Intracranial Pressure and Temperature Monitoring

PRESSIO®

NEW

SOPHYSA
With Pressio®, Sophysa offers a unique solution for the joint measurement of intracranial pressure and temperature. The system is based on the use of catheters implanted either in a ventricle or in the parenchyma of the patient. These catheters are connected to a dedicated monitor, the compact, light and user-friendly Pressio® monitor.

**ERGONOMIC**
- Compact, light and easy to transport.
- Screen for the display of instructions and values measured continuously, as well as warning signals.

**STRAIGHTFORWARD**
- Zeroing using a single key.
- Menu available in several languages.
- Easy to start: instructions clearly displayed on the screen.

**FLEXIBLE IN USE**
- Batteries take over from the mains power supply when the patient is being moved (monitoring is preserved).
- Compatible with most patient bedside monitors for displaying the pressure waveform and the temperature value.

The V2 software version enables the intracranial temperature to be measured in conjunction with the pressure, using a specific catheter. The monitor automatically recognizes the version of catheter connected, and selects the appropriate display.
The Pressio® monitor can easily be connected to a multi-parameter patient monitor to display intracranial temperature and the intracranial pressure waveform, measured in parallel with the other vital parameters of the patient. A wide choice of pressure (PSO-MCXX) and temperature (PSO-MCT-Y) cables makes it possible to connect to most existing monitors.

### ICP-only configuration

- **Pressio® Monitor**: PSO-3000 with V1 or V2 software versions
- **Patient Monitor Cable**: PSO-MCXX
- **Extension Catheter Cable**: PSO-EC20
- **Catheter with Pressure Sensor**: PSO-PB, PSO-PT, PSO-VT

### ICP+Temperature configuration

- **Pressio® Monitor**: PSO-3000 with V2 software version
- **Intracranial Temperature Module**: PSO-MT00
- **Patient Monitor Cable**: PSO-MCXX
- **Patient Monitor Cable-Temperature**: PSO-MCT-Y
- **Catheter Extension Cable**: PSO-EC20
- **Catheter with pressure and temperature sensors**: PSO-VTT, PSO-PBT, PSO-PTT

### PRESSIO® MONITOR TECHNICAL SPECIFICATIONS

- **Pressure display range**: -40 /+100 mmHg
- **Min. and max. alarm levels**: -10 /+40 mmHg
- **Temperature display range**: 20°C / 45°C (68°F / 113°F)
- **Min. and max. alarm levels**: 20°C / 45°C (68°F / 113°F)
- **Batteries**: 4 x 1.5 Volts (LR6)
- **Duration of operation on batteries**: 6 hours (new batteries for devices with high energy consumption)
- **Acquisition frequency**: 100 Hz (i.e.100 data per second)
- **Weight**: 1.5 Kg (Pole clamp and batteries included)
The Pressio® range offers THREE MODELS OF CATHETERS, corresponding to the different types of implantation practised. These models are available for the measurement of ICP alone and for the measurement of ICP+Temperature. These two versions are distinguished by the markings on the connector shell.

**INTRAPARENCHYMAL CATHETER WITH BOLT**

1. Polyamide catheter, with sensor(s), 0.7mm diameter
2. Bolt with tightening screw
3. Spacer ring to adjust bolt depth
4. 2.7mm diameter drill bit, with adjustable stop
5. Allen wrench for setting the adjustable stop on the drill bit
6. Stylet

**INTRAPARENCHYMAL CATHETER FOR TUNNELING**

1. Polyamide catheter, with sensor(s), 0.7mm diameter
2. 3.5mm diameter drill bit, with adjustable stop
3. Allen wrench for setting the adjustable stop on the drill bit
4. Tunnelling needle
5. Fixation wing

**VENTRICULAR CATHETER FOR TUNNELING**

With external CSF drainage function

1. Catheter with sensor(s), in a 3mm silicon sheath, with pre-inserted introduction stylet, dedicated lumen for CSF drainage and depth markings
2. 3.5 mm diameter drill bit, with adjustable stop
3. Allen wrench for setting the adjustable stop on the drill bit
4. Trocar with tunnelling sheath
5. Fixation wing
6. Luer-lock connection for external CSF drainage

Also exists in ICP+T° version
The technology for measuring intracranial pressure, based on a STRAIN GAUGE PRESSURE SENSOR, makes it possible to combine the robustness of the catheter with ease of use and accuracy of measurement. The temperature measurement technology is based on a THERMISTOR, for accuracy of measurement and its stability over time.

**CENTIMETRIC GRADUATIONS**
- Enables implantation depth to be determined.

**FLEXIBLE AND DURABLE**
- Makes nursing easier (no risk of breakage).
- Can be tunnelled under the scalp.

**MEASUREMENT STABILITY**
- Strain gauge sensor - silicon micro-sensor – for the measurement of pressure and micro-thermistors for temperature measurement. These sensors provide very good stability over time, with low drift (1). Maximum drift: ± 2mmHg per week.

**STORAGE OF THE CATHETER ZERO AND DATE SETTINGS**
- in the catheter connector. After implantation, the catheter can then be connected to any Pressio® monitor, and enables the data to be displayed directly, without further manipulation.

**TWO VERSIONS**
- Visual differentiation between ICP-only and ICP+T° versions.

**NEW**
- Ventricular catheter depth markings

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CATHETER EXTENSION CABLE
This cable, making the connection between the implanted catheter and the Pressio® monitor possible, benefits from improvements over the previous version:

- The shape of the connector guides the pins for easier insertion of the catheter and a more secure connection.
- Traction on the measurement catheter has been reduced to the maximum:
  - Cable is flexible and light;
  - Clips to secure the cable on the sheet.
- Reinforced connectors, color code maintained, to make connection of the cable to the Pressio® monitor easier.

TEMPERATURE MODULE
The temperature module is inserted between the Pressio® monitor and the patient bedside monitor. Used with the adapted patient monitor cables (pressure and temperature), it allows the display on the monitor of the value of the temperature together with the ICP waveform.

CONTROL INTERFACE
The control interface is a cost-effective alternative to the Pressio® monitor for the monitoring of Intracranial Pressure only. It must be connected to a patient monitor, which displays the values and from which it gets its power supply.

SERIAL TRANSMITTER
The serial transmitter sends the intracranial pressure and temperature data from a Pressio® monitor, directly to a computer, without requiring a patient monitor.
Sophysa offers a large range of cables for connecting Pressio® to a wide range of patient monitors. Length: 290 cm.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Designation</th>
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</thead>
<tbody>
<tr>
<td>PSO-MC01</td>
<td>Patient Monitor Cable, Philips (Agilent), 12 pins</td>
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<tr>
<td>PSO-MC02</td>
<td>Patient Monitor Cable, Siemens (Sirecust), 10 pins</td>
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<tr>
<td>PSO-MC03</td>
<td>Patient Monitor Cable, Spacelabs &amp; Mindray, 6 pins</td>
</tr>
<tr>
<td>PSO-MC04</td>
<td>Patient Monitor Cable, GE (Datex-Ohmeda), 10 pins</td>
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<td>PSO-MC05</td>
<td>Patient Monitor Cable, GE Solar (Marquette), 11 pins</td>
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<tr>
<td>PSO-MC06</td>
<td>Patient Monitor Cable, Hellige, 10 pins</td>
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<tr>
<td>PSO-MC07</td>
<td>Patient Monitor Cable, Siemens, 7 pins</td>
</tr>
<tr>
<td>PSO-MC08</td>
<td>Patient Monitor Cable, Nihon Kohden, 5 pins</td>
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<tr>
<td>PSO-MC10</td>
<td>Patient Monitor Cable, Datascope, 6 pins</td>
</tr>
<tr>
<td>PSO-MCT-A</td>
<td>Temperature Patient Monitor Cable, Philips (Agilent), 2 pins</td>
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<tr>
<td>PSO-MCT-B</td>
<td>Temperature Patient Monitor Cable, Siemens, 7 pins</td>
</tr>
<tr>
<td>PSO-MCT-C</td>
<td>Temperature Patient Monitor Cable, Spacelabs, 10 pins</td>
</tr>
<tr>
<td>PSO-MCT-E</td>
<td>Temperature Patient Monitor Cable, GE Solar (Marquette), GE Datex-Ohmeda, 11 pins</td>
</tr>
<tr>
<td>PSO-MCT-F</td>
<td>Temperature Patient Monitor Cable, Hellige, Jack GE Datex-Ohmeda, Nikon-Kohden, Mindray &amp; Datascope, 6.35 mm</td>
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<tr>
<td>PSO-3000</td>
<td>Pressio® ICP Monitor Includes: catheter extension cable (PSO-EC20), power supply cable, batteries, pole clamp.</td>
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<tr>
<td>PSO-IN00</td>
<td>Pressio® control interface Includes: catheter extension cable (PSO-EC20).</td>
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<tr>
<td>PSO-EC20</td>
<td>Catheter Extension Cable</td>
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<tr>
<td>PSO-TX00</td>
<td>Pressio® serial transmitter</td>
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<tr>
<td>PSO-PB</td>
<td>Pressio® ICP Monitoring Kit, Parenchymal with Bolt</td>
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<td>PSO-PBT</td>
<td>Pressio® ICP &amp; ICT Monitoring Kit, Parenchymal with Bolt</td>
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<tr>
<td>PSO-PT</td>
<td>Pressio® ICP Monitoring Kit, Parenchymal Tunneling</td>
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<td>PSO-PTT</td>
<td>Pressio® ICP &amp; ICT Monitoring Kit, Parenchymal Tunneling</td>
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<td>PSO-VT</td>
<td>Pressio® ICP Monitoring Kit, Ventricular Tunneling</td>
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<tr>
<td>PSO-VTT</td>
<td>Pressio® ICP and ICT Monitoring Kit, Ventricular Tunneling</td>
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<td>PSO-DR</td>
<td>Pressio® disposable drill</td>
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<td>PSO-MT00</td>
<td>Pressio® intracranial temperature module Allows the display on the monitor of the value of the temperature.</td>
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<td>PSO-MCXX</td>
<td>Patient monitor cable Allows the display on the pressure waveform.</td>
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<td>PSO-MCT-Y</td>
<td>Patient monitor cable - temperature. Allows the display on the temperature value.</td>
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