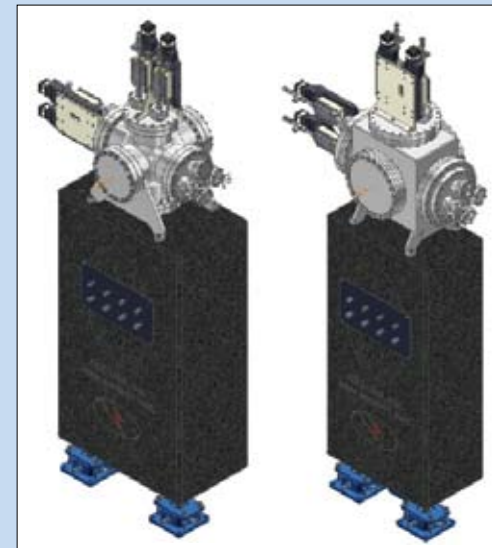


SLT-600 Series UHV Ultra High Precision Monochromatic Slits with Beam Monitoring

Min. incremental movement: $\leq 0.1 \mu\text{m}$
Bi-directional repeatability: $\leq 0.1 \mu\text{m}/5 \text{ mm}$
Accuracy: $\pm 0.1 \mu\text{m}/5 \text{ mm}$
Environment: UHV (Tested to 5×10^{-9} Torr)



This series consists of vertical and horizontal slit mechanisms, a vacuum vessel (Rectangle or 6 ways cross) which houses the individual blades, stepper motors, limit switches and electrical connections for beam monitoring and a stand (optional) for the vacuum chamber to attach to. These slits employ ADC's newly redesigned linear actuator providing highly accurate linear travel. Each of the four blades are individually controlled and motorized. All models use cross-roller bearing technology for exceptional straightness of travel. All of these slits use standard micro stepped stepper motors that can be controlled with a wide array of controllers/drivers available on the market. An easily visible linear scale for each blade is attached to its translation system to provide an alternate way of reading the blade position. Limit switches and hard stops prevent damage by over travel.

- Linear encoder option
- Flange: DN63 4.5"; DN100 6"; DN150 8"; DN200 10"
- Beam monitoring option
- Blades can go "Past Closed" without clashing (Overlapping/Zero Beam)
- Blade material:

Synchrotron Application:

- Tungsten (TU) 95%W, 3.5%Ni, 1.5%Cu, Tantalum (TA) ASTM-B-708 RO5200

Stand (Option)

Granite or welded tubular steel stand with powder coated finish and filled with sand for added stability.

Beam Monitoring (Option)

The blades of these slits are independently, electrically isolated and have a connector and wire to enable beam monitoring. This is used to determine the position of the beam. Four independent electrical connections are used. The minimum DC resistance between the blade and earth is >1010 ohms.

Fiducial Marks

For beamline component alignment ADC provides fiducial marks on precision surfaces. UHV Slits, for example, are shipped with precision tooling balls for component alignment.

Visit our web site www.adc9001.com for specific ordering instructions.

SLT-800 Series UHV Ultra High Precision Exit Slits with Beam Monitoring

Aperture: 0 to 500 μm
Min. incremental movement: $\leq 0.1 \mu\text{m}$
Bi-directional repeatability: $\leq 0.1 \mu\text{m}/5 \text{ mm}$
Accuracy: $\pm 0.1 \mu\text{m}/5 \text{ mm}$
Environment: UHV (Tested to 5×10^{-9} Torr)
Mechanism: Flexure Design



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SLT-700 Series UHV Water Cooled Precision High Heat Load Slits with Beam Monitoring

Min. incremental movement: $\leq 0.1 \mu\text{m}$
Bi-directional repeatability: $\leq 0.1 \mu\text{m}/5 \text{ mm}$
Accuracy: $\pm 0.1 \mu\text{m}/5 \text{ mm}$
Environment: UHV (Tested to 5×10^{-9} Torr)

Visit our web site www.adc9001.com for specific ordering instructions.

The SLT-700 Series is identical to the SLT-600 Series only water cooling lines are connected to the individual blades. Each slit is customized to meet the needs of the customer including aperture, heat load, resolution, accuracy, beam monitoring, etc.

This unit consists of vertical and horizontal slit mechanisms, a vacuum vessel which houses the individual blades, stepper motors, limit switches and electrical connections for beam monitoring and a stand (optional) for the vacuum chamber to attach to. These slits employ ADC's newly redesigned linear actuator providing highly accurate linear travel. Each of the four blades are individually controlled and motorized. All models use cross-roller bearing technology for exceptional straightness of travel. All of these slits use standard micro stepped stepper motors that can be controlled with a wide array of controllers/drivers available on the market. An easily visible linear scale for each blade is attached to its translation system to provide an alternate way of reading the blade position. Limit switches and hard stops prevent damage by over travel.

- Micron precision
- Linear encoder option
- Flange: DN63 4.5"; DN100 6"; DN150 8"; DN200 10"
- Beam monitoring option
- Blades can go "Past Closed" without clashing (Overlapping/ Zero Beam)
- Blade material:

Synchrotron Application:

- Tungsten (TU) 95%W, 3.5%Ni, 1.5%Cu, Tantalum (TA) ASTM-B-708 RO5200

Stand (Option)

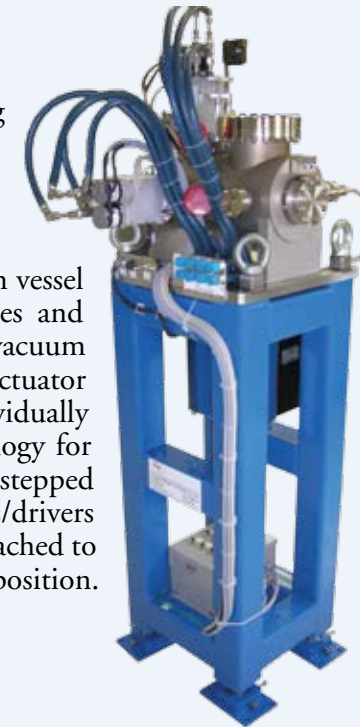
Granite or welded tubular steel stand with powder coated finish and filled with sand for added stability.

Beam Monitoring (Option)

The blades of these slits are independently, electrically isolated and have a connector and wire to enable beam monitoring. This is used to determine the position of the beam. Four independent electrical connections are used. The minimum DC resistance between the blade and earth is >1010 ohms.

Fiducial Marks

For beamline component alignment ADC provides fiducial marks on precision surfaces. UHV Slits, for example are shipped with precision tooling balls for component alignment.



ADC USA, Inc. is a hands-on engineering company with over 15 years of experience. We custom design devices, integrated systems and a broad array of high-precision components and instruments for commercial, academic and government agencies worldwide. Our work covers mechanical design, control instrumentation, control software, manufacturing and assembly, and installation and training.

For more information on the above systems or any of our products contact us at:

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High Precision Slits



SLT-100 and SLT-200 Series Vacuum Slits



SLT-300 Series Slits



Custom Slits



SLT-700 Series UHV Water Cooled Slits

EQUIPMENT with REALIABILITY and DEPENDABILITY

High Precision Slits

ADC offers the most complete set of **ultra-high-precision slits** from monochromatic to white beam.

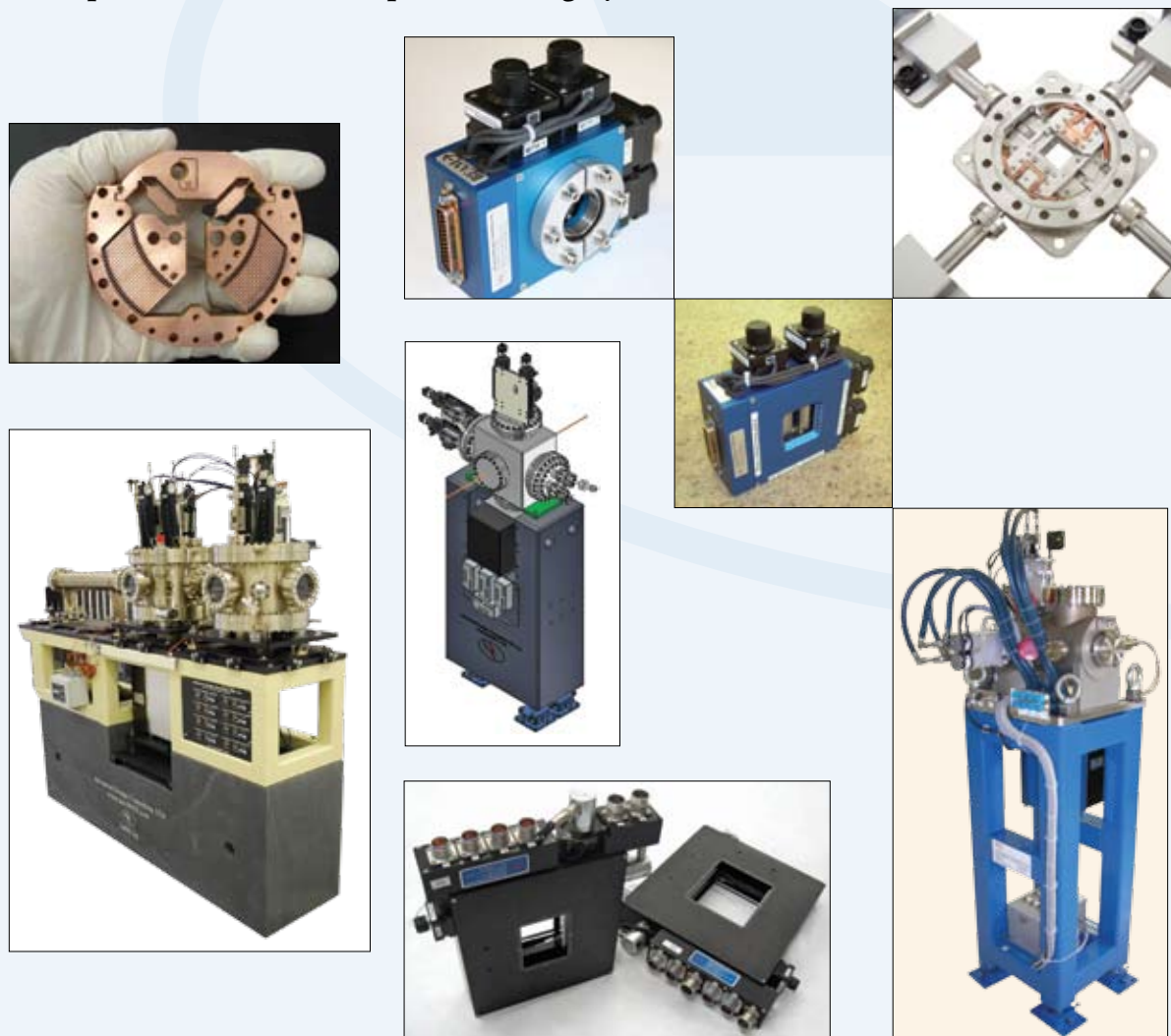
- Micron precision
- Encoder option
- Ability to monitor the beam
- Best slit blade edges in the synchrotron community!!!
- Blade material; Tungsten or Tantalum, Boron Carbide, Cadmium, Boron Nitride
- Blades can go “past closed” without clashing (Overlapping/Zero beam).
- FEA analysis for thermal and mechanical
- Customized to customer specifications; flange size, blade material, etc.

Stand (Option)

Granite or welded tubular steel stand with powder coated finish and filled with sand for added stability.

All models use cross-roller bearing technology for exceptional straightness of travel. All of these slits use standard micro stepped stepper motors that could be controlled with a wide array of controllers/drivers available on the market. Our slits are being used in many synchrotrons around the world (APS, NSLS, ALS, DLS, NSRRC, BESSY, DESY, CHESS, ESRE, BSRE, CAMD, NSRL, PAL, LNL, CLS, SSRF, IHEP, ANKA, KEK, ASP, SPring-8, ELETTRA, MAX-Lab, ...)

For more information on any of our slits, call (607) 533-3531, e-mail us at adc@adc9001.com or go to: <http://www.adc9001.com/products/category/102>



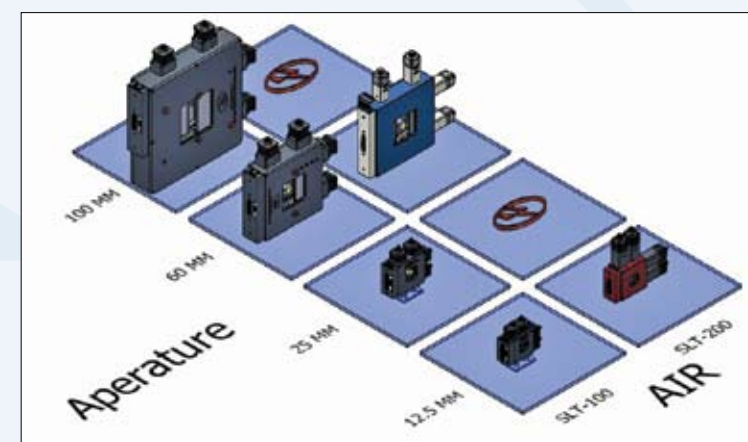
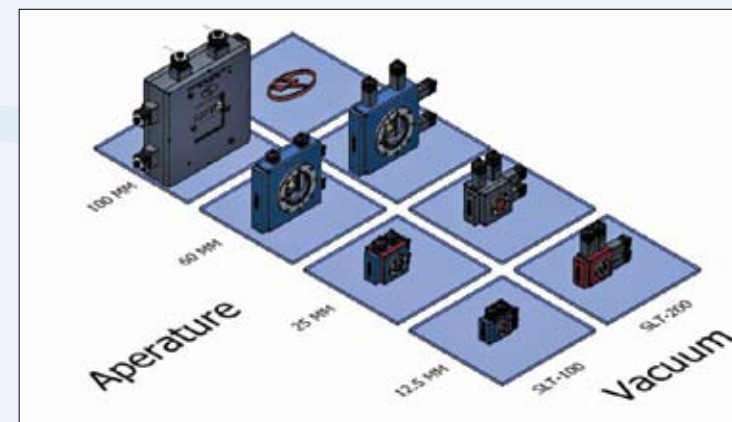
SLT-100 and SLT 200 Series High Precision Monochromatic Slits

SLT-100 Series

Aperture: 12.5 mm, 25 mm, 60 mm, 100 mm
Min. incremental movement: $\leq 2 \mu\text{m}$
Bi-directional repeatability: $\leq 2 \mu\text{m}/5 \text{ mm}$
Accuracy: +/- 2 $\mu\text{m}/5 \text{ mm}$
Environment: Air or Vacuum (Tested to 10⁻⁶ Torr)

SLT-200 Series

Aperture: 12.5 mm, 25 mm, 60 mm, 100 mm
Min. incremental movement: $\leq 2 \mu\text{m}$
Bi-directional repeatability: $\leq 0.1 \mu\text{m}/5 \text{ mm}$
Accuracy: +/- 0.1 $\mu\text{m}/5 \text{ mm}$
Environment: Air or Vacuum (Tested to 10⁻⁶ Torr)



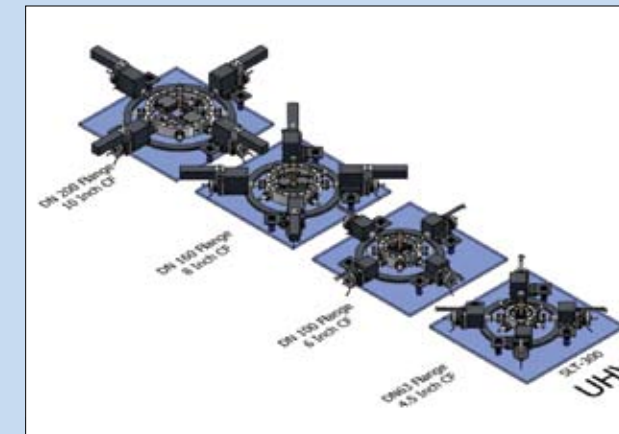
These high-precision slits systems consist of four blades that are housed in an aluminum body. All models use cross-roller bearing technology for exceptional straightness of travel. All of these slits use standard micro stepped stepper motors that can be controlled with a wide array of controllers/drivers available on the market. The design incorporates limit switches.

- Micron Precision
- Rotary Encoder Option
- Blades can go “Past Closed” without clashing (Overlapping/Zero Beam)
- Blade material:
 - Synchrotron Application:**
 - Tungsten (TU) 95%W, 3.5%Ni, 1.5%Cu
 - Tantalum (TA) ASTM-B-708 RO5200
 - Neutron Application:**
 - Cadmium
 - Boron Nitride
 - Boron Carbide

Visit our web site www.adc9001.com for specific ordering instructions.

SLT-300 Series UHV High Precision Monochromatic Slits with Beam Monitoring

Aperture: 10 mm, 20 mm, 25 mm, 60 mm
Min. incremental movement: $\leq 0.2 \mu\text{m}$
Bi-directional repeatability: $\leq 0.1 \mu\text{m}/5 \text{ mm}$
Accuracy: +/- 0.1 $\mu\text{m}/5 \text{ mm}$
Environment: UHV (Tested to 5 x 10⁻⁹ Torr)



This unit consists of vertical and horizontal slit mechanisms, a double-sided flange which houses them, stepper motors, limit switches, and electrical connections for beam monitoring. Each of the four blades are individually controlled and motorized. All models use cross-roller bearing technology for exceptional straightness of travel. All of these slits use standard micro stepped stepper motors that can be controlled with a wide array of controllers/drivers available on the market. An easily visible linear scale for each blade is attached to its translation system to provide an alternate way of reading the blade position. Limit switches and hard stops prevent damage by over travel.

- Micron precision
- Linear encoder option
- Flange: DN63 4.5”; DN100 6”; DN150 8”; DN200 10”
- Beam monitoring option
- Blades can go “Past Closed” without clashing (Overlapping/Zero Beam)
- Blade material:
 - Synchrotron Application:**
 - Tungsten (TU) 95%W, 3.5%Ni, 1.5%Cu, Tantalum (TA) ASTM-B-708 RO5200

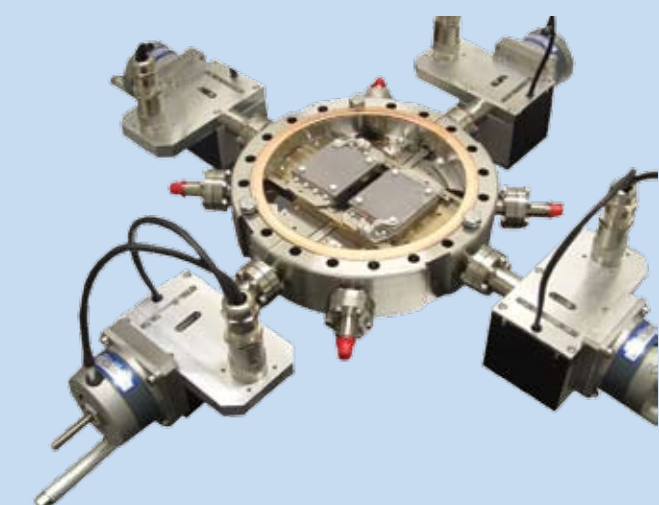
Beam Monitoring (Option)

The slits blades are independently, electrically isolated and have a connector and wire to enable beam monitoring. This is used to determine the position of the beam. Four independent electrical connections are used. The minimum DC resistance between the blade and earth is >1010 ohms.

Fiducial Marks

For beamline component alignment ADC provides fiducial marks on precision surfaces. UHV Slits, for example are shipped with precision tooling balls for component alignment.

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