

**Model 4180 or 4181**  
**4" (101.6 mm) Sightproof Fixed A or L Frame Louver**

**Material:**

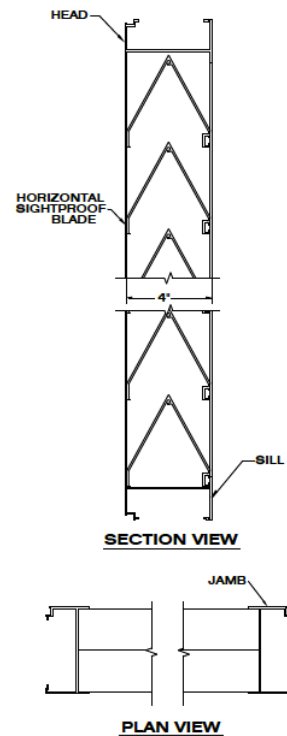
|   |   |
|---|---|
| <b>Material:</b>  | 6063-T6 Alloy   |
| <b>Nominal Thickness (heads, sills, jambs, &amp; mullions):</b> | 0.081" (2.06 mm)  |
| <b>Nominal Blade Thickness:</b>                                 | 0.081" (2.06 mm)  |
| <b>Furnished With:</b>  | Birdscreen: ½" (12.7mm) intercrimp aluminum mesh, 0.063" (1.60 mm) diameter wire removeable aluminum bird screen in an aluminum frame   |
| <b>Additional Options (at additional cost):</b>                 | Insect screen (in lieu of bird screen),<br>Continuous clip angles for attachment<br>Sheet blank off, Insulated blank off<br>Sill pans, Flange frames<br>Integrated glazing frames |



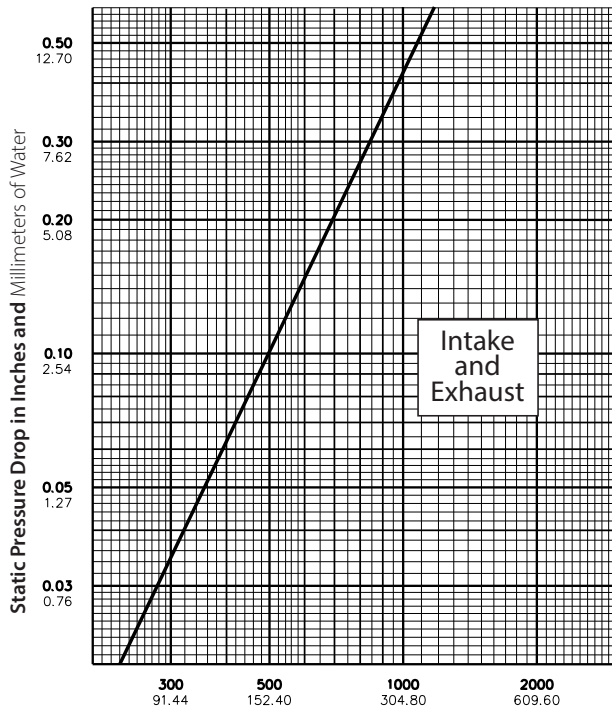
**Test Summary:**  
**For a 4 Foot by 4 Foot Unit.**

*Tested with mill finish and no screen*

- Free area = 4.10 ft² (.381 m²)
- Percent free area = 25.6%
- Maximum recommended air intake velocity = 700FPM (3.56 m/s)
- Intake pressure drop at 700 FPM free area velocity = 0.21 in.H<sub>2</sub>O (52.2 Pa)



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Air Velocity in Feet and Meters per Minute Through Free Area

Data corrected to standard air density.

48" x 48" (121.92cm x 121.92cm) louver tested to figure 5.5.

**Free Area Table** (Free area in sq. feet and sq. meters)

For additional sizes, please visit:

<https://www.c-sgroup.com/architectural-louvers/louvers-airflow-tool>

| Height in Inches and Meters | Width in Inches and Meters |             |             |              |              |              |              |              |              |  |
|-----------------------------|----------------------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--|
|                             | 12                         | 18          | 24          | 30           | 36           | 42           | 48           | 54           | 60           |  |
| 0.30                        | 0.46                       | 0.61        | 0.76        | 0.91         | 1.07         | 1.22         | 1.37         | 1.52         |              |  |
| <b>18</b>                   | <b>0.17</b>                | <b>0.30</b> | <b>0.43</b> | <b>0.56</b>  | <b>0.68</b>  | <b>0.81</b>  | <b>0.94</b>  | <b>1.07</b>  | <b>1.20</b>  |  |
| 0.46                        | 0.02                       | 0.03        | 0.04        | 0.05         | 0.06         | 0.08         | 0.09         | 0.10         | 0.11         |  |
| <b>24</b>                   | <b>0.31</b>                | <b>0.55</b> | <b>0.79</b> | <b>1.02</b>  | <b>1.26</b>  | <b>1.49</b>  | <b>1.73</b>  | <b>1.97</b>  | <b>2.20</b>  |  |
| 0.61                        | 0.03                       | 0.05        | 0.07        | 0.09         | 0.12         | 0.14         | 0.16         | 0.18         | 0.20         |  |
| <b>30</b>                   | <b>0.39</b>                | <b>0.68</b> | <b>0.97</b> | <b>1.26</b>  | <b>1.55</b>  | <b>1.83</b>  | <b>2.12</b>  | <b>2.41</b>  | <b>2.70</b>  |  |
| 0.76                        | 0.04                       | 0.06        | 0.09        | 0.12         | 0.14         | 0.17         | 0.20         | 0.22         | 0.25         |  |
| <b>36</b>                   | <b>0.53</b>                | <b>0.93</b> | <b>1.32</b> | <b>1.72</b>  | <b>2.12</b>  | <b>2.52</b>  | <b>2.91</b>  | <b>3.31</b>  | <b>3.71</b>  |  |
| 0.91                        | 0.05                       | 0.09        | 0.12        | 0.16         | 0.20         | 0.23         | 0.27         | 0.31         | 0.34         |  |
| <b>42</b>                   | <b>0.60</b>                | <b>1.05</b> | <b>1.50</b> | <b>1.95</b>  | <b>2.41</b>  | <b>2.86</b>  | <b>3.31</b>  | <b>3.76</b>  | <b>4.21</b>  |  |
| 1.07                        | 0.06                       | 0.10        | 0.14        | 0.18         | 0.22         | 0.27         | 0.31         | 0.35         | 0.39         |  |
| <b>48</b>                   | <b>0.74</b>                | <b>1.30</b> | <b>1.86</b> | <b>2.42</b>  | <b>2.98</b>  | <b>3.54</b>  | <b>4.10</b>  | <b>4.66</b>  | <b>5.21</b>  |  |
| 1.22                        | 0.07                       | 0.12        | 0.17        | 0.22         | 0.28         | 0.33         | 0.38         | 0.43         | 0.48         |  |
| <b>54</b>                   | <b>0.83</b>                | <b>1.43</b> | <b>2.04</b> | <b>2.65</b>  | <b>3.27</b>  | <b>3.88</b>  | <b>4.49</b>  | <b>5.10</b>  | <b>5.72</b>  |  |
| 1.37                        | 0.08                       | 0.13        | 0.19        | 0.25         | 0.30         | 0.36         | 0.42         | 0.47         | 0.53         |  |
| <b>60</b>                   | <b>0.96</b>                | <b>1.68</b> | <b>2.40</b> | <b>3.12</b>  | <b>3.84</b>  | <b>4.56</b>  | <b>5.28</b>  | <b>6.00</b>  | <b>6.72</b>  |  |
| 1.52                        | 0.09                       | 0.16        | 0.22        | 0.29         | 0.36         | 0.42         | 0.49         | 0.56         | 0.62         |  |
| <b>66</b>                   | <b>1.03</b>                | <b>1.81</b> | <b>2.58</b> | <b>3.35</b>  | <b>4.13</b>  | <b>4.90</b>  | <b>5.67</b>  | <b>6.45</b>  | <b>7.22</b>  |  |
| 1.68                        | 0.10                       | 0.17        | 0.24        | 0.31         | 0.38         | 0.46         | 0.53         | 0.60         | 0.67         |  |
| <b>72</b>                   | <b>1.18</b>                | <b>2.06</b> | <b>2.94</b> | <b>3.82</b>  | <b>4.70</b>  | <b>5.58</b>  | <b>6.46</b>  | <b>7.34</b>  | <b>8.23</b>  |  |
| 1.83                        | 0.11                       | 0.19        | 0.27        | 0.35         | 0.44         | 0.52         | 0.60         | 0.68         | 0.76         |  |
| <b>78</b>                   | <b>1.25</b>                | <b>2.18</b> | <b>3.12</b> | <b>4.05</b>  | <b>4.99</b>  | <b>5.92</b>  | <b>6.86</b>  | <b>7.79</b>  | <b>8.73</b>  |  |
| 1.98                        | 0.12                       | 0.20        | 0.29        | 0.38         | 0.46         | 0.55         | 0.64         | 0.72         | 0.81         |  |
| <b>84</b>                   | <b>1.39</b>                | <b>2.43</b> | <b>3.48</b> | <b>4.52</b>  | <b>5.56</b>  | <b>6.60</b>  | <b>7.65</b>  | <b>8.69</b>  | <b>9.73</b>  |  |
| 2.13                        | 0.13                       | 0.23        | 0.32        | 0.42         | 0.52         | 0.61         | 0.71         | 0.81         | 0.90         |  |
| <b>90</b>                   | <b>1.46</b>                | <b>2.56</b> | <b>3.65</b> | <b>4.75</b>  | <b>5.85</b>  | <b>6.94</b>  | <b>8.04</b>  | <b>9.14</b>  | <b>10.23</b> |  |
| 2.29                        | 0.14                       | 0.24        | 0.34        | 0.44         | 0.54         | 0.65         | 0.75         | 0.85         | 0.95         |  |
| <b>96</b>                   | <b>1.61</b>                | <b>2.81</b> | <b>4.01</b> | <b>5.22</b>  | <b>6.42</b>  | <b>7.63</b>  | <b>8.83</b>  | <b>10.03</b> | <b>11.24</b> |  |
| 2.44                        | 0.15                       | 0.26        | 0.37        | 0.48         | 0.60         | 0.71         | 0.82         | 0.93         | 1.04         |  |
| <b>102</b>                  | <b>1.68</b>                | <b>2.93</b> | <b>4.19</b> | <b>5.45</b>  | <b>6.71</b>  | <b>7.97</b>  | <b>9.22</b>  | <b>10.48</b> | <b>11.74</b> |  |
| 2.59                        | 0.16                       | 0.27        | 0.39        | 0.51         | 0.62         | 0.74         | 0.86         | 0.97         | 1.09         |  |
| <b>108</b>                  | <b>1.82</b>                | <b>3.19</b> | <b>4.55</b> | <b>5.92</b>  | <b>7.28</b>  | <b>8.65</b>  | <b>10.01</b> | <b>11.38</b> | <b>12.74</b> |  |
| 2.74                        | 0.17                       | 0.30        | 0.42        | 0.55         | 0.68         | 0.80         | 0.93         | 1.06         | 1.18         |  |
| <b>114</b>                  | <b>1.89</b>                | <b>3.31</b> | <b>4.73</b> | <b>6.15</b>  | <b>7.57</b>  | <b>8.99</b>  | <b>10.41</b> | <b>11.83</b> | <b>13.24</b> |  |
| 2.90                        | 0.18                       | 0.31        | 0.44        | 0.57         | 0.70         | 0.83         | 0.97         | 1.10         | 1.23         |  |
| <b>120</b>                  | <b>2.04</b>                | <b>3.56</b> | <b>5.09</b> | <b>6.62</b>  | <b>8.14</b>  | <b>9.67</b>  | <b>11.20</b> | <b>12.72</b> | <b>14.25</b> |  |
| 3.05                        | 0.19                       | 0.33        | 0.47        | 0.61         | 0.76         | 0.90         | 1.04         | 1.18         | 1.32         |  |
| <b>126</b>                  | <b>2.11</b>                | <b>3.69</b> | <b>5.27</b> | <b>6.85</b>  | <b>8.43</b>  | <b>10.01</b> | <b>11.59</b> | <b>13.17</b> | <b>14.75</b> |  |
| 3.20                        | 0.20                       | 0.34        | 0.49        | 0.64         | 0.78         | 0.93         | 1.08         | 1.22         | 1.37         |  |
| <b>132</b>                  | <b>2.25</b>                | <b>3.94</b> | <b>5.63</b> | <b>7.31</b>  | <b>9.00</b>  | <b>10.69</b> | <b>12.38</b> | <b>14.07</b> | <b>15.75</b> |  |
| 3.35                        | 0.21                       | 0.37        | 0.52        | 0.68         | 0.84         | 0.99         | 1.15         | 1.31         | 1.46         |  |
| <b>138</b>                  | <b>2.32</b>                | <b>4.06</b> | <b>5.81</b> | <b>7.55</b>  | <b>9.29</b>  | <b>11.03</b> | <b>12.77</b> | <b>14.51</b> | <b>16.26</b> |  |
| 3.51                        | 0.22                       | 0.38        | 0.54        | 0.70         | 0.86         | 1.02         | 1.19         | 1.35         | 1.51         |  |
| <b>144</b>                  | <b>2.47</b>                | <b>4.32</b> | <b>6.16</b> | <b>8.01</b>  | <b>9.86</b>  | <b>11.71</b> | <b>13.56</b> | <b>15.41</b> | <b>17.26</b> |  |
| 3.66                        | 0.23                       | 0.40        | 0.57        | 0.74         | 0.92         | 1.09         | 1.26         | 1.43         | 1.60         |  |
| <b>150</b>                  | <b>2.54</b>                | <b>4.44</b> | <b>6.34</b> | <b>8.25</b>  | <b>10.15</b> | <b>12.05</b> | <b>13.96</b> | <b>15.86</b> | <b>17.76</b> |  |
| 3.81                        | 0.24                       | 0.41        | 0.59        | 0.77         | 0.94         | 1.12         | 1.30         | 1.47         | 1.65         |  |
| <b>156</b>                  | <b>2.68</b>                | <b>4.69</b> | <b>6.70</b> | <b>8.71</b>  | <b>10.72</b> | <b>12.73</b> | <b>14.74</b> | <b>16.76</b> | <b>18.77</b> |  |
| 3.96                        | 0.25                       | 0.44        | 0.62        | 0.81         | 1.00         | 1.18         | 1.37         | 1.56         | 1.74         |  |
| <b>162</b>                  | <b>2.75</b>                | <b>4.82</b> | <b>6.88</b> | <b>8.95</b>  | <b>11.01</b> | <b>13.07</b> | <b>15.14</b> | <b>17.20</b> | <b>19.27</b> |  |
| 4.11                        | 0.26                       | 0.45        | 0.64        | 0.83         | 1.02         | 1.21         | 1.41         | 1.60         | 1.79         |  |
| <b>168</b>                  | <b>2.90</b>                | <b>5.07</b> | <b>7.24</b> | <b>9.41</b>  | <b>11.58</b> | <b>13.76</b> | <b>15.93</b> | <b>18.10</b> | <b>20.27</b> |  |
| 4.27                        | 0.27                       | 0.47        | 0.67        | 0.87         | 1.08         | 1.28         | 1.48         | 1.68         | 1.88         |  |
| <b>174</b>                  | <b>2.97</b>                | <b>5.19</b> | <b>7.42</b> | <b>9.65</b>  | <b>11.87</b> | <b>14.10</b> | <b>16.32</b> | <b>18.55</b> | <b>20.77</b> |  |
| 4.42                        | 0.28                       | 0.48        | 0.69        | 0.90         | 1.10         | 1.31         | 1.52         | 1.72         | 1.93         |  |
| <b>180</b>                  | <b>3.11</b>                | <b>5.44</b> | <b>7.78</b> | <b>10.11</b> | <b>12.44</b> | <b>14.78</b> | <b>17.11</b> | <b>19.44</b> | <b>21.78</b> |  |
| 4.57                        | 0.29                       | 0.51        | 0.72        | 0.94         | 1.16         | 1.37         | 1.59         | 1.81         | 2.02         |  |
| <b>186</b>                  | <b>3.18</b>                | <b>5.57</b> | <b>7.96</b> | <b>10.34</b> | <b>12.73</b> | <b>15.12</b> | <b>17.51</b> | <b>19.89</b> | <b>22.28</b> |  |
| 4.72                        | 0.30                       | 0.52        | 0.74        | 0.96         | 1.18         | 1.40         | 1.63         | 1.85         | 2.07         |  |
| <b>192</b>                  | <b>3.33</b>                | <b>5.82</b> | <b>8.32</b> | <b>10.81</b> | <b>13.30</b> | <b>15.80</b> | <b>18.29</b> | <b>20.79</b> | <b>23.28</b> |  |
| 4.88                        | 0.31                       | 0.54        | 0.77        | 1.00         | 1.24         | 1.47         | 1.70         | 1.93         | 2.16         |  |
| <b>198</b>                  | <b>3.40</b>                | <b>5.95</b> | <b>8.49</b> | <b>11.04</b> | <b>13.59</b> | <b>16.14</b> | <b>18.69</b> | <b>21.24</b> | <b>23.79</b> |  |
| 5.03                        | 0.32                       | 0.55        | 0.79        | 1.03         | 1.26         | 1.50         | 1.74         | 1.97         | 2.21         |  |

Upper Numerals English Units/Lower Numerals Metric Units