



2820 S. English Station Road - Louisville, KY 40299

TEST NO. 19-412-2

# Test Report - Vertical Test Duct

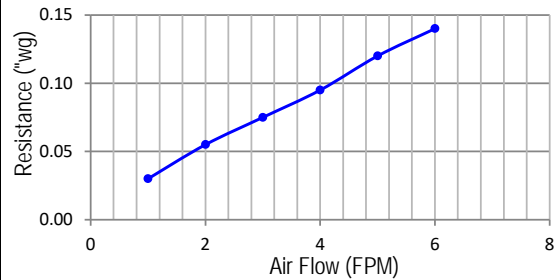
KCI Efficiency Testing (Based on ASHRAE 52.2 Test Method)

## Filter Description

|                    |                            |                       |
|--------------------|----------------------------|-----------------------|
| Manufacturer       | HIFYBER                    |                       |
| Filter Model       | Flat Sheet Media           |                       |
| Part Number        | HF-B115-FR-15              |                       |
| Test Area          | 1.0 ft <sup>2</sup>        | 0.0929 m <sup>2</sup> |
| Media Type         | Nanofiber Flat Sheet Media |                       |
| Media Color        | White                      |                       |
| Sample Procurement | HIFYBER                    |                       |

## Air Flow Versus Resistance

| Velocity (%) | Resistance |           |
|--------------|------------|-----------|
|              | FPM / cm/s | "WG Pa    |
| 25           | 1.0 / 0.5  | 0.03 7.5  |
| 50           | 2.0 / 1.0  | 0.06 13.7 |
| 75           | 3.0 / 1.5  | 0.08 18.7 |
| 100          | 4.0 / 2.0  | 0.10 23.6 |
| 125          | 5.0 / 2.5  | 0.12 29.9 |
| 150          | 6.0 / 3.0  | 0.14 34.8 |



## Test Conditions

|                                  |                 |            |
|----------------------------------|-----------------|------------|
| Test Air Flow Rate (FPM / cm/s)  | 4.0 FPM         | 2.0 cm/s   |
| Challenge Aerosol                | Aerosolized KCI |            |
| Counter Information              | TSI 3330        |            |
| Test Temperature (°F / °C)       | 74.3 Deg F      | 23.5 Deg C |
| Relative Humidity (%)            | 52.4            |            |
| Barometric Pressure (\" Hg / Pa) | 29.63 in. Hg    | 100.34 kPa |

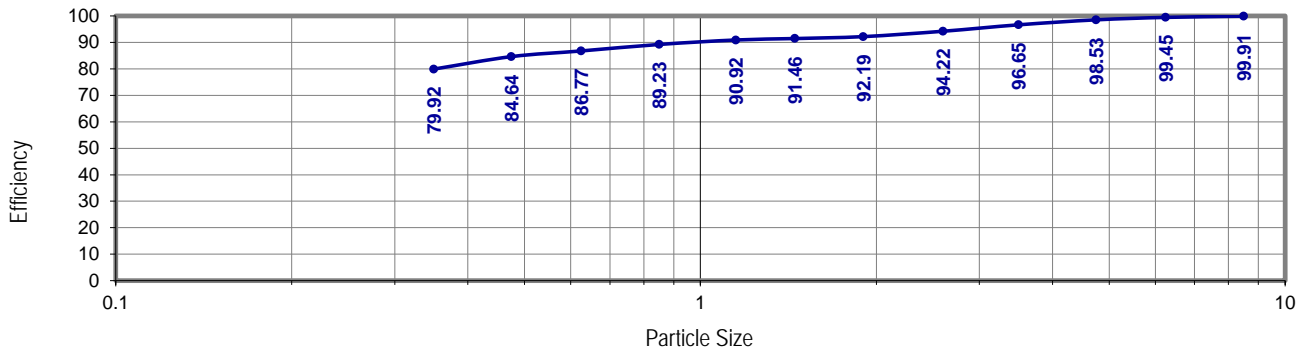
## Test Results

| Particle Size Range (µm) | Geo. Mean | Avg.  |       |       |
|--------------------------|-----------|-------|-------|-------|
| 0.30 - 0.40              | 0.346     | 79.92 | 79.92 |       |
| 0.40 - 0.55              | 0.469     | 84.64 | 84.64 |       |
| 0.55 - 0.70              | 0.620     | 86.77 | 86.77 | E1 85 |
| 0.70 - 1.00              | 0.837     | 89.23 | 89.23 |       |
| 1.00 - 1.30              | 1.140     | 90.92 | 90.92 |       |
| 1.30 - 1.60              | 1.442     | 91.46 | 91.46 | E2 92 |
| 1.60 - 2.20              | 1.876     | 92.19 | 92.19 |       |
| 2.20 - 3.00              | 2.569     | 94.22 | 94.22 |       |
| 3.00 - 4.00              | 3.464     | 96.65 | 96.65 |       |
| 4.00 - 5.50              | 4.690     | 98.53 | 98.53 | E3 99 |
| 5.50 - 7.00              | 6.205     | 99.45 | 99.45 |       |
| 7.00 - 10.0              | 8.367     | 99.91 | 99.91 |       |

**Estimated MERV 15**

Important Note: Please be advised that the ASHRAE committee SSPC 52.2, in March 2016, has published "addendum e" relative to the 52.2-2012 test protocol. This addendum restricts the use of the acronym "MERV" as only applicable to a test report that has been completed using the "entire procedure prescribed by the standard". This report is a modified version of the procedure and therefore, subject to that ruling. In the best interest of our customers, Blue Heaven Technologies has elected to delay this action until further assessment can be made at committee level. Where applicable, the qualified use of the term "MERV" will continue to be part of our reported data.

## Efficiency vs. Particle Size



|                           |                    |  |                 |  |
|---------------------------|--------------------|--|-----------------|--|
| Requestor Information     | Test Requestor     | Mrs. Aysegul Zumbuller Fener             | Phone:          | +90 258 251 50 57  |
|                           | Company Name       | HIFYBER                                  | Email:          | <a href="mailto:aysegul.fener@hifyber.com">aysegul.fener@hifyber.com</a> |
|                           | Company Address    | Sumer Mah, Cal Cad No.78 Denizli, Turkey | Date Requested  | 8/15/2019  |
| Test Operator Information | Test Performed by: | Glen D. Toloczko CAFS                    | Completion Date | 8/20/2019  |