

# Organ Baths

For conducting ex-vivo studies on isolated tissues



## PRODUCT OVERVIEW

Tissue bath studies allow the ex-vivo study of contractile and relaxatory processes in target tissues. This assay is commonly used to explore the functioning of a wide variety of physiologic functions, mostly the cardiovascular, gastrointestinal, pulmonary and renal functions and reproduction.

PANLAB s.l.u. provides complete hardware solutions and associated software for isolated tissues studies from simple, manual systems to automated, computer-controlled systems.

The Compact Organ Baths series 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. Due to their compact design minimum bench space is required.

The Basic Single Chamber Organ Bath serie was developed to provide a practical and functional design. They are used basically in teaching, where their low demanding maintenance, ruggedness and ease of use guarantee excellent didactic performance.

All organ baths include tissue holders, transducer holders and micropositioners.

**Panlab provides a broad range of transducers, Amplifiers, digital Stimulators and the Protowin software for data storage and analysis, including Dose Response analysis.**

**Please ask for the catalogues!**

## Key Features

- Chambers fully and easily interchangeable.
- Micro Positioner for high precision 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 drift of the nutrient liquid.
- Use of totally inert materials (TPFE, Delrin, Silicone...) and other materials that are not degraded by acids or salts.

## APPLICATIONS

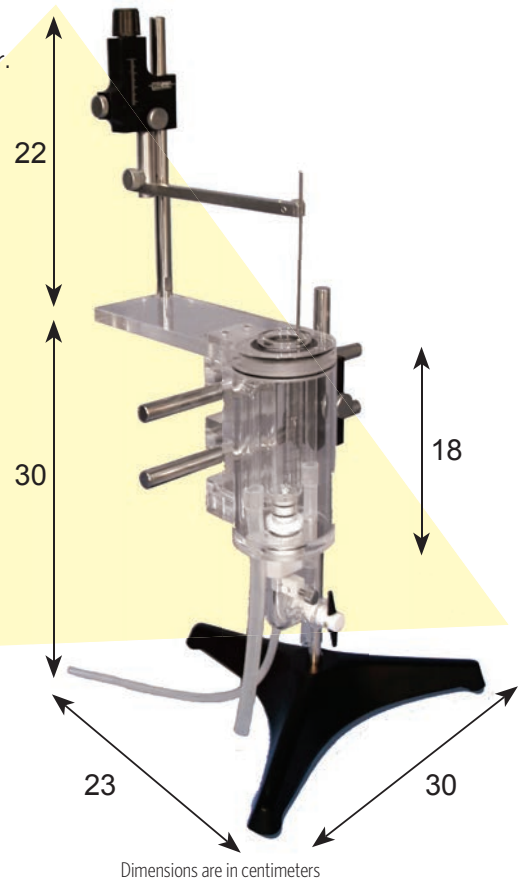
Drug screening, classical pharmacology, toxicology, Cardiovascular diseases, Diabetes, Allergy, Gastrointestinal and renal dysfunctions, graft inflammation, Sepsis, Cancer...

# Organ baths

## BASIC ORGAN BATH

The Basic Organ bath consists of a Perspex organ bath with a glass tissue chamber, three-way stopcock for physiological solution exchange, a fine needle valve for gas regulation and a Micro Positioner with a tissue holder.

- 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 PTFE tap for filling and emptying with the nutrient liquid.
- Heating coil built into the bath.
- Supplied with a 25 mL chamber (by default)

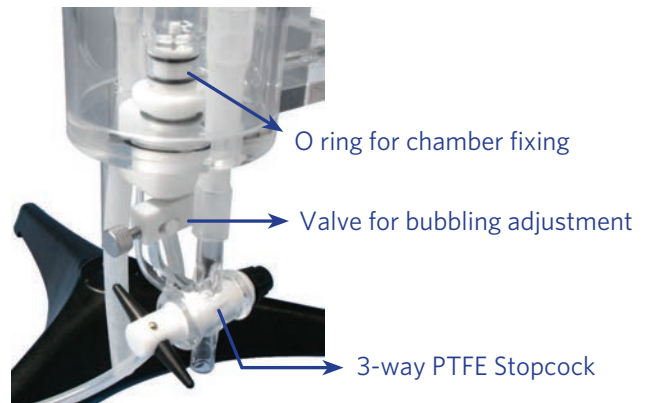


## Flat recorder

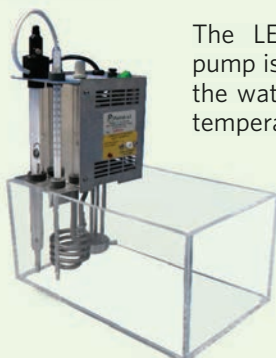
Work without computer! The Flat Recorder records the signal on paper.  
The transducer is connected directly to the Recorder, without Amplifiers or Couplers

- LE 120-1 76-0042 Flat Recorder - 1 Channel
- LE 120-2 76-0043 Flat Recorder - 2 Channels

Dimensions: 26 x 35 x 13 cm



## Thermo Regulated Pump



The LE13000 Thermo regulated pump is used to heat and recirculate the water that maintains a constant temperature in the tissue chamber.

It can be used to heat up to 4 single baths, provided that they are close enough to avert drastic temperature drops.

### SPECIFICATIONS

Temperature range	Room temperature +5°C to 100°C (WARMING: do not use temperature > 40-50°C with Panlab metacrylate chambers!); Resolution 0.2°C
Flow	12 l/min
Pressure	150 mbar
Total height (tank + thermo)	32 cm
Power supply	125V or 220 V, 1000 W
Perspex Tank 8 l	32 x 19 x 16 cm

# Organ baths

## COMPACT ORGAN BATHS

The Compact design allows up to eight individually mounted tissues to be studied simultaneously and independently per system.

The main perspex reservoir houses the heater, the chambers and coils, one for each chamber, all submerged in thermostatically controlled water.

### Others characteristics

- Compact design reduces space requirements
- Independent nutrient liquid inputs allow use of different physiological solutions in the same chamber
- All the input-output connections are accessible on the rear panel of the bath
- Two modes for solution replacement: overflow/emptying and filling
- Turbulence-free water circulation
- Use of safety sensors for both water level and water temperature (cut-off at 70 °C)
- Electronic heating progressive control system prevents temperature peaks and ensures optimal heat stability
- Available accessories for using continuous perfusion

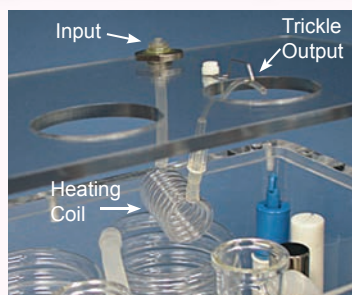


### Components included

- Micropositioners (one per chamber)
- 60 mL heating coil (one per chamber)
- Thermo Regulation Unit
- Gas outlet for feeding Petri solution

### NEW OPTION

#### Superfusion Accessory LE01090



### Thermo Regulator



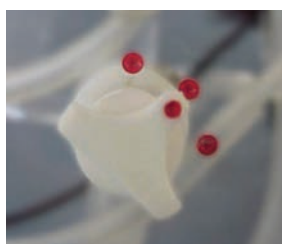
#### SPECIFICATIONS

Temperature	25°C up to 45°C (temperature regulation range)
Resolution	0,1°C
Stability	0,1°C
Measures	24,7 x 11,5 x 16,0 cm
Power supply	125V/220 V, 560 W

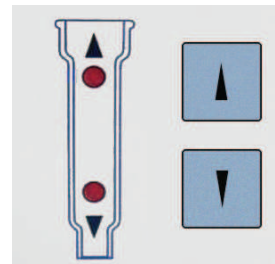
### Manual or automatic filling and emptying!

- Independent filling and emptying with the nutritive solution (Krebs).
- **Manual serie:** three-way tap in the organ baths
- **Automatic serie:** electrically-operated valves (two per chamber, one for filling and another for emptying)
- Electrovalves can be operated independently or simultaneously pushing the relevant key or by an external device (timer, programmer or software).

#### Manual three-way tap



#### Automatic valves control



# Organ baths

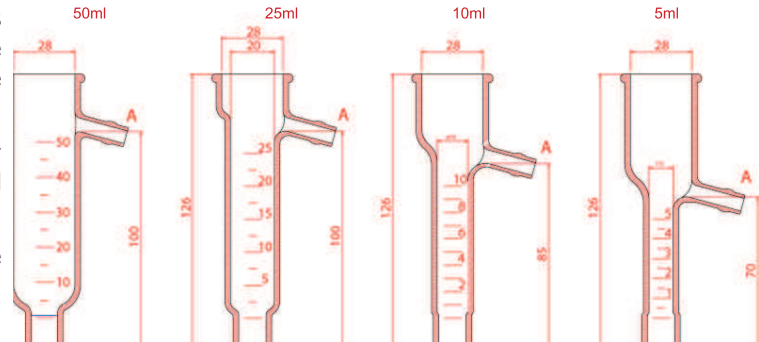
## BASIC AND COMPACT BATH FEATURES

### Chambers

Panlab s.l.u. provides a calibrate tissues chambers of 4 different volumes (5, 10, 25 and 50 ml). The chambers of the Basic Organ Baths do not have the outlet A.

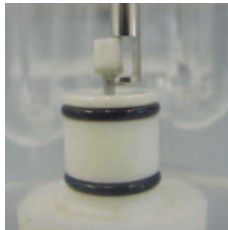
The Basic Organ Baths are equipped from factory with a 25ml chamber. By request it can be changed by another one of different volume.

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



### O-Ring

The chambers are held on to the bath by two O-Rings, that allow easy replacement of the chambers



### Tissue clips

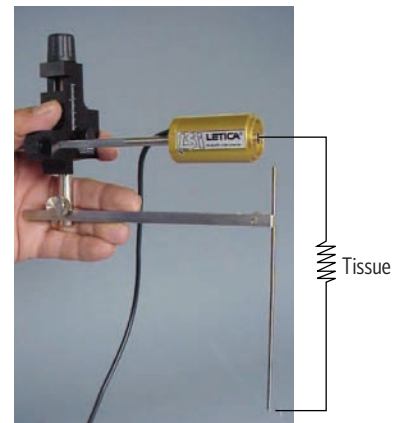
Supplied in 10 units packs. Not included in the bath set



### Micro Positioners

Each organ bath includes the Micro Positioners for a fine adjustment of the tension applied over the tissue by the transducer.

The whole ensemble (transducer, tissue holder and Micro Positioner) can be easily detached from the Organ Bath structure to allow an easy and fast set of the tissue in conditions that preserve an optimal safety of tissues.

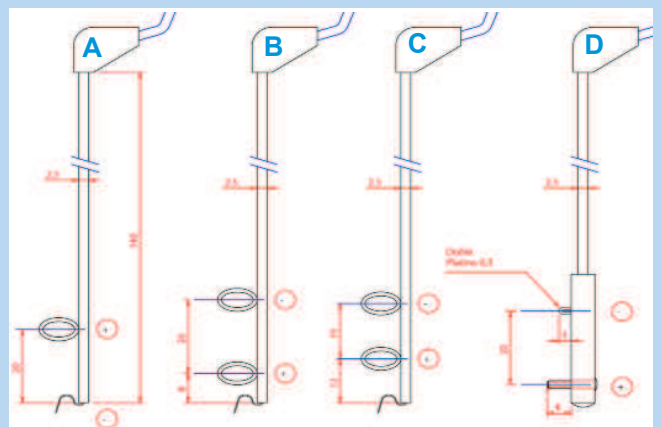


### Electrodes

The stimulation electrodes have a hook for holding the tissue.

Four models are available in stainless steel or platinum material.

LE 01.03X-YZ  
 → Ring Diameter (6.5, 8, 10)  
 → Model: A, B, C, o D  
 → 0 to Steel/Inox  
 → 5 to Platinum



## ORDERING INFORMATION

COMPACT ORGAN BATHS (Chambers not Included)					CHAMBERS		
Chambers	Dimensions (cm)	Tank	Manual		Automatic		
2	Base: 28 x 20; Height: 27 + 22	5 L	LE01002	76-0030	LE01026	76-0031	5 mL LE0105 76-0044
4	Base: 44 x 20; Height: 27 + 22	8 L	LE01004	76-0032	LE01046	76-0033	10 mL LE0110 76-0045
6	Base: 60 x 20; Height: 27 + 22	11 L	LE01006	76-0034	LE01066	76-0035	25 mL LE0125 76-0046
8	Base: 76 x 20; Height: 27 + 22	14 L	LE01008	76-0036	LE01086	76-0037	50 mL LE0150 76-0047
BASIC ORGAN BATHS (Chamber of 25ml by default)							
LE11100	76-0165	Single Organ Bath. Thermo Regulated not included.					
LE11200	76-0166	Double Organ Bath - Includes Thermo Regulated Pump LE13000					
LE11400	76-0167	Quadruple Organ Bath - Includes Thermo Regulated LE13000					
LE13000	76-0168	Thermo Regulated Pump					