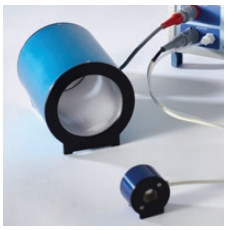
Tail-cuff non-invasive blood pressure measurements for mice and rats

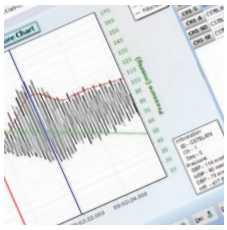
with moorLAB-NIBP



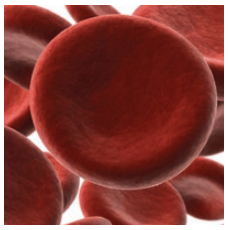












moor instruments

innovation in microvascular assessment

moorLAB-NIBP - Non-Invasive Blood Pressure Monitor

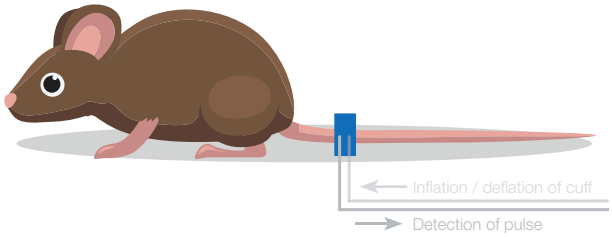
The moorLAB-NIBP is a high performance, compact and automated non-invasive blood pressure measurement system for rats and mice. Parameters provided include systolic blood pressure, mean blood pressure, calculated diastolic blood pressure and heart rate. The system can operate as a single, standalone module using the clear, backlit LCD display.

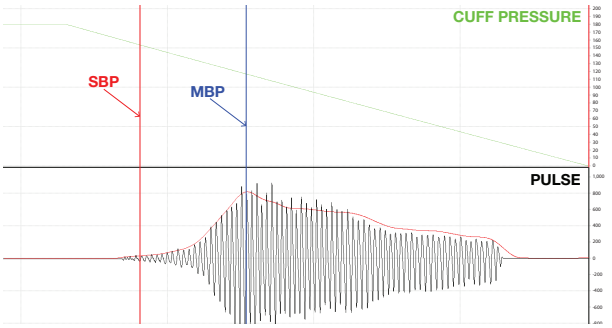
Optional PC software is available for enhanced data collection (including pulse waveform measurements) and data storage. Multiple modules can be connected to PC software to create a multichannel solution enabling large scale, high throughput screening. A separate, stand-alone dual channel heating module allows animal warming prior to measurement to increase throughput.

- **Multi parameters:** systolic, mean blood pressure, heart rate and calculated diastolic pressure. Pulse waveform with optional PC software.
- **Single channel:** portable, lightweight, and compact module featuring animal heating and pressure measurement. Adjust settings via front panel.
- **Multi-channel:** combine modules for a multichannel system with software support for your ideal configuration. Stacking case design offers a compact footprint for multi-channel users.
- **Additional Heating module:** optional two channels heating modules for pre-heating to enable high throughput screening.
- **Easy viewing:** high contrast, ice white, backlit LCD display of measured parameters plus current and target heater tube temperature.
- **Advanced Windows PC software:** with full control of monitoring, extensive analytical features and automatic report generation.
- **Easily connectable:** digital (USB) real time data transfer included as standard for connection to PC.
- **'MemoryChip' sensor:** identify sensor type and select a suitable protocol for mouse or rat.
- **Built-in artefact filter and user select frequency range:** reduce movement noise.

How does it work?

The system automatically inflates the tail cuff to occlude the vessels in the tail of the mouse or rat and then linearly deflates the cuff when the target inflation pressure is achieved. Simultaneously to this, blood flow characteristics are detected by a sensor built into the wall of the pressure cuff. A single control button starts a predefined measurement protocol, making the system very user friendly. The system also features a controlled, built-in heating measurement environment to regulate the temperature and improve reproducibility.



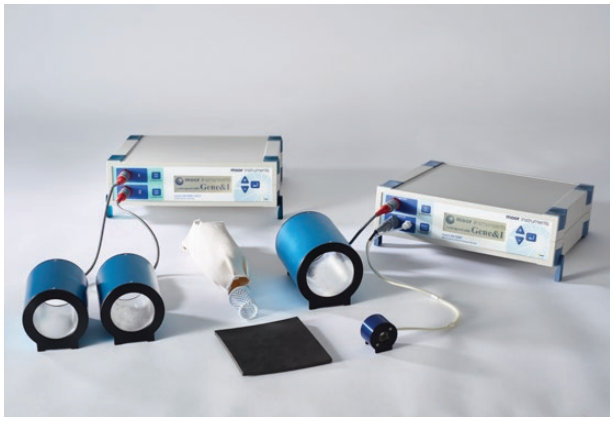


SBP (Systolic Blood Pressure)
The systolic blood pressure is the highest pressure the heart exerts while beating, it corresponds to the cuff pressure when the pulse starts to appear during deflation.

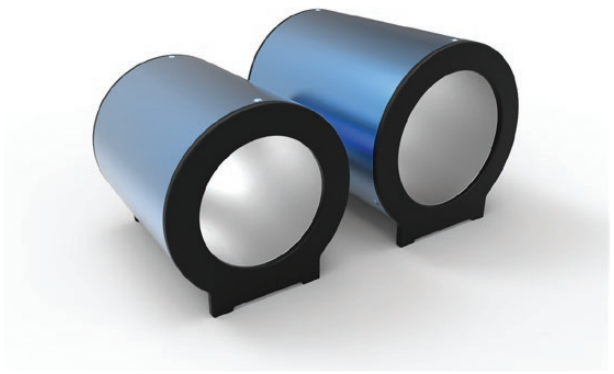
MBP (Mean Blood Pressure)
The mean blood pressure is the cuff pressure found when the pulse reaches the maximum amplitude during deflation.

DBP (Diastolic Blood Pressure)
The diastolic blood pressure is the lowest pressure found during the resting phase of the cardiac cycle.
It is calculated from the SBP and MBP using the following formula: DBP = ((3xMBP)-SBP)/2

Hardware



moorLAB-NIBP – the core of the system and provides a single channel heater and pressure cuff control. An optional dual channel heater is available to pre-warm animals and increase throughput.



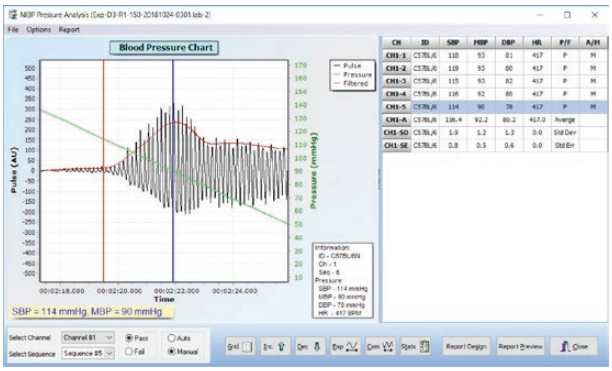
Heater Tubes – Choice of two heater tubes for rats and mice.



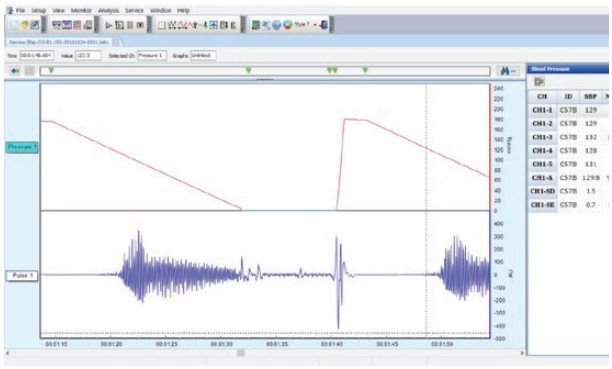
Pressure Cuffs / Sensor Tubes – Choice of 4 pressure cuffs / sensors for rats and mice.

Software

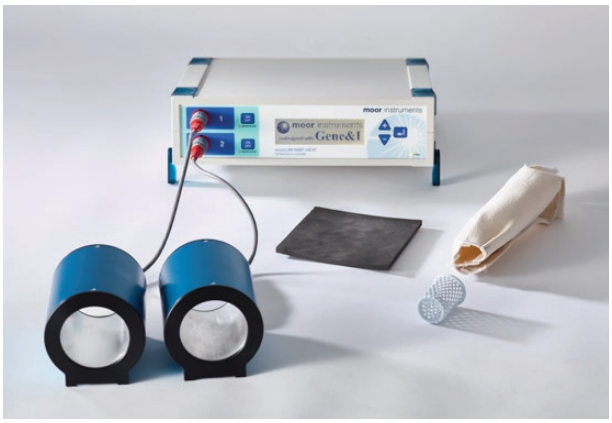
PC software is available for data post-processing, statistical analysis, report generation and results exporting to improve workflow.



moorLAB-NIBP software – Pressure Analysis Window.



moorLAB-NIBP – Live Pressure/ Pulse monitoring window.



moorLAB-NIBP-HEAT – with heater tube.

About Moor Instruments

Moor Instruments, established in 1987, is a world leader in the design, manufacture and distribution of monitoring and imaging systems for micro-vascular assessments. We are proud now to include tail-cuff non-invasive blood pressure measurements within this portfolio.

Firsthand experience of laser Doppler research and development within Moor dates back to 1978 and with this we have the breadth of knowledge to help with your application and the enthusiasm to try and find answers to any of your questions.

By giving priority to performance, quality and service, we strive to ensure the highest levels of customer satisfaction.

Our dedicated design team is involved with a number of development projects for other partners and manufacturers. Whatever your needs, as a researcher, clinician or manufacturer, Moor will work harder for you.



moorLAB-NIBP and moorLAB-NIBP-HEAT – non-invasive blood pressure monitor and temperature controller.

Specifications:

Quality Control
The moorLAB-NIBP and moorLAB-NIBP-HEAT are CE marked.

Animal Subject
Animal type: mouse or rat
Animal weight range: 8 – 1500g
Diameter of mouse tail range: 3 – 6mm
Diameter of rat tail range: 6 – 15mm

Measurement Parameters
Systolic blood pressure
Mean blood pressure
Calculated diastolic blood pressure
Heart rate

Pressure and Heart Rate Measurement
Maximum cuff inflation: 350mmHg (5mmHg increments)
Cuff pressure measurement range: 20 – 350mmHg
Typical measurement cycle time: 20 seconds or less
Heart rate measurement range: 100 – 1000BPM

Heating Control
Control channels: single for NIBP unit and dual for the HEAT unit
Heating temperature range: 30 - 40 ºC (0.5 ºC increments)
Typical time to reach heating temperature: <5 minutes (from 15 ºC ambient temperature)

Outputs
LCD screen providing display of SBP, MBP, DBP, HR and Temperature
USB Interface for connection to PC

General
Power source: Universal voltage, 100-230V, 80VA, 50 to 60Hz
Dimensions: W x H x D mm, Weight: kg
moorLAB-NIBP: 315 x 90 x 270, 2kg
moorLAB-NIBP-HEAT: 315 x 90 x 270, 2kg
Operating environment: Indoor, e.g. laboratory use
Operating temperature: 15-30°C, 0 – 80% (non-condensing)

Moor Instruments reserves the right to change specifications without notice.

moor instruments
innovation in microvascular assessment

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