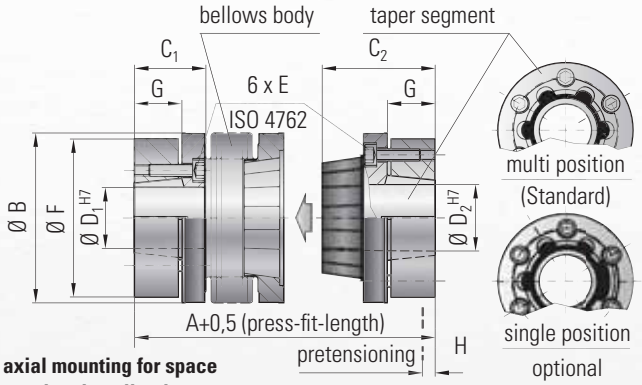
optional stainless steel

# MODEL **BK6**

## BACKLASH-FREE, TORSIONALLY STIFF METAL BELLOWS COUPLINGS

Press-fit, with conical sleeve




**axial mounting for space restricted applications**

**Material BK 6:**

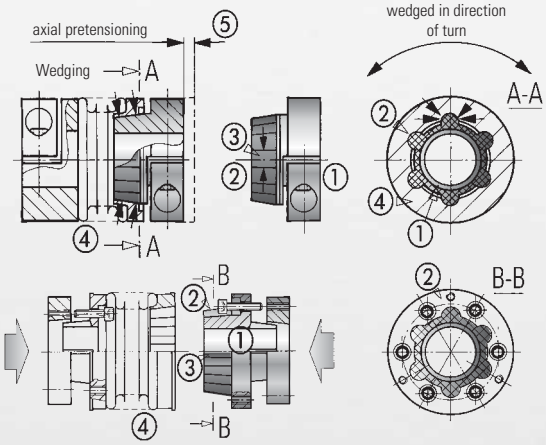
Bellows made of highly flexible, high-grade stainless steel; conical sleeves and tapered segment on bellows face are made of steel.

Tapered segment on hub face: glass-fiber rein forced plastic molded onto a steel hub.

**Design BK 6:**

One side concial sleeve with 6 fastening screws ISO 4762 and 3 draw-off threads. One side with backlash-free tapered concial sleeve with press-fit connection and 3 draw-off screws

## Design details BK 5 / BK 6




**Due to the press-fit design the complete drive unit can be simply pulled away when servicing is required.**

Six self-centering, tapered drive projections (2) have been formed into the plastic conical element, which has been molded onto an aluminium hub (1). The six axially arranged projections are configured conically in a longitudinal direction (3). The mating piece consits of a metal bellows with a tapered female mounting element (4). Absolutely backlash-free torque transmission is ensured due to the axial pretensioning (5) of the metal bellows during its mounting. This slight pretensioning has no negative influence on the operation of the metal bellows coupling or of the shaft bearing.

**Material description of the plastic segment:**

This is a glass-fiber reinforced plastic of the duromer group. With a glass-fiber content of 65% it achives a strength and rigidity roughly that of steel.

| Model BK 6 | | | Series | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15 | | 30 | | 60 | | 150 | | 300 | | 500 | | 800 | | 1500 | |
| Rated torque | (Nm) | $T_{KN}$ | 15 | | 30 | | 60 | | 150 | | 300 | | 500 | | 800 | | 1500 | |
| Overall length (inserted) | (mm) | $A^{+0,5}$ | 58 | 65 | 68 | 76 | 79 | 89 | 97 | 109 | 113 | 127 | 132 | 145 | 140 | | 158 | |
| Outer diameter | (mm) | B | 49 | | 55 | | 66 | | 81 | | 110 | | 124 | | 133 | | 157 | |
| Fit length | (mm) | $C_1$ | 13.5 | | 16.5 | | 18 | | 23.5 | | 27 | | 32 | | 42 | | 53 | |
| Fit length | (mm) | $C_2$ | 29 | | 34 | | 39 | | 49.5 | | 59 | | 68 | | 74 | | 90.5 | |
| Inner diameter from Ø to Ø H7 | (mm) | $D_1$ | 10-22 | | 12-24 | | 12-32 | | 15-40 | | 24-56 | | 30-60 | | 40-62 | | 50-75 | |
| Inner diameter from Ø to Ø H7 | (mm) | $D_2$ | 10-22 | | 12-24 | | 12-32 | | 15-40 | | 24-56 | | 30-60 | | 40-62 | | 50-75 | |
| Fastening screw ISO 4762 | | E | M4 | | M5 | | M5 | | M6 | | M8 | | M8 | | M10 | | M12 | |
| Tightening torque | (Nm) | | 3.5 | | 6.5 | | 8 | | 12 | | 30 | | 32 | | 55 | | 110 | |
| Diameter of clamping cone | (mm) | F | 46.5 | | 51 | | 60 | | 74 | | 102 | | 114 | | 126 | | 146 | |
| Konuslänge | (mm) | G | 9.5 | | 10.5 | | 11.5 | | 17.5 | | 20 | | 23 | | 27 | | 32 | |
| Pretensioning approx. | (mm) | H | 0.2 up to 1.0 | | 0.5 up to 1.0 | | 0.5 up to 1.5 | | 0.5 up to 1.5 | | 0.5 up to 1.5 | | 1.0 up to 2.0 | | 1.0 up to 2.0 | | 0.5 up to 1.5 | |
| Axial recovery force of coupling max. | (N) | | 20 | 12 | 50 | 30 | 70 | 45 | 82 | 52 | 157 | 106 | 140 | 96 | 400 | | 650 | |
| Moment of inertia | ($10^{-3}$ kgm²) | $J_{total}$ | 0.1 | 0.12 | 0.2 | 0.25 | 0.4 | 0.45 | 2.0 | 2.5 | 5.4 | 6.1 | 8.4 | 9.1 | 19.5 | | 44 | |
| Approx. weight | (kg) | | 0.3 | 0.32 | 0.5 | 0.52 | 0.82 | 0.84 | 1.6 | 1.7 | 4.1 | 4.2 | 6.0 | 6.3 | 9.4 | | 16.2 | |
| Torsional stiffness | ($10^3$ Nm/rad) | $C_T$ | 10 | 8 | 20 | 14 | 38 | 28 | 88 | 55 | 225 | 175 | 255 | 245 | 400 | | 660 | |
| axial* | ± (mm) | Max. values | 0.5 | 1 | 0.5 | 1 | 0.5 | 1 | 1 | 2 | 1.5 | 2 | 2.5 | 3.5 | 3 | | 2 | |
| lateral | ± (mm) | | 0.15 | 0.2 | 0.2 | 0.25 | 0.2 | 0.25 | 0.2 | 0.25 | 0.25 | 0.3 | 0.3 | 0.35 | 0.35 | | 0.35 | |
| angular | ± (degree) | | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1.5 | | 1.5 | |
| Lateral spring stiffness | (N/mm) | $C_r$ | 475 | 137 | 900 | 270 | 1200 | 420 | 1550 | 435 | 3750 | 1050 | 2500 | 840 | 2000 | | 3600 | |

(1Nm ≙ 8.85 in lbs) * allowed following maximum pretensioning Higher torques on request.