



Blood Pressure Recorder (non invasive)

Cat. No. 58500

General

The BP RECORDERS series 58000 combine three main systems: a pressure generation-pressure monitoring system, a pulse amplifier and a thermal-array analog & digital recording unit, with two auxiliary systems, pulse rate measuring/recording and microprocessor controlled functions to self diagnosis, calibration, signal filtering, signal storage.

Pressure is transmitted to the tail cuff; as soon the cuff pressure exceeds the diastolic pressure and starts to narrow the tail artery, the amplitude of the recorder pulse wave gradually decreases until the artery is completely constricted (ischemic) and the graph becomes a straight line.

This point indicates the maximum internal pressure of the artery (**systolic pressure**) on the paper grid, on which the **actual pressure** of the system is **digitally printed in 10 mm Hg steps**.

At the end of the recording the operator can operate a second pressure measurement, with decreasing pressure. The systolic pressure is indicated, this time, by the return of the pulse tracing.

The animal **pulse rate** can be assessed in real time by a pulse rate counter which picks the signal from the pulse transducer.



INDIRECT MEASURING AND RECORDING OF THE SYSTOLIC AND DIASTOLIC PRESSURE IN UNANAESTHETIZED RATS AND MICE

Main Features

- graphic printer
- analog output for to digital recorders
- graphic display
- pulse transducers of superior performances
- a reliable pressure generator providing very smooth (stepless) pressure build-up
- analogue & digital recording of all experiment phases

Animal Restrainers

Convenient animal restrainers are provided with the standard package. Our models are particularly suitable, being purposefully designed for this task, as they feature:-

- a conical "muzzle" to confine the animal head
- availability in 4 different diameters for rat and one for mouse, to fit various animal sizes
- telescope-adjustable length
- a quick fit/release back lid with an ample U-shaped tail slot
- capability of dissipating the body heat by a convenient ventilation slots, selection of heat conductive materials, etc.

Optional Rat Heater / Scanner

The **58000-850 Rat Scanner** is a compact temperature controlled "cupboard" to lodge 5 rats, each in its individual holder, for pre-warming. The tail cuff and pulse pick-up can be positioned on the animal tail.

An electrical/pneumatical switch enables connection of the holders in sequence, to scan the blood pressure of up to 5 rodents.

When only pre-warming is required, Cat. **58000-845** is also available, without the pneumatic/electrical scanning provision; **58000-840**, designed for mice, has the same dimensions, but it accommodates 6 mouse holders.

NOTE: Pressure cuffs & pulse pick-ups are not included

Ordering Information

58500 BP RECORDER FOR RAT, with accessories for Rat (8mm pulse pick-up, 13mm pressure cuff, 50 mm rat holder)

58600 BP RECORDER FOR MOUSE, with accessories for Mouse (3mm pulse pick-up, 6mm pressure cuff, mouse holder)

58700 BP RECORDER FOR DOG, with accessories for Dog (18mm pulse pick-up, 20mm pressure cuff)

AVAILABLE PULSE PICK-UPS

58000-503	Pulse Pick-up for Mouse, diam. 3 mm
58000-504	Pulse Pick-up for Mouse, diam. 4 mm
58000-505	Pulse Pick-up for Rat, diam. 5 mm
58000-506	Pulse Pick-up for Rat, diam. 6 mm
58000-507	Pulse Pick-up for Rat, diam. 7 mm
58000-508	Pulse Pick-up for Rat, diam. 8 mm
58000-509	Pulse Pick-up for Rat, diam. 9 mm
58000-518	Pulse Pick-up for Dog, diam. 18 mm

AVAILABLE TAIL CUFFS

58000-606	Tail Cuff for Mouse, diam. 6 mm
------------------	---------------------------------

58000-609	Tail Cuff for Rat, diam. 9 mm
58000-613	Tail Cuff for Rat, diam. 13 mm
58000-620	Tail Cuff for Dog, diam. 20 mm
58000-624	Tail Cuff for Dog, diam. 24 mm

AVAILABLE HOLDERS

58000-343	Mouse Holder
58000-344	Rat Holder, 40 mm I.D.
58000-345	Rat Holder, 50 mm I.D.
58000-346	Rat Holder, 60 mm I.D.

OPTIONAL

58000-350	Rat Simulator
58000-840	Mouse Heater, compl. with 6 mouse holders
58000-845	Rat Heater, complete with 5 rat holders of selectable I.D.*
58000-850	Rat Scanner, complete with 5 rat holders of selectable I.D.*

* if no other diameter is specified, the 50mm size will be supplied.

SPECIFICATIONS

Pressure Range	50 to 290 mm Hg
Power Requirements	115 or 230 V, 50/60 Hz, 25 W
Operating Temperature	0° to 40° C
Sound Level	< 70 dB
Weight (net)	Kg 10.6
Shipping Weight	Kg 15.0 approx.
Dimensions	35 x 35 x 16.5 (h) cm
Packing dimensions	67 x 42 x 53 cm

Bibliography

- M. Gerold & H. Tschirky "Measurement of Blood Pressure in Unanaesthetized Rats" *Arzneimittelforschung* 18: 1285-287, 1968
- M. Gerold & H. Fünfschilling: "Abhängigkeit der Indirekten Blutdruckmessung an Ratten von der Grösse der Kompressionmanchetten" *Arzneimittelforschung*. 21: 2071-2074, 1971.

PAPERS QUOTING OUR MODEL

- A. Viridis et alia "Cyclooxygenase-2 Inhibition Improves Vascular Endothelial Dysfunction in a Rat Model of Endotoxic Shock: Role of Inducible Nitric-Oxide Synthase and Oxidative Stress" *J. Pharmacol. Exper. Therap.* 312: 945-953, 2005
- V. De Gennaro Colonna et alia "Angiotensin II type 1 re-ceptor antagonism improves endothelial vasodilator function in L-NAME-induced hypertensive rats by a kinin-dependent mechanism" *J. Hypertension* 24(1): 95-102, 2006