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# Datasheet

## Elastomer coupling

## with keyway connection

# *EK1*

## 0,5 Nm up to 25.000 Nm | Affordable




## Features

- Affordable
- Good concentricity
- low backlash , thanks to a keyway connection

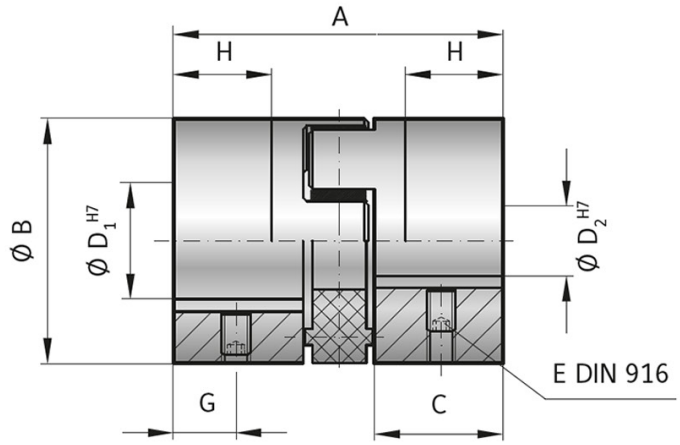
## Material

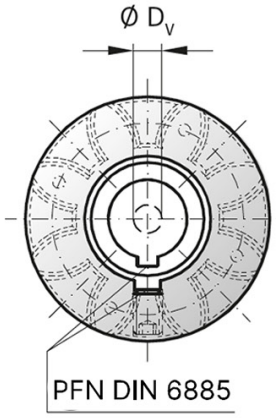
- **Hubs:** Up to size 600 high strength aluminium, size 800 steel, size 2500 and up GGG40
- **Elastomer:** wear resistant thermally stable TPU

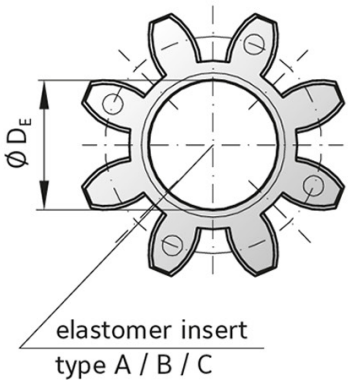
## Design

Two concentrically maschined hubs with curved jaws and clamping screws.
Size 2500 and up, the elastomer insert consists of five individual segments.

# Product dimensions EK1 0.5 Nm - 2150 Nm



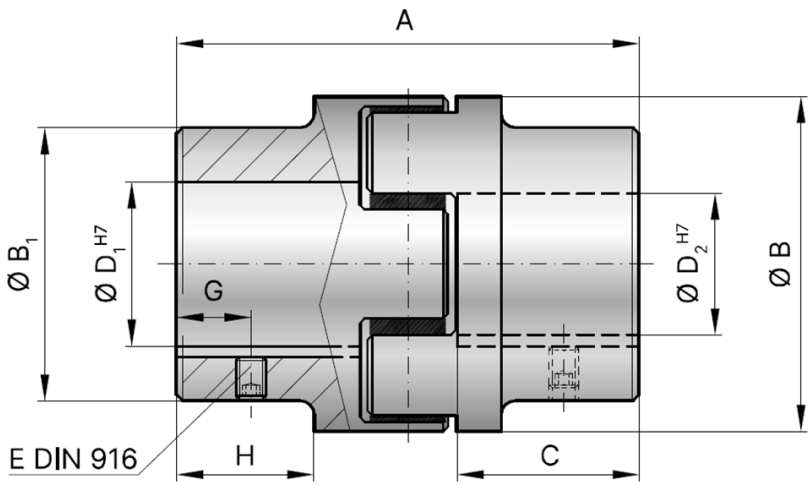



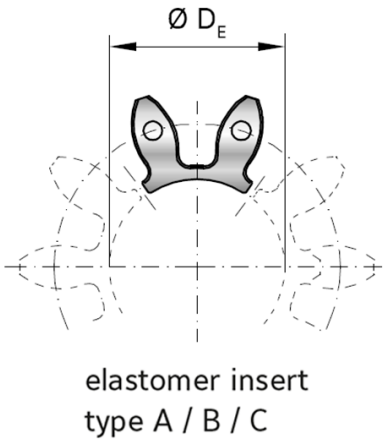

| Size | | | 2 | | | 5 | | | 10 | | | 20 | | | 60 | | | 150 | | | 300 | | | 400 | | | 450 | | | 600 | | | 800 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type (Elastomer insert) | | | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C |
| Rated torque | [Nm] | $T_{KN}$ | 2 | 2.4 | 0.5 | 9 | 12 | 2 | 12.5 | 16 | 4 | 17 | 21 | 6 | 60 | 75 | 20 | 160 | 200 | 42 | 325 | 405 | 84 | 410 | 520 | 90 | 530 | 660 | 95 | 700 | 840 | 150 | 950 | 1100 | 240 |
| Max. Torque | [Nm] | $T_{Kmax}$ | 4 | 4.8 | 1 | 18 | 24 | 4 | 25 | 32 | 6 | 34 | 42 | 12 | 120 | 150 | 35 | 320 | 400 | 85 | 650 | 810 | 170 | 820 | 1040 | 180 | 1060 | 1350 | 190 | 1400 | 1680 | 300 | 1900 | 2150 | 400 |
| Overall length | [mm] | A | 20 | | | 34 | | | 35 | | | 66 | | | 78 | | | 90 | | | 114 | | | 120 | | | 126 | | | 147 | | | 162 | | |
| Outer-Ø | [mm] | B | 15 | | | 25 | | | 32 | | | 42 | | | 56 | | | 66.5 | | | 82 | | | 95 | | | 102 | | | 120 | | | 136.5 | | |
| Mounting length | [mm] | C | 6.5 | | | 12 | | | 12 | | | 25 | | | 30 | | | 35 | | | 45 | | | 46 | | | 50 | | | 57 | | | 65 | | |
| Pilotbore-Ø | [mm] | $D_V$ | 3 | | | 4 | | | 6 | | | 7 | | | 9 | | | 14 | | | 16 | | | 20 | | | 22 | | | 25 | | | 29 | | |
| Bore-Ø | [mm] | $D_1/D_2$ | 3 - 9 | | | 6 - 15 | | | 6 - 18 | | | 8 - 25 | | | 12 - 32 | | | 19 - 38 | | | 20 - 45 | | | 25 - 50 | | | 28 - 60 | | | 30 - 70 | | | 35 - 80 | | |
| Max. inner-Ø (Elastomer insert) | [mm] | $D_E$ | 6.2 | | | 10.2 | | | 14.2 | | | 19.2 | | | 26.2 | | | 29.2 | | | 36.2 | | | 43 | | | 46.2 | | | 55 | | | 60.5 | | |
| Set screws DIN 916 | | E | see Tabelle (dependig on bore-Ø)* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distance | [mm] | G | 3 | | | 5 | | | 6 | | | 9 | | | 11 | | | 12 | | | 15 | | | 16 | | | 17 | | | 23 | | | 30 | | |
| Hub length | [mm] | H | 4 | | | 6 | | | 6 | | | 19 | | | 22 | | | 26 | | | 32 | | | 35 | | | 37 | | | 40 | | | 43 | | |
| Moment of inertia per hub | $10^{-3}$ [kgm²] | $J_1 / J_2$ | 0.0001 | | | 0.001 | | | 0.003 | | | 0.02 | | | 0.06 | | | 0.2 | | | 0.6 | | | 1.1 | | | 1.5 | | | 3.5 | | | 19 | | |
| Weight (approx.) | [kg] | | 0.008 | | | 0.03 | | | 0.08 | | | 0.15 | | | 0.35 | | | 0.7 | | | 1.4 | | | 1.9 | | | 2.3 | | | 3.7 | | | 15.5 | | |
| Rpm Standard | $10^3$ [$min^{-1}$] | | 15 | | | 15 | | | 13 | | | 12.5 | | | 11 | | | 10 | | | 9 | | | 8.5 | | | 8 | | | 6.8 | | | 4 | | |
| Rpm balanced | $10^3$ [$min^{-1}$] | | 60 | 67 | 45 | 57 | 65 | 43 | 53 | 63 | 40 | 45 | 60 | 35 | 31 | 31 | 25 | 22 | 26 | 18 | 22 | 26 | 16 | 17 | 18 | 13 | 16 | 17 | 12 | 14 | 14 | 10 | 13 | 13 | 8 |

## *Set screws

| Bore-Ø | [mm] | $D_1 / D_2$ | up to Ø12 | above Ø12 up to Ø30 | above Ø30 up to Ø60 | above Ø60 up to Ø95 |
|---|---|---|---|---|---|---|
| Set screws DIN 916 | | E | M4 | M5 | M8 | M10 |

# Product dimensions EK1 1950 Nm - 25,000 Nm




| Serie | | | 2500 | | 4500 | | 9500 | |
|---|---|---|---|---|---|---|---|---|
| Type (Elastomer insert) | | | A | B | A | B | A | B |
| Rated torque | [Nm] | $T_{KN}$ | 1950 | 2450 | 5000 | 6200 | 10,000 | 12,500 |
| Max. Torque | [Nm] | $T_{Kmax}$ | 3900 | 4900 | 10,000 | 12,400 | 20,000 | 25,000 |
| Overall length | [mm] | A | 213 | | 272 | | 341 | |
| Outer-Ø | [mm] | B | 160 | | 225 | | 290 | |
| Outer-Ø | [mm] | $B_1$ | 154 | | 190 | | 240 | |
| Mounting length | [mm] | C | 88 | | 113 | | 142 | |
| Pilotbore-Ø | [mm] | $D_V$ | 28 | | 39 | | 49 | |
| Bore-Ø | [mm] | $D_1$ / $D_2$ | 30 - 95 | | 40 - 130 | | 50 - 170 | |
| Max. inner-Ø (Elastomer insert) | [mm] | $D_E$ | 80 | | 111 | | 145 | |
| Set screws DIN 916 | | E | see Tabelle (dependig on bore-Ø)* | | | | | |
| Distance | [mm] | G | 25 | | 30 | | 40 | |
| Hub length | [mm] | H | 69 | | 89 | | 110 | |
| Moment of inertia per hub | $10^{-3}$ [kgm²] | $J_1$ / $J_2$ | 40 | | 147 | | 480 | |
| Weight (approx.) | [kg] | | 12.5 | | 25 | | 53 | |
| Rpm Standard | [min⁻¹] | | 3500 | | 3000 | | 2000 | |
| Rpm balanced | [min⁻¹] | | 10,000 | 10,000 | 8000 | 8000 | 6500 | 6500 |

*Set screws

| Bore-Ø | [mm] | $D_1$ / $D_2$ | above Ø30 up to Ø60 | above Ø60 up to Ø95 | above Ø95 up to Ø130 | above Ø130 up to Ø170 |
|---|---|---|---|---|---|---|
| Set screws DIN 916 | | E | M8 | M10 | M12 | M16 |

## Order code

| Example: | EK1 | / | 60 | / | A | / | 19 | / | 24pfn |
|---|---|---|---|---|---|---|---|---|---|
| | Model | | Size | | Elastomer insert type | | Bore $D_1$ [mm] (without keyway omit pfn) | | Bore $D_2$ [mm] (without keyway omit pfn) |

$D_1$ is generally intended as the bore for the shaft ends of the sensor.