

# ELM811/ELM90

Adjustable Louver  
Extruded Aluminum



## APPLICATION

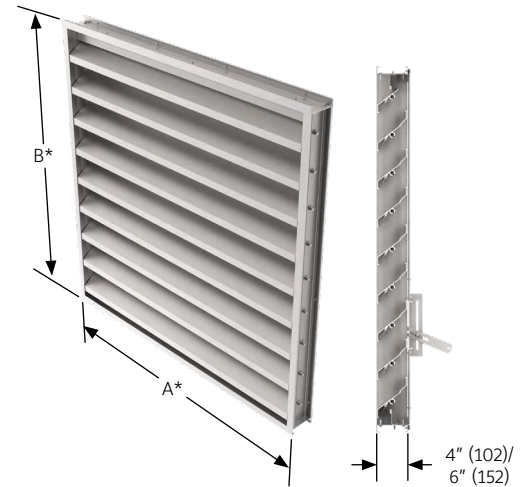
The ELM811/90 are adjustable, 4" and 6" deep respectively, low torque and architecturally pleasing louvers. They have high free area and concealed blade linkage which is protected from weather exposure and reduces required installation depth. Blade and jamb seal options provide tight blade-to-blade and blade-to-frame closure.

## STANDARD CONSTRUCTION

<b>Frame</b>	ELM811 – 4" (102) deep, 6063T6 extruded aluminum with .080" (2.0) nominal wall thickness. Caulking surfaces provided. ELM90 – 6" (152) deep, 6063T6 extruded aluminum with .125" (3.2) nominal wall thickness. Caulking surfaces provided.
<b>Blades</b>	6063T6 extruded aluminum with .081" (2.1) nominal wall thickness. J-style blades are adjustable to 45° angle on ELM811 and 70° angle on ELM90. Blade spacing is approximately 4 3/4" (121) center to center.
<b>Screen</b>	3/4" x .051" (19 x 1.3) expanded, flattened aluminum bird screen in removable frame. Screen adds approximately 1/2" (13) to louver depth.
<b>Seals</b>	Extruded Santoprene blade seals. Compressible aluminum jamb seals.
<b>Bearings</b>	Stainless steel sleeve pressed into frame.
<b>Axles</b>	1/2" (13) plated steel hex.
<b>Finish</b>	Mill.
<b>Linkage</b>	Concealed in frame.
<b>Actuator</b>	Locking louver quadrant.
<b>Minimum Size</b>	12" w x 12" h (305 x 305).
<b>Approximate Shipping Weight</b>	ELM811 – 4 lbs. per sq. ft. ELM90 – 4.5 lbs. per sq. ft.
<b>Maximum Factory Assembly Size</b>	Shall not exceed 48" X 120" (1219 X 3048) or 60" X 120" (1524 X 3048) (without seals).

## FEATURES

- ▶ ELM90: 58% Free Area
- ▶ ELM811: 38% Free Area
- ▶ Low torque operation and architecturally pleasing appearance with low leakage performance
- ▶ Hexagonal shaped axles assure positive blade alignment and low operating torque
- ▶ Concealed blade linkage is protected from weather exposure and reduces required installation depth
- ▶ Jamb and blade seals provide tight closure



5 YEAR LIMITED WARRANTY ISO 9001 CERTIFIED

## VARIATIONS

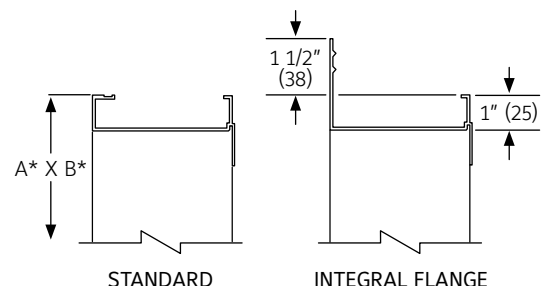
Variations to the basic design of this louver are available at additional cost. They include:

- ▶ Extended sill
- ▶ Front or rear security bars
- ▶ A variety of bird and insect screens
- ▶ Filter racks
- ▶ Selection of finishes: prime coat, baked enamel (modified fluoropolymer), epoxy, Pearledize 50 & 70, PVDF, clear and color anodize. (Some variation in anodize color consistency is possible.)
- ▶ Blade edge and jamb seals
- ▶ Manual, electric or pneumatic actuators

Available with .125" (3.2) construction throughout, refer to as **ELM811H** and **ELM90H**.

Consult Ruskin for other special requirements.

## FRAME CONSTRUCTION



Note:

- Dimensions in inches, parenthesis ( ) indicate millimeters.
- Units can be furnished actual size or with size deducts.

## FREE AREA GUIDE

Free Area Guide shows free area in ft<sup>2</sup> and m<sup>2</sup> for various sizes of ELM811.

### Width – Inches and Meters

		12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
		0.30	0.46	0.61	0.76	0.91	1.07	1.22	1.37	1.52	1.68	1.83	1.96	2.13	2.29	2.44
Height – Inches and Meters	<b>12</b>	<b>0.24</b>	<b>0.38</b>	<b>0.53</b>	<b>0.67</b>	<b>0.82</b>	<b>0.96</b>	<b>1.11</b>	<b>1.25</b>	<b>1.40</b>	<b>1.54</b>	<b>1.68</b>	<b>1.83</b>	<b>1.97</b>	<b>2.12</b>	<b>2.26</b>
	0.30	0.02	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.14	0.16	0.17	0.18	0.20	0.21
	<b>18</b>	<b>0.42</b>	<b>0.68</b>	<b>0.93</b>	<b>1.19</b>	<b>1.45</b>	<b>1.71</b>	<b>1.96</b>	<b>2.22</b>	<b>2.48</b>	<b>2.73</b>	<b>2.99</b>	<b>3.25</b>	<b>3.51</b>	<b>3.76</b>	<b>4.02</b>
	0.46	0.04	0.06	0.09	0.11	0.13	0.16	0.18	0.21	0.23	0.25	0.28	0.30	0.33	0.35	0.37
	<b>24</b>	<b>0.55</b>	<b>0.88</b>	<b>1.22</b>	<b>1.55</b>	<b>1.88</b>	<b>2.22</b>	<b>2.55</b>	<b>2.89</b>	<b>3.22</b>	<b>3.56</b>	<b>3.89</b>	<b>4.23</b>	<b>4.56</b>	<b>4.89</b>	<b>5.23</b>
	0.61	0.05	0.08	0.11	0.14	0.18	0.21	0.24	0.27	0.30	0.33	0.36	0.39	0.42	0.45	0.49
	<b>30</b>	<b>0.76</b>	<b>1.23</b>	<b>1.69</b>	<b>2.16</b>	<b>2.62</b>	<b>3.09</b>	<b>3.55</b>	<b>4.02</b>	<b>4.48</b>	<b>4.95</b>	<b>5.41</b>	<b>5.88</b>	<b>6.34</b>	<b>6.81</b>	<b>7.27</b>
	0.76	0.07	0.11	0.16	0.20	0.24	0.29	0.33	0.37	0.42	0.46	0.50	0.55	0.59	0.63	0.68
	<b>36</b>	<b>0.93</b>	<b>1.49</b>	<b>2.06</b>	<b>2.62</b>	<b>3.19</b>	<b>3.76</b>	<b>4.32</b>	<b>4.89</b>	<b>5.45</b>	<b>6.02</b>	<b>6.58</b>	<b>7.15</b>	<b>7.72</b>	<b>8.28</b>	<b>8.85</b>
	0.91	0.09	0.14	0.19	0.24	0.30	0.35	0.40	0.45	0.51	0.56	0.61	0.66	0.72	0.77	0.82
	<b>42</b>	<b>1.11</b>	<b>1.79</b>	<b>2.47</b>	<b>3.15</b>	<b>3.83</b>	<b>4.51</b>	<b>5.19</b>	<b>5.87</b>	<b>6.55</b>	<b>7.23</b>	<b>7.91</b>	<b>8.59</b>	<b>9.27</b>	<b>9.95</b>	<b>10.63</b>
	1.07	0.10	0.17	0.23	0.29	0.36	0.42	0.48	0.55	0.61	0.67	0.73	0.80	0.86	0.92	0.99
	<b>48</b>	<b>1.30</b>	<b>2.09</b>	<b>2.88</b>	<b>3.67</b>	<b>4.46</b>	<b>5.26</b>	<b>6.05</b>	<b>6.84</b>	<b>7.63</b>	<b>8.42</b>	<b>9.21</b>	<b>10.01</b>	<b>10.80</b>	<b>11.59</b>	<b>12.38</b>
	1.22	0.12	0.19	0.27	0.34	0.41	0.49	0.56	0.64	0.71	0.78	0.86	0.93	1.00	1.08	1.15
	<b>54</b>	<b>1.42</b>	<b>2.29</b>	<b>3.16</b>	<b>4.03</b>	<b>4.90</b>	<b>5.77</b>	<b>6.64</b>	<b>7.51</b>	<b>8.38</b>	<b>9.25</b>	<b>10.11</b>	<b>10.98</b>	<b>11.85</b>	<b>12.72</b>	<b>13.59</b>
	1.37	0.13	0.21	0.29	0.37	0.46	0.54	0.62	0.70	0.78	0.86	0.94	1.02	1.10	1.18	1.26
<b>60</b>	<b>1.64</b>	<b>2.64</b>	<b>3.64</b>	<b>4.64</b>	<b>5.64</b>	<b>6.64</b>	<b>7.64</b>	<b>8.64</b>	<b>9.64</b>	<b>10.64</b>	<b>11.64</b>	<b>12.64</b>	<b>13.64</b>	<b>14.64</b>	<b>15.64</b>	
1.52	0.15	0.24	0.34	0.43	0.52	0.62	0.71	0.80	0.90	0.99	1.08	1.17	1.27	1.36	1.45	
<b>66</b>	<b>1.80</b>	<b>2.90</b>	<b>4.00</b>	<b>5.10</b>	<b>6.20</b>	<b>7.30</b>	<b>8.40</b>	<b>9.51</b>	<b>10.61</b>	<b>11.71</b>	<b>12.81</b>	<b>13.91</b>	<b>15.01</b>	<b>16.11</b>	<b>17.21</b>	
1.68	0.17	0.27	0.37	0.47	0.58	0.68	0.78	0.88	0.99	1.09	1.19	1.29	1.39	1.50	1.60	
<b>72</b>	<b>1.99</b>	<b>3.20</b>	<b>4.42</b>	<b>5.63</b>	<b>6.84</b>	<b>8.06</b>	<b>9.27</b>	<b>10.49</b>	<b>11.70</b>	<b>12.92</b>	<b>14.15</b>	<b>15.34</b>	<b>16.56</b>	<b>17.77</b>	<b>18.99</b>	
1.83	0.18	0.30	0.41	0.52	0.64	0.75	0.86	0.97	1.09	1.20	1.31	1.43	1.54	1.65	1.76	
<b>78</b>	<b>2.17</b>	<b>3.50</b>	<b>4.82</b>	<b>6.15</b>	<b>7.48</b>	<b>8.80</b>	<b>10.13</b>	<b>11.46</b>	<b>12.78</b>	<b>14.11</b>	<b>15.44</b>	<b>16.76</b>	<b>18.09</b>	<b>19.42</b>	<b>20.74</b>	
1.96	0.20	0.32	0.45	0.57	0.69	0.82	0.94	1.06	1.19	1.31	1.43	1.56	1.68	1.80	1.93	
<b>84</b>	<b>2.30</b>	<b>3.70</b>	<b>5.11</b>	<b>6.51</b>	<b>7.91</b>	<b>9.32</b>	<b>10.72</b>	<b>12.13</b>	<b>13.53</b>	<b>14.93</b>	<b>16.34</b>	<b>17.74</b>	<b>19.14</b>	<b>20.55</b>	<b>21.95</b>	
2.13	0.21	0.34	0.47	0.60	0.74	0.87	1.00	1.13	1.26	1.39	1.52	1.65	1.78	1.91	2.04	
<b>90</b>	<b>2.51</b>	<b>4.05</b>	<b>5.58</b>	<b>7.12</b>	<b>8.65</b>	<b>10.19</b>	<b>11.72</b>	<b>13.25</b>	<b>14.79</b>	<b>16.32</b>	<b>17.86</b>	<b>19.39</b>	<b>20.93</b>	<b>22.46</b>	<b>24.00</b>	
2.29	0.23	0.32	0.53	0.66	0.80	0.95	1.09	1.23	1.37	1.52	1.66	1.80	1.94	2.09	2.23	
<b>96</b>	<b>2.68</b>	<b>4.31</b>	<b>5.95</b>	<b>7.58</b>	<b>9.22</b>	<b>10.85</b>	<b>12.49</b>	<b>14.12</b>	<b>15.76</b>	<b>17.39</b>	<b>19.03</b>	<b>20.67</b>	<b>22.30</b>	<b>23.94</b>	<b>25.57</b>	
2.44	0.25	0.40	0.55	0.70	0.86	1.01	1.16	1.31	1.46	1.62	1.77	1.92	2.07	2.22	2.38	

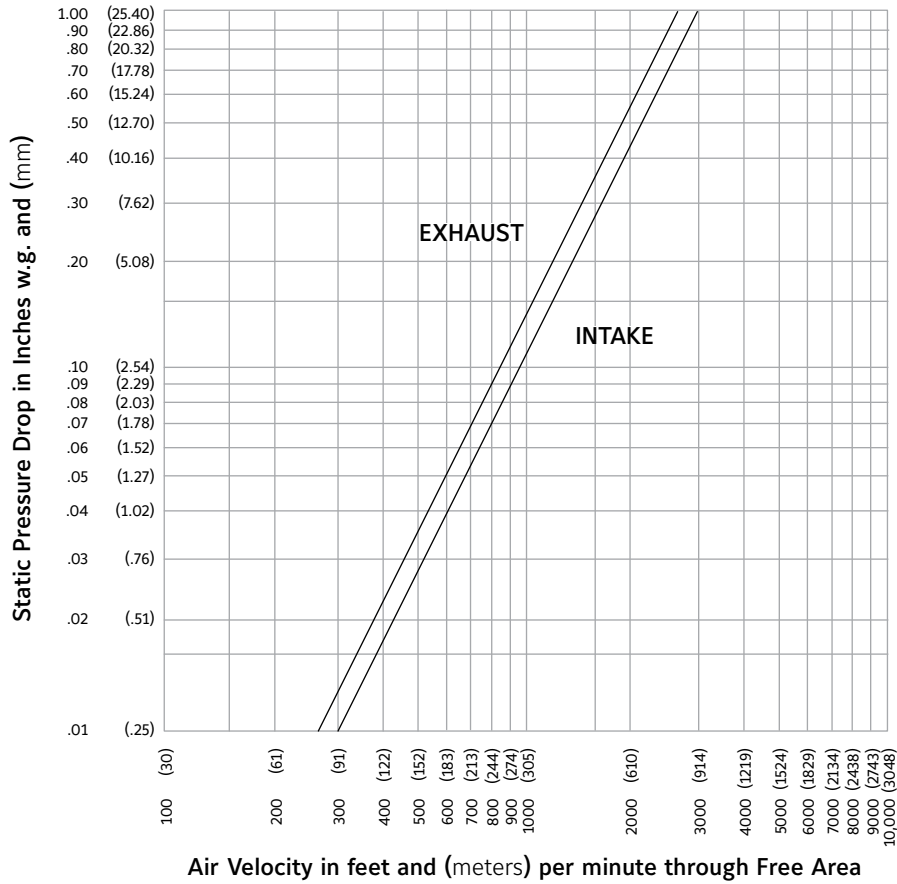
## FREE AREA GUIDE

Free Area Guide shows free area in ft<sup>2</sup> and m<sup>2</sup> for various sizes of ELM90.

### Width – Inches and Meters

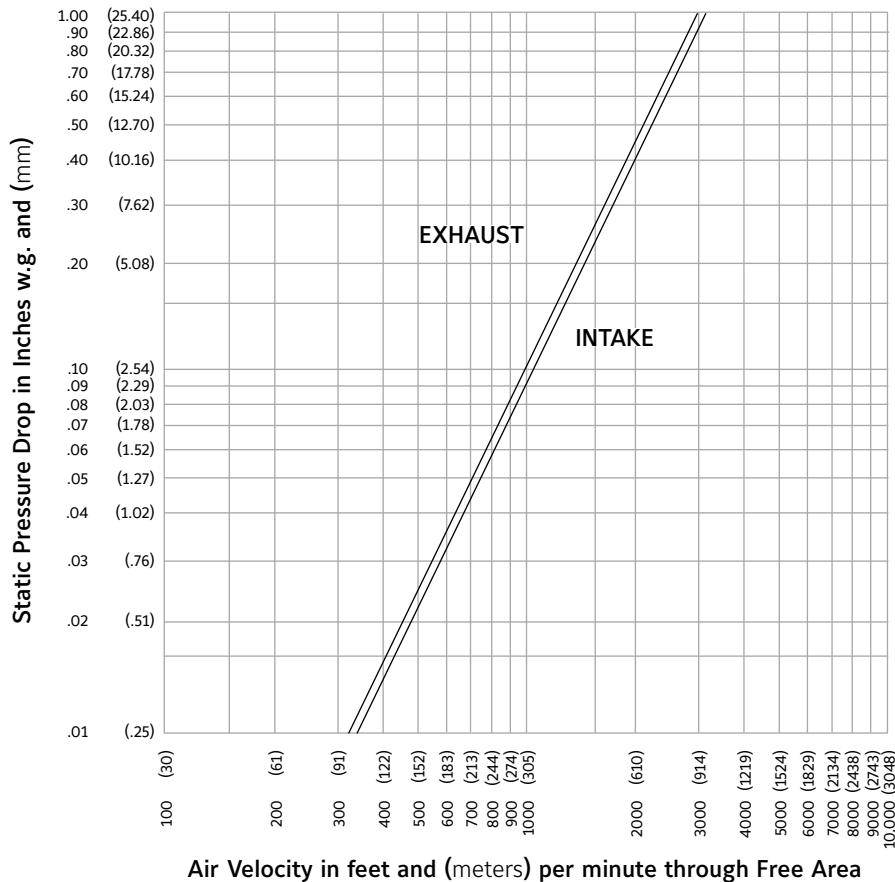
		12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
		0.30	0.46	0.61	0.76	0.91	1.07	1.22	1.37	1.52	1.68	1.83	1.96	2.13	2.29	2.44
Height – Inches and Meters	<b>12</b>	<b>0.32</b>	<b>0.52</b>	<b>0.72</b>	<b>0.91</b>	<b>1.11</b>	<b>1.31</b>	<b>1.51</b>	<b>1.70</b>	<b>1.90</b>	<b>2.10</b>	<b>2.30</b>	<b>2.49</b>	<b>2.69</b>	<b>2.89</b>	<b>3.08</b>
	0.30	0.03	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.19	0.21	0.23	0.25	0.27	0.29
	<b>18</b>	<b>0.59</b>	<b>0.95</b>	<b>1.32</b>	<b>1.68</b>	<b>2.04</b>	<b>2.40</b>	<b>2.77</b>	<b>3.14</b>	<b>3.49</b>	<b>3.85</b>	<b>4.21</b>	<b>4.58</b>	<b>4.94</b>	<b>5.30</b>	<b>5.66</b>
	0.46	0.06	0.09	0.12	0.16	0.19	0.22	0.26	0.29	0.32	0.36	0.39	0.43	0.46	0.49	0.53
	<b>24</b>	<b>0.81</b>	<b>1.30</b>	<b>1.79</b>	<b>2.28</b>	<b>2.77</b>	<b>3.26</b>	<b>3.76</b>	<b>4.25</b>	<b>4.74</b>	<b>5.23</b>	<b>5.72</b>	<b>6.22</b>	<b>6.71</b>	<b>7.20</b>	<b>7.69</b>
	0.61	0.07	0.12	0.17	0.21	0.26	0.30	0.35	0.39	0.44	0.49	0.53	0.58	0.62	0.67	0.71
	<b>30</b>	<b>1.11</b>	<b>1.78</b>	<b>2.46</b>	<b>3.13</b>	<b>3.81</b>	<b>4.48</b>	<b>5.16</b>	<b>5.83</b>	<b>6.51</b>	<b>7.18</b>	<b>7.86</b>	<b>8.53</b>	<b>9.21</b>	<b>9.88</b>	<b>10.56</b>
	0.76	0.10	0.17	0.23	0.29	0.35	0.42	0.48	0.54	0.60	0.67	0.73	0.79	0.86	0.92	0.98
	<b>36</b>	<b>1.36</b>	<b>2.18</b>	<b>3.01</b>	<b>3.84</b>	<b>4.67</b>	<b>5.50</b>	<b>6.33</b>	<b>7.15</b>	<b>7.98</b>	<b>8.81</b>	<b>9.64</b>	<b>10.47</b>	<b>11.30</b>	<b>12.12</b>	<b>12.95</b>
	0.91	0.13	0.20	0.28	0.36	0.43	0.51	0.59	0.66	0.74	0.82	0.90	0.97	1.05	1.13	1.20
	<b>42</b>	<b>1.71</b>	<b>2.76</b>	<b>3.81</b>	<b>4.85</b>	<b>5.90</b>	<b>6.95</b>	<b>8.00</b>	<b>9.04</b>	<b>10.09</b>	<b>11.14</b>	<b>11.18</b>	<b>13.23</b>	<b>14.28</b>	<b>15.33</b>	<b>16.37</b>
	1.07	0.16	0.26	0.35	0.45	0.55	0.65	0.74	0.84	0.94	1.03	1.13	1.23	1.33	1.42	1.52
	<b>48</b>	<b>1.98</b>	<b>3.20</b>	<b>4.41</b>	<b>5.62</b>	<b>6.83</b>	<b>8.04</b>	<b>9.25</b>	<b>10.47</b>	<b>11.68</b>	<b>11.89</b>	<b>14.10</b>	<b>15.31</b>	<b>16.53</b>	<b>17.74</b>	<b>18.95</b>
	1.22	0.18	0.30	0.41	0.52	0.63	0.75	0.86	0.97	1.08	1.20	1.31	1.42	1.54	1.65	1.76
	<b>54</b>	<b>2.20</b>	<b>3.54</b>	<b>4.88</b>	<b>6.22</b>	<b>7.56</b>	<b>8.90</b>	<b>10.25</b>	<b>11.59</b>	<b>12.93</b>	<b>14.27</b>	<b>15.61</b>	<b>16.95</b>	<b>18.30</b>	<b>19.64</b>	<b>20.98</b>
	1.37	0.20	0.33	0.45	0.58	0.70	0.83	0.95	1.08	1.20	1.33	1.45	1.58	1.70	1.82	1.95
<b>60</b>	<b>2.50</b>	<b>4.02</b>	<b>5.55</b>	<b>7.07</b>	<b>8.60</b>	<b>10.12</b>	<b>11.65</b>	<b>13.17</b>	<b>14.70</b>	<b>16.22</b>	<b>17.75</b>	<b>19.27</b>	<b>20.80</b>	<b>22.32</b>	<b>23.85</b>	
1.52	0.23	0.37	0.52	0.66	0.80	0.94	1.08	1.22	1.37	1.51	1.65	1.79	1.93	2.07	2.22	
<b>66</b>	<b>2.75</b>	<b>4.42</b>	<b>6.10</b>	<b>7.78</b>	<b>9.46</b>	<b>11.14</b>	<b>12.81</b>	<b>14.49</b>	<b>16.17</b>	<b>17.85</b>	<b>19.53</b>	<b>21.21</b>	<b>22.88</b>	<b>24.56</b>	<b>26.24</b>	
1.68	0.26	0.41	0.57	0.72	0.88	1.03	1.19	1.35	1.50	1.66	1.81	1.97	2.13	2.28	2.44	
<b>72</b>	<b>3.10</b>	<b>5.00</b>	<b>6.90</b>	<b>8.79</b>	<b>10.69</b>	<b>12.59</b>	<b>14.49</b>	<b>16.38</b>	<b>18.28</b>	<b>20.18</b>	<b>22.07</b>	<b>23.97</b>	<b>25.87</b>	<b>27.76</b>	<b>29.66</b>	
1.83	0.29	0.46	0.64	0.82	0.99	1.17	1.35	1.52	1.70	1.87	2.05	2.23	2.40	2.58	2.76	
<b>78</b>	<b>3.37</b>	<b>5.44</b>	<b>7.50</b>	<b>9.56</b>	<b>11.62</b>	<b>13.68</b>	<b>15.74</b>	<b>17.81</b>	<b>19.87</b>	<b>21.93</b>	<b>23.99</b>	<b>26.05</b>	<b>28.11</b>	<b>30.17</b>	<b>32.24</b>	
1.96	0.31	0.50	0.70	0.89	1.08	1.27	1.46	1.65	1.85	2.04	2.23	2.42	2.61	2.80	2.99	
<b>84</b>	<b>3.59</b>	<b>5.78</b>	<b>7.97</b>	<b>10.16</b>	<b>12.35</b>	<b>14.54</b>	<b>16.74</b>	<b>18.93</b>	<b>21.12</b>	<b>23.31</b>	<b>25.50</b>	<b>27.69</b>	<b>29.88</b>	<b>32.08</b>	<b>34.27</b>	
2.13	0.33	0.54	0.74	0.94	1.15	1.35	1.55	1.76	1.96	2.17	2.37	2.57	2.78	2.98	3.18	
<b>90</b>	<b>3.89</b>	<b>6.26</b>	<b>8.64</b>	<b>11.01</b>	<b>13.39</b>	<b>15.76</b>	<b>18.13</b>	<b>20.51</b>	<b>22.88</b>	<b>25.26</b>	<b>27.63</b>	<b>30.01</b>	<b>32.38</b>	<b>34.76</b>	<b>37.13</b>	
2.29	0.36	0.58	0.80	1.02	1.24	1.46	1.68	1.91	2.13	2.35	2.57	2.79	3.01	3.23	3.45	
<b>96</b>	<b>4.14</b>	<b>6.67</b>	<b>9.19</b>	<b>11.72</b>	<b>14.25</b>	<b>16.78</b>	<b>19.30</b>	<b>21.83</b>	<b>24.36</b>	<b>26.89</b>	<b>29.42</b>	<b>31.94</b>	<b>34.47</b>	<b>37.00</b>	<b>39.53</b>	
2.44	0.38	0.62	0.85	1.09	1.32	1.56	1.79	2.03	2.26	2.50	2.73	2.97	3.20	3.44	3.67	

# ELM811 PRESSURE DROP



Ratings do not include the effect of a bird screen.

## ELM90 PRESSURE DROP



Ratings do not include the effect of a bird screen.

## SUGGESTED SPECIFICATION

Furnish and install louvers as hereinafter specified where shown on plans or as described in schedules. Louvers shall be adjustable type entirely contained within a 4" (102) or 6" (152) frame. Louver components (heads, jambs, sills, blades & mullions) shall be factory assembled by the louver manufacturer. Louver sizes too large for shipping shall be built up by the contractor from factory assembled louver sections to provide overall sizes required. Louver design shall limit span between visible mullions to 5 ft. (1530) and shall incorporate structural supports required to withstand a wind load of 30 lbs. per sq. ft. (1.44kPa, equivalent of a 110 mph wind [177 KPH] - specifier may substitute any loading required).

Louvers shall be Ruskin Model ELM90 or ELM811 6063T6 extruded aluminum alloy construction as follows:

- Frame: .080" (2.0) extruded aluminum (ELM811).  
.125" (3.2) extruded aluminum (ELM90).
- Blades: .081" (2.1) wall thickness on approximately 4 3/4" (121) centers.
- Screen: 3/4" x .051" (19 x 1.3) expanded, flattened aluminum bird screen in removable frame.
- Finish: Select finish specification from Ruskin Finishes Brochure.

### LINKS TO IMPORTANT DOCUMENTS

Document Title
Paint Finishes and Color Guide
Limited Warranty Document



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