

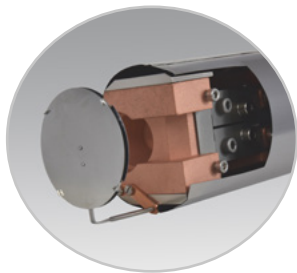
Electron Beam Evaporator (EBE-AX)

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The EBE-AX is designed for use in MBE systems to generate thin films on substrates through vapor deposition. This deposition technique is typically operated in a vacuum range from 1×10^{-9} to 1×10^{-3} Pa and allows an efficient material utilization relative to other methods, which yields a high deposition rate from $0,1 \mu\text{m} \times \text{min}^{-1}$ to $100 \mu\text{m} \times \text{min}^{-1}$ at low substrate temperatures. The film thickness can be controlled by a rate monitor and a shutter. The sublimation is realized through direct electron bombardment of the deposition material without heating up the whole crucible. The electrons are extracted from a tungsten filament through VDC-annealing and accelerated towards the deposition material by means of high voltage in combination with a magnetic deflection of the electron beam. The process is a form of physical vapor deposition (PVD). Furthermore a water cooling system tempers the crucible holder.

TYPE	EBE-AX
TEMPERATURE RANGE	up to 2700 °C
HEATING SYSTEM	direct e-beam bombardment electrons extracted from W-filament and accelerated to crucible by magnetic deflection
EVAPORATION FROM	4 cc 5 cc crucible
BAKE-OUT TEMP.	200 °C
FLANGE SIZE	DN 63 CF 100 <small>or as specified</small>
MAX. OUTER DIAMETER	60 mm <small>or as specified</small>
MIN. UHV LENGTH	240 mm
COOLING	integrated water cooling
COOLING DATA	6 l/min at 4.5 bar
MAX. BEAM POWER	4 kW (0.5 A at 8 kV)
ACCELERATION VOLTAGE	4 - 8 kV
PRIMARY BEAM DEFLECTION	270 ° by permanent magnet
X, Y DEFLECTION	± 2A, Hall Sensor both channels are fully isolated

OPTIONAL	
SHUTTER	integrated rotary shutter manual, pneumatical or electrical actuation SHUTTER DATA SHEET



Elements to be evaporated

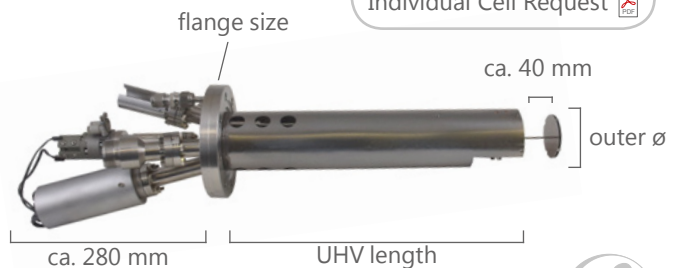
H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	Lu	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Lr	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Uut	Fl	Uup	Lv	Uus	Uuo

La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No

* and MgF_2 , CaF_2 , MgO
Evaporation Guide of Elements

How to order?

Individual Cell Request



SUPPORT	support@createc.de
APPROVAL	Drawing will be provided before manufacturing
CONDITIONING	Heated to maximum temperature with and without crucible
DOCUMENTATION	User manual will be provided with the delivery
SHIPPING	In stainless steel container under dry nitrogen
SERVICE	On request, a general overhaul can be performed after long-term use