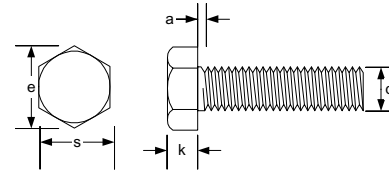


FULL THREAD HEXAGON HEAD SCREWS # 933 - DIN & ISO DIMENSIONS

Ref: DIN 933 - 1987

This standard contains specifications for fully threaded hexagon head screws with coarse metric thread for diameters M 1.6 to M 52. Although long-term expectation is for DIN to be superseded by ISO (lower half of page), current MMCC product # 933 is supplied according to DIN dimensions below.

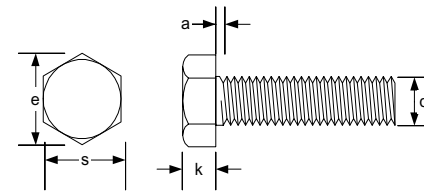


Dimensions in mm.

| NOM. THREAD DIAMETER (d) | M 3 | M 4 | M 5 | M 6 | (M 7) | M 8 | M 10 | M 12 | M 14 | M 16 | (M 18) | M 20 | (M 22) | M 24 | (M 27) | M 30 | (M 33) | M 36 | (M 39) | M 42 | (M 45) | M 48 |
|--------------------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| THREAD PITCH (coarse) | 0.5 | 0.7 | 0.8 | 1 | 1 | 1.25 | 1.5 | 1.75 | 2 | 2 | 2.5 | 2.5 | 2.5 | 3 | 3 | 3.5 | 3.5 | 4 | 4 | 4.5 | 4.5 | 5 |
| a max. | 1.5 | 2.1 | 2.4 | 3 | 3 | 3.75 | 4.5 | 5.25 | 6 | 6 | 7.5 | 7.5 | 7.5 | 9 | 9 | 10.5 | 10.5 | 12 | 12 | 13.5 | 13.5 | 15 |
| washer face min. | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 |
| face max. | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 1 | 1 | 1 | 1 |
| e min. | 6.01 | 7.66 | 8.79 | 11.05 | 12.12 | 14.38 | 18.9 | 21.1 | 24.49 | 26.75 | 30.14 | 33.53 | 35.72 | 39.98 | 45.2 | 50.85 | 55.37 | 60.79 | 66.44 | 71.3 | 76.95 | 82.60 |
| Nom. Dimensions | 2 | 2.8 | 3.5 | 4 | 4.8 | 5.3 | 6.4 | 7.5 | 8.8 | 10 | 11.5 | 12.5 | 14 | 15 | 17 | 18.7 | 21 | 22.5 | 25 | 26 | 28 | 30 |
| k min. | 1.88 | 2.68 | 3.35 | 3.85 | 4.65 | 5.15 | 6.22 | 7.32 | 8.62 | 9.82 | 11.28 | 12.28 | 13.78 | 14.78 | 16.65 | 18.28 | 20.58 | 22.08 | 24.58 | 25.58 | 27.58 | 29.58 |
| k max. | 2.12 | 2.92 | 3.65 | 4.15 | 4.95 | 5.45 | 6.56 | 7.68 | 8.98 | 10.18 | 11.72 | 12.72 | 14.22 | 15.22 | 17.35 | 19.12 | 21.42 | 22.92 | 25.43 | 26.42 | 28.42 | 30.42 |
| Max. = Nom. Dimensions | 5.5 | 7 | 8 | 10 | 11 | 13 | 17 | 19 | 22 | 24 | 27 | 30 | 32 | 36 | 41 | 46 | 50 | 55 | 60 | 65 | 70 | 75 |
| s min. | 5.32 | 6.78 | 7.78 | 9.78 | 10.73 | 12.73 | 16.73 | 18.67 | 21.67 | 23.67 | 26.67 | 29.67 | 31.61 | 35.38 | 40 | 45 | 49 | 53.8 | 58.8 | 63.1 | 68.1 | 73.1 |

Ref: ISO 4017-1979

This international standard gives specifications for fully threaded hexagon head screws with metric dimensions and thread diameters from 3 mm up to and including 36 mm.



Dimensions in mm

| NOM. THREAD DIAMETER (d) | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 20 | M 24 | M 30 | M 36 |
|--------------------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| THREAD PITCH (coarse) | 0.5 | 0.7 | 0.8 | 1 | 1.25 | 1.5 | 1.75 | 2 | 2 | 2.5 | 3 | 3.5 | 4 |
| a max. | 1.5 | 2.1 | 2.4 | 3 | 3.75 | 4.5 | 5.25 | 6 | 6 | 7.5 | 9 | 10.5 | 12 |
| washer face min. | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| face max. | 0.4 | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| e min. | 6.01 | 7.66 | 8.79 | 11.05 | 14.38 | 17.77 | 20.03 | 23.35 | 26.75 | 33.53 | 39.98 | 50.85 | 60.79 |
| Nom. Dimensions | 2 | 2.8 | 3.5 | 4 | 5.3 | 6.4 | 7.5 | 8.8 | 10 | 12.5 | 15 | 18.7 | 22.5 |
| k min. | 1.88 | 2.68 | 3.35 | 3.85 | 5.15 | 6.22 | 7.32 | 8.62 | 9.82 | 12.28 | 14.78 | 18.28 | 22.08 |
| k max. | 2.12 | 2.92 | 3.65 | 4.15 | 5.45 | 6.58 | 7.68 | 8.98 | 10.18 | 12.72 | 15.22 | 19.12 | 22.92 |
| s min. | 5.32 | 6.78 | 7.78 | 9.78 | 12.73 | 15.73 | 17.73 | 20.67 | 23.67 | 29.67 | 35.38 | 45 | 53.8 |

Comparison Chart on ISO/DIN standards across flat size differences

| | M 10 | | M 12 | | M 14 | |
|-----------------|------|-------|------|-------|------|-------|
| Thread Diameter | Max. | Min. | Max. | Min. | Max. | Min. |
| ISO mm | 16 | 15.73 | 18 | 17.73 | 21 | 20.67 |
| DIN mm | 17 | 16.73 | 19 | 18.67 | 22 | 21.67 |

*Please note: Diameters shown in () should be avoided for new design.