

Blood Pressure Monitor and Transducer

Audible monitor with variable pitch provides feedback

Features

- Monitors blood pressure
- Monitors animal arterial or venous blood pressure
- Displays systolic, diastolic or average blood pressure

Benefits

- **BLPR2** can be used for the direct arterial and venous pressure measurement in animal blood vessels

Applications

- Invasive blood pressure monitoring

BP1 accepts WPI's **BLPR2** blood pressure transducer (right) as well as other blood pressure transducers. An audio monitor provides a signal with variable pitch and amplitude, allowing you to hear changes in blood pressure. Digital LCD display provides average or peak signal values from 0 to 1999 mV. With an optional pressure gauge (not provided — see **PM015D**), you may calibrate the display to read mmHg. Recorder output connector allows direct connection to a pen recorder, oscilloscope or computer via a data acquisition system.

Supplied sterile, **BLPR2** is accurate, linear and stable with temperature. May be sterilized cold with Rapiocide OPA or a similar bactericide.

BLPR2 is equipped with a 12' cable and connector compatible with WPI's four-channel signal conditioning unit, **TBM4M** Transbridge, and the single-channel **BP1** blood pressure monitor. The cable has a moisture-resistant locking connector. A continuous, uniform lumen eliminates places for bubbles to form and lodge. The clear fluid path is easy to inspect. Easy to mount — slotted transducer body accepts Velcro strap.

To facilitate setup and operation, a four-way stopcock that allows easy filling, flushing and zeroing of the transducer is included. Typically, the stopcock is located between the transducer and the animal catheter where it can be used to quickly zero, flush or de-bubble the transducer.



BP1 SPECIFICATIONS

AMPLIFICATION	x1, x10, x100, variable (x5 to x1000)
OUTPUT VOLTAGE SWING	± 5 V
MAXIMUM OUTPUT CURRENT	2 mA
INPUT IMPEDANCE, EACH INPUT	100 kΩ 0.01 μF
TRANSDUCER APPLIED VOLTS	10 V nominal, varies with load. 25 mA, maximum
POWER	95-135 V or 220-240 V, 50/60 Hz
DIMENSIONS	8.5 x 5.12 x 10 in. (21.6 x 13 x 25.44 cm)
SHIPPING WEIGHT	11 lb. (5 kg)

BLPR2 SPECIFICATIONS

WORKING PRESSURE	-50 to +300 mm Hg
OVERPRESSURE	-400 to +4000 mm Hg
EXCITATION VOLTAGE	1-10 VDC or RMS to 5 kHz
SENSITIVITY	5 μV/mm Hg
DYNAMIC RESPONSE	100 Hz
EIGHT HOUR DRIFT	1 mm Hg after 5 minute warm-up
MAXIMUM ERROR	Total combined effects of Sensitivity, Linearity, Hysteresis (at 25°C and 5 μV/mm Hg) do not exceed ±2% or 1 mm Hg, whichever is greater.
SHIPPING WEIGHT	1 lb.

ORDERING INFORMATION

SYS-BP1 Pressure Monitor (transducer & cable not included)
Specify line voltage

OPTIONAL ACCESSORIES/REPLACEMENT PARTS

BLPR2	NEW Blood Pressure Transducer & Cable
BPCABLE2	NEW Cable (12 ft) with DIN connector for BLPR2
503067	BLPR2 Transducer without cable
13024	Single Rack Mount Kit
13025	Dual Rack Mount Kit
3491	Extension Cable, 5 ft
500184	BNC-to-BNC Cable, 10 ft
14036-15	4-Way Luer Stopcock, Blue Tint (package of 15)
KZ1101	Micro Cannula, 3 inch

NOTE: BLPR2 is intended for animal research only and may not be used for human blood pressure measurement.



Stopcock **14036** included with **BLPR2**

MICRO CANNULA KZ1101VVVV

- 0.4mm O.D., 0.2mm I.D. tubing
- Autoclavable
- Biocompatible Perfluorocarbon tubing material

See description online at www.wpiinc.com.

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Blood Pressure Measurement for Rodents

Unique environmental control system and single tail cuff allows tail movement, minimizing stress in the animal subjects



Features

- Test up to 200 animals at a time
- Sensor is MRI compatible
- Quick and accurate blood pressure measurement at temperatures as low as 32 °C
- Highly sensitive photoelectric sensor for blood pressure detection
- Monitor, record, store or export real time systolic, diastolic, mean and heart rate

Benefits

- Automatic evaluation of data
- Touch screen or software control
- Data can be collected and stored on and displayed from a USB flash drive, which is included

Applications

- Non-invasive blood pressure monitoring of rodents

This revolutionary design brings non-invasive blood pressure testing to a new level — a true turn-key system for accurate, consistent blood pressure measurement on mice, rats or any other laboratory animal test subject.

It is a compact, simple yet versatile system that can test from one to 200 animals at a time with independent control of each channel. Simple daisy-chaining allows expansion of up to 200 independently controlled systems. All components are built into one small unit — controls inflation of tail

cuff, warming environment with whisper-quiet fans — providing an ideal system for teaching facilities and for the pharmaceutical industry when high throughput is a must.

Single animal systems are controlled from the touch screen, which allows keying in all necessary test setups. Touch screen control allows ease of operation, supplying automatic evaluation of test results — systolic, diastolic, mean and heart rate.

Data is collected, stored, displayed and can be transferred to the supplied memory stick. The USB interface allows for software control of multichannel systems. For single animal systems, built-in software lets you view and export data. Reports are in an Excel-style format and may be easily exported.

No computer is required. However, the analog output may be interfaced with your own data acquisition software.

System is easily cleaned. Removable trays are included with each system.

In addition to the standard one-year warranty on the system, tail cuff sensors have a lifetime warranty..

ORDERING INFORMATION

II-MRBP-M	Mouse Blood Pressure System
II-MRBP-R	Rat Blood Pressure System

Includes all accessories necessary to run system.

Call for pricing on multiple channels.

Electronic von Frey Anesthesiometer

Assessing mechanical allodynia with 15 SuperTips

Features

- LCD readout (Floating or last maximum/minimum)
- Rigid tips up to 800 g
- "Supertips™" 15 up to 65 g
- 1,000 g probe available
- Optional analog output cable for chart recorder
- Pipette tips can be customized to any specification
- Microprocessor electronics 0.1 g plug-in probes

Benefits

- Plug up to three probes into a single unit
- Independent from temperature

Applications

- Small animal analgesia testing

To assess mechanical allodynia, which is a painful response to a light touch or pressure from a stimulus that is not normally painful, the Electronic von Frey Anesthesiometer was developed. The Electronic von Frey meter uses one of 15 different flexible von Frey hairs called "SuperTips™" (or rigid tips up to 800 grams). Each hair, regardless of model chosen, is exactly 0.8mm in diameter. This uniformity of design eliminates false readings and allows for comparison of test results. The Electronic von Frey can be used with chart recorders and analog/digital converters, and it never needs calibrated. This system includes either a 90, 800 or 1,000 gram probe. Mesh stands are available in a variety of sizes for large group studies.



II-2391

ORDERING INFORMATION

II-2390	Electronic von Frey Anesthesiometer, rigid tips, 90 g range
II-2391	Electronic von Frey Anesthesiometer, rigid tips, 800 g range
II-2392	Electronic von Frey Anesthesiometer, rigid & 15 super tips, 90 g range
II-2393	Electronic von Frey Anesthesiometer, rigid & 15 super tips, 800 g range
II-23931	Electronic von Frey Anesthesiometer, custom rigid tips, 1000 g range
II-2394	von Frey Probe, 90 g range
II-2395	von Frey Probe, 800 g range
II-2396	von Frey Probe, 1000 g range
II-2397	MRI Probe Option (add to price of probe above)
II-2400	Analog Output Cable

Quattro

Four test systems



II-2889

This special package offers four tests, including Electronic von Frey, Plethysmometer, Randall Selitto and the Grip Strength Meter. You get all four test modules and the electronic controller that is interchangeable with all four systems. The electronic controller has up to three inputs, so you can perform up to four unique tests with only one electronic system. If you prefer, you may build your system as you grow. Because of the modular design of these four systems, you need to order only one complete system. Then, the modules for the other three tests, which integrate into the system, can be purchased separately, as needed. The stand and sling for the Randall Selitto test are sold separately.

ORDERING INFORMATION

II-2889	Quattro 4-in-1 System
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Trio

Three test systems



II-2888

Get three test systems in one package with the Trio, featuring the Electronic von Frey, Plethysmometer and Randall Selitto Meters. Just like the Quattro package, the modular design allows these three test systems to communicate with the same electronic controller. The stand and sling for the Randall Selitto test are sold separately.

ORDERING INFORMATION

II-2888	Trio 3-in-1 System
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Plethysmometer (Paw Volume) Meter

Test effectiveness of anti-inflammatory agents

Features

- No wetting solution needed
- One calibration/year
- Battery-operated or line powered controller
- One-year warranty

Benefits

- A sensor in the water notes a pressure change when the paw is immersed
- Pressure is calibrated in 0.1 milliliters and displays on the battery-powered monitor

Applications

- Measure the effectiveness of anti-inflammatory agents and agents to reduce edemic conditions

Test the effectiveness of anti-inflammatory agents and agents to reduce edemic conditions with the Plethysmometer. Simply insert the rat or mouse paw into water. The acrylic stand offers full visibility of the subject throughout the testing.



II-520MR

ORDERING INFORMATION

II-520MR Paw Volume Meter for Mouse & Rat

Randall Selitto Paw Pressure Meter

Get instantaneous, live readings

Features

- Visible force limit indicator
- Portable electronic display
- Battery-operated or line powered controller
- No calibration required

Benefits

- Hands free operation with footswitch
- 3-oz. hand held probe with accuracy of 0.5%

Applications

- Analgesic drug studies

The Randall Selitto Paw Pressure Meter for analgesia testing is digitally controlled. Use the handheld instrument to apply force to an animal's extremity and get instantaneous, live readings. You can even view the last maximum force applied during the test. The new limit



II-2500

800 g pressure applicator

indicator lets you select the maximum force limit, and then indicates with a warning light when the system reaches that limit. This unit comes with an acrylic stand to allow for easy viewing of the display. Stand and sling are sold separately.

ORDERING INFORMATION

II-2500 Randall Selitto Paw Pressure Meter

Grip Strength Meter

Measure muscle hyperalgesia in rodents

Features

- Mouse and rat wire mesh grid plates included
- Maximum force range is 2,000 gm (10% over range allowed). Higher ranges are available by special order.
- 1 gram increment readings
- Suction feet on the heavy, anodized base plate resist even large pulling forces

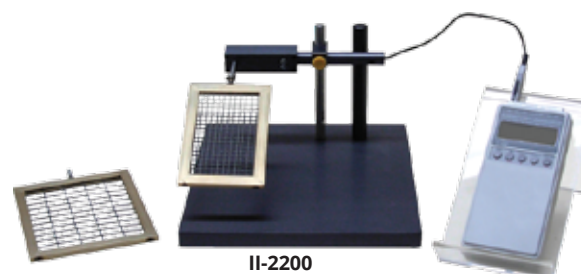
Benefits

- Battery-operated or line powered controller
- One year warranty

Applications

- Measure muscle hyperalgesia in rats and mice

Measure muscle hyperalgesia in rats and mice with the Grip Strength



II-2200

Meter, which gauges the forelimb grip force using a digital force transducer. Simply hold the animal by the tail and gently dangle it over the wire mesh plate until the animal grasps the plate with its forepaws. The force transducer, connected with the wire mesh plate, measures the strength of the animal at the time of the test. The battery-operated, electronic control device calculates the average of three measurements, and it holds the last maximum force in a "peak and hold" type readout until you reset it.

ORDERING INFORMATION

II-2200 Grip Strength Meter for Mouse & Rat

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