

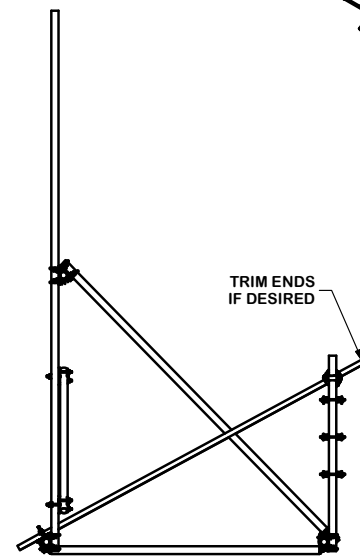
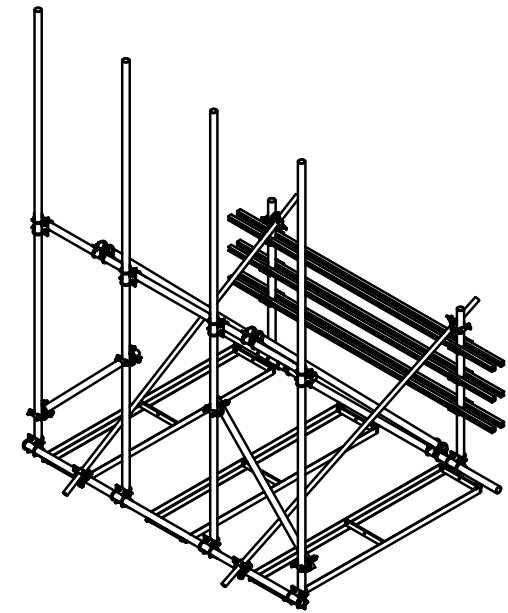
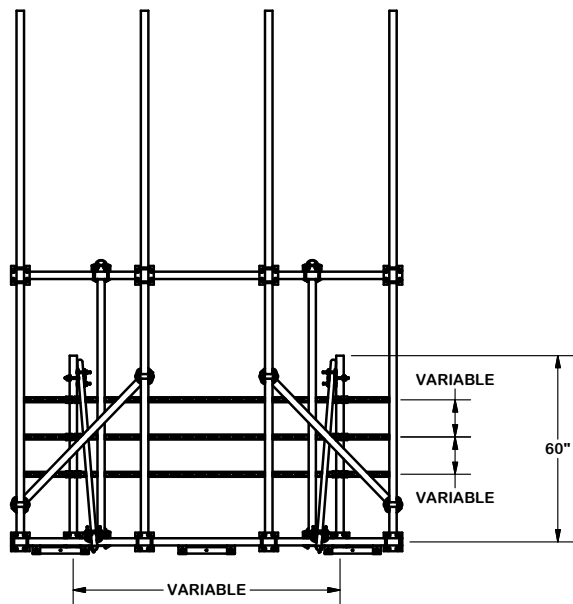
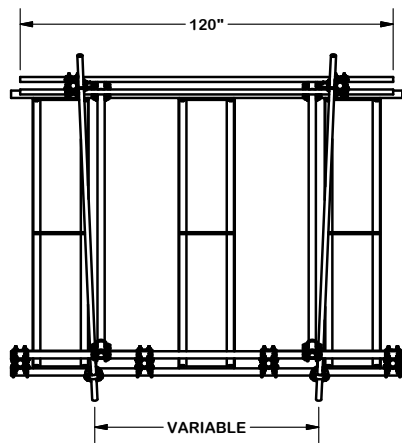
| PARTS LIST |     |          |   |         |             |         |
|------------|-----|----------|---|---------|-------------|---------|
| ITEM       | QTY | PART NO. | PART DESCRIPTION                                | LENGTH  | UNIT WT.    | NET WT. |
| 1          | 4   | P2174    | 2-3/8" OD X 174" SCH 40 GALVANIZED PIPE         | 174 in  | 55.75       | 222.98  |
| 2          | 2   | P1126    | 1 1/4" X 126" SCH 40 PIPE (STIFF ARM)           | 126 in  | 25.12       | 50.23   |
| 3          | 3   | P2126    | 2-3/8" OD X 126" SCH 40 GALVANIZED PIPE         | 126 in  | 40.75       | 122.26  |
| 4          | 4   | P263     | 2-3/8" X 63" SCH 40 GALVANIZED PIPE             | 63 in   | 20.18       | 80.74   |
| 5          | 3   | X-232696 | BALLAST TRAY WELDMENT - SITE PRO 1              |         | 66.53       | 199.60  |
| 6          | 2   | X-RTP10  | FRONT AND BACK HORIZONTAL TRAY SUPPORT WELDMENT |         | 44.81       | 89.61   |
| 7          | 6   | UNT10    | UNISTRUT  | 120 in  | 20.38       | 122.27  |
| 8          | 8   | X-127594 | FLAT DISK CLAMP PLATE 4" CENTERS (GALV.)        |         | 2.51        | 20.05   |
| 9          | 16  | X-100064 | CLAMP (4" V-CLAMP) GALVANIZED                   |         | 0.91        | 14.61   |
| 10         | 14  | SCX1     | CROSSOVER PLATE 2-3/8" X 2-3/8"                 | 6 in    | 3.71        | 51.92   |
| 11         | 56  | X-UB1212 | 1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)       |         | 0.63        | 35.01   |
| 12         | 32  | G1204    | 1/2" x 4" HDG HEX BOLT GR5 FULL THREAD          | 4 in    | 0.27        | 8.64    |
| 13         | 12  | G1202    | 1/2" x 2" HDG HEX BOLT GR5                      | 2 in    | 0.18        | 2.11    |
| 14         | 156 | G12FW    | 1/2" HDG USS FLATWASHER                         | 3/32 in | 0.03        | 5.32    |
| 15         | 156 | G12LW    | 1/2" HDG LOCKWASHER                             | 1/8 in  | 0.01        | 2.17    |
| 16         | 156 | G12NUT   | 1/2" HDG HEAVY 2H HEX NUT                       |         | 0.07        | 11.17   |
| 17         | 12  | SS38R-8  | 3/8" X 8" THREADED ROD (STAINLESS STEEL)        |         | 0.25        | 3.01    |
| 18         | 24  | SQW38    | 3/8" SQUARE WASHER                              | 2 in    | 0.29        | 6.94    |
| 19         | 24  | SS38LW   | 3/8" SS LOCKWASHER                              |         | 0.01        | 0.16    |
| 20         | 24  | SS38NUT  | 3/8" SS HEX NUT                                 |         | 0.02        | 0.44    |
|            |     |          |   |         | TOTAL WT. # | 1049.24 |

**TOLERANCE NOTES**  
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030"$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.030"$ ) - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES ( $\pm 0.010"$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.030"$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.060"$ )

**PROPRIETARY NOTE:**  
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

|             |               |   |               |
|-------------|---------------|---|---------------|
| DESCRIPTION |               | 3 LEVEL RRU / EQUIPMENT RACK FOR RTP FRAMES |               |
| CPD NO.     | DRAWN BY      | ENG. APPROVAL                               |               |
|             | CEK 4/23/2015 |   |               |
| CLASS       | SUB           | DRAWING USAGE                               | CHECKED BY    |
| 81          | 01            | CUSTOMER                                    | BMC 4/24/2015 |

|   |   |
|---|---|
| <br>Engineering Support Team:<br>1-888-753-7446 | Locations:<br>New York, NY<br>Atlanta, GA<br>Los Angeles, CA<br>Plymouth, IN<br>Salem, OR<br>Dallas, TX |
|   | A valmont COMPANY   |
| PART NO.  | RTP10-3RRU  |
| DWG. NO.  | RTP10-3RRU  |



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DESCRIPTION  
**3 LEVEL  
 RRU / EQUIPMENT RACK  
 FOR RTP FRAMES**

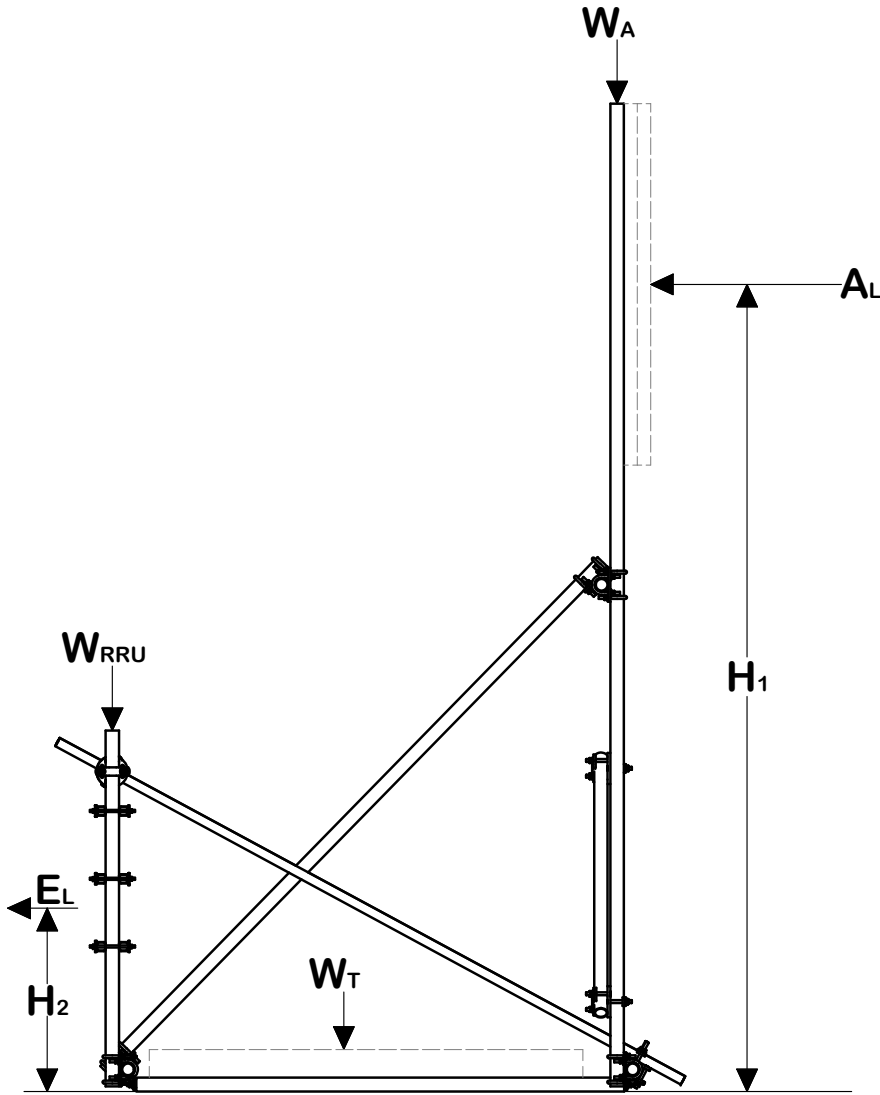


Locations:  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Plymouth, IN  
 Salem, OR  
 Dallas, TX  
 Engineering Support Team:  
 1-888-753-7446

|         |               |               |
|---------|---------------|---------------|
| CPD NO. | DRAWN BY      | ENG. APPROVAL |
| CLASS   | DRAWING USAGE | CHECKED BY    |
| 81      | 01            | BMC 4/24/2015 |
|         | CUSTOMER      |               |

|          |            |
|----------|------------|
| PART NO. | RTP10-3RRU |
| DWG. NO. | RTP10-3RRU |

# RTP FRAMES & RTP-RRU BALLAST EQUATIONS



BALLAST EQUATION WITH 1.5 SAFETY FACTOR:

$$\text{FRONT WIND} = W_T = \frac{(((A_L * H_1) + (E_L * H_2)) * 1.5) - (W_A * 7.25)}{3.625}$$

$$\text{BACK WIND} = W_T = \frac{(((A_L * H_1) + (-E_L * H_2)) * 1.5) - (W_{RRU} * 7.25)}{3.625}$$

BALLAST EQUATION WITH REV. G LOADING:

$$\text{FRONT WIND} = W_T = \frac{(((A_L * H_1) + (E_L * H_2)) * 1.6) - (W_A * 7.25)}{3.625 (0.9)}$$

$$\text{BACK WIND} = W_T = \frac{(((A_L * H_1) + (-E_L * H_2)) * 1.6) - (W_{RRU} * 7.25)}{3.625 (0.9)}$$

$$W = W_T / 3$$

- EL = EQUIPMENT LOAD (NON-FACTORED) lbs
- AL = ANTENNA LOAD (NON-FACTORED) lbs
- H<sub>1</sub> & H<sub>2</sub> = HEIGHT FROM ROOFTOP ft
- W<sub>T</sub> = TOTAL BALLAST WEIGHT lbs
- W = BALLAST WEIGHT PER TRAY lbs
- W<sub>RRU</sub> = 200 + EQUIPMENT WEIGHT lbs
- W<sub>A</sub> = 260 + ANTENNA WEIGHT lbs

## TOLERANCE NOTES

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DESCRIPTION  
 3 LEVEL  
 RRU / EQUIPMENT RACK  
 FOR RTP FRAMES

**SITE PRO 1**  
 Engineering Support Team:  
 1-888-753-7446  
 Locations:  
 New York, NY  
 Atlanta, GA  
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 Plymouth, IN  
 Salem, OR  
 Dallas, TX

|             |                             |                           |
|-------------|-----------------------------|---------------------------|
| CPD NO.     | DRAWN BY<br>CEK 4/23/2015   | ENG. APPROVAL             |
| CLASS<br>81 | SUB<br>01                   | DRAWING USAGE<br>CUSTOMER |
|             | CHECKED BY<br>BMC 4/24/2015 |                           |

|          |            |                |
|----------|------------|----------------|
| PART NO. | RTP10-3RRU | PAGE<br>3 OF 3 |
| DWG. NO. | RTP10-3RRU |                |