



SPECIALTY COATING SYSTEMS™



Programmable precision and flexibility.

SCS G3 SPIN COATER  
AND MULTI-DISPENSE

The SCS G3 Spin Coater series sets the standard in operating precision and programming flexibility, with a high level of rotation accuracy and repeatability, along with precise acceleration and deceleration control. The G3, coupled with the SCS Multi-Dispense, enables research and development laboratories to easily and efficiently develop and refine coating applications for a variety of uses.

### SCS G3 Spin Coater Series

The SCS G3 Spin Coater series accurately applies liquid coating materials – such as photoresists, polyimides, metallo-organics, dopants and silica films on planar substrates. The non-programmable SCS G3-8 performs single-step coating profiles. The programmable G3P models store and execute up to 30 programs with 20 steps each, which are easily entered on the front-panel LCD display and keypad. Optional PC interface software allows external programming, profile storage, diagnostics, vacuum on/off, slow speed centering, and programmable home position.



#### Program Specifications and Profile

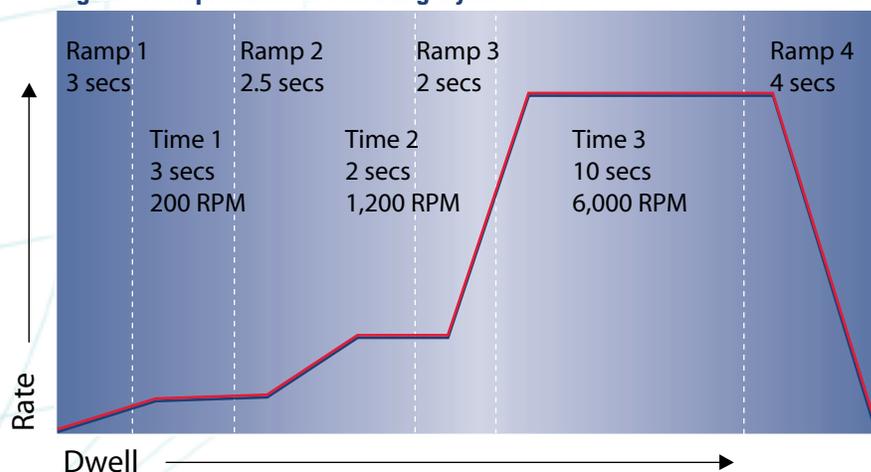
Figure 1 shows a representative example of a coating cycle that is easily and quickly programmed, saved and executed. Each step of the cycle can be defined in the range of 0 to 9,999 RPM (4,000 RPM max for the 15-inch model), with ramp times from 0.1 to 25.5 seconds. A single step may have a dwell time of up to 999 seconds, and coating cycles are interruptible by the operator at any time. Ramp-up time is dependent on the chuck size and substrate weight.

Control Panel Features	Non-Programmable	Programmable
Recipe Number		✓
Speed	✓	✓
Remaining Process Time	✓	✓
Message Line	✓	✓
Arrow Control	Ramp Up/Down, Dwell	Right, Left, Up, Down
Start and Stop Buttons	✓	✓
Mode, Clear and Enter Buttons		✓

Characteristic	Range	Tolerance
Rotational Speed	0 to 9,999 RPM <sup>1</sup> in 1 RPM increments	± 1 to 3 RPM full scale
Acceleration/Deceleration Time <sup>2</sup>	0.1 to 25.5 seconds in 0.1 second increments	± 0.05 seconds
Dwell Time	0 to 999 seconds in 1 second increments	± 0.05 seconds
Dispense Time (optional feature)	0 to 25.5 seconds in 0.1 second increments	± 0.05 seconds
Acceleration/ Deceleration Linearity		± 0.1 percent

1. 4,000 RPM maximum for the 15-inch bowl unit.
2. Size and weight of substrate will affect acceleration values.

Figure 1: Representative Coating Cycle

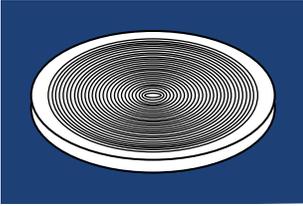


## Vacuum Chucks

Accessory chucks are available in several materials, including stainless steel, hard anodized aluminum, DELRIN® and Teflon®, for a variety of substrate types and dimensions. Chuck components are machined to close tolerances for flatness and rigidity and feature a cross pattern to distribute the vacuum across mounting surfaces. A chuck size of 0.25 to 1 inch less than the substrate diameter is recommended. Fragile substrates should be supported across the entire surface.

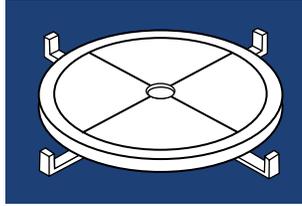
### Type CS: Flat Surface Cross and Scroll

Used to hold a thin, planar substrate such as silicon, glass or germanium on a spinning shaft for maximum rotational speed. Has cross and scroll design.



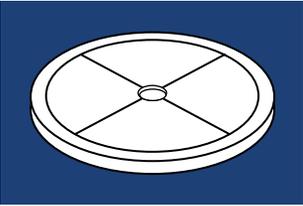
### Type L: O-Ring Vacuum-Holding with Mechanical Locating Fingers

Designed for heavy, large or unsymmetrical substrates. Guide fingers assist in positioning and holding substrates. Also includes an O-ring vacuum seal.



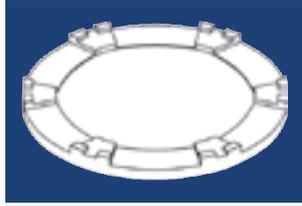
### Type H: O-Ring Vacuum-Holding

Used to hold relative heavy substrates, such as glass, quartz, ceramic and metal. Features O-ring vacuum seal.



### Type Pedestal: Non-Vacuum

Custom manufactured to precise user-specified dimensions. Designed for double coating applications (substrates do not touch bottom of chuck).



## SCS Multi-Dispense

The SCS Multi-Dispense enables users to dispense liquid materials to an SCS spin coater from up to four different dispense modules (three with the use of N<sub>2</sub>). Materials can include coatings, solvents and cleaning solutions, in addition to N<sub>2</sub> for blow-off or drying. The Multi-Dispense eliminates the need for time-consuming cleaning and change-over, while providing the accurate and controlled coatings you have come to expect from SCS.

### SCS Multi-Dispense Specifications

#### Control Unit

- Powered and operated by spin coater
- Controls up to four dispense modules
- Nitrogen Supply: 30 psi/2.1 bar, >1 cfm/0.472 L/s
- Weight: 5 lb/2.3 kg

#### Stainless Steel Dispense Module

- 1 qt (0.95 L) stainless steel
- Pneumatically controlled material valve
- Maximum pressure: 15 psi/1.034 bar
- Various needle sizes available
- Luer lock needle port

#### HDPE Dispense Module

- 2.1 qt (2 L) HDPE
- Pneumatically controlled material valve
- Maximum pressure: 5 psi/0.344 bar
- Various needle sizes available
- Luer lock needle port



## SCS G3 Spin Coater Specifications

Program Storage	
Nonprogrammable	Single step profile
Programmable	Up to 30 programs, 20 steps each
Bowl Size	
Nonprogrammable	8 in / 29.3 cm
Programmable	8, 12 and 15 in / 29.3, 30.5 and 38.1 cm
Power Input	115/230 VAC, 50/60 Hz, 1Ø
Vacuum Input	Minimum 17 in Hg / 430 mm Hg; O.D. fitting: 0.25 in / 0.635 mm
Purge Input	0.55 CFM at 5 psi / 14.15 CLM at 0.35 kg/cm <sup>2</sup> air or nitrogen (with optional internal vacuum: 2.2 CFM, 60 psi)
Dimensions (W x D x H)	
Nonprogrammable, 8 in	12 x 15.4 x 10.5 in / 30.5 x 39.1 x 26.7 cm
Programmable, 8 in	12 x 16.5 x 11.9 in / 30.5 x 41.9 x 30.2 cm
Programmable, 12 in	16 x 20.5 x 11.9 in / 40.6 x 52.1 x 30.2 cm
Programmable, 15 in	19 x 23.5 x 11.9 in / 48.3 x 59.7 x 30.2 cm
Optional Features	
Nonprogrammable	External vacuum pump
Programmable	External vacuum pump PC interface software Foot pedal Fume exhaust adapter Manual dispense Automated dispense (SCS Multi-Dispense)

### *Innovative solutions for advanced technologies.*

*Specialty Coating Systems leads the industry in providing Parylene solutions for its global customers' advanced technologies. SCS is a direct descendant of the companies that originally developed Parylene, and we have 40 years of experience and expertise that we leverage on every project for our customers—from the initial planning phases, to advanced engineering, to the development of application processes.*

*Our worldwide resources include highly experienced sales engineers, some of the world's foremost Parylene specialists, and expert manufacturing personnel, working in ten state-of-the-art coating facilities around the globe. In addition to Parylene coating services, we design and manufacture industry-leading Parylene deposition systems; liquid spray, dip and spin coating systems; ionic contamination test systems; and UV and thermal cure units. Our equipment is used in environments that range from university and research labs to high-volume production applications.*

*Our extensive and proactive approach to production and quality requirements—testing, validating, documenting and processing—provides our customers peace of mind and minimizes their resources needed to meet the most challenging industry specifications and quality requirements.*



**SPECIALTY COATING SYSTEMS™**

**World Headquarters** 7645 Woodland Drive, Indianapolis, IN 46278 USA  
**TF** 800.356.8260 **P** 317.244.1200 **F** 317.240.2739 **W** [scscoatings.com](http://scscoatings.com)

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