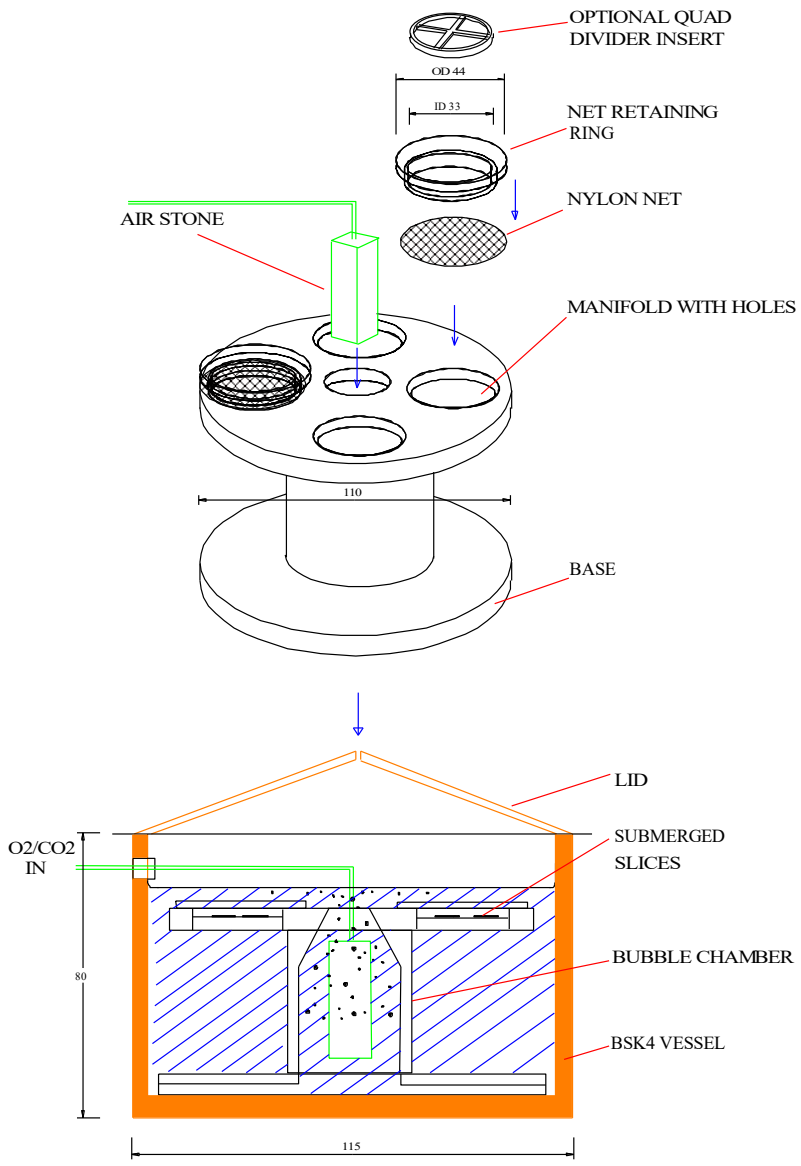

Schematic arrangement of BSK4 and location in purpose designed trough with conical profiled lid. Approximate dimensions are in mm.

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Innovative Engineering for Science

BRAIN SLICE KEEPER

BSK4

BRAIN SLICE KEEPER

CAUTION !

YOUR BRAIN SLICE KEEPER IS A PRECISION ENGINEERED TOOL FOR SCIENTIFIC RESEARCH. PLEASE TAKE A FEW MINUTES TO FAMILIARISE YOURSELF WITH THE KEEPER AND READ THROUGH THIS SHORT MANUAL BEFORE ATTEMPTING TO USE IT. DO NOT USE ALCOHOL OR SIMILAR SOLVENTS IN ANY CONCENTRATION ON ANY PART OF THE KEEPER SINCE AS WITH MOST ACRYLICS, IT MAY FRAGMENT OR DEVELOP HAIR-LINE CRACKS. DO NOT AUTOCLAVE AS HEAT MAY INTRODUCE STRESS AND CAUSE FRACTURES.

OPERATION

The BSK4 Brain Slice Keeper has been designed to pre-incubate a large number of brain slices prior to transfer into recording chambers or for the incubation of preparations in experimental test media. Based on the BSK1, it consists of four closely fitting acrylic rings, located in a circular manifold, between which is wedged a removable sheet of nylon netting.

FEATURES

* *Slices maintained for many hours in incubating media*
* *Four separate rings allow separation of different types of preparations*
* *Slices supported on a quick change nylon net*
* *Modular design simple to set up and maintain*

In operation, the four rings located on a manifold with netting are totally immersed in an ACSF-filled purpose designed holding vessel into which a 95% O2, 5% CO2 gas mixture is supplied through a bubbler. The bubbler is located in a central tube chamber connected to the upper manifold. The bubbles rising from the base saturate the ACSF and provide constant circulation of medium to the slices which rest on the nylon nets. Bubbles are restricted to rising in the central chamber and are prevented from being trapped under the slices, thereby ensuring a continuous circulation of medium. Slices remain viable for many hours in these conditions. The BSK4 together with the holding vessel can be easily placed into a water bath for regulating the incubating temperature as desired. A lid with a conical profile ensures that condensation drops do not fall directly above the slices. When in place, the fluid level is maintained at least 3mm above the upper ring. This ensures circulation of fluid over the top and downwards towards the slices. The typical fluid volume with BSK4 is 400ml but can be reduced by adding glass spheres into the base.

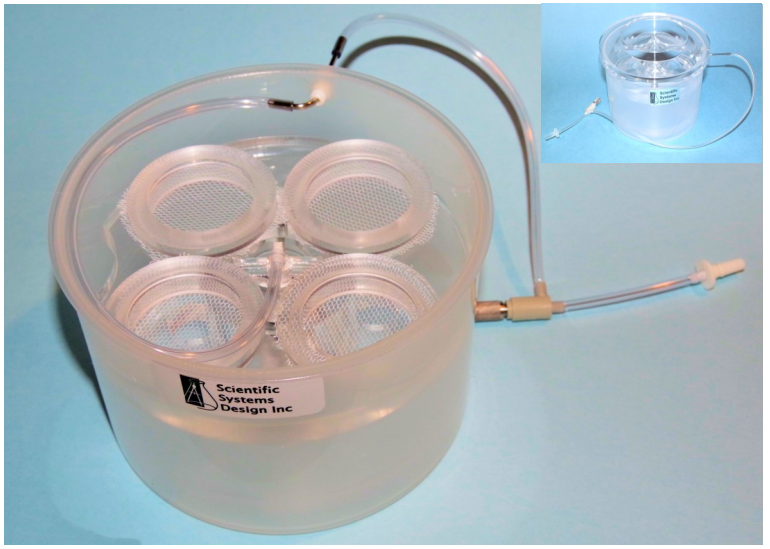
TEMPERATURE CONTROL

Temperature can be maintained by submerging the trough into a water bath set to the desired temperature. The heated water bath fill level should be about 15mm below the fill level of the BSK4 to prevent floating and instability. Bubbling within the BSK4 ensures circulation and uniform temperature of the incubating media around the slices.

MAINTENANCE

Alcohol should never be used on the acrylic manifold, rings or lid of the slice keeper for cleaning purposes even at low concentrations because it dehydrates and produces hair-line cracks in acrylic plastics. Only the plastic trough can be cleaned with alcohols. The acrylic component can be cleaned with special laboratory detergents such as *Micro-90™ which completely rinses out. The ceramic air stone must be removed when using such detergents. Heavy deposits of salts should be washed out with distilled water

*Micro-90™ is a trademark of International Products Corporation USA



BSK4 Brain slice keeper with rings and net in place and with lid in place (inset). A needle valve is used to control the flow of oxygen mixture to the ceramic bubbler.

overnight and carbonate salts treated with mild acids such as citric acid. The most common contaminant is fungal growth, this can be avoided by washing out with distilled water and drying out completely at the end of each day. Hydrogen peroxide solution 30 Vols, 10% dilution is also an effective cleaning agent followed by overnight soaking in distilled water.