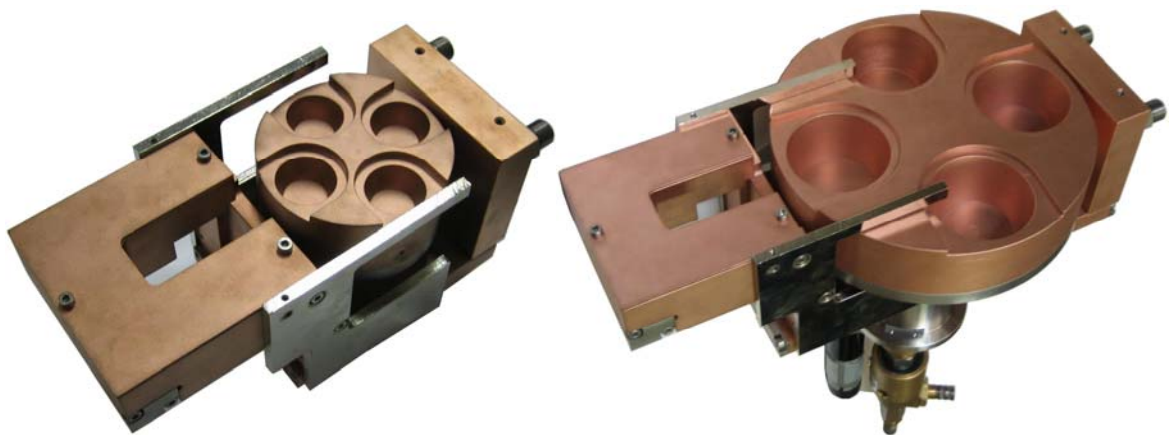


## EBM

### – Modular Electron Beam Gun –

#### Overview

The EBM is a unique on the market modular design Electron Beam source, designed by SmartBeam Design. It has been designed to cover the all range of applications requiring the deposition of small to very large amounts of material as well as large volume vacuum coating chambers. This source incorporates well proven e-beam technology including water cooling, rotary drive and magnetic components. Moreover, its newly designed modular source body results in a versatile architecture able to offer by exchanging the base plate 3 standard crucible sizes and any custom crucible size. So is very easy to switch from a process to another one without purchasing new equipment. In the same time newly designed crucibles and the filament block result in a more efficient and effective operation.

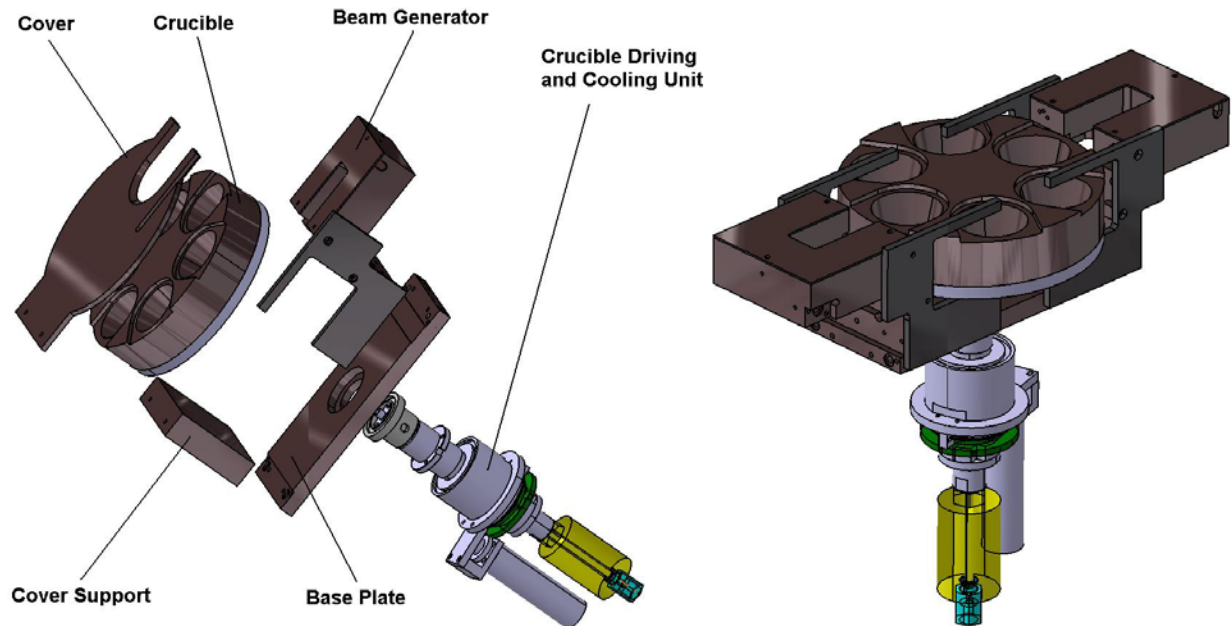


#### Advantages/Benefits

- Directly cooled crucibles with 3 standard capacity and any other custom designed / customer requested capacity
- Customer specified crucibles pockets can be manufactured on request
- High efficiency emitter assembly
- Standard beam deflection system with optimized magnetic field by High Accuracy Magnetic Field Modeling for uniform beam shape in the pocket and straight impact angle

#### Designed for Versatility

The EBM is used for optical, electronic and high rate deposition processes. The modular design allows a large number of system architecture including the crucible less unit, unavailable with standard evaporators. Is possible an easy upgrade for existing customers (crucible, baseplate and cover only). A customer may buy multiple crucibles and base plates and install in the coating machine the size and power required for a specific process.



Several standard crucible sizes are offered. If our standard crucibles do not fit your application requirements, SmartBeam can design customized crucibles for you.



## Applications

Optimized for optical and electronic applications, the EBM is ideal for use in both small size or large systems that produce high quality filters and metal layers. Using one of the standard size crucibles (96, 150 and 190mm diameter) with four, six, or eight hearths, the quantity is up to 60cc, 40cc, or 20cc (respectively) per hearth.

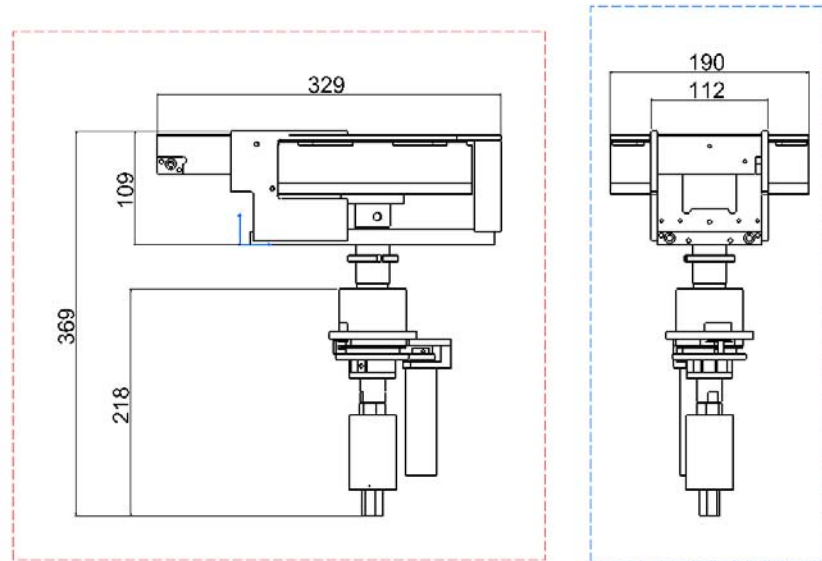
## Simple to maintain

The EBM has been engineered for easy maintenance and service. Our newly designed crucible cover can be removed with only two screws allowing the crucible to be exchanged for cleaning or replacement in just a couple of minutes. Likewise, the cathode assembly is removed in seconds by removing only one screw. The filament may be exchanged in a few minutes outside the chamber. The new filament assembly design allows precise alignment of the filament to the filament block.



## Specifications

	<b>EBM-6</b>	<b>EBM-8</b>	<b>EBM-10</b>
<b>Max Power</b>	6 kW	8 kW	10 kW
<b>Acceleration Voltage</b>	4–10 kV	4–10 kV	4–10 kV
<b>Max. Filament Current</b>	50 A	50 A	50 A
<b>Primary Beam Deflection</b>	270° by permanent magnet		
<b>Maximum Temperature</b>	150°C	150°C	150°C
<b>X-Deflection</b>	± 3 A (100 Hz)	± 3 A (100 Hz)	± 3 A (100 Hz)
<b>Y-Deflection</b>	± 3 A (100 Hz)	± 3 A (100 Hz)	± 3 A (100 Hz)
<b>Spot Size Diameter</b>	< 3 mm with minimal variation between front and back of the pocket		
<b>Cooling Water Requirements</b>	6 l/min	8 l/min	10 l/min
<b>Mounting Requirements</b>	32 mm base plate hole or 1" base plate hole		
<b>Standard crucible volumes</b>	4x8cc 6x4cc 8x2cc	4x40cc 6x20cc 8x15cc	4x60cc 6x40cc 8x20cc
<b>Dimensions (H/W/L)</b>	109 / 112 / 235	109 / 150 / 289	109 / 190 / 329



**EBM-10**

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