

# Vertical Unit Heaters – Submittal

BVSD-6

## Dimensional Data

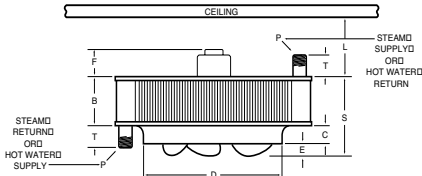
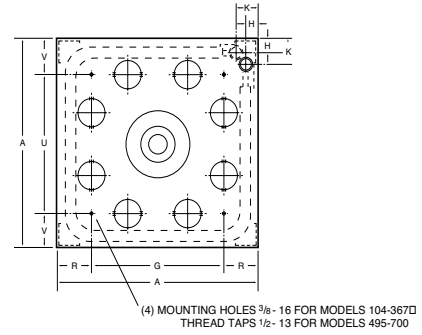
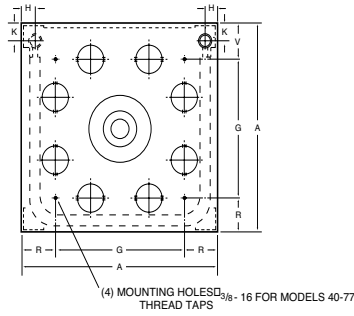


FIGURE A

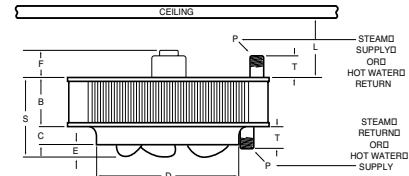


FIGURE B

FIGURE A — MODEL "VB" UNIT HEATER ROUGHING-IN DIMENSIONS

| Unit Capacity (MBH) | Fan Dia. inches (mm) | A inches (mm) | B inches (mm) | C inches (mm) | D inches (mm) | E inches (mm) | F inches (mm) | G inches (mm) | H inches (mm) | K inches (mm) | L Min inches (mm) | P NPT inches (mm) | R inches (mm) | S inches (mm) | T inches (mm) | U inches (mm) | V inches (mm) | Approx. Ship Wt. lbs (kg) |
|---------------------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|---------------|---------------|---------------------------|
| 40                  | 11-1/4 (286)         | 18-1/4 (464)  | 4-5/8 (117)   | 1-1/4 (32)    | 11-3/4 (298)  | 3/4 (19)      | 4 (102)       | 11 (279)      | 1-3/8 (35)    | 1-7/8 (48)    | 7 (178)           | 1-1/2 (38)        | 3-5/8 (92)    | 6-5/8 (168)   | 2-3/4 (70)    | 11 (279)      | 3-5/8 (92)    | 32 (15)                   |
| 62                  | 13-1/2 (343)         | 21-1/4 (540)  | 4-5/8 (117)   | 1-5/8 (41)    | 14 (356)      | 1 (25)        | 4 (102)       | 14 (356)      | 1-3/8 (35)    | 1-7/8 (48)    | 7 (178)           | 1-1/2 (38)        | 3-5/8 (92)    | 7-1/8 (181)   | 2-3/4 (70)    | 14 (356)      | 3-5/8 (92)    | 40 (18)                   |
| 77                  | 13-1/2 (343)         | 21-1/4 (540)  | 6-1/8 (156)   | 1-5/8 (41)    | 14 (356)      | 1 (25)        | 3 (76)        | 14 (356)      | 1-3/8 (35)    | 1-7/8 (48)    | 7 (178)           | 1-1/2 (38)        | 3-5/8 (92)    | 8-5/8 (219)   | 2-3/4 (70)    | 14 (356)      | 3-5/8 (92)    | 43 (20)                   |

FIGURE B — MODEL "VB" UNIT HEATER ROUGHING-IN DIMENSIONS

| Unit Capacity (MBH) | Fan Dia. inches (mm) | A inches (mm) | B inches (mm) | C inches (mm) | D inches (mm) | E inches (mm) | F inches (mm) | G inches (mm) | H inches (mm) | K inches (mm) | L Min inches (mm) | P NPT inches (mm) | R inches (mm) | S inches (mm) | T inches (mm) | U inches (mm) | V inches (mm) | Approx. Ship Wt. lbs (kg) |
|---------------------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|---------------|---------------|---------------------------|
| 104                 | 16-3/4 (425)         | 25-1/4 (641)  | 6-1/8 (156)   | 2 (51)        | 17-1/2 (445)  | 1-1/8 (29)    | 3 (76)        | 17 (432)      | 1-3/8 (35)    | 2-3/4 (70)    | 7 (178)           | 1-1/2 (38)        | 4-1/8 (105)   | 9-1/8 (232)   | 2-3/4 (70)    | 17 (432)      | 4-1/8 (105)   | 63 (29)                   |
| 125                 | 16-3/4 (425)         | 25-1/4 (641)  | 6-1/8 (156)   | 2 (51)        | 17-1/2 (445)  | 1-3/4 (44)    | 3 (76)        | 17 (432)      | 1-3/8 (35)    | 2-3/4 (70)    | 7 (178)           | 1-1/2 (38)        | 4-1/8 (105)   | 9-3/4 (248)   | 2-3/4 (70)    | 17 (432)      | 4-1/8 (105)   | 64 (29)                   |
| 144                 | 19-3/4 (502)         | 29-1/2 (749)  | 6-1/8 (156)   | 2-3/8 (60)    | 20-5/8 (524)  | 1-1/4 (32)    | 4 (102)       | 20-1/2 (521)  | 1-3/4 (44)    | 3-1/2 (89)    | 7 (178)           | 2 (51)            | 4-1/2 (114)   | 9-5/8 (244)   | 2-3/4 (70)    | 20-1/2 (521)  | 4-1/2 (114)   | 80 (36)                   |
| 164                 | 19-3/4 (502)         | 29-1/2 (749)  | 6-1/8 (156)   | 2-3/8 (60)    | 20-5/8 (524)  | 1-3/4 (44)    | 4 (102)       | 20-1/2 (521)  | 1-3/4 (44)    | 3-1/2 (89)    | 7 (178)           | 2 (51)            | 4-1/2 (114)   | 10-1/8 (257)  | 2-3/4 (70)    | 20-1/2 (521)  | 4-1/2 (114)   | 80 (36)                   |
| 200                 | 19-3/4 (502)         | 29-1/2 (749)  | 7-5/8 (194)   | 2-3/8 (60)    | 20-5/8 (524)  | 2 (51)        | 4 (102)       | 20-1/2 (521)  | 1-3/4 (44)    | 3-1/2 (89)    | 7 (178)           | 2 (51)            | 4-1/2 (114)   | 12 (305)      | 2-3/4 (70)    | 20-1/2 (521)  | 4-1/2 (114)   | 86 (39)                   |
| 237                 | 25-1/4 (641)         | 37-1/2 (953)  | 7-5/8 (194)   | 3 (76)        | 26-3/8 (670)  | 1 (25)        | 3-1/2 (89)    | 28 (711)      | 1-3/4 (44)    | 3-1/2 (89)    | 7 (178)           | 2 (51)            | 4-3/4 (121)   | 11-5/8 (295)  | 2-3/4 (70)    | 18 (457)      | 9-3/4 (248)   | 134 (61)                  |
| 285                 | 25-1/4 (641)         | 37-1/2 (953)  | 7-5/8 (194)   | 3 (76)        | 26-3/8 (670)  | 1-1/4 (32)    | 3-1/2 (89)    | 28 (711)      | 1-3/4 (44)    | 3-1/2 (89)    | 7 (178)           | 2 (51)            | 4-3/4 (121)   | 11-3/4 (298)  | 2-3/4 (70)    | 18 (457)      | 9-3/4 (248)   | 139 (63)                  |
| 317                 | 25-1/4 (641)         | 37-1/2 (953)  | 7-5/8 (194)   | 3 (76)        | 26-3/8 (670)  | 2-1/8 (54)    | 4 (102)       | 28 (711)      | 1-3/4 (44)    | 3-1/2 (89)    | 7 (178)           | 2 (51)            | 4-3/4 (121)   | 12-3/4 (324)  | 2-3/4 (70)    | 18 (457)      | 9-3/4 (248)   | 139 (63)                  |
| 367                 | 25-1/4 (641)         | 37-1/2 (953)  | 9-1/8 (232)   | 3 (76)        | 26-3/8 (670)  | 2 (51)        | 3-1/2 (89)    | 28 (711)      | 1-3/4 (44)    | 3-1/2 (89)    | 7 (178)           | 2 (51)            | 4-3/4 (121)   | 14-1/8 (359)  | 2-3/4 (70)    | 18 (457)      | 9-3/4 (248)   | 146 (66)                  |
| 495                 | 30-1/2 (775)         | 42 (1067)     | 9-1/8 (232)   | 3-1/2 (89)    | 31-1/4 (794)  | 1-5/8 (41)    | 3 (76)        | 30 (762)      | 2-1/4 (57)    | 4-1/4 (108)   | 7 (178)           | 2-1/2 (64)        | 6 (152)       | 14-1/4 (362)  | 3 (76)        | 30 (762)      | 6 (152)       | 294 (133)                 |
| 585                 | 30-1/2 (775)         | 42 (1067)     | 12-1/8 (308)  | 3-1/2 (89)    | 31-1/4 (794)  | 2-1/8 (54)    | 3 (76)        | 30 (762)      | 2-1/4 (57)    | 4-1/4 (108)   | 7 (178)           | 2-1/2 (64)        | 6 (152)       | 17-3/4 (451)  | 3 (76)        | 30 (762)      | 6 (152)       | 307 (139)                 |
| 700                 | 30-1/2 (775)         | 42 (1067)     | 13-5/8 (346)  | 3-1/2 (89)    | 31-1/4 (794)  | 3 (76)        | 4 (102)       | 30 (762)      | 2-1/4 (57)    | 4-1/4 (108)   | 7 (178)           | 2-1/2 (64)        | 6 (152)       | 20-1/4 (514)  | 3 (76)        | 30 (762)      | 6 (152)       | 366 (166)                 |



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PROJECT: \_\_\_\_\_  
LOCATION: \_\_\_\_\_  
ARCHITECT: \_\_\_\_\_  
ENGINEER: \_\_\_\_\_  
CONTRACTOR: \_\_\_\_\_  
PO NUMBER: \_\_\_\_\_  
DATE: \_\_\_\_\_



# Standard Output Units

## Hot Water Performance Data

| Model/<br>Unit<br>Size | Water<br>Temp<br>Drop | Output<br>MBH | GPM          | H <sub>2</sub> O<br>Pressure<br>Drop | Final<br>Air<br>Temp | Motor<br>HP† | Motor<br>RPM | Nominal<br>CFM | Outlet<br>Velocity | Sound<br>Rating |
|------------------------|-----------------------|---------------|--------------|--------------------------------------|----------------------|--------------|--------------|----------------|--------------------|-----------------|
| VB-40                  | 10°F                  | 28.8          | 5.93         | .37                                  | 104.6°F              | 1/40         | 1550         | 595            | 877                | I               |
|                        | 20°F                  | <b>22.7</b>   | <b>2.34</b>  | <b>.06</b>                           | <b>95.2°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 16.7          | 1.15         | .02                                  | 85.9°F               |              |              |                |                    |                 |
| VB-40*                 | 10°F                  | 22.9          | 4.71         | .24                                  | 108.3°F              | 1/40         | 1150         | 436            | 658                | I               |
|                        | 20°F                  | <b>18.1</b>   | <b>1.87</b>  | <b>.04</b>                           | <b>98.3°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 13.4          | .92          | .01                                  | 88.4°F               |              |              |                |                    |                 |
| VB-62                  | 10°F                  | 48.1          | 9.92         | 1.05                                 | 104.8°F              | 1/20         | 1550         | 998            | 1005               | II              |
|                        | 20°F                  | <b>39.6</b>   | <b>4.08</b>  | <b>.19</b>                           | <b>96.9°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 31.1          | 2.14         | .06                                  | 89.0°F               |              |              |                |                    |                 |
| VB-62*                 | 10°F                  | 38.1          | 7.85         | .67                                  | 109.7°F              | 1/20         | 1150         | 706            | 727                | II              |
|                        | 20°F                  | <b>31.5</b>   | <b>3.24</b>  | <b>.13</b>                           | <b>101.1°F</b>       |              |              |                |                    |                 |
|                        | 30°F                  | 24.8          | 1.71         | .04                                  | 92.4°F               |              |              |                |                    |                 |
| VB-77                  | 10°F                  | 58.7          | 12.11        | .98                                  | 105.1°F              | 1/20         | 1550         | 1200           | 1220               | II              |
|                        | 20°F                  | <b>48.4</b>   | <b>4.99</b>  | <b>.18</b>                           | <b>97.2°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 38.1          | 2.62         | .05                                  | 89.3°F               |              |              |                |                    |                 |
| VB-77*                 | 10°F                  | 46.5          | 9.59         | .63                                  | 110.0°F              | 1/20         | 1150         | 858            | 894                | II              |
|                        | 20°F                  | <b>38.5</b>   | <b>3.97</b>  | <b>.12</b>                           | <b>101.2°F</b>       |              |              |                |                    |                 |
|                        | 30°F                  | 30.5          | 2.09         | .03                                  | 92.7°F               |              |              |                |                    |                 |
| VB-104                 | 10°F                  | 77.2          | 15.91        | 2.06                                 | 106.6°F              | 1/8          | 1070         | 1528           | 980                | II              |
|                        | 20°F                  | <b>68.3</b>   | <b>7.03</b>  | <b>.44</b>                           | <b>101.2°F</b>       |              |              |                |                    |                 |
|                        | 30°F                  | 59.3          | 4.08         | .16                                  | 95.8°F               |              |              |                |                    |                 |
| VB-104*                | 10°F                  | 63.7          | 13.13        | 1.43                                 | 108.6°F              | 1/8          | 850          | 1208           | 783                | II              |
|                        | 20°F                  | <b>56.5</b>   | <b>5.82</b>  | <b>.31</b>                           | <b>103.1°F</b>       |              |              |                |                    |                 |
|                        | 30°F                  | 49.2          | 3.38         | .11                                  | 97.6°F               |              |              |                |                    |                 |
| VB-125                 | 10°F                  | 94.9          | 19.55        | 3.04                                 | 108.9°F              | 1/6          | 1100         | 1790           | 1170               | III             |
|                        | 20°F                  | <b>83.7</b>   | <b>8.63</b>  | <b>.65</b>                           | <b>103.1°F</b>       |              |              |                |                    |                 |
|                        | 30°F                  | 72.5          | 4.98         | .23                                  | 97.3°F               |              |              |                |                    |                 |
| VB-144                 | 10°F                  | 117.6         | 24.24        | 4.32                                 | 108.8°F              | 1/6          | 1100         | 2220           | 1045               | III             |
|                        | 20°F                  | <b>105.2</b>  | <b>10.84</b> | <b>.96</b>                           | <b>103.7°F</b>       |              |              |                |                    |                 |
|                        | 30°F                  | 92.8          | 6.38         | .36                                  | 98.5°F               |              |              |                |                    |                 |

Performance based on 200°F EWT, 20°F TD, 60°F EAT. Performance at 10°F & 30°F TD is also shown.

For capacities at other conditions, refer to catalog.

\*Speed controller option is required for reduced ratings.

†Motor HP listed is applicable to standard motor type only. For explosion proof motor HP, see Installation Manual.

# Standard Output Units

## Hot Water Performance Data

| Model/<br>Unit<br>Size | Water<br>Temp<br>Drop | Output<br>MBH | GPM          | H <sub>2</sub> O<br>Pressure<br>Drop | Final<br>Air<br>Temp | Motor<br>HP <sup>†</sup> | Motor<br>RPM | Nominal<br>CFM | Outlet<br>Velocity | Sound<br>Rating |
|------------------------|-----------------------|---------------|--------------|--------------------------------------|----------------------|--------------------------|--------------|----------------|--------------------|-----------------|
| VB-164                 | 10°F                  | 132.4         | 27.29        | 3.67                                 | 106.6°F              | 1/6                      | 1100         | 2620           | 1230               | IV              |
|                        | <b>20°F</b>           | <b>118.6</b>  | <b>12.22</b> | <b>.81</b>                           | <b>101.7°F</b>       |                          |              |                |                    |                 |
|                        | 30°F                  | 104.8         | 7.20         | .30                                  | 96.9°F               |                          |              |                |                    |                 |
| VB-200                 | 10°F                  | 156.2         | 32.20        | 5.02                                 | 105.0°F              | 1/4                      | 1100         | 3200           | 1495               | III             |
|                        | <b>20°F</b>           | <b>139.7</b>  | <b>14.40</b> | <b>1.11</b>                          | <b>100.2°F</b>       |                          |              |                |                    |                 |
|                        | 30°F                  | 123.2         | 8.47         | .41                                  | 95.5°F               |                          |              |                |                    |                 |
| VB-237                 | 15°F                  | 188.9         | 25.95        | 3.92                                 | 101.8°F              | 1/4                      | 1100         | 4162           | 1205               | IV              |
|                        | <b>20°F</b>           | <b>180.1</b>  | <b>18.56</b> | <b>2.10</b>                          | <b>99.9°F</b>        |                          |              |                |                    |                 |
|                        | 30°F                  | 162.7         | 11.18        | .82                                  | 96.0°F               |                          |              |                |                    |                 |
| VB-285                 | 15°F                  | 215.4         | 29.60        | 5.02                                 | 104.8°F              | 1/2                      | 1100         | 4430           | 1275               | IV              |
|                        | <b>20°F</b>           | <b>205.4</b>  | <b>21.17</b> | <b>2.68</b>                          | <b>102.7°F</b>       |                          |              |                |                    |                 |
|                        | 30°F                  | 185.3         | 12.73        | 1.04                                 | 98.5°F               |                          |              |                |                    |                 |
| VB-317                 | 15°F                  | 254.9         | 35.03        | 6.88                                 | 105.1°F              | 3/4                      | 1140         | 5210           | 1500               | IV              |
|                        | <b>20°F</b>           | <b>242.9</b>  | <b>25.03</b> | <b>3.67</b>                          | <b>103.0°F</b>       |                          |              |                |                    |                 |
|                        | 30°F                  | 218.9         | 15.04        | 1.42                                 | 98.7°F               |                          |              |                |                    |                 |
| VB-367                 | 15°F                  | 294.7         | 40.49        | 6.60                                 | 104.2°F              | 3/4                      | 1140         | 6140           | 1770               | IV              |
|                        | <b>20°F</b>           | <b>280.8</b>  | <b>28.94</b> | <b>3.52</b>                          | <b>102.2°F</b>       |                          |              |                |                    |                 |
|                        | 30°F                  | 253.1         | 17.39        | 1.36                                 | 98.0°F               |                          |              |                |                    |                 |
| VB-495                 | 15°F                  | —             | —            | —                                    | —                    | 1-1/2                    | 1160         | 8020           | 1640               | IV              |
|                        | <b>20°F</b>           | <b>368.1</b>  | <b>37.93</b> | <b>5.81</b>                          | <b>102.3°F</b>       |                          |              |                |                    |                 |
|                        | 30°F                  | 333.6         | 22.92        | 2.29                                 | 98.3°F               |                          |              |                |                    |                 |
| VB-585                 | 15°F                  | 451.2         | 62.00        | 8.78                                 | 104.0°F              | 1-1/2                    | 1160         | 9450           | 1930               | IV              |
|                        | <b>20°F</b>           | <b>431.1</b>  | <b>44.43</b> | <b>4.72</b>                          | <b>102.0°F</b>       |                          |              |                |                    |                 |
|                        | 30°F                  | 391.0         | 26.86        | 1.86                                 | 98.1°F               |                          |              |                |                    |                 |
| VB-700                 | 15°F                  | —             | —            | —                                    | —                    | 3                        | 1165         | 11,000         | 2250               | IV              |
|                        | <b>20°F</b>           | <b>519.4</b>  | <b>53.52</b> | <b>5.29</b>                          | <b>103.5°F</b>       |                          |              |                |                    |                 |
|                        | 30°F                  | 470.9         | 32.35        | 2.08                                 | 99.5°F               |                          |              |                |                    |                 |

Performance based on 200°F EWT, 20°F TD, 60°F EAT. Performance at 10°F & 30°F TD is also shown.

For capacities at other conditions, refer to catalog.

†Motor HP listed is applicable to standard motor type only. For explosion proof motor HP, see Installation Manual.

# Standard Output Units

## Steam Performance Data

Performance based on 2 Lbs steam pressure at heater with air entering @ 60°F.

| Model/<br>Unit<br>Size | BTU<br>Per Hour* | Condensate<br>Lbs Per<br>Hour | Square<br>Foot<br>EDR | Final<br>Temp | Motor<br>HP† | Motor<br>RPM | CFM<br>70°F<br>Air Basis | Outlet<br>Velocity | Nominal<br>Amps at<br>115 VAC** | Sound<br>Rating |
|------------------------|------------------|-------------------------------|-----------------------|---------------|--------------|--------------|--------------------------|--------------------|---------------------------------|-----------------|
| VB-40                  | 41,300           | 43                            | 172                   | 124°F         | 1/40         | 1550         | 595                      | 877                | 1.2                             | I               |
|                        | <i>33,600</i>    | <i>55</i>                     | <i>140</i>            | <i>131°F</i>  |              | <i>1150</i>  | <i>436</i>               | <i>658</i>         |                                 |                 |
| VB-62                  | 65,500           | 68                            | 273                   | 121°F         | 1/20         | 1550         | 989                      | 1005               | 2.1                             | II              |
|                        | <i>52,800</i>    | <i>55</i>                     | <i>220</i>            | <i>129°F</i>  |              | <i>1150</i>  | <i>706</i>               | <i>727</i>         |                                 |                 |
| VB-77                  | 80,600           | 83                            | 336                   | 122°F         | 1/20         | 1550         | 1200                     | 1220               | 2.1                             | II              |
|                        | <i>65,100</i>    | <i>67</i>                     | <i>271</i>            | <i>130°F</i>  |              | <i>1150</i>  | <i>858</i>               | <i>894</i>         |                                 |                 |
| VB-104                 | 101,800          | 106                           | 424                   | 123°F         | 1/8          | 1070         | 1490                     | 980                | 1.2                             | II              |
|                        | <i>87,900</i>    | <i>91</i>                     | <i>366</i>            | <i>129°F</i>  |              | <i>850</i>   | <i>1180</i>              | <i>783</i>         |                                 |                 |
| VB-125                 | 124,400          | 129                           | 518                   | 124°F         | 1/6          | 1100         | 1790                     | 1170               | 2.3                             | III             |
| VB-144                 | 152,000          | 157                           | 633                   | 123°F         | 1/6          | 1100         | 2220                     | 1045               | 2.3                             | III             |
| VB-164                 | 173,000          | 179                           | 720                   | 121°F         | 1/6          | 1100         | 2620                     | 1230               | 2.3                             | IV              |
| VB-200                 | 210,200          | 208                           | 838                   | 118°F         | 1/4          | 1100         | 3200                     | 1495               | 3.6                             | III             |
| VB-237                 | 249,800          | 260                           | 1040                  | 115°F         | 1/4          | 1100         | 4180                     | 1205               | 3.6                             | IV              |
| VB-285                 | 283,800          | 294                           | 1180                  | 119°F         | 1/2          | 1100         | 4430                     | 1275               | 5.4                             | IV              |
| VB-317                 | 333,400          | 345                           | 1390                  | 119°F         | 3/4          | 1140         | 5210                     | 1500               | N/A                             | IV              |
| VB-367                 | 386,000          | 400                           | 1610                  | 118°F         | 3/4          | 1140         | 6140                     | 1770               | N/A                             | IV              |
| VB-495                 | 496,000          | 514                           | 2070                  | 117°F         | 1-1/2        | 1160         | 8020                     | 1640               | N/A                             | IV              |
| VB-585                 | 585,000          | 605                           | 2440                  | 117°F         | 1-1/2        | 1160         | 9450                     | 1930               | N/A                             | IV              |
| VB-700                 | 705,000          | 729                           | 2940                  | 119°F         | 3            | 1165         | 11,000                   | 2250               | N/A                             | IV              |

### NOTES:

Constant speed units are rated at capacities shown in regular type; capacities shown in italic faced type apply only to units with multi-speed motors.

\*To determine BTU per hour capacities at various steam pressures and entering air temperatures, refer to catalog.

\*\*Stated AMP is full load amps (FLA). Amp draw varies by motor manufacturer ± 0.2 amps. See catalog for motor data.

†Motor HP listed is applicable to standard motor type only. For explosion proof motor HP, see Installation Manual.

# Low Output Units

## Standard Model “VB” Units With All Air Ports Open

### Hot Water Performance Data

| Model/<br>Unit<br>Size | Water<br>Temp<br>Drop | Output<br>MBH | GPM         | H <sub>2</sub> O<br>Pressure<br>Drop | Final<br>Air<br>Temp | Motor<br>HP† | Motor<br>RPM | Nominal<br>CFM | Outlet<br>Velocity | Sound<br>Rating |
|------------------------|-----------------------|---------------|-------------|--------------------------------------|----------------------|--------------|--------------|----------------|--------------------|-----------------|
| VB-40L                 | 10°F                  | 23.9          | 4.92        | .26                                  | 92.9°F               | 1/40         | 1550         | 668            | 950                | I               |
|                        | <b>20°F</b>           | <b>18.9</b>   | <b>1.95</b> | <b>.04</b>                           | <b>86.1°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 14.0          | .96         | .01                                  | 79.3°F               |              |              |                |                    |                 |
| VB-40L*                | 10°F                  | 16.7          | 3.45        | .13                                  | 92.8°F               | 1/40         | 1150         | 470            | 672                | I               |
|                        | <b>20°F</b>           | <b>13.5</b>   | <b>1.39</b> | <b>.02</b>                           | <b>86.4°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | —             | —           | —                                    | —                    |              |              |                |                    |                 |
| VB-62L                 | 10°F                  | 41.5          | 8.56        | .80                                  | 91.9°F               | 1/20         | 1550         | 1200           | 1190               | II              |
|                        | <b>20°F</b>           | <b>34.2</b>   | <b>3.53</b> | <b>.15</b>                           | <b>86.3°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 27.0          | 1.85        | .04                                  | 80.7°F               |              |              |                |                    |                 |
| VB-62L*                | 10°F                  | 32.4          | 6.68        | .50                                  | 94.7°F               | 1/20         | 1150         | 862            | 858                | II              |
|                        | <b>20°F</b>           | <b>26.9</b>   | <b>2.77</b> | <b>.09</b>                           | <b>88.7°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 21.3          | 1.46        | .03                                  | 82.8°F               |              |              |                |                    |                 |
| VB-77L                 | 10°F                  | 48.9          | 10.09       | .69                                  | 93.2°F               | 1/20         | 1550         | 1360           | 1350               | II              |
|                        | <b>20°F</b>           | <b>40.5</b>   | <b>4.17</b> | <b>.13</b>                           | <b>87.4°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 32.0          | 2.20        | .04                                  | 81.7°F               |              |              |                |                    |                 |
| VB-77L*                | 10°F                  | 38.5          | 7.94        | .44                                  | 95.7°F               | 1/20         | 1150         | 995            | 992                | II              |
|                        | <b>20°F</b>           | <b>32.0</b>   | <b>3.29</b> | <b>.08</b>                           | <b>89.6°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 25.4          | 1.75        | .02                                  | 83.5°F               |              |              |                |                    |                 |
| VB-104L                | 10°F                  | 63.7          | 13.13       | 1.43                                 | 93.5°F               | 1/8          | 1070         | 1752           | 1050               | II              |
|                        | <b>20°F</b>           | <b>56.5</b>   | <b>5.82</b> | <b>.31</b>                           | <b>89.7°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 49.2          | 3.38        | .11                                  | 85.9°F               |              |              |                |                    |                 |
| VB-104L*               | 10°F                  | 54.5          | 11.24       | 1.06                                 | 93.5°F               | 1/8          | 850          | 1499           | 827                | II              |
|                        | <b>20°F</b>           | <b>48.5</b>   | <b>4.99</b> | <b>.23</b>                           | <b>89.8°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 42.4          | 2.91        | .08                                  | 86.1°F               |              |              |                |                    |                 |
| VB-125                 | 10°F                  | 83.7          | 17.24       | 2.40                                 | 95.4°F               | 1/6          | 1100         | 2180           | 1390               | III             |
|                        | <b>20°F</b>           | <b>73.9</b>   | <b>7.62</b> | <b>.51</b>                           | <b>91.3°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 64.2          | 4.41        | .18                                  | 87.1°F               |              |              |                |                    |                 |
| VB-144L                | 10°F                  | 95.4          | 19.66       | 2.92                                 | 97.3°F               | 1/6          | 1100         | 2360           | 1080               | III             |
|                        | <b>20°F</b>           | <b>85.5</b>   | <b>8.81</b> | <b>.65</b>                           | <b>93.4°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 75.6          | 5.20        | .24                                  | 89.5°F               |              |              |                |                    |                 |

Performance based on 200°F EWT, 20°F TD, 60°F EAT. Performance at 10°F & 30°F TD is also shown.

For capacities at other conditions, refer to catalog.

\*Speed controller option is required for reduced ratings.

†Motor HP listed is applicable to standard motor type only. For explosion proof motor HP, see Installation Manual.

# Low Output Units

## Standard Model “VB” Units With All Air Ports Open

### Hot Water Performance Data

| Model/<br>Unit<br>Size | Water<br>Temp<br>Drop | Output<br>MBH | GPM          | H <sub>2</sub> O<br>Pressure<br>Drop | Final<br>Air<br>Temp | Motor<br>HP† | Motor<br>RPM | Nominal<br>CFM | Outlet<br>Velocity | Sound<br>Rating |
|------------------------|-----------------------|---------------|--------------|--------------------------------------|----------------------|--------------|--------------|----------------|--------------------|-----------------|
| VB-164L                | 10°F                  | 112.3         | 23.15        | 2.70                                 | 95.4°F               | 1/6          | 1100         | 2920           | 1340               | IV              |
|                        | <b>20°F</b>           | <b>100.7</b>  | <b>10.38</b> | <b>.60</b>                           | <b>91.8°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 89.2          | 6.13         | .22                                  | 88.1°F               |              |              |                |                    |                 |
| VB-200L                | 10°F                  | 135.8         | 27.98        | 3.85                                 | 96.9°F               | 1/4          | 1100         | 3390           | 1560               | III             |
|                        | <b>20°F</b>           | <b>121.8</b>  | <b>12.52</b> | <b>.85</b>                           | <b>93.0°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 107.3         | 7.37         | .32                                  | 89.2°F               |              |              |                |                    |                 |
| VB-237L                | 10°F                  | 168.5         | 34.72        | 6.75                                 | 94.5°F               | 1/4          | 1100         | 4507           | 1270               | IV              |
|                        | <b>20°F</b>           | <b>153.8</b>  | <b>15.85</b> | <b>1.56</b>                          | <b>91.4°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 139.1         | 9.56         | .61                                  | 88.4°F               |              |              |                |                    |                 |
| VB-285L                | 10°F                  | 188.9         | 25.95        | 3.92                                 | 94.5°F               | 1/2          | 1100         | 5040           | 1420               | IV              |
|                        | <b>20°F</b>           | <b>180.1</b>  | <b>18.56</b> | <b>2.10</b>                          | <b>92.9°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 162.7         | 11.18        | .82                                  | 89.7°F               |              |              |                |                    |                 |
| VB-317L                | 10°F                  | 220.9         | 30.35        | 5.26                                 | 95.7°F               | 3/4          | 1140         | 5700           | 1610               | IV              |
|                        | <b>20°F</b>           | <b>210.6</b>  | <b>21.70</b> | <b>2.81</b>                          | <b>94.1°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 189.9         | 13.05        | 1.09                                 | 90.7°F               |              |              |                |                    |                 |
| VB-367L                | 10°F                  | 260.7         | 35.82        | 5.24                                 | 96.4°F               | 3/4          | 1140         | 6600           | 1870               | IV              |
|                        | <b>20°F</b>           | <b>248.5</b>  | <b>25.61</b> | <b>2.80</b>                          | <b>94.7°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 224.2         | 15.40        | 1.09                                 | 91.3°F               |              |              |                |                    |                 |
| VB-495L                | 10°F                  | —             | —            | —                                    | —                    | 1-1/2        | 1160         | 9380           | 1860               | IV              |
|                        | <b>20°F</b>           | <b>310.5</b>  | <b>32.00</b> | <b>4.23</b>                          | <b>90.5°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 281.7         | 19.35        | 1.67                                 | 87.7°F               |              |              |                |                    |                 |
| VB-585L                | 10°F                  | 394.4         | 54.19        | 6.83                                 | 95.3°F               | 1-1/2        | 1160         | 10,300         | 2060               | IV              |
|                        | <b>20°F</b>           | <b>377.0</b>  | <b>38.85</b> | <b>3.68</b>                          | <b>93.7°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 342.2         | 23.51        | 1.45                                 | 90.6°F               |              |              |                |                    |                 |
| VB-700L                | 10°F                  | —             | —            | —                                    | —                    | 3            | 1165         | 11,900         | 2380               | IV              |
|                        | <b>20°F</b>           | <b>453.7</b>  | <b>46.76</b> | <b>4.11</b>                          | <b>95.1°F</b>        |              |              |                |                    |                 |
|                        | 30°F                  | 411.7         | 28.28        | 1.62                                 | 91.9°F               |              |              |                |                    |                 |

Performance based on 200°F EWT, 20°F TD, 60°F EAT. Performance at 10°F & 30°F TD is also shown.  
For capacities at other conditions, refer to catalog.

†Motor HP listed is applicable to standard motor type only. For explosion proof motor HP, see Installation Manual.

# Low Output Units

## Standard Model “VB” Units With All Air Ports Open

### Steam Performance Data

Performance based on 2 Lbs steam pressure at heater with air entering @ 60°F.

| Model/<br>Unit<br>Size | BTU<br>Per Hour | Condensate<br>Lbs Per<br>Hour | Square<br>Foot<br>EDR | Final<br>Temp | Motor<br>HP† | Motor<br>RPM | CFM<br>70°F<br>Air Basis | Outlet<br>Velocity | Sound<br>Rating |
|------------------------|-----------------|-------------------------------|-----------------------|---------------|--------------|--------------|--------------------------|--------------------|-----------------|
| VB-40L                 | 34,800          | 36                            | 145                   | 108°F         | 1/40         | 1550         | 668                      | 950                | I               |
|                        | <i>26,000</i>   | <i>27</i>                     | <i>108</i>            | <i>111°F</i>  |              | <i>1150</i>  | <i>470</i>               | <i>672</i>         |                 |
| VB-62L                 | 57,200          | 59                            | 238                   | 104°F         | 1/20         | 1550         | 1200                     | 1190               | I               |
|                        | <i>45,800</i>   | <i>48</i>                     | <i>191</i>            | <i>109°F</i>  |              | <i>1150</i>  | <i>862</i>               | <i>858</i>         |                 |
| VB-77L                 | 68,000          | 71                            | 283                   | 106°F         | 1/20         | 1550         | 1360                     | 1350               | II              |
|                        | <i>55,000</i>   | <i>57</i>                     | <i>229</i>            | <i>111°F</i>  |              | <i>1150</i>  | <i>995</i>               | <i>992</i>         |                 |
| VB-104L                | 85,400          | 89                            | 356                   | 108°F         | 1/8          | 1070         | 1640                     | 1050               | II              |
|                        | <i>71,200</i>   | <i>74</i>                     | <i>296</i>            | <i>111°F</i>  |              | <i>850</i>   | <i>1290</i>              | <i>827</i>         |                 |
| VB-125L                | 111,000         | 115                           | 462                   | 107°F         | 1/6          | 1100         | 2180                     | 1390               | III             |
| VB-144L                | 125,000         | 130                           | 524                   | 109°F         | 1/6          | 1100         | 2360                     | 1080               | III             |
| VB-164L                | 149,000         | 154                           | 620                   | 107°F         | 1/6          | 1100         | 2920                     | 1340               | IV              |
| VB-200L                | 176,800         | 183                           | 736                   | 108°F         | 1/4          | 1100         | 3390                     | 1560               | III             |
| VB-237L                | 214,900         | 224                           | 895                   | 104°F         | 1/4          | 1100         | 4500                     | 1270               | IV              |
| VB-285L                | 251,800         | 260                           | 1050                  | 106°F         | 1/2          | 1100         | 5040                     | 1420               | IV              |
| VB-317L                | 291,000         | 302                           | 1210                  | 107°F         | 3/4          | 1140         | 5700                     | 1610               | IV              |
| VB-367L                | 344,000         | 356                           | 1430                  | 108°F         | 3/4          | 1140         | 6600                     | 1870               | IV              |
| VB-495L                | 428,000         | 446                           | 1785                  | 102°F         | 1-1/2        | 1160         | 9380                     | 1860               | IV              |
| VB-585L                | 515,000         | 533                           | 2140                  | 106°F         | 1-1/2        | 1160         | 10,300                   | 2060               | IV              |
| VB-700L                | 620,000         | 642                           | 2580                  | 108°F         | 3            | 1165         | 11,900                   | 2380               | IV              |

**NOTES:**

Constant speed units are rated at capacities shown in regular type; capacities shown in italic faced type apply only to units with multi-speed motors.

To determine BTU per hour capacities at various steam pressures and entering air temperatures, refer to catalog.

†Motor HP listed is applicable to standard motor type only. For explosion proof motor HP, see Installation Manual.

## MAXIMUM MOUNTING HEIGHT IN FEET FOR MODEL "VB" UNIT HEATERS WITH AND WITHOUT LOUVER CONE DIFFUSER

| Model/Unit Size | Steam Pressure (PSI) |                     |                     |                     |                     | Model/Unit Size | Steam Pressure (PSI) |                     |                     |                     |                     |
|-----------------|----------------------|---------------------|---------------------|---------------------|---------------------|-----------------|----------------------|---------------------|---------------------|---------------------|---------------------|
|                 | 2                    | 5                   | 10                  | 50                  | 75                  |                 | 2                    | 5                   | 10                  | 50                  | 75                  |
| VB-40           | 10.5<br><b>12.5</b>  | 10.0<br><b>12.0</b> | 10.0<br><b>12.0</b> | 9.0<br><b>11.0</b>  | 8.0<br><b>10.0</b>  | VB-144L         | 18.0<br><b>22.5</b>  | 17.5<br><b>22.0</b> | 17.5<br><b>21.5</b> | 15.0<br><b>18.5</b> | 14.0<br><b>18.0</b> |
| VB-40*          | 8.0<br><b>9.0</b>    | 8.0<br><b>8.5</b>   | 8.0<br><b>8.5</b>   | 8.0<br><b>8.0</b>   | 8.0<br><b>8.0</b>   | VB-164          | 18.0<br><b>22.5</b>  | 17.5<br><b>22.0</b> | 17.0<br><b>21.5</b> | 14.5<br><b>19.0</b> | 14.0<br><b>18.0</b> |
| VB-40L          | 12.5<br><b>14.5</b>  | 12.0<br><b>14.0</b> | 12.0<br><b>13.5</b> | 10.5<br><b>12.0</b> | 9.5<br><b>11.5</b>  | VB-164L         | 22.0<br><b>27.5</b>  | 21.5<br><b>27.0</b> | 21.0<br><b>26.5</b> | 18.5<br><b>23.5</b> | 17.5<br><b>22.5</b> |
| VB-40L*         | 9.0<br><b>10.5</b>   | 8.5<br><b>10.0</b>  | 8.5<br><b>10.0</b>  | 8.0<br><b>9.0</b>   | 8.0<br><b>8.5</b>   | VB-200          | 22.0<br><b>27.5</b>  | 21.5<br><b>27.0</b> | 21.0<br><b>26.5</b> | 18.5<br><b>24.0</b> | 17.5<br><b>23.0</b> |
| VB-62           | 12.0<br><b>14.5</b>  | 11.5<br><b>14.0</b> | 11.5<br><b>14.0</b> | 10.0<br><b>12.0</b> | 9.5<br><b>11.5</b>  | VB-200L         | 25.5<br><b>31.5</b>  | 25.0<br><b>31.0</b> | 24.5<br><b>30.5</b> | 22.0<br><b>27.0</b> | 21.0<br><b>26.0</b> |
| VB-62*          | 9.5<br><b>11.5</b>   | 9.0<br><b>11.0</b>  | 9.0<br><b>11.0</b>  | 8.0<br><b>9.5</b>   | 8.0<br><b>9.0</b>   | VB-237          | 20.0<br><b>25.0</b>  | 19.5<br><b>24.0</b> | 19.0<br><b>23.5</b> | 17.0<br><b>20.5</b> | 16.0<br><b>19.5</b> |
| VB-62L          | 15.0<br><b>19.0</b>  | 14.5<br><b>18.5</b> | 14.5<br><b>18.5</b> | 12.5<br><b>16.5</b> | 12.0<br><b>16.0</b> | VB-237L         | 24.0<br><b>29.5</b>  | 23.5<br><b>28.5</b> | 23.0<br><b>28.0</b> | 20.0<br><b>24.5</b> | 19.0<br><b>23.5</b> |
| VB-62L*         | 11.5<br><b>14.0</b>  | 11.0<br><b>13.5</b> | 11.0<br><b>13.5</b> | 9.5<br><b>12.0</b>  | 8.0<br><b>11.5</b>  | VB-285          | 21.0<br><b>26.0</b>  | 20.5<br><b>25.5</b> | 20.0<br><b>25.0</b> | 17.5<br><b>22.0</b> | 17.0<br><b>21.0</b> |
| VB-77           | 15.0<br><b>18.5</b>  | 14.5<br><b>18.0</b> | 14.0<br><b>17.5</b> | 12.0<br><b>15.5</b> | 11.5<br><b>13.5</b> | VB-285L         | 25.5<br><b>32.0</b>  | 25.0<br><b>31.0</b> | 24.5<br><b>30.0</b> | 21.0<br><b>26.0</b> | 20.0<br><b>25.0</b> |
| VB-77*          | 11.0<br><b>13.5</b>  | 10.5<br><b>13.0</b> | 10.5<br><b>13.0</b> | 9.0<br><b>11.5</b>  | 8.5<br><b>11.0</b>  | VB-317          | 24.0<br><b>30.0</b>  | 23.0<br><b>29.0</b> | 22.0<br><b>28.0</b> | 20.0<br><b>25.0</b> | 19.0<br><b>24.0</b> |
| VB-77L          | 18.0<br><b>22.0</b>  | 17.5<br><b>21.0</b> | 17.5<br><b>21.0</b> | 15.0<br><b>19.0</b> | 14.0<br><b>18.0</b> | VB-317L         | 29.0<br><b>36.0</b>  | 28.5<br><b>35.0</b> | 28.0<br><b>34.0</b> | 25.0<br><b>30.0</b> | 24.0<br><b>29.0</b> |
| VB-77L*         | 13.0<br><b>17.0</b>  | 12.5<br><b>16.5</b> | 12.0<br><b>16.0</b> | 11.0<br><b>14.0</b> | 10.5<br><b>13.5</b> | VB-367          | 28.5<br><b>35.5</b>  | 28.0<br><b>35.0</b> | 27.5<br><b>34.0</b> | 24.0<br><b>30.0</b> | 23.0<br><b>29.0</b> |
| VB-104          | 14.0<br><b>17.0</b>  | 13.5<br><b>16.5</b> | 13.0<br><b>16.0</b> | 11.5<br><b>14.0</b> | 11.0<br><b>13.5</b> | VB-367L         | 32.5<br><b>41.0</b>  | 31.5<br><b>40.0</b> | 30.5<br><b>39.0</b> | 27.5<br><b>35.0</b> | 26.5<br><b>33.5</b> |
| VB-104*         | 11.0<br><b>13.5</b>  | 10.5<br><b>13.0</b> | 10.5<br><b>13.0</b> | 9.5<br><b>12.0</b>  | 9.0<br><b>11.5</b>  | VB-495          | 29.5<br><b>36.5</b>  | 29.0<br><b>36.0</b> | 28.5<br><b>35.5</b> | 25.0<br><b>32.0</b> | 24.0<br><b>30.5</b> |
| VB-104L         | 17.5<br><b>21.5</b>  | 17.0<br><b>21.0</b> | 16.5<br><b>20.5</b> | 15.0<br><b>18.5</b> | 14.5<br><b>17.5</b> | VB-495L         | 35.0<br><b>43.5</b>  | 34.0<br><b>42.5</b> | 33.0<br><b>41.5</b> | 29.0<br><b>35.0</b> | 28.0<br><b>34.0</b> |
| VB-104L*        | 15.0<br><b>18.5</b>  | 14.5<br><b>18.0</b> | 14.5<br><b>18.0</b> | 13.0<br><b>16.0</b> | 12.5<br><b>15.0</b> | VB-585          | 34.0<br><b>42.5</b>  | 33.0<br><b>41.5</b> | 32.0<br><b>40.5</b> | 28.0<br><b>36.0</b> | 27.0<br><b>34.5</b> |
| VB-125          | 16.0<br><b>19.5</b>  | 15.5<br><b>19.0</b> | 15.5<br><b>18.5</b> | 14.0<br><b>17.0</b> | 13.5<br><b>16.0</b> | VB-585L         | 37.0<br><b>46.5</b>  | 36.0<br><b>45.5</b> | 35.0<br><b>44.5</b> | 31.0<br><b>39.0</b> | 30.0<br><b>37.0</b> |
| VB-125L         | 21.0<br><b>26.0</b>  | 20.5<br><b>25.5</b> | 20.0<br><b>25.0</b> | 17.5<br><b>22.5</b> | 17.0<br><b>21.5</b> | VB-700          | 38.5<br><b>48.0</b>  | 37.5<br><b>47.0</b> | 36.5<br><b>46.0</b> | 32.0<br><b>40.0</b> | 30.5<br><b>39.0</b> |
| VB-144          | 15.5<br><b>19.0</b>  | 15.0<br><b>18.5</b> | 14.5<br><b>18.0</b> | 13.0<br><b>16.0</b> | 12.0<br><b>15.5</b> | VB-700L         | 42.5<br><b>53.0</b>  | 41.5<br><b>52.0</b> | 40.5<br><b>51.0</b> | 35.0<br><b>44.0</b> | 33.5<br><b>42.0</b> |

**NOTES:**

\* = Low Speed

L = Model "VB" low output model with all air ports open

Figures in bold face show maximum mounting height with louver cone diffusers set vertically.

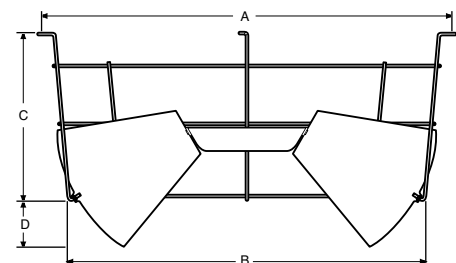
To meet ETL and OSHA requirements, units mounted below 8 feet from floor must be equipped with an OSHA fan guard. Vertical unit heaters can support either an OSHA fan guard or the louver cone diffuser - both items cannot be installed on the same unit. Please see catalog for ordering information.

Above table based on 60°F entering air temperature. In providing for the use of diffusers, it must be remembered that adjustment of a LCD to deflect air toward horizontal immediately lowers the mounting height limit.

See catalog for mounting height correction factors.

**FIGURE C  
CONE DIFFUSER ROUGHING-IN DIMENSIONS**

| Unit Size           | A                              | B                              | C                              | D                               | No of Louvers |
|---------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---------------|
| 40                  | 16 <sup>1</sup> / <sub>2</sub> | 14 <sup>1</sup> / <sub>4</sub> | 6 <sup>1</sup> / <sub>2</sub>  | 2 <sup>5</sup> / <sub>8</sub>   | 8             |
| 62 & 77             | 20                             | 17                             | 8                              | 3 <sup>1</sup> / <sub>8</sub>   | 8             |
| 104 & 125           | 24 <sup>1</sup> / <sub>4</sub> | 21                             | 9 <sup>3</sup> / <sub>4</sub>  | 3 <sup>15</sup> / <sub>16</sub> | 8             |
| 144, 164 & 200      | 28 <sup>3</sup> / <sub>8</sub> | 24 <sup>3</sup> / <sub>4</sub> | 11 <sup>1</sup> / <sub>2</sub> | 4 <sup>5</sup> / <sub>8</sub>   | 8             |
| 237, 285, 317 & 367 | 35 <sup>1</sup> / <sub>2</sub> | 31 <sup>1</sup> / <sub>2</sub> | 13 <sup>3</sup> / <sub>4</sub> | 4                               | 12            |
| 495, 585, 700       | 41 <sup>1</sup> / <sub>2</sub> | 37 <sup>1</sup> / <sub>4</sub> | 17                             | 4 <sup>3</sup> / <sub>4</sub>   | 12            |



**FIGURE C**