

**Example:**

Horizontal FOV = 1 in  
Working Dist. = 10 in

**Best Lens:**

50 mm plus  
12 mm Extension Tube

**Directions:**

1. Determine Field-of-View (FOV) in inches.
2. Determine working distance in inches.
3. Locate FOV in the first column of the table at right.
4. Scan across the row to the working distance closest to desired application.
5. Use the lens size and extension tube indicated for that row.

**Definitions:**

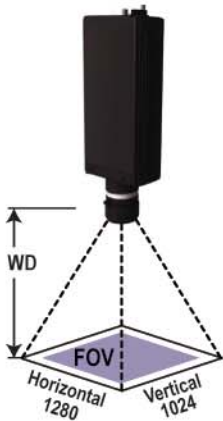
**Field-of-View (FOV):**

The area of the inspection to be captured by the sensor.

**Working Distance (WD):** The distance between the front of the sensor and the target object.

**Extension Tubes:**

Spacers between the lens and the sensor that allow the lens to focus at closer working distances.



| Horizontal<br>x<br>Vertical<br>FOV (in) | Working Distance in Inches (+ Extension Tube in Millimeters) |          |           |           |            |            |          |
|---|--|----------|-----------|-----------|------------|------------|----------|
|   | Lens Choices   |          |           |           |            |            |          |
|   | 8 mm   | 12 mm    | 16 mm     | 25 mm     | 35 mm      | 50 mm      | 75 mm    |
| 0.10 X 0.08                             |  |          |           |           |            |            |          |
| 0.20 X 0.16                             |  |          |           |           |            |            |          |
| 0.30 X 0.24                             |  |          |           |           |            |            |          |
| 0.40 X 0.32                             |  |          |           |           |            |            | 105 45*  |
| 0.50 X 0.4                              |  |          |           |           | 3.9 2*     | 7.5 30*    | 11.1 35* |
| 1.0 X 0.8                               |  |          | 2.8 5*    | 4.2 5*    | 5.9 7*     | 10.3 12*   | 14.2 12* |
| 1.5 X 1.2                               | 2.0 0.75*  |          | 3.8 2*    | 5.6 2.0*  | 7.0 5*     | 12.5 8*    | 18.2 5*  |
| 2.0 X 1.6                               | 2.5 0.25*  | 3.2 1*   | 4.6 1.25* | 6.8 0.75* | 9.5 2*     | 15.3 5*    | 22.6     |
| 2.5 X 2.0                               | 3.1  | 3.8 0.5* | 5.4 0.75* | 8.3       | 11.4 1.25* | 18.3 2.75* | 26.7     |
| 3.0 X 2.4                               | 3.6  | 4.5      | 6.7 0.25* | 9.8       | 13.2 0.25* | 21.6 2*    | 30.8     |
| 3.5 X 2.8                               | 4.1  | 5.3      | 7.3       | 11.3      | 15.4       | 23.8 1.25* | 34.9     |
| 4.0 X 3.2                               | 4.6  | 6.0      | 8.3       | 12.7      | 17.3       | 28.2 0.50* | 39.1     |
| 4.5 X 3.6                               | 5.1  | 6.8      | 9.2       | 14.2      | 19.3       | 29.4       | 43.2     |
| 5.0 X 4.0                               | 5.6  | 7.5      | 10.1      | 15.7      | 21.3       | 32.5       | 47.3     |
| 5.5 X 4.4                               | 6.1  | 8.3      | 11.1      | 17.1      | 23.2       | 35.6       | 51.5     |
| 6.0 X 4.8                               | 6.6  | 9.0      | 12.0      | 18.6      | 25.2       | 38.7       | 55.6     |
| 6.5 X 5.2                               | 7.1  | 9.8      | 12.9      | 20.1      | 27.1       | 41.7       | 59.7     |
| 7.0 X 5.6                               | 7.6  | 10.5     | 13.9      | 21.5      | 29.1       | 44.8       | 63.8     |
| 7.5 X 6.0                               | 8.1  | 11.3     | 14.8      | 23.0      | 31.0       | 47.9       | 68.0     |
| 8.0 X 6.4                               | 8.6  | 12.0     | 15.7      | 24.5      | 33.0       | 51.0       | 72.1     |
| 8.5 X 6.8                               | 9.1  | 12.8     | 16.7      | 25.9      | 35.0       | 54.1       | 76.2     |
| 9.0 X 7.2                               | 9.6  | 13.5     | 17.6      | 27.4      | 36.9       | 57.2       | 80.4     |
| 9.5 X 7.6                               | 10.1   | 14.3     | 18.5      | 28.9      | 38.9       | 60.3       | 84.5     |
| 10.0 X 8.0                              | 10.6   | 15.0     | 19.5      | 30.3      | 40.8       | 63.4       | 88.6     |
| 10.5 X 8.4                              | 11.1   | 15.8     | 20.4      | 31.8      | 42.8       | 66.5       | 92.8     |
| 11.0 X 8.8                              | 11.6   | 16.5     | 21.3      | 33.2      | 44.8       | 69.6       | 96.9     |
| 11.5 X 9.2                              | 12.1   | 17.3     | 22.3      | 34.7      | 46.7       | 72.7       | 101.0    |
| 12.0 X 9.6                              | 12.6   | 18.0     | 23.2      | 36.2      | 48.7       | 75.8       | 105.1    |
| 12.5 X 10.0                             | 13.1   | 18.8     | 24.1      | 37.6      | 50.6       | 78.9       | 109.3    |
| 13.0 X 10.4                             | 13.6   | 19.5     | 25.0      | 39.1      | 52.6       | 82.0       | 113.4    |
| 13.5 X 10.8                             | 14.1   | 20.3     | 26.0      | 40.6      | 54.5       | 85.1       | 117.5    |
| 14.0 X 11.2                             | 14.6   | 21.0     | 26.9      | 42.0      | 56.5       | 88.2       | 121.7    |
| 14.5 X 11.6                             | 15.1   | 21.8     | 27.8      | 43.5      | 58.5       | 91.3       | 125.8    |
| 15.0 X 12.0                             | 15.6   | 22.5     | 28.8      | 45.0      | 60.4       | 94.3       | 129.9    |
| 15.5 X 12.4                             | 16.1   | 23.3     | 29.7      | 46.4      | 62.4       | 97.4       | 134.0    |
| 16.0 X 12.8                             | 16.6   | 24.0     | 30.6      | 47.9      | 64.3       | 100.5      | 138.2    |
| 16.5 X 13.2                             | 17.1   | 24.8     | 31.6      | 49.4      | 66.3       | 103.6      | 142.3    |
| 17.0 X 13.6                             | 17.6   | 25.5     | 32.5      | 50.8      | 68.3       | 106.7      | 146.4    |
| 17.5 X 14.0                             | 18.1   | 26.3     | 33.4      | 52.3      | 70.2       | 109.8      | 150.6    |
| 18.0 X 14.4                             | 18.6   | 27.0     | 34.4      | 53.8      | 72.2       | 112.9      | 154.7    |
| 18.5 X 14.8                             | 19.1   | 27.8     | 35.3      | 55.2      | 74.1       | 116.0      | 158.8    |
| 19.0 X 15.2                             | 19.6   | 28.6     | 36.2      | 56.7      | 76.1       | 119.1      | 162.9    |
| 19.5 X 15.6                             | 20.1   | 29.3     | 37.2      | 58.1      | 78.0       | 122.2      | 167.1    |
| 20.0 X 16.0                             | 20.6   | 30.1     | 38.1      | 59.6      | 80.0       | 125.3      | 171.2    |