XP500WD- WIND DRIVEN RAIN LOUVER
UL LISTED

STANDARD CONSTRUCTION

FRAME
5 1/2" (140) deep by x 3/16" (4.7) thick extruded aluminum with end caps.

BLADES
4.8" (121) 6063T6 extruded aluminum 3/16" (4.7) nominal wall thickness. Double drainable blades are sightproof

BIRD 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. Screen required to meet spawling component to FEMA 361 standards.

FINISH
Mill.

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

APPROXIMATE SHIPPING WEIGHT
13 lbs. per sq. ft. (193.5 kg/m²)

MAXIMUM SHIPPING SECTION SIZE
48"w x 96"h (1220 x 2439)
or 72"w x 60"h (1829 x 1524)

MAXIMUM OVERALL ASSEMBLY SIZE
96"h (2439) x Unlimited Wide
72"w (1829) x Unlimited High

FEATURES
• Design Pressure +/-300 PSF
• Louver complies with FEMA 361 Design and Construction for Community Shelters, Zone IV criteria, 250 MPH wind, 15 lb. 2x4 impact at 100 mph for Tornadoes.
• Published performance rating based on testing in accordance with AMCA Publication 511
• Aluminum construction for low maintenance and high resistance to corrosion
• Louver mounted externally in combination with wall louver or by itself internally (See attached).
• 28% Free Area.
• Optional finishes available at additional cost: prime coat and 70% PVDF (modified fluoropolymer), epoxy, Acrodize.
• This product is Listed to applicable UL Standards and Requirements.

Dimensions in inches, parenthesis ( ) indicate millimeters. *Units furnished 1/4" (6) smaller than given opening.

<table>
<thead>
<tr>
<th>TAG</th>
<th>QTY.</th>
<th>SIZE</th>
<th>VARIATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A*-WIDE</td>
<td>B*-HIGH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

PROJECT LOCATION
ARCH./ENGR. CONTRACTOR
REPRESENTATIVE DATE
Test size is 1M x 1M (39.375" x 39.375") core area, 1.06m x 1.06m (42" x 42") nominal.

### FREE AREA GUIDE

**Free Area Guide** shows free area in ft² and m² for various sizes of XP500WD.

**Width – Inches and Meters**

<table>
<thead>
<tr>
<th>Height – Inches and Meters</th>
<th>12</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
<th>42</th>
<th>48</th>
<th>54</th>
<th>60</th>
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<tr>
<td>12</td>
<td>0.08</td>
<td>0.17</td>
<td>0.26</td>
<td>0.35</td>
<td>0.44</td>
<td>0.53</td>
<td>0.62</td>
<td>0.71</td>
<td>0.80</td>
<td>0.89</td>
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<tr>
<td>18</td>
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<td>0.16</td>
<td>0.25</td>
<td>0.34</td>
<td>0.43</td>
<td>0.52</td>
<td>0.62</td>
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<td>0.08</td>
<td>0.17</td>
<td>0.26</td>
<td>0.35</td>
<td>0.44</td>
<td>0.53</td>
<td>0.62</td>
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<td>0.80</td>
<td>0.89</td>
</tr>
<tr>
<td>48</td>
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<td>0.06</td>
<td>0.15</td>
<td>0.24</td>
<td>0.33</td>
<td>0.42</td>
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<td>0.78</td>
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<td>0.29</td>
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<tr>
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<td>0.01</td>
<td>0.09</td>
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<td>0.45</td>
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<td>0.63</td>
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<td>0.00</td>
<td>0.07</td>
<td>0.16</td>
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<td>0.34</td>
<td>0.43</td>
<td>0.52</td>
<td>0.61</td>
<td>0.70</td>
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</tr>
</tbody>
</table>

### PRESSURE DROP DATA

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

(Data corrected to standard air density and AMCA figures tested to 5.5)

### WATER PENETRATION

Test size 48”w x 48”h (1219 x 1219)

Beginning point of water penetration at .01 oz./sq. ft. is 1250 fpm (381 m/min).

Ruskin Company certifies that the louver 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, water penetration ratings and wind driven rain ratings only.

### NOTES:

1. 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. 5 m/s is the maximum core velocity utilized in this test.
2. Free Area of test size is calculated per AMCA standard 500-L.
3. Wind-Driven Rain Penetration Classes:

<table>
<thead>
<tr>
<th>Class</th>
<th>Effectiveness</th>
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<tbody>
<tr>
<td>A</td>
<td>1 to .99</td>
</tr>
<tr>
<td>B</td>
<td>.989 to .95</td>
</tr>
<tr>
<td>C</td>
<td>.949 to .80</td>
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<tr>
<td>D</td>
<td>Below .8</td>
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</table>

Discharge Loss Classes:

<table>
<thead>
<tr>
<th>Class</th>
<th>Discharge Loss Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.4 and above</td>
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<tr>
<td>2</td>
<td>20.3 to 0.399</td>
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<tr>
<td>3</td>
<td>0.2 to 0.299</td>
</tr>
<tr>
<td>4</td>
<td>0.199 and below</td>
</tr>
</tbody>
</table>

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

5. Discharge Loss Coefficient is calculated by dividing a louver's actual airflow rate vs. a theoretical airflow for the opening. It provides an indication of the louvers' airflow characteristics.
**XP500WD INSTALLATION**

**GENERAL INFORMATION**
- Maximum design pressure ± 300 PSF
- Minimum single section size is 12" wide x 12" high
- Maximum single section size is 72" wide x 108" high or 48" wide x 96" high
- Larger assemblies can be made by stacking sections in unlimited width or unlimited height, but not both. Ref. Table to the right for max. assembly sizes based on installation type.

**ABBREVIATIONS:**
- C-C - CENTER TO CENTER
- LG - LONG
- MAX - MAXIMUM
- MIN - MINIMUM
- N.T.S. - NOT TO SCALE
- REF - REFERENCE
- SIM. - SIMILAR

**XP500WD WITH STANDARD CHANNEL FRAME**
- Ref. Sheet 2 for Jamb Angle Installation Details
- Ref. Sheets 3 & 4 for Head/Sill Angle Installation Details

**XP500WD WITH UNIVERSAL SLEEVE**
- Ref. Sheet 5 for Universal Sleeve Installation Details

**DRAWING INDEX:**
- Sheet 1 - General Information & Drawing Index
- Sheet 2 - Jamb Angle Installation Details
- Sheet 3 - Head/Sill Angle Installation Details
- Sheet 4 - Head/Sill @ Mullions Installation Details Cont'd
- Sheet 5 - Universal Sleeve Installation Details

**INSTALLATION TYPE**
- MAX. ASSEMBLY SIZE
- MIN. WALL DEPTH
- APPLICABLE DETAILS

<table>
<thead>
<tr>
<th>INSTALLATION TYPE</th>
<th>MAX. ASSEMBLY SIZE</th>
<th>MIN. WALL DEPTH</th>
<th>APPLICABLE DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAMB ANGLE INSTALLATION</td>
<td>72&quot; WIDE X UNLIMITED</td>
<td></td>
<td>Ref. Table 1 On Sheet 2</td>
</tr>
<tr>
<td>HEAD/SILL ANGLE INSTALLATION</td>
<td>UNLIMITED WIDE X 108&quot; HIGH</td>
<td>On Sheet 3</td>
<td>On Sheet 3 &amp; 4</td>
</tr>
<tr>
<td>UNIVERSAL SLEEVE INSTALLATION</td>
<td>UNLIMITED WIDE X 96&quot; HIGH</td>
<td>On Sheet 3</td>
<td>On Sheet 5</td>
</tr>
</tbody>
</table>

**XP500WD INSTALLATION**

**DRAWING INDEX:**
- Sheet 1 - General Information
- Sheet 2 - XP500WD Installation
JAMB ANGLE INSTALLATION

- Angles required only at jamb.
- Maximum jamb size is 72" wide x unlimited high.
- Assemblies > 72" wide require head/sill installation - Ref. Sheets 3 & 4.

Ruskin does not determine the structural integrity of the structure. Substrates requirements given in Table 1 are as needed for anchorage only.

**TABLE 1 - JAMB ANGLE INSTALLATION CONDITIONS (BY OTHERS)**

<table>
<thead>
<tr>
<th>SUBSTRATE TYPE</th>
<th>MIN. SUBSTRATE REQUIREMENTS</th>
<th>MIN. WALL DEPTH (FLUSH MOUNT)</th>
<th>FASTENER TYPE</th>
<th>MIN. EMBEDMENT</th>
<th>MIN. EDGE DISTANCE</th>
<th>SECONDARY ANGLE REQUIRED WHEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>WOOD 2&quot; THICK</td>
<td>5&quot;</td>
<td>1/8&quot; CAS, BOLT W/ NUT, MIN. A307 GRADE A</td>
<td>FULL THREAD ENGAGEMENT</td>
<td>1 1/2&quot;</td>
<td>WALL DEPTH ≤ 8.5&quot;</td>
<td></td>
</tr>
<tr>
<td>STEEL 16 GA, 45 KSI TENSILE STRENGTH</td>
<td>5&quot;</td>
<td>3/8&quot; CAS, BOLT W/ NUT, MIN. A307 GRADE A</td>
<td>FULL THREAD ENGAGEMENT</td>
<td>5/8&quot;</td>
<td>WALL DEPTH ≤ 7.5&quot;</td>
<td></td>
</tr>
<tr>
<td>ALUMINUM 0.120&quot; THICK, 20 KSI TENSILE STRENGTH</td>
<td>5&quot;</td>
<td>3/8&quot; CAS, BOLT W/ NUT, MIN. A307 GRADE A</td>
<td>FULL THREAD ENGAGEMENT</td>
<td>5/8&quot;</td>
<td>WALL DEPTH ≤ 7.5&quot;</td>
<td></td>
</tr>
<tr>
<td>CONCRETE 3000 PSI COMP. STRENGTH</td>
<td>5&quot;</td>
<td>1/2&quot; CAS, BOLT W/ NUT, MIN. A307 GRADE A</td>
<td>FULL THREAD ENGAGEMENT</td>
<td>3 1/4&quot;</td>
<td>WALL DEPTH ≤ 10.5&quot;</td>
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</tr>
</tbody>
</table>

*For Grout filled CMU, fastener spacing must be reduced to 6" max C-C.

**JAMB INSTALLATION DETAIL**

- 2" x 2" x 1/4" thick continuous extruded aluminum angle
- Substrate fastener (by others) - Ref. Table 1
- Located 2" from ends & 12" max. C-C
- 1/4-20 x 1 1/2" lg hex washer head self-drilling screw
- Located 2" from ends & 6" max. C-C

**ALTERNATE JAMB INSTALLATION DETAIL**

- Used when secondary angle required per Table 1.
- 2" x 4" x 3/8" thick continuous extruded extruded aluminum angle
- Substrate fastener (by others) - Ref. Table 1
- Located 2" from ends & 12" max. C-C
- 3/8-16 x 1 1/2" lg hex head bolt w/ washer & locknut
- Located 2" from ends & 12" max. C-C
- 1/4-20 x 1 1/2" lg hex washer head self-drilling screw
- Located 2" from ends & 6" max. C-C

RJ認め

DWG. NO.

ECN:

XP500WD INSTALLATION DETAILS

60-022486-00D
HEAD/SILL ANGLE INSTALLATION

- Angles required only at head, sill, and mullion support. Mullion support details are on Sheet 1.
- Maximum assembly size is unlimited wide x 96" high.
- Assemblies ≥ 12" wide may utilize jambs installation - Ref. Sheet 2.
- Rusk does not determine the structural integrity of the structure. Substrate requirements given in Table 2 are as needed for anchorages only.

**TABLE 2 - HEAD/SILL ANGLE INSTALLATION CONDITIONS (BY OTHERS)**

<table>
<thead>
<tr>
<th>SUBSTRATE TYPE</th>
<th>MIN. SUBSTRATE REQUIREMENTS</th>
<th>MIN. WALL DEPTH</th>
<th>FASTENER TYPE</th>
<th>MIN. EMBEDMENT</th>
<th>MIN. EDGE DISTANCE</th>
<th>SECONDARY ANGLE REQUIRED WHEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>WOOD 3&quot; THICK</td>
<td>10&quot; 5/8&quot; DIA. BOLT W/ NUT, MIN. A307 GRADE A</td>
<td></td>
<td>FULL THREAD ENGAGEMENT</td>
<td>1 1/2&quot;</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>STEEL 16 GA. 45 KSI TENSILE STRENGTH</td>
<td>9&quot; 5/8&quot; DIA. BOLT W/ NUT, MIN. A307 GRADE A</td>
<td></td>
<td>FULL THREAD ENGAGEMENT</td>
<td>5/8&quot;</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>ALUMINUM 0.087&quot; THICK, 20 KSI TENSILE STRENGTH</td>
<td>9&quot; 5/8&quot; DIA. BOLT W/ NUT, MIN. A307 GRADE A</td>
<td></td>
<td>FULL THREAD ENGAGEMENT</td>
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<td>N/A</td>
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<tr>
<td>CONCRETE 3000 PSC COMP. STRENGTH</td>
<td>11&quot; CONTINUOUS ANGLES</td>
<td></td>
<td>SCREW-BOLT+, CARBON STEEL</td>
<td>4 1/4&quot;</td>
<td>0&quot; MAX. WALL DEPTH ≤ 12&quot;</td>
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<td>GROUT FILLED CMU</td>
<td>ASTM C-66 BLOCK</td>
<td>Continuous Angles</td>
<td>SCREW-BOLT+, CARBON STEEL</td>
<td>3 1/4&quot;</td>
<td>2&quot; MAX.</td>
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<td>Mullion Support Angles**</td>
<td>SCREW-BOLT+, CARBON STEEL</td>
<td>3 1/4&quot;</td>
<td>2&quot; MAX.</td>
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**FOR CONCRETE AND GROUT FILLED CMU, ONLY ONE FASTENER PER MULLION SUPPORT ANGLE REQUIRED.

HEAD/SILL ANGLE INSTALLATION DETAILS FOR MULLIONS ARE CONTINUED ON SHEET 3
**Head/Sill Angle Installation @ Mullions (Contd)**

- Mullion support required for multiple section wide assemblies

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**Mullion Support Installation Detail**

### Head/Sill Angle Installation @ Mullions

- **60-18 x 1 1/2" Lg Hex Head Bolt W/ Washer & Locknut**
  - 2 per Mullion Support Angle Pair

### Mullion Support Installation Detail at Head Sill Sim.

- **2" x 2" x 1/4" Thick x 3" Long Extruded Aluminum Mullion Support Angle**
  - 1 per side of Mullion Support

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**Mullion Support Installation Detail at Head Sill Sim.**

### Substrate Fastener (By Others)

- Ref. Table 2 on Sheet 3

### 4" Deep-Channel Mullion Support (Factory Installed to Louver)

- **3/8-16 x 1 1/2" Lg Hex Head Bolt W/ Washer & Locknut**
  - Located 12" Max. C-C

### Spacer (By Others)

- **3/8-16 x 1 1/2" Lg Hex Head Bolt W/ Washer & Locknut**
  - Located 12" Max. C-C

### Wall Depth

- **WALL DEPTH**

### Single Section Width

- **SINGLE SECTION WIDTH**

### Single Section Width

- **SINGLE SECTION WIDTH**

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**XP500WD Installation**

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**ECN:** 60-022486-00D

**Dwg. No.:** 3900 DR. GREAVES RD GRANDVIEW, MO 64030

**Sheet:** 6/13/18

**CJD:** 6/13/18

**RDF:** 6/13/18
UNIVERSAL SLEEVE INSTALLATION

- Universal sleeve & retaining angle required on all sides.
- Maximum assembly size is 72" wide x unlimited high or unlimited wide x 96" high.
- Mullion support required for multiple section wide assemblies.
- Minimum wall depth is 3".

**Details:**

- 3/8-16 x 1 1/2" LG hex head bolt w/ washer & locknut located 2" from ends & 1 1/2" max. C-C.
- 2" x 2" x 1/4" thick continuous extruded aluminum retaining angle.
- 1 per side of mullion support (factory installed to sleeve).
- Mullion support angle.
- 2" x 2" x 1/4" thick continuous extruded aluminum retaining angle.
- 2 per mullion support angle pair.
- 3/8-16 x 1 1/2" LG hex head bolt w/ washer & locknut located 2" from ends & 1 1/2" max. C-C there after.
- 2" x 2" x 1/4" thick continuous extruded aluminum retaining angle.
- 4" deep channel mullion support (factory installed to sleeve).
- 3/8-16 x 1 1/2" LG hex head bolt w/ washer & locknut located 12" max. C-C.

**Notes:**

- Wall depth
- Sleeve depth
- Louver depth
- Flange

**Bolts:**

- 3/8-16 x 1 1/2" LG hex head bolt w/ washer & locknut located 2" from ends & 1 1/2" max. C-C.
- Located 12" max. C-C there after.
- Located 2", 5" & 8" from ends.

**Dimensions:**

- Universal sleeve head installation detail
- Universal sleeve jamb installation detail

**Contact:**

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