INSTALLATION AND OPERATION MANUAL
CROSS-FLOW SENSOR K-FACTORS
FOR VAV TERMINAL UNITS

Nailor Industries Inc. reserves the right to change any information concerning product or specification without notice or obligation.

Model Series:
3000 Single Duct
3210 Dual Duct
35S-OAI Series Fan Powered w/ O.A. Damper
38S Underfloor Fan Powered

Model Series:
3100 Single Duct
3230 Dual Duct
3240 "Blendmaster" Dual Duct
33SZ Chilled Water Fan Powered
35N Parallel Fan Powered
35S Series Fan Powered
35S-CVP Pressurization Series Fan Powered
35SSST Stealth Series Fan Powered
35SXC Stealth XC Series Fan Powered
36VRR Round Retrofit

Model Series:
37N Low Profile Parallel Fan Powered
37S Low Profile Fan Powered
37SSST Low Profile Stealth Fan Powered
37SXC LowProfile Stealth XC Series Fan Powered

Equations:
\[ Q = K \times \sqrt{\Delta P} \]
\[ \Delta P = \left( \frac{Q}{K} \right)^2 \]
\[ F = \left( \frac{4005 \times A}{K} \right)^2 \]

Where:
- \( Q \) = Airflow Rate (cfm)
- \( \Delta P \) = Sensor Differential Pressure ("w.g.)
- \( K \) = K-Factor Calibration Constant (standard air)
- \( F \) = Amplification Factor (sensor gain)
- \( A \) = Nom. Duct Area (sq. ft.)

The K-Factors tabulated in the above tables are the airflow required to produce a 1.0" w.g. differential pressure at the Cross-Flow Sensor.
Model Series:
30HQX  Single Duct Exhaust (Hospital Grade)
30X     Single Duct Exhaust

<table>
<thead>
<tr>
<th>Inlet Size</th>
<th>Type</th>
<th>Value Inlet Size (inches)</th>
<th>Valve Inlet Area (sq. ft.)</th>
<th>K-Factor (cfm)</th>
<th>Velocity (fpm)</th>
<th>F-Factor (amp.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td>3.4 x 3.4</td>
<td>0.080</td>
<td>197</td>
<td>2468</td>
<td>2.98</td>
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<td>5</td>
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<td>316</td>
<td>2468</td>
<td>2.81</td>
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<td>5.5 x 5.5</td>
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<td>527</td>
<td>2509</td>
<td>2.24</td>
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<td>7</td>
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<td>5.8 x 6.3</td>
<td>0.254</td>
<td>637</td>
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<td>2.24</td>
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<tr>
<td>8</td>
<td>SQUARE OR RECT.</td>
<td>6.7 x 7.2</td>
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<td>933</td>
<td>2786</td>
<td>2.01</td>
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<tr>
<td>9</td>
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<td>8.6 x 7.1</td>
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<td>1175</td>
<td>2727</td>
<td>2.05</td>
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<td>10</td>
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<td>1542</td>
<td>2920</td>
<td>1.92</td>
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<td>1.77</td>
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<td>12.9 x 10.8</td>
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<td>2964</td>
<td>2.03</td>
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<td>2861</td>
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<tr>
<td>24 x 16</td>
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<td>26.1 x 16.3</td>
<td>2.954</td>
<td>8709</td>
<td>2948</td>
<td>1.89</td>
</tr>
</tbody>
</table>

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