

# Technische Daten / Abmessungen KGT

## Technical data / dimensions KGT

### Kugelgewindespindeln KGS Ball screws KGS



| Typ type<br>Durchmesser<br>diameter [mm]<br>Steigung<br>pitch [mm]<br>rechtssteigend<br>right hand thread<br>Teilung division | Kugelgröße<br>ball size | Abmessungen<br>dimensions [mm] |                                |                |        | Streckenlast<br>distributed load<br><br>WKGS<br>[kg/m] | Flächenträg-<br>heitsmoment<br>geometrical<br>moment of<br>inertia<br><br>I <sub>y</sub><br>[104 mm <sup>4</sup> ] | Widerstands-<br>moment <sup>1)</sup><br>moment of<br>resistance <sup>1)</sup><br><br>[103 mm <sup>3</sup> ] | Massenträg-<br>heitsmoment<br>mass moment<br>of inertia<br><br>[kg m <sup>2</sup> /m] |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------|--------------------------------|----------------|--------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                                                                               |                         | d <sub>0</sub>                 | d <sub>1</sub> h <sub>11</sub> | d <sub>2</sub> | L max. |                                                        |                                                                                                                    |                                                                                                             |                                                                                       |
| KGS-1204                                                                                                                      | 2                       | 12                             | 11,5                           | 9,8            | 2000   | 0,75                                                   | 0,051                                                                                                              | 0,101                                                                                                       | 1,13 · 10 <sup>-5</sup>                                                               |
| KGS-1205                                                                                                                      | 2                       | 12                             | 11,45                          | 9,6            | 2000   | 0,75                                                   | 0,051                                                                                                              | 0,101                                                                                                       | 1,13 · 10 <sup>-5</sup>                                                               |
| KGS-1210                                                                                                                      | 2                       | 12                             | 10,9                           | 9,38           | 2000   | 0,75                                                   | 0,051                                                                                                              | 0,101                                                                                                       | 1,13 · 10 <sup>-5</sup>                                                               |
| KGS-1605                                                                                                                      | 3,5                     | 16                             | 15,5                           | 12,9           | 6000   | 1,26                                                   | 0,136                                                                                                              | 0,211                                                                                                       | 3,21 · 10 <sup>-5</sup>                                                               |
| KGS-1610 P5                                                                                                                   | 3                       | 16                             | 15,4                           | 13,0           | 6000   | 1,26                                                   | 0,140                                                                                                              | 0,216                                                                                                       | 3,21 · 10 <sup>-5</sup>                                                               |
| KGS-1616 P8                                                                                                                   | 3                       | 16                             | 15,05                          | 12,65          | 6000   | 1,26                                                   | 0,140                                                                                                              | 0,216                                                                                                       | 3,21 · 10 <sup>-5</sup>                                                               |
| KGS-1640 P10                                                                                                                  | 3                       | 16                             | 15                             | 12,6           | 6000   | 1,26                                                   | 0,140                                                                                                              | 0,216                                                                                                       | 3,21 · 10 <sup>-5</sup>                                                               |
| KGS-2005                                                                                                                      | 3,5                     | 20                             | 19,5                           | 16,9           | 6000   | 2,04                                                   | 0,400                                                                                                              | 0,474                                                                                                       | 8,46 · 10 <sup>-5</sup>                                                               |
| KGS-2020 P5                                                                                                                   | 3,5                     | 20                             | 19,5                           | 16,9           | 6000   | 2,04                                                   | 0,400                                                                                                              | 0,474                                                                                                       | 8,46 · 10 <sup>-5</sup>                                                               |
| KGS-2050 P10                                                                                                                  | 3,5                     | 20                             | 19,1                           | 16,5           | 6000   | 2,04                                                   | 0,364                                                                                                              | 0,441                                                                                                       | 8,46 · 10 <sup>-5</sup>                                                               |
| KGS-2505 P5                                                                                                                   | 3,5                     | 25                             | 24,5                           | 21,9           | 6000   | 3,33                                                   | 1,129                                                                                                              | 1,031                                                                                                       | 2,25 · 10 <sup>-4</sup>                                                               |
| KGS-2510 P5                                                                                                                   | 3,5                     | 25                             | 24,5                           | 21,9           | 6000   | 3,33                                                   | 1,129                                                                                                              | 1,031                                                                                                       | 2,25 · 10 <sup>-4</sup>                                                               |
| KGS-2520 P5                                                                                                                   | 3,5                     | 25                             | 24,6                           | 22,0           | 6000   | 3,33                                                   | 1,150                                                                                                              | 1,045                                                                                                       | 2,25 · 10 <sup>-4</sup>                                                               |
| KGS-2525 P5                                                                                                                   | 3,5                     | 25                             | 24,5                           | 22,0           | 6000   | 3,33                                                   | 1,150                                                                                                              | 1,045                                                                                                       | 2,25 · 10 <sup>-4</sup>                                                               |
| KGS-2550 P10                                                                                                                  | 3,5                     | 25                             | 24,1                           | 21,5           | 6000   | 3,33                                                   | 1,049                                                                                                              | 0,976                                                                                                       | 2,25 · 10 <sup>-4</sup>                                                               |
| KGS-3205                                                                                                                      | 3,5                     | 32                             | 31,5                           | 28,9           | 6000   | 5,63                                                   | 3,424                                                                                                              | 2,370                                                                                                       | 6,43 · 10 <sup>-4</sup>                                                               |
| KGS-3210                                                                                                                      | 7,144                   | 32                             | 32,7                           | 27,3           | 6000   | 5,63                                                   | 2,727                                                                                                              | 1,998                                                                                                       | 6,43 · 10 <sup>-4</sup>                                                               |
| KGS-3220 P10                                                                                                                  | 5                       | 32                             | 31,7                           | 27,9           | 6000   | 5,63                                                   | 2,974                                                                                                              | 2,132                                                                                                       | 6,43 · 10 <sup>-4</sup>                                                               |
| KGS-3240 P10                                                                                                                  | 3,5                     | 32                             | 30,9                           | 28,3           | 6000   | 5,63                                                   | 3,149                                                                                                              | 2,225                                                                                                       | 6,43 · 10 <sup>-4</sup>                                                               |
| KGS-3260 P10                                                                                                                  | 3,5                     | 32                             | 30,9                           | 28,3           | 6000   | 5,63                                                   | 3,149                                                                                                              | 2,225                                                                                                       | 6,43 · 10 <sup>-4</sup>                                                               |
| KGS-4005                                                                                                                      | 3,5                     | 40                             | 39,5                           | 36,9           | 6000   | 9,01                                                   | 9,101                                                                                                              | 4,933                                                                                                       | 1,65 · 10 <sup>-3</sup>                                                               |
| KGS-4010                                                                                                                      | 7,144                   | 40                             | 39,5                           | 34,1           | 6000   | 8,35                                                   | 6,737                                                                                                              | 3,893                                                                                                       | 1,41 · 10 <sup>-3</sup>                                                               |
| KGS-4020 P10                                                                                                                  | 5                       | 40                             | 39,7                           | 35,9           | 6000   | 9,01                                                   | 8,154                                                                                                              | 4,542                                                                                                       | 1,65 · 10 <sup>-3</sup>                                                               |
| KGS-4040 P10                                                                                                                  | 3,5                     | 40                             | 38,9                           | 36,3           | 6000   | 9,01                                                   | 8,523                                                                                                              | 4,696                                                                                                       | 1,65 · 10 <sup>-3</sup>                                                               |
| KGS-5010                                                                                                                      | 7,144                   | 50                             | 49,5                           | 44,1           | 6000   | 13,50                                                  | 18,566                                                                                                             | 8,420                                                                                                       | 3,70 · 10 <sup>-3</sup>                                                               |
| KGS-5020 P10                                                                                                                  | 7,144                   | 50                             | 49,5                           | 44,1           | 6000   | 13,50                                                  | 18,566                                                                                                             | 8,420                                                                                                       | 3,70 · 10 <sup>-3</sup>                                                               |
| KGS-6310                                                                                                                      | 7,144                   | 63                             | 62,5                           | 57,1           | 6000   | 22,03                                                  | 52,181                                                                                                             | 18,280                                                                                                      | 9,84 · 10 <sup>-3</sup>                                                               |
| KGS-6320 P10                                                                                                                  | 7,144                   | 63                             | 62,5                           | 57,15          | 5600   | 22,04                                                  | 51,8                                                                                                               | 18,280                                                                                                      | 9,93 · 10 <sup>-3</sup>                                                               |
| KGS-8010                                                                                                                      | 7,144                   | 80                             | 79,65                          | 74,2           | 6000   | 36,43                                                  | 148,600                                                                                                            | 39,950                                                                                                      | 2,69 · 10 <sup>-2</sup>                                                               |
| linkssteigend<br>left hand thread                                                                                             |                         |                                |                                |                |        |                                                        |                                                                                                                    |                                                                                                             |                                                                                       |
| KGS-2005 LH                                                                                                                   | 3,5                     | 20                             | 19,5                           | 16,9           | 6000   | 2,04                                                   | 0,400                                                                                                              | 0,474                                                                                                       | 8,46 · 10 <sup>-5</sup>                                                               |
| KGS-2505 LH                                                                                                                   | 3,5                     | 25                             | 24,5                           | 21,9           | 6000   | 3,33                                                   | 1,129                                                                                                              | 1,031                                                                                                       | 2,25 · 10 <sup>-4</sup>                                                               |
| KGS-3205 LH                                                                                                                   | 3,5                     | 32                             | 31,5                           | 28,9           | 6000   | 5,63                                                   | 3,424                                                                                                              | 2,370                                                                                                       | 6,43 · 10 <sup>-4</sup>                                                               |

<sup>1)</sup> Das polare Widerstandsmoment ist doppelt so groß wie das Widerstandsmoment. The polar resistive torque is twice as large as the resistive torque.

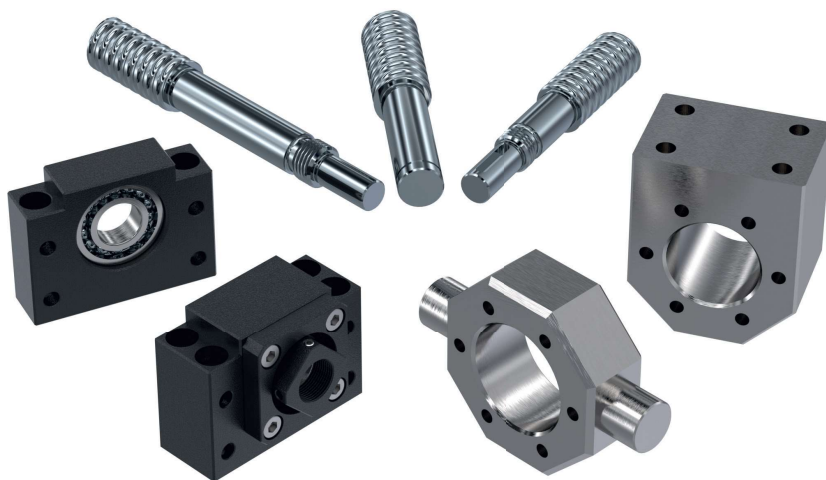
## Zubehör Gewindetriebe Screw drive accessories



Speziell abgestimmt zu unseren Kugel- und Trapezgewindetriebe liefern wir eine breite Palette an Zubehör. Los geht's mit gefasteten und geglähten Enden sowie mit kundenspezifischer Endenbearbeitung. Im Anschluss liegt das Augenmerk vor allem auf Lagereinheiten verschiedener Qualitäten, um für verschiedene Anwendungen die jeweils optimale Lösung bereitzustellen. Sie finden zu den unterschiedlichen Lagerungen jeweils die passende Endenbearbeitung mit Maßtabelle. Abgeschlossen wird das Kapitel mit Adapterkonsolen, Kardanadaptern und dem in fünf Freiheitsgraden Fluchtungsfehler ausgleichenden Kreuz-Kardanadapter.

*We supply a wide range of accessories specially matched to our ball and trapezoidal screws. We start with chamfered and annealed ends as well as with customer-specific end machining. Subsequently, the focus is mainly on bearing units of different qualities in order to provide the optimum solution for different applications. You will find the appropriate end machining and dimension table for the various bearing arrangements.*

*The chapter is concluded with adapter brackets, cardan adapters and the cross-cardan adapter that compensates for misalignment in five degrees of freedom.*



Zubehör Gewindetriebe  
Screw drive accessories

## Endenbearbeitung Form A mit Fase End machining form A with chamfer

### Technische Daten/Abmessungen Technical data/dimensions

Spindelende mit Fase nach Kundenangabe spindle end with chamfer according to customer specification

#### Legende Legend:

$d_1$  = Aussendurchmesser outer diameter

$d_2$  = Kerndurchmesser core diameter

Fasenzugabe chamfer addition  $FK = 0,1$

#### Formel für die Berechnung der Fasengröße Formula for calculating the chamfer size:

Bsp.rechnung für die Fasengröße einer Kugelgewindespindel KGS 3205  
example calculation for the chamfer size of a ball screw KGS 3205:

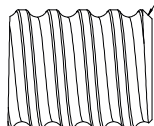
Die Fasengröße beträgt bei einer Kugelgewindespindel KGS 3205  
the chamfer size for a ball screw KGS 3205:

$$(d_1 - d_2) : 2 + FK$$

$$(31,5 - 28,9) : 2 + 0,1 = 1,4 + 0,1$$

$$1,5 \times 45^\circ$$

Fasengröße abhängig  
vom Spindelinnendurchmesser  $\phi$   
(siehe Tabelle)  
Barrel size depending  
on the nominal spindle  $\phi$   
(see table)



#### Form form A

Fase chamfer 2 x 45°: KGS von with  $\phi$  12 – 25 mm

Fase chamfer 3 x 45°: KGS von with  $\phi$  26 – 40 mm

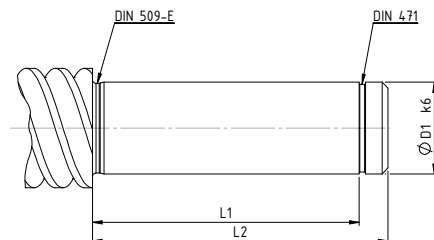
Fase chamfer 4 x 45°: KGS von with  $\phi$  44 – 50 mm

**NEFF**  
GEWINDETRIEBE



Form G: screw end annealed to customer's specification

Bei kundenseitiger Endenbearbeitung von Kugelgewindespindeln ist ein Glühen der Enden im zu zerspanenden Bereich erforderlich.  
If the ends of ball screws are machined by the customer, it is necessary to anneal the ends in the field of machining.

Loslager *Movable*

Form K: produced specially to customer's drawing

Here you have the possibility to define the dimensions for the end shape yourself. Simply enter your required values and send them to us. We will be happy to create the end machining according to your wishes.

# Lagereinheiten/Endenbearbeitung BK

## Bearing units/end machining BK

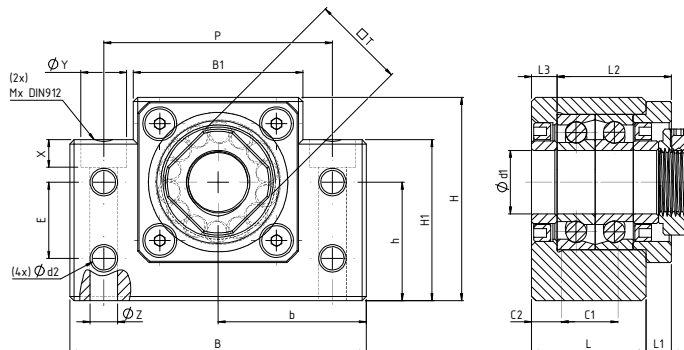
### Technische Daten/Abmessungen Technical data/dimensions

#### Festlagereinheit BK Fixed bearing unit BK

Bei dieser Festlagereinheit handelt es sich um Bocklager mit vorgespannten Axial-Schräggugellagern inklusive Dichtungen. Jede Festlagereinheit besteht aus den folgenden Komponenten: einem Lagergehäuse aus brüniertem Stahl mit 2 Axial-Schräggugellagern, vorgespannt durch einen Flansch, 2 Dichtungen mit Anlageringen sowie einer sicherbaren Nutmutter DRS (bei kleinen Größen kommen Vierkannmutter zum Einsatz).

*This fixed bearing unit is a pedestal bearing with preloaded axial angular contact ball bearings including seals. Each fixed bearing unit consists of the following components: a bearing housing made from burnished steel with 2 axial angular contact ball bearings, preloaded by a flange, 2 seals with circlips and a lockable groove nut DRS (square nuts are used for small sizes).*

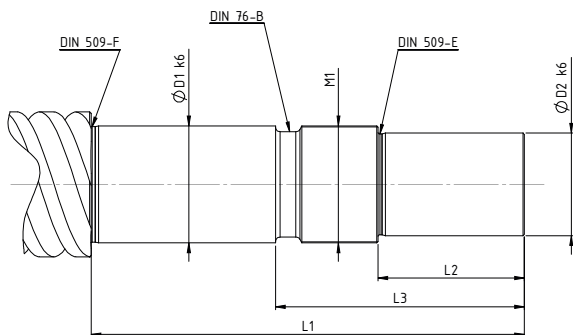
Werkstoff Gehäuse: Stahl brüniert (auch vernickelt lieferbar) *Material housing: burnished steel (also available nickel-plated)*



| Größe<br><i>size</i> | Abmessungen<br><i>dimensions</i><br>[mm] |    |                |                |                |     |     |        |        |                |                |    |     |                |                |                |     |      |     |    | Lagerbe-<br>zeichnung<br><i>bearing<br/>designation</i> | C <sub>stat</sub> in<br>[kN] | C <sub>dyn</sub> in<br>[kN] | Gewicht<br><i>weight</i> |     |
|----------------------|------------------------------------------|----|----------------|----------------|----------------|-----|-----|--------|--------|----------------|----------------|----|-----|----------------|----------------|----------------|-----|------|-----|----|---------------------------------------------------------|------------------------------|-----------------------------|--------------------------|-----|
|                      | d <sub>1</sub>                           | L  | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | B   | H   | b±0,02 | h±0,02 | B <sub>1</sub> | H <sub>1</sub> | E  | P   | C <sub>1</sub> | C <sub>2</sub> | d <sub>2</sub> | X   | Y    | Z   | M  |                                                         |                              |                             |                          | T   |
| BK10                 | 10                                       | 25 | 5              | 29,5           | 5              | 60  | 39  | 30     | 22     | 34             | 32,5           | 15 | 46  | 13             | 6              | 5,5            | 6,6 | 10,8 | 5   | M3 | 16                                                      | 7000                         | 2,34                        | 5,0                      | 0,4 |
| BK12                 | 12                                       | 25 | 5              | 29,5           | 5              | 60  | 43  | 30     | 25     | 34             | 32,5           | 18 | 46  | 13             | 6              | 5,5            | 6,6 | 10,8 | 1   | M4 | 19                                                      | 7001                         | 2,71                        | 5,4                      | 0,4 |
| BK15                 | 15                                       | 27 | 6              | 32             | 6              | 70  | 48  | 35     | 28     | 40             | 38             | 18 | 54  | 15             | 6              | 5,5            | 6,6 | 11   | 65  | M4 | 22                                                      | 7002                         | 2,36                        | 3,15                     | 0,6 |
| BK17                 | 17                                       | 35 | 9              | 44             | 7              | 86  | 64  | 43     | 39     | 50             | 55             | 28 | 68  | 19             | 8              | 6,6            | 9   | 14   | 85  | M4 | 24                                                      | 7203                         | 5,45                        | 10,1                     | 1,3 |
| BK20                 | 20                                       | 35 | 8              | 43             | 8              | 88  | 60  | 44     | 34     | 52             | 50             | 22 | 70  | 19             | 8              | 6,6            | 9   | 14   | 85  | M4 | 30                                                      | 7004                         | 6,10                        | 10,3                     | 1,3 |
| BK25                 | 25                                       | 42 | 12             | 54             | 9              | 106 | 80  | 53     | 48     | 64             | 70             | 33 | 85  | 22             | 10             | 9              | 11  | 17   | 11  | M5 | 35                                                      | 7205                         | 9,45                        | 15,4                     | 2,4 |
| BK30                 | 30                                       | 45 | 14             | 61             | 9              | 128 | 89  | 64     | 51     | 76             | 78             | 33 | 102 | 23             | 11             | 11             | 14  | 20   | 13  | M6 | 40                                                      | 7206                         | 13,6                        | 21,3                     | 3,4 |
| BK35                 | 35                                       | 50 | 14             | 67             | 12             | 140 | 96  | 70     | 52     | 88             | 79             | 35 | 114 | 26             | 12             | 11             | 14  | 20   | 13  | M8 | 50                                                      | 7207                         | 18,5                        | 28,2                     | 4,4 |
| BK40                 | 40                                       | 61 | 18             | 76             | 15             | 160 | 110 | 80     | 60     | 100            | 90             | 37 | 130 | 33             | 14             | 14             | 18  | 26   | 175 | M8 | 50                                                      | 7208                         | 23,3                        | 33,5                     | 6,8 |

#### Endenbearbeitung BK, passend zu den entsprechenden Festlagereinheiten

#### End machining BK, to match the corresponding fixed bearing units



| Bezeichnung<br>designation | Abmessungen<br>dimensions<br>[mm] |                               |                |                |                |                |
|----------------------------|-----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
|                            | D <sub>1</sub> k <sub>6</sub>     | D <sub>2</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | M <sub>1</sub> |
| BK10                       | 10                                | 8                             | 54             | 15             | 31             | M10x1          |
| BK12                       | 12                                | 10                            | 54             | 15             | 29             | M12x1          |
| BK15                       | 15                                | 12                            | 60             | 20             | 32             | M15x1          |
| BK17                       | 17                                | 15                            | 76             | 23             | 40             | M17x1          |
| BK20                       | 20                                | 17                            | 78             | 25             | 40             | M20x1          |
| BK25                       | 25                                | 20                            | 95             | 30             | 48             | M25x1,5        |
| BK30                       | 30                                | 25                            | 110            | 38             | 63             | M30x1,5        |
| BK35                       | 35                                | 30                            | 128            | 45             | 73             | M35x1,5        |
| BK40                       | 40                                | 35                            | 148            | 50             | 85             | M40x1,5        |

### Technische Daten/Abmessungen *Technical data/dimensions*

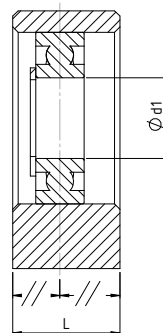
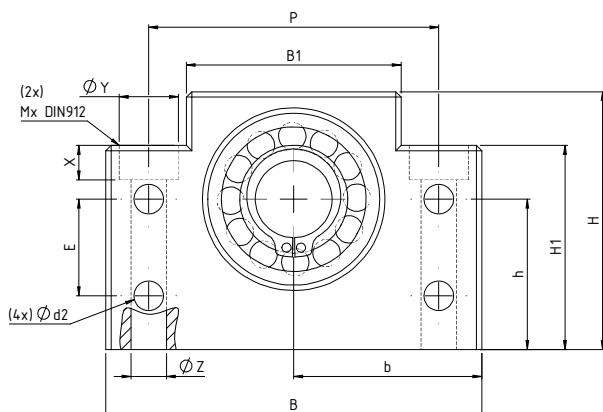
#### Loslagereinheit BF *Movable bearing unit BF*

Die einfache Loslagereinheit in Lagerbockausführung besteht aus einem Rillenkugellager inkl. Sicherungsring, das die axiale Längenausdehnung der Spindel aufnehmen kann.

Werkstoff Gehäuse: Stahl brüniert.

*The simple movable bearing unit in bearing block design consists of a deep groove ball bearing incl. a circlip that can accommodate the axial length expansion of the spindle.*

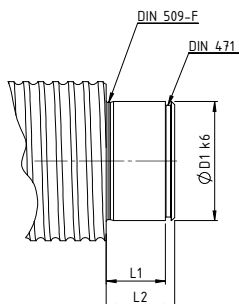
*Material housing: burnished steel.*



| Größe<br><i>size</i> | Abmessungen<br><i>dimensions</i><br>[mm] |    |     |     |        |        |                |                |    |     |                 |     |      |      |    | Lager-<br>bezeichnung<br><i>bearing<br/>designation</i> | C <sub>stat</sub> in<br>[kN] | C <sub>dyn</sub> in<br>[kN] | Gewicht<br><i>weight</i> |
|----------------------|------------------------------------------|----|-----|-----|--------|--------|----------------|----------------|----|-----|-----------------|-----|------|------|----|---------------------------------------------------------|------------------------------|-----------------------------|--------------------------|
|                      | d <sub>1</sub>                           | L  | B   | H   | b±0,02 | h±0,02 | B <sub>1</sub> | H <sub>1</sub> | E  | P   | Ød <sub>2</sub> | X   | Y    | Z    | M  |                                                         |                              |                             |                          |
| BF10                 | 8                                        | 20 | 60  | 39  | 30     | 22     | 34             | 32,5           | 15 | 46  | 5,5             | 6,6 | 10,8 | 5    | M3 | 608                                                     | 1,4                          | 3,35                        | 0,3                      |
| BF12                 | 10                                       | 20 | 60  | 43  | 30     | 25     | 34             | 32,5           | 18 | 46  | 5,5             | 6,6 | 10,8 | 1,5  | M4 | 6000                                                    | 1,96                         | 4,55                        | 0,35                     |
| BF15                 | 15                                       | 20 | 70  | 48  | 35     | 28     | 40             | 38             | 18 | 54  | 5,5             | 6,6 | 11   | 6,5  | M4 | 6002                                                    | 2,83                         | 5,6                         | 0,4                      |
| BF17                 | 17                                       | 23 | 86  | 64  | 43     | 39     | 50             | 55             | 28 | 68  | 6,6             | 9   | 14   | 8,5  | M4 | 6203                                                    | 4,6                          | 9,6                         | 0,75                     |
| BF20                 | 20                                       | 26 | 88  | 60  | 44     | 34     | 52             | 50             | 22 | 70  | 6,6             | 9   | 14   | 8,5  | M4 | 6004                                                    | 5,0                          | 9,4                         | 0,77                     |
| BF25                 | 25                                       | 30 | 106 | 80  | 53     | 48     | 64             | 70             | 33 | 85  | 9               | 11  | 17   | 11   | M5 | 6205                                                    | 7,85                         | 14,0                        | 1,45                     |
| BF30                 | 30                                       | 32 | 128 | 89  | 64     | 51     | 76             | 78             | 33 | 102 | 11              | 14  | 20   | 13   | M6 | 6206                                                    | 11,3                         | 19,5                        | 1,95                     |
| BF35                 | 35                                       | 32 | 140 | 96  | 70     | 52     | 88             | 79             | 35 | 114 | 11              | 14  | 20   | 13   | M8 | 6207                                                    | 15,3                         | 25,7                        | 2,25                     |
| BF40                 | 40                                       | 37 | 160 | 110 | 80     | 60     | 100            | 90             | 37 | 130 | 14              | 18  | 26   | 17,5 | M8 | 6208                                                    | 17,8                         | 29,1                        | 3,3                      |

#### Endenbearbeitung BF, passend zu den entsprechenden Loslagereinheiten

#### *End machining BF, to match the corresponding movable bearing units*



| Bezeichnung<br>designation | Abmessungen<br>dimensions<br>[mm] |                |                |
|----------------------------|-----------------------------------|----------------|----------------|
|                            | D <sub>1</sub> k <sub>6</sub>     | L <sub>2</sub> | L <sub>1</sub> |
| BF10                       | 8                                 | 10             | 7              |
| BF12                       | 10                                | 11             | 8              |
| BF15                       | 15                                | 13             | 9              |
| BF17                       | 17                                | 16             | 12             |
| BF20                       | 20                                | 16             | 12             |
| BF25                       | 25                                | 20             | 15             |
| BF30                       | 30                                | 21             | 16             |
| BF35                       | 35                                | 22             | 17             |
| BF40                       | 40                                | 23             | 18             |

### **Bearing units/end machining FK**

## Technische Daten/Abmessungen *Technical data/dimensions*

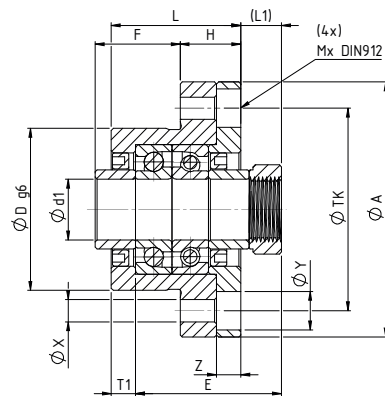
**Festlagereinheit FK** *Fixed bearing unit FK*

Bei dieser Festlagereinheit handelt es sich um Bocklager mit vorgespannten Axial-Schräggugellagern inklusive Dichtungen. Jede Festlagereinheit besteht aus den folgenden Komponenten: einem Lagergehäuse mit 2 Axial-Schräggugellagern, vorgespannt durch einen Flansch, 2 Dichtungen mit Anlageringen sowie einer sicherbaren Nutmutter DRS (bei kleinen Größen kommen Vierkantmuttern zum Einsatz).

Werkstoff Gehäuse: Stahl brüniert

*This fixed bearing unit is a pedestal bearing with preloaded axial angular contact ball bearings including seals. Each fixed bearing unit consists of the following components: a bearing housing made from burnished steel with 2 axial angular contact ball bearings, preloaded by a flange, 2 seals with circlips and a lockable groove nut DRS (square nuts are used for small sizes).*

*Material housing: burnished steel*



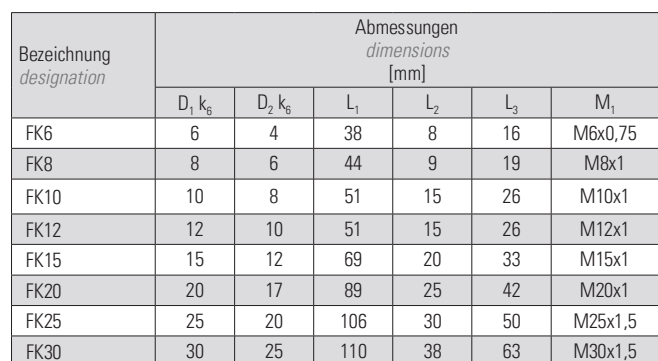
| Größe<br><i>size</i> | Abmessungen<br><i>dimensions</i><br>[mm] |      |    |      |      |                 |     |    |    |                |                |                |                |     |      |    |    |    |      |    | Lager-<br>bezeichnung<br><i>bearing</i><br><i>designation</i> | C <sub>stat</sub> in<br>[kN] | C <sub>dyn</sub> in<br>[kN] | Gewicht<br><i>weight</i> |
|----------------------|------------------------------------------|------|----|------|------|-----------------|-----|----|----|----------------|----------------|----------------|----------------|-----|------|----|----|----|------|----|---------------------------------------------------------------|------------------------------|-----------------------------|--------------------------|
|                      | d <sub>i</sub>                           | L    | H  | F    | E    | Dg <sub>6</sub> | A   | TK | B  | L <sub>1</sub> | T <sub>1</sub> | L <sub>2</sub> | T <sub>2</sub> | X   | Y    | Z  | M  | T  | G    | Q  |                                                               |                              |                             |                          |
| FK05                 | 5                                        | 16,5 | 6  | 10,5 | 18,5 | 20              | 34  | 26 | 26 | 5,5            | 3,5            | 5              | 3              | 3,4 | 6,5  | 4  | M3 | 11 | -    | -  | 605                                                           | 0,5                          | 0,3                         | 0,1                      |
| FK06                 | 6                                        | 20   | 7  | 13   | 22   | 22              | 36  | 28 | 28 | 5,5            | 3,5            | 6,5            | 4,5            | 3,4 | 6,5  | 4  | M3 | 12 | -    | -  | 706                                                           | 0,795                        | 2,03                        | 0,12                     |
| FK08                 | 8                                        | 23   | 9  | 14   | 26   | 28              | 43  | 35 | 35 | 7              | 4              | 8              | 5              | 3,4 | 6,5  | 4  | M3 | 14 | -    | -  | 708                                                           | 1,45                         | 3,35                        | 0,16                     |
| FK10                 | 10                                       | 27   | 10 | 17   | 29,5 | 34              | 52  | 42 | 42 | 7,5            | 5              | 8,5            | 6              | 4,5 | 8    | 4  | M3 | 16 | -    | M6 | 7000                                                          | 2,34                         | 5,0                         | 0,25                     |
| FK12                 | 12                                       | 27   | 10 | 17   | 29,5 | 36              | 54  | 44 | 44 | 75             | 5              | 8,5            | 6              | 4,5 | 8    | 4  | M4 | 19 | -    | M6 | 7001                                                          | 2,71                         | 5,4                         | 0,26                     |
| FK15                 | 15                                       | 32   | 15 | 17   | 36   | 40              | 63  | 50 | 52 | 10             | 6              | 12             | 8              | 5,5 | 9,5  | 6  | M4 | 22 | 26   | M6 | 7002                                                          | 2,36                         | 3,15                        | 0,4                      |
| FK17                 | 17                                       | 45   | 22 | 23   | 47   | 50              | 77  | 62 | 61 | 11             | 9              | 14             | 12             | 6,6 | 11   | 10 | M4 | 24 | 30,5 | M6 | 7203                                                          | 5,45                         | 10,1                        | 0,85                     |
| FK20                 | 20                                       | 52   | 22 | 30   | 50   | 57              | 85  | 70 | 68 | 8              | 10             | 12             | 14             | 6,6 | 11   | 10 | M4 | 30 | 34   | M6 | 7204                                                          | 7,55                         | 13,6                        | 1,2                      |
| FK25                 | 25                                       | 57   | 27 | 30   | 59   | 63              | 98  | 80 | 79 | 13             | 10             | 20             | 17             | 9   | 15   | 13 | M5 | 35 | 39,5 | M6 | 7205                                                          | 9,45                         | 15,4                        | 1,6                      |
| FK30                 | 30                                       | 62   | 30 | 32   | 61   | 75              | 117 | 95 | 93 | 11             | 12             | 17             | 18             | 11  | 17,5 | 15 | M6 | 40 | 46,5 | M6 | 7206                                                          | 13,6                         | 21,3                        | 2,38                     |

## Endenbearbeitung FK, entsprechend den Festlagereinheiten

### **End machining FK, corresponding to the fixed bearing units**

Die Festlagereinheiten FK eignen sich besonders zur Lagerung von Trapez- und Kugelgewindetrieben mit geringeren Anforderungen.

The fixed bearing units FK are particularly suitable for the bearing arrangements of trapezoidal and ball screws with lower requirements.



# Lagereinheiten/Endenbearbeitung FF

## Bearing units/end machining FF



### Technische Daten/Abmessungen Technical data/dimensions

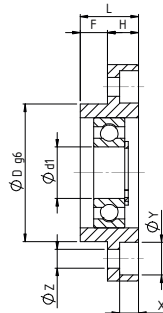
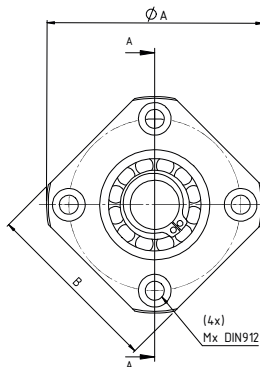
#### Loslagereinheit FF Movable bearing unit FF

Bei dieser Loslagereinheit handelt es sich um Flanschlager mit einem Rillenkugellager inkl. Sicherungsring das sich axial der Längenausdehnung der Spindel anpasst. Die Loslagereinheit besteht aus einem brünierten Stahl-Lagergehäuse mit Rillenkugellager.

Werkstoff Gehäuse: Stahl brüniert

*This movable bearing unit is a flanged bearing with a deep groove ball bearing including a circlip that adjusts axially to the length of the spindle. The movable bearing unit consists of a burnished steel bearing housing with a deep groove ball bearing.*

Material housing: burnished steel

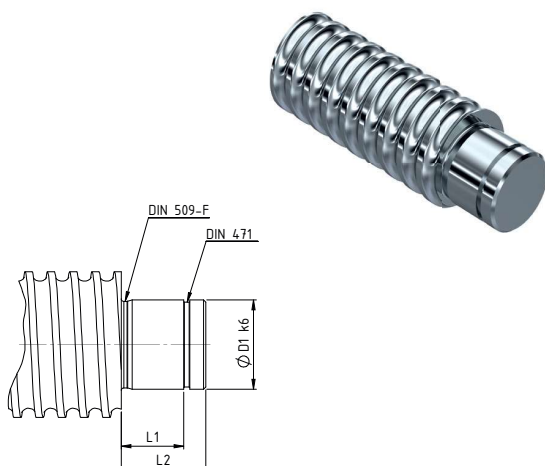


| Größe<br>size | Abmessungen<br>dimensions<br>[mm] |    |    |    |                 |     |    |    |    |     |     |     | Lagerbe-<br>zeichnung<br>bearing<br>designation | C <sub>stat</sub> in<br>[kN] | C <sub>dyn</sub> in<br>[kN] | Gewicht<br>weight |
|---------------|-----------------------------------|----|----|----|-----------------|-----|----|----|----|-----|-----|-----|-------------------------------------------------|------------------------------|-----------------------------|-------------------|
|               | d <sub>i</sub>                    | L  | H  | F  | Dg <sub>6</sub> | A   | TK | M  | B  | X   | Y   | Z   |                                                 |                              |                             |                   |
| FF06          | 6                                 | 10 | 6  | 4  | 22              | 36  | 28 | M3 | 28 | 3,4 | 6,5 | 4   | 606                                             | 0,87                         | 2,19                        | 0,08              |
| FF10          | 8                                 | 12 | 7  | 5  | 28              | 43  | 35 | M3 | 35 | 3,4 | 6,5 | 4   | 608                                             | 1,4                          | 3,35                        | 0,1               |
| FF12          | 10                                | 15 | 7  | 8  | 34              | 52  | 42 | M4 | 42 | 4,5 | 8   | 4   | 6000                                            | 1,96                         | 4,55                        | 0,15              |
| FF15          | 15                                | 17 | 9  | 8  | 40              | 63  | 50 | M4 | 52 | 5,5 | 9,5 | 5,5 | 6002                                            | 2,83                         | 5,6                         | 0,22              |
| FF17          | 17                                | 20 | 11 | 9  | 50              | 77  | 62 | M4 | 61 | 6,6 | 11  | 6,5 | 6203                                            | 4,6                          | 9,6                         | 0,35              |
| FF20          | 20                                | 20 | 11 | 9  | 57              | 85  | 70 | M4 | 68 | 6,6 | 11  | 6,5 | 6204                                            | 6,65                         | 12,8                        | 0,45              |
| FF25          | 25                                | 24 | 14 | 10 | 63              | 98  | 80 | M5 | 79 | 9   | 14  | 8,5 | 6205                                            | 7,85                         | 14,0                        | 0,66              |
| FF30          | 30                                | 27 | 18 | 9  | 75              | 117 | 95 | M6 | 93 | 11  | 17  | 11  | 6206                                            | 11,3                         | 19,5                        | 1,05              |

#### Endenbearbeitung FF, entsprechend den Loslagereinheiten

#### End machining FF, corresponding to the movable bearing units

Die Endenbearbeitungen für die Loslagereinheiten FF eignen sich besonders zur Lagerung von Trapez- und Kugelgewindetrieben mit geringeren Anforderungen. *The end machining for the movable bearing units FF are particularly suitable for the bearing arrangements of trapezoidal and ball screws with lower requirements.*



| Bezeichnung<br>designation | Abmessungen<br>dimensions<br>[mm] |                |                |
|----------------------------|-----------------------------------|----------------|----------------|
|                            | D <sub>1</sub> k <sub>6</sub>     | L <sub>2</sub> | L <sub>1</sub> |
| FF10                       | 8                                 | 10             | 7              |
| FF12                       | 10                                | 11             | 8              |
| FF15                       | 15                                | 13             | 9              |
| FF20                       | 20                                | 19             | 14             |
| FF25                       | 25                                | 20             | 15             |
| FF30                       | 30                                | 21             | 16             |

# Lagereinheit FL

## Bearing unit FL

### Technische Daten/Abmessungen *Technical data/dimensions*

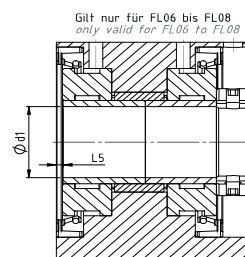
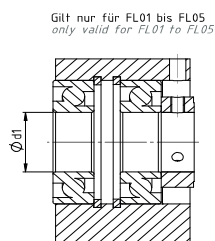
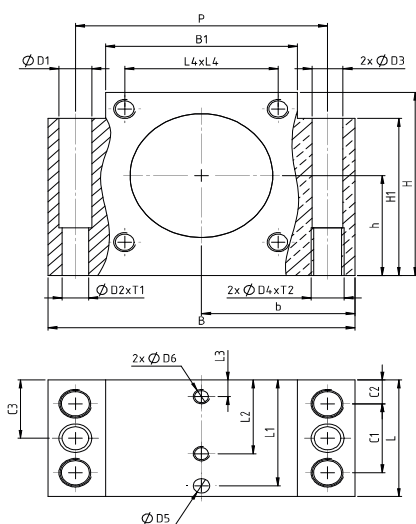
#### Festlagereinheit FL *Fixed bearing unit FL*

Festlagereinheit FL mit vorgespannten Axialschrägguglagern bis Baugröße FL 05. Ab FL 06 mit integrierten Axial- und Radialnadellagern. Spindel-  
mutter nach DIN 981 wird beigelegt. Spindelendenbearbeitungen siehe nächste Seite  
Gehäusewerkstoff: AlCuPBMg (eloxiert), andere Gehäusematerialien auf Anfrage

*Fixed bearing unit FL with pre-loaded axial inclined ball bearings up to size FL 05. From FL 06 with integrated axial and radial needle bearings.*

*Spindle nut conforming to DIN 981 is enclosed. Screw end machining see next page*

*Material housing: AlCuPBMg (anodized), other housing materials available on request*



| Größe<br>size | Abmessungen<br>dimensions<br>[mm] |                  |     |     |       |                |                |     |                |                |                |                                |                |                |                |                |                |                                |                  |                                  |                |                  |                  |
|---------------|-----------------------------------|------------------|-----|-----|-------|----------------|----------------|-----|----------------|----------------|----------------|--------------------------------|----------------|----------------|----------------|----------------|----------------|--------------------------------|------------------|----------------------------------|----------------|------------------|------------------|
|               | d                                 | L                | B   | H   | h js7 | H <sub>1</sub> | B <sub>1</sub> | P   | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> xL <sub>4</sub> | L <sub>5</sub> | C <sub>1</sub> | C <sub>2</sub> | C <sub>3</sub> | D <sub>1</sub> | D <sub>2</sub> xT <sub>1</sub> | 2xD <sub>3</sub> | 2xD <sub>4</sub> xT <sub>2</sub> | D <sub>5</sub> | 2xD <sub>6</sub> | 4xD <sub>7</sub> |
| FL01          | 10                                | 32 <sup>1)</sup> | 62  | 41  | 22    | 34             | 38             | 50  | -              | -              | -              | 28x28                          | -              | 16             | 8              | 16             | 5              | 3,7x10                         | 5,6              | M6x10                            | -              | -                | M5x10            |
| FL02          | 12                                | 37               | 86  | 58  | 32    | 49             | 52             | 68  | 33             | -              | -              | 39x39                          | -              | 23             | 7              | 18,5           | 10             | 7,7x15                         | 9,3              | M10x15                           | 6              | -                | M5x10            |
| FL03          | 15                                | 42               | 94  | 64  | 34    | 55             | 60             | 77  | 37             | -              | -              | 45x45                          | -              | 25             | 8,5            | 21             | 10             | 7,7x15                         | 9,3              | M10x15                           | 6              | -                | M6x16            |
| FL04          | 20                                | 46               | 108 | 72  | 39    | 61             | 68             | 88  | 39             | -              | -              | 52x52                          | -              | 29             | 8,5            | 23             | 12             | 9,7x22                         | 11,2             | M12x20                           | 6              | -                | M8x16            |
| FL05          | 25                                | 49 <sup>2)</sup> | 112 | 77  | 42    | 66             | 70             | 92  | 44,5           | -              | -              | 56x56                          | -              | 29             | 10             | 24,5           | 12             | 9,7x20                         | 11,2             | M12x20                           | 6              | -                | M8x16            |
| FL06          | 25                                | 71               | 126 | 92  | 50    | 79             | 84             | 105 | 64,5           | 48             | 16,5           | -                              | 5,8            | 44             | 13,5           | 35,5           | 9,7            | -                              | 12,6             | M14x21                           | 7              | M6               | -                |
| FL07          | 30                                | 71               | 126 | 92  | 50    | 79             | 84             | 105 | 64,5           | 46             | 14,5           | -                              | 2,3            | 44             | 13,5           | 35,5           | 9,7            | -                              | 12,6             | M14x21                           | 7              | M6               | -                |
| FL08          | 35                                | 75               | 146 | 112 | 60    | 97             | 104            | 125 | 66,5           | 47             | 15,5           | -                              | 2,3            | 50             | 12,5           | 37,5           | 9,7            | -                              | 12,6             | M14x21                           | 7              | M6               | -                |

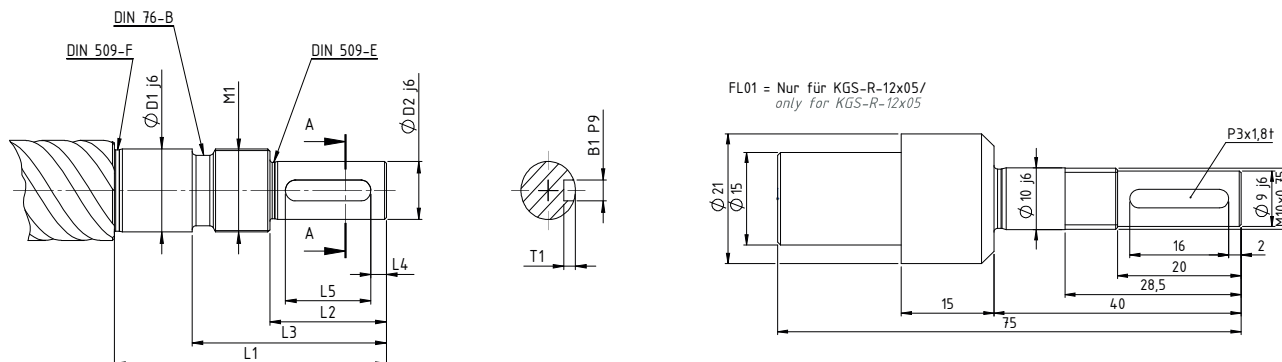
<sup>1)</sup> Spindeladapter steht 20 mm ab screw adapter protrudes 20 mm

<sup>2)</sup> Schräggugellager steht 1 mm ab, Spindelmutter steht 1,5 mm ab angular ball bearing protrudes 1 mm, screw nut protrudes 1,5 mm

| Größe<br>size | TGS/<br>KGS Ø | Lager<br>bearing | C <sub>stat</sub> in [kN] | C <sub>dyn</sub> in [kN] | Anzugsdrehmoment<br>tightening torque<br>[Nm] |
|---------------|---------------|------------------|---------------------------|--------------------------|-----------------------------------------------|
| FL01          | 12            | 3000-B           | 3,25                      | 5,7                      | 2                                             |
| FL02          | 16/18         | 6001             | 2,37                      | 5,4                      | 6                                             |
| FL03          | 20/24         | 7202             | 4,45                      | 8,4                      | 8                                             |
| FL04          | 25/30         | 7204             | 7,8                       | 17,0                     | 15                                            |
| FL05          | 32            | 7205             | 9,0                       | 15,3                     | 18                                            |
| FL06          | 36            | 81105            | 76,0                      | 33,5                     | 25                                            |
| FL07          | 40            | 81207            | 199,0                     | 80,0                     | 32                                            |
| FL08          | 50/60/63      | 81208            | 265,0                     | 107,0                    | 40                                            |

# Endenbearbeitung Festlager, Form FL End machining fixed bearing, form FL

## Technische Daten/Abmessungen *Technical data/dimensions*



| Bezeichnung<br><i>designation</i> | Abmessungen<br><i>dimensions</i><br>[mm]                                      |                               |                |                |                |                |                |                |                                | TGS-Ø | KGS-Ø |
|-----------------------------------|-------------------------------------------------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------------|-------|-------|
|                                   | D <sub>1</sub> j <sub>6</sub>                                                 | D <sub>2</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | M <sub>1</sub> | B <sub>1</sub> xT <sub>1</sub> |       |       |
| FL01                              | Abmessungen nach Darstellung <i>dimensions according to illustration FL01</i> |                               |                |                |                |                |                |                |                                |       |       |
| FL02                              | 12                                                                            | 10                            | 55             | 20             | 28,5           | 2,5            | 16             | M12x1          | 3x1,8                          | 18    | 16    |
| FL03                              | 15                                                                            | 12                            | 60             | 25             | 35             | 2,5            | 20             | M15x1          | 4x2,5                          | 24    | 20    |
| FL04                              | 20                                                                            | 17                            | 77             | 32             | 44,5           | 3,5            | 25             | M20x1          | 5x3                            | 30    | 25    |
| FL05                              | 25                                                                            | 20                            | 90             | 40             | 52             | 5              | 30             | M25x1,5        | 6x3,5                          | 36    | 32    |
| FL06                              | 25                                                                            | 20                            | 115            | 50             | 63,5           | 7              | 36             | M25x1,5        | 6x3,5                          | 36    | 32    |
| FL07                              | 30                                                                            | 25                            | 128,5          | 60             | 74             | 7,5            | 45             | M30x1,5        | 8x4                            | 40    | 40    |
| FL08                              | 35                                                                            | 28                            | 152,7          | 80             | 96             | 12             | 56             | M35x1,5        | 8x4                            | 50    | 50    |



# Lagereinheiten LL

## Bearing units LL

### Technische Daten/Abmessungen *Technical data/dimensions*

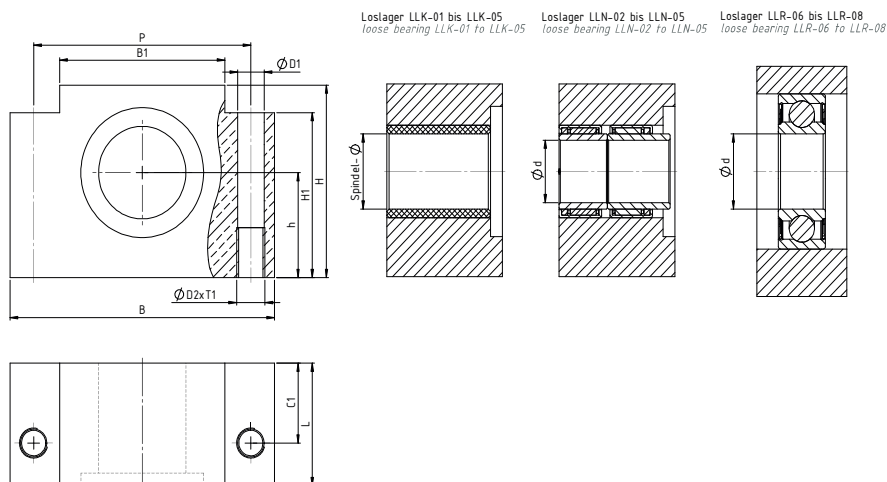
#### Loslagereinheiten LLK, LLN, LLR *Movable bearing units LLK, LLN, LLR*

NEFF bietet die Loslagereinheiten LL wahlweise mit Gleitlager LLK (keine Endenbearbeitung notwendig) oder mit integrierten Nadellagern (LLN) bis zur Größe 05. Ab den Größen 06-08 sind die Loslagereinheiten mit Rillenkugellagern (LLR). Passend zu den Festlagereinheiten FL. Die Loslagereinheiten LLR werden mit Sicherungsring nach DIN 471 geliefert. Spindelenbearbeitungen: Siehe auch Kapitel Endenbearbeitungen LL

Werkstoff Gehäuse: AlCuPbMg (Eloxier) - andere Gehäusematerialien auf Anfrage

NEFF offers the movable bearing units LL optionally with plain bearing LLK (no end machining required) or with integrated needle bearings (LLN) up to size 05. Above the sizes 06-08 the bearing units are constructed with deep groove ball bearings (LLR). Suitable for the fixed bearing units FL. The movable bearing units LLR are supplied with circlip according to DIN 471. Spindle machining: See also chapter end machining LL

Housing material: AlCuPbMg (anodized) - other housing materials on request



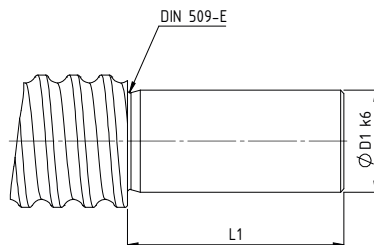
| Größe<br>size | Abmessungen<br>dimensions<br>[mm] |    |     |     |       |                |                |     |                |                |                                |
|---------------|-----------------------------------|----|-----|-----|-------|----------------|----------------|-----|----------------|----------------|--------------------------------|
|               | d                                 | L  | B   | H   | h js7 | B <sub>1</sub> | H <sub>1</sub> | P   | C <sub>1</sub> | D <sub>1</sub> | D <sub>2</sub> xT <sub>1</sub> |
| LLK01         | 12                                | 32 | 62  | 41  | 22    | 38             | 34             | 50  | 24,5           | 5,6            | M6x10                          |
| LLK02         | -                                 | 37 | 86  | 58  | 32    | 52             | 49             | 68  | 25             | 9,3            | M10x15                         |
| LLN02         | 12                                | 37 | 86  | 58  | 32    | 52             | 49             | 68  | 25             | 9,3            | M10x15                         |
| LLK03         | -                                 | 42 | 94  | 64  | 34    | 60             | 55             | 77  | 29             | 9,3            | M10x15                         |
| LLN03         | 15                                | 42 | 94  | 64  | 34    | 60             | 55             | 77  | 29             | 9,3            | M10x15                         |
| LLK04         | -                                 | 46 | 108 | 72  | 39    | 68             | 61             | 88  | 32             | 11,2           | M12x20                         |
| LLN04         | 20                                | 46 | 108 | 72  | 39    | 68             | 61             | 88  | 32             | 11,2           | M12x20                         |
| LLK05         | -                                 | 49 | 112 | 77  | 42    | 70             | 66             | 92  | 32             | 11,2           | M12x20                         |
| LLN05         | 25                                | 49 | 112 | 77  | 42    | 70             | 66             | 92  | 32             | 11,2           | M12x20                         |
| LLR06         | 25                                | 38 | 126 | 92  | 50    | 84             | 79             | 105 | 19             | 12,6           | M14x20                         |
| LLR07         | 30                                | 38 | 126 | 92  | 50    | 84             | 79             | 105 | 19             | 12,6           | M14x20                         |
| LLR 08        | 40                                | 44 | 146 | 112 | 60    | 104            | 97             | 125 | 22             | 12,6           | M14x20                         |

| Größe<br>size | TGS          | KGS            | Lagerbezeichnung<br>bearing designation | C <sub>stat</sub> in [kN] | C <sub>dyn</sub> in [kN] |
|---------------|--------------|----------------|-----------------------------------------|---------------------------|--------------------------|
| LLK01         | -            | 12x05          | -                                       | -                         | -                        |
| LLK02         | 18x4         | 16x05/20       | -                                       | -                         | -                        |
| LLN02         | 18x4         | 16x05/20       | HK-1514                                 | 9,8                       | 7,8                      |
| LLK03         | 20x4/24x5    | 20x05/20/50    | -                                       | -                         | -                        |
| LLN03         | 20x4/24x5    | 20x05/20/50    | HK-1814                                 | 10,9                      | 8,1                      |
| LLK04         | 30x6         | 25x05/10/25    | -                                       | -                         | -                        |
| LLN04         | 30x6         | 25x05/10/25    | HK2518                                  | 24,0                      | 15,6                     |
| LLK05         | -            | 32x05/10       | -                                       | -                         | -                        |
| LLN05         | 36x6         | 32x05/10       | HK-3018                                 | 29,0                      | 17,2                     |
| LLR06         | 36x6         | 32x10/20/40    | 62205                                   | 7,8                       | 14,9                     |
| LLR07         | 40x7/40x14P7 | 40x05/10/20    | 62206                                   | 11,3                      | 20,7                     |
| LLR08         | 50x8/60x9    | 50x10/20/63x10 | 62208                                   | 17,8                      | 31,0                     |

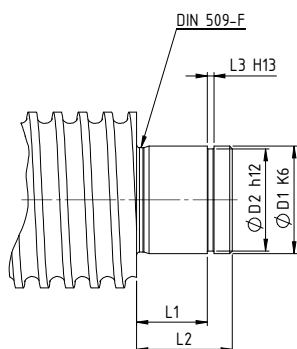
# Endenbearbeitung Loslager, Form LLN, LLR

## End machining movable bearing, form LLN, LLR

### Technische Daten/Abmessungen *Technical data/dimensions*



| Bezeichnung<br>designation | Abmessungen<br>dimensions<br>[mm] |                |       |       |
|----------------------------|-----------------------------------|----------------|-------|-------|
|                            | D <sub>1</sub> j <sub>6</sub>     | L <sub>1</sub> | TGS-Ø | KGS-Ø |
| LLN02                      | 12                                | 32,5           | 18    | 16    |
| LLN03                      | 15                                | 34             | 24    | 20    |
| LLN04                      | 20                                | 42             | 30    | 25    |
| LLN05                      | 25                                | 48             | 36    | 32    |



| Bezeichnung<br>designation | Abmessungen<br>dimensions<br>[mm] |                                |                |                |                                |       |       |
|----------------------------|-----------------------------------|--------------------------------|----------------|----------------|--------------------------------|-------|-------|
|                            | D <sub>1</sub> j <sub>6</sub>     | D <sub>2</sub> h <sub>12</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> H <sub>13</sub> | TGS-Ø | KGS-Ø |
| LLR06                      | 25                                | 23,9                           | 18             | 21,7           | 1,3                            | 36    | 32    |
| LLR07                      | 30                                | 28,6                           | 20             | 24             | 1,6                            | 40    | 40    |
| LLR08                      | 40                                | 37,5                           | 23             | 27             | 1,85                           | 50    | 50    |

# Lagereinheit SEB-FN

## Bearing unit SEB-FN

### Technische Daten/Abmessungen Technical data/dimensions

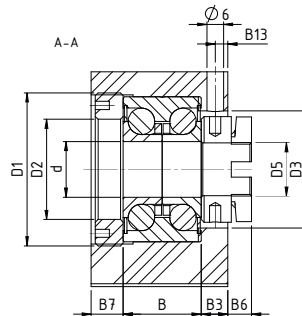
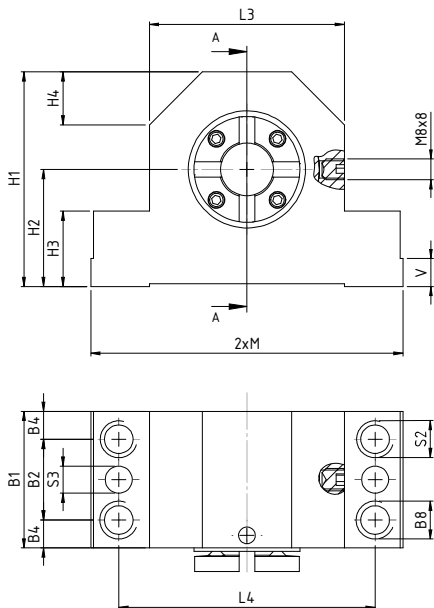
#### Stahlagereinheit SEB-FN Pillow block unit SEB-FN

Hier handelt es sich um eine Festlagereinheit als Bocklager mit vorgespannten Axial-Schräggugellagern als Schwerlastbaureihe. Die Festlagereinheit besteht aus einem Lagergehäuse, ZKLN-Axialschräggugellagern, einem Lagerdeckel und einer Präzisionsspindelmutter (Anziehmomente siehe Tabelle). Die Größen SEB-FN-1605-10-16-40 und SEB-FN-2005-20-50 liefern wir mit Nutspindelmutter.

Gehäuse Werkstoff: Stahl brüniert

*This is a fixed bearing unit as a pedestal bearing with preloaded axial angular contact ball bearings as a heavy duty series. The fixed bearing unit consists of a bearing housing, ZKLN axial angular contact ball bearings, a bearing cover and a precision spindle nut (for tightening torques, see table). The sizes SEB-FN-1605-10-16-40 and SEB-FN-2005-20-50 are supplied with locknuts.*

*Housing material: burnished steel*



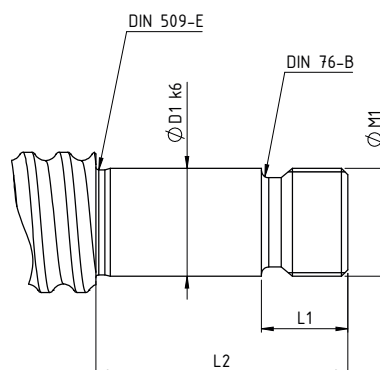
| Größe<br><i>size</i>            | Abmessungen<br><i>dimensions</i><br>[mm] |                       |       |                |                |                |                         |                |                |    |                |                |                |                |                |                |                |                 |
|---------------------------------|------------------------------------------|-----------------------|-------|----------------|----------------|----------------|-------------------------|----------------|----------------|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
|                                 | C <sub>dyn</sub> [N]                     | C <sub>stat</sub> [N] | M js6 | L <sub>3</sub> | L <sub>4</sub> | H <sub>1</sub> | H <sub>2</sub><br>±0,02 | H <sub>3</sub> | H <sub>4</sub> | B  | B <sub>1</sub> | B <sub>2</sub> | B <sub>3</sub> | B <sub>4</sub> | B <sub>6</sub> | B <sub>7</sub> | B <sub>8</sub> | B <sub>13</sub> |
| SEB-FN-1605-10-16-40            | 13250                                    | 18500                 | 43    | 52             | 68             | 58             | 32                      | 22             | 14             | 20 | 37             | 23             | 8,5            | 7              | -              | 8,5            | 18,5           | 4,5             |
| SEB-FN-2005-20-50               | 17000                                    | 24500                 | 47    | 60             | 77             | 64             | 34                      | 22             | 16             | 25 | 42             | 25             | 8,5            | 8,5            | -              | 8,5            | 21             | 3,5             |
| SEB-FN-2505-10-25-50            | 18500                                    | 31000                 | 54    | 66             | 88             | 72             | 39                      | 27             | 18             | 25 | 46             | 29             | 10,5           | 8,5            | 7,5            | 10,5           | 23             | 5,5             |
| SEB-FN-3205-10-20-40-60         | 26000                                    | 47000                 | 56    | 70             | 92             | 77             | 42                      | 27             | 19             | 28 | 49             | 29             | 10,5           | 10             | 7,5            | 10,5           | 24,5           | 4,5             |
| SEB-FN-4010-20-40 <sup>1)</sup> | 44500                                    | 111000                | 63    | 80             | 105            | 98             | 58                      | 32             | 23             | 56 | 89             | 62             | 20,5           | 13,5           | -              | 12,5           | 54,5           | 14,5            |
| SEB-FN-5010-20-50               | 47500                                    | 127000                | 72    | 92             | 118            | 112            | 65                      | 38             | 25             | 56 | 92             | 65             | 20,5           | 13,5           | -              | 15,5           | 57,5           | 14,5            |
| SEB-FN-6310-20-40               | 72000                                    | 149000                | 95    | 130            | 160            | 138            | 73                      | 50             | 35             | 46 | 85             | 58             | 22,5           | 13,5           | 6,5            | 16,5           | 39,5           | 16,5            |
| SEB-FN-8010-20-40               | 113000                                   | 250000                | 102,5 | 145            | 175            | 165            | 93                      | 50             | 40             | 54 | 98             | 58             | 25,5           | 20             | 6,5            | 18,5           | 45,5           | 17,5            |

| Größe<br>size                   | Abmessungen<br>dimensions<br>[mm] |                |                |                  |                |                |                |                | Anziehmoment Spindelmutter<br>tightening torque ball nut<br>[Nm] |
|---------------------------------|-----------------------------------|----------------|----------------|------------------|----------------|----------------|----------------|----------------|------------------------------------------------------------------|
|                                 | V                                 | S <sub>2</sub> | S <sub>3</sub> | d H <sub>7</sub> | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> | D <sub>5</sub> |                                                                  |
| SEB-FN-1605-10-16-40            | 8                                 | 8,5            | 7,7            | 10               | M36x1,5        | 22             | 27             | M10x1          | 6                                                                |
| SEB-FN-2005-20-50               | 8                                 | 8,5            | 7,7            | 12               | M45x1,5        | 28             | 32             | M12x1          | 8                                                                |
| SEB-FN-2505-10-25-50            | 10                                | 10,25          | 9,7            | 17               | M50x1,5        | 31             | 36             | M17x1          | 15                                                               |
| SEB-FN-3205-10-20-40-60         | 10                                | 10,25          | 9,7            | 20               | M55x1,5        | 36             | 42             | M20x1          | 18                                                               |
| SEB-FN-4010-20-40 <sup>1)</sup> | 12                                | 12             | 9,7            | 25               | M62x1,5        | 43             | 48             | M25x1,5        | 25                                                               |
| SEB-FN-5010-20-50               | 12                                | 12             | 9,7            | 30               | M78x2          | 54             | 53             | M30x1,5        | 32                                                               |
| SEB-FN-6310-20-40               | 16                                | 12             | 9,7            | 40               | M95x2          | 68             | 72             | M40x1,5        | 55                                                               |
| SEB-FN-8010-20-40               | 16                                | 17,5           | 11,7           | 50               | M115x2         | 85             | 90             | M50x1,5        | 85                                                               |

<sup>1)</sup> andere Steigungen auf Anfrage other pitches on request

# Endenbearbeitung Festlager - Form SEB-FN End machining fixed bearing - form SEB-FN

## Technische Daten/Abmessungen *Technical data/dimensions*



| Bezeichnung<br>designation | Abmessungen<br>dimensions<br>[mm] |    |    |          |
|----------------------------|-----------------------------------|----|----|----------|
|                            | D1                                | L1 | L2 | M1       |
| SEB-FN-1605/10/16/40       | 10                                | 18 | 30 | M 10x1   |
| SEB-FN-2005/20/50          | 12                                | 23 | 35 | M 12x1   |
| SEB-FN-2505/10//25/50      | 17                                | 23 | 45 | M 17x1   |
| SEB-FN-3205/10/20/40/60    | 20                                | 26 | 48 | M 20x1   |
| SEB-FN-4005/10/20/40       | 30                                | 25 | 51 | M 30x1,5 |
| SEB-FN-5010/20/50          | 35                                | 32 | 60 | M 35x1,5 |
| SEB-FN-6310/20/40          | 40                                | 44 | 72 | M 40x1,5 |
| SEB-FN-8010/20/40          | 50                                | 52 | 84 | M 50x1,5 |

# Lagereinheit SEB-LN

## Bearing unit SEB-LN

### Technische Daten/Abmessungen *Technical data/dimensions*

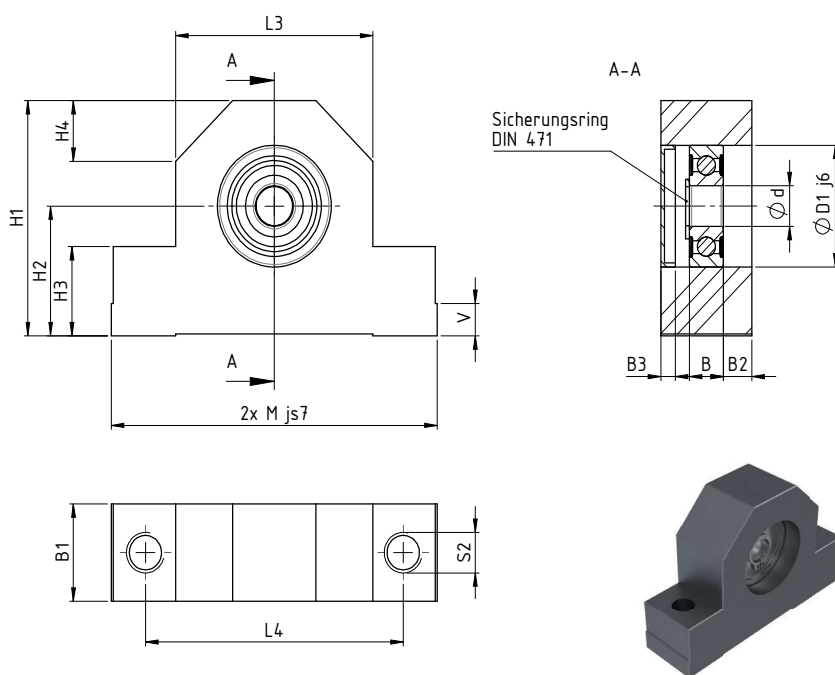
#### Stehlagereinheit SEB-LN *Pillow block unit SEB-LN*

Bei der Stehlagereinheit SEB-LN handelt es sich um eine Loslagereinheit in Form eines Bocklagers mit Rillenkugellager, passend zu den Stehlagereinheiten SEB-FN. Die Loslagereinheit besteht aus einem Lagergehäuse, einem Rillenkugellager nach DIN 625, einem Sicherungsring nach DIN 471 und einem Verschlussdeckel. Die Zubehörteile werden lose mitgeliefert.

Material des Gehäuses: brüniertes Stahl

*The pillow block unit SEB-LN is a floating bearing unit in form of a pedestal bearing with deep groove ball bearing, matching the pillow block units SEB-FN. The movable bearing unit consists of a bearing housing, a deep groove ball bearing according to DIN 625, a circlip according to DIN 471 and a sealing cover. The accessories are supplied loose.*

*Housing material: burnished steel*



| Größe<br>size                   | C <sub>dyn</sub> [N]<br>(radial radial) | C <sub>stat</sub> [N]<br>(radial radial) | M js7 | L <sub>3</sub> | L <sub>4</sub> | H <sub>1</sub> | H <sub>2</sub> ±0,02 | H <sub>3</sub> | H <sub>4</sub> | B  | B <sub>1</sub> | B <sub>2</sub> | B <sub>3</sub> | V  | S <sub>2</sub> | d  | D <sub>1</sub> j <sub>6</sub> | Sicherungs-<br>ring<br>circlip<br>DIN 471 | Gewicht<br>weight<br>(kg) |
|---------------------------------|-----------------------------------------|------------------------------------------|-------|----------------|----------------|----------------|----------------------|----------------|----------------|----|----------------|----------------|----------------|----|----------------|----|-------------------------------|-------------------------------------------|---------------------------|
| SEB-LN-1605-10-16-40            | 6000                                    | 2240                                     | 43    | 52             | 68             | 58             | 32                   | 22             | 15             | 9  | 24             | 7,5            | 3,8            | 8  | M10            | 10 | 30                            | 10x1                                      | 0,54                      |
| SEB-LN-2005-20-50               | 6950                                    | 2650                                     | 47    | 60             | 77             | 64             | 34                   | 22             | 17             | 10 | 26             | 8              | 3,8            | 8  | M10            | 12 | 32                            | 12x1                                      | 0,73                      |
| SEB-LN-2505-10-25-50            | 9500                                    | 4150                                     | 54    | 66             | 88             | 72             | 39                   | 27             | 19             | 12 | 28             | 10             | 3,7            | 10 | M12            | 17 | 40                            | 17x1                                      | 0,96                      |
| SEB-LN-3205-10-20-40-60         | 12700                                   | 5700                                     | 56    | 70             | 92             | 77             | 42                   | 27             | 20             | 14 | 34             | 10             | 4,8            | 10 | M12            | 20 | 47                            | 20x1,2                                    | 1,24                      |
| SEB-LN-4010-20-40 <sup>1)</sup> | 19300                                   | 9800                                     | 63    | 80             | 105            | 98             | 58                   | 32             | 23             | 16 | 38             | 12             | 4,5            | 12 | M14            | 30 | 62                            | 30x1,5                                    | 1,82                      |
| SEB-LN-5010-20-50               | 25500                                   | 13200                                    | 72    | 92             | 118            | 112            | 65                   | 38             | 25             | 17 | 41             | 12             | 5              | 12 | M14            | 35 | 72                            | 35x1,5                                    | 2,87                      |
| SEB-LN-6310-20-40               | 36500                                   | 20800                                    | 95    | 130            | 160            | 138            | 73                   | 50             | 35             | 20 | 46             | 16             | 5              | 16 | M14            | 50 | 90                            | 50x2                                      | 5,39                      |
| SEB-LN-8010-20-40               | 52000                                   | 31000                                    | 102,5 | 145            | 175            | 165            | 93                   | 50             | 40             | 22 | 50             | 16             | 6              | 16 | M20            | 60 | 110                           | 60x2                                      | 7,09                      |

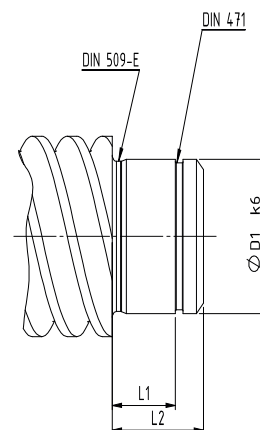
<sup>1)</sup> andere Steigungen auf Anfrage *other pitches on request*

# Endenbearbeitung Loslager - Form SEB-LN

## End machining movable bearing - form SEB-LN



### Technische Daten/Abmessungen *Technical data/dimensions*



| Bezeichnung<br><i>designation</i> | Abmessungen<br><i>dimensions</i><br>[mm] |       |       |
|-----------------------------------|------------------------------------------|-------|-------|
|                                   | $D_1$                                    | $L_1$ | $L_2$ |
| SEB-LN-1605/10/16/40              | 10                                       | 9     | 12    |
| SEB-LN-2005/20/50                 | 12                                       | 10    | 13    |
| SEB-LN-2505/10//25/50             | 17                                       | 12    | 15    |
| SEB-LN-3205/10/20/40/60           | 20                                       | 14    | 18    |
| SEB-LN-4005/10/20/40              | 30                                       | 16    | 20    |
| SEB-LN-5010/20/50                 | 35                                       | 17    | 22    |
| SEB-LN-6310/20/40                 | 50                                       | 20    | 27    |
| SEB-LN-8010/20/40                 | 60                                       | 22    | 29    |

# Lagereinheit ZKLF...2RS

## Bearing unit ZKLF...2RS

### Technische Daten/Abmessungen *Technical data/dimensions*

#### **Axialschräggugellager ZKLF...2RS**

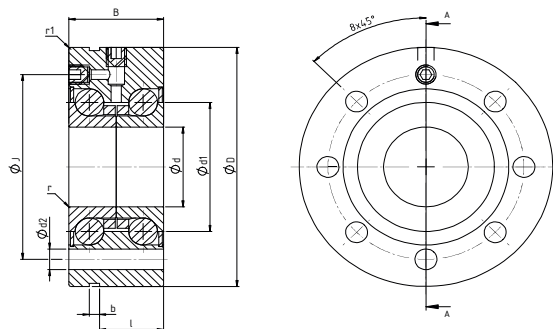
#### **Angular contact thrust ball bearing ZKLF...2RS**

Die Art der Lagerung beeinflusst neben der Steifigkeit des gesamten Gewindetriebs auch das Drehschwingungs- und Knickverhalten der Gewindespindel. Damit ist die gewählte Lagerart ein wesentliches Qualitätsmerkmal. Selbstverständlich liefern wir unsere Gewindespindeln sowohl nach der jeweils gewählten Endbearbeitung als auch nach vorhandener Kundenzeichnung.

Im Besonderen zur Lagerung von Kugelgewindetrieben eignen sich die Axialschräggugellagereinheiten ZKLF, ZARN, ZARF und FDX. Die dazu jeweils entsprechende Endbearbeitung finden Sie unter Form D, F, H und J. Für eine häufig zusätzlich notwendige Loslagerseite empfehlen wir die Stützlagerung nach Form W.

*In addition to the stiffness of the entire screw drive, the type of bearing arrangement also influences the torsional vibration and buckling behaviour of the screw shaft. The selected bearing type is therefore an essential quality feature. It goes without saying that we supply our threaded spindles both according to the selected end machining as well as according to existing customer drawings.*

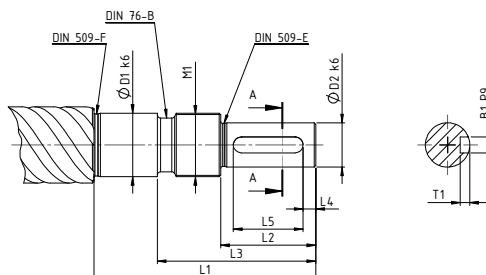
*The axial angular contact ball bearing units ZKLF, ZARN, ZARF and FDX are particularly suitable for bearing arrangements in ball screws. The corresponding end machining can be found under form D, F, H and J. For a floating bearing side that is often additionally required, we recommend the support bearing in accordance with form W.*



| Größe<br>size | D  | d  | d <sub>1</sub> | d <sub>2</sub> | B  | b | J  | l  | r   | r <sub>1</sub> | C <sub>dyn</sub><br>in kN <sub>axial</sub> | C <sub>stat</sub><br>in kN <sub>axial</sub> |
|---------------|----|----|----------------|----------------|----|---|----|----|-----|----------------|--------------------------------------------|---------------------------------------------|
| ZKLF-2RS-1255 | 55 | 12 | 25             | 6,8            | 25 | 3 | 42 | 17 | 0,3 | 0,6            | 18,6                                       | 24,7                                        |
| ZKLF-2RS-1560 | 60 | 15 | 28             | 6,8            | 25 | 3 | 46 | 17 | 0,3 | 0,6            | 19,6                                       | 28,0                                        |
| ZKLF-2RS-2068 | 68 | 20 | 34,5           | 6,8            | 28 | 3 | 53 | 19 | 0,3 | 0,6            | 28,5                                       | 47,0                                        |
| ZKLF-2RS-2575 | 75 | 25 | 40,5           | 6,8            | 28 | 3 | 58 | 19 | 0,3 | 0,6            | 30,5                                       | 55,0                                        |
| ZKLF-2RS-3080 | 80 | 30 | 45,5           | 6,8            | 28 | 3 | 63 | 19 | 0,3 | 0,6            | 32,0                                       | 64,0                                        |

### Endenbearbeitung Form D für Lagereinheiten ZKLF

#### **End machining form D for bearing units ZKLF**



| Form form D                                                                       | Abmessungen<br>dimensions<br>[mm] |                               |                |                |                |                |                |                |                                 | Lager<br>bearing<br>ZKLF...2RS |
|-----------------------------------------------------------------------------------|-----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------|--------------------------------|
| TGS/KGS                                                                           | D <sub>1</sub> k <sub>6</sub>     | D <sub>2</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | M <sub>1</sub> | B <sub>1</sub> x T <sub>1</sub> |                                |
| Gewindekerndurchmesser<br>thread core diameter<br>d <sub>2</sub> > d <sub>1</sub> | 12                                | 9                             | 55             | 20             | 32             | 2,5            | 16             | M12x1          | 3x1,8                           | 1255                           |
|                                                                                   | 15                                | 11                            | 58             | 23             | 35             | 3,5            | 16             | M15x1          | 4x2,5                           | 1560                           |
|                                                                                   | 20                                | 14                            | 70             | 30             | 44             | 4              | 22             | M20x1          | 5x3                             | 2068                           |
|                                                                                   | 25                                | 19                            | 82             | 40             | 57             | 6              | 28             | M25x1,5        | 6x3,5                           | 2575                           |
|                                                                                   | 30                                | 24                            | 92             | 50             | 67             | 7              | 36             | M30x1,5        | 8x4                             | 3080                           |

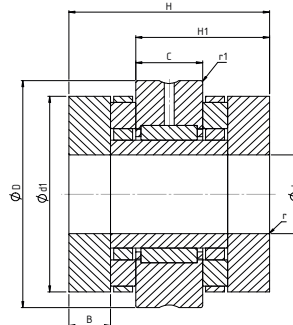
# Lagereinheit ZARN...LTN

## Bearing unit ZARN...LTN

### Technische Daten/Abmessungen *Technical data/dimensions*

#### Nadel-Axial-Zylinderrollenlager ZARN...LTN

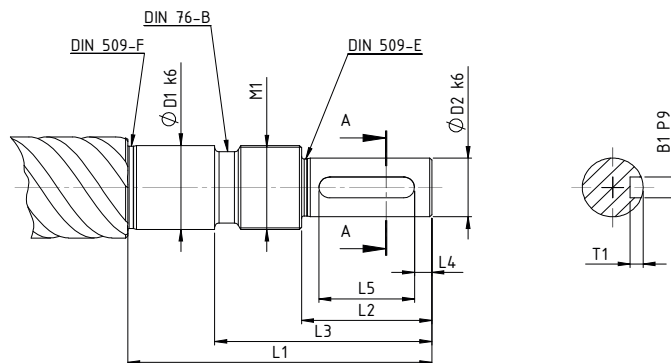
#### Needle roller/axial cylindrical roller bearing ZARN...LTN



| Größe<br>size | Abmessungen<br>dimensions<br>[mm] |                |    |      |    |    |                |     |                |                                            |                                             |                                             |                                              |
|---------------|-----------------------------------|----------------|----|------|----|----|----------------|-----|----------------|--------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|
|               | D                                 | D <sub>1</sub> | d  | B    | C  | H  | H <sub>1</sub> | r   | r <sub>1</sub> | C <sub>dyn</sub><br>in KN <sub>axial</sub> | C <sub>stat</sub><br>in KN <sub>axial</sub> | C <sub>dyn</sub><br>in KN <sub>radial</sub> | C <sub>stat</sub><br>in KN <sub>radial</sub> |
| ZARN1545      | 45                                | 35             | 15 | 7,5  | 16 | 40 | 28             | 0,3 | 0,6            | 24,9                                       | 53,0                                        | 13,0                                        | 17,5                                         |
| ZARN2052      | 52                                | 42             | 20 | 10   | 16 | 46 | 31             | 0,3 | 0,6            | 33,5                                       | 76,0                                        | 14,9                                        | 22,4                                         |
| ZARN2062      | 62                                | 52             | 20 | 12,5 | 20 | 60 | 40             | 0,3 | 0,6            | 64,0                                       | 141,0                                       | 22,6                                        | 36,0                                         |
| ZARN2557      | 57                                | 47             | 25 | 10   | 20 | 50 | 35             | 0,3 | 0,6            | 35,5                                       | 86,0                                        | 22,6                                        | 36,0                                         |
| ZARN2572      | 72                                | 62             | 25 | 12,5 | 20 | 60 | 40             | 0,3 | 0,6            | 80,0                                       | 199,0                                       | 24,3                                        | 41,5                                         |
| ZARN3585      | 85                                | 73             | 35 | 14   | 20 | 66 | 43             | 0,3 | 0,6            | 105,0                                      | 265,0                                       | 27,5                                        | 53,0                                         |
| ZARN 4090     | 90                                | 78             | 40 | 16   | 25 | 75 | 50             | 0,3 | 0,6            | 117,0                                      | 315,0                                       | 38,0                                        | 74,0                                         |

#### Endenbearbeitung Form F für Lagereinheiten ZARN

#### End machining form F for bearing units ZARN



| Form form F                                                                       | Abmessungen<br>dimensions<br>[mm] |                               |                |                |                |                |                |                |                                 | Lager<br>bearing<br>ZARN...LTN |
|-----------------------------------------------------------------------------------|-----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------|--------------------------------|
| TGS/KGS                                                                           | D <sub>1</sub> k <sub>6</sub>     | D <sub>2</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | M <sub>1</sub> | B <sub>1</sub> x T <sub>1</sub> |                                |
| Gewindekerndurchmesser<br>thread core diameter<br>d <sub>2</sub> > d <sub>1</sub> | 15                                | 11                            | 73             | 23             | 35             | 3,5            | 16             | M15x1          | 4x2,5                           | 1545                           |
|                                                                                   | 20                                | 14                            | 88             | 30             | 45             | 4              | 22             | M20x1          | 5x3                             | 2052                           |
|                                                                                   | 20                                | 14                            | 107            | 30             | 50             | 4              | 22             | M20x1          | 5x3                             | 2062                           |
|                                                                                   | 25                                | 19                            | 105            | 40             | 58             | 6              | 28             | M25x1,5        | 6x3,5                           | 2557                           |
|                                                                                   | 25                                | 19                            | 120            | 40             | 63             | 6              | 28             | M25x1,5        | 6x3,5                           | 2572                           |
|                                                                                   | 35                                | 28                            | 145            | 60             | 82             | 10             | 40             | M35x1,5        | 8x4                             | 3585                           |
|                                                                                   | 40                                | 36                            | 175            | 80             | 103            | 8,5            | 63             | M40x1,5        | 10x5                            | 4090                           |

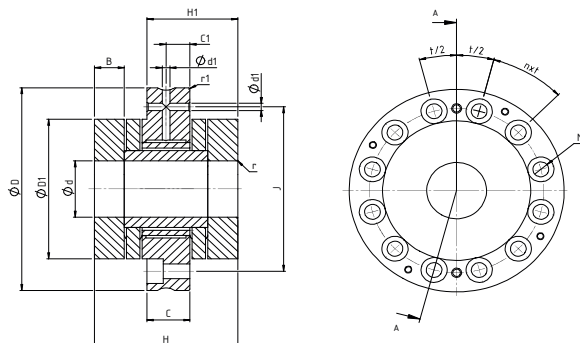
# Lagereinheit ZARF...LTN

## Bearing unit ZARF...LTN

### Technische Daten/Abmessungen *Technical data/dimensions*

#### Nadel-Axialzylinderrollenlager ZARF...LTN

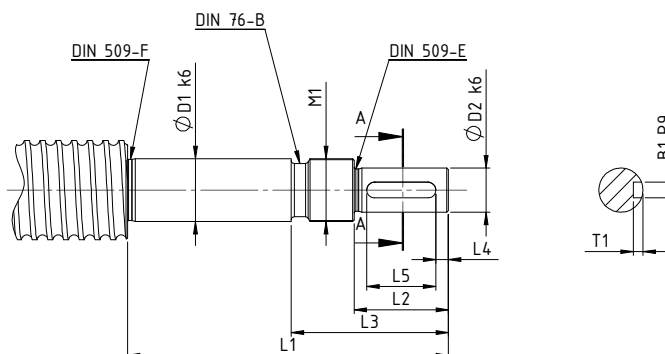
#### Needle roller/axial cylindrical roller bearing ZARF...LTN



| Größe<br><i>size</i> | Abmessungen<br><i>dimensions</i><br>[mm] |                |    |                |      |      |                |    |                |    |     |                |        |                                            |                                             |                                             |                                              |
|----------------------|------------------------------------------|----------------|----|----------------|------|------|----------------|----|----------------|----|-----|----------------|--------|--------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|
|                      | D                                        | D <sub>1</sub> | d  | d <sub>1</sub> | B    | C    | C <sub>1</sub> | H  | H <sub>1</sub> | J  | r   | r <sub>1</sub> | nxt    | C <sub>dyn</sub><br>in KN <sub>axial</sub> | C <sub>stat</sub><br>in KN <sub>axial</sub> | C <sub>dyn</sub><br>in KN <sub>radial</sub> | C <sub>stat</sub><br>in KN <sub>radial</sub> |
| ZARF1560             | 60                                       | 35             | 15 | 3,2            | 7,5  | 14   | 8              | 40 | 26             | 46 | 0,3 | 0,6            | 6x60°  | 24,9                                       | 53,0                                        | 13,0                                        | 17,5                                         |
| ZARF2068             | 68                                       | 42             | 20 | 3,2            | 10   | 14   | 8              | 46 | 29             | 53 | 0,3 | 0,6            | 8x45°  | 33,5                                       | 76,0                                        | 14,9                                        | 22,4                                         |
| ZARF2080             | 80                                       | 52             | 20 | 3,2            | 12,5 | 18   | 10             | 60 | 38             | 63 | 0,3 | 0,6            | 12x30° | 64,0                                       | 141,0                                       | 22,6                                        | 36,0                                         |
| ZARF2575             | 75                                       | 47             | 25 | 3,2            | 10   | 18   | 10             | 50 | 33             | 58 | 0,3 | 0,6            | 8x45°  | 35,5                                       | 86,0                                        | 22,6                                        | 36,0                                         |
| ZARF2590             | 90                                       | 62             | 25 | 3,2            | 12,5 | 18   | 10             | 60 | 38             | 73 | 0,3 | 0,6            | 12x30° | 80,0                                       | 199,0                                       | 24,3                                        | 41,5                                         |
| ZARF35110            | 110                                      | 73             | 35 | 3,2            | 14   | 18   | 10             | 66 | 41             | 88 | 0,3 | 0,6            | 12x30° | 105,0                                      | 265,0                                       | 27,5                                        | 53,0                                         |
| ZARF40115            | 115                                      | 78             | 40 | 6              | 16   | 22,5 | 12,5           | 75 | 47,5           | 94 | 0,3 | 0,6            | 12x30° | 117,0                                      | 315,0                                       | 38,0                                        | 74,0                                         |

#### Endenbearbeitung Form H für Lagereinheiten ZARF

#### End machining form H for bearing units ZARF



| Form <i>form H</i>                                                                | Abmessungen<br>dimensions<br>[mm] |                               |                |                |                |                |                |                |                                 | Lager<br>bearing<br>ZARF...LTN |
|-----------------------------------------------------------------------------------|-----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------|--------------------------------|
| TGS/KGS                                                                           | D <sub>1</sub> k <sub>6</sub>     | D <sub>2</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | M <sub>1</sub> | B <sub>1</sub> x T <sub>1</sub> |                                |
| Gewindekerndurchmesser<br>thread core diameter<br>d <sub>2</sub> > d <sub>1</sub> | 15                                | 11                            | 85             | 23             | 35             | 3,5            | 16             | M 15x1         | 4x2,5                           | 1560                           |
|                                                                                   | 20                                | 14                            | 102            | 30             | 44             | 4              | 22             | M 20x1         | 5x3                             | 2068                           |
|                                                                                   | 20                                | 14                            | 122            | 30             | 49             | 4              | 22             | M 20x1         | 5x3                             | 2080                           |
|                                                                                   | 25                                | 19                            | 120            | 40             | 57             | 6              | 28             | M 25x1,5       | 6x3,5                           | 2575                           |
|                                                                                   | 25                                | 19                            | 135            | 40             | 63             | 6              | 28             | M 25x1,5       | 6x3,5                           | 2590                           |
|                                                                                   | 35                                | 28                            | 160            | 60             | 81             | 10             | 40             | M 35x1,5       | 8x4                             | 35110                          |
|                                                                                   | 40                                | 36                            | 195            | 80             | 105            | 8,5            | 63             | M 40x1,5       | 10x5                            | 40115                          |

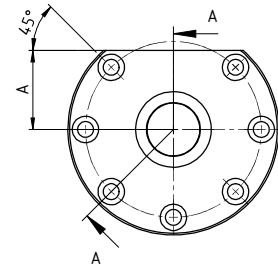
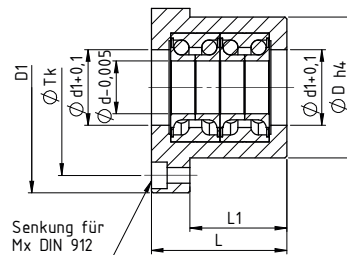
# Lagereinheit FDX

## Bearing unit FDX

### Technische Daten/Abmessungen *Technical data/dimensions*

### Axialschräggugellager FDX

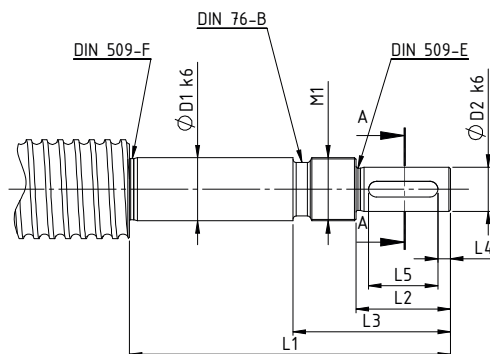
### Angularcontact thrust ball bearing FDX



| Größe<br>size | Abmessungen<br>dimensions<br>[mm] |    |                |    |                |    |                |    |     | Bohrung und Senkung<br>bore and sink |                  | Tragzahl<br>load rating |                        | Wellenmutter<br>shaft nut | axiale<br>Steifigkeit<br>axial rigidity<br>Ra N/μm | Gewicht<br>weight<br>kg |
|---------------|-----------------------------------|----|----------------|----|----------------|----|----------------|----|-----|--------------------------------------|------------------|-------------------------|------------------------|---------------------------|----------------------------------------------------|-------------------------|
|               | KGT                               | d  | d <sub>i</sub> | D  | D <sub>i</sub> | L  | L <sub>i</sub> | A  | T   | M                                    | Anzahl<br>number | C <sub>stat</sub> in kN | C <sub>dyn</sub> in kN |                           |                                                    |                         |
| FDX12         | 1605                              | 12 | 20             | 50 | 80             | 65 | 47             | 30 | 65  | M6                                   | 6x54°            | 49,3                    | 27,4                   | DRS-M12x1                 | 615                                                | 1,15                    |
| FDX15         | 2005-20-50                        | 15 | 25             | 55 | 85             | 66 | 48             | 32 | 70  | M6                                   | 7x45°            | 55,8                    | 28,9                   | DRS-M15x1                 | 700                                                | 1,31                    |
| FDX20         | 2505-10-25-50                     | 20 | 30             | 60 | 100            | 74 | 52             | 38 | 80  | M8                                   | 6x54°            | 93,5                    | 42,0                   | DRS-M20x1                 | 1150                                               | 1,79                    |
| FDX25         | 3205-10-20-40-60                  | 25 | 37             | 80 | 120            | 77 | 55             | 45 | 100 | M8                                   | 6x54°            | 109,5                   | 44,3                   | DRS-M25x1,5               | 1300                                               | 3,2                     |
| FDX30         | 4005-10-20-40                     | 30 | 43             | 80 | 120            | 77 | 55             | 45 | 100 | M8                                   | 7x45°            | 128,0                   | 46,5                   | AS-M30x1,5                | 1500                                               | 3,01                    |
| FDX40         | 5010-20-50                        | 40 | 51             | 90 | 130            | 92 | 64             | 49 | 108 | M10                                  | 7x45°            | 202,0                   | 69,3                   | AS-M40x1,5                | 1650                                               | 4,12                    |

### Endenbearbeitung Form J für Lagereinheiten FDX

### End machining form J for bearing units FDX

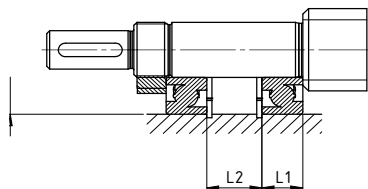


| Form form J                                                                       | Abmessungen<br>dimensions<br>[mm] |                               |                |                |                |                |                |                |                                | Lager<br>bearing<br>FDX |
|-----------------------------------------------------------------------------------|-----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------------|-------------------------|
| TGS/KGS                                                                           | D <sub>1</sub> k <sub>6</sub>     | D <sub>2</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | M <sub>1</sub> | B <sub>1</sub> xT <sub>1</sub> |                         |
| Gewindekerndurchmesser<br>thread core diameter<br>d <sub>2</sub> > d <sub>1</sub> | 12                                | 9                             | 88             | 20             | 32             | 2,5            | 16             | M12x1          | 3x1,8                          | 12                      |
|                                                                                   | 15                                | 11                            | 92             | 23             | 35             | 3,5            | 16             | M15x1          | 4x2,5                          | 15                      |
|                                                                                   | 20                                | 14                            | 107            | 30             | 44             | 4              | 22             | M20x1          | 5x3                            | 20                      |
|                                                                                   | 25                                | 19                            | 122            | 40             | 57             | 6              | 28             | M25x1,5        | 6x3,5                          | 25                      |
|                                                                                   | 30                                | 24                            | 136            | 50             | 72             | 7              | 36             | M30x1,5        | 8x4                            | 30                      |
|                                                                                   | 40                                | 36                            | 182            | 80             | 102            | 8,5            | 63             | M40x1,5        | 10x5                           | 40                      |

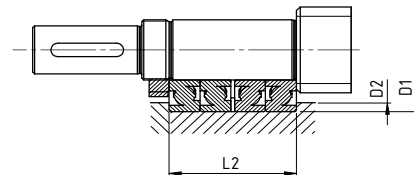
# Schräggugellager 72...B 2RS

## Angular contact ball bearing 72...B 2RS

### Technische Daten/Abmessungen *Technical data/dimensions*



bis KGT 4010  
Sicherungsring nach DIN 472

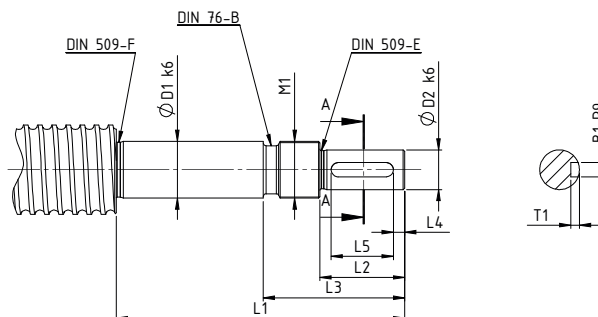


ab KGT 5010  
Passscheibe nach DIN 988

| KGT              | TGT            | Abmessungen<br>dimensions<br>[mm] |                |                |                |                  |                          |                        |                           |                                                      |
|------------------|----------------|-----------------------------------|----------------|----------------|----------------|------------------|--------------------------|------------------------|---------------------------|------------------------------------------------------|
|                  |                | D <sub>1</sub>                    | D <sub>2</sub> | L <sub>1</sub> | L <sub>2</sub> | Lager<br>bearing | Tragzahl<br>loading rate |                        | Wellenmutter<br>shaft nut | Sicherungsring bzw<br>Passscheibe<br>circlip or shim |
|                  |                |                                   |                |                |                |                  | C <sub>stat</sub> in kN  | C <sub>dyn</sub> in kN |                           |                                                      |
| 1605/2005-20-50  | Tr 20/22x...   | 32                                | -              | 10             | 10             | 7201-B-2RS       | 3,5                      | 7,9                    | DRS12x1                   | 32x1,5                                               |
| 2505-10-25-50    | Tr 24/26x...   | 35                                | -              | 12             | 18             | 7202-B-2RS       | 4,4                      | 8,9                    | DRS15x1                   | 35x1,75                                              |
| 3205-10-20-40-60 | Tr28/30/32x... | 47                                | -              | 14             | 19             | 7204-B-2RS       | 7,8                      | 14,9                   | DRS20x1                   | 47x2                                                 |
| 4005-10-20-40    | Tr36/40/44x... | 52                                | -              | 15             | 37             | 7205-B-2RS       | 9,0                      | 16,2                   | DRS25x1,5                 | 52x2,5                                               |
| 5010-20-50       | Tr48/50x...    | 72                                | 62             | -              | 70             | 7207-B-2RS       | 60,0                     | 38,0                   | DRS35x1,5                 | PS56x72x2                                            |
| 6310             | Tr60x...       | 80                                | 68             | -              | 74             | 7208 B 2RS       | 72,0                     | 47,0                   | AS40x1,5                  | PS63x80x2                                            |
| 8010             | Tr70/80x...    | 100                               | 85             | -              | 84,5           | 7211 BE 2RS      | 92,4                     | 72,0                   | A 55x2                    | PS80x100x0,5                                         |

### Endenbearbeitung Form L für Lagereinheiten 72...B 2RS

#### End machining form L for bearing units 72...B 2RS



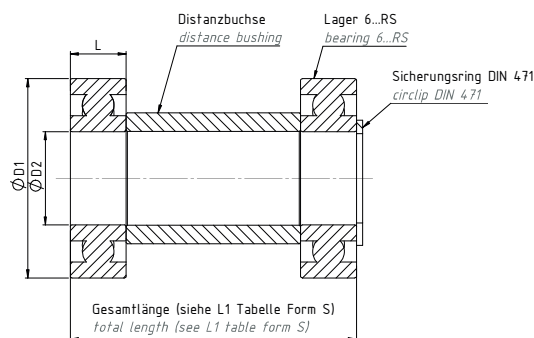
Endenbearbeitung für einreihiges Schräggugellager der Reihe 72. End machining for single row angular contact ball bearing of series 72.

| Form <i>form L</i>                                                                | Abmessungen<br>dimensions<br>[mm] |                               |                |                |                |                |                |                |                                | Lager<br>bearing |
|-----------------------------------------------------------------------------------|-----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------------|------------------|
| TGS/KGS                                                                           | D <sub>1</sub> k <sub>6</sub>     | D <sub>2</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | M <sub>1</sub> | B <sub>1</sub> xT <sub>1</sub> |                  |
| Gewindekerndurchmesser<br>thread core diameter<br>d <sub>2</sub> > d <sub>1</sub> | 12                                | 9                             | 58             | 20             | 30             | 2,5            | 16             | M12x1          | 3x1,8                          | 7201-B-2RS       |
|                                                                                   | 15                                | 11                            | 73             | 23             | 33             | 3,5            | 16             | M15x1          | 4x2,5                          | 7202-B-2RS       |
|                                                                                   | 20                                | 14                            | 88             | 30             | 43             | 4              | 22             | M20x1          | 5x3                            | 7204-B-2RS       |
|                                                                                   | 25                                | 19                            | 120            | 40             | 55             | 6              | 28             | M25x1,5        | 6x3,5                          | 7205-B-2RS       |
|                                                                                   | 35                                | 28                            | 145            | 60             | 77             | 10             | 40             | M35x1,5        | 8x4                            | 7207-B-2RS       |
|                                                                                   | 40                                | 36                            | 175            | 80             | 103            | 8,5            | 63             | M40x1,5        | 10x5                           | 7208-B-2RS       |
|                                                                                   | 55                                | 48                            | 215            | 110            | 133            | 10             | 90             | M55x2          | 14x9                           | 7211-B-2RS       |

# Lagereinheit Form S

## Bearing unit form S

### Technische Daten/Abmessungen *Technical data/dimensions*



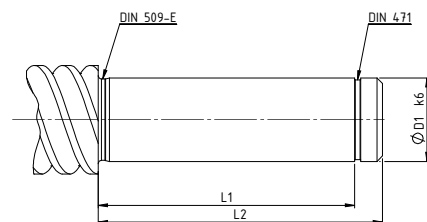
| Größe<br>size | Abmessungen<br>dimensions<br>[mm] |                |    | Distanzbuchse<br>distance bushing | Lager<br>bearing |
|---------------|-----------------------------------|----------------|----|-----------------------------------|------------------|
|               | D <sub>1</sub>                    | D <sub>2</sub> | L  |                                   |                  |
| S12           | 28                                | 12             | 8  | 18x12,1x24                        | 6001-RS          |
| S15           | 32                                | 15             | 9  | 21x15,1x28                        | 6002-RS          |
| S20           | 42                                | 20             | 12 | 27x20,1x29                        | 6004-RS          |
| S25           | 52                                | 25             | 15 | 32x25,1x23                        | 6205-RS          |
| S30           | 62                                | 30             | 16 | 40x30,1x28                        | 6206-RS          |
| S40           | 80                                | 40             | 18 | 50x40,1x44                        | 6208-RS          |
| S55           | 100                               | 55             | 21 | 65x55,1x60                        | 6211-RS          |

### Endenbearbeitung Form S für 2x Stützlager 6...RS + Distanzbuchse

### End machining form S for 2x support bearings 6...RS + distance bushing

Endenbearbeitung Form S für Loslagerung mit 2x Stützlager und Distanzbuchse.

End machining form S for floating bearing with 2x support bearing and distance bushing.



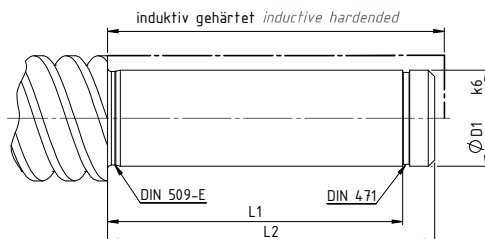
| Form form S                                                                       | Abmessungen<br>dimensions<br>[mm] |                |                |                                   |                  |
|-----------------------------------------------------------------------------------|-----------------------------------|----------------|----------------|-----------------------------------|------------------|
| TGS/KGS                                                                           | D <sub>1</sub> k <sub>6</sub>     | L <sub>1</sub> | L <sub>2</sub> | Distanzbuchse<br>distance bushing | Lager<br>bearing |
| Gewindekerndurchmesser<br>thread core diameter<br>d <sub>2</sub> > d <sub>1</sub> | 12                                | 40             | 45             | 18x12,1x24                        | 6001 RS          |
|                                                                                   | 15                                | 46             | 51             | 21x15,1x28                        | 6002 RS          |
|                                                                                   | 20                                | 53             | 58             | 27x20,1x29                        | 6004 RS          |
|                                                                                   | 25                                | 53             | 58             | 32x25,1x23                        | 6205 RS          |
|                                                                                   | 30                                | 60             | 68             | 40x30,1x28                        | 6206 RS          |
|                                                                                   | 40                                | 80             | 88             | 50x40,1x44                        | 6208 RS          |
|                                                                                   | 55                                | 102            | 110            | 65x55,1x60                        | 6211 RS          |

# Endenbearbeitung Form T für Nadellager HK...RS End machining form T for needle bearing HK...RS

## Technische Daten/Abmessungen Technical data/dimensions

Endenbearbeitung Form T für Loslagerung mit Nadellager bei engen Platzverhältnissen.

End machining form T for movable bearing arrangements with needle bearings where space is restricted.

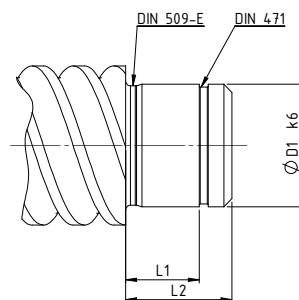


| Form form T                                                                 | Abmessungen dimensions [mm]   |                |                | Innenring inner ring | Nadellager needle bearing |
|-----------------------------------------------------------------------------|-------------------------------|----------------|----------------|----------------------|---------------------------|
| TGS/KGS                                                                     | D <sub>1</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> |                      |                           |
| Gewindekerndurchmesser thread core diameter d <sub>2</sub> > d <sub>1</sub> | 12                            | 40             | 45             | 2-IR-12x16x20        | HK-1614-RS                |
|                                                                             | 15                            | 46             | 51             | 2-IR-15x20x23        | HK-2018-RS                |
|                                                                             | 20                            | 53             | 58             | 2-LR-20x25x26,5      | HK-2518-RS                |
|                                                                             | 25                            | 53             | 58             | 2-LR-25x30x26,5      | HK-3018-RS                |
|                                                                             | 30                            | 60             | 68             | 2-LR-30x35x30        | HK-3518-RS                |
|                                                                             | 40                            | 80             | 88             | 4-LR-40x45x20        | HK-4518-RS                |

## Endenbearbeitung Form W für Loslagerung mit einreihigem Stützlager 6...RS End machining form W for movable bearing with single row support bearing 6...RS

Endenbearbeitung Form W für Loslagerung mit einreihigem Stützlager.

End machining Form W for movable bearing arrangement with single row support bearing.



| Form form                                                                   | Abmessungen dimensions [mm]   |                |                |               |
|-----------------------------------------------------------------------------|-------------------------------|----------------|----------------|---------------|
| TGS/KGS                                                                     | D <sub>1</sub> k <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | Lager bearing |
| Gewindekerndurchmesser thread core diameter d <sub>2</sub> > d <sub>1</sub> | 12                            | 8              | 12             | 6001-RS       |
|                                                                             | 15                            | 9              | 13             | 6002-RS       |
|                                                                             | 20                            | 12             | 16             | 6004-RS       |
|                                                                             | 25                            | 15             | 20             | 6205-RS       |
|                                                                             | 30                            | 16             | 21             | 6206-RS       |
|                                                                             | 40                            | 18             | 25             | 6208-RS       |
|                                                                             | 55                            | 21             | 29             | 6211-RS       |

# Nutmuttern DRS/GUK

## Grooved nuts DRS/GUK

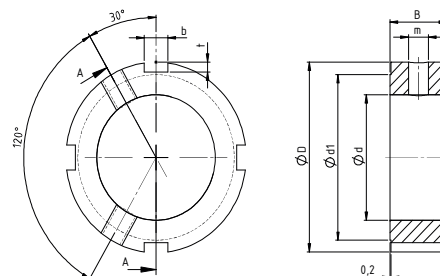
### Technische Daten/Abmessungen *Technical data/dimensions*

#### DRS *DRS*

Hier handelt es sich um eine sicherbare Nutmutter. Die Sicherung erfolgt mit Hilfe zweier radialer Messingstifte.  
Werkstoff: Vergütungsstahl min. 800 N/mm<sup>2</sup>

*This is a securable grooved nut. It is secured by means of two radial brass pins.*

*Material: heat treated steel min. 800 N/mm<sup>2</sup>*



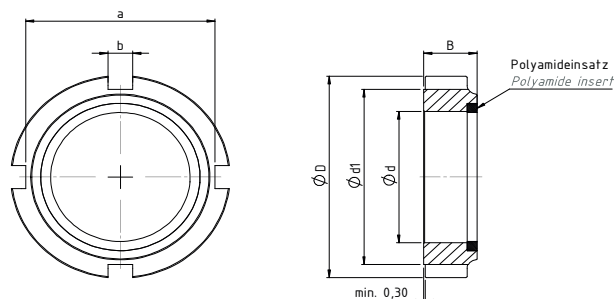
| Größe<br>size | d       | D   | B  | d <sub>1</sub> | c  | m  | b  | t   | (Nm) |
|---------------|---------|-----|----|----------------|----|----|----|-----|------|
| DRS-6x0,5     | M 6x0,5 | 16  | 8  | 12             | 4  | M4 | 3  | 2   | 2    |
| DRS-10x1      | M10x1   | 18  | 8  | 14             | 4  | M4 | 3  | 2   | 6    |
| DRS-12x1      | M12x1   | 22  | 8  | 18             | 4  | M4 | 3  | 2   | 8    |
| DRS-17x1      | M17x1   | 28  | 10 | 23             | 5  | M5 | 4  | 2   | 15   |
| DRS-20x1      | M20x1   | 32  | 10 | 27             | 5  | M5 | 4  | 2   | 18   |
| DRS-30x1,5    | M30x1,5 | 45  | 12 | 40             | 6  | M6 | 5  | 2   | 32   |
| DRS-45x1,5    | M45x1,5 | 65  | 14 | 59             | 7  | M6 | 6  | 2,5 | 65   |
| DRS-55x2      | M55x2   | 75  | 16 | 68             | 8  | M6 | 7  | 3   | 95   |
| DRS-60x2      | M60x2   | 80  | 16 | 73             | 8  | M6 | 7  | 3   | 100  |
| DRS-70x2      | M70x2   | 92  | 18 | 85             | 9  | M8 | 8  | 3,5 | 130  |
| DRS-80x2      | M80x2   | 105 | 18 | 95             | 9  | M8 | 8  | 3,5 | 160  |
| DRS-90x2      | M90x2   | 120 | 20 | 108            | 10 | M8 | 10 | 4   | 200  |

#### GUK *GUK*

Hierbei handelt es sich um eine selbstsichernde Nutmutter mit einem Polyamidring. Der Polyamidring ist maximal bis 100°C einsetzbar.  
Werkstoff (Festigkeitsklasse): min. 14H verzinkt und passiviert

*This is a self-locking grooved nut with a polyamide ring. The polyamide ring can be used up to a maximum of 100°C.*

*Material (strength class): min. 14H galvanized and passivated*



| Größe<br>size | Abmessungen<br>dimensions<br>[mm] |    |     |                |    |   |      | Gewicht<br>weight<br>[kg] |
|---------------|-----------------------------------|----|-----|----------------|----|---|------|---------------------------|
|               | d                                 | D  | B   | d <sub>1</sub> | a  | b | (Nm) |                           |
| GUK-12x1      | M12x1                             | 21 | 7,6 | 18             | 18 | 3 | 8    | 10                        |
| GUK-15x1      | M15x1                             | 24 | 8,6 | 21             | 21 | 4 | 10   | 13                        |
| GUK-20x1      | M20x1                             | 32 | 9,6 | 27             | 27 | 4 | 18   | 24                        |

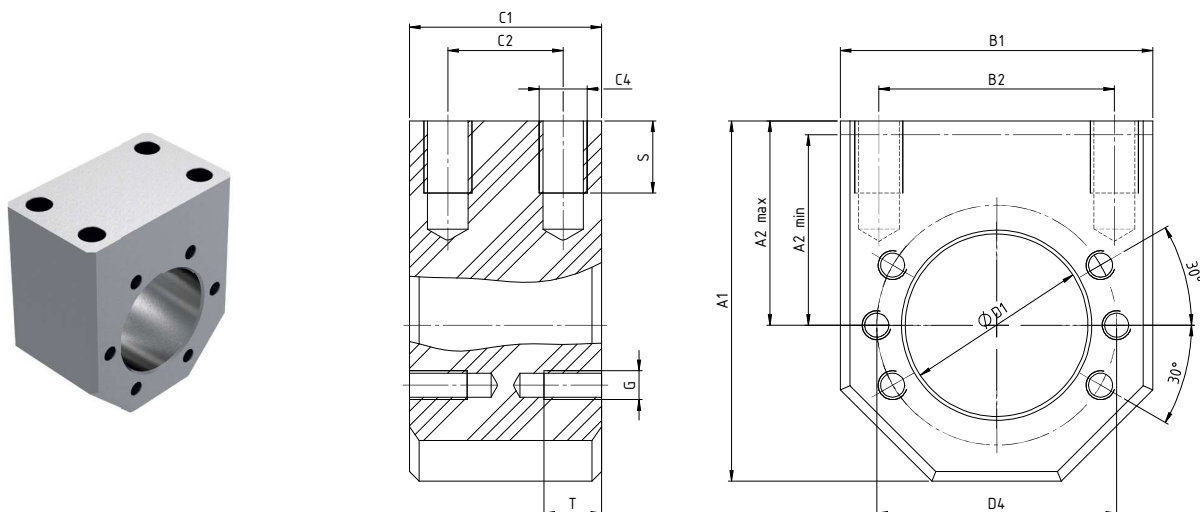
# Adapterkonsole KON

## Adapter bracket KON

### Technische Daten/Abmessungen *Technical data/dimensions*

Hierbei handelt es sich um eine Adapterkonsole zur radialen Befestigung von Trapezgewindemuttern EFM oder Kugelgewindeflanschmuttern KGF-N/KGF-D nach DIN 69051.

*This is an adapter bracket for radial fastening of trapezoidal nuts EFM or flanged ball nuts KGF-N/KGF-D according to DIN 69051.*



| Größe<br>size                      | Bohrbild<br>hole pattern <sup>1)</sup> | Abmessungen<br>dimensions<br>[mm] |                    |                    |                |                |                |                |                |    |                |                |     |    |
|------------------------------------|----------------------------------------|-----------------------------------|--------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|-----|----|
|                                    |                                        | A <sub>1</sub>                    | A <sub>2 max</sub> | A <sub>2 min</sub> | B <sub>1</sub> | B <sub>2</sub> | C <sub>1</sub> | C <sub>2</sub> | C <sub>4</sub> | S  | D <sub>1</sub> | D <sub>4</sub> | G   | T  |
| KON-Tr16x4/Tr 18x4/KGF-N 1605      | 3                                      | 60                                | 35                 | 25                 | 50             | 34             | 40             | 24             | M8             | 15 | 28             | 38             | M5  | 10 |
| KON-KGF-D 1605/1610                | 1                                      | 60                                | 35                 | 25                 | 50             | 34             | 40             | 24             | M8             | 15 | 28             | 38             | M5  | 10 |
| KON-Tr20x4/Tr24x5/KGF-N 2005       | 3                                      | 68                                | 37,5               | 29                 | 58             | 39             | 40             | 24             | M8             | 15 | 32             | 45             | M6  | 12 |
| KON-KGF-D 2005                     | 1                                      | 68                                | 37,5               | 30                 | 58             | 39             | 40             | 24             | M8             | 15 | 36             | 47             | M7  | 12 |
| KON-KGF-D 2020/2050                | 3                                      | 75                                | 42,5               | 32,5               | 65             | 49             | 40             | 24             | M10            | 15 | 35             | 50             | M6  | 12 |
| KON-Tr30x6/KGF-N 2505              | 3                                      | 75                                | 42,5               | 32,5               | 65             | 49             | 40             | 24             | M10            | 15 | 38             | 50             | M6  | 12 |
| KON-KGF-D 2505/2510/2520/2525/2550 | 1                                      | 75                                | 42,5               | 32,5               | 65             | 49             | 40             | 24             | M10            | 12 | 40             | 51             | M6  | 12 |
| KON-Tr36x6/KGF-N 3205              | 3                                      | 82                                | 45                 | 37                 | 75             | 54             | 50             | 30             | M10            | 12 | 45             | 58             | M6  | 12 |
| KON-KGF-D 3205                     | 1                                      | 92                                | 50                 | 40                 | 85             | 60             | 50             | 30             | M12            | 15 | 50             | 65             | M8  | 12 |
| KON-KGF-N 3210/3240/4005           | 3                                      | 92                                | 50                 | 42                 | 85             | 60             | 50             | 30             | M12            | 15 | 53             | 68             | M6  | 12 |
| KON-KGF-D 3210/3220                | 1                                      | 92                                | 50                 | 40                 | 85             | 60             | 50             | 30             | M12            | 15 | 53             | 65             | M8  | 12 |
| KON-Tr40x7/KGF-N 4010              | 3                                      | 120                               | 70                 | 50                 | 100            | 76             | 65             | 41             | M14            | 25 | 63             | 78             | M8  | 14 |
| KON-KGF-D 4005/4010/4020/4040      | 2                                      | 120                               | 70                 | 50                 | 100            | 76             | 65             | 41             | M14            | 25 | 63             | 78             | M8  | 14 |
| KON-Tr50x8/KGF-N 5010              | 3                                      | 135                               | 77,5               | 57,5               | 115            | 91             | 88             | 64             | M16            | 25 | 72             | 90             | M10 | 16 |
| KON-KGF-D 5010                     | 2                                      | 135                               | 77,5               | 57,5               | 115            | 91             | 88             | 64             | M16            | 25 | 75             | 93             | M10 | 16 |
| KON-KGF-D 5020                     | 2                                      | 152                               | 87,5               | 65                 | 130            | 101            | 88             | 64             | M16            | 30 | 85             | 103            | M10 | 16 |
| KON-Tr60x9/KGF-N 6310              | 3                                      | 152                               | 87,5               | 65                 | 130            | 101            | 88             | 64             | M16            | 30 | 85             | 105            | M10 | 16 |

<sup>1)</sup> siehe Katalogdarstellung Bohrbild Mutter *see catalogue illustration hole pattern nut*

# Adapterkonsole MAFN

## Adapter bracket MAFN

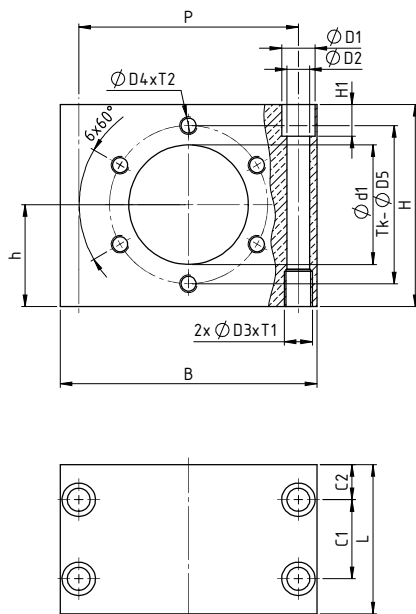
### Technische Daten/Abmessungen *Technical data/dimensions*

Hierbei handelt es sich um eine Adapterkonsole zur radialen Befestigung von Trapezgewindemuttern TGM-EFM, Kugelgewindeflanschnuttern KGF-D nach DIN 69051 oder Kugelgewindeflanschnuttern KGF-N nach NEFF Norm. Die Adapterkonsole MAFN sollte man durch die Außenkanten formschlüssig mit der angeschraubten Anlage fixieren, um so eine Verstellung der montierten Lage während des Betriebs zu vermeiden.  
Werkstoff: AlCuPbMg (eloxiert) – andere Materialien auf Anfrage

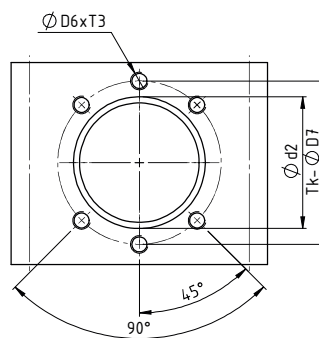
*This is an adapter bracket for radial fastening of trapezoidal nuts TGM-EFM, flanged ball nuts KGF-D according to DIN 69051 or flanged ball nuts KGF-N according to NEFF standard. The adapter bracket MAFN should be fixed positively to the screwed-on system through the outer edges to establish a form-fitting connection in order to avoid displacement of the mounted position during operation.*

*Material: AlCuPbMg (anodised) – other materials on request*

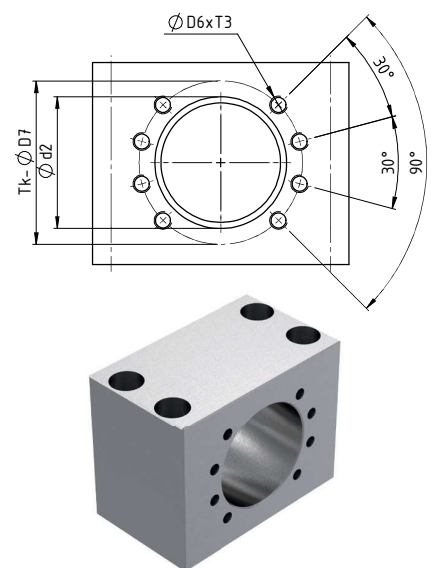
Standardbohrbild passend zu TGM-EFM/KGF-N  
Standard hole pattern suitable for TGM-EFM/KGF-N



Bohrbild 1 passend zu KGF-D  
Hole pattern 1 suitable for KGF-D



Bohrbild 2 passend zu KGF-D  
Hole pattern 2 suitable for KGF-D



| Größe<br>size | Standardbohrbild standard <i>hole pattern</i> – TGM-EFM/KGF-N –<br>Abmessungen<br><i>dimensions</i><br>[mm] |    |     |      |                  |                |     |                |                |                |                |                                |                                |                   |                |                     | Bohrbild <i>hole pattern</i> 1&2 - KGF-D –<br>Abmessungen<br><i>dimensions</i><br>[mm] |                |                                |                   |                 |
|---------------|-------------------------------------------------------------------------------------------------------------|----|-----|------|------------------|----------------|-----|----------------|----------------|----------------|----------------|--------------------------------|--------------------------------|-------------------|----------------|---------------------|----------------------------------------------------------------------------------------|----------------|--------------------------------|-------------------|-----------------|
|               | d <sub>1</sub>                                                                                              | L  | B   | H    | h <sub>js7</sub> | H <sub>1</sub> | P   | C <sub>1</sub> | C <sub>2</sub> | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> xT <sub>1</sub> | D <sub>4</sub> xT <sub>2</sub> | Tk-D <sub>5</sub> | TGM-EFM        | KGM-NF              | Bohrbild<br>hole<br>pattern                                                            | d <sub>2</sub> | D <sub>6</sub> xT <sub>3</sub> | Tk-D <sub>7</sub> | KGM-<br>DF      |
| MAFN-01       | 20                                                                                                          | 35 | 55  | 38   | 21               | 7              | 40  | 20             | 7,5            | 10             | 7,4            | M8x12                          | M4x12                          | 32                | -              | -                   | -                                                                                      | -              | -                              | -                 | -               |
| MAFN-02       | 28                                                                                                          | 40 | 70  | 55   | 28               | 11             | 52  | 20             | 10             | 15             | 9,3            | M10x15                         | M5x15                          | 38                | 16xP -<br>18xP | 16x05               | 1                                                                                      | 28             | M5x15                          | 38                | 16x05/<br>16x10 |
| MAFN-03       | 32                                                                                                          | 40 | 75  | 62   | 32               | 11             | 56  | 20             | 10             | 15             | 9,3            | M10x15                         | M6x16                          | 45                | 20xP -<br>24xP | 20x05               | -                                                                                      | -              | -                              | -                 | -               |
| MAFN-04       | 38                                                                                                          | 40 | 85  | 65   | 34               | 11             | 63  | 20             | 10             | 15             | 9,3            | M10x15                         | M6x16                          | 50                | 30xP           | 25x05               | -                                                                                      | -              | -                              | -                 | -               |
| MAFN-04       | -                                                                                                           | 40 | 85  | 65   | 34               | 11             | 63  | 20             | 10             | 15             | 9,3            | M10x15                         | -                              | -                 | -              | -                   | 1                                                                                      | 40             | M6x16                          | 51                | 25xP            |
| MAFN-05       | 45                                                                                                          | 50 | 95  | 74,5 | 38               | 13,5           | 72  | 26             | 12             | 18             | 11             | M12x15                         | M6x16                          | 58                | 36xP           | 32x05               | -                                                                                      | -              | -                              | -                 | -               |
| MAFN-06       | 53                                                                                                          | 60 | 105 | 82   | 42               | 18             | 82  | 30             | 15             | 19             | 13             | M16x20                         | M6x12                          | 68                | -              | 32x10/40<br>& 40x05 | 2                                                                                      | 63             | M8x12                          | 78                | 40xP            |
| MAFN-07       | 53                                                                                                          | 72 | 120 | 94   | 47               | 18             | 99  | 35             | 18,5           | 19             | 13             | M16x20                         | M6x12                          | 68                | 40xP           | -                   | 2                                                                                      | 63             | M8x16                          | 78                | 40xP            |
| MAFN-08       | 72                                                                                                          | 85 | 146 | 115  | 58               | 18             | 125 | 45             | 20             | 19             | 13             | M16x20                         | M10x24                         | 90                | 50x8           | 50x10               | 2                                                                                      | 75             | M10x24                         | 93                | 50x10           |
| MAFN08        | 85                                                                                                          | 85 | 146 | 115  | 58               | 18             | 125 | 45             | 20             | 19             | 13             | M16x20                         | M10x24                         | 105               | 60x9           | 63x10               | 2                                                                                      | 90             | M10x24                         | 108               | 63x10           |

# Kardanadapter KAR

## Cardan adapter

### Technische Daten/Abmessungen *Technical data/dimensions*

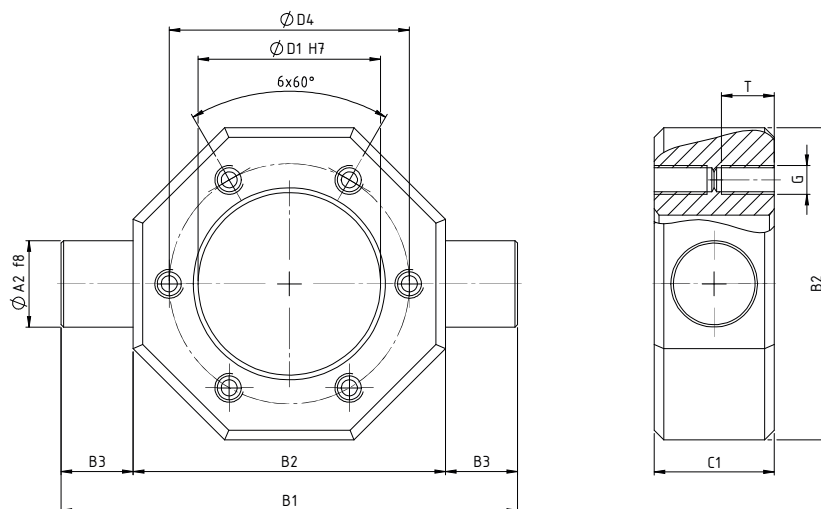


Hierbei handelt es sich um einen Kardanadapter zum kardanischen Aufhängen von Trapezgewindemuttern EFM, Kugelgewindeflanschnuttern KGF-N/KGF-D nach DIN 69051.

Unten folgt eine Darstellung beispielhaft für das Bohrbild 3. Für andere Bohrbilder, siehe Katalogdarstellungen Kugelgewindemuttern.

*This is a cardan adapter for gimballed suspension of trapezoidal nuts EFM, flanged ball nuts KGF-N/KGF-D according to DIN 69051.*

*Below is an example of hole pattern 3. For other hole patterns, see catalogue illustrations of ball nuts.*



| Größe<br>size                      | Bohrbild<br>hole pattern <sup>1)</sup> | Abmessungen<br>dimensions<br>[mm] |                |                |                |                |                |                |     |    |
|------------------------------------|----------------------------------------|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----|
|                                    |                                        | A <sub>2</sub>                    | B <sub>1</sub> | B <sub>2</sub> | B <sub>3</sub> | C <sub>1</sub> | D <sub>1</sub> | D <sub>4</sub> | G   | T  |
| KAR-Tr16x4/Tr18x4/KGF-N 1605       | 3                                      | 12                                | 70             | 50             | 10             | 20             | 28             | 38             | M5  | 10 |
| KAR-KGF-D 1605/1610                | 1                                      | 12                                | 70             | 50             | 10             | 20             | 28             | 38             | M5  | 10 |
| KAR-Tr20x4/Tr24x5/KGF-N 2005       | 3                                      | 16                                | 85             | 58             | 13,5           | 25             | 32             | 45             | M6  | 12 |
| KAR-KGF-D 2005                     | 1                                      | 16                                | 85             | 58             | 13,5           | 25             | 36             | 47             | M6  | 12 |
| KAR-KGF-N 2020/2050                | 3                                      | 18                                | 95             | 65             | 15             | 25             | 35             | 50             | M6  | 12 |
| KAR-Tr 30x6/KGF-N 2505             | 3                                      | 18                                | 95             | 65             | 15             | 25             | 38             | 50             | M6  | 12 |
| KAR-KGF-D 2505/2510/2520/2525/2550 | 1                                      | 18                                | 95             | 65             | 15             | 25             | 40             | 51             | M6  | 12 |
| KAR-Tr36x6/KGF-N 3205              | 3                                      | 20                                | 110            | 75             | 17,5           | 30             | 45             | 58             | M6  | 12 |
| KAR-KGF-D 3205                     | 1                                      | 25                                | 125            | 85             | 20             | 30             | 50             | 65             | M8  | 12 |
| KAR-KGF-N 3210/3240/4005           | 3                                      | 25                                | 125            | 85             | 20             | 30             | 53             | 68             | M6  | 12 |
| KAR-KGF-D 3210/3220                | 1                                      | 25                                | 125            | 85             | 20             | 30             | 53             | 65             | M8  | 12 |
| KAR-Tr40x7/KGF-N 4010              | 3                                      | 30                                | 140            | 100            | 20             | 40             | 63             | 78             | M8  | 14 |
| KAR-KGF-D 4005/4010/4020/4040      | 2                                      | 30                                | 140            | 100            | 20             | 40             | 63             | 78             | M8  | 14 |
| KAR-Tr50x8/KGF-N 5010              | 3                                      | 40                                | 165            | 115            | 25             | 50             | 72             | 90             | M10 | 16 |
| KAR-KGF-D 5010                     | 2                                      | 40                                | 165            | 115            | 25             | 50             | 72             | 93             | M10 | 16 |
| KAR-KGF-D 5020                     | 2                                      | 40                                | 180            | 130            | 25             | 50             | 85             | 103            | M10 | 16 |
| KAR-Tr60x9/KGF-N 6310              | 3                                      | 40                                | 180            | 130            | 25             | 50             | 85             | 105            | M10 | 16 |

<sup>1)</sup> Siehe Katalogdarstellung Bohrbild Mutter see catalogue presentation hole pattern nut

# Kreuzkardanadapter KKA

## Cross cardan adapter KKA

### Technische Daten/Abmessungen *Technical data/dimensions*

Die Kreuzkardanadapter KKA gleichen Lagetoleranzen in allen relevanten Freiheitsgraden aus. Dabei kann man nicht nur Winkelfehler, sondern zusätzlich auch Achsversätze neutralisieren.

*Cross cardanadapter KKA balance position tolerances in all directions. Offsets can be also neutralized as angle errors.*



| Typ type                                                                                                                            | KKA-1       | KKA-2       | KKA-3     | KKA-4      | KKA-5      | KKA-6       |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-----------|------------|------------|-------------|
| max. Achsversatz <i>offset</i> X / Y [mm]                                                                                           | ± 1,5mm     | ± 2mm       | ± 3mm     | ± 4mm      | ± 5mm      | ± 6mm       |
| max. Winkelfehler <i>angle error</i> X / Y [°]                                                                                      | ±5°         |             |           |            |            |             |
| Axialspiel <i>backlash</i> [mm] <sup>1)</sup>                                                                                       | 0,014-0,082 | 0,014-0,082 | 0,018-0,1 | 0,02-0,118 | 0,02-0,118 | 0,024-0,138 |
| Verdrehspiel <i>torsional backlash</i> ["] <sup>1)</sup>                                                                            | 0°17'       | 0°16'       | 0°12'     | 0°11'      | 0°10'      | 0°9'        |
| max. dynamische Traglast <i>dyn. load</i> [kN]                                                                                      | 24,75       | 24,75       | 72        | 123,75     | 126        | 238         |
| max stat. Tragzahl <i>stat. load</i> [kN]                                                                                           | 33          | 33          | 96        | 165        | 216        | 408         |
| <sup>1)</sup> reduziertes Axial- und Verdrehspiel auf Anfrage verfügbar <i>contact us for reduced axial- and torsional backlash</i> |             |             |           |            |            |             |

### Einsetzbare Gewindemuttertypen nach Baugröße

#### Usable nuts according type

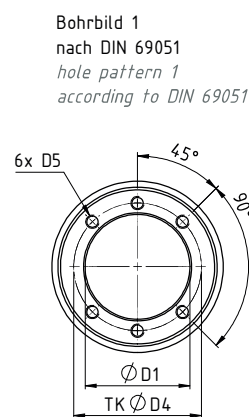
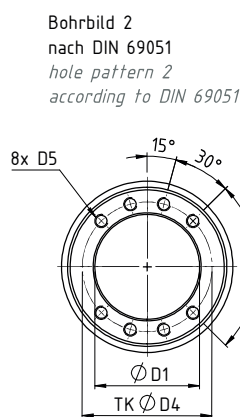
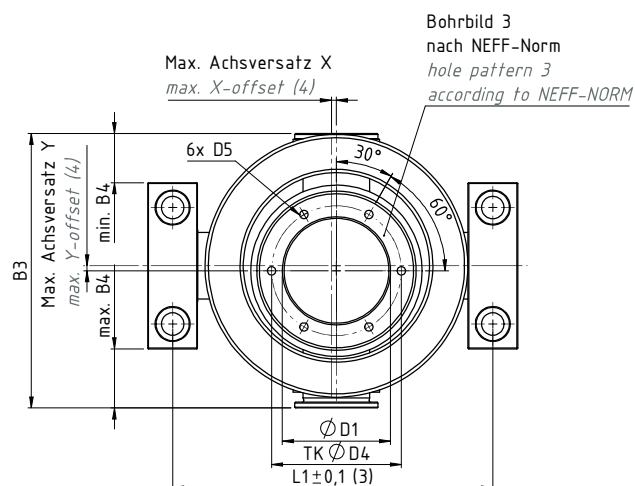
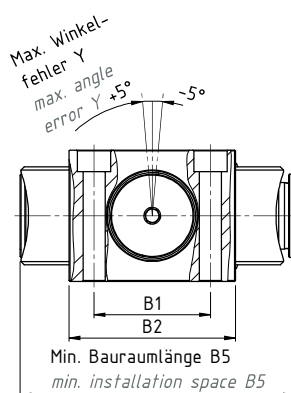
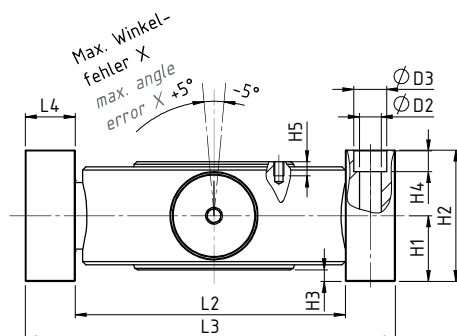
| Typ <i>type</i> | Einsetzbare Mutterntypen<br><i>usable nuts</i> |            |            |                 |            | Bohrbild<br><i>hole pattern</i> | D <sub>1</sub> | D <sub>4</sub> | D <sub>5</sub> | Bestellcode<br><i>order code</i> <sup>1)</sup> |
|-----------------|------------------------------------------------|------------|------------|-----------------|------------|---------------------------------|----------------|----------------|----------------|------------------------------------------------|
| KKA-1           | EFM Tr14                                       | EFM Tr16   | EFM Tr18   | KGf-N 1605      | KGf-N 1616 | 3                               | 28             | 40             | M5             | KKA-1-EFM-Tr14-18-KGf-N-1605-16-0              |
|                 | KGf-D 1605                                     |            | KGf-D 1610 |                 | KGf-D 1616 | 1                               | 28             | 38             | M5             | KKA-1-KGf-D-1605-10-16-0                       |
|                 | KGf-D 1640                                     |            |            |                 |            | 1                               | 32             | 42             | M5             | KKA-KGf-D-1640-0                               |
| KKA-2           | EFM Tr20                                       |            | EFM Tr24   |                 | KGf-N 2005 | 3                               | 32             | 45             | M6             | KKA-2-EFM-Tr20-24-KGf-N-2005-0                 |
|                 | EFM Tr30                                       |            |            | KGf-N 2505      |            | 3                               | 38             | 50             | M6             | KKA-2-EFM-Tr30-KGf-N-2505-0                    |
|                 | KGf-D-2005                                     |            |            |                 |            | 1                               | 36             | 47             | M6             | KKA-2-KGf-D-2005-0                             |
|                 | KGf-D 2505                                     | KGf-D 2510 | KGf-D 2520 | KGf-D 2525      | KGf-D 2550 | 1                               | 40             | 51             | M6             | KKA-2-KGf-D-2505-10-20-25-50-0                 |
|                 | KGf-N 2020                                     |            |            | KGf-N 2050      |            | 3                               | 35             | 50             | M6             | KKA-2-KGf-N-2020-50-0                          |
| KKA-3           | EFM Tr36                                       |            |            | KGf-N 3205      |            | 3                               | 45             | 58             | M6             | KKA-3-EFM-Tr36-KGf-N-3205-0                    |
|                 | EFM Tr40                                       |            |            | KGf-N 4010      |            | 3                               | 63             | 78             | M8             | KKA-3-EFM-Tr40-KGf-N-4010-0                    |
|                 | KGf-D 3205                                     |            |            | KGf-D 3210-6,35 |            | 1                               | 50             | 65             | M8             | KKA-3-KGf-D-3205-KGf-D-3210-6,35-0             |
|                 | KGf-D 3210                                     |            | KGf-D 3220 |                 | KGf-D 3260 | 1                               | 53             | 65             | M8             | KKA-3-KGf-D-3210-20-60-0                       |
|                 | KGf-D 4005                                     | KGf-D 4010 | KGf-D 4020 | KGf-D 4040      |            | 2                               | 63             | 78             | M8             | KKA-3-KGf-D-4005-10-20-40-0                    |
|                 | KGf-N 3210                                     | KGf-N 3240 | KGf-N 3260 | KGf-N 4005      |            | 3                               | 53             | 68             | M6             | KKA-3-KGf-N-3210-40-60-KGf-N-4005-0            |
| KKA-4           | EFM Tr50                                       |            |            | KGf N-5010      |            | 3                               | 72             | 90             | M10            | KKA-4-EFM-Tr50-KGf-N-5010-0                    |
|                 | KGf-D 5010                                     |            |            |                 |            | 2                               | 75             | 93             | M10            | KKA-4-KGf-D-5010-0                             |
|                 | KGf-D 5020                                     |            |            |                 |            | 2                               | 85             | 103            | M10            | KKA-4-KGf-D-5020-0                             |
| KKA-5           | EFM Tr60                                       |            |            | KGf-N 6310      |            | 3                               | 85             | 105            | M10            | KKA-5-EFM-Tr60-KGf-N-6310-0                    |
|                 | KGf-D 6310                                     |            |            |                 |            | 2                               | 90             | 108            | M10            | KKA-5-KGf-D-6310-0                             |
| KKA-6           | EFM Tr70                                       |            |            |                 |            | 3                               | 95             | 140            | M16            | KKA-6-EFM-Tr70-0-0                             |
|                 | EFM Tr80                                       |            |            |                 |            | 3                               | 105            | 150            | M16            | KKA-6-EFM-Tr80-0                               |
|                 | KGf-D 8010                                     |            |            |                 |            | 2                               | 105            | 125            | M12            | KKA-6-KGf-D-8010-0                             |
|                 | KGf-N 8010                                     |            |            |                 |            | 3                               | 105            | 125            | M12            | KKA-6-KGf-N-8010-0                             |

(1) Für Sonderausführungen letzte Ziffer von Bestellcode mit -1 kennzeichnen und in Bestellung entsprechend Zeichnung oder Beschreibung angeben  
For special requirements please replace the last numeric with -1 and specify it with a drawing or description in the order

## Technische Daten/Abmessungen *Technical data/dimensions*



Darstellung Achsversetzt  
*exposition with offset*



<sup>(1)</sup> für störungsfreien Betrieb *for failure-free operation*

(2) für Abstandsmaß im mittigen Zustand ist der Achsversatz abzuziehen *exposition with offset, for centric dimension, please subtract the offset-mass*

<sup>(3)</sup> bei Abweichungen der Toleranzvorgabe ist der angegebene max. Achsversatz nicht mehr gewährleistet *tolerance deflection generate lower offset*

<sup>(4)</sup> siehe Tabelle allgemeine technische Daten *see table technical data*

| Typ<br>type | Abmessungen<br>dimensions<br>[mm]                                                                                          |                |                |                                                                                                                            |                                                                                                                            |                |                |                |                        |                |
|-------------|----------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|------------------------|----------------|
|             | D <sub>1</sub>                                                                                                             | D <sub>2</sub> | D <sub>3</sub> | D <sub>4</sub>                                                                                                             | D <sub>5</sub>                                                                                                             | B <sub>1</sub> | B <sub>2</sub> | B <sub>3</sub> | B <sub>4 min/max</sub> | B <sub>5</sub> |
| KKA-1       | s. Tabelle:<br>einsetzbare<br>Gewinde-<br>muttern<br>typen<br>nach Baugröße<br>see table:<br>usable nuts<br>according type | 9              | 15             | s. Tabelle:<br>einsetzbare<br>Gewinde-<br>muttern<br>typen<br>nach Baugröße<br>see table:<br>usable nuts<br>according type | s. Tabelle:<br>einsetzbare<br>Gewinde-<br>muttern<br>typen<br>nach Baugröße<br>see table:<br>usable nuts<br>according type | 58             | 80             | 98             | 7,6/10,4               | 106            |
| KKA-2       |                                                                                                                            | 9              | 15             |                                                                                                                            |                                                                                                                            | 58             | 80             | 107,8          | 11,9/15,9              | 117            |
| KKA-3       |                                                                                                                            | 13,5           | 20             |                                                                                                                            |                                                                                                                            | 70             | 100            | 165            | 29,5/35,5              | 177            |
| KKA-4       |                                                                                                                            | 22             | 33             |                                                                                                                            |                                                                                                                            | 115            | 160            | 212            | 22/30                  | 229            |
| KKA-5       |                                                                                                                            | 26             | 40             |                                                                                                                            |                                                                                                                            | 120            | 180            | 231            | 20,5/30,5              | 250            |
| KKA-6       |                                                                                                                            | 33             | 48             |                                                                                                                            |                                                                                                                            | 160            | 220            | 316            | 42/54                  | 352            |

| Typ<br><i>type</i> | Abmessungen<br><i>dimensions</i><br>[mm] |                |                |                |                |                |                |                |                |
|--------------------|------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                    | H <sub>1</sub>                           | H <sub>2</sub> | H <sub>3</sub> | H <sub>4</sub> | H <sub>5</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> |
| KKA-1              | 27                                       | 54             | 6              | 9              | 10             | 120            | 100            | 140            | 20             |
| KKA-2              | 27                                       | 54             | 6              | 9              | 12             | 127            | 107            | 147            | 20             |
| KKA-3              | 39,5                                     | 79             | 7              | 13             | 12             | 195            | 165            | 225            | 30             |
| KKA-4              | 49,5                                     | 99             | 8              | 21,5           | 14             | 256            | 216            | 296            | 40             |
| KKA-5              | 50                                       | 100            | 8              | 24,8           | 14             | 285            | 235            | 335            | 50             |
| KKA-6              | 70                                       | 140            | 12,5           | 32             | 16             | 388            | 325            | 451            | 63             |