

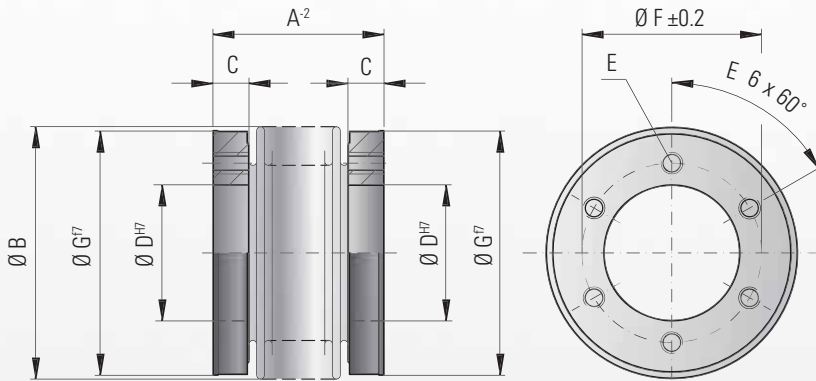
optional
stainless
steel

MODEL BK1

BACKLASH-FREE, TORSIONALLY STIFF METAL BELLOWS COUPLINGS



with flange mounting



Ordering example

BK1/150/62/XX

Model
Series / Nm
Overall length mm
Non standard e.g. stainless steel

Features:

- special design applications
- available with custom or standard flanges

Material:

Bellows made from highly flexible, high grade stainless steel; flanges made from steel

Design:

The flanges have six threaded mounting holes and the ID and OD are concentrically machined to ISO H7/f7 tolerances; flanges with custom bore diameters, mounting threads, and bolt circles are available upon request.

Absolutely backlash free due to frictional connection

Temperature range:

-30 to +100° C (-22 to +212° F)

Speeds:

Up to 10,000 rpm; in excess of 10,000 rpm with finely balanced version (up to G = 2.5)

Service life:

Maintenance free with infinite life when operated within the technical specifications

Brief overloads:

Acceptable up to 1.5x the rated torque

Tolerance:

Recommend H7/f7

Non standard applications:

Custom designs with various tolerances, materials, bolt circles, dimensions, etc. available upon request

| Model BK 1 | | Series | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|---------|------|---------|-------|---------|-------|---------|-------|---------|-------|-------|-----|
| | | 15 | | 30 | | 60 | | 150 | | 200 | | 300 | | 500 | | 800 | | 1500 | | 4000 | | 6000 | | 10000 | | | |
| Rated torque (Nm) | T _{KN} | 15 | | 30 | | 60 | | 150 | | 200 | | 300 | | 500 | | 800 | | 1500 | | 4000 | | 6000 | | 10000 | | | |
| Overall length (mm) | A ² | 30 | 37 | 36 | 44 | 43 | 53 | 50 | 62 | 53 | 65 | 56 | 70 | 64 | 77 | 81 | 100 | 145 | 138 | 150 | 145 | 138 | 150 | 145 | 138 | 150 | |
| Outside diameter of bellows (mm) | B | 49 | | 55 | | 66 | | 81 | | 90 | | 110 | | 124 | | 133 | | 157 | | 200 | | 253 | | 303 | | | |
| Fit length/thread depth (mm) | C | 7.5 | | 10 | | 11 | | 13 | | 14.5 | | 15 | | 16 | | 18 | | 22 | | 30 | | 30 | | 36 | | | |
| Inside diameter H7 (mm) | D | 25 | | 28 | | 38 | | 50 | | 58 | | 65 | | 70 | | 75 | | 85 | | 100 | | 145 | | 190 | | | |
| Fastening threads | E | 6 x M5 | | 6 x M5 | | 6 x M6 | | 6 x M6 | | 6 x M6 | | 6 x M8 | | 6 x M8 | | 6 x M10 | | 6 x M16 | | 6 x M20 | | 8 x M20 | | 8 x M24 | | | |
| Bolt circle diameter ± 0.2 (mm) | F | 35 | | 37 | | 46 | | 62 | | 70 | | 80 | | 94 | | 90 | | 110 | | 140 | | 190 | | 234 | | | |
| Outside diameter f7 (mm) | G | 49 | | 55 | | 66 | | 81 | | 90 | | 110 | | 122 | | 116 | | 140 | | 182 | | 235 | | 295 | | | |
| Moment of inertia (10 ³ kgm ²) | J _{total} | 0.07 | 0.08 | 0.14 | 0.15 | 0.30 | 0.32 | 0.90 | 0.95 | 1.30 | 1.40 | 1.95 | 2.10 | 3.0 | 3.4 | 4.3 | 10.6 | 46 | 132 | 350 | 46 | 132 | 350 | 46 | 132 | 350 | |
| Approximate weight (kg) | | 0.15 | | 0.2 | | 0.3 | | 0.6 | | 0.8 | | 1.35 | | 1.8 | | 1.9 | | 3.3 | | 8.9 | | 13.9 | | 23.7 | | | |
| Torsional stiffness (10 ³ Nm/rad) | C _T | 20 | 15 | 39 | 28 | 76 | 55 | 175 | 110 | 191 | 140 | 450 | 350 | 510 | 500 | 780 | 1304 | 3400 | 5700 | 10950 | 3400 | 5700 | 10950 | 3400 | 5700 | 10950 | |
| Axial ± (mm) | Max. values | 1 | 2 | 1 | 2 | 1.5 | 2 | 2 | 3 | 2 | 3 | 2.5 | 3.5 | 2.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Lateral ± (mm) | | 0.15 | 0.2 | 0.2 | 0.25 | 0.2 | 0.25 | 0.2 | 0.25 | 0.25 | 0.3 | 0.25 | 0.3 | 0.3 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Angular ± (degree) | | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Axial spring stiffness (N/mm) | C _a | 25 | 15 | 50 | 30 | 72 | 48 | 82 | 52 | 90 | 60 | 105 | 71 | 70 | 48 | 100 | 320 | 565 | 1030 | 985 | 1030 | 985 | 1030 | 985 | 1030 | 985 | |
| Lateral spring stiffness (N/mm) | C _r | 475 | 137 | 900 | 270 | 1200 | 420 | 1550 | 435 | 2040 | 610 | 3750 | 1050 | 2500 | 840 | 2000 | 3600 | 6070 | 19200 | 21800 | 19200 | 21800 | 19200 | 21800 | 19200 | 21800 | |

* 1 Nm = 8.85 in lbs