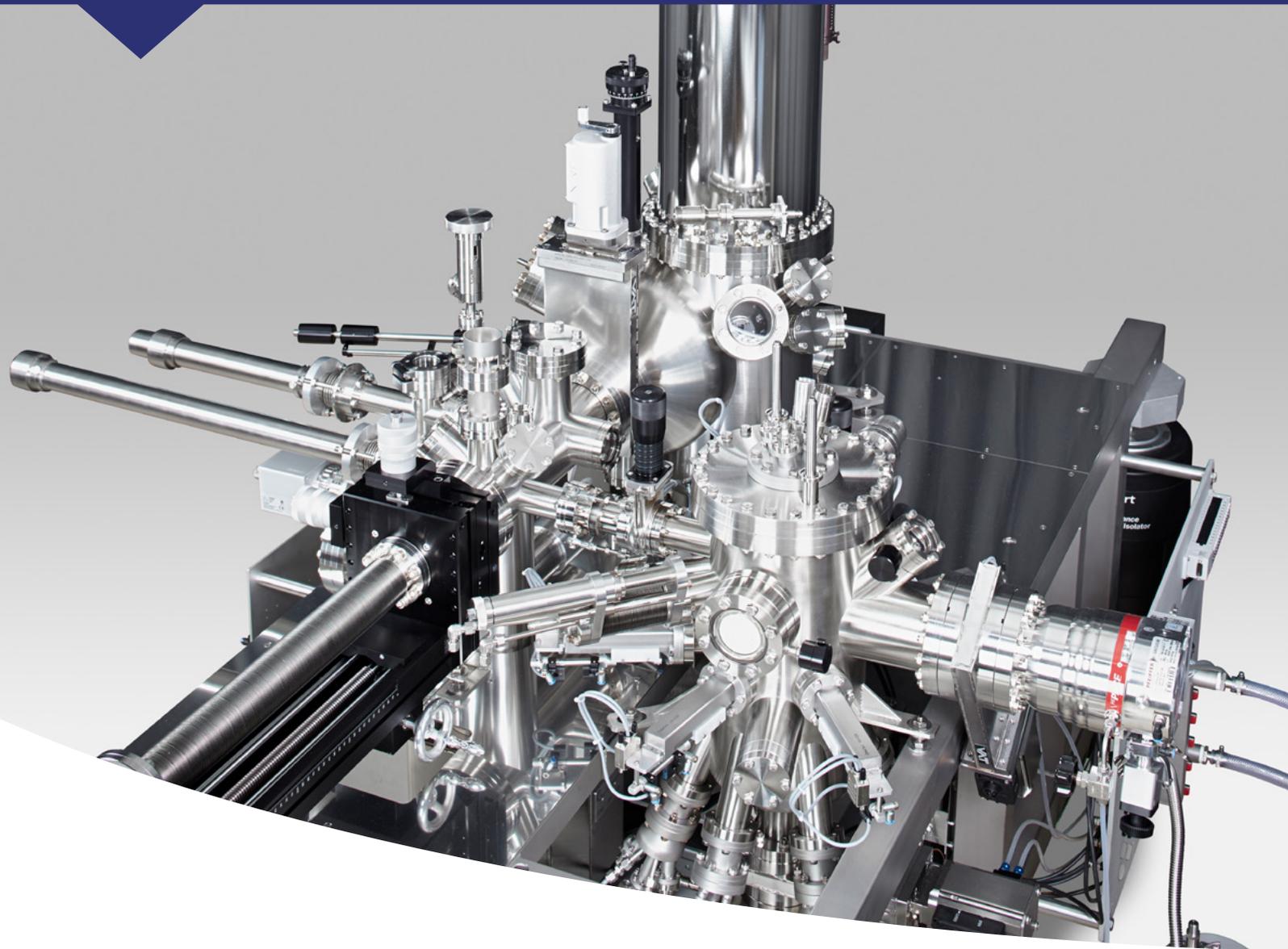


MiniMBE System with LT-STM/AFM



Highlights

- Combined epitaxial growth with in-situ LT-STM/AFM
- High quality surface preparation and fast reliable transfer
- Optimized for high resolutions LT-STM and AFM state-of-the art measurements
- Base temperature LT-STM/AFM below 5 K
- Low LN2 and LH consumption
- Long-term low-temperature spectroscopy and atom manipulation
- Fully equipped MBE system
- Powerful software package

Mini MBE with LT-STM/AFM

sales@createc.de | www.createc.de

The MiniMBE System with LT-STM/AFM is specially designed for epitaxial growth of thin layers or multilayers and in-situ investigations with LT-STM/AFM. The combination of two major parts of CreaTec's product range, gives us the opportunity to create a flexible device. The MINI MBE with LT-STM/AFM can easily be adapted to special requirements.

MiniMBE

TYPE	MINI MBE SYSTEM	
SIZE	200 CF 250 CF	growth chamber
PRESSURE	< 5×10^{-11} mbar	
COOLING SHROUD	LN2	around manipulator and/or evaporators
SUBSTRATE HEATER TEMPERATURE	up to 1200 °C 1400 °C	with e-beam
SUBSTRATE SIZE	small sample plates or wafers	(e.g. 10 x 10 mm)
BAKE-OUT TEMP.	up to 200 °C	
SAMPLE TRANSFER	linear transfer rod	
CONTROL SOFTWARE	cVac	
CHAMBER DIAMETER	206 mm 256 mm	
FLOOR SPACE	1250 mm x 1650 mm	
HEIGHT TRANSFER PLANE	1200 mm	others on request

cVac | Control Software



The CreaTec Control Software is a software package for control, monitoring and automation of MBE and UHV systems.

LT-STM/AFM

TYPE	LT-STM/AFM	
SCAN RANGE	1.2 µm x 1.2 µm x 0.4 µm @ 5 K	
MIN. TUNNELING CURRENT	< 500 fA	< 200 fA achieved
AFM OSCILLATION AMPLITUDES	50 pm	10 pm achieved
STABILITY	xy: <0.2 nm/h	z: <0.1 nm/h guaranteed
TEMPERATURE VARIABLE	5-300 K	lower temp. optional
SAMPLE TRANSFER	at temperatures > 15 K	
HOLD TIME FOR LHe	4 liters	up to 100 h achieved
HOLD TIME FOR LN ₂	14 liters	up to 100 h achieved
NOISE LEVEL	< 1 pm	
ELECTRICAL CONTACTS TO THE SAMPLE IN THE STM	up to 7	
MAGNETIC FIELD	up to 2 T	
NUMBER OF HIGH RESOLUTION CHANNELS	4 (A/D) 6 (D/A)	