

LP4

WITH CONICAL CLAMPING RING; SINGLE OR DUAL FLEX 350 - 50,000 Nm

S = single flex design



PROPERTIES

FEATURES

- ▶ extremely high torsional stiffness
- ▶ good for reversing loads
- ▶ compensates for axial and angular misalignment only

MATERIAL

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

DESIGN

Two precision machined coupling hubs with conical clamping ring mounted to the disc pack by means of high strength screws and bushings for alignment and frictional clamping of the assembly.

From series 25,000 assembly screws/superbolts must be used.

D = dual flex design



NEW

PROPERTIES

FEATURES

- ▶ high torsional stiffness
- ▶ good for reversing loads
- ▶ 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 with conical clamping ring and spacer plate mounted to the disc packs by means of high strength screws and bushings for alignment and frictional clamping of the assembly.

MODEL LP4 S|D | SIZE 300 - 2600

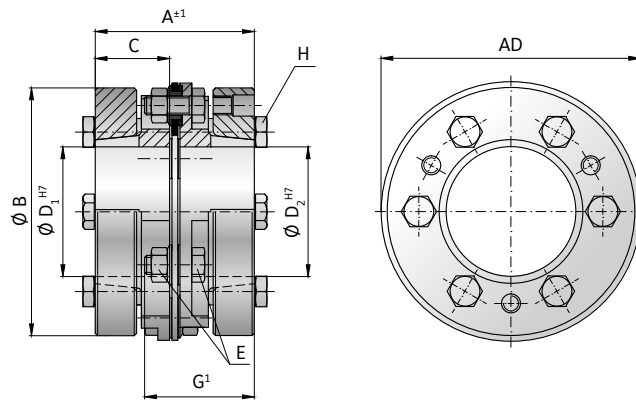
| SIZE | | 300 | | 500 | | 700 | | 1100 | | 1600 | | 2600 | |
|--|---------------------------------------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|------|
| Type | | S | D | S | D | S | D | S | D | S | D | S | D |
| Rated torque* | (Nm) T_{KH} | 350 | | 500 | | 700 | | 1,100 | | 1,600 | | 2,600 | |
| Maximum torque* | (Nm) T_{KHmax} | 700 | | 1,000 | | 1,400 | | 2,200 | | 3,200 | | 5,200 | |
| Overall length | (mm) A | 76 | 104 | 76 | 104 | 93 | 131 | 99 | 140 | 120 | 166 | 136 | 183 |
| Outside diameter | (mm) $\varnothing AD$ | 99 | | 109 | | 128 | | 133 | | 150 | | 168 | |
| Hub diameter | (mm) $\varnothing B$ | 95 | | 105 | | 122 | | 130 | | 146 | | 165 | |
| Hub fit length | (mm) C | 35.5 | | 35.5 | | 43.5 | | 46 | | 56 | | 63.5 | |
| Bore diameter available from \varnothing to $\varnothing H7$ | (mm) $D_{1/2}$ | 24 - 50 | | 24 - 55 | | 30 - 65 | | 30 - 65 | | 35 - 70 | | 35 - 85 | |
| Assembly screw Tensioning nut (ISO 4017) (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 | 50.5 | 50.3 | 50.5 | 50.3 | 63.5 | 61.4 | 66 | 66.4 | 79 | 77.5 | 86.5 | 77.5 |
| Clamping screw (ISO 4017) | H | 6 x M8 | | 6 x M8 | | 6 x M10 | | 6 x M10 | | 6 x M12 | | 6 x M12 | |
| Tightening torque | (Nm) | 20 | | 26 | | 39 | | 61 | | 98 | | 140 | |
| Moment of inertia** | (10^{-3}kgm^2) $J_{ges.}$ | 3 | 4 | 5 | 7 | 12 | 15 | 16 | 20 | 30 | 38 | 57 | 69 |
| Weight** | (kg) | 2.4 | 3.2 | 3.0 | 3.9 | 5 | 6.5 | 6.1 | 7.9 | 9.6 | 12.0 | 13.6 | 16.7 |
| Torsional stiffness disc packs | (kNm/rad) C_T | 200 | 100 | 280 | 140 | 470 | 235 | 540 | 270 | 800 | 400 | 1,200 | 600 |
| Axial \pm | (mm) | 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 | |

* maximum transmittable torque depends on the bore diameter | ** at maximum bore diameter | *** higher speeds on request

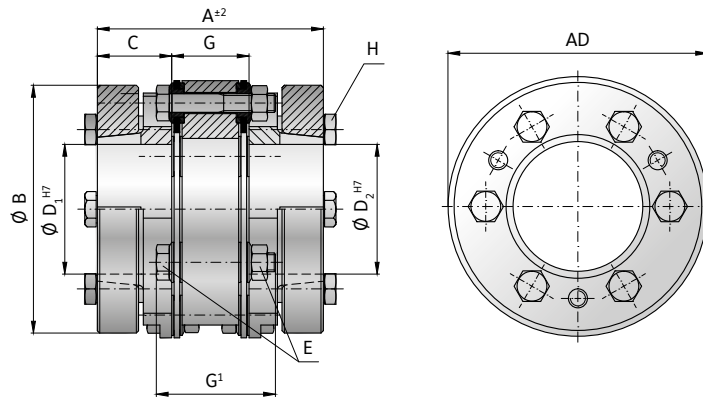
| SIZE | $\varnothing 24$ | $\varnothing 26$ | $\varnothing 30$ | $\varnothing 35$ | $\varnothing 40$ | $\varnothing 45$ | $\varnothing 50$ | $\varnothing 55$ | $\varnothing 60$ | $\varnothing 70$ | $\varnothing 80$ | $\varnothing 90$ | $\varnothing 100$ | $\varnothing 110$ | $\varnothing 120$ | $\varnothing 130$ | $\varnothing 140$ | $\varnothing 160$ | $\varnothing 180$ |
|-------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 300 | 330 | 360 | 420 | 490 | 560 | 630 | 700 | | | | | | | | | | | | |
| 500 | 430 | 470 | 540 | 640 | 730 | 820 | 910 | 1000 | | | | | | | | | | | |
| 700 | | | 650 | 760 | 870 | 980 | 1090 | 1200 | 1310 | | | | | | | | | | |
| 1100 | | | 1020 | 1190 | 1370 | 1540 | 1710 | 1880 | 2050 | | | | | | | | | | |
| 1600 | | | | 1610 | 1840 | 2070 | 2300 | 2530 | 2760 | 3200 | | | | | | | | | |
| 2600 | | | | 2300 | 2620 | 2950 | 3280 | 3610 | 3940 | 4600 | 5200 | | | | | | | | |
| 4000 | | | | | | | 4000 | 4400 | 4800 | 5600 | 6400 | 7200 | 8000 | | | | | | |
| 6000 | | | | | | | 5400 | 6000 | 6500 | 7600 | 8700 | 9800 | 10900 | 12000 | | | | | |
| 8000 | | | | | | | | 8300 | 9700 | 11100 | 12500 | 13900 | 15300 | | | | | | |
| 15000 | | | | | | | | | 12000 | 14000 | 15500 | 17500 | 19000 | 21000 | 22500 | 24500 | 28000 | | |
| 25000 | | | | | | | | | | | | 28000 | 30500 | 33500 | 36000 | 39000 | 44500 | 50000 | |

Higher torque capacity possible with keyway or spline on request.

S = single flex design



D = dual flex design



MODEL LP4 S | D | SIZE 4000 - 25000

| SIZE | | | 4000 | | 6000 | | 8000 | | 15000 | | 25000 | |
|--|----------------------------|-------------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|
| Type | | | S | D | S | D | S | D | S | D | S | D |
| Rated torque* | (Nm) | T_{KH} | 4,000 | | 6,000 | | 8,000 | | 15,000 | | 25,000 | |
| Maximum torque* | (Nm) | T_{KHmax} | 8,000 | | 12,000 | | 16,000 | | 30,000 | | 50,000 | |
| Overall length | (mm) | A | 161 | 218 | 174 | 239 | 226 | 307 | 238.7 | 310.4 | 264.7 | 386.4 |
| Outside diameter | (mm) | Ø AD | 198 | | 212 | | 238 | | 272 | | 300 | |
| Hub diameter | (mm) | Ø B | 184 | | 205 | | 230 | | 269 | | 295 | |
| Hub fit length | (mm) | C | 74 | | 80.5 | | 105 | | 112 | | 124 | |
| Bore diameter available from Ø to Ø H7 | (mm) | $D_{1/2}$ | 50 - 100 | | 50 - 110 | | 60 - 115 | | 70 - 150 | | 90 - 170 | |
| 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 | 104 | 100 | 110.5 | 110 | 145 | 132.5 | 152 | 132.5 | 186.8 | 230.6 |
| Clamping screw (ISO 4017) | | H | 6 x M16 | | 6 x M16 | | 6 x M20 | | 6 x M20 | | 6 x M24 | |
| Tightening torque | (Nm) | | 225 | | 308 | | 490 | | 620 | | 620 | |
| Moment of inertia** | (10^{-3}kgm^2) | $J_{ges.}$ | 106 | 134 | 168 | 207 | 371 | 453 | 716 | 853 | 1,062 | 1,463 |
| Weight** | (kg) | | 19.5 | 24.7 | 25.3 | 32 | 45.4 | 56.5 | 62 | 75.4 | 75 | 108.3 |
| 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}) | | 2,900 | | 2,700 | | 2,400 | | 2,100 | | 1,900 | |
| Max. speed (balanced)*** | (min^{-1}) | | 6,700 | | 6,300 | | 5,600 | | 4,900 | | 4,500 | |

* maximum transmittable torque depends on the bore diameter | ** at maximum bore diameter | *** higher speeds on request

| ORDERING EXAMPLE | LP4 | 6000 | D | 239 | 55 | 80 | 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. LP4 / 6000 / D / 239 / 55 / 80 / XX - F7 bore tolerance on D2) | | | | | | | |