

| Normal size<br>b |                   |                  | 2        | 3        | 4      | 5      | 6      | 8      | 10      | 12      | 14      | 16      | 18      | 20      | 22      |
|------------------|-------------------|------------------|----------|----------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| h                |                   |                  | 2        | 3        | 4      | 5      | 6      | 7      | 8       | 8       | 9       | 10      | 11      | 12      | 14      |
| d <sub>1</sub>   | min               |                  | 6        | 8        | 10     | 12     | 17     | 22     | 30      | 38      | 44      | 50      | 58      | 65      | 75      |
|                  | max               |                  | 8        | 10       | 12     | 17     | 22     | 30     | 38      | 44      | 50      | 58      | 65      | 75      | 85      |
| b                | Shaft Groove      | Nominal Size     | 2        | 3        | 4      | 5      | 6      | 8      | 10      | 12      | 14      | 16      | 18      | 20      | 22      |
|                  | (P9)              | min              | 1.969    | 2.969    | 3.958  | 4.958  | 5.958  | 7.949  | 9.949   | 11.939  | 13.939  | 15.939  | 17.939  | 19.926  | 21.926  |
|                  |                   | max              | 1.994    | 2.994    | 3.988  | 4.988  | 5.988  | 7.985  | 9.985   | 11.982  | 13.982  | 15.982  | 17.982  | 19.978  | 21.978  |
|                  | (N9)              | min              | 1.971    | 2.971    | 3.970  | 4.970  | 5.970  | 7.964  | 9.964   | 11.957  | 13.957  | 15.957  | 17.957  | 19.948  | 21.948  |
|                  |                   | max              | 1.996    | 2.996    | 4.000  | 5.000  | 6.000  | 8.000  | 10.000  | 12.000  | 14.000  | 16.000  | 18.000  | 20.000  | 22.000  |
| t <sub>1</sub>   | Shaft Groove      | min=nominal size | 1.2      | 1.8      | 2.5    | 3.0    | 3.5    | 4.0    | 5.0     | 5.0     | 5.5     | 6.0     | 7.0     | 7.5     | 9.0     |
|                  |                   | max              | 1.3      | 1.9      | 2.6    | 3.1    | 3.6    | 4.2    | 5.2     | 5.2     | 5.7     | 6.2     | 7.2     | 7.7     | 9.2     |
| b <sub>1</sub>   | Hub Groove        | Nominal Size     | 2        | 3        | 4      | 5      | 6      | 8      | 10      | 12      | 14      | 16      | 18      | 20      | 22      |
|                  | (P9)              | min              | 1.969    | 2.969    | 3.958  | 4.958  | 5.958  | 7.949  | 9.949   | 11.939  | 13.939  | 15.939  | 17.939  | 19.926  | 21.926  |
|                  |                   | max              | 1.994    | 2.994    | 3.988  | 4.988  | 5.988  | 7.985  | 9.985   | 11.982  | 13.982  | 15.982  | 17.982  | 19.978  | 21.978  |
|                  | (JS9)             | min              | 1.9875   | 2.9875   | 3.9850 | 4.9850 | 5.9850 | 7.9820 | 9.9820  | 11.9785 | 13.9785 | 15.9785 | 17.9785 | 19.9740 | 21.9740 |
|                  |                   | max              | 2.0125   | 3.0125   | 4.0150 | 5.0150 | 6.0150 | 8.0180 | 10.0180 | 12.0215 | 14.0215 | 16.0215 | 18.0215 | 20.0260 | 22.0260 |
| t <sub>2</sub>   | Hub Groove, loose | min=nominal size | 1.0      | 1.4      | 1.8    | 2.3    | 2.8    | 3.3    | 3.3     | 3.3     | 3.8     | 4.3     | 4.4     | 4.9     | 5.4     |
|                  |                   | max              | 1.1      | 1.5      | 1.9    | 2.4    | 2.9    | 3.5    | 3.5     | 3.5     | 4.0     | 4.5     | 4.6     | 5.1     | 5.6     |
|                  | Hub Groove, Tight | min=nominal size | 0.5      | 0.9      | 1.2    | 1.7    | 2.2    | 2.4    | 2.4     | 2.4     | 2.9     | 3.4     | 3.4     | 3.9     | 4.4     |
|                  |                   | max              | 0.6      | 1.0      | 1.3    | 1.8    | 2.3    | 2.6    | 2.6     | 2.6     | 3.1     | 3.6     | 3.6     | 4.1     | 4.6     |
| d <sub>2</sub>   | min               |                  | d1 + 2.5 | d1 + 3.5 | d1 + 4 | d1 + 5 | d1 + 6 | d1 + 8 | d1 + 8  | d1 + 8  | d1 + 9  | d1 + 11 | d1 + 11 | d1 + 12 | d1 + 14 |

| Normal size<br>b |                   |                  | 25      | 28      | 32      | 36      | 40      | 45      | 50      | 56      | 63      | 70      | 80      | 90      | 100      |
|------------------|-------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| h                |                   |                  | 14      | 16      | 18      | 20      | 22      | 25      | 28      | 32      | 32      | 36      | 40      | 45      | 50       |
| d <sub>1</sub>   | min               |                  | 85      | 95      | 110     | 130     | 150     | 170     | 200     | 230     | 260     | 290     | 330     | 380     | 440      |
|                  | max               |                  | 95      | 110     | 130     | 150     | 170     | 200     | 230     | 260     | 290     | 330     | 380     | 440     | 500      |
| b                | Shaft Groove      | Nominal Size     | 25      | 28      | 32      | 36      | 40      | 45      | 50      | 56      | 63      | 70      | 80      | 90      | 100      |
|                  | (P9)              | min              | 24.926  | 27.926  | 31.912  | 35.912  | 39.912  | 44.912  | 49.912  | 55.894  | 62.894  | 69.894  | 79.894  | 89.876  | 99.876   |
|                  |                   | max              | 24.978  | 27.978  | 31.974  | 35.974  | 39.974  | 44.974  | 49.974  | 55.968  | 62.968  | 69.968  | 79.968  | 89.963  | 99.963   |
|                  | (N9)              | min              | 24.948  | 27.948  | 31.938  | 35.938  | 39.938  | 44.938  | 49.938  | 55.926  | 62.926  | 69.926  | 79.926  | 89.913  | 99.913   |
|                  |                   | max              | 25      | 28      | 32      | 36      | 40      | 45      | 50      | 56      | 63      | 70      | 80      | 90      | 100      |
| t <sub>1</sub>   | Shaft Groove      | min=nominal size | 9.0     | 10.0    | 11.0    | 12.0    | 13.0    | 15.0    | 17.0    | 20.0    | 20.0    | 22.0    | 25.0    | 28.0    | 31.0     |
|                  |                   | max              | 9.2     | 10.2    | 11.2    | 12.3    | 13.3    | 15.3    | 17.3    | 20.3    | 20.3    | 22.3    | 25.3    | 28.3    | 31.3     |
| b <sub>1</sub>   | Hub Groove        | Nominal Size     | 25      | 28      | 32      | 36      | 40      | 45      | 50      | 56      | 63      | 70      | 80      | 90      | 100      |
|                  | (P9)              | min              | 24.926  | 27.926  | 31.912  | 35.912  | 39.912  | 44.912  | 49.912  | 55.894  | 62.894  | 69.894  | 79.894  | 89.876  | 99.876   |
|                  |                   | max              | 24.978  | 27.978  | 31.974  | 35.974  | 39.974  | 44.974  | 49.974  | 55.968  | 62.968  | 69.968  | 79.968  | 89.963  | 99.963   |
|                  | (JS9)             | min              | 24.9740 | 27.9740 | 31.9690 | 35.9690 | 39.9690 | 44.9690 | 49.9690 | 55.9630 | 62.9630 | 69.9630 | 79.9630 | 89.9565 | 99.9565  |
|                  |                   | max              | 25.0260 | 28.0260 | 32.0310 | 36.0310 | 40.0310 | 45.0310 | 50.0310 | 56.0370 | 63.0370 | 70.0370 | 80.0370 | 90.0435 | 100.0435 |
| t <sub>2</sub>   | Hub Groove, loose | min=nominal size | 5.4     | 6.4     | 7.4     | 8.4     | 9.4     | 10.4    | 11.4    | 12.4    | 12.4    | 14.4    | 15.4    | 17.4    | 19.5     |
|                  |                   | max              | 5.6     | 6.6     | 7.6     | 8.7     | 9.7     | 10.7    | 11.7    | 12.7    | 12.7    | 14.7    | 15.7    | 17.7    | 19.8     |
|                  | Hub Groove, Tight | min=nominal size | 4.4     | 5.4     | 6.4     | 7.1     | 8.1     | 9.1     | 10.1    | 11.1    | 11.1    | 13.1    | 14.1    | 16.1    | 18.1     |
|                  |                   | max              | 4.6     | 5.6     | 6.6     | 7.4     | 8.4     | 9.4     | 10.4    | 11.4    | 11.4    | 13.4    | 14.4    | 16.4    | 18.4     |
| d <sub>2</sub>   | min               |                  | d1 + 14 | d1 + 16 | d1 + 18 | d1 + 21 | d1 + 23 | d1 + 26 | d1 + 28 | d1 + 32 | d1 + 32 | d1 + 36 | d1 + 40 | d1 + 45 | d1 + 50  |