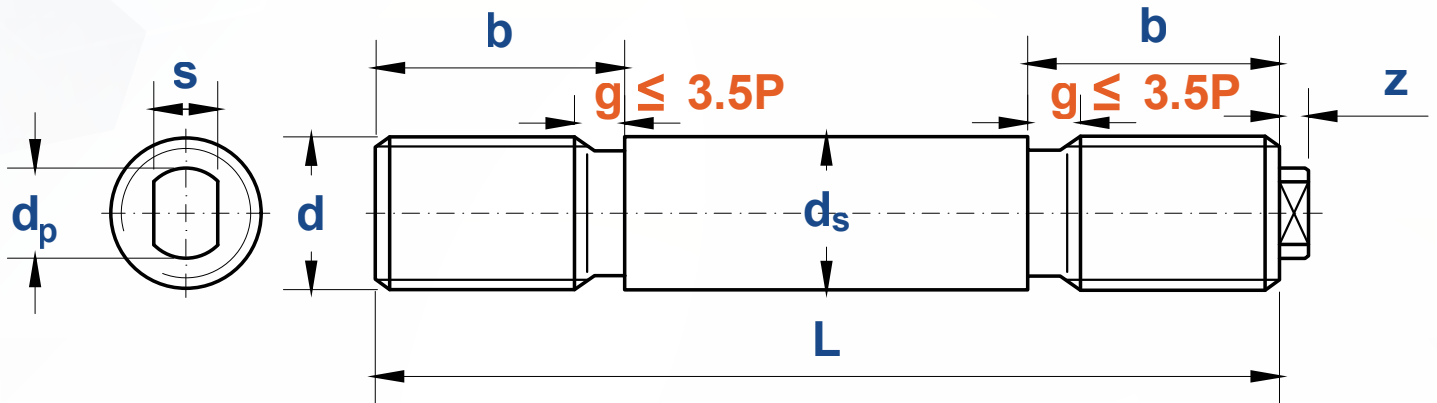


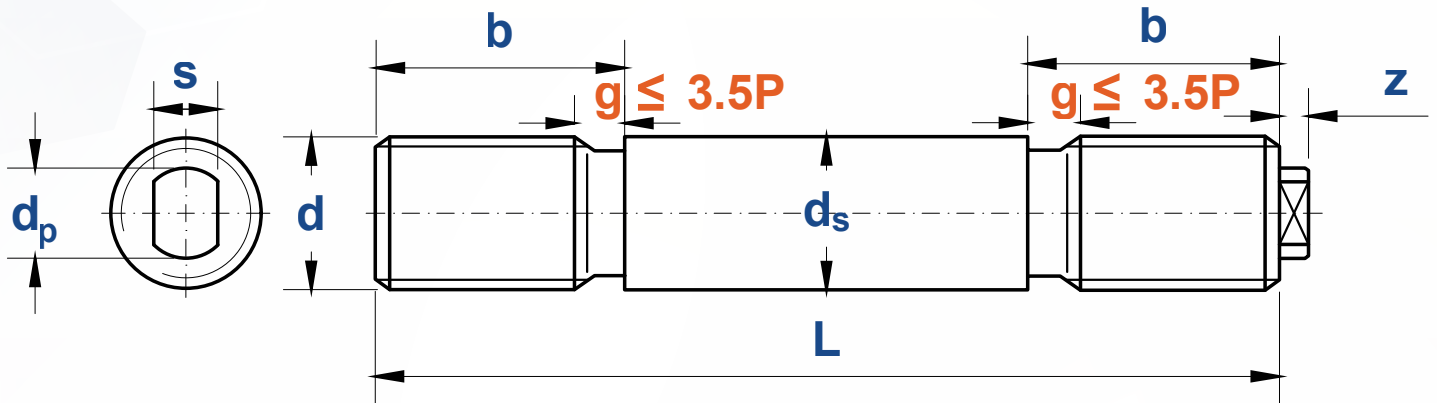


| Screw Thread<br>d |                  |                  | M12   | M16   | M20   | M24   | M27   | M30   | M33   | M36   | M39   | M42   |
|-------------------|------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| P                 | Pitch            |                  | 1.75  | 2     | 2.5   | 3     | 3     | 3.5   | 3.5   | 4     | 4     | 4.5   |
| b                 | Short            | min=nominal size | 21    | 25    | 30    | 36    | 38    | 42    | 44    | 50    | 52    | 57    |
|                   |                  | max              | 23.5  | 28    | 34    | 40.5  | 42.5  | 47    | 49    | 56    | 58    | 64    |
|                   | Long             | min=nominal size | 23    | 28    | 34    | 40    | 43    | 47    | 50    | 55    | 58    | -     |
|                   |                  | max              | 25.5  | 31    | 37    | 44.5  | 47.5  | 52    | 55    | 61    | 64    | -     |
| d <sub>s</sub>    | max=nominal size |                  | 12    | 16    | 20    | 24    | 27    | 30    | 33    | 36    | 39    | 42    |
|                   | min              |                  | 11.82 | 15.82 | 19.79 | 23.79 | 26.79 | 29.79 | 32.75 | 35.75 | 38.75 | 41.75 |
| d <sub>p</sub>    | max=nominal size |                  | 8     | 12    | 14    | 14    | 18    | 18    | 25    | 25    | 28    | 28    |
|                   | min              |                  | 7.78  | 11.73 | 13.73 | 13.73 | 17.73 | 17.73 | 24.67 | 24.67 | 27.67 | 27.67 |
| s                 | max=nominal size |                  | 7     | 10    | 11    | 11    | 13    | 13    | 22    | 22    | 24    | 24    |
|                   | min              |                  | 6.82  | 9.78  | 10.73 | 10.73 | 12.73 | 12.73 | 21.67 | 21.67 | 23.67 | 23.67 |
| z                 | Nominal Size     |                  | 4     | 5     | 6     | 6     | 6     | 6     | 9     | 9     | 10    | 10    |
|                   | max              |                  | 4.24  | 5.24  | 6.24  | 6.24  | 6.24  | 6.24  | 9.29  | 9.29  | 10.29 | 10.29 |
|                   | min              |                  | 3.76  | 4.76  | 5.76  | 5.76  | 5.76  | 5.76  | 8.71  | 8.71  | 9.71  | 9.71  |

①, Material: Steel

mechanical properties: Strength class (material): 5.6 8.8 Standard DIN EN ISO 898-1

Other strength classes or materials, by agreement



| Screw Thread<br>d |                  |                  | M45   | M48   | M52   | M56   | M60   | M64   | M72   | M80   | M90   | M100  |
|-------------------|------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| P                 | Pitch            |                  | 4.5   | 5     | 5     | 5.5   | 5.5   | 6     | 6     | 6     | 6     | 6     |
| b                 | Short            | min=nominal size | 58    | 64    | 68    | 73    | 76    | 82    | 89    | 95    | 103   | 111   |
|                   |                  | max              | 65    | 71.5  | 75.5  | 81    | 84    | 91    | 98    | 104   | 112   | 120   |
|                   | Long             | min=nominal size | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|                   |                  | max              | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| d <sub>s</sub>    | max=nominal size |                  | 45    | 48    | 52    | 56    | 60    | 64    | 72    | 80    | 90    | 100   |
|                   | min              |                  | 44.75 | 47.75 | 51.7  | 55.7  | 59.7  | 63.7  | 71.7  | 79.7  | 89.65 | 99.65 |
| d <sub>p</sub>    | max=nominal size |                  | 32    | 32    | 36    | 36    | 42    | 42    | 50    | 50    | 50    | 50    |
|                   | min              |                  | 31.61 | 31.61 | 35.61 | 35.61 | 41.61 | 41.61 | 49.61 | 49.61 | 49.61 | 49.61 |
| s                 | max=nominal size |                  | 27    | 27    | 30    | 32    | 36    | 36    | 41    | 41    | 41    | 41    |
|                   | min              |                  | 26.67 | 26.67 | 29.67 | 31.67 | 35.38 | 35.38 | 40.38 | 40.38 | 40.38 | 40.38 |
| z                 | Nominal Size     |                  | 11    | 11    | 12    | 13    | 14    | 14    | 15    | 15    | 15    | 15    |
|                   | max              |                  | 11.35 | 11.35 | 12.35 | 13.35 | 14.35 | 14.35 | 15.35 | 15.35 | 15.35 | 15.35 |
|                   | min              |                  | 10.65 | 10.65 | 11.65 | 12.65 | 13.65 | 13.65 | 14.65 | 14.65 | 14.65 | 14.65 |

①, Material: Steel

mechanical properties: Strength class (material): 5.6 8.8 Standard DIN EN ISO 898-1

Other strength classes or materials, by agreement