

# MODULAR COATING SYSTEM

## In-line Production Sputter Coating System



100" (2.54m) And 126" (3.21m) For Flat And Curved Glass

### FEATURES

- Universal 2-bay or 3-bay chambers with built in tunnels for gas-isolation
- Interchangeable HRC planar and C-MAG® sources
- Process hardware design for quick removal and off-line maintenance
- Modular maintenance components, the best in the industry
- Fastest mechanical cycle times in the industry

# MODULAR COATING SYSTEM

The Modular Coater is a complete in-line production system for large area coating of flat glass substrates. This production platform is widely used by the architectural glass market for an entire range of applications. The Modular Coater is the world's leading platform for the production of single and double low-e coatings. The modular design concept is also used to create modular platforms for automotive applications such as infrared reflective windshields and high performance mirrors.

## Equipment

The basic building block of the Modular Coater is the process chamber, available with either two or three source positions. This process chamber is equipped with two pump bays for process pumping and one for gas isolation pumping. Each process chamber is outfitted with six high throughput diffusion pumps. Since the introduction of this design, several hundreds of process chambers have been assembled and installed around the world.

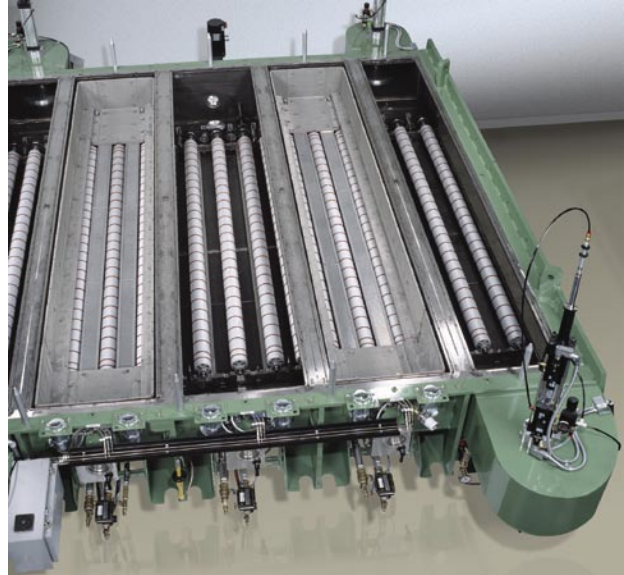
The Modular Coater is available in two standard load sizes; the "Jumbo" load for a substrate width of up to 3.21m (126") with a length of 6.20m (244") as is commonly used in Europe and for loads of 2.54m (100") wide by 3.66m (144") long as most commonly used in North America and Asia. Specially designed entry/exit chambers are utilized to enhance fast mechanical cycle time requirements. A special version for curved substrates which utilizes carriers, is available accommodating a load size of 2m width by 4m length and .25m height. This curved glass coater applies the "Sputter-Up" principle where the substrate travels over the target minimizing pinholes.

## Technology

The Modular Coater process chamber is complemented with a range of modular cathode assemblies; from conventional HRC Planar Cathodes to Advanced Dual Rotatable C-MAG<sup>®</sup> magnetrons for either conventional DC or advanced AC sputtering. A key feature of the modular platform is that the other process hardware such as the anodes and process gas delivery system is part of the source assembly and is removed together with the source, allowing easy access for off-line maintenance.

## Maintenance

The introduction of the Modular coater design in the mid 1990's included an innovative maintenance package featuring a number of modular assemblies that simplified and dramatically improved maintenance down times. These modular maintenance assemblies include:



- The one-piece drop-in tub shield and the conveyor assembly allow for quick lift and change out with replacement to enable offline cleaning.
- The VACT maintenance valves isolate and vent specific area for maintenance while the rest of the coater remains under vacuum to avoid lengthy pump down.
- Software features such as "Flying Burn-In" of targets after venting allow minimum lost time for scheduled production interruptions due to burn-in requirements while advancements in AC C-MAG technology have resulted in coating systems which are virtually burn-in free.

## Technical Data

Substrate Material:	Flat glass (curved glass applications to be defined upon request)
Load size (Nominal):	3.21m (126") x 6.20m (244") 2.54m (100") x 3.66m (144")
Thickness:	1.6mm x 19mm
Minimum Substrate:	300mm x 900mm
Mechanical Cycle Time:	126": from 30 to 120 seconds 100": from 20 to 120 seconds
Utility Requirements:	System specific, dependent on cathode configuration and throughput objectives
Main Connections:	480 VAC, 60 Hz or alternatively 400 VAC, 50 Hz

For more detail information, please contact  
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