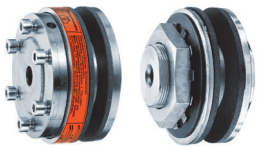
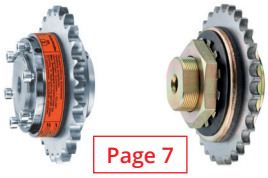
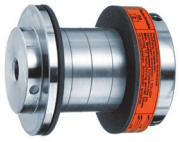
DELTA ROTATING
SOLUTIONS

- **DELTA** high quality Torque Limiter
- **DELTA** torsionally flexible Coupling with Torque Limiter
- **DELTA** torsionally rigid Coupling with Torque Limiter

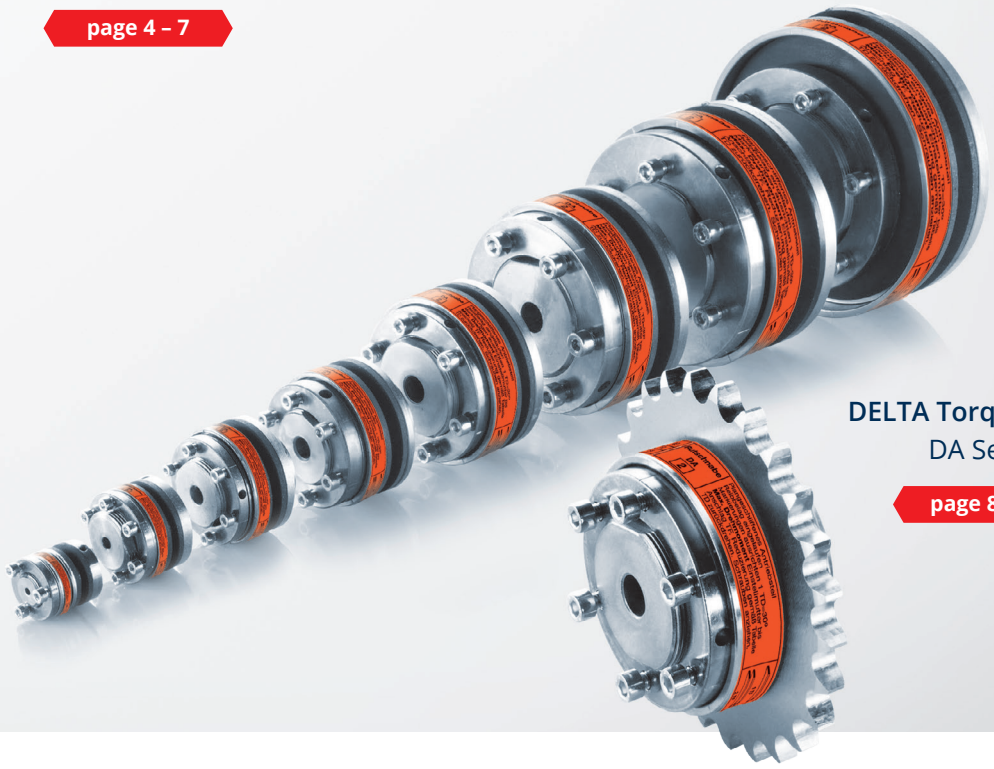
DELTA ROTATING SOLUTIONS

Types of Torque Limiters and Applications

	Description	Applications
 Page 3 – 10	• Torque settings available from 0.5 to 23.000 Nm. • Stepless adjustable torque. • Long life due to very little wear. • Surface protected by galvanizing and yellow cromatizing.	• Recycling equipment. • Materials handling equipment. • power transmission equipment. • Textile machines. • Transmission motors. • General power transmission equipment.
 Page 7	• Torque Limiter with sprocket as unit. • Sprockets with number of teeth and pitch according to customer's request (see page 7).	• Automatic equipment • Door and gate drives • Adjustment drives • Belt drives
 Page 11	• Torque Limiter designed for wide drive parts in long version. • For double and triple sprockets as well as for rubber belt wheels. • Can be supplied complete with sprocket or belt wheels.	• Belt wheels. • Multiple chamfer v-belt pulley. • Multiple chain drives. • General power transmission. • Materials handling equipment. • power transmission equipment. • Mechanical equipment.
Page 13	• Torque Limiter with chain coupling for high temperature areas and other high demand for the connection of two shafts. • Small axial, radial and angular deviations possible. • Temperature up to 280 °C possible. • Low speed.	• General mechanical design. • Materials handling equipment • power transmission equipment. • When exposed to high demand and high temperature.
Page 14	• Torque Limiter for protection against overload between two shafts. • Torsionally flexible torque limiter with allowance for axial displacement. • Variable elasticity due to different Shore Hardness of the elastic part.	• General mechanical design. • Pumps. • Power transmission motors. • Belt drives.
Page 15	• Torsionally rigid torque limiting shaft to shaft coupling. • Large axial, radial and angle flexibility due to double crowned teeth hubs and involute geared sleeve. • Axially assemble.	• General mechanical design. • Design of drives of low demands. • Low number of revolutions. • High axial, radial and angular deviations.
Page 16	• Torque Limiter for protection against overload between two shafts. • Allows for axial, radial and angular misalignment. • Considerable, angular elasticity, because of 60° shore hardness of the elements, this results in strong shock and vibration dampening.	• General mechanical design. • Pumps. • Suited for internal combustion engines. • General power transmission.

DELTA Torque Limiter
DB Series

page 4 – 7



DELTA Torque Limiter
DA Series

page 8 – 11

DELTA torque limiters

frictional overload protection

DELTA torque limiters are used in machines with chain, gear or belt drives to prevent overloading of sensitive motors, gearboxes and machine components. If overloading causes the level of transmitted torque to exceed the frictional torque between the two friction discs, which is created by the pretensioned disc spring, the coupling slips and forcibly breaks the connection between the driving and driven side. When the torque subsequently falls to a level below that of the frictional force, the friction discs re-engage and torque transmission without backlash resumes. 20 different high-quality versions that can be adapted to the varying conditions of almost all drive systems are available.

Torque limiters Series DB

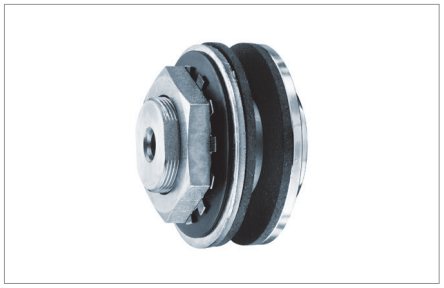
The cost-effective alternative for easy torque limiting

DELTA basically offers two torque limiter series: Model DB and Model DA. The torque limiter series Model DB differs mainly in its simple design and the easy torque adjustment and is preferably used where an exact torque adjustment is not required. The model of the DB series is offered as a slip hub in the sizes 120, 180, 250, 350, 500 and 700 as well as with built-in sprocket plates and as a complete torque limiter chain couplings. For torques above 1,360 Nm, the torque limiter of the DA series are available in further 6 sizes up to 23,000 Nm (see pages 8 – 11).

Properties

- Torque limiters up to 1,360 Nm
- Standard version: steel-cromatized
- Limitation of torque prevents high shock loads
- High-performance friction discs
- Standard bushing made from special bronze

Types of Series DB



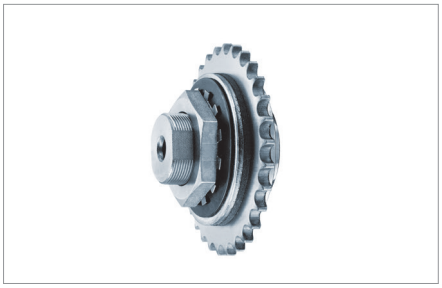
DELTA DB standard

Description

- Torque limiters up to 1,360 Nm torque
- Standard version steel-cromatized
- Torque limitation for torque from 0.5 – 1,360 Nm
- Friction disc free of asbestos
- Standard centering bushing – long durability (Page 6)

Applications

Recycling equipment, materials handling equipment + power transmission equipment, textile machines, transmission motors, general power transmission equipment



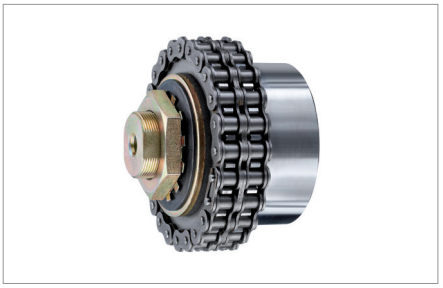
DELTA DB with sprocket

Description

- Torque limiter with sprocket as ready-to-fit unit
- Sprockets with number of teeth and pitch according to customer requirements (see "Sprocket plates" chart page 7)

Applications

Automatic equipment, door and gate drives, adjustment drives, belt drives



DELTA DB with chain coupling RKC

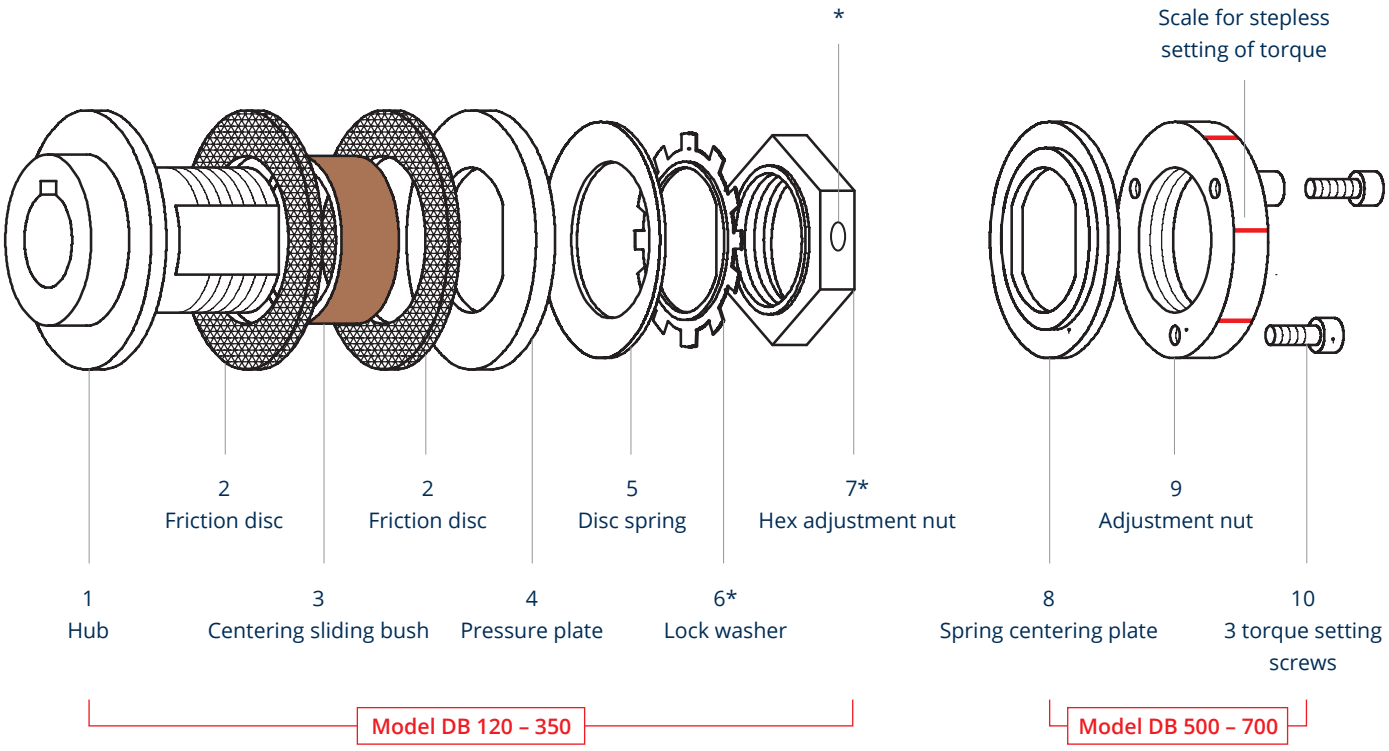
Description

- Torque limiter as chain coupling for high-temperature areas and other high demand for the connection of two shafts
- Small axial, radial & angular deviations possible
- Temperature up to 280 °C possible
- Low to medium revolutions (Page 13)

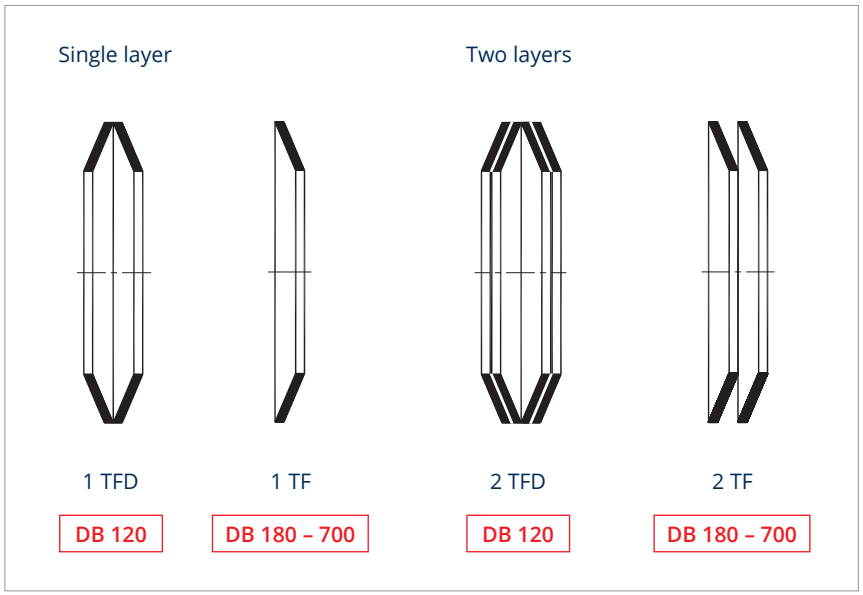
Applications

General mechanical engineering, materials handling equipment + power transmission equipment, when exposed to high demand and high temperature

Basic form of Series DB



* Torque limiters size 120 and 180 are fitted with hex adjustment nuts (7) with each 3 locking screws instead of lock washers (6)

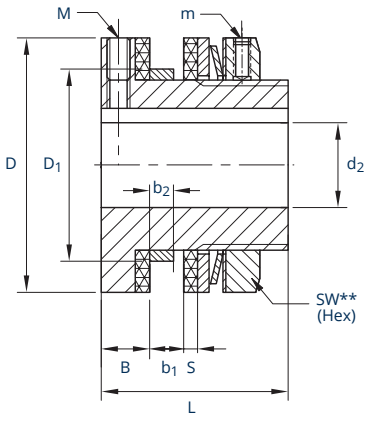


TF = Disc spring, TFD = Double disc spring

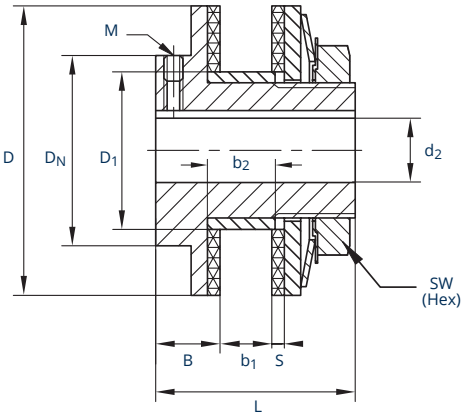
Disc spring layers
For torque limiters two different layers of disc springs are possible.

- a Disc springs in single layer (1 TF, 1 TFD) for torque limiters DB 120 to DB 700.
- b Disc springs in two layers (2 TF, 2 TFD) for torque limiters DB 120 to DB 700.

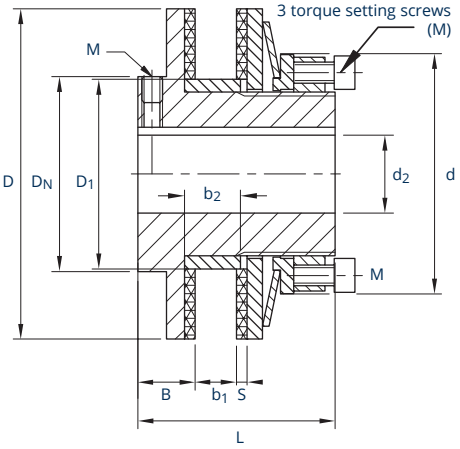
DELTA DB Standard Torque Overload Devices



Model DB 120 – 180



Model DB 250 – 350



Model DB 500 – 700

Dimensions [inches]

Model Number DB	Torque Capacity (lbs ft) min.	Torque Capacity (lbs ft) max.	Bore d_2 Stock min. Plain bore	max. Bore w/Std KW and SS	Stock finished Bore with keyway and setscrew	b_2* Standard Bushing lenght [Dec. Inch]	D_1 Bore Diameter over Bushing [mm]	D_1 Bore Diameter over Bushing [Dec. Inch]
120-1	0,5	3,5	1/8	3/8	1/4, 5/6, 3/8	0,165	21	0,827 – 0,828
120-2	1	7						
180-1	1,5	7,5	4/16	7/8	3/8, 7/16, 1/2	0,165	34	1,338 – 1,339
180-2	3	15						
250-1	5	25	3/8	7/8	1/2, 5/8, 3/4, 7/8	0,55	41,33	1,627 – 1,628
250-2	10	50						
350-1	15	65	1/2	1 1/8	3/4, 7/8, 1	0,826	49,28	1,940 – 1,942
350-2	30	120						
500-1	35	200	3/4	1 3/4	7/8, 1, 1 1/8, 1 3/16, 1 1/4, 1 3/8, 1 7/16, 1 1/2, 1 5/8	0,826	73,10	2,877 – 2,880
500-2	70	400						
700-1	85	500	1	2 5/8	1 1/2, 1 3/4, 2, 1 15/16	1,378	104,88	4,129 – 4,131
700-2	170	950						

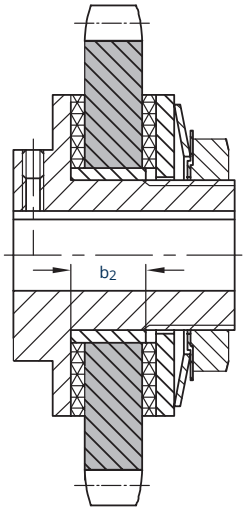
Torque Limiter for Torque capacity over 950 until 17.000 LBS FT see Torque Limiter serie DA 5 until DA 10 (catalogue page 10)

* The calculation of the lenght of the bushing is as follows:
DB 120 + 180: max. bush length b2 = width of drive component b1* less 0,02 to 0,04 inch
DB 250 – 700: max. bush length b2 = width of drive component b1* plus 1,5 x s
(see assembly instruction page 10)

Model Number DB	D	d	B	S1	b1 max	L	SW (Hex)*	m (Metric)	M (Metric)	Approx. Weight LBS
120-1	1 3/16	–	11/32	3/32	1/4	1 7/32	1 1/16	M4	M4	0,5
120-2										
180-1	1 3/4	–	11/32	3/32	9/32	1 5/16	1 5/8	M4	M4	0,6
180-2										
250-1	2 1/2	–	5/8	5/32	11/32	1 7/8	1 7/8	–	M5	1
250-2										
350-1	3 1/2	–	3/4	5/32	5/8	2 7/16	2 3/8	–	M6	2 1/2
350-2										
500-1	5	3 5/8	7/8	5/32	5/8	3	–	–	M8	6 1/2
500-2										
700-1	7	5 1/4	1 5/16	3/16	1 1/8	3 7/8	–	–	M10	15
700-2										

** Torque limiters size 120 and 180 are fitted with hex adjustment nuts with 3 locking screws instead of lock washers.

Sprocket plates and bush legthe for torque limiters Model DB



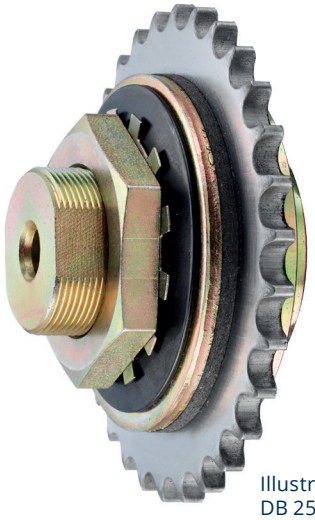


Illustration:
DB 250 - 1TF / DB 350 - 1TF

For more precise torque setting and for applications where slippage may be frequent, use a ground center member (63 micro-inch). Rated torque capacity can only be obtained with dry friction facings and with a ground center member, which has been run-in for 4 minutes at approximatley 65 rpm at a torque setting of max 50% of the 1 spring rating –rate of run-in is not to exceed 80 rpm. Center member faces should be flat, parallel, square with bore, and free from rust, scale and oil for optimum torque limiter performance. If center members are not in accordance with these specifications or are unground, torque limiter capacity will be erratic and generally lower than capacity with ground center members.

Model Number	Sprocket Bore Diameter over Bushing	Sprocket min. Teeth and Bush length (b2)*									
DB		3/8" – #35	1/2" – #41	1/2" – #40	5/8" #50	3/4" #60	1" #80	1 1/4" #100	1 1/2" #120	1 3/4" #140	2" #160
120	0,826 0,828	13 0,140	11 0,165	11 0,165	–	–	–	–	–	–	–
180	1,338 1,340	19 0,140	15 0,165	15 0,165	–	–	–	–	–	–	–
250	1,627 1,629	25 0,365	20 0,425	20 0,480	16 0,540	–	–	–	–	–	–
350	1,940 1,942	35 0,365	26 0,425	26 0,480	21 0,540	18 0,655	15 0,770	–	–	–	–
500	2,878 2,880	–	35 0,425	35 0,480	30 0,540	25 0,655	19 0,770	–	–	–	–
700	4,129 4,131	–	–	48 0,520	40 0,580	35 0,695	26 0,810	21 0,925	18 1,155	16 1,155	15 1,375

* standard bushing length see page 6

Torque limiters Series DA

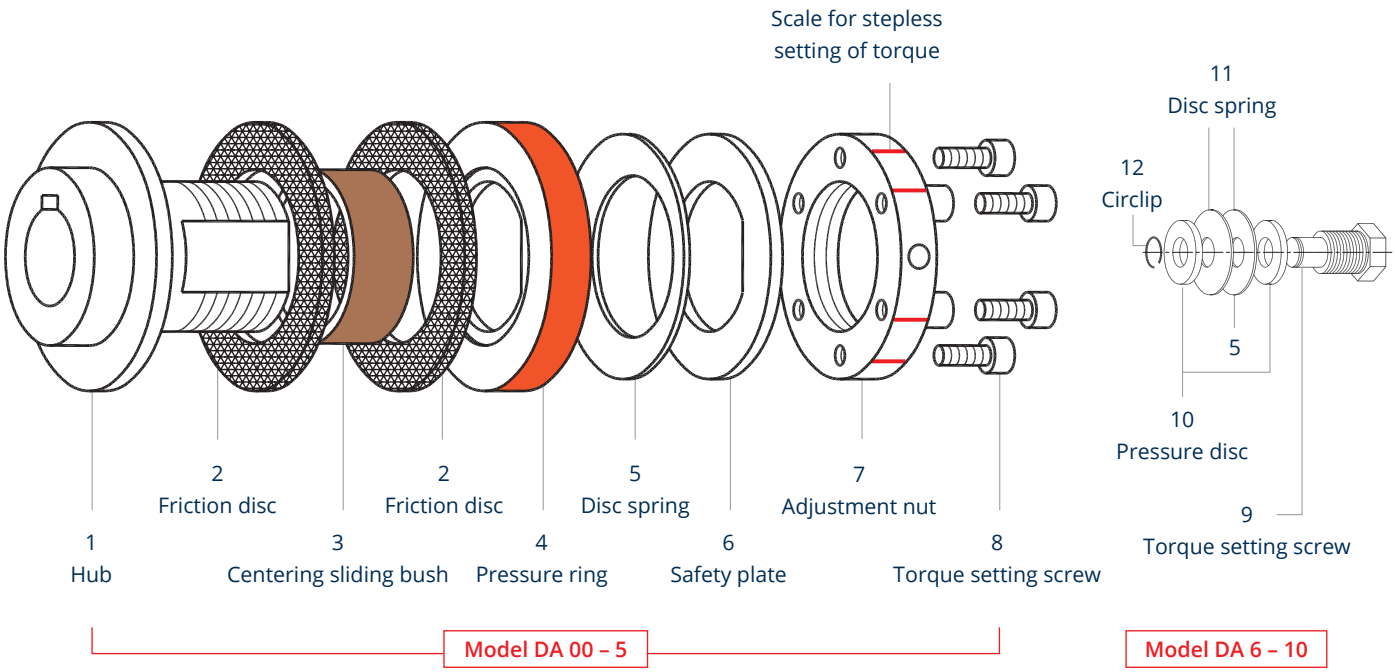
The high-quality version for precise torque settings

DELTA torque limiters from the DA Series are high-quality, fully-machined elements with a special rustproof surface coating. DA Series torque limiters are completely enclosed to prevent dirt from contaminating the interior.
DELTA DA Series torque limiters allow stepless adjustment of the required slip torque, even when already installed.
The torque limiters have been constructed to allow easy adaptation to a wide variety of operating conditions e.g. not only for frequent slippage at low torque, or low friction and extremely high torque, but also for all intermediate levels of torque, friction and desired service life length.

Properties

- Torque limiters up to 23,000 Nm
- Standard version: steel-cromatized
- Limitation of torque prevents high shock loads
- Variably adjustable torque
- High-performance friction discs
- Standard bushing made from special bronze
- Change of torque adjustment, possible even in assembled condition

Basic from of Series DA



2 **Friction discs**
High-performance resin/rubber bound friction material without metal content. High temperature stable, pressure and wear resisting. Special friction discs for continuous slip, oil running or special lubricating materials available on request.

3 **Bushing for centering drive part**
Bronze bushing with good slide and wear properties is used for centering. All torque limiters are equipped with the longest possible bushing. Shorter bushing for smaller driven parts must be specially ordered. The calculation of the length of the bushing: see page 10.

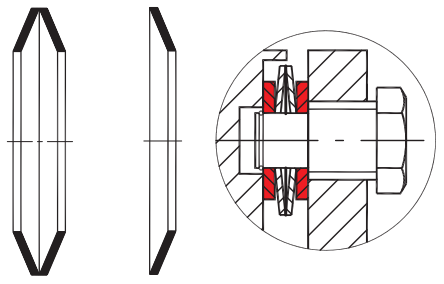
5 **Disc spring layers**
For torque limiters three different layers of disc springs are possible.

Possible application of disc spring
Experience shows that wear is lower when single disc springs are used, when double springs are used there is more wear and when triple springs are used, wear is much greater. Generally the time of wear and destruction of a friction disc depends on the adjusted torque, the turning speed, the time of slippage and the frequency of slippage.

Maximum slippage times
In general, torque limiters are subjected to varying thermal loads depending on slippage revolutions, slippage time and the set torque value. In order to prevent overheating of the DELTA torque limiter friction discs, the maximum frictional parameters defined by DELTA must not be exceeded. The values given in the diagrams for 1 – 3 disc springs show the correlation between slippage revolutions and slippage time for the maximum torque of the selected torque limiter size with the respective number of friction discs.

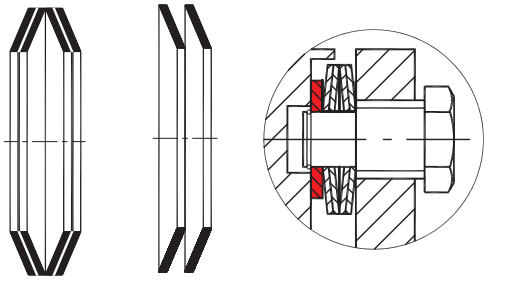
Please contact our Technical Service department for more information on how to calculate max. slippage time and the corresponding diagrams for 1 – 3 disc springs.available.

a Single layer



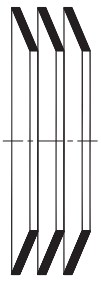
1 TFD — DA 00
1 TF — DA 0 – 5
1 TFD — DA 6 – 10

b Two layers



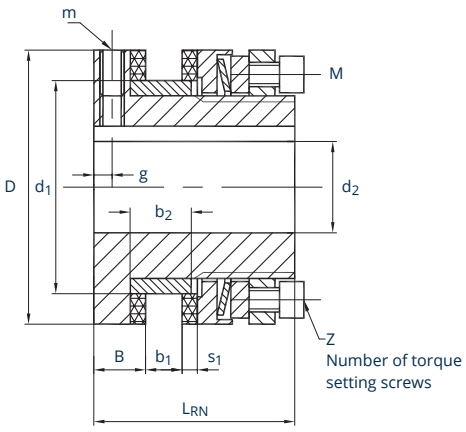
2 TFD — DA 00
2 TF — DA 0 – 5
2 TFD — DA 6 – 10

c Three layers

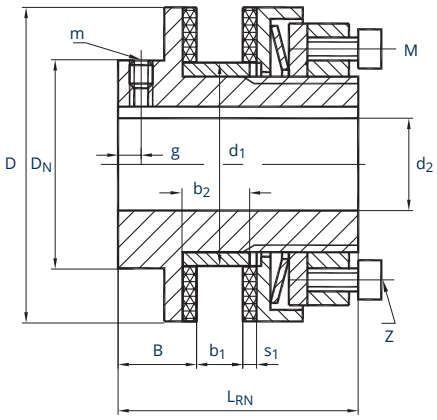


3 TF — DA 0 – 5

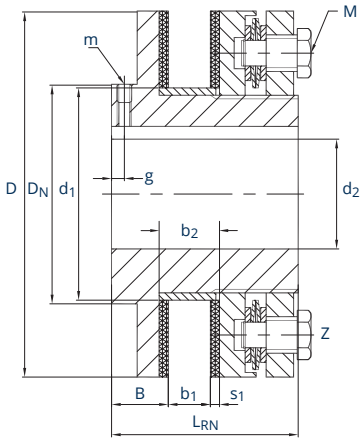
DELTA DA Standard Torque Overload Devices



DA 00 – 0



DA 01 – 5



DA 6 – 10

Type	Max. RPM	Limit torques for overload [Nm] Number of disc springs			Bore d_2		Dimensions [mm]														
											Width of driving part b_1			Bush length b_2*							
DA	[1-min]	single	double	triple	Pilot bore	Bore max.	D	D_N	d_1 1)	B	min.	max.	max.*	min.	max.	s_1	L_{RN}	g	m	M	Z
00	10000	0,5–5	1–10	–	3,7	10	30	30	21	8,5	2	6	–	1,5	10	2,5	31	3	M4	M4	3
0	8500 *	2–10	4–20	18–30	5,7	20	45	45	35	8,5	2	6	–	6	10	2,5	33	3	M4	M4	6
01	6600 *	5–35	10–70	60–105	10	22	58	40	40	16	3	8	–	8	13	3	45	4	M5	M4	6
1	5600 *	20–75	40–150	130–200	10	25	68	45	44	17	3	10	9	8	15	3	52	5	M5	M5	6
2	4300 *	25–140	50–280	250–400	14	35	88	58	58	19	4	12	10	9	17	3	57	5	M6	M6	6
3	3300 *	50–300	100–600	550–800	18	45	115	75	72	21	5	15	12	11	21,5	4	68	5	M6	M8	6
4	2700 *	90–600	180–1200	1100–1600	24	55	140	90	85	23	6	18	15	12	24,5	4	78	5	M8	M8	6
5	2200 *	280–800	800–1600	1400–2100	28	65	170	102	98	29	8	20	16	16	28	5	92	8	M8	M8	6
6	1900	300–1200	600–2400	–	38	80	200	120	116	31	8	23	–	16	31	5	102	8	M8	M20	8
7	1600	600–2200	1200–4400	–	45	100	240	150	144	33	8	25	–	16	33	5	113	8	M10	M20	12
7.1	1600	600–2200	1200–4400	–	45	100	240	150	144	33	18	35	–	26	43	5	113	8	M10	M20	12
8	1300	900–3400	1800–6800	–	58	120	285	180	170	35	8	25	–	16	33	5	115	8	M10	M20	16
9	1100	1800–5300	4000–10500	–	64	140	350	225	237	53	12	28	–	21	37	6	162	9	M12	M20	20
10	900	4000–9000	9000–23000	–	78	160	415	255	270	60	15	35	–	24	44	6	185	9	M12	M20	20

* limited driving part width with triple layer of disc springs

Calculation of the maximum centring slide bushing length (b_2)

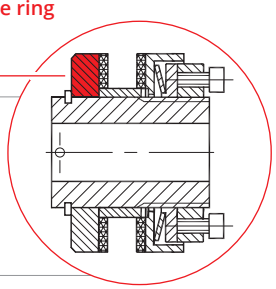
$Z = 1,5 \times s_1 + b_1$ (for the sizes 00 and 0)

$Z = 1,5 \times s_1 + b_1 + 0,5$ mm (for sizes 01 to 10)

With removable pressure ring

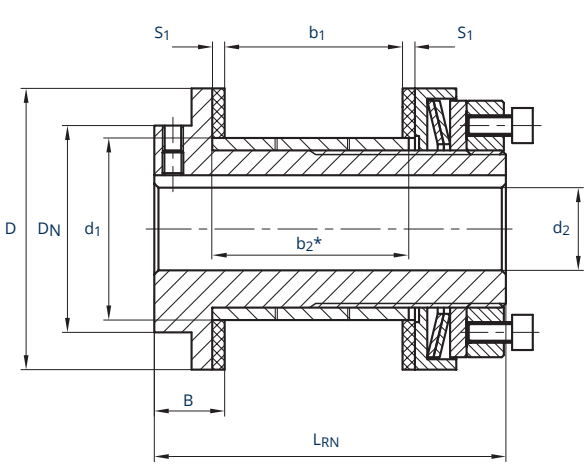
DELTA DA PLus

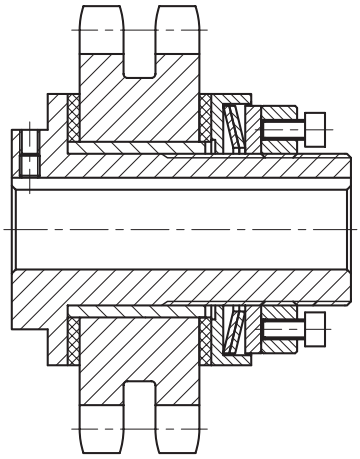
Replacement of spare parts possible from both sides **on request**

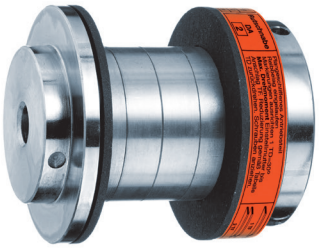


DELTA ROTATING SOLUTIONS

DELTA DA MAX







Type	Max. RPM	Limit torques for overload [Nm] Number of disc springs			Bore d_2		Dimensions [mm]							
										b_1				
DA MAX	[1-min.]	single	double	triple	Pilot bore	Bore max.	D	D_N	B	min	max	d_1 1)	L_{RN}	S_1
0	8500	2 – 10	4 – 20	18 – 30	5,7	20	45	–	8,5	8	25	35	50	2,5
01	6600	5 – 35	10 – 70	60 – 105	10	22	58	40	16	10	33	40	70	3
1	5600	20 – 75	40 – 150	130 – 200	10	25	68	45	17	12	43	44	85	3
2	4300	25 – 140	50 – 280	250 – 400	14	35	88	58	19	15	54	58	100	3
3	3300	50 – 300	100 – 600	550 – 800	18	45	115	75	21	18	62	72	115	4
4	2700	90 – 600	180 – 1200	1100 – 1600	24	55	140	90	23	20	90	85	154	4
5	2200	280 – 800	800 – 1600	1400 – 2100	28	65	170	102	29	25	125	98	200	5

*** Calculation of the maximum centring slide bushing length (b_2)**

$b_1 = 1,5 \times s_1 + b_1$ (for size 0)

$b_2 = 1,5 \times s_1 + b_1 + 0,5$ mm (for sizes 01 to 5)

DELTA torque limiters couplings

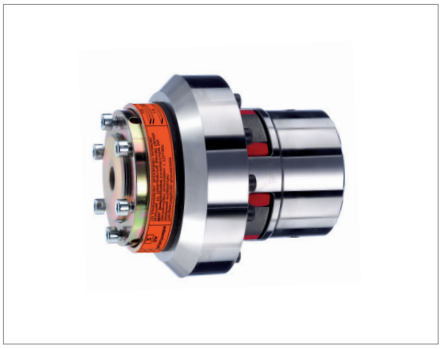
DELTA DB with chain coupling RKC

Description

- Torque limiter as chain coupling for high-temperature areas and other high demand for the connection of two shafts
- Small axial, radial and angular deviations possible
- Temperature up to 280 °C possible
- Simple design that allows easy adjustment
- Low-cost version

Applications

General mechanical engineering, materials handling equipment + power transmission equipment, when exposed to high demand and high temperature



DELTA DA with DELTEX coupling

Description

- Torque limiter for protection against overload between two shafts
- Rotary elastic torque limiter can be axially streched
- Variable elasticity due to different Shore hardness of elastic components

Applications

General mechanical engineering, pumps, power transmission motors, belt drives

DELTA DA with DELWEX coupling

Description

- Torque limiter with universal joints and rigid connection of two axle shafts
- Large axial, radial and angular flexibility due to double universal joints
- Axial plug-in

Applications

General mechanical engineering, design of drives of low demands/low RPM, high axial, radial and angular deviations

DELTA DA with DELFLEX coupling

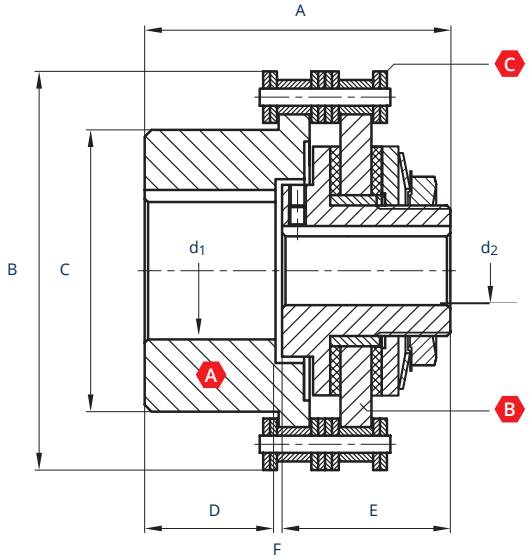
Description

- Torque limiter for protection against overload between two shafts
- Highly elastic, considerable displacement capability (axial, radial and angular changes)
- High angular elasticity through 60° Shore hardness of the elements of the structure, resulting in strong shock and vibration damping

Applications

General mechanical engineering, pumps, internal combustion engines, general power transmission

DELTA DB with chain coupling RKC (KIT)



Coupling Model Number	Number of disc spring LBS, FT		Misalign	
DB RKC	min.	max.	max. Parallel [mm]	max. Angular [Grad / Degrees]
120-1	0,5	3,5	.010	1/2
120-2	1	7,0	.010	1/2
180-1	1,5	7,5	.010	1/2
180-2	3	15	.010	1/2
250-1	5	25	.010	0,75
250-2	10	50	.010	0,75
350-1	15	65	.012	0,75
350-2	30	120	.012	0,75
500-1	35	200	.015	0,75
500-1	70	400	.015	0,75
700-1	85	500	.020	0,90
700-2	170	950	.020	0,90

DELTA DB RKC torque limiter couplings are strong and uncomplicated overload protections for the connection of two shafts. They consist of a normal torque limiter Series DB with in-built sprocket and an additional sprocket with hub. The two sprockets are connected with a double roller chain type DIN 8187 ISO R606B, tightly but slightly elastically. The two ends of the chain are joined with a connecting link.

DELTA DB RKC torque limiter couplings are used as overload protection when a small parallel or angular deviation of the connecting shafts cannot be ruled out.

DELTA DB RKC torque limiter couplings can be installed in a horizontal or vertical position. The operating temperatures are between –20 °C and +250 °C. Maximum peak temperatures of +350 °C are possible.

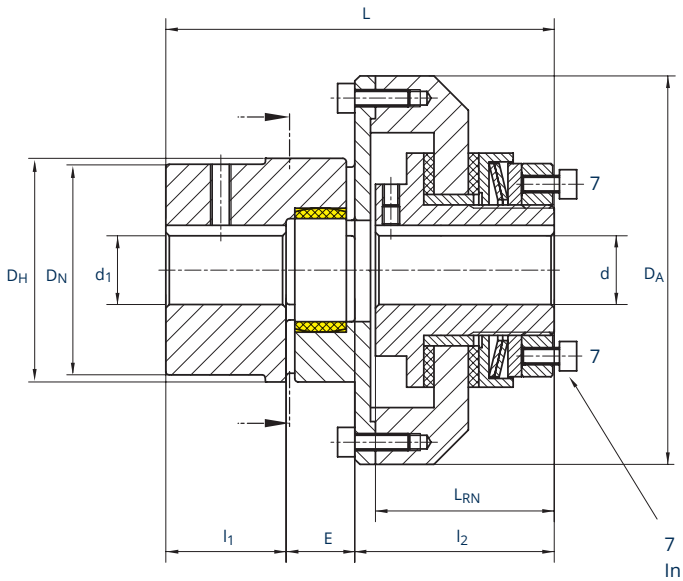
Coupling KIT consist of sprocket A, plate wheel B and double stand roller chain C.

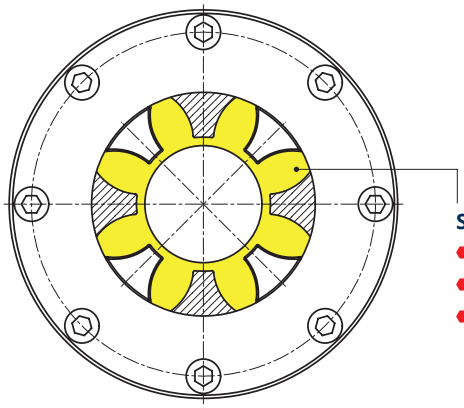
Coupling Model Number	Sprocket Size*	min/max. Bore		Dimensions [inches]					
DB RKC	B	Torque Limiter d_2*	Sprocket A	A	B	C	D	E	F
120 RKC	**06B-19**	1/8 – 3/8	1/4 – 1	2 11/64	2 5/8	1 3/4	7/8	1 7/32	1/16
180 RKC	**06B-22**	4/16 – 7/8	5/6 – 1 1/4	2 13/64	3	2 1/8	7/8	1 5/16	1/16
250 RKC	**08B-22**	3/8 – 7/8	7/16 – 1 3/4	3	4	3	1	1 7/8	1/8
350 RKC	**10B-24**	1/2 – 1 1/8	3/4 – 2	4 1/16	5 3/8	4	1 1/2	2 7/16	1/8
500 RKC	**12B-25**	3/4 – 1 3/4	7/8 – 3	4 29/64	7 3/8	5	1 3/8	3	5/64
700 RKC	**16B-26**	1 – 2 5/8	1 – 4 1/2	6 5/16	9 7/8	7	2 9/32	3 7/8	5/32

* Stock finished bore with Key and set screw see page 6

Standard bore tolerance		
Nominal diameter		
Over	Thru	Tolerance
–	**3**	+ .002 - .000
3	**4**	+ .003 - .000
4	**5**	+ .004 - .000

DELTA DA with torsionally flexible DELTEX coupling





Spider hardness:
- 64° Shore D
- 92° Shore A or
- 98° Shore A

7 Special torque setting nuts
In the lowest torque ranges and/or at higher revolutions, the torque limiter DELTA DA 0 to 5 a special torque setting nut with tangential clamping is available.

DELTEX – the torsionally flexible shaft coupling

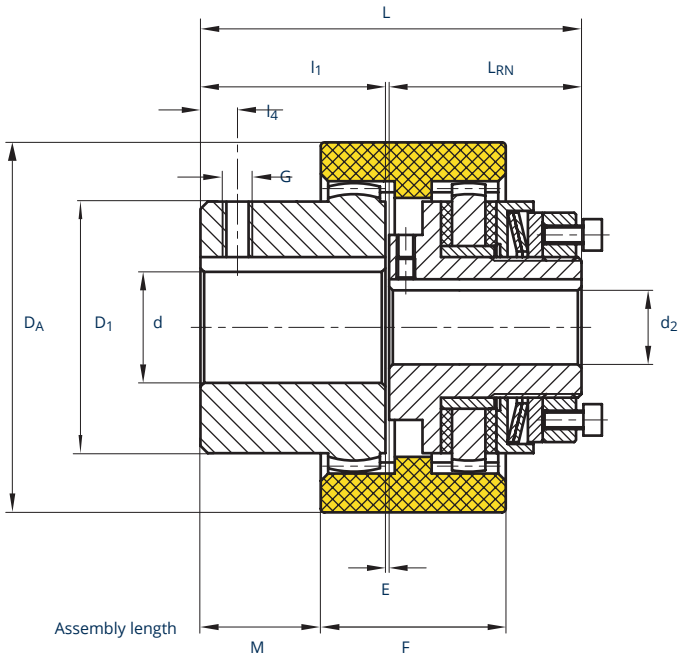
Characteristics of the DELTEX flexible jaw type coupling

- Shaft coupling for power transmission with torsional vibration damping
- Axial plug-in – easy assembly – maintenance-free
- Operating temperature range from -40 °C to +100 °C, peak temperatures up to +120 °C
- Compensates for axial/radial/angular shaft misalignments
- Compact dimensions, low weight and low inertia
- All-round precision finishing

Size torque limiter	Size coupling	Limit torques for overload [Nm] Number of disc springs			Torque Coupling [Nm] 95/98 Shore A		Dimensions [mm] Bore d Torque limiter		Bore d_1 coupling								
DA	DELTEX	single	double	triple	T_{KN}	T_{Kmax}	Pilot bore	Bore max.	Pilot bore	Bore max.	L	D_A	L_{RN}	E	l_1	l_2	D_H	D_N
00	14 *	0,5 – 5	1 – 10	–	12,5	25	3,7	10	–	16	59	44	31	13	11	35	30	30
0	19	2 – 10	4 – 20	18 – 30	17	34	5,7	20	6	25	78	63	33	16	25	37	40	40
01	24	5 – 35	10 – 70	60 – 105	60	120	10	22	8	35	98	80	45	18	30	50	55	40
1	28	20 – 75	40 – 150	130 – 200	160	320	10	25	10	40	113	98	52	20	35	58	65	48
2	38	25 – 140	50 – 280	250 – 400	325	650	14	35	12	48	133	120	57	24	45	64	80	66
3	48	50 – 300	100 – 600	550 – 800	525	1050	18	45	14	62	166	162	68	28	56	82	105	85
4	75	90 – 600	180 – 1200	1100 – 1600	1920	3840	24	55	15	95	205	185	78	40	85	80	106	135
5	90	280 – 800	800 – 1600	1400 – 2100	3600	7200	28	65	20	110	259	260	92	45	100	114	200	160
6	100	300 – 1200	600 – 2400	–	4950	9900	38	80	22	115	290	285	102	50	110	130	225	180
7	110	600 – 2200	1200 – 4400	–	7200	14400	45	100	30	125	317	330	113	55	120	142	255	200
8	140	900 – 3400	1800 – 6800	–	10000	20000	58	120	40	160	372	410	115	65	155	152	320	255
9	140	1800 – 5300	4000 – 10500	–	10000	20000	64	140	40	160	420	410	162	65	155	200	320	255

*Coupling hub made of aluminium (Al)

DELTA DA with DELWEX curved-tooth gear coupling



DELWEX – the torsionally rigid coupling compact and maintenance-free

Characteristics of the DELWEX gear shaft coupling

- Double cardanic tooth gear coupling
- Maintenance-free due to the material combination of steel and nylon
- For all applications in the field of general engineering and hydraulics
- Axial plug-in, easy assembly
- Compensates for axial, radial and angular shaft misalignment

Characteristics of the DELWEX-sleeves (material: polyamide)

- High mechanical consistency and rigid
- Favourable slide-friction behaviour
- High thermal stability to +100 °C
- Good viscosity even in case of low temperatures
- Very good electrical insulating properties
- Good resistance to chemicals

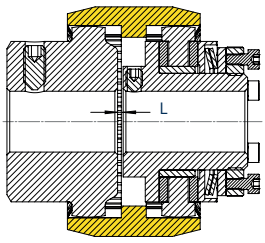
Size torque limiter DA	Size coupling DELWEX	Limit torques for overload [Nm] Number of disc springs			DELWEX Torque [Nm]		Bore d_2		Bore d max.	Dimensions [mm]									
		single	double	triple	T_{KN}	T_{Kmax}	Pilot bore	Bore max.		D_A	D_1	L	L_{RN}	E	l_1	l_4	G	M	F
00	**19**	0,5 – 5	1 – 10	–	16	32	3,7	10	19	48	30	58	31	2,0	25	6	M5	7	37
0	**28**	2 – 10	4 – 20	–	45	90	5,7	20	28	66	44	75	33	2,0	40	10	M8	19	46
01	**38**	5 – 35	10 – 70	60 – 90	80	160	10	22	38	83	58	87,5	45	2,5	40	10	M8	18	48
1	**48**	20 – 75	40 – 150	130 – 200	140	280	10	25	48	100	67	104,5	52	2,5	50	10	M8	27	50
2	**65**	25 – 140	50 – 280	250 – 400	380	780	14	35	65	140	95	130	57	3	70	20	M10	36	72

Technical data

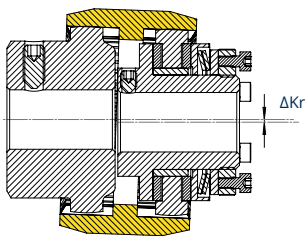
Type DELWEX	RPM n max. [1/min.]	Torque [Nm] Normal T_{KN}	Max. T_K	Max. misalignment [mm] axial $_L$	radial ΔKr	angular ΔKw
14	8000	10	20	± 1	± 0,3	± 1° per hub
19	8000	16	32			
24	8000	20	40		± 0,4	
28	8000	45	90			
32	7000	60	120			
38	6000	80	160			
42	5400	100	200			
48	5000	140	280			
55	4000	250	500			
65	3800	390	780		± 0,6	± 0,7
80	3000	700	1400		± 0,7	± 0,6
100	2400	1250	2400		± 0,8	± 0,6

Assembly instructions

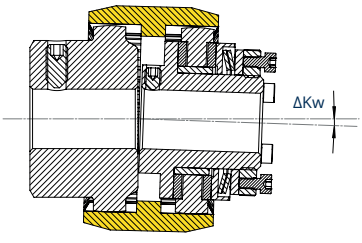
On assembly it is important that the hubs are correctly fitted on the shafts and that the dimension E is maintained. The dimension E can be checked by the total assembly length L. An inexact dimension E has a negative influence on the performance of the coupling. Check that axial movement of the coupling sleeve can be effected easily before operating the coupling for the first time. The permissible displacement values are dependent on rotation and transmitted power.



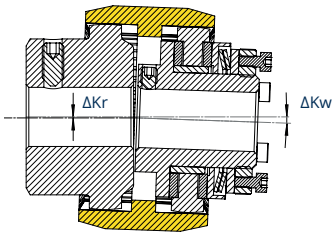
Axial misalignment



Radial misalignment

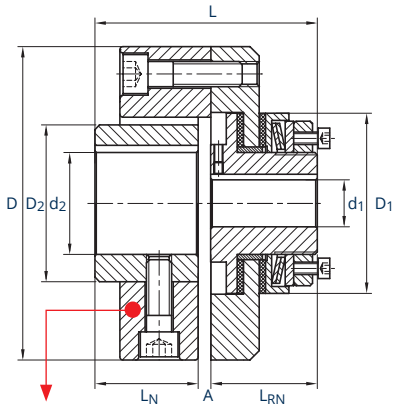


Angular misalignment

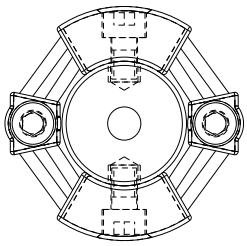


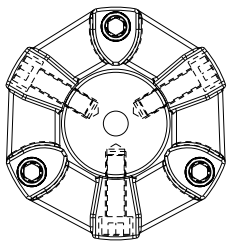
Radial and angular misalignment

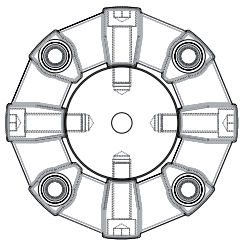
DELTA DA with DELFLEX torsional coupling (LF Series)



LF coupling model O


LF1 – LF2


LF8, LF16, LF30, LF90


LF250

DELFLEX torque limiter couplings Series DA are highly torsional elastic safety couplings

with steplessly adjustable torque for the connection of two shafts. The specially formed rubber element of the elastic coupling has a high deflection capability that counteracts vibration torque and absorbs shocks.
The DELTA DA with DELFLEX torsional LF Series coupling is designed with a unique and highly versatile elastomeric element. LF Style elements are available in a variety of materials to match the necessary coupling dampening characteristics for tuning the systems critical speed away from the application operating speed. The element is connected radially to a cylindrical center hub using the appropriate bolts.
This unique design is remarkably simple, highly effective and gives the LF torsional coupling together with the DELTA torque limiter unmatched performance capabilities.

Size	Limit torques for overload [Nm] Numbers of disc spring			RPM	Continuous vibratory torque	Displacement		
DA	single	double	triple	[min-1]	[Nm]	Axial [mm]	Radial 1) [mm]	Angle 1) [Grad / Degrees]
00	0,5 – 5	1 – 10	–	10.000	5	2	1,5	3
0	2 – 10	4 – 20	–	8.000	10	3	1,5	3
01	5 – 35	10 – 70	60 – 105	6.500	40	4	2,0	3
1	20 – 75	40 – 150	130 – 200	5.600	80	5	2,0	3
2	25 – 140	50 – 280	250 – 400	4.300	100	5	2,0	2
3	50 – 300	100 – 600	550 – 800	3.300	300	5	2,0	2
4	90 – 600	180 – 1200	1100 – 1600	2.700	450	5	2,0	3
5	280 – 800	800 – 1600	1400 – 2100	2.200	700	5	2,0	2
6	300 – 1200	600 – 2400	–	1.900	1250	5	2,0	2

Size	Torque limiter		Torsional coupling		Dimensions [mm]						
DA	Pilot bore [mm]	Bore max. d_1 [mm]	DELFLEX coupling size 2)	Coupling hub d_2 [mm]	D	D_1	D_2	L	L_{RN}	L_N	A
00	4,8	10	LF1 Modell O	19	56	30	30	57	31	24	2
0	5,7	20	LF2 Modell O	26	85	45	40	65	33	28	4
01	10	22	LF8 Modell O	38	120	58	60	91	45	42	4
1	10	25	LF16 Modell O	48	150	68	70	108	52	50	6
2	14	35	LF16 Modell O	48	150	88	70	113	57	50	6
3	18	45	LF30 Modell O	65	200	115	100	142	68	66	8
4	24	55	LF90 Modell O	85	260	140	125	166	78	80	8
5	28	65	LF90 Modell O	85	260	170	125	180	92	80	8
6	38	80	LF250 Modell O	105	340	200	160	210	102	100	8

1) The permitted shaft misalignment depends on the operating speed. As the speed increases, lower shaft misalignment values are permitted.
2) HTR material hardness 60° Shore