

BT-1xxx Tissue chambers

The **BT-1xxx** tissue chambers all have inflow and outflow via a thin slit to promote laminar flow for flow rates up to 2ml/min. Typical flow rates for the **BT-1**, **BT-1AR** are 1ml/min. In applications using an inverted microscope with air type objective and upright microscope you can use a transparent ITO heater (eg. **HI-24p**, **HI-25Dp**) to heat the chamber directly from below. If perfusing, the inflow is heated with the **HPRE2** Pre-heater which connects to the inlet tube. Chambers have a thermistor groove to allow permanent placement of the thermistor sensor for measurement/control of the chamber temperature.

For inverted microscopes using immersion lenses there is typically insufficient working distance to use an ITO heater so you use a thin cover slide for the bottom of the chamber a **HPRE2** Pre-heater and possibly an objective heater (eg. **HLS-1p**). At flow rates >1ml/min most heating is done by the pre-heater. Heated metal stages provide very little heat transfer to chambers. For cell culture applications consider our Reusable culture chamber system (**CSTPKG** or **CSTRGPKG**).

All the **BT-1xxx** series chamber fit into our microscope stage adapters. If we don't have a suitable stage adapter we will machine one for you at no extra cost.

Please call with any questions about chambers. With our advanced CAD/CAM software we have designed many chambers and can often modify current chambers at no extra cost.

Superior flow pattern

Turbulence in solution flowing through chambers can create regions with non-uniform drug concentrations. Our chambers designs demonstrate a predictable laminar flow pattern examples of which are given below.

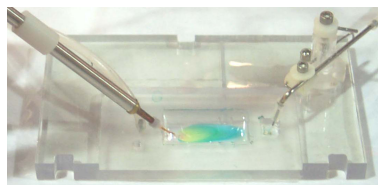


Fig. 1. shows **MPRE8** 8Ch Pre-heater superfusing region of **BT-1** chamber demonstrating laminar flow pattern.

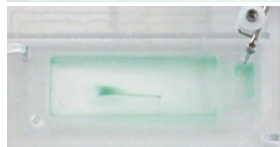


Fig. 2. **BT-1-PS** after drop of dye was injected in chamber. Shows linear path taken by dye.

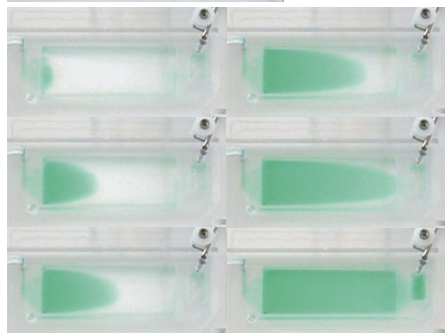
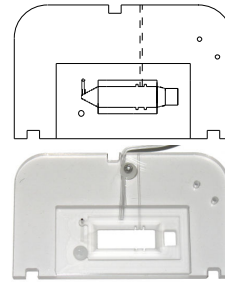


Fig 3. shows dye containing solution flowing into **BT-1-PS**. Typical laminar flow pattern for solution front.

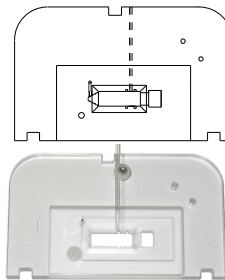
BT-1



Application: cardiac/isolated cells, cells cultured on cover slides

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 22.4x8x1.3mm≈0.25ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p**, **HI-25Dp**, **HI-24Tp**

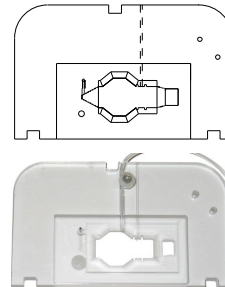
BT-1AR



Application: cardiac/isolated cells, cells cultured on cover slides

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 15.7x5.6x1.3mm≈0.12ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p**, **HI-25Dp**, **HI-24Tp**

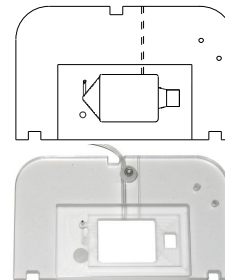
BT-1-13B



Application: upright microscopy, brain slice, 12mm cover slides

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 22.4x13x3.5mm≈0.5ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p**, **HI-25Dp**, **HI-24p**

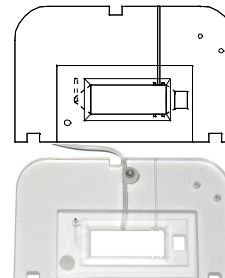
BT-1-18



Application: upright/inverted microscopy, DRG larger preps

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 22.4x18x3.5mm≈1.4ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p**, **HI-25Dp**, **HI-24Tp**

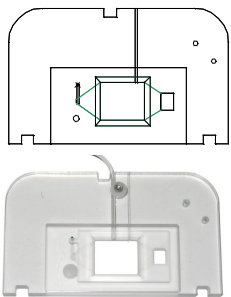
BT-1-RR



Application: cardiac/isolated cells, cells cultured on 9x22mm cover slides

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 28x10.9x1.3mm≈0.4ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p**, **HI-25Dp**, **HI-24Tp**

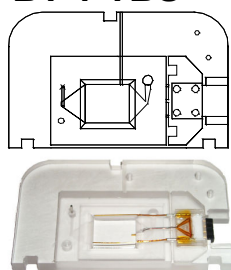
BT-1-TB



Application: cardiac/isolated cells, cells cultured on 12mm cover slides.

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 16x14.5x1.3mm≈0.5ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p, HI-25Dp, HI-24Tp**

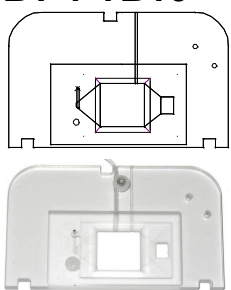
BT-1-TBS



Application: cardiac/isolated cells, cells cultured on 12mm cover slides where field stimulation using **STIM-TB** is needed.

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 16x14.5x1.3mm≈0.5ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p, HI-25Dp, HI-24Tp**

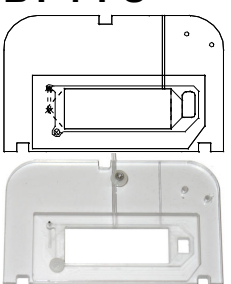
BT-1-TB16



Application: cardiac/isolated cells, cells cultured on 12mm cover slides.

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 16x16x1.3mm≈0.6ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p, HI-25Dp, HI-24Tp**

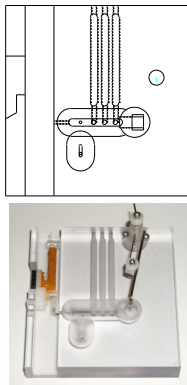
BT-1-PS



Application: sciatic nerve and other nerve or long preps.

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 16x14.5x1.3mm≈0.5ml vol
- inflow/outflow chamber, thermistor groove
- constructed of polycarbonate
- compatible with **HI-24p, HI-25Dp, HI-24Tp**

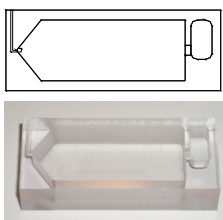
BTO-PB



Application: oocyte chamber, shown with HPRE2 Pre-heater and FL-1 Miniature positioner. Side area for holding oocytes

- size platform 7.3 x 7.9 x 12.3cm
- size central channel: 19.6x2.9x2.3mm
- outflow chamber for aspiration
- constructed of polycarbonate

BD-42



Application: dissection/holding chamber with inflow and outflow

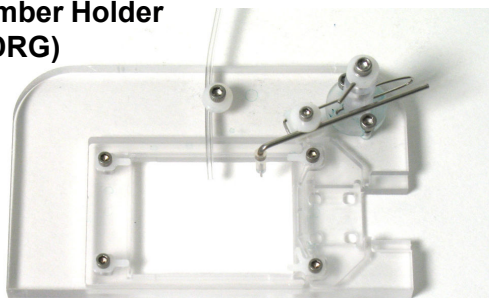
- size platform 6 x 2.6 x 12.5cm
- size central chamber: 40x20x10.4mm
- inflow/outflow chamber,
- constructed of polycarbonate

Culture chamber system

Application: culturing cells for microscopy/electrophysiology

- size platform 8.3 x 5.1 x 0.55cm
- size central chamber: 13x12mm; 0.3ml volume
- inflow/outflow chamber
- stimulation assembly with thermistor
- constructed of polycarbonate

Chamber Holder (HLDRG)



Chamber (BTRG)



Stim/therm assy (STIM-AT)

