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PERNI FOLLI A RULLINI CON GAMBO KR.. E KR..EE NEEDLE CAM FOLLOWERS STUD TYPE KR.. AND KR..EE



I perni folli sono progettati per ruotare direttamente su camme, piani inclinati o piste di scorrimento piane di guide lineari.

Per soddisfare condizioni di lavoro con carichi elevati e urti ripetuti di forte intensità i componenti hanno le seguenti caratteristiche:

- anello esterno di spessore considerevole in acciaio ad alta resistenza, trattato termicamente con durezza da 58 a 62 HRC;
- anello esterno senza foro e gola di lubrificazione, per evitare l'introduzione nel cuscinetto di impurità o particelle metalliche e per evitare deformazioni della pista;
- anello esterno bombato, per compensare gli errori di parallelismo fra rotella e pista; disponibili con anello esterno cilindrico (suffisso X);
- foro di lubrificazione sulla pista interna per effettuare la carica del grasso attraverso l'albero;
- rullini guidati con gabbia per operare ad elevate velocità.

Cam followers are designed to run directly on surfaces such as cams, ramps and slide ways of linear motion systems.

In order to meet the operating conditions of heavy radial loads accompanied by repeated shocks the components have the followings features:

- *heavy section outer ring of high strength steel hardened to 58 - 62 HRC;*
- *no oil hole or lubrication groove on the outer ring, thus preventing the introduction of impurities and metal particles into the bearing to avoid deformation of the railways;*
- *convex outer ring tolerating out-of-parallelism of contact surfaces; cam followers with cylindrical outer ring are also available (suffix X);*
- *oil hole provided under the needles enable lubricant replenishment through the shaft;*
- *cage-guided cam followers permit operation at high speed.*

Perni concentrici

KR..
KR..EE con tenute sintetiche

Concentric cam followers

KR..
KR..EE sealed both sides



KR..

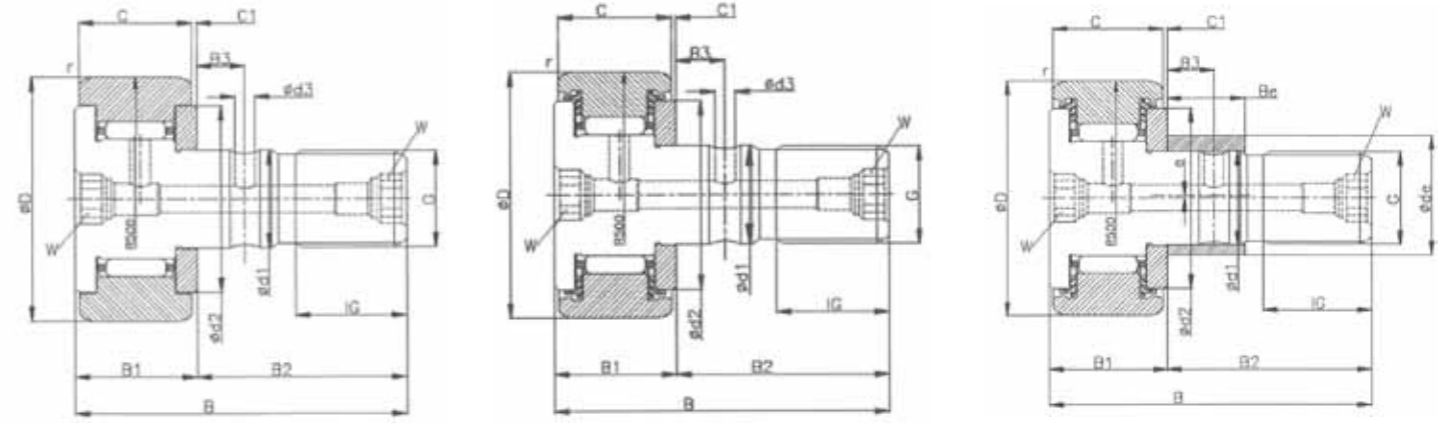
KR..EE

Perni eccentrici

KRE..
KRE..EE

Eccentric cam followers

KRE..
KRE..EE sealed both sides



KR..

KR..EE

Eccentrico KRE..EE
(Eccentric)

| Diametro esterno (Outside diameter) | Codice (Code) | Massa (Weight approx.) | Dimensioni (Dimensions) | | | | | | | | | | | G | IG | Eccentrico (Eccentric) | | | W ⁽¹⁾ | Coppia di serraggio dado M _A (Nut tightening torque) | Capacità di carico ⁽²⁾ (Load capacities) | | Carico limite a fatica F (Fatigue limit load) | Velocità limite ⁽³⁾ (Speed limit) |
|--|------------------|---------------------------|-------------------------|-------------------|-----|--------|----------------|----------------|----|----------------|-------|----------------|----------------|---------|----|------------------------|----------------|-----|------------------|--|--|------------------------------------|--|---|
| | | | D | d ₁ h7 | B | B1 max | B ₂ | B ₃ | C | C ₁ | r min | d ₂ | d ₃ | | | d _e h9 | B _e | e | | | Dinamico C _w (Dynamic) | Statico C _o (Static) | | |
| mm | | g | mm | | | | | | | | | | | mm | | | | | Nm | N | N | N | r.p.m. | |
| 16 | KR16* | 20 | 16 | 6 | 28 | 12.2 | 16 | - | 11 | 0.6 | 0.15 | 12.5 | - | M6x1 | 8 | 9 | 7 | 0.5 | - | 3 | 3150 | 3350 | 450 | 14000 |
| | KR16EE* | 20 | 16 | 6 | 28 | 12.2 | 16 | - | 11 | 0.6 | 0.15 | 12.5 | - | M6x1 | 8 | 9 | 7 | 0.5 | - | 3 | 3150 | 3350 | 450 | 14000 |
| 19 | KR19* | 32 | 19 | 8 | 32 | 12.2 | 20 | - | 11 | 0.6 | 0.15 | 15 | - | M8x1.25 | 10 | 11 | 9 | 0.5 | - | 8 | 3500 | 4000 | 540 | 11000 |
| | KR19EE* | 32 | 19 | 8 | 32 | 12.2 | 20 | - | 11 | 0.6 | 0.15 | 15 | - | M8x1.25 | 10 | 11 | 9 | 0.5 | - | 8 | 3500 | 4000 | 540 | 11000 |
| 22 | KR22 | 47 | 22 | 10 | 36 | 13.2 | 23 | - | 12 | 0.6 | 0.3 | 17.5 | - | M10x1 | 12 | 13 | 10 | 0.5 | 5 | 15 | 4550 | 5300 | 730 | 8000 |
| | KR22EE | 47 | 22 | 10 | 36 | 13.2 | 23 | - | 12 | 0.6 | 0.3 | 17.5 | - | M10x1 | 12 | 13 | 10 | 0.5 | 5 | 15 | 4550 | 5300 | 730 | 8000 |
| 26 | KR26 | 62 | 26 | 10 | 36 | 13.2 | 23 | - | 12 | 0.6 | 0.3 | 17.5 | - | M10x1 | 12 | 13 | 10 | 0.5 | 5 | 15 | 5100 | 6400 | 840 | 8000 |
| | KR26EE | 62 | 26 | 10 | 36 | 13.2 | 23 | - | 12 | 0.6 | 0.3 | 17.5 | - | M10x1 | 12 | 13 | 10 | 0.5 | 5 | 15 | 5100 | 6400 | 840 | 8000 |
| 30 | KR30 | 93 | 30 | 12 | 40 | 15.2 | 25 | 6 | 14 | 0.6 | 0.6 | 23 | 3 | M12x1.5 | 13 | 15 | 11 | 0.5 | 6 | 22 | 6800 | 8600 | 1220 | 5500 |
| | KR30EE | 93 | 30 | 12 | 40 | 15.2 | 25 | 6 | 14 | 0.6 | 0.6 | 23 | 3 | M12x1.5 | 13 | 15 | 11 | 0.5 | 6 | 22 | 6800 | 8600 | 1220 | 5500 |
| 32 | KR32 | 104 | 32 | 12 | 40 | 15.2 | 25 | 6 | 14 | 0.6 | 0.6 | 23 | 3 | M12x1.5 | 13 | 15 | 11 | 0.5 | 6 | 22 | 7100 | 9200 | 1290 | 5500 |
| | KR32EE | 104 | 32 | 12 | 40 | 15.2 | 25 | 6 | 14 | 0.6 | 0.6 | 23 | 3 | M12x1.5 | 13 | 15 | 11 | 0.5 | 6 | 22 | 7100 | 9200 | 1290 | 5500 |
| 35 | KR35 | 177 | 35 | 16 | 52 | 19.6 | 32.5 | 8 | 18 | 0.8 | 0.6 | 27.6 | 3 | M16x1.5 | 17 | 20 | 14 | 1 | 8 | 58 | 9700 | 14300 | 1830 | 3600 |
| | KR35EE | 177 | 35 | 16 | 52 | 19.6 | 32.5 | 8 | 18 | 0.8 | 0.6 | 27.6 | 3 | M16x1.5 | 17 | 20 | 14 | 1 | 8 | 58 | 9700 | 14300 | 1830 | 3600 |
| 40 | KR40 | 255 | 40 | 18 | 58 | 21.6 | 36.5 | 8 | 20 | 0.8 | 1 | 31.5 | 3 | M18x1.5 | 19 | 22 | 16 | 1 | 8 | 87 | 10900 | 15800 | 2090 | 2900 |
| | KR40EE | 255 | 40 | 18 | 58 | 21.6 | 36.5 | 8 | 20 | 0.8 | 1 | 31.5 | 3 | M18x1.5 | 19 | 22 | 16 | 1 | 8 | 87 | 10900 | 15800 | 2090 | 2900 |
| 47 | KR47 | 400 | 47 | 20 | 66 | 25.6 | 40.5 | 9 | 24 | 0.8 | 1 | 36.5 | 4 | M20x1.5 | 21 | 24 | 18 | 1 | 10 | 120 | 15400 | 26000 | 3400 | 2400 |
| | KR47EE | 400 | 47 | 20 | 66 | 25.6 | 40.5 | 9 | 24 | 0.8 | 1 | 36.5 | 4 | M20x1.5 | 21 | 24 | 18 | 1 | 10 | 120 | 15400 | 26000 | 3400 | 2400 |
| 52 | KR52 | 473 | 52 | 20 | 66 | 25.6 | 40.5 | 9 | 24 | 0.8 | 1 | 36.5 | 4 | M20x1.5 | 21 | 24 | 18 | 1 | 10 | 120 | 16600 | 29000 | 3800 | 2400 |
| | KR52EE | 473 | 52 | 20 | 66 | 25.6 | 40.5 | 9 | 24 | 0.8 | 1 | 36.5 | 4 | M20x1.5 | 21 | 24 | 18 | 1 | 10 | 120 | 16600 | 29000 | 3800 | 2400 |
| 62 | KR62 | 798 | 62 | 24 | 80 | 30.6 | 49.5 | 11 | 29 | 0.8 | 1 | 44 | 4 | M24x1.5 | 25 | 28 | 22 | 1 | 14 | 220 | 26000 | 48000 | 6800 | 1900 |
| | KR62EE | 798 | 62 | 24 | 80 | 30.6 | 49.5 | 11 | 29 | 0.8 | 1 | 44 | 4 | M24x1.5 | 25 | 28 | 22 | 1 | 14 | 220 | 26000 | 48000 | 6800 | 1900 |
| 72 | KR72 | 1038 | 72 | 24 | 80 | 30.6 | 49.5 | 11 | 29 | 0.8 | 1.1 | 44 | 4 | M24x1.5 | 25 | 28 | 22 | 1 | 14 | 220 | 28000 | 53000 | 7200 | 1900 |
| | KR72EE | 1038 | 72 | 24 | 80 | 30.6 | 49.5 | 11 | 29 | 0.8 | 1.1 | 44 | 4 | M24x1.5 | 25 | 28 | 22 | 1 | 14 | 220 | 28000 | 53000 | 7200 | 1900 |
| 80 | KR80 | 1665 | 80 | 30 | 100 | 37 | 63 | 15 | 35 | 1 | 1.1 | 53 | 4 | M30x1.5 | 32 | 35 | 29 | 1.5 | 14 | 450 | 38500 | 77000 | 11000 | 1300 |
| | KR80EE | 1665 | 80 | 30 | 100 | 37 | 63 | 15 | 35 | 1 | 1.1 | 53 | 4 | M30x1.5 | 32 | 35 | 29 | 1.5 | 14 | 450 | 38500 | 77000 | 11000 | 1300 |
| 90 | KR90 | 2032 | 90 | 30 | 100 | 37 | 63 | 15 | 35 | 1 | 1.1 | 53 | 4 | M30x1.5 | 32 | 35 | 29 | 1.5 | 14 | 450 | 40500 | 83000 | 11700 | 1300 |
| | KR90EE | 2032 | 90 | 30 | 100 | 37 | 63 | 15 | 35 | 1 | 1.1 | 53 | 4 | M30x1.5 | 32 | 35 | 29 | 1.5 | 14 | 450 | 40500 | 83000 | 11700 | 1300 |

⁽¹⁾ Dimensione nominale dell'esagono incassato

⁽²⁾ Coefficienti di carico da utilizzare quando il perno folle ruota direttamente su una pista piana, i carichi tengono conto della ripartizione degli sforzi nei perni folli in funzione delle deformazioni elastiche dell'anello esterno

⁽³⁾ Velocità limite per lubrificazione a grasso

* Per diametro 16 e 19 mm perni folli sono forniti con taglio cacciavite standard

⁽¹⁾ Nominal dimension for hexagonal socket.

⁽²⁾ When a cam follower moves on a flat raceway, the load distribution on rolling elements changes due to the elastic deformation of the outer ring. For such operating conditions, the load capacities C_w and C_o should be used.

⁽³⁾ Limit speed with grease lubrication.

* Diameters 16 and 19 are supplied with screw driver slot as standard feature, however these can also be supplied with hexagonal socket if required.

