

General

The in-vacuum tube slit was designed to allow a very close position of a cross slit to the sample due to its minimum physical design and to be operated in vacuum in order to reduce air scattering for low energy experiments.

Applications

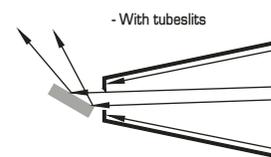
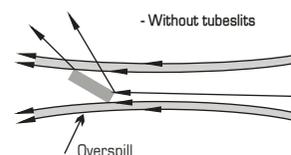
Applications are for i.e. grazing incidence diffraction experiments performed with samples of limited size, which can lead to the incident beam spilling over the surface of the sample under investigation.

This condition is undesirable as it generally leads to an increase of background scattering. Typical incident angles of $<0.3\text{deg.}$ and sample sizes in the order of $10\text{mm} \times 10\text{mm}$ require that the vertical or horizontal extent of the beam be of the order of $50\mu\text{m}$ to avoid beam overspill.

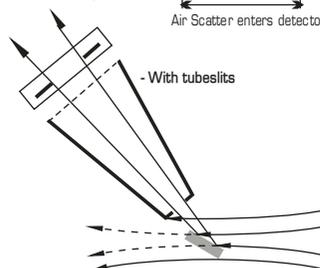
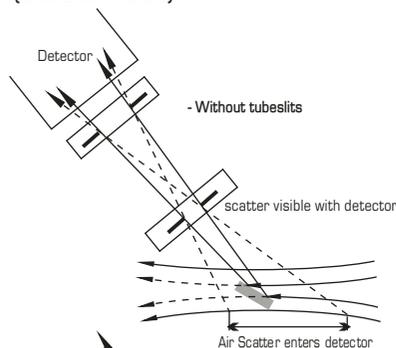
As the physical size of the spot is largely aberration limited, the only way of defining such an incident beam is by placing slits very close to the sample.

Also by placing the slits at the exit beam very close to the sample, a well defined sample footprint is obtained plus a further reduction in background scatter.

Slit mounted on incident beam side



Slit mounted on 2-Theta Arm (exit beam side)



Specification

Material:

Body: Aluminium*

Slit edges Tungsten*

* other materials on request

Specification

Opening [mm]: 0-4
asymmetr.

Weight [kg]: 4,5

Resolution [μm]: 1,25

Technical Data Motor:

Number of phases: 2

Type of plug: SUB D15

Number of steps/rev.: 200/400

Voltage [V]: 5

Current per phase [A]: 0,7

