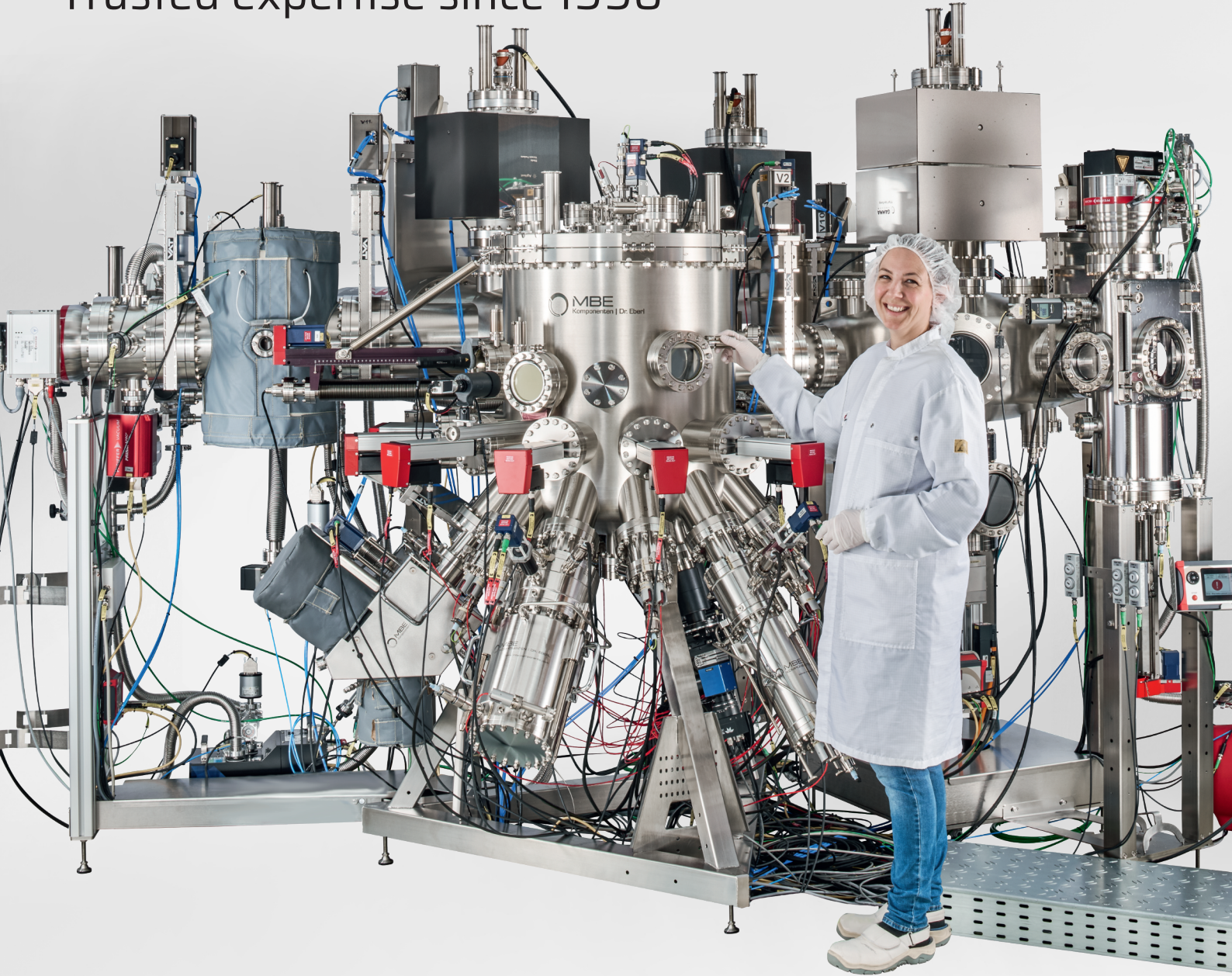


MBE Systems and Components

Trusted expertise since 1990



Product Overview

MBE Systems

Discover our OCTOPLUS system portfolio

Multi-wafer capability
with face-down geometry

High-performance UHV pumping

TSP, ion getter pump, cryopump and/or turbopump

Load-lock

magazine for 10 substrates, with rapid pump down

Software

MBE control software Tiny Tusker

Deposition chamber

800 mm

Shutters

soft-acting linear shutters

Source ports

DN125CF
DN150CF
(12 ports)

Wide range of components

e.g., effusion cells, e-beam-evaporators, sublimation sources, valved cracker sources, gas sources, etc.

UFO chamber

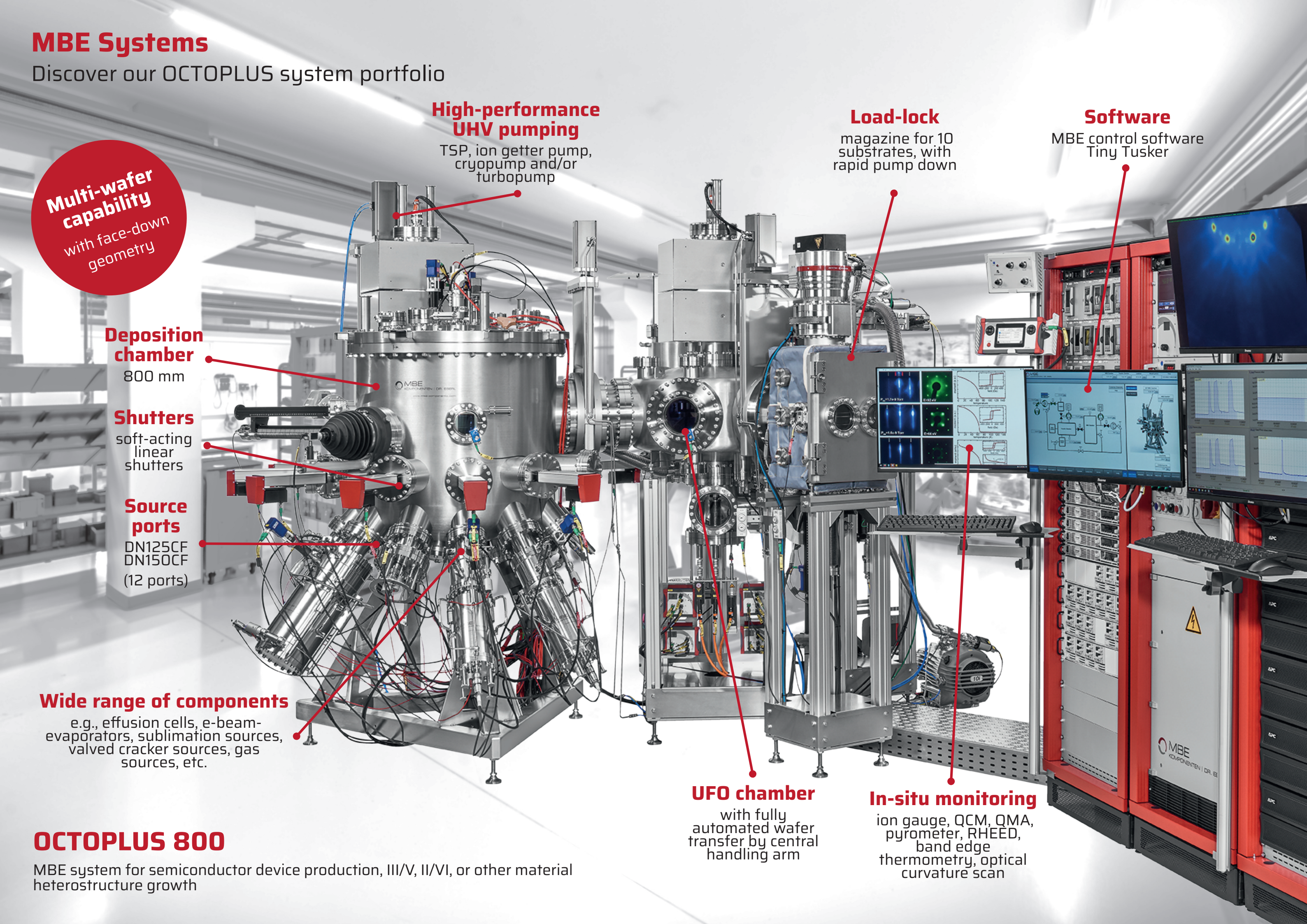
with fully automated wafer transfer by central handling arm

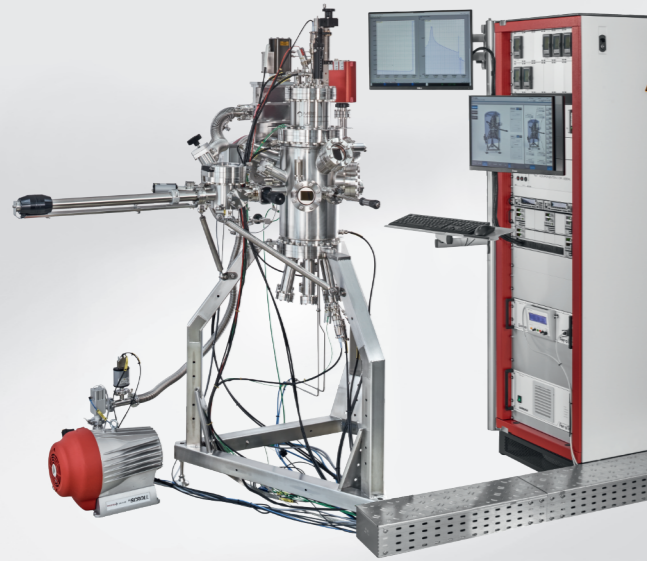
In-situ monitoring

ion gauge, QCM, QMA, pyrometer, RHEED, band edge thermometry, optical curvature scan

OCTOPLUS 800

MBE system for semiconductor device production, III/V, II/VI, or other material heterostructure growth

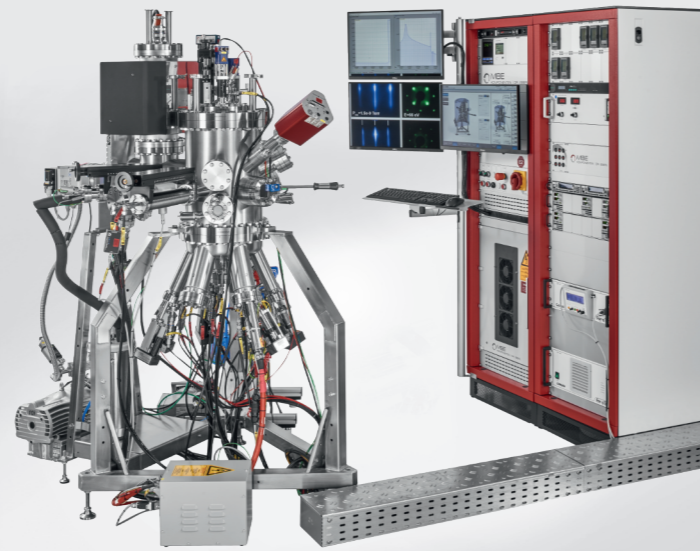




OCTOPLUS 200

Mini MBE system for surface science samples

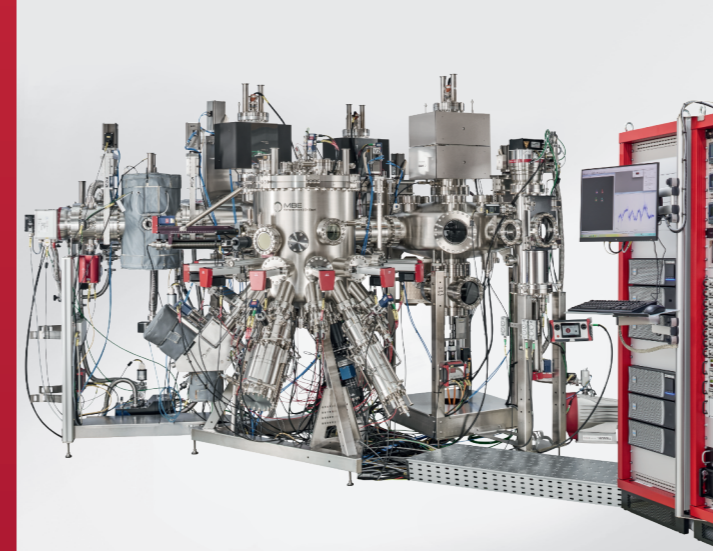
- For small samples 10 x 10 mm²
- Up to 6 ports DN40CF (O.D. 2.75") for effusion cells
- Size of deposition chamber: 200 mm I.D.
- Base pressure: < 2x10⁻¹⁰ mbar



OCTOPLUS 300

Compact MBE system for III/V, II/VI, topological insulators, or other materials

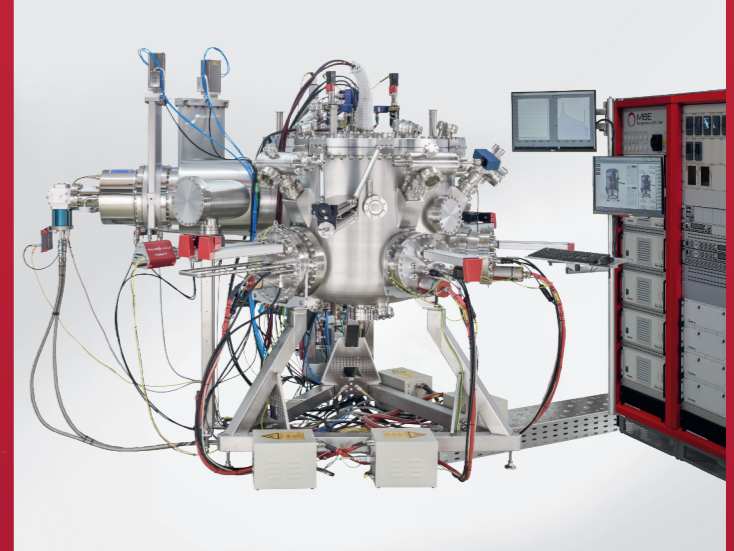
- For small samples 10 x 10 mm²
- 2-inch upgrade available
- Up to 9 ports for effusion cells
- Size of deposition chamber: 300 mm I.D.
- Base pressure: < 5x10⁻¹¹ mbar



OCTOPLUS 600

MBE system for research and production

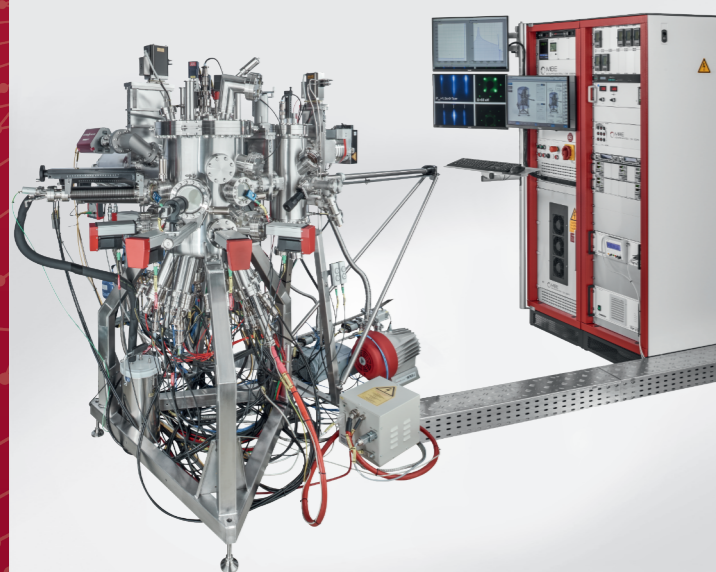
- For up to 6-inch samples
- Up to 12 ports for effusion cells
- Size of deposition chamber: 600 mm I.D.
- Base pressure: < 5x10⁻¹¹ mbar



OCTOPLUS 1000

MBE system for 300 mm silicon wafers

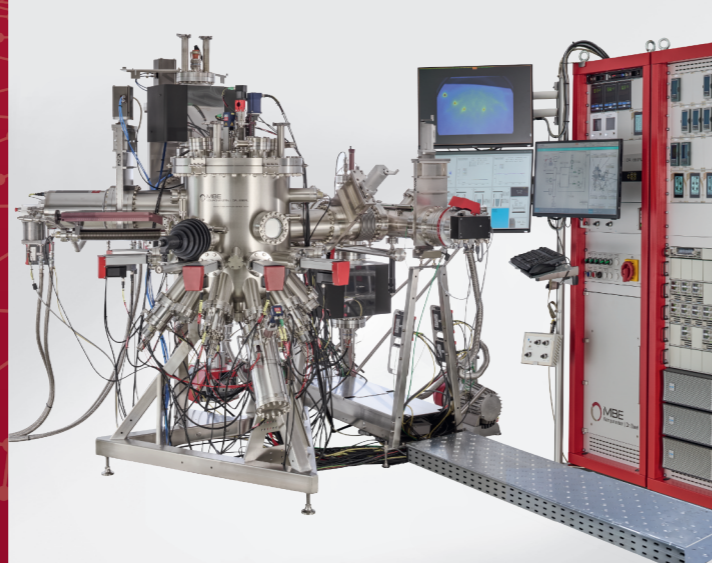
- Applications: Epitaxy on silicon substrate compatible with 300 mm process line
- Epitaxy of Si/SiGe or oxides (e.g. STO/BTO/LMO) on 300 mm silicon wafers
- Material-efficient deposition geometry allows growing nominally 1.3 mm silicon epilayer from a 2.3 kg silicon e-beam charge



OCTOPLUS 350

Compact MBE system for III/V, II/VI, or other materials

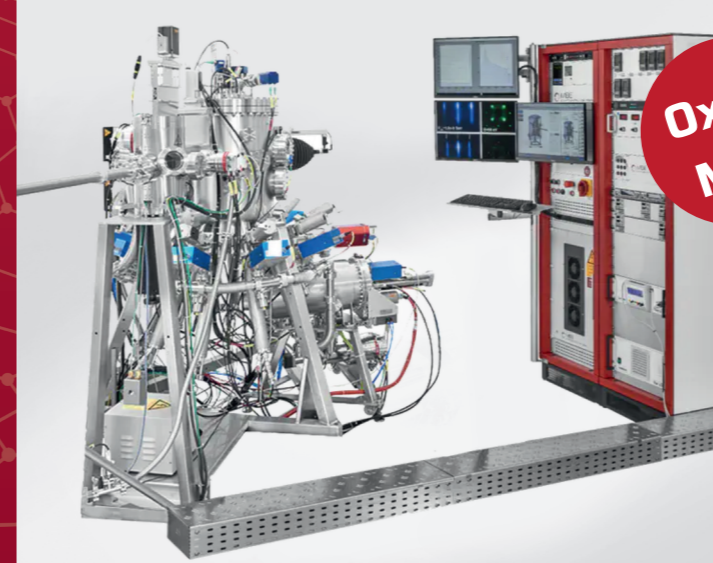
- 2-inch substrates or smaller samples 10 x 10 mm²
- Up to 8 ports for effusion cells
- Size of deposition chamber: 350 mm I.D.
- Base pressure: < 8x10⁻¹¹ mbar



OCTOPLUS 500

MBE system for III/V, II/VI and other materials

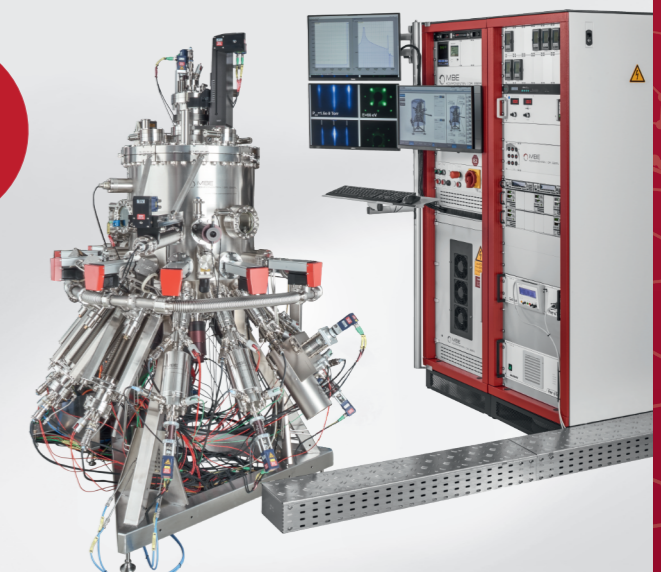
- For up to 4-inch samples
- Up to 12 ports for effusion cells
- Size of deposition chamber: 500 mm I.D.
- Base pressure: < 5x10⁻¹¹ mbar



OCTOPLUS-O 350

Oxide MBE system with efficient differential pumping

- For up to 2-inch samples
- 8 source ports DN63CF (O.D. 4.5")
- Base pressure < 5x10⁻¹¹ mbar (depending on pumping system)



OCTOPLUS-O 600

Oxide MBE system with efficient differential pumping

- For up to 4-inch samples
- 12 source ports DN63CF/DN100CF
- Base pressure < 5x10⁻¹¹ mbar (depending on pumping system)

Oxide MBE

Technical Data

Discover our wide range of OCTOPLUS systems

	OCTOPLUS 200	OCTOPLUS 300	OCTOPLUS 350	OCTOPLUS 500	OCTOPLUS 600	OCTOPLUS 800	OCTOPLUS 1000
Size of deposition chamber	200 mm I.D.	300 mm I.D.	350 mm I.D.	500 mm I.D.	600 mm I.D.	800 mm I.D.	1000 mm I.D.
Base pressure	< 2x10 ⁻¹⁰ mbar	< 5x10 ⁻¹¹ mbar	< 8x10 ⁻¹¹ mbar	< 5x10 ⁻¹¹ mbar	< 5x10 ⁻¹¹ mbar	< 5x10 ⁻¹¹ mbar	< 5x10 ⁻¹¹ mbar
Pumping	turbopump, ion getter pump and TSP	turbopump, ion getter pump and TSP	cryopump, turbopump, TSP or ion getter pump	TSP, ion getter pump, cryopump and/or turbopump	TSP, ion getter pump, cryopump and/or turbopump	TSP, ion getter pump, cryopump and/or turbopump	TSP, ion getter pump, cryopump and/or turbopump
Cooling shroud	water cooling	LN2 or water cooling	LN2 or other cooling liquid on request	LN2 or other cooling liquid on request	LN2 or other cooling liquid on request	LN2 or other cooling liquid on request	LN2 or other cooling liquid on request
Substrate heater temperature	up to 1200°C, continuous substrate rotation	up to 1200°C	up to 800°C, 1000°C or 1400°C	up to 800°C, 1000°C or 1400°C	up to 800°C, 1000°C or 1200°C	up to 800°C, or up to 1000°C	>1000°C, suitable for deoxidizing 300 mm silicon wafers
Substrate size	scientific sample plates 10 x 10 mm ²	small sample plates or up to 2" wafers	up to 2" diameter	up to 4"	4", 6" or multi-wafer 3x2"	up to 8" or multi-wafer substrates	300 mm silicon wafer or other substrates with adapter
Bakeout	up to 150°C	up to 200°C	up to 200°C	up to 200°C	up to 200°C	up to 200°C	up to 200°C
Source ports	6 ports DN40CF	9 ports DN40CF or 8 ports (2xDN63CF, 6xDN40CF)	up to 8 ports DN63CF	6x DN63CF + 6x DN100CF or EBV + 4x DN63CF + 5x DN100CF or 2x EBV + 4x DN63CF + 4x DN100CF	12 ports DN100CF	12 ports DN125CF / DN150CF	Up to DN300CF source ports for horizontal 1000cc e-beam evaporators
In-situ monitoring	ion gauge, QCM, QMA, pyrometer, RHEED, band edge thermometry, optical curvature scan, etc.						
Sample transfer	linear transfer rod (manual)	linear transfer rod (manual)	linear transfer rod, manual or semi-automatic	linear transfer rod, manual or semi-automatic in face-down geometry	automated transfer with wafer face-down geometry	fully automatic in face-down geometry	automated transfer with wafer face-down geometry
Load lock	magazine with 10 flag-shaped substrates, turbo-pumped	magazine with 6 substrates, turbo-pumped	magazine with 6 substrates, turbo-pumped	magazine with 6 or more substrates, turbo-pumped	magazine with 10 substrates, turbo-pumped	magazine for 10 substrates, with rapid pump down	magazine for 10 substrates, turbo-pumped

Material Selection Guide

Examples for applications and corresponding sources

	Effusion Cells	Sublimation Sources	Valved Sources	Gas Sources	E-Beam Evaporators
	WEZ, NTEZ, OME, HTEZ	SUKO, SUSI, HTS, DECO	VACS, VGCS, VCS, VSS	FMP	EBVV
III/V	Ga, In, Al	C, Si doping	As, P, Sb		
II/VI	Zn, Cd, Be		S, Se, Te	N-doping	
IV	Ge, Sn, Pb	B, P, Sb doping			Si, Ge
GaN	Ga, In, Al			N-plasma	
Metals	Cu, Al, Ni, Co				Pt, Ta, Pd, Mo, W
Topological Insulators	Ge, Sn, Te, Bi, GeSb		Se, Te		B
Graphene / Silicene		C, Si			
Transition Metal Oxides	Fe, Ni, Mn, Bi, Eu	C		Ozone, O-plasma	Ir, La, Ni, Ru, Mo, Ta, W, Nb
Thin Film Solar Cells	Cu, Ga, In, Zn, NaF, Fe, Sn		S, Se		
Perovskite Oxides	Sr, Ba, Ca, Al	C	TTIP	O-plasma	Ti, La
Ultra-wide band gap oxide	Ga, Al, Zn, In, Sn, Ge	Si		Ozone, O-plasma, O+N-plasma (doping)	La
Ferroelectric Oxides (STO/BTO)	Pb, Fe, Bi, Ba		TTIP	Ozone, O-plasma	Ti

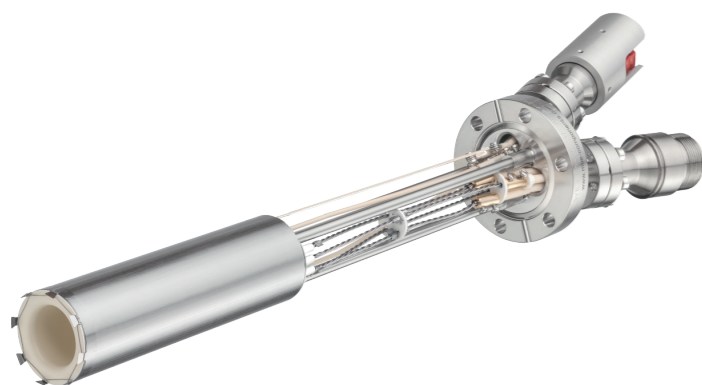
Options for OCTOPLUS MBE Systems

- Additional load lock, preparation chambers, heated stations
- Effusion cells, source clusters, cracker and valved cracker sources, manipulators, power supplies and control units
- Electron Beam Evaporator (EBV) option
- Possible expansion of number of source materials by using source clusters
- Effective UHV pumping system (ion getter pumps, turbopumps, cryopumps, TSP etc.)
- Well-manageable in-situ characterization tools, e.g. ion gauge, quartz crystal microbalance (QMC), pyrometer, RHEED, quadrupole mass analyzers (QMA), band edge thermometry, ellipsometry
- Soft-acting rotary or linear shutters
- Automated central wafer handler, or manual transfer
- Proprietary MBE control software Tiny Tusker
- System installation, acceptance testing and professional support by PhD MBE experts

MBE Components

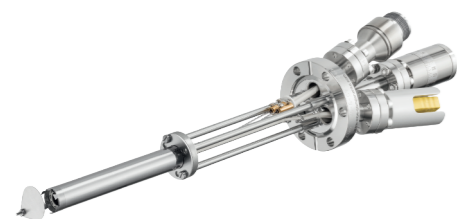
Effusion Cells, E-Beam Evaporators and other Sources

Effusion Cells



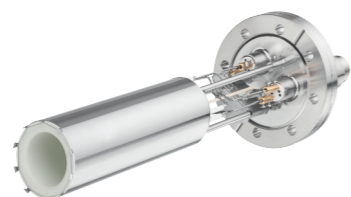
Standard Effusion Cell **WEZ**

- Applicable in most UHV systems up to 1400°C
- Compatible with standard MBE crucibles (crucible capacities from 2 to 200 cm³)
- Most effective heating system with excellent reliability and long lifetime
- Hot/cold lip, dual and standard filament design
- Optional on-flange integrated cooling shroud and shutter



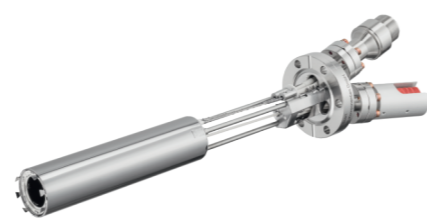
Low Temperature Effusion Cell **NTEZ**

- Evaporation of metals, compounds and organic materials between 80°C and 1000°C
- Crucible capacities: 2 to 200 cm³
- Robust, reliable tantalum wire heating system
- Excellent temperature stability and controllability



Production Effusion Cell **PEZ**

- Precise run-to-run flux reproducibility
- Crucible capacities: 40-1700 cm³
- Temperature range: 200-1400°C
- Compatible with standard MBE systems
- Hot lip, cold lip, and dual filament designs



High Temperature Effusion Cell **HTEZ**

- Clean operation in UHV up to 1900°C
- Self-supporting tungsten wire heater
- Integrated cooling shroud option
- Crucible capacities: 1.5, 10, and 35 cm³
- High reliability and long lifetime



High Temperature Effusion Cell **HTEZ-W**

- Clean operation in UHV up to 2000°C
- No ceramic insulation parts in hot area
- Water-cooled current contacts
- High reliability and long lifetime
- Various crucible materials; crucible capacity 10 cm³



Silicon Sublimation Source **SUSI**

- Thermal sublimation of silicon from high purity intrinsic Si filament
- Excellent growth of thin silicon layers
- Water-cooled electrical contacts
- Inner filament shielding with pure silicon parts



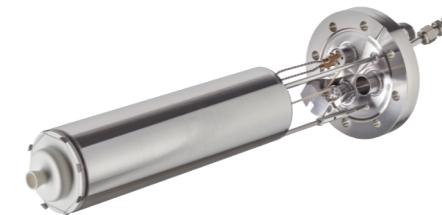
Atomic Carbon Sublimation Source **SUKO-A**

- Thermal sublimation of atomic carbon
- Refractory metal tube filament filled with ultrapure carbon
- Water-cooled power feedthrough
- Only pyrolytic graphite and tantalum parts in hot area



Carbon Sublimation Source **SUKO**

- Thermal sublimation of carbon from high purity graphite filament
- Excellent growth of thin carbon films or Si-C alloys
- Inner filament shielding with pure pyrolytic graphite parts
- Water-cooled electrical contacts



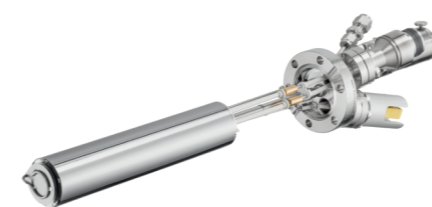
GaP Decomposition Source **DECO**

- High-purity phosphorus (P₂) source
- Simple and safe operation with non-inflammable GaP source material
- Precise and fast flux control with high reliability
- Crucibles from 10 to 420 cm³



High Temperature Source **HTS**

- Clean operation in UHV up to 2000°C
- Excellent beam uniformity for doping and layer growth applications
- Various crucible materials
- Flat pyrolytic graphite or tungsten wire filaments



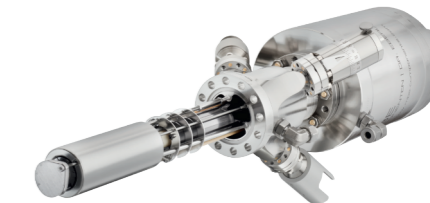
Organic Material Effusion Cell **OME**

- Ideal for evaporation of sensitive organic materials in UHV and OLED applications
- Patented Thermal Conduction Cooling (TCC)
- Temperature range: 15-300°C
- Crucibles capacities: 2, 10, 35 cm³



Oxygen Resistant Effusion Cell **OREZ**

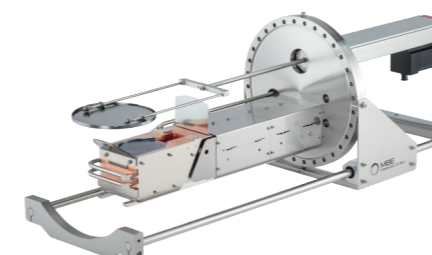
- Applicable in oxide MBE systems with chamber pressures up to several mbar
- Nickel alloy wire heaters up to 1000°C and noble metal alloy wire heaters up to 1200°C



Thermal Cracker Cell **TCC**

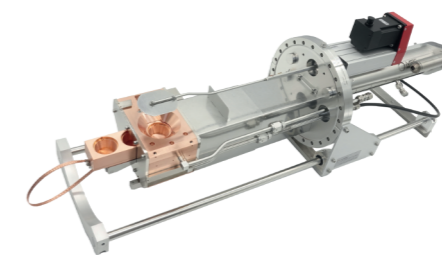
- Full-PBN solution for corrosive materials like Te, Sb, Se, As, Mg
- DN40CF (O.D. 2.75") mounting flange compatible with all MBE systems
- Thermal cracking up to 1300°C
- 35 cm³ or 130 cm³ PBN crucible

E-Beam Evaporators



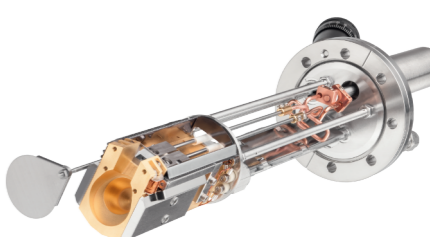
Electron Beam Evaporator **EBV**

- High flux rates of low vapor pressure materials
- High-purity evaporation
- Hearth volumes: 40, 100, 160 cm³
- Long filament lifetime
- Easy maintenance
- Optimized versions for SiGe MBE available



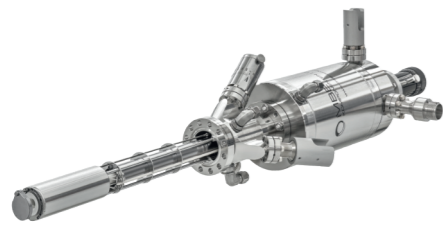
Multi-pocket E-Beam Evaporator **EBVM**

- Linear multi-hearth UHV e-beam evaporator
- Full UHV integrity by hermetic all-metal sealed design, low outgassing
- Bakeout temperature: 200°C



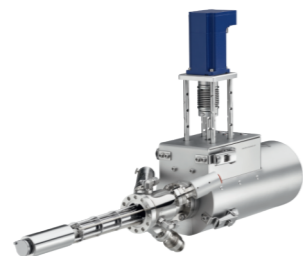
Vertical Electron Beam Evaporator **EBVV**

- Fully UHV compatible
- Small dimensions fit onto DN63CF (O.D. 4.5") ports
- High purity evaporation of metals and dielectrics
- Hearth volumes 4 cm³ or 5 cm³
- 270° beam deflection
- Long filament lifetime



Valved Thermal Cracker Cell VTCC

- Full-PBN solution for corrosive materials (Te, Sb, Se, As, Zn, Mg)
- Excellent thermal isolation between low temperature reservoir and hot cracking zone
- Thermal cracking up to 1300°C
- 130 cm³ PBN reservoir
- DN40CF (O.D. 2.75") flange



Valved Sulfur Source VSS

- Provides sulfur flux rates for R&D applications on a DN40CF flange
- Flux regulation and on/off control by motorized valve
- UHV-tight valve, 150 cm³ reservoir (reservoir and valve are located ex-vacuum)



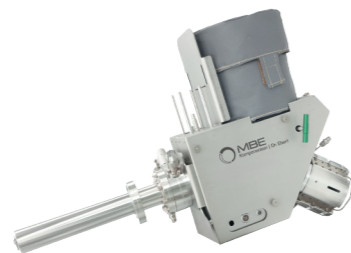
Valved Sulfur Cracker Source VCS

- Provides cracked or uncracked sulfur flux
- Source capacities: 300-500 cm³
- Flux modulation and on/off control by motorized valve
- Excellent flux uniformity due to beam shaping nozzle



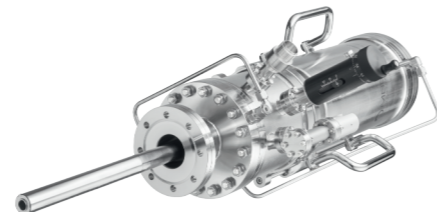
Valved Selenium Cracker Source VSCS

- Provides cracked or uncracked selenium flux
- Flux modulation and on/off control by motorized valve
- Water-cooled assembly
- Excellent flux uniformity due to beam shaping nozzle
- Source capacities: 300-9600 cm³



Valved Phosphorus Cracker Source VPCS

- Controlled phosphorus evaporation
- Excellent thermal isolation between low temperature reservoir and hot cracking zone
- DN63CF (O.D. 4.5") flange
- Thermal cracking up to 1200°C
- 500 cm³ reservoir



Valved GaP Compound Cracker VGCS

- Produces pure P₂ species (P₂/P₄ > 150)
- Fast, stable and reproducible flux control
- Safe cell loading and operation
- Reliable large cross section cone valve
- Crucible capacity of 420 cm³



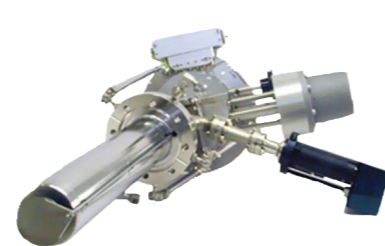
Valved Corrosive Material Cracker VCCS

- Evaporation and cracking of Sb, Te, Mg, and other corrosive materials
- Crucible capacity of 420 cm³
- All PBN construction of valve and cracker stage
- Fast, stable and reproducible flux control



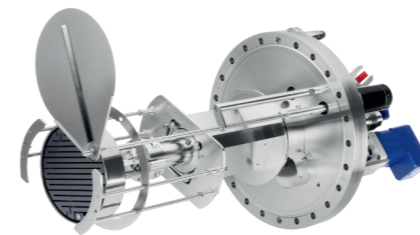
Valved Arsenic Cracker Source VACS

- Crucible capacity: 300 cm³, 500 cm³ or 2000 cm³
- Large valve opening
- Precise and very fast flux control
- Integrated water cooling shrouds
- Easy handling and refilling procedure
- Compatible with all MBE systems



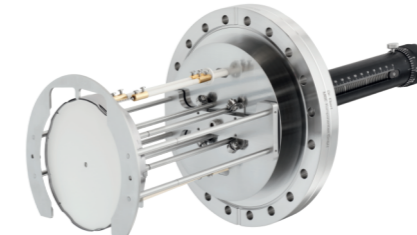
Valved Alkali Metal Source AKS

- Large capacity 150 cm³
- Ideal source for Cs and Rb evaporation
- Easy and safe refilling procedure
- Precise and very fast flux control
- Compatible with most MBE systems



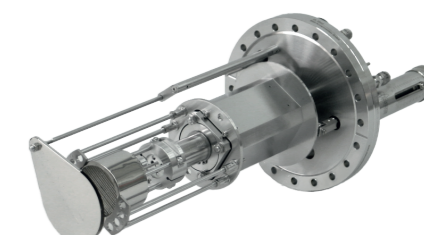
Substrate Manipulator SH

- Uniform heating of substrates from small samples to 6-inch wafer diameter
- Wafer temperatures up to 1200°C
- Heater materials: tungsten, tantalum, pyrolytic graphite, CFC, SiC



Wafer Heater WH

- Tungsten, tantalum, SiC or graphite heaters
- Wafer temperatures up to 1200°C
- Clean operation and high reliability
- Oxygen resistance and customized solutions possible



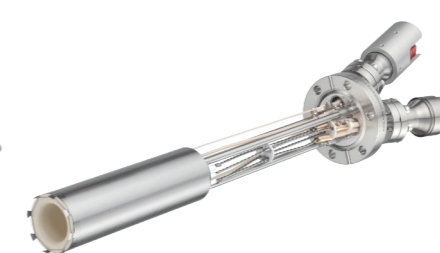
Oxygen Resistant Substrate M. SH-O

- Substrate temperatures up to 700°C with Ni-alloy heater; up to 900°C with noble-metal-alloy heater or SiC heater, depending on oxygen partial pressure
- Substrate sizes up to 6 inch



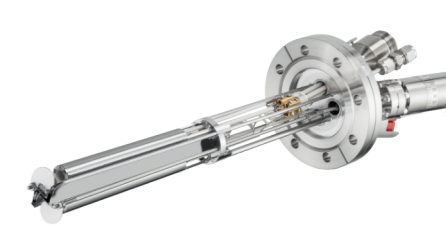
Carbon Doping Source SUKO-D

- High-mobility GaAs p-type doping
- Fast and precise flux control
- Ultra-high purity pyrolytic graphite (PG) filament
- Water-cooled electrical contacts
- Inner filament shielding with pure pyrolytic graphite parts



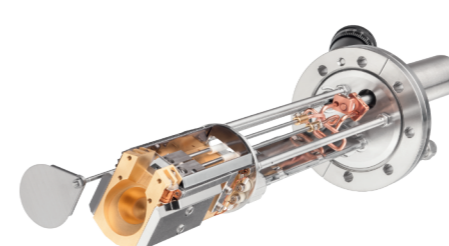
Doping Effusion Cell DEZ

- Conical shaped crucibles with crucible capacities 2, 5, 12 cm³
- Most effective Ta wire heating system
- Wide flux distribution provides excellent homogeneities
- High reliability and long lifetime
- Compatible with all MBE systems



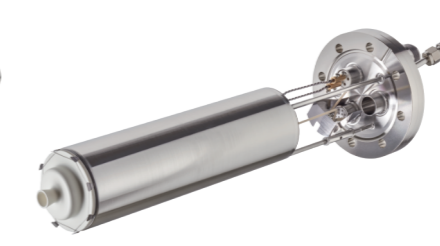
Dual Doping Source DDS

- Cluster sources increase the capacity of UHV systems
- Customized designs with all kind of effusion cells
- Compact and intelligent design
- Solutions with integrated cooling shrouds and shutters
- Various crucibles available



E-Beam Boron Doping Source EBVV-B

- Up to 10²¹/cm³ boron doping in Si MBE
- Evaporation of elemental boron or Si-B alloy
- High frequency x-y-beam deflection system
- 270° beam deflection



Phosphorus Doping Source DECO-D

- 10²⁰/cm³ n-type doping in Si/SiGe MBE
- Ph-doping by GaP decomposition
- High P incorporation rate
- Minimum memory effects
- Sharp doping profiles
- Precise and fast flux control



Silicon Sublimation Doping Source SUSI-D

- Thermal sublimation of silicon from highly doped Si filament
- No ceramic parts in the hot zone
- Excellent growth of thin silicon layers
- Water-cooled electrical contacts



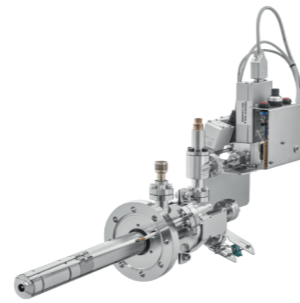
**Hydrogen Atom Beam Source
HABS**

- H₂ dissociation typically 80 - 98%, depending on operation conditions
- Atomic hydrogen flux density up to 1x10¹⁶/(cm² s)
- No high-energy particles + ions
- Low power consumption (P<200 W)



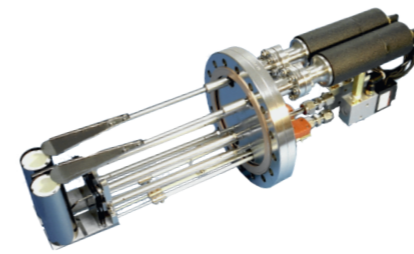
**Oxygen Atom Beam Source
OBS**

- O₂ dissociation up to more than 80%, depending on operation conditions
- Atomic oxygen flux density up to 1x10¹⁵/cm² s
- No high-energy particles and ions
- Optional customized aperture



**Flexible Microplasma Source
FMP**

- Suitable for different gas types (for example N₂, H₂, or O₂)
- Smallest version on DN40CF; on DN63CF with integral cooling
- Ion sensor option
- Typical operation power and frequency: 5 - 20 W / 2.5 GHz



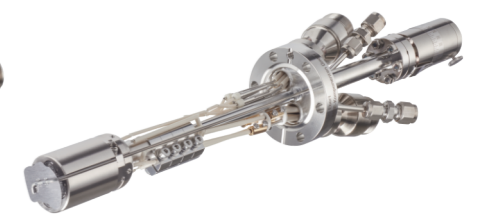
**Customized Source Clusters
CUSTOMIZED**

- Large variety of tailor-made sources available
- Consideration of special customer needs and close collaboration with customers



**Dual Cluster Source
DCS**

- Two independent effusion cells on a single flange
- Two individual shutters or multi-position shutter and additional cool tube available
- Very compact cell design



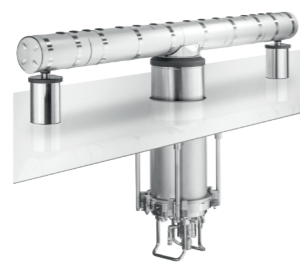
**Quad Cluster Source
QCS**

- Source clusters increase the capacity of MBE systems
- Various crucible types and sizes available
- 4 cells on one DN40CF (O.D. 2.75") flange or DN63CF (O.D. 4.5") flange
- Very compact cell design



**Point Source
PEZ series**

- Large capacity up to 55 kg Cu
- Very high flow rate up to 220 g/h for Cu
- Long lifetime
- Designed for easy maintenance
- High material efficiency by using beam shaping insert



**Production Scale Linear Source
LES**

- Large capacity up to 6000 cm³
- High flow rate
- Long lifetime
- Proprietary encapsulation of heater and inner shielding
- Evaporation zones up to 220 cm width



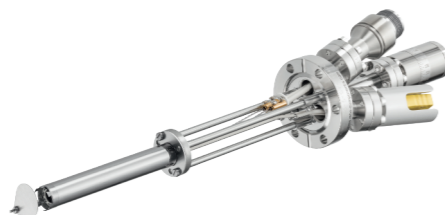
**Valved Sources
PVSS**

- Reservoir volume 9600 cm³, larger volume on request
- Pneumatically actuated normally-closed valve
- Easy refill
- Robust heater design
- Water-cooled assembly



**OEZ Cluster Source
OEZ Cluster**

- Controlled evaporation of volatile organic materials in research and industry
- Operating temperatures: 50 - 700 °C
- Fabrication of OLED and organic photovoltaic cells, or spintronic devices



**Organic Material Effusion Cell
OEZ**

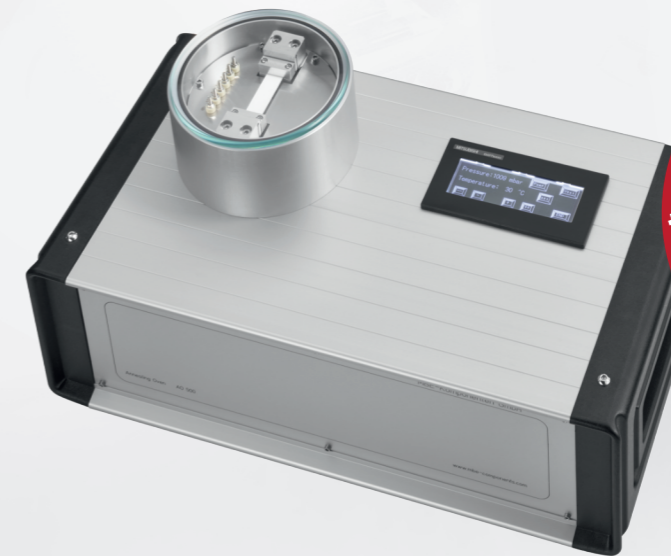
- Controlled evaporation of volatile organic materials in research and industry
- Fabrication of OLED and organic photovoltaic cells, or spintronic devices
- Operating temperatures: 50-700 °C



**Industrial Point Sources
OME 100**

- Flange size DN100 ISO-K
- Patented Thermal Conduction Cooling (TCC)
- Ideal for evaporation of organic materials for PV, display and OLED applications
- Temperature range 15-400°C
- Full UHV + MBE compatibility

Compact Rapid Annealing System
Compact multifunctional tabletop annealing oven



Free-standing
tabletop annealing
system
with small
footprint

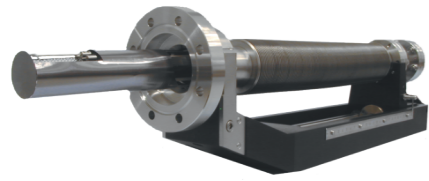
- Fast ramping up to 600°C
- Interactive programmable controller for temperature and pressure profiles
- Recommended sample size: 12 mm x 12 mm
- Six contacts for electrical in-situ measurements; analog output for pressure and temperature measurements
- Vacuum, inert gas or forming gas operation
- Dry running diaphragm pump optionally available

Typical applications:

- General RTP / RTA sample processing
- Electrical contact formation
- Diffusion processes and indiffusion studies
- Device testing under different temperature, gas and vacuum levels
- Investigation of intermixing effects
- Material alloying processes
- Gas sensor characterization / development

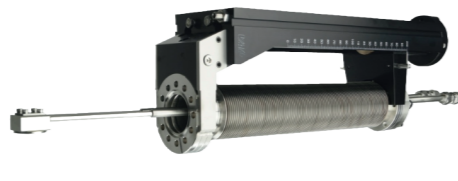
Equipment

Accessories for MBE components



Beam Flux Monitor BFM

- Bayard-Alpert type ionization gauge
- Compatible with widespread gauge controllers



Quartz Crystal Microbalance QCM

- For thin-film measurements
- Compatible with most oscillator devices



Cooling Shrouds CS

- Various designs
- Integrated shutter option (-S)
- Water or liquid nitrogen cooling



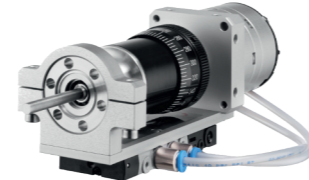
Shutter S

- Rotary and linear motion
- Fully UHV compatible



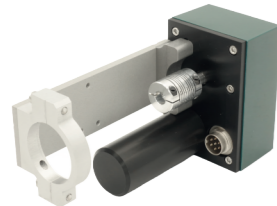
Shutter Control Unit SCU

- Rack-mounting shutter controller
- Manual or remote operation
- Compatible to RSM/RPM shutter modules



Rotary Pneumatic Module RPM

- Rotary motion mechanism
- Shutter action times as fast as 250 ms (open-close)



Soft-acting Rotary Shutter Module RSM

- Soft-acting rotary motion mechanism
- Shutter action times 0.2 - 1.0 s (open-close)



Soft-acting Linear Shutter Module LSM

- Soft-acting linear motion mechanism
- Shutter action times 0.2 s (open-close)



Viewport Shutter FSH

- Compatible with all UHV systems
- Double sided CF flange



Power Supply PS

- Standard laboratory DC power supplies, combined with PID controllers
- Constant voltage and current control



Cables and Connectors CA

- Solutions for all connections
- Cleanroom compatible
- Various cross-sections and lengths



Crucibles CRU

- Various shapes and materials
- Wide range of crucible sizes
- Beam shaping inserts available for cylindrical crucibles

PVD Systems and Components

Wafer-scale PVD systems

NEW
PVD
Systems

PVD System 350

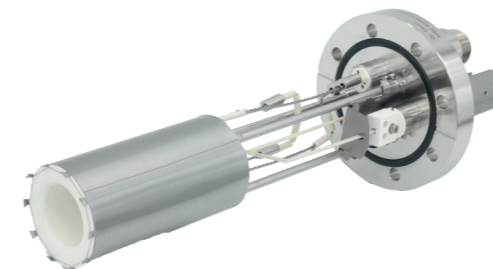
- Substrate size 100 mm
- Turbomolecular pump
- Wide range of source options
- Effective UHV pumping system
- Multi-pocket electron beam evaporator
- Fast-entry chamber for rapid substrate loading
- Water-cooled chamber body, no LN2 infrastructure needed
- Low energy consumption, economic operation, minimal site requirements

PVD System 550

- Substrate size 300 mm
- Large capacity electron beam evaporators up to 1000 cm³
- Wide range of source options
- Turbomolecular pump
- Fast-entry chamber for rapid substrate loading
- Effective UHV pumping system
- Water-cooled chamber body, no LN2 infrastructure needed
- Low energy consumption, economic operation, minimal site requirements

PVD Sources

- High Temperature Cell HTEZ-K, Production Cell PEZ-K
- Equipped with O-ring sealing
- For metal deposition / thin film
- Compatible with most HV systems
- Excellent reliability and long lifetime
- Various crucible sizes and materials



We reserve the right to modify product specifications and the contents of this document without prior notice. For orders, the specifications agreed upon shall apply. We assume no liability for any errors or omissions contained in this document.



Dr. Eberl MBE-Komponenten GmbH

Josef-Beyerle-Str. 18/1
71263 Weil der Stadt, Germany
+49 7033 6937-0
info@mbe-komponenten.de
www.mbe-komponenten.de

Trusted expertise since 1990

Dr. Eberl MBE-Komponenten GmbH is a family-owned business with a global presence and trading partners in the United States, India, Japan, Singapore, and China.

Our team of physicists, engineers, and software specialists develops and produces high-quality MBE systems and components. These products enable the production of SiGe- and III/V-based heterostructures, as well as emerging material systems such as topological insulators, 2D materials, and qubits. Our expertise also extends to oxide MBE and the deposition of magnetic layer structures for a variety of applications.

We continuously enhance our product portfolio by collaborating closely with our customer base of leading scientists in semiconductor and materials research. We are also known for our evaporator development skills which are highly valued by industrial customers and vacuum system manufacturers. Our evaporation process simulation provides tailored solutions that optimize layer profiles and material consumption, guiding decision-making from planning to implementation.

Sales Office in China

Beijing Eberl Instrument Trading Co., Ltd.
Room 1208B, Block B, Building 1,
Zhubang 2000 Business Center,
No. 100, Balizhuangxili,
Chaoyang District, Beijing 100025, P. R. China
+86 10 5339 9726
info@be-instruments.com
www.be-instruments.com

Distributors and Representatives

USA / Canada
United Mineral & Chemical Corporation
www.umccorp.com

Japan
Toyama Co., Ltd.
www.toyama-en.com

Singapore
Torque Science Pte Ltd.
www.torquesci.com

India
Mack International
www.mack.in