



# Scientific Systems Design Inc.

Innovative Engineering for Science

1365 #14 Mid-Way Blvd  
Mississauga  
ONTARIO L5M4J7  
CANADA

Tel: 1 905 608 9307  
ssd@scisys.info  
www.scisys.info

## Brain Slice Keeper

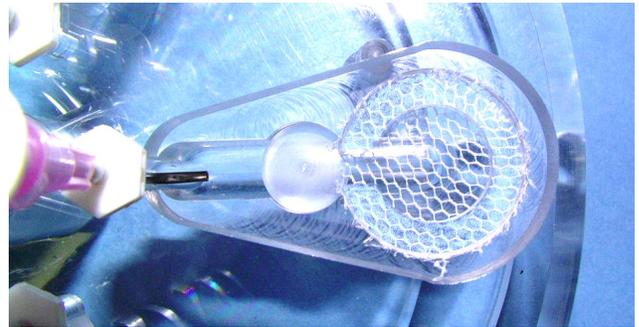
# BSK6-6

### Low Volume Pre-Incubation of Multiple Slice Preparations

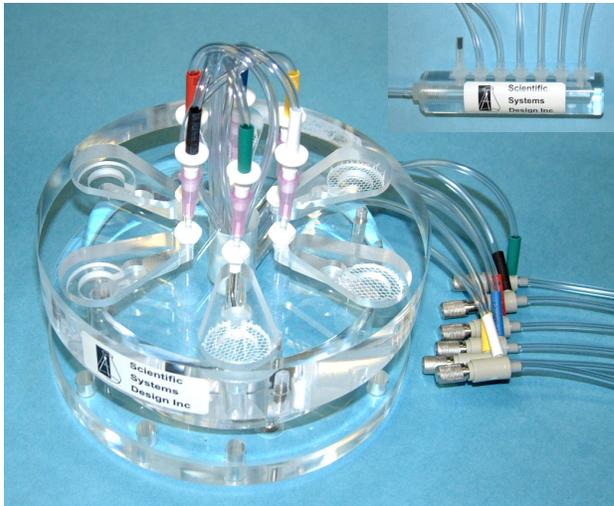
The BSK6-6 Brain Slice Keeper has been designed to pre-incubate six separate sets of brain slices in solution volumes of 4ml prior to transfer into recording chambers. This enables slices to be pre-loaded with experimental test solutions that are too expensive for large volume dilutions. It consists of a large acrylic disc into which is machined six completely independent wells. Each well has a closely fitting acrylic ring between which is wedged a removable sheet of nylon netting. The design of each well is such that when bubbled by an attached needle, a stream of oxygen bubbles introduced from the side are made to circulate the solution from the top downwards on to the net whilst also saturating the solution with oxygen. A channel below the net re-circulates the solution and exerts a downward force on the slices holding them down on the net.

#### FEATURES

- \* Minimum 4ml per incubating well for expensive test solutions
- \* Modular design allows efficient cleaning between experiments
- \* Slices supported on a quick-change nylon net
- \* Simple to set up and maintain



View of one well with acrylic 'C' ring wedging removable nylon net. Gas bubbler needle is on the left side.



BSK6 Components - chamber with inserts in place, bubbler needles and fine flow gas regulators. Inset: 1-into-6 gas input manifold.

In operation, each of the BSK6-6 wells is filled with ACSF until the 'C' ring insert is totally immersed at least 1mm above the rim. Each well is supplied with a separate feed of 95% O<sub>2</sub>, 5% CO<sub>2</sub> mixture via a needle submerged at one end of the well. The feed of the gas mixture to each well is from six fine flow gas regulators, supplied with the slice keeper. These in turn are supplied from a 1-into-6 gas input manifold also supplied with the chamber. Before introducing slices the wells are over-supplied with oxygen to saturate the incubating media. After a few minutes the oxygen flow rate is reduced and the BSK6-6 is ready to accept one or two slices per well which are placed on the net. After several uses the nylon net can be replaced by pulling the acrylic 'C' ring and wedging a new sheet in between.

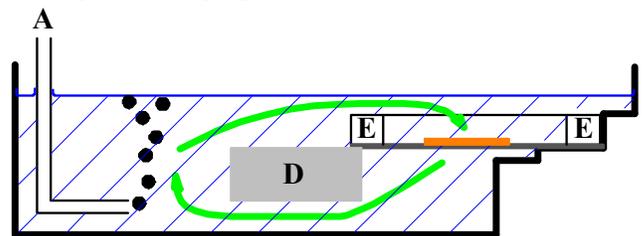
#### Specifications:

Typical volume of solution inside chamber: 4mls  
Overall Keeper diameter: 130 mm  
Chamber height: 70 mm  
Usable net diameter in each well: 12.5 mm  
Supplied with six fine flow gas regulators and an extraction tool for 'C' rings to replace nylon netting

#### CAUTION !

THE BRAIN SLICE KEEPER IS A PRECISION ENGINEERED TOOL FOR SCIENTIFIC INVESTIGATIONS.

DO NOT USE ALCOHOL OR SIMILAR SOLVENTS IN ANY CONCENTRATION ON ANY PART OF THE KEEPER SINCE AS WITH MOST ACRYLICS,™PERSPEX MAY FRAGMENT OR DEVELOP HAIR-LINE CRACKS.



BSK6 Schematic arrangement. Hypodermic needle [A] bent at tip used to bubble gas mixture which creates a flow of solution towards slice located on nylon netting held by 'C' ring [E]. Flow path continues under plug [D] back to bubbling region to complete cycle (green arrows)