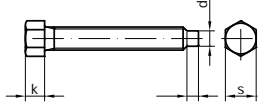
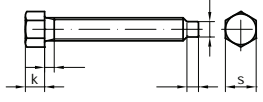
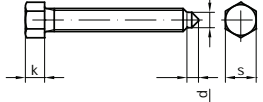

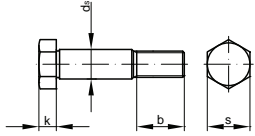


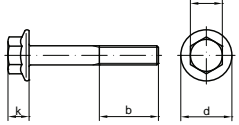


## Dimensions for screws and bolts

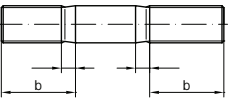
### Hexagon head screws/bolts

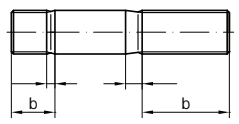
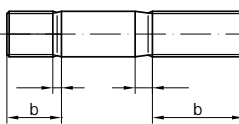
| DIN   | Dimensions  | M 6            | M 8 | M 10 | M 12 | M 16 | M 20 | M 24 | M 30 | M 36 | M 42 | M 48 | M 56 |    |
|-------|---|----------------|-----|------|------|------|------|------|------|------|------|------|------|----|
| 561-A |  | k              | 5   | 6    | 7    | 9    | 11   | 14   | 17   | 21   | 25   | 30   | 34   | 40 |
|       |   | s              | 8   | 10   | 13   | 16   | 18   | 24   | 30   | 36   | 46   | 55   | 65   | 75 |
| 561-B |  |                |     |      |      |      |      |      |      |      |      |      |      |    |
| 564-A |  | a (type B)     | 2.5 | 3    | 4    | 4    | 4.5  | 6    | 7    | 7.5  | 9    | 10   | 12   | 12 |
| 561-B |  | z <sub>2</sub> | 3   | 4    | 5    | 6    | 8    | 10   | 12   | 15   | 18   | 21   | 24   | 28 |
|       |   | d <sub>p</sub> | 4   | 5.5  | 7    | 8.5  | 12   | 15   | 18   | 23   | 28   | 32   | 38   | 45 |

| DIN   | Dimensions  | M 8              | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 | M 24 | M 30 |    |
|---|---|------------------|------|------|------|------|------|------|------|------|----|
| 609<br>610<br>b <sub>1</sub> ) for l ≤ 50 mm<br>b <sub>2</sub> ) for 50 mm < l ≤ 150 mm<br>b <sub>3</sub> ) for l > 150 mm<br>) adjusting shank tol. k6 for drill tol. H7 |  | k                | 5.3  | 6.4  | 7.5  | 8.8  | 10   | 11.5 | 12.5 | 15   | 19 |
|   |   | s                | 13   | 16   | 18   | 21   | 24   | 27   | 30   | 36   | 46 |
|   |   | d <sub>s</sub> * | 9    | 11   | 13   | 15   | 17   | 19   | 21   | 25   | 32 |
|   |   | b <sub>1</sub>   | 14.5 | 17.5 | 20.5 | 22   | 25   | 27.5 | 28.5 | -    | -  |
|   |   | b <sub>2</sub>   | 16.5 | 19.5 | 22.5 | 24   | 27   | 29.5 | 30.5 | 36.5 | 43 |
|   |   | b <sub>3</sub>   | 21.5 | 24.5 | 27.5 | 29   | 32   | 34.5 | 35.5 | 41.5 | 48 |

| DIN  | Dimensions  | M 5            | M 6   | M 8  | M 10 | M 12 | M 16 |      |
|--|---|----------------|-------|------|------|------|------|------|
| 6921<br>b <sub>1</sub> ) for l ≤ 125 mm<br>b <sub>2</sub> ) for 125 mm < l ≤ 200 mm<br>b <sub>3</sub> ) for l > 200 mm |  | k              | 5.4   | 6.6  | 8.1  | 9.2  | 11.5 | 14.4 |
|  |   | s              | 8     | 10   | 13   | 15   | 16   | 21   |
|  |   | d <sub>c</sub> | 11.58 | 14.2 | 18   | 22.3 | 26.6 | 35   |
|  |   | b <sub>1</sub> | 16    | 18   | 22   | 26   | 30   | 38   |
|  |   | b <sub>2</sub> | -     | -    | 28   | 32   | 36   | 44   |
|  |   | b <sub>3</sub> | -     | -    | -    | -    | -    | 57   |

### Studs

| DIN  | Dimensions  | M 6                          | M 8 | M 10 | M 12 | M 16 | M 20 |     |
|--|---|------------------------------|-----|------|------|------|------|-----|
| 835<br>1) b <sub>1</sub> ) for l ≤ 125 mm<br>2) b <sub>2</sub> ) for 125 mm < l ≤ 200 mm<br>3) b <sub>3</sub> ) for l > 200 mm |  | b <sub>1</sub>               | 12  | 16   | 20   | 24   | 32   | 40  |
|  |   | x <sub>1</sub>               | 2.5 | 3.2  | 3.8  | 4.3  | 5.0  | 6.3 |
|  |   | b <sub>2</sub> <sup>1)</sup> | 18  | 22   | 26   | 30   | 38   | 46  |
|  |   | b <sub>2</sub> <sup>2)</sup> | 24  | 28   | 32   | 36   | 44   | 52  |
|  |   | b <sub>2</sub> <sup>3)</sup> | -   | -    | 45   | 49   | 57   | 65  |

| DIN  | Dimensions                   | M 5         | M 6         | M 8         | M 10        | M 12        | M 14        | M 16        | M 18 |
|--|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| 938<br>   | b <sub>1</sub> (DIN 938)     | 5           | 6           | 8           | 10          | 12          | 14          | 16          | 18   |
|  | b <sub>1</sub> (DIN 939)     | 6.5         | 7.5         | 10          | 12          | 15          | 18          | 20          | 22   |
|  | x <sub>1</sub>               | 2           | 2.5         | 3.2         | 3.8         | 4.3         | 5           | 5           | 6.3  |
|  | x <sub>2</sub>               | 1           | 1.25        | 1.6         | 1.9         | 2.2         | 2.5         | 2.5         | 3.2  |
|  | b <sub>2</sub> <sup>1)</sup> | 16          | 18          | 22          | 26          | 30          | 34          | 38          | 42   |
|  | b <sub>2</sub> <sup>2)</sup> | 22          | 24          | 28          | 32          | 36          | 40          | 44          | 48   |
|  | b <sub>2</sub> <sup>3)</sup> | -           | -           | -           | 45          | 49          | 53          | 57          | 61   |
| 939<br><br>b <sub>1</sub> = screwed-in end<br>b <sub>2</sub> = nut end<br>1) b <sub>1</sub> ) for l ≤ 125 mm<br>2) b <sub>2</sub> ) for 125 mm < l ≤ 200 mm<br>3) b <sub>3</sub> ) for l > 200 mm | <b>Dimensions</b>            | <b>M 20</b> | <b>M 22</b> | <b>M 24</b> | <b>M 27</b> | <b>M 30</b> | <b>M 33</b> | <b>M 36</b> |      |
|  | b <sub>1</sub> (DIN 938)     | 20          | 22          | 24          | 27          | 30          | 33          | 36          |      |
|  | b <sub>1</sub> (DIN 939)     | 25          | 28          | 30          | 35          | 38          | 42          | 45          |      |
|  | x <sub>1</sub>               | 6.3         | 6.3         | 7.5         | 7.5         | 9           | 9           | 10          |      |
|  | x <sub>2</sub>               | 3.2         | 3.2         | 3.8         | 3.8         | 4.5         | 4.5         | 5           |      |
|  | b <sub>2</sub> <sup>1)</sup> | 46          | 50          | 54          | 60          | 66          | 72          | 78          |      |
|  | b <sub>2</sub> <sup>2)</sup> | 53          | 56          | 60          | 66          | 72          | 78          | 84          |      |
|  | b <sub>2</sub> <sup>3)</sup> | 65          | 69          | 73          | 79          | 85          | 91          | 97          |      |