

THE COUPLING.



TORSIONALLY STIFF **DISC PACK** **COUPLINGS**

350 – 100,000 Nm

LP

INDUSTRIAL COUPLINGS

LP

TORSIONALLY STIFF DISC PACK COUPLINGS

350 - 100,000 NM



GENERAL INFORMATION ABOUT R+W DISC PACK COUPLINGS:

SERVICE LIFE

R+W disc pack couplings are fatigue resistant and wear free for a virtually infinite service life, as long as the technical limits are not exceeded.

FIT CLEARANCE

Overall shaft / hub clearance of 0.01 - 0.05 mm

TEMPERATURE RANGE

-30 to +280° C

ROTATIONAL SPEED

see table

DELIVERY

pre-assembled (separate components on request)

ATEX (Optional)

Certified for use in hazardous environments on request

TORSIONALLY STIFF DISC PACK COUPLINGS

350 – 100,000 Nm

MODEL	FEATURES	
LP1 S	<p>with keyway mounting single flex design from 350 – 50,000 Nm</p>  <ul style="list-style-type: none"> ▶ extremely high torsional stiffness ▶ compact and robust design ▶ compensates for axial and angular misalignment only 	Pages 70-71
LP1 D	<p>with keyway mounting dual flex design from 350 – 50,000 Nm</p>  <ul style="list-style-type: none"> ▶ high torsional stiffness ▶ robust design ▶ compensates for axial, angular and lateral misalignment 	Pages 70-71
LP2	<p>with keyway mounting dual flex design with spacer from 350 – 50,000 Nm</p>  <ul style="list-style-type: none"> ▶ high torsional stiffness ▶ customer specified length on request ▶ compensates for axial, angular and lateral misalignment 	Pages 72-73
LP4 S	<p>with conical clamping ring single flex design from 350 – 50,000 Nm</p>  <ul style="list-style-type: none"> ▶ extremely high torsional stiffness ▶ compact design ▶ good for reversing loads ▶ zero backlash torque transmission ▶ compensates for axial and angular misalignment only 	Pages 74-75
LP4 D	<p>with conical clamping ring dual flex design from 350 – 50,000 Nm</p>  <ul style="list-style-type: none"> ▶ high torsional stiffness ▶ good for reversing loads ▶ zero backlash torque transmission ▶ compensates for axial, angular and lateral misalignment 	Pages 74-75

MODEL	FEATURES	
LP3	<p>with conical clamping ring dual flex design from 350 - 50,000 Nm</p> <ul style="list-style-type: none"> ▶ high torsional stiffness ▶ high clamping pressure ▶ good for reversing loads ▶ zero backlash torque transmission ▶ compensates for axial, angular and lateral misalignment 	Pages 76-77
LP5 S	<p>with clamping hub single flex design from 350 - 50,000 Nm</p> <ul style="list-style-type: none"> ▶ extremely high torsional stiffness ▶ compact and robust design ▶ zero backlash torque transmission ▶ keyway optional ▶ compensates for axial and angular misalignment only 	Pages 78-79
LP5 D	<p>with clamping hub dual flex design from 350 - 50,000 Nm</p> <ul style="list-style-type: none"> ▶ high torsional stiffness ▶ zero backlash torque transmission ▶ keyway optional ▶ compensates for axial, angular and lateral misalignment 	Pages 78-79
LPH D	<p>with fully split clamping hub dual flex design from 350 - 50,000 Nm</p> <ul style="list-style-type: none"> ▶ high torsional stiffness ▶ facilitates lateral mounting ▶ zero backlash torque transmission ▶ keyway optional ▶ compensates for axial, angular and lateral misalignment 	Pages 80-81
LPZ	<p>short intermediate spacer for dual flex configurations from 350 - 50,000 Nm</p> <ul style="list-style-type: none"> ▶ high torsional stiffness ▶ for combination with various hub designs ▶ compensates for axial, angular and lateral misalignment 	Pages 82-83

TORSIONALLY STIFF DISC PACK COUPLINGS

350 – 100,000 Nm

MODEL	FEATURES	
LPA	<p>with keyway mounting for API applications from 500 – 24,000 Nm</p> <ul style="list-style-type: none"> ▶ API 610 / 671 ▶ drop out center section ▶ safety catches in case of disc pack rupture ▶ metric configuration 	Pages 84-87
LPAI	<p>with keyway mounting for API applications from 500 – 24,000 Nm</p> <ul style="list-style-type: none"> ▶ API 610 / 671 ▶ drop out center section ▶ safety catches in case of disc pack rupture ▶ imperial configuration 	Pages 84-87
iLP	<p>intelligent coupling with integral sensor system from 350 – 50,000 Nm</p> <ul style="list-style-type: none"> ▶ works with various hub designs ▶ dual flex configuration ▶ compensates for axial, angular and lateral misalignment ▶ reports on torque, speed axial force and more 	Pages 88-89
LP	<p>options / special solutions / higher torques</p>	Pages 90-91

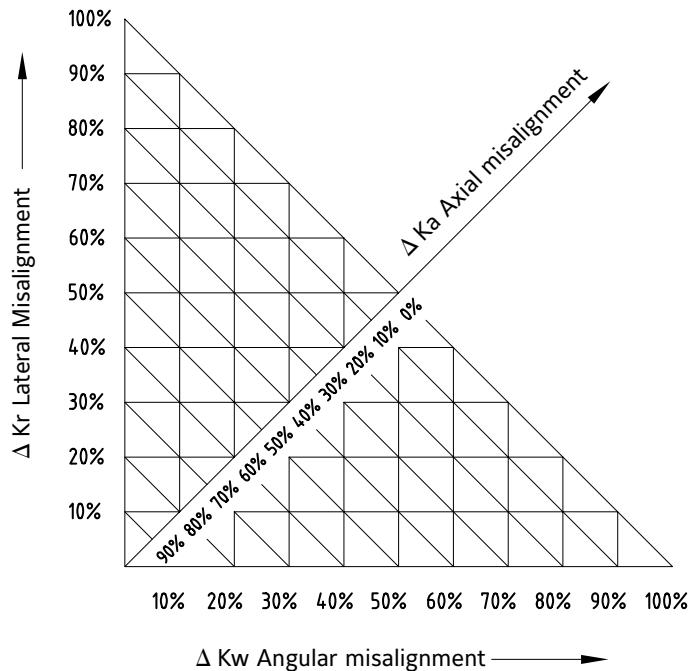
DESIGN

DISC PACK COUPLINGS

Taking into account the friction drive principle of the R+W disc coupling design, torque is transferred without micro-movements or backlash.



MISALIGNMENT COMPENSATION



$$\Delta K_{\text{total}} = \Delta K_r + \Delta K_w + \Delta K_a \leq 100\%$$

The maximum total misalignment of the disc coupling should not exceed 100% of the combined percentages of the maximum axial, angular and lateral values as shown in the product data tables.

Example: pump skid

axial misalignment: 20%
lateral misalignment: 40%
angular misalignment: 40%

$$\Delta K_{\text{total}} = 20\% + 40\% + 40\% \leq 100\%$$

► coupling is fatigue resistant

LP1

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

S = single flex design



D = dual flex design

**NEW**

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.

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.

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															
Maximum torque	(Nm)	T_{KNmax}		700		1,000		1,400		2,200		3,200															
Overall length	(mm)	A	95	123	95	123	116	154	117	158	158	204	161	208													
Outside diameter	(mm)	\emptyset AD	99		109		128		133		150		168														
Hub diameter	(mm)	\emptyset B	63		70,5		78		84		86		102														
Hub fit length	(mm)	C	45		45		55		55		75		76														
Bore diameter available from \emptyset to \emptyset H7	(mm)	$D_{1/2}$	18 - 48		23 - 50		25 - 58		25 - 60		28 - 64		31 - 75														
Bore diameter available from \emptyset to \emptyset H7 (XL Hub)	(mm)	$D_{1/2}$	on request		> 50 - 60		> 58 - 65		> 60 - 70		> 64 - 80		> 75 - 90														
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	60	50.3	60	50.3	75	66.4	76	66.4	98	77.5	99	77.5													
Moment of inertia**	(10^{-3} kgm 2)	$J_{ges.}$	2	3	3	4	5	9	7	11	12	19	22	35													
Weight**	(kg)	1.4		2.2		2.0		2.8		2.9		4.6		3.5		5.3		5.2		7.6		7.2		10.3			
Torsional stiffness	(10^3 Nm/rad)	C_T	120		160		260		300		420		580		420		580		420		580		420		580		
Axial ±	(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	0.5		1.0		0.4		0.4		0.4		0.4		
Lateral ±	(mm)		-	0.2	-	0.2	-	0.3	-	0.3	-	0.3	-	0.4	0.4		0.4		0.4		0.4		0.4		0.4		
Angular ±	(degree)		0.7	1.4	0.7	1.4	0.7	1.0	0.7	1.4	0.7	1.4	0.7	1.4	0.7		0.7		0.7		0.7		0.7		1.4		
Max. speed	(min $^{-1}$)	5,800		5,300		4,500		4,300		3,800		3,400		3,400		3,400		3,400		3,400		3,400		3,400		3,400	
Max. speed (balanced)***	(min $^{-1}$)	11,200		10,200		8,700		8,300		7,400		6,600		6,600		6,600		6,600		6,600		6,600		6,600			

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

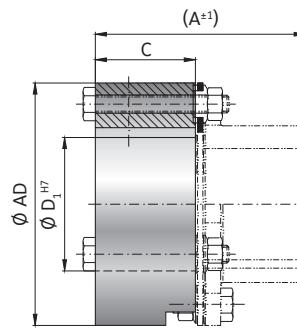
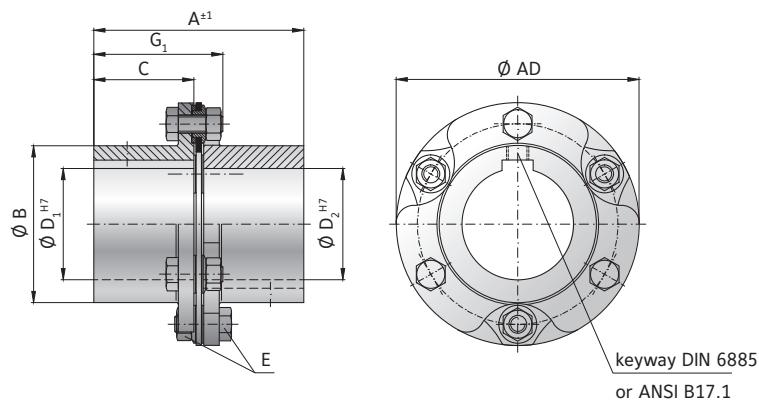
ORDERING EXAMPLE	LP1	700	D	154	25	57.15	XX
Model	●						
Size		●					
Type (S or D)			●				
Overall length (mm)				●			
Bore diameter \emptyset D1 H7					●		
Bore diameter \emptyset D2 H7						●	
Special designation only (e.g. special bore diameter tolerances, balancing, etc.). Contact R+W for more information							

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)

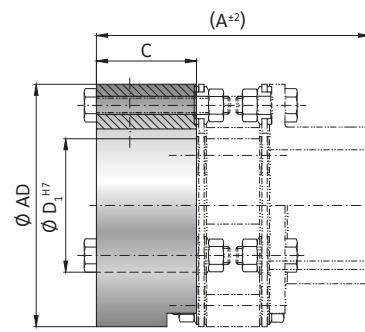
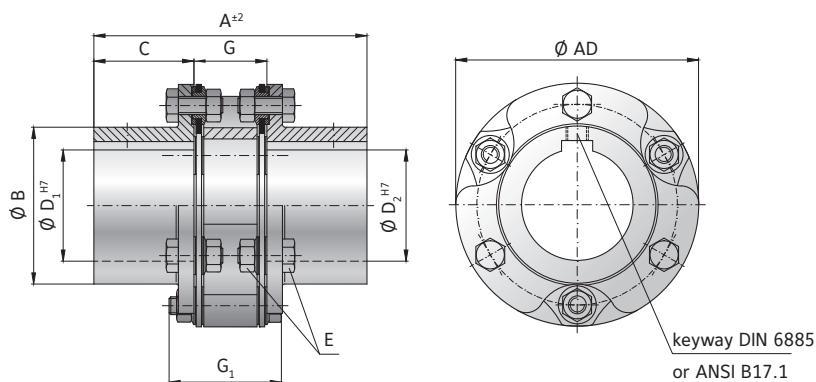
S = single flex design

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	
Type		S	D	S	D	S	D	S	D	S	D
Rated torque (Nm)	T _{KN}	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	268	360	356	on request
Outside diameter (mm)	Ø AD	198		212		238		299		372	
Hub diameter (mm)	Ø B	120		130		140		192		on request	
Hub fit length (mm)	C	90		90		100		125		165	
Bore diameter available from Ø to Ø H7 (mm)	D _{1/2}	38 - 90		39 - 95		50 - 102		70 - 150		on request	
Bore diameter available from Ø to Ø H7 (XL Hub) (mm)	D _{1/2}	> 90 - 100		> 95 - 115		> 102 - 125		> 150 - 170		on request	
Assembly screw Tensioning nut (ISO 4017) (DIN 4032)	E	M16		M16		M20		M24		M36	
Tightening torque (Nm)		360		400		755		1,200		72	
Distance between hubs (mm)	G	-	70	-	78	-	97	-	110	-	on request
Assembly length (mm)	G ₁	120	100	120	110	140	132.5	170	155	on request	on request
Moment of inertia** (10 ³ kgm ²)	J _{ges.}	51	78	66	105	113	185	426	671	718	on request
Weight** (kg)		11.7	16.9	13.6	20.1	18.8	28.4	39.0	58.1	78	on request
Torsional stiffness (10 ³ Nm/rad)	C _T	940		1,140		1,600		2,800		5,920	
Axial ± (mm)		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		1,900		1,500	
Max. speed (balanced)*** (min ⁻¹)		5,600		5,200		4,700		3,700		3,000	

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

ORDERING EXAMPLE	LP1	6000	S	193	57.15	90	XX
Model	●						
Size		●					
Type (S or D)			●				
Overall length (mm)				●			
Bore diameter Ø D1 H7					●		
Bore diameter Ø D2 H7						●	

Special designation only
(e.g. special bore diameter
tolerances, balancing, etc.).
Contact R+W for more
information.

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)

LP2

WITH KEYWAY MOUNTING

350 - 5,200 Nm



PROPERTIES



FEATURES

- high torsional stiffness
- dual flex design
- customer specified length on request

MATERIAL

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

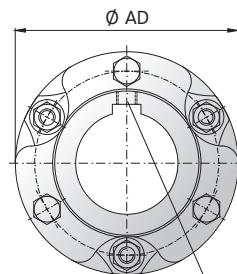
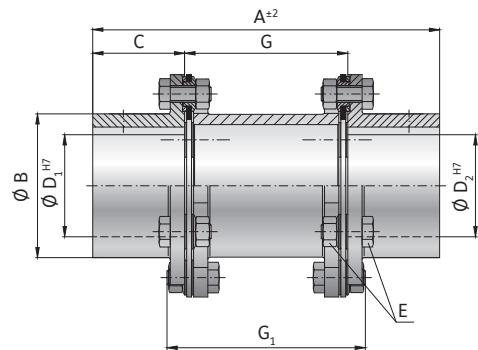
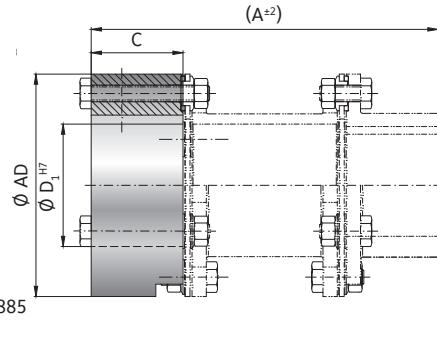
DESIGN

Two precision machined coupling hubs and spacer 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

Optional XL Hub



keyway DIN 6885
or ANSI B17.1

MODEL LP2 | SIZE 300 - 2600

SIZE	300	500	700	1100	1600	2600
Rated torque (Nm)	350	500	700	1,100	1,600	2,600
Maximum torque (Nm)	700	1,000	1,400	2,200	3,200	5,200
Overall length (mm)	A	170	170	205	286	286
Outside diameter (mm)	Ø AD	99	109	128	133	150
Hub diameter (mm)	Ø B	63	70.5	78	84	102
Hub fit length (mm)	C	45	45	55	75	76
Bore diameter available from Ø to Ø H7 (mm)	D _{1/2}	18 - 48	23 - 50	25 - 58	25 - 60	28 - 64
Bore diameter available from Ø to Ø H7 (XL Hub) (mm)	D _{1/2}	on request	> 50 - 60	> 58 - 65	> 60 - 70	> 64 - 80
Assembly screw Tensioning nut (ISO 4017 / DIN 4032)	E	M8	M8	M10	M12	M12
Tightening torque (Nm)		35	40	65	95	150
Distance between hubs (mm)	G	80	80	95	96	136
Assembly length (mm)	G ₁	100	100	121	118	171
Moment of inertia** (10 ⁻³ kgm ²)	J _{ges.}	4	6	12	16	29
Weight** (kg)		3.1	4.4	6.1	7.6	11.5
Torsional stiffness (10 ³ Nm/rad)	C _T	60	80	130	150	210
Axial ± (mm)		1	1	1.5	1.5	2
Lateral ± (mm)	max. values	0.8	0.8	1	1	1.4
Angular ± (degree)		1.4	1.4	1.4	1.4	1.4
Max. speed (min ⁻¹)		5,800	5,300	4,500	4,300	3,800
Max. speed (balanced)*** (min ⁻¹)		11,200	10,200	8,700	8,300	7,400
** at maximum bore diameter *** higher speeds on request						

ORDERING EXAMPLE	LP2	500	170	25.4	48	XX
Model	●					
Size		●				
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. LP2 / 500 / 170 / 25.4 / 48 / XX - balanced for 10,000 rpm)						

Special designation only
(e.g. special bore diameter tolerances, balancing, etc.).
Contact R+W for more information.

LP2

WITH KEYWAY MOUNTING

4,000 - 50,000 Nm



PROPERTIES



FEATURES

- ▶ high torsional stiffness
- ▶ dual flex design
- ▶ customer specified length on request

MATERIAL

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

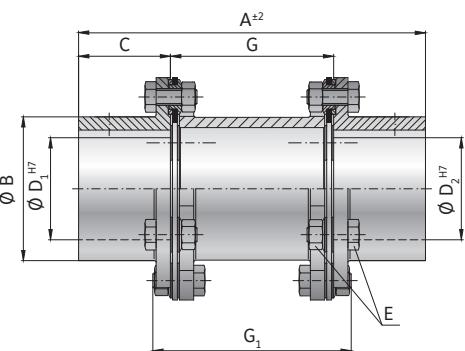
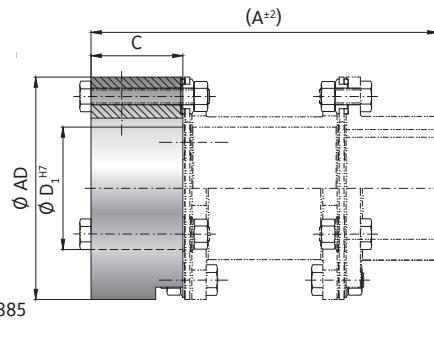
DESIGN

Two precision machined coupling hubs and spacer 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

Optional XL Hub



MODEL LP2 | SIZE 4000 - 25000

Higher torque capacity on request

SIZE	4000	6000	8000	15000	25000
Rated torque (Nm)	T _{KN}	4,000	6,000	8,000	15,000
Maximum torque (Nm)	T _{KNmax}	8,000	12,000	16,000	30,000
Overall length (mm)	A	320	340	372	480
Outside diameter (mm)	Ø AD	198	212	238	299
Hub diameter (mm)	Ø B	120	130	140	192
Hub fit length (mm)	C	90	90	100	125
Bore diameter available from Ø to Ø H7 (mm)	D _{1/2}	38 - 90	39 - 95	50 - 102	70 - 150
Bore diameter available from Ø to Ø H7 (XL Hub) (mm)	D _{1/2}	> 90 - 100	> 95 - 115	> 102 - 125	> 150 - 170
Assembly screw Tensioning nut (ISO 4017) (DIN 4032)	E	M16	M16	M20	M24
Tightening torque (Nm)		360	400	755	1,200
Distance between hubs (mm)	G	140	160	172	230
Assembly length (mm)	G ₁	178	198	216	294.2
Moment of inertia** (10 ³ kgm ²)	J _{ges.}	119	151	267	790
Weight** (kg)		28.4	28.4	41.2	70.1
Torsional stiffness (10 ³ Nm/rad)	C _T	470	570	800	1,400
Axial ± (mm)		2.5	2.5	2.5	3
Lateral ± (mm)	max. values	1.4	1.5	1.6	2.2
Angular ± (Grad)		1.4	1.4	1.4	1.4
Max. speed (min ⁻¹)		2,900	2,700	2,400	1,900
Max. speed (balanced)*** (min ⁻¹)		5,600	5,200	4,700	3,700

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

ORDERING EXAMPLE	LP2	6000	340	50.8	90	XX
Model	●					
Size		●				
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. LP2 / 6000 / 340 / 50.8 / 90 / XX - F7 bore tolerance on D2)						

Special designation only
(e.g. special bore diameter tolerances, balancing, etc.).
Contact R+W for more information.

LP4

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

S = single flex design



D = dual flex design

**NEW**

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.

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

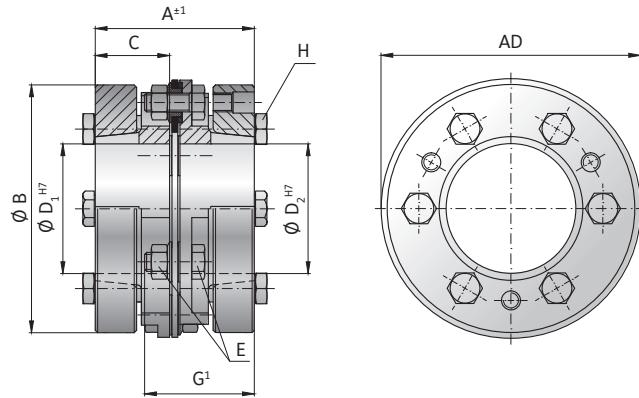
SIZE		300		500		700		1100		1600		2600	
		S	D	S	D	S	D	S	D	S	D	S	D
Type													
Rated torque*	(Nm)	T _{KN}		350		500		700		1,100		1,600	
Maximum torque*	(Nm)	T _{KNmax}		700		1,000		1,400		2,200		3,200	
Overall length	(mm)	A	76	104	76	104	93	131	99	140	120	166	136
Outside diameter	(mm)	Ø AD	99		109		128		133		150		168
Hub diameter	(mm)	Ø 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 Ø to Ø H7	(mm)	D _{1/2}	24 - 50		24 - 55		30 - 65		30 - 65		35 - 70		35 - 85
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	50.5	50.3	50.5	50.3	62.5	66.4	64	66.4	81	77.5	88.5	77.5
Clamping screw (ISO 4017)	H	6 x M8		6 x M8		6 x M10		6x 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	31	38	89	71
Weight** (kg)		2.4	3.1	3.0	3.9	5.1	6.6	6.1	7.9	9.7	12.1	14.4	17.5
Torsional stiffness (10 ³ Nm/rad)	C _T	120	60	160	80	260	130	300	150	420	210	580	290
Axial ± (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 ± (mm)	max. values	-	0.2	-	0.2	-	0.3	-	0.3	-	0.4	-	0.4
Angular ± (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		5,300		4,500		4,300		3,800		3,400	
Max. speed (balanced)*** (min ⁻¹)		11,200		10,200		8,700		8,300		7,400		6,600	

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

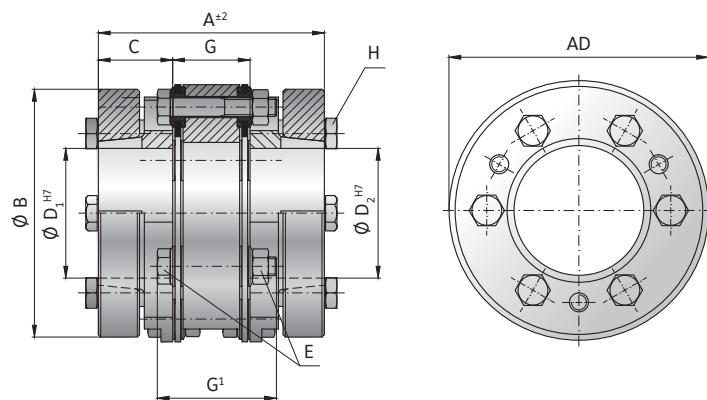
SIZE	Ø24	Ø26	Ø30	Ø35	Ø40	Ø45	Ø50	Ø55	Ø60	Ø70	Ø80	Ø90	Ø100	Ø110	Ø120	Ø130	Ø140	Ø160	Ø180
300	330	360	420	490	560	630	700												
500	430	470	540	640	730	820	910	1000											
700			650	760	870	980	1090	1200	1310										
1100			1020	1190	1370	1540	1710	1880	2050										
1600				1610	1840	2070	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_{KN}	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	161	218	174	239	226	307	264	356	274 on request
Outside diameter	(mm)	$\emptyset AD$	198		212		238		299		372
Hub diameter	(mm)	$\emptyset B$	184		205		230		285		on request
Hub fit length	(mm)	C	74		80.5		105		123		124
Bore diameter available from \emptyset to $\emptyset H7$	(mm)	$D_{1/2}$	50 - 100		50 - 110		60 - 115		70 - 170		on request
Assembly screw Tensioning nut (ISO 4017) (DIN 4032)		E	M16		M16		M20		M24		M36
Tightening torque (Nm)			360		400		755		1,200		72
Distance between hubs (mm)	G	-	70	-	78	-	97	-	110	-	on request
Assembly length (mm)	G_1	106	100	112.5	110	148	142.5	173	155	on request	on request
Clamping screw (ISO 4017)	H	6 x M16		6 x M16		6 x M20		6 x M20		6 x M24	
Tightening torque (Nm)		225		400		490		620		1,180	
Moment of inertia** (10^{-3}kgm^2)	$J_{ges.}$	110	137	172	211	368	440	1,003	1,248	1,469	on request
Weight** (kg)		19.9	25.1	25.9	32.4	45.4	54.9	73.3	92.3	116	on request
Torsional stiffness (10^3Nm/rad)	C_T	940	470	1.140	570	1.600	800	2,800	1,400	5,920	2,960
Axial ± (mm)		1.3	2.5	1.3	2.5	1.3	2.5	1.5	3.0	1.5	4.0
Lateral ± (mm)	max. values	-	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		1,900		1,500	
Max. speed (balanced)*** (min^{-1})		5,600		5,200		4,700		3,700		3,000	

* 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	●						
Size		●					
Type (S or D)			●				
Overall length (mm)				●			
Bore diameter $\emptyset D1 H7$					●		
Bore diameter $\emptyset D2 H7$						●	
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)							

Special designation only
(e.g. special bore diameter
tolerances, balancing, etc.).
Contact R+W for more
information.

LP3

WITH CONICAL CLAMPING RING

350 - 5,200 Nm



PROPERTIES



FEATURES

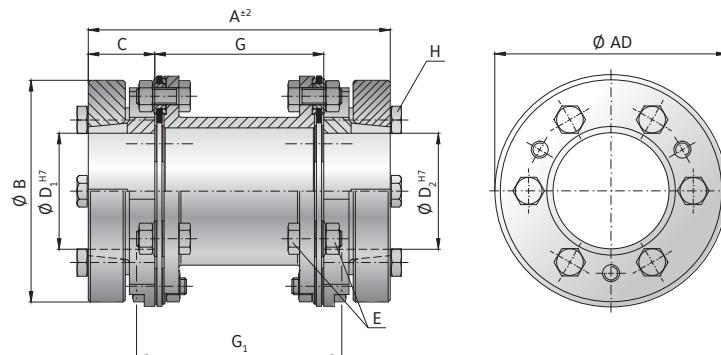
- ▶ high torsional stiffness
- ▶ customer specified length on request
- ▶ good for reversing loads

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 mounted to the disc packs 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.



MODEL LP3 | SIZE 300 - 2600

SIZE	300	500	700	1100	1600	2600		
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	151	151	182	188	248	261
Outside diameter	(mm)	Ø AD	99	109	128	133	150	168
Hub diameter	(mm)	Ø 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 Ø to Ø H7	(mm)	D _{1/2}	24 - 50	24 - 55	30 - 65	30 - 65	35 - 70	35 - 85
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	80	80	95	96	136	134	
Assembly length (mm)	G ₁	100	100	121	118	170	166	
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.}	5	7	16	21	41	76	
Weight** (kg)		3.5	4.5	7.0	8.4	13.5	19.1	
Torsional stiffness (10 ³ Nm/rad)	C _T	60	80	130	150	210	290	
Axial ± (mm)	max. values	1	1	1.5	1.5	2	2	
Lateral ± (mm)		0.8	0.8	1	1	1.4	1.4	
Angular ± (degree)		1.4	1.4	1.4	1.4	1.4	1.4	
Max. speed (min ⁻¹)		5,800	5,300	4,500	4,300	3,800		
Max. speed (balanced)*** (min ⁻¹)		11,200	10,200	8,700	8,300	7,400	6,600	

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

SIZE	Ø24	Ø26	Ø30	Ø35	Ø40	Ø45	Ø50	Ø55	Ø60	Ø70	Ø80	Ø90	Ø100	Ø110	Ø120	Ø130	Ø140	Ø160	Ø180
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.

LP3

WITH CONICAL CLAMPING RING

4,000 - 50,000 Nm



PROPERTIES



FEATURES

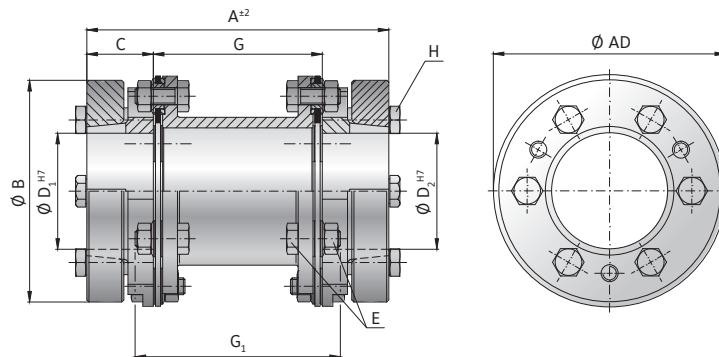
- high torsional stiffness
- customer specified length on request
- good for reversing loads

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 mounted to the disc packs 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.



MODEL LP3 | SIZE 4000 - 25000

SIZE		4000	6000	8000	15000	25000	
Rated torque*	(Nm)	T _{KN}	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	288	321	382	476	on request
Outside diameter	(mm)	Ø AD	198	212	238	299	372
Hub diameter	(mm)	Ø B	184	205	230	285	on request
Hub fit length	(mm)	C	74	80.5	105	123	124
Bore diameter available from Ø to Ø H7	(mm)	D _{1/2}	50 - 100	50 - 110	60 - 115	70 - 170	on request
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)		E	M16	M16	M20	M24	M36
Tightening torque	(Nm)		360	400	755	1,200	72
Distance between hubs	(mm)	G	140	160	172	230	on request
Assembly length	(mm)	G ₁	178	198	226	295	on request
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	,180
Moment of inertia**	(10 ⁻³ kgm ²)	J _{ges.}	149	225	456	1,344	on request
Weight**	(kg)		27.9	34.9	57.7	99.9	on request
Torsional stiffness (10 ³ Nm/rad)		C _T	470	570	800	1,400	2,960
Axial ±	(mm)	max. values	2.5	2.5	2.5	3	4
Lateral ±	(mm)		1.4	1.5	1.6	2.2	2.6
Angular ±	(degree)		1.4	1.4	1.4	1.4	1.4
Max. speed	(min ⁻¹)		2,900	2,700	2,400	1,900	1,500
Max. speed (balanced)***	(min ⁻¹)		5,600	5,200	4,700	3,700	3,000

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

ORDERING EXAMPLE	LP3	6000	321	50.8	75	XX
Model	●					
Size		●				
Overall length (mm)			●			
Bore diameter Ø D1 H7				●		
Bore diameter Ø D2 H7					●	
Sonderanfertigungen (z.B. andere Gesamtlänge) on request möglich.						

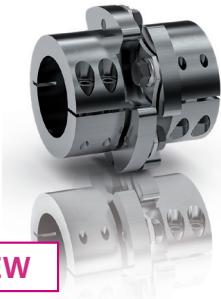
For custom features place an XX at the end of the part number and describe the special requirements (e.g. LP3 / 6000 / 321 / 50.8 / 75 / XX - F7 bore tolerance on D2)

LP5

WITH CLAMPING HUB; SINGLE OR DUAL FLEX

350 - 50,000 Nm

S = single flex design

**NEW**

D = dual flex design

**NEW**

PROPERTIES

FEATURES

- easy installation
- keyway optional
- compensates for axial and angular misalignment only

MATERIAL

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

DESIGN

Two precision machined split clamping hubs 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.

PROPERTIES

FEATURES

- easy installation
- keyway optional
- compensates for axial, angular and lateral misalignment

MATERIAL

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

DESIGN

Two precision machined split clamping 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.

MODEL LP5 S | D | SIZE 300 - 2600

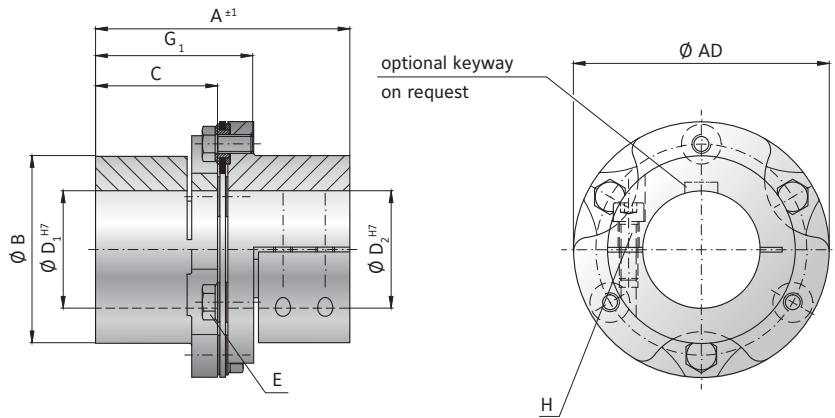
SIZE	300		500		700		1100		1600		2600	
	S	D	S	D	S	D	S	D	S	D	S	D
Type												
Rated torque*	(Nm)	T _{KN}	350		500		700		1,100		1,600	
Maximum torque*	(Nm)	T _{KNmax}	700		1,000		1,400		2,200		3,200	
Overall length	(mm)	A	on request	108	137		on request		on request	178	224	189
Outside diameter	(mm)	Ø AD	99		109		128		133		150	
Hub diameter	(mm)	Ø B	72		80		89		95		103	
Hub fit length	(mm)	C	43		52		on request		on request	85		90
Bore diameter available from Ø to Ø H7	(mm)	D _{1/2}	18 - 48		23 - 50		25 - 58		25 - 60		28 - 64	
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)		E	M8		M8		M10		M10		M12	
Tightening torque (Nm)			35		40		65		95		150	
Distance between hubs (mm)	G	-	33	-	33	-	44	-	48	-	54	-
Assembly length (mm)	G ₁	59	50.3	68	50.3	84	66.4	94	66.4	113	77.5	119
Clamping screw (ISO 4762)	H	4 x M6		4 x M8		4 x M8		4 x M10		4 x M12		4 x M14
Tightening torque (Nm)		18		34		39		73		120		192
Moment of inertia** (10 ⁻³ kgm ²)	J _{ges.}	2	3	4	5	8	11	11	15	20	27	38
Weight** (kg)		1.8	2.5	2.8	3.7	4.3	6.0	5.5	7.4	8.4	10.6	12.0
Torsional stiffness (10 ³ Nm/rad)	C _T	120	60	160	80	260	130	300	150	420	210	580
Axial ± (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
Lateral ± (mm)		-	0.2	-	0.2	-	0.3	-	0.3	-	0.4	-
Angular ± (degree)		0.7	1.4	0.7	1.4	0.7	1.4	0.7	1.4	0.7	1.4	0.7
Max. speed (min ⁻¹)		5,800		5,300		4,500		4,300		3,800		3,400
Max. speed (balanced)*** (min ⁻¹)		11,200		10,200		8,700		8,300		7,400		6,600

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

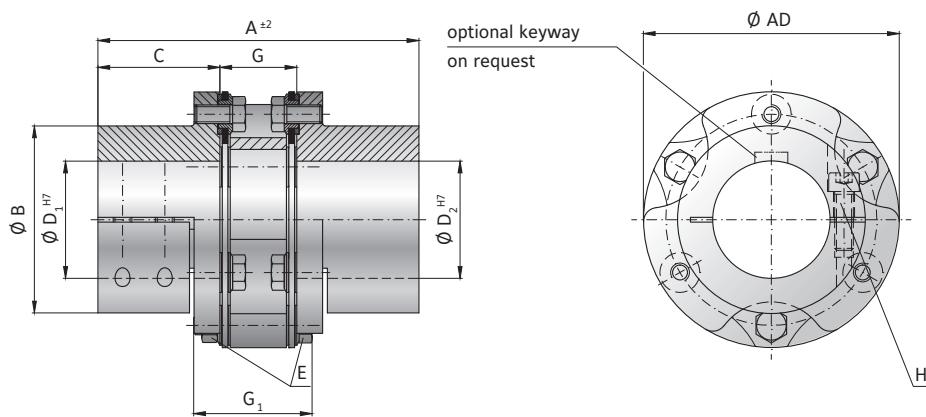
SIZE	Ø18	Ø20	Ø23	Ø25	Ø30	Ø35	Ø40	Ø45	Ø50	Ø55	Ø60	Ø70	Ø80	Ø90	Ø100	Ø120	Ø140	Ø150	Ø160
300	170	190	220	240	290	340	390	430											
500			310	330	400	470	530	600	650										
700				390	470	550	630	710	790	870									
1100					590	710	830	950	1070	1190	1300	1430							
1600						980	1150	1310	1470	1640	1800	1970							
2600							1580	1800	2030	2250	2480	2700	3160						
4000								2300	2600	2800	3100	3400	4000	4600	5200				
6000									3200	3600	4100	4500	4900	5700	6500	7300			
8000										5100	8600	6100	7100	8100	9200	10200			
15000												9000	10000	11500	13000	15500	18000	19500	
25000													19000	23000	26500	28500	30500		

Higher torque capacity possible with keyway or spline on request.

S = single flex design



D = dual flex design



MODEL LP5 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 _{KN}	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	217	274	on request		on request		328	420	392 on request
Outside diameter (mm)	Ø AD	198		212		238		299		372
Hub diameter (mm)	Ø B	137		151		168		220		on request
Hub fit length (mm)	C	102		on request		on request		155		183
Bore diameter available from Ø to Ø H7 (mm)	D _{1/2}	38 - 90		39 - 95		50 - 102		70 - 150		on request
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)	E	M16		M16		M20		M24		M36
Tightening torque (Nm)		360		400		755		1,200		72
Distance between hubs (mm)	G	-	70	-	78	-	97	-	110	- on request
Assembly length (mm)	G ₁	140.8	100	151	110	174	132.5	212	155	on request on request
Clamping screw (ISO 4762)	H	4 x M14		4 x M16		4 x M20		8 x M20		8 x M24
Tightening torque (Nm)		246		395		615		680		1.200
Moment of inertia** (10 ⁻³ kgm ²)	J _{ges.}	75	103	106	145	207	279	658	904	1.147 on request
Weight** (kg)		17.3	22.5	21.9	28.4	33.8	43.4	61.2	80.3	on request on request
Torsional stiffness (10 ³ Nm/rad)	C _t	940	470	1140	570	1600	800	2,800	1,400	5,920 2,960
Axial ± (mm)		1.3	2.5	1.3	2.5	1.3	2.5	1.5	3.0	1.5 4.0
Lateral ± (mm)	max. values	-	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		1,900		1,500
Max. speed (balanced)*** (min ⁻¹)		5,600		5,200		4,700		3,700		3,000

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

ORDERING EXAMPLE	LP5	700	S	133	25.4	40	XX
Model	●						
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. LP5 / 700 / S / 133 / 25.4 / 40 / XX - balanced to 10,000 rpm)							

Special designation only
(e.g. special bore diameter tolerances, balancing, etc.).
Contact R+W for more information.

LPH

WITH FULLY SPLIT CLAMPING HUB

350 - 5,200 Nm

**NEW**

PROPERTIES

FEATURES

- lateral mounting between shafts
- easy installation and removal
- dual flex design

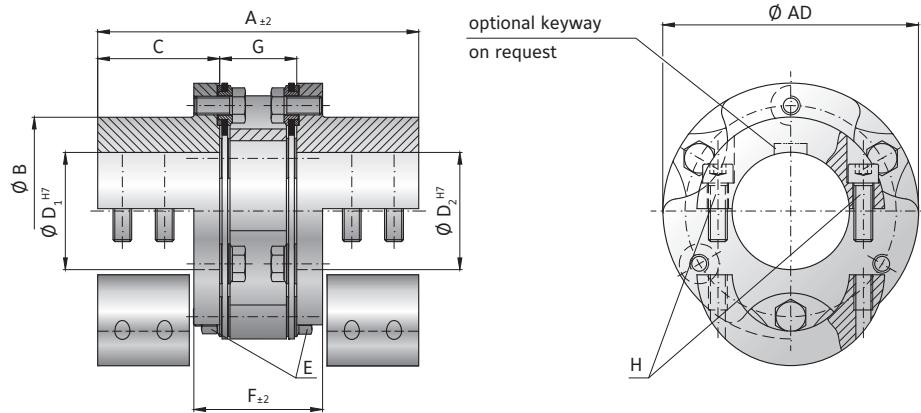
MATERIAL

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

DESIGN

Two precision machined fully split clamping hubs and spacer plate 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.



MODEL LPH D | SIZE 300 - 2600

SIZE	300	500	700	1100	1600	2600
Rated torque*	(Nm) T_{KN}	350	500	700	1,100	1,600
Maximum torque*	(Nm) T_{KNmax}	700	1,000	1,400	2,200	3,200
Overall length	(mm) A	119	137	172	192	224
Outside diameter	(mm) ϕAD	99	109	128	133	150
Hub diameter	(mm) ϕB	72	80	89	95	100
Hub fit length	(mm) C	43	52	64	72	85
Bore diameter available from ϕD_1 to ϕH_7	(mm) $D_{1/2}$	18 - 48	23 - 50	25 - 58	25 - 60	28 - 64
Assembly screw (ISO 4017)	E	M8	M8	M10	M10	M12
Tensioning nut (DIN 4032)		35	40	65	95	150
Tightening torque	(Nm)	58	58	74	80	96
Length of center section	(mm) F	33	33	44	48	54
Distance between hubs	(mm) G	8 x M6	8 x M8	8 x M8	8 x M10	8 x M10
Clamping screw (ISO 4762)	H	16	28	34	63	86
Tightening torque	(Nm)	3	5	11	15	26
Moment of inertia** (10^{-3}kgm^2)	$J_{ges.}$	2.5	3.7	6.0	7.4	10.3
Weight** (kg)		60	80	130	150	210
Torsional stiffness (10^3Nm/rad)	C_T	1.0	1.0	1.5	1.5	2.0
Axial ± (mm)		0.2	0.2	0.3	0.3	0.4
Lateral ± (mm)	max. values	1.4	1.4	1.4	1.4	1.4
Angular ± (degree)		5,800	5,300	4,500	4,300	3,800
Max. speed (min⁻¹)		970	1,140	1,300	1,460	1,630
Max. speed (balanced)*** (min⁻¹)		1,580	1,810	2,040	2,260	2,490

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

SIZE	Ø18	Ø20	Ø23	Ø25	Ø30	Ø35	Ø40	Ø45	Ø50	Ø55	Ø60	Ø70	Ø80	Ø90	Ø100	Ø120	Ø140	Ø150	Ø160
300	180	200	230	250	300	350	400	450											
500			300	330	400	460	525	590	650										
700				400	480	560	640	720	800	880									
1100					590	710	830	950	1,070	1,190	1,310	1,430							
1600						970	1,140	1,300	1,460	1,630	1,790	1,950							
2600							1,580	1,810	2,040	2,260	2,490	2,700	3,150						
4000								2,300	2,600	2,900	3,200	3,500	4,000	4,600	5,200				
6000									3,200	3,700	4,100	4,500	4,900	5,700	6,500	7,400			
8000										5,000	5,600	6,100	7,100	8,100	9,100	10,000			
15000											9,000	10,000	11,500	13,000	15,500	18,000	19,500		
25000												19,000	23,000	26,500	28,500	30,500			

LPH

WITH FULLY SPLIT CLAMPING HUB

4,000 - 50,000 Nm



NEW

PROPERTIES

FEATURES

- lateral mounting between shafts
- easy installation and removal
- dual flex design

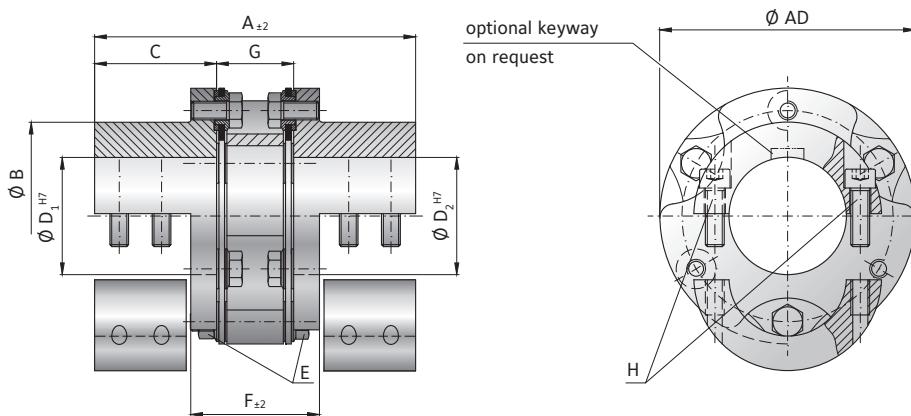
MATERIAL

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

DESIGN

Two precision machined fully split clamping hubs and spacer plate 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.



MODEL LPH D | SIZE 4000 - 25000

SIZE	4000	6000	8000	15000	25000
Rated torque*	(Nm) T _{KN}	4,000	6,000	8,000	15,000
Maximum torque*	(Nm) T _{KNmax}	8,000	12,000	16,000	30,000
Overall length	(mm) A	274	302	349	420
Outside diameter	(mm) Ø AD	198	212	238	299
Hub diameter	(mm) Ø B	137	149	168	220
Hub fit length	(mm) C	102	112	126	155
Bore diameter available from Ø to Ø H7	(mm) D _{1/2}	38 - 90	39 - 95	50 - 102	70 - 150
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)	E	M16	M16	M20	M24
Tightening torque (Nm)	F	360	400	755	1,000
Length of center section (mm)	G	124	132	163	190
Distance between hubs (mm)	G	70	78	97	110
Clamping screw (ISO 4762)	H	8 x M14	8 x M16	8 x M20	8 x M20
Tightening torque (Nm)	H	215	342	530	680
Moment of inertia** (10 ⁻³ kgm ²)	J _{ges.}	104	146	280	913
Weight** (kg)	J _{ges.}	22.7	28.5	43.4	80.9
Torsional stiffness (10 ³ Nm/rad)	C _T	470	570	800	1,400
Axial ± (mm)	max. values	2.5	2.5	2.5	3.0
Lateral ± (mm)		0.5	0.5	0.6	0.7
Angular ± (degree)		1.4	1.4	1.4	1.4
Max. speed (min ⁻¹)		2,900	2,700	2,400	1,900
Max. speed (balanced)*** (min ⁻¹)		5,600	5,200	4,700	3,700

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

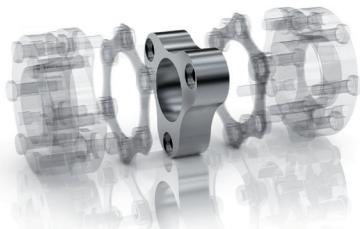
ORDERING EXAMPLE	LPH	700	D	172	25.4	40	XX
Model	●						
Size		●					
Type (D)			●				
Overall length (mm)				●			
Bore diameter Ø D1 H7					●		
Bore diameter Ø D2 H7						●	
Special designation only (e.g. special bore diameter tolerances, balancing, etc.). Contact R+W for more information.							

For custom features place an XX at the end of the part number and describe the special requirements (e.g. LPH / 700 / D / 172 / 25.4 / 40 / XX - balanced to 8,000 rpm)

LPZ

SPACER PLATE

350 - 5,200 Nm

**NEW**

PROPERTIES

FEATURES

- high torsional stiffness
- dual flex design
- for combination of hub types

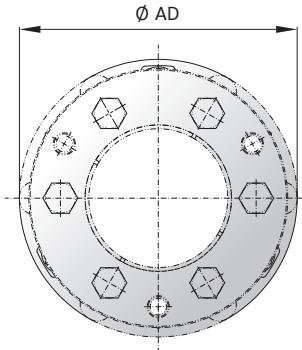
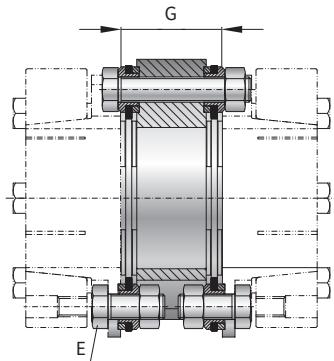
MATERIAL

- **spacer plate:** high strength steel

DESIGN

For use when combining various hub designs with two disc packs and spacer plate.

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



MODEL LPZ | SIZE 300 - 2600

SIZE	300	500	700	1100	1600	2600
Rated torque (Nm)	T _{KN}	350	500	700	1,100	1,600
Maximum torque (Nm)	T _{Kmax}	700	1,000	1,400	2,200	3,200
Distance between hubs (mm)	G	33	33	44	48	54
Outside diameter (mm)	φ AD	99	109	128	133	150
Assembly screw Tensioning nut (ISO 4017) (DIN 4032)	E	M8	M8	M10	M10	M12
Tightening torque (Nm)		35	40	65	95	150
Moment of inertia (10 ³ kgm ²)	J _{ges.}	0.7	1	2.6	3.2	5
Weight (kg)		0.55	0.66	1.25	1.4	1.8
Torsional stiffness (10 ³ Nm/rad)	C _T	60	80	130	150	210
Axial ± (mm)		1	1	1.5	1.5	2
Lateral ± (mm)	max. values	0.2	0.2	0.3	0.3	0.4
Angular ± (degree)		1.4	1.4	1.4	1.4	1.4
Max. speed (min. ⁻¹)		5,800	5,300	4,500	4,300	3,800
Max. speed (balanced)*** (min. ⁻¹)		11,200	10,200	8,700	8,300	7,400
Max. speed (balanced)*** (min. ⁻¹)		11,200	10,200	8,700	8,300	6,600

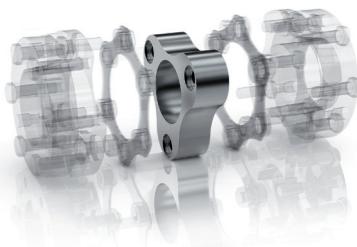
*** higher speeds on request

ORDERING EXAMPLE	LPZ	500	XX
Model	●		
Size		●	
Special designation only (e.g. balancing, materials, etc.). Contact R+W for more information.			
For custom features place an XX at the end of the part number and describe the special requirements (e.g. LPZ / 500 / XX - balanced to 10,000 rpm)			

LPZ

SPACER PLATE

4,000 - 50,000 Nm

**NEW**

PROPERTIES

FEATURES

- high torsional stiffness
- dual flex design
- for combination of hub types

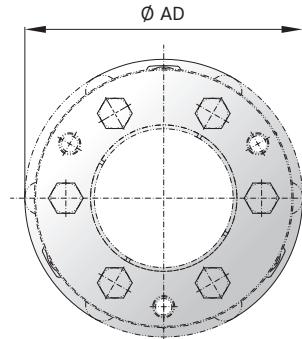
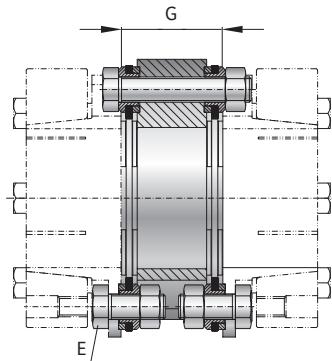
MATERIAL

- **spacer plate:** high strength steel

DESIGN

For use when combining various hub designs with two disc packs and spacer plate.

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



MODEL LPZ | SIZE 4000 - 25000

SIZE	4000	6000	8000	15000	25000
Rated torque (Nm)	T _{KN}	4,000	6,000	8,000	15,000
Maximum torque (Nm)	T _{Kmax}	8,000	12,000	16,000	30,000
Distance between hubs (mm)	G	70	78	97	110
Outside diameter (mm)	Ø AD	198	212	238	299
Assembly screw Tensioning nut (ISO 4017) (DIN 4032)	E	M16	M16	M20	M24
Tightening torque (Nm)		360	400	755	1,200
Moment of inertia (10 ⁻³ kgm ²)	J _{ges.}	18	27	54	164
Weight (kg)		3.7	4.8	7.5	14
Torsional stiffness (10 ³ Nm/rad)	C _T	470	570	800	1,400
Axial ± (mm)	max. values	2.5	2.5	2.5	3
Lateral ± (mm)		0.5	0.5	0.6	0.7
Angular ± (degree)		1.4	1.4	1.4	1.4
Max. speed (min. ⁻¹)		2,900	2,700	2,400	1,900
Max. speed (balanced)*** (min. ⁻¹)		5,600	5,200	4,700	3,700

*** higher speeds on request

ORDERING EXAMPLE	LPZ	6000	XX
Model	●		
Size		●	
Special designation only (e.g. balancing, materials, etc.). Contact R+W for more information.			
For custom features place an XX at the end of the part number and describe the special requirements (e.g. LPZ / 6000 / XX - balanced to 5,000 rpm)			

LPA

WITH KEYWAY MOUNTING

500 - 24,000 Nm

API 610 - METRIC
(API 671 OPTIONAL)

PROPERTIES



FEATURES

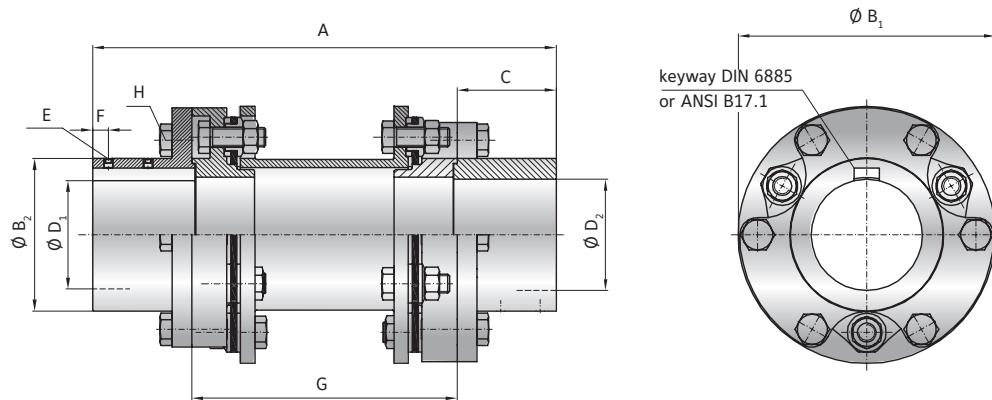
- lateral installation and removal without disturbing shaft hubs
- fail safe in case of disc pack rupture
- standard balance quality of AGMA Class 9

MATERIAL

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

DESIGN

Two precision machined coupling hubs mounted to the disc pack spacer with connection of 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.



MODEL LPA | SIZE 500 - 12000

SIZE	500	800	2500	5000	8000	12000
Power rating (kW/100 rpm)	P _{KN}	5	8	26.2	52	84
Rated torque (Nm)	T _{KN}	500	800	2,500	5,000	8,000
Maximum torque (Nm)	T _{Kmax}	1,000	1,600	5,000	10,000	16,000
Overall length (mm)	A	190	230	250	290	332
Outside diameter (mm)	B ₁	116		142		190
Hub diameter (mm)	B ₂	71		84		102
Hub fit length (mm)	C	45		55		75
Bore diameter available from Ø to Ø H7 (mm)	D _{1/2}	23 - 50		25 - 60		31 - 75
Set screw (DIN 916)	E	2 × M6		2 × M6		2 × M8
Screw location (mm)	F	7		10		14
Spacer length (mm)	G	100	140	140	180	180
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)	H	M8		M10		M16
Tightening torque (Nm)		41		83		355
Moment of inertia** (10 ⁻³ kgm ²)		8	8.4	21.8	22.3	85.8
Material		steel		steel		steel
Weight** (kg)		5	5.4	9.2	9.6	20.8
Axial ± (mm)		0.75		1		1.3
Lateral ± (mm)		0.7	1.1	1	1.5	2
Angular ± (degree)		1°		1°		1.3
Max. speed (1/min.)		7,600		6,400		5,300
Max. speed (balanced) (1/min.)		18,800		15,100		12,800
Max. speed (balanced) (1/min.)						9,800
Max. speed (balanced) (1/min.)						8,100
Max. speed (balanced) (1/min.)						6,200

** at maximum bore diameter

ORDERING EXAMPLE	LPA	800	250	41.28	38	XX
Model	●					
Size		●				
Overall length (mm)			●			
Bore diameter Ø D1 H7				●		
Bore diameter Ø D2 H7					●	
Special designation only (e.g. special bore diameter tolerances, balancing, etc.). Contact R+W for more information.						

For custom features place an XX at the end of the part number and describe the special requirements (e.g. LPA / 800 / 250 / 41.28 / 38 / XX - balanced to 15,000 rpm)

PROPERTIES



FEATURES

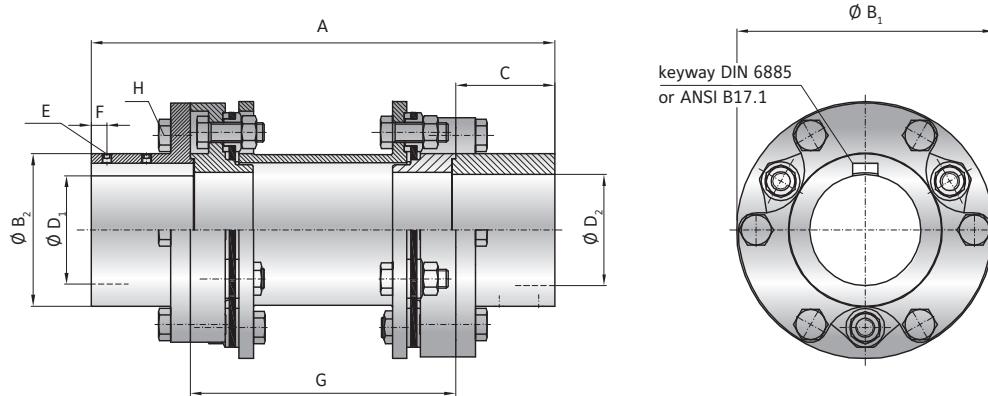
- lateral installation and removal without disturbing shaft hubs
- fail safe in case of disc pack rupture
- standard balance quality of AGMA Class 9

MATERIAL

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

DESIGN

Two precision machined coupling hubs mounted to the disc pack spacer with connection of 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.



MODEL LPAI | SIZE 500 - 12000

SIZE	500	800	2500	5000	8000	12000
Power rating (kW/100 rpm)	P _{KN}	5	8	26.2	52	84
Rated torque (Nm)	T _{KN}	500	800	2,500	5,000	8,000
Maximum torque (Nm)	T _{Kmax}	1,000	1,600	5,000	10,000	16,000
Overall length (mm)	A	217	268	237	288	330
Outside diameter (mm)	B ₁	116		142		190
Hub diameter (mm)	B ₂	71		84		102
Hub fit length (mm)	C	45		55		75
Bore diameter available from Ø to Ø H7 (mm)	D _{1/2}	23 - 50		25 - 60		31 - 75
Set screw (DIN 916)	E	2 × 1/4"-20		2 × 1/4"-20		2 × 5/16"-18
Screw location (mm)	F	7		10		14
Spacer length (mm)	G	127/5"	178/7"	127/5"	178/7"	178/7"
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)	H	5/16"-18		3/8"-16		5/8"-11
Tightening torque (Nm)		38		68		320
Moment of inertia** (10 ⁻³ kgm ²)		8.3	8.8	21	22.3	85
Material		steel		steel		steel
Weight** (kg)		5.3	5.7	9.1	9.6	20.8
Axial ± (mm)		0.75		1		1.3
Lateral ± (mm)		1	1.5	0.9	1.4	1.3
Angular ± (degree)		1°		1°		1°
Max. speed (1/min.)		7,600		6,400		5,300
Max. speed (balanced)*** (1/min.)		18,800		15,100		12,800
Max. speed (balanced)*** (1/min.)						9,800
Max. speed (balanced)*** (1/min.)						8,100
Max. speed (balanced)*** (1/min.)						6,200

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

ORDERING EXAMPLE	LPAI	800	237	25.4	50.8	XX
Model	●					
Size		●				
Overall length (mm)			●			
Bore diameter Ø D1 H7				●		
Bore diameter Ø D2 H7					●	

Special designation only
(e.g. special bore diameter
tolerances, balancing, etc.).
Contact R+W for more
information.

For custom features place an XX at the end of the part number and describe the special requirements (e.g. LPAI / 800 / 237 / 25.4 / 50.8 / XX - balanced to 15,000 rpm)

API 610 / API 671

MORE INFORMATION



DEFINITION OF TERMS / GENERAL INFORMATION

- API is the American Petroleum Institute
- API 610 and 671 seek to harmonize the technical requirements of pump and compressor systems in the American oil and gas industry, and are used worldwide
- Couplings built in accordance with API 671 must meet stricter requirements than API 610

REQUIREMENTS FOR COUPLINGS

API 610

- Design according to service factor of at least 1.0 (unless otherwise specified)
- Anti-flail safety required to prevent the spacer from being thrown in the event of disc pack rupture
- Spacer length of at least 5"
- Balance requirements vary by speed (contact R+W)

API 671

- Design according to service factor of at least 1.5 (unless otherwise specified)
- Anti-flail safety required to prevent the spacer from being thrown in the event of disc pack rupture
- Match-weighted screws with documentation for future replacement
- Balance requirements vary by speed (contact R+W)

INFORMATION REQUIRED FOR DESIGN

- Drive power or nominal / peak application torque
- Rotational speed
- Bore diameters
- Keyway standards or sizes
- Distance between shaft ends (DBSE)
- Ambient temperature
- Balance grade (if different from AGMA Class 9)

Special designs are available on request!

LPA

LPAI

APPLICATION FORM

API 610 / REQUEST SHEET API 610

SAMPLE DESIGN LPA 2500 API 610

Customer	Order number	Quote number	Drawing number

Characteristic	Unit	Value
Drive power	KW	300
Speed	1/min	1900
Torque	Nm	1508
Service factor		1.66
Rated torque	Nm	2500
Distance between shaft ends	mm	260
Ambient temperature	°C	40

Dynamic balancing	
Balance quality	G 6.3
Procedure	
Component balance	

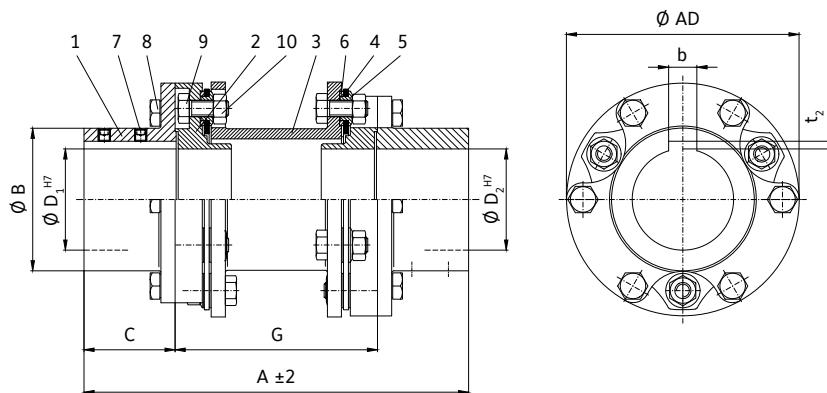
Balance grade AGMA Class 9

Coupling qualifies for operating conditions

Coupling Type / Size / Overall length (mm)

LPA / 2500 / 402

Characteristic	Unit	Value
Rated torque	Nm	2500
Maximum torque	Nm	5000
Moment of inertia	10^{-3}kgm^2	88.4
Approximate weight	kg	22
Max. axial misalignment	mm	1.3
Max. angular misalignment	degree	1
Max. lateral misalignment	mm	2
Max. allowable speed	1/min.	12800
Overall length A	mm	402
Outside diameter AD	mm	190
Hub diameter B	mm	102
Hub fit length C	mm	75
Spacer length G	mm	250



Driving side

Hub	mm	Tol.	keyw.	mm	Tol.
D ₁	65	H7	b	18	JS9
Style	Cylindrical		t ₂	4.4	

Driven side

Hub	mm	Tol.	keyw.	mm	Tol.
D ₂	65	H7	b	18	JS9
Style	Cylindrical		t ₂	4.4	

Keyway

DIN 6885-1

Item	Quantity	Description	Standard	Part designation	Material
1	2	Keyway hub	-	820124	16MnCr5 (1.7131)
2	2	Guard ring	-	820254	16MnCr5 (1.7131)
3	1	Spacer	-	820321	16MnCr5 (1.7131)
4	12	Flexible disc	-	820008	X12CrNi17 7 (1.4310)
5	12	Sleeve	-	820508	42CrMo4+QT
6	12	Bushing	-	820408	42CrMo4+QT
7	4	Set screw	ISO 4029	M8	-
8	12	Assembly screw	ISO 4017	M16x35 - 12.9	-
9	12	Assembly screw	ISO 4017	M16x40 - 12.9	-
10	12	Tensioning nut	ISO 4032	M16 - 12	-

Surface protection: oiled

INTELLIGENT COUPLING WITH INTEGRAL SENSOR TECHNOLOGY 350 – 50,000 Nm

PROPERTIES



NEW

FEATURES

- ▶ recording of various performance characteristics
- ▶ measurement accuracy within <1% (torque)
- ▶ amplifier on board
- ▶ evaluation directly on integral chip
- ▶ wireless transmission directly to mobile device or PC (with gateway)
- ▶ data export in CSV

MEASUREMENTS TAKEN

- | | |
|----------|------------------------|
| ▶ speed | ▶ vibration |
| ▶ torque | ▶ optional axial force |

DESIGN

- ▶ spacer with integral sensor technology
- ▶ coupling properties remain unchanged (see previous pages)
- ▶ custom configurations on request

SPECIFICATIONS

- ▶ Bluetooth Low Energy
- ▶ magnetic charging port
- ▶ sampling rate of 500 Hz
- ▶ transmission rate of up to 500 Hz
- ▶ speed up to 3000 rpm

POWER SUPPLY

Battery power

- ▶ no wiring necessary
- ▶ easy installation
- ▶ for use with mobile app

Inductive power

- ▶ for fixed installations
- ▶ continuous and uninterrupted measurement (24/7 operation)

COUPLING MODELS AVAILABLE WITH SENSOR UNIT

LP2



- ▶ with keyway mounting
- ▶ positive drive connection
- ▶ easy installation

LP3



- ▶ with conical clamping ring hubs
- ▶ frictional shaft connection
- ▶ zero backlash torque transmission in reversing applications

LP5



- ▶ with clamping hubs
- ▶ frictional shaft connection
- ▶ zero backlash torque transmission in reversing applications
- ▶ easy installation

LPH



- ▶ with fully split clamping hubs
- ▶ frictional shaft connection
- ▶ zero backlash torque transmission in reversing applications
- ▶ lateral mounting

SPECIAL OPTIONS

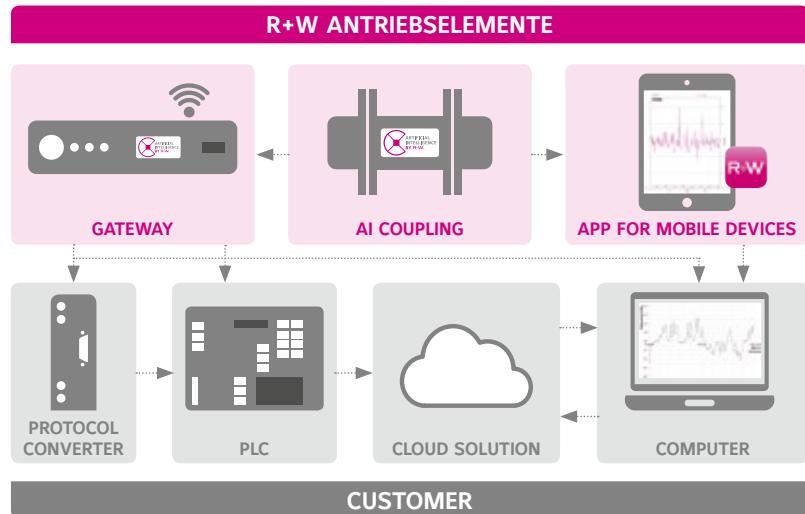
- ▶ e.g. with flange connections
- ▶ or fully customized

DATA COLLECTION



GATEWAY

- ▶ connection to PC via USB port
- ▶ PLC or cloud solutions via 8 analog outputs (-10 to 10 V)
- ▶ 4 digital outputs for programmable status updates
- ▶ SMA connector for external antennas



R+W APP

- ▶ display of all measurement variables
- ▶ min / max and average values
- ▶ tare function
- ▶ various chart types
- ▶ detailed measurement curves
- ▶ intuitive gesture control
- ▶ retains data for further analysis
- ▶ export in CSV format

Requirements:

- ▶ Android tablet or smartphone
- ▶ version 6.0 or higher
- ▶ minimum 30 MB free space
- ▶ Bluetooth 4.0 or higher



OPTIONS / SPECIAL SOLUTIONS / HIGHER TORQUES

TORSIONALLY STIFF DISC PACK COUPLINGS – FURTHER INFORMATION



WITH CLAMPING HUB

- ▶ easy installation
- ▶ zero backlash torque transmission
- ▶ customer specified length available
- ▶ dual flex design
- ▶ keyway optional on request



WITH FULLY SPLIT CLAMPING HUB

- ▶ easy installation and removal
- ▶ zero backlash torque transmission
- ▶ customer specified length available
- ▶ dual flex design
- ▶ keyway optional on request



WITH CONICAL CLAMPING RING HUB AND FLANGE MOUNTING FOR CONNECTION TO TORQUE TRANSDUCERS

- ▶ high torsional stiffness
- ▶ high clamping pressure
- ▶ zero backlash torque transmission

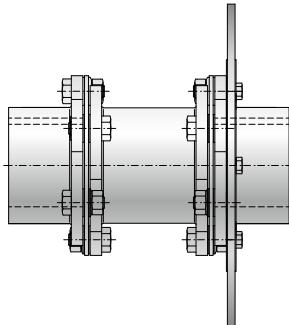


WITH INTEGRAL COOLANT DELIVERY PIPE

- ▶ spacer: carbon fiber, aluminum or steel
- ▶ for high speeds
- ▶ customer specified length available
- ▶ dual flex design

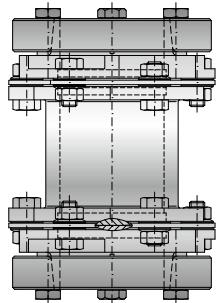
OPTIONS / SPECIAL SOLUTIONS / HIGHER TORQUES

TORSIONALLY STIFF DISC PACK COUPLINGS - FURTHER INFORMATION



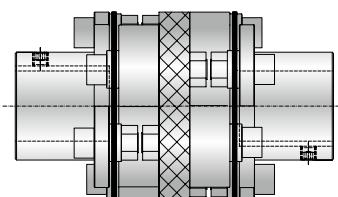
WITH BRAKE DISC

- ▶ brake disc according to customer requirements
- ▶ single or dual flex
- ▶ with keyway mounting, conical clamping rings, clamping hubs, fully split clamping hubs or flange mounting



WITH VERTICAL SUPPORT

- ▶ for vertical installations
- ▶ with keyway mounting, conical clamping rings, clamping hubs, fully split clamping hubs or flange mounting



WITH ELECTRICAL ISOLATING

- ▶ single or dual flex
- ▶ with keyway mounting, conical clamping rings, clamping hubs, fully split clamping hubs or flange mounting

HIGHER TORQUES ON REQUEST