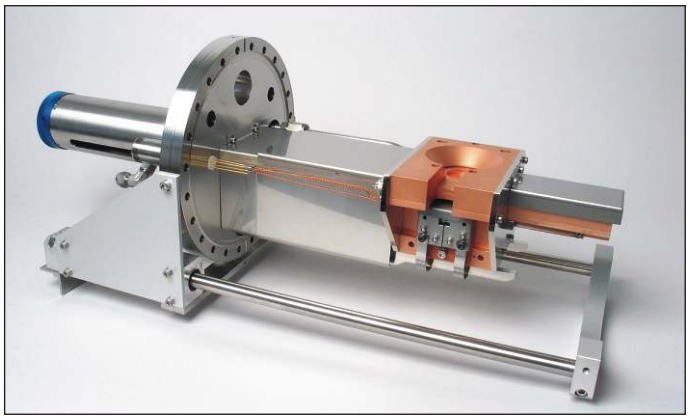
# UHV LINEAR MULTI-POCKET EVAPORATORS
# EBVM 200-4x8 and EBVM 200-3x15



**EBVM 200-4x8, basic configuration of the linear 4-pocket e-beam evaporator with base flange DN200 CF (O.D. 10"); crucible capacity 4x8 cm³ (3x15 cm³ available)**

- **100% UHV integrity by hermetic all-metal sealed design, low outgassing**
- **Bakeout temperature 250°C**
- **Evaporation origin aligned on flange centre**
- **Reliable manual linear translation, optional motorized translation with optical positioning**
- **Hearth volumes 8cm³ (x4) or 15cm³ (x3)**
- **Long filament life with 270° beam deflection**
- **High frequency beam deflection system**
- **Mounting guide rod system for easy installation and system maintenance**

Dr. Eberl MBE-Komponenten GmbH is pleased to offer you a new range of multi hearth electron beam evaporators for use in ultra-high vacuum (UHV) applications.

Our new Multi-pocket Evaporators **- EBVM -** combine great flexibility in evaporating up to four different materials from a single source for your thin film growth requirements with a compact design based on a horizontal DN200 CF flange.
All electrical and utility feedthroughs are included on this support flange, allowing easy integration into your UHV system.

On the EBVM 200 evaporators only UHV-grade materials are used without any compromise. The electromagnetic deflection coils are manufactured from KAPTON™ (polyimide) isolated wires and nickel-plated magnetic steel, the permanent magnets are of a high temperature rare earth alloy and the multi-hearth crucible is manufactured from high purity OFHC-copper (Oxygen-Free High-Conductivity Copper).

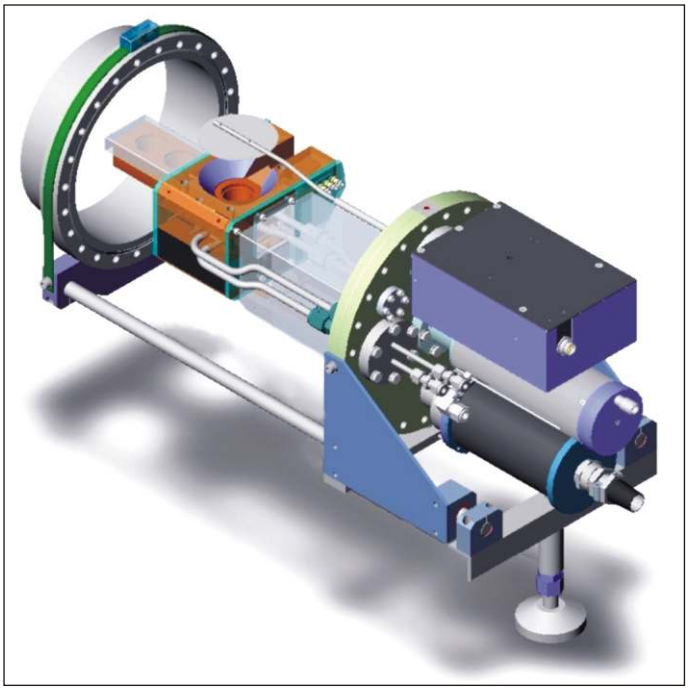
Individual water cooling circuits of both, fixed and movable parts of the copper hearth assembly, ensure cool operation and low outgassing even at high power operation.

Optionally, the EBVM 200 can be equipped with a linear shutter, actuated manually or by our soft-acting linear drive unit LSM 40-100. A customized water-cooled roof can be installed on request.

The standard manual pocket translation can be upgraded with a motorized pocket indexing drive with position feedback for the drive controller.

The minimum flange to pocket centre distance is 250mm and can be increased to adapt to your system.

We are pleased to assist you in integrating the EBVM 200 into your existing UHV system.
Don't hesitate to contact us for further information and advice for your special application.



**EBVM 200-4x8 mounted on optional guide rod system and equipped with optional magnetically coupled linear shutter**

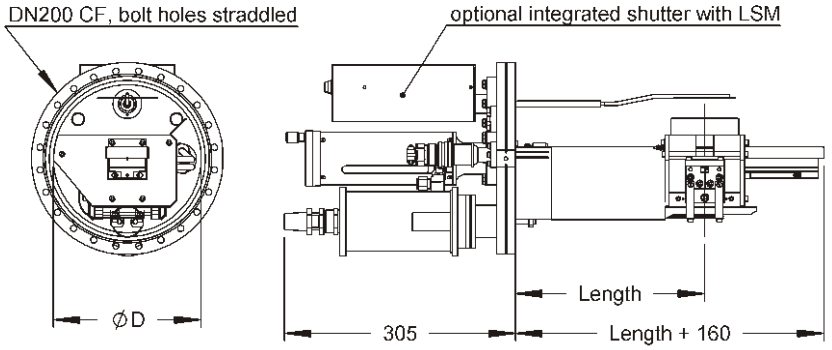
# Technical Data

| | |
|---|---|
| **Mounting flange** | DN200 CF (O.D. 10") |
| **Dimensions in vacuum** | **Length**: 250 – 450 mm (user specific); **ØD**: 195 mm |
| **Crucible capacities** | 4x8 cm³ (EBVM 200-**4x8**) or 3x15 cm³ (EBVM 200-**3x15**) |
| **Hearth dimensions (Ø depth)** | Ø30mm (15° taper) 15mm or Ø37,8mm (15° taper) 17mm |
| **Filament type** | short-legged coil of thick W wire, electron emitting filament |
| **Bakeout temperature** | 250°C (all air side connectors removed) |
| **Operating pressure** | $5 \times 10^{-11}$ mbar ….$1 \times 10^{-5}$ mbar |
| **Acceleration voltage** | 4 – 10 kV |
| **Beam power** | max. 6 kW, (or 3 kW; depending on power supply) |
| **Filament current** | max. 50 A at 10V (AC) |
| **Spot size** | 5 mm diameter, approx. |
| **Primary beam deflection** | 270° by permanent magnet system |
| **Dynamic beam deflection** | coils wound from KAPTON – isolated wire; defl. frequency: max. 150 Hz; x-deflection current: 3 A; y-deflection current: ± 3 A |
| **Water cooling** | water flow rate 6 l/min at 3 bar; connectors Swagelok Ø6, Ø8 mm air side |
| **Options** | integrated source shutter (**S**) with manual push-pull action or soft-acting drive unit **LSM 40-100**; water cooling roof; motorized pocket indexing drive |

Schematic drawing of the
Multi-pocket Electron Beam Evaporator
EBVM 200-4x8 (3x15)

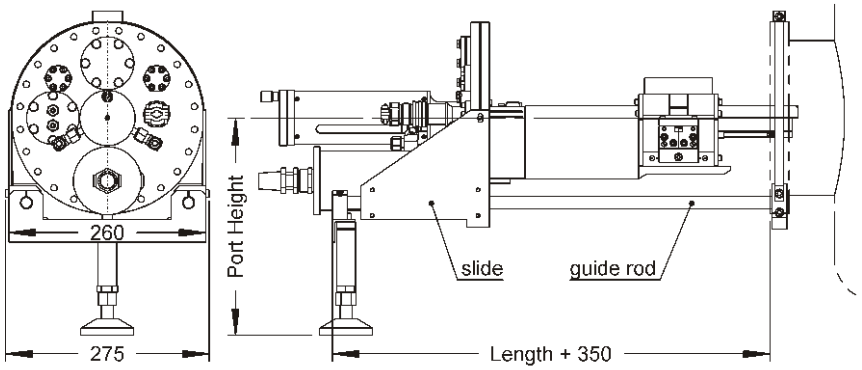
(Drawing shows EBVM 200-4x8-S,
with optional shutter)

"Length" specifies the flange to pocket centre distance. It can be chosen freely from a minimum of 250mm up to 450mm.




Dimensions of the EBVM mounting frame with guide rod system, attached to a DN200 CF UHV-chamber port

"Port Height" specifies the position of your DN200 CF port to determine the length of the supporting foot.

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