mounting adapter | M6 screws, 13 mm length |
| Power supply | 100 - 240 VAC, 50 - 60 Hz<br>Use supplied power adapter (15 VDC, 2.1 mm center poisitve plug) only. |
| Digital interface | USB interface (cable included) |
| Control software | PreSens Profiling Studio (compatible with Windows 7, 8, 10 at 32 or 64 bit) |

## ACCESSORIES

### Heavy Stand (HS)

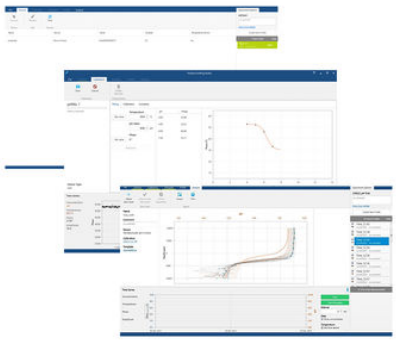
The Heavy Stand (HS) ensures save mounting and operation of the Automated Micromanipulator. The heavy base plate enables a most stable and vibration-free set-up. The HS comes with two square profile rails of different lengths, so the micromanipulator can be installed in different heights, and is adaptable 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<br>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 (∅ 12 mm) |

## SOFTWARE



### PreSens Profiling Studio

This software enables control of the Automated Micromanipulator and connected oxygen or pH meter. It is database supported and offers multiple features from clear data organization and export, easy creation of profiling templates, to analysis functions.

- Controls AM & connected meter
- Easy creation of profiling templates
- Database supported

## TECHNICAL

| | Minimum System Requirements |
|---|---|
| Operating system | Microsoft® Windows® 7, 8 and 10 (32 or 64 Bit) |
| Processor | 2 GHz CPU |
| RAM | 2 GB |
| Hard disk | 500 MB free memory |
| USB | 2x USB 2.0 |
| Applications | .xlsx and .csv format reader software |

## ACCESSORIES

### Transport Case

This high-quality transport case can contain the AM as well as one Heavy Stand. With a pull-out handle and robust wheels the case enables safe and convenient travel or storage of your micromanipulator.

- Safely travel with our profiling equipment outdoors, aboard ships or planes
- Water-, dust- and light-tight
- Protective foam inlay for AM & HS parts
- Trolley format with pull-out handle & robust wheels

## TECHNICAL

| Specifications | |
|---|---|
| Dimensions (outer) | 620 mm x 520 mm x 275 mm |
| Weight | 10 kg |
| Material | TTX01® & Polypropylen |
| Features | Trolley format (pull-out handle & robust wheels), protective foam inlay for AM & HS parts, water- / dust- and light-tight (IP67), integrated address label & hand valve for pressure compensation |

## GET IN CONTACT

Request more info

Request a quote

Rent-a-meter

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