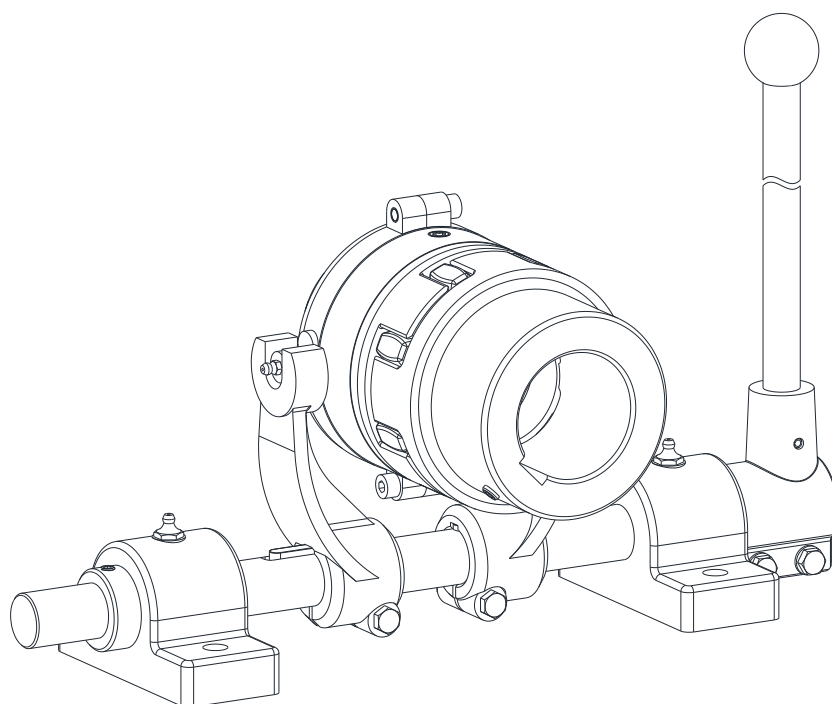




ROTEX® SD
shiftable jaw coupling

 KTR KTR-Group	ROTEX® Type SD with shiftable linkage Operating/Assembly instructions	KTR-N 40214 EN Sheet: 2 of 18 Edition: 6
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ROTEX® SD is a torsionally flexible jaw coupling shiftable at standstill. It is able to compensate for shaft misalignment, for example caused by manufacturing inaccuracies, thermal expansion, etc.

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Please observe protection note ISO 16016.	Drawn: 2023-07-06 Sw/Sho Verified: 2023-10-06 Ka	Replacing: KTR-N dated 2015-08-31 Replaced by:
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1 Technical data

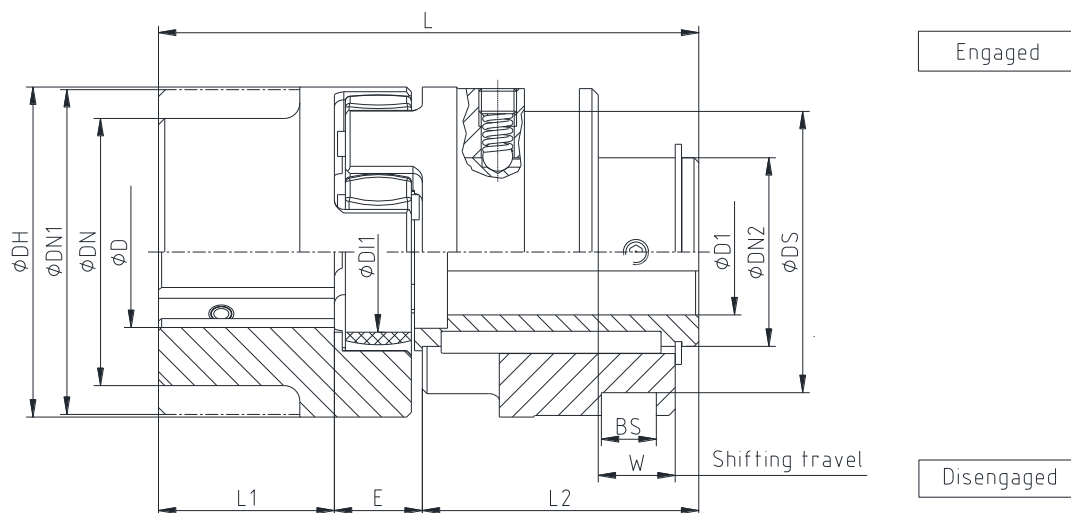


Illustration 1: ROTEX® SD

Table 1: Dimensions - type SD

Size	Dimensions in mm											
	BS ± 0.1	DH	DI1	DN	DN1	DN2	DS ± 0.1	E	L	L1	L2	W
24	6	55	27	40	56	30	41	16.5	98	30	51.5	16
28	8	65	30	48	67	36	58	18	113	35	60	17.5
38	12.5	80	38	66	78	45	70.5	22	140	45	73	21
42	12.5	95	46	75	94	50	70.5	24	156	50	82	23
48	17.5	105	51	85	104	60	89.5	25.5	172	56	90.5	24.5
55	18	120	60	98	118	70	112.5	27	195	65	103	26
65	18	135	68	115	-	80	112.5	32	227	75	120	30.5
75	20.5	160	80	135	-	95	130.5	37	257	85	135	35
90	25.5	200	100	160	-	110	164.5	41	293	100	152	39.5
100	25.5	225	113	180	-	115	164.5	46	325	110	169	44
110	25.5	255	127	200	-	125	164.5	51	355	120	184	48.5
125	30.5	290	147	230	-	145	210.5	55.5	404	140	208.5	53

Table 2: Finish bores and general

Size	Finish bore ¹⁾ in mm				Shifting force set in N	Shiftable linkage size	Slip ring size
	D		D1				
	min.	Max.	min.	Max.			
24	8	35	8	18	110	2)	2)
28	10	40	10	22	130	2)	2)
38	12	48	12	28	150	1	1.1
42	14	55	14	32	180	1	1.1
48	15	62	15	40	200	2	2.2
55	20	74	18	48	250	3	3.3
65	22	82	20	55	280	3	3.3
75	30	98	25	65	350	3	4.4
90	40	120	28	75	350	4	5.5
100	50	115	30	80	380	4	5.5
110	60	125	35	85	450	4	5.5
125	60	145	40	100	500	5	6.6

1) Finish bore according to ISO fit H7, feather keyway according to DIN 6885, sheet 1 [JS9]

2) Slip ring and shiftable linkage only on request

Coupling sizes 140 to 180 only on request according to dimension sheet M 370266!



1 Technical data

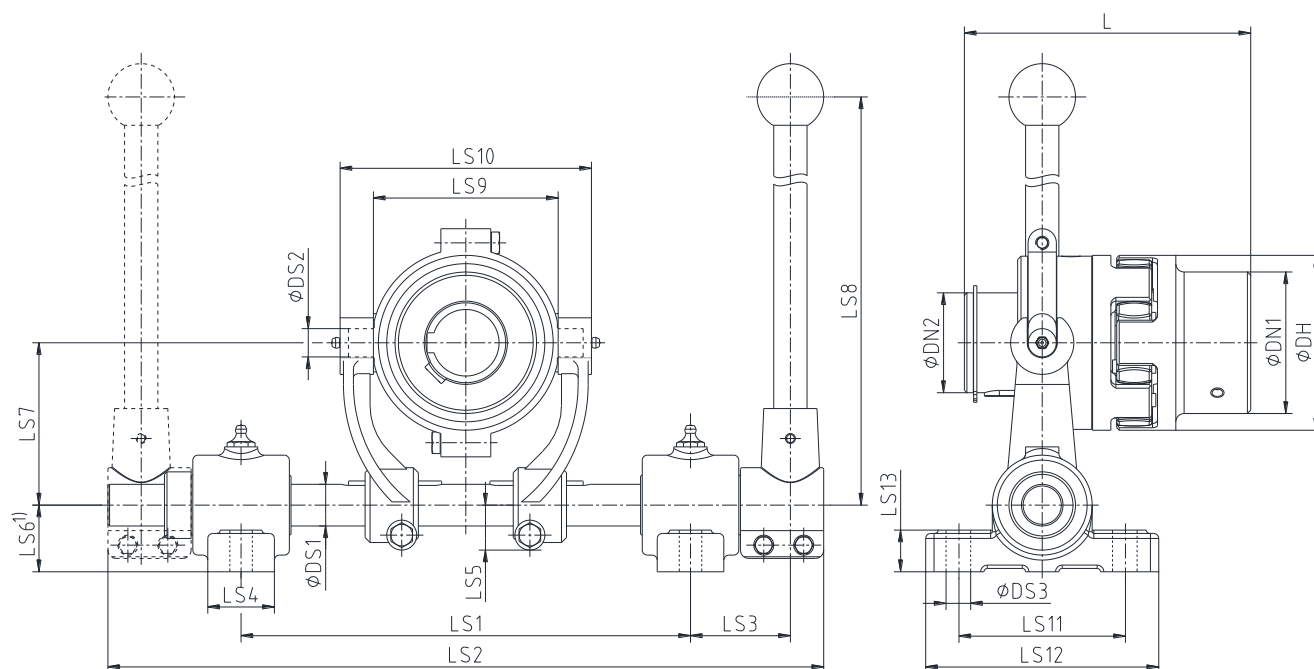


Illustration 2: ROTEX® SD with shiftable linkage



The shiftable linkage can be used turned by 180°, too.

Table 3: Dimensions of shiftable linkage

Size	Dimensions of slip ring and shiftable linkage in mm									
	Size of shiftable linkage	DS1	DS2	DS3	LS1		LS2	LS3	LS4	LS5
					min.	Max.				
38	1	20	12	11	180	190	320	55	35	25
42	1	20	12	11	180	190	320	55	35	25
48	2	25	17	13.5	240	270	430	60	40	27
55	3	30	17	13.5	280	310	490	70	40	32.5
65	3	30	17	13.5	280	310	490	70	40	32.5
75	3	30	17	13.5	280	310	490	70	40	32.5
90	4	35	21	13.5	321	365	565	70	45	37.5
100	4	35	21	13.5	321	365	565	70	45	37.5
110	4	35	21	13.5	321	365	565	70	45	37.5
125	5	40	25	13.5	365	410	630	80	45	46

Size	Dimensions of slip ring and shiftable linkage in mm								Max. speed n for slip ring in rpm
	LS6	LS7	LS8	LS9	LS10	LS11	LS12	LS13	
38	30	70	400	90	114	75	110	18	3200
42	30	70	400	90	114	75	110	18	3200
48	40	97.5	450	111	151	100	140	25	2500
55	40	120	600	140	180	100	140	25	2100
65	40	120	600	140	180	100	140	25	2100
75	40	120	600	170	210	100	140	25	1700
90	50	147.5	750	200	244	120	160	25	1300
100	50	147.5	750	200	244	120	160	25	1300
110	50	147.5	750	200	244	120	160	25	1300
125	50	190	1068	250	300	120	160	25	1200

1) LS1 max. and LS3 = standard

Please observe protection
note ISO 16016.

Drawn: 2023-07-06 Sw/Sho
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 Replaced by:

 KTR-Group	ROTEX® Type SD with shiftable linkage Operating/Assembly instructions	KTR-N 40214 EN Sheet: 5 of 18 Edition: 6
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2 Advice

2.1 General advice

Read carefully through these operating/assembly instructions before you start up the coupling.

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.

2.3 General hazard warnings



For a long-lasting and failure-free operation of the coupling it must be selected according to the selection instructions 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.

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

- All operations on and with the coupling have to be performed taking into account "safety first".
- Make sure to switch off the coupling and power packs connected before you perform your work.
- 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.
- Secure the coupling against accidental contact. Provide for the necessary protection devices and covers.

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2 Advice

2.4 Proper 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 be used in accordance with the technical data only (see table 1, 2 and 3). In addition please make sure that the coupling may be shifted at standstill only. The coupling may only be shifted a new if the cams of the hubs are flush with the gaps of the spider.

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

2.5 Coupling selection

For drives subjected 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 subjected 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.



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.

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.

3 Storage, transport and packaging

3.1 Storage of the coupling

The coupling hubs are supplied in preserved condition and can be stored in 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.

Please observe protection note ISO 16016.	Drawn: 2023-07-06 Sw/Sho Verified: 2023-10-06 Ka	Replacing: KTR-N dated 2015-08-31 Replaced by:
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**3 Storage, transport and packaging****3.1 Storage of the coupling**

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.
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 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

Driving components falling down may cause injury to persons or damage on the machine.
Secure the driving components with assembly resp. disassembly.

The coupling is generally supplied with the shifting force set (see table 1, 4 and 6).
Before assembly the coupling has to be inspected for completeness.

4.1 Components of the coupling**Components of ROTEX® type SD**

Component	Quantity	Description
1	1	Hub
2	1	Spider
3	1	SD hub
4	2	Setscrews DIN EN ISO 4029

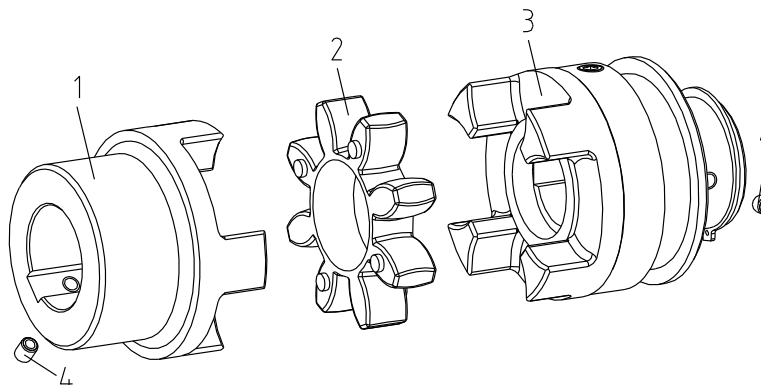


Illustration 3: ROTEX® type SD

**4 Assembly****4.1 Components of the coupling****Components of ROTEX® type SD with shiftable linkage**

Component	Quantity	Description
1	1	ROTEX® Type SD
2	1	Slip ring
3	1	Shiftable linkage

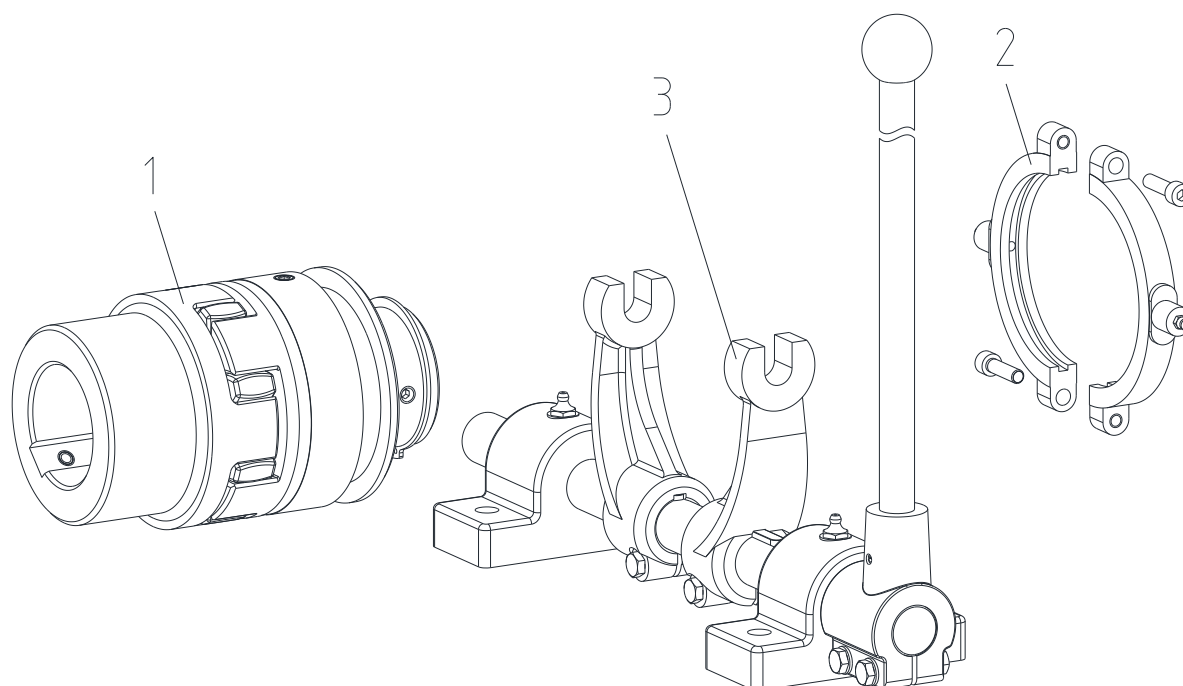


Illustration 4: ROTEX® SD with shiftable linkage

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 Assembly

4.2 Advice for finish bore



The maximum permissible bore diameters D (see table 2 - 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 resp. axial runout (see illustration 5).
- Please make absolutely sure to observe the figures for $\varnothing D$ (see table 2).
- Carefully align the hubs when the finish bores are drilled.
- Provide for a setscrew according to DIN EN ISO 4029 with a cup point or an end plate to fasten the hubs axially (see illustration 5 and table 4).

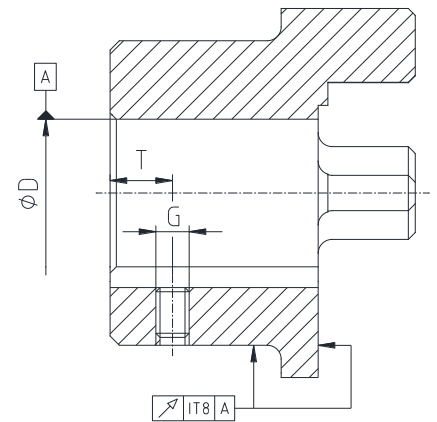


Illustration 5: Concentricity and axial runout

- If any other shaft-hub-connections (e. g. clamping elements, spline, taper bores, etc.) are to be used, please consult with KTR.



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 4: Setscrews DIN EN ISO 4029

Size	24	28	38	42	48	55	65	75	90	100	110	125
Dimension G in mm	M5	M8	M8	M8	M8	M10	M10	M10	M12	M12	M16	M16
Dimension T in mm	10	15	15	20	20	20	20	25	30	30	35	40
Tightening torque T_A in Nm	2	10	10	10	10	17	17	17	40	40	80	80

Table 5: Recommended fit pairs acc to DIN 748/1

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

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

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

**4 Assembly****4.3 Advice on shifting force**

Before delivery the shifting force is set and the screw plug is marked with marking lacquer.

4.4 Assembly of the coupling (general)

In case if a dimensional drawing was prepared for the coupling, the dimensions specified have to be primarily observed.

The operator of the machine is to be provided with the dimensional drawing.



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

4.5 Assembly of ROTEX® SD (component 1)

- Mount the hub (component 1) on the shaft of the driven side and the SD hub (component 3) on the shaft of the driving side (see illustration 6).

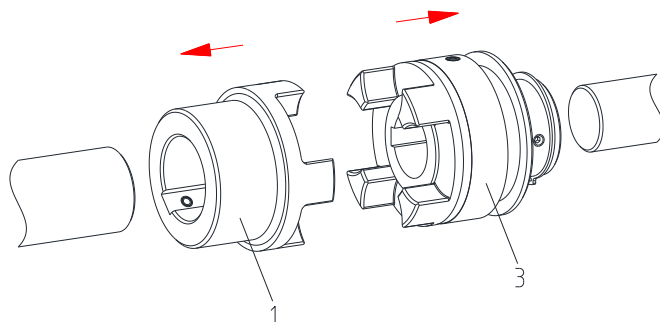


Illustration 6: Assembly of hub and SD hub

- Insert the spider (component 2) into the cam section of the hub on the driving or driven side (see illustration 7).

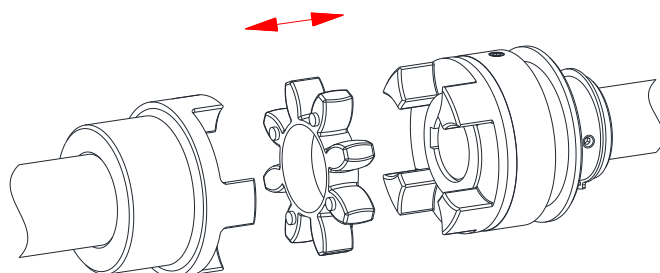


Illustration 7: Assembly of spider



4 Assembly

4.5 Assembly of ROTEX® SD (component 1)

- Shift the power packs in axial direction until the distance dimension E has been achieved (see illustration 8).
- If the power packs are already firmly assembled, shifting the hubs axially on the shafts allows for setting the distance dimension E.
- Fasten the hubs by tightening the setscrews DIN EN ISO 4029 with a cup point (component 4) (tightening torque see table 4).

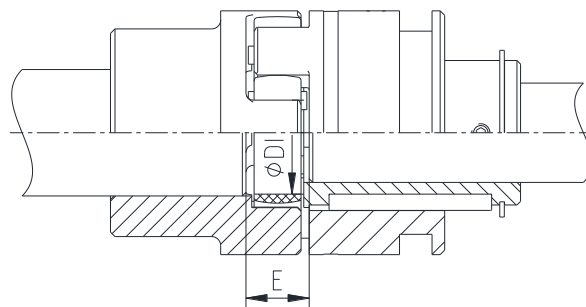


Illustration 8: Assembly of coupling



If the shaft diameters with inserted feather key are smaller than dimension DI1 (see table 1) of the spider, one or two shaft ends may protude into the spider.

4.6 Displacements - alignment of the coupling

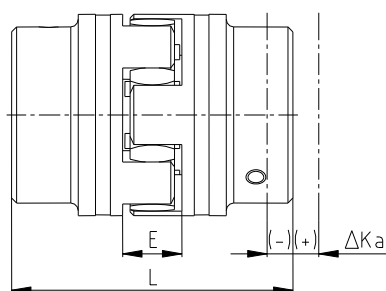
The displacement figures specified in table 6 provide for sufficient safety to compensate for external influences like, for example, thermal expansion or foundation settling.



**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 table 6). If the figures are exceeded, the coupling will be damaged.
 The more accurate the alignment of the coupling, the longer is its service life.**

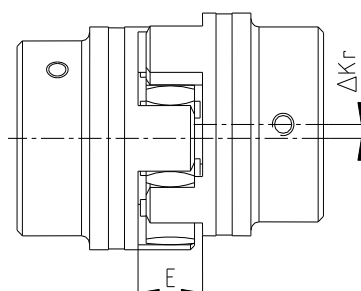
Please note:

- The displacement figures specified in table 6 are maximum figures which must not arise in parallel. If radial and angular displacements arise simultaneously, the permissible displacement figures may only be used proportionally (see illustration 10).
- Inspect with a dial gauge, ruler or feeler gauge whether the permissible displacement figures specified in table 6 are observed.

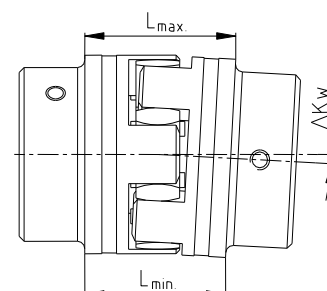


Axial displacements

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



Radial displacements



Angular displacements

$$\Delta K_w = L_{\max} - L_{\min} \text{ in mm}$$

Illustration 9: Displacements



4 Assembly

4.6 Displacements - alignment of the coupling

Examples of the displacement combinations specified in illustration 10:

Example 1:

$\Delta K_r = 30\%$

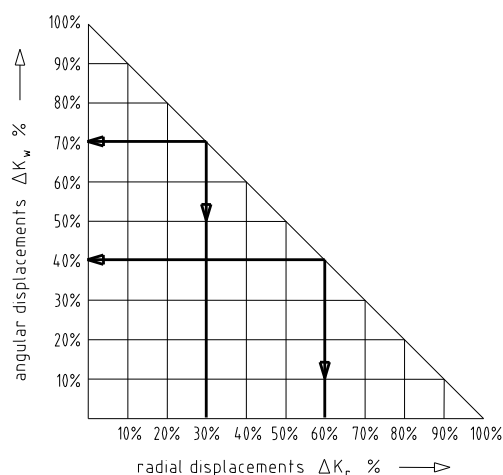
$\Delta K_w = 70\%$

Example 2:

$\Delta K_r = 60\%$

$\Delta K_w = 40\%$

Illustration 10: Combinations of displacement



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

Table 6: Displacement figures

Size	24	28	38	42	48	55	65	75	90	100	110	125
Max. axial displacement ΔK_a in mm	1.4	1.5	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 in mm with	1500 rpm	0.22	0.25	0.28	0.32	0.36	0.38	0.42	0.48	0.50	0.52	0.60
	3000 rpm	0.15	0.17	0.19	0.21	0.25	0.26	0.28	0.32	0.34	0.36	-
ΔK_w in degree	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3
max. angular displacement with $n=1500$ rpm ΔK_w in mm	0.85	1.05	1.35	1.70	2.00	2.30	2.70	3.30	4.30	4.80	5.60	6.50
ΔK_w in degree	0.8	0.8	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.1	-
max. angular displacement with $n=3000$ rpm ΔK_w in mm	0.75	0.84	1.10	1.40	1.60	2.00	2.30	2.90	3.80	4.20	5.00	-

4.7 Assembly of the slip ring (component 2)



Before assembly inspect the slip ring (component 2) for any damages and make sure the lubricating nipples exist.

- Before separating the slip ring halves (component 2) mark the position of the slip ring halves screwed by the manufacturer.
- Insert the unscrewed slip ring halves in the shifting keyway of the SD hub (component 3) (see illustration 11). Pay attention to the marked position of the slip ring halves.
- Hand-tighten the components via the cap screws first. Afterwards tighten the cap screws to the tightening torques T_A specified in table 7.
- Lubricate the slip ring through the lubricating nipples with a heat-resistant bearing grease while turning the slip ring manually repeatedly.

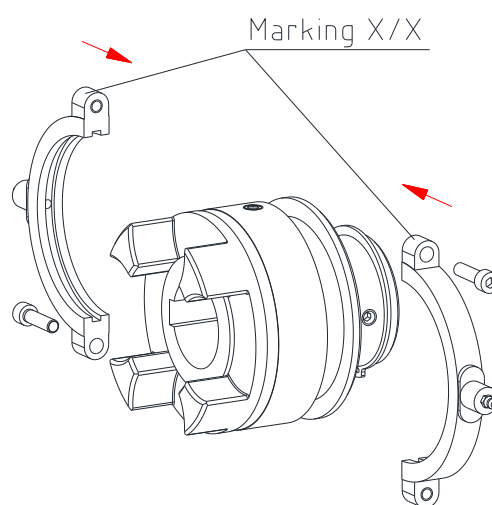


Illustration 11: Assembly of slip ring



Make sure the max. permissible speed of the slip ring is not exceeded (see table 7). After assembly it must be possible to rotate the slip ring manually.

4 Assembly

4.7 Assembly of the slip ring (component 2)

Table 7:

Slip ring size	1.1	2.2	3.3	4.4	5.5	6.6
Cap screw	M6	M8	M8	M10	M12	M16
Tightening torque T_A in Nm	10	25	25	49	86	210
Max. perm. speed in rpm	3200	2500	2100	1700	1300	1200

SD hub:

- Within the framework of the machine inspection periods the fit of the SD hub has to be cleaned and lubricated (e. g. with Molykote MoS2, copper paste, Anti-Seize by company Weicon).
- With a high shifting frequency of the coupling we recommend one visual inspection and lubrication of the SD hub monthly.
- In case of operation with dust and granular material as well as high air humidity one visual inspection and lubrication per month and an operational inspection every three months has to be performed (engagement/disengagement of the coupling at standstill).

Slip ring:

- Before every lubricating process the slip ring has to be inspected for damages (visual inspection).
- It must be possible to manually rotate the SD hub freely in the slip ring.
- The lubrication of the slip ring depends on the speed and operating periods of the machine (see table 8).
- The intervals for inspection and lubrication specified apply for drives with standard load.



For drives with high load, e. g. permanent operation during 3 shifts, hot operation, etc., consult with us.

4.8 Maintenance intervals

Table 8:

Max. perm. speed in rpm of the slip rings	3200 to 2100		1700 to 1000		850 to 700	
Daily operating period of machines in h	8 h	16 h	8 h	16 h	8 h	16 h
Visual inspection and lubrication intervals	0.5 months		1 month	0.5 months	1.5 months	1 month



For operation sites, e. g. operation with dust and granular materials, high air humidity, high ambient temperatures, outdoor operations, etc., the intervals of visual inspections and lubrication have to be reduced.

Before starting the assembly the coupling/shiftable linkage has to be inspected for completeness.



4 Assembly

4.9 Assembly of the shiftable linkage (component 3)

Components of ROTEX® SD with shiftable linkage

Component	Quantity	Description
2	1	Slip ring with lubricating nipple
3.1	2	Shifting fork
3.2	1	Shift lever with clamp
3.3	1	Shifting shaft
3.4	2	Eye type bearing DIN 504 with lubricating nipple
3.5	1	Clamping ring
3.6	2	Clamping screws of shifting forks
3.7	2	Clamping screws of shift lever

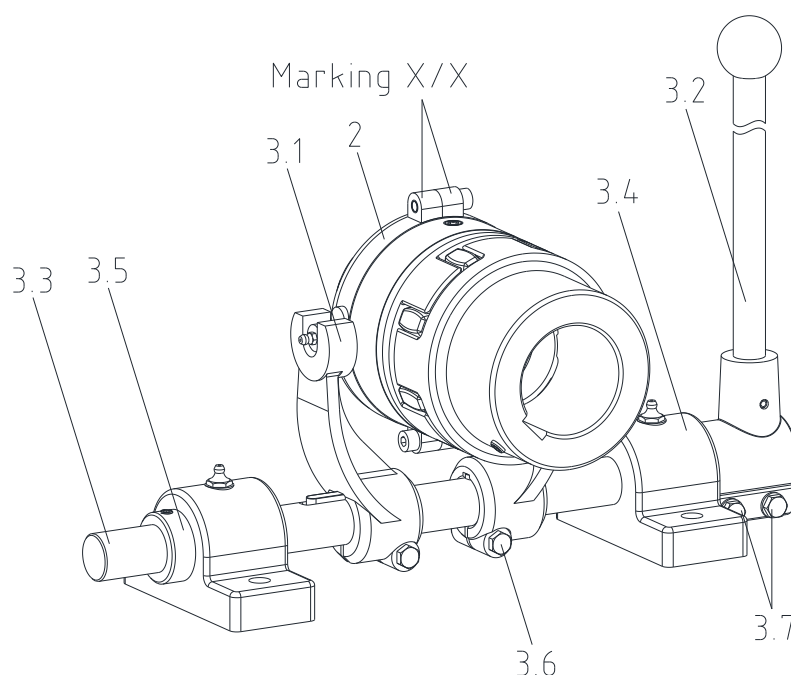


Illustration 12: ROTEX® SD with shiftable linkage

- Insert the spigot of the slip ring (component 2) in the shifting forks (component 3.1) (see illustration 12).
- Align the shifting forks, shifting shaft (component 3.3) and eye type bearings (component 3.4) flush with the slip ring. Observe dimensions LS7 and LS9 (see illustration 13 resp. table 3). Make sure the shifting forks evenly fit with the shifting spigots.



Unscrew the clamping screws (component 3.6) for setting the shifting forks.



The shifting forks have to be arranged vertically to the base plate.



Make absolutely sure to observe the sequence of assembly, since otherwise the slip ring may get stuck resp. jammed during operation of the coupling.

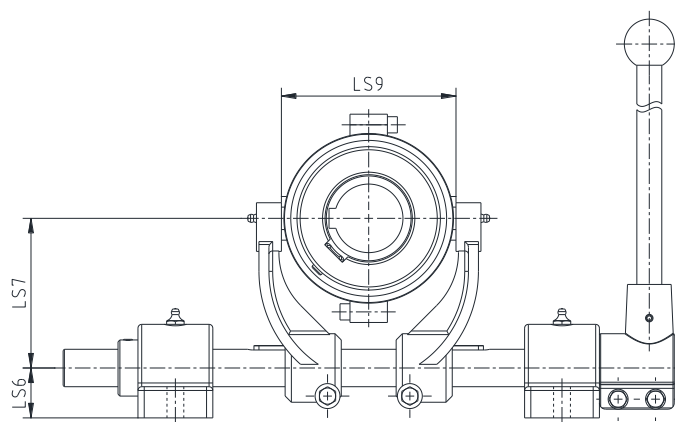


Illustration 13

4 Assembly

4.9 Assembly of the shiftable linkage (component 3)

- Tighten the clamping screws (component 3.6) of the shifting forks to the tightening torques T_A specified in table 9.
- Mount the eye type bearing to the base plate.



With a continuous base plate the dimension LS6 (see table 3) with shiftable linkage size 5 has to be increased by 10 mm at the minimum and with shiftable linkage size 6 by 15 mm at the minimum. The brackets of the driving and driven side have to be adjusted accordingly.

- Fasten the shifting lever (component 3.2) on the shifting shaft (component 3.3).
- When the coupling is engaged, the shifting lever has to be vertically installed.



When the coupling hub is in operation the slip ring has to be disengaged. Support or fasten the shifting lever in vertical position.



Make absolutely sure to observe the sequence of assembly, since otherwise the slip ring may get stuck resp. jammed during operation of the coupling.

- Tighten the clamping screws (component 3.7) of the shifting lever to the tightening torques T_A specified in table 9.
- Secure the shifting shaft axially via the clamping ring (component 3.5) and the clamping screws of the shifting lever (component 3.7) (see illustration 11).
- Lubricate the eye type bearing with bearing grease after assembly.

Table 9:

Shiftable linkage size	1	2	3	4	5	6
Shifting fork						
Clamping screw (component 3.6, illustration 12)	M6	M8	M8	M12	M12	M12
Tightening torque T_A in Nm	10	25	25	86	86	86
Shift lever						
Clamping screw (component 3.7, illustration 12)	M6	M6	M8	M12	M12	M12
Tightening torque T_A in Nm	10	10	25	86	86	86

5 Start-up

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

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 a little finger
- falling down of solid foreign objects.

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5 Start-up

The coupling protection is not part of KTR's scope of delivery and is the customer's responsibility. It must have sufficient distance to the rotating components to safely avoid contact. Depending on the outside diameter DH of the coupling, we recommend the following minimum distance: ØDH to 50 mm = 6 mm, ØDH 50 mm to 120 mm = 10 mm, ØDH from 120 mm = 15 mm.

Please check if a proper enclosure (ignition protection, coupling protection, contact protection) has been mounted and the operation of the coupling is not affected by the enclosure. The same applies for test runs and rotational direction inspections.

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

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.



Disregarding the hints and inappropriate use may cause damages on the coupling. The failure on the coupling may cause standstill of the drive and the overall machine.

General failures with improper use:

- Important data for the coupling selection were not forwarded.
- The calculation of the shaft-hub-connection was disregarded.
- 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 are fallen below/exceeded.
- Components are mixed up by mistake/assembled incorrectly.
- A wrong or no spider/DZ elements are inserted in the coupling.
- No original **KTR** components (purchased parts) are used.
- Old/already worn out spiders/DZ elements or spiders/DZ elements stored for too long are used.
- Maintenance intervals are not observed.

Please observe protection note ISO 16016.	Drawn: 2023-07-06 Sw/Sho Verified: 2023-10-06 Ka	Replacing: KTR-N dated 2015-08-31 Replaced by:
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6 Breakdowns, causes and elimination

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, fracture 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 residues 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
	Screws for axial fastening of hubs working loose	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	1) Set the unit out of operation 2) Replace complete coupling 3) Inspect alignment
	Breaking of the cams due to high impact energy/overload	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	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	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	1) Set the unit out of operation 2) Eliminate the reason for the misalignment (e. g. loose foundation bolts, fracture 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	1) Set the unit out of operation 2) Disassemble the coupling and remove residues 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® T ₄ = - 50 °C/+ 120 °C	1) Set the unit out of operation 2) Disassemble the coupling and remove residues 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 other spider materials)
Early wear of spider (liquefaction of material inside the spider cam)	Vibrations of drive	1) Set the unit out of operation 2) Disassemble the coupling and remove residues 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 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, inspect the alignment of the coupling and re-align the coupling, if necessary.
- The coupling components have to be inspected for damages.
- The screw connections have to be visually inspected.

8 Disposal

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

- **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.

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.

The following details should be specified when ordering spare parts:

- Original order number
- Material number
- Description and number



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.

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