

SLIT SYSTEMS

FOR SYNCHROTRONS, FELs AND
NEUTRON FACILITIES



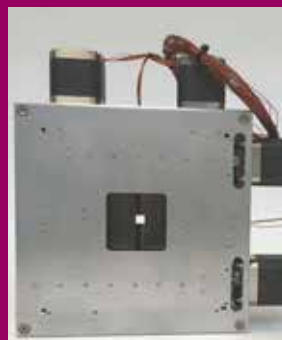
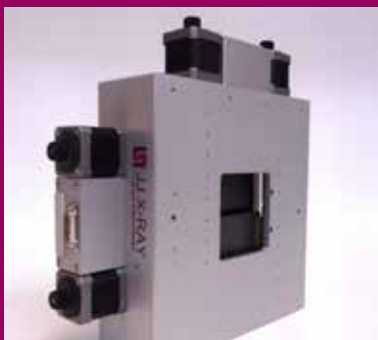
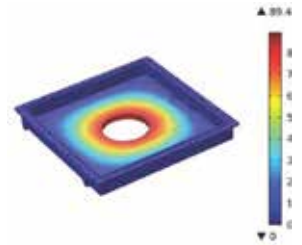
JJ X-RAY

Danish Science Design

JJ X-RAY SLIT SYSTEMS

Over the last 25 years, JJ X-Ray has designed a large portfolio of slit systems used at x-ray and neutron facilities all over the world.

Our top priority is to give the customer the best solution whether they need the slit system to be standard, modified or customized.



GENERAL FEATURES

- ✓ Blade motion: Individually moving blades (IB) or blades moved in pairs defining the aperture size and translation movement for each dimension (AT).
- ✓ Position of Aperture in slit body: Centered (C), Off-Center (F), Asymmetric (A).
- ✓ Position of blades: The blades can define any size aperture within the gap and are typically fully overlapping.
- ✓ Number of blades: Normally the slits hold four blades but two blades are possible on request (DEMI-version).
- ✓ Slit Operation: In air (AIR), high vacuum (HV) or ultra-high vacuum (UHV, <math>< 10^{-8}</math> mbar).

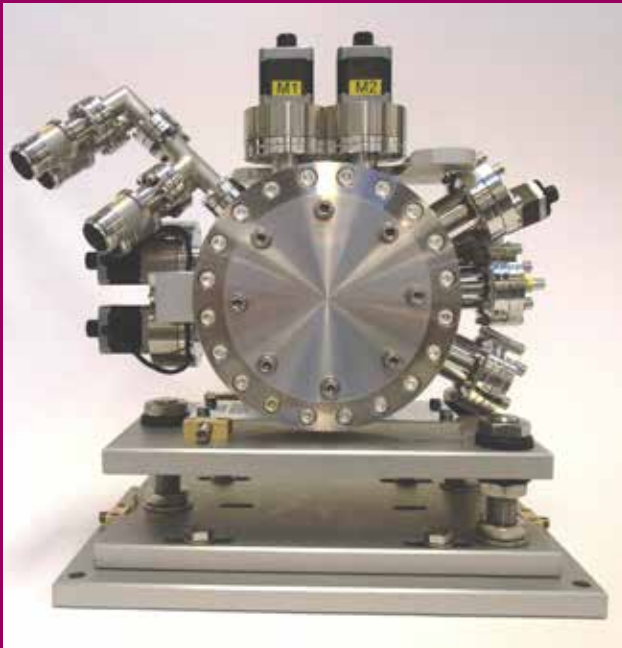
CUSTOM VERSIONS

Sometimes, the limited space around the beamlines or special requirements for the aperture size makes it difficult for a standard size slit to fit into a specific setup.

In that case, we can design a customized solution which is developed from our well proven standard systems.



THE JJ X-RAY SLIT PORTFOLIO



- SLITS FOR AIR, HV AND UHV
- CUSTOM SIZED SLITS
- STEEL SLITS
- SLITS INSIDE VACUUM VESSELS
- NON-MAGNETIC SLITS
- COPPER BRAIDED COOLED SLITS (<5W)
- WATER COOLED SLITS (<4000W)

SLIT BLADES

Our slit blades are carefully selected and a wide range of materials as well as shapes are possible.

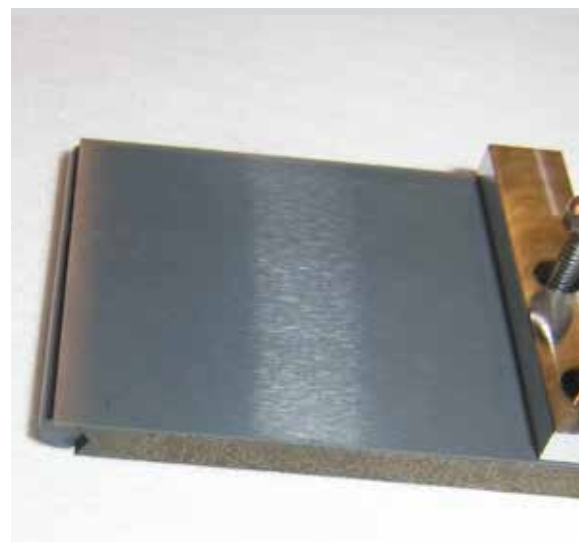
Most common materials are tungsten carbide, tantalum, boron carbide and single crystal blades (Si, GaAs or InP).

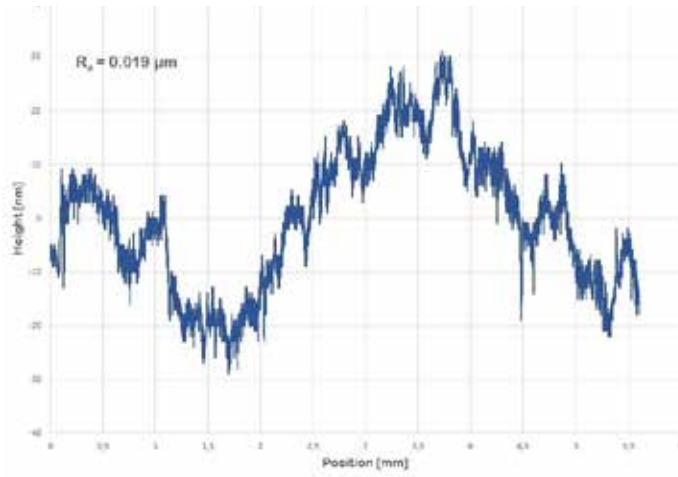
Slit blade configuration includes knife-edge, rectangular and cylindrical shapes. For single crystal blades, we normally use a 20 degree tapered angle.

UHV SLITS

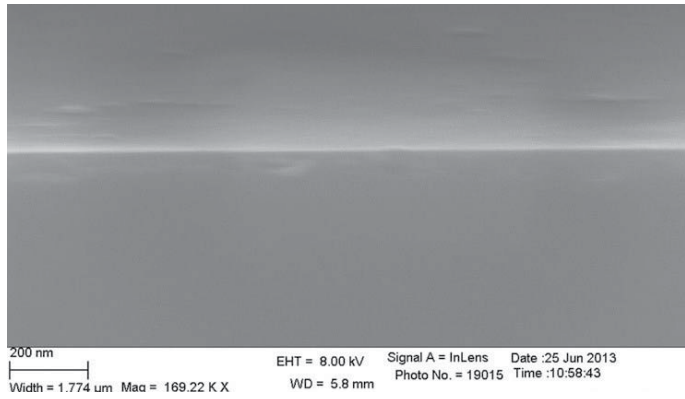
Our IB-C30-UHV slit has been on the market for more than 10 years and performs successfully at numerous facilities around the world.

- ✓ Assembled in a fully equipped ISO 5 cleanroom.
- ✓ Customization according to customer requests (blades, flanges, motors, encoders, connectors, fiducial plates etc.).
- ✓ Helium leak detection and residual gas analysis (RGA) as an integrated part of the Factory Acceptance Test.
- Options for fiducialisation, laser interferometry and vibration measurement.

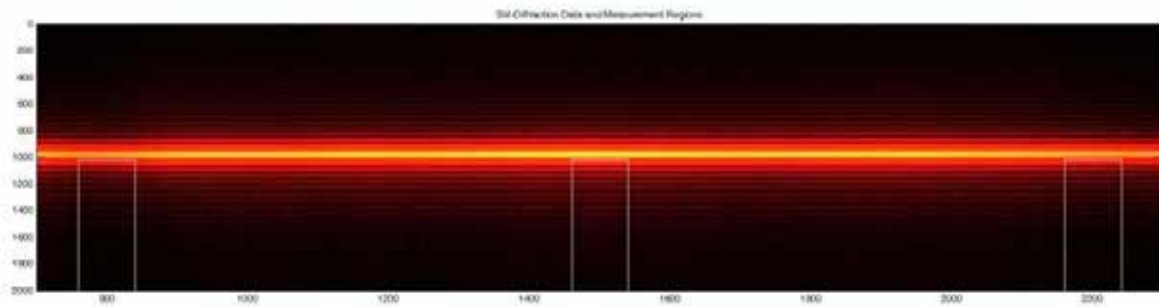




ROUGHNESS
MEASUREMENT OF
TUNGSTEN CARBIDE
SLIT BLADE:
RA=0.019 μm.



SEM AT THE EDGE
OF A SINGLE
CRYSTAL BLADE
(IMAGE WITH: 2 μm).



BLADE PARALLELISM MEASURED BY LASER DIFFRACTION.

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Synchrotron

Beamlines

