## DIN 6921 Hex Flange Bolts

**Nominal Size** | **Thread Pitch** | **E** (Body Diameter) | **F** (Width Across Flats) | **G** (Width Across Corners) | **D** (Total Head Height) | **H** (Wrenching Height) | **U** (Flange Edge Thickness) | **B** (Flange Diameter) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M8</td>
<td>1.25</td>
<td>Max: 7.78</td>
<td>Min: 8</td>
<td>Max: 12.73</td>
<td>Min: 14.26</td>
<td>Min: 8.1</td>
<td>Min: 3.2</td>
<td>Max: 1.2</td>
</tr>
<tr>
<td>M10</td>
<td>1.5</td>
<td>Max: 9.78</td>
<td>Min: 10</td>
<td>Max: 14.73</td>
<td>Min: 16.5</td>
<td>Min: 9.2</td>
<td>Min: 3.6</td>
<td>Max: 1.5</td>
</tr>
<tr>
<td>M12</td>
<td>1.75</td>
<td>Max: 11.78</td>
<td>Min: 12</td>
<td>Max: 15.73</td>
<td>Min: 17.62</td>
<td>Min: 11.5</td>
<td>Min: 4.6</td>
<td>Max: 1.8</td>
</tr>
</tbody>
</table>

**Tolerance on Length**

- 12 thru 16mm: ±0.35mm
- 20mm thru 30mm: ±0.42mm
- 35 thru 50mm: ±0.5 mm
- 55 thru 80 mm: ±0.6 mm
- 90 thru 120 mm: ±0.7 mm
- 130 thru 180 mm: ±0.8 mm

### Description

A one-piece hex washer head bolt with a flat bearing surface, made of medium carbon or high-alloy steel.

### Applications / Advantages

Primary use for Class 10.9 bolt is on truck cassis frames. The flange eliminates the need for a flat washer and helps compensate for a misaligned hole. When used with a proper class flange nut, the bolt system resists bolt slippage by distributing the clamp load over a wide area.

For use in low-strength applications where resistance to environmental corrosion is a primary concern.

### Material

- **Class 8.8 carbon steel**
  - Chemical composition: Carbon- 0.15 - 0.55%; Phosphorous- 0.35% max; Sulphur- 0.35% max
  - Tempering: 425° C Minimum
- **Class 10.9 alloy steel**
  - Chemical composition: Carbon- 0.20 - 0.55%; Phosphorous- 0.35% max; Sulphur- 0.35% max
  - Tempering: Not specified

Class A2-70

### Tensile Strength

- Class 8.8: 800 N/mm² min.; Class 10.9: 1040 N/mm² min.
- 700 N / mm²

### Rockwell Hardness

- Class 8.8: Rockwell C22 - 32.; Class 10.9: Rockwell C32 - 39

### Proof Stress

- Class 8.8: 640 N/mm² min.; Class 10.9: 940 N/mm² min.

### Plating

Parts are available in various finishes including black phosphate, zinc, or with a plain finish.

Stainless screws are usually supplied without a supplemental finish.