



Microvoid® CS-50D High Performance Wet Process Station

For several years Air Control has been manufacturing Lab Crafters' Patented Air Sentry® High Performance Laboratory Fume Hood in 100% plastic construction, for applications where coated or exposed metal cannot be tolerated.

Now, Air Control introduces a new revolutionary model to its long standing high quality MICROVOID® line of wet process stations - The Microvoid® CS-50D - utilizing the Air Sentry High Performance technology.



The Microvoid® CS-50D Chemical Wet Process Station saves 33-40% in exhausted air required to safely operate, vs. conventional wet process stations.

The **Microvoid® CS-50D Chemical Wet Process Station** surpasses all hood industry containment testing (ASHRAE 110) with face velocities in the 58 - 70 feet per minute (fpm) range, with an 18" high, full station width, access opening. As with all Microvoid® Wet Process Stations, the CS-50D Wet Process Station has:

- **A full wet station-width leak containment tub/exhaust plenum, underneath the worksurface.**
- **A wide array of chemical processing heating baths, rinse tanks, and process tooling (spinners, hot plate wells, heated ultrasonic cleaning tanks) available for 'flush/recessed' installation within the wet bench.**
- **Lip exhaust around all bath or well perimeters for localized high velocity fume containment.**
- **Complete PLC/HMI interface and control of all wet bench system parameters traditionally available in all Microvoid® Wet Process Station models.**
- **All safety systems and interlocks/inhibits, alarm hierarchies, and BMS communications capabilities available in all Microvoid® Wet Process Stations.**

Performance Testing Results

Containment tests conducted while multiple heated baths were operational (boiling liquids)

Sash Height	Face Velocity	Tracer Gas Ejection Rate	Dual Mannequins	Cross Draft Challenge	Airflow Visualization	Sash Movement Effect	Walk-By Challenge
18"	58 fpm	4.0 lpm	N/A	✓	✓	✓	✓
18"	69 fpm	4.0 lpm	✓	✓	✓	✓	✓
24"	73 fpm	4.0 lpm	N/A	✓	✓	✓	✓
18"	69 fpm	6.0 lpm	N/A	✓	✓	✓	✓

** All tested conducted by 3rd party testing agency and are available upon request*

Air Sentry® Technology, significantly reduces air flow requirements necessary for a fume hood/wet process bench to pass the ASHRAE 110 performance test. This technology is based on several proprietary design details including:

1. The dimensional relationship between the eyeshield position and resulting face opening area, and the depth and height of the interior hood chamber.
2. The pitched front 'Lentil' (roof) angle, which helps stabilize the vortex (circular motion of the contained fumes within the hood interior).
3. The aerodynamic profile configuration of the eyeshield handle.
4. The sidewall 'post' foil design - proprietary inner and outer dimensions are critical.
5. The progressive slot (tapered profile) of the lower baffle section - helps direct and confine/contain fumes in the sides and corners of interior - the traditional 'toughest' areas for most hoods to contain.
6. The "waterfall" configuration of the two rear baffle pieces - the lower section of the upper baffle overlaps from behind the top of the lower section - vs. the typical hood having a gap between the two sections and no overlap.
7. The airfoil sill with two planes - incoming air directed more efficiently than conventional single plane airfoils.
8. The bell-mouthed shaped duct collar mostly obscured by upper baffle section - reduces noise, static pressure, and turbulence.
9. Post Foils direct cross drafts into the hood and down the sidewalls minimizing or eliminating reverse flows at the sidewalls and front foil.
10. Moving rear baffle when eyeshield is moved or other turbulence occurs – Real time sensing for collapse of vortex automatically controls rear baffle position to respond to the dynamic lab environment. This feature is optional, but advised for installed environments posing particularly harsh conditions and/or strong cross currents. Test results show unit passes well without this feature.

