

Appendix 1: Analyzer Slit Dimensions 4MS-226

Slit and aperture dimensions

The table below shows the nine different sets of matched slit-aperture pairs.

Knob reading*	Slit width	Slit length	Shape**
	[mm]	[mm]	
~100	0.2	30	Straight
~200	0.1	25	Curved
~300	0.2	25	Curved
~400	0.3	25	Curved
~500	0.5	25	Curved
~600	0.8	25	Curved
~700	1.5	30	Straight
~800	2.5	30	Straight
~900	4.0	30	Straight

*Mechanically latched

****Note:** due to the spherical symmetry a straight slit will be imaged onto a curved line at the detector, with a radius which is half that of the analyzer. Since the detector in the non-imaging mode is integrating the signals along one pixel row for each energy channel, this curvature gives a contribution to the energy broadening. For relatively wide slits (> 1 mm) the curvature can be neglected, but for narrower slits it becomes significant. In order to eliminate this effect, some of the entrance slits are curved with the appropriate radius to produce straight lines at the detector.