

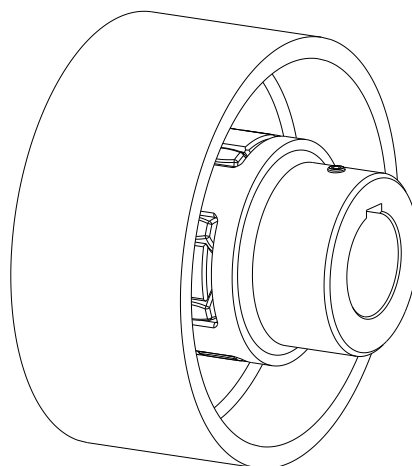


ROTEX®

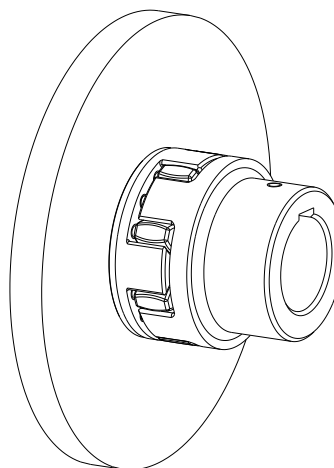
Torsionally flexible jaw-type couplings

BTAN and SBAN
and their combinations

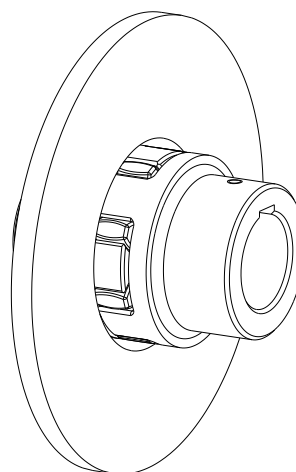
for finish bored, pilot bored
and unbored couplings



Type BTAN



Type SBAN



Type SBAN with cranked brake disk

	ROTEX®	KTR-N 40221 EN
	Operating/Assembly instructions	Sheet: 2 of 15
	Type BTAN and SBAN	Edition: 5

ROTEX® is a torsionally flexible jaw coupling. It is able to compensate for shaft misalignment, for example caused by manufacturing inaccuracies, thermal expansion, etc.

- Type BTAN is designed with a brake drum
- Type SBAN is designed with a brake disk resp. cranked brake disk

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Please observe protection note ISO 16016.	Drawn: 2019-03-11 Pz	Replacing: KTR-N dated 2000-09-14
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1 Technical data

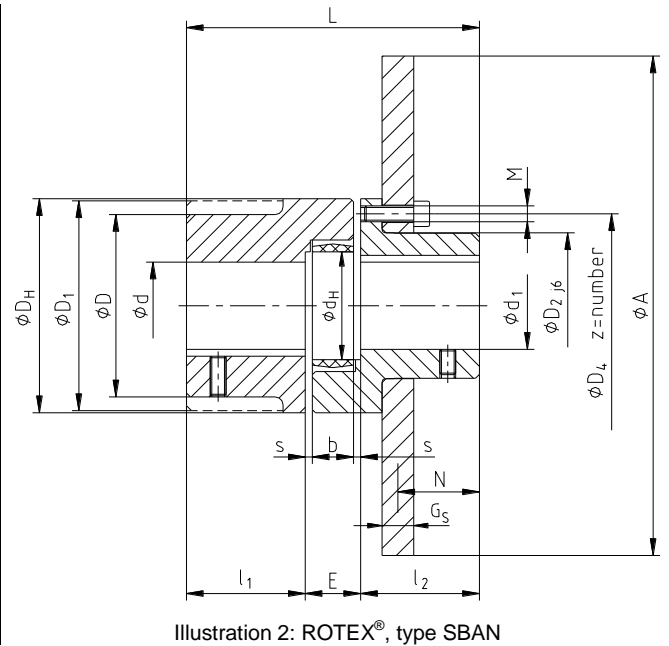
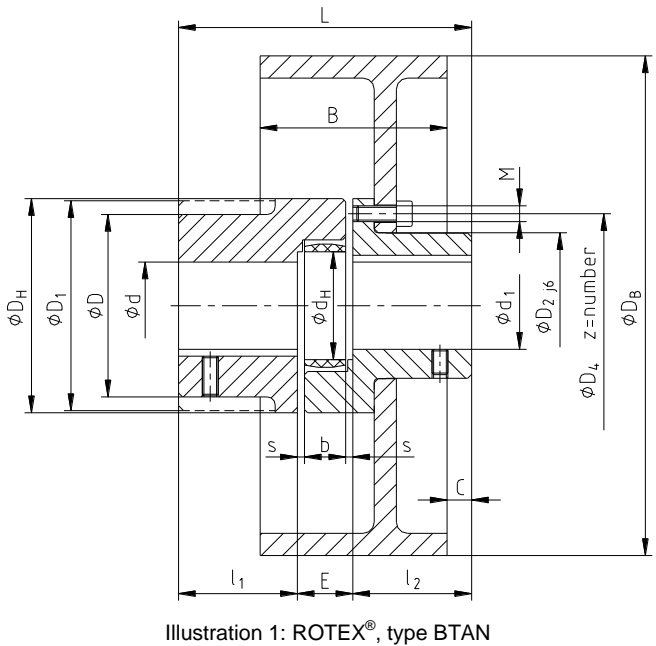


Illustration 1: ROTEX®, type BTAN

Illustration 2: ROTEX®, type SBAN

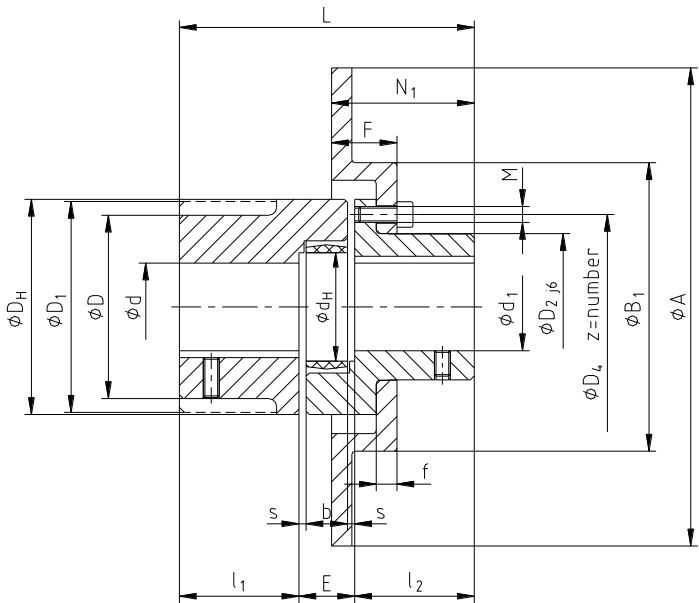


Illustration 3: ROTEX®, type SBAN with cranked brake disk

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1 Technical data

Table 1: Dimensions and technical data

Size	Component	Dimensions [mm]											
		d	d ₁		D _H	D	D ₁	D ₂	D ₄	d _H	E	b	s
			GJS	Steel									
38	1	40	-	35	80	66	-	50	66	38	24	18	3.0
	1a	48	-	35	80	-	78	50	66	38	24	18	3.0
42	1	45	-	45	95	75	-	60	80	46	26	20	3.0
	1a	55	-	45	95	-	94	60	80	46	26	20	3.0
48	1	52	-	50	105	85	-	68	90	51	28	21	3.5
	1a	62	-	50	105	-	104	68	90	51	28	21	3.5
55	1	60	-	58	120	98	-	78	102	60	30	22	4.0
	1a	74	-	58	120	-	118	78	102	60	30	22	4.0
65	1	70	-	68	135	115	-	92	116	68	35	26	4.5
75	1	80	-	78	160	135	-	106	136	80	40	30	5.0
90	1	97	-	100	200	160	-	140	172	100	45	34	5.5
100	1	115	100	-	225	180	-	156	195	113	50	38	6.0
110	1	125	110	-	255	200	-	176	218	127	55	42	6.5
125	1	145	130	-	290	230	-	204	252	147	60	46	7.0

Size	Spider ¹⁾ (component 2) Rated torque [Nm]			Dimensions [mm]					
	92 ShA	98 ShA	64 ShD	l ₁ ; l ₂	L	z	Pitch (z x angle)	M	T _A [Nm]
38	190	325	405	45	114	8	8 x 45	M8	35
42	265	450	560	50	126	12	16 x 22.5	M8	41
48	310	525	655	56	140	12	16 x 22.5	M8	41
55	410	685	825	65	160	8	8 x 45	M10	83
65	625	940	1175	75	185	12	16 x 22.5	M10	83
75	1280	1920	2400	85	210	12	16 x 22.5	M12	120
90	2400	3600	4500	100	245	15	20 x 18	M16	295
100	3300	4950	6185	110	270	15	20 x 18	M16	295
110	4800	7200	9000	120	295	15	20 x 18	M20	580
125	6650	10000	12500	140	340	15	20 x 18	M20	580

1) Maximum torque of the coupling T_{Kmax.} = rated torque of the coupling T_{K rated} x 2

Table 2: Dimensions of the cranked brake disk (type SBAN)

Nominal Ø of brake disk	250	300	350	400	460	515	610	710	810	915
Dimension A	250	300	356	406	457	514	610	711	812	915
Dimension B ₁	128	181	210	260	311	368	464	565	660	760
Dimension f	6	13	16	13	16	16	16	19	25	25
Dimension F	36	41	54	54	54	54	54	54	54	54

Table 3: Allocation of brake drum to coupling - BTAN

Brake drum ØD _B x B	Dimension „C“ with coupling size										Max. speed [rpm] (30 m/s)
	38	42	48	55	65	75	90	100	110	125	
160 x 60	14										3550
200 x 75	9	12	17	24							2800
250 x 95	1	4	9	16	25	33					2240
315 x 118		-5	0	7	16	24	36				1800
400 x 150		-18	-13	-6	3	11	23	31	38		1400
500 x 190					-12	-4	8	16	23	39	1120
630 x 236						-22	-10	-2	5	21	900
710 x 265								-13	-6	10	800
800 x 300										-4	710



1 Technical data

Table 4: Allocation of brake disk to coupling - SBAN

Brake disk ØA x G _s	Dimension „N“ with coupling size										Max. speed [rpm] (30 m/s)	
	38	42	48	55	65	75	90	100	110	125		
200 x 12.5	31.25											2800
250 x 12.5	31.25											2240
315 x 16		34.25	39.25									1800
400 x 16		32.5	37.5	44.5	53.5	61.5						1400
500 x 16			37.5	44.5	53.5	61.5	73.5	81.5	88.5			1120
630 x 20				44.5	53.5	61.5	73.5	81.5	88.5	104.5		900
710 x 20					51.5	59.5	71.5	79.5	86.5	102.5		800
800 x 25								69.0	77.0	84.0	100.0	710
900 x 25										84.0	100.0	630

Table 5: Allocation of brake disk to coupling - SBAN with cranked brake disk

Nominal Ø of brake disk	Dimension „N ₁ “ with coupling size										Max. speed [rpm] (30 m/s)	
	38	42	48	55	65	75	90	100	110	125		
250	67	70	75									2240
300		68	73	80	90	97						1900
350			83	90	99	107						1650
400						110	122	130				1400
460						107	119	127	134			1250
515						107	119	127	134	150		1100
610						107	119	127	134	150		950
710						104	116	124	131	147		800
810							110	118	125	141		700

2 Advice

2.1 General advice

Please read through these operating/assembly instructions carefully before you start up the coupling.
 Please pay special attention to the safety instructions!

The operating/assembly instructions are part of your product. Please store them carefully and close to the coupling. The copyright for these operating/assembly instructions remains with KTR.

2.2 Safety and advice symbols



Warning of personal injury

This symbol indicates notes which may contribute to preventing bodily injuries or serious bodily injuries that may result in death.



Warning of product damages

This symbol indicates notes which may contribute to preventing material or machine damage.



General advice

This symbol indicates notes which may contribute to preventing adverse results or conditions.



Warning of hot surfaces

This symbol indicates notes which may contribute to preventing burns with hot surfaces resulting in light to serious bodily injuries.

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2 Advice

2.3 General hazard warnings



With assembly, operation and maintenance of the coupling it has to be made sure that the entire drive train is secured against accidental switch-on. You may be seriously hurt by rotating parts. Please make absolutely sure to read through and observe the following safety indications.

- All operations on and with the coupling have to be performed taking into account "safety first".
- Please make sure to switch off the power pack before you perform your work on the coupling.
- Secure the power pack against accidental switch-on, e. g. by providing warning signs at the place of switch-on or removing the fuse for current supply.
- Do not reach into the operating area of the coupling as long as it is in operation.
- Please secure the coupling against accidental contact. Please provide for the necessary protection devices and covers.

2.4 Intended use

You may only assemble, operate and maintain the coupling if you

- have carefully read through the operating/assembly instructions and understood them
- had technical training
- are authorized by your company

The coupling may only be used in accordance with the technical data (see chapter 1). Unauthorized modifications on the coupling design are not admissible. We will not assume liability for any damage that may arise. In the interest of further development we reserve the right for technical modifications.

The **ROTEX®** described in here corresponds to the technical status at the time of printing of these operating/assembly instructions.

2.5 Coupling selection



For a permanent and failure-free operation of the coupling it must be selected according to the selection instructions (according to DIN 740 part 2) for the particular application (see catalogue drive technology "ROTEX®").

If the operating conditions (performance, speed, modifications on engine and machine) change, the coupling selection must be reviewed.

Please make sure that the technical data regarding torque refer to the spider only. The transmittable torque of the shaft-hub-connection must be reviewed by the customer and is subject to his responsibility.

For drives subject to torsional vibrations (drives with cyclic stress due to torsional vibrations) it is necessary to perform a torsional vibration calculation to ensure a reliable selection. Typical drives subject to torsional vibrations are e. g. drives with diesel engines, piston pumps, piston compressors etc. If requested, KTR will perform the coupling selection and the torsional vibration calculation.

2.6 Reference to EC Machinery Directive 2006/42/EC

The couplings supplied by KTR should be considered as components, not machines or partly completed machines according to EC Machinery Directive 2006/42/EC. Consequently KTR does not have to issue a declaration of incorporation. For details about safe assembly, start-up and safe operation refer to the present operating/assembly instructions considering the warnings.

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3 Storage, transport and packaging

3.1 Storage

The coupling hubs are supplied in preserved condition and can be stored at a dry and roofed place for 6 - 9 months.
The features of the coupling spiders (elastomers) remain unchanged for up to 5 years with favourable storage conditions.



The storage rooms must not include any ozone-generating devices like e. g. fluorescent light sources, mercury-vapour lamps or electrical high-voltage appliances.
Humid storage rooms are not suitable.
Please make sure that condensation is not generated. The best relative air humidity is less than 65 %.

3.2 Transport and packaging



In order to avoid any injuries and any kind of damage please always make use of proper transport and lifting equipment.

The couplings are packed differently each depending on size, number and kind of transport. Unless otherwise contractually agreed, packaging will follow the in-house packaging specifications of KTR.

4 Assembly

The coupling is generally supplied in individual parts. Before assembly the coupling has to be inspected for completeness.

4.1 Components of the coupling

Components of ROTEX®, type BTAN

Component	Number	Description
1	1	Hub
2	1	Spider
3	1	FN hub
4	1	Brake drum
5	see table 1	Cap screws DIN EN ISO 4762
6	2	Setscrews DIN EN ISO 4029

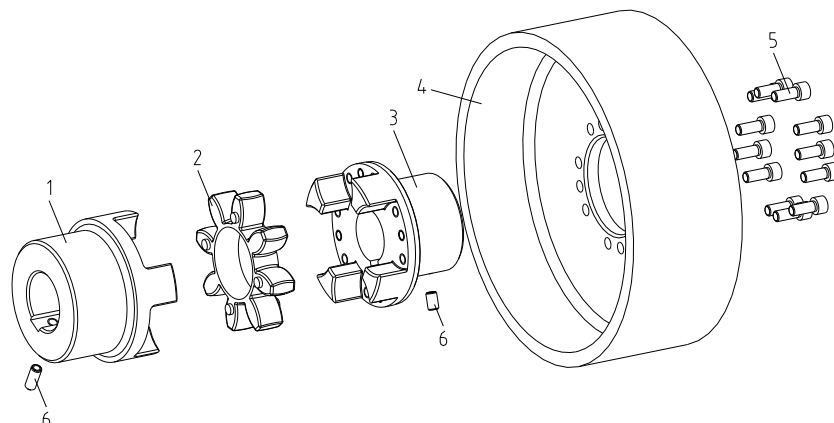


Illustration 4: ROTEX®, type BTAN

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4 Assembly

4.1 Components of the coupling

Components of ROTEX®, type SBAN

Component	Number	Description
1	1	Hub
2	1	Spider
3	1	FN hub
4	1	Brake disk
5	see table 1	Cap screws DIN EN ISO 4762
6	2	Setscrews DIN EN ISO 4029

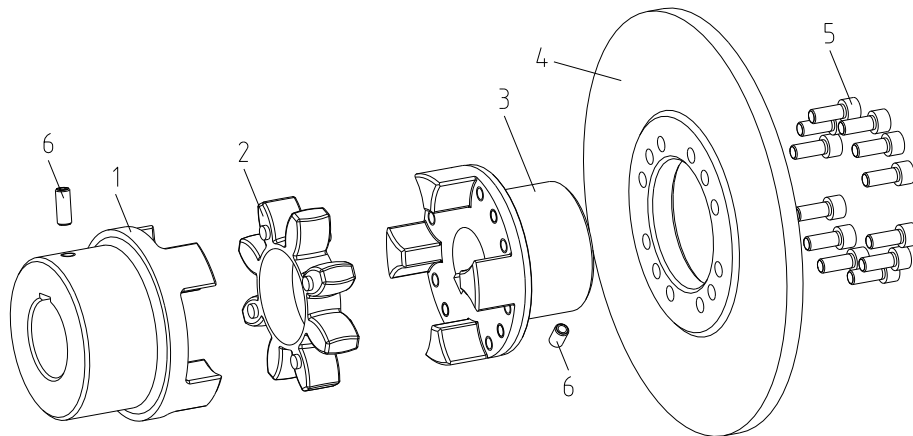


Illustration 5: ROTEX®, type SBAN

Components of ROTEX®, type SBAN with cranked brake disk

Component	Number	Description
1	1	Hub
2	1	Spider
3	1	FN hub
4	1	Cranked brake disk
5	see table 1	Cap screws DIN EN ISO 4762
6	2	Setscrews DIN EN ISO 4029

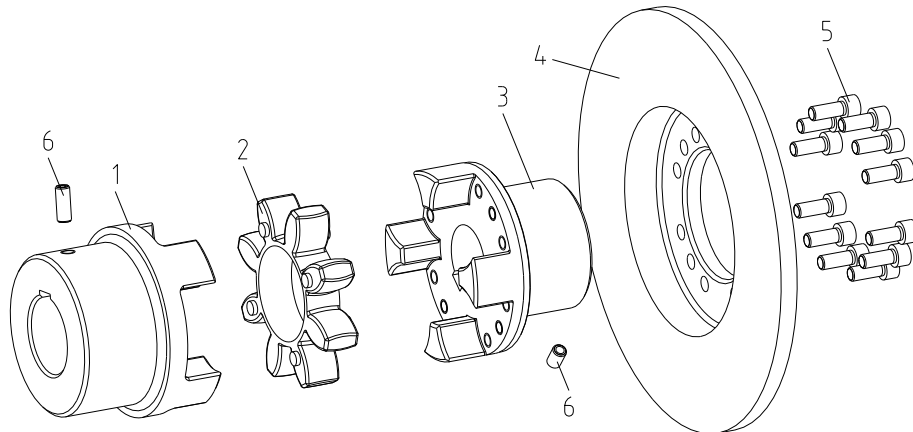








Illustration 6: ROTEX®, type SBAN with cranked brake disk



4 Assembly

4.1 Components of the coupling

Features of standard spiders

Spider hardness (Shore)	92 Shore A		95/98 Shore A		64 Shore D	
	T-PUR® (orange)	PUR (yellow)	T-PUR® (purple)	PUR (red)	T-PUR® (light green)	PUR (natural white ¹⁾)
Marking (colour)						

1) Natural white with green marking of teeth

4.2 Advice for finish bore



The maximum permissible bore diameters d (see table 1 to 5 in chapter 1 - technical data) must not be exceeded. If these figures are disregarded, the coupling may tear. Rotating particles may cause danger to life.

- Hub bores machined by the customer have to observe concentricity or axial runout, respectively (see illustration 7).
- Please make absolutely sure to observe the figures for $\varnothing d_{max}$.
- Carefully align the hubs when the finish bores are drilled.
- Please provide for a setscrew according to DIN EN ISO 4029 with a cup point or an end plate to fasten the hubs axially.

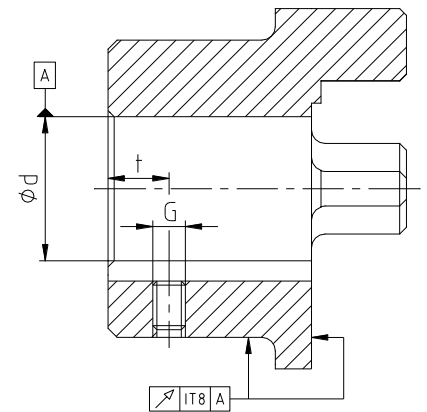


Illustration 7: Concentricity and axial run-out



The customer bears the sole responsibility for all machining processes performed subsequently on unbored or pilot bored as well as finish machined coupling components and spare parts. KTR does not assume any warranty claims resulting from insufficient remachining.

Table 6: Setscrews DIN EN ISO 4029

Size	38	42	48	55	65	75	90	100	110	125
Dimension G	M8	M8	M8	M10	M10	M10	M12	M12	M16	M16
Dimension t	15	20	20	20	20	25	30	30	35	40
Tightening torque T_A [Nm]	10	10	10	17	17	17	40	40	80	80

Table 7: Recommended fit pairs acc. to DIN 748/1

Bore [mm]		Shaft tolerance	Bore tolerance
above	up to		
	50	k6	H7 (KTR standard)
50		m6	



4 Assembly

4.2 Advice for finish bore

If a feather keyway is intended to be used in the hub, it should correspond to the tolerance ISO JS9 (KTR standard) with standard operating conditions or ISO P9 with complicated operating conditions (frequently alternating torsional direction, shock loads, etc.). The keyway should preferably be located between the cams. With axial fastening by setscrews the tapping should be located on the keyway except for AI-D which should be located opposite the keyway.

The transmittable torque of the shaft-hub-connection must be reviewed by the customer and is subject to his responsibility.

4.3 Assembly of the coupling



We recommend to inspect bores, shaft, keyway and feather key for dimensional accuracy before assembly.



Heating the hubs lightly (approx. 80 °C) allows for an easier mounting on the shaft.



Touching the heated hubs causes burns. Please wear safety gloves.



With the assembly please make sure that the distance dimension E (see table 1 to 5) is observed to allow for axial clearance of the spider when in operation. Disregarding this advice may cause damage to the coupling.

- Shift the brake drum/disk onto the FN hub (see illustration 8). Hand-tighten the components first.
- Tighten the cap screws by a suitable torque key to the tightening torques T_A specified in table 1. Secure the screws against working loose by means of an adhesive (e. g. Loctite 243).
- Mount the hub and FN hub with the brake drum/disk onto the shaft of the driving and driven side. The FN hub has to be installed on the shaft end on which the bigger mass moment of inertia becomes operative (see illustration 9).

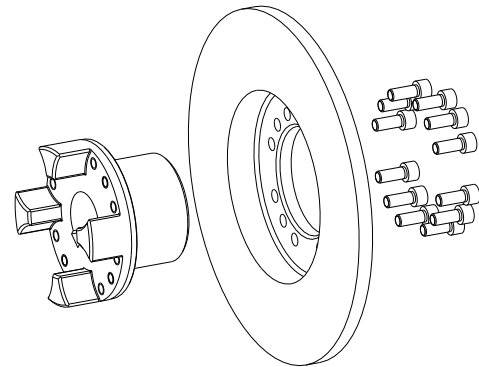


Illustration 8: Assembly of brake drum/disk onto the FN hub



The maximum braking torque must not exceed the maximum torque (T_{Kmax}) of the coupling.

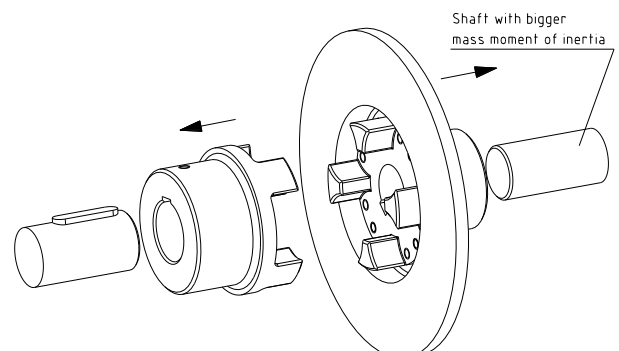


Illustration 9: Assembly of hub and FN hub with brake drum/disk



4 Assembly

4.3 Assembly of the coupling

- Insert the spider into the cam section of the hub (see illustration 10).
- Shift the power packs in axial direction until the distance dimension E is achieved (see illustration 1 to 3).
- If the power packs have already been firmly assembled, shifting the hubs axially on the shafts allows for adjusting dimension E (see illustration 1 to 3).
- Fasten the hubs by tightening the setscrews DIN EN ISO 4029 with a cup point (tightening torque see table 6).

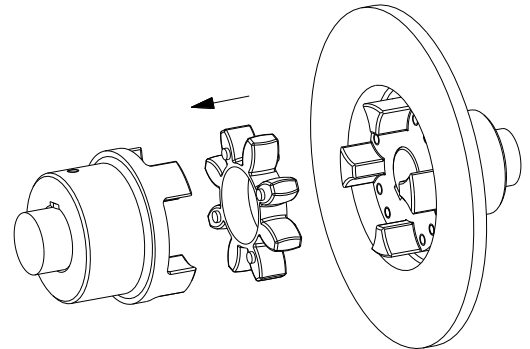


Illustration 10: Assembly of spider



Having started up the coupling, the tightening torque of the screws and the wear of spider have to be inspected at regular maintenance intervals and the spider has to be replaced, if necessary.

4.4 Displacements - alignment of the couplings

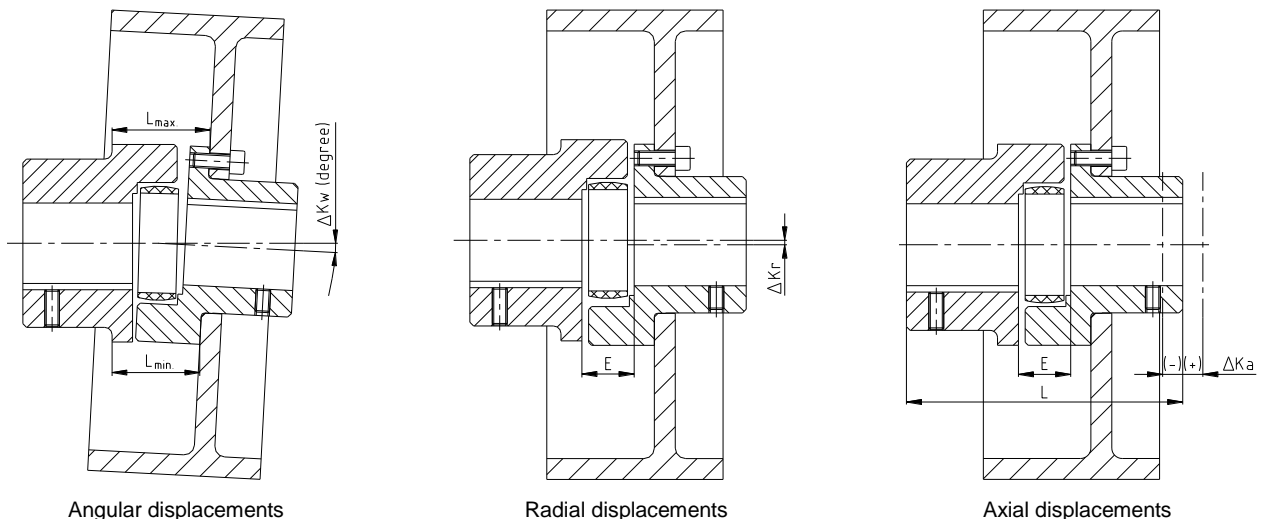
The displacement figures specified in tables 8 and 9 provide for sufficient safety to compensate for external influences like, for example, thermal expansion or foundation settling.



In order to ensure a long service life of the coupling, the shaft ends have to be accurately aligned. Please absolutely observe the displacement figures specified (see tables 8 and 9). If the figures are exceeded, the coupling will be damaged. The more accurate the alignment of the coupling, the longer is its service life.

Please note:

- The displacement figures specified in tables 8 and 9 are maximum figures which must not arise in parallel. If radial and angular displacements arise at the same time, the permissible displacement values may only be used proportionally (see illustration 12).
- Please inspect with a dial gauge, ruler or feeler whether the permissible displacement figures of tables 8 and 9 can be observed.



$\Delta K_w = L_{1max} - L_{1min} \text{ [mm]}$

Illustration 11: Displacements

$L_{max} = L + \Delta K_a \text{ [mm]}$

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4 Assembly

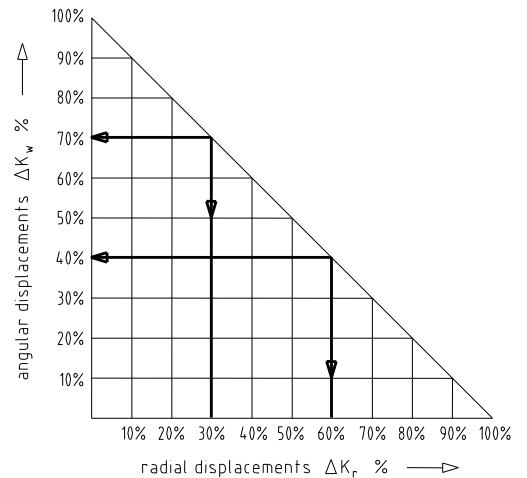
4.4 Displacements - alignment of the couplings

Examples of the displacement combinations specified in illustration 12:

Example 1:
 $\Delta K_r = 30\%$
 $\Delta K_w = 70\%$

Example 2:
 $\Delta K_r = 60\%$
 $\Delta K_w = 40\%$

Illustration 12:
 Combinations of displacement



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

Table 8: Displacement figures for 92 and 95/98 Shore A

Size		38	42	48	55	65	75	90	100	110	125
Max. axial displacement ΔK_a [mm]		-0.7	-1.0	-1.0	-1.0	-1.0	-1.5	-1.5	-1.5	-2.0	-2.0
		+1.8	+2.0	+2.1	+2.2	+2.6	+3.0	+3.4	+3.8	+4.2	+4.6
Max. radial displacement ΔK_r [mm] with	1500 rpm	0.28	0.32	0.36	0.38	0.42	0.48	0.50	0.52	0.55	0.60
	3000 rpm	0.19	0.21	0.25	0.26	0.28	0.32	0.34	0.36	0.38	-
Max. angular displacement with n=1500 rpm	ΔK_w [degree]	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3
	ΔK_w [mm]	1.35	1.70	2.00	2.30	2.70	3.30	4.30	4.80	5.60	6.50
Max. angular displacement with n=3000 rpm	ΔK_w [degree]	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.1	1.2	-
	ΔK_w [mm]	1.10	1.40	1.60	2.00	2.30	2.90	3.80	4.20	5.00	-

Table 9: Displacement figures for 64 Shore D

Size		38	42	48	55	65	75	90	100	110	125
Max. axial displacement ΔK_a [mm]		-0.7	-1.0	-1.0	-1.0	-1.0	-1.5	-1.5	-1.5	-2.0	-2.0
		+1.8	+2.0	+2.1	+2.2	+2.6	+3.0	+3.4	+3.8	+4.2	+4.6
Max. radial displacement ΔK_r [mm] with	1500 rpm	0.21	0.23	0.25	0.27	0.30	0.34	0.36	0.37	0.40	0.43
	3000 rpm	0.15	0.16	0.18	0.19	0.21	0.24	0.25	0.26	0.28	-
Max. angular displacement with n=1500 rpm	ΔK_w [degree]	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2
	ΔK_w [mm]	1.25	1.40	1.80	2.00	2.50	3.00	3.80	4.30	5.30	6.00
Max. angular displacement with n=3000 rpm	ΔK_w [degree]	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.1	-
	ΔK_w [mm]	1.00	1.30	1.60	1.80	2.20	2.70	3.50	4.00	4.90	-

5 Start-up

Before start-up of the coupling, inspect tightening of the setscrews in the flange hubs, the alignment and the distance dimension E and adjust, if necessary, and also inspect all screw connections for the tightening torques specified, dependent on the type of coupling.

Finally the coupling protection against accidental contact must be fitted. It is required in accordance with DIN EN ISO 12100 (Safety of Machinery) and directive 2014/14/EU and must protect against

- access with the little finger
- falling down of solid foreign objects.

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5 Start-up

The cover may provide for openings intended for necessary heat dissipation. These openings have to comply with DIN EN ISO 13857.

The cover must be electrically conductive and included in the equipotential bonding. Bellhousings (magnesium share below 7.5 %) made of aluminium and damping rings (NBR) can be used as connecting element between pump and electric motor. The cover may only be taken off with standstill of the unit.

During operation of the coupling, please pay attention to

- different operating noise
- vibrations occurring.



If you note any irregularities with the coupling during operation, the drive unit must be switched off immediately. The cause of the breakdown must be specified by means of the table „Breakdowns“ and, if possible, be eliminated according to the proposals. The potential breakdowns specified can be hints only. To find out the cause all operating factors and machine components must be considered.

6 Breakdowns, causes and elimination

The below-mentioned failures can lead to a use of the **ROTEX®** coupling other than intended. In addition to the specifications given in these operating/assembly instructions make sure to avoid such failures.

The errors listed can only be clues to search for the failures. When searching for the failure the adjacent components must generally be considered.

General failures with use other than intended:

- Important data for the coupling selection were not forwarded.
- The calculation of the shaft-hub-connection was not considered.
- Coupling components with damage occurred during transport are assembled.
- If the heated hubs are assembled, the permissible temperature is exceeded.
- The clearance of the components to be assembled is not coordinated with one another.
- Tightening torques have been fallen below/exceeded.
- Components are mixed up by mistake/assembled incorrectly.
- A wrong or no spider is inserted in the coupling.
- No original **KTR** components (purchased parts) are used.
- Old/already worn out spiders or spiders stored for too long are used.
- Maintenance intervals are not observed.

Breakdowns	Causes	Elimination
Different operating noise and/or vibrations occurring	Misalignment	1) Set the unit out of operation 2) Eliminate the reason for the misalignment (e. g. loose foundation bolts, breaking of the engine mount, heat expansion of unit components, modification of the installation dimension E of the coupling) 3) For inspection of wear see item inspection
	Wear of spider, short-term torque transmission due to metal contact	1) Set the unit out of operation 2) Disassemble the coupling and remove remainders of the spider 3) Inspect coupling components and replace coupling components that have been damaged 4) Insert spider, assemble coupling components 5) Inspect alignment, adjust if necessary



6 Breakdowns, causes and elimination

Breakdowns	Causes	Elimination
Different operating noise and/or vibrations occurring	Screws for axial fastening of hubs working loose	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Inspect alignment of coupling 3) Tighten the screws to fasten the hubs and secure against working loose 4) For inspection of wear see item inspection
Breaking of cams	Wear of spider, torque transmission due to metal contact	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Replace complete coupling 3) Inspect alignment
	Breaking of the cams due to high impact energy/overload	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Replace complete coupling 3) Inspect alignment 4) Find out the reason for overload
	Operating parameters do not meet with the performance of the coupling	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Review the operating parameters and select a bigger coupling (consider mounting space) 3) Assemble new coupling size 4) Inspect alignment
	Operating error of the unit	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Replace complete coupling 3) Inspect alignment 4) Instruct and train the service staff
Early wear of spider	Misalignment	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Eliminate the reason for the misalignment (e. g. loose foundation bolts, breaking of the engine mount, heat expansion of unit components, modification of the installation dimension E of the coupling) 3) For inspection of wear see item inspection
	e. g. contact with aggressive liquids/oils, ozone influence, too high/low ambient temperatures etc. causing physical modification of the spider	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Disassemble the coupling and remove remainders of the spider 3) Inspect coupling components and replace coupling components that have been damaged 4) Insert spider, assemble coupling components 5) Inspect alignment, adjust if necessary 6) Make sure that further physical modifications of the spider are excluded
	Ambient/contact temperatures which are too high for the spider, max. permissible e. g. with T-PUR® T4 = - 50 °C/ + 120 °C	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Disassemble the coupling and remove remainders of the spider 3) Inspect coupling components and replace coupling components that have been damaged 4) Insert spider, assemble coupling components 5) Inspect alignment, adjust if necessary 6) Inspect and adjust ambient/contact temperature (possibly corrective by using different spider materials)
Early wear of spider (liquefaction of material inside the spider cam)	Vibrations of drive	<ol style="list-style-type: none"> 1) Set the unit out of operation 2) Disassemble the coupling and remove remainders of the spider 3) Inspect coupling components and replace coupling components that have been damaged 4) Insert spider, assemble coupling components 5) Inspect alignment, adjust if necessary 6) Find out the reason for the vibrations (possibly corrective by spider with lower or higher Shore hardness)

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7 Disposal

In respect of environmental protection we would ask you to dispose of the packaging or products on termination of their service life in accordance with the legal regulations and standards that apply, respectively.

- **Metal**
Any metal components have to be cleaned and disposed of by scrap metal.
- **Nylon materials**
Nylon materials have to be collected and disposed of by a waste disposal company.

8 Maintenance and service

ROTEX® is a low-maintenance coupling. We recommend to perform a visual inspection on the coupling **at least once a year**. Please pay special attention to the condition of the coupling spiders.

- Since the flexible machine bearings of the driving and driven side settle during the course of load, please inspect the alignment of the coupling and re-align the coupling, if necessary.
- The coupling parts have to be inspected for damages.
- The screw connections have to be inspected visually.



Having started up the coupling the tightening torques of the screws have to be inspected during the usual inspection intervals.

9 Spares inventory, customer service addresses

A basic requirement to ensure the readiness for use of the coupling is a stock of the most important spare parts on site.

Contact addresses of the KTR partners for spare parts and orders can be obtained from the KTR homepage at www.ktr.com.



KTR does not assume any liability or warranty for the use of spare parts and accessories which are not provided by KTR and for the damages which may incur as a result.

Please observe protection note ISO 16016.	Drawn: 2019-03-11 Pz	Replacing: KTR-N dated 2000-09-14
	Verified: 2019-03-11 Pz	Replaced by: