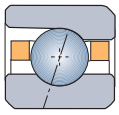
# SEA

## ISO 18

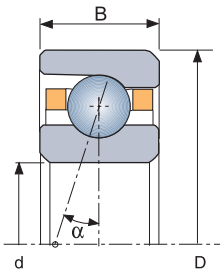


SEA

ISO 18

SEA

SEA

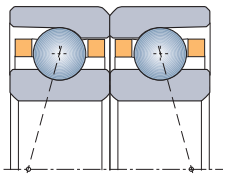


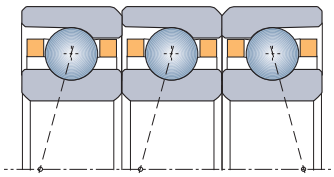

| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° C0 | α = 25° C33 | α = 25° C0 | Olio Vh (ABEC 9) | Grasso Vh (ABEC 9) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEA 10 | 10 | 19 | 5 | 12 | 2.38 | 190 | 125 | 185 | 119 | 121 000 | 78 700 | 0.005 |
| SEA 12 | 12 | 21 | 5 | 14 | 2.38 | 210 | 150 | 200 | 143 | 106 000 | 69 000 | 0.006 |
| SEA 15 | 15 | 24 | 5 | 17 | 2.38 | 235 | 189 | 220 | 179 | 89 500 | 58 200 | 0.007 |
| SEA 17 | 17 | 26 | 5 | 18 | 2.38 | 240 | 200 | 230 | 193 | 81 000 | 52 700 | 0.010 |
| SEA 20 | 20 | 32 | 7 | 17 | 3.17 | 390 | 340 | 370 | 320 | 66 500 | 43 300 | 0.018 |
| SEA 25 | 25 | 37 | 7 | 20 | 3.17 | 420 | 410 | 400 | 390 | 55 500 | 36 100 | 0.021 |
| SEA 30 | 30 | 42 | 7 | 23 | 3.17 | 450 | 480 | 425 | 450 | 48 000 | 31 200 | 0.026 |
| SEA 35 | 35 | 47 | 7 | 26 | 3.17 | 470 | 550 | 445 | 520 | 41 500 | 27 000 | 0.028 |
| SEA 40 | 40 | 52 | 7 | 29 | 3.17 | 490 | 620 | 465 | 590 | 36 500 | 23 800 | 0.031 |
| SEA 45 | 45 | 58 | 7 | 31 | 3.17 | 500 | 670 | 470 | 630 | 33 000 | 21 500 | 0.039 |
| SEA 50 | 50 | 65 | 7 | 30 | 3.97 | 750 | 1 000 | 710 | 950 | 29 500 | 19 200 | 0.051 |
| SEA 55 | 55 | 72 | 9 | 29 | 4.76 | 1 045 | 1 380 | 985 | 1 310 | 26 000 | 16 900 | 0.081 |
| SEA 60 | 60 | 78 | 10 | 28 | 5.55 | 1 370 | 1 800 | 1 290 | 1 700 | 24 000 | 15 600 | 0.100 |
| SEA 65 | 65 | 85 | 10 | 29 | 5.55 | 1 375 | 1 890 | 1 295 | 1 780 | 22 000 | 14 300 | 0.126 |
| SEA 70 | 70 | 90 | 10 | 31 | 5.55 | 1 410 | 2 030 | 1 330 | 1 920 | 20 500 | 13 300 | 0.134 |
| SEA 75 | 75 | 95 | 10 | 33 | 5.55 | 1 450 | 2 170 | 1 365 | 2 050 | 19 400 | 12 600 | 0.142 |
| SEA 80 | 80 | 100 | 10 | 35 | 5.55 | 1 485 | 2 320 | 1 395 | 2 180 | 17 800 | 11 600 | 0.151 |
| SEA 85 | 85 | 110 | 13 | 30 | 7.14 | 2 200 | 3 220 | 2 070 | 3 040 | 16 700 | 10 900 | 0.266 |
| SEA 90 | 90 | 115 | 13 | 31 | 7.14 | 2 210 | 3 350 | 2 090 | 3 160 | 15 600 | 10 100 | 0.279 |
| SEA 95 | 95 | 120 | 13 | 32 | 7.14 | 2 245 | 3 470 | 2 110 | 3 280 | 15 000 | 9 800 | 0.292 |
| SEA 100 | 100 | 125 | 13 | 34 | 7.14 | 2 305 | 3 710 | 2 165 | 3 500 | 14 400 | 9 400 | 0.310 |
| SEA 105 | 105 | 130 | 13 | 35 | 7.14 | 2 320 | 3 830 | 2 180 | 3 610 | 13 600 | 8 800 | 0.320 |
| SEA 110 | 110 | 140 | 16 | 32 | 8.73 | 3 235 | 5 200 | 3 041 | 4 880 | 12 800 | 8 300 | 0.505 |
| SEA 120 | 120 | 150 | 16 | 35 | 8.73 | 3 365 | 5 700 | 3 160 | 5 400 | 11 700 | 7 600 | 0.550 |
| SEA 130 | 130 | 165 | 18 | 35 | 9.53 | 3 920 | 6 800 | 3 690 | 6 400 | 10 600 | 6 900 | 0.770 |
| SEA 140 | 140 | 175 | 18 | 35 | 10.32 | 4 550 | 7 900 | 4 270 | 7 500 | 9 800 | 6 400 | 0.800 |
| SEA 150 | 150 | 190 | 20 | 35 | 11.11 | 5 200 | 9 200 | 4 880 | 8 700 | 9 000 | 5 900 | 1.100 |

Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 15°

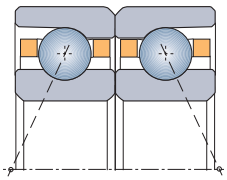


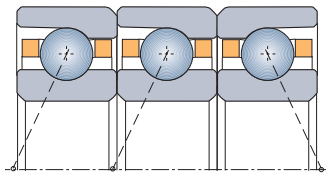


| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| SEA 10 | 1.0 | 1.0 | 1.5 | 3.0 | 1.5 | 2.2 | 6.0 | 1.9 | 2.8 |
| SEA 12 | 1.1 | 1.2 | 1.7 | 3.3 | 1.7 | 2.5 | 6.6 | 2.2 | 3.2 |
| SEA 15 | 1.2 | 1.4 | 2.1 | 3.6 | 2.0 | 3.0 | 7.2 | 2.5 | 3.7 |
| SEA 17 | 1.2 | 1.5 | 2.1 | 3.7 | 2.1 | 3.1 | 7.5 | 2.7 | 3.9 |
| SEA 20 | 2.0 | 1.8 | 2.7 | 6.0 | 2.6 | 3.9 | 12.0 | 3.3 | 4.9 |
| SEA 25 | 2.2 | 2.1 | 3.1 | 6.6 | 3.0 | 4.4 | 13.2 | 3.8 | 5.6 |
| SEA 30 | 2.3 | 2.3 | 3.4 | 7.0 | 3.4 | 5.0 | 14.0 | 4.3 | 6.3 |
| SEA 35 | 2.5 | 2.6 | 3.8 | 7.5 | 3.7 | 5.5 | 15.0 | 4.7 | 7.0 |
| SEA 40 | 2.6 | 2.8 | 4.2 | 7.8 | 4.1 | 6.0 | 15.5 | 5.1 | 7.6 |
| SEA 45 | 2.7 | 3.0 | 4.4 | 8.0 | 4.3 | 6.3 | 16.0 | 5.4 | 8.0 |
| SEA 50 | 4.0 | 3.6 | 5.3 | 12.0 | 5.2 | 7.7 | 24.0 | 6.5 | 9.6 |
| SEA 55 | 5.5 | 4.2 | 6.1 | 16.5 | 6.0 | 8.8 | 33.0 | 7.5 | 11.1 |
| SEA 60 | 7.0 | 4.7 | 6.8 | 21.0 | 6.7 | 9.9 | 42.0 | 8.4 | 12.4 |
| SEA 65 | 7.1 | 4.8 | 7.0 | 21.5 | 7.0 | 10.2 | 43.0 | 8.7 | 12.8 |
| SEA 70 | 7.3 | 5.0 | 7.4 | 22.0 | 7.3 | 10.7 | 44.0 | 9.2 | 13.5 |
| SEA 75 | 7.6 | 5.4 | 7.8 | 22.5 | 7.7 | 11.2 | 45.0 | 9.6 | 14.2 |
| SEA 80 | 7.8 | 5.7 | 8.2 | 23.5 | 8.1 | 11.9 | 47.0 | 10.2 | 15.0 |
| SEA 85 | 11.5 | 6.2 | 9.2 | 34.5 | 9.0 | 13.2 | 69.0 | 11.3 | 16.7 |
| SEA 90 | 11.6 | 6.4 | 9.4 | 35.0 | 9.2 | 13.6 | 70.0 | 11.6 | 17.1 |
| SEA 95 | 11.7 | 6.6 | 9.6 | 35.5 | 9.5 | 13.9 | 71.0 | 11.9 | 17.6 |
| SEA 100 | 12.0 | 6.9 | 10.1 | 36.0 | 9.9 | 14.6 | 72.0 | 12.5 | 18.4 |
| SEA 105 | 13.0 | 7.2 | 10.6 | 39.0 | 10.4 | 15.3 | 78.0 | 13.1 | 19.3 |
| SEA 110 | 16.0 | 7.7 | 11.4 | 50.0 | 11.3 | 16.7 | 100.0 | 14.3 | 21.0 |
| SEA 120 | 18.0 | 8.5 | 12.6 | 55.0 | 12.4 | 18.3 | 110.0 | 15.6 | 23.0 |
| SEA 130 | 20.5 | 9.2 | 13.6 | 61.5 | 13.3 | 19.6 | 123.0 | 16.8 | 24.7 |
| SEA 140 | 24.0 | 10.0 | 14.7 | 72.0 | 14.4 | 21.2 | 144.0 | 18.2 | 26.7 |
| SEA 150 | 27.0 | 10.6 | 15.7 | 82.0 | 15.4 | 22.7 | 163.0 | 19.4 | 28.5 |

# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 25°

ISO 18

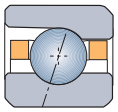




| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| SEA 10 | 1.6 | 2.8 | 4.0 | 4.8 | 4.0 | 5.8 | 10.0 | 5.1 | 7.5 |
| SEA 12 | 1.7 | 3.2 | 4.6 | 5.3 | 4.5 | 6.7 | 10.5 | 5.7 | 8.4 |
| SEA 15 | 1.9 | 3.8 | 5.4 | 5.8 | 5.5 | 7.8 | 11.5 | 6.8 | 9.9 |
| SEA 17 | 2.0 | 4.0 | 5.7 | 6.0 | 5.7 | 8.2 | 12.0 | 7.1 | 10.4 |
| SEA 20 | 3.2 | 4.9 | 7.1 | 10.0 | 7.0 | 10.4 | 20.0 | 9.0 | 13.1 |
| SEA 25 | 3.5 | 5.8 | 8.1 | 10.5 | 8.0 | 11.7 | 21.0 | 10.0 | 14.8 |
| SEA 30 | 3.7 | 6.6 | 9.1 | 11.0 | 8.9 | 13.1 | 22.0 | 11.3 | 16.5 |
| SEA 35 | 3.9 | 6.9 | 10.0 | 11.5 | 9.8 | 14.4 | 23.0 | 12.5 | 18.2 |
| SEA 40 | 4.0 | 7.5 | 10.9 | 12.0 | 11.0 | 15.7 | 24.0 | 13.5 | 19.8 |
| SEA 45 | 4.1 | 8.2 | 11.5 | 12.5 | 11.8 | 16.7 | 25.0 | 14.4 | 21.0 |
| SEA 50 | 6.0 | 9.4 | 13.8 | 18.0 | 13.3 | 19.8 | 36.0 | 16.9 | 25.0 |
| SEA 55 | 8.7 | 11.1 | 16.2 | 26.0 | 15.9 | 23.3 | 52.0 | 20.0 | 29.3 |
| SEA 60 | 11.4 | 12.3 | 18.2 | 34.0 | 17.8 | 26.2 | 68.0 | 22.6 | 33.0 |
| SEA 65 | 11.5 | 13.0 | 18.7 | 34.5 | 18.4 | 26.9 | 69.0 | 23.2 | 33.9 |
| SEA 70 | 11.7 | 13.7 | 19.6 | 35.0 | 19.3 | 28.3 | 70.0 | 24.4 | 35.7 |
| SEA 75 | 12.0 | 14.2 | 20.7 | 36.0 | 20.4 | 29.8 | 72.0 | 25.4 | 37.5 |
| SEA 80 | 12.3 | 15.0 | 21.7 | 37.0 | 21.4 | 31.3 | 74.0 | 26.8 | 39.4 |
| SEA 85 | 18.3 | 16.6 | 24.3 | 55.0 | 23.9 | 35.0 | 110.0 | 30.1 | 44.1 |
| SEA 90 | 18.4 | 17.3 | 24.8 | 55.5 | 24.5 | 35.9 | 111.0 | 30.8 | 45.1 |
| SEA 95 | 18.6 | 17.5 | 25.5 | 56.0 | 25.1 | 36.7 | 112.0 | 31.6 | 46.3 |
| SEA 100 | 19.0 | 18.5 | 26.7 | 57.0 | 26.4 | 38.5 | 114.0 | 32.2 | 48.5 |
| SEA 105 | 20.0 | 18.8 | 27.7 | 60.0 | 27.2 | 40.0 | 120.0 | 34.2 | 50.3 |
| SEA 110 | 26.0 | 20.6 | 30.4 | 80.0 | 30.1 | 44.2 | 160.0 | 37.9 | 55.8 |
| SEA 120 | 28.0 | 22.5 | 33.1 | 85.0 | 32.6 | 47.9 | 170.0 | 41.0 | 60.4 |
| SEA 130 | 32.5 | 24.4 | 35.8 | 98.0 | 35.2 | 51.8 | 196.0 | 44.3 | 65.3 |
| SEA 140 | 38.0 | 26.4 | 38.8 | 114.0 | 38.0 | 55.9 | 228.0 | 47.9 | 70.5 |
| SEA 150 | 43.0 | 28.2 | 41.4 | 130.0 | 40.7 | 59.9 | 259.0 | 51.2 | 75.4 |

# SEB

## ISO 19

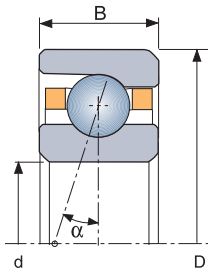


SEB

ISO 19

SEB

SEB

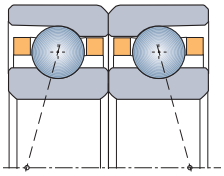


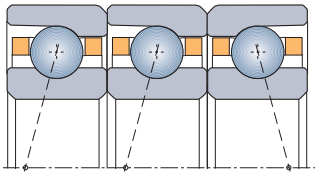

| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° C0 | α = 25° C33 | α = 25° C0 | Olio Vh (ABEC 9) | Grasso Vh (ABEC 9) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEB 17 | 17 | 30 | 7 | 13 | 3.97 | 510 | 370 | 485 | 350 | 74 000 | 48 100 | 0.016 |
| SEB 20 | 20 | 37 | 9 | 14 | 4.76 | 745 | 580 | 705 | 550 | 60 500 | 39 300 | 0.036 |
| SEB 25 | 25 | 42 | 9 | 15 | 4.76 | 765 | 650 | 735 | 620 | 51 000 | 33 200 | 0.042 |
| SEB 30 | 30 | 47 | 9 | 17 | 4.76 | 815 | 750 | 765 | 720 | 44 500 | 28 900 | 0.049 |
| SEB 35 | 35 | 55 | 10 | 18 | 5.55 | 1 115 | 1 090 | 1 050 | 1 030 | 38 000 | 24 700 | 0.075 |
| SEB 40 | 40 | 62 | 12 | 18 | 6.35 | 1 420 | 1 420 | 1 340 | 1 350 | 33 500 | 21 800 | 0.110 |
| SEB 45 | 45 | 68 | 12 | 20 | 6.35 | 1 495 | 1 600 | 1 415 | 1 520 | 30 000 | 19 500 | 0.130 |
| SEB 50 | 50 | 72 | 12 | 21 | 7.14 | 1 925 | 2 110 | 1 820 | 2 010 | 27 000 | 17 600 | 0.130 |
| SEB 55 | 55 | 80 | 13 | 22 | 7.94 | 2 415 | 2 730 | 2 280 | 2 590 | 24 500 | 15 900 | 0.178 |
| SEB 60 | 60 | 85 | 13 | 24 | 7.94 | 2 520 | 3 020 | 2 375 | 2 860 | 23 000 | 15 000 | 0.192 |
| SEB 65 | 65 | 90 | 13 | 25 | 7.94 | 2 550 | 3 180 | 2 400 | 3 010 | 21 000 | 13 700 | 0.202 |
| SEB 70 | 70 | 100 | 16 | 24 | 9.52 | 3 515 | 4 330 | 3 315 | 4 110 | 19 400 | 12 600 | 0.338 |
| SEB 75 | 75 | 105 | 16 | 25 | 9.52 | 3 570 | 4 560 | 3 360 | 4 320 | 17 800 | 11 600 | 0.357 |
| SEB 80 | 80 | 110 | 16 | 26 | 9.52 | 3 620 | 4 780 | 3 410 | 4 520 | 16 700 | 10 900 | 0.376 |
| SEB 85 | 85 | 120 | 18 | 25 | 11.11 | 4 735 | 6 200 | 4 460 | 5 900 | 15 600 | 10 100 | 0.532 |
| SEB 90 | 90 | 125 | 18 | 26 | 11.11 | 4 810 | 6 500 | 4 530 | 6 100 | 14 400 | 9 400 | 0.558 |
| SEB 95 | 95 | 130 | 18 | 27 | 11.11 | 4 880 | 6 800 | 4 595 | 6 400 | 13 900 | 9 000 | 0.584 |
| SEB 100 | 100 | 140 | 20 | 26 | 12.70 | 6 145 | 8 400 | 5 795 | 8 000 | 13 300 | 8 600 | 0.801 |
| SEB 110 | 110 | 150 | 20 | 28 | 12.70 | 6 340 | 9 200 | 5 970 | 8 700 | 12 200 | 7 900 | 0.861 |
| SEB 120 | 120 | 165 | 22 | 26 | 14.28 | 7 515 | 10 700 | 7 100 | 10 200 | 11 100 | 7 200 | 1.193 |
| SEB 130 | 130 | 180 | 24 | 28 | 14.28 | 7 750 | 11 700 | 7 280 | 11 100 | 10 000 | 6 500 | 1.628 |
| SEB 140 | 140 | 190 | 24 | 30 | 14.28 | 7 995 | 12 600 | 7 540 | 12 000 | 8 900 | 5 800 | 1.730 |
| SEB 150 | 150 | 210 | 28 | 24 | 19.05 | 12 080 | 17 500 | 11 400 | 16 600 | 8 300 | 5 400 | 2.555 |
| SEB 160 | 160 | 220 | 28 | 26 | 19.05 | 12 610 | 19 100 | 11 895 | 18 100 | 7 800 | 5 100 | 2.713 |
| SEB 170 | 170 | 230 | 28 | 27 | 19.05 | 12 790 | 20 000 | 12 050 | 18 900 | 7 200 | 4 700 | 2.848 |
| SEB 180 | 180 | 250 | 33 | 25 | 22.22 | 16 315 | 24 900 | 15 340 | 23 600 | 6 700 | 4 350 | 4.225 |
| SEB 190 | 190 | 260 | 33 | 26 | 22.22 | 16 560 | 26 100 | 15 600 | 24 700 | 6 100 | 3 950 | 4.410 |
| SEB 200 | 200 | 280 | 38 | 24 | 25.40 | 20 255 | 31 100 | 19 160 | 29 400 | 5 600 | 3 650 | 5.100 |
| SEB 220 | 220 | 300 | 38 | 26 | 25.40 | 20 695 | 34 100 | 19 825 | 32 300 | 5 000 | 3 250 | 6.500 |
| SEB 230 | 230 | 310 | 38 | 28 | 25.40 | 21 800 | 36 900 | 20 600 | 34 900 | 4 900 | 3 200 | 7.000 |
| SEB 240 | 240 | 320 | 38 | 29 | 25.40 | 22 200 | 38 400 | 20 900 | 36 300 | 4 800 | 3 100 | 7.500 |
| SEB 260 | 260 | 360 | 46 | 26 | 31.75 | 29 050 | 52 900 | 27 360 | 50 100 | 4 300 | 2 800 | 12.000 |
| SEB 280 | 280 | 380 | 46 | 27 | 31.75 | 29 300 | 55 400 | 27 600 | 52 500 | 3 900 | 2 550 | 13.000 |

Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

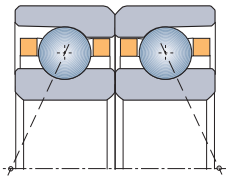
# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 15°

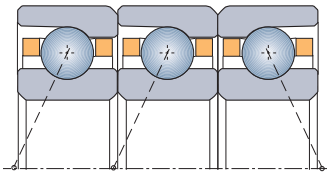




| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| SEB 17 | 2.6 | 1.8 | 2.6 | 8.0 | 2.6 | 3.8 | 16.0 | 3.3 | 4.8 |
| SEB 20 | 3.9 | 2.3 | 3.4 | 11.5 | 3.3 | 4.8 | 23.0 | 4.1 | 6.1 |
| SEB 25 | 4.0 | 2.4 | 3.6 | 12.0 | 3.5 | 5.1 | 24.0 | 4.4 | 6.5 |
| SEB 30 | 4.2 | 2.7 | 3.9 | 12.5 | 3.8 | 5.6 | 25.0 | 4.8 | 7.1 |
| SEB 35 | 5.8 | 3.3 | 4.8 | 17.5 | 4.7 | 6.9 | 35.0 | 5.9 | 8.7 |
| SEB 40 | 7.4 | 3.7 | 5.4 | 22.3 | 5.3 | 7.8 | 44.5 | 6.7 | 9.9 |
| SEB 45 | 8.0 | 4.3 | 6.0 | 24.0 | 6.2 | 8.6 | 48.0 | 7.8 | 10.8 |
| SEB 50 | 10.0 | 4.7 | 6.9 | 30.0 | 6.8 | 10.0 | 60.0 | 8.5 | 12.5 |
| SEB 55 | 12.5 | 5.4 | 7.9 | 38.0 | 7.8 | 11.5 | 76.0 | 9.8 | 14.5 |
| SEB 60 | 13.0 | 5.8 | 8.5 | 39.0 | 8.3 | 12.3 | 78.0 | 10.5 | 15.5 |
| SEB 65 | 13.5 | 6.0 | 8.8 | 40.0 | 8.6 | 12.8 | 80.0 | 10.9 | 16.0 |
| SEB 70 | 18.5 | 6.8 | 10.1 | 55.0 | 9.8 | 14.7 | 110.0 | 12.5 | 18.5 |
| SEB 75 | 18.5 | 7.1 | 10.5 | 56.0 | 10.2 | 15.1 | 112.0 | 12.9 | 19.0 |
| SEB 80 | 19.0 | 7.4 | 10.8 | 57.0 | 10.6 | 15.7 | 114.0 | 13.4 | 19.7 |
| SEB 85 | 24.5 | 8.3 | 12.2 | 74.0 | 11.8 | 17.6 | 148.0 | 15.0 | 22.1 |
| SEB 90 | 25.0 | 8.5 | 12.5 | 75.0 | 12.1 | 18.1 | 150.0 | 15.4 | 22.7 |
| SEB 95 | 25.5 | 8.7 | 12.9 | 76.5 | 12.5 | 18.7 | 153.0 | 15.9 | 23.4 |
| SEB 100 | 32.0 | 9.6 | 14.2 | 96.0 | 13.8 | 20.5 | 192.0 | 17.5 | 25.8 |
| SEB 110 | 33.0 | 10.2 | 15.1 | 99.0 | 14.7 | 21.8 | 198.0 | 18.6 | 27.4 |
| SEB 120 | 39.3 | 10.8 | 15.8 | 118.0 | 15.5 | 22.8 | 236.0 | 19.6 | 28.8 |
| SEB 130 | 40.5 | 11.4 | 16.8 | 122.0 | 16.5 | 24.3 | 244.0 | 20.8 | 30.6 |
| SEB 140 | 41.8 | 12.0 | 17.8 | 125.5 | 17.4 | 25.6 | 251.0 | 22.0 | 32.3 |
| SEB 150 | 63.2 | 13.1 | 19.4 | 189.5 | 19.0 | 27.9 | 379.0 | 23.9 | 35.2 |
| SEB 160 | 66.0 | 14.0 | 20.7 | 198.0 | 20.3 | 29.9 | 396.0 | 25.6 | 37.6 |
| SEB 170 | 67.0 | 14.5 | 21.3 | 201.0 | 20.9 | 30.8 | 402.0 | 26.4 | 38.8 |
| SEB 180 | 85.4 | 15.7 | 23.1 | 256.0 | 22.7 | 33.4 | 512.0 | 28.6 | 42.0 |
| SEB 190 | 87.0 | 16.2 | 23.9 | 260.0 | 23.4 | 34.4 | 520.0 | 29.5 | 43.4 |
| SEB 200 | 106.0 | 17.2 | 26.1 | 318.0 | 24.8 | 37.2 | 636.0 | 31.2 | 47.0 |
| SEB 220 | 108.0 | 18.2 | 26.9 | 325.0 | 26.3 | 38.8 | 650.0 | 33.2 | 48.9 |
| SEB 230 | 113.0 | 19.5 | 28.6 | 340.0 | 28.2 | 41.4 | 680.0 | 35.5 | 52.2 |
| SEB 240 | 115.0 | 20.0 | 29.5 | 350.0 | 29.0 | 42.7 | 700.0 | 36.6 | 53.8 |
| SEB 260 | 152.0 | 22.0 | 32.4 | 456.0 | 31.7 | 46.7 | 912.0 | 40.0 | 58.9 |
| SEB 280 | 154.0 | 22.7 | 33.4 | 460.0 | 32.7 | 48.1 | 920.0 | 41.2 | 60.6 |

# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 25°

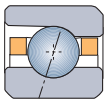




| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| SEB 17 | 4.3 | 4.8 | 7.0 | 13.0 | 6.9 | 10.2 | 26.0 | 8.7 | 12.8 |
| SEB 20 | 6.2 | 6.0 | 8.9 | 18.5 | 8.7 | 12.8 | 37.0 | 11.0 | 16.1 |
| SEB 25 | 6.4 | 6.5 | 9.4 | 19.0 | 9.2 | 13.5 | 38.0 | 11.5 | 17.0 |
| SEB 30 | 6.7 | 7.0 | 10.4 | 20.0 | 9.8 | 14.9 | 40.0 | 12.7 | 18.8 |
| SEB 35 | 9.3 | 8.7 | 12.7 | 28.0 | 12.5 | 18.3 | 56.0 | 15.6 | 23.0 |
| SEB 40 | 12.0 | 10.0 | 14.4 | 36.0 | 14.1 | 20.8 | 72.0 | 17.8 | 26.2 |
| SEB 45 | 12.5 | 10.4 | 15.7 | 37.5 | 16.0 | 22.6 | 75.0 | 19.5 | 28.5 |
| SEB 50 | 16.0 | 12.6 | 18.3 | 48.0 | 17.8 | 26.4 | 96.0 | 22.5 | 33.2 |
| SEB 55 | 20.0 | 14.3 | 21.1 | 60.0 | 20.5 | 30.5 | 120.0 | 26.0 | 38.3 |
| SEB 60 | 21.0 | 15.4 | 22.7 | 63.0 | 22.1 | 32.9 | 126.0 | 28.0 | 41.3 |
| SEB 65 | 21.0 | 15.8 | 23.4 | 63.5 | 22.8 | 33.8 | 127.0 | 28.8 | 42.5 |
| SEB 70 | 29.0 | 18.3 | 26.9 | 88.0 | 26.2 | 39.0 | 176.0 | 33.2 | 48.9 |
| SEB 75 | 30.0 | 18.9 | 27.8 | 89.0 | 27.1 | 40.3 | 178.0 | 34.3 | 50.6 |
| SEB 80 | 30.0 | 19.4 | 28.7 | 90.0 | 27.9 | 41.5 | 180.0 | 35.3 | 52.0 |
| SEB 85 | 39.5 | 21.8 | 32.2 | 118.0 | 31.3 | 46.5 | 236.0 | 39.6 | 58.4 |
| SEB 90 | 40.0 | 22.5 | 33.2 | 120.0 | 32.3 | 48.1 | 240.0 | 40.9 | 60.3 |
| SEB 95 | 40.5 | 23.2 | 34.3 | 122.0 | 33.4 | 49.6 | 244.0 | 42.2 | 62.2 |
| SEB 100 | 51.0 | 25.5 | 37.7 | 153.0 | 36.7 | 54.6 | 306.0 | 46.4 | 68.4 |
| SEB 110 | 53.0 | 27.1 | 40.0 | 158.0 | 39.0 | 58.0 | 316.0 | 49.3 | 72.7 |
| SEB 120 | 62.8 | 28.5 | 41.9 | 188.0 | 41.0 | 60.4 | 376.0 | 51.7 | 76.1 |
| SEB 130 | 64.4 | 30.2 | 44.4 | 193.0 | 43.5 | 64.0 | 386.0 | 54.8 | 80.6 |
| SEB 140 | 66.7 | 32.0 | 47.0 | 200.0 | 46.1 | 67.8 | 400.0 | 58.1 | 85.5 |
| SEB 150 | 100.8 | 34.8 | 51.2 | 302.0 | 50.2 | 73.8 | 604.0 | 63.2 | 93.0 |
| SEB 160 | 105.0 | 37.2 | 54.7 | 315.0 | 53.7 | 79.0 | 630.0 | 67.6 | 99.5 |
| SEB 170 | 107.0 | 38.4 | 56.5 | 320.0 | 55.3 | 81.4 | 640.0 | 69.7 | 102.5 |
| SEB 180 | 135.6 | 41.5 | 61.1 | 407.0 | 60.0 | 88.2 | 814.0 | 75.5 | 111.1 |
| SEB 190 | 138.0 | 43.0 | 63.1 | 414.0 | 61.9 | 91.0 | 828.0 | 78.0 | 114.7 |
| SEB 200 | 169.0 | 45.5 | 71.0 | 508.0 | 65.7 | 99.5 | 1 016.0 | 82.7 | 127.8 |
| SEB 220 | 175.0 | 48.5 | 71.4 | 526.0 | 70.0 | 103.1 | 1 052.0 | 88.3 | 129.9 |
| SEB 230 | 182.0 | 51.7 | 76.1 | 545.0 | 74.5 | 109.7 | 1 090.0 | 93.9 | 138.2 |
| SEB 240 | 185.0 | 53.2 | 78.3 | 555.0 | 76.7 | 112.9 | 1 110.0 | 96.6 | 142.2 |
| SEB 260 | 242.0 | 58.2 | 85.7 | 726.0 | 84.0 | 123.7 | 1 452.0 | 105.8 | 155.8 |
| SEB 280 | 244.0 | 59.9 | 88.2 | 732.0 | 86.4 | 127.0 | 1 460.0 | 109.0 | 160.0 |

# EX

## ISO 10

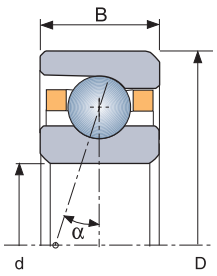




ISO 10

EX

EX

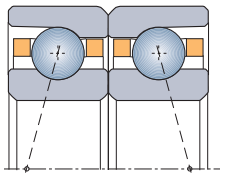


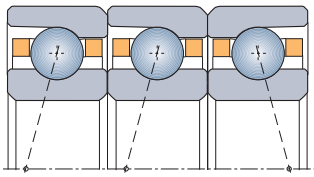

| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° C0 | α = 25° C33 | α = 25° C0 | Olio Vh (ABEC 9) | Grasso Vh (ABEC 9) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX 6 | 6 | 17 | 6 | 8 | 3.17 | 160 | 61 | 155 | 59 | 178 000 | 116 000 | 0.006 |
| EX 7 | 7 | 19 | 6 | 8 | 3.57 | 198 | 77 | 191 | 75 | 157 000 | 102 000 | 0.008 |
| EX 8 | 8 | 22 | 7 | 8 | 3.97 | 311 | 150 | 300 | 145 | 134 000 | 87 100 | 0.011 |
| EX 9 | 9 | 24 | 7 | 9 | 3.97 | 341 | 176 | 328 | 169 | 122 000 | 79 300 | 0.014 |
| EX 10 | 10 | 26 | 8 | 11 | 3.97 | 391 | 223 | 374 | 214 | 112 000 | 72 800 | 0.018 |
| EX 12 | 12 | 28 | 8 | 10 | 4.76 | 507 | 280 | 488 | 270 | 101 000 | 65 700 | 0.019 |
| EX 15 | 15 | 32 | 9 | 12 | 4.76 | 576 | 360 | 550 | 350 | 85 000 | 55 300 | 0.028 |
| EX 17 | 17 | 35 | 10 | 12 | 5.55 | 761 | 480 | 728 | 460 | 76 500 | 49 700 | 0.037 |
| EX 20 | 20 | 42 | 12 | 12 | 6.35 | 967 | 640 | 924 | 610 | 64 500 | 42 000 | 0.064 |
| EX 25 | 25 | 47 | 12 | 13 | 7.14 | 1 261 | 890 | 1 203 | 850 | 55 500 | 36 100 | 0.075 |
| EX 30 | 30 | 55 | 13 | 13 | 7.94 | 1 520 | 1 110 | 1 450 | 1 060 | 47 000 | 30 600 | 0.108 |
| EX 35 | 35 | 62 | 14 | 15 | 7.94 | 1 950 | 1 730 | 1 846 | 1 650 | 35 000 | 22 800 | 0.135 |
| EX 40 | 40 | 68 | 15 | 16 | 7.94 | 2 015 | 1 900 | 1 885 | 1 810 | 31 000 | 20 200 | 0.190 |
| EX 45 | 45 | 75 | 16 | 15 | 9.52 | 2 770 | 2 510 | 2 630 | 2 400 | 28 000 | 18 200 | 0.228 |
| EX 50 | 50 | 80 | 16 | 16 | 9.52 | 2 860 | 2 730 | 2 700 | 2 600 | 25 500 | 16 600 | 0.246 |
| EX 55 | 55 | 90 | 18 | 16 | 11.11 | 3 720 | 3 680 | 3 520 | 3 510 | 23 000 | 15 000 | 0.360 |
| EX 60 | 60 | 95 | 18 | 17 | 11.11 | 3 835 | 3 980 | 3 630 | 3 780 | 21 000 | 13 700 | 0.384 |
| EX 65 | 65 | 100 | 18 | 18 | 11.11 | 3 940 | 4 270 | 3 740 | 4 060 | 20 000 | 13 000 | 0.408 |
| EX 70 | 70 | 110 | 20 | 18 | 12.70 | 5 160 | 5 500 | 4 880 | 5 200 | 18 300 | 11 900 | 0.580 |
| EX 75 | 75 | 115 | 20 | 19 | 12.70 | 5 290 | 5 900 | 5 000 | 5 600 | 17 200 | 11 200 | 0.613 |
| EX 80 | 80 | 125 | 22 | 18 | 14.28 | 6 360 | 7 000 | 6 010 | 6 700 | 15 600 | 10 100 | 0.826 |
| EX 85 | 85 | 130 | 22 | 19 | 14.28 | 6 540 | 7 500 | 6 180 | 7 100 | 15 000 | 9 800 | 0.868 |
| EX 90 | 90 | 140 | 24 | 21 | 14.28 | 6 790 | 8 400 | 6 400 | 7 900 | 13 900 | 9 000 | 1.145 |
| EX 95 | 95 | 145 | 24 | 20 | 15.87 | 8 020 | 9 700 | 7 590 | 9 200 | 13 300 | 8 600 | 1.160 |
| EX 100 | 100 | 150 | 24 | 21 | 15.87 | 8 255 | 10 300 | 7 760 | 9 800 | 12 800 | 8 300 | 1.211 |
| EX 105 | 105 | 160 | 26 | 20 | 17.46 | 9 700 | 11 800 | 9 150 | 11 200 | 11 700 | 7 600 | 1.535 |
| EX 110 | 110 | 170 | 28 | 20 | 19.05 | 11 400 | 13 900 | 10 780 | 13 200 | 11 100 | 7 200 | 1.942 |
| EX 120 | 120 | 180 | 28 | 21 | 19.05 | 11 620 | 14 800 | 10 970 | 14 100 | 10 000 | 6 500 | 2.055 |
| EX 130 | 130 | 200 | 33 | 20 | 22.22 | 15 020 | 19 000 | 14 180 | 18 000 | 9 400 | 6 100 | 3.080 |
| EX 140 | 140 | 210 | 33 | 21 | 22.22 | 15 340 | 20 200 | 14 480 | 19 100 | 8 300 | 5 400 | 3.280 |
| EX 150 | 150 | 225 | 35 | 21 | 23.81 | 17 370 | 23 100 | 16 390 | 22 000 | 7 800 | 5 100 | 4.030 |
| EX 160 | 160 | 240 | 38 | 21 | 25.40 | 19 500 | 26 300 | 18 400 | 25 000 | 7 200 | 4 700 | 5.000 |
| EX 170 | 170 | 260 | 42 | 21 | 26.99 | 21 190 | 29 800 | 19 990 | 28 300 | 6 700 | 4 350 | 6.650 |
| EX 180 | 180 | 280 | 46 | 22 | 28.57 | 23 630 | 35 000 | 22 290 | 33 300 | 6 100 | 3 950 | 9.000 |
| EX 190 | 190 | 290 | 46 | 23 | 28.57 | 24 120 | 36 900 | 22 750 | 35 100 | 5 800 | 3 750 | 9.460 |
| EX 200 | 200 | 310 | 51 | 20 | 34.92 | 30 290 | 46 600 | 28 600 | 44 400 | 5 300 | 3 450 | 12.200 |
| EX 220 | 220 | 340 | 56 | 20 | 38.10 | 34 140 | 55 600 | 32 240 | 52 900 | 4 700 | 3 050 | 15.600 |
| EX 240 | 240 | 360 | 56 | 22 | 38.10 | 35 930 | 62 000 | 33 930 | 58 900 | 4 300 | 2 800 | 17.250 |

Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 15°



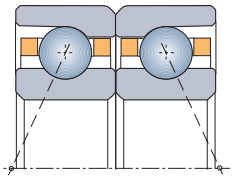


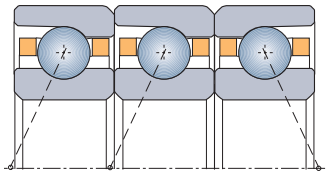
| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| EX 6 | 0.8 | 0.8 | 1.1 | 2.5 | 1.2 | 1.7 | 5.0 | 1.5 | 2.1 |
| EX 7 | 1.0 | 0.9 | 1.3 | 3.0 | 1.3 | 1.9 | 6.0 | 1.6 | 2.4 |
| EX 8 | 1.6 | 1.1 | 1.6 | 5.0 | 1.6 | 2.3 | 10.0 | 2.0 | 2.9 |
| EX 9 | 1.8 | 1.2 | 1.7 | 5.5 | 1.7 | 2.4 | 11.0 | 2.1 | 3.0 |
| EX 10 | 2.0 | 1.5 | 2.1 | 6.0 | 2.1 | 3.1 | 12.0 | 2.7 | 3.9 |
| EX 12 | 2.7 | 1.5 | 2.2 | 8.0 | 2.2 | 3.2 | 16.0 | 2.8 | 4.0 |
| EX 15 | 3.0 | 1.9 | 2.7 | 9.0 | 2.7 | 4.0 | 18.0 | 3.4 | 5.0 |
| EX 17 | 4.0 | 2.2 | 3.2 | 12.0 | 3.2 | 4.6 | 24.0 | 4.0 | 5.8 |
| EX 20 | 5.0 | 2.3 | 3.3 | 15.0 | 3.3 | 4.8 | 30.0 | 4.2 | 6.0 |
| EX 25 | 6.5 | 3.0 | 4.3 | 19.5 | 4.2 | 6.2 | 39.0 | 5.3 | 7.8 |
| EX 30 | 8.0 | 3.3 | 4.8 | 24.0 | 4.7 | 6.9 | 48.0 | 6.0 | 8.7 |
| EX 35 | 10.0 | 3.8 | 5.8 | 30.5 | 5.6 | 8.3 | 61.0 | 7.1 | 10.4 |
| EX 40 | 10.5 | 4.1 | 6.1 | 32.0 | 5.9 | 8.7 | 63.5 | 7.4 | 11.0 |
| EX 45 | 14.0 | 4.6 | 6.8 | 42.5 | 6.7 | 9.8 | 85.0 | 8.4 | 12.3 |
| EX 50 | 14.5 | 4.8 | 7.3 | 44.0 | 6.9 | 10.5 | 88.0 | 8.8 | 13.2 |
| EX 55 | 19.5 | 5.6 | 8.3 | 58.5 | 8.2 | 12.0 | 117.0 | 10.2 | 15.1 |
| EX 60 | 20.0 | 5.9 | 8.8 | 60.5 | 8.6 | 12.6 | 120.5 | 10.8 | 15.9 |
| EX 65 | 21.0 | 6.3 | 9.2 | 62.0 | 9.1 | 13.3 | 124.0 | 11.4 | 16.8 |
| EX 70 | 27.0 | 7.1 | 10.4 | 80.0 | 10.2 | 15.0 | 160.0 | 12.8 | 18.9 |
| EX 75 | 27.5 | 7.4 | 10.9 | 82.0 | 10.7 | 15.7 | 164.0 | 13.5 | 19.8 |
| EX 80 | 33.0 | 7.9 | 11.7 | 98.5 | 11.5 | 16.9 | 197.0 | 14.4 | 21.2 |
| EX 85 | 34.0 | 8.3 | 12.2 | 101.0 | 12.0 | 17.7 | 202.0 | 15.1 | 22.2 |
| EX 90 | 36.0 | 9.0 | 13.3 | 107.0 | 13.0 | 19.1 | 214.0 | 16.8 | 24.1 |
| EX 95 | 42.0 | 9.6 | 14.1 | 127.0 | 13.8 | 20.3 | 253.0 | 17.4 | 25.6 |
| EX 100 | 43.0 | 10.0 | 14.7 | 130.0 | 14.4 | 21.1 | 259.0 | 18.1 | 26.6 |
| EX 105 | 50.0 | 10.5 | 15.7 | 150.0 | 15.1 | 22.2 | 300.0 | 19.0 | 28.0 |
| EX 110 | 59.0 | 11.4 | 16.7 | 177.0 | 16.4 | 23.9 | 354.0 | 20.7 | 30.4 |
| EX 120 | 60.0 | 11.8 | 17.4 | 180.0 | 17.1 | 25.1 | 360.0 | 21.5 | 31.6 |
| EX 130 | 78.0 | 13.2 | 19.4 | 234.0 | 19.0 | 27.9 | 468.0 | 23.9 | 35.2 |
| EX 140 | 80.0 | 13.7 | 20.2 | 240.0 | 19.8 | 29.1 | 480.0 | 24.9 | 36.6 |
| EX 150 | 90.0 | 14.6 | 21.5 | 270.0 | 21.0 | 30.9 | 540.0 | 26.5 | 39.0 |
| EX 160 | 102.0 | 15.5 | 22.9 | 306.0 | 22.4 | 33.0 | 612.0 | 28.2 | 41.5 |
| EX 170 | 110.0 | 16.3 | 23.9 | 330.0 | 24.5 | 34.5 | 660.0 | 29.6 | 43.5 |
| EX 180 | 123.0 | 17.7 | 26.1 | 369.0 | 25.6 | 37.6 | 738.0 | 32.2 | 47.4 |
| EX 190 | 126.0 | 18.4 | 27.1 | 378.0 | 26.6 | 39.1 | 756.0 | 33.5 | 49.2 |
| EX 200 | 160.0 | 19.4 | 28.6 | 480.0 | 28.0 | 41.2 | 960.0 | 35.3 | 51.9 |
| EX 220 | 180.0 | 20.8 | 30.6 | 540.0 | 30.0 | 44.1 | 1 080.0 | 37.8 | 55.6 |
| EX 240 | 190.0 | 22.6 | 33.2 | 570.0 | 32.5 | 47.9 | 1 140.0 | 41.0 | 60.3 |

ISO 10

EX

# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 25°

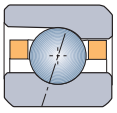




| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| EX 6 | 1.5 | 2.2 | 3.3 | 4.0 | 3.2 | 4.6 | 8.0 | 4.0 | 5.8 |
| EX 7 | 1.7 | 2.5 | 3.6 | 5.0 | 3.5 | 5.1 | 10.0 | 4.5 | 6.5 |
| EX 8 | 2.5 | 2.9 | 4.2 | 8.0 | 4.3 | 6.2 | 16.0 | 5.4 | 7.9 |
| EX 9 | 3.0 | 3.0 | 4.5 | 9.0 | 4.4 | 6.5 | 18.0 | 5.5 | 8.2 |
| EX 10 | 3.3 | 3.9 | 5.7 | 10.0 | 5.7 | 8.3 | 20.0 | 7.1 | 10.5 |
| EX 12 | 4.5 | 4.0 | 5.9 | 13.0 | 5.8 | 8.4 | 26.0 | 7.2 | 10.6 |
| EX 15 | 5.0 | 5.0 | 7.4 | 15.0 | 7.3 | 10.7 | 30.0 | 9.1 | 13.5 |
| EX 17 | 6.5 | 5.8 | 8.5 | 19.5 | 8.4 | 12.3 | 39.0 | 10.6 | 15.5 |
| EX 20 | 8.0 | 6.0 | 8.8 | 24.0 | 8.7 | 12.7 | 48.0 | 11.0 | 16.0 |
| EX 25 | 10.5 | 7.9 | 11.5 | 32.0 | 11.4 | 16.7 | 64.0 | 14.3 | 21.0 |
| EX 30 | 13.0 | 8.7 | 12.8 | 38.5 | 12.5 | 18.4 | 77.0 | 15.8 | 23.2 |
| EX 35 | 16.5 | 10.4 | 15.2 | 49.0 | 14.8 | 22.0 | 98.0 | 18.6 | 27.7 |
| EX 40 | 17.0 | 10.9 | 16.1 | 51.0 | 15.8 | 23.3 | 102.0 | 19.9 | 29.3 |
| EX 45 | 23.0 | 12.3 | 18.1 | 69.0 | 17.8 | 26.2 | 137.0 | 22.4 | 33.0 |
| EX 50 | 23.5 | 13.1 | 19.1 | 70.5 | 18.8 | 27.7 | 141.0 | 23.7 | 34.9 |
| EX 55 | 31.5 | 14.9 | 22.1 | 94.0 | 21.6 | 31.8 | 188.0 | 27.2 | 40.1 |
| EX 60 | 32.5 | 15.9 | 23.4 | 97.0 | 23.0 | 33.8 | 194.0 | 28.9 | 42.6 |
| EX 65 | 33.0 | 16.7 | 24.6 | 99.0 | 24.1 | 35.5 | 199.0 | 30.4 | 44.7 |
| EX 70 | 42.5 | 18.9 | 27.8 | 128.0 | 27.3 | 40.1 | 255.0 | 34.3 | 50.5 |
| EX 75 | 43.5 | 19.7 | 29.0 | 131.0 | 28.5 | 41.9 | 262.0 | 35.9 | 52.8 |
| EX 80 | 52.5 | 21.1 | 30.1 | 157.5 | 30.4 | 44.7 | 315.0 | 38.3 | 56.3 |
| EX 85 | 54.0 | 22.0 | 32.3 | 162.0 | 31.7 | 46.6 | 323.0 | 40.0 | 58.7 |
| EX 90 | 57.0 | 23.8 | 35.3 | 171.0 | 34.4 | 50.6 | 341.0 | 43.1 | 63.8 |
| EX 95 | 67.0 | 25.2 | 37.2 | 202.0 | 36.5 | 53.7 | 404.0 | 45.7 | 67.7 |
| EX 100 | 69.0 | 26.4 | 38.8 | 207.0 | 38.1 | 56.0 | 415.0 | 48.0 | 70.6 |
| EX 105 | 80.0 | 27.7 | 40.8 | 240.0 | 40.0 | 58.0 | 480.0 | 50.4 | 74.1 |
| EX 110 | 95.0 | 30.2 | 44.4 | 285.0 | 43.6 | 64.1 | 570.0 | 54.9 | 80.8 |
| EX 120 | 97.0 | 31.4 | 46.2 | 291.0 | 45.3 | 66.7 | 582.0 | 57.1 | 84.0 |
| EX 130 | 125.0 | 34.9 | 51.3 | 375.0 | 50.3 | 74.0 | 750.0 | 63.4 | 93.2 |
| EX 140 | 128.0 | 36.3 | 53.4 | 384.0 | 52.4 | 77.0 | 768.0 | 66.0 | 97.0 |
| EX 150 | 144.0 | 38.6 | 56.8 | 432.0 | 55.7 | 82.0 | 864.0 | 70.2 | 103.3 |
| EX 160 | 162.0 | 41.0 | 60.4 | 486.0 | 59.2 | 87.1 | 972.0 | 74.6 | 109.7 |
| EX 170 | 176.0 | 43.1 | 63.3 | 528.0 | 62.1 | 91.4 | 1 056.0 | 78.3 | 115.1 |
| EX 180 | 197.0 | 47.0 | 69.1 | 591.0 | 67.8 | 99.7 | 1 182.0 | 85.4 | 125.6 |
| EX 190 | 200.0 | 48.7 | 71.8 | 600.0 | 70.2 | 103.2 | 1 200.0 | 88.4 | 130.1 |
| EX 200 | 250.0 | 51.0 | 75.1 | 750.0 | 73.6 | 108.3 | 1 500.0 | 92.8 | 136.5 |
| EX 220 | 280.0 | 54.6 | 80.3 | 840.0 | 78.7 | 115.8 | 1 680.0 | 99.2 | 145.9 |
| EX 240 | 300.0 | 59.5 | 87.6 | 900.0 | 85.9 | 126.3 | 1 800.0 | 108.2 | 159.1 |

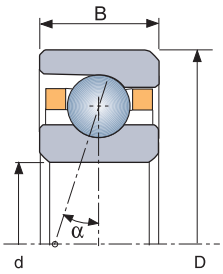
# E 200

## ISO 02



ISO 02

E 200

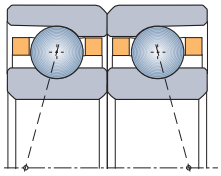


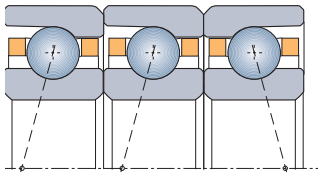

| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° C0 | α = 25° C33 | α = 25° C0 | Olio Vh (ABEC 9) | Grasso Vh (ABEC 9) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E 207 | 7 | 22 | 7 | 8 | 3.97 | 365 | 194 | 350 | 187 | 121 000 | 78 700 | 0.012 |
| E 208 | 8 | 24 | 8 | 7 | 4.76 | 455 | 230 | 440 | 220 | 109 500 | 71 200 | 0.016 |
| E 209 | 9 | 26 | 8 | 9 | 4.76 | 550 | 320 | 530 | 300 | 100 000 | 65 000 | 0.021 |
| E 210 | 10 | 30 | 9 | 8 | 5.55 | 655 | 370 | 640 | 360 | 87 000 | 56 600 | 0.029 |
| E 212 | 12 | 32 | 10 | 9 | 5.55 | 720 | 440 | 695 | 420 | 79 500 | 51 700 | 0.035 |
| E 215 | 15 | 35 | 11 | 9 | 6.35 | 915 | 570 | 885 | 550 | 69 500 | 45 200 | 0.042 |
| E 217 | 17 | 40 | 12 | 9 | 7.14 | 1 140 | 720 | 1 090 | 700 | 61 000 | 39 700 | 0.060 |
| E 220 | 20 | 47 | 14 | 11 | 7.14 | 1 315 | 940 | 1 260 | 910 | 51 500 | 33 500 | 0.105 |
| E 225 | 25 | 52 | 15 | 12 | 7.94 | 1 720 | 1 290 | 1 640 | 1 230 | 44 500 | 28 900 | 0.125 |
| E 230 | 30 | 62 | 16 | 12 | 9.52 | 2 350 | 1 850 | 2 250 | 1 770 | 37 000 | 24 000 | 0.194 |
| E 235 | 35 | 72 | 17 | 14 | 9.52 | 2 600 | 2 270 | 2 480 | 2 170 | 31 500 | 20 500 | 0.300 |
| E 240 | 40 | 80 | 18 | 14 | 11.11 | 3 430 | 3 050 | 3 280 | 2 920 | 28 500 | 18 500 | 0.359 |
| E 245 | 45 | 85 | 19 | 15 | 11.11 | 3 590 | 3 350 | 3 410 | 3 200 | 25 500 | 16 600 | 0.414 |
| E 250 | 50 | 90 | 20 | 14 | 12.70 | 4 370 | 4 010 | 4 150 | 3 830 | 24 000 | 15 600 | 0.442 |
| E 255 | 55 | 100 | 21 | 14 | 14.28 | 5 560 | 5 000 | 5 300 | 4 830 | 21 000 | 13 700 | 0.591 |
| E 260 | 60 | 110 | 22 | 15 | 14.28 | 5 770 | 5 600 | 5 490 | 5 300 | 19 400 | 12 600 | 0.782 |
| E 265 | 65 | 120 | 23 | 15 | 15.87 | 6 800 | 6 800 | 6 490 | 6 500 | 17 800 | 11 600 | 0.980 |
| E 270 | 70 | 125 | 24 | 16 | 15.87 | 7 085 | 7 400 | 6 730 | 7 100 | 16 700 | 10 900 | 1.084 |
| E 275 | 75 | 130 | 25 | 17 | 15.87 | 7 345 | 8 000 | 6 980 | 7 600 | 15 600 | 10 100 | 1.188 |
| E 280 | 80 | 140 | 26 | 17 | 17.46 | 8 960 | 9 600 | 8 490 | 9 100 | 14 400 | 9 400 | 1.417 |
| E 285 | 85 | 150 | 28 | 16 | 19.05 | 9 830 | 10 700 | 9 330 | 10 200 | 13 300 | 8 600 | 1.755 |
| E 290 | 90 | 160 | 30 | 15 | 22.22 | 12 490 | 13 200 | 11 920 | 12 700 | 12 800 | 8 300 | 2.212 |
| E 295 | 95 | 170 | 32 | 17 | 20.64 | 11 780 | 13 400 | 11 190 | 12 800 | 11 700 | 7 600 | 2.720 |
| E 200/100 | 100 | 180 | 34 | 16 | 23.81 | 14 740 | 16 400 | 14 050 | 15 700 | 11 100 | 7 200 | 3.267 |
| E 200/105 | 105 | 190 | 36 | 16 | 25.40 | 17 030 | 18 600 | 16 190 | 17 800 | 10 300 | 6 700 | 4.000 |
| E 200/110 | 110 | 200 | 38 | 17 | 25.40 | 17 670 | 20 100 | 16 760 | 19 100 | 10 000 | 6 500 | 4.630 |
| E 200/120 | 120 | 215 | 40 | 18 | 25.40 | 17 900 | 21 700 | 16 900 | 20 700 | 9 100 | 5 900 | 5.600 |
| E 200/130 | 130 | 230 | 40 | 17 | 28.57 | 20 400 | 25 600 | 19 400 | 24 400 | 8 300 | 5 400 | 6.300 |
| E 200/140 | 140 | 250 | 42 | 18 | 30.16 | 23 140 | 30 400 | 21 900 | 29 000 | 7 400 | 4 800 | 8.260 |

Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

# Valori di precarico e di rigidità
**(precarico rigido)**
**Angolo di contatto = 15°**





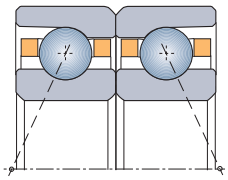


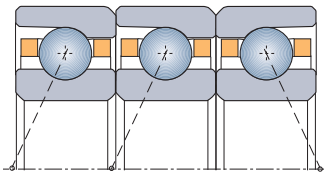
| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| E 207 | 2.0 | 1.2 | 1.7 | 6.0 | 1.7 | 2.5 | 12.0 | 2.2 | 3.2 |
| E 208 | 2.3 | 1.2 | 1.8 | 7.0 | 1.8 | 2.6 | 14.0 | 2.2 | 3.2 |
| E 209 | 2.9 | 1.5 | 2.3 | 8.7 | 2.2 | 3.3 | 17.0 | 2.8 | 4.1 |
| E 210 | 3.5 | 1.6 | 2.4 | 10.5 | 2.3 | 3.4 | 21.0 | 2.9 | 4.3 |
| E 212 | 3.5 | 1.8 | 2.6 | 11.5 | 2.5 | 3.7 | 23.0 | 3.2 | 4.7 |
| E 215 | 4.8 | 2.0 | 2.9 | 14.4 | 2.8 | 4.2 | 28.8 | 3.6 | 5.3 |
| E 217 | 6.0 | 2.3 | 3.3 | 18.0 | 3.2 | 4.8 | 36.0 | 4.0 | 6.0 |
| E 220 | 7.0 | 2.7 | 4.0 | 21.0 | 3.9 | 5.7 | 42.0 | 4.9 | 7.2 |
| E 225 | 9.0 | 3.2 | 4.8 | 27.0 | 4.7 | 6.9 | 54.0 | 5.9 | 8.6 |
| E 230 | 12.0 | 3.8 | 5.6 | 36.5 | 5.5 | 8.1 | 73.0 | 6.9 | 10.1 |
| E 235 | 13.5 | 4.4 | 6.4 | 41.0 | 6.3 | 9.2 | 82.0 | 7.9 | 11.6 |
| E 240 | 18.0 | 5.0 | 7.4 | 54.5 | 7.2 | 10.7 | 109.0 | 9.2 | 13.5 |
| E 245 | 18.7 | 5.3 | 7.9 | 56.0 | 7.7 | 11.4 | 112.0 | 9.7 | 14.3 |
| E 250 | 22.8 | 5.7 | 8.4 | 68.5 | 8.2 | 12.1 | 137.0 | 10.4 | 15.3 |
| E 255 | 29.0 | 6.4 | 9.5 | 87.0 | 9.3 | 13.7 | 174.0 | 11.7 | 17.2 |
| E 260 | 30.5 | 6.9 | 10.1 | 92.0 | 9.9 | 14.6 | 184.0 | 12.5 | 18.4 |
| E 265 | 35.5 | 7.5 | 11.0 | 107.0 | 10.8 | 15.9 | 214.0 | 13.5 | 20.0 |
| E 270 | 37.0 | 7.9 | 11.6 | 111.0 | 11.4 | 16.8 | 222.0 | 14.3 | 21.1 |
| E 275 | 38.5 | 8.3 | 12.3 | 115.0 | 12.0 | 17.7 | 230.0 | 15.0 | 22.3 |
| E 280 | 46.0 | 9.1 | 13.4 | 138.0 | 13.2 | 19.4 | 276.0 | 16.6 | 24.4 |
| E 285 | 51.5 | 9.3 | 13.8 | 154.5 | 13.5 | 19.9 | 309.0 | 17.0 | 25.1 |
| E 290 | 65.5 | 10.2 | 15.1 | 196.0 | 14.7 | 21.7 | 392.0 | 18.6 | 27.4 |
| E 295 | 61.5 | 10.7 | 15.7 | 185.0 | 15.6 | 22.6 | 370.0 | 19.3 | 28.5 |
| E 200/100 | 77.0 | 11.5 | 17.0 | 231.0 | 16.5 | 24.5 | 462.0 | 21.0 | 30.9 |
| E 200/105 | 89.0 | 12.4 | 18.2 | 267.0 | 17.9 | 26.3 | 534.0 | 22.5 | 33.1 |
| E 200/110 | 92.0 | 13.0 | 19.2 | 276.0 | 18.8 | 27.7 | 552.0 | 23.7 | 34.9 |
| E 200/120 | 95.0 | 13.7 | 20.2 | 280.0 | 19.6 | 28.9 | 560.0 | 24.7 | 36.4 |
| E 200/130 | 107.0 | 14.3 | 21.0 | 320.0 | 20.6 | 30.2 | 641.0 | 25.9 | 38.1 |
| E 200/140 | 121.0 | 15.7 | 23.1 | 363.0 | 22.7 | 33.3 | 726.0 | 28.6 | 42.0 |

ISO 02

E 200

# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 25°





| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| E 207 | 3.0 | 3.1 | 4.5 | 9.0 | 4.4 | 6.5 | 18.0 | 5.6 | 8.2 |
| E 208 | 3.5 | 3.1 | 4.6 | 10.5 | 4.5 | 6.7 | 21.0 | 5.7 | 8.4 |
| E 209 | 4.7 | 4.1 | 6.0 | 14.0 | 5.9 | 8.7 | 28.0 | 7.4 | 10.9 |
| E 210 | 5.6 | 4.3 | 6.2 | 17.0 | 6.6 | 9.0 | 34.0 | 7.6 | 11.4 |
| E 212 | 6.0 | 4.8 | 6.9 | 18.5 | 6.8 | 10.0 | 37.0 | 8.6 | 12.6 |
| E 215 | 8.0 | 5.4 | 7.9 | 23.7 | 7.7 | 11.4 | 47.4 | 9.7 | 14.3 |
| E 217 | 9.6 | 6.0 | 8.8 | 29.0 | 8.6 | 12.7 | 58.0 | 10.9 | 16.0 |
| E 220 | 11.5 | 7.2 | 10.6 | 34.0 | 10.3 | 15.0 | 68.0 | 13.0 | 19.2 |
| E 225 | 15.0 | 8.7 | 12.8 | 44.0 | 12.4 | 18.3 | 87.0 | 15.6 | 23.0 |
| E 230 | 20.0 | 10.1 | 14.9 | 60.0 | 14.6 | 21.5 | 120.0 | 18.3 | 27.1 |
| E 235 | 22.0 | 11.7 | 17.1 | 66.5 | 16.7 | 24.6 | 132.5 | 21.0 | 31.0 |
| E 240 | 29.5 | 13.4 | 19.7 | 88.0 | 19.3 | 28.4 | 176.0 | 24.3 | 35.0 |
| E 245 | 30.0 | 14.1 | 20.9 | 90.0 | 20.4 | 30.1 | 180.0 | 25.8 | 37.9 |
| E 250 | 36.7 | 15.3 | 22.3 | 110.0 | 21.8 | 32.1 | 220.0 | 27.5 | 40.5 |
| E 255 | 46.0 | 17.0 | 25.0 | 138.0 | 24.5 | 36.1 | 276.0 | 30.9 | 45.4 |
| E 260 | 48.0 | 18.0 | 26.6 | 144.0 | 26.0 | 38.3 | 288.0 | 32.8 | 48.2 |
| E 265 | 57.3 | 20.0 | 29.2 | 172.0 | 28.6 | 42.1 | 344.0 | 36.0 | 53.0 |
| E 270 | 59.5 | 21.2 | 30.8 | 178.5 | 30.1 | 44.5 | 357.0 | 38.0 | 56.0 |
| E 275 | 61.7 | 22.0 | 32.5 | 185.0 | 31.8 | 46.9 | 370.0 | 39.3 | 59.1 |
| E 280 | 75.0 | 24.3 | 35.8 | 225.0 | 35.1 | 51.6 | 450.0 | 44.2 | 65.1 |
| E 285 | 82.5 | 24.8 | 36.5 | 247.5 | 35.8 | 52.7 | 495.0 | 45.0 | 66.4 |
| E 290 | 105.3 | 27.2 | 40.0 | 316.0 | 38.9 | 57.7 | 632.0 | 49.3 | 72.6 |
| E 295 | 99.0 | 27.9 | 41.5 | 297.0 | 40.6 | 59.9 | 594.0 | 51.2 | 75.5 |
| E 200/100 | 124.2 | 30.7 | 45.1 | 372.5 | 44.2 | 65.1 | 745.0 | 55.7 | 82.0 |
| E 200/105 | 143.0 | 32.8 | 48.3 | 429.0 | 47.4 | 69.7 | 858.0 | 59.7 | 87.8 |
| E 200/110 | 148.0 | 34.6 | 50.9 | 444.0 | 49.9 | 73.4 | 888.0 | 62.9 | 92.5 |
| E 200/120 | 150.0 | 36.1 | 53.1 | 450.0 | 52.1 | 76.6 | 900.0 | 65.6 | 96.5 |
| E 200/130 | 171.0 | 37.8 | 55.6 | 513.0 | 54.5 | 80.1 | 1 027.0 | 68.6 | 101.0 |
| E 200/140 | 194.0 | 41.6 | 61.3 | 582.0 | 60.0 | 88.4 | 1 164.0 | 75.7 | 111.3 |

# Cuscinetti per velocità particolarmente elevate Serie VEB - VEX

Per raggiungere le elevate prestazioni richieste in applicazioni molto impegnative ed avanzate, sono state sviluppate le serie SNFA VEB (ISO 19) - VEX (ISO 10).

Nello studio e nella messa a punto di queste serie sono state analizzate le diverse problematiche che caratterizzano le applicazioni ad alta velocità; in particolare gli effetti dinamici e termici ed i problemi connessi con la lubrificazione, senza perdere di vista altre peculiarità importanti, quali la capacità di carico e la rigidità.

I cuscinetti VEB e VEX consentono ampie possibilità di impiego, prescindendo dal tipo di lubrificazione che può essere del tipo ad olio oppure a grasso.

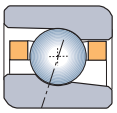
Le velocità indicate nelle tabelle seguenti sono valide per condizioni di funzionamento ottimali.

Con cuscinetti aventi precarico rigido tali velocità sono valide purché le condizioni di funzionamento non comportino sensibili incrementi di precarico per effetto termico.
In alcune applicazioni, infatti, il calore generato dal motore altera sensibilmente il precarico dei cuscinetti, penalizzandoli dal punto di vista della velocità.
Volendo evitare l'inconveniente e per non incorrere in precoci danneggiamenti, è consigliabile montare i cuscinetti nelle relative sedi senza forzamenti, con un precarico iniziale inferiore a quello riportato sul catalogo, che, in funzionamento, assumerà il valore previsto.

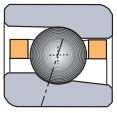
I cuscinetti VEB e VEX nell'esecuzione NS/H1 (sfere di materiale ceramico ed anello esterno con fori di lubrificazione aria-olio) rappresentano la soluzione ottimale per raggiungere i massimi valori di velocità.
La lubrificazione minimale aria-olio, il precarico costante controllato, l'esecuzione accurata delle sedi dei cuscinetti e l'efficace equilibratura delle parti rotanti, sono il complemento indispensabile per raggiungere un buon risultato con i cuscinetti VEB e VEX.

# VEB

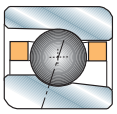
## ISO 19



VEB



VEB../NS CERAMIC

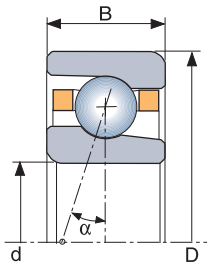


VEB../XN CHROMEX® 40

ISO 19

VEB

VEB



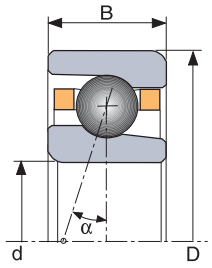

| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° C0 | α = 25° C33 | α = 25° C0 | Olio Vh (ABEC 9) | Grasso Vh (ABEC 9) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VEB 8 | 8 | 19 | 6 | 9 | 3.17 | 178 | 73 | | | 184 000 | 120 000 | 0.007 |
| VEB 10 | 10 | 22 | 6 | 11 | 3.17 | 210 | 95 | 198 | 91 | 155 000 | 101 000 | 0.009 |
| VEB 12 | 12 | 24 | 6 | 12 | 3.17 | 220 | 107 | 210 | 102 | 137 000 | 89 000 | 0.010 |
| VEB 15 | 15 | 28 | 7 | 12 | 3.97 | 330 | 166 | 310 | 158 | 115 000 | 75 000 | 0.015 |
| VEB 17 | 17 | 30 | 7 | 13 | 3.97 | 340 | 184 | 330 | 175 | 105 000 | 68 200 | 0.016 |
| VEB 20 | 20 | 37 | 9 | 14 | 4.76 | 500 | 290 | 480 | 270 | 86 200 | 56 000 | 0.036 |
| VEB 25 | 25 | 42 | 9 | 16 | 4.76 | 540 | 340 | 510 | 320 | 73 100 | 47 500 | 0.040 |
| VEB 30 | 30 | 47 | 9 | 18 | 4.76 | 580 | 390 | 540 | 370 | 63 400 | 41 200 | 0.050 |
| VEB 35 | 35 | 55 | 10 | 19 | 5.55 | 790 | 560 | 750 | 540 | 54 100 | 35 200 | 0.075 |
| VEB 40 | 40 | 62 | 12 | 19 | 6.35 | 1 000 | 740 | 950 | 700 | 47 500 | 30 900 | 0.100 |
| VEB 45 | 45 | 68 | 12 | 21 | 6.35 | 1 050 | 830 | 1 000 | 780 | 42 700 | 27 700 | 0.130 |
| VEB 50 | 50 | 72 | 12 | 21 | 7.14 | 1 310 | 1040 | 1 240 | 980 | 39 500 | 25 700 | 0.130 |
| VEB 55 | 55 | 80 | 13 | 21 | 7.94 | 1 590 | 1 280 | 1 500 | 1 220 | 35 500 | 23 000 | 0.170 |
| VEB 60 | 60 | 85 | 13 | 23 | 7.94 | 1 670 | 1 420 | 1 580 | 1 340 | 33 000 | 21 500 | 0.190 |
| VEB 65 | 65 | 90 | 13 | 24 | 7.94 | 1 690 | 1 500 | 1 600 | 1 420 | 30 800 | 20 000 | 0.200 |
| VEB 70 | 70 | 100 | 16 | 22 | 9.52 | 2 260 | 1 950 | 2 130 | 1 850 | 27 900 | 18 100 | 0.320 |
| VEB 75 | 75 | 105 | 16 | 23 | 9.52 | 2 300 | 2 050 | 2 170 | 1 950 | 26 300 | 17 100 | 0.340 |
| VEB 80 | 80 | 110 | 16 | 24 | 9.52 | 2 340 | 2 160 | 2 210 | 2 040 | 24 800 | 16 100 | 0.360 |
| VEB 85 | 85 | 120 | 18 | 23 | 11.11 | 3 050 | 2 790 | 2 880 | 2 640 | 22 900 | 14 900 | 0.500 |
| VEB 90 | 90 | 125 | 18 | 24 | 11.11 | 3 110 | 2 930 | 2 940 | 2 770 | 21 800 | 14 200 | 0.540 |
| VEB 95 | 95 | 130 | 18 | 25 | 11.11 | 3 170 | 3 070 | 2 990 | 2 900 | 20 700 | 13 500 | 0.560 |
| VEB 100 | 100 | 140 | 20 | 24 | 12.70 | 3 970 | 3 810 | 3 760 | 3 610 | 19 300 | 12 500 | 0.770 |
| VEB 110 | 110 | 150 | 20 | 26 | 12.70 | 4 130 | 4 170 | 3 900 | 3 950 | 17 500 | 11 400 | 0.830 |
| VEB 120 | 120 | 165 | 22 | 24 | 14.28 | 4 860 | 4 860 | 4 600 | 4 600 | 15 900 | 10 300 | 1.100 |

Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

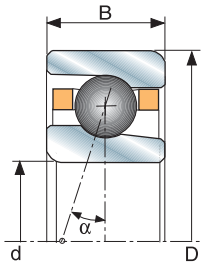
## VEB../NS

CERAMIC




## VEB../XN

CHROMEX® 40



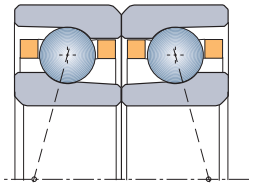

| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° C0 | α = 25° C33 | α = 25° C0 | CERAMIC Olio Vh (ABEC 9) | CERAMIC Grasso Vh (ABEC 9) | CHROMEX®40 Olio Vh (ABEC 9) | CHROMEX®40 Grasso Vh (ABEC 9) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VEB 8/.. | 8 | 19 | 6 | 9 | 3.17 | 178 | 53 | | | 221 000 | 144 000 | 244 000 | 158 000 |
| VEB 10/.. | 10 | 22 | 6 | 11 | 3.17 | 210 | 68 | 198 | 65 | 186 000 | 121 000 | 206 000 | 133 000 |
| VEB 12/.. | 12 | 24 | 6 | 12 | 3.17 | 220 | 77 | 210 | 73 | 165 000 | 107 000 | 182 000 | 118 000 |
| VEB 15/.. | 15 | 28 | 7 | 12 | 3.97 | 330 | 119 | 310 | 113 | 138 000 | 89 700 | 153 000 | 99 000 |
| VEB 17/.. | 17 | 30 | 7 | 13 | 3.97 | 340 | 132 | 330 | 125 | 126 000 | 81 900 | 140 000 | 90 400 |
| VEB 20/.. | 20 | 37 | 9 | 14 | 4.76 | 500 | 210 | 480 | 195 | 104 000 | 67 200 | 115 000 | 74 200 |
| VEB 25/.. | 25 | 42 | 9 | 16 | 4.76 | 540 | 240 | 510 | 230 | 88 000 | 57 000 | 97 500 | 63 000 |
| VEB 30/.. | 30 | 47 | 9 | 18 | 4.76 | 580 | 280 | 540 | 270 | 76 000 | 49 400 | 84 500 | 54 600 |
| VEB 35/.. | 35 | 55 | 10 | 19 | 5.55 | 790 | 400 | 750 | 380 | 65 000 | 42 200 | 72 000 | 46 600 |
| VEB 40/.. | 40 | 62 | 12 | 19 | 6.35 | 1 000 | 530 | 950 | 500 | 57 000 | 37 000 | 63 000 | 41 000 |
| VEB 45/.. | 45 | 68 | 12 | 21 | 6.35 | 1 050 | 590 | 1 000 | 560 | 51 000 | 33 300 | 57 000 | 36 800 |
| VEB 50/.. | 50 | 72 | 12 | 21 | 7.14 | 1 310 | 740 | 1 240 | 700 | 48 000 | 30 800 | 52 500 | 34 000 |
| VEB 55/.. | 55 | 80 | 13 | 21 | 7.94 | 1 590 | 920 | 1 500 | 870 | 43 000 | 27 700 | 47 500 | 30 600 |
| VEB 60/.. | 60 | 85 | 13 | 23 | 7.94 | 1 670 | 1 020 | 1 580 | 960 | 40 000 | 25 700 | 44 000 | 28 400 |
| VEB 65/.. | 65 | 90 | 13 | 24 | 7.94 | 1 690 | 1 070 | 1 600 | 1 010 | 37 000 | 24 000 | 41 000 | 26 500 |
| VEB 70/.. | 70 | 100 | 16 | 22 | 9.52 | 2 260 | 1 400 | 2 130 | 1 320 | 33 500 | 21 800 | 37 000 | 24 000 |
| VEB 75/.. | 75 | 105 | 16 | 23 | 9.52 | 2 300 | 1 470 | 2 170 | 1 390 | 31 500 | 20 500 | 35 000 | 22 600 |
| VEB 80/.. | 80 | 110 | 16 | 24 | 9.52 | 2 340 | 1 550 | 2 210 | 1 460 | 30 000 | 19 300 | 33 000 | 21 400 |
| VEB 85/.. | 85 | 120 | 18 | 23 | 11.11 | 3 050 | 1 990 | 2 880 | 1 890 | 27 500 | 17 900 | 30 500 | 19 700 |
| VEB 90/.. | 90 | 125 | 18 | 24 | 11.11 | 3 110 | 2 100 | 2 940 | 1 980 | 26 500 | 17 000 | 29 000 | 18 800 |
| VEB 95/.. | 95 | 130 | 18 | 25 | 11.11 | 3 170 | 2 200 | 2 990 | 2 080 | 25 000 | 16 100 | 27 500 | 17 800 |
| VEB 100/.. | 100 | 140 | 20 | 24 | 12.70 | 3 970 | 2 730 | 3 760 | 2 580 | 23 500 | 15 000 | 26 000 | 16 600 |
| VEB 110/.. | 110 | 150 | 20 | 26 | 12.70 | 4 130 | 2 990 | 3 900 | 2 830 | 21 000 | 13 700 | 23 500 | 15 100 |
| VEB 120/.. | 120 | 165 | 22 | 24 | 14.28 | 4 860 | 3 480 | 4 600 | 3 300 | 19 000 | 12 400 | 21 500 | 13 700 |

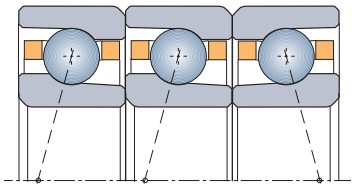
Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

**C33** = per il metodo di calcolo, vedere pag. 30.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

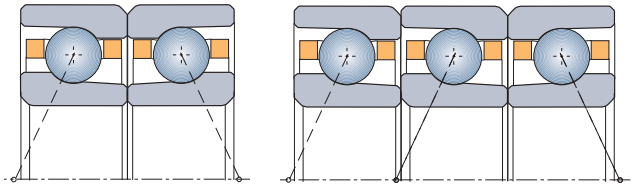
# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 15°





| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| VEB 8 | 0.9 | 0.8 | 1.2 | 2.7 | 1.3 | 1.8 | 5.5 | 1.8 | 2.5 |
| VEB 10 | 1.1 | 1.0 | 1.4 | 3.2 | 1.5 | 2.2 | 6.5 | 2.1 | 3.1 |
| VEB 12 | 1.1 | 1.0 | 1.5 | 3.4 | 1.7 | 2.4 | 6.8 | 2.3 | 3.3 |
| VEB 15 | 1.7 | 1.3 | 1.9 | 5.1 | 2.0 | 2.9 | 10.2 | 2.8 | 4.0 |
| VEB 17 | 1.8 | 1.4 | 2.0 | 5.4 | 2.2 | 3.1 | 10.8 | 3.0 | 4.3 |
| VEB 20 | 2.6 | 1.7 | 2.5 | 7.9 | 2.8 | 4.0 | 15.7 | 3.8 | 5.4 |
| VEB 25 | 2.8 | 1.9 | 2.8 | 8.5 | 3.1 | 4.4 | 17.0 | 4.2 | 6.0 |
| VEB 30 | 3.0 | 2.1 | 3.1 | 9.0 | 3.4 | 4.8 | 18.0 | 4.6 | 6.6 |
| VEB 35 | 4.1 | 2.6 | 3.8 | 12.5 | 4.1 | 5.9 | 25.0 | 5.5 | 7.9 |
| VEB 40 | 5.2 | 2.9 | 4.3 | 15.7 | 4.6 | 6.6 | 31.5 | 6.3 | 9.0 |
| VEB 45 | 5.5 | 3.2 | 4.6 | 16.6 | 5.0 | 7.2 | 33.1 | 6.8 | 9.7 |
| VEB 50 | 6.9 | 3.6 | 5.2 | 21.0 | 5.5 | 8.0 | 41.0 | 7.6 | 10.8 |
| VEB 55 | 8.3 | 3.9 | 5.7 | 25.0 | 6.1 | 8.8 | 50.0 | 8.3 | 11.9 |
| VEB 60 | 8.7 | 4.2 | 6.2 | 26.2 | 6.6 | 9.5 | 52.3 | 8.9 | 12.8 |
| VEB 65 | 8.9 | 4.4 | 6.4 | 26.6 | 6.8 | 9.8 | 53.2 | 9.2 | 13.2 |
| VEB 70 | 12.0 | 4.8 | 7.1 | 36.0 | 7.5 | 10.8 | 71.0 | 10.2 | 14.6 |
| VEB 75 | 12.0 | 5.0 | 7.3 | 36.1 | 7.7 | 11.2 | 72.2 | 10.5 | 15.1 |
| VEB 80 | 12.3 | 5.2 | 7.5 | 37.0 | 8.0 | 11.6 | 74.0 | 10.8 | 15.6 |
| VEB 85 | 16.0 | 5.8 | 8.4 | 47.9 | 8.9 | 12.9 | 95.7 | 12.1 | 17.4 |
| VEB 90 | 16.3 | 6.0 | 8.7 | 48.8 | 9.2 | 13.3 | 97.7 | 12.5 | 17.9 |
| VEB 95 | 16.6 | 6.2 | 9.0 | 50.0 | 9.5 | 13.8 | 99.5 | 12.9 | 18.5 |
| VEB 100 | 20.8 | 6.8 | 9.8 | 62.4 | 10.5 | 15.1 | 125.0 | 14.1 | 20.3 |
| VEB 110 | 22.0 | 7.2 | 10.6 | 65.0 | 11.1 | 16.1 | 130.0 | 15.1 | 21.6 |
| VEB 120 | 25.0 | 7.5 | 10.9 | 76.0 | 11.6 | 16.7 | 153.0 | 15.7 | 22.5 |

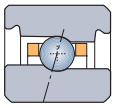
# Valori di precarico e di rigidità
**(precarico rigido)**
**Angolo di contatto = 25°**



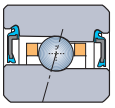
| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| VEB 8 | | | | | | | | | |
| VEB 10 | 1.7 | 2.4 | 3.5 | 5.0 | 3.5 | 5.2 | 10.0 | 4.6 | 6.7 |
| VEB 12 | 1.8 | 2.6 | 3.8 | 5.5 | 3.9 | 5.7 | 11.0 | 5.1 | 7.4 |
| VEB 15 | 2.8 | 3.2 | 4.7 | 8.4 | 4.8 | 7.0 | 17.0 | 6.3 | 9.2 |
| VEB 17 | 2.9 | 3.4 | 5.0 | 8.7 | 5.1 | 7.5 | 17.5 | 6.7 | 9.8 |
| VEB 20 | 4.2 | 4.3 | 6.3 | 13.0 | 6.5 | 9.5 | 25.0 | 8.4 | 12.2 |
| VEB 25 | 4.5 | 4.8 | 7.1 | 14.0 | 7.3 | 10.7 | 27.0 | 9.4 | 13.7 |
| VEB 30 | 4.8 | 5.4 | 7.8 | 14.5 | 8.0 | 11.6 | 29.0 | 10.4 | 15.1 |
| VEB 35 | 6.6 | 6.5 | 9.5 | 20.0 | 9.6 | 14.1 | 40.0 | 12.5 | 18.2 |
| VEB 40 | 8.4 | 7.3 | 10.8 | 25.0 | 10.9 | 15.9 | 50.5 | 14.2 | 20.6 |
| VEB 45 | 8.8 | 8.0 | 11.7 | 26.5 | 11.8 | 17.3 | 52.9 | 15.4 | 22.4 |
| VEB 50 | 11.0 | 8.9 | 13.1 | 33.0 | 13.2 | 19.3 | 66.0 | 17.2 | 25.0 |
| VEB 55 | 13.3 | 9.8 | 14.4 | 40.0 | 14.6 | 21.3 | 80.0 | 18.9 | 27.6 |
| VEB 60 | 13.9 | 10.6 | 15.6 | 41.8 | 15.7 | 23.0 | 83.6 | 20.4 | 29.7 |
| VEB 65 | 14.2 | 11.0 | 16.1 | 42.5 | 16.3 | 23.8 | 85.0 | 21.1 | 30.7 |
| VEB 70 | 19.0 | 12.1 | 17.8 | 57.0 | 17.9 | 26.2 | 113.0 | 23.3 | 33.9 |
| VEB 75 | 19.2 | 12.5 | 18.4 | 57.7 | 18.6 | 27.2 | 115.0 | 24.1 | 35.1 |
| VEB 80 | 19.5 | 13.0 | 19.0 | 59.0 | 19.2 | 28.1 | 117.0 | 24.9 | 36.3 |
| VEB 85 | 25.5 | 14.5 | 21.3 | 76.5 | 21.5 | 31.4 | 153.0 | 27.8 | 40.5 |
| VEB 90 | 26.0 | 15.0 | 22.0 | 78.0 | 22.2 | 32.5 | 156.0 | 28.8 | 41.9 |
| VEB 95 | 26.5 | 15.5 | 22.8 | 79.5 | 23.0 | 33.6 | 159.0 | 29.7 | 43.3 |
| VEB 100 | 33.2 | 17.0 | 25.0 | 99.6 | 25.2 | 36.8 | 199.0 | 32.6 | 47.5 |
| VEB 110 | 34.0 | 18.1 | 26.5 | 103.0 | 26.8 | 39.2 | 207.0 | 34.8 | 50.7 |
| VEB 120 | 41.0 | 19.0 | 27.9 | 122.0 | 28.0 | 40.9 | 244.0 | 36.2 | 52.8 |

# HB

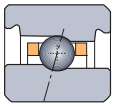
## ISO 19



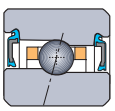
HB..



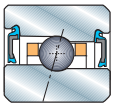
HB../S



HB../NS CERAMIC



HB../S/NS CERAMIC

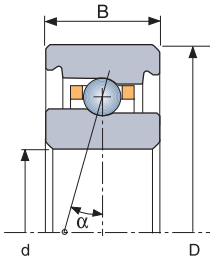


HB../XN/S CHROMEX® 40

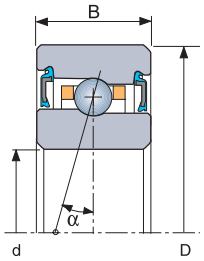
ISO 19

HB

HB..




HB../S




| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° CE | α = 15° C0 | α = 25° C33 | α = 25° CE | α = 25° C0 | Olio Vh (ABEC 9) | Grasso Vh (ABEC 9) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HB 30 | 30 | 47 | 9 | 21 | 3.969 | 480 | 640 | 370 | 450 | 600 | 350 | 60 000 | 39 000 | 0.050 |
| HB 35 | 35 | 55 | 10 | 25 | 3.969 | 520 | 690 | 450 | 500 | 665 | 420 | 51 000 | 33 100 | 0.080 |
| HB 40 | 40 | 62 | 12 | 28 | 3.969 | 550 | 730 | 510 | 520 | 690 | 480 | 45 000 | 29 300 | 0.120 |
| HB 45 | 45 | 68 | 12 | 27 | 4.762 | 760 | 1 010 | 700 | 720 | 960 | 660 | 40 500 | 26 300 | 0.140 |
| HB 50 | 50 | 72 | 12 | 29 | 4.762 | 780 | 1 040 | 760 | 740 | 980 | 710 | 37 500 | 24 400 | 0.140 |
| HB 55 | 55 | 80 | 13 | 28 | 5.556 | 1 020 | 1 360 | 990 | 960 | 1 280 | 930 | 34 000 | 22 100 | 0.190 |
| HB 60 | 60 | 85 | 13 | 30 | 5.556 | 1 050 | 1 400 | 1 070 | 990 | 1 320 | 1 010 | 32 000 | 20 800 | 0.200 |
| HB 65 | 65 | 90 | 13 | 32 | 5.556 | 1 080 | 1 440 | 1 140 | 1 020 | 1 360 | 1 080 | 30 000 | 19 500 | 0.220 |
| HB 70 | 70 | 100 | 16 | 32 | 6.35 | 1 390 | 1 850 | 1 490 | 1 310 | 1 740 | 1 410 | 26 500 | 17 200 | 0.360 |
| HB 75 | 75 | 105 | 16 | 34 | 6.35 | 1 430 | 1 900 | 1 590 | 1 350 | 1 800 | 1 500 | 25 000 | 16 300 | 0.380 |
| HB 80 | 80 | 110 | 16 | 34 | 6.747 | 1 600 | 2 130 | 1 800 | 1 500 | 2 000 | 1 690 | 23 500 | 15 300 | 0.390 |
| HB 85 | 85 | 120 | 18 | 37 | 6.747 | 1 660 | 2 210 | 1 970 | 1 560 | 2 070 | 1 860 | 22 000 | 14 300 | 0.580 |
| HB 90 | 90 | 125 | 18 | 36 | 7.144 | 1 810 | 2 410 | 2 150 | 1 700 | 2 260 | 2 020 | 20 500 | 13 300 | 0.600 |
| HB 95 | 95 | 130 | 18 | 38 | 7.144 | 1 860 | 2 470 | 2 270 | 1 750 | 2 330 | 2 150 | 19 800 | 12 900 | 0.620 |
| HB 100 | 100 | 140 | 20 | 37 | 7.938 | 2 230 | 2 970 | 2 720 | 2 100 | 2 790 | 2 570 | 18 500 | 12 000 | 0.850 |
| HB 110 | 110 | 150 | 20 | 37 | 8.731 | 2 650 | 3 520 | 3 290 | 2 500 | 3 320 | 3 100 | 17 000 | 11 000 | 0.900 |
| HB 120 | 120 | 165 | 22 | 41 | 8.731 | 2 780 | 3 700 | 3 670 | 2 610 | 3 470 | 3 470 | 15 400 | 10 000 | 1.270 |

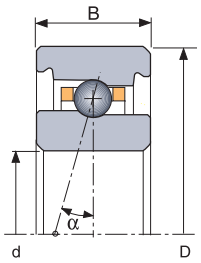
Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

**CE:** Capacità di carico dinamica per calcolo "Durata Estesa", che considera l'evoluzione dei materiali e dei processi di fabbricazione. Non è adottata dalla SNFA, ma è valida solo per confronto.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

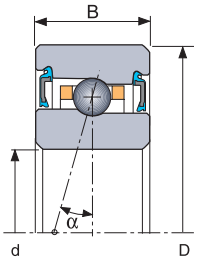
## HB../NS

CERAMIC



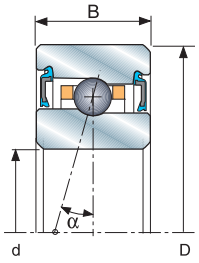

## HB../S/NS

CERAMIC




## HB../XN/S

CHROMEX® 40




| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° CE | α = 15° C0 | α = 25° C33 | α = 25° CE | α = 25° C0 | CERAMIC Olio Vh (ABEC 9) | CERAMIC Grasso Vh (ABEC 9) | CHROMEX®40 Olio Vh (ABEC 9) | CHROMEX®40 Grasso Vh (ABEC 9) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HB 30/.. | 30 | 47 | 9 | 21 | 3.969 | 480 | 640 | 265 | 450 | 600 | 250 | 72 000 | 46 800 | 80 500 | 51 700 |
| HB 35/.. | 35 | 55 | 10 | 25 | 3.969 | 520 | 690 | 320 | 500 | 665 | 300 | 61 000 | 39 800 | 68 500 | 43 900 |
| HB 40/.. | 40 | 62 | 12 | 28 | 3.969 | 550 | 730 | 360 | 520 | 690 | 340 | 54 000 | 35 100 | 60 500 | 38 800 |
| HB 45/.. | 45 | 68 | 12 | 27 | 4.762 | 760 | 1 010 | 500 | 720 | 960 | 470 | 49 000 | 31 600 | 54 500 | 34 900 |
| HB 50/.. | 50 | 72 | 12 | 29 | 4.762 | 780 | 1 040 | 540 | 740 | 980 | 510 | 45 000 | 29 300 | 50 500 | 32 300 |
| HB 55/.. | 55 | 80 | 13 | 28 | 5.556 | 1 020 | 1 360 | 710 | 960 | 1 280 | 670 | 41 000 | 26 600 | 45 500 | 29 300 |
| HB 60/.. | 60 | 85 | 13 | 30 | 5.556 | 1 050 | 1 400 | 760 | 990 | 1 320 | 720 | 38 500 | 25 000 | 43 000 | 27 600 |
| HB 65/.. | 65 | 90 | 13 | 32 | 5.556 | 1 080 | 1 440 | 820 | 1 020 | 1 360 | 770 | 36 000 | 23 400 | 40 500 | 25 800 |
| HB 70/.. | 70 | 100 | 16 | 32 | 6.35 | 1 390 | 1 850 | 1 060 | 1 310 | 1 740 | 1 010 | 32 000 | 20 700 | 35 500 | 22 800 |
| HB 75/.. | 75 | 105 | 16 | 34 | 6.35 | 1 430 | 1 900 | 1 140 | 1 350 | 1 800 | 1 070 | 30 000 | 19 500 | 33 500 | 21 500 |
| HB 80/.. | 80 | 110 | 16 | 34 | 6.747 | 1 600 | 2 130 | 1 280 | 1 500 | 2 000 | 1 210 | 28 500 | 18 300 | 31 500 | 20 200 |
| HB 85/.. | 85 | 120 | 18 | 37 | 6.747 | 1 660 | 2 210 | 1 410 | 1 560 | 2 070 | 1 330 | 26 500 | 17 200 | 29 500 | 18 900 |
| HB 90/.. | 90 | 125 | 18 | 36 | 7.144 | 1 810 | 2 410 | 1 540 | 1 700 | 2 260 | 1 450 | 24 500 | 16 000 | 27 500 | 17 700 |
| HB 95/.. | 95 | 130 | 18 | 38 | 7.144 | 1 860 | 2 470 | 1 630 | 1 750 | 2 330 | 1 530 | 24 000 | 15 400 | 26 500 | 17 000 |
| HB 100/.. | 100 | 140 | 20 | 37 | 7.938 | 2 230 | 2 970 | 1 950 | 2 100 | 2 790 | 1 840 | 22 500 | 14 400 | 25 000 | 15 900 |
| HB 110/.. | 110 | 150 | 20 | 37 | 8.731 | 2 650 | 3 520 | 2 350 | 2 500 | 3 320 | 2 220 | 20 500 | 13 300 | 23 000 | 14 600 |
| HB 120/.. | 120 | 165 | 22 | 41 | 8.731 | 2 780 | 3 700 | 2 630 | 2 610 | 3 470 | 2 480 | 18 500 | 12 000 | 20 500 | 13 300 |

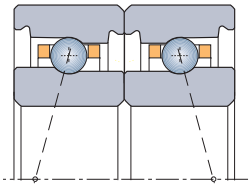
Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

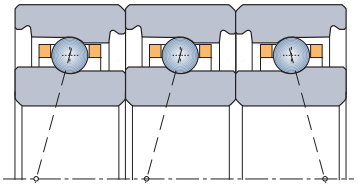
**CE:** Capacità di carico dinamica per calcolo "Durata Estesa", che considera l'evoluzione dei materiali e dei processi di fabbricazione. Non è adottata dalla SNFA, ma è valida solo per confronto.

**C33** = per il metodo di calcolo, vedere pag. 30.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

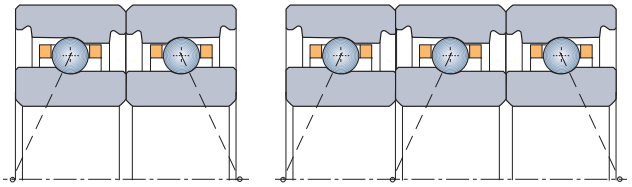
# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 15°





| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| HB 30 | 1.60 | 1.90 | 2.70 | 3.10 | 2.50 | 3.60 | 9.40 | 4.00 | 5.70 |
| HB 35 | 1.70 | 2.20 | 3.10 | 3.40 | 2.80 | 4.10 | 10.20 | 4.50 | 6.50 |
| HB 40 | 1.80 | 2.40 | 3.40 | 3.60 | 3.10 | 4.50 | 10.70 | 4.90 | 7.10 |
| HB 45 | 2.40 | 2.70 | 3.90 | 4.90 | 3.50 | 5.20 | 14.80 | 5.70 | 8.20 |
| HB 50 | 2.60 | 2.90 | 4.20 | 5.10 | 3.80 | 5.50 | 15.30 | 6.0 | 8.60 |
| HB 55 | 3.30 | 3.20 | 4.70 | 6.60 | 4.20 | 6.10 | 20.00 | 6.70 | 9.70 |
| HB 60 | 3.40 | 3.40 | 5.00 | 6.80 | 4.40 | 6.50 | 20.50 | 7.10 | 10.20 |
| HB 65 | 3.50 | 3.60 | 5.20 | 7.00 | 4.70 | 6.80 | 21.00 | 7.40 | 10.7 |
| HB 70 | 4.50 | 4.10 | 5.90 | 9.00 | 5.30 | 7.70 | 27.00 | 8.40 | 12.10 |
| HB 75 | 4.60 | 4.30 | 6.20 | 9.30 | 5.60 | 8.10 | 28.00 | 8.80 | 12.70 |
| HB 80 | 5.20 | 4.50 | 6.60 | 10.40 | 5.90 | 8.60 | 31.00 | 9.30 | 13.40 |
| HB 85 | 5.40 | 4.80 | 7.10 | 10.80 | 6.30 | 9.20 | 32.00 | 9.90 | 14.20 |
| HB 90 | 5.90 | 5.00 | 7.30 | 11.70 | 6.50 | 9.40 | 35.00 | 10.20 | 14.70 |
| HB 95 | 6.00 | 5.20 | 7.60 | 12.00 | 6.80 | 9.80 | 36.00 | 10.70 | 15.30 |
| HB 100 | 7.20 | 5.60 | 8.20 | 14.40 | 7.30 | 10.60 | 43.00 | 11.5 | 16.5 |
| HB 110 | 8.60 | 6.10 | 9.00 | 17.20 | 8.00 | 11.60 | 51.50 | 12.60 | 18.10 |
| HB 120 | 9.00 | 6.70 | 9.70 | 18.00 | 8.70 | 12.60 | 54.00 | 13.60 | 19.60 |

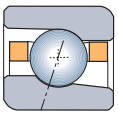
# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 25°



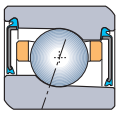
| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| HB 30 | 2.50 | 4.70 | 6.90 | 5.00 | 6.00 | 8.80 | 15.00 | 9.00 | 13.20 |
| HB 35 | 2.70 | 5.40 | 7.90 | 5.40 | 6.90 | 10.10 | 16.50 | 10.40 | 15.20 |
| HB 40 | 2.90 | 6.00 | 8.80 | 5.70 | 7.60 | 11.10 | 17.00 | 11.30 | 16.50 |
| HB 45 | 3.90 | 6.80 | 10.00 | 7.90 | 8.80 | 12.80 | 23.50 | 13.10 | 19.10 |
| HB 50 | 4.00 | 7.20 | 10.60 | 8.10 | 9.30 | 13.50 | 24.50 | 13.90 | 20.20 |
| HB 55 | 5.30 | 8.20 | 12.00 | 10.60 | 10.40 | 15.20 | 31.50 | 15.50 | 22.60 |
| HB 60 | 5.40 | 8.60 | 12.60 | 10.90 | 11.00 | 16.10 | 32.50 | 16.40 | 23.90 |
| HB 65 | 5.60 | 9.10 | 13.30 | 11.20 | 11.60 | 16.90 | 33.50 | 17.30 | 25.20 |
| HB 70 | 7.20 | 10.30 | 15.10 | 14.40 | 13.10 | 19.20 | 43.00 | 19.60 | 28.60 |
| HB 75 | 7.40 | 10.80 | 15.90 | 14.80 | 13.80 | 20.20 | 44.50 | 20.60 | 30.10 |
| HB 80 | 8.20 | 11.40 | 16.80 | 16.50 | 14.60 | 21.40 | 49.50 | 21.80 | 31.80 |
| HB 85 | 8.60 | 12.30 | 18.00 | 17.10 | 15.60 | 22.90 | 51.50 | 23.30 | 34.00 |
| HB 90 | 9.30 | 12.60 | 18.50 | 18.70 | 16.10 | 23.60 | 56.00 | 24.00 | 35.00 |
| HB 95 | 9.60 | 13.20 | 19.40 | 19.20 | 16.80 | 24.70 | 57.50 | 25.10 | 36.60 |
| HB 100 | 11.50 | 14.30 | 20.90 | 23.00 | 18.20 | 26.60 | 69.00 | 27.10 | 39.50 |
| HB 110 | 13.70 | 15.60 | 22.90 | 27.40 | 19.90 | 29.10 | 82.00 | 29.60 | 43.20 |
| HB 120 | 14.30 | 16.90 | 24.90 | 28.70 | 21.60 | 31.70 | 86.00 | 32.10 | 46.90 |

# VEX

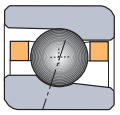
## ISO 10



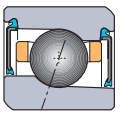
VEX..



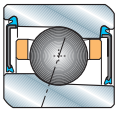
VEX../S



VEX../NS CERAMIC



VEX../S/NS CERAMIC

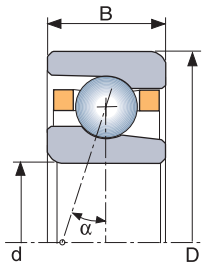


VEX../XN/S CHROMEX® 40

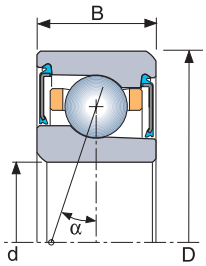
ISO 10

VEX

VEX..




VEX../S




| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° C0 | α = 25° C33 | α = 25° C0 | olio Vh (ABEC 9) | Grasso Vh (ABEC 9) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VEX 6 | 6 | 17 | 6 | 8 | 3.17 | 160 | 61 | | | 210 000 | 137 000 | 0.006 |
| VEX 7 | 7 | 19 | 6 | 8 | 3.57 | 198 | 77 | | | 190 000 | 124 000 | 0.008 |
| VEX 8 | 8 | 22 | 7 | 8 | 3.97 | 240 | 97 | | | 165 000 | 107 000 | 0.012 |
| VEX 9 | 9 | 24 | 7 | 9 | 3.97 | 260 | 113 | | | 150 000 | 97 500 | 0.015 |
| VEX 10 | 10 | 26 | 8 | 11 | 3.97 | 306 | 143 | | | 140 000 | 91 000 | 0.019 |
| VEX 12 | 12 | 28 | 8 | 10 | 4.76 | 390 | 182 | | | 125 000 | 81 000 | 0.021 |
| VEX 15 | 15 | 32 | 9 | 12 | 4.76 | 450 | 230 | | | 105 000 | 68 000 | 0.028 |
| VEX 17 | 17 | 35 | 10 | 12 | 5.55 | 600 | 310 | | | 95 000 | 62 000 | 0.035 |
| VEX 20 | 20 | 42 | 12 | 12 | 6.35 | 760 | 410 | | | 80 000 | 52 000 | 0.065 |
| VEX 25 | 25 | 47 | 12 | 14 | 6.35 | 840 | 500 | 800 | 480 | 70 000 | 45 500 | 0.078 |
| VEX 30 | 30 | 55 | 13 | 17 | 6.35 | 950 | 630 | 900 | 600 | 60 000 | 39 000 | 0.110 |
| VEX 35 | 35 | 62 | 14 | 17 | 7.14 | 1 170 | 800 | 1 110 | 770 | 50 000 | 32 500 | 0.150 |
| VEX 40 | 40 | 68 | 15 | 19 | 7.14 | 1 250 | 920 | 1 180 | 870 | 45 000 | 29 200 | 0.190 |
| VEX 45 | 45 | 75 | 16 | 21 | 7.14 | 1 310 | 1 040 | 1 250 | 980 | 41 000 | 26 700 | 0.240 |
| VEX 50 | 50 | 80 | 16 | 21 | 7.94 | 1 600 | 1 270 | 1 510 | 1 210 | 38 000 | 24 700 | 0.250 |
| VEX 55 | 55 | 90 | 18 | 24 | 7.94 | 1 710 | 1 480 | 1 620 | 1 400 | 32 000 | 20 800 | 0.400 |
| VEX 60 | 60 | 95 | 18 | 25 | 7.94 | 1 740 | 1 560 | 1 650 | 1 480 | 30 000 | 19 500 | 0.420 |
| VEX 65 | 65 | 100 | 18 | 25 | 8.73 | 2 080 | 1 880 | 1 970 | 1 780 | 28 000 | 18 200 | 0.450 |
| VEX 70 | 70 | 110 | 20 | 25 | 9.52 | 2 430 | 2 230 | 2 300 | 2 110 | 26 000 | 16 900 | 0.640 |
| VEX 75 | 75 | 115 | 20 | 26 | 9.52 | 2 670 | 2 630 | 2 520 | 2 490 | 24 000 | 15 600 | 0.670 |
| VEX 80 | 80 | 125 | 22 | 25 | 11.11 | 3 470 | 3 400 | 3 290 | 3 220 | 21 600 | 14 000 | 0.850 |
| VEX 85 | 85 | 130 | 22 | 26 | 11.11 | 3 540 | 3 560 | 3 340 | 3 370 | 21 000 | 13 700 | 0.900 |
| VEX 90 | 90 | 140 | 24 | 28 | 11.11 | 3 670 | 3 870 | 3 470 | 3 660 | 19 400 | 12 600 | 1.200 |
| VEX 95 | 95 | 145 | 24 | 26 | 12.70 | 4 520 | 4 630 | 4 270 | 4 390 | 18 600 | 12 100 | 1.250 |
| VEX 100 | 100 | 150 | 24 | 27 | 12.70 | 4 600 | 4 840 | 4 350 | 4 580 | 17 900 | 11 600 | 1.300 |
| VEX 110 | 110 | 170 | 28 | 30 | 12.70 | 4 830 | 5 500 | 4 560 | 5 200 | 15 500 | 10 100 | 2.100 |
| VEX 120 | 120 | 180 | 28 | 29 | 14.28 | 5 900 | 6 600 | 5 600 | 6 300 | 14 000 | 9 100 | 2.200 |

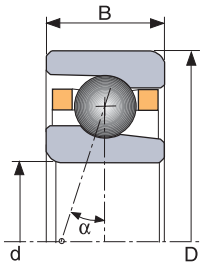
Versione con tenute laterali disponibile solo da foro 20 a 120 mm.

Per dimensioni superiori consultare il ns. servizio tecnico commerciale.

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

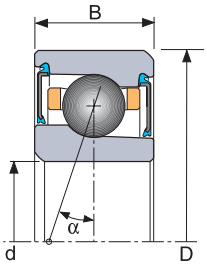
## VEX../NS

CERAMIC



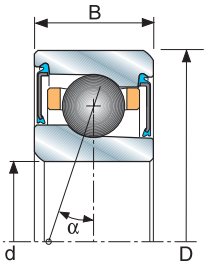

## VEX../S/NS

CERAMIC




## VEX../XN/S

CHROMEX® 40




| SNFA | d | D | B | z | Ø | α = 15° C33 | α = 15° C0 | α = 25° C33 | α = 25° C0 | CERAMIC Olio Vh (ABEC 9) | CERAMIC Grasso Vh (ABEC 9) | CHROMEX®40 Olio Vh (ABEC 9) | CHROMEX®40 Grasso Vh (ABEC 9) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VEX 6/.. | 6 | 17 | 6 | 8 | 3.17 | 160 | 44 | | | 252 000 | 164 000 | 280 000 | 181 000 |
| VEX 7/.. | 7 | 19 | 6 | 8 | 3.57 | 198 | 55 | | | 228 000 | 148 000 | 253 000 | 164 000 |
| VEX 8/.. | 8 | 22 | 7 | 8 | 3.97 | 240 | 69 | | | 198 000 | 129 000 | 220 000 | 142 000 |
| VEX 9/.. | 9 | 24 | 7 | 9 | 3.97 | 260 | 81 | | | 180 000 | 117 000 | 200 000 | 129 000 |
| VEX 10/.. | 10 | 26 | 8 | 11 | 3.97 | 306 | 103 | | | 168 000 | 109 000 | 186 000 | 121 000 |
| VEX 12/.. | 12 | 28 | 8 | 10 | 4.76 | 390 | 131 | | | 150 000 | 97 500 | 167 000 | 108 000 |
| VEX 15/.. | 15 | 32 | 9 | 12 | 4.76 | 450 | 166 | | | 126 000 | 82 000 | 140 000 | 90 400 |
| VEX 17/.. | 17 | 35 | 10 | 12 | 5.55 | 600 | 220 | | | 114 000 | 74 100 | 127 000 | 82 000 |
| VEX 20/.. | 20 | 42 | 12 | 12 | 6.35 | 760 | 290 | | | 96 000 | 62 400 | 107 000 | 69 000 |
| VEX 25/.. | 25 | 47 | 12 | 14 | 6.35 | 840 | 360 | 800 | 340 | 84 000 | 54 600 | 93 000 | 60 000 |
| VEX 30/.. | 30 | 55 | 13 | 17 | 6.35 | 950 | 450 | 900 | 430 | 72 000 | 46 800 | 80 000 | 51 700 |
| VEX 35/.. | 35 | 62 | 14 | 17 | 7.14 | 1 170 | 580 | 1 110 | 550 | 60 000 | 39 000 | 66 500 | 43 000 |
| VEX 40/.. | 40 | 68 | 15 | 19 | 7.14 | 1 250 | 660 | 1 180 | 630 | 54 000 | 35 100 | 60 000 | 38 800 |
| VEX 45/.. | 45 | 75 | 16 | 21 | 7.14 | 1 310 | 740 | 1 250 | 700 | 50 000 | 32 000 | 54 500 | 35 300 |
| VEX 50/.. | 50 | 80 | 16 | 21 | 7.94 | 1 600 | 910 | 1 510 | 870 | 45 500 | 29 600 | 50 500 | 32 700 |
| VEX 55/.. | 55 | 90 | 18 | 24 | 7.94 | 1 710 | 1 060 | 1 620 | 1 000 | 38 500 | 25 000 | 42 500 | 27 600 |
| VEX 60/.. | 60 | 95 | 18 | 25 | 7.94 | 1 740 | 1 120 | 1 650 | 1 060 | 36 000 | 23 400 | 40 000 | 25 800 |
| VEX 65/.. | 65 | 100 | 18 | 25 | 8.73 | 2 080 | 1 340 | 1 970 | 1 270 | 33 500 | 21 800 | 37 500 | 24 100 |
| VEX 70/.. | 70 | 110 | 20 | 25 | 9.52 | 2 430 | 1 600 | 2 300 | 1 510 | 31 500 | 20 300 | 34 500 | 22 400 |
| VEX 75/.. | 75 | 115 | 20 | 26 | 9.52 | 2 670 | 1 880 | 2 520 | 1 780 | 29 000 | 18 700 | 32 000 | 20 700 |
| VEX 80/.. | 80 | 125 | 22 | 25 | 11.11 | 3 470 | 2 430 | 3 290 | 2 300 | 26 000 | 16 800 | 28 500 | 18 600 |
| VEX 85/.. | 85 | 130 | 22 | 26 | 11.11 | 3 540 | 2 550 | 3 340 | 2 410 | 25 500 | 16 400 | 28 000 | 18 100 |
| VEX 90/.. | 90 | 140 | 24 | 28 | 11.11 | 3 670 | 2 770 | 3 470 | 2 620 | 23 500 | 15 100 | 26 000 | 16 700 |
| VEX 95/.. | 95 | 145 | 24 | 26 | 12.70 | 4 520 | 3 320 | 4 270 | 3 140 | 22 500 | 14 500 | 24 500 | 16 000 |
| VEX 100/.. | 100 | 150 | 24 | 27 | 12.70 | 4 600 | 3 470 | 4 350 | 3 280 | 21 500 | 14 000 | 24 000 | 15 400 |
| VEX 110/.. | 110 | 170 | 28 | 30 | 12.70 | 4 830 | 3 910 | 4 560 | 3 700 | 18 500 | 12 100 | 20 500 | 13 300 |
| VEX 120/.. | 120 | 180 | 28 | 29 | 14.28 | 5 900 | 4 750 | 5 600 | 4 500 | 17 000 | 10 900 | 18 600 | 12 100 |

Versione con tenute laterali disponibile solo da foro 20 a 120 mm.

Per dimensioni superiori consultare il ns. Servizio Tecnico Commerciale.

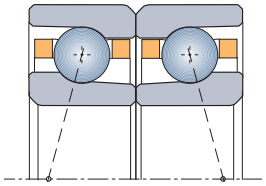
**C33** = per il metodo di calcolo, vedere pag. 30.

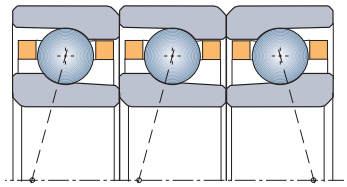
**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.

ISO 10

VEX

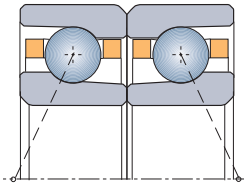
# Valori di precarico e di rigidità
## (precarico rigido)
## Angolo di contatto = 15°

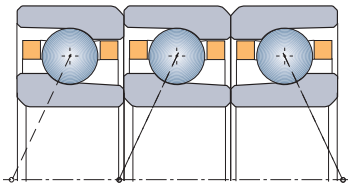




| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| VEX 6 | 1.0 | 0.9 | 1.3 | 2.5 | 1.2 | 1.7 | 5.0 | 1.5 | 2.2 |
| VEX 7 | 1.0 | 0.9 | 1.3 | 3.0 | 1.3 | 1.9 | 6.0 | 1.7 | 2.4 |
| VEX 8 | 1.5 | 1.1 | 1.6 | 3.5 | 1.4 | 2.1 | 7.5 | 1.8 | 2.7 |
| VEX 9 | 1.5 | 1.2 | 1.7 | 4.0 | 1.6 | 2.4 | 8.0 | 2.0 | 3.0 |
| VEX 10 | 1.5 | 1.3 | 1.9 | 4.8 | 1.9 | 2.8 | 9.5 | 2.4 | 3.6 |
| VEX 12 | 2.0 | 1.5 | 2.2 | 6.0 | 2.1 | 3.1 | 12.0 | 2.7 | 3.9 |
| VEX 15 | 2.5 | 1.8 | 2.6 | 7.0 | 2.5 | 3.7 | 14.0 | 3.2 | 4.6 |
| VEX 17 | 3.0 | 2.0 | 2.9 | 9.0 | 2.9 | 4.2 | 18.5 | 3.6 | 5.4 |
| VEX 20 | 4.0 | 2.3 | 3.4 | 12.0 | 3.3 | 4.9 | 23.5 | 4.1 | 6.1 |
| VEX 25 | 4.5 | 2.7 | 3.9 | 13.0 | 3.9 | 5.5 | 26.0 | 4.9 | 7.0 |
| VEX 30 | 5.0 | 3.1 | 4.6 | 15.0 | 4.5 | 6.6 | 30.0 | 5.7 | 8.3 |
| VEX 35 | 6.0 | 3.5 | 5.1 | 18.0 | 5.0 | 7.3 | 37.0 | 6.3 | 9.3 |
| VEX 40 | 6.5 | 3.8 | 5.6 | 20.0 | 5.5 | 8.1 | 39.0 | 6.9 | 10.2 |
| VEX 45 | 7.0 | 4.2 | 6.1 | 21.0 | 6.0 | 8.8 | 41.0 | 7.5 | 11.1 |
| VEX 50 | 8.5 | 4.6 | 6.8 | 25.0 | 6.6 | 9.7 | 50.0 | 8.3 | 12.2 |
| VEX 55 | 9.0 | 5.1 | 7.6 | 27.0 | 7.4 | 10.9 | 54.0 | 9.3 | 13.7 |
| VEX 60 | 9.2 | 5.3 | 7.8 | 27.5 | 7.7 | 11.3 | 55.0 | 9.6 | 14.2 |
| VEX 65 | 11.0 | 5.8 | 8.6 | 33.0 | 8.4 | 12.4 | 65.0 | 10.5 | 15.5 |
| VEX 70 | 13.0 | 6.3 | 9.3 | 38.0 | 9.1 | 13.3 | 76.0 | 11.4 | 16.8 |
| VEX 75 | 14.0 | 6.7 | 9.8 | 42.0 | 9.6 | 14.1 | 84.0 | 12.1 | 17.8 |
| VEX 80 | 18.0 | 7.4 | 10.9 | 55.0 | 10.8 | 15.9 | 109.0 | 13.5 | 19.9 |
| VEX 85 | 18.5 | 7.7 | 11.3 | 56.0 | 11.1 | 16.4 | 111.0 | 14.0 | 20.6 |
| VEX 90 | 19.0 | 8.2 | 12.0 | 58.0 | 11.8 | 17.4 | 115.0 | 14.9 | 21.9 |
| VEX 95 | 23.0 | 8.7 | 12.7 | 70.0 | 12.5 | 18.5 | 140.0 | 15.8 | 23.3 |
| VEX 100 | 24.0 | 9.0 | 13.2 | 72.0 | 13.0 | 19.1 | 144.0 | 16.4 | 24.1 |
| VEX 110 | 25.0 | 9.8 | 14.4 | 76.0 | 14.2 | 20.9 | 152.0 | 17.9 | 26.3 |
| VEX 120 | 31.0 | 10.7 | 15.7 | 93.0 | 15.4 | 22.7 | 185.0 | 19.4 | 28.5 |

# Valori di precarico e di rigidità
**(precarico rigido)**
**Angolo di contatto = 25°**



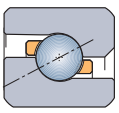


| SNFA | Precarico Leggero L | | | Precarico Medio M | | | Precarico Forte F | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr | Ra | | Pr | Ra | | Pr | Ra | |
| | | Coppia | Terna | | Coppia | Terna | | Coppia | Terna |
| VEX 25 | 7.0 | 6.9 | 10.2 | 21.0 | 10.0 | 14.7 | 43.0 | 12.7 | 18.7 |
| VEX 30 | 8.0 | 8.2 | 12.1 | 24.0 | 11.9 | 17.5 | 48.0 | 15.0 | 22.0 |
| VEX 35 | 10.0 | 9.2 | 13.6 | 30.0 | 13.3 | 19.6 | 59.0 | 16.7 | 24.6 |
| VEX 40 | 10.5 | 10.1 | 14.9 | 31.0 | 14.5 | 21.3 | 63.0 | 18.4 | 27.0 |
| VEX 45 | 11.0 | 11.0 | 16.1 | 33.0 | 15.8 | 23.3 | 66.0 | 19.9 | 29.3 |
| VEX 50 | 13.0 | 12.0 | 17.7 | 40.0 | 17.5 | 25.7 | 80.0 | 22.0 | 32.4 |
| VEX 55 | 14.0 | 13.5 | 19.8 | 43.0 | 19.6 | 28.8 | 86.0 | 24.7 | 36.3 |
| VEX 60 | 15.0 | 14.2 | 20.8 | 44.0 | 20.3 | 29.8 | 87.0 | 25.4 | 37.4 |
| VEX 65 | 17.0 | 15.2 | 22.4 | 52.0 | 22.1 | 32.5 | 104.0 | 27.9 | 41.0 |
| VEX 70 | 20.0 | 16.6 | 24.4 | 61.0 | 24.0 | 35.3 | 122.0 | 30.3 | 44.5 |
| VEX 75 | 22.0 | 17.5 | 25.8 | 67.0 | 25.4 | 37.4 | 134.0 | 32.0 | 47.2 |
| VEX 80 | 28.0 | 19.5 | 28.7 | 85.0 | 28.2 | 41.5 | 170.0 | 35.6 | 52.3 |
| VEX 85 | 29.0 | 20.3 | 29.8 | 89.0 | 29.4 | 43.3 | 178.0 | 37.1 | 54.6 |
| VEX 90 | 30.0 | 21.5 | 31.7 | 92.0 | 31.3 | 46.0 | 184.0 | 39.4 | 58.0 |
| VEX 95 | 38.0 | 23.2 | 34.1 | 113.0 | 33.3 | 49.0 | 227.0 | 42.0 | 61.9 |
| VEX 100 | 39.0 | 24.0 | 35.3 | 115.0 | 34.4 | 50.6 | 231.0 | 43.4 | 63.8 |
| VEX 110 | 40.0 | 25.9 | 38.2 | 121.0 | 37.5 | 55.2 | 242.0 | 47.2 | 69.5 |
| VEX 120 | 49.0 | 28.2 | 41.5 | 148.0 | 40.8 | 60.0 | 295.0 | 51.3 | 75.5 |

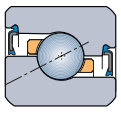
# BS 200

## ISO 02

# BS SPECIALE



BS 200

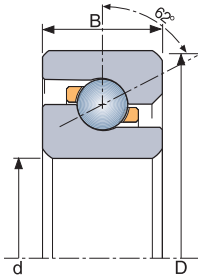


BS../S

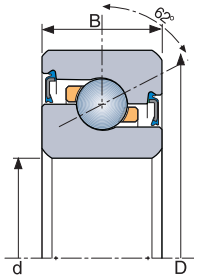
ISO 02

BS 200

BS 200



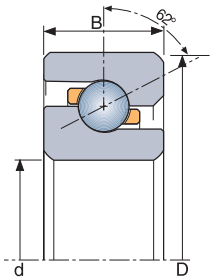

BS../S




| SNFA | d | D | B | z | Ø | C33 | C0 | Olio Vh (ABEC 7) | Grasso Vh (ABEC 7) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|
| BS 212 | 12 | 32 | 10 | 10 | 4.76 | 945 | 1 440 | 23 000 | 15 000 | 0.037 |
| BS 215 | 15 | 35 | 11 | 14 | 4.76 | 1 130 | 2 050 | 20 000 | 13 000 | 0.047 |
| BS 217* | 17 | 40 | 12 | 12 | 5.55 | 1 365 | 2 380 | 17 700 | 11 500 | 0.069 |
| BS 220 | 20 | 47 | 14 | 13 | 6.35 | 1 820 | 3 380 | 15 200 | 9 900 | 0.111 |
| BS 225 | 25 | 52 | 15 | 16 | 6.35 | 2 000 | 4 240 | 13 200 | 8 600 | 0.138 |
| BS 230 | 30 | 62 | 16 | 16 | 7.14 | 2 460 | 5 400 | 11 100 | 7 200 | 0.220 |
| BS 235 | 35 | 72 | 17 | 17 | 7.49 | 3 055 | 7 100 | 9 600 | 6 200 | 0.320 |
| BS 240 | 40 | 80 | 18 | 18 | 8.73 | 3 745 | 9 100 | 8 600 | 5 600 | 0.400 |
| BS 245 | 45 | 85 | 19 | 19 | 8.73 | 3 785 | 9 700 | 7 800 | 5 100 | 0.460 |
| BS 250 | 50 | 90 | 20 | 20 | 8.73 | 3 835 | 10 300 | 7 400 | 4 800 | 0.520 |
| BS 260 | 60 | 110 | 22 | 19 | 11.11 | 5 805 | 15 800 | 6 100 | 3 950 | 0.860 |
| BS 275 | 75 | 130 | 25 | 24 | 11.11 | 6 400 | 20 200 | 4 800 | 3 100 | 1.500 |

Versioni schermate su richiesta

* Fornibile solo su specifica richiesta

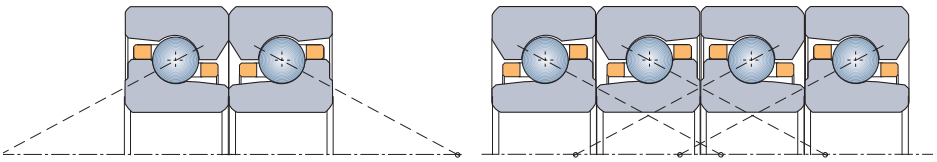



# SPECIALE

BS

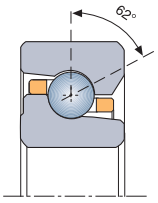
| SNFA | d | D | B | z | Ø | C33 | C0 | Olio Vh (ABEC 7) | Grasso Vh (ABEC 7) | Massa |
|---|---|---|---|---|---|---|---|---|---|---|
| BS 17/47 | 17 | 47 | 15 | 13 | 6.35 | 1 820 | 3 380 | 15 200 | 9 900 | 0.138 |
| BS 20/47 | 20 | 47 | 15 | 13 | 6.35 | 1 820 | 3 380 | 15 200 | 9 900 | 0.128 |
| BS 25/62 | 25 | 62 | 15 | 16 | 7.14 | 2 460 | 5 400 | 11 100 | 7 200 | 0.242 |
| BS 30/62 | 30 | 62 | 15 | 16 | 7.14 | 2 460 | 5 400 | 11 100 | 7 200 | 0.217 |
| BS 35/72 | 35 | 72 | 15 | 17 | 7.94 | 3 055 | 7 100 | 9 600 | 6 200 | 0.282 |

**Vh** = velocità di riferimento. Per il calcolo della velocità limite per gruppi di cuscinetti, vedere pag. 27.



| SNFA | COPPIA Pr | Ra | La | Cr | QUATERNA Pr | Ra | La | Cr | Difetto assiale rotazione (µm) |
|---|---|---|---|---|---|---|---|---|---|
| BS 212 | 100 | 42 | 625 | 2.8 | 200 | 84 | 1 250 | 5.6 | 2.5 |
| BS 215 | 140 | 58 | 850 | 4 | 280 | 116 | 1 700 | 8 | 2.5 |
| BS 217* | 165 | 58 | 1 030 | 6 | 330 | 116 | 2 060 | 12 | 2.5 |
| BS 220 | 230 | 72 | 1 450 | 10 | 460 | 144 | 2 900 | 20 | 2.5 |
| BS 225 | 280 | 88 | 1 800 | 12 | 560 | 176 | 3 600 | 23 | 2.5 |
| BS 230 | 360 | 100 | 2 260 | 19 | 720 | 200 | 4 520 | 37 | 2.5 |
| BS 235 | 475 | 118 | 2 960 | 33 | 950 | 236 | 5 920 | 67 | 2.5 |
| BS 240 | 600 | 137 | 3 790 | 41 | 1 200 | 274 | 7 580 | 81 | 2.5 |
| BS 245 | 640 | 145 | 4 020 | 47 | 1 280 | 290 | 8 040 | 92 | 2.5 |
| BS 250 | 680 | 153 | 4 220 | 53 | 1 360 | 306 | 8 440 | 106 | 2.5 |
| BS 260 | 1 040 | 185 | 6 500 | 88 | 2 080 | 370 | 13 000 | 176 | 2.5 |
| BS 275 | 1 310 | 233 | 7 600 | 169 | 2 620 | 466 | 15 200 | 338 | 2.5 |

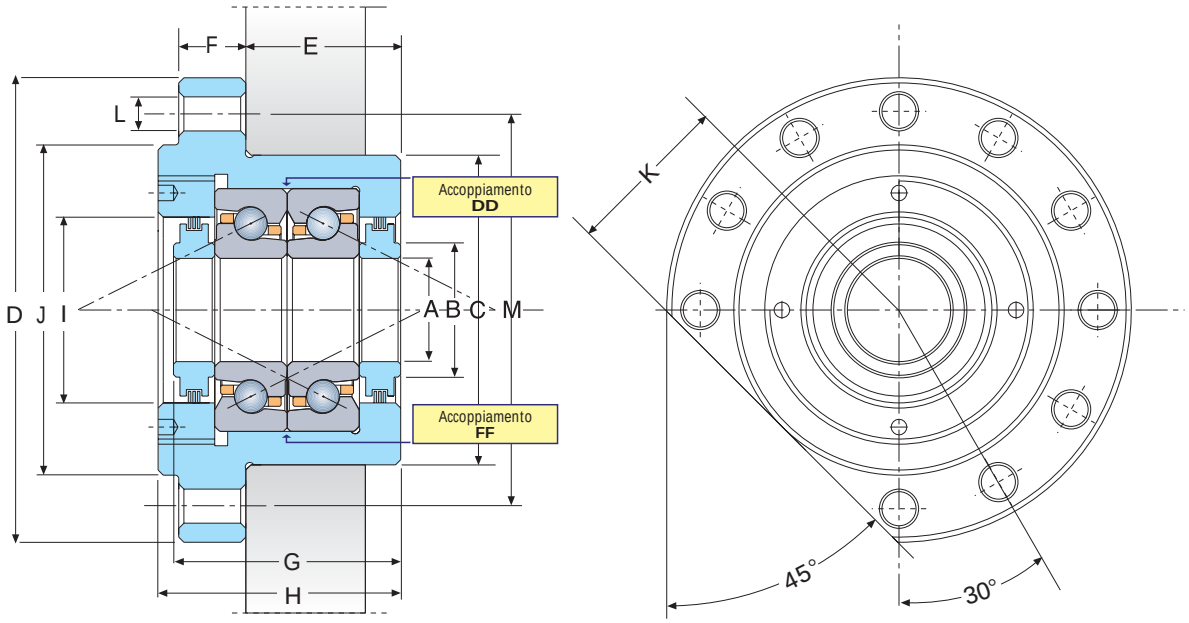
* Fornibile solo su specifica richiesta




## SPECIALE
## BS

| SNFA | COPPIA Pr | Ra | La | Cr | QUATERNA Pr | Ra | La | Cr | Difetto assiale rotazione (µm) |
|---|---|---|---|---|---|---|---|---|---|
| BS 17/47 | 230 | 72 | 1 450 | 10 | 460 | 144 | 2 900 | 20 | 2.5 |
| BS 20/47 | 230 | 72 | 1 450 | 10 | 460 | 144 | 2 900 | 20 | 2.5 |
| BS 25/62 | 360 | 100 | 2 260 | 19 | 720 | 200 | 4 520 | 37 | 2.5 |
| BS 30/62 | 360 | 100 | 2 260 | 19 | 720 | 200 | 4 520 | 37 | 2.5 |
| BS 35/72 | 475 | 118 | 2 960 | 33 | 950 | 236 | 5 920 | 67 | 2.5 |

# Unità a cartuccia, serie BSDU

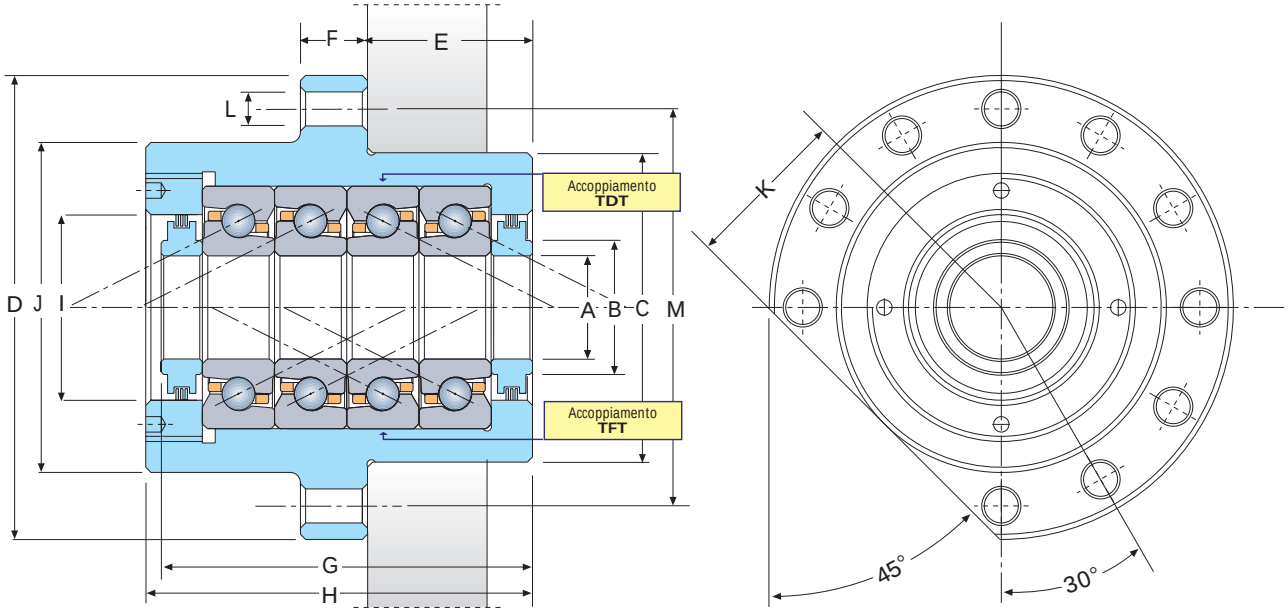



| Diam. albero mm | SNFA | Dimensioni senza tolleranza: ± 0.13 mm | | | | | | | | | | | | | C33 | Co | Cr | Ra | Difetto assiale rotazione µm | Massa | Vg* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | I | J | K | L | M | | | | | | | |
| 17 | BSDU 217 DD 230<br>BSDU 217 FF 230 | 17.000<br>16.996 | 26.0 | 60.000<br>59.987 | 90.0 | 32.0 | 13.0 | 44.260<br>43.240 | 47.0 | 36.0 | 64.0 | 32.0 | 6.6 | 76.0 | 1820 | 3380 | 10 | 72 | **2.5** | 1.1 | 3 900 |
| 20 | BSDU 220 DD 230<br>BSDU 220 FF 230 | 20.000<br>19.996 | 26.0 | 60.000<br>59.987 | 90.0 | 32.0 | 13.0 | 44.260<br>43.240 | 47.0 | 36.0 | 64.0 | 32.0 | 6.6 | 76.0 | 1820 | 3380 | 10 | 72 | **2.5** | 1.1 | 3 900 |
| 25 | BSDU 225 DD 280<br>BSDU 225 FF 280 | 25.000<br>24.996 | 34.0 | 80.000<br>79.987 | 120.0 | 32.0 | 15.0 | 50.260<br>49.240 | 52.0 | 36.0 | 88.0 | 44.0 | 9.2 | 102.0 | 2000 | 4240 | 12 | 88 | **2.5** | 2.3 | 3 400 |
| 30 | BSDU 230 DD 360<br>BSDU 230 FF 360 | 30.000<br>29.996 | 41.0 | 80.000<br>79.987 | 120.0 | 32.0 | 15.0 | 50.260<br>49.240 | 52.0 | 50.0 | 88.0 | 44.0 | 9.2 | 102.0 | 2460 | 5400 | 19 | 100 | **2.5** | 2.3 | 2 850 |
| 35 | BSDU 235 DD 475<br>BSDU 235 FF 475 | 35.000<br>34.995 | 46.0 | 90.000<br>89.987 | 130.0 | 32.0 | 15.0 | 50.260<br>49.240 | 52.0 | 60.0 | 98.0 | 49.0 | 9.2 | 113.0 | 3055 | 7100 | 33 | 118 | **2.5** | 3.2 | 2 500 |
| 40 | BSDU 240 DD 600<br>BSDU 240 FF 600 | 40.000<br>39.995 | 55.0 | 124.000<br>123.982 | 165.0 | 43.5 | 17.0 | 64.260<br>63.240 | 66.0 | 66.0 | 128.0 | 64.0 | 11.4 | 146.0 | 3745 | 9100 | 41 | 137 | **2.5** | 6.1 | 2 200 |
| 45 | BSDU 245 DD 640<br>BSDU 245 FF 640 | 45.000<br>44.995 | 66.0 | 124.000<br>123.982 | 165.0 | 43.5 | 17.0 | 64.260<br>63.240 | 66.0 | 76.0 | 128.0 | 64.0 | 11.4 | 146.0 | 3785 | 9700 | 47 | 145 | **2.5** | 5.9 | 2 000 |
| 50 | BSDU 250 DD 680<br>BSDU 250 FF 680 | 50.000<br>49.995 | 66.0 | 124.000<br>123.982 | 165.0 | 43.5 | 17.0 | 64.260<br>63.240 | 66.0 | 76.0 | 128.0 | 64.0 | 11.4 | 146.0 | 3835 | 10300 | 53 | 153 | **2.5** | 5.7 | 1 900 |

Il numero finale della designazione SNFA indica il precarico dei cuscinetti in daN. Precarichi speciali sono realizzati su richiesta.

* Velocità max per lubrificazione a grasso. Le cartucce sono fornite lubrificate con grasso sintetico di elevata qualità.

# Unità a cartuccia, serie BSQU

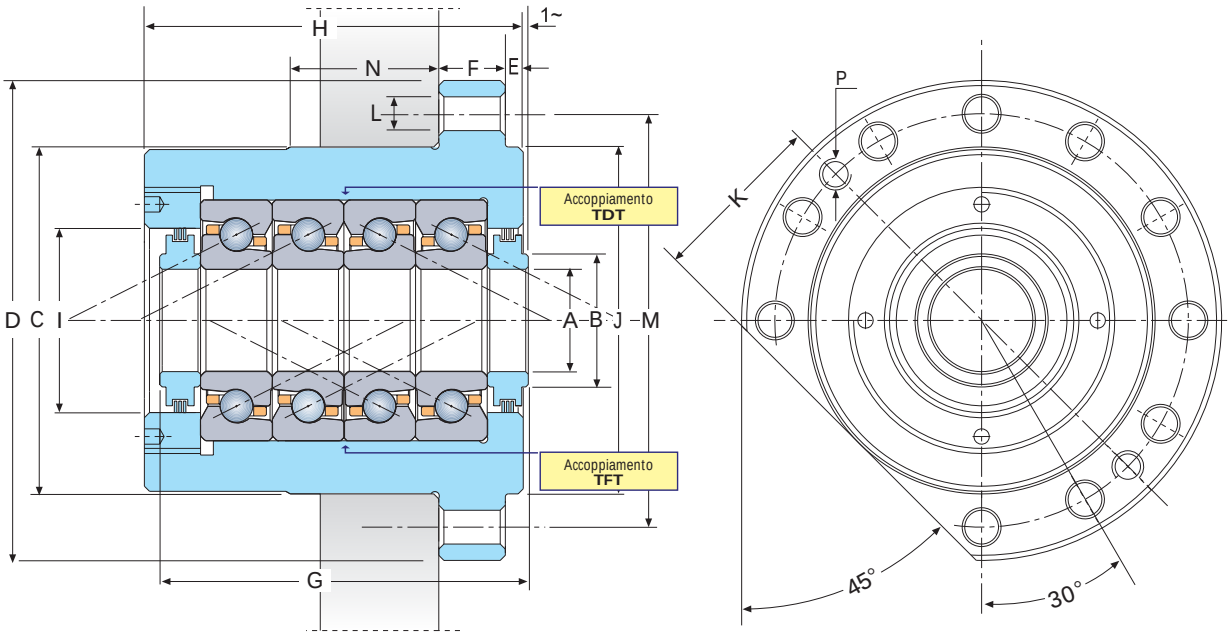



| Diam. albero mm | SNFA | Dimensioni senza tolleranza: ± 0.13 mm | | | | | | | | | | | | | $C_{33}$ | $C_o$ | $C_r$ | $R_a$ | Difetto assiale rotazione µm | Massa | Vg* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | I | J | K | L | M | | | | | | | |
| 20 | BSQU 220 TDT 460<br>BSQU 220 TFT 460 | 20.000<br>19.996 | 26.0 | 60.000<br>59.987 | 90.0 | 32.0 | 13.0 | 74.260<br>72.740 | 77.0 | 36.0 | 64.0 | 32.0 | 6.6 | 76.0 | 2950 | 6760 | 20 | 144 | **2.5** | 1.7 | 3250 |
| 25 | BSQU 225 TDT 560<br>BSQU 225 TFT 560 | 25.000<br>24.996 | 34.0 | 80.000<br>79.987 | 120.0 | 32.0 | 15.0 | 80.260<br>78.740 | 82.0 | 40.0 | 88.0 | 44.0 | 9.2 | 102.0 | 3240 | 8480 | 23 | 176 | **2.5** | 3.5 | 2850 |
| 30 | BSQU 230 TDT 720<br>BSQU 230 TFT 720 | 30.000<br>29.996 | 41.0 | 80.000<br>79.987 | 120.0 | 32.0 | 15.0 | 82.260<br>80.740 | 84.0 | 50.0 | 88.0 | 44.0 | 9.2 | 102.0 | 3985 | 10800 | 37 | 200 | **2.5** | 3.5 | 2400 |
| 35 | BSQU 235 TDT 950<br>BSQU 235 TFT 950 | 35.000<br>34.995 | 46.0 | 90.000<br>89.987 | 130.0 | 32.0 | 15.0 | 84.260<br>82.740 | 86.0 | 60.0 | 98.0 | 49.0 | 9.2 | 113.0 | 4950 | 14200 | 67 | 236 | **2.5** | 4.6 | 2100 |
| 40 | BSQU 240 TDT 1200<br>BSQU 240 TFT 1200 | 40.000<br>39.995 | 55.0 | 124.000<br>123.982 | 165.0 | 43.5 | 17.0 | 104.260<br>102.740 | 106.0 | 66.0 | 128.0 | 64.0 | 11.4 | 146.0 | 6070 | 18200 | 81 | 274 | **2.5** | 9.7 | 1900 |
| 45 | BSQU 245 TDT 1280<br>BSQU 245 TFT 1280 | 45.000<br>44.995 | 66.0 | 124.000<br>123.982 | 165.0 | 43.5 | 17.0 | 104.260<br>102.740 | 106.0 | 76.0 | 128.0 | 64.0 | 11.4 | 146.0 | 6130 | 19400 | 92 | 290 | **2.5** | 9.4 | 1700 |
| 50 | BSQU 250 TDT 1360<br>BSQU 250 TFT 1360 | 50.000<br>49.995 | 66.0 | 124.000<br>123.982 | 165.0 | 43.5 | 17.0 | 104.260<br>102.740 | 106.0 | 76.0 | 128.0 | 64.0 | 11.4 | 146.0 | 6210 | 20600 | 106 | 306 | **2.5** | 9.1 | 1550 |

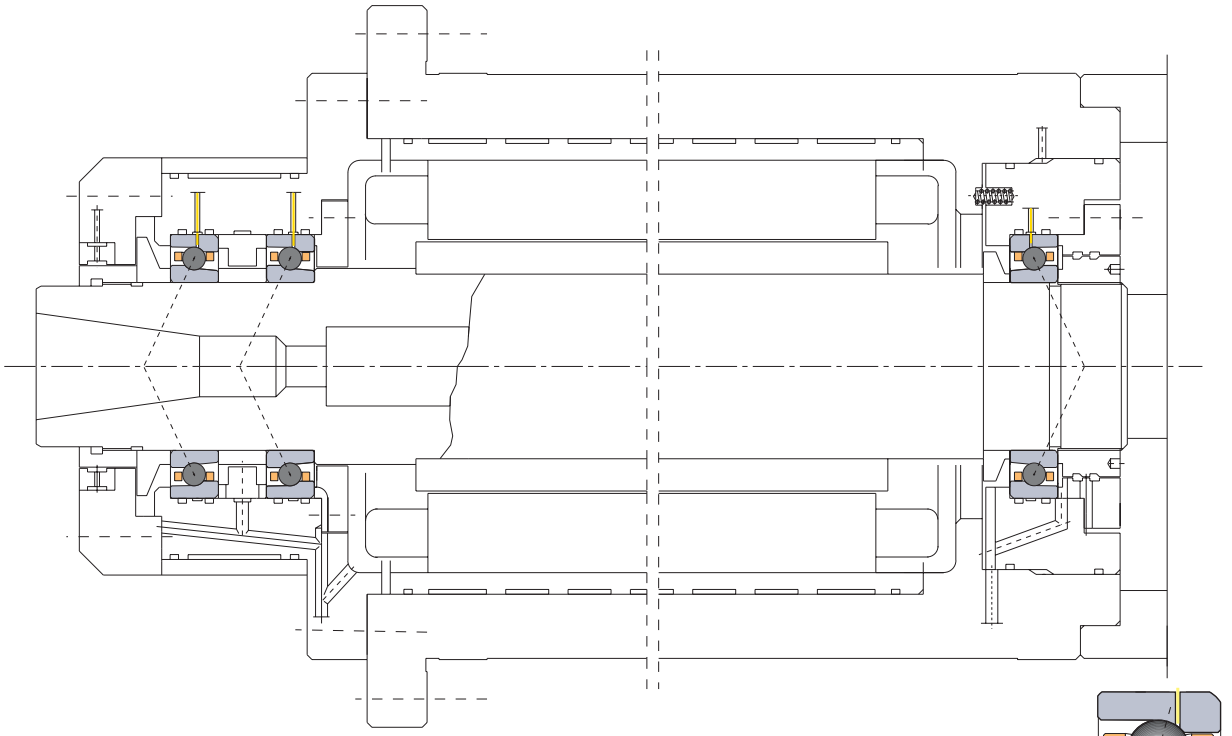
Il numero finale della designazione SNFA indica il precarico dei cuscinetti in daN. Precarichi speciali sono realizzati su richiesta.

* Velocità max per lubrificazione a grasso. Le cartucce sono fornite lubrificate con grasso sintetico di elevata qualità.

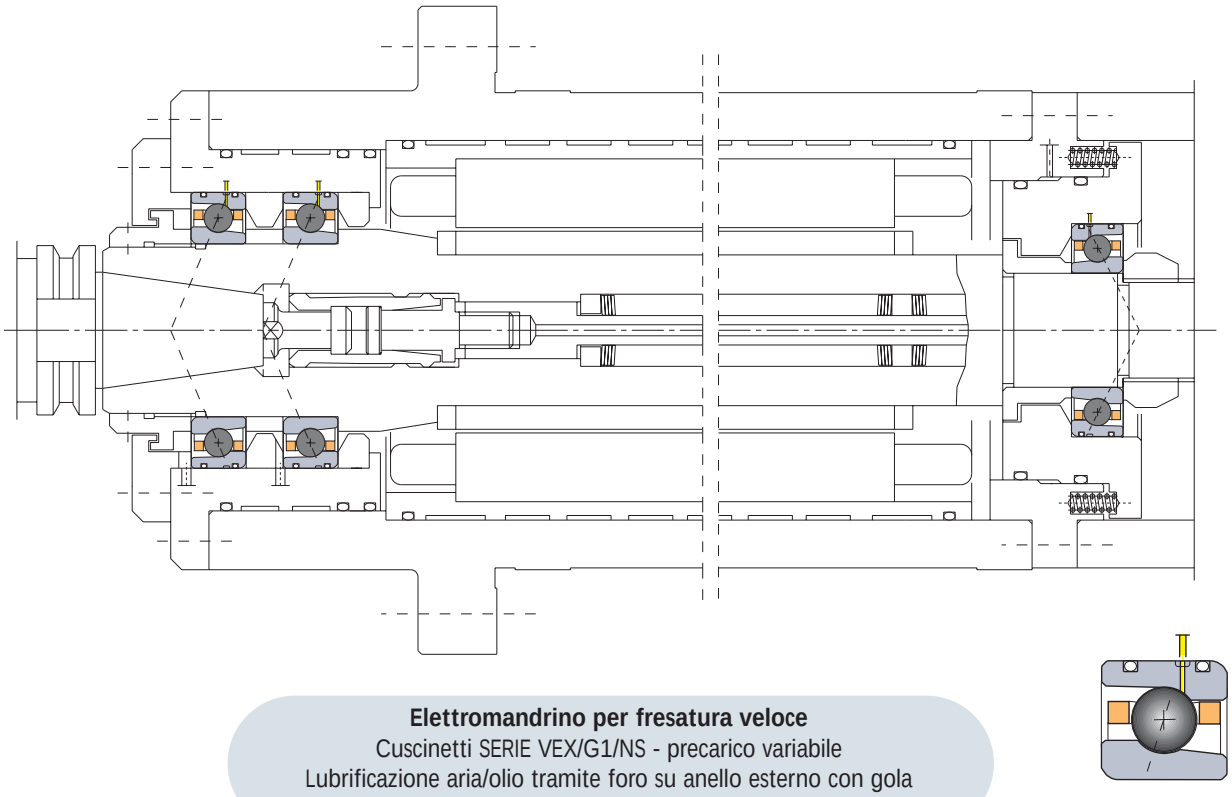
# Unità a cartuccia, serie BSQU/1



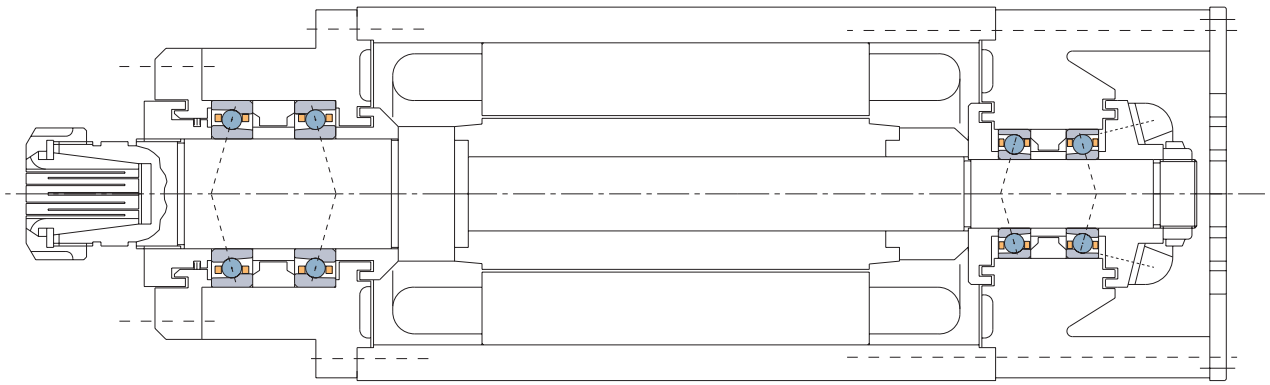

| Diam. albero mm | SNFA | Dimensioni senza tolleranza: ± 0.13 mm | | | | | | | | | | | | | | | C33 | Co | Cr | Ra | Difetto assiale rotazione µm | Massa | Vg* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | I | J | K | L | M | N | P | | | | | | | |
| 30 | BSQU 230/1 TDT 720<br>BSQU 230/1 TFT 720 | 30.000<br>29.996 | 41.0 | 88.000<br>87.985 | 120.0 | 3.5 | 15.0 | 86.260<br>84.740 | 86.0 | 50.0 | 88.0 | 45.0 | 9.2 | 102.0 | 35.0 | M8x<br>1.25 | 3985 | 10800 | 37 | 200 | **2.5** | 3.7 | 2400 |
| 40 | BSQU 240/1 TDT 1200<br>BSQU 240/1 TFT 1200 | 40.000<br>39.995 | 55.0 | 128.000<br>127.982 | 165.0 | 4.0 | 24.0 | 106.260<br>104.740 | 106.0 | 66.0 | 128.0 | 65.5 | 11.4 | 146.0 | 35.0 | M10x<br>1.5 | 6070 | 18200 | 81 | 274 | **2.5** | 10.0 | 1900 |
| 50 | BSQU 250/1 TDT 1360<br>BSQU 250/1 TFT 1360 | 50.000<br>49.995 | 66.0 | 128.000<br>127.982 | 165.0 | 4.0 | 24.0 | 106.260<br>104.740 | 106.0 | 76.0 | 128.0 | 65.5 | 11.4 | 146.0 | 35.0 | M10x<br>1.5 | 6210 | 20600 | 106 | 306 | **2.5** | 9.3 | 1550 |
| 60 | BSQU 260/1 TDT 2080<br>BSQU 260/1 TFT 2080 | 60.000<br>59.993 | 80.0 | 145.000<br>144.982 | 185.0 | 20.5 | 25.0 | 114.260<br>112.740 | 114.0 | 92.0 | 145.0 | 74.5 | 11.4 | 165.0 | 40.0 | M10x<br>1.5 | 9400 | 31600 | 176 | 370 | **2.5** | 12.3 | 1300 |

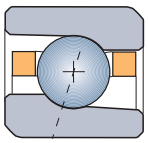


**Elettromandrino per fresatura veloce**
Cuscinetti SERIE VEX/H1/NS - precarico variabile
Lubrificazione aria/olio tramite foro su anello esterno del cuscinetto

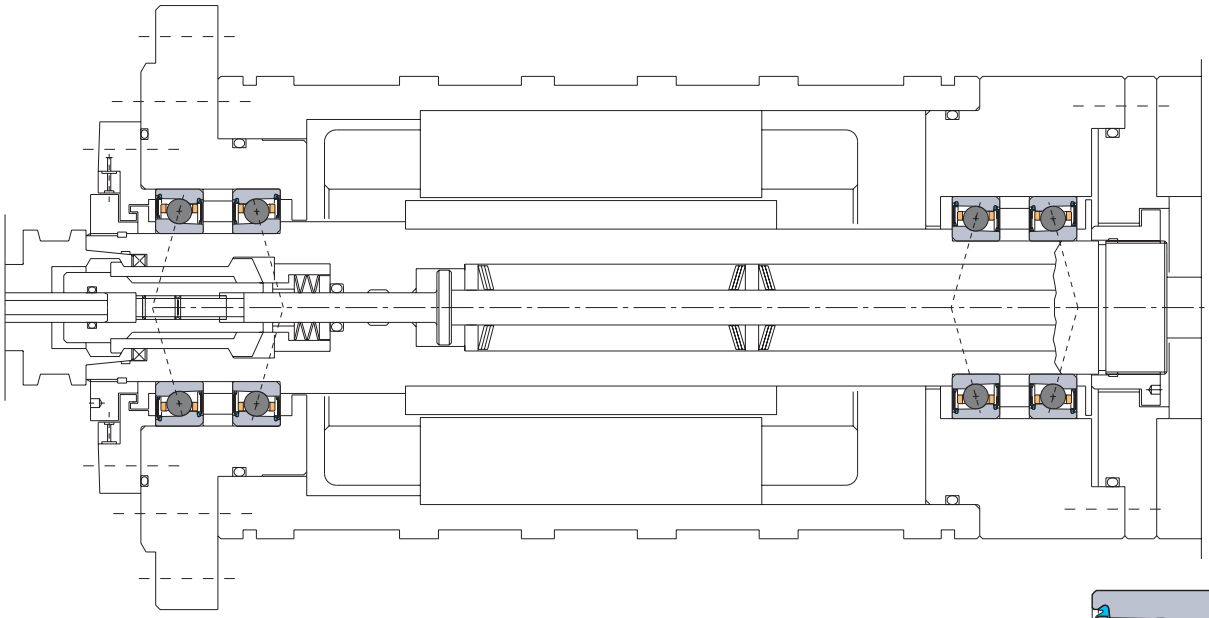


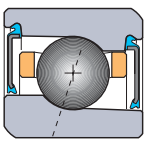
**Elettromandrino per fresatura veloce**
Cuscinetti SERIE VEX/G1/NS - precarico variabile
Lubrificazione aria/olio tramite foro su anello esterno con gola
di lubrificazione e o-ring.



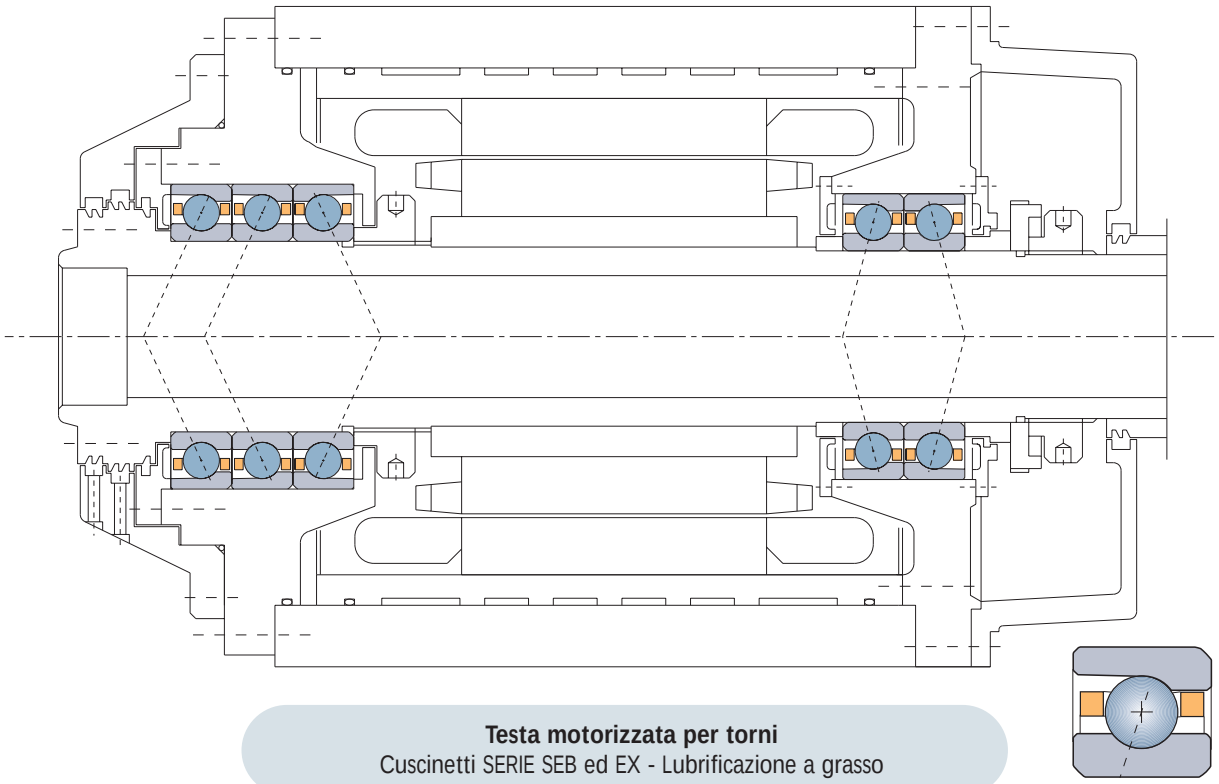


**Elettromandrino per fresatura veloce**
Cuscinetti SERIE VEX - Lubrificazione a grasso

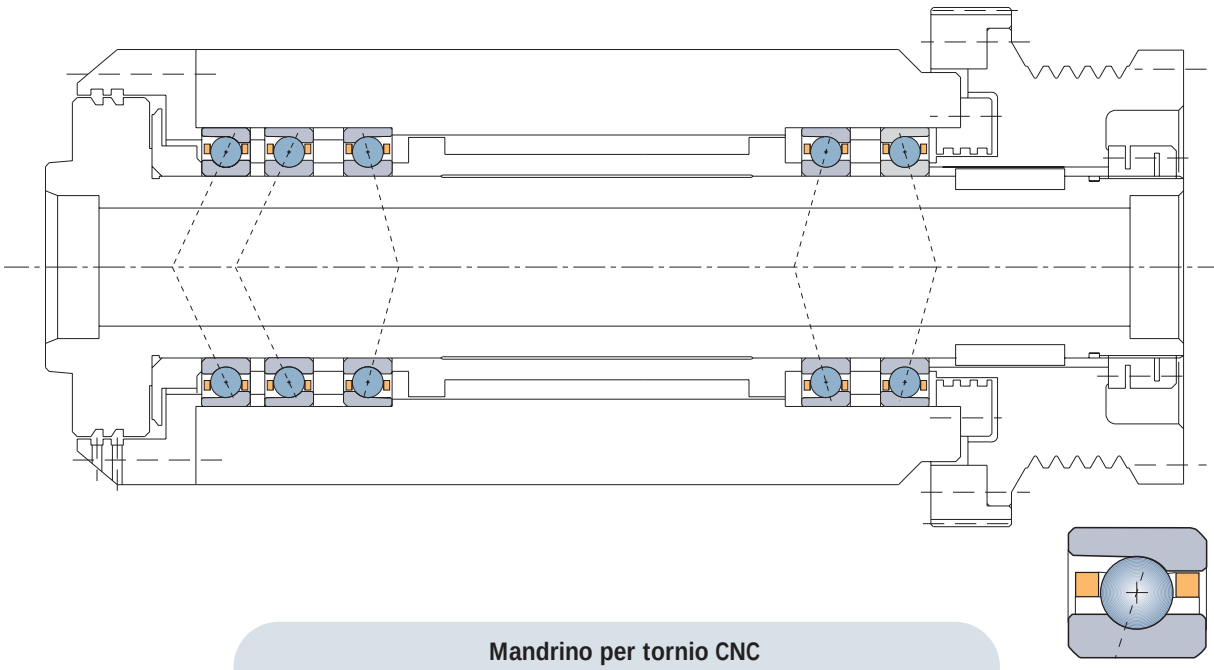




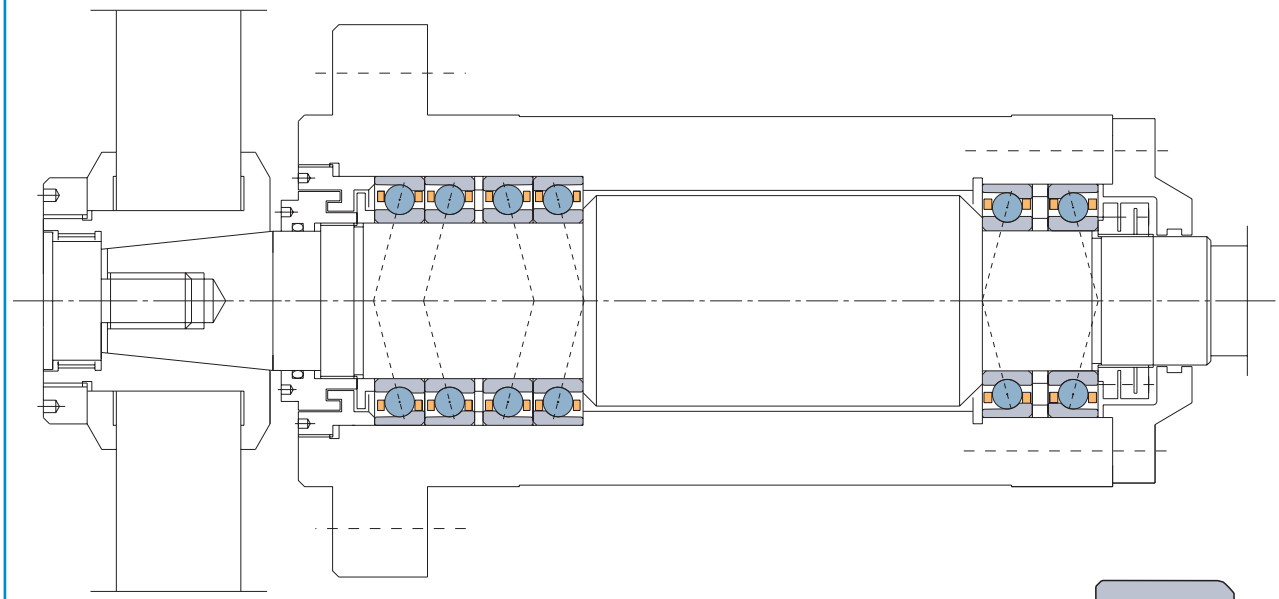
**Elettromandrino per fresatura veloce**
Cuscinetti SERIE VEX/S/NS - Lubrificazione a grasso

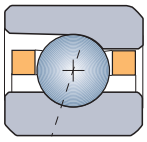


**Testa motorizzata per torni**
Cuscinetti SERIE SEB ed EX - Lubrificazione a grasso

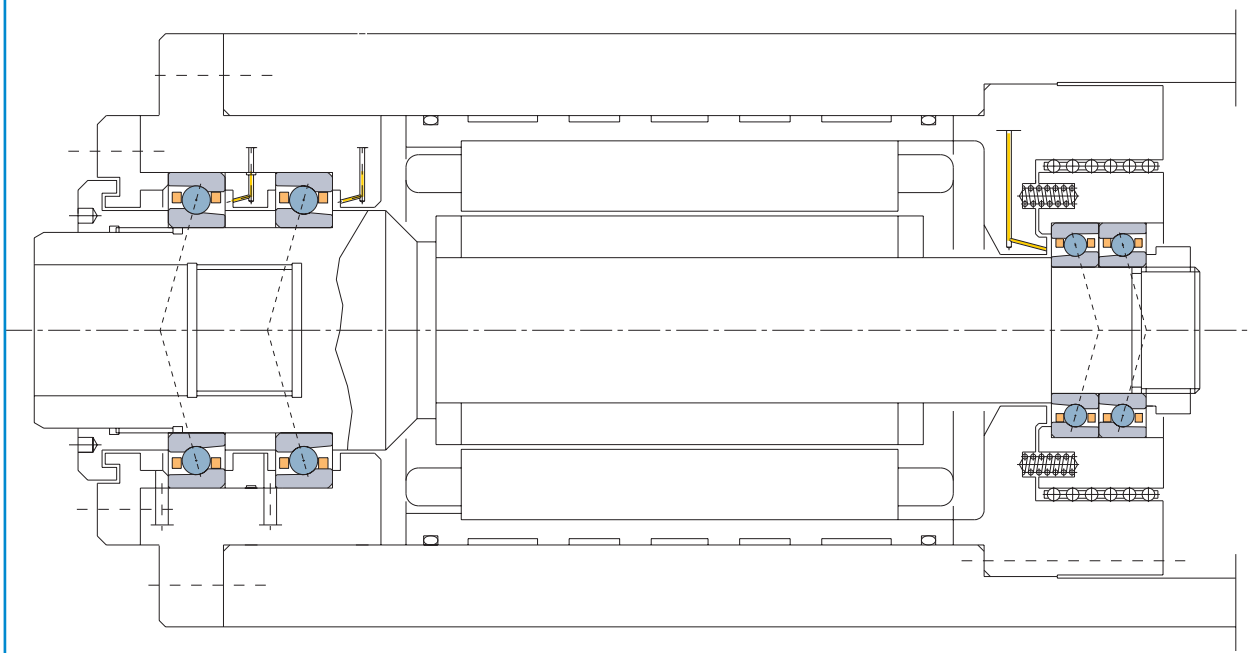


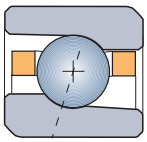
**Mandrino per tornio CNC**
Cuscinetti SERIE EX - Lubrificazione a grasso



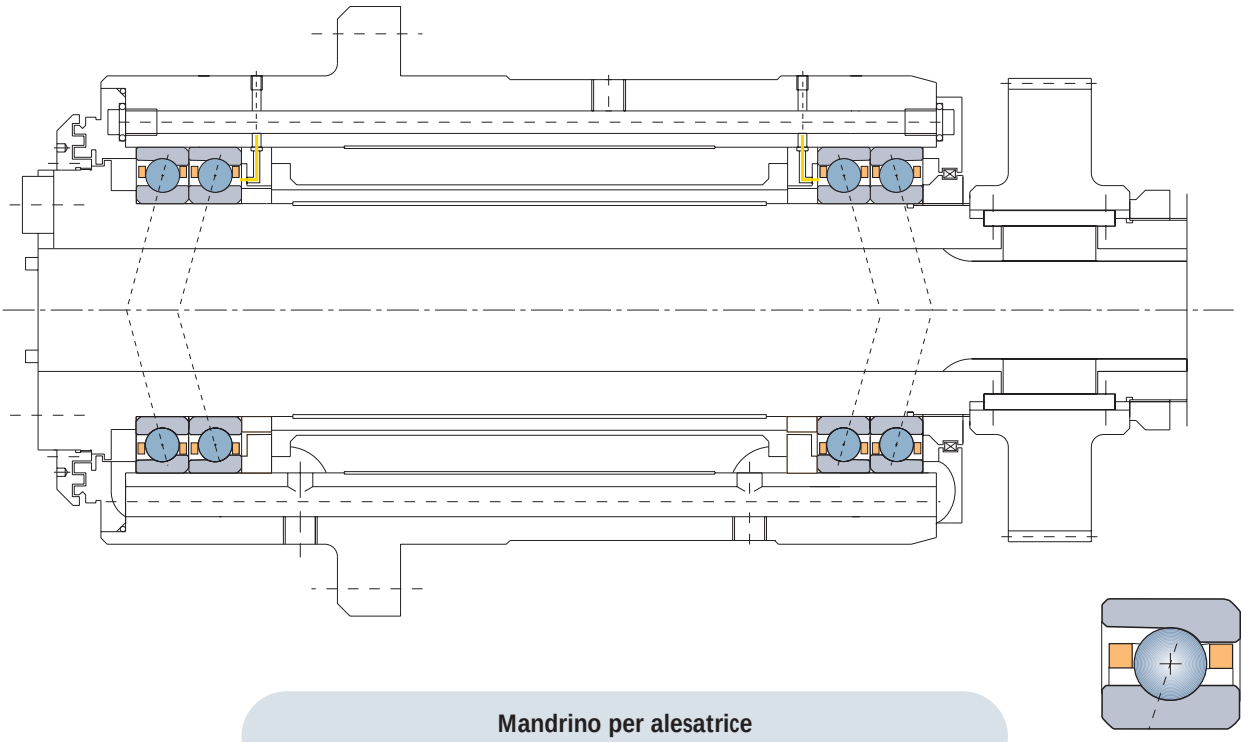


**Mandrino per rettificatrice tangenziale**
Cuscinetti SERIE EX - Lubrificazione a grasso

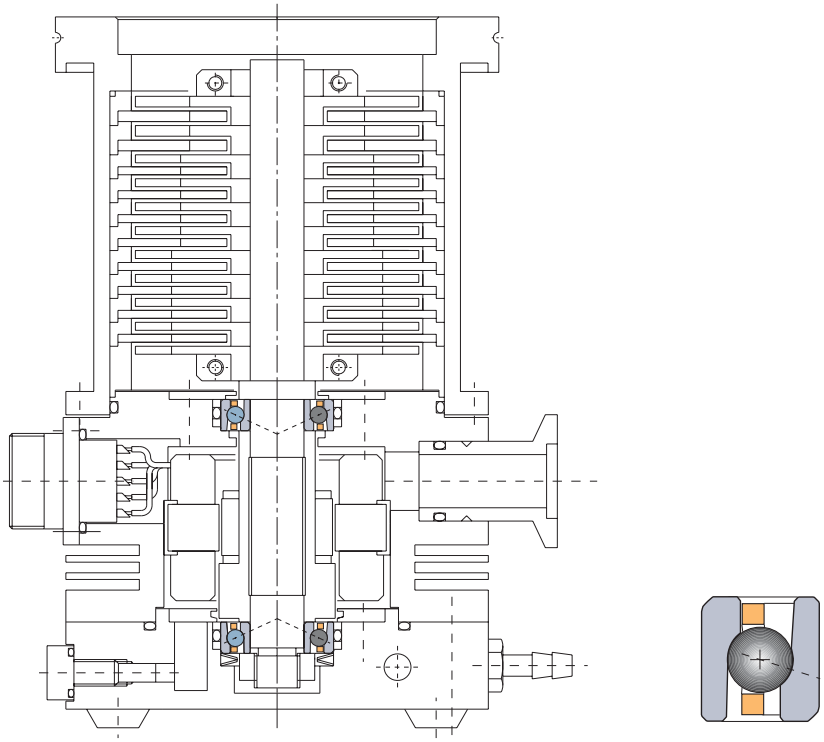




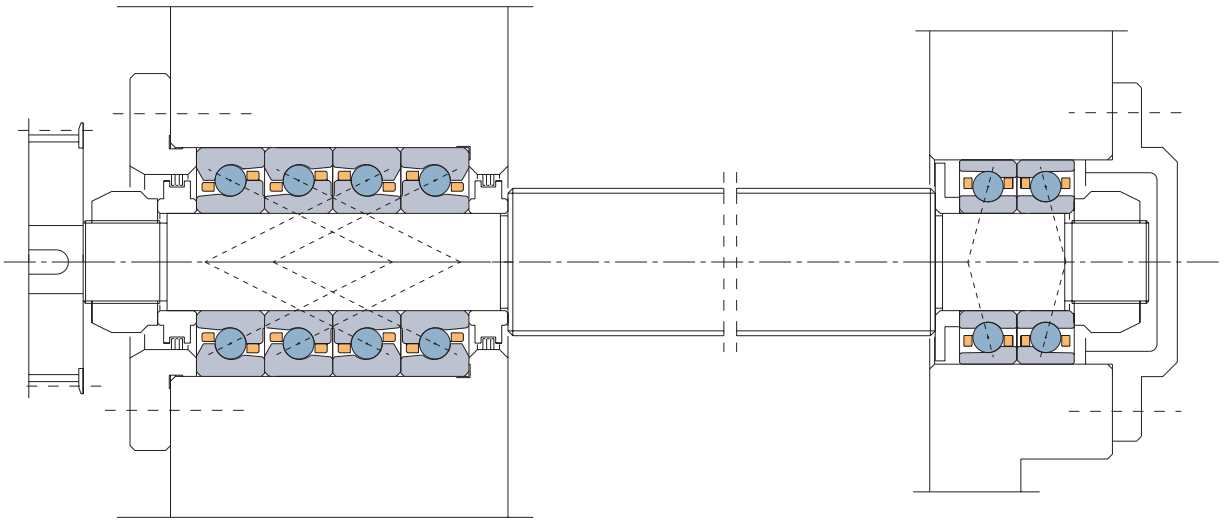
**Elettromandrino per rettificatrice di interni**
Cuscinetti SERIE VEB - VEX - Lubrificazione aria/olio

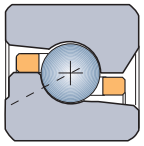


**Mandrino per alesatrice**
Cuscinetti SERIE EX oppure SEB - Lubrificazione iniezione d'olio

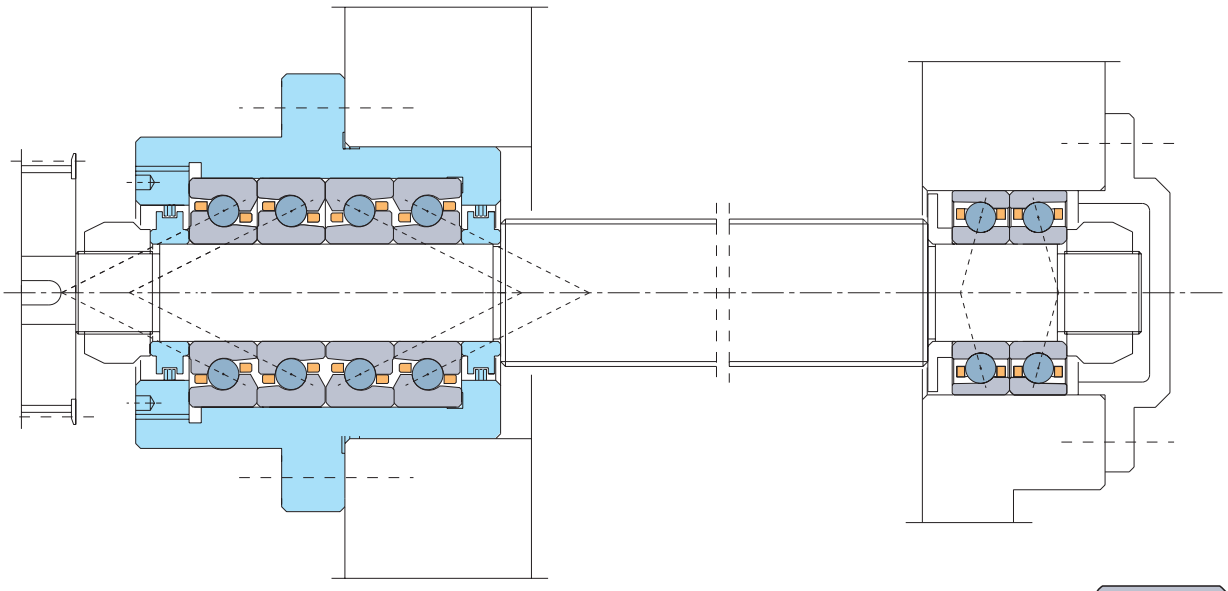


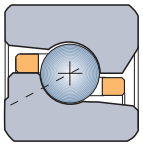
**Pompa turbomolecolare**
Cuscinetti SERIE VEX/NS - Lubrificazione a grasso



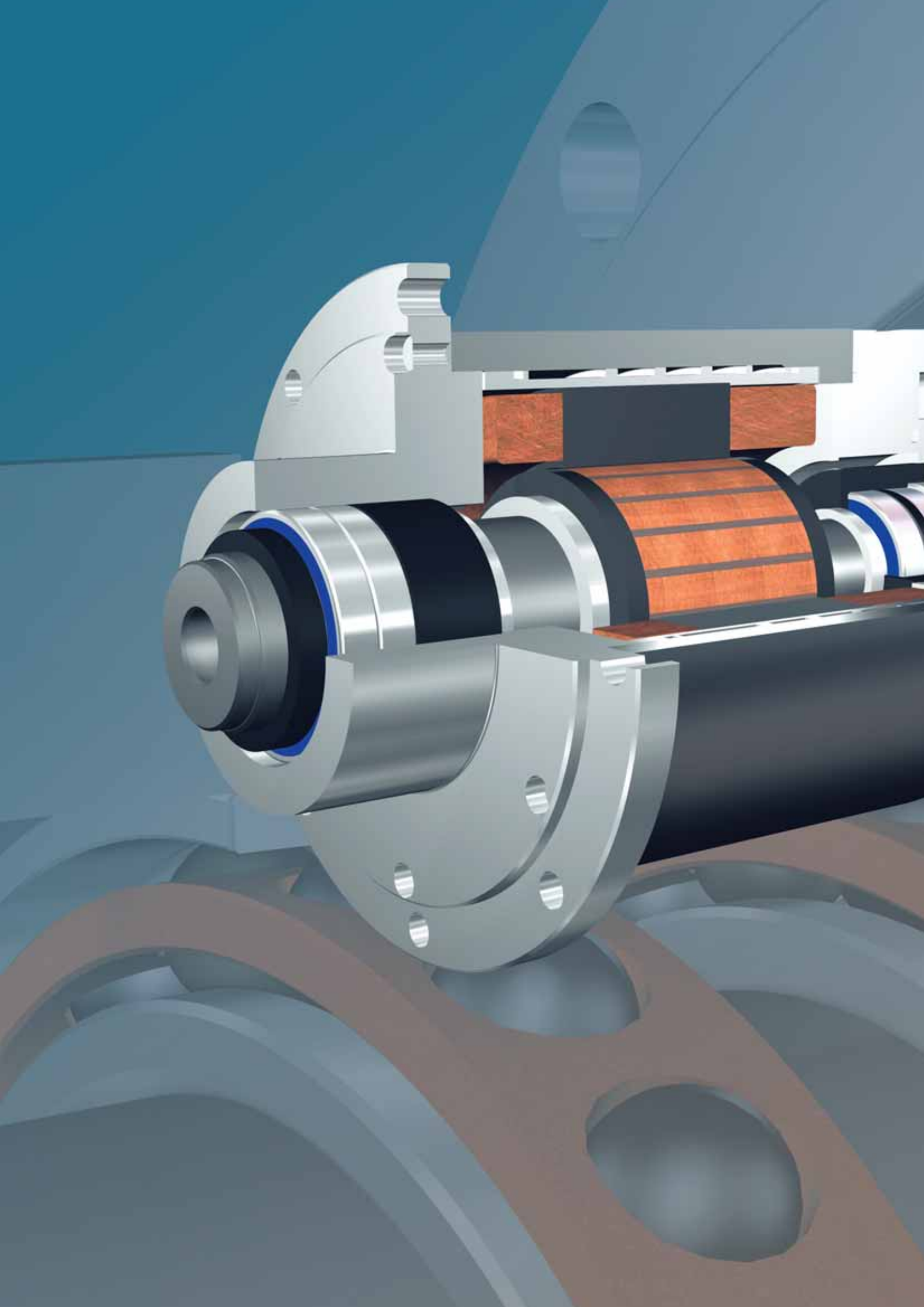


**Supporti per viti a ricircolazione di sfere**
Cuscinetti lato comando SERIE BS 200 - lato opposto: SERIE E 200





**Supporti per viti a ricircolazione di sfere**
Lato comando: unità a cartuccia BSQU con cuscinetti serie BS 200
Lato opposto: cuscinetti SERIE E 200

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**SNFA S.A.S.**
Zone Industrielle No 2 - Batterie 900 - 59309 VALENCIENNES CEDEX - F
Tél. +33-(0)327235212 - Fax +33-(0)327235297
*www.snfa.com - e-mail: info@snfa.com*

**SNFA Bearings Ltd**
Wotton Road Charfield Wotton-under-Edge
Gloucestershire GL 12 8 SP - UK
Tel. +44-(0)1453 843501 - Fax +44-(0)1453 842577
*www.snfa.com - e-mail: sales@snfa-bearings.co.uk*

**SNFA G.m.b.H.**
Ringstrasse 134 - D - 70839 Gerlingen
Tel. +49-(0)7156 20450 - Fax +49-(0)7156 204550
*www.snfa.com - e-mail: snfa@snfa.de*

**SNFA S.A., Fribourg**
Route du Platy 5a, P.O. Box 34 - CH-1752 Villars-Sur-Glâne 1
Phone +41-(0)26 4097146 - Fax +41-(0)26 4020614
*www.snfa.com - e-mail: info@snfa.ch*

**SOMECAT S.p.A.**
Via Savonera-Druento 15 - 10044 PIANEZZA (TO) - Italy
Tel. +39-011 9941407 (r.a.) - Fax +39-011 9845804
*www.snfa.com - e-mail: info@somecat.com*

Ulteriori informazioni sui cuscinetti SNFA e sulle loro applicazioni si possono trovare nelle seguenti pubblicazioni:

SNFA® Panoramica dei prodotti

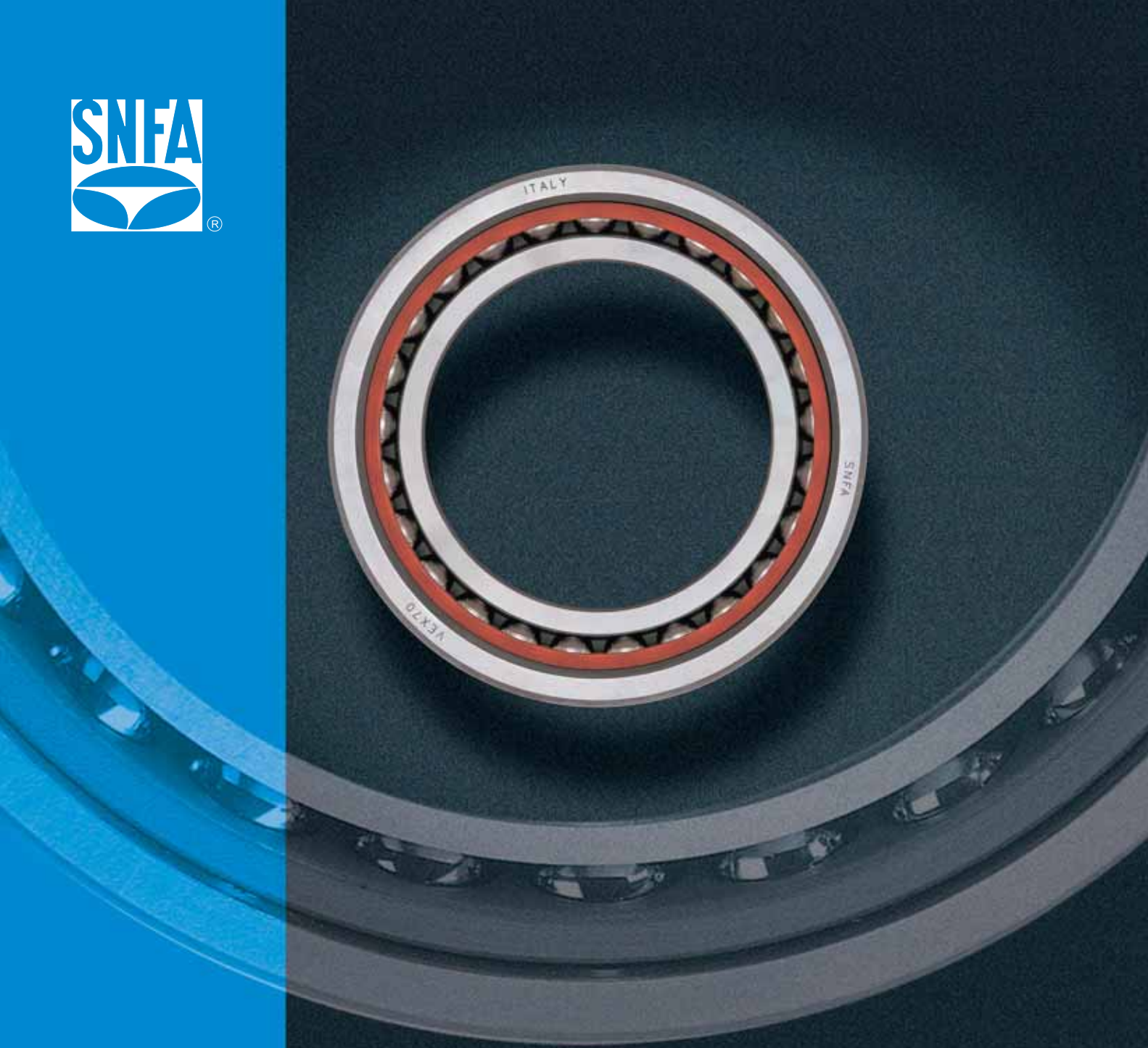
SNFA® Manuale di montaggio


SNFA® Programma di calcolo **SECBA**

*(**S**NFA® **E**lectronic **C**onsultant for **B**earing **A**pplications)*

CATALOGO GENERALE SNFA - 7° edizione - 09/06 - italiano/1.5m

Progettazione Grafica **CLAIM** - Foto **F. Murgia** - Stampa **Tipo Stampa** (TO)




**SOMECAT S.p.A.**

*è una società del* ***Gruppo SKF***

Via Savonera-Druento, 15 - 10044 PIANEZZA (TO) Italy
Tel. +39 0119941407(ra) - Fax +39 0119845804
www.snfa.com - info@somecat.com