CERTIFIED PERFORMANCE DATA

8 CENM-HV-F1
Circular Elbow No-Media
High velocity silencer (<2250 fpm)

Insertion Loss (IL)

+ "forward flow" where noise & airflow move in same direction (e.g. supply side)

- "reverse flow" where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

Pressure Drop (PD)
Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

Generated Noise (GN)
@ 0.35 sq.ft. face area
**CERTIFIED PERFORMANCE DATA**

**8 CENM-HV-F2**
Circular Elbow No-Media High velocity silencer (<2250 fpm)

**How to Specify Example:**
8 x CENM-HV-F2 x 52

---

**Insertion Loss (IL)**

+ : “forward flow” where noise & airflow move in same direction (e.g. supply side)
- : “reverse flow” where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

---

**Pressure Drop (PD)**

Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

---

**Generated Noise (GN)**

@ 0.35 sq.ft. face area

---

**Duct Connection Size (in.)** | Silencer Model | Silencer Length (in.) | Octave Band - Hz/Dynamic Insertion Loss (dB)
---|---|---|---
52 | - 2250 | 15 17 30 31 15 13 11 9 | 63 125 250 500 1000 2000 4000 8000
| 0 | 14 12 29 21 11 12 12 10 | 63 125 250 500 1000 2000 4000 8000
| + 2250 | 13 15 31 28 16 14 13 12 | 63 125 250 500 1000 2000 4000 8000
| 64 | - 2250 | 16 18 32 32 17 14 12 8 | 63 125 250 500 1000 2000 4000 8000
| 0 | 15 16 27 23 12 14 13 12 | 63 125 250 500 1000 2000 4000 8000
| + 2250 | 14 19 31 32 18 16 15 13 | 63 125 250 500 1000 2000 4000 8000
| 76 | - 2250 | 16 20 34 33 19 15 12 7 | 63 125 250 500 1000 2000 4000 8000
| 0 | 17 19 26 26 14 15 13 13 | 63 125 250 500 1000 2000 4000 8000
| + 2250 | 16 22 32 35 20 18 17 15 | 63 125 250 500 1000 2000 4000 8000
| 88 | - 2250 | 17 21 36 34 21 16 13 5 | 63 125 250 500 1000 2000 4000 8000
| 0 | 19 22 24 28 15 17 14 14 | 63 125 250 500 1000 2000 4000 8000
| + 2250 | 18 26 32 38 21 20 19 17 | 63 125 250 500 1000 2000 4000 8000

---

**Generated Noise (GN)**

@ 0.35 sq.ft. face area
Certified Performance Data

10 CENM-HV-F1
Circular Elbow No-Media High velocity silencer (<2250 fpm)

How to Specify Example:

10  X  CENM-HV-F1  X  42

Insertion Loss (IL)

+ : “forward flow” where noise & airflow move in same direction (e.g. supply side)
- : “reverse flow” where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

Generated Noise (GN)
@ 0.55 sq.ft. face area
CERTIFIED PERFORMANCE DATA

10 CENM-HV-F2
Circular Elbow No-Media
High velocity silencer (<2250 fpm)

How to Specify Example:
10 X CENM-HV-F2 X 52

Insertion Loss (IL)

+ : “forward flow” where noise & airflow move in same direction (e.g. supply side)

- : “reverse flow” where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

Generated Noise (GN)
@ 0.55 sq.ft. face area
CERTIFIED PERFORMANCE DATA

12 CENM-HV-F1
Circular Elbow No-Media
High velocity silencer (<2250 fpm)

Insertion Loss (IL)
+ : “forward flow” where noise & airflow move in same direction (e.g. supply side)
- : “reverse flow” where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

Pressure Drop (PD)
Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

Generated Noise (GN)
@ 0.79 sq.ft. face area
### Insertion Loss (IL)

+ : "forward flow" where noise & airflow move in same direction (e.g. supply side)
- : "reverse flow" where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

### Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

### Generated Noise (GN)

@ 0.79 sq.ft. face area
14 CENM-HV-F1
Circular Elbow No-Media
High velocity silencer (<2250 fpm)

How to Specify Example:
14 X CENM-HV-F1 X 36

Duct Connection Size
Silencer Model
Silencer Length

Insertion Loss (IL)
+
"forward flow" where noise & airflow move in same direction (e.g. supply side)
-
"reverse flow" where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

Pressure Drop (PD)
Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

Generated Noise (GN)
@ 1.07 sq.ft. face area
14 CENM-HV-F2
Circular Elbow No-Media
High velocity silencer
(<2250 fpm)

How to Specify Example:
14 x CENM-HV-F2 x 48

Insertion Loss (IL)

+ : "forward flow" where noise & airflow move in same direction (e.g. supply side)
- : "reverse flow" where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

Generated Noise (GN)
@ 1.07 sq.ft. face area
## Insertion Loss (IL)

+ : “forward flow” where noise & airflow move in same direction (e.g. supply side)

- : “reverse flow” where noise & airflow move in opposite directions (e.g. return side)

See Silencer Selection Instructions.

## Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

## Generated Noise (GN)

@ 1.40 sq.ft. face area

### How to Specify Example:

16 x CENM-HV-F1 x 36

<table>
<thead>
<tr>
<th>Duct Connection Size</th>
<th>Silencer Model</th>
<th>Silencer Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 16 CENM-HV-F1

Circular Elbow No-Media

High velocity silencer (<2250 fpm)

### Insertion Loss (IL)

**Legend:**
- **+** : “forward flow” where noise & airflow move in same direction (e.g. supply side)
- **-** : “reverse flow” where noise & airflow move in opposite directions (e.g. return side)

### Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data.

### Generated Noise (GN)

@ 1.40 sq.ft. face area

<table>
<thead>
<tr>
<th>Length (in.)</th>
<th>Face Velocity (ft. per min)</th>
<th>Octave Band - Hz/Dynamic Insertion Loss (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>125</td>
<td>250</td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
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<tr>
<td>- 2250</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>0</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>+ 2250</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>- 2250</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>0</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>+ 2250</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>- 2250</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>0</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>+ 2250</td>
<td>10</td>
<td>23</td>
</tr>
<tr>
<td>- 2250</td>
<td>12</td>
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<td>10</td>
<td>17</td>
</tr>
<tr>
<td>+ 2250</td>
<td>12</td>
<td>28</td>
</tr>
</tbody>
</table>

### Generated Noise (GN)

@ 1.40 sq.ft. face area

<table>
<thead>
<tr>
<th>Length (in.)</th>
<th>Face Velocity (ft. per min)</th>
<th>Octave Band - Hz/Generated Noise (dB re 10 -12 watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>63</td>
<td>125</td>
</tr>
<tr>
<td>- 2250</td>
<td>66</td>
<td>63</td>
</tr>
<tr>
<td>- 1750</td>
<td>58</td>
<td>55</td>
</tr>
<tr>
<td>+ 1750</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>+ 2250</td>
<td>67</td>
<td>73</td>
</tr>
</tbody>
</table>

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[At the end of the page]
**CERTIFIED PERFORMANCE DATA**

**16 CENM-HV-F2**

Circular Elbow No-Media High velocity silencer (<2250 fpm)

### Insertion Loss (IL)

+ : "forward flow" where noise & airflow move in same direction (e.g. supply side)
- : "reverse flow" where noise & airflow move in opposite directions (e.g. return side)

See [Silencer Selection Instructions](#).

### Pressure Drop (PD)

Pressure drops are reported in accordance with ASTM E477 methods and are based upon ideal flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See [Silencer System Effects Data](#).

### Generated Noise (GN)

@ 1.40 sq.ft. face area

---

<table>
<thead>
<tr>
<th>Length (in.)</th>
<th>Face Velocity (ft. per min)</th>
<th>Octave Band - Hz/Dynamic Insertion Loss (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>63</td>
</tr>
<tr>
<td>48</td>
<td>- 2250</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>+ 2250</td>
<td>6</td>
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<td>72</td>
<td>- 2250</td>
<td>12</td>
</tr>
<tr>
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<td>0</td>
<td>9</td>
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<tr>
<td></td>
<td>+ 2250</td>
<td>11</td>
</tr>
<tr>
<td>84</td>
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<td>12</td>
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<tr>
<td></td>
<td>+ 2250</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duct Connect Size (in.)</th>
<th>B x B (in.)</th>
<th>Silencer Model</th>
<th>Silencer Length (in.)</th>
<th>Weight (lbs)</th>
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</thead>
<tbody>
<tr>
<td>16</td>
<td>24x24</td>
<td>48</td>
<td>102</td>
<td>0.06 0.09</td>
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<td>0.12 0.16</td>
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<td></td>
<td></td>
<td>0.20 0.25</td>
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<td></td>
<td></td>
<td>0.29 0.30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60</td>
<td>127</td>
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<tr>
<td></td>
<td></td>
<td>72</td>
<td>152</td>
<td>0.08 0.12</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>0.16 0.21</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>84</td>
<td>177</td>
<td>0.09 0.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.18 0.23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.29 0.36</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.43 0.56</td>
</tr>
</tbody>
</table>

Caution (>0.35") Pressure Drop may be too high for certain applications.

<table>
<thead>
<tr>
<th>Length (in.)</th>
<th>Face Velocity (ft. per min)</th>
<th>Octave Band - Hz/Generated Noise (dB re 10^-12 watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>63</td>
</tr>
<tr>
<td>All</td>
<td>- 2250</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>- 1750</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>+ 1750</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>+ 2250</td>
<td>70</td>
</tr>
</tbody>
</table>

---

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