

# The Comfort First Filtered Diffuser™

## Specification Sheet



Some systems will experience higher static pressure with the MERV 14 filters. Make sure your system can handle this small increase in pressure. See below the static pressure comparisons between MERV 12 and MERV 14.

### PERFORMANCE DATA\*

| Velocity (fpm) | 300                 | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |       |
|----------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 6"             | Flow Rate (cfm)     | 59    | 79    | 98    | 118   | 137   | 157   | 177   | 196   |
|                | Pressure Drop (sp)  | 0.076 | 0.107 | 0.144 | 0.176 | 0.215 | 0.257 | 0.301 | 0.343 |
|                | Noise Criteria (nc) | <20   | <20   | 22    | 27    | 32    | 36    | 40    | 43    |
| 8"             | Flow Rate (cfm)     | 105   | 140   | 174   | 209   | 244   | 279   | 314   | 349   |
|                | Pressure Drop (sp)  | 0.076 | 0.107 | 0.144 | 0.176 | 0.215 | 0.257 | 0.301 | 0.343 |
|                | Noise Criteria (nc) | <20   | <20   | 24    | 29    | 34    | 37    | 41    | 44    |
| 10"            | Flow Rate (cfm)     | 164   | 218   | 273   | 327   | 382   | 436   | 491   | 545   |
|                | Pressure Drop (sp)  | 0.076 | 0.107 | 0.144 | 0.176 | 0.215 | 0.257 | 0.301 | 0.343 |
|                | Noise Criteria (nc) | <20   | 20    | 26    | 31    | 36    | 39    | 43    | 46    |
| 12"            | Flow Rate (cfm)     | 236   | 314   | 393   | 471   | 550   | 628   | 707   | 785   |
|                | Pressure Drop (sp)  | 0.076 | 0.107 | 0.144 | 0.176 | 0.215 | 0.257 | 0.301 | 0.343 |
|                | Noise Criteria (nc) | <20   | 21    | 27    | 32    | 37    | 40    | 44    | 47    |
| 14"            | Flow Rate (cfm)     | 321   | 427   | 534   | 641   | 748   | 855   | 962   | 1068  |
|                | Pressure Drop (sp)  | 0.076 | 0.107 | 0.144 | 0.176 | 0.215 | 0.257 | 0.301 | 0.343 |
|                | Noise Criteria (nc) | <21   | 27    | 32    | 38    | 43    | 46    | >50   | >50   |

### Filter Efficiency vs. Particle Diameter

| MERV Rating     | 14                                | 12      |      |
|-----------------|-----------------------------------|---------|------|
| Size Range (µm) | Initial Fractional Efficiency (%) |         |      |
| Average         | 100 fpm                           | 150 fpm |      |
| 0.3 – 0.4       | 0.35                              | 66.2    | 40.6 |
| 0.4 – 0.55      | 0.475                             | 73.9    | 50.3 |
| 0.55 – 0.7      | 0.625                             | 80.2    | 60.1 |
| 0.7 – 1.0       | 0.85                              | 85.8    | 70.3 |
| 1.0 – 1.3       | 1.15                              | 88.8    | 78.4 |
| 1.3 – 1.6       | 1.45                              | 90.9    | 82.4 |
| 1.6 – 2.2       | 1.9                               | 92.5    | 89.6 |
| 2.2 – 3.0       | 2.6                               | 94.4    | 86.5 |
| 3.0 – 4.0       | 3.5                               | 96.0    | 92.3 |
| 4.0 – 5.5       | 4.75                              | 97.3    | 94.1 |
| 5.5 – 7.0       | 6.25                              | 98.6    | 95.1 |
| 7.0 – 10.0      | 8.5                               | 99.8    | 95.9 |

|                    |      |     |
|--------------------|------|-----|
| Resistance ins H2O | 0.12 | N/A |
| Resistance mm H2O  | 2.97 | N/A |

\*Data extrapolated from tests conducted on an 8" Comfort First Filtered Diffuser™ with filters installed

Test results certified by LMS Technologies

### Comfort First Filtered Diffuser™

Throw Data and Velocity in Feet Per Minute (fpm)

| Distance From Ceiling Inches | Distance from diffuser (in feet) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------------------------|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                              | 1'                               | 2'  | 3'  | 4'  | 5'  | 6'  | 7'  | 8'  | 9'  | 10' | 11' | 12' | 13' | 14' | 15' | 16' | 17' | 18' | 19' |
| 1                            | 340                              | 310 | 265 | 240 | 210 | 180 | 170 | 150 | 130 | 120 | 105 | 95  | 90  | 80  | 75  | 70  | 60  | 50  |     |
| 3                            | 145                              | 170 | 190 | 190 | 170 | 155 | 150 | 135 | 120 | 110 | 105 | 95  | 85  | 75  | 70  | 65  | 60  | 55  |     |
| 6                            | 55                               | 65  | 85  | 85  | 85  | 90  | 95  | 95  | 80  | 90  | 80  | 80  | 70  | 60  | 55  | 55  | 50  |     |     |
| 9                            | 55                               |     |     |     |     |     | 50  | 50  | 55  | 55  | 50  | 55  | 55  | 50  |     |     |     |     |     |
| 12                           | 80                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 18                           | 150                              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 24                           | 55                               | 65  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30                           |                                  | 95  | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 36                           |                                  | 80  | 70  | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 42                           |                                  |     | 65  | 60  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 48                           |                                  |     | 50  | 65  | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 54                           |                                  |     |     | 55  | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60                           |                                  |     |     | 50  | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

#### Test Conditions

Air Volume (CFM) 300  
 Inlet Static Pressure (in. of H2O) 0.060"  
 Room Ambient Temp. (Deg. F) 74 ± 2  
 Supply Air Temp. (Deg. F) 74 ± 2  
 Inlet Dimensions: 10 inch diameter

Test results certified by Intertek ETL Semko

FPM Horizontal Throw (vanes parallel to ceiling)  
 FPM Downward Throw (vanes diagonal to ceiling)

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