



E-Beam Evapourator EBV40

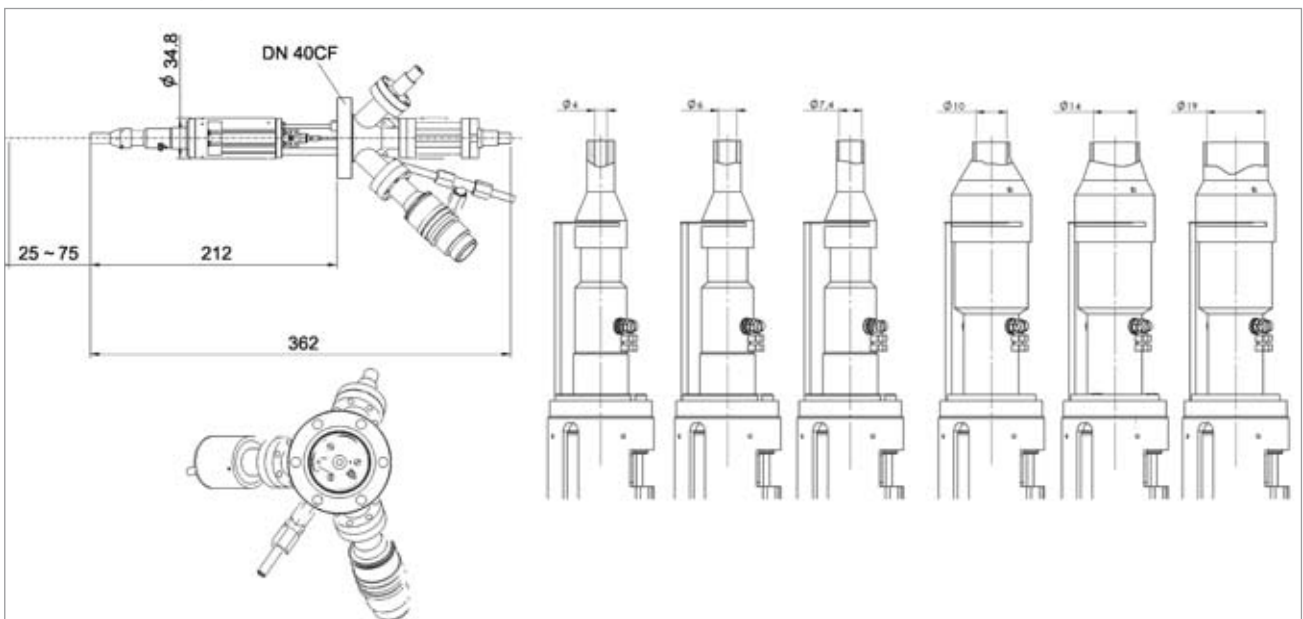
Ultra-pure sub-monolayer & multilayer thin film growth

- evaporation from wire rods, crucibles & wetted wire cages
- temperature range 160°C to 3300°C
- integrated PID flux monitor/regulation
- wide range of exchangeable exit apertures
- integrated manual or electro-pneumatic shutter
- full software control

Flexible, Configurable, Precise

The EBV40 is designed for precise molecular beam epitaxial thin film growth. Sub-monolayer and multilayer systems can be produced with excellent repeatability with rates from 0.1 monolayer per minute. Multiple water-cooling channels ensure low background pressures in the 10^{-10} mbar range during evaporation - thus enabling the growth of ultra-pure materials.

The precisely defined evaporating beam delivers highly uniform deposition, the deposition area being defined by the source/sample distance and choice of user interchangeable exit aperture dimension.



Fractional Monolayer Accuracy

DN-40-CF mounting flange, fully UHV compatible

W/Th-filament for evaporation from rod material or from conductive crucibles

50W power for high vapour pressure materials, 200W power for crucibles & thick wires

Evaporation of W, Ta, Mo, C, Pt, Cr, Ti, Fe etc. from wire

Evaporation of Ag, Au, Al, Ni etc. from crucibles or wetted wire cages

Deposition rates of ca. 2nm/min for high temperature materials and 15-20nm/min for high vapour pressure materials at 100mm working distance

25mm wire feed

Excellent water cooling with multiple cooling channels

Knudsen cell type crucibles from stainless steel

Flux regulation via ion current including electrode, feedthrough, display unit & PID regulator

Integrated manual or electro-pneumatic shutter

Rear-loading evapourant



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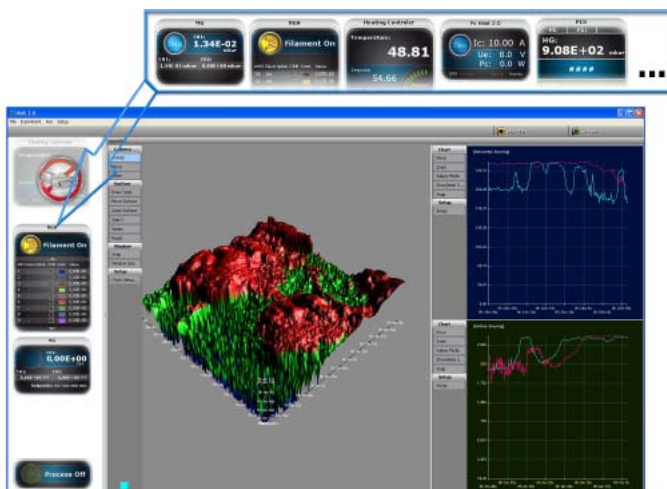
EBV40 Electron Beam Evapourator

EBV 40 Specifications

Evaporation beam diameter:	4 - 15mm (depending on distance between end of evapourator and sample)
End of evapourator to sample distance:	70 - 75mm
Temperature range:	600°C - 3300°C
Electron energy:	0 - 1500eV (typical 600 - 800eV) max. emission current 200mA max. power 300W
Filament current range:	1.8 - 2.2A typical (max. 1.5A)
Diameter of evapourated material:	0.5 - 2.3mm
Temperature monitor of cooled cylinder:	0 - 100°C
Cooling system:	water flow >0.5L/min for end temperature of 30°C. 6 bar max.
Insertion depth:	Min. 190mm, OD 35mm
Mounting flange:	DN-40-CF
Evaporation area:	∅ 5 - 20mm
Bakeout temperature:	250°C
Working distance:	25 - 75mm
Exit aperture diameters:	4, 6, 7.4, 10, 14 & 19mm

EBV 40 Controller

- 19 inch rack mounted
- Built-in PID controller
- Auto or manual flux control
- Built-in timer with standby mode
- Store & recall functions



Creator Software Interface

- full access to all instrument parameters
- data store/save/recall functions

Our Creator software operates just a single instrument or multiple devices simply by activating the appropriate module, building to a single, powerful software platform that controls a complete vacuum system including pumps, gauges, valves and all added instruments.

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