# **VACUUM COATING & SPUTTERING**



#### **208 HRD** HIGH RESOLUTION SPUTTER COATER FOR FESEM

The Cressington 208HRD offers the most sophisticated features in its class.

The High Resolution Sputter Coater 208HRD offers real solutions to the problems encountered when coating difficult samples for FESEM. In order to minimize the effects of grain size, the 208HRD offers a full range of coating materials and gives unprecedented control over thickness and deposition conditions. To minimize charging effects, the 208HRD stage design and wide range of operating pressures allow precise control of the uniformity and conformity of the coating.

- Wide Choice of Coating Materials Magnetron head design and effective gas handling allow a wide choice of target materials
- Economical Options

ORDERING INFORMATION

Upgraded 208HRD offers a smaller diameter target and modified chamber configurations to give the same coating capabilities, but with more economical usage for costly materials like iridium.

 Precision Thickness Control Thickness optimized to the FESEM operating voltage using the MTM-20 High Resolution Thickness Controller • Multiple Sample Stage Movements

Separate rotary, planetary and tilting stage movements ensure uniform coating with excellent conformity, even on highly topographic samples.

- Variable Chamber Geometry Chamber geometry is used to adjust deposition rates to optimize structure
- Dry Pump Includes a diaphragm backing pump for the turbo as standard, giving the benefit of oil free operation.
- Compact Modern Benchtop Design
  Space and energy saving design eliminates need for floor space, water or specialized electrical connections

8000HRD	208HRD High Resolution Sputter Coater for FESEM,115VAC, 50/60Hzeach
8000HRD-220	208HRD High Resolution Sputter Coater for FESEM, 220VAC, 50/60Hzeach
7021-208HR	Second Chamber Outfit for 208HRDeach
7021-100	Stationary Stage with Threaded Rod, 63mm Diameter, Height Adjustableeach
8006	Glass Cylinder Tall (150mm D x 150mm H)each
8091-1	Metal Spacer Ring, for 208HRD, 208C, 108 Auto/SE and 108C Auto/SEeach

\* The complete 208HRD High Resolution Sputter Coater includes: Pumping System, MTM-20 Thickness Controller, and Rotary-Planetary-Tilting Sample Stage with 4 Sample Holders.



### **VACUUM COATING & SPUTTERING**



### **202** carbon HIGH VACUUM TURBO CARBON COATER

High Quality Coating For TEM, FESEM, EBSD or Microprobe Applications

The 208C High Vacuum Turbo Carbon Coater from Cressington offers quality carbon coating techniques for TEM, STEM, SEM, EDS/WDS, EBSD and microprobe applications. The use of ultra purity carbon rods in a high vacuum chamber gives the high quality coating needed for these more demanding applications. Furthermore, the compact turbo-pumped system requires only a standard power outlet and occupies minimal bench top space.

#### **Main Features**

- Automated evaporation control gives ease-of-use in a busy environment
- Voltage controlled rod source gives multiple evaporation capabilities
- 67 L/second turbo pump on a 150mm outer diameter chamber provides rapid pump down times
- Compact, space-saving, modern benchtop design
- Reduces operation cost in several ways: No diffusion pump to leave on continuously; no need for water cooling; no need for liquid nitrogen
- MTM-10 thickness monitor provides reproducible results Optional
- Rotary-Planetary-Tilting (RPT) Stage Optional
- Rotary-Tilting (RT) Stage Optional
- Carbon Fiber Source Optional

#### **Evaporation Supply**

This coater has a fully integrated electronic feedback-controlled power design. Current and voltage are monitored by sensor wires in the head, where the evaporation source is part of the feedback loop. This gives the conventional rod fed source superior stability and reproducibility. The evaporation source can be operated in automatic, manual-pulse, or manual-continuous modes. The pulsed mode, when used in conjunction with the optional MTM-10 thickness monitor, gives absolute control over the desired thickness of the carbon coating.

#### 208C Specimen Chamber and Optional Stages

The modular design of this practical-size chamber accepts two optional stages, which can be readily implemented. With the addition of one of these stages, the telescopic pillar gives a simple rapid adjustment from long to short working distances to vary the deposition rate. For SEM, EDS/WDS and microprobe analysis applications, the Rotary-Planetary-Tilting stage with variable speed, adjustable tilt and 4 specimen holders ensures uniform coating on multiple samples. The Rotary-Tilting stage is specifically designed for TEM and analytical applications and holds a 25 x 75mm (1 x 3") glass slide. Both stages are mounted on a mounting collar and can be readily implemented in the chamber.

#### **ORDERING INFORMATION**

9620	Turbo Carbon Coater 208C, 115Veach
9020-220	Turbo Carbon Coaler 208C, 220Veach
9624	Turbo Carbon Coater 208C, Dry Pumping System, 115V each
9624 -220	Turbo Carbon Coater 208C, Dry Pumping System, 220V each
93004	Thickness Monitor MTM-10, 115V (for static table)each
93004-220	Thickness Monitor MTM-10, 220V (for static table)each
93005	Thickness Monitor MTM-10, 115V (for RPT stage)each
93005-220	Thickness Monitor MTM-10, 220V (for RPT stage)each
9524	Rotary-Planetary-Tilting (RPT) Stage, 9V Batteryeach
9660	Rotary-Tilting (RT) Stage, 9V Batteryeach
9631	RPT or RT 9V DC Converter Kit, 115Veach
9617-F-208	Carbon Fiber source for 108C Auto/SE or 208Ceach













#### **108** manual SPUTTER COATER

- This coater is ideal for routine SEM sample preparation. It is compact, economical and simple to operate. It offers rapid pumpdown times, fine-grain coatings and negligible sample heating.
- Fully variable current control, digital process timer with "pause", variable height specimen table, hinged top plate and O-ring sealed vacuum chamber.
- Sputtering is achieved with a very efficient DC magnetron. A quick-change target allows for a range of metals to be used. (Au, Au:Pd, Pt, Pt:Pd). Au target is included as standard. The current controller allows independent choice of sputter current and argon pressure. Coverage and grain size are optimized for any specimen.
- The safety interlocked sputtering supply is fully variable; setting the sputter current is not influenced by vacuum level.
- The 108 Manual coater can be factory fitted with an optional Film Thickness Monitor MTM-10

#### **103** auto SPUTTER COATER

- This coater offers the choice of manual or automated operation. The specifications also include automatic vent and argon purge control.
- In automatic mode, the coater can be controlled in two ways. First, the digital timer can be used to give repeatable coatings or second the optional Film Thickness Controller MTM-20 can be used to measure and terminate the sputtering process at a desired thickness. The Film Thickness Monitor MTM-10 is also available as an option on the 108 Auto which displays the thickness while the coating is being deposited.
- The sputter current is set on a digital programmer and is not dependent on the argon gas pressure in the sputtering chamber. Pressure and current adjustment are carried out separately.
- Supplied with a height adjustable 63mm diameter stage that can accommodate 12 x 12.7mm pin mounts.

#### **108** auto/SE SPUTTER COATER

The Auto/SE is intended for use in applications where the coating thickness must have a very high degree of uniformity. The chamber size has been increased to 150mm outer diameter to accommodate the optional Rotary-Planetary-Tilting Stage or Rotary-Tilting stage.

#### **108** carbon/A AUTOMATED CARBON COATER

- The 108carbon/A uses a novel evaporation supply. Current and voltage are monitored by sensor wires in the head and the evaporation source is controlled as part of a feedback loop. This gives the conventional rod fed source better stability, reproducibility, and can give multiple evaporations without the need for shaping or adjustment.
- The 108carbon/A offers a choice of either manual or automated evaporation. In "Auto" the evaporation source operates at programmed voltage for a programmed time and in "Manual" the evaporation source can be operated in "pulse" or "continuous" modes.
- The coater is compact, simple to operate, and has rapid pumping times.
- The optional thickness monitor MTM-10 allows conducting carbon films to be tailored to the exact requirements of the sample.

#### **108** carbon/A/SE AUTOMATED CARBON COATER

The 108 Carbon/A/SE Auto Carbon Coater Special Equipment version has the same technical specifications regarding carbon coating capabilities as the standard 108 Carbon/A Auto Carbon Coater. The special feature of the 108 Carbon/A/SE is the larger, 150mm outer diameter chamber which will accommodate the optional Rotary-Tilting Stage or Rotary-Planetary-Tilting-Stage. The advantage of using the Rotary-Planetary Tilting Stage is that highly topographic specimens or larger specimens can be uniformly coated to give better conductivity when performing EDS analysis on such specimens.



## **DELCO** easiShaper<sup>™</sup> Electric Motor Driven Carbon Rod Shaper

- Easy, guick, precise and clean carbon rod shaping
- Supports 1/4", 1/8" and 3/16" carbon rods
- Shapes single and double stepped carbon rods .
- Integrated dust collector
- Ergonomic & space saving design
- Easy cutting blade adjustment

The PELCO easiShaper<sup>™</sup> is a motor driven carbon rod sharpener which offers easy, quick and clean carbon rod shaping for carbon evaporators which are using either 1/4", 1/8" or 3/16" stepped carbon or graphite rods. The PELCO easiShaper<sup>™</sup> produces more consistent, smooth and uniform carbon tips than any hand shaper. It is designed for cutting single and double stepped carbon

rods (used in the Cressington carbon coaters). The cutting head incorporates two tungsten carbide cutting blades, a top guiding bearing and vortex design to keep the carbon dust in the dust collector. The PELCO easiShaper™ carbon rod shaper is ideally suited for busy, multiple user labs, high throughput microprobe labs and presents a clean alternative to hand rod shapers. The integrated carbon dust collector is easily removed for cleaning and/or blade adjustment. Universal power supply for 100-240V and 50/60Hz that is UL listed and CE certified.

Each PELCO easiShaper<sup>™</sup> is capable of shaping the three different rod sizes mentioned above; however, it comes kitted ready to sharpen the two most popular carbon rod sizes (1/4" and 1/8"). 3/16" carbon rods are possible with purchase of holder #58-16.



#### ORDERING INFORMATION

58	PELCO easiShaper™ Carbon Rod Shaper System for 1/4" Carbon Rods, 100-240V	each
58-100	PELCO easiShaper™ Carbon Rod Shaper System for 1/8" Carbon Rods, 100-240V	each
58-16	Additional Carbon Bod Holder for 3/16" Carbon Bods	ach

#### DISC OR ANNULAR SPUTTER TARGETS FOR SPUTTER COATERS

High purity disc type sputter targets for a wide variety of sputter or ion coater brands: PELCO<sup>®</sup>, Cressington, Agar, Bal-Tec, Bio-Rad, Denton, Edwards, Emitech, Emscope, Gatan, Hitachi, ISI, JEOL, LEICA, Polaron, Quorum, Safematic, and SPI. The disc or foil type sputter targets are available in 62, 60, 57, 54, 50, 38, 28 and 19mm diameter. Most of the disk type targets are clamped to the target holder by a target clamping ring; simply unscrew the clamping ring and change the target. Annular targets are also available for some Hummer & Polaron models of sputter coater.

- High purity sputter targets compared to other brands
- Sizes: 2 11/25" (62mm), 2 3/8" (60mm), 2 1/4" (57mm), 2 1/8" (54mm), 1 1/2" (38mm), 1 1/10" (28mm), 3/4" (19mm)
- Disc and annular targets
- Used target recycling program
- Materials: gold, gold/palladium, iridium, platinum, platinum/ palladium, silver, chromium, copper, and more.

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For Product Details and Complete Selection

of Sputter Targets or Sputter Coaters: www.tedpella.com/cressington html/Cressington-Targets.htm

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