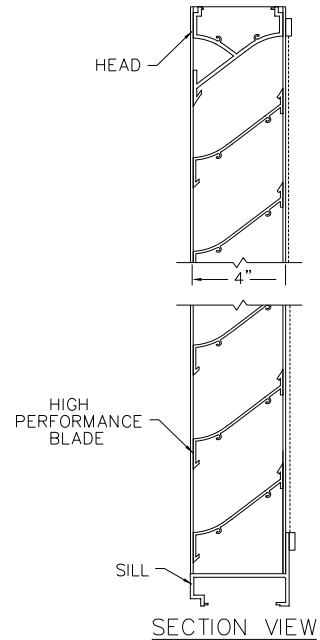
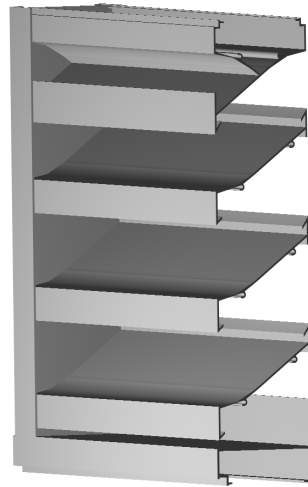


# C/S Blast Louver

## BLAST DATA:

C/S Model BL-4089 is designed to withstand up to an 12.6 psi blast pressure at an impulse of 77.8 psi-msec.

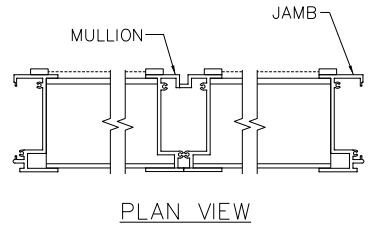
Typical Blast Requirements	
Pressure	Impulse
4.0 psi	28.0 psi-msec
6.0 psi	42.0 psi-msec
8.0 psi	59.0 psi-msec
12.6 psi	77.8 psi-msec



## TEST DATA:

*For a 4 Foot by 4 Foot Unit. Tested with mill finish and no screen.*

- ⇒ Free area = 8.65 ft<sup>2</sup> (0.804m<sup>2</sup>)
- ⇒ Percent free area = 54%
- ⇒ Free area velocity at the point of beginning water penetration (@0.01 oz. /ft<sup>2</sup> of free area based on a 15 minute interval test) = 804 FPM (4.08 m/s)
- ⇒ Maximum recommended air intake velocity = 604 FPM (3.07 m/s)  
 Air Volume @ 604 FPM free area velocity = 5225 CFM (2.47 m<sup>3</sup>/s)  
 Pressure drop @ 604 FPM intake velocity = 0.07 in. H<sub>2</sub>O (16.6 Pa)
- ⇒ Maximum recommended air exhaust velocity = 1655 FPM (7.41 m/s)  
 Air Volume @ 1655 FPM free area velocity = 14315.8 CFM (6.76 m<sup>3</sup>/s)  
 Pressure Drop @ 1655 FPM free area velocity = 0.50 in. H<sub>2</sub>O (124.2 Pa)



The louver manufacturer shall submit test data on a 4' x 4' (1.22 m x 1.22 m) unit showing that the louver conforms to the following: (Based on a 15 minute test duration)

### Discharge Coefficient

**Intake C<sub>d</sub> = 0.38 (Class 2)**

AMCA certifies the coefficient class only

Free Area:	8.65 ft <sup>2</sup> (0.804 m <sup>2</sup> )
Free area velocity @ point of beginning water penetration (0.01 oz/ft <sup>2</sup> ):	804 FPM (4.08 m/s)
Intake pressure drop @ 0.01 oz/ft <sup>2</sup> free area velocity:	0.12 in. H <sub>2</sub> O (29.8 Pa)
Exhaust pressure drop at 1000 FPM (5.08 m/s) free area velocity:	0.19 in. H <sub>2</sub> O (45.5 Pa)

Data corrected to standard air density.  
 Tested to AMCA fig. 5.5



Construction Specialties Inc. certifies that the louver model BL-4089 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings and water penetration ratings.

**FINISH:** All louvers shall be finished with C/S Powder Coat, a coating to be 1.5 to 3 mil. Thick full strength **100% resin Fluoropolymer coating**. **Finish to allow zero VOCs** to be omitted into facility of application. Finish to adhere to a 4H Hardness rating. All finishing procedures shall be one continuous operation in the plant of the manufacturer. **The coating shall meet or exceed all requirements of AAMA specification 2605** "Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels." The louver manufacturer shall supply an industry standard **20-year limited warranty against failure or excessive fading** of the Fluoropolymer Powder Coat finish. This limited warranty shall begin on the date of material shipment.

## SUGGESTED SPECIFICATIONS:

**GENERAL:** Furnish and install where indicated on the drawings C/S 4" (101.6 mm) **BLAST RESISTANT HIGH PERFORMANCE LOUVER MODEL BL-4089** as manufactured by Construction Specialties, Inc. Cranford, New Jersey. Complete details shall be submitted to the architect for approval prior to fabrication.

**MATERIAL:** Heads, sills, jams and mullions to be one piece structural members of 6063-T52 alloy with integral caulking slot and retaining beads. Mullions shall be sliding interlock with integral internal drain(s). Heads to be one piece extrusion with gutter(s) designed to catch and direct water to jamb and mullion drains. Closed cell compression gaskets shall be provided between bottom of the mullion or jamb and the top of the sill to insure leak tight connections. Blades to be one piece extrusions with reinforcing bosses. All fasteners to be aluminum or stainless steel. All louvers to be furnished with 5/8" (15.87 mm) flattened expanded mesh, aluminum bird screen with a 0.055" (1.40 mm) thick extruded aluminum frame. Screens and screen frames to be standard mill finish.

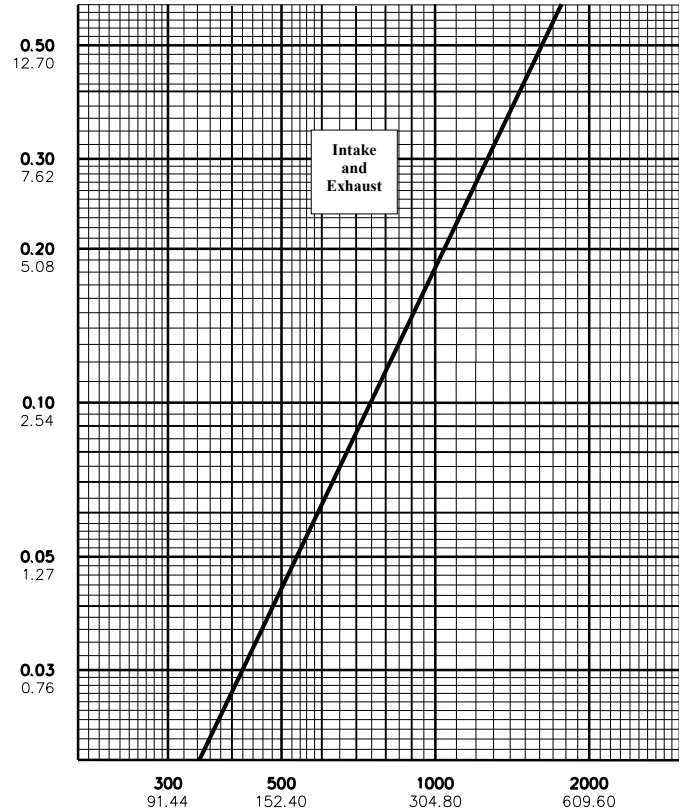
**STRUCTURAL DESIGN:** Structural supports shall be designed and furnished by the louver manufacturer to carry a wind load of not less than \_\_\_\_\_psf (Pascals). (Note: If this paragraph is omitted or if the design wind load is not specified, the louvers will be manufactured in self-supporting units to a maximum of 5' (1524 mm) wide by 8' (2438 mm) high. Any additional structural supports required to adequately secure these units within the opening shall be the responsibility of others.

### FREE AREA TABLE

Width in Inches	FREE AREAS IN SQ. FEET AND SQ. METERS							
	18	24	30	36	42	48	54	60
	0.46	0.61	0.76	0.91	1.07	1.22	1.37	1.52
<b>18</b>	<b>0.87</b>	<b>1.24</b>	<b>1.62</b>	<b>1.99</b>	<b>2.36</b>	<b>2.73</b>	<b>3.11</b>	<b>3.48</b>
0.46	0.08	0.12	0.15	0.18	0.22	0.25	0.29	0.32
<b>24</b>	<b>1.20</b>	<b>1.74</b>	<b>2.27</b>	<b>2.81</b>	<b>3.35</b>	<b>3.89</b>	<b>4.43</b>	<b>4.96</b>
0.61	0.11	0.16	0.21	0.26	0.31	0.36	0.41	0.46
<b>30</b>	<b>1.47</b>	<b>2.13</b>	<b>2.79</b>	<b>3.45</b>	<b>4.10</b>	<b>4.76</b>	<b>5.42</b>	<b>6.08</b>
0.76	0.14	0.20	0.26	0.32	0.38	0.44	0.50	0.56
<b>36</b>	<b>1.93</b>	<b>2.80</b>	<b>3.67</b>	<b>4.54</b>	<b>5.40</b>	<b>6.27</b>	<b>7.14</b>	<b>8.00</b>
0.91	0.18	0.26	0.34	0.42	0.50	0.58	0.66	0.74
<b>42</b>	<b>2.20</b>	<b>3.19</b>	<b>4.18</b>	<b>5.17</b>	<b>6.16</b>	<b>7.14</b>	<b>8.13</b>	<b>9.12</b>
1.07	0.20	0.30	0.39	0.48	0.57	0.66	0.76	0.85
<b>48</b>	<b>2.67</b>	<b>3.86</b>	<b>5.06</b>	<b>6.26</b>	<b>7.45</b>	<b>8.65</b>	<b>9.85</b>	<b>11.05</b>
1.22	0.25	0.36	0.47	0.58	0.69	0.80	0.91	1.13
<b>54</b>	<b>2.94</b>	<b>4.26</b>	<b>5.57</b>	<b>6.89</b>	<b>8.21</b>	<b>9.53</b>	<b>10.84</b>	<b>12.16</b>
1.37	0.27	0.40	0.52	0.64	0.76	0.88	1.01	1.13
<b>60</b>	<b>3.40</b>	<b>4.93</b>	<b>6.45</b>	<b>7.98</b>	<b>9.51</b>	<b>11.03</b>	<b>12.56</b>	<b>14.09</b>
1.52	0.32	0.46	0.60	0.74	0.88	1.03	1.17	1.31
<b>66</b>	<b>3.67</b>	<b>5.32</b>	<b>6.97</b>	<b>8.61</b>	<b>10.26</b>	<b>11.91</b>	<b>13.55</b>	<b>15.20</b>
1.68	0.34	0.49	0.65	0.80	0.95	1.11	1.26	1.41
<b>72</b>	<b>4.14</b>	<b>5.99</b>	<b>7.85</b>	<b>9.70</b>	<b>11.56</b>	<b>13.41</b>	<b>15.27</b>	<b>17.13</b>
1.83	0.38	0.56	0.73	0.90	1.07	1.25	1.42	1.59
<b>78</b>	<b>4.41</b>	<b>6.38</b>	<b>8.36</b>	<b>10.34</b>	<b>12.31</b>	<b>14.29</b>	<b>16.27</b>	<b>18.24</b>
1.98	0.41	0.59	0.78	0.96	1.14	1.33	1.51	1.69
<b>84</b>	<b>4.87</b>	<b>7.06</b>	<b>9.24</b>	<b>11.43</b>	<b>13.61</b>	<b>15.80</b>	<b>17.98</b>	<b>20.17</b>
2.13	0.45	0.66	0.86	1.06	1.26	1.47	1.67	1.87
<b>90</b>	<b>5.14</b>	<b>7.45</b>	<b>9.75</b>	<b>12.06</b>	<b>14.36</b>	<b>16.67</b>	<b>18.98</b>	<b>21.28</b>
2.29	0.48	0.69	0.91	1.12	1.33	1.55	1.76	1.98
<b>96</b>	<b>5.61</b>	<b>8.12</b>	<b>10.63</b>	<b>13.15</b>	<b>15.66</b>	<b>18.18</b>	<b>20.69</b>	<b>23.21</b>
2.44	0.52	0.75	0.99	1.22	1.46	1.69	1.92	2.16
<b>102</b>	<b>5.87</b>	<b>8.51</b>	<b>11.15</b>	<b>13.78</b>	<b>16.42</b>	<b>19.05</b>	<b>21.69</b>	<b>24.32</b>
2.59	0.55	0.79	1.04	1.28	1.53	1.77	2.01	2.26
<b>108</b>	<b>6.34</b>	<b>9.18</b>	<b>12.03</b>	<b>14.87</b>	<b>17.72</b>	<b>20.56</b>	<b>23.40</b>	<b>26.25</b>
2.74	0.59	0.85	1.12	1.38	1.65	1.91	2.17	2.44
<b>114</b>	<b>6.61</b>	<b>9.57</b>	<b>12.54</b>	<b>15.50</b>	<b>18.47</b>	<b>21.43</b>	<b>24.40</b>	<b>27.36</b>
2.90	0.61	0.89	1.16	1.44	1.72	1.99	2.27	2.54
<b>120</b>	<b>7.07</b>	<b>10.25</b>	<b>13.42</b>	<b>16.59</b>	<b>19.77</b>	<b>22.94</b>	<b>26.11</b>	<b>29.29</b>
3.05	0.66	0.95	1.25	1.54	1.84	2.13	2.43	2.72
<b>126</b>	<b>7.34</b>	<b>10.64</b>	<b>13.93</b>	<b>17.23</b>	<b>20.52</b>	<b>23.82</b>	<b>27.11</b>	<b>30.40</b>
3.20	0.68	0.99	1.29	1.60	1.91	2.21	2.52	2.82
<b>132</b>	<b>7.81</b>	<b>11.31</b>	<b>14.81</b>	<b>18.32</b>	<b>21.82</b>	<b>25.32</b>	<b>28.83</b>	<b>32.33</b>
3.35	0.73	1.05	1.38	1.70	2.03	2.35	2.68	3.00
<b>138</b>	<b>8.08</b>	<b>11.70</b>	<b>15.33</b>	<b>18.95</b>	<b>22.57</b>	<b>26.20</b>	<b>29.82</b>	<b>33.45</b>
3.51	0.75	1.09	1.42	1.76	2.10	2.43	2.77	3.11
<b>144</b>	<b>8.54</b>	<b>12.38</b>	<b>16.21</b>	<b>20.04</b>	<b>23.87</b>	<b>27.70</b>	<b>31.54</b>	<b>35.37</b>
3.66	0.79	1.15	1.51	1.86	2.22	2.57	2.93	3.29

Height in Inches and Meters

STATIC PRESSURE DROP IN INCHES AND MILLIMETERS OF WATER



AIR VELOCITY IN FEET AND METERS PER MINUTE THROUGH FREE AREA

For a 48" x 48" sized louver tested to figure 5.5.  
Data corrected to standard air density.

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For assistance with overseas requirements,  
Call C/S International (908) 236-0800

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Upper Numerals English Units/Lower Numerals Metric

**MODEL BL-4089-03**