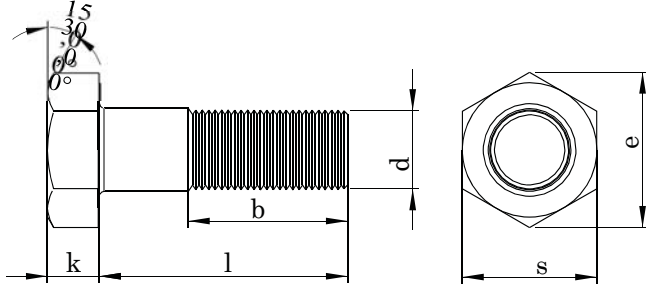


DIN 931 ISO 4014

ALTIKÖŞE BAŞLI YARIM DIŞ CIVATA CL:8.8 - 10.9 - 12.9

HEXAGON HEAD BOLTS

SECHSKANTSCHRAUBE MIT SCHAFT

**Technical Informations / Teknik Bilgiler**

| Thread size / Anma çapı (d) | | M3 | M4 | M5 | M6 | M7 | M8 | M10 | M12 |
|---------------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Pitch / Diş adımı | P | 0,50 | 0,70 | 0,80 | 1,00 | 1,00 | 1,25 | 1,50 | 1,75 |
| | Norminal size | 2,00 | 2,80 | 3,50 | 4,00 | 4,80 | 5,30 | 6,40 | 7,50 |
| Head height / Kafa yüksekliği k | A min. | 1,88 | 2,68 | 3,35 | 3,85 | 4,65 | 5,15 | 6,22 | 7,32 |
| | A max. | 2,12 | 2,92 | 3,65 | 4,15 | 4,95 | 5,45 | 6,58 | 7,68 |
| | R min. | | | | | | | | |
| | R max. | | | | | | | | |
| Head width / Anahtar ağızı | Product Grade | | | | | | | | |
| | min. A | 5,50 | 7,00 | 8,00 | 10,00 | 11,00 | 13,00 | 17,00 | 19,00 |
| Diagonal / Köşegen e | Product Grade | | | | | | | | |
| | min. A | 5,32 | 6,78 | 7,78 | 9,78 | 10,73 | 12,73 | 16,73 | 18,67 |
| | B | | | | | | | | |
| | min. A | 6,01 | 7,66 | 8,79 | 11,05 | 12,12 | 14,38 | 18,90 | 21,10 |
| Thread length / Diş uzunluğu | b ¹ | 12,00 | 14,00 | 16,00 | 18,00 | 20,00 | 22,00 | 25,00 | 30,00 |
| | b ² | | | 22,00 | 24,00 | 26,00 | 28,00 | 32,00 | 36,00 |
| | b ³ | | | | | | | 45,00 | 49,00 |

| Thread size / Anma çapı (d) | Product Grade A | | Product Grade B | | M3 | M4 | M5 | M6 | M7 | M8 | M10 | M12 |
|-----------------------------|-----------------|-------|-----------------|------|------|------|------|-------|-------|-------|-------|-------|
| | min. | max. | min. | max. | | | | | | | | |
| Length/ Boy | | | | | | | | | | | | |
| 12 | 11,65 | 12,35 | | | | | | | | | | |
| 14 | 13,65 | 14,35 | | | | | | | | | | |
| 16 | 15,65 | 16,35 | | | | | | | | | | |
| 18 | 17,65 | 18,35 | | | | | | | | | | |
| 20 | 19,58 | 20,42 | | | 1,29 | | | | | | | |
| 22 | 21,58 | 22,42 | | | 1,43 | | | | | | | |
| 25 | 24,58 | 25,42 | | | 1,57 | 3,12 | 4,86 | | | | | |
| 28 | 27,58 | 28,42 | | | 1,74 | 3,41 | 5,25 | | | | | |
| 30 | 29,58 | 30,42 | | | 1,85 | 3,61 | 5,64 | 8,06 | 12,10 | | | |
| 35 | 34,50 | 35,50 | | | | 4,04 | 6,42 | 9,13 | 13,60 | 18,20 | 44,60 | 42,13 |
| 40 | 39,50 | 40,50 | | | | 4,53 | 7,20 | 10,20 | 15,10 | 20,30 | 35,00 | 49,10 |

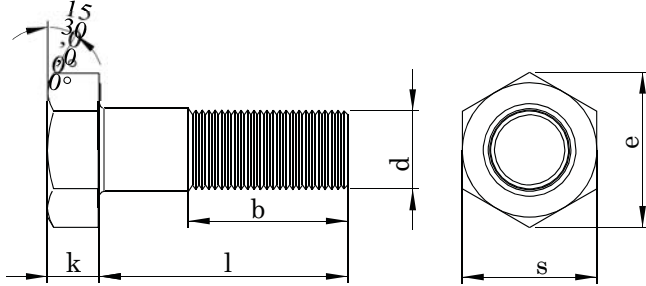
Values are given in millimeters. / Değerler milimetre olarak verilmiştir.

DIN 931 ISO 4014

ALTİKÖŞE BAŞLI YARIM DİŞ CIVATA CL:8.8 - 10.9 - 12.9

HEXAGON HEAD BOLTS

SECHSKANTSCHRAUBE MIT SCHAFT



Technical Informations / Teknik Bilgiler

| Thread size / Anma çapı (d) | Product Grade | | M3 | M4 | M5 | M6 | M7 | M8 | M10 | M12 |
|-----------------------------|---------------|--------|--------|--------|------|-------|-------|-------|-------|--------|
| | A | B | | | | | | | | |
| Length / Boy | min. | max. | | | | | | | | |
| 45 | 44,50 | 45,50 | | | 7,98 | 11,30 | 16,60 | 22,20 | 38,00 | 53,60 |
| 50 | 49,50 | 50,50 | | | 8,76 | 12,30 | 18,10 | 24,20 | 41,10 | 58,10 |
| 55 | 54,40 | 55,60 | | | | 13,40 | 19,50 | 25,80 | 43,80 | 62,60 |
| 60 | 59,40 | 60,60 | | | | 14,40 | 21,00 | 27,80 | 46,90 | 67,00 |
| 65 | 64,40 | 65,60 | | | | | 22,50 | 29,80 | 50,00 | 70,30 |
| 70 | 69,40 | 70,60 | | | | | 24,00 | 31,80 | 53,10 | 74,70 |
| 75 | 74,40 | 75,60 | | | | | | 33,70 | 56,20 | 79,10 |
| 80 | 79,40 | 80,60 | | | | | | 35,70 | 59,30 | 83,60 |
| 85 | 84,30 | 85,70 | | | | | | 37,70 | 62,40 | 88,10 |
| 90 | 89,30 | 90,70 | | | | | | 39,50 | 65,50 | 92,40 |
| 95 | 94,30 | 95,70 | | | | | | 41,40 | 68,60 | 96,80 |
| 100 | 99,30 | 100,70 | | | | | | 43,30 | 71,70 | 101,00 |
| 110 | 109,30 | 110,70 | | | | | | | | 109,00 |
| 120 | 119,30 | 120,70 | | | | | | | | 118,00 |
| 130 | 129,20 | 130,80 | | | | | | | | |
| 140 | 139,20 | 140,80 | | | | | | | | |
| 150 | 149,20 | 150,80 | | | | | | | | |
| 160 | 159,20 | 160,80 | 158,00 | 162,00 | | | | | | |
| 170 | 169,20 | 170,80 | 168,00 | 172,00 | | | | | | |
| 180 | 179,20 | 180,80 | 178,00 | 182,00 | | | | | | |
| 190 | 189,10 | 190,90 | 187,70 | 192,30 | | | | | | |
| 200 | 199,10 | 200,90 | 197,70 | 202,30 | | | | | | |
| 220 | - | - | 217,70 | 222,30 | | | | | | |
| 240 | - | - | 237,70 | 242,30 | | | | | | |
| 260 | - | - | 257,40 | 262,60 | | | | | | |
| 280 | - | - | 277,40 | 282,60 | | | | | | |
| 300 | - | - | 297,40 | 302,60 | | | | | | |

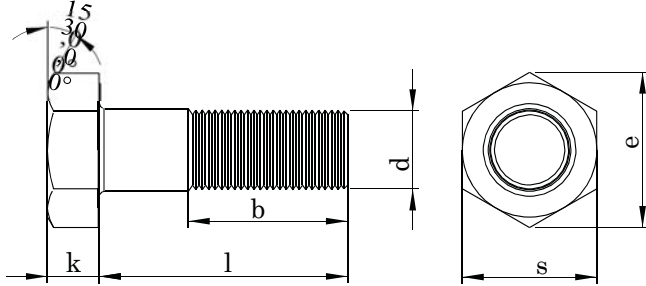
Values are given in millimeters. / Değerler milimetre olarak verilmiştir.

DIN 931 ISO 4014

ALTIKÖŞE BAŞLI YARIM DİŞ CIVATA CL:8.8 - 10.9 - 12.9

HEXAGON HEAD BOLTS

SECHSKANTSCHRAUBE MIT SCHAFT



Technical Informations / Teknik Bilgiler

| Thread size / Anma çapı (d) | | | M14 | M16 | M18 | M20 | M22 | |
|--------------------------------|--------------------|--------|-------|-------|-------|-------|-------|-------|
| Pitch / Diş adımı | P | | 2,00 | 2,00 | 2,50 | 2,50 | 2,50 | |
| | Norminal size max. | | 8,80 | 10,00 | 11,50 | 12,50 | 14,00 | |
| Head heigh / Kafa yüksekliği k | A | min. | 8,62 | 9,82 | 11,28 | 12,28 | 13,78 | |
| | | max. | 8,98 | 10,18 | 11,72 | 12,72 | 14,22 | |
| | B | min. | | 9,71 | 11,15 | 12,15 | 13,65 | |
| | | max. | | 10,29 | 11,85 | 12,85 | 14,35 | |
| | Norminal size max. | 22,00 | 24,00 | 27,00 | 30,00 | 32,00 | | |
| Head width / Anahtar ağızı | Product Grade | s min. | A | 21,67 | 23,67 | 26,67 | 29,67 | 31,61 |
| | | B | | 23,16 | 26,16 | 29,16 | 31,00 | |
| Diagonal / Köşegen e | Product Grade | A | 24,49 | 26,75 | 30,14 | 33,53 | 35,72 | |
| | | min. B | | 26,17 | 29,56 | 32,95 | 35,03 | |
| Thread length / Diş uzunluğu | b ¹ | | 34,00 | 38,00 | 42,00 | 46,00 | 50,00 | |
| | b ² | | 40,00 | 44,00 | 48,00 | 52,00 | 56,00 | |
| | b ³ | | 53,00 | 57,00 | 63,00 | 65,00 | 69,00 | |

| Thread size / Anma çapı (d) | Product Grade A | | Product Grade B | | M14 | M16 | M18 | M20 | M22 |
|-----------------------------|-----------------|-------|-----------------|------|-------|--------|-----|-----|-----|
| | min. | max. | min. | max. | | | | | |
| Length/ Boy | | | | | | | | | |
| 12 | 11,65 | 12,35 | | | | | | | |
| 14 | 13,65 | 14,35 | | | | | | | |
| 16 | 15,65 | 16,35 | | | | | | | |
| 18 | 17,65 | 18,35 | | | | | | | |
| 20 | 19,58 | 20,42 | | | | | | | |
| 22 | 21,58 | 22,42 | | | | | | | |
| 25 | 24,58 | 25,42 | | | | | | | |
| 28 | 27,58 | 28,42 | | | | | | | |
| 30 | 29,58 | 30,42 | | | | | | | |
| 35 | 34,50 | 35,50 | | | | | | | |
| 40 | 39,50 | 40,50 | | | | | | | |
| 45 | 44,50 | 45,50 | | | | 99,00 | | | |
| 50 | 49,50 | 50,50 | | | 82,00 | 107,00 | | | |

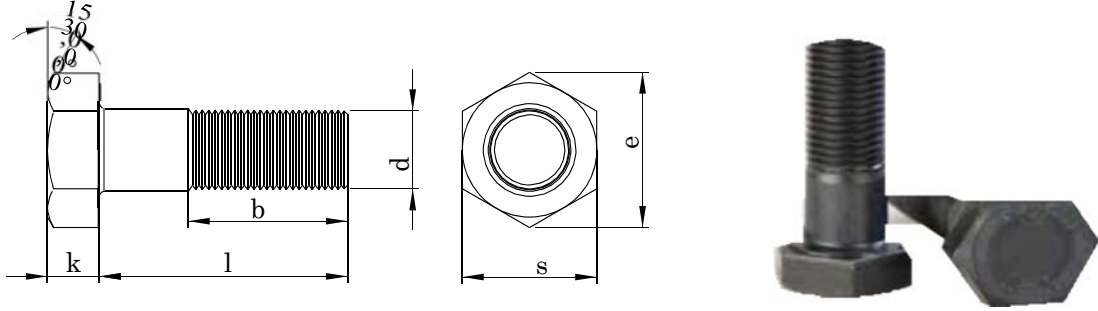
Values are given in millimeters. / Değerler milimetre olarak verilmiştir.

DIN 931 ISO 4014

ALTIKÖŞE BAŞLI YARIM DİŞ CIVATA CL:8.8 - 10.9 - 12.9

HEXAGON HEAD BOLTS

SECHSKANTSCHRAUBE MIT SCHAFT



Technical Informations / Teknik Bilgiler

| Thread size / Anma çapı (d) | Product Grade | | | | M14 | M16 | M18 | M20 | M22 |
|-----------------------------|---------------|--------|--------|--------|-----------------------|--------|--------|--------|--------|
| | A | | B | | | | | | |
| Length / Boy | min. | max. | min. | max. | Weight / Ağırlık gr/p | | | | |
| 55 | 54,40 | 55,60 | | | 88,10 | 115,00 | 151,00 | | |
| 60 | 59,40 | 60,60 | | | 94,10 | 123,00 | 161,00 | 207,00 | |
| 65 | 64,40 | 65,60 | | | 98,80 | 131,00 | 171,00 | 219,00 | |
| 70 | 69,40 | 70,60 | | | 105,00 | 139,00 | 181,00 | 231,00 | 281,00 |
| 75 | 74,40 | 75,60 | | | 111,00 | 147,00 | 191,00 | 243,00 | 296,00 |
| 80 | 79,40 | 80,60 | | | 117,00 | 155,00 | 200,00 | 255,00 | 311,00 |
| 85 | 84,30 | 85,70 | | | 123,00 | 163,00 | 210,00 | 267,00 | 326,00 |
| 90 | 89,30 | 90,70 | | | 127,00 | 171,00 | 220,00 | 279,00 | 341,00 |
| 95 | 94,30 | 95,70 | | | 133,00 | 179,00 | 230,00 | 291,00 | 356,00 |
| 100 | 99,30 | 100,70 | | | 139,00 | 186,00 | 240,00 | 303,00 | 370,00 |
| 110 | 109,30 | 110,70 | | | 151,00 | 202,00 | 260,00 | 327,00 | 400,00 |
| 120 | 119,30 | 120,70 | | | 164,00 | 218,00 | 280,00 | 351,00 | 430,00 |
| 130 | 129,20 | 130,80 | | | 174,00 | 230,00 | 296,00 | 374,00 | 450,00 |
| 140 | 139,20 | 140,80 | | | 185,00 | 246,00 | 316,00 | 398,00 | 480,00 |
| 150 | 149,20 | 150,80 | | | | 262,00 | 336,00 | 422,00 | 510,00 |
| 160 | 159,20 | 160,80 | 158,00 | 162,00 | 278,00 | 356,00 | 446,00 | 540,00 | |
| 170 | 169,20 | 170,80 | 168,00 | 172,00 | 294,00 | 376,00 | 470,00 | 570,00 | |
| 180 | 179,20 | 180,80 | 178,00 | 182,00 | 310,00 | 396,00 | 494,00 | 600,00 | |
| 190 | 189,10 | 190,90 | 187,70 | 192,30 | 326,00 | 415,00 | 519,00 | 630,00 | |
| 200 | 199,10 | 200,90 | 197,70 | 202,30 | 342,00 | 435,00 | 544,00 | 660,00 | |
| 220 | | | 217,70 | 222,30 | | | | | 720,00 |
| 240 | | | 237,70 | 242,30 | | | | | |
| 260 | | | 257,40 | 262,60 | | | | | |
| 280 | | | 277,40 | 282,60 | | | | | |
| 300 | | | 297,40 | 302,60 | | | | | |

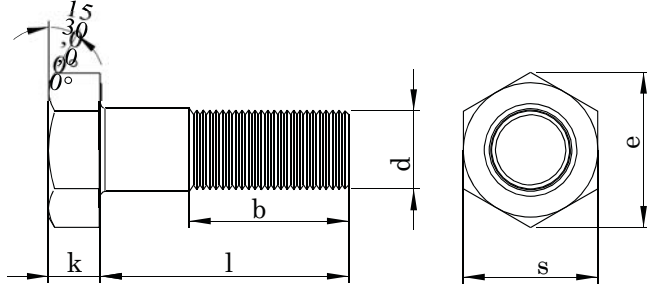
Values are given in millimeters. / Değerler milimetre olarak verilmiştir.

DIN 931 ISO 4014

ALTIKÖŞE BAŞLI YARIM DİŞ CIVATA CL:8.8 - 10.9 - 12.9

HEXAGON HEAD BOLTS

SECHSKANTSCHRAUBE MIT SCHAFT



Technical Informations / Teknik Bilgiler

| Thread size / Anma çapı (d) | | M24 | M27 | M30 | M33 | M36 | M39 | |
|---------------------------------|----------------|------|-------|-------|-------|-------|-------|--------|
| Pitch / Diş adımı | P | 3,00 | 3,00 | 3,50 | 3,50 | 4,00 | 4,00 | |
| Head height / Kafa yüksekliği k | A | min. | 14,78 | | | | | |
| | | max. | 15,22 | | | | | |
| Head with / Anahtar ağızı | B | min. | 14,65 | 16,65 | 18,28 | 20,58 | 22,08 | 24,58 |
| | | max. | 15,35 | 17,35 | 19,12 | 21,42 | 22,92 | 25,42 |
| Diagonal / Köşegen e | S | min. | 36,00 | 41,00 | 46,00 | 50,00 | 55,00 | 60,00 |
| | | max. | 35,38 | | | | | |
| Thread length / Diş uzunluğu | b ¹ | A | 35,00 | 40,00 | 45,00 | 49,00 | 53,80 | 58,80 |
| | | B | 39,98 | | | | | |
| | b ² | A | 39,55 | 45,20 | 50,85 | 55,37 | 60,79 | 66,44 |
| | | B | 54,00 | 60,00 | 66,00 | 72,00 | 78,00 | 84,00 |
| | b ³ | A | 60,00 | 66,00 | 72,00 | 78,00 | 84,00 | 90,00 |
| | | B | 73,00 | 79,00 | 85,00 | 91,00 | 97,00 | 103,00 |

| Thread size / Anma çapı (d) | Product Grade | | M24 | M27 | M30 | M33 | M36 | M39 |
|-----------------------------|---------------|-------|-----------------------|-------|-------|-----|-----|-----|
| | A | B | | | | | | |
| Length / Boy | min. | max. | Weight / Ağırlık gr/p | | | | | |
| | | | | | | | | |
| 40 | 39,50 | 40,50 | | | | | | |
| 45 | 44,50 | 45,50 | | | | | | |
| 50 | 49,50 | 50,50 | | | | | | |
| 55 | 54,40 | 55,60 | | | | | | |
| 60 | 59,40 | 60,60 | | | | | | |
| 65 | 64,40 | 65,60 | | | | | | |
| 70 | 69,40 | 70,60 | | | | | | |
| 75 | 74,40 | 75,60 | | | | | | |
| 80 | 79,40 | 80,60 | 392,0 | | | | | |
| 85 | 84,30 | 85,70 | 410,0 | | | | | |
| 90 | 89,30 | 90,70 | 428,0 | 557,0 | 712,0 | | | |
| 95 | 94,30 | 95,70 | 446,0 | 580,0 | 739,0 | | | |

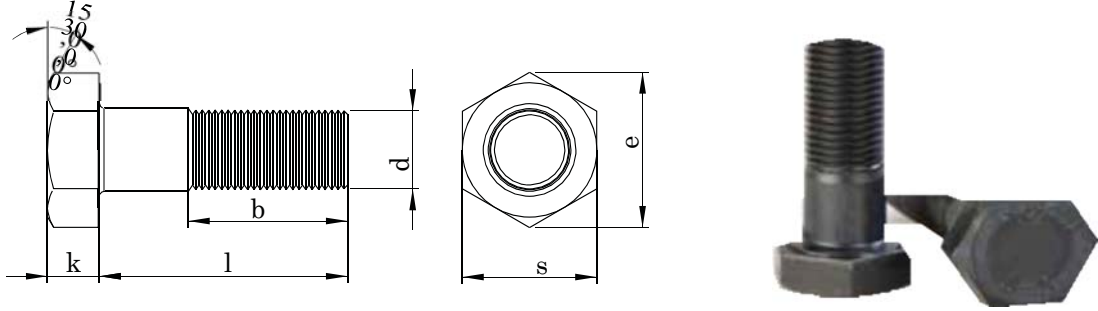
Values are given in millimeters. / Değerler milimetre olarak verilmiştir.

DIN 931 ISO 4014

ALTIKÖŞE BAŞLI YARIM DİŞ CIVATA CL:8.8 - 10.9 - 12.9

HEXAGON HEAD BOLTS

SECHSKANTSCHRAUBE MIT SCHAFT



Technical Informations / Teknik Bilgiler

| Thread size / Anma çapı (d) | Product Grade | | | | M24 | M27 | M30 | M33 | M36 | M39 |
|-----------------------------|---------------|--------|--------|--------|-----------------------|--------|--------|--------|--------|--------|
| | A | | B | | | | | | | |
| Length / Boy | min. | max. | min. | max. | Weight / Ağırlık gr/p | | | | | |
| 100 | 99,30 | 100,70 | | | 464,0 | 603,0 | 767,0 | 951,0 | | |
| 110 | 109,30 | 110,70 | | | 500,0 | 650,0 | 823,0 | 1020,0 | 1240,0 | |
| 120 | 119,30 | 120,70 | | | 535,0 | 695,0 | 880,0 | 1090,0 | 1320,0 | 1510,0 |
| 130 | 129,20 | 130,80 | | | 560,0 | 720,0 | 920,0 | 1150,0 | 1390,0 | 1580,0 |
| 140 | 139,20 | 140,80 | | | 595,0 | 765,0 | 975,0 | 1220,0 | 1470,0 | 1660,0 |
| 150 | 149,20 | 150,80 | | | 630,0 | 810,0 | 1030,0 | 1290,0 | 1550,0 | 1740,0 |
| 160 | 159,20 | 160,80 | 158,00 | 162,00 | 665,0 | 855,0 | 1085,0 | 1350,0 | 1630,0 | 1830,0 |
| 170 | 169,20 | 170,80 | 168,00 | 172,00 | 700,0 | 900,0 | 1140,0 | 1410,0 | 1710,0 | 1920,0 |
| 180 | 179,20 | 180,80 | 178,00 | 182,00 | 735,0 | 945,0 | 1200,0 | 1480,0 | 1790,0 | 2010,0 |
| 190 | 189,10 | 190,90 | 187,70 | 192,30 | 770,0 | 990,0 | 1250,0 | 1540,0 | 1870,0 | 2100,0 |
| 200 | 199,10 | 200,90 | 197,70 | 202,30 | 805,0 | 1030,0 | 1310,0 | 1610,0 | 1950,0 | 2200,0 |
| 220 | | | 217,70 | 222,30 | 870,0 | 1130,0 | 1420,0 | 1750,0 | 2110,0 | 2410,0 |
| 240 | | | 237,70 | 242,30 | 935,0 | 1220,0 | 1530,0 | 1880,0 | 2270,0 | 2600,0 |
| 260 | | | 257,40 | 262,60 | | 1310,0 | 1640,0 | 2020,0 | 2430,0 | 2800,0 |
| 280 | | | 277,40 | 282,60 | | | 1750,0 | 2150,0 | 2590,0 | 3010,0 |
| 300 | | | 297,40 | 302,60 | | | 1860,0 | 2290,0 | 2750,0 | 3210,0 |

Values are given in millimeters. / Değerler milimetre olarak verilmiştir.