



## TECHNICAL BULLETIN : GENERAL INFORMATION

### Biosafety Cabinet Certification Guide For Cabinets Used With Automation

**Note:** It is strongly recommended to use a NuAire factory trained and accredited certifier+

After installation and prior to use, NuAire recommends that the cabinet be certified or commissioned to factory standards. It is strongly recommended that the certification process be performed as a two-step process. First without the automation device installed.

At a minimum, the following tests should be performed:

1. HEPA filter leak test
2. Downflow velocity test
3. Inflow velocity test
4. Airflow visualization patterns
5. Site installation assessment tests
6. Particle count (if required by the application)

Then, second with the automation device installed.

At a minimum, the following tests should be performed:

1. Downflow velocity test
2. Airflow visualization patterns

The certification process should be discussed between the certifier and lab manager or end user, not only in terms of the certification after installation, but also in terms of future annual certifications. Access to filters for supply HEPA filter integrity testing (removal of supply diffuser) is required for the annual certification process as well as downflow velocity using a repeatable grid pattern with the supply diffuser installed.

NuAire provides a factory inspection test report of these same tests for reference purposes. For downflow velocity, two sets of airflow data are provided, one **Primary** set of data is at 4 inches above the window access opening height. Then a second set of **Reference** data is provided at 6 inches below the supply diffuser.

After the passing of the initial test without the automation device in the work area, along with airflow visualization, the device can then be installed. Depending upon the final device configuration as installed, downflow velocity test points can be taken in the primary grid locations not in conflict with the device. Areas blocked by the device can use the referenced grid points, if possible. For referenced readings subtract the difference seen in the test report between the primary and referenced grids from the actual measurement. Then calculate overall average of the downflow by use primary and referenced grid readings. Airflow visualization would again follow to assure nothing has changed in the window access area airflow with the device installed.

If it is not possible to perform the initial or first set of tests before the device is installed, referencing the factory test data in work zone grid areas that don't have a conflict with the device can be used. New grid test points can also be used to develop a repeatable grid and verify with airflow visualization. If any questions arise, please call NuAire Technical Service for guidance.

+ NSF International Biosafety Cabinet accreditation program ([www.nsf.org](http://www.nsf.org)) or similar.