



| DIN 6921 HEX FLANGE BOLTS |              |                        |       |                    |       |                         |                   |                  |                       |                          | DIN<br>6921 |  |
|---------------------------|--------------|------------------------|-------|--------------------|-------|-------------------------|-------------------|------------------|-----------------------|--------------------------|-------------|--|
| Nominal Size              | Thread Pitch | E                      |       | F                  |       | G                       | D                 | H                | U                     | B                        |             |  |
|                           |              | Body Diameter          |       | Width Across Flats |       | Width Across Corners    | Total Head Height | Wrenching Height | Flange Edge Thickness | Flange Diameter          |             |  |
|                           |              | Max                    | Min   | Max                | Min   | Min                     | Max               | Min              | Min                   | Max                      | Min         |  |
| M6                        | 1            | 6                      | 5.82  | 10                 | 9.78  | 10.95                   | 6.6               | 2.6              | 1.1                   | 14.2                     | 12.2        |  |
| M8                        | 1.25         | 8                      | 7.78  | 13                 | 12.73 | 14.26                   | 8.1               | 3.2              | 1.2                   | 18                       | 16.8        |  |
| M10                       | 1.5          | 10                     | 9.78  | 15                 | 14.73 | 16.5                    | 9.2               | 3.6              | 1.5                   | 22.3                     | 19.6        |  |
| M12                       | 1.75         | 12                     | 11.73 | 16                 | 15.73 | 17.62                   | 11.5              | 4.6              | 1.8                   | 28.6                     | 23.8        |  |
| Tolerance on Length       |              | 12 thru 16mm: ±0.35mm  |       |                    |       | 20mm thru 30mm: ±0.42m  |                   |                  |                       | 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 |             |  |

|                                  |   |
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| <b>Description</b>               | A one-piece hex washer head bolt with a flat bearing surface, made of medium carbon or high-alloy steel.  |
| <b>Applications / Advantages</b> | Primary use for Class 10.9 bolt is on truck chassis 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. |
| <b>Material</b>                  | <b>Class 8.8 carbon steel</b> chemical composition: Carbon- 0.15 - 0.55%; Phosphorous- 0.35% max; Sulphur- 0.35% max<br><b>Class alloy steel 10.9</b> chemical composition: Carbon- 0.20 - 0.55%; Phosphorous- 0.35% max; Sulphur- 0.35% max  |
| <b>Tempering Temperature</b>     | 425° C Minimum  |
| <b>Tensile Strength</b>          | Class 8.8: 800 N/mm <sup>2</sup> min.; Class 10.9: 1040 N/mm <sup>2</sup> min.  |
| <b>Rockwell Hardness</b>         | Class 8.8: Rockwell C22 - 32.; Class 10.9: Rockwell C32 - 39  |
| <b>Proof Stress</b>              | Class 8.8: 640 N/mm <sup>2</sup> min.; Class 10.9: 940 N/mm <sup>2</sup> min.   |
| <b>Elongation after Fracture</b> | Class 8.8: 12 mm; Class 10.9: 9 mm  |
| <b>Plating</b>                   | Parts are available in various finishes including black phosphate, zinc, or with a plain finish.  |