Technical Data Sheet Baffle slits / Adjustable Apertures

FMB has extensive experience in building adjustable apertures and masks for synchroton sources worldwide.

FMB produces apertures for high heatload, needed in the white beam, as well as for low power applications needed in the monochromatic beam.

Depending on the application and the beam power, these apertures are either cooled or uncooled and available in different size and precision. Total power load, power density and aperture size are the main parameters defining the design of the system.

Electrically isolated blades or blades coated with fluorescent material are also available.

Supports built from welded steel frames as well as granite or concrete based supports are available.



Perfuse - Baffle and Cal Uncooled 4-blade baffle slit for monochromatic beams / Additional Tech





The range of adjustable apertures and slits for synchrotron radiation made by FMB can be devided into:

- Compact uncooled in-flange
 systems
- Systems with two parallel blades each controlled by one linear actuator, mounted on one common flange
- Systems with up to four separate blades each mounted with its own linear feedthrough on a vacuum chamber
- Two movable masks mounted on motorized horizontal and vertical moving stages

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Baffle slits / Adjustable Apertures

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Parameter	Typical Specifications
Blade material:	OFHC-Copper, GLIDCOP [®] (other materials on request)
Maximum power:	up to 15 kW (depending on design)
Maximum power density:	up to 150 W/mm ² (depending on design)
Blade edge length:	from a few mm up to more than 100 mm
Stroke:	from a few mm up to more than 100 mm
Drive:	stepper motor or manually driven
Fullstep resolution:	usually a few μ m/full step, depending on the actuator
Encoder resolution:	1 μ m/count (other resolutions available on request)
Repeatability:	from \leq 2 to around 20 μ m (depending on design)
Vacuum compatibility:	UHV (10 ⁻¹⁰ mbar)
Baking temperature:	200°C
Selectable options:	 Blade material, shape and size Power load and density Blades electrially isolated (depending on power load) Blades with fluorescent material (depending on power load)

- Actuator stroke and resolution
- Driven manually or by stepper motor
- With or without encoder
- Encoder type (incremental or absolute)
- Support type

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