

Organ Bath

Isolated tissue

LF0838A

- Broad range of Modular (teaching) and Compact (research) Organ Baths.
- Easily exchangeable chambers.
- They include a Micro Positioner for the precise adjustment of the Transducer and tissue-holder support.
- Complete accessibility to all components to facilitate maintenance or replacement.
- Extremely easy to place the stimulation electrodes.
- Independent valves per chamber for the fine adjustment of bubbling.
- Minimum drive of the nutrient liquid.
- Use of totally inert materials, Viton, Teflon, Delrin, Silicone and other materials that are not degraded by acids or salts.

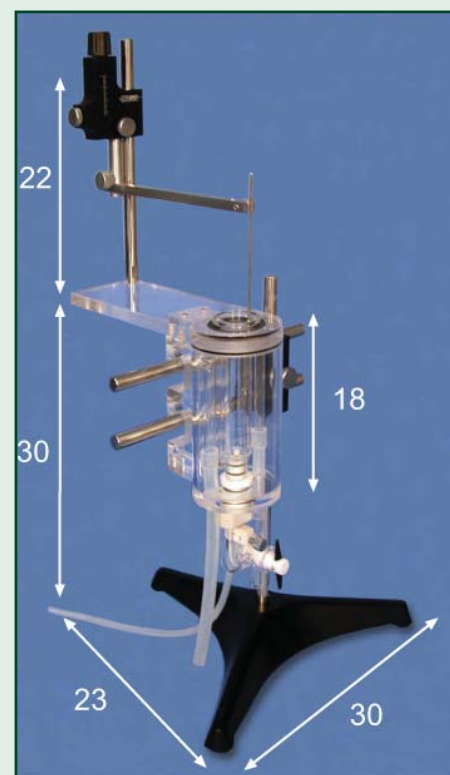
MODULAR BATHS

- Developed to provide a practical and functional design, they are used basically in teaching, where their problem-free maintenance, ruggedness and ease of use guarantee excellent didactic applications.
- Static and compact individual assembly.
- They can be attached to form batteries and work with different tissues, using the same Thermo Regulated Pump.
- Three-way Teflon tap for filling and emptying the nutrient liquid.
- Heating coil built into the Bath.

Available in three standard configurations.

LE 11.100	Individual	Does not include Thermo Regulated Pump
LE 11.200	Double	Includes Thermo Regulated Pump LE 13.000
LE 11.400	Quadruple	Includes Thermo Regulated Pump LE 13.000

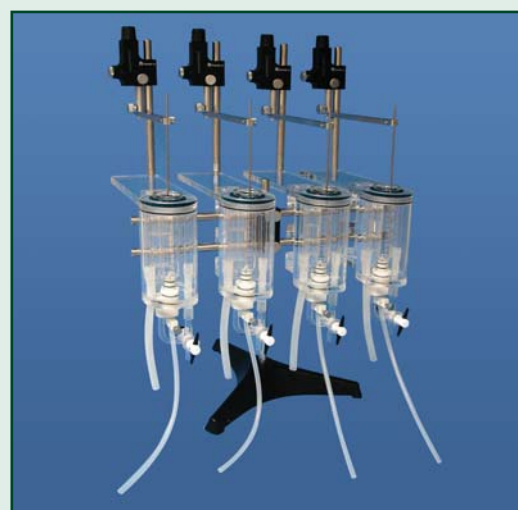
The standard configuration is supplied with a 25 ml chamber. Other volumes can be supplied to order at no price increase (see Chambers table).



Gasket for chamber subsection

Valve for bubbling adjustment

3-way Teflon Stopcock



LE 13.000 THERMO REGULATED PUMP

The LE 13.000 is used to heat and recirculate the water that maintains the nutrient liquid of the chamber and coils at a constant selected temperature. It may be used to heat-adjust up to 6 individual Baths, provided that they are close enough to avert drastic temperature drops.

Characteristics:

Temperature range: from ambient + 5° to 80°C
 Resolution: 0, 2°C
 Flow: 12 l/min
 Pressure: 150 mbar
 Total height: 53 cm
 Power supply: 125 V or 220 V 1.000 W
 Tank: Plexiglas (60° Max.) Volume: 8 litres
 Measurements: 32 x 19 x 16 cm



PAPER RECORDER



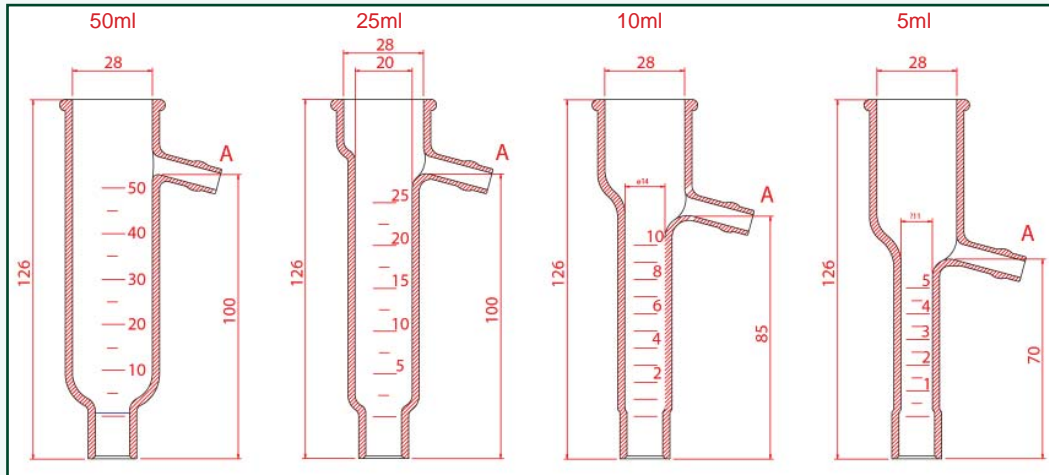
LE 120-1 (1 Channel)
 LE 120-2 (2 Channels)

Mesures:
 26 x 35 x 13 cm

Example of a complete set configuration for isolated tissue bath:

- 1 Organ Bath LE 11.100.
- 1 Thermo Regulated Pump LE 13.000.
- 1 Isometric or Isotonic transducer: see Transducers catalogue.
- 1 Recorder LE 120-1.
- 1 Stimulating Electrode (Optional).
- 1 Electronic stimulator: see Stimulators catalogue (Optional).

VESSEL



The chambers of the Modular Organ Baths do not have the outlet A.

The Modular Organ Baths are equipped from factory with a 25ml chamber. By request it can be changed by another one of different volume.

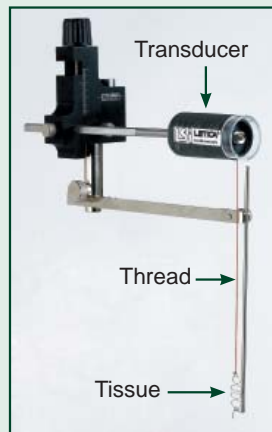
Compact Organ Baths has not included the chambers, so they must be ordered separately.

Kind of Organ Bath	50ml	25ml	10 ml	5ml
COMPACT	LE 01.50	LE 01.25	LE 01.10	LE 01.05
MODULAR	LE 11.110-50	LE 11.110-25	LE 11.110-10	LE 11.110-05

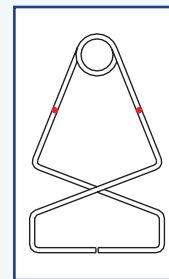
MICRO POSITIONER

The Micro Positioner, included in every Organbath, allows the fine-tuning of the tension applied over the tissue by the transducer. Besides, it is equipped with a simple system for holding the tissue, with or without stimulation electrodes.

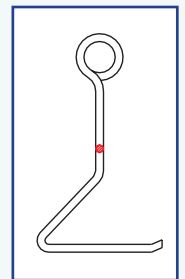
The whole ensemble, with transducer and tissue holder included, can be easily detached from the remaining of the Organbath, to allow an easy and fast assembly of the prepared tissue in order it can be quickly and comfortably submerged in the bath's chamber.



TISSUE CLIPS



CLAMP LE 0140



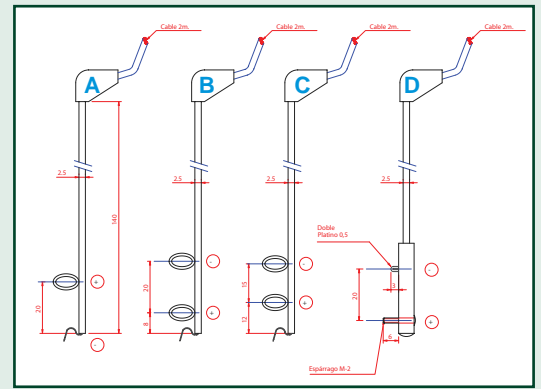
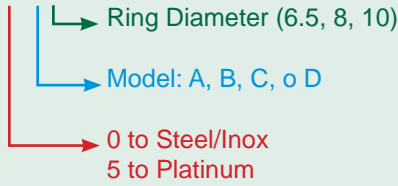
HOOK LE 0145

Supplied in 10 units packs.

ELECTRODES

The stimulation electrodes have, at their bottom, a hook, for holding the tissue. It is assembled in the micro-positioner instead of the tissue holder.

LE 01.03X-YZ



Compact Baths For Research

The Compact Organ Baths have been designed and developed to satisfy the requirements of investigators by offering advanced characteristics that render them suitable for the in-vitro study of tissue behaviour.

Compact Baths are available for 2,4,6, and 8 isolated tissues.

They are basically comprised by tank used as a container of the heat-regulated water, where the chamber and the heating coils of the nutrient liquid are steeped. Heating is performed by an external Thermo Regulated Device included with the Baths.

Each chamber is filled and emptied by means of a three-way tap (Manual Series) or by electrically-operated valves (Automatic Series) which, besides the possibility of manual activation by means of frontal pushbuttons, can also be remotely controlled by a Timer or Programmer (Software).

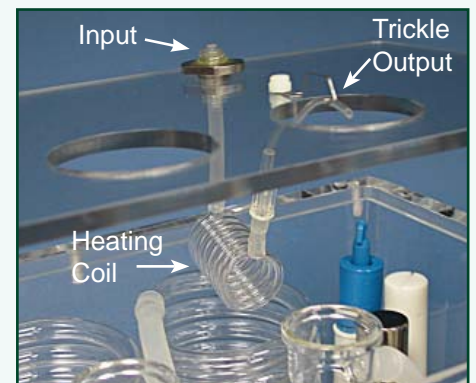


LE 01-046

MAIN CHARACTERISTICS

- All the input-output connections are made at the back of the Bath.
- All its elements can be easily disassembled for cleaning or sterilisation.
- Independent nutrient liquid inputs per chamber: possibility of using different physiological solutions in the same chamber.
- Independent fine-tuning bubbling valves per channel.
- Additional gas outlet (bubbling) to feed the preparation into the Petri Capsules.
- Circulation of the nutrient liquid in the chamber by overflow or by emptying and filling.
- Level and temperature safety sensors (cut-off at 50°C) of the water of the heat-adjuster recipient.
- Turbulence-free water circulation.
- Electronic heating resistance operation control system by incremental gradients to avoid thermal inertia.
- **Accessories to use continuous perfusion. NEW**
- Excellent heat stability.

Superfusion Accessory



MODEL	TYPE	CHAMBER	DIMENSIONS (cm)		
			Litres WATER	BASE	HEIGHT
LE 01-002	Manual	2	5	28 x 20	27 + 22
LE 01-026	Automatic*				
LE 01-004	Manual	4	8	44 x 20	27 + 22
LE 01-046	Automatic*				
LE 01-006	Manual	6	11	60 x 20	27 + 22
LE 01-066	Automatic*				
LE 01-008	Manual	8	14	76 x 20	27 + 22
LE 01-086	Automatic*				
LE 13.206	Thermo Regulator (included)			15 x 25	11

TECHNICAL CHARACTERISTICS

Temperature Range:	from ambient +3°C to 50°C (protection)
Precision:	+ - 0,1°C
Stability:	+ - 0,1°C in the whole water heat tank
Coil capacity:	180 ml
Power supply:	115 – 220 V, 50 – 60 Hz
Consumption:	1.000 W

The equipment is accompanied by a traceable Calibration Certificate.

* The Automatic Baths have two electrovalves per chamber: one for filling and another for emptying.

* They can be actuated separately or simultaneously pushing the relevant key or by external timer, Programmer or Software.

The Baths are supplied without chambers, they should be ordered separately (See reference in the Chamber table).

AMPLIFIERS

The ISO 510 model is an Amplifier for bridge-system isometric or isotonic (and pressure) Transducers. It may work in AC and DC way and has a gain of up to 2.000 (5.000) times. A 3 and 20 Hz filtering system can suppress the noises produced by electrical or mechanical artefacts in the record.

The ISO 510 needs a Power supply Box, references:

BR 4720	for up to 2 Amplifiers ISO 510
BR 4740	for up to 4 Amplifiers ISO 510
BR 4780	for up to 8 Amplifiers ISO 510

The Power Box are equipped with the USB port. Then it is not necessary the use of board into PC



ISO 510

PROTOWIN SOFTWARE FOR ISOLATED ORGANS

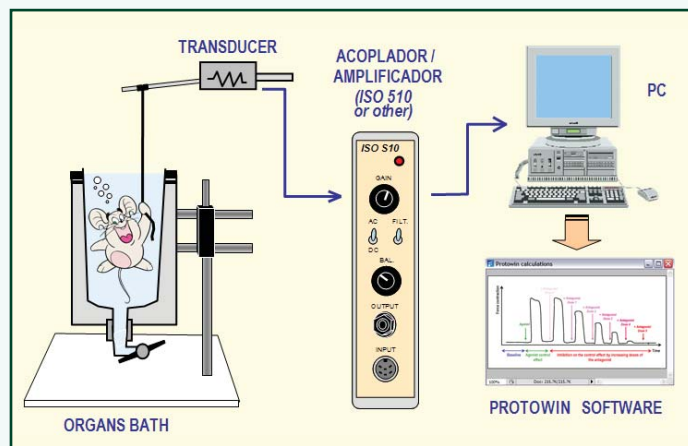
PROTOWIN is a PC Software for data acquisition in isolated tissue experiments.

It is a very powerful tool saving the user time and effort in the awkward calculations involved in this research.

Its interactive design conception makes it very easy to use and its extensive features make it an essential tool for teaching and research.

GENERAL SPECIFICATIONS

CHANNELS:	1 to 16 tissue chambers.
FREQUENCY:	Choice of 1 to 100 samples/second.
UNITS:	Mol, µg/ml, mg/ml, µg/bath, mg/bath.
EVENT MARKER:	28 different events, with text predefined by the user.
ALARMS:	20 warning sounds, with or without message, appearing once or cyclically.
FILES:	Save-read an entire experiment (the whole configuration and acquired data) or just one channel.



- Graph printing speeds from 0.01 to 100 mm/sec. in steps of 1, 2.5, and 5 on matrix (EPSON) or LaserJet (HP) printers.
- Separate data for up to 16 possible channels.
- Help included in the program.
- Simple, intuitive and guided channel calibration and balancing process.

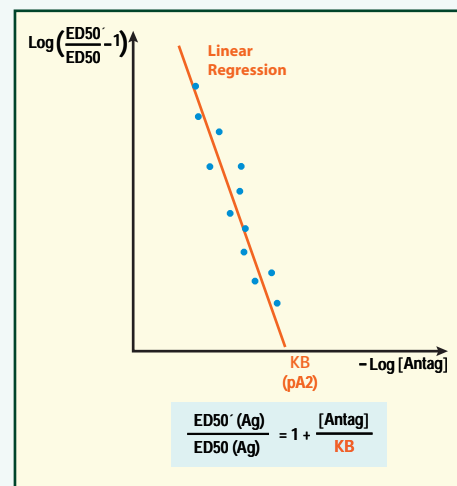
DATA ACQUISITION

- Simultaneous or independent start-stop for each channel (tissue).
- Overall baseline or independent baseline for each channel.
- View graphs in sets of four or one by one.
- Independent adjustment of full scale range, time axis and offset for each channel.
- Independent base–maximum plot for each point.
- Definition of base–maximum points compared to their corresponding areas.
- Back-up copy in case of accidental computer shutdown.

RESULTS

- DE-50% calculation and DR-Plot graph with correlation parameters and confidence margins.
- Different curves for each tissue. Each curve has an associated text.
- 50 points per channel.
- Multiple plot graphics to study parallelism.
- PA2 and Schild Plot calculation.

Schild method



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