Apogee™ 450 Developer

With DataStream™ Technology

Cost Effective Equipment

The Cee® Apogee™ 450 Developer delivers track-quality performance with revolutionary interface capabilities and the utmost in chemical compatibility in an efficient, space-saving design. The heavy-duty-drive spin developer combines extremely accurate spin speed control and a high torque drive for aggressive acceleration. For 300-mm and larger wafers and LCD squares up to 14" × 14".

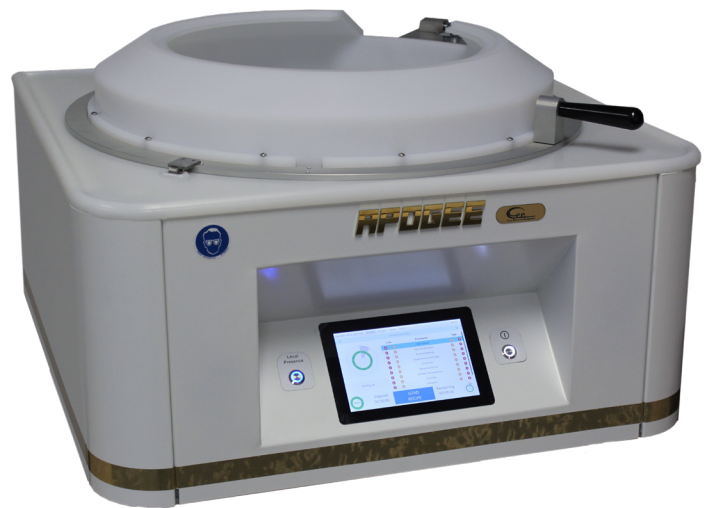*Serving the Semiconductor Industry Since 1987*

BENEFITS

- Compact design for minimized footprint
- Full-color, 7-inch touch screen display
- Drive system (indirect) with highest horsepower in its class
- Enhanced lid-lift assist feature (gas spring opens ≥ 45°)
- Durable benchtop design that is also available in a flange/ deck mountable configuration
- DataStream™ technology
- Optional X-PRO workstation integrates stand-alone cabinet with an upper exhaust enclosure for process fume control.

BOWL DESIGN

- High-density polyethylene (HDPE) spin bowl
- Optional closed and open lid design for process flexibility
- Direct fanjet spray, side-angle puddle, and stream dispense options
- Integrated drain and exhaust ports
- Optional auto-nitrogen blow-off nozzle
- Optional auto-drain separator (solvent/aqueous)

PROGRAMMABILITY

- Touch screen interface and display
- Full-color alphanumeric-capable graphical user interface (GUI)
- A virtually unlimited number of user-defined recipe program steps
- 0.1-second resolution for step times (9,999.9 seconds maximum step time)
- Spin speed: 6,000 rpm
- Spin speed acceleration:
  - 0 to 30,000 rpm/s unloaded
  - 0 to 23,000 rpm/s with a 300-mm substrate
  - 0 to 3,000 rpm/s with a 350mm x 6mm round recessed spin chuck
  - 0 to 400 rpm/s with a 14" × 14" × 1.1 mm photomask in a recessed spin chuck
- Bidirectional speed control/oscillating chuck
- Connectivity: USB/Ethernet port for uploading/downloading process parameters with DataStream™ technology
- Simultaneous, automated, multi- dispense capability

PRECISION

- Spin speed repeatability: < 0.2 rpm
- Spin speed resolution: < 0.2 rpm
- Substrate sizes: < 1 cm to 450 mm round; 14" x 14" square

RELIABILITY

- Indirect drive system protects the spin motor from contact with process chemicals and solvents
- Vacuum and lid interlock
- Industry-leading reliability and uptime
- 1-year full warranty on parts and labor
- Free remote technical support (phone, email) for the life of the product
- Application process assistance for life of the product

UTILITIES

- Voltage ranges: 208–240 VAC, Single Phase, 50/60 Hz
- Power requirements: 1440 watts (6A)
- Drain port: 3/4" OD
- Exhaust port: 1.5" OD, 20 to 50 cfm at 0.2" water (0.6–1.4 cubic meter/min)
- Vacuum: > 20" Hg (< 33 kPa abs)
- Nitrogen or CDA (for automated dispense): 70 psi (482 kPa)
- DI water for developer spray and backside rinse (if hardplumbed) : < 30 psi (206.8 kPa)

DIMENSIONS

- 27–5/8" (70.2cm) W × 30–3/4" (78.2cm) D × 16" (40.6cm) H*
- Machine weight: 115 lb (52.2 kg)
- Shipping weight: 250 lb (113.4 kg)

*H is with lid closed. With lid open H is 33" (83.8cm)

**With optional chimney hood, H is 24–3/4" (62.9cm) closed and 36" (91.5cm) open

DATASTREAM™ TECHNOLOGY: CONNECTING THE SEMICONDUCTOR INDUSTRY

DataStream™ technology gives you access to all of your connected Apogee™ manufacturing equipment in one place to track, access, and modify your systems via a web browser. This technology will give manufacturers the ability to process and visualize data in real time and search and export that data into a number of different formats.

Real–Time Process Information

- Constant feedback of process information for monitoring critical process parameters
- Streamlined interface between different tool types
- Visual cues on process status & health

Environmental Monitoring

- Monitoring of temperature & humidity allows for stricter control of critical processes
- Set preconditions and tolerances for monitored parameters
- On–screen, colored visual cues for deviation from controlled specs

Advanced Recipe Creation

- Seamless switching between basic and advanced recipe creation methods
- Plain–English recipe translation
- Pre–defined process commands
- Unlimited process steps
- Unlimited recipe storage

Data Logging & Export

- Export data logs into commonly readable formats for further analysis and process troubleshooting
- Increase process efficiency
- Identify process control deviations
- Analyze multiple processes for best known method (BKM) development