# DIN 6921 Hex Flange Bolts

## Nominal Size and Thread Pitch

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>Thread Pitch</th>
<th>Body Diameter</th>
<th>Width Across Flats</th>
<th>Width Across Corners</th>
<th>Total Head Height</th>
<th>Wrenching Height</th>
<th>Flange Edge Thickness</th>
<th>Flange Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6</td>
<td>1</td>
<td>6</td>
<td>5.82</td>
<td>10</td>
<td>10.95</td>
<td>6.6</td>
<td>2.6</td>
<td>1.1</td>
</tr>
<tr>
<td>M8</td>
<td>1.25</td>
<td>8</td>
<td>7.78</td>
<td>13</td>
<td>14.26</td>
<td>8.1</td>
<td>3.2</td>
<td>1.2</td>
</tr>
<tr>
<td>M10</td>
<td>1.5</td>
<td>10</td>
<td>9.78</td>
<td>15</td>
<td>16.5</td>
<td>9.2</td>
<td>3.6</td>
<td>1.5</td>
</tr>
<tr>
<td>M12</td>
<td>1.75</td>
<td>12</td>
<td>11.73</td>
<td>16</td>
<td>17.62</td>
<td>11.5</td>
<td>4.6</td>
<td>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.

## Material

- **Class 8.8 carbon steel** chemical composition: Carbon- 0.15 - 0.55%; Phosphorous- 0.35% max; Sulphur- 0.35% max
- **Class alloy steel 10.9** chemical composition: Carbon- 0.20 - 0.55%; Phosphorous- 0.35% max; Sulphur- 0.35% max

## Tempering Temperature

425° C Minimum

## Tensile Strength

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

## Rockwell Hardness

- Class 8.8: Rockwell C32 - 39
- Class 10.9: Rockwell C32 - 39

## Proof Stress

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

## Elongation after Fracture

- Class 8.8: 12 mm; Class 10.9: 9 mm

## Plating

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

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