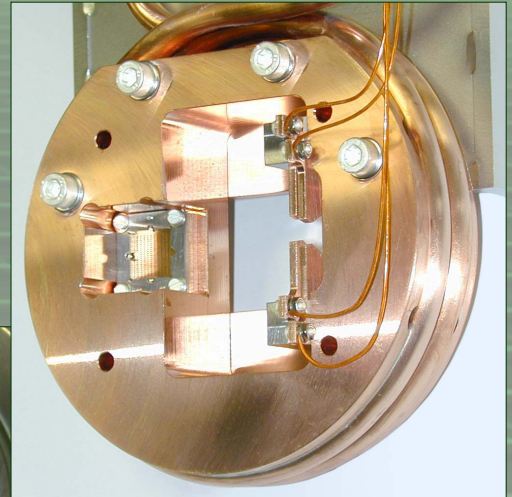
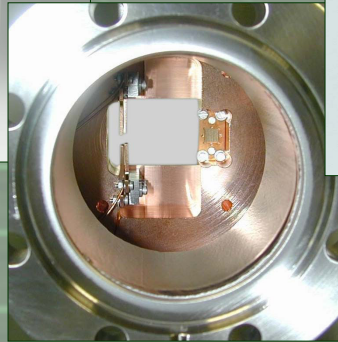
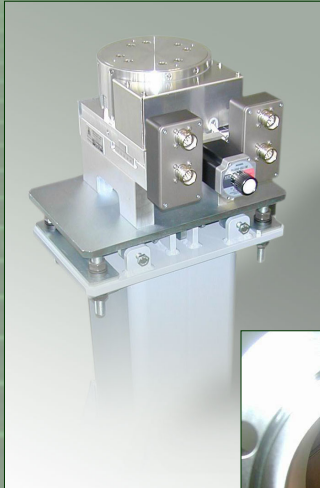


# Additional equipment for Beam position monitor (BPM)



In addition to the Beam Position Monitor, FMB offers the necessary additional equipment for installation of complete BPM-units:

**1. The BPM chamber**

- FMB standard solution or according to customer's specification
- material: 1.4301 or 304, option: 316LN

**2. The underframe (column)**

- massive standard column, filling with sand is recommended
- insulation against variations in temperature
- special design according to space requirements is possible

**3. The LoCuM-4 with cables**

- for analysis of the detected photon currents
- four-channel low-current monitor and current-voltage converter
- simultaneous determination of the four independent photocurrents between 100 pA and 1mA
- controller for internal switch function – remote mode via RS232
- special double-shielded measurement cable (length about 20 m) is recommended

**4. Pinhole Array**

- with frame
- installation in dipole BPM

**5. Appropriate bellows**

- welded bellows (about 20 membrane pairs) for motorized stages
- hydroformed bellows for manual adjustment

## FMB GmbH

FMB Feinwerk- und Meßtechnik GmbH  
Friedrich Wöhler Strasse 2  
D - 12489 Berlin  
Germany

Phone : +49 (0) 30 67 77 30 - 0  
Fax : +49 (0) 30 67 77 30 - 40  
E-mail : [info@fmb-berlin.de](mailto:info@fmb-berlin.de)  
[www.fmb-berlin.de](http://www.fmb-berlin.de)



# Additional equipment for Beam position monitor (BPM), LoCuM-4 and Cables

## Technical Data.

### 6. The motorised H-V-Stage

- adjustment of the complete pre-set BPM into its accurate measurement position within the Beamline
- high precision and compactness
- with stepper motor
- encoder is recommended, but manual operation is possible (necessary mechanical limitation is installed)

### H-, V- Stage10/10

Length over all	≈ 354.4 mm
Width over all	≈ 195 mm
Height over all	≈ 215.5 mm ... 225.5 mm
Stroke Y (horz.)	10 mm
Stroke Z (vert.)	10 mm
Repeat accuracy with Encoder (option)	± 0,001 mm
Repeat accuracy with limit switch	± 0,01 mm
Threaded spindle:	
- Dimension	M12x1
- Normal backlash	0,02 mm
- Pitch error	0,003 mm...0,008 mm

### - Stepper motor

Company	ORIENTAL
Type	High-torque PK-type
No.	PK268-E2.0B
Holding Torque	1.35 Nm
Current per Phase	2 A
Voltage	4.5 VDC
Resistance per Phase	2.25 Ω
Angle per fullstep	1.8°
Repeat accuracy with Encoder(optional)	± 0,001mm
Step mode	Full / half / micro
Connection motor	Connei socket 9 pin
Connection limit switch	Connei socket 12 pin

### - Encoder (option)

Company	AMO
Type	PMK-02 with 1024 interpolation
Dissolution	1/1024 mm
Signal	TTL RS-422
Current	200 mA
Voltage	5 VDC ±5%
Connection	Connei plug 12 pin

FMB GmbH