

## BL520DD BLAST RESISTANT STATIONARY LOUVER EXTRUDED ALUMINUM

### STANDARD CONSTRUCTION

#### FRAME

5" (127) deep, 6063T6 extruded aluminum with .081" (2.1) nominal wall thickness.

#### BLADES

6063T6 extruded aluminum .063" (1.6) nominal wall thickness.

#### SCREEN

5/8" x .040" (16 x 1) expanded flattened aluminum bird screen in removable frame. Screen adds approximately 1/2" (13) to louver depth.

#### FINISH

Mill.

#### MINIMUM SIZE

12"w x 12"h (305 x 305).

#### APPROXIMATE SHIPPING WEIGHT

7 lbs. per sq. ft. (34.2 kg/m<sup>2</sup>)

#### MAXIMUM FACTORY ASSEMBLY SIZE

Single sections shall not exceed 60"w x 120"h (1524 x 3048).

Louvers larger than the maximum single section size will require field assembly of smaller sections.

**Field Assembly:** Unlimited width x 120"h (3048). Multiple section louvers will be shipped in single sections and must be joined together in the field by the installer. Section joint splice hardware is provided. **Sections may not be stacked in height.** Openings taller than the maximum louver height will need to be divided into multiple openings with suitable structural members. Structural members are not designed or provided by Ruskin.

#### INSTALLATION

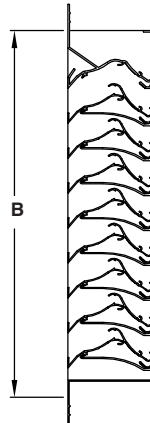
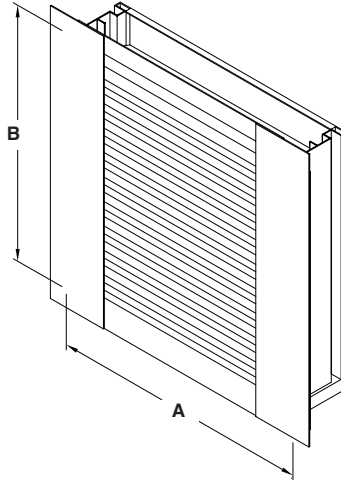
The BL520DD must be installed per the appropriate Installation Detail. Reference the appropriate separate Installation Instruction Sheet.

#### SUPPORTS

Louvers may be provided with rear mounted blade supports that increase overall louver depth depending on louver size, assembly configuration, windload or blastload.

Consult Ruskin for additional information.

Dimensions in inches, parenthesis ( ) indicate millimeters.



TYPICAL BLAST REQUIREMENTS	
Pressure	Impulse
4 psi	28 psi-ms
6 psi	42 psi-ms
8 psi	59 psi-ms
10 psi	90 psi-ms

### FEATURES

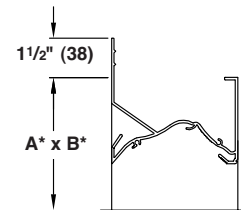
- Withstands up to 16.6 psi peak pressure and repeatedly at 11.5 psi peak pressure and an impulse of 95 psi-ms.
- Closely spaced horizontal blades minimize the penetration of wind-driven rain, reducing damage and additional operating expenses.
- Tested in the AMCA 500-L Wind-Driven Rain Penetration Test.
- 39% Free Area.
- Excellent pressure drop performance.
- Aluminum construction for low maintenance and high resistance to corrosion.

### VARIATIONS

- Front or rear security bars.
- A variety of bird and insect screens.
- Selection of finishes: prime coat, 50% PVDF (modified fluoropolymer), epoxy, Pearledize 50 & 70, 70% PVDF, clear and color anodize. (Some variation in anodize color consistency is possible).

Consult Ruskin for other special requirements.

### FRAME CONSTRUCTION



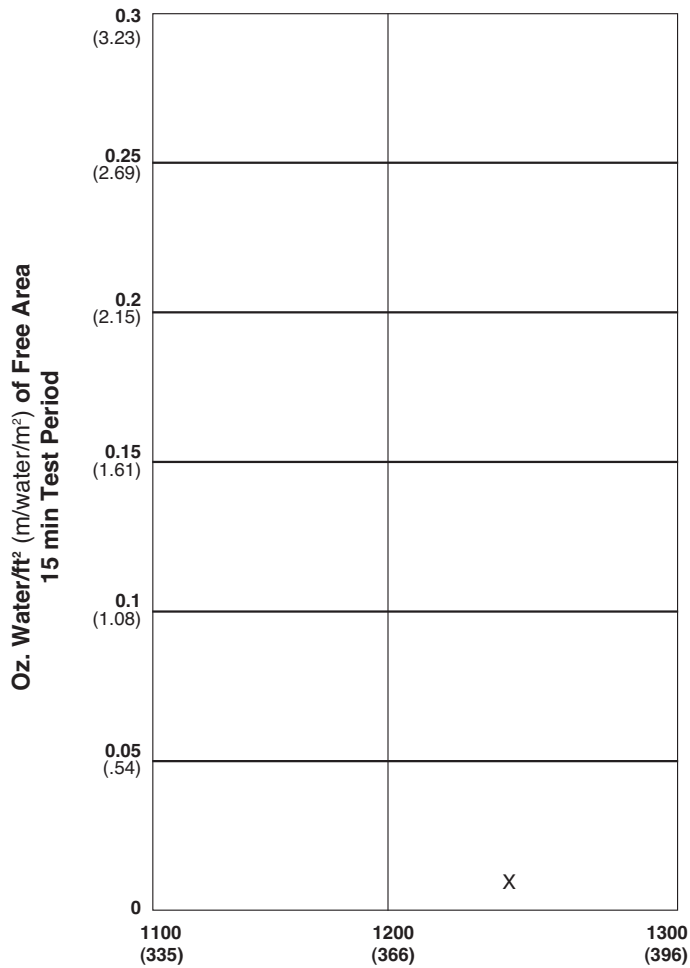
### INTEGRAL FLANGE

\*Units furnished 1/4" (6) smaller than given opening dimensions.

TAG	QTY.	SIZE		FRAME	VARIATIONS
		A*-WIDE	B*-HIGH		
PROJECT ARCH./ENGR. REPRESENTATIVE			LOCATION CONTRACTOR DATE		

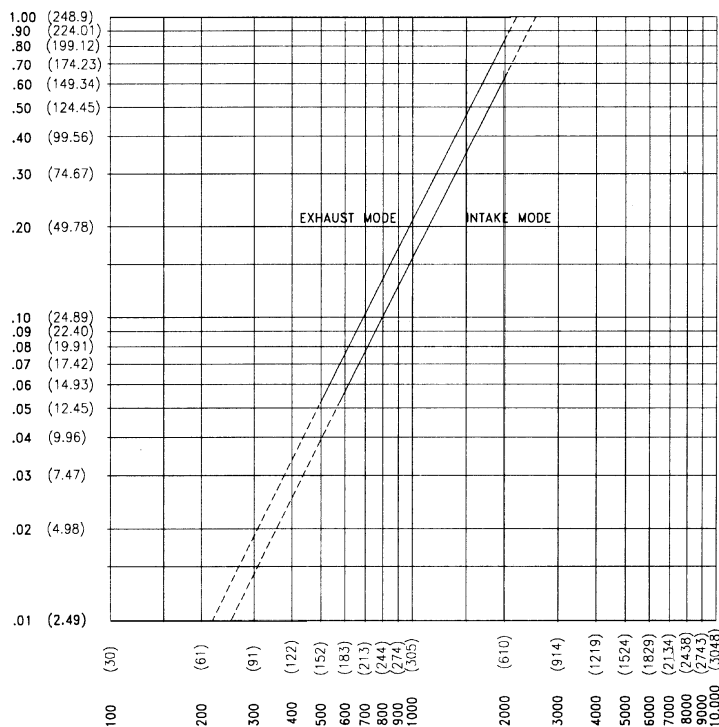
# WATER PENETRATION GRAPH

Test size 48" x 48" (1219 x 1219)  
 Beginning point of water penetration at .01 oz./sq. ft. is above 1250 fpm (381 m/min.)



## PRESSURE DROP

Pressure Drop testing performed on 48" x 48" (1219 x 1219) unit.



Ratings do not include the effect of a bird screen.

Air Velocity in feet (meters) per minute through Free Area

## FREE AREA GUIDE

Free Area Guide shows free area in ft<sup>2</sup> and m<sup>2</sup> for various sizes of BL520DD. Width – Inches and Meters

	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
	0.30	0.46	0.61	0.76	0.91	1.07	1.22	1.37	1.52	1.68	1.83	1.98	2.13	2.29	2.44	2.59	2.74	2.90	3.05
12	<b>0.12</b>	<b>0.28</b>	<b>0.43</b>	<b>0.59</b>	<b>0.75</b>	<b>0.91</b>	<b>1.06</b>	<b>1.22</b>	<b>1.38</b>	<b>1.54</b>	<b>1.69</b>	<b>1.85</b>	<b>2.01</b>	<b>2.17</b>	<b>2.32</b>	<b>2.48</b>	<b>2.64</b>	<b>2.80</b>	<b>2.95</b>
0.30	0.01	0.03	0.04	0.05	0.07	0.08	0.10	0.11	0.13	0.14	0.16	0.17	0.19	0.20	0.22	0.23	0.25	0.26	0.27
18	<b>0.22</b>	<b>0.51</b>	<b>0.80</b>	<b>1.09</b>	<b>1.38</b>	<b>1.67</b>	<b>1.96</b>	<b>2.25</b>	<b>2.54</b>	<b>2.82</b>	<b>3.11</b>	<b>3.40</b>	<b>3.69</b>	<b>3.98</b>	<b>4.27</b>	<b>4.56</b>	<b>4.85</b>	<b>5.14</b>	<b>5.43</b>
0.46	0.02	0.05	0.07	0.10	0.13	0.15	0.18	0.21	0.24	0.26	0.29	0.32	0.34	0.37	0.40	0.42	0.45	0.48	0.51
24	<b>0.32</b>	<b>0.74</b>	<b>1.16</b>	<b>1.58</b>	<b>2.00</b>	<b>2.43</b>	<b>2.85</b>	<b>3.27</b>	<b>3.69</b>	<b>4.11</b>	<b>4.54</b>	<b>4.96</b>	<b>5.38</b>	<b>5.80</b>	<b>6.22</b>	<b>6.65</b>	<b>7.07</b>	<b>7.49</b>	<b>7.91</b>
0.61	0.03	0.07	0.11	0.15	0.19	0.23	0.26	0.30	0.34	0.38	0.42	0.46	0.50	0.54	0.58	0.62	0.66	0.70	0.74
30	<b>0.39</b>	<b>0.91</b>	<b>1.44</b>	<b>1.96</b>	<b>2.48</b>	<b>3.00</b>	<b>3.53</b>	<b>4.05</b>	<b>4.57</b>	<b>5.09</b>	<b>5.62</b>	<b>6.14</b>	<b>6.66</b>	<b>7.18</b>	<b>7.70</b>	<b>8.23</b>	<b>8.75</b>	<b>9.27</b>	<b>9.79</b>
0.76	0.04	0.09	0.13	0.18	0.23	0.28	0.33	0.38	0.43	0.47	0.52	0.57	0.62	0.67	0.72	0.77	0.81	0.86	0.91
36	<b>0.49</b>	<b>1.15</b>	<b>1.80</b>	<b>2.45</b>	<b>3.11</b>	<b>3.76</b>	<b>4.42</b>	<b>5.07</b>	<b>5.73</b>	<b>6.38</b>	<b>7.04</b>	<b>7.69</b>	<b>8.35</b>	<b>9.00</b>	<b>9.65</b>	<b>10.31</b>	<b>10.96</b>	<b>11.62</b>	<b>12.27</b>
0.91	0.05	0.11	0.17	0.23	0.29	0.35	0.41	0.47	0.53	0.59	0.65	0.72	0.78	0.84	0.90	0.96	1.02	1.08	1.14
42	<b>0.59</b>	<b>1.38</b>	<b>2.16</b>	<b>2.95</b>	<b>3.74</b>	<b>4.52</b>	<b>5.31</b>	<b>6.10</b>	<b>6.88</b>	<b>7.67</b>	<b>8.46</b>	<b>9.24</b>	<b>10.03</b>	<b>10.82</b>	<b>11.60</b>	<b>12.39</b>	<b>13.18</b>	<b>13.96</b>	<b>14.75</b>
1.07	0.05	0.13	0.20	0.27	0.35	0.42	0.49	0.57	0.64	0.71	0.79	0.86	0.93	1.01	1.08	1.15	1.23	1.30	1.37
48	<b>0.69</b>	<b>1.61</b>	<b>2.53</b>	<b>3.45</b>	<b>4.37</b>	<b>5.28</b>	<b>6.20</b>	<b>7.12</b>	<b>8.04</b>	<b>8.96</b>	<b>9.88</b>	<b>10.80</b>	<b>11.72</b>	<b>12.64</b>	<b>13.55</b>	<b>14.47</b>	<b>15.39</b>	<b>16.31</b>	<b>17.23</b>
1.22	0.06	0.15	0.24	0.32	0.41	0.49	0.58	0.66	0.75	0.83	0.92	1.00	1.09	1.18	1.26	1.35	1.43	1.52	1.60
54	<b>0.79</b>	<b>1.84</b>	<b>2.89</b>	<b>3.94</b>	<b>4.99</b>	<b>6.04</b>	<b>7.10</b>	<b>8.15</b>	<b>9.20</b>	<b>10.25</b>	<b>11.30</b>	<b>12.35</b>	<b>13.40</b>	<b>14.45</b>	<b>15.50</b>	<b>16.56</b>	<b>17.61</b>	<b>18.66</b>	<b>19.71</b>
1.37	0.07	0.17	0.27	0.37	0.46	0.56	0.66	0.76	0.86	0.95	1.05	1.15	1.25	1.34	1.44	1.54	1.64	1.74	1.83
60	<b>0.86</b>	<b>2.02</b>	<b>3.17</b>	<b>4.32</b>	<b>5.47</b>	<b>6.62</b>	<b>7.77</b>	<b>8.92</b>	<b>10.08</b>	<b>11.23</b>	<b>12.38</b>	<b>13.53</b>	<b>14.68</b>	<b>15.83</b>	<b>16.99</b>	<b>18.14</b>	<b>19.29</b>	<b>20.44</b>	<b>21.59</b>
1.52	0.08	0.19	0.29	0.40	0.51	0.62	0.72	0.83	0.94	1.04	1.15	1.26	1.37	1.47	1.58	1.69	1.79	1.90	2.01
66	<b>0.96</b>	<b>2.25</b>	<b>3.53</b>	<b>4.81</b>	<b>6.10</b>	<b>7.38</b>	<b>8.67</b>	<b>9.95</b>	<b>11.23</b>	<b>12.52</b>	<b>13.80</b>	<b>15.08</b>	<b>16.37</b>	<b>17.65</b>	<b>18.94</b>	<b>20.22</b>	<b>21.50</b>	<b>22.79</b>	<b>24.07</b>
1.68	0.09	0.21	0.33	0.45	0.57	0.69	0.81	0.93	1.04	1.16	1.28	1.40	1.52	1.64	1.76	1.88	2.00	2.12	2.24
72	<b>1.06</b>	<b>2.48</b>	<b>3.89</b>	<b>5.31</b>	<b>6.73</b>	<b>8.14</b>	<b>9.56</b>	<b>10.97</b>	<b>12.39</b>	<b>13.81</b>	<b>15.22</b>	<b>16.64</b>	<b>18.05</b>	<b>19.47</b>	<b>20.89</b>	<b>22.30</b>	<b>23.72</b>	<b>25.13</b>	<b>26.55</b>
1.83	0.10	0.23	0.36	0.49	0.63	0.76	0.89	1.02	1.15	1.28	1.42	1.55	1.68	1.81	1.94	2.07	2.21	2.34	2.47
78	<b>1.16</b>	<b>2.71</b>	<b>4.26</b>	<b>5.81</b>	<b>7.35</b>	<b>8.90</b>	<b>10.45</b>	<b>12.00</b>	<b>13.55</b>	<b>15.09</b>	<b>16.64</b>	<b>18.19</b>	<b>19.74</b>	<b>21.29</b>	<b>22.84</b>	<b>24.38</b>	<b>25.93</b>	<b>27.48</b>	<b>29.03</b>
1.98	0.11	0.25	0.40	0.54	0.68	0.83	0.97	1.12	1.26	1.40	1.55	1.69	1.84	1.98	2.12	2.27	2.41	2.56	2.70
84	<b>1.26</b>	<b>2.94</b>	<b>4.62</b>	<b>6.30</b>	<b>7.98</b>	<b>9.66</b>	<b>11.34</b>	<b>13.02</b>	<b>14.70</b>	<b>16.38</b>	<b>18.06</b>	<b>19.74</b>	<b>21.42</b>	<b>23.11</b>	<b>24.79</b>	<b>26.47</b>	<b>28.15</b>	<b>29.83</b>	<b>31.51</b>
2.13	0.12	0.27	0.43	0.59	0.74	0.90	1.05	1.21	1.37	1.52	1.68	1.84	1.99	2.15	2.31	2.46	2.62	2.77	2.93
90	<b>1.36</b>	<b>3.17</b>	<b>4.98</b>	<b>6.80</b>	<b>8.61</b>	<b>10.42</b>	<b>12.23</b>	<b>14.05</b>	<b>15.86</b>	<b>17.67</b>	<b>19.49</b>	<b>21.30</b>	<b>23.11</b>	<b>24.92</b>	<b>26.74</b>	<b>28.55</b>	<b>30.36</b>	<b>32.17</b>	<b>33.99</b>
2.29	0.13	0.29	0.46	0.63	0.80	0.97	1.14	1.31	1.47	1.64	1.81	1.98	2.15	2.32	2.49	2.65	2.82	2.99	3.16

## WIND-DRIVEN RAIN PERFORMANCE

Test size is 1m x 1m (39" x 39") core area, 1.04m x 1.12m (41" x 44") nominal. Free Area of test louver is 5.45 ft<sup>2</sup> (.51m<sup>2</sup>).

29 mph (47 kph) wind & 3" (76) per hour rain conditions

Core Velocity <sub>1</sub> fpm (m/s)	Airflow cfm (m <sup>3</sup> /min)	Free Area Velocity <sub>2</sub> fpm (m/sec.)	Effectiveness Ratio	Class <sub>3</sub>
0 (0)	0 (0)	0 (0)	99.9%	A
98 (.5)	1060 (30)	226 (1.1)	99.9%	A
197 (1.0)	2119 (60)	389 (2.0)	99.9%	A
287 (1.5)	3179 (90)	583 (3.0)	99.9%	A
381 (1.9)	4239 (120)	778 (4.0)	99.9%	A
476 (2.4)	5299 (150)	972 (4.9)	99.9%	A
586 (3.0)	6358 (180)	1167 (5.9)	99.8%	A
673 (3.4)	7418 (210)	1361 (6.9)	99.7%	A
763 (3.9)	8478 (240)	1556 (7.9)	98.9%	B
882 (4.5)	9537 (270)	1750 (8.9)	97.3%	B
987 (5.0)	10597 (300)	1944 (9.9)	95.3%	B

50 mph (80 kph) wind & 8" (203) per hour rain conditions

Core Velocity <sub>1</sub> fpm (m/s)	Airflow cfm (m <sup>3</sup> /min)	Free Area Velocity <sub>2</sub> fpm (m/sec.)	Effectiveness Ratio	Class <sub>3</sub>
0 (0)	0 (0)	0 (0)	99.4%	A
106 (.5)	1060 (30)	226 (1.1)	99.3%	A
184 (.9)	2119 (60)	389 (2.0)	99.2%	A
282 (1.4)	3179 (90)	583 (3.0)	99.0%	A
408 (1.9)	4239 (120)	778 (4.0)	99.0%	A
495 (2.5)	5299 (150)	972 (4.9)	98.9%	B
567 (2.9)	6358 (180)	1167 (5.9)	98.9%	B
680 (3.5)	7418 (210)	1361 (6.9)	98.3%	B
791 (4.0)	8478 (240)	1556 (7.9)	97.2%	B
882 (4.5)	9537 (270)	1750 (8.9)	95.1%	B
982 (5.0)	10597 (300)	1944 (9.9)	23.9%	D

### NOTES

- Core area is the open area of the louver face (face area less louver frames). Core Velocity is the airflow velocity through the Core Area of the louver (1m x 1m).
- Free Area of test size is calculated per AMCA standard 500-L.
- Wind Driven Rain Penetration Classes:

Class	Effectiveness
A	1 to .99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8

- Intake Discharge Loss Class 2

Discharge Loss Coefficient is calculated by dividing a louvers' actual airflow rate vs. a theoretical airflow for the opening. It provides an indication of the louvers' airflow characteristics.

Discharge Loss Classes:

Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	0.199 and below

(The higher the coefficient, the less resistance to airflow.)

- The AMCA Wind Driven Rain Test is performed in a laboratory environment and incorporates controlled wind, water and system airflow effects. In actual field installations, storms may create conditions not considered by the AMCA test. Penthouse and similar applications where wind can pass through multiple louvers in an enclosure is another condition that is not simulated by AMCA tests. These applications can create elevated water penetration rates through any louver. Because of these uncontrolled situations, it is recommended that provisions to manage water penetration through louvers be included in the building design.

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