

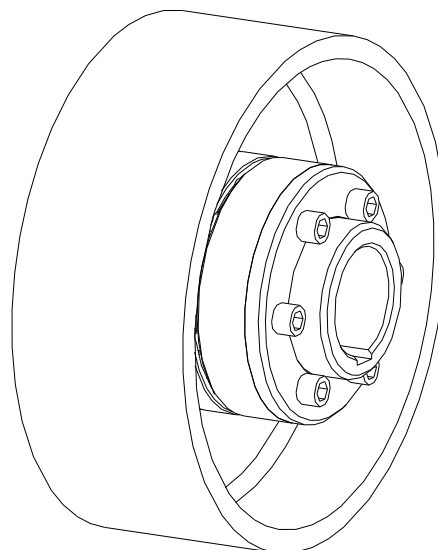


# POLY-NORM®

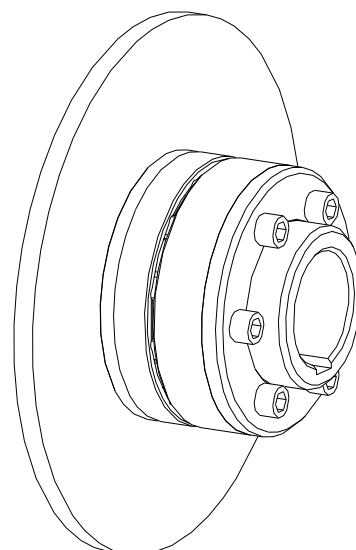
Flexible jaw-type couplings

ADR-BTA, AR-BTA,  
ADR-BT, AR-BT  
ADR-SBA, AR-SBA,  
ADR-SB and AR-SB


for finish bored, pilot bored  
and unbored couplings



**Type ADR-BTA, AR-BTA, ADR-BT and AR-BT**



**Type ADR-SBA, AR-SBA, ADR-SB, and AR-SB**

 <b>KTR-Group</b>	<b>POLY-NORM®</b> <b>Operating/Assembly instructions</b> <b>Type BTA, BT, SBA and SB</b>	KTR-N 49511 EN Sheet: 2 of 16 Edition: 5
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**POLY-NORM® BTA, BT, SBA and SB** is a fail-safe, torsionally flexible jaw coupling with brake drum or brake disk, respectively. 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: 2016-06-15 Pz/At Verified: 2016-12-23 Pz	Replacing: KTR-N dated 2011-11-24 Replaced by:
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## 1 Technical data

### Types ADR-BTA and ADR-SBA

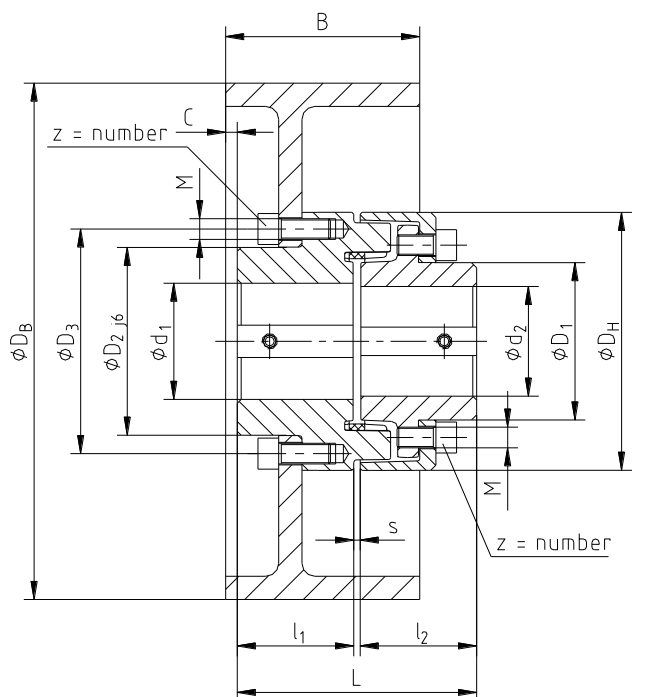


Illustration 1: POLY-NORM<sup>®</sup> ADR-BTA

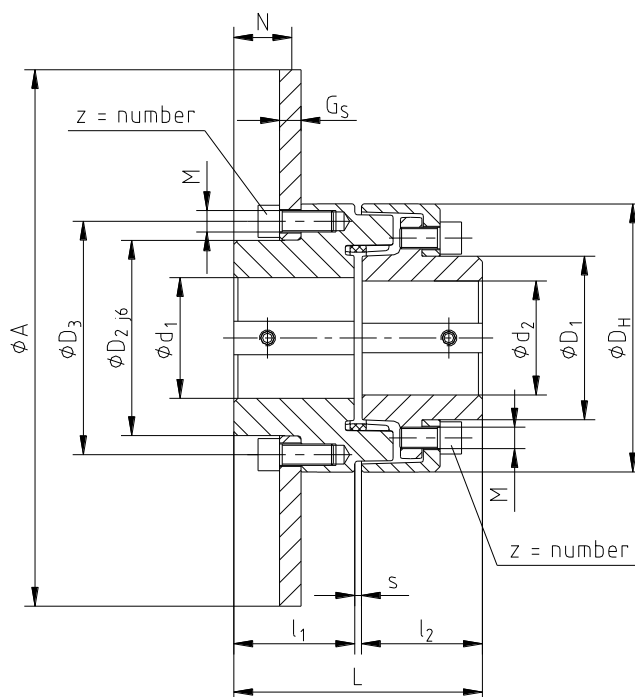


Illustration 2: POLY-NORM<sup>®</sup> ADR-SBA

Table 1: Dimensions of types ADR-BTA and ADR-SBA

Size	Elastomer ring Torque <sup>1)</sup> [Nm]		Dimensions <sup>3)</sup> [mm]									Cap screws DIN EN ISO 4762 - 12.9		
			Max. finish bore <sup>2)</sup>		General							z	M	T <sub>A</sub> [Nm]
	L	l <sub>1</sub> ; l <sub>2</sub>			s	D <sub>H</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>					
	T <sub>KN</sub>	T <sub>K max.</sub>	d <sub>2</sub>	d <sub>3</sub>										
38	90	180	34	38	80	38	4	87	48	61	75	5	M6	10
42	150	300	38	42	88	42	4	96	54	68	82	5	M8	25
48	220	440	44	48	101	48	5	106	62	77	92	6	M8	25
55	300	600	50	55	115	55	5	118	72	88	104	6	M8	25
60	410	820	56	60	125	60	5	129	80	96	114	6	M8	25
65	550	1100	60	65	135	65	5	140	86	104	122	6	M10	49
75	850	1700	68	75	155	75	5	158	98	121	140	6	M10	49
85	1350	2700	78	85	175	85	5	182	112	137	160	6	M12	86
90	2000	4000	85	90	185	90	5	200	122	146	174	6	M16	210
100	2900	5800	95	100	206	100	6	224	136	164	195	6	M16	210
110	3900	7800	105	55 - 110	226	110	6	250	150	184	218	8	M16	210
125	5500	11000	115	55 - 125	256	125	6	280	168	208	245	8	M20	410
140	7200	14400	55 - 135	65 - 140	286	140	6	315	195	233	276	8	M20	410
160	10000	20000	65 - 155	75 - 160	326	160	6	350	225	263	308	9	M20	410
180	13400	26800	65 - 175	75 - 180	366	180	6	400	255	298	349	10	M20	410

1) Standard material Perbunan (NBR) 78 Shore A

- Standard material: carbon (NDA) 10 Shore A
- Bore tolerance H7 with feather keyway DIN 6885 sheet 1 [JS9] and setscrew

3) Dimensions of brake drum (BTA) and brake disk (SBA) see table 3 and 4.



## 1 Technical data

### Types AR-BTA and AR-SBA

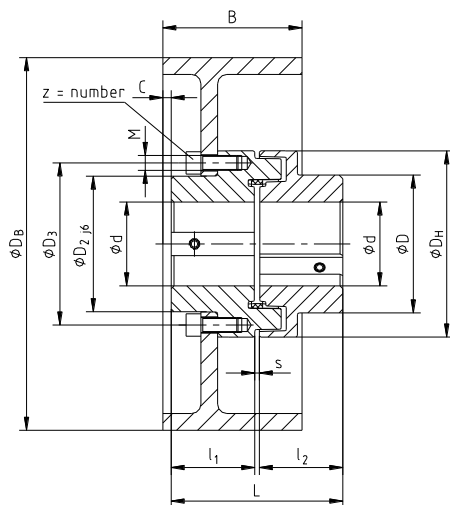


Illustration 3: POLY-NORM® AR-BTA

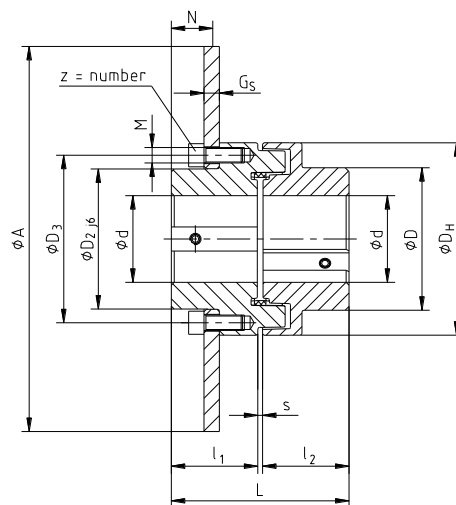


Illustration 4: POLY-NORM® AR-SBA

**Table 2: Dimensions of types AR-BTA and AR-SBA**

Size	Elastomer ring Torque <sup>1)</sup> [Nm]		Dimensions [mm]									Cap screws DIN EN ISO 4762 - 12.9		
			Max. finish bore <sup>2)</sup>		General									
	T <sub>KN</sub>	T <sub>K max.</sub>	d <sub>1</sub>	d <sub>3</sub>	L	l <sub>1</sub> ; l <sub>2</sub>	s	D <sub>H</sub>	D	D <sub>2</sub>	D <sub>3</sub>	z	M	T <sub>A</sub> [Nm]
38	90	180	40	38	80	38	4	87	62	61	75	5	M6	10
42	150	300	45	42	88	42	4	96	69	68	82	5	M8	25
48	220	440	50	48	101	48	5	106	78	77	92	6	M8	25
55	300	600	60	55	115	55	5	118	90	88	104	6	M8	25
60	410	820	65	60	125	60	5	129	97	96	114	6	M8	25
65	550	1100	70	65	135	65	5	140	105	104	122	6	M10	49
75	850	1700	80	75	155	75	5	158	123	121	140	6	M10	49
85	1350	2700	90	85	175	85	5	182	139	137	160	6	M12	86
90	2000	4000	95	90	185	90	5	200	148	146	174	6	M16	210
100	2900	5800	110	100	206	100	6	224	165	164	195	6	M16	210
110	3900	7800	50 - 120	55 - 110	226	110	6	250	185	184	218	8	M16	210
125	5500	11000	55 - 140	55 - 125	256	125	6	280	210	208	245	8	M20	410
140	7200	14400	65 - 155	65 - 140	286	140	6	315	235	233	276	8	M20	410
160	10000	20000	75 - 175	75 - 160	326	160	6	350	265	263	308	9	M20	410
180	13400	26800	75 - 200	75 - 180	366	180	6	400	300	298	349	10	M20	410

1) Standard material Perbunan (NBR) 78 Shore A

2) Bore tolerance H7 with feather keyway DIN 6885 sheet 1 [JS9] and setscrew

**Table 3: Dimensions of BTA**

Coupling size		38	42	48	55	60	65	75	85	90	100	110	125	140	160	180
Dimension C with brake drum ØD <sub>B</sub> x B	160 x 60	4														
	200 x 75	9	8	4												
	250 x 95	17	16	20	7	3	0									
	315 x 118		25	21	16	12	9	2.5	-3.5							
	400 x 150			34	28	25	22	15.5	9.5	9	3					
	500 x 190										18	12	-2			
	630 x 236												20	13	-4	
	710 x 265													24	7	-11

**Table 4: Dimensions of SBA**

Coupling size		38	42	48	55	60	65	75	85	90	100	110	125	140	160	180
Dimension N with brake disk ØA x G <sub>S</sub>	200 x 12.5	13.75														
	250 x 12.5	13.75	14.75	18.75												
	315 x 16		13	17	22	26	29	35.5								
	400 x 16			17	22	26	29	35.5	41.5	42	48					
	500 x 16				22	26	29	35.5	41.5	42	48	54	64			
	630 x 20										46	52	62	69	86	
	710 x 20										46	52	62	69	86	104
	800 x 25										43.5	49.5	59.5	66.5	83.5	101.5
	900 x 25											49.5	59.5	66.5	83.5	101.5



# 1 Technical data

## Types ADR-BT and ADR-SB

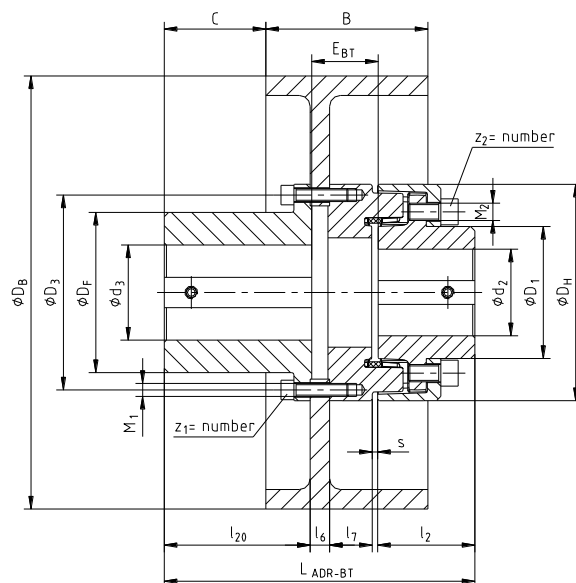


Illustration 5: POLY-NORM® ADR-BT

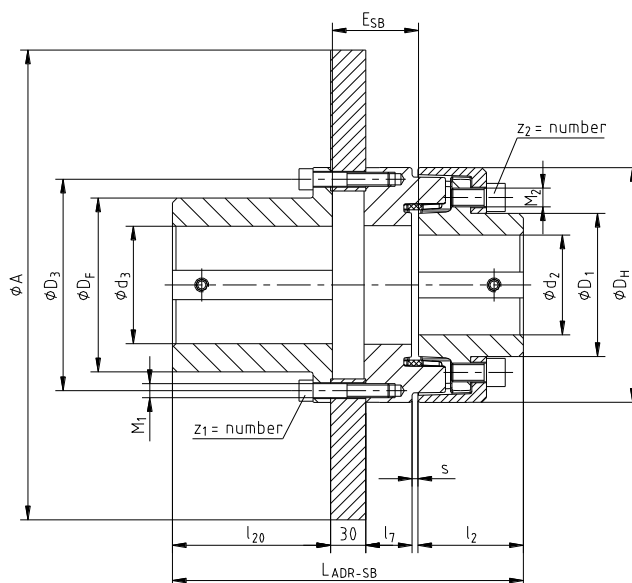


Illustration 6: POLY-NORM® ADR-SB

**Table 5: Dimensions of types ADR-BT and ADR-SB**

Size	Elastomer ring Torque <sup>1)</sup> [Nm]		Dimensions [mm]										
			Max. finish bore <sup>2)</sup>		General								
	T <sub>KN</sub>	T <sub>K max.</sub>			L <sub>ADR-SB</sub>	l <sub>2</sub>	l <sub>7</sub>	l <sub>20</sub>	s	D <sub>H</sub>	D <sub>1</sub>	D <sub>3</sub>	D <sub>F</sub>
55	300	600	50	60	249.0	55	24.0	135	5	118	72	103	88
60	410	820	56	65	255.0	60	25.0	135	5	129	80	114	97
65	550	1100	60	70	261.5	65	26.5	135	5	140	86	124	105
75	850	1700	68	80	276.5	75	31.5	135	5	158	98	141	123
85	1350	2700	78	90	290.0	85	35.0	135	5	182	112	160	139
90	2000	4000	85	100	299.5	90	39.5	135	5	200	122	180	148
100	2900	5800	95	110	354.0	100	43.0	175	6	224	136	200	165
110	3900	7800	105	120	369.0	110	48.0	175	6	250	150	220	185
125	5500	11000	115	140	394.0	125	53.0	180	6	280	168	250	210
140	7200	14400	55 - 135	160	416.5	140	60.5	180	6	315	195	278	235
160	10000	20000	65 - 155	180	438.5	160	62.5	180	6	350	225	312	265

Size	Dimensions [mm]								Cap screws DIN EN ISO 4762 - 12.9			Cap screws DIN EN ISO 4762 - 12.9		
	L <sub>ADR-BT</sub>	D <sub>B</sub>	l <sub>6</sub>	E <sub>BT</sub>	B	C	A	E <sub>SB</sub>	M <sub>1</sub>	z <sub>1</sub>	T <sub>A</sub> [Nm]	M <sub>2</sub>	z <sub>2</sub>	T <sub>A</sub> [Nm]
55	-	-	-	-	-	-	250 - 450	57.8	M8	6	35	M8	6	25
60	-	-	-	-	-	-	250 - 500	59.3	M8	6	35	M8	6	25
65	-	-	-	-	-	-	315 - 500	61.3	M8	6	35	M10	6	49
75	-	-	-	-	-	-	315 - 560	66.0	M10	6	69	M10	6	49
85	272.0	250	12	50.8	95	110	355 - 560	68.8	M10	6	69	M12	6	86
	274.0	315	14	52.8	118	103								
90	287.5	400	18	61.5	150	94	400 - 710	73.5	M12	6	120	M16	6	210
100	342.0	400	18	65.5	150	134	400 - 800	81.5	M12	6	120	M16	6	210
110	-	-	-	-	-	-	450 - 900	86.5	M16	8	295	M16	8	210
125	-	-	-	-	-	-	450 - 900	91.5	M16	8	295	M20	8	410
140	-	-	-	-	-	-	500 - 900	104.5	M20	8	410	M20	8	410
160	-	-	-	-	-	-	560 - 900	106.5	M20	9	410	M20	9	410

1) Standard material Perbunan (NBR) 78 Shore A

2) Bore tolerance H7 with feather keyway DIN 6885 sheet 1 [JS9] and setscrew



## 1 Technical data

### Types AR-BT and AR-SB

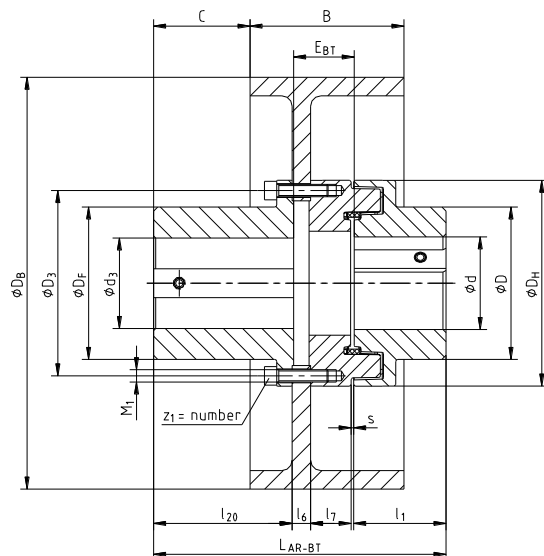


Illustration 7: POLY-NORM® AR-BT

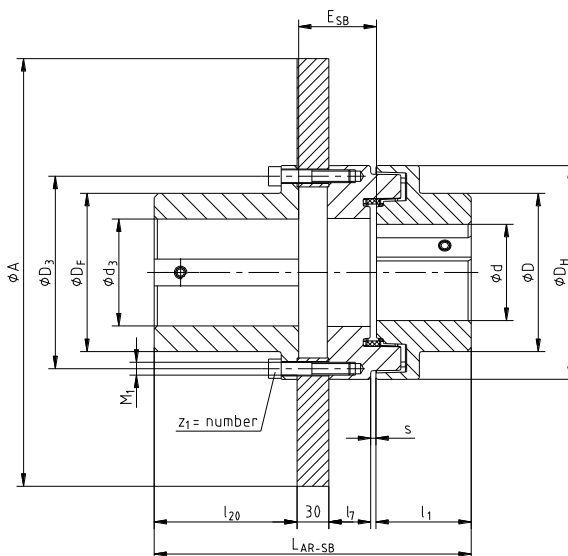


Illustration 8: POLY-NORM® AR-SB

**Table 6: Dimensions of types AR-BT and AR-SB**

Size	Elastomer ring Torque <sup>1)</sup> [Nm]		Dimensions [mm]									
			Max. finish bore <sup>2)</sup>		General							
	T <sub>KN</sub>	T <sub>K max.</sub>			d <sub>1</sub>	d <sub>3</sub>	L <sub>AR-SB</sub>	l <sub>1</sub>	l <sub>7</sub>	l <sub>20</sub>	s	D <sub>H</sub>
55	300	600	60	60	249.0	55	24.0	135	5	118	103	88
60	410	820	65	65	255.0	60	25.0	135	5	129	114	97
65	550	1100	70	70	261.5	65	26.5	135	5	140	124	105
75	850	1700	80	80	276.5	75	31.5	135	5	158	141	123
85	1350	2700	90	90	290.0	85	35.0	135	5	182	160	139
90	2000	4000	95	100	299.5	90	39.5	135	5	200	180	148
100	2900	5800	110	110	354.0	100	43.0	175	6	224	200	165
110	3900	7800	50 - 120	120	369.0	110	48.0	175	6	250	220	185
125	5500	11000	55 - 140	140	394.0	125	53.0	180	6	280	250	210
140	7200	14400	65 - 155	160	416.5	140	60.5	180	6	315	278	235
160	10000	20000	75 - 175	180	438.5	160	62.5	180	6	350	312	265

Size	Dimensions [mm]								Cap screws DIN EN ISO 4762 - 12.9		
	L <sub>AR-BT</sub>	D <sub>B</sub>	l <sub>6</sub>	E <sub>BT</sub>	B	C	A	E <sub>SB</sub>	M <sub>1</sub>	z <sub>1</sub>	T <sub>A</sub> [Nm]
55	-	-	-	-	-	-	250 - 450	57.8	M8	6	35
60	-	-	-	-	-	-	250 - 500	59.3	M8	6	35
65	-	-	-	-	-	-	315 - 500	61.3	M8	6	35
75	-	-	-	-	-	-	315 - 560	66.0	M10	6	69
85	272.0	250	12	50.8	95	110	355 - 560	68.8	M10	6	69
	274.0	315	14	52.8	118	103					
90	287.5	400	18	61.5	150	94	400 - 710	73.5	M12	6	120
100	342.0	400	18	65.5	150	134	400 - 800	81.5	M12	6	120
110	-	-	-	-	-	-	450 - 900	86.5	M16	8	295
125	-	-	-	-	-	-	450 - 900	91.5	M16	8	295
140	-	-	-	-	-	-	500 - 900	104.5	M20	8	410
160	-	-	-	-	-	-	560 - 900	106.5	M20	9	410

1) Standard material Perbunan (NBR) 78 Shore A

2) Bore tolerance H7 with feather keyway DIN 6885 sheet 1 [JS9] and setscrew



**POLY-NORM® couplings with attachments that can generate heat, sparks and static charging (e. g. combinations with brake drums, brake disks, overload systems like torque limiters, fans etc.) are not permitted for the use in hazardous locations. A separate analysis must be performed.**

## 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 potentially explosive atmospheres**

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



**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



**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.

 <b>KTR-Group</b>	<b>POLY-NORM®</b> <b>Operating/Assembly instructions</b> <b>Type BTA, BT, SBA and SB</b>	<b>KTR-N</b> 49511 EN <b>Sheet:</b> 8 of 16 <b>Edition:</b> 5
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## 2 Advice

### 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 **POLY-NORM®** 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 "POLY-NORM®").**

**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 elastomer part 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.



**If the coupling is used in hazardous locations, the size must be selected such that there is a minimum safety of  $s = 2.0$  between the torque of the machine and the rated torque of the coupling or shaft-hub-connection.**

### 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 please refer to the present operating/assembly instructions considering the warnings.

Please observe protection note ISO 16016.	Drawn: 2016-06-15 Pz/At Verified: 2016-12-23 Pz	Replacing: KTR-N dated 2011-11-24 Replaced by:
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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 elastomer rings/DZ individual elastomers remain unchanged for up to 5 years with favourable stock 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 POLY-NORM®, type ADR-BTA and ADR-SBA

Component	Quantity	Description	Component	Quantity	Description
1Nd	1	FN hub	5	see table 1	Cap screws DIN EN ISO 4762
2	1	Elastomer ring/ DZ individual elastomers <sup>1)</sup>	6	1	Setscrew DIN EN ISO 4029
3D	1	Flange hub	7N	1	Brake drum
4D	1	Cam ring	15N	1	Brake disk

1) Elastomer ring from size 38 to size 125 and DZ individual elastomers from size 140 to size 180

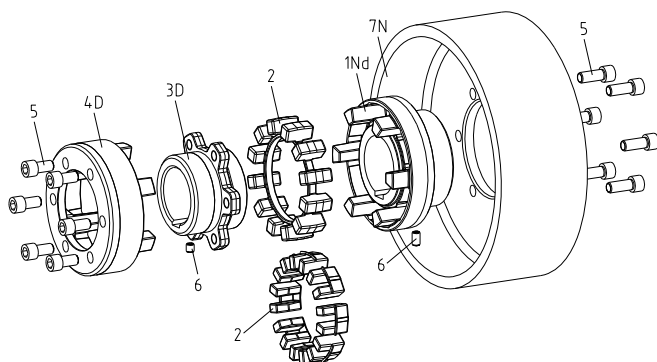


Illustration 9: POLY-NORM® ADR-BTA

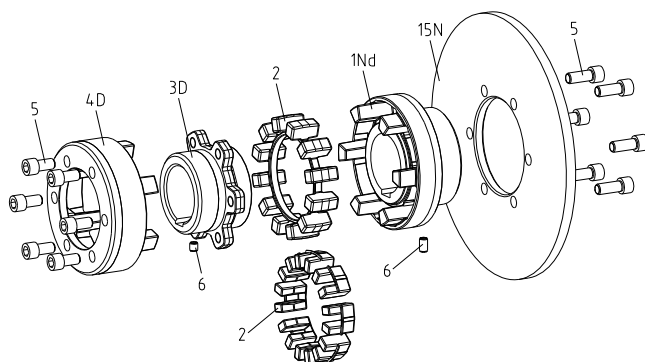


Illustration 10: POLY-NORM® ADR-SBA



## 4 Assembly

### 4.1 Components of the coupling

#### Components of POLY-NORM®, type AR-BTA and AR-SBA

Component	Quantity	Description	Component	Quantity	Description
1	1	Standard hub	6	1	Setscrew DIN EN ISO 4029
1Nd	1	FN hub	7N	1	Brake drum
2	1	Elastomer ring/ DZ individual elastomers <sup>1)</sup>	15N	1	Brake disk
5	see table 2	Cap screws DIN EN ISO 4762			

1) Elastomer ring from size 38 to size 125 and DZ individual elastomers from size 140 to size 180

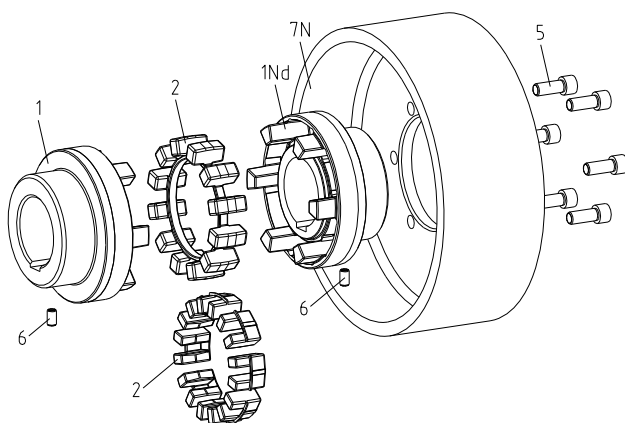


Illustration 11: POLY-NORM® AR-BTA

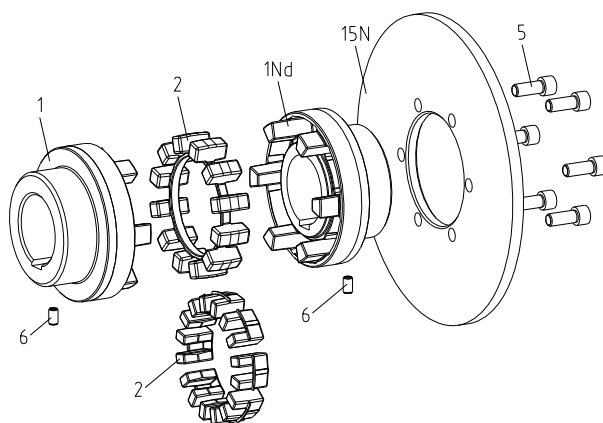


Illustration 12: POLY-NORM® AR-SBA

#### Components of POLY-NORM®, type ADR-BT and ADR-SB

Component	Quantity	Description	Component	Quantity	Description
2	1	Elastomer ring/ DZ individual elastomers <sup>1)</sup>	5	see table 5	Cap screws DIN EN ISO 4762
3D	1	Flange hub	6	1	Setscrew DIN EN ISO 4029
3N	1	Driving flange	7Nx	1	Brake drum
4D	1	Cam ring	15Nx	1	Brake disk
4Nx	1	Coupling flange			

1) Elastomer ring from size 28 to size 125 and DZ individual elastomers from size 140 to size 180

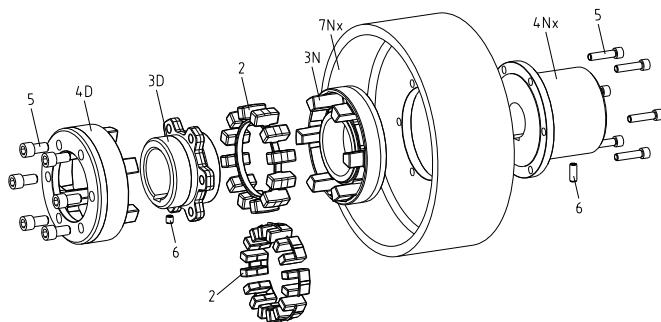


Illustration 13: POLY-NORM® ADR-BT

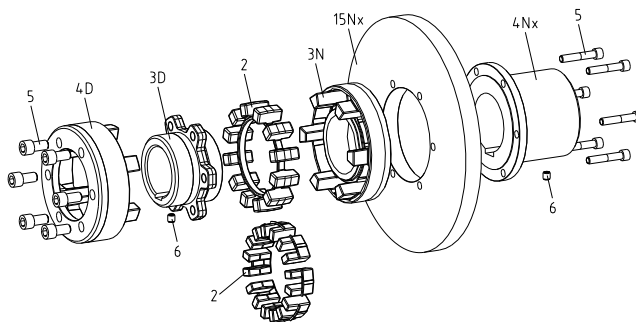


Illustration 14: POLY-NORM® ADR-SB



## 4 Assembly

### 4.1 Components of the coupling

#### Components of POLY-NORM®, type AR-BT and AR-SB

Component	Quantity	Description	Component	Quantity	Description
1	1	Standard hub	5	see table 6	Cap screws DIN EN ISO 4762
2	1	Elastomer ring/ DZ individual elastomers <sup>1)</sup>	6	1	Setscrew DIN EN ISO 4029
3N	1	Driving flange	7Nx	1	Brake drum
4Nx	1	Coupling flange	15Nx	1	Brake disk

1) Elastomer ring from size 28 to size 125 and DZ individual elastomers from size 140 to size 180

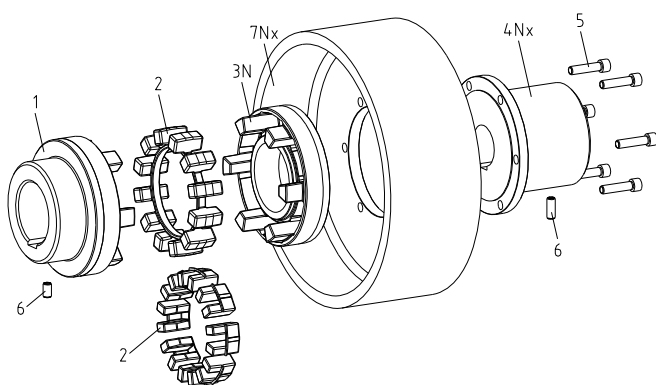


Illustration 15: POLY-NORM® AR-BT

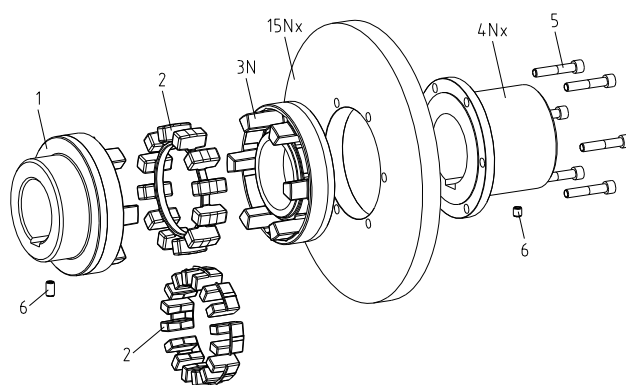



Illustration 16: POLY-NORM® AR-SB

### 4.2 Advice for finish bore

KTR supplies unbored or pilot bored coupling components and spare parts only upon explicit request of the customer. These parts are additionally labelled with the symbol .



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

Bore [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 by setscrews the tapping should be located on 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 Assembly of the coupling



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



Heating the hubs, coupling flanges or flange 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 dimension  $s$  or  $L$ , respectively (see table 1 to 6 of the different types) is observed so that the hubs are not in contact with each other during the operation.  
 Disregarding this advice may cause damage to the coupling.



Setscrews for fixing of hubs as well as all screw connections have to be locked additionally against self-loosening, e. g. glueing with Loctite (average strength).

- Please stick the flange hub (component 3D) and the cam ring (component 4D) of types ADR together (see illustration 17).
- Hand-tighten the components first. Tighten the screws at the tightening torques  $T_A$  specified in table 1 or 5 by means of a suitable torque key.
- Mount the FN hub or the driving and coupling flange to the brake drum/disk (see illustration 18 and 19).
- Hand-tighten the components first. Afterwards tighten the screws at the tightening torque  $T_A$  mentioned in table 1, 2, 5 or 6.

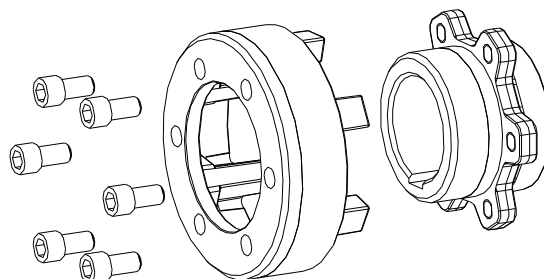


Illustration 17: Assembly of ADR hub

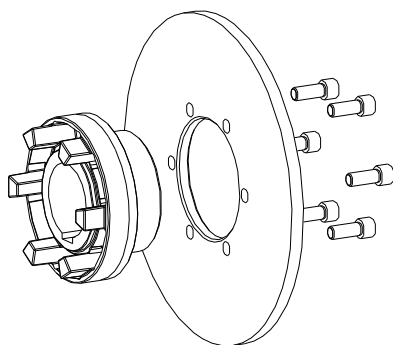


Illustration 18: Assembly of the brake disk  
 (type SBA and BTA)

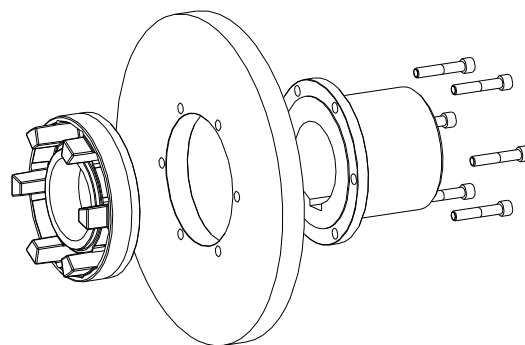


Illustration 19: Assembly of the brake disk  
 (type SB and BT)



## 4 Assembly

### 4.3 Assembly of the coupling

- Mount the standard hub or flange hub and FN hub or coupling flange with the brake drum/disk on the shaft of the driving and driven side.  
 The FN hub or coupling flange has to be installed on the shaft end on which the bigger mass moment of inertia becomes operative (see illustration 20).  
 The maximum braking torque must not exceed the maximum torque ( $T_{K\ max}$ ) of the coupling.
- Lock the standard hub or flange hub and FN hub or coupling flange by tightening the setscrews DIN EN ISO 4029 by means of a cup point (dimension G; for tightening torque see table 8) or by means of an end plate.

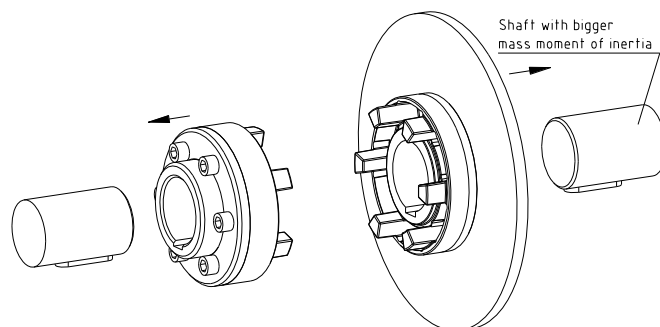


Illustration 20

**Table 8: Setscrews DIN EN ISO 4029**

Size	38	42	48	55	60	65	75	85	90	100	110	125	140	160	180
G	M8	M8	M8	M8	M8	M10	M10	M10	M12	M12	M16	M16	M20	M20	M20
T <sub>A</sub> [Nm]	10	10	10	10	10	17	17	17	40	40	80	80	140	140	140

- Insert the elastomer ring or DZ individual elastomers in the cam area of the standard hub or cam ring (see illustration 21).



**To facilitate the assembly of the elastomer ring when the power packs are already firmly assembled, we would recommend to separate the elastomer ring up to size 65 in one position between the dampers (see illustration 22).  
 From size 75 on we would recommend to separate the elastomer ring between every second damper to facilitate the assembly (see illustration 23).**

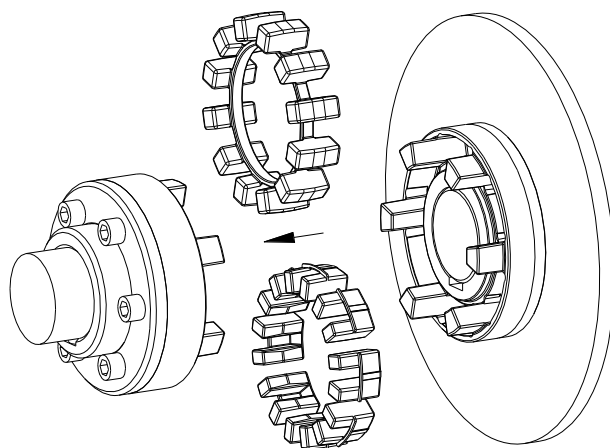


Illustration 21

- Shift the power packs in axial direction until the distance dimension s is achieved.
- If the power packs are already firmly assembled, axial movement of the standard hub or flange hub and FN hub or coupling flange on the shafts allows for adjusting the dimension s.

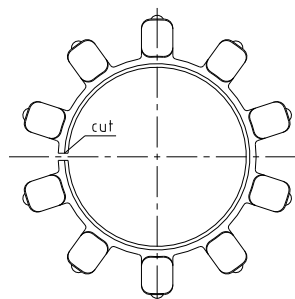


Illustration 22: Mounting aid of elastomer ring up to size 65

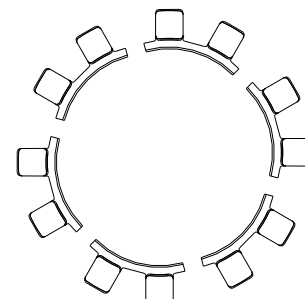


Illustration 23: Mounting aid of elastomer ring from size 75



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



## 4 Assembly

### 4.4 Displacements - alignment of the coupling

The **POLY-NORM®** compensates for displacements generated by the shafts to be combined as shown in table 9. Excessive misalignment may be generated by inaccurate alignment, production tolerances, thermal expansion, shaft deflection, twisting of machine frames, etc.

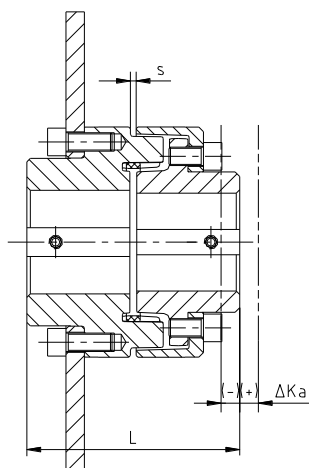


**In order to ensure a long service life of the coupling, the shaft ends have to be accurately aligned. Please absolutely observe the displacement figures specified (see table 9). If the figures are exceeded, the coupling will be damaged.**

**The more accurate the alignment of the coupling, the longer is its service life.**

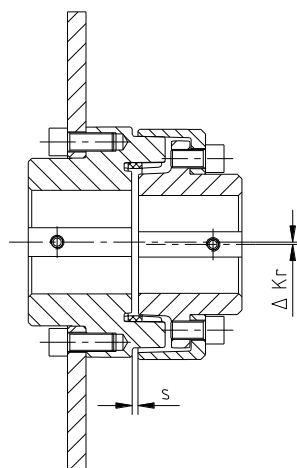
#### Please note:

- The displacement figures specified in table 9 are maximum figures which must not arise in parallel. If radial and angular displacement occurs at the same time, the sum of the displacement figures must not exceed  $\Delta K_r$  or  $\Delta K_w$ .
- Please inspect with a dial gauge, ruler or feeler gauge whether the permissible displacement figures specified in table 9 can be observed.

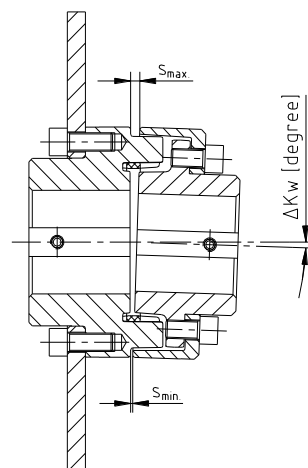


Axial displacements

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



Radial displacements



Angular displacements

$$\Delta K_w = S_{max.} - S_{min.} \text{ [mm]}$$

Illustration 24: Displacements

Examples of the displacement combinations specified in illustration 25:

Example 1:

$$\Delta K_r = 30 \%$$

$$\Delta K_w = 70 \%$$

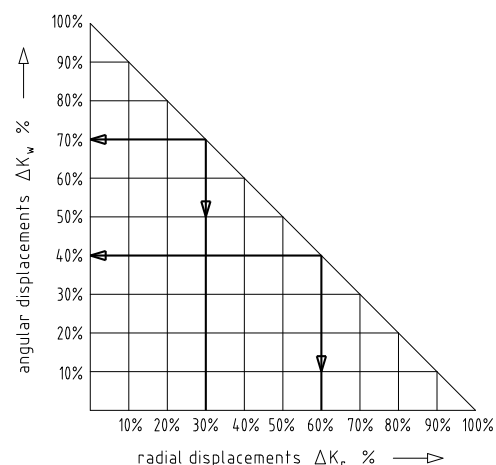
Example 2:

$$\Delta K_r = 60 \%$$

$$\Delta K_w = 40 \%$$

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

Illustration 25:  
Combinations of displacement





## 4 Assembly

### 4.4 Displacements - alignment of the coupling

**Table 9: Displacement figures**

Size	38	42	48	55	60	65	75	85
Max. axial displacement $\Delta K_a$ [mm]	±1	±1	±1.5	±1.5	±1.5	±1.5	±1.5	±1.5
Max. radial displacement with n=1500 rpm $\Delta K_r$ [mm]	0.25	0.25	0.3	0.3	0.3	0.35	0.4	0.4
Max. radial displacement with n=3000 rpm $\Delta K_r$ [mm]	0.18	0.18	0.22	0.22	0.22	0.26	0.3	0.3
Max. angular displacement (1°) with n=1500 rpm $\Delta K_w$ [mm]	1.5	1.7	1.8	2.0	2.2	2.4	2.7	3.0
Max. angular displacement (0.5°) with n=3000 rpm $\Delta K_w$ [mm]	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.5

Size	90	100	110	125	140	160	180	
Max. axial displacement $\Delta K_a$ [mm]	±1.5	±3	±3	±3	±3	±3	±3	
Max. radial displacement with n=1500 rpm $\Delta K_r$ [mm]	0.5	0.5	0.6	0.6	0.6	0.65	0.65	
Max. radial displacement with n=3000 rpm $\Delta K_r$ [mm]	0.33	0.37	0.42	0.48	0.45	0.49	0.49	
Max. angular displacement (1°) with n=1500 rpm $\Delta K_w$ [mm]	3.4	3.9	4.3	4.8	5.5	6.1	6.0	
Max. angular displacement (0.5°) with n=3000 rpm $\Delta K_w$ [mm]	1.7	1.9	2.1	2.4	2.7	3.0	3.0	

## 5 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.

## 6 Maintenance and service

**POLY-NORM®** 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 elastomer rings or DZ individual elastomers 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.**



**With the use in hazardous locations please observe chapter 10.2 Inspection intervals for couplings in  hazardous locations (see KTR-N 49510).**

Please observe protection note ISO 16016.	Drawn:	2016-06-15 Pz/At	Replacing:	KTR-N dated 2011-11-24
	Verified:	2016-12-23 Pz	Replaced by:	

 <b>KTR-Group</b>	<b>POLY-NORM®</b> <b>Operating/Assembly instructions</b> <b>Type BTA, BT, SBA and SB</b>	KTR-N 49511 EN Sheet: 16 of 16 Edition: 5
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## 7 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 the KTR partners for spare parts and orders can be obtained from the KTR homepage at [www.ktr.com](http://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.**

## 8 Advice for the use in hazardous locations according to directive 2014/34/EU

Before you provide for the **POLY-NORM®** coupling with attachments according to directive 2014/34/EU for the -applications please contact KTR. In addition to  applications the assembly instructions according to KTR-N 49510 need to be considered.

Please observe protection note ISO 16016.	Drawn: 2016-06-15 Pz/At Verified: 2016-12-23 Pz	Replacing: KTR-N dated 2011-11-24 Replaced by:
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