Product

Features

- APS approved design based on existing APS S3-30 integral shutter, with doubly redundant operation. Leak detector.
- Multiple beam inputs (mirror, mono, white beam) up to 150mm vertical spacing using proven IDT design. Automated bake out rig for processing machined items.
- CF flange connection of any size to any existing beamtubes.
- Flexible design allows special maximum ranges up to 250mm with only minor scalable design change.
- Narrow width design permits dual (side-by-side) operation on BM lines for completely independent operation with only 100mm horizontal separations between beam centres.
- Wire seal flange mount modification allows easy set-up and pre-testing outside vacuum tank.

www.idtnet.co.uk

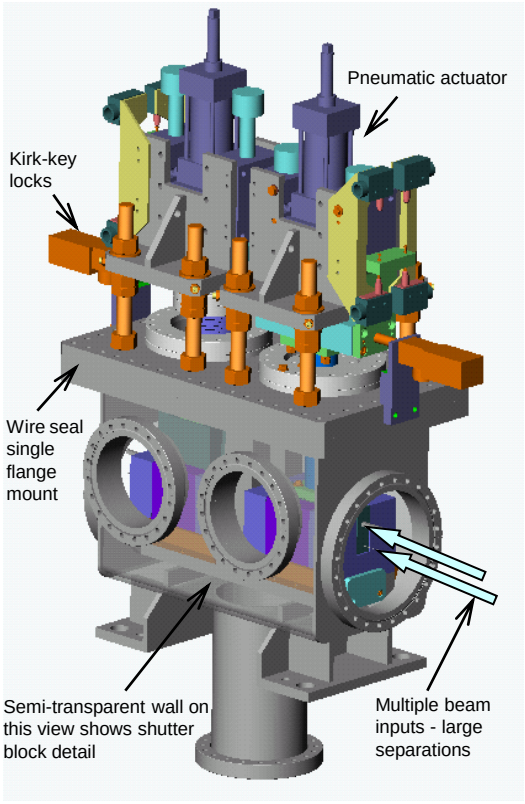
idt
instrument design technology
beamline engineering excellence

Bremsstrahlung Radiation Safety Shutter

Scalable Multi-Beam Design

IDT have modified an existing APS (Advanced Photon Source) radiation shutter design (the S3-30 integral shutter). The new, modified design is approved for use at the APS and has been tested with Bremsstrahlung radiation from an APS undulator source.

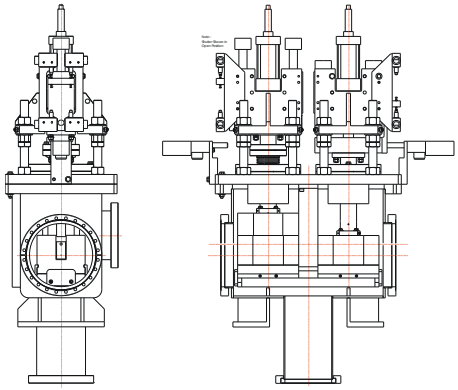
The modification permits the entire shutter assembly to be mounted from a single rectangular flange lid which is wire sealed onto the vacuum containment tank below. This subtle modification allows some key advantages over the original design. These are:-



• **Multiple Beam Inputs / Large Offsets** The shutter is now configured to easily permit multiple beam sources to pass through (e.g. white beam, mono beam and mirror beam offsets) with up to 150mm+ vertical separation (and more).

•**Dual BM shutters -** Specially reduced 'slim-line' vacuum tank designs permit tandem side-by-side operation of two shutters so that BM (Bending magnet) sources with typically <5mrad horizontal separation (100mm @20m) can be made to operate independently into individual experimental stations.

•**Integral Thermal & Radiation Shutter** – The upstream lid flange of the dual shutter tank can be used to mount a inclined thermal absorber that actuates at the same time as the shutter immediately downstream so that a compact white beam radiation shutter is formed. *(Note: This option possible only in facilities where site safety rules do not demand a full doubly redundant shutter assembly - as at the APS)*



Above Left: Standard ID configuration

Above Right: Tandem BM configuration

Instrument Design Technology Ltd
Unit 2, Turnstone Business Park,
Mulberry Avenue, Widnes,
Cheshire, WA8 0WN, England.

Queries?
email: murray@idtnet.co.uk
Tel: +44 (0)151 601 4111
Fax: +44 (0)151 601 4110