

## The CEE Advantage: Spin Coating

Cost Effective Equipment products are designed to win on reliability, longevity and most importantly, the highest precision.

30 years ago, Cost Effective Equipment began building our own tools because we couldn't find tools in the marketplace that offered the precision needed for sensitive processes that offered consistent, reliable, repeatable results. The same still holds true [today](#).

Cost Effective Equipment finds our tools being utilized in high-precision research and design laboratories and in low to mid-volume production environments around the world. Often, we find our tools purchased in production environments as back-ups in the case a track tool were to fail, allowing the customer to continue to produce product. [Today](#), we still have tools in the field that were placed over 20 years ago.

Cost Effective Equipment is recognized as a leader in manual bench top semiconductor equipment and these values reflect the reliability, longevity and precision that are well known and respected in the industry.

### Some of the reasons why we maintain a dominant place in the market:

- **(Brushless Motor)** - Cost Effective Equipment Apogee™ Spin Coater utilizes a brushless motor compared to a brush motor on many competitor's spin coaters. Brush type motors generate particles, have limited life and do not work well in N2 environments.
- **(Indirect Drive)** - By using a unique indirect drive system, the Apogee™ Spin Coater motor is protected from contact with detrimental process chemicals and solvents. This critical feature ensures industry-leading reliability and up-time for our customers. Competitor systems utilize a direct drive system, should the seal fail, the motor will be subjected to detrimental chemical exposure. Other spin coaters, for example, require connection of 60-70 psi N2 to pressurize the seal.
- **(Touchscreen, versatile controller)** - Cost Effective Equipment Apogee™ Spin Coaters comes standard with CEE's exclusive DataStream™ Software and touchscreen control panel capable of 250,000 process recipe programs on board and a virtually unlimited number of user-defined recipe program steps. Logs of each recipe run may be exported for record keeping, troubleshooting of errors, etc. and can be accessed from any web-browser enabled device when the tool is placed on the network. Other systems, by comparison, requires separate purchase of a compatible tablet or PC for use with their software for similar functionality.
- Apogee™ Spin Coater's **industry leading spin speed resolution and repeatability is 0.2 rpm**. Most competitors do not publish this specification and therefore motor accuracy is unknown or they are unable to meet this specification.
- **Spin speed acceleration:** 0 to 30,000 rpm/s unloaded, 0 to 23,000 rpm/s with 200-mm substrate 0 to 3,000 rpm/s with 6" × 6" × 0.250" photomask held in recessed chuck. Most competitors do not publish this specification and therefore motor acceleration is unknown or they are unable to meet this specification.



SiSTEM Technology

- The Apogee™ Spin Coater may be integrated with **third-party software** for automated dispenses (i.e. IDI Cybor), sensors (i.e. temperature/humidity), etc. Without the versatility of CEE's Touchscreen controller, our competitors cannot do the same. Or, the competition requires purchase of third-party peripherals such as a laptop computer or tablet.
- **Cost Effective Equipment** is proud to have spin coaters, hot plates and other tools in the field, still working as well as the day they were received and still being supported for as long as 20 years in many of the industry's most well-known companies.

