



## Manipulators

**Kammrath  
Weiss GmbH**

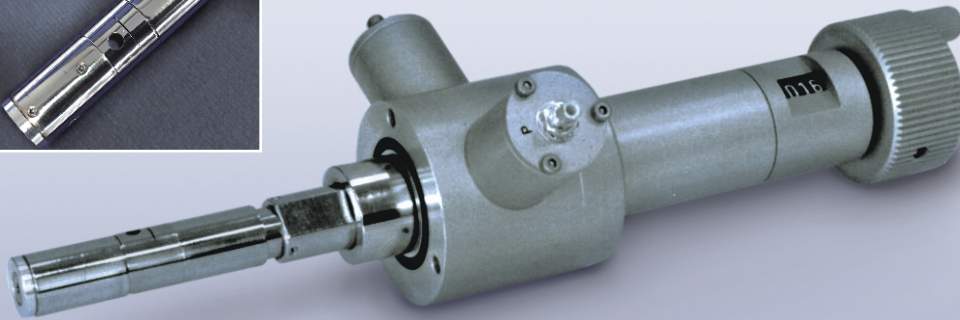


**Special Developments for Microscopy**



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## Fast Electrostatic Beam Blanker ( < 100 psec. "Rise Time" )



Subject to be changed without notification

### Performance:

Fast stroboscopic imaging in voltage contrast, EBIC, OBIC, in experiments on decay time measurement using cathodoluminescence-signals demands extremely high blanking frequencies. In electron-beam lithography the requirements regarding time-resolved switching are not quite so high. The beam blanker described on this page was optimized to achieve the shortest possible "rise time" values. It is the result of several years of development. Researchers, who are using this blanker, measured the actual rise time: they found 35 to 50 picoseconds. Therefore, the term "100 picoseconds" is a very comfortable figure for the manufacturer to guarantee.

Another point is the design of this beam blanker was the elimination of pulse distortions and reflexes. Pulse frequencies up the Giga-Hz range are still clean and square (assuming good input pulses). 5-V-input pulses applied to the plates are sufficient to blank a 40KeV beam. The plates are very short (5.5mm), therefore the flying-time-effects are below the level of any detection method.

For a number of SEM columns, there are beam blanker adaptation kits ready. Often times however, the adapting is done for the first time on a given SEM. In such cases we must either take our own measurements, or work from the SEM maker's factory drawings of the column. There are kits available for most SEM Manufacturer like:

FEI, HITACHI, JEOL, TESCAN, and ZEISS but also older types from ABT, Cambridge Instruments, CamScan, Leitz DSM, LEO, Philips, TopCon and other.