



brewer science

Where innovation takes flight!™

Apogee™ Developer

With DataStream™ Technology

The Brewer Science® Cee® Apogee™ spray/puddle developer provides the highest in precision and quality while maintaining access to in-depth process data and recipe creation methods.

BENEFITS

- New, compact design for minimized footprint
- Full-color, 7-inch touch screen display
- High-density polyethylene (HDPE) spin bowl for maximum chemical compatibility
- Durable benchtop design that can be converted to a flange-/deck-mountable configuration (mountable in the Apogee™ X-Pro II workstation)
- DataStream™ technology as the standard interface
- Direct-angle continuous and/or side-angle spray
- Ability to puddle develop

DIMENSIONS

- 13.25" (33.65 cm) W x 19" (48.26 cm) D x 18" (45.72 cm) H
- Machine weight: 46 lb (20.87 kg)
- Shipping weight: 110 lb (49.89 kg)

PROGRAMMABILITY

- Touch screen interface and display
- Full-color alphanumeric-capable graphical user interface (GUI)
- 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: 0 to 6,000 rpm (12,000 rpm option at no charge)
- Spin speed acceleration:
 - 0 to 30,000 rpm/s unloaded
 - 0 to 23,000 rpm/s with a 200-mm substrate
 - 0 to 3,000 rpm/s with a 6" x 6" x 0.250" photomask in a recessed chuck
- Connectivity: USB/Ethernet port for communications for uploading/downloading process parameters with DataStream™ technology
- Simultaneous dual automated dispense capability
- In-process/dynamic speed/acceleration control

PRECISION

- Spin speed repeatability: < 0.2 rpm
- Spin speed resolution: < 0.2 rpm
- Substrate sizes: < 1 cm to 200 mm round; 7" x 7" 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

BOWL DESIGN

- High-density polyethylene (HDPE) spin bowl for material compatibility
- Optional Teflon® bowl
- Optional polyethylene disposable liners available
- Versatile lid design allows process flexibility and repeatability
- Optional nitrogen purge for an inert spin environment
- Integrated drain and exhaust ports



UTILITIES

- Voltage ranges: 100-125, 208-240 VAC, 50/60 Hz
- Power requirements: 655 watts
- Drain port: 3/4" OD
- Exhaust port: 1" OD
- Vacuum: 20 to 25" Hg
- Exhaust: 20 to 50 cfm at 0.2" water
- Nitrogen or CDA (for automated dispense): 70 psi

DEVELOPER OPTIONS

Spray, puddle, and stream dispense options are available. These dispense methods are normally used in conjunction with a pressure can dispense system that holds the developer solution.

SPRAY DISPENSE

This option utilizes spray nozzles to apply developer solution or deionized (DI) water. For low-pressure spray, nozzles mounted outside the wafer perimeter spray toward the center of the wafer. For high-pressure spray, nozzles are mounted directly over the substrate for continuous (direct) spray applications.

- Uses 1-gallon pressure cans as reservoirs for developer solutions
- Can use a maximum of four spray nozzles
- Can be configured to accommodate up to four center puddle/direct dispenses

STREAM DISPENSE (Puddle)

This option uses a standard Apogee™ spin coater and pressure can dispense. It functions by "streaming" the developer and DI water onto the top of the substrate.

- Very economical
- Uses suckback dispense valves
- Minimizes material usage

DI WATER RINSE

- Both topside and backside DI water rinse options are available.
- This method of dispense is normally used in conjunction with a pressure can dispense or by using a house DI water supply.

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DATASTREAM™ TECHNOLOGY: CONNECTING THE SEMICONDUCTOR INDUSTRY

Brewer Science has revamped its line of Cee® benchtop equipment and has released DataStream™ technology on its new Apogee™ tool line.

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 website or mobile app. 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

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

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

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