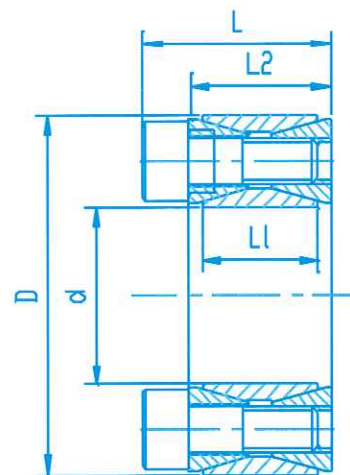


CN 210 - 01

tolerancias :

eje : h8
cubo : H8

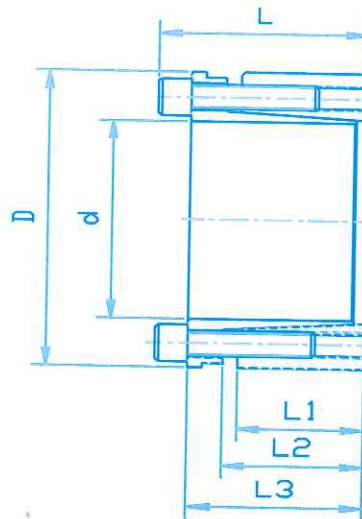


| Dimensiones | | | | | Fuerza axial Ft KN | Par Mt Nm | Presiones | | Tornillos DIN912-12.9 | | |
|-------------|---------|----------|----------|---------|--------------------------|-----------------|-------------------------------|---------------------------------|-----------------------|--------|-------------------------|
| d mm | D mm | L1 mm | L2 mm | L mm | | | Eje P N/mm ² | Cubo P1 N/mm ² | N. | Tipo | Par apriete Ts Nm |
| 19 | 47 | 17 | 20 | 26 | 31 | 298 | 286 | 116 | 8 | M6x18 | 14,9 |
| 20 | 47 | 17 | 20 | 26 | 31 | 313 | 272 | 116 | 8 | M6x18 | 14,9 |
| 22 | 47 | 17 | 20 | 26 | 31 | 345 | 247 | 116 | 8 | M6x18 | 14,9 |
| 24 | 50 | 17 | 20 | 26 | 35 | 424 | 255 | 123 | 9 | M6x18 | 14,9 |
| 25 | 50 | 17 | 20 | 26 | 35 | 441 | 245 | 123 | 9 | M6x18 | 14,9 |
| 28 | 55 | 17 | 20 | 26 | 39 | 549 | 243 | 124 | 10 | M6x18 | 14,9 |
| 30 | 55 | 17 | 20 | 26 | 39 | 588 | 227 | 124 | 10 | M6x18 | 14,9 |
| 32 | 60 | 17 | 20 | 26 | 47 | 752 | 255 | 136 | 12 | M6x18 | 14,9 |
| 35 | 60 | 17 | 20 | 26 | 47 | 822 | 233 | 136 | 12 | M6x18 | 14,9 |
| 38 | 65 | 17 | 20 | 26 | 55 | 1042 | 250 | 146 | 14 | M6x18 | 14,9 |
| 40 | 65 | 17 | 20 | 26 | 55 | 1097 | 238 | 146 | 14 | M6x18 | 14,9 |
| 42 | 75 | 20 | 24 | 32 | 83 | 1740 | 291 | 163 | 12 | M8x22 | 35 |
| 45 | 75 | 20 | 24 | 32 | 83 | 1864 | 271 | 163 | 12 | M8x22 | 35 |
| 48 | 80 | 20 | 24 | 32 | 83 | 1988 | 254 | 153 | 12 | M8x22 | 35 |
| 50 | 80 | 20 | 24 | 32 | 83 | 2071 | 244 | 153 | 12 | M8x22 | 35 |
| 55 | 85 | 20 | 24 | 32 | 97 | 2658 | 259 | 168 | 14 | M8x22 | 35 |
| 60 | 90 | 20 | 24 | 32 | 97 | 2900 | 238 | 158 | 14 | M8x22 | 35 |
| 65 | 95 | 20 | 24 | 32 | 110 | 3587 | 250 | 171 | 16 | M8x22 | 35 |
| 70 | 110 | 24 | 28 | 38 | 153 | 5345 | 268 | 171 | 14 | M10x25 | 69 |
| 75 | 115 | 24 | 28 | 38 | 153 | 5727 | 250 | 163 | 14 | M10x25 | 69 |
| 80 | 120 | 24 | 28 | 38 | 153 | 6108 | 235 | 156 | 14 | M10x25 | 69 |
| 85 | 125 | 24 | 28 | 38 | 175 | 7417 | 252 | 172 | 16 | M10x25 | 69 |
| 90 | 130 | 24 | 28 | 38 | 175 | 7854 | 238 | 165 | 16 | M10x25 | 69 |
| 95 | 135 | 24 | 28 | 38 | 196 | 9326 | 254 | 179 | 18 | M10x25 | 69 |
| 100 | 145 | 26 | 33 | 45 | 227 | 11362 | 258 | 178 | 14 | M12x30 | 123,3 |
| 110 | 155 | 26 | 33 | 45 | 227 | 12498 | 234 | 166 | 14 | M12x30 | 123,3 |
| 120 | 165 | 26 | 33 | 45 | 260 | 15578 | 245 | 178 | 16 | M12x30 | 123,3 |
| 130 | 180 | 34 | 38 | 50 | 325 | 21095 | 217 | 156 | 20 | M12x35 | 123,3 |
| 140 | 190 | 34 | 38 | 50 | 357 | 24993 | 221 | 163 | 22 | M12x35 | 123,3 |
| 150 | 200 | 34 | 38 | 50 | 390 | 29217 | 225 | 169 | 24 | M12x35 | 123,3 |
| 160 | 210 | 34 | 38 | 50 | 422 | 33756 | 229 | 174 | 26 | M12x35 | 123,3 |
| 170 | 225 | 38 | 44 | 58 | 465 | 39483 | 212 | 160 | 22 | M14x40 | 187 |
| 180 | 235 | 38 | 44 | 58 | 507 | 45606 | 218 | 167 | 24 | M14x40 | 187 |
| 190 | 250 | 46 | 52 | 66 | 591 | 56163 | 199 | 152 | 28 | M14x45 | 187 |
| 200 | 260 | 46 | 52 | 66 | 633 | 63342 | 203 | 156 | 30 | M14x45 | 187 |
| 220 | 285 | 50 | 56 | 72 | 745 | 81960 | 200 | 154 | 26 | M16X50 | 290 |
| 240 | 305 | 50 | 56 | 72 | 860 | 103162 | 211 | 166 | 30 | M16X50 | 290 |
| 260 | 325 | 50 | 56 | 72 | 974 | 126669 | 221 | 177 | 34 | M16X50 | 290 |
| 280 | 355 | 60 | 66 | 84 | 1124 | 157339 | 197 | 156 | 32 | M18X60 | 400 |
| 300 | 375 | 60 | 66 | 84 | 1264 | 189653 | 207 | 166 | 36 | M18X60 | 400 |
| 320 | 405 | 72 | 78 | 98 | 1651 | 264108 | 211 | 167 | 36 | M20X70 | 580 |

CN 54/N - 04

tolerancias :

eje : h8
cubo : H8

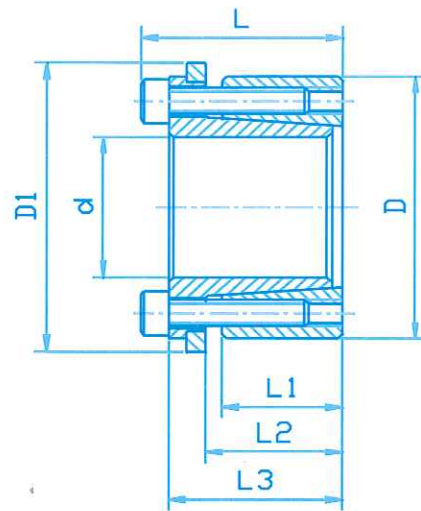


| Dimensiones | | | | | | Fuerza axial Ft KN | Par Mt Nm | Presiones | | Tornillos DIN912-12.9 | | |
|-------------|---------|----------|----------|----------|---------|--------------------------|-----------------|-------------------|---------------------|-----------------------|--------|-------------------------|
| d mm | D mm | L1 mm | L2 mm | L3 mm | L mm | | | Eje P N/mm2 | Cubo P1 N/mm2 | N. | Tipo | Par apriete Ts Nm |
| 19 | 47 | 26 | 31 | 39 | 45 | 32 | 307 | 193 | 78 | 4 | M6x25 | 17 |
| 20 | 47 | 26 | 31 | 39 | 45 | 32 | 323 | 183 | 78 | 4 | M6x25 | 17 |
| 22 | 47 | 26 | 31 | 39 | 45 | 32 | 355 | 166 | 78 | 4 | M6x25 | 17 |
| 24 | 50 | 26 | 31 | 39 | 45 | 48 | 582 | 229 | 110 | 6 | M6x25 | 17 |
| 25 | 50 | 26 | 31 | 39 | 45 | 48 | 606 | 220 | 110 | 6 | M6x25 | 17 |
| 28 | 55 | 26 | 31 | 39 | 45 | 48 | 679 | 196 | 100 | 6 | M6x25 | 17 |
| 30 | 55 | 26 | 31 | 39 | 45 | 48 | 727 | 183 | 100 | 6 | M6x25 | 17 |
| 32 | 60 | 26 | 31 | 39 | 45 | 65 | 1033 | 229 | 122 | 8 | M6x25 | 17 |
| 35 | 60 | 26 | 31 | 39 | 45 | 65 | 1130 | 209 | 122 | 8 | M6x25 | 17 |
| 38 | 65 | 26 | 31 | 39 | 45 | 65 | 1227 | 193 | 113 | 8 | M6x25 | 17 |
| 40 | 65 | 26 | 31 | 39 | 45 | 65 | 1292 | 183 | 113 | 8 | M6x25 | 17 |
| 42 | 75 | 30 | 36 | 47 | 55 | 87 | 1835 | 204 | 115 | 6 | M8x30 | 41 |
| 45 | 75 | 30 | 36 | 47 | 55 | 87 | 1966 | 191 | 115 | 6 | M8x30 | 41 |
| 48 | 80 | 30 | 36 | 47 | 55 | 87 | 2097 | 179 | 107 | 6 | M8x30 | 41 |
| 50 | 80 | 30 | 36 | 47 | 55 | 87 | 2184 | 172 | 107 | 6 | M8x30 | 41 |
| 55 | 85 | 30 | 36 | 47 | 55 | 116 | 3202 | 208 | 135 | 8 | M8x30 | 41 |
| 60 | 90 | 30 | 36 | 47 | 55 | 116 | 3493 | 191 | 127 | 8 | M8x30 | 41 |
| 65 | 95 | 30 | 36 | 47 | 55 | 116 | 3784 | 176 | 120 | 8 | M8x30 | 41 |
| 70 | 110 | 40 | 46 | 57 | 67 | 189 | 6607 | 199 | 127 | 8 | M10x35 | 83 |
| 75 | 115 | 40 | 46 | 62 | 72 | 189 | 7079 | 186 | 121 | 8 | M10x35 | 83 |
| 80 | 120 | 40 | 46 | 62 | 72 | 189 | 7551 | 174 | 116 | 8 | M10x35 | 83 |
| 85 | 125 | 40 | 46 | 62 | 72 | 236 | 10029 | 205 | 139 | 10 | M10x35 | 83 |
| 90 | 130 | 40 | 46 | 62 | 72 | 236 | 10619 | 193 | 134 | 10 | M10x35 | 83 |
| 95 | 135 | 40 | 46 | 62 | 72 | 236 | 11209 | 183 | 129 | 10 | M10x35 | 83 |
| 100 | 145 | 46 | 52 | 77 | 89 | 275 | 13738 | 176 | 121 | 8 | M12x45 | 145 |
| 110 | 155 | 46 | 52 | 77 | 89 | 275 | 15111 | 160 | 114 | 8 | M12x45 | 145 |
| 120 | 165 | 46 | 52 | 77 | 89 | 343 | 20606 | 183 | 133 | 10 | M12x45 | 145 |
| 130 | 180 | 46 | 52 | 77 | 89 | 412 | 26788 | 203 | 147 | 12 | M12x45 | 145 |
| 140 | 190 | 51 | 59 | 84 | 98 | 373 | 26142 | 154 | 114 | 8 | M14x45 | 230 |
| 150 | 200 | 51 | 59 | 84 | 98 | 467 | 35016 | 180 | 135 | 10 | M14x45 | 230 |
| 160 | 210 | 51 | 59 | 84 | 98 | 467 | 37351 | 169 | 129 | 10 | M14x45 | 230 |
| 170 | 225 | 51 | 59 | 84 | 98 | 560 | 47617 | 191 | 144 | 12 | M14x45 | 230 |
| 180 | 235 | 51 | 59 | 84 | 98 | 560 | 50418 | 180 | 138 | 12 | M14x45 | 230 |

CN 54/S - 06

tolerancias :

eje: h8
cubo: H8

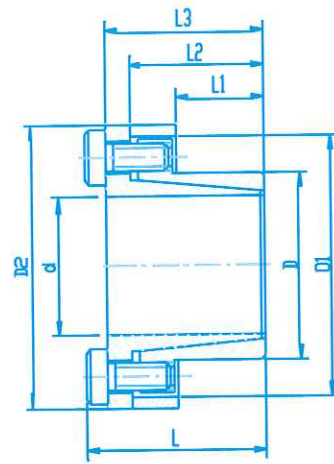


| Dimensiones | | | | | | | Fuerza axial Ft KN | Par Mt Nm | Presiones | | Tornillos DIN912-12.9 | | |
|-------------|---------|----------|----------|----------|----------|---------|--------------------------|-----------------|-------------------|---------------------|-----------------------|--------|-------------------------|
| d mm | D mm | D1 mm | L1 mm | L2 mm | L3 mm | L mm | | | Eje P N/mm2 | Cubo P1 N/mm2 | N. | Tipo | Par apriete Ts Nm |
| 19 | 47 | 53 | 26 | 31 | 39 | 45 | 21 | 202 | 127 | 51 | 4 | M6x20 | 17 |
| 20 | 47 | 53 | 26 | 31 | 39 | 45 | 21 | 213 | 121 | 51 | 4 | M6x20 | 17 |
| 22 | 47 | 53 | 26 | 31 | 39 | 45 | 21 | 234 | 110 | 51 | 4 | M6x20 | 17 |
| 24 | 50 | 56 | 26 | 31 | 39 | 45 | 32 | 384 | 151 | 73 | 6 | M6x20 | 17 |
| 25 | 50 | 56 | 26 | 31 | 39 | 45 | 32 | 400 | 145 | 73 | 6 | M6x20 | 17 |
| 28 | 55 | 61 | 26 | 31 | 39 | 45 | 32 | 448 | 129 | 66 | 6 | M6x20 | 17 |
| 30 | 55 | 61 | 26 | 31 | 39 | 45 | 32 | 480 | 121 | 66 | 6 | M6x20 | 17 |
| 32 | 60 | 66 | 26 | 31 | 39 | 45 | 43 | 683 | 151 | 81 | 8 | M6x20 | 17 |
| 35 | 60 | 66 | 26 | 31 | 39 | 45 | 43 | 747 | 138 | 81 | 8 | M6x20 | 17 |
| 38 | 65 | 71 | 26 | 31 | 39 | 45 | 43 | 811 | 127 | 74 | 8 | M6x20 | 17 |
| 40 | 65 | 71 | 26 | 31 | 39 | 45 | 43 | 853 | 121 | 74 | 8 | M6x20 | 17 |
| 42 | 75 | 81 | 30 | 36 | 47 | 55 | 58 | 1216 | 135 | 76 | 6 | M8x30 | 41 |
| 45 | 75 | 81 | 30 | 36 | 47 | 55 | 58 | 1302 | 126 | 76 | 6 | M8x30 | 41 |
| 48 | 80 | 86 | 30 | 36 | 47 | 55 | 58 | 1389 | 119 | 71 | 6 | M8x30 | 41 |
| 50 | 80 | 86 | 30 | 36 | 47 | 55 | 58 | 1447 | 114 | 71 | 6 | M8x30 | 41 |
| 55 | 85 | 91 | 30 | 36 | 47 | 55 | 77 | 2124 | 138 | 89 | 8 | M8x30 | 41 |
| 60 | 90 | 96 | 30 | 36 | 47 | 55 | 77 | 2317 | 127 | 84 | 8 | M8x30 | 41 |
| 65 | 95 | 101 | 30 | 36 | 47 | 55 | 77 | 2510 | 117 | 80 | 8 | M8x30 | 41 |
| 70 | 110 | 116 | 40 | 46 | 57 | 67 | 125 | 4381 | 132 | 84 | 8 | M10x35 | 83 |
| 75 | 115 | 121 | 40 | 46 | 62 | 72 | 125 | 4694 | 123 | 80 | 8 | M10x35 | 83 |
| 80 | 120 | 126 | 40 | 46 | 62 | 72 | 125 | 5007 | 115 | 77 | 8 | M10x35 | 83 |
| 85 | 125 | 131 | 40 | 46 | 62 | 72 | 156 | 6651 | 136 | 92 | 10 | M10x35 | 83 |
| 90 | 130 | 136 | 40 | 46 | 62 | 72 | 156 | 7042 | 128 | 89 | 10 | M10x35 | 83 |
| 95 | 135 | 141 | 40 | 46 | 62 | 72 | 156 | 7433 | 121 | 85 | 10 | M10x35 | 83 |
| 100 | 145 | 151 | 46 | 52 | 77 | 89 | 182 | 9104 | 117 | 81 | 8 | M12x45 | 145 |
| 110 | 155 | 161 | 46 | 52 | 77 | 89 | 182 | 10015 | 106 | 75 | 8 | M12x45 | 145 |
| 120 | 165 | 171 | 46 | 52 | 77 | 89 | 228 | 13653 | 122 | 88 | 10 | M12x45 | 145 |
| 130 | 180 | 186 | 46 | 52 | 77 | 89 | 273 | 17747 | 135 | 97 | 12 | M12x45 | 145 |
| 140 | 190 | 196 | 51 | 59 | 84 | 98 | 248 | 17328 | 102 | 75 | 8 | M14x45 | 230 |
| 150 | 200 | 206 | 51 | 59 | 84 | 98 | 309 | 23207 | 119 | 89 | 10 | M14x45 | 230 |
| 160 | 210 | 216 | 51 | 59 | 84 | 98 | 309 | 24754 | 112 | 85 | 10 | M14x45 | 230 |
| 170 | 225 | 231 | 51 | 59 | 84 | 98 | 371 | 31561 | 126 | 95 | 12 | M14x45 | 230 |
| 180 | 235 | 241 | 51 | 59 | 84 | 98 | 371 | 33417 | 119 | 91 | 12 | M14x45 | 230 |

CN 55 - 02

tolerancias :

eje : h8
cubo : H8

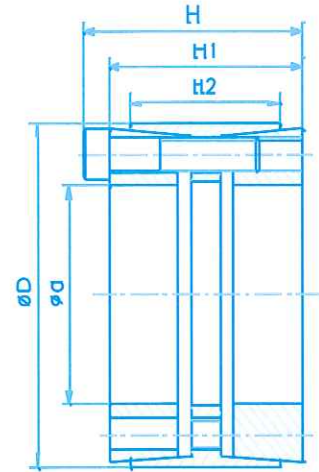


| Dimensiones | | | | | | | | Fuerza axial | Par | Presiones | | Tornillos DIN912-12.9 | | |
|-------------|-----|----|-----|-----|-----|-----|-----|--------------|-------|-----------------|-----------------|-----------------------|--------|-------------|
| d | D | L1 | L2 | L3 | L | D2 | D1 | Ft | Mt | Eje | Cubo | N. | Tipo | Par apriete |
| mm | mm | mm | mm | mm | mm | mm | mm | KN | Nm | P | P1 | | | Ts |
| | | | | | | | | | | mm ² | mm ² | | | Nm |
| 10 | 16 | 14 | 23 | 27 | 31 | 32 | 28 | 10 | 49 | 205 | 128 | 4 | M4x12 | 5,2 |
| 12 | 18 | 14 | 23 | 27 | 31 | 34 | 30 | 10 | 58 | 171 | 114 | 4 | M4x12 | 5,2 |
| 14 | 23 | 14 | 23 | 27 | 31 | 39 | 35 | 10 | 68 | 146 | 89 | 4 | M4x12 | 5,2 |
| 15 | 24 | 16 | 29 | 36 | 42 | 45 | 40 | 16 | 120 | 196 | 123 | 3 | M6x18 | 17 |
| 16 | 24 | 16 | 29 | 36 | 42 | 45 | 40 | 16 | 128 | 184 | 123 | 3 | M6x18 | 17 |
| 18 | 26 | 18 | 31 | 38 | 44 | 47 | 42 | 21 | 191 | 194 | 134 | 4 | M6x18 | 17 |
| 19 | 27 | 18 | 31 | 38 | 44 | 48 | 43 | 21 | 202 | 183 | 129 | 4 | M6x18 | 17 |
| 20 | 28 | 18 | 31 | 38 | 44 | 49 | 44 | 21 | 213 | 174 | 124 | 4 | M6x18 | 17 |
| 22 | 32 | 25 | 38 | 45 | 51 | 54 | 48 | 21 | 234 | 114 | 78 | 4 | M6x18 | 17 |
| 24 | 34 | 25 | 38 | 45 | 51 | 56 | 50 | 21 | 255 | 105 | 74 | 4 | M6x18 | 17 |
| 25 | 34 | 25 | 38 | 45 | 51 | 56 | 50 | 21 | 266 | 100 | 74 | 4 | M6x18 | 17 |
| 28 | 39 | 25 | 38 | 45 | 51 | 61 | 55 | 27 | 373 | 112 | 81 | 5 | M6x18 | 17 |
| 30 | 41 | 25 | 38 | 45 | 51 | 63 | 57 | 32 | 480 | 126 | 92 | 6 | M6x18 | 17 |
| 32 | 43 | 30 | 43 | 50 | 56 | 65 | 59 | 32 | 511 | 98 | 73 | 6 | M6x18 | 17 |
| 35 | 47 | 30 | 43 | 50 | 56 | 69 | 63 | 43 | 747 | 120 | 89 | 8 | M6x18 | 17 |
| 38 | 50 | 30 | 43 | 50 | 56 | 72 | 66 | 43 | 811 | 110 | 84 | 8 | M6x18 | 17 |
| 40 | 53 | 32 | 45 | 52 | 58 | 75 | 69 | 48 | 959 | 110 | 83 | 9 | M6x18 | 17 |
| 42 | 55 | 32 | 45 | 52 | 58 | 77 | 71 | 48 | 1007 | 105 | 80 | 9 | M6x18 | 17 |
| 45 | 59 | 40 | 56 | 64 | 72 | 85 | 79 | 79 | 1781 | 130 | 99 | 8 | M8x22 | 42 |
| 48 | 62 | 40 | 56 | 64 | 72 | 88 | 82 | 79 | 1900 | 122 | 94 | 8 | M8x22 | 42 |
| 50 | 65 | 50 | 66 | 74 | 82 | 92 | 85 | 99 | 2473 | 117 | 90 | 10 | M8x22 | 42 |
| 55 | 71 | 50 | 66 | 74 | 82 | 98 | 91 | 99 | 2721 | 106 | 82 | 10 | M8x22 | 42 |
| 60 | 77 | 50 | 66 | 74 | 82 | 104 | 97 | 99 | 2968 | 97 | 76 | 10 | M8x22 | 42 |
| 65 | 84 | 50 | 66 | 74 | 82 | 111 | 104 | 99 | 3215 | 90 | 69 | 10 | M8x22 | 42 |
| 70 | 90 | 60 | 80 | 91 | 101 | 122 | 115 | 127 | 4430 | 89 | 69 | 8 | M10x25 | 84 |
| 75 | 95 | 60 | 80 | 91 | 101 | 126 | 119 | 142 | 5338 | 93 | 74 | 9 | M10x25 | 84 |
| 80 | 100 | 65 | 85 | 96 | 106 | 131 | 124 | 190 | 7595 | 108 | 86 | 12 | M10x25 | 84 |
| 85 | 106 | 65 | 85 | 96 | 106 | 137 | 130 | 190 | 8069 | 101 | 81 | 12 | M10x25 | 84 |
| 90 | 112 | 65 | 85 | 96 | 106 | 143 | 136 | 222 | 9968 | 112 | 90 | 14 | M10x25 | 84 |
| 95 | 120 | 65 | 85 | 96 | 106 | 153 | 144 | 222 | 10522 | 106 | 84 | 14 | M10x25 | 84 |
| 100 | 125 | 65 | 89 | 102 | 114 | 162 | 153 | 273 | 13651 | 124 | 99 | 12 | M12x30 | 145 |
| 110 | 140 | 70 | 94 | 107 | 119 | 177 | 168 | 273 | 15016 | 105 | 82 | 12 | M12x30 | 145 |
| 120 | 155 | 90 | 114 | 127 | 139 | 195 | 185 | 364 | 21844 | 99 | 77 | 16 | M12x30 | 145 |
| 130 | 165 | 90 | 114 | 127 | 139 | 205 | 195 | 364 | 23664 | 92 | 72 | 16 | M12x30 | 145 |
| 140 | 175 | 90 | 114 | 127 | 139 | 215 | 205 | 364 | 25485 | 85 | 68 | 16 | M12x30 | 145 |
| 150 | 185 | 90 | 114 | 127 | 139 | 225 | 215 | 364 | 27305 | 80 | 64 | 16 | M12x30 | 145 |

CN 910 - 19

tolerancias

eje : h8
cubo : H8

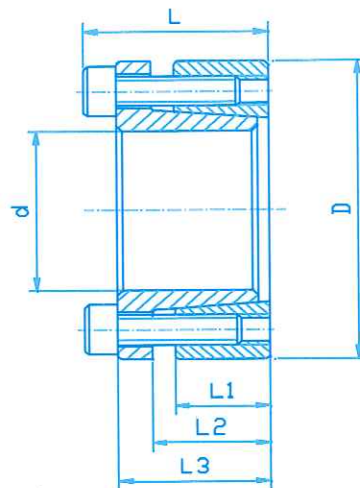


| Dimensiones | | | | | Fuerza axial | Par | Presiones | | Tornillos DIN912-12.9 | | |
|-------------|-----|-----|-----|-----|--------------|----------|------------------------|-------------------------|-----------------------|---------|-------------|
| d | D | H | H1 | H2 | | | Eje | Cubo | N. | Tipo | Par apriete |
| mm | mm | mm | mm | mm | Ft KN | Mt Nm | P N/mm ² | P1 N/mm ² | | | Ts Nm |
| 25 | 55 | 46 | 40 | 32 | 64 | 799 | 314 | 107 | 6 | M6X35 | 17 |
| 28 | 55 | 46 | 40 | 32 | 64 | 895 | 281 | 107 | 6 | M6X35 | 17 |
| 30 | 55 | 46 | 40 | 32 | 64 | 959 | 262 | 107 | 6 | M6X35 | 17 |
| 35 | 60 | 60 | 54 | 44 | 75 | 1306 | 185 | 83 | 7 | M6X45 | 17 |
| 38 | 75 | 62 | 54 | 44 | 135 | 2567 | 308 | 121 | 7 | M8X50 | 17 |
| 40 | 75 | 62 | 54 | 44 | 135 | 2702 | 293 | 121 | 7 | M8X50 | 17 |
| 42 | 75 | 62 | 54 | 44 | 135 | 2837 | 279 | 121 | 7 | M8X50 | 41 |
| 45 | 75 | 62 | 54 | 44 | 135 | 3040 | 260 | 121 | 7 | M8X50 | 41 |
| 48 | 80 | 72 | 64 | 56 | 154 | 3707 | 216 | 102 | 8 | M8X55 | 41 |
| 50 | 80 | 72 | 64 | 56 | 154 | 3861 | 207 | 102 | 8 | M8X55 | 41 |
| 55 | 85 | 72 | 64 | 56 | 174 | 4779 | 212 | 108 | 9 | M8X55 | 41 |
| 60 | 90 | 72 | 64 | 56 | 193 | 5793 | 216 | 113 | 10 | M8X55 | 41 |
| 65 | 95 | 72 | 64 | 56 | 193 | 6276 | 199 | 107 | 10 | M8X55 | 41 |
| 70 | 110 | 88 | 78 | 70 | 313 | 10951 | 235 | 120 | 10 | M10X60 | 83 |
| 75 | 115 | 88 | 78 | 70 | 313 | 11733 | 220 | 115 | 10 | M10X60 | 83 |
| 80 | 120 | 88 | 78 | 70 | 344 | 13768 | 227 | 121 | 11 | M10X60 | 83 |
| 85 | 125 | 88 | 78 | 70 | 376 | 15959 | 233 | 127 | 12 | M10X60 | 83 |
| 90 | 130 | 88 | 78 | 70 | 376 | 16898 | 220 | 122 | 12 | M10X60 | 83 |
| 95 | 135 | 88 | 78 | 70 | 376 | 17837 | 208 | 117 | 12 | M10X60 | 83 |
| 100 | 145 | 112 | 100 | 90 | 501 | 25029 | 211 | 113 | 11 | M12X80 | 145 |
| 110 | 155 | 112 | 100 | 90 | 546 | 30039 | 209 | 115 | 12 | M12X80 | 145 |
| 120 | 165 | 112 | 100 | 90 | 637 | 38226 | 224 | 127 | 14 | M12X80 | 145 |
| 130 | 180 | 130 | 116 | 104 | 743 | 48270 | 201 | 117 | 12 | M14X90 | 230 |
| 140 | 190 | 130 | 116 | 104 | 866 | 60654 | 217 | 129 | 14 | M14X90 | 230 |
| 150 | 200 | 130 | 116 | 104 | 928 | 69628 | 217 | 132 | 15 | M14X90 | 230 |
| 160 | 210 | 130 | 116 | 104 | 990 | 79220 | 217 | 134 | 16 | M14X90 | 230 |
| 170 | 225 | 164 | 148 | 134 | 1186 | 100851 | 206 | 116 | 14 | M16X110 | 360 |
| 180 | 235 | 164 | 148 | 134 | 1271 | 114414 | 208 | 119 | 15 | M16X110 | 360 |
| 190 | 250 | 164 | 148 | 134 | 1356 | 128814 | 210 | 119 | 16 | M16X110 | 360 |
| 200 | 260 | 164 | 148 | 134 | 1356 | 135594 | 200 | 115 | 16 | M16X110 | 360 |
| 220 | 285 | 164 | 148 | 134 | 1526 | 167805 | 204 | 118 | 18 | M16X110 | 360 |

CN 913 - 05

tolerancias :

eje: h8
cubo: H8

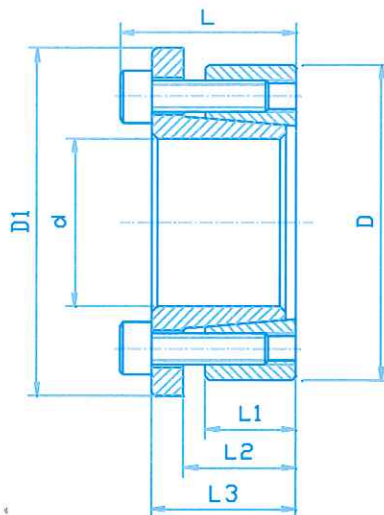


| Dimensiones | | | | | | Fueza axial Ft KN | Par Mt Nm | Presiones | | Tornillos DIN912-12.9 | | |
|-------------|---------|----------|----------|----------|---------|-------------------------|-----------------|-------------------|---------------------|-----------------------|--------|-------------------------|
| d mm | D mm | L1 mm | L2 mm | L3 mm | L mm | | | Eje P N/mm2 | Cubo P1 N/mm2 | N. | Tipo | Par apriete Ts Nm |
| 19 | 47 | 17 | 22 | 28 | 34 | 29 | 273 | 262 | 106 | 5 | M6x20 | 13 |
| 20 | 47 | 17 | 22 | 28 | 34 | 29 | 287 | 249 | 106 | 5 | M6x20 | 13 |
| 22 | 47 | 17 | 22 | 28 | 34 | 29 | 316 | 227 | 106 | 5 | M6x20 | 13 |
| 24 | 50 | 17 | 22 | 28 | 34 | 34 | 413 | 249 | 120 | 6 | M6x20 | 13 |
| 25 | 50 | 17 | 22 | 28 | 34 | 34 | 431 | 239 | 120 | 6 | M6x20 | 13 |
| 28 | 55 | 17 | 22 | 28 | 34 | 34 | 482 | 213 | 109 | 6 | M6x20 | 13 |
| 30 | 55 | 17 | 22 | 28 | 34 | 34 | 517 | 199 | 109 | 6 | M6x20 | 13 |
| 32 | 60 | 17 | 22 | 28 | 34 | 46 | 734 | 249 | 133 | 8 | M6x20 | 13 |
| 35 | 60 | 17 | 22 | 28 | 34 | 46 | 803 | 227 | 133 | 8 | M6x20 | 13 |
| 38 | 65 | 17 | 22 | 28 | 34 | 46 | 872 | 210 | 122 | 8 | M6x20 | 13 |
| 40 | 65 | 17 | 22 | 28 | 34 | 46 | 918 | 199 | 122 | 8 | M6x20 | 13 |
| 42 | 75 | 20 | 25 | 33 | 41 | 74 | 1563 | 261 | 146 | 7 | M8x25 | 32 |
| 45 | 75 | 20 | 25 | 33 | 41 | 74 | 1674 | 244 | 146 | 7 | M8x25 | 32 |
| 50 | 80 | 20 | 25 | 33 | 41 | 74 | 1860 | 219 | 137 | 7 | M8x25 | 32 |
| 55 | 85 | 20 | 25 | 33 | 41 | 85 | 2340 | 228 | 148 | 8 | M8x25 | 32 |
| 60 | 90 | 20 | 25 | 33 | 41 | 85 | 2553 | 209 | 139 | 8 | M8x25 | 32 |
| 65 | 95 | 20 | 25 | 33 | 41 | 96 | 3110 | 217 | 149 | 9 | M8x25 | 32 |
| 70 | 110 | 24 | 30 | 40 | 50 | 138 | 4838 | 243 | 154 | 8 | M10x30 | 36 |
| 75 | 115 | 24 | 30 | 40 | 50 | 138 | 5184 | 226 | 148 | 6 | M10x30 | 65 |
| 80 | 120 | 24 | 30 | 40 | 50 | 138 | 5530 | 212 | 142 | 8 | M10x30 | 65 |
| 85 | 125 | 24 | 30 | 40 | 50 | 156 | 6610 | 225 | 153 | 9 | M10x30 | 65 |
| 90 | 130 | 24 | 30 | 40 | 50 | 156 | 6998 | 212 | 147 | 9 | M10x30 | 65 |
| 95 | 135 | 24 | 30 | 40 | 50 | 173 | 8208 | 223 | 157 | 10 | M10x30 | 65 |
| 100 | 145 | 26 | 32 | 44 | 56 | 195 | 9742 | 221 | 152 | 8 | M12x35 | 110 |
| 110 | 155 | 26 | 32 | 44 | 56 | 195 | 10716 | 201 | 143 | 8 | M12x35 | 110 |
| 120 | 165 | 26 | 32 | 44 | 56 | 219 | 13154 | 207 | 151 | 9 | M12x35 | 110 |
| 130 | 180 | 34 | 40 | 52 | 64 | 292 | 18996 | 195 | 141 | 12 | M12x35 | 110 |
| 140 | 190 | 34 | 40 | 54 | 68 | 291 | 20336 | 180 | 133 | 9 | M14x40 | 170 |
| 150 | 200 | 34 | 40 | 54 | 68 | 323 | 24211 | 187 | 140 | 10 | M14x40 | 170 |
| 160 | 210 | 34 | 40 | 54 | 68 | 355 | 28408 | 192 | 147 | 11 | M14x40 | 170 |
| 170 | 225 | 44 | 50 | 64 | 78 | 387 | 32929 | 153 | 115 | 12 | M14x40 | 170 |
| 180 | 235 | 44 | 50 | 64 | 78 | 387 | 34866 | 144 | 110 | 12 | M14x40 | 170 |

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tolerancias :

eje: h8
cubo: H8



| Dimensiones | | | | | | | Fuerza axial Ft KN | Par Mt Nm | Presiones | | Tornillos DIN912-12.9 | | |
|-------------|---------|----------|----------|----------|----------|---------|--------------------------|-----------------|-------------------|---------------------|-----------------------|--------|-------------------------|
| d mm | D mm | D1 mm | L1 mm | L2 mm | L3 mm | L mm | | | Eje P N/mm2 | Cubo P1 N/mm2 | N. | Tipo | Par apriete Ts Nm |
| 19 | 47 | 56 | 17 | 22 | 28 | 34 | 26 | 243 | 234 | 94 | 5 | M6x20 | 17 |
| 20 | 47 | 56 | 17 | 22 | 28 | 34 | 26 | 256 | 222 | 94 | 5 | M6x20 | 17 |
| 22 | 47 | 56 | 17 | 22 | 28 | 34 | 26 | 282 | 202 | 94 | 5 | M6x20 | 17 |
| 24 | 50 | 59 | 17 | 22 | 28 | 34 | 31 | 368 | 222 | 106 | 6 | M6x20 | 17 |
| 25 | 50 | 59 | 17 | 22 | 28 | 34 | 31 | 383 | 213 | 106 | 6 | M6x20 | 17 |
| 28 | 55 | 64 | 17 | 22 | 28 | 34 | 31 | 429 | 190 | 97 | 6 | M6x20 | 17 |
| 30 | 55 | 64 | 17 | 22 | 28 | 34 | 31 | 460 | 177 | 97 | 6 | M6x20 | 17 |
| 32 | 60 | 69 | 17 | 22 | 28 | 34 | 41 | 655 | 222 | 118 | 8 | M6x20 | 17 |
| 35 | 60 | 69 | 17 | 22 | 28 | 34 | 41 | 716 | 203 | 118 | 8 | M6x20 | 17 |
| 38 | 65 | 74 | 17 | 22 | 28 | 34 | 41 | 778 | 187 | 109 | 8 | M6x20 | 17 |
| 40 | 65 | 74 | 17 | 22 | 28 | 34 | 41 | 819 | 178 | 109 | 8 | M6x20 | 17 |
| 42 | 75 | 84 | 20 | 25 | 33 | 41 | 65 | 1361 | 227 | 127 | 7 | M8x25 | 41 |
| 45 | 75 | 84 | 20 | 25 | 33 | 41 | 65 | 1458 | 212 | 127 | 7 | M8x25 | 41 |
| 50 | 80 | 89 | 20 | 25 | 33 | 41 | 65 | 1620 | 191 | 119 | 7 | M8x25 | 41 |
| 55 | 85 | 94 | 20 | 25 | 33 | 41 | 74 | 2037 | 199 | 129 | 8 | M8x25 | 41 |
| 60 | 90 | 99 | 20 | 25 | 33 | 41 | 74 | 2223 | 182 | 121 | 8 | M8x25 | 41 |
| 65 | 95 | 104 | 20 | 25 | 33 | 41 | 83 | 2710 | 189 | 129 | 9 | M8x25 | 41 |
| 70 | 110 | 119 | 24 | 30 | 40 | 50 | 120 | 4203 | 211 | 134 | 8 | M10x30 | 83 |
| 75 | 115 | 124 | 24 | 30 | 40 | 50 | 120 | 4754 | 197 | 128 | 8 | M10x30 | 83 |
| 80 | 120 | 129 | 24 | 30 | 40 | 50 | 120 | 4804 | 184 | 123 | 8 | M10x30 | 83 |
| 85 | 125 | 134 | 24 | 30 | 40 | 50 | 135 | 5742 | 195 | 133 | 9 | M10x30 | 83 |
| 90 | 130 | 139 | 24 | 30 | 40 | 50 | 135 | 6080 | 184 | 128 | 9 | M10x30 | 83 |
| 95 | 135 | 144 | 24 | 30 | 40 | 50 | 150 | 7131 | 194 | 137 | 10 | M10x30 | 83 |
| 100 | 145 | 154 | 26 | 32 | 44 | 56 | 175 | 8732 | 198 | 137 | 8 | M12x35 | 145 |
| 110 | 155 | 164 | 26 | 32 | 44 | 56 | 175 | 9605 | 180 | 128 | 8 | M12x35 | 145 |
| 120 | 165 | 174 | 26 | 32 | 44 | 56 | 196 | 11787 | 186 | 135 | 9 | M12x35 | 145 |
| 130 | 180 | 189 | 34 | 40 | 52 | 64 | 262 | 17024 | 175 | 126 | 12 | M12x35 | 145 |
| 140 | 190 | 199 | 34 | 40 | 54 | 68 | 267 | 18703 | 166 | 122 | 9 | M14x40 | 230 |
| 150 | 200 | 209 | 34 | 40 | 54 | 68 | 297 | 22259 | 172 | 129 | 10 | M14x40 | 230 |
| 160 | 210 | 219 | 34 | 40 | 54 | 68 | 326 | 26119 | 177 | 135 | 11 | M14x40 | 230 |
| 170 | 225 | 234 | 44 | 50 | 64 | 78 | 356 | 30276 | 140 | 106 | 12 | M14x40 | 230 |
| 180 | 235 | 244 | 44 | 50 | 64 | 78 | 356 | 32057 | 133 | 102 | 12 | M14x40 | 230 |

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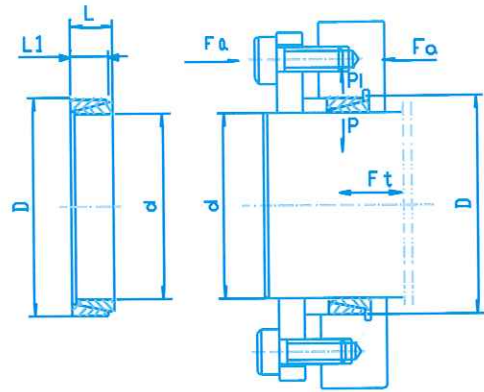
tolerancias :

hasta el tamaño de 38mm :

eje: h6 cubo: H7

tamaño mayor de 40mm :

eje: h8 cubo: H8



| Dimensiones | | | | Fuerza axial montaje | Fuerza axial | Par | Presiones | |
|-------------|-----|------|------|----------------------|--------------|-------|------------------------|-------------------------|
| d | D | L | L1 | Fa | Ft | Mt | Eje | Cubo |
| mm | mm | mm | mm | KN | KN | Nm | P N/mm ² | P1 N/mm ² |
| 10 | 13 | 4,5 | 3,7 | 12,1 | 1,37 | 6,9 | 98 | 75 |
| 12 | 15 | 4,5 | 3,7 | 12,4 | 1,64 | 9,8 | 98 | 78 |
| 13 | 16 | 4,5 | 3,7 | 12,7 | 1,80 | 12 | 98 | 79 |
| 14 | 18 | 6,3 | 5,3 | 20,4 | 2,74 | 19,2 | 98 | 76 |
| 15 | 19 | 6,3 | 5,3 | 23,5 | 2,94 | 22,1 | 98 | 77 |
| 16 | 20 | 6,3 | 5,3 | 23,9 | 3,14 | 25,1 | 98 | 78 |
| 17 | 21 | 6,3 | 5,3 | 24,2 | 3,33 | 28,3 | 98 | 79 |
| 18 | 22 | 6,3 | 5,3 | 24,8 | 3,53 | 31,8 | 98 | 80 |
| 19 | 24 | 6,3 | 5,3 | 29,1 | 3,72 | 35,3 | 98 | 77 |
| 20 | 25 | 6,3 | 5,3 | 29,5 | 3,92 | 39,2 | 98 | 78 |
| 22 | 26 | 6,3 | 5,3 | 28,3 | 4,31 | 47 | 98 | 83 |
| 24 | 28 | 6,3 | 5,3 | 29,4 | 4,70 | 56,8 | 98 | 84 |
| 25 | 30 | 6,3 | 5,3 | 31,8 | 4,90 | 60,8 | 98 | 81 |
| 28 | 32 | 6,3 | 5,3 | 31,9 | 5,49 | 76,4 | 98 | 86 |
| 30 | 35 | 6,3 | 5,3 | 34,8 | 5,88 | 88,2 | 98 | 84 |
| 32 | 36 | 6,3 | 5,3 | 35,9 | 6,27 | 100 | 98 | 87 |
| 35 | 40 | 7,0 | 6,0 | 44,8 | 7,74 | 136 | 98 | 86 |
| 36 | 42 | 7,0 | 6,0 | 47,3 | 7,94 | 144 | 98 | 84 |
| 38 | 44 | 7,0 | 6,0 | 48,8 | 8,43 | 160 | 98 | 84 |
| 40 | 45 | 8,0 | 6,6 | 57,6 | 9,75 | 195 | 98 | 87 |
| 42 | 48 | 8,0 | 6,6 | 61,4 | 10,30 | 216 | 98 | 86 |
| 45 | 52 | 10,0 | 8,6 | 90,3 | 14,30 | 321 | 98 | 85 |
| 48 | 55 | 10,0 | 8,6 | 92,7 | 15,30 | 367 | 98 | 85 |
| 50 | 57 | 10,0 | 8,6 | 94,7 | 15,90 | 397 | 98 | 86 |
| 55 | 62 | 10,0 | 8,6 | 99,7 | 17,40 | 480 | 98 | 87 |
| 56 | 64 | 12,0 | 10,4 | 125,6 | 21,60 | 603 | 98 | 86 |
| 60 | 68 | 12,0 | 10,4 | 130,9 | 23,00 | 692 | 98 | 86 |
| 65 | 73 | 12,0 | 10,4 | 134,9 | 25,00 | 813 | 98 | 87 |
| 70 | 79 | 14,0 | 12,2 | 172,4 | 31,60 | 1110 | 98 | 87 |
| 75 | 84 | 14,0 | 12,2 | 185,7 | 33,80 | 1260 | 98 | 87 |
| 80 | 91 | 17,0 | 15,0 | 247,1 | 44,10 | 1770 | 98 | 86 |
| 85 | 96 | 17,0 | 15,0 | 256,7 | 47,05 | 2005 | 98 | 86 |
| 90 | 101 | 17,0 | 15,0 | 266,2 | 50,00 | 2240 | 98 | 87 |
| 95 | 106 | 17,0 | 15,0 | 318,5 | 59,80 | 2845 | 98 | 87 |
| 100 | 114 | 21,0 | 18,7 | 370,8 | 69,60 | 3450 | 98 | 86 |
| 110 | 124 | 21,0 | 18,7 | 406,1 | 76,40 | 4170 | 98 | 87 |
| 120 | 134 | 21,0 | 18,7 | 432,0 | 83,30 | 4950 | 98 | 88 |
| 130 | 148 | 28,0 | 25,3 | 640,8 | 122,00 | 7840 | 98 | 86 |
| 140 | 158 | 28,0 | 25,3 | 676,5 | 131,00 | 9110 | 98 | 87 |
| 150 | 168 | 28,0 | 25,3 | 713,0 | 140,00 | 10500 | 98 | 87 |