

LP1

WITH KEYWAY MOUNTING; SINGLE OR DUAL FLEX 350 - 50,000 Nm

S = single flex design



PROPERTIES

FEATURES

- ▶ extremely high torsional stiffness
- ▶ wear and maintenance free
- ▶ compensates for axial and angular misalignment only

MATERIAL

- ▶ **disc pack:** highly elastic spring steel
- ▶ **hubs:** high strength steel

DESIGN

Two precision machined coupling hubs mounted to the disc pack by means of high strength screws and bushings for alignment and frictional clamping of the assembly. Axial retention of the hubs on the shaft with DIN 916 set screws. From series 25,000 assembly screws/superbolts must be used.

D = dual flex design



PROPERTIES

FEATURES

- ▶ high torsional stiffness
- ▶ wear and maintenance free
- ▶ compensates for axial, angular and lateral misalignment

MATERIAL

- ▶ **disc packs:** highly elastic spring steel
- ▶ **hubs and spacer:** high strength steel

DESIGN

Two precision machined coupling hubs and spacer plate mounted to the disc packs by means of high strength screws and bushings for alignment and frictional clamping of the assembly. Axial retention of the hubs on the shaft with DIN 916 set screws. From series 25,000 assembly screws/superbolts must be used.

NEW

MODEL LP1 S|D | SIZE 300 - 2600

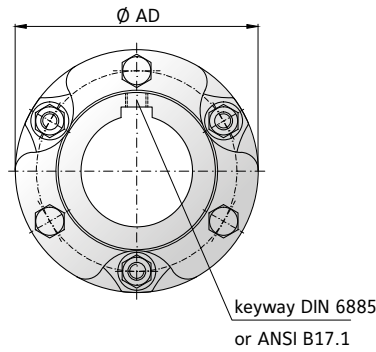
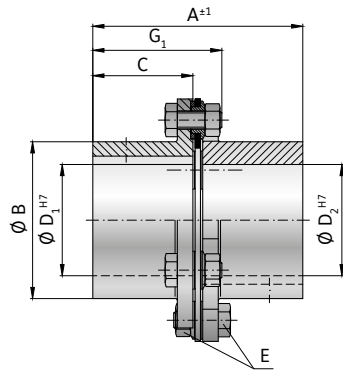
| SIZE | | 300 | | 500 | | 700 | | 1100 | | 1600 | | 2600 | |
|--|------------------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| Type | | S | D | S | D | S | D | S | D | S | D | S | D |
| Rated torque (Nm) | T_{KN} | 350 | | 500 | | 700 | | 1,100 | | 1,600 | | 2,600 | |
| Maximum torque (Nm) | T_{KNmax} | 700 | | 1,000 | | 1,400 | | 2,200 | | 3,200 | | 5,200 | |
| Overall length (mm) | A | 95 | 123 | 95 | 123 | 116 | 154 | 117 | 158 | 158 | 204 | 161 | 208 |
| Outside diameter (mm) | $\varnothing AD$ | 99 | | 109 | | 128 | | 133 | | 150 | | 168 | |
| Hub diameter (mm) | $\varnothing B$ | 63 | | 70.5 | | 78 | | 84 | | 86 | | 102 | |
| Hub fit length (mm) | C | 45 | | 45 | | 55 | | 55 | | 75 | | 76 | |
| Bore diameter available from \varnothing to $\varnothing H7$ (mm) | $D_{1/2}$ | 18 - 48 | | 23 - 50 | | 25 - 58 | | 25 - 60 | | 28 - 64 | | 31 - 75 | |
| Bore diameter available from \varnothing to $\varnothing H7$ (XL Hub) (mm) | $D_{1/2}$ | > 48 - 53 | | > 50 - 60 | | > 58 - 65 | | > 60 - 70 | | > 64 - 80 | | > 75 - 90 | |
| Assembly screw (ISO 4017) Tensioning nut (DIN 4032) | E | M8 | | M8 | | M10 | | M10 | | M12 | | M12 | |
| Tightening torque (Nm) | | 35 | | 40 | | 65 | | 95 | | 150 | | 165 | |
| Distance between hubs (mm) | G | - | 33 | - | 33 | - | 44 | - | 48 | - | 54 | - | 56 |
| Assembly length (mm) | G_1 | 60 | 50.3 | 60 | 50.3 | 75 | 61.4 | 75 | 66.4 | 98 | 77.5 | 99 | 77.5 |
| Moment of inertia** ($10^{-3}kgm^2$) | $J_{ges.}$ | 1.7 | 2.6 | 3 | 4 | 5 | 9 | 6.4 | 10.5 | 11.3 | 18 | 20 | 32 |
| Weight** (kg) | | 1.5 | 2.2 | 2.0 | 2.9 | 2.9 | 4.4 | 3.4 | 5.2 | 5 | 7.3 | 6.8 | 10 |
| Torsional stiffness disc packs (kNm/rad) | C_T | 200 | 100 | 280 | 140 | 470 | 235 | 540 | 270 | 800 | 400 | 1,200 | 600 |
| Axial \pm (mm) | max. values | 0.5 | 1.0 | 0.6 | 1.0 | 0.7 | 1.5 | 0.8 | 1.5 | 1.0 | 2.0 | 1.1 | 2.0 |
| Lateral \pm (mm) | | - | 0.2 | - | 0.2 | - | 0.3 | - | 0.3 | - | 0.4 | - | 0.4 |
| Angular \pm (degree) | | 0.7 | 1.4 | 0.7 | 1.4 | 0.7 | 1.4 | 0.7 | 1.4 | 0.7 | 1.4 | 0.7 | 1.4 |
| Max. speed (min ⁻¹) | | 5,800 | | 5,200 | | 4,500 | | 4,300 | | 3,850 | | 3,500 | |
| Max. speed (balanced)*** (min ⁻¹) | | 13,500 | | 12,300 | | 10,500 | | 10,000 | | 8,950 | | 8,000 | |

** at maximum bore diameter | *** higher speeds on request

| ORDERING EXAMPLE | LP1 | 700 | D | 154 | 25 | 57.15 | XX |
|-----------------------------------|-----|-----|---|-----|----|-------|---|
| Model | ● | | | | | | Special designation only (e.g. special bore diameter tolerances, balancing, etc.). Contact R+W for more information |
| Size | | ● | | | | | |
| Type (S or D) | | | ● | | | | |
| Overall length (mm) | | | | ● | | | |
| Bore diameter $\varnothing D1 H7$ | | | | | ● | | |
| Bore diameter $\varnothing D2 H7$ | | | | | | ● | |

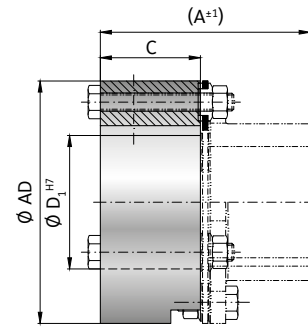
For custom features place an XX at the end of the part number and describe the special requirements (e.g. LP1 / 700 / D / 154 / 25 / 57.15 / XX - balanced for 8,000 rpm)

S = single flex design

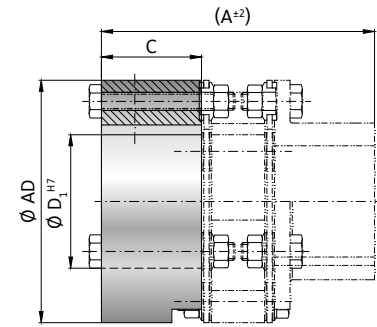
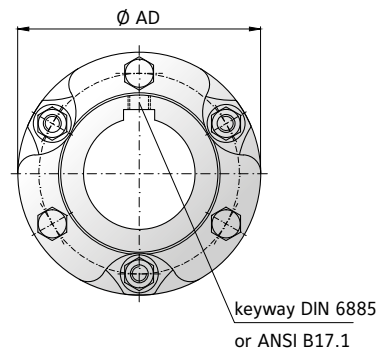
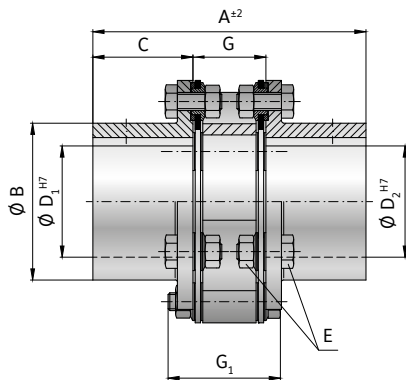


Optional XL Hub

NEW



D = dual flex design



MODEL LP1 S | D | SIZE 4000 - 25000

Higher torque capacity on request

| SIZE | 4000 | | 6000 | | 8000 | | 15000 | | 25000 | | |
|---|-------------|------------|-------|------------|-------|-------------|-------|-------------|-------|------------|------------|
| | S | D | S | D | S | D | S | D | S | D | |
| Type | | | | | | | | | | | |
| Rated torque (Nm) | T_{RN} | 4,000 | | 6,000 | | 8,000 | | 15,000 | | 25,000 | |
| Maximum torque (Nm) | T_{KNmax} | 8,000 | | 12,000 | | 16,000 | | 30,000 | | 50,000 | |
| Overall length (mm) | A | 193 | 250 | 193 | 258 | 216 | 297 | 264.7 | 336.4 | 346.7 | 468.4 |
| Outside diameter (mm) | Ø AD | 198 | | 212 | | 238 | | 272 | | 300 | |
| Hub diameter (mm) | Ø B | 120 | | 130 | | 140 | | 182 | | 189 | |
| Hub fit length (mm) | C | 90 | | 90 | | 100 | | 125 | | 165 | |
| Bore diameter available from Ø to Ø H7 | $D_{1/2}$ | 38 - 90 | | 39 - 95 | | 50 - 102 | | 70 - 140 | | on request | |
| Bore diameter available from Ø to Ø H7 (XL Hub) | $D_{1/2}$ | > 90 - 100 | | > 95 - 115 | | > 102 - 125 | | > 140 - 160 | | on request | |
| Assembly screw (ISO 4017) Tensioning nut (DIN 4032) | E | M16 | | M16 | | M20 | | M20 | | M24 | |
| Tightening torque (Nm) | | 360 | | 400 | | 755 | | 770 | | 47 | |
| Distance between hubs (mm) | G | - | 70 | - | 78 | - | 97 | - | 86.4 | - | 138.4 |
| Assembly length (mm) | G_1 | 120 | 100 | 120 | 110 | 140 | 132.5 | 165 | 132.5 | 227.8 | 230.6 |
| Moment of inertia** (10^{-3}kgm^2) | J_{ges} | 46 | 74 | 61 | 100 | 118 | 200 | 261 | 400 | 718 | on request |
| Weight** (kg) | | 11.1 | 16 | 13 | 19.5 | 19.4 | 30.2 | 30.5 | 44 | 78 | on request |
| Torsional stiffness disc packs (kNm/rad) | C_T | 2,000 | 1,000 | 2,500 | 1,250 | 3,600 | 1,800 | 7,700 | 3,850 | 16,000 | 8,000 |
| Axial ± (mm) | max. values | 1.3 | 2.5 | 1.3 | 2.5 | 1.3 | 2.5 | 1.5 | 3.0 | 1.5 | 4.0 |
| Lateral ± (mm) | | - | 0.5 | - | 0.5 | - | 0.6 | - | 0.7 | - | 0.8 |
| Angular ± (degree) | | 0.7 | 1.4 | 0.7 | 1.4 | 0.7 | 1.4 | 0.7 | 1.4 | 0.7 | 1.4 |
| Max. speed (min ⁻¹) | | 2,950 | | 2,700 | | 2,400 | | 2,100 | | 1,900 | |
| Max. speed (balanced)*** (min ⁻¹) | | 6,700 | | 6,300 | | 5,600 | | 4,900 | | 4,500 | |

** at maximum bore diameter | *** higher speeds on request

| ORDERING EXAMPLE | LP1 | 6000 | S | 193 | 57.15 | 90 | XX |
|-----------------------|-----|------|---|-----|-------|----|--|
| Model | ● | | | | | | Special designation only (e.g. special bore diameter tolerances, balancing, etc.). Contact R+W for more information. |
| Size | | ● | | | | | |
| Type (S or D) | | | ● | | | | |
| Overall length (mm) | | | | ● | | | |
| Bore diameter Ø D1 H7 | | | | | ● | | |
| Bore diameter Ø D2 H7 | | | | | | ● | |

For custom features place an XX at the end of the part number and describe the special requirements (e.g. LP1 / 6000 / S / 193 / 57.15 / 90 / XX - F7 tolerance on D2)