AUTO 306 VACUUM COATING SYSTEM

VERSATILITY FOR THE RESEARCHER AND THE ELECTRON MICROSCOPIST

The HHV Auto306 is a versatile and compact coating system which has been developed to meet the demands of the researcher and electron microscopist.

With its range of full-size vacuum systems, chamber and modular process accessories the Auto306 offers users a range of techniques to complement the modern laboratory.

Auto306 is available with glass bell jar and glass cylinder chamber options. Also available is the versatile FL400 front-loading box chamber which provides additional height and width for the fitting of extra process accessories.

Customers can specify from a wide range of modular process accessories which include thermal resistance sources and power supplies, the 3kW EB3 electron beam source, source shutters, work holders and film thickness monitors.

The vacuum system is controlled and monitored by a rugged PLC with touch screen for easy operation. Pumping options include diffusion, turbo and cryo pumps with oil-sealed or dry scroll backing pumps. An integrated high vacuum valve with backup battery protects pumps and samples.

Auto 306 coating system with FL400 front loading chamber

Features and Benefits

- Touch screen PLC control of vacuum for easy operation
- Choice of deposition sources and power supplies
- Range of work holders
- Range of vacuum chambers to suit applications
- Intelligent high vacuum valve protects pumps and samples
- Compact unit minimises space requirements
- No compressed air required.
- Fully interlocked for operator safety

AUTO 306 VACUUM COATING SYSTEM

FOR RESEARCH

Auto 306 for Research and Development

Offering a choice of vacuum systems, chambers and thermal deposition accessories the Auto306 can be configured to meet a wide range of requirements in the R&D laboratory. Users can specify a single resistance source, or multiple sources to allow multi-layer films to be deposited without breaking vacuum. A range of work holders, shutters, substrate heaters and film thickness monitoring and control allow the Auto306 to be configured for a wide range of applications.
Modular construction means that additional accessories can be added later to further enhance the capabilities of the versatile Auto306.

Process accessories:-

- Glass bell jar, glass cylinder or stainless steel box chamber options
- Single or multiple resistance sources
- Four position turret resistance source
- EB3 compact 3kW, four-pocket electron beam source
- Temperature controlled sources for organic electronic materials
- DC sputtering with bench-top power supply
- Static and rotary work holders
- Substrate heating systems
- Source shutters
- Glow discharge cleaning
- Film thickness monitoring
- Deposition rate control

Auto306 for research with glass cylinder chamber and top plate counterbalance

Electron beam source, two resistance sources and quartz lamp substrate heater.

Auto306 with 4-position turret resistance source

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FOR ELECTRON MICROSCOPY

Auto 306 for Electron Microscopy

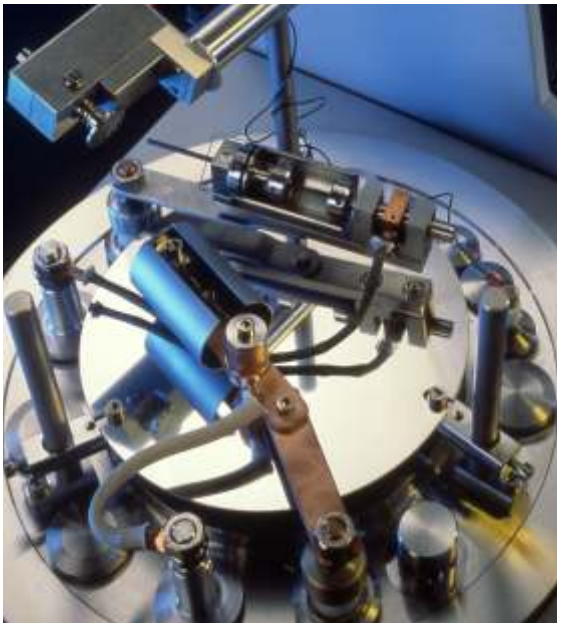
With it's range of full-size chamber, process accessory and vacuum system options the Auto306 offers EM users a range of techniques to complement the most advanced TEMs and SEMs.

Auto 306 with glass bell jar chamber

Process accessories:-

- Resistance sources for SEM metals evaporation
- Carbon rod source for TEM, carbon fibre evaporation for TEM
- Combination systems for both TEM and SEM
- Evaporate upwards or downwards configurations
- Rotatilt 3 work holder with rotation and variable tilt facility offers
  - Standard TEM grid holder
  - Magnetic TEM grid holder
  - Planetary work holder for up to six standard SEM stubs
  - 80mm diameter plane work holder for 3-D samples
- Manual or electric source shutter
- Glow discharge cleaning
- Film thickness monitoring

Auto306 by resistance and carbon sources for SEM. The Rotatilt3 work holder is fitted by the SEM planetary sample holder



Auto306 with resistance and carbon sources for SEM, and Rotatilt3 with TEM grid holder

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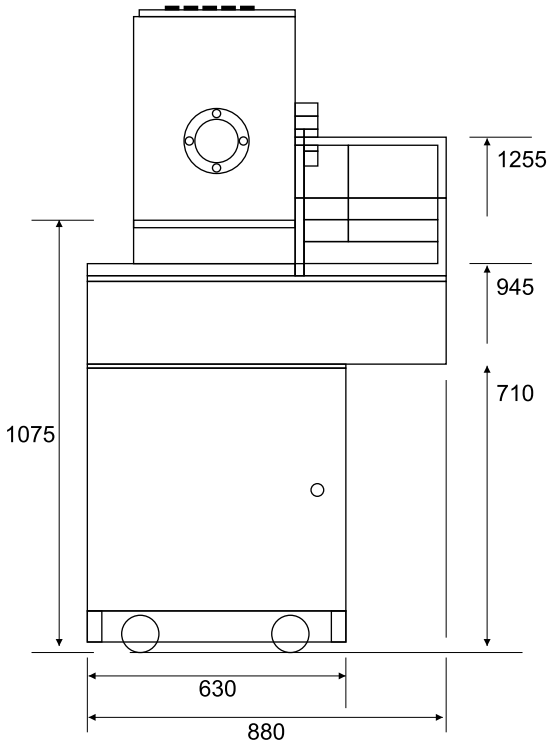
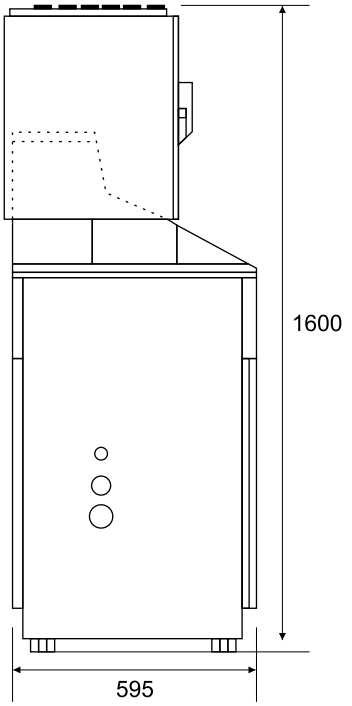
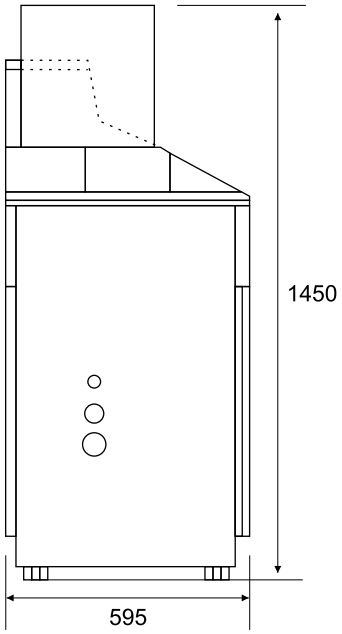
TECHNICAL INFORMATION





FL400 Chamber



Glass Chamber

Auto 306 dimensions in mm

TECHNICAL DATA

Ultimate vacuum*

600 l/s diffusion pumped	: 2 x 10^{-7}mbar
500 l/s turbo pumped	: 2 x 10^{-7}mbar
250 l/s turbo pumped	: 5 x 10^{-7}mbar

Pump-down time*

Atmosphere to 1x10^{-7}mbar	: 40minutes
Atmosphere to 1x10^{-6}mbar	: 25 minutes

Liquid nitrogen (LN2) trap capacity** : 1.4 l

Auto306 base unit weight	: Approx 160kg
Electrical supply	: 220-240V, 1 phase, 50Hz 210V, 1 phase, 60Hz
Power consumption (typical maximum)	: 4 kVA max.
Water cooling	: 75 l/h at 15-20°C
Pump oil capacity	
RV 12 rotary pump	: 550 ml
E04 diffusion pump	: 175 ml

** Typical performance with clean, dry empty chamber*
*** Diffusion and turbo-pumped systems only*

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