

Cressington **208HR** High Resolution Sputter Coater



Illustrated: sputter coater 208HR with: rotary-planetary-tilt stage; thickness controller MTM-20

The main features are:

- Wide Choice of Coating Materials:-
Magnetron head design and effective gas handling allow a wide choice of target materials (see specification).
- Precision Thickness Control:-
Thickness optimized to the FE-SEM operating voltage using the MTM-20 high resolution thickness controller.
- Multiple Sample Stage Movements:-
Separate rotary, planetary and tilting movements allow optimized coating distribution and coverage. (view RPT Stage)
- Variable Chamber Geometry:-
Chamber geometry is used to adjust deposition rates from 1.0 nm/sec to 0.002nm/sec to optimize structure.
- Wide Range of Operating Pressures:-
Independent power/pressure adjustment allows operation at argon gas pressure ranges of 0.2 - 0.005 mbar.
- Compact Modern Benchtop Design:-
Space and energy saving design eliminates need for floor space, water, specialized electrical connections.

Coating Difficult Samples for FE-SEM

The Cressington 208HR now offers real solutions to the problems encountered when coating difficult samples for FE-SEM. In order to minimize the effects of grain size the 208HR offers a full range of coating materials and gives unprecedented control over thickness and deposition conditions. To minimize charging effects the 208HR stage design and wide range of operating pressures allows precise control of the uniformity and conformity of the coating. The HIGH/LOW chamber configuration allows easy adjustment of working distance. (Compare this picture with the top picture.)



High resolution sputter coater

Chamber size	12 150mm Ø, Variable height, 165mm - 250mm
Sputter head	Low voltage planar magnetron Quick target change Wrap-around dark-space shield Shutter for target conditioning
Sputter target	Cr, Pt/Pd as standard (Ta, Au, Au/Pd, Pt or W optional)
Sputter supply	Microprocessor based Safety interlocked Current control independent of vacuum Digitally selectable current (20, 40, 60 or 80mA)
Sample table	Non-repetitive rotary planetary motion with manual tilt 0 - 90° Variable speed rotation Crystal head 4 sample holders
Analogue metering	Vacuum, Atm - 0.001mb Current, 0 - 100mA
Control method	Automatic operation of gas purge and leak functions Automatic process sequencing Full manual override Digital timer, 5 - 300 seconds with pause Automatic vent
Thickness monitoring	MTM-20 with termination facility

Pumping system

Rotary Pump	Turbo-drag/rotary pump combination Optional diaphragm pump instead of rotary pump
Pumping speed	300 litres/min @ 0.1mb
Pumpdown time	1 min. to 1×10^{-3} mb (1.5 min. with diaphragm pump option)
Ultimate pressure	1×10^{-5} mb
Desktop system	Rotary pump is mounted on desktop compatible anti-vibration table All metal vacuum coupling system

Thickness monitor

MTM-20	Microprocessor based 4 digit display with push button zero 5 times/sec. display update rate 6 MHz crystal with life-time check
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Thickness range 0 -999.9nm

Resolution Better than 0.1nm

Density range 0.50 - 30.00gm/cm³

Tooling factor range 0.25 – 8.00

Termination range 0 -999.9nm

Service required

Supply 100 - 120 or 200 - 240 VAC, 50/60Hz
(specify on order)

Power 550 VA max.

Argon gas Purity, min. 99.9%
Pressure, regulated 7 - 8 psi (0.5 - 0.6 bar)
Hose connection, 6.0mm (¼")

System dimensions

Size Width 600mm (23.6"), Depth 600mm (23.6"),
Height 450mm (17.7")

Weight 40 kg