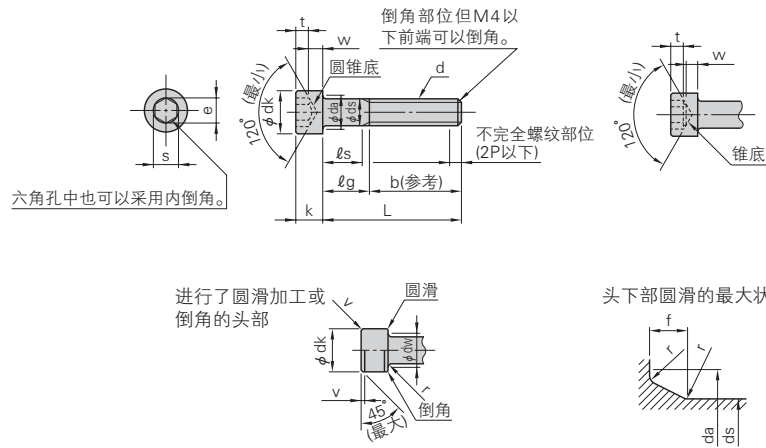


【技術参数】内六角螺栓 节选自JIS B 1176(1999)

1.各部位的尺寸



$$f(\text{最大}) = 1.7t(\text{最大})$$

$$r(\text{最大}) = \frac{da(\text{最大}) - ds(\text{最大})}{2}$$

r(最小) = 根据附表 的值。

单位: mm

| 螺纹的公称直径(d <sup>(1)</sup> ) | M2                | M2.5           | M3             | M4             | M5             | M6             | M8             | M10            | M12             | (M14)            | M16              | (M18)            | M20              | (M22)  | M24    | (M27)  | M30    |        |
|----------------------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|--------|--------|--------|--------|--------|
| 螺栓的螺距(P)                   | 0.4               | 0.45           | 0.5            | 0.7            | 0.8            | 1              | 1.25           | 1.5            | 1.75            | 2                | 2                | 2.5              | 2.5              | 2.5    | 3      | 3      | 3.5    |        |
| b 参考                       | 16                | 17             | 18             | 20             | 22             | 24             | 28             | 32             | 36              | 40               | 44               | 48               | 52               | 56     | 60     | 66     | 72     |        |
| dk                         | 最大(基准尺寸)*         | 3.8            | 4.5            | 5.5            | 7              | 8.5            | 10             | 13             | 16              | 18               | 21               | 24               | 27               | 30     | 33     | 36     | 40     | 45     |
|                            | 最小                | 3.62           | 4.32           | 5.32           | 6.78           | 8.28           | 9.78           | 12.73          | 16.27           | 18.27            | 21.33            | 24.33            | 27.33            | 30.33  | 33.39  | 36.39  | 40.39  | 45.39  |
| ds                         | 最大                | 2.6            | 3.1            | 3.6            | 4.7            | 5.7            | 6.8            | 9.2            | 11.2            | 13.7             | 15.7             | 17.7             | 20.2             | 22.4   | 24.4   | 26.4   | 30.4   | 33.4   |
| e                          | 最大(基准尺寸)          | 2              | 2.5            | 3              | 4              | 5              | 6              | 8              | 10              | 12               | 14               | 16               | 18               | 20     | 22     | 24     | 27     | 30     |
|                            | 最小                | 1.86           | 2.36           | 2.86           | 3.82           | 4.82           | 5.82           | 7.78           | 9.78            | 11.73            | 13.73            | 15.73            | 17.73            | 19.67  | 21.67  | 23.67  | 26.67  | 29.67  |
| f                          | 最大                | 0.51           | 0.51           | 0.51           | 0.60           | 0.60           | 0.68           | 1.02           | 1.02            | 1.45             | 1.45             | 1.45             | 1.87             | 2.04   | 2.04   | 2.04   | 2.89   | 2.89   |
| k                          | 最大(基准尺寸)          | 2              | 2.5            | 3              | 4              | 5              | 6              | 8              | 10              | 12               | 14               | 16               | 18               | 20     | 22     | 24     | 27     | 30     |
|                            | 最小                | 1.86           | 2.36           | 2.86           | 3.82           | 4.82           | 5.70           | 7.64           | 9.64            | 11.57            | 13.57            | 15.57            | 17.57            | 19.48  | 21.48  | 23.48  | 26.48  | 29.48  |
| r                          | 最小                | 0.1            | 0.1            | 0.1            | 0.2            | 0.2            | 0.25           | 0.4            | 0.4             | 0.6              | 0.6              | 0.6              | 0.8              | 0.8    | 0.8    | 1      | 1      |        |
| s                          | 公称(基准尺寸)          | 1.5            | 2              | 2.5            | 3              | 4              | 5              | 6              | 8               | 10               | 12               | 14               | 14               | 17     | 17     | 19     | 19     | 22     |
|                            | 最小                | 1.52           | 2.02           | 2.52           | 3.02           | 4.02           | 5.02           | 6.02           | 8.025           | 10.025           | 12.032           | 14.032           | 14.032           | 17.05  | 17.050 | 19.065 | 19.065 | 22.065 |
|                            | 最大 <sup>(1)</sup> | 1.560<br>2.045 | 2.060<br>2.560 | 2.580<br>3.080 | 3.080<br>3.080 | 4.095<br>5.095 | 5.140<br>6.095 | 6.140<br>8.115 | 8.175<br>10.115 | 10.175<br>12.142 | 12.212<br>14.142 | 14.212<br>14.142 | 14.212<br>14.142 | 17.230 | 17.230 | 19.275 | 19.275 | 22.275 |
| t                          | 最小                | 1              | 1.1            | 1.3            | 2              | 2.5            | 3              | 4              | 5               | 6                | 7                | 8                | 9                | 10     | 11     | 12     | 13.5   | 15.5   |
| v                          | 最大                | 0.2            | 0.25           | 0.3            | 0.4            | 0.5            | 0.6            | 0.8            | 1               | 1.2              | 1.4              | 1.6              | 1.8              | 2      | 2.2    | 2.4    | 2.7    | 3      |
| dw                         | 最小                | 3.40           | 4.18           | 5.07           | 6.53           | 8.03           | 9.38           | 12.33          | 15.33           | 17.23            | 20.17            | 23.17            | 25.87            | 28.87  | 31.81  | 34.81  | 38.61  | 43.61  |
| w                          | 最小                | 0.55           | 0.85           | 1.15           | 1.4            | 1.9            | 2.3            | 3.3            | 4               | 4.8              | 5.8              | 6.8              | 7.7              | 8.6    | 9.5    | 10.4   | 12.1   | 13.1   |

注(1): s(最大)的1栏适用于强度8.8及10.9及性状A2-50, A2-70的内容, 2栏适用于强度12.9的内容。但根据双方当事人之间协议, 强度12.9的内容也可以适用1栏。

螺纹的公称直径M20以上的s(最大)适用于所有的强度及性状内容。

注(2): 螺纹的公称直径中带括号的尽量不要使用。

备注: 1. 头部的侧面带有平纹或花纹[参照JIS B 0951]滚花。此时, dk(最大)为该表中的带\*\*的数值。

此外, 需要没有滚花的货时订货人必须指定。但该dk(最大)为该表中带\*\*的数值。

2. 对于螺纹的公称直径建议使用的公称长度(l)为粗线框内的内容。

如果l比虚线位置短的为全螺纹, 杆部的不完全螺纹长度约为3P。

3. 名称长度(l)比虚线位置长的话, lg(最大)及ls(最小)根据下式决定。

$$lg(\text{最大}) = \text{公称长度}(l) - b$$

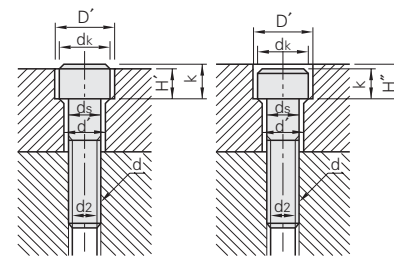
$$ls(\text{最小}) = lg(\text{最大}) - 5P$$

2. 内六角螺栓的L和ls及lg

单位: mm

| 螺纹的公称直径(d) | L      |        | M2     |        | M2.5   |        | M3     |        | M4     |        | M5     |        | M6     |        | M8     |        | M10    |        | M12    |        | M14    |        | M16    |        | (M18)  |        | M20    |        | (M22)  |        | M24    |        | (M27)  |        | M30  |      |       |      |     |
|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|-------|------|-----|
|            | min    | max    | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max | ls min | lg max |      |      |       |      |     |
| 5          | 4.76   | 5.24   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 6          | 5.76   | 6.24   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 8          | 7.71   | 8.29   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 10         | 9.71   | 10.29  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 12         | 11.65  | 12.35  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 16         | 15.65  | 16.35  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 20         | 19.58  | 20.42  | 2      | 4      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 25         | 24.58  | 25.42  |        |        | 5.75   | 8      | 4.5    | 7      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 30         | 29.58  | 30.42  |        |        |        |        | 9.5    | 12     | 6.5    | 10     | 4      | 8      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 35         | 34.5   | 35.5   |        |        |        |        |        |        | 11.5   | 15     | 9      | 13     | 6      | 11     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 40         | 39.5   | 40.5   |        |        |        |        |        |        | 16.5   | 20     | 14     | 18     | 11     | 16     | 5.75   | 12     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 45         | 44.5   | 45.5   |        |        |        |        |        |        |        |        | 19     | 23     | 16     | 21     | 10.75  | 17     | 5.5    | 13     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 50         | 49.5   | 50.5   |        |        |        |        |        |        |        |        | 24     | 28     | 21     | 26     | 15.75  | 22     | 10.5   | 18     | 5.25   | 14     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 55         | 54.4   | 55.6   |        |        |        |        |        |        |        |        |        |        | 26     | 31     | 20.75  | 27     | 15.5   | 23     | 10.25  | 19     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 60         | 59.4   | 60.6   |        |        |        |        |        |        |        |        |        |        | 31     | 36     | 25.75  | 32     | 20.5   | 28     | 15.25  | 24     | 10     | 20     | 6      | 16     |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 65         | 64.4   | 65.6   |        |        |        |        |        |        |        |        |        |        |        |        | 30.75  | 37     | 25.5   | 33     | 20.25  | 29     | 15     | 25     | 11     | 21     | 4.5    | 17     |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 70         | 69.4   | 70.6   |        |        |        |        |        |        |        |        |        |        |        |        | 35.75  | 42     | 30.5   | 38     | 25.25  | 34     | 20     | 30     | 16     | 26     | 9.5    | 22     | 5.5    | 18     |        |        |        |        |        |        |      |      |       |      |     |
| 80         | 79.4   | 80.6   |        |        |        |        |        |        |        |        |        |        |        |        | 45.75  | 52     | 40.5   | 48     | 35.25  | 44     | 30     | 40     | 26     | 36     | 19.5   | 32     | 15.5   | 28     | 11.5   | 24     |        |        |        |        |      |      |       |      |     |
| 90         | 89.3   | 90.7   |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 50.5   | 58     | 45.25  | 54     | 40     | 50     | 36     | 46     | 29.5   | 42     | 25.5   | 38     | 21.5   | 34     | 15     | 30     | 9      | 24     |      |      |       |      |     |
| 100        | 99.3   | 100.7  |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 60.5   | 68     | 55.25  | 64     | 50     | 60     | 46     | 56     | 39.5   | 52     | 35.5   | 48     | 31.5   | 44     | 25     | 40     | 19     | 34     | 10.5 | 28   |       |      |     |
| 110        | 109.3  | 110.7  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 65.25  | 74     | 60     | 70     | 56     | 66     | 49.5   | 62     | 45.5   | 58     | 41.5   | 54     | 35     | 50     | 29     | 44   | 20.5 | 38    |      |     |
| 120        | 119.3  | 120.7  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 75.25  | 84     | 70     | 80     | 66     | 76     | 59.5   | 72     | 55.5   | 68     | 51.5   | 64     | 45     | 60     | 39     | 54   | 30.5 | 48    |      |     |
| 130        | 129.2  | 130.8  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 80     | 90     | 76     | 86     | 69.5   | 82     | 65.5   | 78     | 61.5   | 74     | 55     | 70     | 49     | 64   | 40.5 | 58    |      |     |
| 140        | 139.2  | 140.8  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 90     | 100    | 86     | 96     | 79.5   | 92     | 75.5   | 88     | 71.5   | 84     | 65     | 80     | 59   | 74   | 50.5  | 68   |     |
| 150        | 149.2  | 150.8  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 96     | 106    | 89.5   | 102    | 85.5   | 98     | 81.5   | 94     | 75     | 90     | 69     | 84   | 60.5 | 78    |      |     |
| 160        | 159.2  | 160.8  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 106    | 116    | 99.5   | 112    | 95.5   | 108    | 91.5   | 104    | 85     | 100    | 79   | 94   | 70.5  | 88   |     |
| 180        | 179.2  | 180.8  |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 119.5  | 132    | 115.5  | 128    | 111.5  | 124    | 105    | 120  | 99   | 114   | 90.5 | 108 |
| 200        | 199.05 | 200.95 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 135.5  | 148    | 131.5  | 144    | 125    | 140    | 119  | 134  | 110.5 | 128  |     |
| 220        | 219.05 | 220.95 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 240        | 239.05 | 240.95 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 260        | 258.95 | 261.05 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 280        | 278.95 | 281.05 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |
| 300        | 298.95 | 301.05 |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |      |      |       |      |     |

参考: 内六角螺栓的沉头孔及螺栓孔的尺寸



单位: mm

| 螺纹的公称直径(d) | M3  | M4  | M5  | M6  | M8 | M10 | M12 | M14 | M16 | M18 | M20 | M22 | M24 | M27 | M30 |
|------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ds         | 3   | 4   | 5   | 6   | 8  | 10  | 12  | 14  | 16  | 18  | 20  | 22  | 24  | 27  | 30  |
| d'         | 3.4 | 4.5 | 5.5 | 6.6 |    |     |     |     |     |     |     |     |     |     |     |