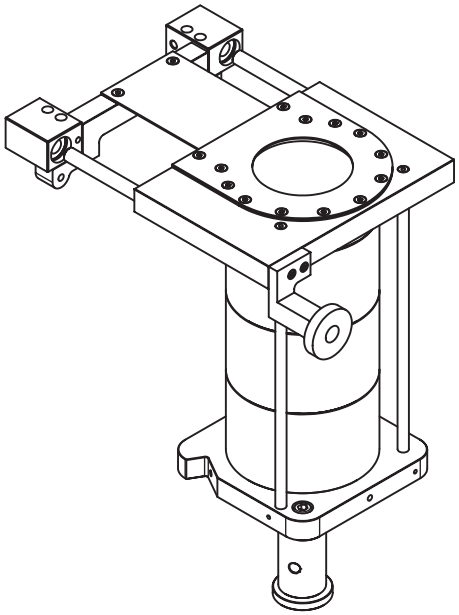
Ipheion Development Corp.
18471 Cattail Spring Dr.
Leesburg, VA 20176
240-281-1619
www.ipheion.biz

Project Showcase



Photomultiplier for Weak Fluorescence Detection

In order to correlate neural activity with applied external somatosensory stimuli administered to fruit fly larvae, they are given coelenterazine to ingest. When present in nerve cells it acts as a detector of calcium ions, which, in turn, are an indicator of neural function. The coelenterazine emits blue photons, when interacting with calcium ions. This signal is picked up by the photo multiplier tube in this assembly as a photon count. The assembly has to be light-tight, so as to avoid damage of the photo multiplier, when exposed to room lights, and to limit false photon counts when in operation. To this end the assembly is equipped with a cable-release-operated sliding shutter, which is opened only, when the detector environment is dark and data is to be taken. This device is modular and can be placed on the Drosophila Larva Tracker and operated in conjunction with some of the stimulus assemblies.

Client: Janelia Farm Research Campus of the Howard Hughes Medical Institute.

Employed instrumentation: photo-multiplier tube, discriminator, photon counting device.