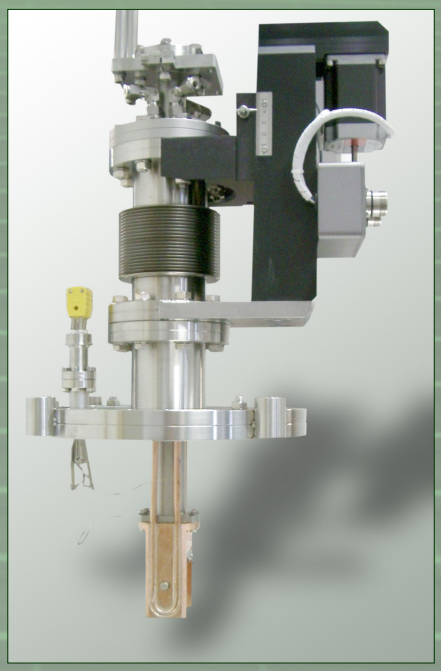
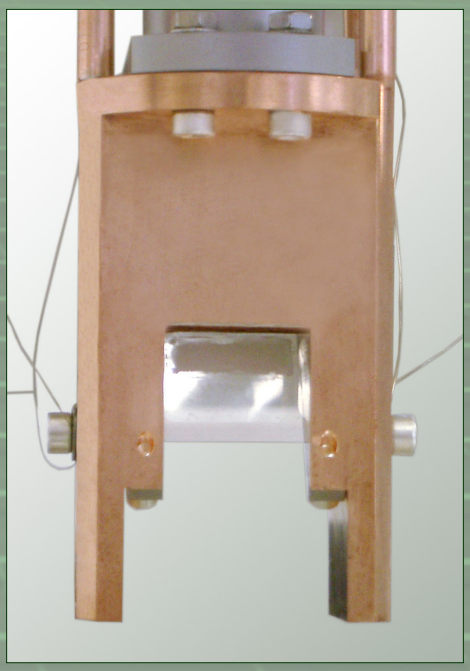
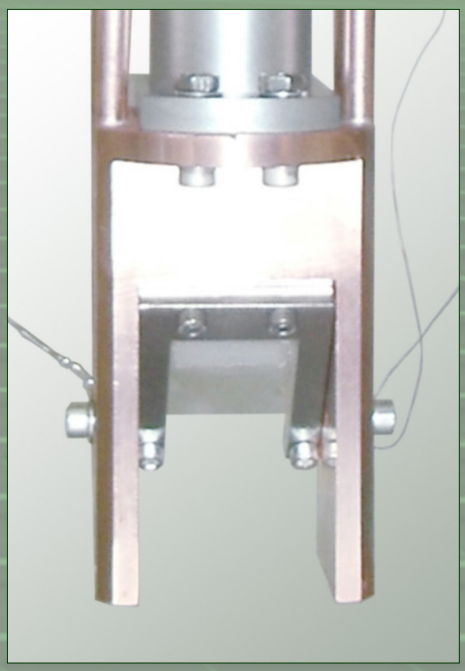
Fluorescence Monitor







The fluorescence monitor generates a fluorescent radiation on a screen which can be monitored orthogonally to the synchrotron beam via a CCD camera outside the vacuum. The screen consists of a CVD-deposited diamond foil with a very high thermal conductivity. Thus this monitor can be used at very high thermal loads (> 1 kW). The monitor head is cooled. It can be adjusted to different beam positions using a power-driven linear drive or even completely moved out of the beam. The fluorescent effect of CVD diamond is based on its residual doping with nitrogen atoms. As an alternative the screen can be delivered with a classic P43 coating in order to visualize weak photon flows (e.g. in monochromatized radiation). In-situ operation is possible because the diamond foil is just 0.15 mm thick.
Its overall transmission amounts up to 40%.

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Technical Data.

Energy range:	1 keV … 20 keV
Active screen surface:	20 mm x 15 mm
Diamond foil thickness:	0.15 mm
Coating:	w/o coating, P43, split screen: w/o coating and P43
Basic flange:	CF 100
Monitor head:	OFHC copper
Manipulator stroke:	50 mm
Drive:	stepping motor, limit and reference switches
Cooling:	2 symmetric circulations with OFHC copper pipe, Ø 6x1
Temperature measurement:	2 TC, K-type
Camera:	CCD camera (monochrome) with lens (optional motor zoom), 752 x 582 pixel Camera – screen distance: approx. 500 mm
UHV compatibility:	yes

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