



EBLab

Create radical innovations
with ebeam

ebeam

EBLab

Compact, flexible, and easy to use

Develop and optimize new products and processes with ebeam. The EBLab is as reliable as it is versatile. This fully shielded system enables experiments and quality control tests to be performed in the smallest of spaces without the need for additional infrastructure. The EBLab provides innovation teams with the tool they need to explore frontiers opened by easy access to electron beam processing.

The compact, sealed ebeam lamps used in the EBLab allow for a maximum beam energy of 300 keV and transport speeds of 3–30 m/min, allowing doses of up to 950 kGy in a single pass. Samples may be

as large as an A4 letter (216 mm × 279 mm) and up to 50 mm thick. With nitrogen inerting, the oxygen concentration can be as low as 50 ppm allowing researchers the freedom to work with oxygen-sensitive chemistries.



User friendly

- Large screen (up to 19")

Safe

- Fully shielded. No personal dosimeters needed

Versatile

- Large, adjustable sample holder



Powerful and flexible

- From 80 to 300 keV

Real Science

- Detailed records of test parameters as printout or download

Reliable

- Auto-K function and PLC control with memory function



Convenient

- Compact, freestanding

Maintenance-free

- No vacuum pump. No need to change foils, cathodes, or cables

Worldwide

- First-class customer support

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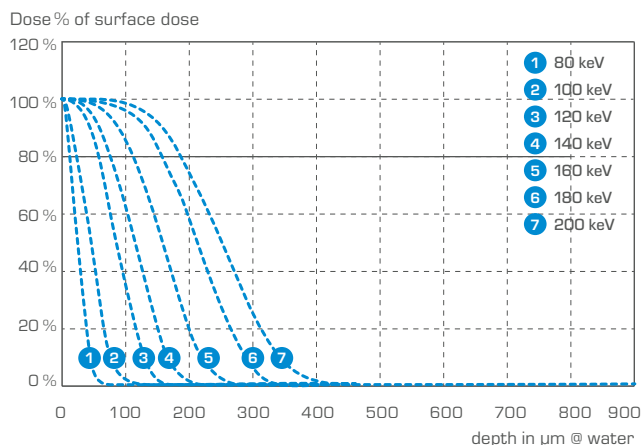
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EBLab 200

Electron penetration



Features

Voltage range	80–200 keV precision > 99 %
Max. power ebeam Lamp	2.25 kW
Max. beam current (voltage dependent)	20 mA, precision > 99 %
Sample transport speed	3–30 m/min (multiples of 3 m/min, i.e., 3, 6, 9, ... 30 m/min)
Sample size	DIN A4 (216×297 mm), height-adjustable up to 50 mm (in steps of 5 mm)
Air gap	5–55mm (considering a sample of height zero)
Oxygen measurement device	included
Operating modes	with and without inerting gas
Nitrogen inerting	residual oxygen concentration adjustable down to 50 ppm ¹
ebeam Lamp	COMET Modell EBA-200/270
Options	ozone extraction kit ozone filter water cooler

¹50 ppm concentration only possible for N₂ with gas purity O₂ < 2 ppm

ebeam, a division of the Swiss technology company COMET, is a world leader in the industrial use of electron beam technology. ebeam explores, develops, and produces innovative engines for cost-effective and



User interface

Push buttons	start cycle, emergency stop
Warning lamps	2 lamps: red & green (other colors available upon request)
Monitor screen	17"
Data input	keyboard
Graphic User Interface	Windows-based

Physical data

Weight	ca. 1200 kg
Min. floor loading	1000 kg/m ²
Size (width, depth, height)	1322, 1027, 1828 mm

Radiation safety

Fully shielded system	Lead-lined painted steel cabinet
Max. leakage radiation	< 1 $\mu\text{Sv/h}$ at 10 cm from surface

Electrical data

Input supply voltage	3 PNE 400 V AC (three phase)
Power consumption	max. 3.8 kVA
Recommendation external circuit breaker	3 × 16 A

Supply lines

Cooling water min. flow rate	> 3 l/min
Temperature	25 °C to 35 °C always > 3 °C above ambient temperature
N ₂ flow rate	100 l/min
N ₂ pressure	min. 4 bar (at 100 l/min), max. 6 bar

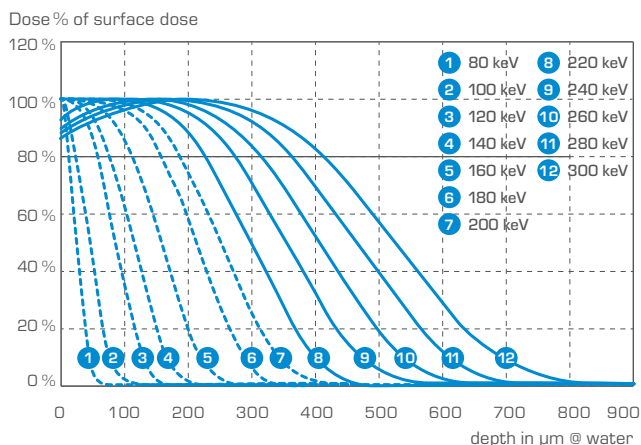
Environmental conditions

Ambient temp. range	10 to 30 °C
Relative humidity	10 to 70 %

environmentally-friendly processes. ebeam technology has many uses, including the sterilization of packaging, curing of inks, synthesis of innovative new plastics, as well as the upcycling of biomass. Blue is the new green!

EBLab 300

Electron penetration



Features

Voltage range	80–300 keV precision > 99%
Max. power ebeam Lamp	4.5 kW
Max. beam current (voltage dependent)	20 mA, precision > 99%
Sample transport speed	3–30 m/min
Sample size	DIN A4 (216×297 mm), height-adjustable up to 50 mm (in steps of 5 mm)
Air gap	5–55mm (considering a sample of height zero)
Oxygen measurement device	included
Operating modes	with and without inerting gas
Nitrogen inerting	residual oxygen concentration adjustable down to 50 ppm ¹
ebeam Lamp	COMET Modell EBA-300/270
Options	ozone extraction kit ozone filter water cooler lamp window protection grid

¹50 ppm concentration only possible for N₂ with gas purity
O₂ < 2 ppm



User interface

Push buttons	emergency stop
Warning lamps	red lamp
Monitor screen	19"
Data input	touchscreen/keyboard
Graphic User Interface	Windows-based

Physical data

Weight	ca. 2500 kg
Min. floor loading	2000 kg/m ²
Size (width, depth, height)	1760, 980, 1750 mm

Radiation safety

Fully shielded system	Lead-lined painted steel cabinet
Max. leakage radiation	< 1 µSv/h at 10 cm from surface

Electrical data

Input supply voltage	3 PNE 400 V AC (three phase)
Power consumption	max. 6 kVA
Recommendation external circuit breaker	3 × 16 A

Supply lines

Cooling water min. flow rate	> 3 l/min
Temperature	25 °C to 35 °C always > 3 °C above ambient temperature
N ₂ flow rate	100 l/min
N ₂ pressure	min. 4 bar (at 100 l/min), max. 6 bar

Environmental conditions

Ambient temp. range	10 to 30 °C
Relative humidity	10 to 70 %



ebeam received the Swiss Technology Award
– the country's most important innovation and
technology prize.