

# RIGIFLEX®-N

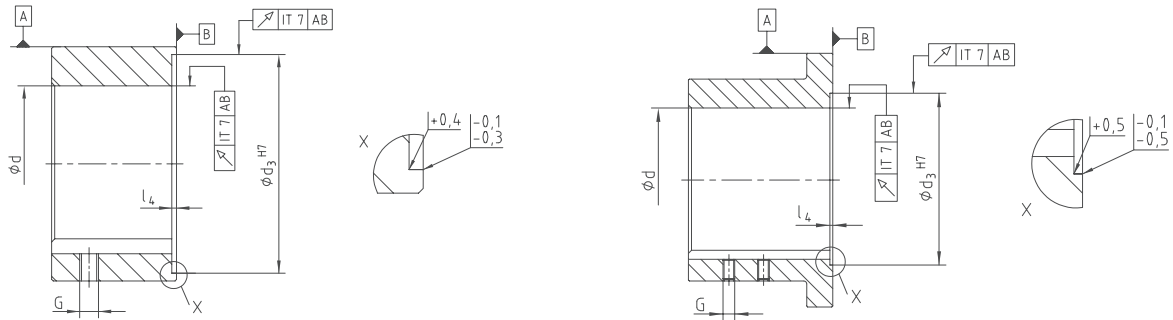
## Steel laminae couplings

### General advice

#### Advice on assembly and operation

See our mounting instructions KTR standard 47410 at [www.ktr.com](http://www.ktr.com). With the assembly it is important to make sure that the laminae sets are assembled free from distortion in axial direction.

If the finish bore is machined by the customer, the tolerances for concentricity and axial run-out have to be observed (see illustrations below).



#### Installation

RIGIFLEX®-N couplings are designed for horizontal installation. With vertical installation the spacer has to be supported, if necessary. Please consult with us.

#### Delivery condition

RIGIFLEX®-N-couplings are supplied as individual components (assembled on request), with the subassembly of spacers (flanges, laminae sets and spacer) being fully assembled. The hubs can be supplied unbored or with finish bore and feather keyway or with a frictionally engaged shaft-hub-connection. The shaft-hub-connection needs to be inspected by the customer (consult with KTR, if necessary).

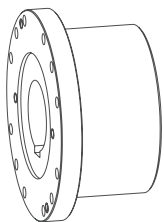
#### Balancing

On request of the customer the RIGIFLEX®-N couplings can be balanced. Please consult with us, if necessary.

#### Safety regulations

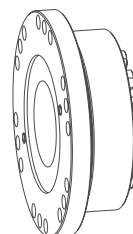
The coupling has to be dimensioned in that the permissible coupling load is not exceeded during any operating condition. For this purpose the actual loads have to be compared to the permissible parameters of the coupling. The customer has to protect rotating parts from accidental contact (Safety of Machinery DIN EN 292 part 2). Please take precautions to make sure there is sufficient coupling protection in case of fracture of the coupling caused by overload.

### Types of hubs



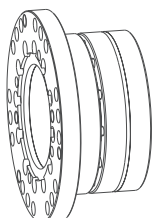
**Type 1.0 hub with feather keyway and setscrew**

Positive locking torque transmission, permissible torque depending on the permissible surface pressure.



**Type with KTR 620 or 603 clamping set**

Frictionally engaged torque transmission with external clamping set KTR 620 or KTR 603. Transmittable torques depending on bore diameter.



**Type 6.0 and 6.5 hub**

Integrated frictionally engaged shaft-hub-connection. Transmittable torques depending on bore diameter. Suitable for high speeds.

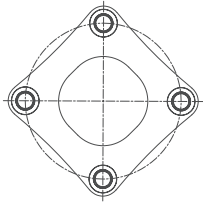
# RIGIFLEX®-N

## Steel laminae couplings

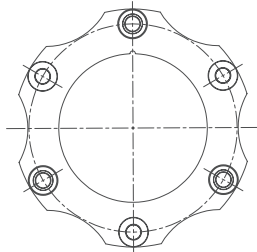
### Technical data

The following laminae types are to be distinguished with RIGIFLEX®-N:

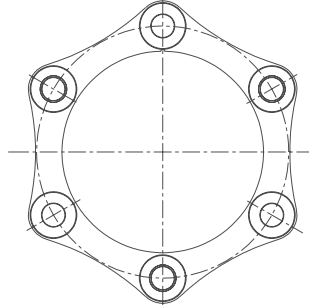
Size 35 – 65  
(laminae with 4 holes)



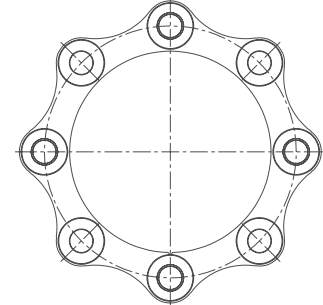
Size 75 – 160  
(laminae with 6 holes)



Size 166 – 406  
(laminae with 6 holes)



Size 168 – 408  
(laminae with 8 holes)



RADEX®-N

### Torques and displacements

Size	Laminae type	Torques [Nm]			Angular displacement $\pm K_w^{1)}$ [°]	Axial displacement $\pm K_a$ [mm]	Perm. displacements				
		TKN	TK max	TKW			Radial $\pm K_r$ [mm]				
							E=100	E=140	E=180	E=200	E=250
35	laminae with 4 holes	130	260	65	0.7	1.2	0.90	1.40	–	–	–
50		270	540	135	0.7	1.4	0.77	1.26	–	–	–
65		550	1100	275	0.7	1.5	0.75	1.23	1.72	–	–
75		1100	2200	550	0.7	1.8	0.73	1.22	1.71	–	–
85	laminae with 6 holes	1900	3800	950	0.7	2.1	–	1.14	1.62	1.87	2.48
110		3500	7000	1750	0.7	2.4	–	1.05	1.54	1.78	2.39
120		5750	11500	2875	0.7	2.6	–	1.00	1.49	1.73	2.35
140		10500	21000	5250	0.7	3.3	–	–	–	1.55	2.16
160		16000	32000	8000	0.7	3.8	–	–	–	–	1.99
166		19000	38000	9500	0.7	3.7	Depending on shaft distance dimension E				
196		22500	45000	11250	0.7	4.2					
216		32000	64000	16000	0.7	4.5					
256		52500	105000	26250	0.7	5.2					
306		86000	172000	43000	0.7	6.0					
346	135000	270000	67500	0.7	6.7						
406	210000	420000	105000	0.7	7.5						
168	25000	50000	12500	0.5	2.6						
198	30000	60000	15000	0.5	2.8						
218	42500	85000	21500	0.5	3.0						
258	laminae with 8 holes	70000	140000	35000	0.5	3.5					
308		115000	230000	57500	0.5	4.0					
348		180000	360000	90000	0.5	4.5					
408		280000	560000	140000	0.5	5.0					

<sup>1)</sup> Angular displacement each laminae set

If axial, angular and radial shaft displacement arises in parallel please note the following table:

Size	Permissible angular displacement								
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	
	Permissible axial displacement								
35	1.20	1.00	0.85	0.74	0.60	0.40	0.20	0.00	
50	1.40	1.20	1.00	0.80	0.60	0.40	0.20	0.00	
65	1.50	1.29	1.07	0.86	0.64	0.43	0.22	0.00	
75	1.80	1.54	1.29	1.03	0.77	0.52	0.26	0.00	
85	2.10	1.80	1.50	1.20	0.90	0.60	0.30	0.00	
110	2.40	2.06	1.71	1.37	1.03	0.69	0.34	0.00	
120	2.60	2.23	1.86	1.48	1.11	0.74	0.37	0.00	
140	3.30	2.83	2.36	1.88	1.41	0.94	0.47	0.00	
160	3.80	3.26	2.71	2.17	1.63	1.09	0.54	0.00	
166	3.70	3.17	2.64	2.12	1.59	1.06	0.53	0.00	
196	4.20	3.60	3.00	2.40	1.80	1.20	0.60	0.00	
216	4.50	3.86	3.21	2.57	1.93	1.29	0.64	0.00	
256	5.20	4.46	3.71	2.97	2.23	1.49	0.74	0.00	
306	6.00	5.14	4.29	3.43	2.57	1.72	0.86	0.00	
346	6.75	5.79	4.82	3.86	2.89	1.93	0.96	0.00	
406	7.50	6.43	5.36	4.28	3.21	2.14	1.07	0.00	
168	2.60	2.08	1.56	1.04	0.52	0.00	–	–	
198	2.80	2.24	1.68	1.12	0.56	0.00	–	–	
218	3.00	2.40	1.80	1.20	0.60	0.00	–	–	
258	3.50	2.80	2.10	1.40	0.70	0.00	–	–	
308	4.00	3.20	2.40	1.60	0.80	0.00	–	–	
348	4.50	3.60	2.70	1.80	0.90	0.00	–	–	
408	5.00	4.00	3.00	2.00	1.00	0.00	–	–	

Laminae couplings

RIGIFLEX®-N

RIGIFLEX®-HP

# RIGIFLEX®-N

## Steel laminae couplings

### Technical data

Permissible speeds and stiffness								
Size	Max. speed [rpm]	each laminae set		ct [Nm/rad] for complete coupling with mounting length E				
		cw [Nm/rad]	ct x 10 <sup>6</sup> [Nm/rad]	E=100	E=140	E=180	E=200	E=250
35	23000	170	0.056	65020	56700	–	–	–
50	18000	490	0.27	73953	63990	–	–	–
65	13600	260	0.5	146022	129938	117046	–	–
75	12400	1000	0.67	306145	278381	255234	–	–
85	11000	1500	0.9	–	406641	369429	353265	318433
110	9000	1500	1.5	–	664284	637587	625028	595693
120	8000	3000	2.0	–	1798018	1637553	1567602	1416348
140	6400	10000	3.5	–	–	–	2363340	2226630
160	5600	10350	6.9	–	–	–	–	2654894
166	5600	26800	13.0					
196	5200	35800	17.0					
216	4600	41500	19.0					
256	3900	65000	31.0					
306	3300	112000	55.0					
346	2900	205000	79.0					
406	2500	276000	125.0					
168	5600	44300	20.0					
198	5200	82200	26.0					
218	4600	90000	30.0					
258	3900	138000	49.0					
308	3300	234000	83.0					
348	2900	416000	125.0					
408	2500	562000	200.0					

cw = angular stiffness  
ct = torsion spring stiffness

Weights and mass moments of inertia												
Size	Hub (max. bore)		Spacer complete [kg]					Spacer complete [kgm <sup>2</sup> ]				
	[kg]	[kgm <sup>2</sup> ]	E=100	E=140	E=180	E=200	E=250	E=100	E=140	E=180	E=200	E=250
35	0.60	0.0007	1.030	1.120	–	–	–	0.00040	0.00050	–	–	–
50	0.92	0.001019	2.262	2.442	–	–	–	0.00256	0.00263	–	–	–
65	2.7	0.00541	3.922	4.183	4.445	–	–	0.00810	0.00830	0.00828	–	–
75	2.4	0.00566	4.482	4.842	5.202	–	–	0.01143	0.01191	0.01239	–	–
85	3.7	0.01135	–	7.154	7.548	7.746	8.239	–	0.02364	0.02427	0.02459	0.02538
110	6.7	0.03222	–	12.492	13.478	13.972	15.205	–	0.06291	0.06540	0.06665	0.06976
120	9.2	0.05238	–	–	17.324	17.842	19.137	–	–	0.10314	0.10458	0.10818
140	18.2	0.15175	–	–	–	32.530	34.325	–	–	–	0.31901	0.32845
160	29.9	0.33890	–	–	–	–	52.458	–	–	–	–	0.68640
166	28.0	0.32										
196	37.0	0.554										
216	50.0	0.85										
256	95.0	2.35										
306	138.0	4.55										
346	215.0	9.75										
406	310.0	18.95										
168	30.0	0.33										
198	40.0	0.56										
218	52.0	0.88										
258	99.0	2.43										
308	142.0	4.78										
348	222.0	9.83										
408	325.0	19.22										

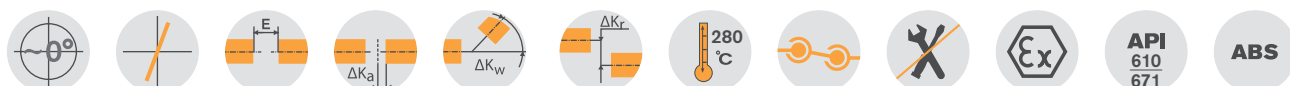
# RIGIFLEX®-N

## Steel laminae couplings

### Standard type A



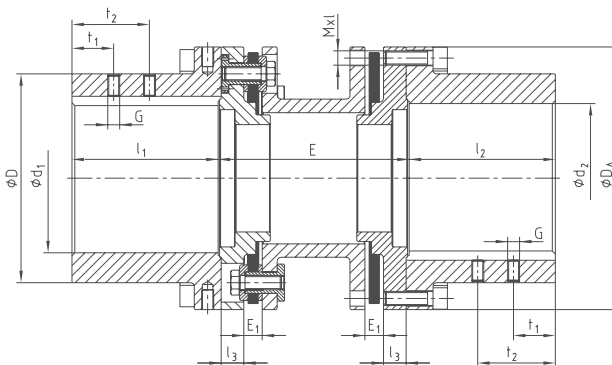
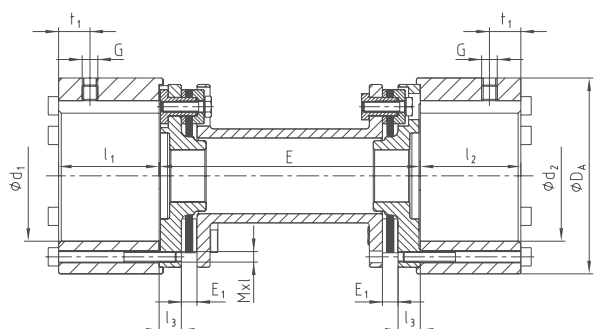
For legend of pictogram please refer to flapper on the cover



### Components

Size 35

Size 50 - 408



RIGIFLEX®-N type A

Size	Torques [Nm]			Max. finish bore	Dimensions [mm]											Screws DIN EN ISO 4762			
	T <sub>KN</sub>	T <sub>K max</sub>	T <sub>KW</sub>		d <sub>1, d2</sub>	D	DA	l <sub>1, l2</sub>	l <sub>3</sub>	G	t <sub>1</sub>	t <sub>2</sub>	E <sub>1</sub>	E <sup>1)</sup>				MxI	T <sub>A</sub> [Nm]
35	130	260	65	50	-	75	38.5	8.5	M6	15	-	6	100	140	-	-	-	M4x45	4.1
50	270	540	135	50	70	95	50	12	M6	10	-	9	100	140	-	-	-	M6x22	14
65	550	1100	275	70	100	126	63	12	M8	20	-	11	100	140	180	-	-	M6x25	14
75	1100	2200	550	75	105	138	62.5	12	M8	20	-	11	100	140	180	-	-	M8x30	35
85	1900	3800	950	90	120	156	72.5	15	M10	20	-	12	-	140	180	200	250	M8x30	35
110	3500	7000	1750	110	152	191	87	18	M10	25	-	12	-	140	180	200	250	M10x35	69
120	5750	11500	2875	120	165	213	102	20	M12	25	-	12	-	-	180	200	250	M12x40	120
140	10500	21000	5250	150	200	265	126	25	M12	30	-	15	-	-	-	200	250	M16x50	295
160	16000	32000	8000	165	230	305	145	31	M12	30	-	15	-	-	-	-	250	M16x55	295
166	19000	38000	9500	165	230	305	155	31	M16	30	70	17					M20x50	560	
196	22500	45000	11250	195	260	330	185	32	M16	40	90	24					M20x50	560	
216	32000	64000	16000	210	285	370	205	32	M20	50	110	26					M20x65	560	
256	52500	105000	26250	260	350	440	245	38	M20	70	130	31					M24x80	970	
306	86000	172000	43000	305	400	515	295	43	M24	70	130	36					M27x100	1450	
346	135000	270000	67500	350	460	590	335	55	M24	95	175	45					M30x110	1950	
406	210000	420000	105000	405	530	675	395	58.5	M24	95	175	50	According to customer specification				M36x130	3300	
168	25000	50000	12500	165	230	305	155	31	M16	30	70	17					M20x50	560	
198	30000	60000	15000	195	260	330	185	32	M16	40	90	24					M20x50	560	
218	42500	85000	21500	210	285	370	205	32	M20	50	110	26					M20x65	560	
258	70000	140000	35000	260	350	440	245	38	M20	70	130	31					M24x80	970	
308	115000	230000	57500	305	400	515	295	43	M24	70	130	36					M27x100	1450	
348	180000	360000	90000	350	460	590	335	55	M24	95	175	45					M30x110	1950	
408	280000	560000	140000	405	530	675	395	58.5	M24	95	175	50					M36x130	3300	

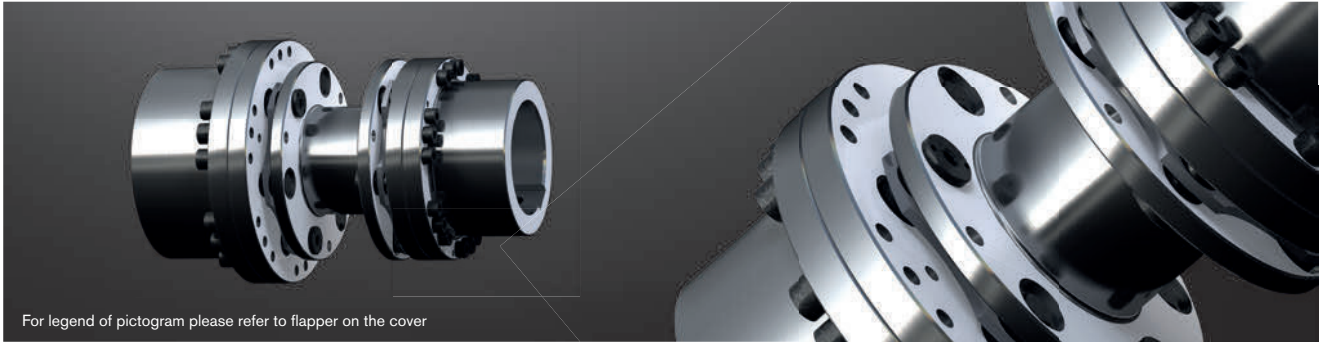
<sup>1)</sup> Other shaft distance dimensions available on request.  
For selection of coupling see page 18 et seqq. Assembly instructions KTR standard 47410 available at [www.ktr.com](http://www.ktr.com).

Ordering example:	RIGIFLEX®-N 120	A	Ø 100	Ø 120	200
	Coupling size	Type	Bore d <sub>1</sub>	Bore d <sub>2</sub>	Shaft distance dimension E

# RIGIFLEX®-N

## Steel laminae couplings

### Standard type A-J

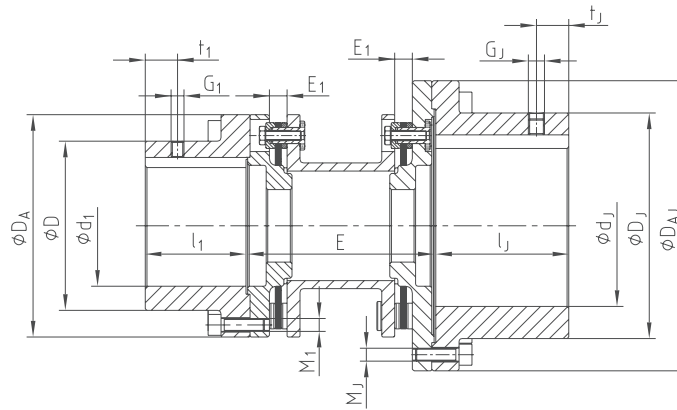


For legend of pictogram please refer to flapper on the cover



### Components

#### Size 50 - 140

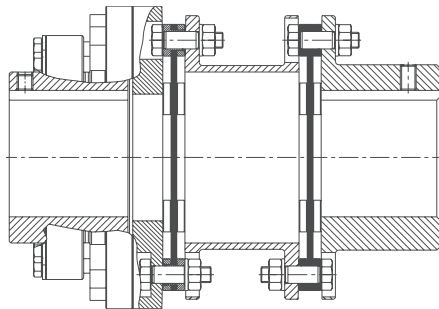


RIGIFLEX®-N type A-J																									
Size	Torques [Nm]			Max. finish bore		Dimensions [mm]															Screws DIN EN ISO 4762				
	T <sub>KN</sub>	T <sub>K max</sub>	T <sub>KW</sub>	d <sub>1</sub>	d <sub>J</sub>	D	D <sub>A</sub>	l <sub>1</sub>	D <sub>J</sub>	D <sub>AJ</sub>	l <sub>J</sub>	G <sub>1</sub>	t <sub>1</sub>	G <sub>J</sub>	t <sub>J</sub>	E <sub>1</sub>	E <sup>1)</sup>				M <sub>1</sub>	T <sub>A</sub> [Nm]	M <sub>J</sub>	T <sub>AJ</sub> [Nm]	
50	270	540	135	50	70	70	95	50	100	126	63	M6	10	M8	20	9	100	140	-	-	-	M6	14	M6	14
65	550	1100	275	70	90	100	126	63	120	156	72.5	M8	20	M10	20	11	100	140	180	-	-	M6	14	M8	35
75	1100	2200	550	75	100	105	138	62.5	140	180	83	M8	20	M10	20	11	100	140	180	-	-	M8	35	M8	35
85	1900	3800	950	90	110	120	156	72.5	152	191	87.5	M10	20	M10	25	12	-	140	180	200	250	M8	35	M10	69
110	3500	7000	1750	110	150	152	191	87	200	265	127	M10	25	M12	30	12	-	140	180	200	250	M10	69	M16	295
120	5750	11500	2875	120	165	165	213	102	230	305	147	M12	25	M12	30	12	-	-	180	200	250	M12	120	M16	295
140	10500	21000	5250	150	195	200	265	126	260	330	186	M12	30	M16	40/90	15	-	-	-	200	250	M16	295	M20	560

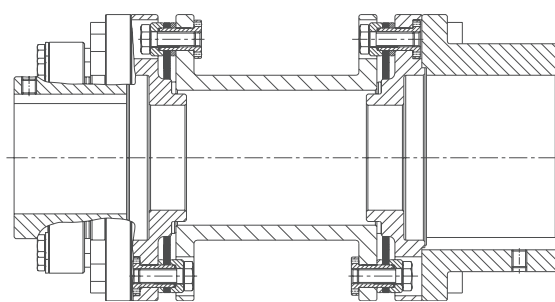
<sup>1)</sup> Other shaft distance dimensions available on request.

For selection of coupling see page 18 et seqq. Assembly instructions KTR standard 47410 available at [www.ktr.com](http://www.ktr.com).

### Other types:



For RADEX®-N with integrated slipping unit see dimension sheet 699206



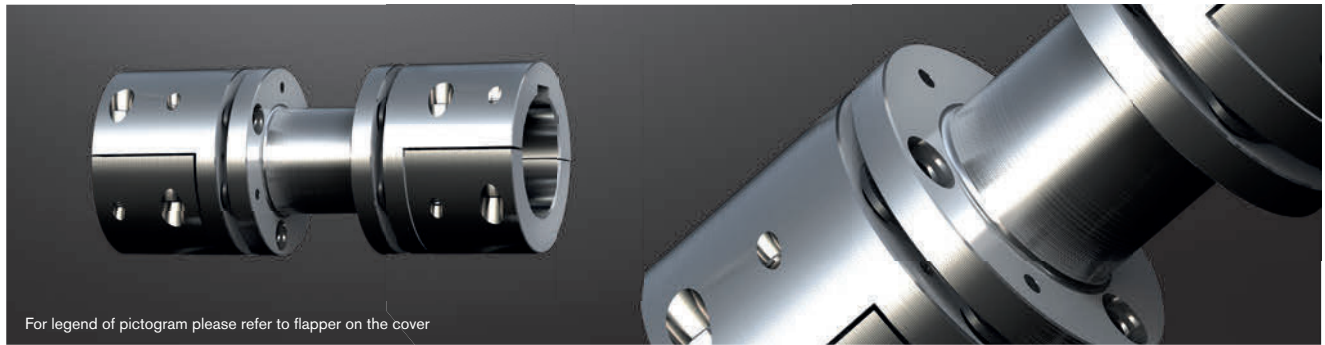
For RIGIFLEX®-N with integrated slipping unit see dimension sheet 698869

Ordering example:	RIGIFLEX®-N 85	A-J	Ø 80	Ø 120	200
	Coupling size	Type	Bore d <sub>1</sub>	Bore d <sub>J</sub>	Shaft distance dimension E

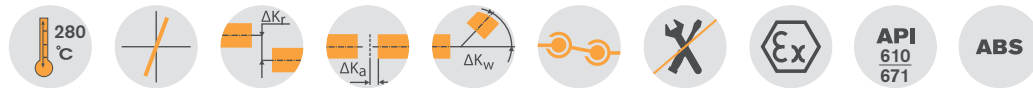
# RIGIFLEX®-N

## Steel laminae couplings

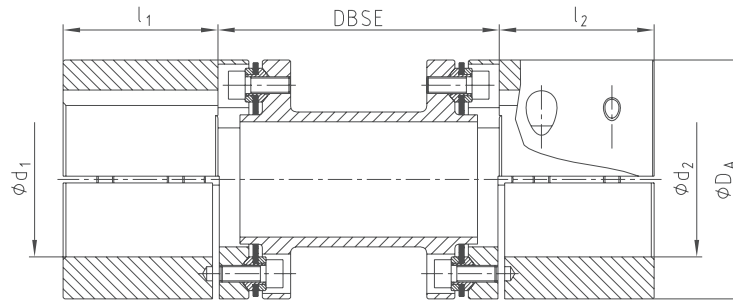
### Standard type A-H



For legend of pictogram please refer to flapper on the cover



#### Components



RIGIFLEX®-N type A-H											
Size	Torques [Nm]		Max. finish bore [mm]		Dimensions [mm]						
	T <sub>KN</sub>	T <sub>K max</sub>	d <sub>1</sub> , d <sub>2</sub>	D <sub>A</sub>	l <sub>1</sub> , l <sub>2</sub>	Standard shaft distance dimension DBSE <sup>1)</sup>			Perm. axial displacement	Perm. angular displacement (each laminae set [°])	
46	90	180	42	69	45					+/- 1.4	1.0
56	255	510	55	85	55	100				+/- 1.2	0.7
66	450	900	65	105	65		140	180	250	+/- 1.6	0.7
76	975	1950	75	124	75					+/- 1.8	0.7
86	1500	3000	85	145	85	-				+/- 2.2	0.7
106	2400	4800	105	168	105		-			+/- 2.4	0.7

<sup>1)</sup> Other shaft distance dimensions (DBSE) available on request

#### Benefits of type A-H:

- Hub type 7.6 - half shell hub
- Easy and quick radial assembly and disassembly
- Type according to API 610 and 671 (please observe exceptions)
- Drop-out protection of spacer with fracture of laminae following API 671



Ordering example:	RIGIFLEX®-N 66	A-H	Ø 42	Ø 48	140
	Coupling size	Type	Bore d <sub>1</sub>	Bore d <sub>2</sub>	Shaft distance dimension DBSE