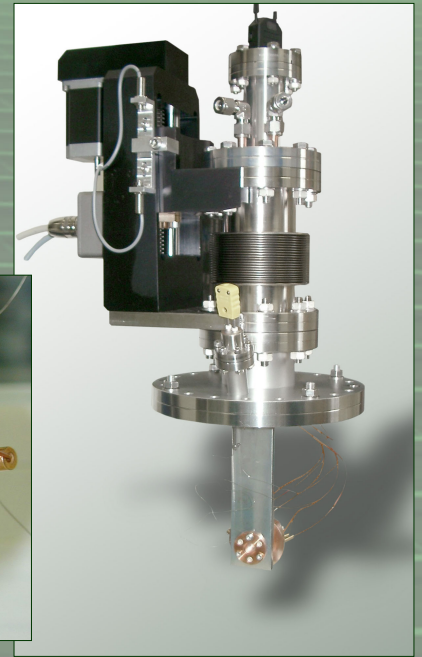
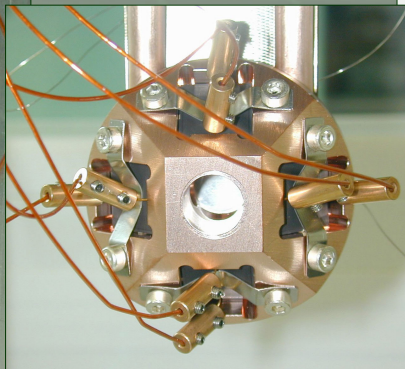
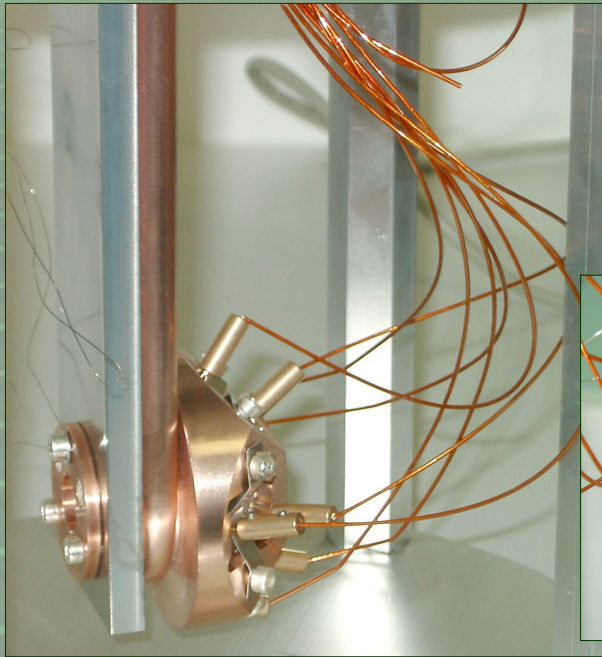


Beam Position Monitor (Diode type)



The beam position monitor is used for detecting the position of beams having very small cross sections (intense focussing), which for that reason cannot be measured with staggered pair monitors. They are typically the last monitors before experiments with focussed beams.

Large surface GaAsP photo diodes (Schottky type) in UHV-compatible design will be used as sensors. This is an array made of four photodiodes arranged on the left and on the right as well as above and below the beam. The photon beam hits a thin high-transmission target foil. Fluorescence photons generate the photo-currents. From the differences between the currents in the four diodes the position of the beam can be established in-situ. The cooled monitor head is made of OFHC copper and can be moved via a power-driven linear manipulator orthogonally to the beam. The manipulator stroke allows the monitor to be completely removed out of the beam. The expected photon flows will be measured using pico-ammeters.

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Beam Position Monitor (Diode type)

Technical Data.

Energy range:	1 keV ... 20 keV
Diode type:	GaAsP, Schottky type (Hamamatsu)
Active diode surface:	10.1 mm x 10.1 mm
Target foil:	Al, Cr, Ti
Foil thickness:	0.001 mm
Transmission:	approx. 95% at 5 keV and 0.001 mm Al
Basic flange:	CF 150
Monitor head:	OFHC copper
Manipulator stroke:	50 mm vertical,
Drive:	stepping motor, limit and reference switches
Cooling:	OFHC copper pipe, Ø 6x1
Temperature measurement:	TC, K-type
Photo-current measurement:	4 pico-ammmeters (Keithley 6485 or equivalent)
UHV compatibility:	yes

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