

ROTEX® SD
shiftable jaw coupling

	ROTEX®	KTR-N 40214 EN
	Operating/Assembly instructions	Sheet: 2 of 16
	Type SD with shiftable linkage	Edition: 5

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.

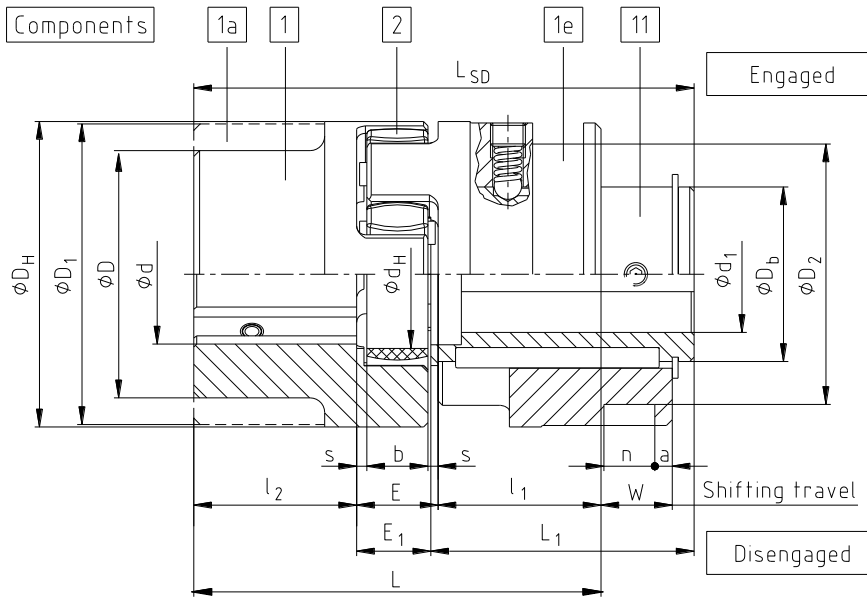
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Please observe protection note ISO 16016.	Drawn: 2015-08-31 Pz	Replacing: KTR-N dated 2006-08-14
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1 Technical data



Components

- 1 = Standard hub
- 1a = Large hub
- 1e = SD shifting hub
- 2 = Spider
- 11 = Shifting bush SD

Illustration 1: ROTEX® SD

Table 1: Dimensions of coupling type SD

Size	Dimensions [mm]																
	D _H	D	D ₁	D ₂ ±0,1	D _b	d _H	l ₁ ; l ₂	E	s	b	E ₁	L	L ₁	W	a	n ±0,1	L _{SD}
24	55	40	56	41	30	27	30	18	2	14	16.5	78	51.5	16	6	6	98
28	65	48	67	58	36	30	35	20	2.5	15	18	90	60	17.5	8	8	113
38	80	66	78	70.5	45	38	45	24	3	18	22	114	73	21	8	12.5	140
42	95	75	94	70.5	50	46	50	26	3	20	24	126	82	23	8	12.5	156
48	105	85	104	89.5	60	51	56	28	3.5	21	25.5	140	90.5	24.5	6	17.5	172
55	120	98	118	112.5	70	60	65	30	4	22	27	160	103	26	6	18	195
65	135	115	-	112.5	80	68	75	35	4.5	26	32	185	120	30.5	7	18	227
75	160	135	-	130.5	95	80	85	40	5	30	37	210	135	35	6	20.5	257
90	200	160	-	164.5	110	100	100	45	5.5	34	41	245	152	39.5	8	25.5	293
100	225	180	-	164.5	115	113	110	50	6	38	46	270	169	44	14	25.5	325
110	255	200	-	164.5	125	127	120	55	6.5	42	51	295	184	48.5	18.5	25.5	355
125	290	230	-	210.5	145	147	140	60	7	46	55.5	340	208.5	53	18.5	30.5	404

Table 2: Finish bores and general

Size	Finish bore ¹⁾ [mm]				Shifting force set [N]	Shiftable linkage size	Slip ring size
	d		d ₁				
	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!

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1 Technical data

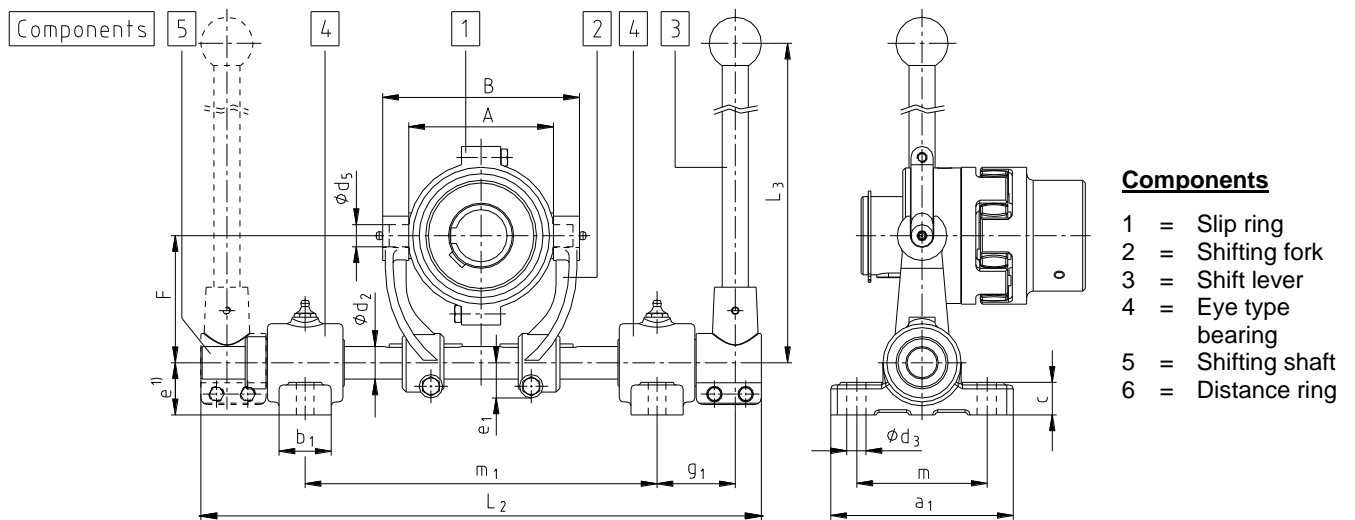


Illustration 2: ROTEX® SD with shiftable linkage



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

Table 3: Dimensions of shiftable linkage

Size	Dimensions of slip ring and shiftable linkage [mm]									
	Shiftable linkage size	a ₁	b ₁	c	d ₂	d ₃	d ₅	e ¹	e ₁	F
38	1	110	35	18	20	11	12	30	25	70
42	1	110	35	18	20	11	12	30	25	70
48	2	140	40	25	25	13.5	17	40	27	97.5
55	3	140	40	25	30	13.5	17	40	32.5	120
65	3	140	40	25	30	13.5	17	40	32.5	120
75	3	140	40	25	30	13.5	17	40	32.5	120
90	4	160	45	25	35	13.5	21	50	37.5	147.5
100	4	160	45	25	35	13.5	21	50	37.5	147.5
110	4	160	45	25	35	13.5	21	50	37.5	147.5
125	5	160	45	25	40	13.5	25	50	46	190

Size	Dimensions of slip ring and shiftable linkage [mm]								Max. speed n for slip ring [rpm]
	g ₁	L ₂	L ₃	m	m ₁ min.	m ₁ max.	A	B	
38	55	320	400	75	180	190	90	114	3280
42	55	320	400	75	180	190	90	114	3280
48	60	430	450	100	240	270	111	151	2550
55	70	490	600	100	280	310	140	180	2120
65	70	490	600	100	280	310	140	180	2120
75	70	490	600	100	280	310	170	210	1710
90	70	565	750	120	321	365	200	244	1360
100	70	565	750	120	321	365	200	244	1360
110	70	565	750	120	321	365	200	244	1360
125	80	630	1068	120	365	410	250	300	855

1) m₁ max. and g₁ = standard



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 undesirable 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



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 operation 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.

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2 Advice

2.5 Coupling selection



For a long-lasting 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.

3 Storage, transport and packaging

3.1 Storage

The coupling hubs are supplied in preserved condition and can be stored at a dry and covered 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 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 supplied in pre-assembled condition. Before assembly the coupling has to be inspected for completeness.

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4 Assembly

4.1 Components of the couplings

Components of ROTEX®, type SD

Component	Quantity	Description
1	1	Hub
2	1	Spider
3	1	Shifting part
4	2	Setscrews DIN EN ISO 4029

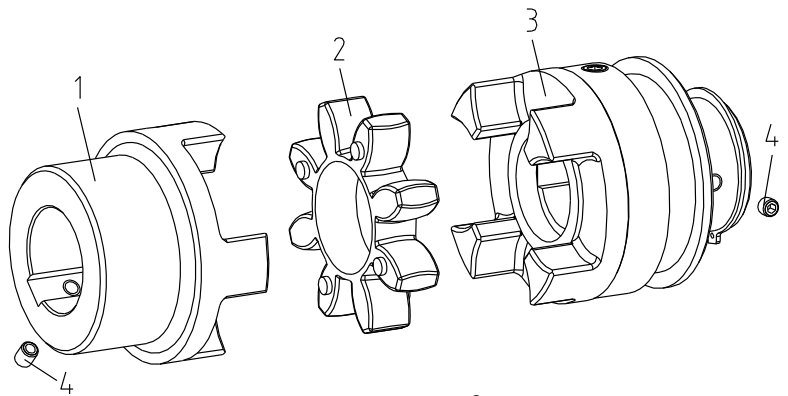


Illustration 3: ROTEX® SD

Components of ROTEX®, type SD with shiftable linkage

Component	Quantity	Description
1	1	Hub
2	1	Spider
3	1	Shifting part
4	2	Setscrews DIN EN ISO 4029
5	1	Shiftable linkage
6	1	Slip ring

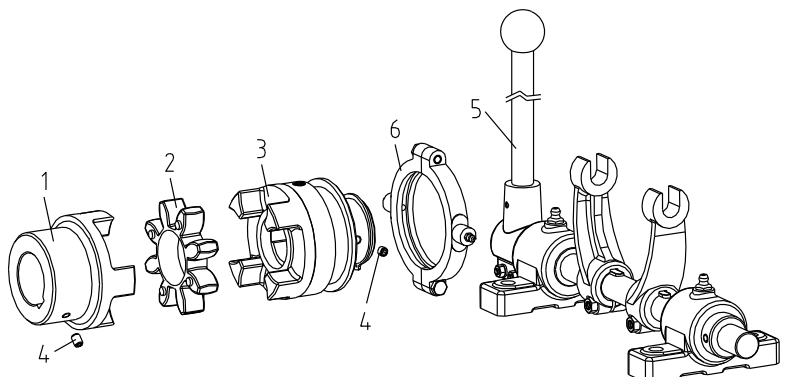


Illustration 4: ROTEX® SD with shiftable linkage

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 or axial runout, respectively (see illustration 5).
- 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.

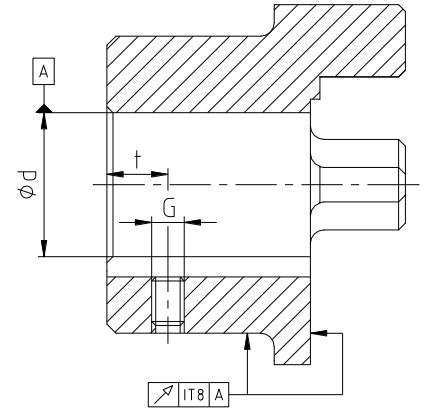


Illustration 5: Concentricity and axial runout



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	M5	M8	M8	M8	M8	M10	M10	M10	M12	M12	M16	M16
Dimension t	10	15	15	20	20	20	20	25	30	30	35	40
Tightening torque T_A [Nm]	2	10	10	10	10	17	17	17	40	40	80	80

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

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

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 by setscrews the tapping should be located on the keyway with the exception of AI-D which should be located opposite to 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 hubs



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) is observed to allow for axial clearance of the spider when in operation.
Disregarding this advice may cause damage to the coupling.

- Mount the hubs on the shaft of driving and driven side.
- Insert the spider into the cam section of the hub on the driving or driven side.
- Shift the power packs in axial direction until the distance dimension E is achieved.
- If the power packs are already firmly assembled, shifting the hubs axially on the shafts allows for adjusting the distance dimension E.
- Fasten the hubs by tightening the setscrews DIN EN ISO 4029 with a cup point (tightening torque see table 4).



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

4.5 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.



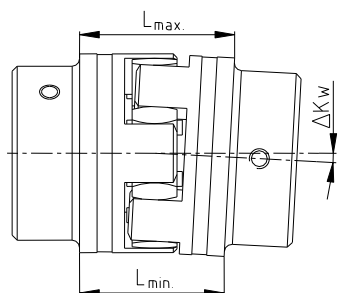
In order to ensure a long service life of the coupling, the shaft ends have to be accurately aligned. Please absolutely observe the displacement figures specified (see table 6). If the figures are exceeded, the coupling will be damaged.
The more accurate the alignment of the coupling, the longer is its 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 at the same time, the permissible displacement values may only be used proportionally (see illustration 7).
- Please inspect with a dial gauge, ruler or feeler gauge whether the permissible displacement figures specified in table 6 can be observed.

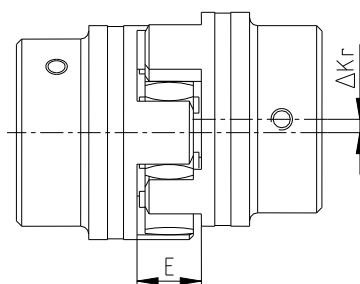
4 Assembly

4.5 Displacements - alignment of the coupling

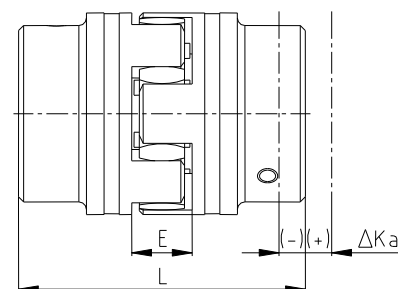


Angular displacements

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



Radial displacements



Axial displacements

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

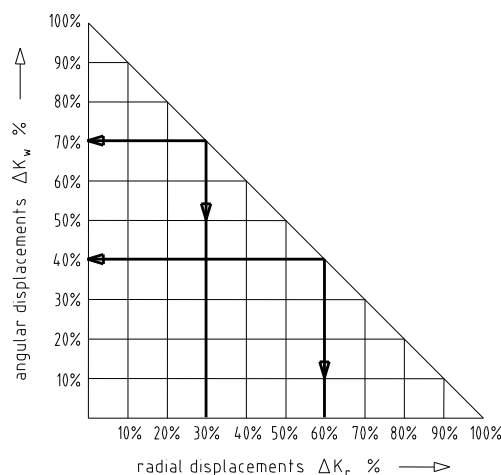
Illustration 6: Displacements

Examples of the displacement combinations specified in illustration 7:

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

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

Illustration 7:
 Combinations of displacement



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

Table 6: Displacement figures

Size	24	28	38	42	48	55	65	75	90	100	110	125
Max. axial displacement ΔK_a [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 [mm] with	1500 rpm	0.22	0.25	0.28	0.32	0.36	0.38	0.42	0.48	0.50	0.55	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 [degree] max. angular displacement with n=1500 rpm ΔK_w [mm]	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3
ΔK_w [degree] max. angular displacement with n=3000 rpm ΔK_w [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 [degree] max. angular displacement with n=3000 rpm ΔK_w [mm]	0.8	0.8	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.1	-
	0.75	0.84	1.10	1.40	1.60	2.00	2.30	2.90	3.80	4.20	5.00	-

4.6 Assembly of slip ring

- Before assembly please inspect the slip ring (component 1, picture 8) to see whether a lubricating nipple/Stauffer lubricator or damages exist.
- Before separating the slip ring halves please mark the position of the slip ring halves screwed by the manufacturer.
- Please insert the untightened slip ring halves into the shifting keyway of the coupling.



With the assembly please pay attention to the position of the slip ring halves marked.

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4 Assembly

4.6 Assembly of slip ring

- Please tighten the connection screws with a dynamometric screwdriver. For tightening torques see table 7.



After assembly the slip ring has to be in a position to be turned manually.

Table 7:

Slip ring size	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8
Hexagon screw DIN EN ISO 4017 - 8.8	M6	M8	M8	M10	M12	M16	M16	M16
Tightening torque TA [Nm]	10	25	25	49	86	210	210	210
Max. perm. speed rpm	3200	2500	2100	1700	1300	1200	1000	850

- Grease the slip ring through the lubricating nipple/Stauffer lubricator with a heat resistant bearing grease while turning the slip ring manually repeatedly.
Slip ring - max. permissible speed see table 7.

4.7 Maintenance intervals

Shifting hub:

- Within the framework of the machine inspection periods the fit of the shifting 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 would recommend one visual inspection and lubricating of the shifting hub monthly.
- In case of an operation with dust and granular material as well as high air moisture one visual inspection and lubricating per month and an operational inspection every three months has to be performed (engagement/disengagement of the coupling during standstill).

Slip ring:

- Before every lubricating the slip ring has to be inspected for damages (visual inspection).
- The shifting hub part has to be in a position to be turned freely manually in the slip ring.
- The lubrication of the slip ring depends on the speed and the 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., please consult with our engineers.

Table 8:

Max. perm. speed [rpm] of the slip rings	3200 to 2100		1700 to 1000		850 to 700	
Daily operating period of machines (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 certain applications, e. g. operation with dust and granulated materials, high air moisture, high ambient temperatures, outdoor operations, etc., the intervals of visual inspections and lubrication have to be reduced.

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4 Assembly

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

4.8 Assembly of the shiftable linkage

Component	Quantity	Description
1	1	Slip ring with lubricating nipple
2	2	Shifting fork
3	1	Shift lever with clamping element
4	2	Eye type bearing DIN 504 with lubricating nipple
5	1	Shifting shaft
6	1	Clamping ring
7	2	Clamping screws of shifting forks
8	2	Clamping screws of shift lever

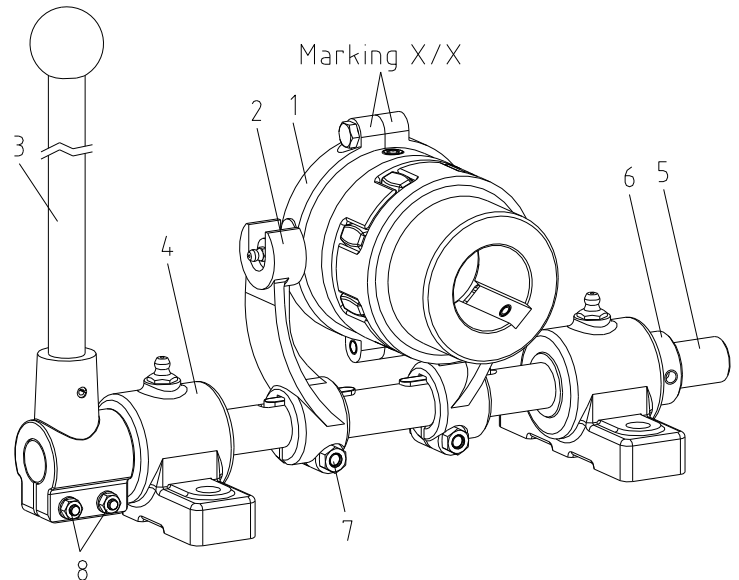


Illustration 8: ROTEX® SD with shiftable linkage

- Please insert the shifting pin/slip ring into the shifting forks (component 2, picture 8).
- Assemble the shifting forks, shifting shaft and eye type bearings to be flush with the slip ring. The dimensions F and A have to be observed (see table 3). Please make sure that the shifting forks fit with the shifting pins evenly.



For setting please unscrew the clamping screws of the shifting forks, if necessary.



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



Getting stuck and jamming of the slip ring during operation.

- Please tighten the clamping screws of the shifting forks as per table 9.
- Fasten the eye type bearing to the base plate.



With a continuous base plate the dimension e (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.



4 Assembly

4.8 Assembly of the shiftable linkage

- Fasten the shift lever to the shifting shaft.
- When the coupling is engaged, the shifting lever has to be installed vertically.



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



Getting stuck and jamming of the slip ring during operation.

- Please tighten the clamping screws of the shift lever as per table 9.
- Axially fasten the shifting shaft via clamping element, shift lever and clamping ring (component 6, illustration 8).
- Having finished the assembly please lubricate the eye type bearing with bearing grease.

Table 9:

Shiftable linkage size	1	2	3	4	5	6
Shifting fork Clamping screw (component 7, illustration 8)	M6	M8	M8	M12	M12	M12
Tightening torque T_A [Nm]	10	25	25	86	86	86
Shift lever Clamping screw (component 8, illustration 8)	M6	M6	M8	M12	M12	M12
Tightening torque T_A [Nm]	10	10	25	86	86	86

5 Start-up

Before start-up of the coupling, please 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, dependent on the type of coupling.

Finally the coupling protection against accidental contact must be fitted.

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.

The minimum distance „Sr“ between the protective device and the rotating parts must at least correspond to the figures specified below.

If the protective device is used as cover, regular openings complying with the explosion protection demands can be made that must not exceed the following dimensions:

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5 Start-up

Openings	Cover [mm]		
	Top side	Lateral components	Distance „Sr“
Circular - max. diameter	4	8	≥ 10
Rectangular - max. lateral length	4	8	≥ 10
Straight or curved slot - max. lateral length/height	not permissible	8	≥ 20



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 mentioned 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 and assembly instructions please make sure to avoid these 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/DZ elements are inserted in the coupling.
- No original **KTR** components (purchased parts) are used.
- Old/ spiders/DZ elements already worn off or spiders/DZ elements 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 are 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



6 Breakdowns, causes and elimination

Breakdowns	Causes	Elimination
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 correspond to 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, breaking of the engine mount, heat expansion of unit components, modification of the mounting 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 remainders of the spider 3) Inspect coupling components and replace coupling components that are 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	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 are damaged 4) Insert spider, assemble coupling components 5) Inspect alignment, adjust if necessary 6) Inspect and adjust ambient/contact temperature (possibly remedy by using different 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 remainders of the spider 3) Inspect coupling components and replace coupling components that are damaged 4) Insert spider, assemble coupling components 5) Inspect alignment, adjust if necessary 6) Find out the reason for the vibrations (possibly remedy by spider with lower or higher shore hardness)

7 Disposal

In respect of environmental protection please 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.

Please observe protection note ISO 16016.	Drawn: 2015-08-31 Pz	Replacing: KTR-N dated 2006-08-14
	Verified: 2015-09-07 Pz	Replaced by:

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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 spider of the coupling.

- 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 operational readiness of the coupling is a stock of the most important spare parts on site.

Contact addresses of 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: 2015-08-31 Pz	Replacing: KTR-N dated 2006-08-14
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