



Cross section of KTR products

Couplings

Torque Limiters

Clamping Elements

Hydraulic Components

Hydraulic Brakes

Torque measuring shafts

Made for Motion





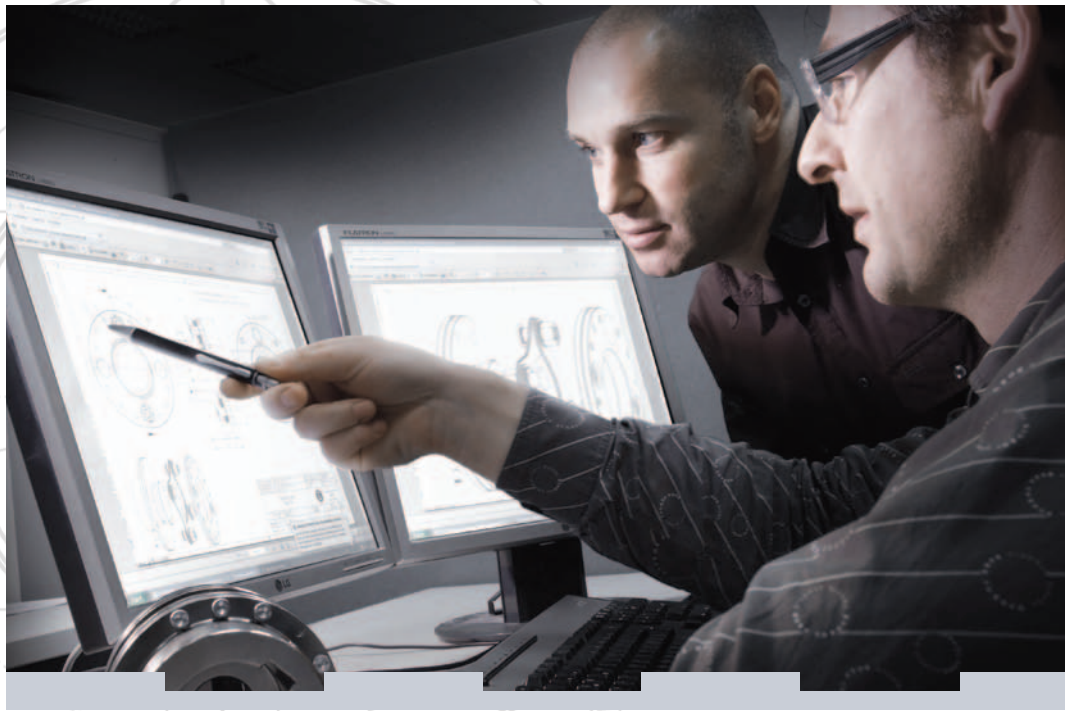
We move the world: KTR

Competence meets creativity

As a leading manufacturer of high-quality drive and brake components as well as hydraulic components, KTR supplies mechanical couplings, clamping sets, torque limiters, measuring systems, hydraulic components and high-power brakes all over the world. With more than 50 years experience in power transmission we are trendsetters in the development of coupling technology and offer customised solutions to all industries. The KTR trademark characterises quality and innovation, speed, reliability, flexibility and a close working relationship with customers.

Having started with the curved-tooth gear coupling BoWex® and the torsionally flexible jaw coupling ROTEX®, KTR has built up an extensive product portfolio covering torques from 0,1 up to 1.000.000 Nm. The production by KTR's in-house, up-to-date machinery ensures that the couplings are made to the utmost accuracy. The couplings having a unit weight of up to 2 tons or more. Flexible automation ensures a quick and low-cost production even if the product has to be customised to meet customers individual specifications. KTR produce several million couplings a year.

Even though KTR's standard product portfolio is quite extensive, it only represents a fraction of the different options available. KTR is not only a subcontractor but also a solution provider. The knowledge gained from thousands of applications in the field allows us to find optimum, low-cost solutions for customised applications. We will consult you during the planning stage providing drawings and prototypes or arranging for local discussions if required. Every year KTR produces more than 10.000 new products ordered by customers. This trend increases year on year. This leads to many special products becoming standard items: We permanently give vital ideas to the Power Transmission technology – in cooperation with our customers.



Accuracy meets speed

KTR products are evidence of well-designed, quality components resulting in improved characteristics of the drive or brake system and as a consequence, a longer service life of machines. It is our aim to continually improve the quality of our products and services. We can analyse the stiffness of components by utilising FEM (Finite Element Method) systems and we can also perform torsional vibration calculations for entire drive systems. In our in-house Research and Development Centre we test our products on accurate test benches in realistic operating conditions. Our main objective is to provide you with the uppermost satisfaction.

Our technical sales engineers and our well-trained sales staff will be pleased to give you advice. KTR provides you with extensive services online, too: At www.ktr.com you can request information, including our product catalogue, 3D-CAD-models and assembly instructions. For standard applications you can select your drive component from more than 3.500 standard products. Having selected which one is the right component for your application by using our online calculation program, you are now in a position to order the products by contacting your nearest KTR company. Alternatively our KTR Shop is open 24 hours a day.

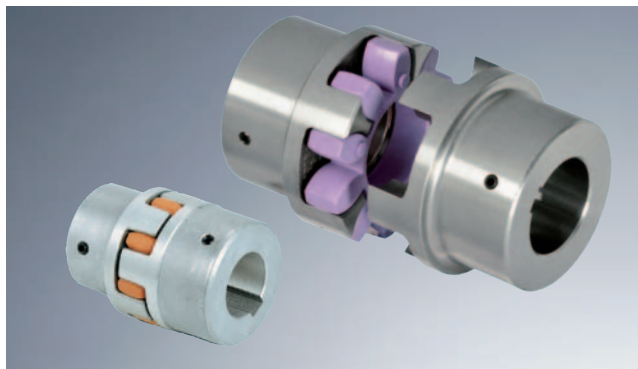
Our latest scheduling system SAP ERP ensures an optimum networking with our customers and allows for a quick and reliable delivery service. A selection of 3.500 couplings and hydraulic components are permanently available from stock. For orders placed by 2:00 pm we guarantee the despatch of orders the same day! In the KTR Logistics Centre the overall flow of goods is supervised by radio-controlled barcode scanning. Leading distribution partners ensure delivery on time. Our tracking and tracing system allows you to follow the progress of your order at all times. KTR supplies to every location in the world.

For further details about us and our products: www.ktr.com



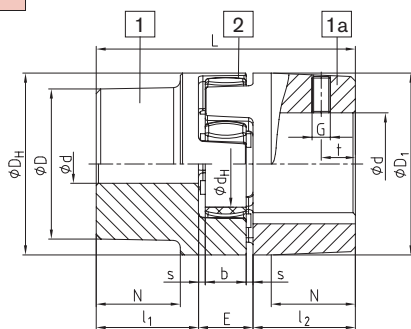
ROTEX® Torsionally flexible coupling	5-9
POLY-NORM® Torsionally flexible coupling	10-11
REVOLEX® KX Torsionally flexible pin & bush coupling	12-13
POLY Torsionally flexible, not fail-safe coupling	14-15
BoWex® Curved-tooth gear coupling	16-17
BoWex® FLE-PA Torsionally rigid flange coupling	18-19
BoWex-ELASTIC® Torsionally flexible flange coupling	20-21
MONOLASTIC® One-piece, flexible flange coupling	22-23
GEARex® All-steel gear coupling	24-25
RADEX®-N Steel lamina coupling	26-27
RIGIFLEX® Steel lamina coupling	28-29
ROTEX® GS Backlash-free shaft coupling	30-31
TOOLFLEX® Metall bellow-type coupling	32-33
RADEX®-NC Servo lamina coupling	34
COUNTEX® Backlash-free shaft encoder coupling	35
MINEX®-S Magnet coupling	36-37
RUFLEX® Torque limiter	38-39
KTR-SI® Safety clutch	40-41
SYNTEX® Backlash-free overload system	42-43
SYNTEX®-NC Backlash-free overload system	44-45
CLAMPEX® Shaft-hub-connection	46-49
DATAFLEX® Torque measuring shaft	50-51
Hydraulik-Komponenten Bellhousing, tanks, thermo management	52-61
KTR-STOP® Hydraulic braken	62-65

Shaft coupling type No. 001 - casted materials -

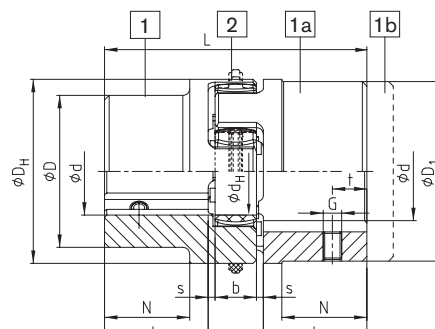


- Torsionally flexible, maintenance-free
- Damping vibrations
- Axial plug-in, Fail-safe
- Machined alloy – good dynamic properties
- Compact design/low flywheel effect
- Finish bore acc. to ISO fit H7, feather keyway acc. to DIN 6885 sheet 1 - JS9
- Approved according to EC Standard 94/9/EC (except for aluminium AL-D)
- Mounting instructions at www.ktr.com

Components



AL-D (thread opposite to the keyway)



GJL / GJS (thread on the keyway)

ROTEX® Aluminium diecast (AL-D)

Size	Compo- nent	Spider (part 2) ¹⁾ Rated torque [Nm]			Finish bore d (min- max)	Dimensions [mm]												Thread for setscrew		
		92 Sh-A	98 Sh-A	64 Sh-D		General														
						L	I ₁ ; I ₂	E	b	s	D _H	d _H	D; D ₁	N	G	t	TA [Nm]			
14 ²⁾	1a	7,5	12,5	—	6-16	35	11	13	10	1,5	30	10	30	—	M4	5	1,5			
19	1	10	17	—	6-19	66	25	16	12	2	41	18	32	20	M5	10	2			
	19-24				41															
24	1	35	60	—	9-24	78	30	18	14	2	56	27	40	24	M5	10	2			
	1a				22-28								56							
28	1	95	160	—	10-28	90	35	20	15	2,5	66	30	48	28	M8	15	10			
	1a				28-38								66							

ROTEX® Cast iron (GJL)

38	1				12-40								66	37					
	1a	190	325	405	38-48	114	45	24	18	3	80	38	78		M8	15	10		
	1b				12-48	164	70							62					
	1				14-45	126	50						75	40					
42	1a	265	450	560	42-55			26	20	3	95	46	94		M8	20	10		
	1b				14-55	176	75							65					
	1				15-52								85	45					
48	1a	310	525	655	48-62	140	56	28	21	3,5	105	51	104		M8	20	10		
	1b				15-62	188	80							69					
	1				20-60								98	52					
55	1a	410	685	825	55-74	160	65	30	22	4	120	60	118		M10	20	17		
65	1	625	940	1175	22-70	185	75	35	26	4,5	135	68	115	61	M10	20	17		
75	1	1280	1920	2400	30-80	210	85	40	30	5	160	80	135	69	M10	25	17		
90	1	2400	3600	4500	40-97	245	100	45	34	5,5	200	100	160	81	M12	30	40		

ROTEX® Nodular iron (GJS)

100	1	3300	4950	6185	50-115	270	110	50	38	6	225	113	180	89	M12	30	40		
110	1	4800	7200	9000	60-125	295	120	55	42	6,5	255	127	200	96	M16	35	80		
125	1	6650	10000	12500	60-145	340	140	60	46	7	290	147	230	112	M16	40	80		
140	1	8550	12800	16000	60-160	375	155	65	50	7,5	320	165	255	124	M20	45	140		
160	1	12800	19200	24000	80-185	425	175	75	57	9	370	190	290	140	M20	50	140		
180	1	18650	28000	35000	85-200	475	195	85	64	10,5	420	220	325	156	M20	50	140		

■ = If no material is mentioned in the order, the material is stipulated with the calculation/order.

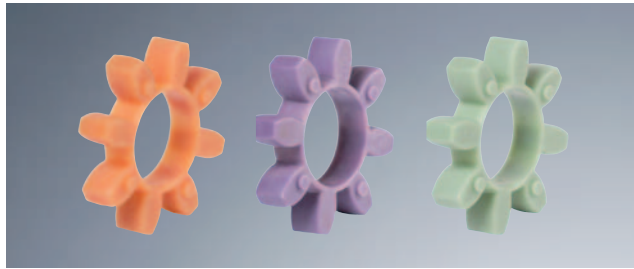
¹⁾ Maximum torque of the coupling T_{Kmax} = rated torque of the coupling T_{KNom} x 2. For selection see company catalogue.

²⁾ Material AL-H.

Ordering example:

ROTEX® 38	GJL	92 Sh-A	1a	Ø 45	1	Ø 25
Coupling size	Material	Spider hardness	Component	Finish bore	Component	Finish bore

ROTEX® spiders – new spider material T-PUR®



We have developed a new standard material for our spiders. The upgraded polyurethane material, T-PUR®, is significantly more temperature-resistant and has a longer service life than the previous polyurethane material. From the visual point of view we have characterized T-PUR® by the colours orange (92 Shore-A), purple (98 Shore-A) and pale green (64 Shore-D).

Summary of spiders

Summary of spiders					
Colour	Description of Shore hardness	Material	Perm. temperature range (°C)		Properties
			Perm. temperature	Short-term temp.	
	92 Sh-A (T-PUR®)	T-PUR®	-50 °C to 120 °C	-50 °C to 150 °C	– significantly higher service life expectancy – very good temperature resistance – improved vibration damping – good damping, average flexibility
	98 Sh-A (T-PUR®)	T-PUR®	-50 °C to 120 °C	-50 °C to 150 °C	– significantly higher service life expectancy – very good temperature resistance – improved vibration damping – transmission of high torques with average damping
	64 Sh-D (T-PUR®)	T-PUR®	-50 °C to 120 °C	-50 °C to 150 °C	– significantly higher service life expectancy – very good temperature resistance – improved vibration damping – transmission of very high torques with low damping
	92 Sh-A	Polyurethane (PUR)	-40 °C to 90 °C	-50 °C to 120 °C	– good damping, average flexibility
	98 Sh-A	Polyurethane (PUR)	-30 °C to 90 °C	-40 °C to 120 °C	– transmission of high torques with average damping
	PA ¹⁾	Polyamide	-20 °C to 130 °C ¹⁾	-30 °C to 150 °C ¹⁾	– small twisting angle and high torsion spring stiffness – transmission of very high torques with very low damping – very good to good resistance to chemicals ¹⁾ – high restoring forces with displacements
	PEEK	Polyetheretherketon	up to +180 °C (ATEX up to +160 °C)	up to +250 °C	– small twisting angle and high torsion spring stiffness – transmission of very high torques with very low damping – resistant to high temperatures – good resistance to chemicals – resistant to hydrolysis – high restoring forces with displacements

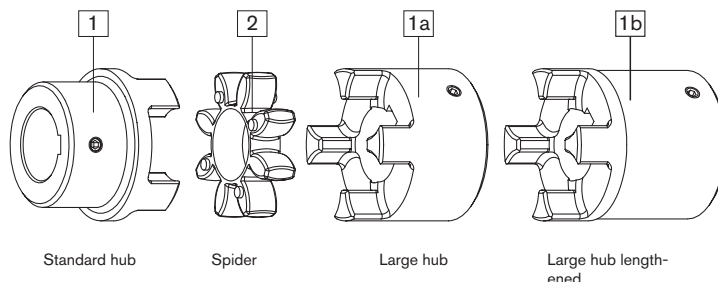
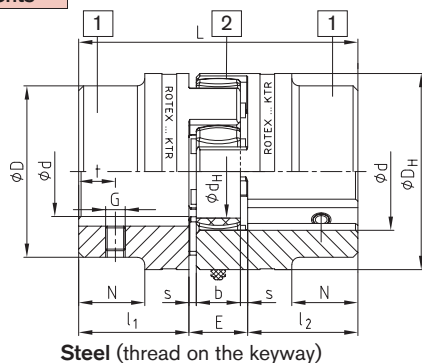
¹⁾ different properties depending on compound

Shaft coupling type No. 001 - material steel -



- Hubs made of steel, specifically suitable for drive elements subject to high loads, e. g. steel mills, elevator drives, spline hubs, etc.
- Torsionally flexible, maintenance-free, damping vibrations
- Axial plug-in, Fail-safe
- Machined allover – good dynamic properties
- Compact design/low flywheel effect
- Finish bore acc. to ISO fit H7, feather keyway acc. to DIN 6885 sheet 1 - JS9
- Approved according to EC Standard 94/9/EC
- Mounting instructions at www.ktr.com

Compenents



ROTEX® Steel (St)																			
Size	Component	Spider (part 2) rated torque [Nm]			Finish bore d (min-max)	Dimensions [mm]											Thread for setscrew		
						General													
		92 Sh-A	98 Sh-A	64 Sh-D		L	l ₁ l ₂	E	b	s	D _H	d _H	D	N	G	t	T _A [Nm]		
14	1a	7,5	12,5	16	0-16	35	11	13	10	1,5	30	10	30	—	M4	5	1,5		
	1b					50	18,5												
19	1a	10	17	21	0-25	66	25	16	12	2	40	18	40	—	M5	10	2		
	1b					90	37												
24	1a	35	60	75	0-35	78	30	18	14	2	55	27	55	—	M5	10	2		
	1b					118	50												
28	1a	95	160	200	0-40	90	35	20	15	2,5	65	30	65	—	M8	15	10		
	1b					140	60												
38	1	190	325	405	0-48	114	45	24	18	3	80	38	70	27	M8	15	10		
	1b					164	70						80	—					
42	1	265	450	560	0-55	126	50	26	20	3	95	46	85	28	M8	20	10		
	1b					176	75						95	—					
48	1	310	525	655	0-62	140	56	28	21	3,5	105	51	95	32	M8	20	10		
	1b					188	80						105	—					
55	1	410	685	825	0-74	160	65	30	22	4	120	60	110	37	M10	20	17		
	1b					210	90						120	—					
65	1	625	940	1175	0-80	185	75	35	26	4,5	135	68	115	47	M10	20	17		
	1b					235	100						135	—					
75	1	1280	1920	2400	0-95	210	85	40	30	5	160	80	135	53	M10	25	17		
	1b					260	110						160	—					
90	1	2400	3600	4500	0-110	245	100	45	34	5,5	200	100	160	62	M12	30	40		
	1b					295	125						200	—					

ROTEX® Powder metal steel																		
Size	Component	Spider (part 2) ¹⁾ rated torque [Nm]		Finish bore d	Dimensions [mm]											Thread for setscrew		
					General													
		92 Sh-A	98 Sh-A		L	l ₁ ; l ₂	E	b	s	D _H	d _H	D	N	G	T _A [Nm]			
14	1a	7,5	12,5	unbored, 8, 10, 11, 12, 14, 15, 16	35	11	13	10	1,5	30	10	30	-	M4	5	1,5		
19	1a	10	17	unbored, 14, 16, 19, 20, 22, 24	66	25	16	12	2	40	18	40	-	M5	10	2		

■ = If no material is mentioned in the order, the material is stipulated with the calculation/order.

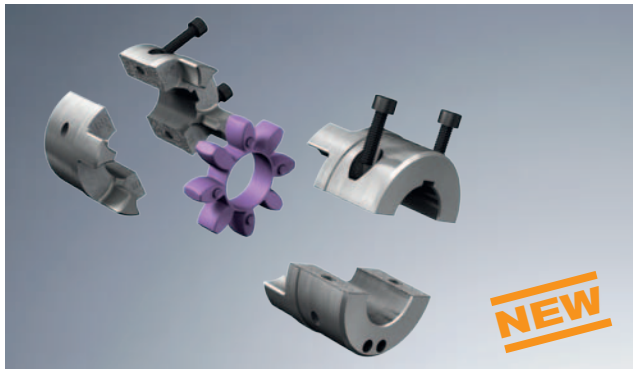
¹⁾ Maximum torque of the coupling T_{Kmax} = rated torque of the coupling T_{KNorm} x 2. For selection see company catalogue.

ROTEX® 19 – 48 auch in Edelstahl ab Lager lieferbar

- ROTEX® 19, 28 and 42 – hub material X10CrNiS 18-9 material number 1.4305 (V2A) DIN 17440
- ROTEX® 24, 38 and 48 – hub material X6CrNiMoTi 17-12-2 material number 1.4571 (V4A) DIN 17440

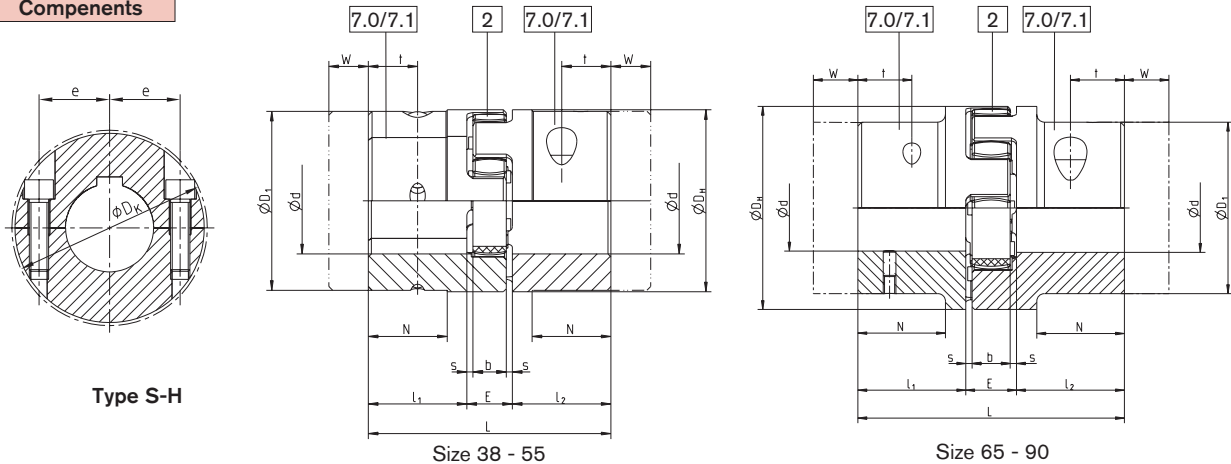
Ordering example:	ROTEX® 38		St		92 Sh-A		1a – Ø 45		1 – Ø 25	
	Coupling size		Material		Spider hardness		Component	Finish bore	Component	Finish bore

Drop-out center design coupling type S-H with SPLIT hubs

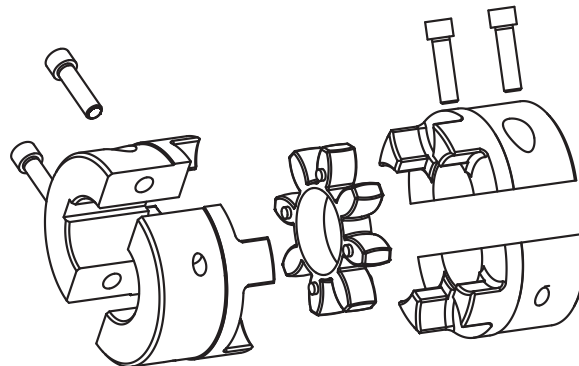


- Type S-H with SPLIT hubs
- Easy assembly/disassembly by means of 4-off screws
- Centering of both halves of the hubs through the fracture surface
- There is no need to displace the power packs for assembly
- Material cast iron
- Torsionally flexible and maintenance-free
- Specifically suitable for tight mounting spaces
- Finish bore according to ISO tolerance H7, feather keyway acc. to DIN 6885 sheet1 - JS9
- Approved according to EC standard 94/9/EC (type 7.0 SPLIT hubs without feather key according to category 3)

Components



ROTEX® Type S-H																
Size	Finish bore Ød [mm]		Dimensions [mm]												Cap screws to DIN EN ISO 4762	
	minimum	maximum	L	l ₁ ; l ₂	E	b	s	D _H	D _I	D _K	N	W	e	t	Mxl	Tightening torque T _A [Nm]
38	24	45	114	45	24	18	3	80	78	83,5	37	21	3	22,5	M8x30	35
42	24	55	126	50	26	20	3	95	94	97	40	23	3	25	M10x30	69
48	24	55	140	56	28	21	3,5	105	104	108,5	45	24,5	3,5	28	M12x35	120
55	24	65	160	65	30	22	4	120	118	122	52	26	4	32,5	M12x40	120
65 ¹⁾	40	70	185	75	35	26	4,5	135	115	132,5	61	30,5	4,5	37,5	M12x40	120
75 ¹⁾	40	80	210	85	40	30	5	160	135	158	69	35	5	42,5	M16x50	295
90 ¹⁾	40	90	245	100	45	34	5,5	200	160	197	81	39,5	5,5	50	M20x60	580



7.0= SPLIT hub without feather key
7.1= SPLIT hub with feather key

¹⁾ sizes on request

Ordering example:

ROTEX® 38	S-H	98 Sh-A	7.1	Ø 38	7.1	Ø30
Coupling size	Type	Spider hardness	Hub design	Finish bore	Hub design	Finish bore

Clamping ring hubs



- Torsionally flexible shaft coupling with integrated clamping system
- Smooth running, application up to a peripheral speed of 0 m/s
- For high friction torques (please consider the selection with application in explosive areas)
- Easy to assemble due to internal clamping screws
- Finish bore up to Ø 50 mm acc. to ISO fit H7, from Ø 55 mm acc. to ISO fit G7
- Approved according to EC standard 94/9/EC

Double cardanic shaft coupling type DKM



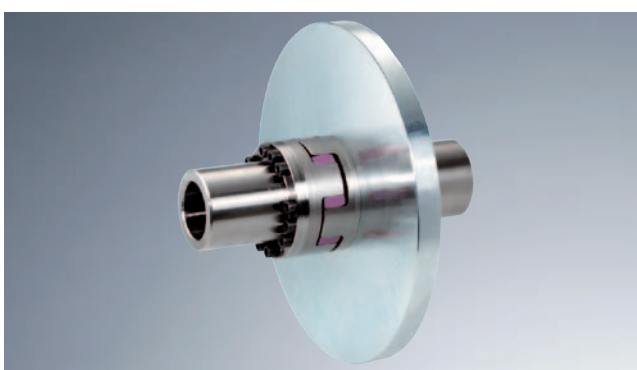
- For big shaft displacements, 3-parted, double-cardanic
- Reduced vibration and noise
- The double-cardanic design allows for big shaft displacements with low restoring forces
- Increase of the overall service life of all adjacent components (bearings, seals etc.)
- Approved acc. to EC Standard 94/9/EC
- Mounting instructions at www.ktr.com
- Double-cardanic couplings without bearing require a protection for coupling

Double cardanic shaft coupling type ZS-DKM-H



- Standard spacers up to 250 mm shaft distance dimension – from stock
- Assembly/disassembly by means of 4 screws only
- Compensates for high shaft displacements due to double-cardanic design
- Remains torsionally symmetric in case of shaft displacements
- Damping vibrations/reducing noise
- Low restoring forces → Increase of the overall service life of all adjacent components (bearing, seals, etc.)
- Approved according to EC standard 94/9/EC (type 7.6 marked at stock, type 7.5 shell clamping hub without feather key according to category 3)

Type AFN-SB special with brake disk



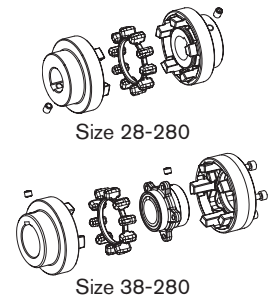
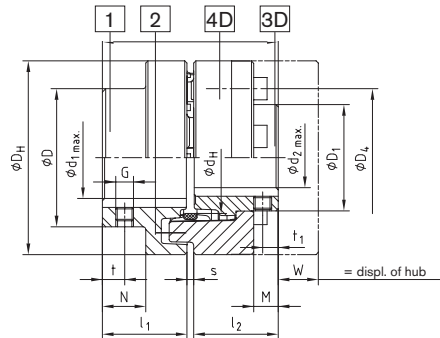
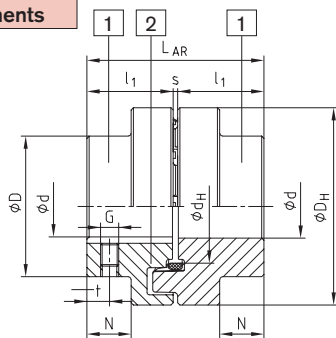
- Shaft coupling AFN-SB special with disk brake for braking calipers
- Brake disk and spider can be replaced while being assembled
- The disk brake has to be placed onto the shaft end with the biggest mass moment of inertia
- The maximum braking torque must not exceed the maximum torque of the coupling
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Mounting instructions at www.ktr.com

Type AR and ADR (3 pieces)



- Torsionally flexible, reduces vibrations
- Elastomer ring can be replaced while being mounted (ADR)
- Fail-safe
- Short design (ADR)
- Maintenance-free
- Very short design
- Axial plug-in
- According to DIN 740
- Approved according to EC standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com

Components



Elastomer ring (up to size 180: NBR 78 Sh-A;
from size 200: T-PUR® 84 Sh-A)

POLY-NORM® Type AR/ADR

Size	Elastomer ring (part 2) ¹⁾		Max. finish bore ϕd		Dimensions [mm]										Thread for setscrews		
	T_{KN}	T_{Kmax}	d/d_1	d_2	L_{AR}/L_{ADR}	l_1/l_2	s	D_H	M	d_H	W	G	t	t_1	T_A		
28	40	80	30	-	59	28	3	69	-	36,5	-	M5	7	-	-		
32	60	120	35	-	68	32	4	78	-	41,5	-	M8	7	-	-		
38	90	180	40	34	80	38	4	87	11,0	50	12	M8	10	7	10		
42	150	300	45	38	88	42	4	96	12,0	55,5	16	M8	10	7	10		
48	220	440	50	44	101	48	5	106	13,7	64	16	M8	15	7	10		
55	300	600	60	50	115	55	5	118	18,7	73	15	M8	14	14	10		
60	410	820	65	56	125	60	5	129	22,2	81	14	M8	15	15	10		
65	550	1100	70	60	135	65	5	140	26,7	86	11	M10	20	20	17		
75	850	1700	80	68	155	75	5	158	27,8	100	16	M10	20	20	17		
85	1350	2700	90	78	175	85	5	182	33,7	116	18	M10	25	25	17		
90	2000	4000	95	85	185	90	5	200	31,5	128	26	M12	25	25	40		
100	2900	5800	110	95	206	100	6	224	37,5	143	28	M12	25	25	40		
110	3900	7800	50-120	105	226	110	6	250	39,5	158	30	M16	30	30	80		
125	5500	11000	55-140	115	256	125	6	280	48,0	178	35	M16	35	35	80		
140	7200	14400	65-155	55-135	286	140	6	315	47,0	216	59	M20	35	35	140		
160	10000	20000	75-175	65-155	326	160	6	350	65,0	246	43	M20	45	45	140		
180	13400	26800	75-200	65-175	366	180	6	400	79,0	290	33	M20	50	50	140		
NEW 200	19000	38000	85-200	200	408	200	8	450	95,0	-	7	M24	50	50	240		
NEW 220	30000	60000	95-220	220	448	220	8	500	103	-	8	M24	50	50	240		
NEW 240	43000	86000	105-240	240	488	240	8	550	119	-	1	M24	50	50	240		
NEW 260	55000	110000	115-260	260	530	260	10	650	109	-	34	M24	60	60	240		
NEW 280	67000	134000	125-280	280	570	280	10	700	109	-	29	M24	60	60	240		

¹⁾ Standard material Perbunan (NBR) 78 Shore-A, size 140-280 double tooth elastomers,
Bore H7 with keyway DIN 6885 sheet 1 [JS9] and thread for setscrews on the feather keyway.

POLY-NORM® Bauart ADR – Classification of cap screws DIN EN ISO 4762–12.9

Size	M x l [mm]	Number z	Pitch z x angle	D_4 [mm]	T_A [Nm] ³⁾	Size	M x l [mm]	Number z	Pitch z x angle	D_4 [mm]	T_A [Nm] ³⁾
38	M6x16	5	5x72	62	10	110	M16x40	8	8x45	183	210
42	M8x16	5	5x72	69	25	125	M20x40	8	8x45	202	410
48	M8x20	6	6x60	78	25	140	M20x50	8	8x45	237	410
55	M8x20	6	6x60	88	25	160	M20x55	9	9x40	267	410
60	M8x20	6	6x60	98	25	180	M20x60	10	10x36	304	410
65	M10x20	6	6x60	104	49	200	M20x60	10	10x36	342	580
75	M10x25	6	6x60	120	49	220	M24x70	10	10x36	378	1000
85	M12x25	6	6x60	138	86	240	M27x70	10	10x36	412	1500
90	M16x30	6	6x60	149	210	260	M30x90	10	10x36	480	2000
100	M16x30	6	6x60	163	210	280	M30x90	10	10x36	520	2000

³⁾ Screw tightening torques acc. to 8.8

Ordering example:

POLY-NORM® 65	ADR	$d_1 = \phi 55$	$d_2 = \phi 60$
Coupling size	Type	Finish bore	Finish bore d

POLY-NORM®

Torsionally flexible coupling

Miscellaneous types

Compenents

Technical drawing of the POLY-NORM taper clamping bush components. The drawing shows two views: TB1 (Cam-sided screwing) and TB2 (Collar-sided screwing). The dimensions are as follows:

- Outer Diameter:** ϕD_H (total height), ϕD (base diameter).
- Inner Diameter:** ϕd_1 (top), ϕd_2 (bottom).
- Length:** L (total), l_1 (top section), l_2 (bottom section).
- Screw Dimensions:** N (screw length), S (screw pitch).

POLY-NORM® for taper clamping bush

Size	Taper clamping bush	Dimensions [mm]		Fastening screws ¹⁾ for taper clamping bush				Size	Taper clamping bush	Dimensions [mm]		Fastening screws ¹⁾ for taper clamping bush			
		max. d ₁ , d ₂	l ₁ , l ₂	Size [Inch]	Length [mm]	SW [mm]	T _A [Nm]			max. d ₁ , d ₂	l ₁ , l ₂	Size [Inch]	Length [mm]	SW [mm]	T _A [Nm]
32	1108	25	25,5	1/4"	13	3	5,7	75	2517	60	52,5	1/2"	25	6	49
42	1210	32	31,0	3/8"	16	5	20	85	2517	60	46,5	1/2"	25	6	49
48	1610	40	30,0	3/16"	16	5	20	90	3030	75	82	5/8"	32	8	90
	1615	40	42,5	3/8"	16	5	20		3020	75	52,0	5/8"	32	8	92
60	2012	50	38,5	7/16"	22	6	31	100	3535	90	98,0	1/2"	38	10	115
65	2517	60	62,5	1/2"	25	6	49	125	4040	100	111,5	5/8"	45	12	172

¹⁾ 2 fastening screws except for 3535/4040 3 fixing screws.

Coupling design TB1 Cam-sided screwing - TB2 Collar-sided screwing

Combination possible! Please order our separate data sheet M407045.

Type BTA and SBA with brake drum/brake disk for brake stop



- Shaft coupling POLY-NORM® ADR-BTA with brake drum to be mounted to external drum brakes with double shoes according to DIN 15431/15435
- Shaft coupling POLY-NORM® ADR-SBA with disk for braking calipers
- Each coupling type to be combined with various sizes of brake drum disks
- The brake drum or brake disk has to be placed onto the shaft end with the biggest mass moment of inertia
- Finish bore according to ISO tolerance H7, feather key according to DIN 6885 sheet 1 - JS9

Type ADR-SB with brake disk for brake stop



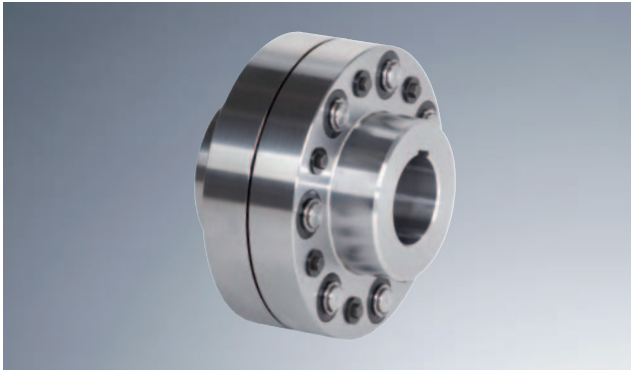
- Shaft coupling POLY-NORM® ADR-SB with disk for brake callipers
- Each coupling type to be combined with various diameters of brake disks
- Elastomer ring, driving flange and brake disk can be replaced while being assembled
- The brake disk has to be placed onto the shaft end with the biggest mass moment of inertia
- Finish bore according to ISO tolerance H7, feather key according to DIN 6885 sheet 1 - JS9

Type AZR



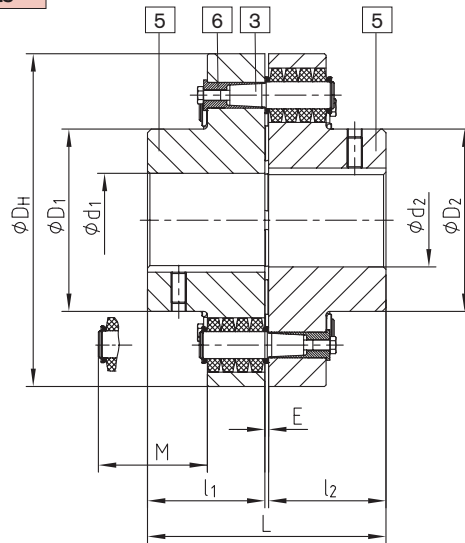
- Bridging large shaft gaps with (standard) spacers
- Allows to replace the elastomer with no need to disassemble the driving and driven machine
- No movement of driver and driven components is necessary for disassembly of pump thrust bearing
- Customized types available (AZVR)
-  Approved according to EC standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com

Bauart KX-D – Werkstoff Stahl / GJL

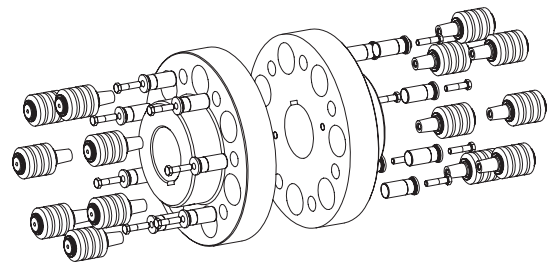


- Damping vibrations, short design
- Radial assembly/disassembly
- Axial plug-in, Fail-safe
- All-over machining → good dynamic properties
- Nabenwerkstoff GJL
- Hub material steel, specifically suitable for drive elements subject to high loads or high circumferential speeds
- Pins are arranged alternately
- Increase of transmittable torque by up to 40 % compared to REVOLEX® KX
- -Schutz beurteilt und bestätigt nach EG-Richtlinie 94/9/EG

Components



Hub material GJL available in sizes 105 - 370
Größen 105 - 330 erhältlich
Nabenwerkstoff Stahl in den
Größen 75 - 650 erhältlich



Components
Type KX-D
5 = Hub part 5
3 = Pins complete
6 = KX-D sleeve (hardened and corrosion-resistant)

REVOLEX® KX-D Steel - GJL

Size	Torque ¹⁾ [Nm]		Max. speed [rpm]	Finish bore [min. - max.] d ₁ ; d ₂	Dimensions [mm]					
	T _{KN}	TKmax.			L	l ₁ ; l ₂	E	D _H	D ₁ ; D ₂	M*
KX-D 75	3800	7600	4500	0-90	193	95	3	255	136	76
KX-D 85	5000	10000	4175	0-100	213	105	3	274	152	76
KX-D 95	6600	13200	3825	0-110	227	112	3	298	168	76
KX-D 105	8650	17300	3475	0-120	237	117	3	330	180	76
KX-D 120	14110	28220	3100	0-140	270	132	6	370	206	100
KX-D 135	18690	37380	2725	70-160	300	147	6	419	230	100
KX-D 150	23100	46200	2500	82-185	336	165	6	457	256	100
KX-D 170	36900	73800	2150	95-220	382	188	6	533	292	130
KX-D 190	48210	96420	1900	110-245	428	211	6	597	330	130
KX-D 215	61900	123800	1725	125-275	480	237	6	660	368	130
KX-D 240	92030	184060	1550	140-310	534	264	6	737	407	170
KX-D 265	121900	243800	1375	160-350	590	292	6	826	457	170
KX-D 280	158800	317600	1225	180-385	628	311	6	927	508	170
KX-D 305	191060	382120	1150	180-405	654	324	6	991	533	170
KX-D 330	251200	502400	1075	200-435	666	330	6	1067	572	170
KX-D 355	299100	598200	975	225-465	718	356	6	1156	610	170
KX-D 370	377800	755600	900	225-550	770	382	6	1250	720	170
KX-D 470	510000	1020000	870	240-470 ⁴⁾	969 ⁴⁾	480 ⁴⁾	9	1340	705 ⁴⁾	220
KX-D 520	715000	1430000	760	240-520 ⁴⁾	1089 ⁴⁾	540 ⁴⁾	9	1540	780 ⁴⁾	220
KX-D 590	950000	1900000	680	260-590 ⁴⁾	1212 ⁴⁾	600 ⁴⁾	12	1735	885 ⁴⁾	220
KX-D 650	1220000	2440000	610	280-650 ⁴⁾	1332 ⁴⁾	660 ⁴⁾	12	1935	975 ⁴⁾	220

* Drop-out center dimension required
Standard material NBR 80 Shore A

²⁾ Higher speeds on request

⁴⁾ Variable according to customer's requests

Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.

Kupplung auf Wunsch dynamisch gewuchtet (Halbkeilwuchtung G6,3; Drehzahl nach Kundenvorgabe). Für Umfangsgeschwindigkeiten über 30 m/s dyn. Auswuchten empfehlenswert.

Ordering example:

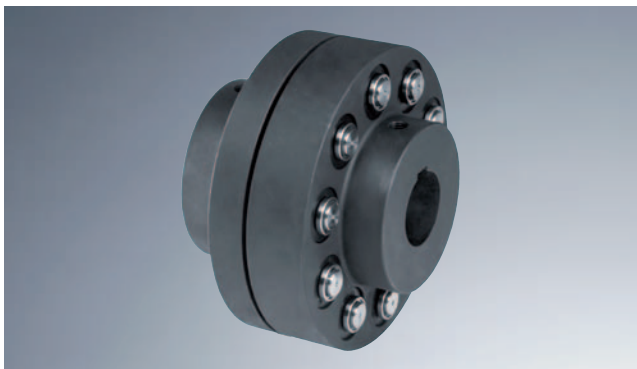
REVOLEX® KX-D 170	Steel	Ø120	Ø150
Size and type of coupling	Material	Finish bore	Finish bore

REVOLEX® KX

Torsionally flexible pin & bush coupling

Miscellaneous types

Type KX – casted material –



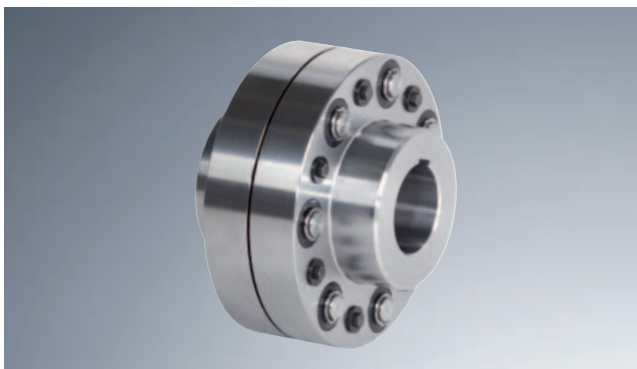
- Damping vibrations, short design
- Radial assembly/disassembly
- Axial plug-in, Fail-safe
- All-over machining → good dynamic properties
- Protected surfaces
- Standard hub material GJL (GJS or steel available on request)
- Approved according to EC standard 94/9/EC

Type KX-D – casted material –



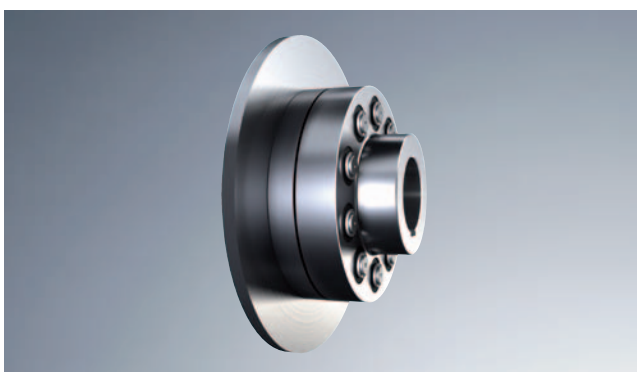
- Damping vibrations, short design
- Radial assembly/disassembly
- Axial plug-in, Fail-safe
- All-over machining → good dynamic properties
- Standard hub material GJL (GJS on request)
- Pins are arranged alternately
- Increase of transmittable torque by up to 40 % compared to REVOLEX® KX
- Approved according to EC standard 94/9/EC

Type KX-D – material steel



- Damping vibrations, short design
- Radial assembly/disassembly
- Axial plug-in, Fail-safe
- All-over machining good dynamic properties
- Hub material steel, specifically suitable for drive elements subject to high loads or high circumferential speeds
- Pins are arranged alternately
- Increase of transmittable torque by up to 40 % compared to REVOLEX® KX
- Approved according to EC standard 94/9/EC

Type KX and KX-D with disk brake



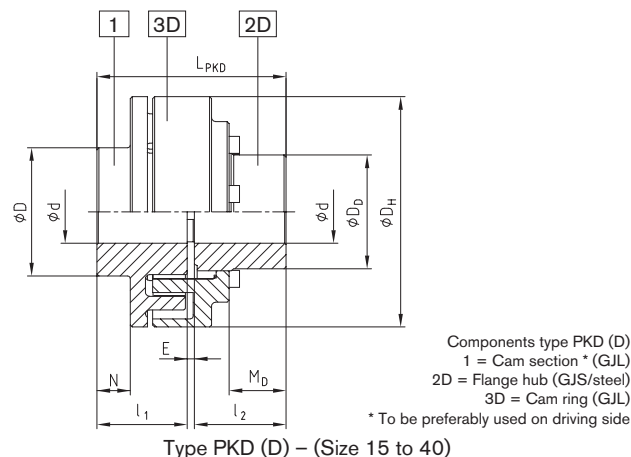
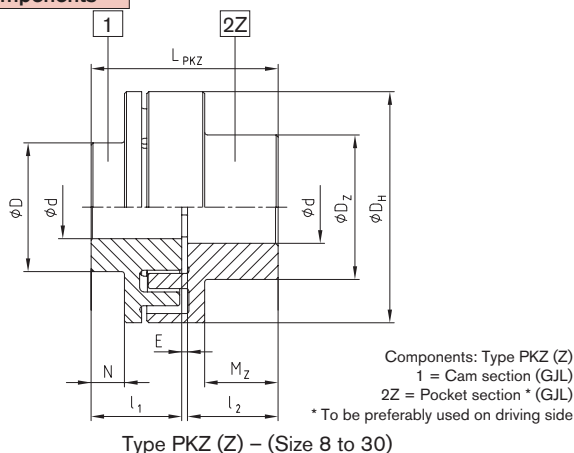
- Shaft coupling with disk brake
- The maximum braking torque must not exceed the maximum torque of the coupling
- The brake disk has to be placed onto the shaft end with the biggest mass moment of inertia
- Radial assembly/disassembly
- Axial plug-in, Fail-safe
- Pins can be replaced while being assembled
- All-over machining → good dynamic properties
- Einsatz z. B. an Großventilatoren, Turbinenantrieben, Bandantrieben, etc.

Type PKZ (2 pieces) and PKD (3 pieces)



- Torsionally flexible, maintenance-free
- Damping vibrations
- Shear type
- Axial plug-in
- Short overall length / minimum distance between shafts
- In type PKD the elastomer elements can be replaced while being assembled
- Approved according to EC standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com

Components



POLY PKZ and PKD																					
Size	Rated torque- 1) T _{RN} [Nm]	Max. speed 2) n [rpm]	Max. finish bore Ød [mm]			Dimensions [mm]												Thread for setscrew			Weight [kg]
			Teil 1	Teil 2Z	Teil 2D	D _H	D	D _Z	D _D	l ₁ ; l ₂	M _Z	M _D	N	E	D ₂	D _c (H7/h7)	L _{PKZ} /L _{PKD}	G	t	T _A [Nm]	
8 (Z)	42	5000	20	28	—	86	43	50	—	35	25	—	3	3	—	—	73	M5	18	2	1,7
9 (Z)	72	5000	28	38	—	97	55	65	—	41	30	—	7	3	—	—	85	M8	23	10	2,7
10 (Z)	100	5000	32	42	—	107	60	70	—	45	35	—	10	4	—	—	94	M8	27	10	3,5
12 (Z)	170	5000	38	48	—	131	70	80	—	55	43	—	12	4	—	—	114	M8	30	10	5,4
14 (Z)	210	4800	45	55	—	142	80	93	—	60	46	—	17	4	—	—	124	M8	10	10	7,6
15 (Z,D)	320	4300	50	60	50	157	90	100	74,5	65	52	33	21	4	90	75	134	M8	15	10	8,6
17 (Z,D)	400	3800	60	65	60	176	100	110	87	70	56	43,5	26	4	106	90	144	M8	15	10	12
19 (Z,D)	660	3500	75	75	70	195	125	125	106	75	64	48	27	4	126	107	154	M8	15	10	18
20 (Z,D)	820	3300	65	75	70	205	115	127	98	80	65	45	23	4	123	105	164	M8	15	10	20
22 (Z)	1100	3000	85	85	—	224	140	140	—	90	75	—	38	4	—	—	184	M10	20	17	25
25 (Z,D)	1600	2700	90	90	95	257	150	150	138	100	84	67	43	5	162	140	205	M12	20	40	35
28 (Z,D)	2500	2350	100	100	100	288	165	165	154	110	90	65	44	5	178	160	225	M12	20	40	53
30 (Z,D)	3950	2200	110	110	110	308	180	180	165	130	108	89	58	5	202	170	265	M16	20	80	66
35 (D)	6100	1850	130	—	140	373	210	—	209	160	—	102	70	5	240	210	325	M16	25	80	125
40 (D)	9000	1600	145	—	160	423	240	—	238	180	—	124	86	5	275	240	365	M16	25	80	180

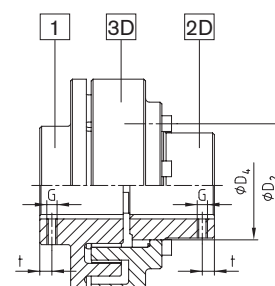
1) Maximum torque TKmax = TKN x 2; Standard material of elastomer: Perbunan (NBR) 92 Shore A; Standard hub material: GJL

2) Speeds for v = 30 m/sec. For peripheral speeds exceeding v = 30 m/sec. we recommend dynamic balancing

3) Referring to average bore

Ordering example:

POLY	PKD	28	d ₁ Ø90	d ₂ Ø80
Coupling type	Type	Size	Finish bore part 1	Finish bore part 2

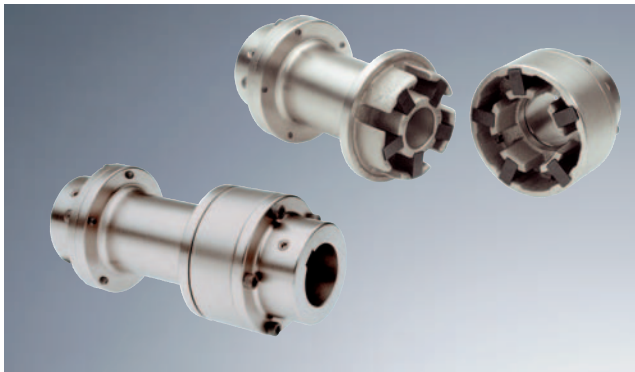


POLY

Torsionally flexible, not failsafe coupling

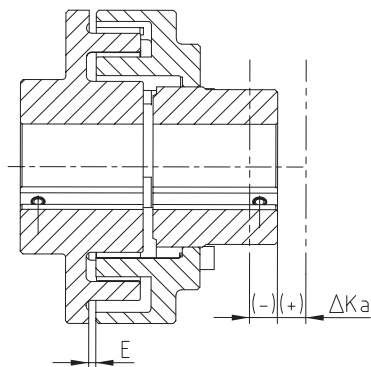
Type

Type PKA (dismountable coupling)

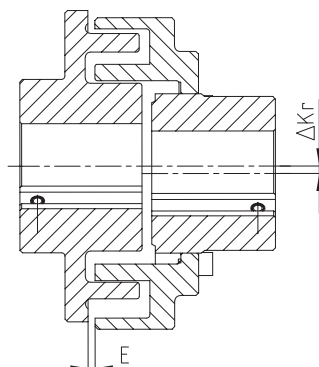


- Torsionally flexible, maintenance-free
- Damping vibrations
- Shear type
- Axial plug-in
- Separation of power flow possible while being assembled
- Bridging large shaft gaps with (standard) spacers
- Approved according to EC standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com

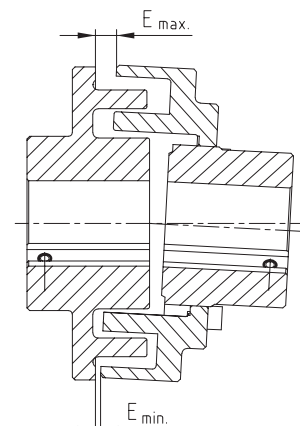
Displacements — Elastomer elements — Screws



Axial displacement



Radial displacement



Angular displacement

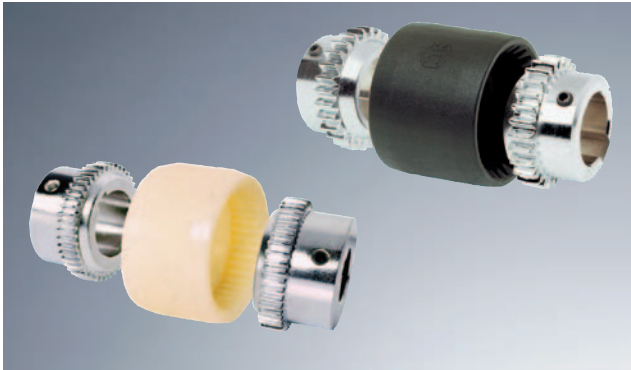
$$\Delta K_w = E_{\max} - E_{\min} \text{ [mm]}$$

Radial and angular displacements may occur simultaneously.

The combined sum $V = \Delta Kr + (E_{\max} - E_{\min})$ must not exceed the values listed in the table .

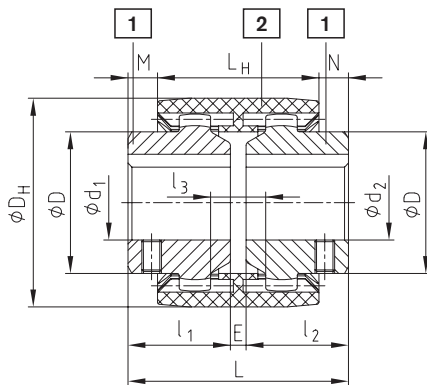
		Displacements [mm]														
Coupling size		8	9	10	12	14	15	17	19	20	22	25	28	30	35	40
Max. axial displacement ΔKa [mm]		±1	±1	±1	±2	±2	±2	±2	±2	±2	±2	±2	±2	±2	±3	±3
Max. radial displacement ΔKr	n=750 1/min	0,8	0,8	0,8	0,8	0,8	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,2	1,2	1,2
or max. angular displacement	n=1000 1/min	0,7	0,7	0,7	0,7	0,7	0,9	0,9	0,9	0,9	0,9	0,9	0,9	1,1	1,1	1,1
ΔKw or sum V	n=1500 1/min	0,5	0,5	0,5	0,5	0,5	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,9	0,9

**Type M, type I and type M...C **

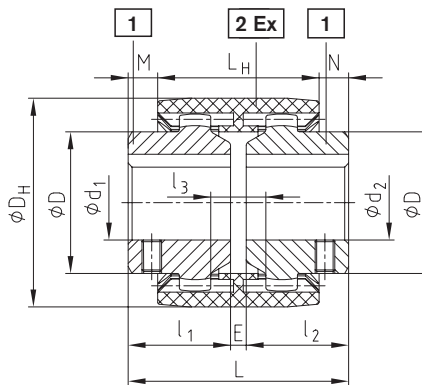


- For all applications in the range of general engineering and hydraulics
- Maintenance-free due to the material combination nylon/steel
- Compensating for shaft misalignment axial – radial – angular
- Axial plug-in - easy assembly
- Available with finish bore to ISO fit H7, keyway to DIN 6885 sheet 1 - JS9 as well as taper and inch bores
-  Type M...C with carbon fibre reinforced PA, low backlash, higher torques and approved according to EC Standard 94/9/EC
- For finish bores see stock programme (see company catalogue)
- Leistungsdaten siehe Seite 80 (siehe Gesamtkatalog)

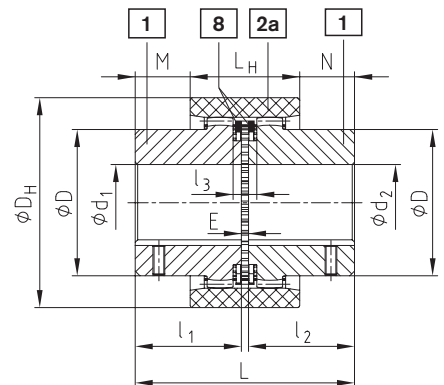
Components



Type M



Type M...C 



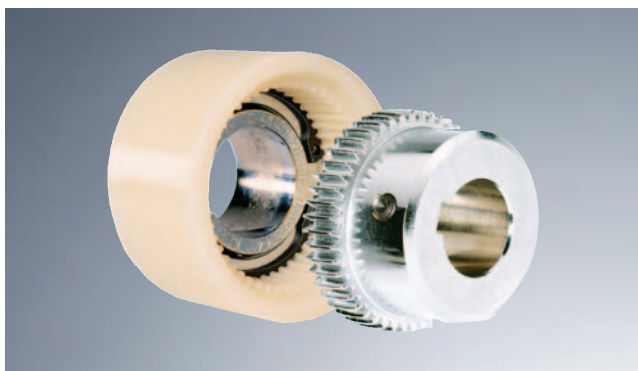
Type I

BoWex® type M, type I and type M...C 																			
Size		Finish bore d ₁ , d ₂		Dimensions [mm]										Weight with max. bore-Ø			Mass moment of inertia J with max. bore Ø		
		 Pilot bored	max.	l ₁ , l ₂	E	L	L _H	M, N	l ₃	D	D _H	Tip circle- ØD _z Hub	Hub length. l ₁ , l ₂ max.	Sleeve [kg]	Hub [kg]	Total [kg]	Sleeve [kgcm²]	Hub [kgcm²]	Total [kgcm²]
M-14	M-14C	-	15	23	4	50	37	6,5	10	25	40	33	40	0,03	0,07	0,10	0,08	0,09	0,26
M-19	M-19C	-	20	25	4	54	37	8,5	10	32	47	39	40	0,03	0,10	0,23	0,15	0,16	0,47
M-24	M-24C	-	24	26	4	56	41	7,5	14	36	53	45	50	0,04	0,14	0,32	0,21	0,36	0,93
M-28	M-28C	-	28	40	4	84	46	19	13	44	65	54	55	0,08	0,33	0,74	0,65	1,22	3,09
M-32	M-32C	-	32	40	4	84	48	18	13	50	75	63	55	0,09	0,43	0,95	1,14	2,17	5,48
M-38	M-38C	-	38	40	4	84	48	18	13	58	83	69	60	0,13	0,55	1,23	1,58	3,55	8,68
M-42		-	42	42	4	88	50	19	13	65	92	78	60	0,14	0,68	1,50	2,32	5,98	14,28
M-48	M-48C	-	48	50	4	104	50	27	13	68	95	78	60	0,23	0,79	1,81	3,90	7,22	18,34
M-65	M-65C	21	65	55	4	114	68	23	16	96	132	110	70	0,55	1,90	4,35	21,2	31,8	84,8
I-80		31	80	90	6	186	93	46,5	20	124	178	145	-	1,13	5,20	11,53	68,9	150,8	370,5
I-100		38	100	110	8	228	102	63	22	152	210	176	-	1,78	9,37	20,52	158,6	401,3	961,2
I-125		45	125	140	10	290	134	78	30	192	270	225	-	3,88	19,44	42,76	562,9	1362,3	3287,5

Ordering example:

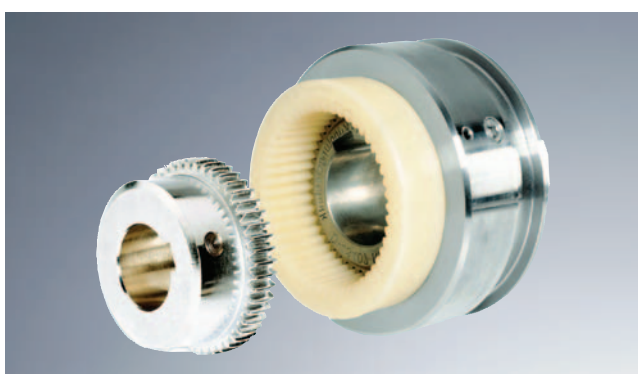
BoWex® M-28	d ₁ Ø20	d ₂ Ø28
Size and type of coupling	Finish bore H7 keyway to DIN 6885 sheet1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

Type AS and type Spec.-I



- Double-cardanic curved-tooth gear coupling
- Maintenance-free due to the material combination nylon/steel
- Compensating for shaft misalignment axial – radial – angular
- Type AS – separable coupling design - axially movable sleeve when assembled
- Type Spec.-I – axial plug-in for blind assembly
- Application range from - 25 °C to + 100 °C
- Available with finish bore acc. to ISO fit H7, keyway to DIN 6885, sheet 1 - JS9 and thread for setscrews (page 83)
- For finish bores see stock programme (see company catalogue)
- For performance data see company catalogue

Type SD



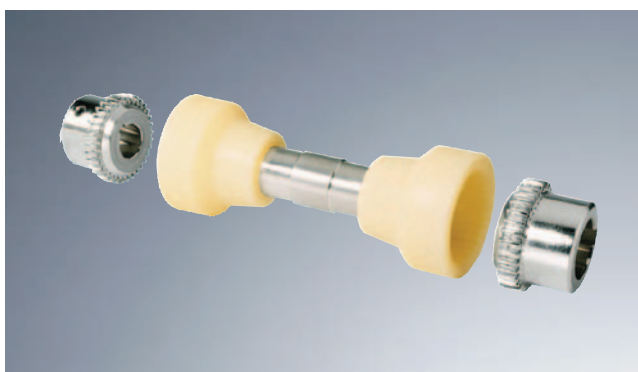
- For all applications in the range of general engineering to quickly connect or disconnect power packs at standstill
- Maintenance-free due to the material combination nylon/steel
- Application range from - 25 °C to + 100 °C
- Available with finish bore according to ISO fit H7, keyway to DIN 6885 sheet 1 - JS9, thread for setscrews (see company catalogue)
- For performance data please see page 80, compare to type M/I
- Max. circumferential speed $v = 20 \text{ m/s}$, referring to $\varnothing D_A$

Made of corrosion-proof material



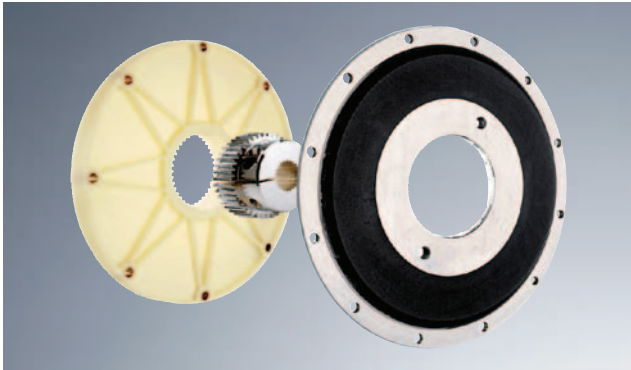
- BoWex® shaft coupling made of polyamide or stainless steel (material No. 1.4571 or V4A, respectively)
- BoWex® junior plug-in coupling (2 pieces)
- BoWex® junior M (3 pieces) made of polyamide
- BoWex® M with sleeve made of polyamide and hubs made of stainless steel (1.4571), available with finish bore acc. to ISO fit H7, keyway to DIN 6885, sheet 1 - JS9 and thread for setscrews (see company catalogue)
- For performance data see company catalogue

Type ZR and type Spec.-I for connection of larger shaft distances

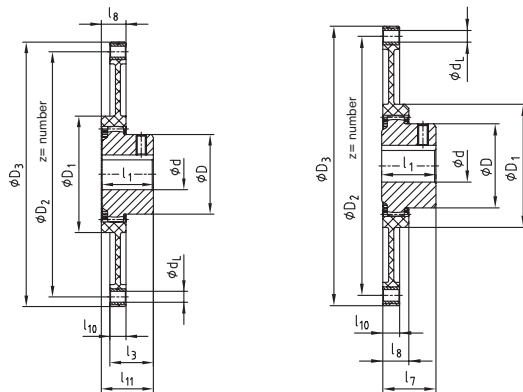


- Double-cardanic curved-tooth gear coupling
- For all applications to connect larger shaft distances
- Low-cost with serial production
- Compensating for larger shaft displacements
- Axial plug-in
- Intermediate tubes variable in length (max. 2000 mm; on consultation with KTR)
- Hubs available with finish bores acc. to ISO fit H7 as well as taper and inch bores
- Application range from - 25 °C to + 100 °C

Type FLE-PA



- Flange coupling for connection to I. C.-engines and hydraulic pumps
- Applicable to all hydrostatic drives of construction machines, harvesting machines, etc.
- High torsional stiffness – operation free from resonance
- Maintenance-free due to the material combination nylon/steel
- Nylon flange with high mechanical resistance and thermal strength (+ 130 °C)
- Extremely short assembly
- Easy assembly by axial joining
- Special mounting flanges available



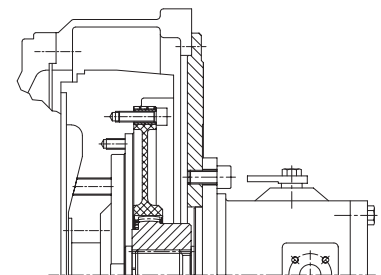
Short mounting

Long mounting

Flange dimensions
acc. to SAE J 620 [mm]

Size	D ₃	D ₂	z	d _L
6 1/2"	215,9	200,02	6	9
7 1/2"	241,3	222,25	8	9
8"	263,52	244,47	6	11
10"	314,32	295,27	8	11
11 1/2"	352,42	333,37	8	11
14"	466,72	438,15	8	13

Example of installation



BoWex® FLE-PA
for diesel engines with SAE connection. Axial fixing of
hub by means of end plate and screw.

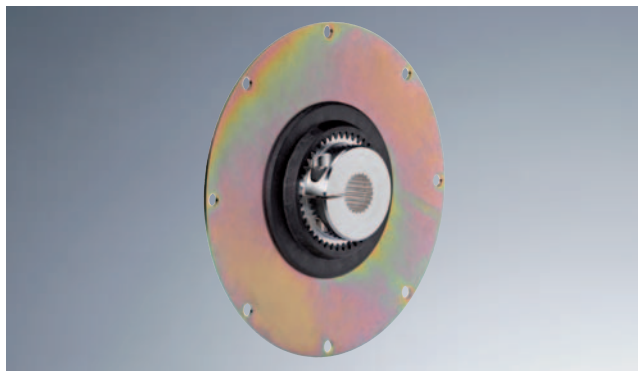
BoWex® FLE-PA – Dimensions/nominal dimension to SAE

Size	Pilot bore	Finish bore d		Dimensions [mm]								Special length l _{1 max}	Dimension acc. to SAE (D ₃)						Max. axial displacement [mm]
		min.	max.	D	D ₁	l ₁	l ₃	l ₇	l ₈	l ₁₀	l ₁₁		6 1/2"	7 1/2"	8"	10"	11 1/2"	14"	
48	-	20	48	68	100	50	41	50	20	13	48	up to 60	●	●	●	●			± 2
T 48	13	20	48	68	100	50	38	45	20	13	46	-	●	●	●	●			± 1
T 55	17	20	55	85	115	50	37	48	24	13	48	-	●	●	●	●			± 2
65 / T 65	21	30	65	96	132	55	45	54	27	21	51	up to 70			●	●	●		± 2
T 70	26	30	70	100	153	60	48	56	30	21	57	-				●			± 2
80 / T 80	31	35	80	124	170	90	78	87	30	21	87	-				●	●		± 2
100 / T 100	38	40	100	152	265	110	78	108	35	21	110	-					●	●	± 2
125	45	50	125	192	250	140	37	133	50	28	97	-					●	●	± 2

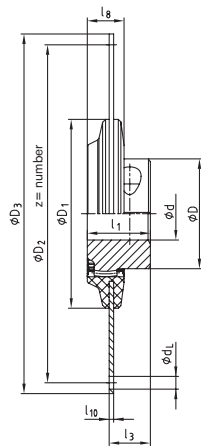
Technical data of BoWex® FLE-PA – Torques/Weights/Mass moments of inertia/Torsion spring stiffness

Size	Torque T _K [Nm]			Weight / Mass moment of inertia J	Hub with max. bore Ø	FLE-PA flanges according to SAE						Dynamic torsion spring stiffness with + 60 °C / ψ = 0,4 [Nm/rad]			
	T _{KN}	T _{K max}	T _{KW}			6 1/2"	7 1/2"	8"	10"	11 1/2"	14"	0,30 T _{KN}	0,50 T _{KN}	0,75 T _{KN}	1,00 T _{KN}
48	240	600	120	[kg] [kgm ²]	0,79 0,0007	0,32 0,0021	0,43 0,0035	0,51 0,0049	0,64 0,0085	-	-	35 x 10 ³	75 x 10 ³	105 x 10 ³	125 x 10 ³
T 48	300	750	150	[kg] [kgm ²]	0,79 0,0007	0,32 0,0021	0,43 0,0035	0,51 0,0049	0,64 0,0085	-	-	40 x 10 ³	86 x 10 ³	120 x 10 ³	143 x 10 ³
T 55	450	1125	225	[kg] [kgm ²]	1,12 0,0016	0,34 0,0022	0,62 0,0053	0,45 0,0044	0,64 0,0086	-	-	90 x 10 ³	140 x 10 ³	170 x 10 ³	195 x 10 ³
65	650	1600	325	[kg] [kgm ²]	2,30 0,0044	-	-	0,63 0,0064	0,64 0,0065	0,89 0,012	-	110 x 10 ³	160 x 10 ³	200 x 10 ³	230 x 10 ³
T 65	800	2000	400	[kg] [kgm ²]	2,40 0,0044	-	-	0,63 0,0064	0,64 0,0065	0,89 0,012	-	130 x 10 ³	190 x 10 ³	240 x 10 ³	280 x 10 ³
T 70	1000	2500	500	[kg] [kgm ²]	2,60 0,0059	-	-	-	0,941 0,0132	-	-	230 x 10 ³	345 x 10 ³	440 x 10 ³	517 x 10 ³
80	1200	3000	600	[kg] [kgm ²]	5,20 0,0151	-	-	-	1,05 0,015	1,12 0,022	-	200 x 10 ³	410 x 10 ³	580 x 10 ³	700 x 10 ³
T 80	1500	3750	750	[kg] [kgm ²]	5,20 0,0151	-	-	-	1,05 0,015	1,12 0,022	-	240 x 10 ³	450 x 10 ³	638 x 10 ³	770 x 10 ³
100	2050	5150	1025	[kg] [kgm ²]	9,37 0,0401	-	-	-	-	1,16 0,021	8,45 0,234	500 x 10 ³	700 x 10 ³	856 x 10 ³	950 x 10 ³
T 100	2500	6250	1250	[kg] [kgm ²]	9,37 0,0401	-	-	-	-	1,16 0,021	8,45 0,234	600 x 10 ³	830 x 10 ³	960 x 10 ³	1070 x 10 ³
125	4250	10700	2125	[kg] [kgm ²]	19,73 0,1359	-	-	-	-	2,09 0,043	9,85 0,306	4200 x 10 ³	5000 x 10 ³	5600 x 10 ³	6200 x 10 ³

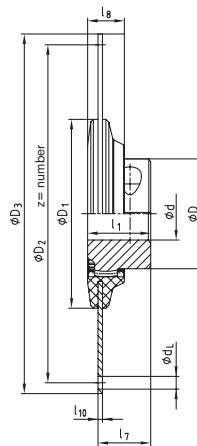
Type FLE-PAC



- High-quality flange coupling to connect flywheels to I. C.-engines and hydraulic pumps
- Composite design of steel flange/polyamide with carbon fibre reinforcement
- High mechanical stiffness and thermal stability
- Maintenance-free with high resistance to wear due to the use of carbon fibre reinforcement
- Extremely short dimensions subject to composite design
- Easy assembly by axial joining
- Special flange dimensions as a single-part design



Short mounting



Long mounting

Flange dimensions
acc. to SAE J 620 [mm]

Size	D ₃	D ₂	z	d _L
6 1/2"	215,9	200,02	6	9
7 1/2"	241,3	222,25	8	9
8"	263,52	244,47	6	11
10"	314,32	295,27	8	11
11 1/2"	352,42	333,37	8	11
14"	466,72	438,15	8	14

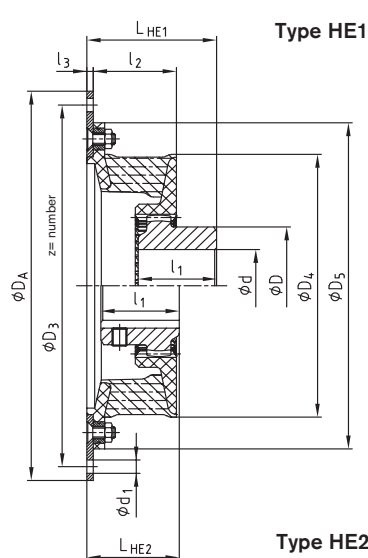
BoWex® FLE-PAC – Dimensions/nominal dimension to SAE																		
Size	Pilot bore	Finish bore d		Dimensions [mm]							Special length l _{1 max}	Dimension acc. to SAE (D ₃)						Max. axial displacement [mm]
		min.	max.	D	D ₁	l ₁	l ₃	l ₇	l ₈	l ₁₀		6 1/2"	7 1/2"	8"	10"	11 1/2"	14"	
48 / T 48	13	20	48	68	110	50	35	46	25	3	up to 60	●	●	●	●		± 3	
65 / T 65	21	30	65	96	165	55	36	46	32	4	up to 70			●	●	●	± 3	
80 / T 80	31	35	80	124	220	90	72	76	35	4	-				●	●	± 3	
100 / T 100	38	40	100	152	280	110	85	102	48	5	-					●	●	± 3

Technical data of BoWex® FLE-PAC – Torques/Weights/Mass moments of inertia/Torsion spring stiffness															
Size	Torque T _K [Nm]			Weight / Mass moment of inertia I	Hub with max. bore Ø	FLE-PAC flanges according to SAE						Dynamic torsion spring stiffness with + 60 °C / ψ = 0,45 [Nm/rad]			
	T _{KN}	T _{K max}	T _{KW}			6 1/2"	7 1/2"	8"	10"	11 1/2"	14"	0,30 T _{KN}	0,50 T _{KN}	0,75 T _{KN}	1,00 T _{KN}
48	240	600	120	[kg]	0,79	0,77	0,98	1,19	1,73			57 x 10 ³	89 x 10 ³	109 x 10 ³	126 x 10 ³
				[kgm ²]	0,0007	0,0049	0,0077	0,0109	0,0221						
T 48	300	750	150	[kg]	0,79	0,77	0,98	1,19	1,73			74 x 10 ³	115 x 10 ³	141 x 10 ³	164 x 10 ³
				[kgm ²]	0,0007	0,0049	0,0077	0,0109	0,0221						
65	650	1600	325	[kg]	2,30			1,48	2,20	2,83		164 x 10 ³	286 x 10 ³	365 x 10 ³	411 x 10 ³
				[kgm ²]	0,0044			0,0145	0,0294	0,0467					
T 65	800	2000	400	[kg]	2,40			1,48	2,20	2,83		202 x 10 ³	328 x 10 ³	420 x 10 ³	473 x 10 ³
				[kgm ²]	0,004			0,0145	0,0294	0,0467					
80	1200	3000	600	[kg]	5,20				2,27	2,90	5,20	378 x 10 ³	620 x 10 ³	790 x 10 ³	985 x 10 ³
				[kgm ²]	0,0151				0,0312	0,0485	0,1462				
T 80	1500	3750	750	[kg]	5,20				2,27	2,90	5,20	430 x 10 ³	700 x 10 ³	900 x 10 ³	1120 x 10 ³
				[kgm ²]	0,0151				0,0312	0,0485	0,1462				
100	2050	5150	1025	[kg]	9,37					3,35	6,22	600 x 10 ³	810 x 10 ³	1050 x 10 ³	1280 x 10 ³
				[kgm ²]	0,0401					0,0606	0,1828				
T 100	2500	6250	1250	[kg]	9,37					3,35	6,22	700 x 10 ³	900 x 10 ³	1170 x 10 ³	1400 x 10 ³
				[kgm ²]	0,0401					0,0606	0,1828				

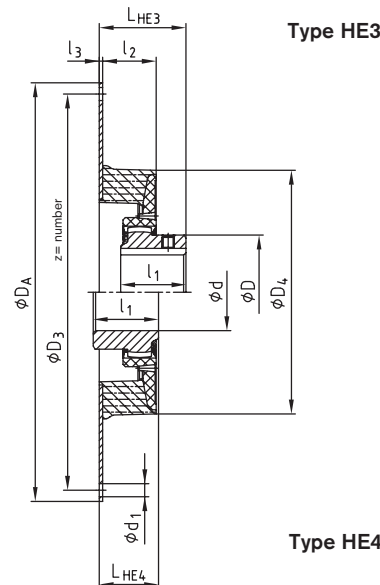
Type HE1, HE2, HE3 and HE4



- Flange coupling with flanges according to SAE and special dimensions for mounting to I. C.-engines
- Easy assembly by axial joining
- Compensating for misalignment on driving and driven side
- Use of coupling hubs from the BoWex® standard programme
- Finish bore according to ISO fit H7, keyway to DIN 6885, sheet 1 (JS9) - inch bores, taper bores, spline clamping hubs
- Available in the hardness 40, 50 and 65 Shore A
-  Approved according to EC standard 94/9/EC



Type HE1



Type HE3

Type HE2

Type HE4

Flange dimensions acc. to SAE J 620 [mm]				
Size	D _A	D ₃	z	d ₁
6 1/2"	215,90	200,02	6	9
7 1/2"	241,30	222,25	8	9
8"	263,52	244,47	6	11
10"	314,32	295,27	8	11
11 1/2"	352,42	333,37	8	11
14"	466,72	438,15	8	13
16"	517,50	489,00	8	13
18"	571,50	542,90	6	18
21"	673,10	641,35	12	17
24"	733,42	692,15	12	17

BoWex-ELASTIC® Type HE1 and HE2																				
Size	Bore d [mm]		Flange connections										Dimensions [mm]							
	Pilot bored	max.	6 1/2"	7 1/2"	8"	10"	11 1/2"	14"	16"	18"	21"	24"	l ₃	l ₂	D ₄	D ₅	D	l ₁	L _{HE1}	L _{HE2}
42 HE	-	42	●	●	●								4	45	146	180	65	42	55	40
48 HE	-	48	●	●	●	●							4	45	164	198	68	50	68	42
65 HE	21	65				●	●						5	55	205	244	96	55	73	50
80 HE	31	80				●	●						6	56	265	-/316	124	90	126/132	74/80
G 80 HE	31	80					●	●					6	66	300	-/356	124	90	136/142	84/90

BoWex-ELASTIC® Type HE3 and HE4																			
Size	Bore d [mm]		Flange connections										Dimensions [mm]						
	Pilot bored	max.	6 1/2"	7 1/2"	8"	10"	11 1/2"	14"	16"	18"	21"	24"	l ₃	l ₂	D ₄	D	l ₁	L _{HE3}	L _{HE4}
42 HE	-	42	●	●	●								4	45	146	65	42	55	40
48 HE	-	48	●	●	●	●							4	45	164	68	50	68	42
G 65 HE	21	65				●	●						5	55	205	96	55	73	50
80 HE	31	80				●	●						4	56	265	124	90	112	60
G 80 HE	31	80					●						4	66	300	124	90	122	70
100 HE	38	100						●					4	80	350	152	110	150	82
125 HE	45	125						●	●				6	92	416	192	140	86/19	103/109
G 125 HE	45	125							●	●			6	89	440	192	140	179	91
150 HE	44	160								●	●		6	140	470	225	150	205	160
G 150 HE	44	160								●	●		6	140	504	225	150	205	160
200 HE	46	180									●	●	6	149	568	250	175	240	160
G 200 HE	46	180									●	●	6	149	600	250	175	240	160

Ordering example:

BoWex-ELASTIC® 42	HE1	40	8	70	U
Coupling size	Type	Elastomer hardness	Flange Ø D _A acc. to SAE or special	Mounting length L _{HE}	Unbored or with finish bore

Technical data and displacements

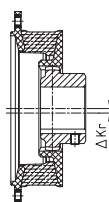
Technical data												
Size	Shore	Torque [Nm]			Perm. damping power PKW [W]		Perm. operating speed n _{max} [rpm]	Twisting angle with T _{KN} φT _{KN} [°]	Dynamic torsion spring stiffness C _{dyn} . [Nm/rad]	Relative damping ψ	Resonance factor V _R ≈ 2 • π / ψ	Radial spring stiffness C _r [N/mm]
		T _{KN}	T _{K max}	bei 10 Hz T _{KW}	60 °C	80 °C						
42 HE	40 Sh	130	390	36	20	6,5	6200	16	550	0,6	10,5	142
	50 Sh	150	450	45				13	850	0,8	7,9	219
	65 Sh	180	540	54				8	2700	1,2	5,2	697
48 HE	40 Sh	200	600	60	27	9,0	5600	16	850	0,6	10,5	176
	50 Sh	230	690	69				13	1300	0,8	7,9	269
	65 Sh	280	840	84				8	3500	1,2	5,2	724
65 HE	40 Sh	350	1050	105	45	15	4500	16	1600	0,6	10,5	209
	50 Sh	400	1200	120				13	2200	0,8	7,9	288
	65 Sh	500	1500	150				8	6000	1,2	5,2	784
G 65 HE	40 Sh	430	1290	129	51	17	4300	12	2350	0,6	10,5	259
	50 Sh	500	1500	150				10	3000	0,8	7,9	346
	65 Sh	620	1860	186				6	8500	1,2	5,2	975
80 HE	40 Sh	750	2250	225	90	30	3600	14	4500	0,6	10,5	351
	50 Sh	950	2850	285				13	6500	0,8	7,9	507
	65 Sh	1200	3600	360				6	18000	1,2	5,2	1404
G 80 HE	40 Sh	1250	3750	375	135	45	3000	12	7500	0,6	10,5	476
	50 Sh	1600	4800	480				10	12000	0,8	7,9	762
	65 Sh	2000	6000	600				6	32000	1,2	5,2	2031
100 HE	40 Sh	2000	6000	600	160	53	2700	12	12000	0,6	10,5	366
	50 Sh	2500	7500	750				10	19000	0,8	7,9	570
	65 Sh	3200	9600	960				6	48000	1,2	5,2	1200
125 HE	40 Sh	3000	9000	900	180	60	2300	12	19000	0,6	10,5	617
	50 Sh	4000	12000	1200				10	30000	0,8	7,9	974
	70 Sh	5000	15000	1500				6	75000	1,2	5,2	2434
G 125 HE	40 Sh	4000	12000	1200	200	67	2250	11	30000	0,6	10,5	560
	50 Sh	5200	16000	1600				9	44000	0,8	7,9	920
	70 Sh	6500	20000	2000				5	110000	1,2	5,2	1915
150 HE	40 Sh	5500	16500	1650	225	75	1950	10	42000	0,6	10,5	714
	52 Sh	7000	21000	2100			2050	8	67000	0,8	7,9	1200
	68 Sh	9000	27000	2700			2200	5	166000	1,2	5,2	2500
G 150 HE	40 Sh	7000	21000	2100	240	80	1900	11	60000	0,6	10,5	1485
	52 Sh	9200	27600	2760			2000	8	95000	0,8	7,9	2372
	68 Sh	11500	34500	3450			2100	5	236000	1,2	5,2	5874
200 HE	40 Sh	9500	28500	2850	294	98	1700	11	85000	0,6	10,5	1720
	52 Sh	12500	37500	3750			1800	8	136000	0,8	7,9	2740
	68 Sh	16000	48000	4800			1900	5	335000	1,2	5,2	6769
G 200 HE	40 Sh	11500	34500	3450	321	107	1600	11	105000	0,6	10,5	1952
	52 Sh	15000	45000	4500			1700	8	167000	0,8	7,9	3114
	68 Sh	19500	58500	5850			1800	5	412000	1,2	5,2	7708

The technical data mentioned apply for an ambient temperature of T = 60 °C.

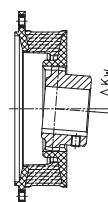
Displacements

For other operating speeds or higher operating temperatures the permissible radial displacement is calculated as follows:

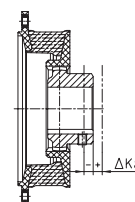
$$\Delta K r_{perm} = \Delta K r \cdot \sqrt{1500 / n_x}$$



Radial displacement ΔKr



Angular displacement ΔKw



Axial displacement ΔKa

Displacements																									
Size		42 HE			48 HE			65 HE/G 65 HE			80 HE/G 80 HE			100 HE			125 HE/G 125 HE			150 HE/G 150 HE			200HE/G 200 HE		
Elastomer hardness [Shore A]		40 Sh	50 Sh	65 Sh	40 Sh	50 Sh	65 Sh	40 Sh	50 Sh	65 Sh	40 Sh	50 Sh	65 Sh	40 Sh	50 Sh	65 Sh	40 Sh	50 Sh	70 Sh	40 Sh	50 Sh	70 Sh	40 Sh	50 Sh	70 Sh
Perm. radial displacement ΔKr [mm]	n=1500 1/min.	1,1	1,0	0,5	1,2	1,1	0,5	1,6	1,5	0,7	1,8	1,7	0,8	2,2	2,0	1,0	2,5	2,3	1,1	2,8	2,5	1,3	3,0	2,7	1,5
	max. 1)	3,6	3,3	1,5	3,8	3,5	1,7	5,1	4,7	2,2	5,7	5,3	2,4	6,5	6,0	3,0	7,5	6,9	3,3	8,0	7,5	4,0	8,5	8,0	4,5
Perm. angular displacement ΔKw [°]	n=1500 1/min.	1,0	0,75	0,5	1,0	0,75	0,5	1,0	0,75	0,5	1,0	0,75	0,5	1,0	0,75	0,5	1,0	0,75	0,5	1,0	0,75	0,5	1,0	0,75	0,5
	n=3000 1/min.	0,5	0,4	0,25	0,5	0,4	0,25	0,5	0,4	0,25	0,5	0,4	0,25	0,5	0,4	0,25	0,5	0,4	0,25						
Perm. angular displacement ΔKw [mm]	max. 1)	1,5			1,5			1,5			1,5			1,5			1,5			1,5			1,5		
Perm. axial displacement ΔKa [mm]		± 2			± 2			± 2			± 2			± 3			± 3			± 5			± 5		

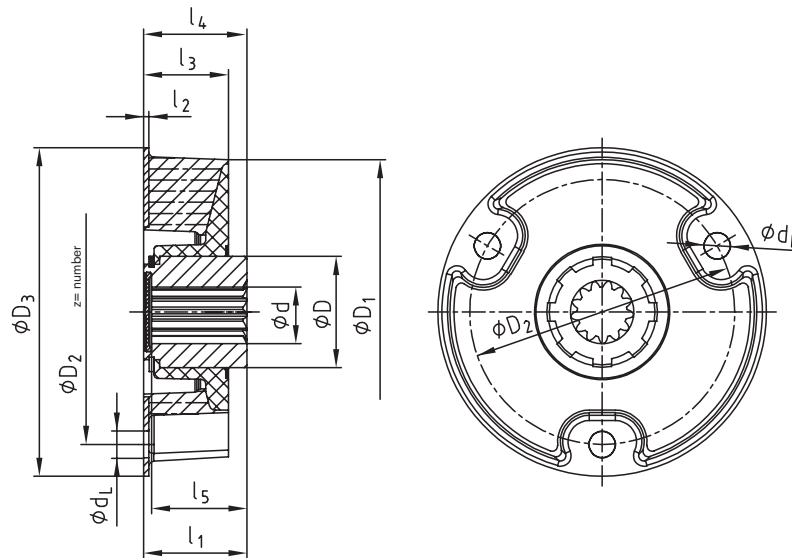
¹⁾ for short-term starting operation

Process of assembly, screw type with quality, tightening torques according to KTR assembly instructions (see www.ktr.com).

Type with 3 holes (EP 0853203/U.S. Patent 6,117,017)



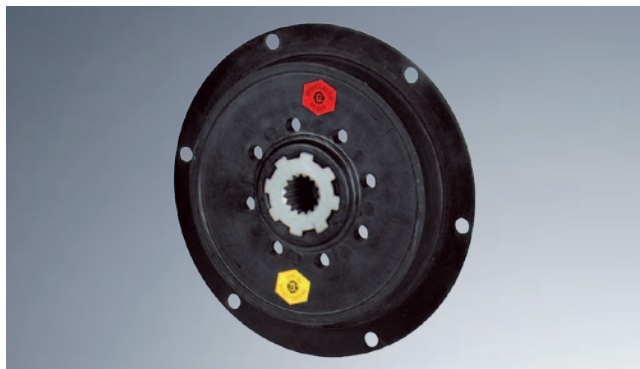
- MONOLASTIC® – for the drive of diesel engine/hydraulic pump up to 100 kW
- Single-part design with flange fastening by three bolts
- Easy assembly of coupling
- Axial plug-in in combination with the pump shaft
- Compensating for high radial and angular displacements
- Available for pump gear shafts according to SAE and DIN



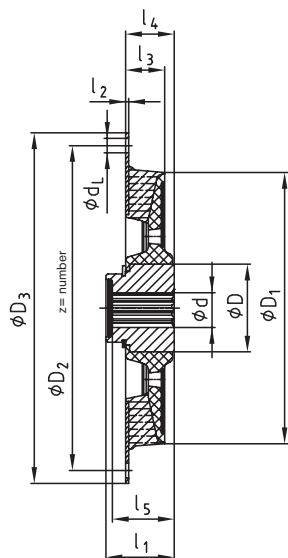
MONOLASTIC®																
Size	Elastomer hardness [Shore A]	Torque [Nm]			Dimensions [mm]											
		T _{KN}	T _{K max.}	T _{KW}	d	D	D ₁	D ₂	z	d _L	D ₃	l ₁	l ₂	l ₃	l ₄	l ₅
22	65	40	100	20	20	34	93	80	3	8,10	100	33	1,5	32	34	30
	70	70	175	35	25	42	115	100	3	10,10	124	40	2	32	40	38
28	65	100	300	50	32	50	140	125	3	12,10	150	42	2	42	43	38
	70	160	400	80	32	50	175	165	3	16,15	200	46	3	35	46	43
32	70	225	675	112	32	50	175	170	3	16,15	200	46	3	35	46	43
50-140	70	260	650	130	48	68	191	165	3	16,15	205	50	3	40	55	46
50-165	70	300	750	150												
50-170	70	300	750	150												
60-165	70	400	1000	200												

Technical data									
Size	Elastomer hardness [Shore A]	C _{dyn} with 60 °C [Nm/rad]	Perm. damping power with 60 °C P _{KW} [W]	Max. displacement with 2200 1/min ΔKr [mm]	Perm. angular displacement with 2200 1/min ΔKw [°]	Radial spring stiffness C _r [N/mm]	Mass moment of inertia [kgm²]		Max. perm. operating speed [1/min]
							J _A	J _L	
22	65	600	10	0,6		200	0,00017	0,00010	6000
	65	900		0,6		300			
28	70	1300	15	0,5		400	0,00054	0,00033	6000
	65	1800		0,6		400			
32	70	2400	25	0,5	1	500	0,00120	0,00081	6000
	70	4200	35	0,5		1365	0,00210	0,00130	6000
50-140									
50-165	70	5600	40	0,5		1550	0,00250	0,00130	6000
50-170									
60-165	70	7800	40	0,5		1500	0,00599	0,00358	6000

SAE-Ausführung (EP 0853203/U.S. Patent 6,117,017)



- MONOLASTIC® – for the drive of diesel engine/hydraulic pump up to 100 kW
- Flange connection according to SAE 6 1/2" to 11 1/2"
- Easy assembly of coupling
- Axial plug-in in combination with the pump shaft
- Compensating for high radial and angular displacements
- Available for pump gear shafts according to SAE and DIN
- Size 65 and 75 also available as an axial plug-in type



**Flange dimensions
acc. to SAE J 620 [mm]**

Size	D ₃	D ₂	z	d _L
6 1/2"	215,9	200,02	6	9
7 1/2"	241,3	222,25	8	9
8"	263,52	244,47	6	11
10"	314,32	295,27	8	11
11 1/2"	352,42	333,37	8	11

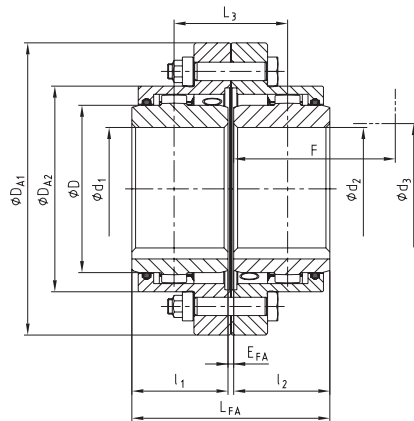
MONOLASTIC®																	
Size	Elastomer hardness [Shore A]	Torque [Nm]			Dimensions [mm]								MONOLASTIC® flanges according to SAE				
		T _{KN}	T _{K max.}	T _{KW}	d	D	D ₁	l ₁	l ₂	l ₃	l ₄	l ₅	6 1/2"	7 1/2"	8"	10"	11 1/2"
30	65	160	400	80	25	42	120	39	2	21	30	36	X	X			
	70	200	500	100													
50	65	300	750	150	32	50	167	42	2	24	30	38	X	X	X	X	
	70	400	1000	200													
65	65	600	1500	300	48	68	200	45	3	32	45	42				X	X
	70	800	2000	400													
75	65	1200	3000	600	60	90	265	58	3	35	50	54				X	X
	70	1500	3750	750													

Technical data											
Size	Elastomer hardness [Shore A]	C _{dyn} with 60 °C [Nm/rad]	Perm. damping power with 60 °C P _{Kw} [W]	Max. displacement with 2200 rpm ΔKr [mm]	Permissible angular displacement with 2200 rpm ΔKw [°]	Radial spring stiffness C _r [N/mm]	Mass moment of inertia [kgm²]			Max. permissible operating speed n _{max.} [rpm]	
							J _A		J _L		
30	65	3750	25	0,5	1	1150	6,5"	0,0038	0,00030	6000	
	70	4875				1500	7,5"	0,0057			
50	65	9000	35	0,5	1	1300	8"	0,0078	0,00120	6000	
	70	12000				1700	10"	0,0153			
65	65	14000	45	0,5	1	1900	10"	0,0238	0,00380	6000	
	70	18000				2450	11,5"	0,0368			
75	65	34000	80	0,5	1	1850	10"	0,0272	0,01450	6000	
	70	42000				2400	11,5"	0,0402			

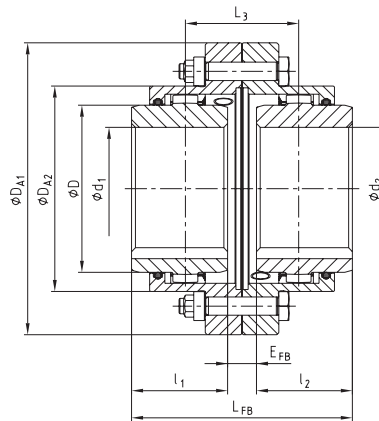
Type FA, type FB and type FAB



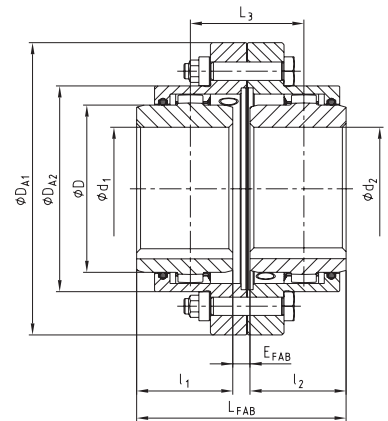
- Coupling in accordance with AGMA 9008-B00
- Double-cardanic crowned gear coupling
- To be used on all applications in general engineering
- Compensating for shaft misalignment axial – radial – angular
- Available with finish bore acc. to ISO fit H7, feather key according to DIN 6885 sheet 1, taper and inch bores
- For horizontal assembly
- Higher torques to be realized by special materials
- Approved according to EC standard 94/9/EC
- Max. Kupplungsmoment $T_{Kmax} = 2 \cdot T_{KN}$
For types DA/DB/DAB see company catalogue



Type FA



Type FB



Type FAB

Dimensions type FA/FB/FAB

Size	Torque [Nm]		Pilot bore	max. finish bore d ₁ ; d ₂	Dimensions [mm]													
	T _{KN}	T _{KN} (42CrMo4)			l ₁ , l ₂	Hub lengthened max l ₁ , l ₂	E _{FA}	E _{FB}	E _{FAB}	L _{FA}	L _{FB}	L _{FAB}	L ₃	D	D _{A1}	D _{A2}	F ¹⁾	d ₃ ¹⁾
10	930	1580	26	50	43	105	3	21	12	89	107	98	55	67	111	84	74	52
15	2000	3300	26	64	50	115	3	15	9	103	115	109	59	87	152	107	84	68
20	3500	6300	31	80	62	130	3	31	17	127	155	141	79	108	178	130	104	85
25	6500	11000	38	98	76	150	5	29	17	157	181	169	93	130	213	158	123	110
30	10000	17400	44,5	112	90	170	5	33	19	185	213	199	109	153	240	182	148	130
35	17000	28800	46	133	105	185	6	40	23	216	250	233	128	180	280	214	172	150
40	28500	48500	52	158	120	215	6	42	24	246	282	264	144	214	318	250	192	175
45	37000	62000	80	172	135	245	8	50	29	278	320	299	164	233	347	274	216	190
50	51000	86000	80	192	150	295	8	56	32	308	356	332	182	260	390	309	241	220
55	65000	110000	90	210	175	300	8	70	39	358	420	389	214	283	425,5	334	275	250
60	85000	145000	100	232	190	305	8	84	46	388	464	426	236	312	457	365,5	316	265
70	135000	240000	100	276	220	310	10	76	43	450	516	483	263	371	527	425	360	300

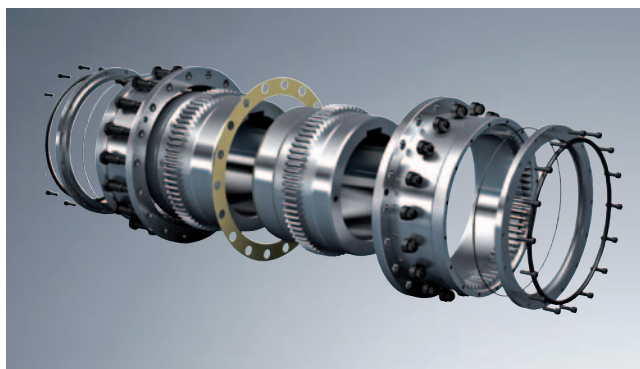
Dimensions type DA/DB/DAB

Size	Torque [Nm]		Pilot bore	max. finish bore d ₁ ; d ₂	Dimensions [mm]												
	T _{KN}	T _{KN} (42CrMo4)			l ₁ , l ₂	E _{DA}	E _{DB}	E _{DAB}	L _{DA}	L _{DB}	L _{DAB}	L ₃	D	D _{A1}	D _{A2}	F ¹⁾	d ₃ ¹⁾
20	3500	6300	31	80	62	3	31	17	133	155	144	79	108	187	146	105	85
25	6500	11000	38	98	76	5	29	17	157	181	169	93	130	220	172	115	105
30	10000	17400	44,5	112	90	5	33	19	185	213	199	109	153	248	182	140	120
35	17000	28800	46	133	105	6	40	23	216	250	233	128	180	285	214	165	145
40	28500	48500	52	158	120	6	42	24	246	282	264	144	214	335	250	180	160
45	37000	62000	80	172	135	8	50	29	278	320	299	164	233	358	294	195	185
50	51000	86000	80	192	150	8	56	32	388	356	332	182	260	390	309	215	205
55	65000	110000	90	210	175	8	70	39	358	420	389	214	283	425,5	348	240	220
60	85000	145000	100	232	190	8	84	46	388	464	426	236	312	457	380	260	245
70	135000	240000	100	276	220	10	76	43	450	516	483	263	371	527	445	300	290
80	175000	300000	140	300	280	10	50	30	570	610	590	310	394	545	475	340	310
85	225000	380000	160	325	292	13	53	33	597	637	617	325	430	585	515	352	330
90	290000	500000	180	350	305	13	83	48	623	693	658	353	464	640	560	365	360
100	380000	650000	220	390	330	13	93	53	673	753	713	383	512	690	612	390	400
110	480000	820000	220	420	350	20	296	158	720	996	858	508	560	765	665	410	420
120	620000	1050000	260	450	420	25	421	223	864	1261	1063	643	608	825	720	480	470

Ordering
example:

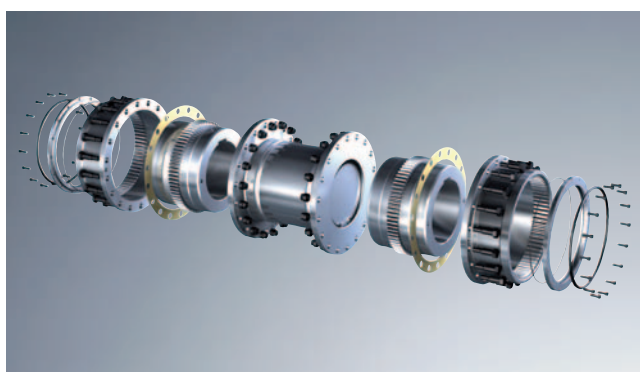
GEARex® DA 80	d ₁ Ø300	d ₂ Ø300
Size and type of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1

Type DA, type DB and type DAB



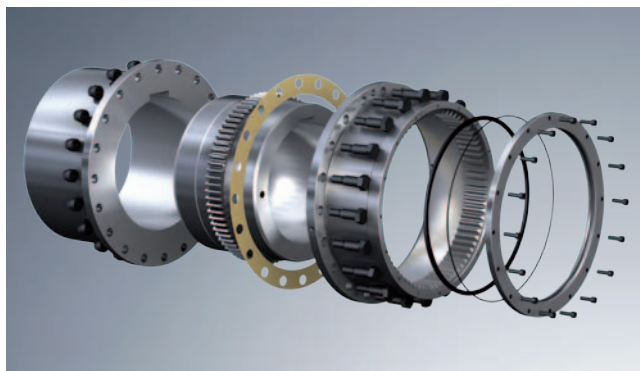
- Double-cardanic crowned gear coupling
- To be used on all applications in general engineering
- Compensating for shaft misalignment axial – radial – angular
- Available with finish bore to ISO fit H7, feather key according to DIN 6885 sheet 1, taper and inch bores
- For horizontal assembly
- Higher torques to be realized by special materials
- Approved according to EC standard 94/9/EC
- Max. torque of coupling $TK_{max.} = 2 \cdot T_{KN}$

Type FH and type DH



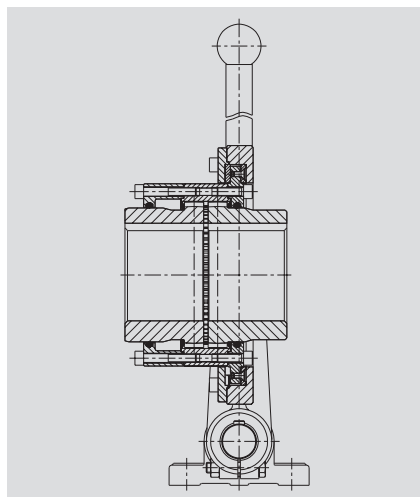
- Coupling type for bigger shaft distance dimensions
- Type FH with one-piece sleeve GEARex® size 10 to 70
- Type DH with split sleeve GEARex® size 80 to 120
- Higher torques to be realized by special materials
- Available with finish bore acc. to ISO fit H7, feather key according to DIN 6885 sheet 1, taper and inch bores
- Max. torque of coupling $T_{K_{max.}} = 2 \cdot T_{KN}$

Type FR and type DR

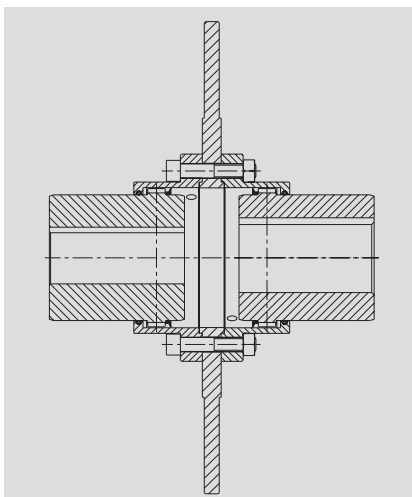


- Type FR with one-piece sleeve GEARex® size 10 to 70
- Type DR with split sleeve GEARex® size 80 to 120
- Higher torques to be realized by special materials
- Available with finish bore acc. to ISO fit H7, feather key according to DIN 6885 sheet 1, taper and inch bores
- Max. torque of coupling $T_{K_{max.}} = 2 \cdot T_{KN}$

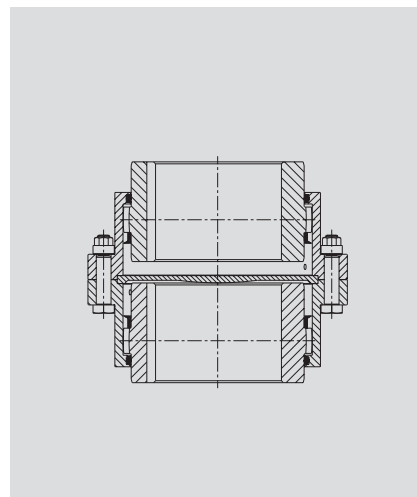
Further types



Type SD



Type with brake disk

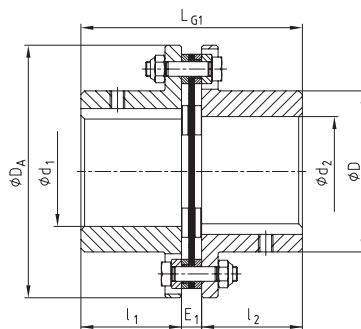


Type VD (vertical assembly)

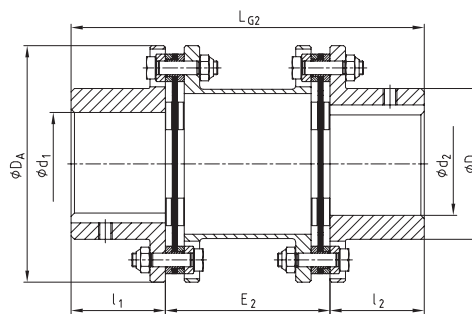
Standard types



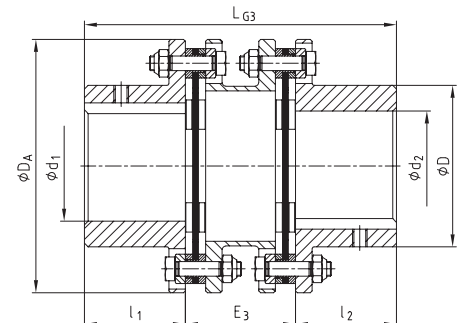
- Standard types available from stock
- Single and double cardanic designs
- Optionally available with frictionally engaged shaft-hub-connection
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Approved according to EC standard 94/9/EC
- From size 136 screwing of laminas by means of clamping nut (see assembly instructions KTR-N 47112)



Type NN



Type NANA 1



Type NANA 2

RADEX®-N Type NN, type NANA 1 and type NANA 2													
Size	Torque [Nm]			Max. finish bore [mm]		Dimensions [mm]							
	T _{RN}	T _{Kmax}	T _{KW}	d ₁ , d ₂	D	D _A	l ₁ , l ₂	L _{G1}	E ₁	L _{G2}	E ₂	L _{G3}	E ₃
20	15	30	5	20	32	56	20	45	5	100	60	—	—
25	30	60	10	25	40	68	25	56	6	110	60	—	—
35	60	120	20	35	54	82	40	86	6	150	70	—	—
38	120	240	40	38	58	94	45	98	8	170	80	—	—
42	180	360	60	42	68	104	45	100	10	170	80	—	—
50	330	660	110	50	78	126	55	121	11	206	96	—	—
60	690	1380	230	60	88	138	55	121	11	206	96	170	60
70	1100	2200	370	70	102	156	65	141	11	246	116	200	70
80	1500	3000	500	80	117	179	75	164	14	286	136	233	83
85	2400	4800	800	85	123	191	80	175	15	300	140	246	86
90	4500	9000	1500	90	132	210	80	175	15	300	140	251	91
105	5100	10200	1700	105	147	225	90	200	20	340	160	281	101
115	9000	18000	3000	115	163	265	100	223	23	370	170	309	109
135	12000	24000	4000	135	184	305	135	297	27	520	250	—	—
136	17500	35000	8750	135	180	300	135	293	23	acc. to customer's request			
138	23000	46000	11500	135	180	300	135	293	23				
156	25000	50000	12500	150	195	325	150	327	27				
158	33000	66000	16500	150	195	325	150	327	27				
166	35000	70000	17500	165	225	350	165	361	31				
168	45000	90000	22500	165	225	350	165	361	31				
186	42000	84000	17500	180	250	380	185	401	31				
188	56000	112000	28000	180	250	380	185	401	31				
206	52500	105000	26250	200	275	420	200	437	37				
208	70000	140000	35000	200	275	420	200	437	37				
246	90000	180000	45000	240	320	500	240	524	44				
248	120000	240000	60000	240	320	500	240	524	44				
286	150000	300000	75000	280	383	567	280	612	52				
288	200000	400000	100000	280	383	567	280	612	52				
336	210000	420000	105000	330	445	660	330	718	58				
338	280000	560000	140000	330	445	660	330	718	58				

Ordering example:

RADEX®-N 60	NANA 1	Ø50	Ø60
Coupling size	Type	Finish bore d ₁	Finish bore d ₂

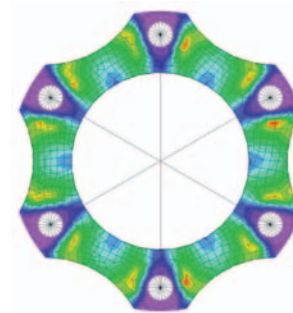
Description of coupling

The RADEX®-N is a backlash-free, torsionally rigid and maintenance-free all-steel coupling. The laminae that are extremely rigid in sense of rotation are made of high-strength, stainless spring steel and enable a compensation for high displacements with low restoring forces. By reason of the all-steel design the RADEX®-N can be used in drives with temperatures of up to 280 °C.



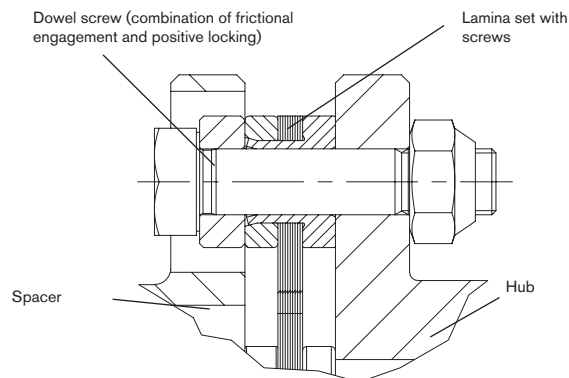
FEM-optimized lamina shape

The steel lamina sets made of stainless spring steel were developed on the basis of FEM calculations. Taking into account the necessary possibilities of displacements of the coupling the optimum shape regarding torque transmission and torsional rigidity was aimed at. The fitted shape of the steel laminae on the outside diameter is the result of this optimization calculation.



Lamina sets with dowel screws

The „heart“ of the steel lamina coupling are the lamina sets and their connection to the hubs or spacers. High-strength, special dowel screws that are alternately screwed to hubs and spacer enable a combination of frictional engagement and positive locking. Thus a high power density with at the same time ease of displacement and low restoring forces is ensured. Due to the special design of the RADEX®-N components the lamina sets are prestressed „artificially“. Hereby the torsional rigidity is increased by approx. 30 % and at the same time the well-known problem regarding the axial vibrations of the spacer is prevented.

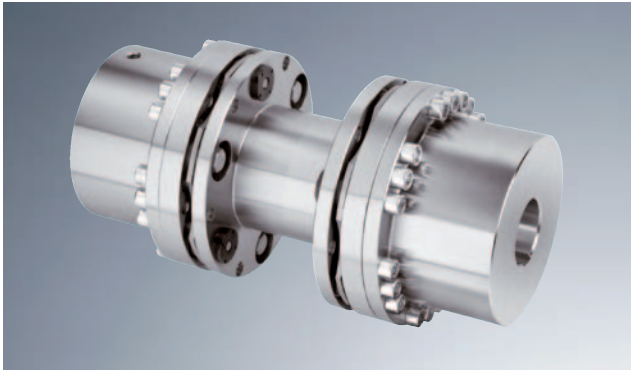


Use in explosive areas

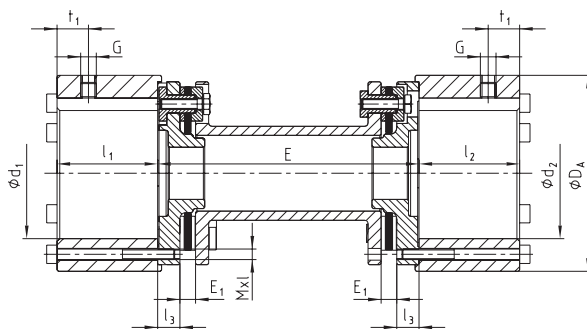
RADEX®-N couplings are suitable for power transmission in drives in hazardous areas. The couplings are certified and confirmed according to EC standard 94/9/EC (ATEX 95) as units of category 2G/2D and thus suitable for the use in hazardous areas of zone 1, 2, 21 and 22. With the use in explosive areas clamping ring hubs (clamping hubs without feather key for category 3 only) have to be selected such that there is a safety factor of $s = 2$ between the peak torque of the unit including all operating parameters and the friction and rated torque of the coupling. You will find further details about this subject at www.ktr.com.



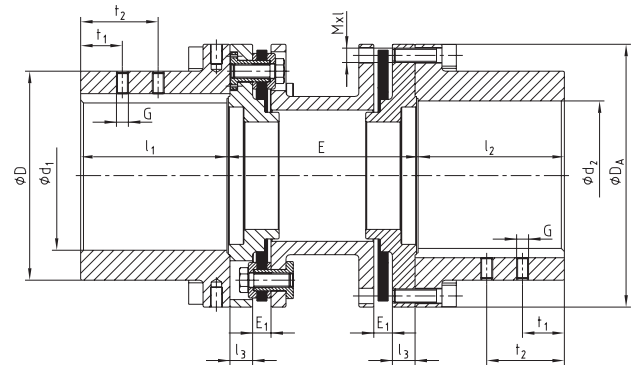
Type A



- Series for pump drives
- Coupling in accordance with API 610, API 671 optionally
- Available with large hub for bigger bore diameters
- Spacers are supplied assembled by the manufacturer
- Finish bore according to ISO fit H7, feather key according to DIN 6885 sheet 1 - JS9
- High balancing quality due to accurate machining (AGMA Class 9)
- Approved according to EC standard 94/9/EC



Size 35



Size 50 - 408

RIGIFLEX®-N Type A																			
Size	Torques [Nm]			Max. finish bore	Dimensions [mm]													Screws DIN EN ISO 4762	
	T _{KN}	T _{K max}	T _{KW}		d ₁ /d ₂	D	D _A	l ₁ /l ₂	l ₃	G	t ₁	t ₂	E ₁	E ¹⁾					Mxl
35	120	240	60	50	–	75	38,5	8,5	M6	15	–	6	100	140	–	–	–	M4x45	4,1
50	240	480	120	50	70	95	50	12	M6	10	–	9	100	140	–	–	–	M6x22	14
65	450	900	225	65	100	126	63	12	M8	20	–	11	100	140	180	–	–	M6x25	14
75	940	1880	470	75	105	138	62,5	12	M8	20	–	11	100	140	180	–	–	M8x30	35
85	1700	3400	850	85	120	156	72,5	15	M10	20	–	12	–	140	180	200	250	M8x30	35
110	2700	5400	1350	110	152	191	87	18	M10	25	–	12	–	140	180	200	250	M10x35	69
120	4500	9000	2250	120	165	213	102	20	M12	25	–	12	–	–	180	200	250	M12x40	120
140	9000	18000	4500	140	200	265	126	25	M12	30	–	15	–	–	–	200	250	M16x50	295
160	13000	26000	6500	160	230	305	145	31	M12	30	–	15	–	–	–	–	250	M16x55	295
166	17500	35000	8750	160	230	305	155	31	M16	30	70	17	acc. to customer's request					M20x50	560
196	22500	45000	11250	190	260	330	185	32	M16	40	90	24						M20x50	560
216	32000	64000	16000	210	285	370	205	32	M20	50	110	26						M20x65	560
256	52500	105000	26250	250	350	440	245	38	M20	70	130	31						M24x80	970
306	86000	172000	43000	300	400	515	295	43	M24	70	130	36	acc. to customer's request					M27x100	1450
346	135000	270000	67500	340	460	590	335	55	M24	95	175	45						M30x110	1950
406	210000	420000	105000	400	530	675	395	58,5	M24	95	175	50						M36x130	3300
168	23000	46000	11500	160	230	305	155	31	M16	30	70	17						M20x50	560
198	30000	60000	15000	190	260	330	185	32	M16	40	90	24	acc. to customer's request					M20x50	560
218	42500	85000	21500	210	285	370	205	32	M20	50	110	26						M20x65	560
258	70000	140000	35000	250	350	440	245	38	M20	70	130	31						M24x80	970
308	115000	230000	57500	300	400	515	295	43	M24	70	130	36						M27x100	1450
348	180000	360000	90000	340	460	590	335	55	M24	95	175	45	acc. to customer's request					M30x110	1950
408	280000	560000	140000	400	530	675	395	58,5	M24	95	175	50						M36x130	3300

¹⁾ Other shaft distances available on request.

For selection of coupling see company catalogue. Assembly instruction No. 47410 available at www.ktr.com.

Ordering example:

RIGIFLEX®-N 120	A	Ø 100	Ø 120	200
Coupling size	Type	Bore d ₁	Bore d ₂	Shaft distance dimension E

Description of coupling

RIGIFLEX®-N couplings are used on such applications which require a reliable and maintenance-free torque transmission with shaft displacement at the same time.

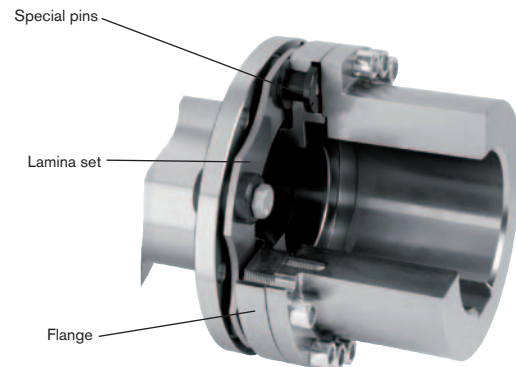
RIGIFLEX®-N was developed specifically for pump drives. This coupling system corresponds to the regulations of API 610 and may be supplied in accordance with API 671 optionally. (API = American Petroleum Institute) Torques from 60 Nm to 280.000 Nm are available in 23 sizes for an optimum adjustment to the different applications.



RIGIFLEX®-N laminas

RIGIFLEX®-N laminas are waisted lamina sets arranged in layers. They are connected to the hubs or flanges, respectively, in an absolutely backlash-free fit by means of positive-locking set screws.

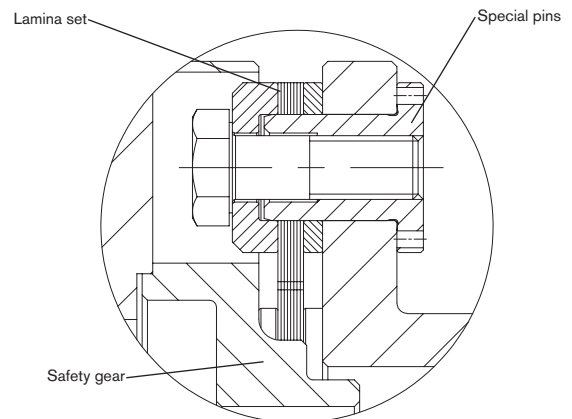
The number of the layers of individual laminas allows to vary torques, displacement figures and stiffness for special designs.



Protecting the spacer

Since our main idea with the development of RIGIFLEX®-N was to comply with the standards of API 610 and API 671, the spacer is secured by a safety catch, too. In case that the laminas break the spacer remains within the coupling.

In general the removable part is supplied along with a lamina set preassembled by the manufacturer.

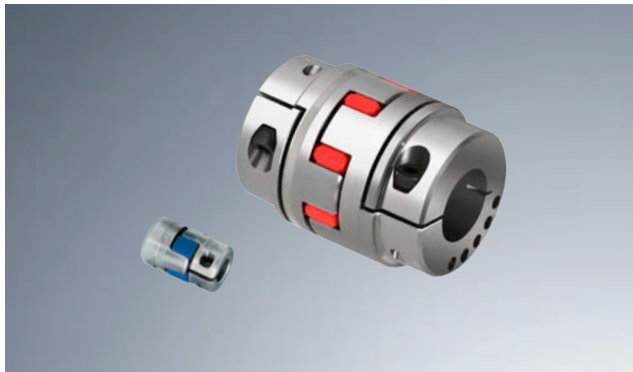


Use in explosive areas

RIGIFLEX®-N couplings are suitable for the use in drives in hazardous areas. The couplings are certified and confirmed according to EC standard 94/9/EC (ATEX 95) as units of category 2G/2D and thus suitable for the use in hazardous areas of zone 1, 2, 21 and 22. Please read through our information included in the respective Type Examination Certificate and the operating and mounting instructions at www.ktr.com.

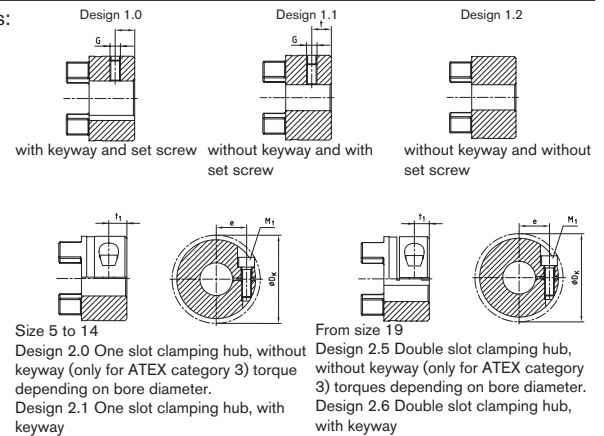
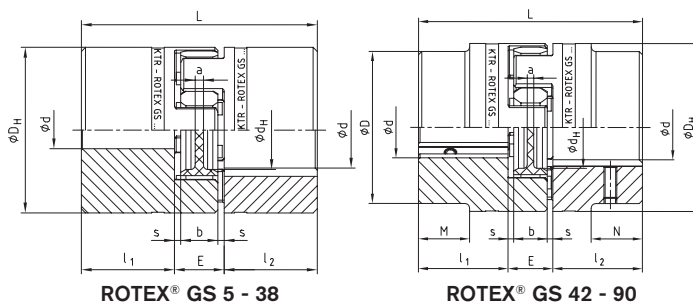


Standard types



- Backlash-free shaft connection under prestress
- Small dimensions – low flywheel mass
- Maintenance-free, easy to inspect visually
- Different elastomer hardness of spiders (see company catalogue)
- Finish bore according to ISO fit H7 (except for clamping hub), feather key optionally available from Ø 6 mm according to DIN 6885 sheet 1 – JS9.
- Friction torques of the shaft-hub-connection without feather keyway see assembly instruction KTR-N 45510
- Approved according to EC standard 94/9/EC (hubs without feather keyway acc. to category 3)

Hub designs:



ROTEX® GS standard types For size 5 to 38 hub material aluminium/for size 42 to 90 hub material steel

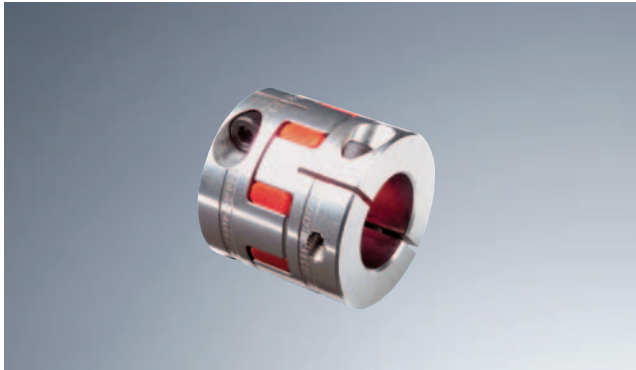
Size	Torque of spider T _{KV} [Nm] for 95/98Sh-A1)	Maximuml finish bore Ød for hub design			Dimensions [mm]										Setscrew DIN EN ISO 4029 Hub design 1.0/1.1		Clamping screw DIN EN ISO 4762 (ROTEX® 5 DIN 84) Hub design 2.0/2.1/2.5/2.6				
		1.0-1.2	2.0/2.5	2.1/2.6 ³⁾	D	D _H	d _H	L	l ₁ ;l ₂	M;N	E	b	s	a	G	t	M ₁	t ₁	e	D _K	T _A [Nm]
5	0,9	6	5	5	—	10	—	15	5	—	5	4	0,5	4,0	M2	2,5	M1,2	2,5	3,5	11,4	— ²⁾
7	2,0	7	7	7	—	14	—	22	7	—	8	6	1,0	6,0	M3	3,5	M2	3,5	5,0	16,5	0,37
9	5,0	11	11	11	—	20	7,2	30	10	—	10	8	1,0	1,5	M4	5,0	M2,5	5,0	7,5	23,4	0,76
12	9,0	12	12	12	—	25	8,5	34	11	—	12	10	1,0	3,5	M4	5,0	M3	5,0	9,0	27,5	1,34
14	12,5	16	16	16	—	30	10,5	35	11	—	13	10	1,5	2,0	M4	5,0	M3	5,0	11,5	32,2	1,34
19	21,0	24	24	24	—	40	18	66	25	—	16	12	2,0	3,0	M5	10	M6	11,0	14,5	46	10,5
24	60	28	28	28	—	55	27	78	30	—	18	14	2,0	3,0	M5	10	M6	10,5	20,0	57,5	10,5
28	160	38	38	38	—	65	30	90	35	—	20	15	2,5	4,0	M8	15	M8	11,5	25,0	73	25
38	325	45	45	45	—	80	38	114	45	—	24	18	3,0	4,0	M8	15	M8	15,5	30,0	83,5	25
42	450	55	50	45	85	95	46	126	50	28	26	20	3,0	4,0	M8	20	M10	18	32,0	93,5	69
48	525	62	55	55	95	105	51	140	56	32	28	21	3,5	4,0	M8	20	M12	21	36,0	105	120
55	685	74	68	68	110	120	60	160	65	37	30	22	4,0	4,5	M10	20	M12	26	42,5	119,5	120
65	940	80	70	70	115	135	68	185	75	47	35	26	4,5	4,5	M10	20	M12	33	45,0	124	120
75	1920	95	80	80	135	160	80	210	85	53	40	30	5,0	5,0	M10	25	M16	36	51,0	147,5	295
90	3600	110	90	90	160	200	104	245	100	62	45	34	5,5	6,5	M12	30	M20	40	60,0	192	580

- 1) Further spiders/selection see company catalogue
2) tightening torque T_A not defined (slotted screw)
3) from Ø65 keyway opposite to the clamping screw

Ordering example:

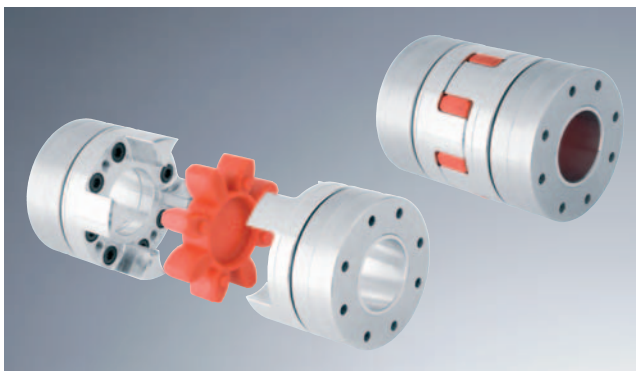
ROTEX® GS 24	98 Sh-A-GS	d20	2.5 – Ø 24		1.0 – Ø 20	
Coupling size	Spider hardness	Optionally: Bore dia. in spider	Hub design	Finish bore	Hub design	Finish bore

Compact



- Shorter by up to 1/3
- High power density, design with axial slot, patent pending (from size 24)
 - Good concentric running properties
 - Uniform power transmission due to cams without slots
 - Improved balancing quality
- Finish bore from Ø 6 mm also available with feather key acc. to DIN 6885 sheet 1 – JS9
-  Approved according to EC standard 94/9/EC (hubs without feather keyway acc. to category 3)

Clamping ring hubs light



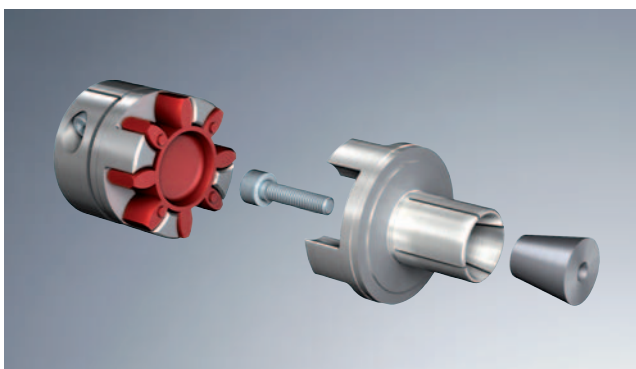
- Torsionally flexible backlash-free shaft coupling with integrated clamping system
- As an example, use on feed/main spindles, drives on machine tools, handling units, etc.
- Low weight and low mass moment of due to a design fully made from aluminium
- Easy assembly due to internal clamping screws and block assembly
- For high friction torques (see ass. instruction KTR-N 45510)
- High smoothness of running, application up to a peripheral speed of 50 m/s
-  Approved according to EC standard 94/9/EC

Clamping ring hubs steel



- Torsionally flexible backlash-free shaft coupling with integrated clamping system
- As an example, use on gearboxes and other drives with high torque shocks
- Smooth running, application up to a peripheral speed of 40 m/s
- For high friction torques (consider the selection with explosion protection use, see ass. instruction KTR-N 45510)
- Easy to assemble due to internal clamping screws
- Finish bore up to Ø 50 mm according to ISO fit H7, from Ø 55 mm according to ISO fit G7
-  Approved according to EC standard 94/9/EC

Expansion hub for hollow shaft connection

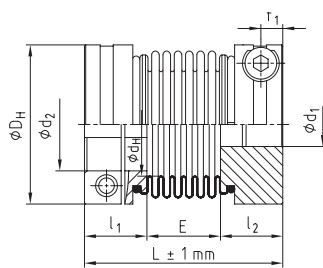


- Torsionally flexible backlash-free shaft coupling with integrated clamping system
- Short design
- Electric insulation
- Quick assembly
- Good concentric running properties
- Can be combined with various hub designs
- Self-centering clamping connection

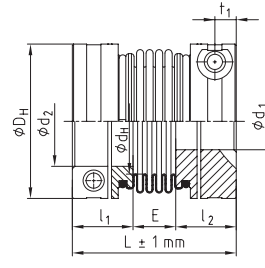
Type S and type M with clamping hubs



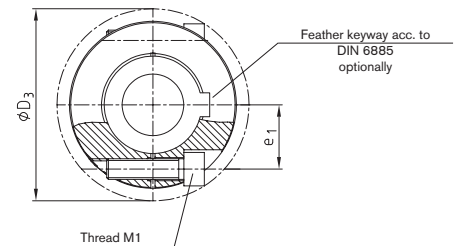
- Backlash-free, torsionally stiff
- Frictionally engaged clamping hubs
- Temperature range:
for size 7 to 12: -30 °C to +100 °C
from size 16: suitable for high temperatures max. 200 °C due to flanged insert connection
- Good resistance to corrosion
- Finish bore from Ø 6 mm also available with feather key acc. to DIN 6885 sheet 1 – JS9
- Mounting instructions at www.ktr.com



TOOLFLEX® type M design 2.5



TOOLFLEX® type S design 2.5



TOOLFLEX® S/M with clamping hubs (design 2.5) Hub material aluminium/bellow material stainless steel																					
Size	Type 1/2)	Bellow-hub-connection	Torque of bellow T _{IN} [Nm] ³⁾	Dimensions [mm]												Perm. displacements			Torsional stiffness C _T [Nm/ rad] [Nm/rad]	Weight 5) [kg]	
				Finish bore		General					Clamping screw DIN EN ISO 4762										
				min. d	max. d	L	l ₁ ; l ₂	E	D _H	d _H	M _i	D ₃	t _i	e _i	T _A [Nm]	Axial [mm]	Radial [mm]	Angular [Grad]			
7	S	Bonded	1	3	7	24	9	6	15	9	M2	16,5	3,2	5	0,37	±0,3	0,10	0,7	390	0,007	
	M					26		8								±0,4	0,15	1,0	300	0,008	
9	S		1,5	3	9	29	11	7	20	12	M2,5	21,5	3,5	7,1	0,76	±0,35	0,15	1,0	750	0,014	
	M					32		10								±0,5	0,20	1,5	580	0,015	
12	S	Bonded	2	4	12	34,5	13	8,5	25	16	M3	26,5	4	8,5	1,34	±0,4	0,15	1,0	1270	0,025	
	M					38		12								±0,6	0,20	1,5	980	0,03	
16	S		5	5	16	45	17,0	11	32	20	M4	35,0	5	12	2,9	±0,3	0,15	1,0	4500	0,06	
	M					49		15								±0,5	0,20	1,5	3050	0,06	
20	S	Bonded	15	8	20	55	215	12	40	27	M5	43,5	6	14,5	6	±0,4	0,15	1,0	9600	0,12	
	M					62		19								±0,6	0,20	1,5	6600	0,14	
30	S		Flanged	35	10	30	63	23	17	55	33	M6	58	7	19	10	±0,5	0,20	1,5	17800	0,24
	M						72		26								±0,8	0,25	2,0	14800	0,31
38	S	65		12	38	69	25,5	18	65	42	M8	72,5	9	25	25	±0,6	0,20	1,5	37400	0,35	
	M					81		30								±0,8	0,25	2,0	24900	0,45	
42	S	Flanged	95	14	42	84	30	24	70	46	M8	76,1	9	27	25	±0,6	0,20	1,5	54700	0,49	
	M					95		35								±0,8	0,25	2,0	36500	0,52	
45	S		150	14	45	86,5	32	22,5	87	58	M10	89	11	30	49	±0,9	0,25	1,5	95800	0,82	
	M					103		39								±1,0	0,30	2,0	64000	1,13	
55	S	Hubs from steel welded to the bellow	340	20	55	111	40	31	100	73	M12	106	14	37	120	±1,0	0,25	0,25	144100	3,2	
	M					125		45								±1,0	0,30	0,3	96100	3,3	
65	S		600	30	65	126	45	36	125	95	M14	127,2	15	45	185	±1,0	0,30	1,5	322740	5,5	
	M					142		52								±2,0	0,35	2,0	226550	5,6	

Transmittable friction torques T _r [Nm] of the clamping hub without keyway type 2.5																															
Size	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø50	Ø55	Ø60	Ø65	
7	0,84	0,91	0,97	1,04	1,10																										
9	1,87	1,98	2,09	2,20	2,31	2,41	2,52																								
12		3,48	3,65	3,81	3,98	4,14	4,31	4,48	4,64	4,81																					
16			8,5	8,8	9,1	9,4	9,7	9,9	10,2	10,5	11,1	11,4	11,7																		
20						17,6	18,1	18,6	19,1	19,5	20,5	21,0	21,4	22,4	22,9	23,3															
30									33,1	33,8	35,1	35,8	36,5	37,8	38,5	39,2	41,9	42,5	44,6	45,9											
38											79,2	80,4	81,7	84,2	85,4	86,6	91,6	92,8	96,5	99,0	102	105	109								
42											84,2	85,4	86,6	89,1	90,3	91,6	96,5	97,8	102	104	106	110	114	116	119						
45																															
55 ⁵⁾																157	165	167	173	177	181	187	193	197	200	206					
65 ⁵⁾																	397	401	413	421	429	442	454	462	470	482	502	523			
																					720	732	750	768	780	792	810	840	870	900	930

Ordering example:

TOOLFLEX® 30 M	2.5	Ø25	2.5	Ø30
Coupling size	Hub design	Finish bore	Hub design	Finish bore

TOOLFLEX®

Metall bellow-type coupling

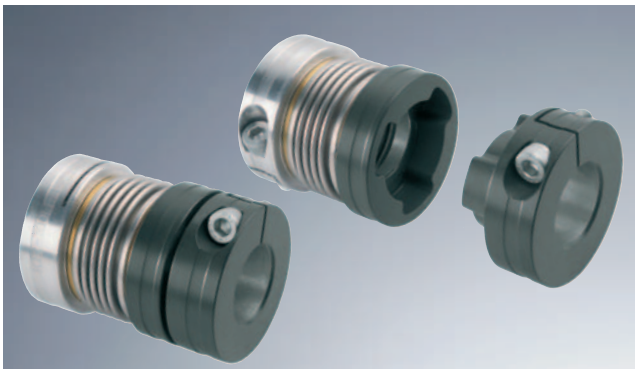
Miscellaneous types

Type KN



- Backlash-free, torsionally stiff
- Non-positive bellow-hub-connection
- For high friction torques
(consider mounting instruction KTR-N 458 10)
- Maintenance-free
- Good properties of concentric running with high speeds
- Maximum speed up to 40 m/s circumferential speed
- Size 30 - 55 available

Type PI



- Axial plug-in
- Backlash-free, torsionally stiff
- Suitable for high temperatures due to flanged insert connection
- Good resistance to corrosion due to bellow made of stainless steel and aluminium clamping hubs
- Optionally type M (6 section bellows)
 - higher perm. displacements
- or Type S (4 section bellows, short design)
 - higher torsion spring stiffness
 - low mass moment of inertia
- Size 20 - 45 available

Type CF



- Backlash-free, torsionally stiff
- Maintenance-free
- Non-positive bellow-hub-connection
- Suitable for high temperatures due to flanged insert connection (max. 200 °C)
- Available as type M (6 section bellows) and S (4 section bellows)
- Available as special design with 1, 2 or 3 section bellows
- Size 30 - 55 available

Type S and M with thread for setscrews

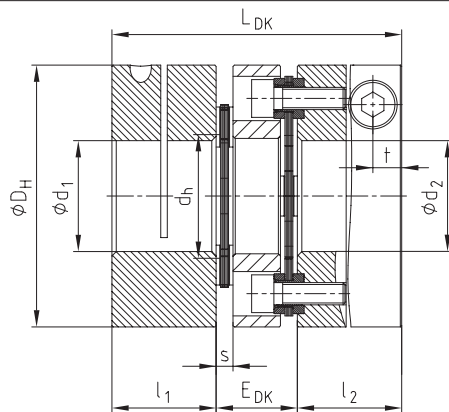


- Backlash-free, torsionally stiff
- Maintenance-free
- Low mass moment of inertia
- Easy assembly due to tolerance F7
- Temperature range for size 5 to 12: -30 °C to +100 °C
Temperature range for size 16 to 20: max. 200 °C
- Finish bore from Ø 6 mm also available with feather key acc. to DIN 6885 sheet 1 – JS9
- Size 5 - 20 available

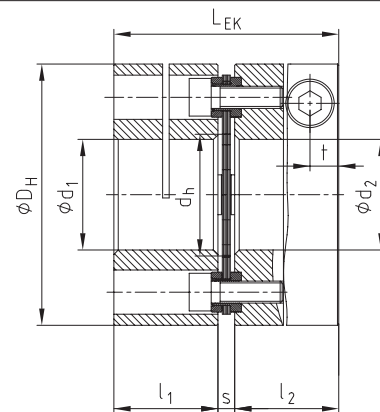
Standard types



- Backlash-free torque transmission
- Higher torsional rigidity
- Backlash-free shaft-hub-connection (for friction torques see KTR-N 47210)
- Low mass moment of inertia
- High speeds
- Operating temperature up to 200 °C
- Short Design
- Finish bore from Ø 6 mm also available with feather key acc. to DIN 6885 sheet 1 – JS9
- Approved according to EC standard 94/9/EC (without feather key for category 3 only)



Type DK



Type EK

RADEX®-NC types DK and EK Hub and spacer material aluminium (size 42 steel) / laminas stainless steel													
Size	Dimensions [mm]									Clamping screw		Mass moment of inertia	
	max. d ₁ /d ₂	D _H	l ₁ /l ₂	L _{DK}	E _{DK}	L _{EK}	d _h	s	t	M	T _A [Nm]	DK [kgm²]	EK [kgm²]
5	12	26	12	34	10	26,5	12	2,5	3,5	M2,5	0,8	0,000004	0,000003
10	15	35	16	44	12	35	14,5	3	5,0	M4	3	0,000016	0,000012
15	20	47	21	55	13	45	19,5	3	6,8	M6	10	0,000065	0,000053
20	25	59	24	67	19	52	24	4	6,5	M6	10	0,000199	0,000154
25	35	70	32	88	24	69	30	5	9,0	M8	25	0,000508	0,000393
35	40	84	35	98	28	77	38	7	10,5	M10	49	0,001153	0,000911
42	55	104	40	116	36	91	48	11	10,5	M10	69	0,007458	0,006153

Technical data											
Size	T _{KN} ¹⁾ [Nm]	T _{K max} ¹⁾ [Nm]	Max. speed [rpm]	Torsion. stiffness [Nm/rad]		Displacement type DK			Displacement type EK		
				Type EK	Type DK	Radial [mm]	Axial [mm]	Angular [°]	Radial [mm]	Axial [mm]	Angular [°]
5	2,5	5	25000	2400	1200	0,10	0,4	1	—	0,2	1
10	7,5	15	20000	5600	2800	0,14	0,8	1	—	0,4	1
15	20	40	16000	12000	6000	0,16	1,0	1	—	0,5	1
20	30	60	12000	30000	15000	0,25	1,2	1	—	0,6	1
25	60	120	10000	60000	30000	0,30	1,6	1	—	0,8	1
35	100	200	9000	72000	36000	0,40	2,0	1	—	1,0	1
42	180	360	7000	120000	60000	0,50	2,8	1	—	1,4	1

¹⁾ see company catalogue
hub design 2.5 = clamping hub without feather keyway,
hub design 2.6 = clamping hub with feather keyway

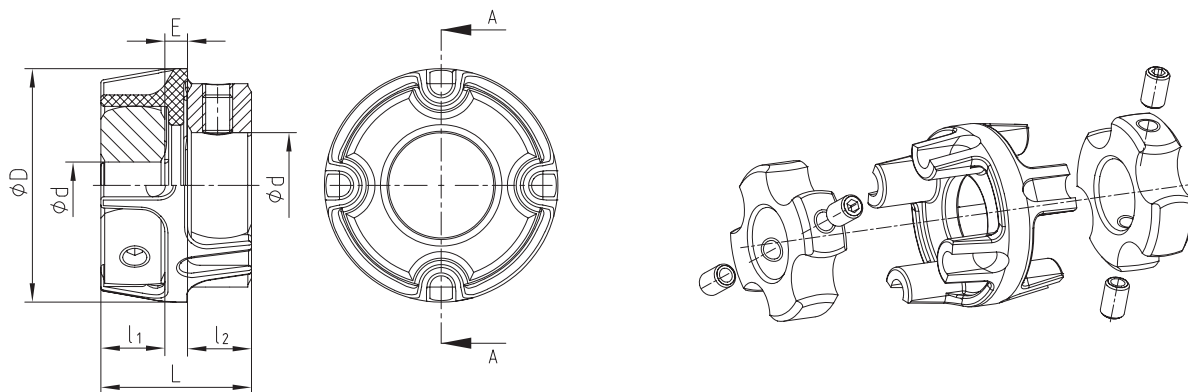
Ordering example:

RADEX®-NC 20	DK	Ø20	Ø25
Coupling size	Type	Finish bore	Finish bore

Double-cardanic for measuring drives



- Backlash-free shaft coupling for measurement drives with small torques
- 3-parted double-cardanic coupling
- Small dimensions - low flywheel mass
- Axial plug-in – easy blind assembly
- Available from stock with usual shaft dimensions
- Temperature range -40 °C to +160 °C
- Electric insulation
- Finish bore acc. to ISO fit H7, keyway from Ø 6 mm acc. to DIN 6885 sheet 1 - JS9
- Application up to a peripheral speed of 40 m/s (higher speeds on request)



COUNTEX® Hub material aluminium/spacer PEEK

Size	Torque [Nm]		Dimensions [mm]						Displacements			Torsion stiffness C_T [Nm/rad]	Radial stiffness C_R [N/mm]	Axial restoring force C_A [N]
	T_{KN}	$T_{Kmax.}$	min. d	max. d	D	l_1/l_2	E	L	radial ΔK_r [mm]	axial ΔK_a [mm]	angular ΔK_w [°]			
6	0,3	0,6	2	6	15	4	4	12	0,05	-0,3/+0,6	0,36	48	26	10
NEW 12	0,5	1,0	2	12	22	6	3,5	15,5	0,10	-0,5/+1,0	0,45	120	65	25
14	1,0	2,0	5	14	31	8	4	20	0,12	-0,5/+1,0	0,57	235	70	27

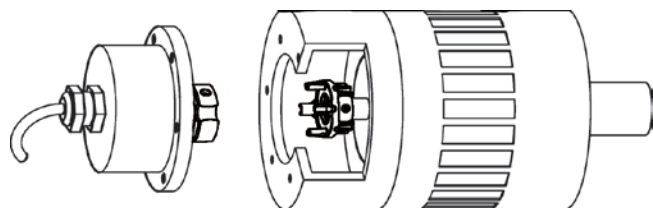
General description

COUNTEX® is a three-parted, backlash-free and torsionally stiff coupling mainly used in measuring and control technology. Its axial plug-in ability combined with the geometry of hubs results in a coupling system which has a short design and is easy to assemble. The material of the spacer is resistant to high temperatures ensuring almost continuous properties of the coupling system even with temperatures up to 160 °C.

Measuring and control technology

The measuring and control technology demands for a high torsion spring stiffness of the coupling in order to realize reproduceable positioning.

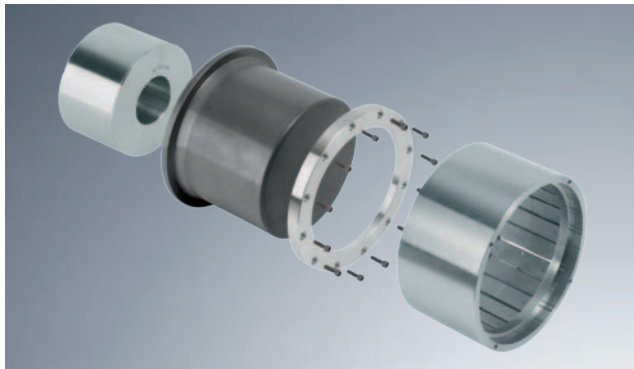
The torques that arise are relatively low so that a backlash-free, torsional stiff power transmission is achieved subject to the prestress. The double-cardanic principle of COUNTEX® reduces the restoring forces to a minimum.



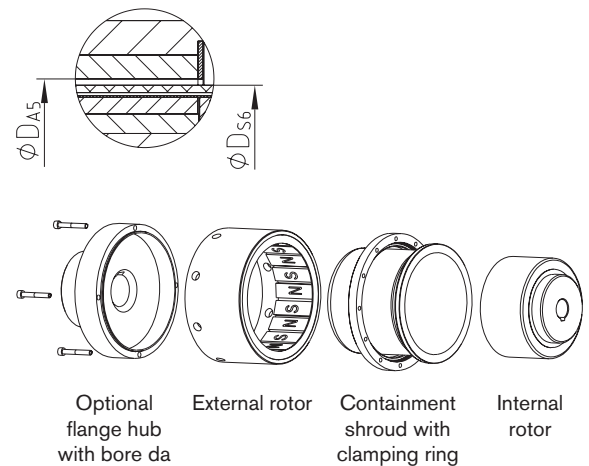
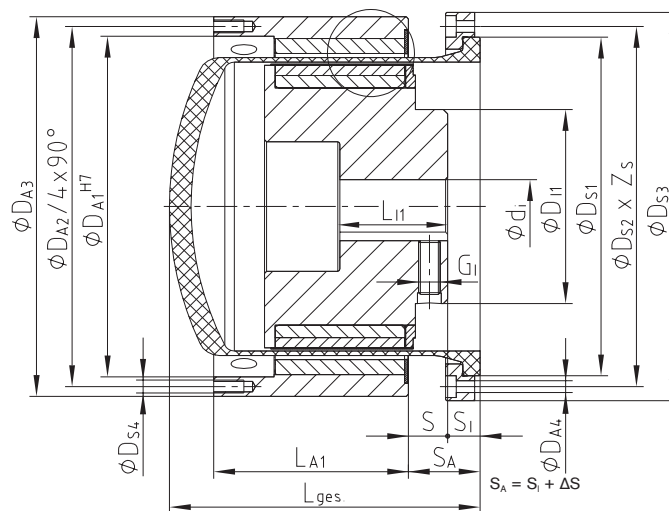
Ordering example:

COUNTEX® 14	Ø6,35	Ø10
Coupling size	Finish bore Ød ₁	Finish bore Ød ₂

Sizes SA 75/10 to SE 165/24 with containment shroud made of PEEK



- No eddy current losses and consequently no generation of heat in the coupling caused by the containment shroud
- Low susceptibility to fracture, low weight, easy handling
- Optimal solution with low demands on temperature and pressure resistance (up to 16 bar and 130 °C)
- Internal cooling measures are not required
- High energy efficiency and cost effectiveness
- The selection torque may be reduced by 10 - 15 %
- Suitable for dry-running drives like compressors and vacuum pumps, but also agitators, polyurethane plants, etc.



Containment shroud size 75 also available as a one-piece design!

Technical data – Internal rotor and containment shroud

Size	T _{K max.} [Nm] with ~ 20 °C	Dimensions [mm]												
		Internal rotor						Containment shroud						
		Finish bore ¹⁾ d _i		D _{I1}	L _{I1}	S ₁		G _I	D _{S1}	D _{S2}	D _{S3}	D _{S4}	D _{S5}	Z _S
		min.	max.			min.	max.							
SA 75/10	10				39,5		54,5							
SB 75/10	24	12	28	45	58	7,5	35,5	M6	100	115	135	9,0	72,1	8
SC 75/10	40				80	5,5	13,5							
SA 110/16	30				45		45,0							
SB 110/16	70	14	55	80	65	4,0	25,0	M8	140	151	168	9,0	109,3	12
SC 110/16	100				85		5,0							
SB 135/20	110				65		48,0							
SC 135/20	155	20	70	90	85	4,0	28,0	M10	157	167	180	5,5	133,9	12
SD 135/20	210				110		4,0							
SC 165/24	220				85		32,0							
SD 165/24	300	24	90	110	110	4,0	8,0	M12	196	210	225	6,6	163,8	12
SE 165/24	390				130	0.0	0.0							

Technical data – External rotor and general

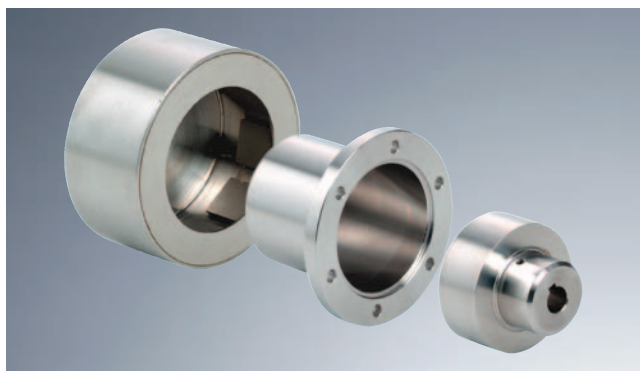
Size	Dimensions [mm]								
	External rotor						General		
	D_{A1}	D_{A2}	D_{A3}	D_{A4}	L_{A1}	ΔS	D_{S6}	D_{A5}	L_{ges}
SA 75/10					41				
SB 75/10	90	100	110	M6	61	12,5	75,1	76,5	108
SC 75/10					83,5	14,5			
SA 110/16					41				
SB 110/16	130	138	150	M6	61	19	113,2	115,7	115
SC 110/16					81				
SB 135/20					70				
SC 135/20	158	167	176	M6	90	18,5	138,2	141,9	144
SD 135/20					110	21			
SC 165/24					90	18			
SD 165/24	182	191	200	M6	110		168,3	172,0	156
SE 165/24					130	21			160

Bore H7 with keyway to DIN 6885 sheet 1 [JS9]

Ordering example:

MINEX® SB 75/10	NdFeB	d_i Ø20mm	d_a Ø24mm	PEEK
Coupling size	NdFeB – $t_{max.} = 150$ °C Sm2Co17 – $t_{max.} = 300$ °C	Finish bore (H7), feather keyway according to DIN 6885 sheet 1 (JS9).		Containment shroud type

Sizes SA 22/4 to SB 60/8 with containment shroud made of stainless steel



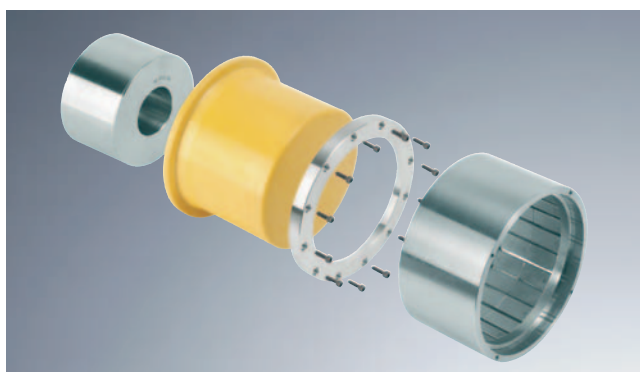
- Contactless torque transmission
- Hermetic separation of driving and driven side
- Containment shroud made of stainless steel 1.4571
- Available from stock with pilot bored internal rotor and unbored external rotor
- Finish bore available according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Approved according to EC standard 94/9/EC
- Mounting instructions at www.ktr.com

Sizes SA 75/10 to SF 250/38 with containment shroud made of stainless steel or Hastelloy



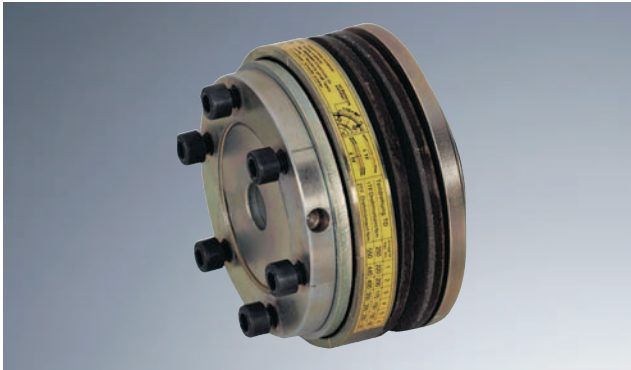
- Contactless torque transmission
- Hermetic separation of driving and driven side
- Optionally containment shroud made of stainless steel 1.4571 or Hastelloy
- Two-piece external rotor with flange hub that must be separately screwed, customized variations are possible
- Available from stock with pilot bored internal rotor
- Finish bore available according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Approved according to EC standard 94/9/EC

Sizes SA 110/16 to SE 200/30 with containment shroud made of oxide ceramics

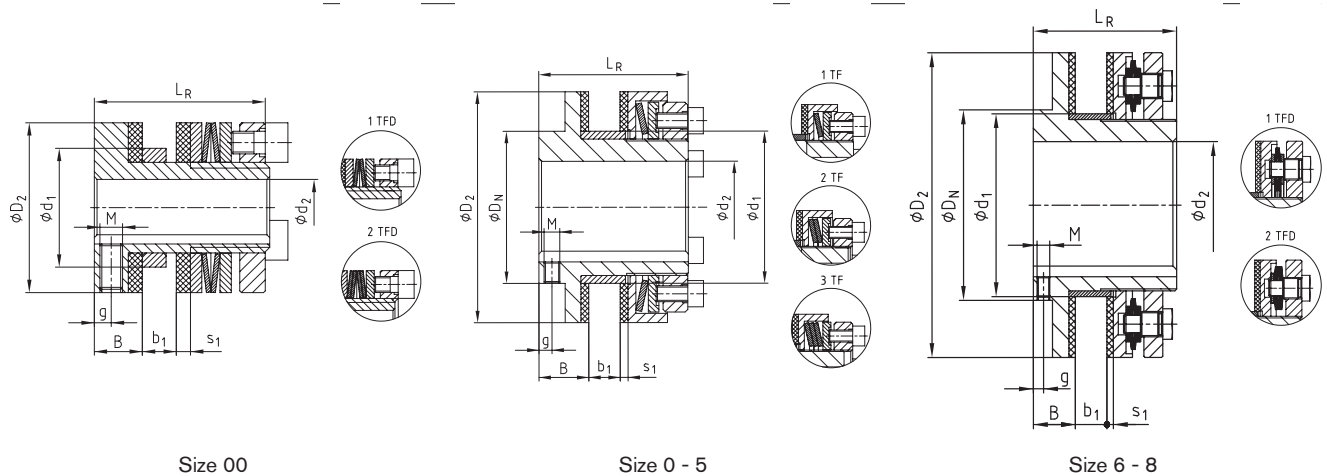


- No eddy current losses and consequently no generation of heat in the coupling caused by the containment shroud
- Suitable for higher demands on temperature and pressure resistance (up to 25 bar and 300 °C)
- Internal cooling measures are usually not required
- High energy efficiency and cost effectiveness
- The selection torque may be reduced by 10 - 15 %
- Suitable for dry-running drives like compressors and vacuum pumps, but also agitators, polyurethane plants, etc.
- Sizes SA 110/16 to SE 200/30 available from stock, other sizes on request
- Approved according to EC standard 94/9/EC

Standard RUFLEX®

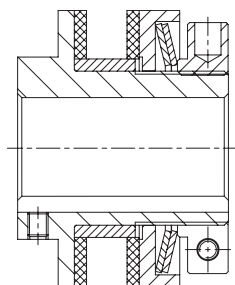


- Torque limiter for a torque range up to 6800 Nm
- Standard RUFLEX® zinc-coated and passivated
- Torque setting possible while in place
- Asbestos-free and rust-resistant friction linings
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Securing of the setting nut by locking in 12 different positions
- All components are made of high-quality steel

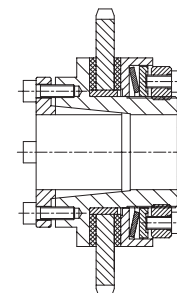


Technical data																
Size	Max. speed [rpm]	Torques [Nm]			Dimensions [mm]											
					Bore d ²		D ₂	D _N	d ₁ ²⁾	B	Driving part b ¹		S ₁	L _R	Setscrew	
		1TF	2TF	3TF ³⁾	pilot b.	max.					min.	max.			g	M
00	10000	0,5-3	1-5	—	—	10	30	30	21	8,5	2	6	2,5	31	3	M4
0	8500	2-10	4-20	—	—	20 ¹⁾	45	45	35	8,5	2	6	2,5	33	3	M4
01	6600	5-35	10-70	—	—	22	58	40	40	16	3	8	3	45	4	M5
1	5600	20-75	40-150	130-200	—	25	68	45	44	17	3	10	3	52	5	M5
2	4300	25-140	50-280	250-400	—	35	88	58	58	19	4	12	3	57	5	M6
3	3300	50-300	100-600	550-800	—	45	115	75	72	21	5	15	4	68	5	M6
4	2700	90-600	180-1200	1100-1600	—	55	140	90	85	23	6	18	4	78	5	M8
5	2200	400-800	800-1600	1400-2100	—	65	170	102	98	29	8	20	5	92	8	M8
6	1900	300-1200	600-2400	—	38	80	200	120	116	31	8	23	5	102	8	M8
7	1600	600-2200	1200-4400	—	45	100	240	150	144	33	8	25	5	113	8	M10
8	1300	900-3400	1800-6800	—	58	120	285	180	170	35	8	25	5	115	8	M10

Finish bore exceeding Ø19, keyway to 6885 sheet 3
Bore tolerance (driving component): F8 with size 00-4, H8 with size 5-8
to be used on design with limited dimensions only



- with clamping setting nut
- for radial torque setting



- with taper bush (hub design 4.5)
- frictionally engaged shaft-hub-connection

Ordering example:	RUFLEX®	1	2TF	Ø10	Ø20
Type	Size	Size	Disk spring layer	Width of driving components	Finish bore d ₂

RUFLEX® with sprocket



- RUFLEX® torque limiter with sprocket mounted
- Available from stock with standard sprocket (see table below)
- Other types of sprockets on request
- Complete unit with torque pre-set
- On request also available from stainless material
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.

RUFLEX® max.



- RUFLEX® for assemblies with wide driving components
- E. g. double and triple sprockets
- Detailed adjustment to the customer's dimensions possible
- Also available as a complete unit with sprocket
- Other sizes of RUFLEX® max. on request
- Please mention the width of driving component „b“ in your order
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.

RUFLEX® with torsionally flexible ROTEX®



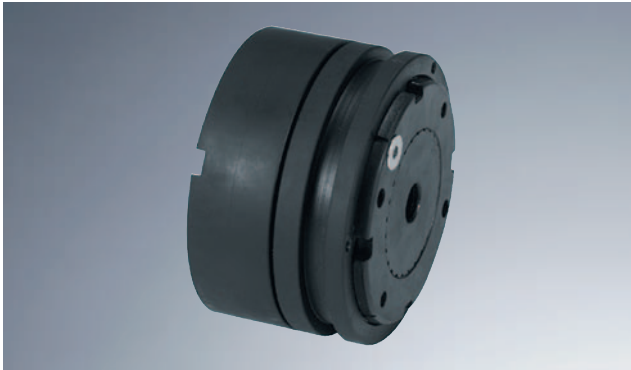
- RUFLEX® with ROTEX® as shaft-to-shaft-connection
- Torsionally flexible torque limiter
- Axial plug-in
- Able to compensate for misalignment
- Various kinds of elastomer hardness available
- Torque can be set while in place
- Easy assembly
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.

RUFLEX® with torsionally rigid BoWex®

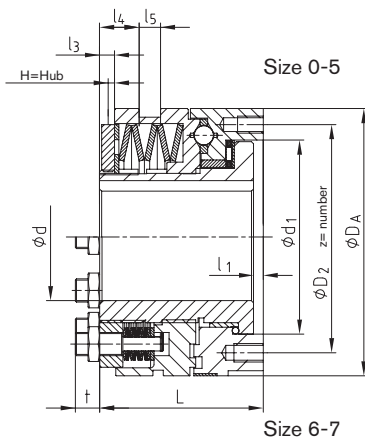


- RUFLEX® with BoWex® as shaft-to-shaft-connection
- Torsionally rigid safety clutch
- Axial plug-in
- Double-cardanic, able to compensate for misalignment
- For simple drives (low speeds, etc.)
- Easy assembly
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.

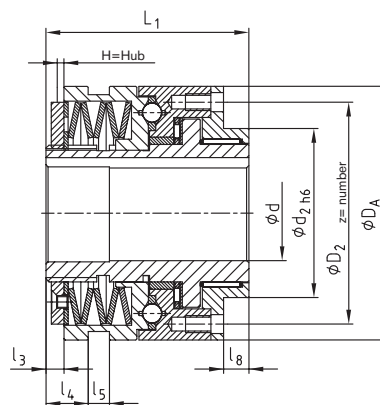
Type FT, KT and LT



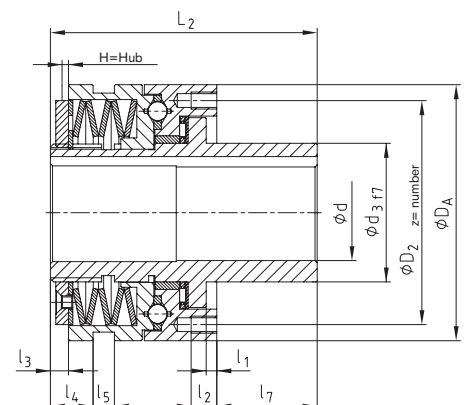
- Standard KTR-SI safety clutch up to 8200 Nm
- Available ready for assembly with the torque set
- For a direct connection of customer components
- Available as a ratchet, synchronous and fail-safe design
- Torque setting possible while in place
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Surface protection by phosphating



Type FT



Type KT



Type LT

Technical data									
Size	Torques [Nm]								Weight with max. bore [kg]
	Disk spring layers design DK				Disk spring layers design SR and SGR				
	T1	T2	T3	T4	T1	T2	T3	T4	
0	2,5-5	5-20	–	20-40	5-10	10-40	–	–	0,41
1	6-12	12-25	25-55	55-100	12-25	25-50	50-100	–	1,30
2	12-25	25-50	50-120	120-200	25-50	50-100	100-200	–	2,27
3	25-50	50-100	100-250	200-450	50-100	100-200	200-450	–	3,88
4	50-100	100-200	200-500	500-1000	100-200	200-400	400-800	800-2000	8,34
5	85-250	230-600	300-1000	600-2000	170-450	350-900	600-1800	1200-3400	13,51
6	180-480	360-960	720-1950	1600-3300	300-750	600-1500	1200-3000	2900-5800	21
7	250-520	500-1050	1000-2100	2000-3600	550-1100	1100-2200	2200-4400	3000-8200	37

Dimensions [mm]																						
Size	Bore d		d ₁	D ₂	D _A	d ₂	d ₃	l ₁	l ₂	l ₃	l ₄	l ₅	l ₇	l ₈	L	L ₁	L ₂	z	H=Hub			
	pilot b.	max.																	DK	SR	SGR	FR
0	7	20	41,0	48	55	38	28	4,0	6,5	3,0	7,5	9	27,5	8	38,5	51,0	66,0	6xM5	1,4	1,2	0,6	1,6
1	10	25	60,0	70	82	50	38	4,0	8,0	6,0	11,5	9	33,0	10	52,0	70,0	85,0	6xM5	2,3	1,8	0,8	2,3
2	14	35	78,0	89	100	60	52	5,0	10,0	5,0	12,0	9	39,0	12	61,0	78,0	100,0	6xM6	2,4	2,0	1,1	3,0
3	18	45	90,5	105	120	80	65	5,0	12,0	8,5	21,0	10	47,0	12	78,0	96,0	125,0	6xM8	2,7	2,2	1,2	3,5
4	24	55	105,0	125	146	100	78	6,5	15,0	11,0	27,0	9	52,5	16	100,0	124,5	152,5	6xM10 ¹⁾	3,7	2,5	1,2	3,8
5	30	65	120,5	155	176	120	90	6,5	17,0	12,0	33,0	9	57,5	18	113,5	140,0	171,0	6xM12 ¹⁾	4,6	3,0	1,6	4,5
6 ²⁾	40	80	136,0	160	200	130	108	7,0	20,0	14,0	39,0	9	64,0	20	119,0	150,0	183,0	6xM12 ¹⁾	5,0	3,5	2,5	–
7 ²⁾	50	100	168,0	200	240	160	135	8,0	25,0	15,0	46,0	9	72,0	25	141,0	175,0	213,0	6xM16 ¹⁾	5,5	4,0	2,7	–

Design T4, SR and SRG: tightening torques acc. to 12.9
Size 6: dimension t = 15 mm, size 7: dimension t = 21 mm

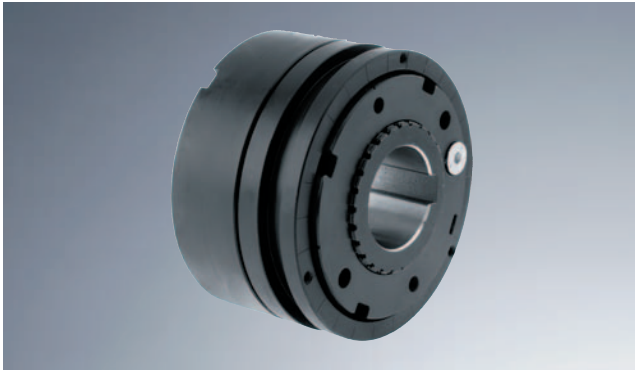
Ordering example:	KTR-SI	2	DK	FT	T2	Ø20	40 Nm
	Type	Size	Type	Type	Disk springs	Bore	Torque set

KTR-SI

Overload system

Miscellaneous types

Idle rotation coupling (load-separating)



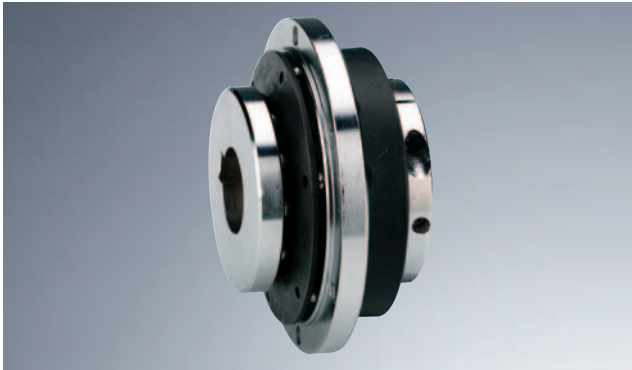
- Idle-rotation safety clutch for a torque up to 1800 Nm
- Max. speed up to 5000 rpm (see table)
- Driving and driven side are permanently separated
- Manual re-engagement
- Optional overload recognition by limit switch or sensor
- Combination with ROTEX® coupling as shaft-to-shaft connection
- Easy assembly and torque setting

With torsionally flexible ROTEX®

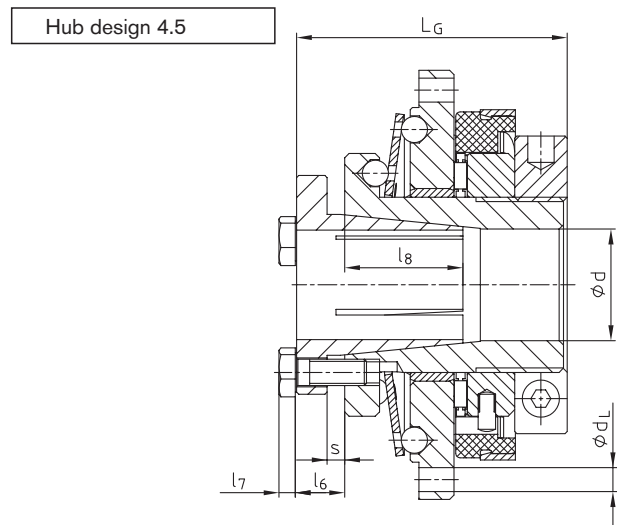
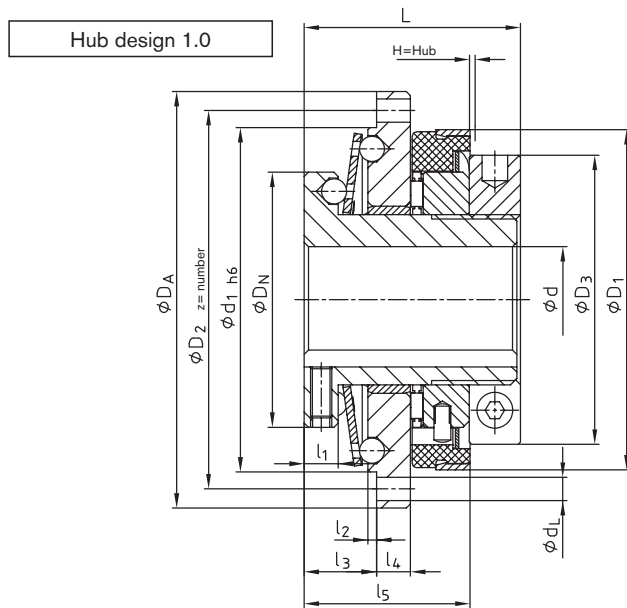


- KTR-SI safety clutch as a shaft-to-shaft connection
- Axial plug-in
- Able to compensate for misalignment
- Available as a ratchet, synchronous and fail-safe design
- Torque setting possible while in place
- Various kinds of elastomer hardness available
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.

Standard SYNTEX® flange coupling



- Standard SYNTEX® overload system up to 400 Nm
- Flange design
- Easy mounting of customers' components
- Available both as a ratchet and synchronous design
- Torque setting possible while in place
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Also available with a frictionally engaged shaft-hub-connection (hub design 4.5)



Technical data																						
Size	Torques [Nm]				Max. speed [rpm]	Dimensions [mm]																
	Ratchet design DK		Synchronous design SK			Bore d		D _A	D ₂	d ₁	D _N	D ₃	D ₁	d _L	L	l ₁	l ₂	l ₃	l ₄	l ₅	z	H=Hub
	DK ₁	DK ₂	SK ₁	SK ₂		pilot b.	max															
20	6-20	15-30	10-20	20-65	1500	–	20	80	71	65	48	54	61,5	4,5	45	8	2	16	6	35	8	2
25	20-60	45-90	25-65	40-100	1500	–	25	98	89	81	60	68	80	5,5	50	8	2	17	8	39	8	2
35	25-80	75-150	30-100	70-180	1000	–	35	120	110	102	75	78	91	5,5	60	10	2	21	10	42	12	2
50	60-180	175-300	80-280	160-400	1000	–	50	162	152	142	105	108	121	6,6	70	12	2	25	13	56	12	2

Technical data - Hub design 4.5								
Size	Dimensions [mm]						Clamping screws	Tightening torque TA [Nm]
	dmax	l3	l7	l3	LG	s		
20	20	9	3,5	23	54	3	4 x M5	8,5
25	25	11	4,0	28	61	4	4 x M6	14
35	35	10	4,0	31	70	4	4 x M6	14
50	50	12	4,0	37	82	6	4 x M6	14

Bores (fitting tolerance H7/h6) and the corresponding friction torques TR [Nm]																						
Size	Ø12	Ø14	Ø15	Ø16	Ø17	Ø18	Ø19	Ø20	Ø22	Ø23	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50
20	45	62	71	81	92	103	115	127														
25		72	83	95	107	120	133	148	179	196	213	231										
35									127	139	152	165	207	237	270	323						
50																238	281	311	343	394	448	486

Ordering example:

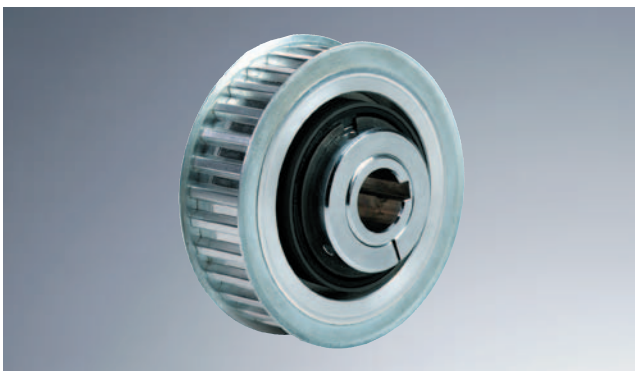
SYNTEX®	25	DK1	Ø20	1.0	45 Nm
Type	Size	Type	Bore	Hub design	Torque set

Standard SYNTEX® with integrated sprocket



- Standard SYNTEX® with integrated sprocket
- Available ready for assembly with the torque set
- Reduction of number of components by integration of components
- Available both as a ratchet and synchronous design
- Torque setting possible while in place
- Fertigbohrung nach ISO-Passung H7, Passfedernute nach DIN 6885 Bl. 1 - JS9
- Also available with a frictionally engaged shaft-hub-connection (hub design 4.5)

Standard SYNTEX® with belt drive



- Standard SYNTEX® with integrated belt drive
- Available ready for assembly with the torque set
- Reduction of number of components by integration of components
- Available both as a ratchet and synchronous design
- Torque setting possible while in place
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Also available with a frictionally engaged shaft-hub-connection (hub design 4.5)

SYNTEX® with shaft coupling ROTEX® GS



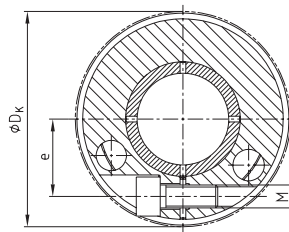
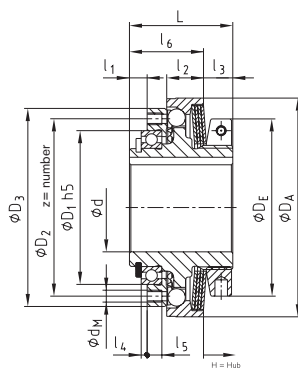
- Backlash-free, torsionally stiff safety clutch
- Axial plug-in
- Low mass moments of inertia by using aluminium components
- Available both as a ratchet and synchronous design
- Torque setting possible while in place
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.
- Also available with a frictionally engaged shaft-hub-connection (hub design 4.5)

SYNTEX®-NC

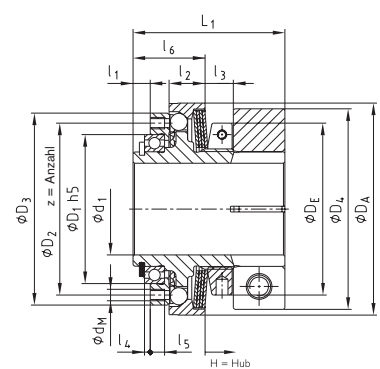


- Safety clutch up to 280 Nm
- Backlash-free, torsionally stiff
- Lower mass moment of inertia
- Available as a synchronous and ratchet design
- Easy assembly
- Compact design
- See company catalogue

Hub design 1.0



Hub design 6.1



Technical data																			
Size	Speed [rpm]	Torques [Nm]			Dimensions [mm]														
		T ₁	T ₂	T ₃	d _{max}	D ₁ h ₅	D ₂	D ₃	D _A	D _E	z x d _M	L	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	H-Hub
25	3000	8 - 15	17 - 30	35 - 65	22 ¹⁾	42	48	56	61	50	8xM4	33	5,5	11,5	9,1	2	5	23,9	1,2
32	3000	20 - 35	40 - 70	80 - 145	30 ¹⁾	52	60	67	74	60	8xM4	35	6	12,5	9,9	2	5	25,1	1,5
42	2500	30 - 70	55 - 140	105 - 280	38 ¹⁾	65	75	83	90	72	8xM5	43	7	16	11,2	2	6	31,8	1,5

Dimensions with clamping ring type 6.1										
Size	Bore d ₁		Dimensions [mm]							
	Pilot bore	max.	D ₄	D _K	L ₁	e	M	T _A [Nm]	Weight ²⁾ [kg]	Mass moment of inertiat ²⁾ J _{GeS} [kgm ²]
25	9,5	25	55	-	45	21	M6	14	0,282	0,00014
32	13,5	32	70	-	53	27	M8	34	0,471	0,00035
42	18,5	42	86	91,2	63	33	M10	67	0,815	0,00095

Transmittable friction torques T _r [Nm] of clamping ring 6.1 (without feather keyway)																				
Size	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø36	Ø38	Ø40	Ø42
25	34	41	48	63	71	79	55	61	67	79	92	98								
32					87	95	118	130	143	169	132	143	174	197	220					
42									170	203	238	257	314	354	293	344	361	397	433	470

¹⁾ max. bore, feather keyway acc. to DIN 6885 sheet 3

2) with max. bore

Ordering example:	SYNTEX®-NC	32	SK	T3	Ø25	6.1	120
	Type	Size	Type [DK/SK]	Disk springs	Bore	Hub design	Torque set

SYNTEX®-NC with ROTEX® GS



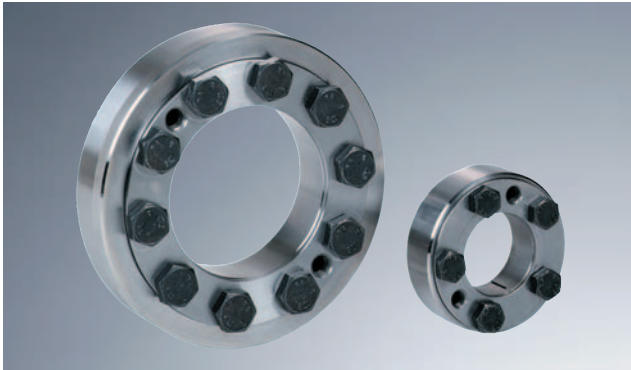
- Safety clutch as a shaft-to-shaft connection
- Combination with the backlash-free Rotex® GS
- Torsionally flexible, able to compensate for misalignment
- Axial plug-in
- See company catalogue

SYNTEX®-NC with RADEX®-NC



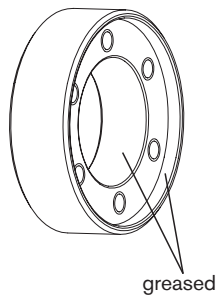
- Combination with the torsionally stiff RADEX®-NC coupling
- Backlash-free torque transmission
- Able to compensate for misalignment
- Compact dimensions
- Finish bores with feather keyway or available as a clamping design

KTR 620

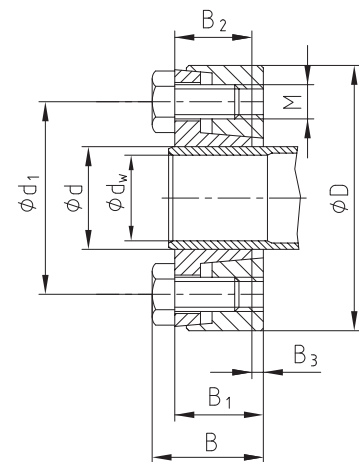
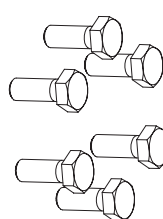
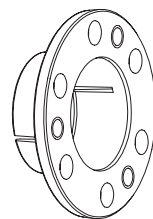


- Applications on hollow shafts, slip-on gears, couplings, mechanical shrink connections
- Suitable for high torque loads
- Easy assembly by visual mounting groove
- Corrosion-resistant outer ring (phosphated)
- Good centering and concentricity characteristics
- KTR 620 FK flange coupling
(Please order dimension sheet M494133.)
- KTR 625 for higher torques
(Please order dimension sheet M462972.)
- Mounting instructions at www.ktr.com

Outer ring
phosphated and
taper contact
surfaces greased



Inner ring



Assembly

Clean and degrease the contact surfaces of shaft and hub (internal hollow shaft). Slightly unscrew the clamping screws and put the clamping set externally onto the hub/hollow shaft. Before tightening the clamping screws please assemble the shaft. Evenly tighten the diametrically opposite clamping screws until the front surfaces of the outer and inner rings are flush. The max. screw tightening torque indicated must not be exceeded. The values for T and Fax indicated in the table relate to an assembly with greased external clamping set. The external clamping sets are delivered in greased condition. When assembling grease-free external clamping sets the values shown in the table and the values calculated are different. In case of questions, please feel free to contact us.

Note: Contact surfaces of shaft and hub bore (internal hollow shaft) must not be greased or oiled.

Disassembly

All clamping screws must be unscrewed evenly and one after another. Do not completely unscrew the clamping screws off the thread. Loosen the external taper ring in the inner ring with the forcing thread.

Tolerances, surfaces

One accurate turning process is sufficient:

$$RZ \leq 16\mu\text{m}$$

Maximum permissible tolerances:

d = f7 for the hub (external hollow shaft)

$$d_w = h6/H7$$

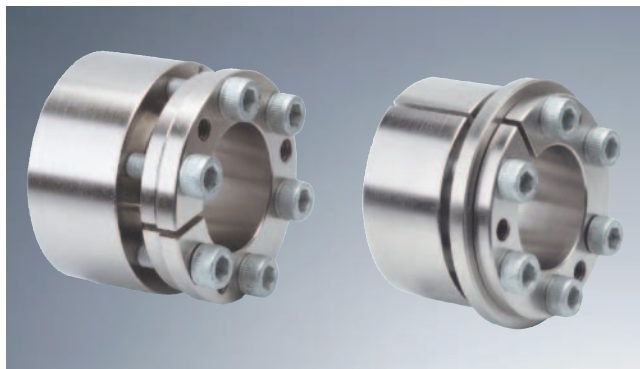
$$d_w > \varnothing 160 - g6/H7$$

Axial displacement

During the tightening of the screws there is no axial displacement of the hub towards the shaft.

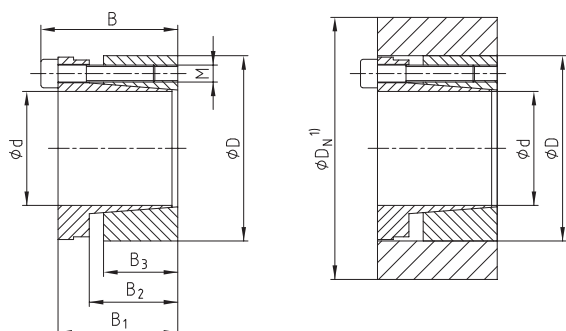
Ordering example:	KTR 620	20	x	47
	Type	Size of inside diameter d		Size of outside diameter D

KTR 200 and KTR 201 (self-centering)



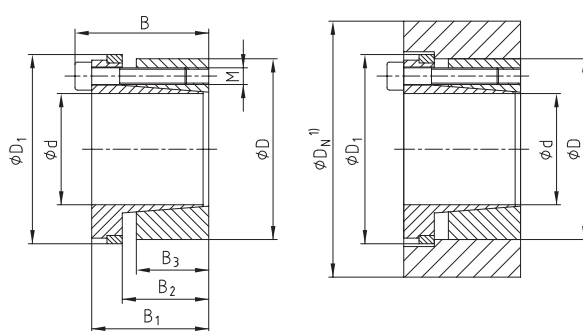
- Clamping element for universal use
- Wide range of applications
- Low-cost solution with average to high torques
- Mounting instructions at www.ktr.com

KTR 200



Considerably higher transmittable torque than KTR 201,
slight axial displacement of the hub

KTR 201



No axial displacement of the hub,
but lower transmittable torque than with KTR 200

¹⁾ Dimension DN: For details of calculation see comp. catalogue.

Assembly

Clean the contact surfaces of the clamping set as well as the shaft and the hub and afterwards apply thin-fluid oil. Insert the clamping set into the hub fit and push it onto the shaft. Tighten the clamping screws crosswise, evenly and by degrees to the tightening torque T_A mentioned by means of the torque wrench. Check the tightening torque of all clamping screws in the order of arrangement. The figures T and F_{ax} mentioned in the table were calculated for an assembly with oil.

Please note: Oils and greases containing molybdenum disulphide or high-pressure additives, additives of teflon and silicone as well as sliding grease paste reducing the coefficient of friction considerably must not be used. For assembly of the clamping set tapers without oil, the figures mentioned in the table deviate from the calculated figures.

Disassembly

Unscrew the clamping screws. Screw the screws into the pull-off thread, tighten them crosswise by degrees and evenly until the rear taper ring is released. For repeated application oil the screws and threads.

Tolerances, surfaces

One accurate turning process is sufficient:

$RZ \leq 16\mu m$

Maximum permissible tolerances:

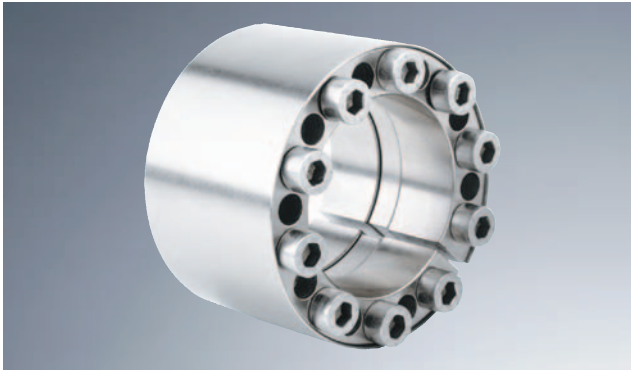
h8 for the shaft - H8 for the hub

Centering

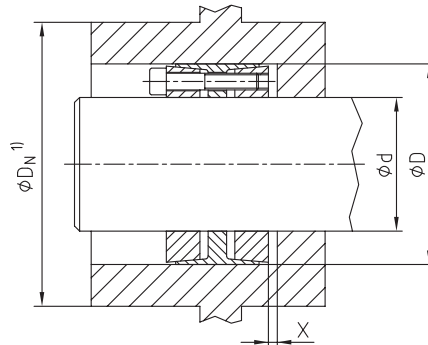
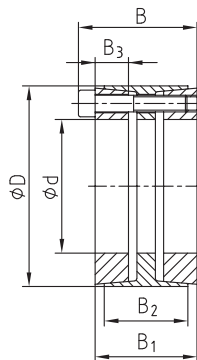
The clamping elements KTR 200 and KTR 201 are self-centering. The concentricity of the clamping set between shaft and hub is between 0,02 and 0,08 mm.

Ordering example:	KTR 200	40	x	65
	Type	Size of inside diameter d		Size of outside diameter D

KTR 400 (self-centering)



- Clamping set suitable for high loads
- Specifically suitable for vibratory torques
- Typical applications: flywheels, belt drums
- Torque factor
 - 1 off 1 x T
 - 2 off 1,9 x T
 - 3 off 2,7 x T
 - 4 off 3,6 x T
- KTR 402 for shaft Ø 320 mm to Ø 560 mm and high torques, please order dimension sheet M483041.
- Mounting instructions at www.ktr.com



Formula to calculate space x left for disassembly:

$$x = (B1 - B2) / 2$$

¹⁾ Dimension D_N: For details of calculation see comp. catalogue.

Assembly

Clean the contact surfaces of the clamping set as well as the shaft and the hub and afterwards apply thin-fluid oil. Insert the clamping set into the hub fit and push it onto the shaft. Tighten the clamping screws evenly and crosswise. Here please increase the tightening torque step by step. This must be repeated until reaching the indicated tightening torque with all clamping screws.

Please note: Oils and greases containing molybdenum disulphide or high-pressure additives, additives of teflon and silicone as well as sliding grease paste reducing the coefficient of friction considerably must not be used. For assembly of the clamping set tapers without oil, the figures mentioned in the table deviate from the calculated figures.

Disassembly

Unscrew all clamping screws and screw them into the pull-off threads of the front taper ring. Tighten the screws crosswise by degrees and evenly to half the tightening torque T_A. Afterwards repeat this process to the full tightening torque. As soon as the front taper ring is released, screw the clamping screws into the pull-off threads of the spacer ring in order to release the rear taper ring.

Please note: If the clamping element KTR 400 is reused it has to be made sure that the pull-off threads of the front taper ring and the spacer are in their original position. Here the slots of the front and the back pressure ring and those of the external ring must be flush.

Tolerances, surfaces

One accurate turning process is sufficient:

$$RZ \leq 16\mu m$$

Maximum permissible tolerances:

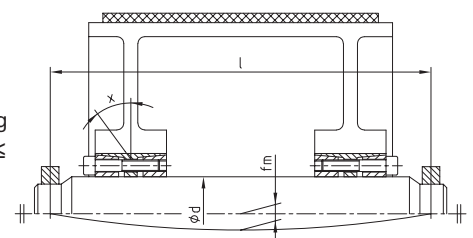
h8 for the shaft - H8 for the hub

Axial displacement

During the assembly a slight axial displacement of the hub towards the shaft may arise.

Centering

The clamping element KTR 400 is self-centering. The concentricity of the clamping set between shaft and hub is between 0,02 and 0,08 mm.



Example of installation

Drive of conveyor belt drum

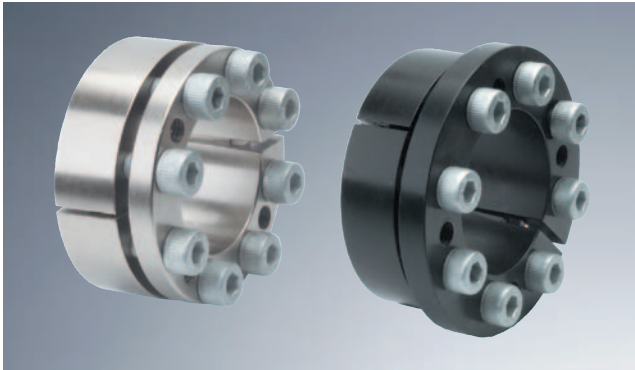
The following conditions should be adhered to as limiting values for CLAMPEX® clamping sets with load by bending: Direction angles x on the contact position shaft-clamping set ≤ 6° or maximum shaft bending fm in the bearing area:

fm ≤ l (1/2000 - 1/3000).

Ordering example:

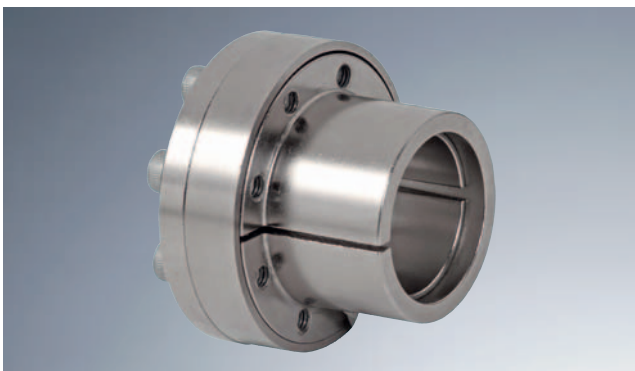
KTR 400	100	x	145
Type	Size of inside diameter d		Size of outside diameter D

KTR 203 and KTR 206 (self-centering)



- Clamping set for universal applications
- Short mounting dimensions
- Operation as with KTR 200/201
- Mounting instructions at www.ktr.com

KTR 250 (self-centering)



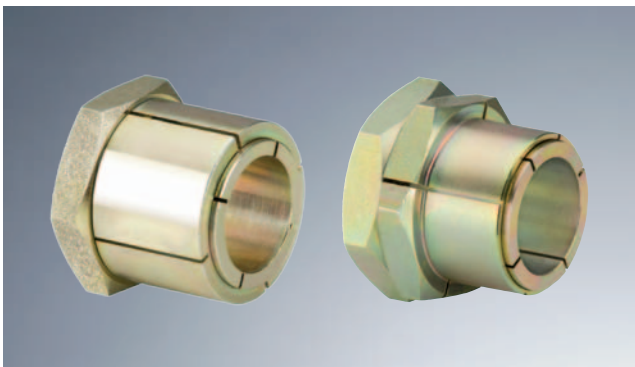
- Clamping set specifically suitable for hubs with a small wall thickness
- Reduction of costs by saving material
- Short assembly times
- Small radial mounting dimensions
- Clamping sets "stainless steel" on request (Please order dimension sheet M367697.)
- Mounting instructions at www.ktr.com

KTR 225 for disk and flange shape drive components (self-centering)



- For the same diameter of the external ring various bore diameters are available
- Only one bore for each size necessary for the hub
- Reduction of components and costs
- Short assembly times
- Mounting instructions at www.ktr.com

KTR 130 and KTR 131 (self-centering)



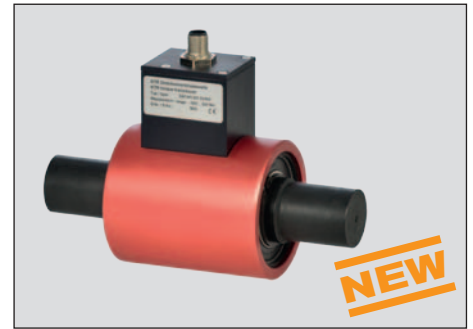
- Corrosion-protected surface
- Assembly and disassembly by means of central clamping nut
- Self-centering
- Shaft diameters from 5 mm to 50 mm
- Tolerance h8/H8 for shaft and hub
- KTR 131: Hexagon locking nuts for clamping on easily torsionable shafts
- Mounting instructions at www.ktr.com

DATAFLEX® 16 and 32 – High precision with each revolution

With the new series of DATAFLEX® 32 KTR extend their range of precision measuring shafts for average torques. Along with the well-established size DATAFLEX® 16 measuring ranges from 10 to 500 Nm are now covered.

With the new series DATAFLEX® 16 or DATAFLEX® 32 the torque is measured using the approved technology of wire strain gauges DMS while processing without contact at a resolution of 24 bit. Thus, the torque measurement achieves an accuracy of 0,1% of the final value.

Supplementary to torque measuring the measuring shafts size 16 and 32 have a speed encoder providing two offset signals with a resolution of 360 or 720 pulses per revolution. The speed display in practice is not an optional extra feature, but already included in the serial scope.



DATAFLEX® 22, 42, 85, 140 – Patented technology at top prices

The DATAFLEX® torque measuring shafts sizes 22 to 140 measure the torques without contact and free from wear. Their secret is a patented measuring method acquiring the twisting of the torsion shaft by measuring the quantity of light. For that purpose the light is directed through two disks the transparency of which is amended proportionally to the torque. The overall electronics are situated in a stationary housing to make sure that no signals have to be transmitted by the rotating shaft and the torque is available accurately with a high band width of 16 kHz. This can measure and analyze highly dynamic processes accurately.

The analog output values are available both as a voltage signal from 0 – 10 V and as a current signal from 4 – 20 mA. In addition a speed encoder is integrated providing a signal at a resolution of 60 impulses per revolution.



Connection housing DF2 – All Inclusive

The connection housing DF2 can easily be combined with all DATAFLEX® torque measuring shafts disposing of a retainer for top hat rail assembly as well as terminal screws for an easy connection of external devices.

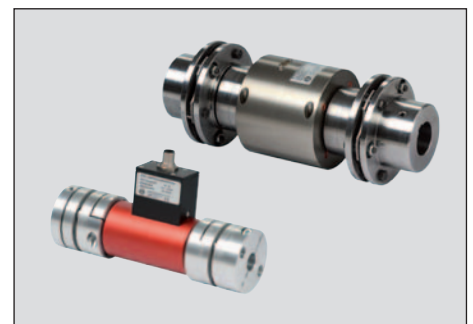
The following features save the purchase of expensive measuring amplifiers and converters:

- The torque output can be filtered over 5 steps so that short torque peaks in the display can be reduced.
- The pulse signal of the speed output can be configured both for 5V (TTL) and 24V (HTL). This makes the speed signal compatible for data logging boards and SPS controls.
- In parallel with the pulse signal an integrated frequency voltage converter supplies a DC voltage from 0 – 10 V proportionally to the speed, the scaling of which can be changed individually. This makes an expensive counter superfluous so that the signal can either be processed as a voltage or can be displayed.
- A directional signal indicates the rotational direction of the drive (with DATAFLEX® 16 and 32).



Couplings adjusted to every application

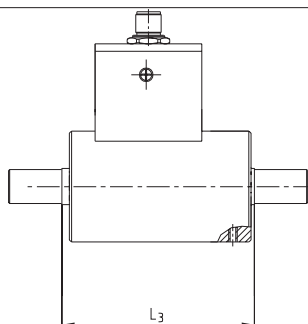
With all DATAFLEX® sizes we recommend the servo lamina coupling RADEX®-NC and the steel lamina coupling RADEX®-N, a compact solution which can be quickly integrated having a high stiffness. In general it is also possible to use backlash-free plug-in couplings such as ROTEX® GS or to integrate an overload coupling.



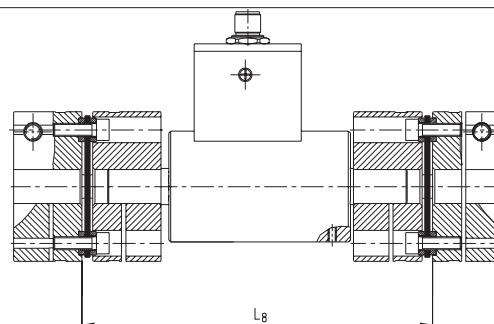
DATAFLEX® Torque measuring shafts



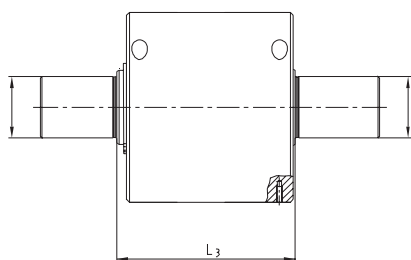
- Measuring ranges from 10 bis 50.000 Nm
- Inaccuracy: 0,1% and 0,5% of the terminal value
- Low-cost overall solution
- Integrated speed measurement
- Additional direct voltage output for speed
- Reliable measurement values in
 - machine monitoring
 - process control
 - test bench technology



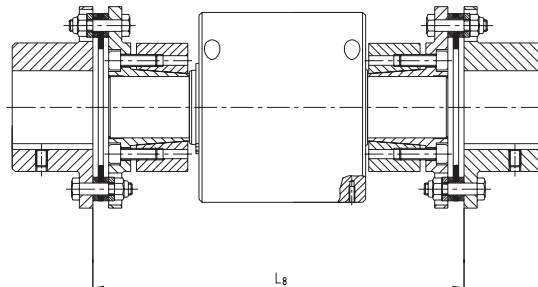
DATAFLEX® 16



Combination of DATAFLEX® 16 with RADEX®-NC



DATAFLEX® 42

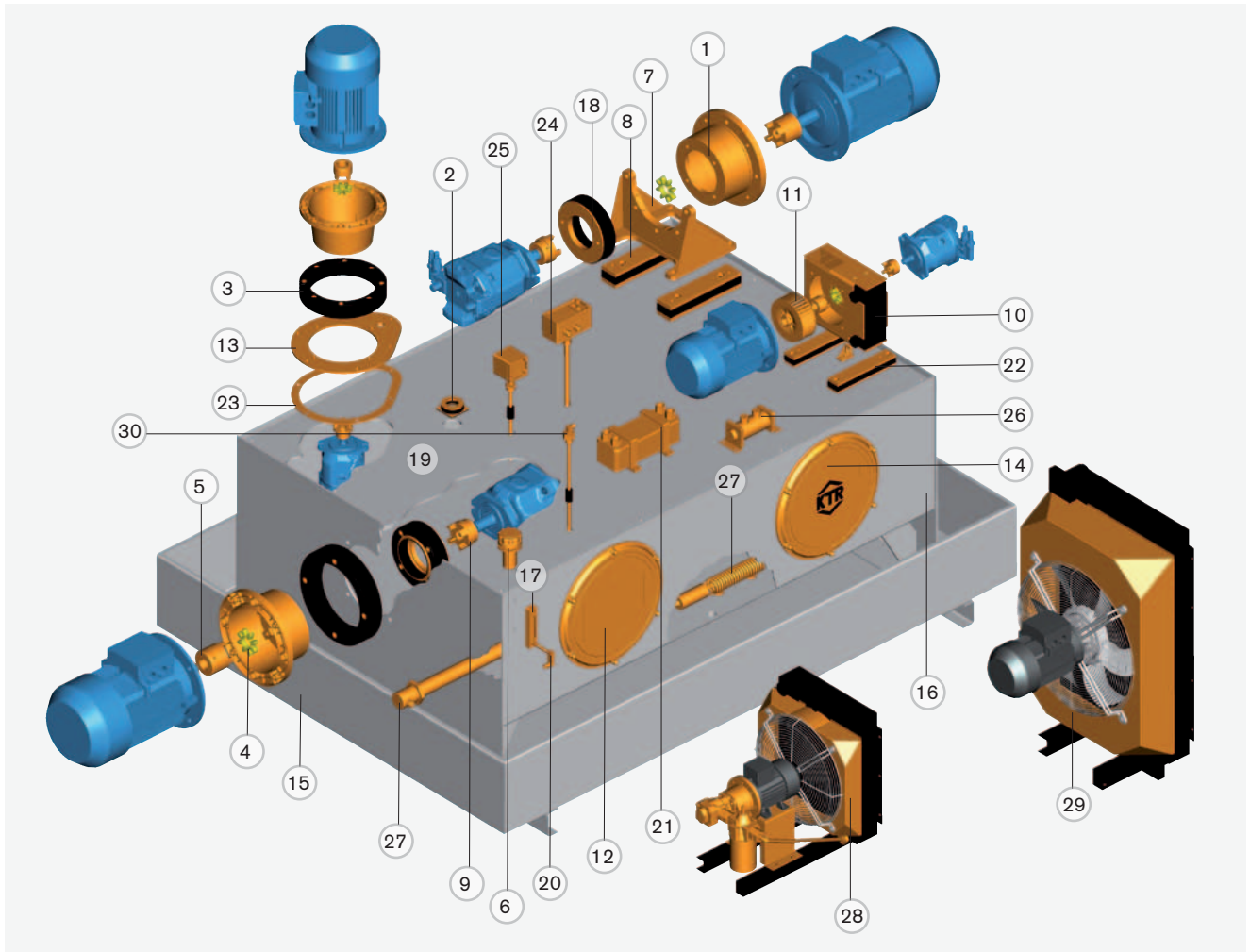


Combination of DATAFLEX® 42 with RADEX®-N

General features										
DATAFLEX® Typ	Torque				Speed:			Coupling ³⁾	Dimensions	
	Measurement range ^h T _{KN} [Nm]	Measurement accuracy 1,2) [%]	Band width [kHz]	Output of torque	Resolution (pulses/rev.)	Square wave signal [Vss]	DC-Signal 0...10V		Distance dimension	Distance dimension
									Measuring shaft L ₃ [mm]	Combination L ₈ [mm]
Series with strain gauges										
16/10	±10	0,1	2	-10V ... +10V	2x360	5/24	ja	RADEX®-NC 20	90	146
16/30	±30	0,1	2	-10V ... +10V	2x360	5/24	ja	RADEX®-NC 25		164
16/50	±50	0,1	2	-10V ... +10V	2x360	5/24	ja	RADEX®-NC 25		164
32/100	±100	0,1	2	-10V ... +10V	2x720	5/24	ja	RADEX®-N 42	95	205
32/300	±300	0,1	2	-10V ... +10V	2x720	5/24	ja	RADEX®-N 60		227
32/500	±500	0,1	2	-10V ... +10V	2x720	5/24	ja	RADEX®-N 60		227
Series with KTR light sensor										
22/20	±20	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-NC 25	90	164
22/50	±50	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-NC 35		174
22/100	±100	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-NC 35		174
42/200	±200	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-N 60	122	254
42/500	±500	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-N 60		270
42/1000	±1000	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-N 80		270
85/2000	±2000	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-N 105	164	384
85/5000	±5000	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-N 115		410
85/10000	±10000	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja	RADEX®-N 135		488
140/20000	±20000	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja		206	
140/50000	±50000	±0,5	16	0-10 V, 4-20 mA	1x60	5/24	ja			

¹⁾ referring to nominal value T_{RN}
²⁾ errors in linearity incl. hysteresis
³⁾ standard coupling recommended

Summary



- | | |
|--|--|
| ① Bellhousing type PK/PL | ①⑥ Steel tanks type BSK/BNK/BEK |
| ② Elastic flange | ①⑦ Oil-level indicator type KO |
| ③ Damping ring design DT | ①⑧ Damping ring type D |
| ④ ROTEX® spider | ①⑨ Machining of tank according to customer specification |
| ⑤ ROTEX® coupling hub, motor side | ①⑩ Temperature switch type TS |
| ⑥ Filler breather (with ventilation filter) | ①⑪ PHE plate heat exchanger |
| ⑦ Foot flange type PTFS (VDMA 24 561 part 1) | ①⑫ Damping rod design DSK for PIK |
| ⑧ Damping rod design DSFS for foot flange type PTFS | ①⑬ Gasket type DZ for additional flange type ZO |
| ⑨ ROTEX® coupling hub, pump side | ①⑭ Industrial controller IR |
| ⑩ Bellhousing type PIK with integrated oil cooler | ①⑮ IRDN digital industrial control with level switch |
| ⑪ Fan for PIK | ①⑯ Horizontally mounted cooler TAK |
| ⑫ Standard cleaning cover | ①⑰ Tank heaters |
| ⑬ Additional flange type ZO | ①⑱ OPC Cooling-pump-unit with hydraulic pump filter |
| ⑭ Cleaning cover with logo according to customer specification | ①⑲ OAC-Oil/air coller |
| ⑮ Oil sump pan | ①⑳ Level-temperature-switch type NVT |

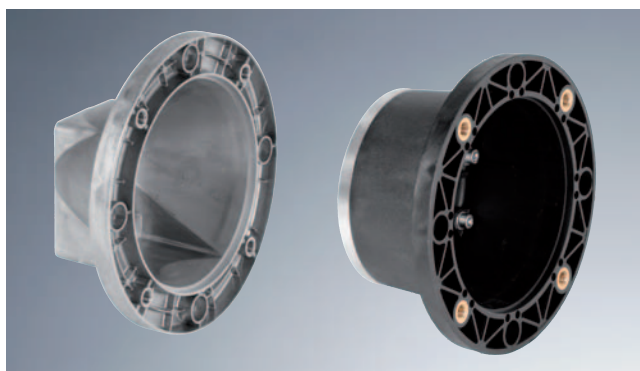
The customer has to protect rotating parts from accidental contact (Safety of Machines DIN EN 292 part 2).
The fastening screws should be protected from unscrewing by the customer (e. g. by anaerobic bonding agents like Loctite®).

Bellhousings made of aluminium



- Connecting components between IEC motor and hydraulic pump
- For almost every hydraulic pump from stock or in short term
- Both flange sides are finish machined
- Motor and pump shaft centered
- KTR bellhousings are made of aluminium, type made of steel on request
- In many cases KTR bellhousings can be piled up
- Designed for high loads
- For the bellhousing selection you require please see our selection programme at www.ktr.com
- Operating temperature: -40 °C to 100 °C
- Please note our mounting instructions

Bellhousings made of nylon



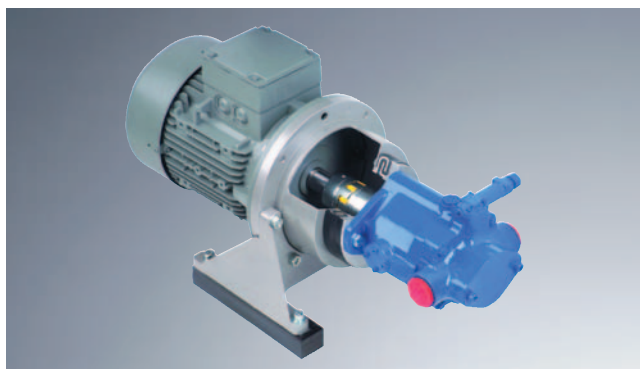
- Motor and pump shaft centered; designed for high loads
- Both flange sides are finish machined
- Type KPT: Bellhousing made of special nylon material
 - Accurate to size with higher temperatures and moisture
 - Stiffness is similar to aluminium bellhousings
 - Excellent damping properties
 - Flange side for pump adapter from aluminium
- Low-cost alternative to bellhousings with damping ring
- Operating temperature: -10 °C to +60 °C
- For almost every hydraulic pump available from stock or in short term
- For the bellhousing selection you require please see our selection programme at www.ktr.com

Bellhousings made of cast iron



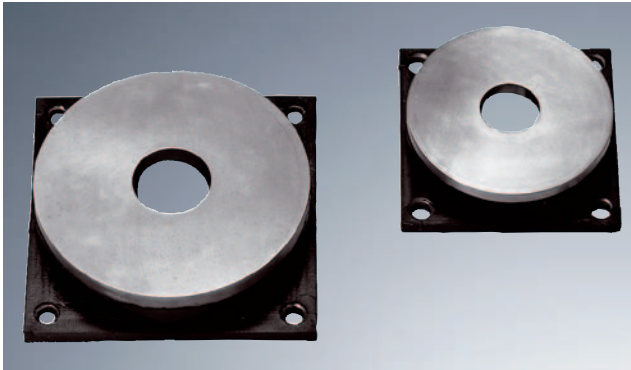
- Bellhousings made of cast iron
- PSG types particularly for servo motor drives with square flange
- Bellhousing suitable for high loads
- Suitable for mining, offshore applications and servo drives
- Resistant to almost every hydraulic oil and salt water
- Both flange sides are finish machined
- The bellhousings are primed, machined surfaces are preserved
- Good damping properties due to the relatively big mass
- For almost every hydraulic pump available from stock or in short term
- Please note our mounting instructions

Damping rings in combination with bellhousings



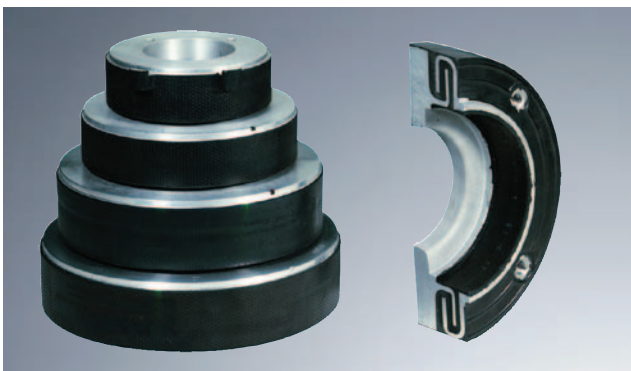
- The damping ring forms a centering unit with the bellhousing
- Combination also available for multiple pumps
- For the mounting of the damping ring special bellhousings are available to realize a short design
- For the bellhousing selection you require please see our selection programme at www.ktr.com
- Please note our mounting instructions

Damping elements



- For structure-borne noise separation of the pressure and suction lines to the tank
- Suitable for bulkhead pipe fitting SV6 - SV42
- Sealing surface is moulded on
- Made of oil-resistant buna N
- Larger types on request

Damping elements



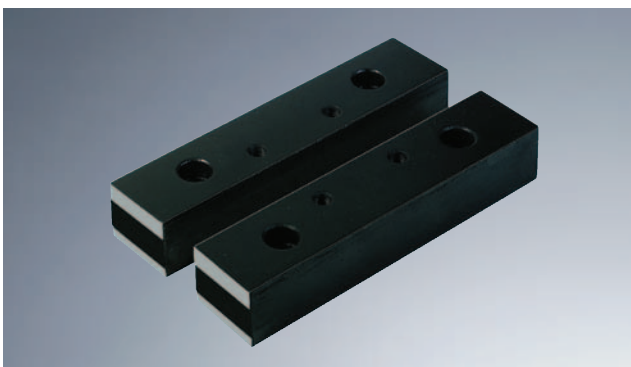
- Vulcanized and failsafe (up to D 330, patent pending)
- High weight loading permissible (e. g. multiple pumps)
- Excellent damping properties
- Excellent resistance to hydraulic oils
- Sealing lips are moulded on (up to size 330) – no additional sealing required
- For the bellhousing selection you require please see our selection programme at www.ktr.com

Damping elements



- DTV for vertical assembly only!
- To reduce noise between drive unit and tank by means of rubber-elastic separation
- Type DT for horizontal and vertical assembly
- Type DT is protected against separation (failsafe) by means of a special design (registered design of the interconnected parts)
- Pressure-loaded elastomer due to the interconnected part
- High permissible radial, angular and axial load
- Sealing lips are moulded on - no additional sealings required

Damping elements



- Damping rods reduce the noise level and dampen vibrations
- Finish machined for motors IMB 35 (DSM), PTFE foot flanges (DSFL) or PTFE foot flanges (DSFS) and PIK oil coolers (DSK)
- Available from stock
- Special lengths or types available on request
- Also suitable for Nema motors
- Damping rods are made of natural rubber (NR)
- All damping rods are adapted to the weight load that is produced
- Thrust loading (V1) not permissible

Oil/air cooler — Type OAC



- High-performance cooler core for a maximum static operating pressure of 26 bar in aluminium (Al)
- Suitable for hydraulic oil, gear lubricant oil, lubricating oil, motor oil and water-glycine
- Fan drive in 12 V, 24 V, 230 V/400 V and hydraulic drive
- Easy maintenance and good options for cleaning
- Low sound pressure level
- CE certification
- Marine design for use in a corrosive atmosphere
- Alternative type with OAC 200 to 1000 available:

Ex Approved according to EC standard 94/9/EC

Oil/air cooler — Type OPC (cooling-pump-unit)



- High-performance cooler for a maximum static operating pressure of 26 bar
- Driving motor 230 V/400 V IP55
- Suitable for hydraulic oil, gear lubricant oil and lubricating oil
- Easy maintenance and good options for cleaning
- Available with filter
- Low sound pressure level
- CE certification
- Short delivery period
- Alternative type with OPC 200 to 600 available:

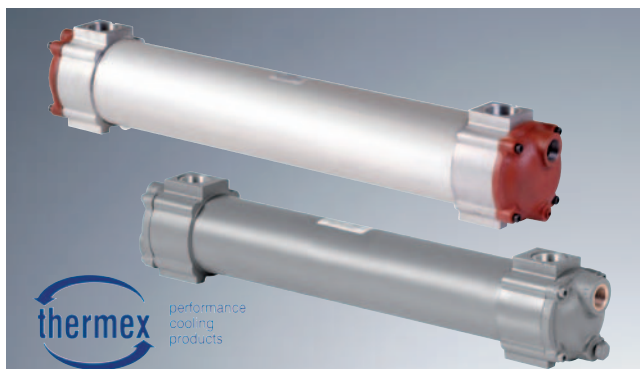
Ex Approved according to EC standard 94/9/EC

Oil/air cooler - Type PIK



- Suitable to cool the entire oil volume (return pass)
- Constant air flow rate of the heat exchanger due to a low pressure principle (patent pending)
- Optimum utilization of the high-performance heat exchanger
- Optimum matching of housing and fan wheel
- Direct suction of cold ambient air by the heat exchanger
- Heat exchanger can easily be cleaned externally (without any disassembly)
- For the bellhousing selection you require please see our selection programme at www.ktr.com

Oil/water cooler — Type TAK/T



- Oil cooler as tube bundle heat exchanger
- Type TAK/T
- The cooler series 20 have been designed specifically for hydraulic systems
- Highly efficient up to 340 kW
- Available in marine version (seawater)
- Easy cleaning by dismountable tube stacks
- Please note our mounting instructions (www.ktr.com)

Tank heaters - Type EHP



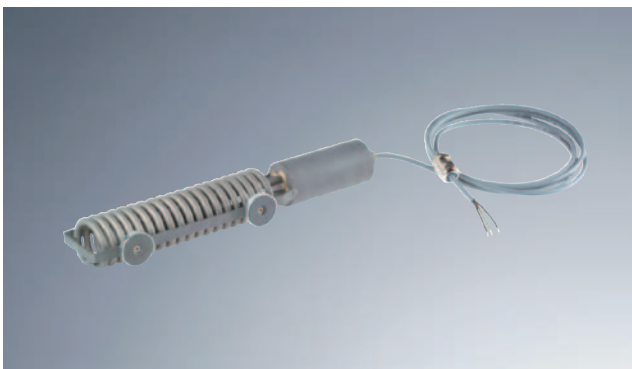
- Inserted heating cartridges to preheat hydraulic oil
- Temperature control by internal or external setting single-pole control 0 - 85 °C, 16 A
- Replaceable ceramic heating cartridges (assembly without oil drain)
- Steel cap from bright zinc coating/cover from stainless steel
- Suitable for horizontal assembly below oil level
- Material: steel (other materials on request)
- Surface load 1.5 W/cm² for hydraulic oils
- Protection class IP 65 (excluding design EHP (TA) IP 54)
- Further designs available on request
- The connector pin assignment is enclosed to the unit

Tank heaters - Type EH and Type TEHM



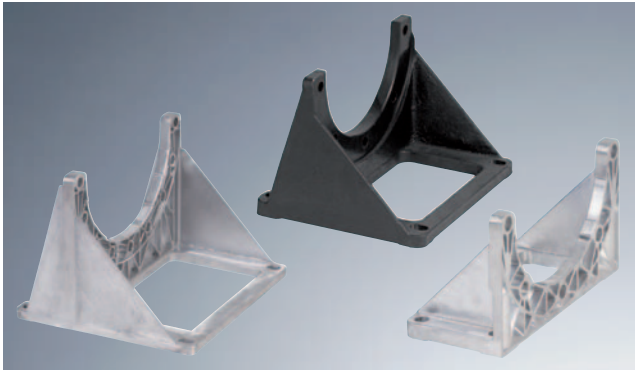
- Inserted tubular heating element to preheat hydraulic oil
- Suitable for horizontal assembly below oil level
- With or without temperature control for internal or external setting with single-pole control 0 - 85 °C, 16 Ampere
- Surface load 1.5 W/cm² for hydraulic oils
- Steel cap from bright zinc coating/cover from stainless steel
- Material: stainless steel (1.4541)/brassy nipple (other material on request)
- Protection class IP 65 (excluding design EH (TA) IP 54)
- Further designs available on request
- The connector pin assignment is enclosed to the unit
- Please note our mounting instructions (www.ktr.com)

Inserted tank heaters with magnetic clamp type TEHM



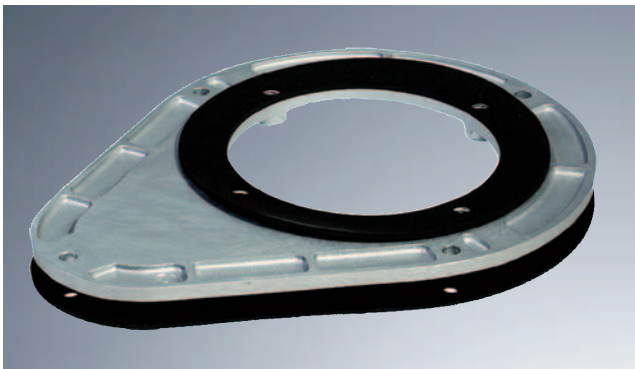
- To preheat hydraulic oil
- Inserted tank heater to be fixed either horizontally to the tank ground or vertically to the tank wall by means of magnetic clamps
- Ideal solution to retrofit existing machines and plants
- Assembly without oil drain
- Internal control with preset cut-in or cut-off temperature (standard 20 °C, switching precision 3 °C)
- If requested, it is possible for the manufacturer to set switching temperatures to the details specified by the customer
- Other media/operating fluids available on request
- The connector pin assignment is enclosed to the unit
- Please note our mounting instructions (www.ktr.com)

Foot flanges



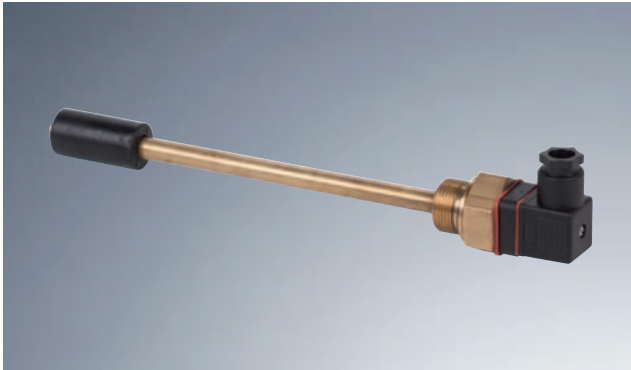
- The designing of PTFL by means of the finite element method permits very high loading capacity with minimum weight
- PTFL as a compact, space-saving design in combination with KTR bellhousing and damping ring
- Storage of only one electric motor type both for horizontal and vertical construction
- PTFS preferably for mobile applications
- All types available from stock - other sizes on request
- Please note our mounting instructions

Accessories for bellhousings



- Assembly and disassembly of the fully mounted drive unit outside the tank is possible
- Facilitates cleaning and maintenance
- Penstock connections via mounting flange
- Material aluminium
- Suitable for bellhousings up to size P 350
- Gaskets type DP and DZ made of buna N (NBR) available from stock
- Gaskets type DP are used between bellhousing and tank cover and also between bellhousing and ZO mounting flange
- Gaskets type DZ are used between ZO mounting flange and tank cover

Accessories for oil tanks



- Electrical level and temperature control
- Suitable for mineral oils
- Available either with 2 level contacts or 1 level contacts and 1 temperature probe
- Electrical switch:
decreasing level „break contact“
increasing temperature „break contact“
- Further lengths on request
- Type in accordance with ATEX on request

Temperature control and monitoring



- Up to 4 programmable switching terminals to be selected either as level or temperature signal
- Combined continuous control of level and temperature
- Perfectly visible LED display, swinging by 270°
- Easy to program
- 2 x M12 plug bases 4 poles
- Programmable analogue output as 4-20 mA, 0-5V, 0-10V or 2-10V
- PNP switching terminal to be programmed as frequency terminal
- Min./max. memory, log-book operation
- Available from stock

Temperature control and monitoring



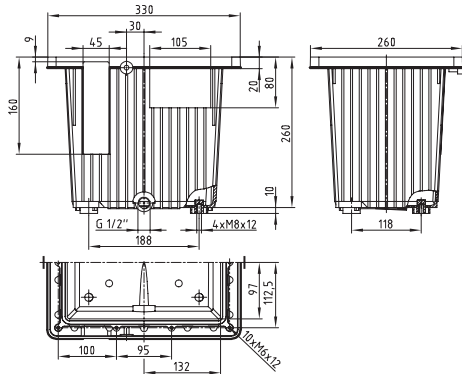
- Control of the operating temperature of the medium
- Value of resistance proportionally changeable to temperature
- Continuous signal change
- Flexible seal on the screwed thread head
- Optionally available with transmitter
- Type in accordance with ATEX on request

Aluminium tank



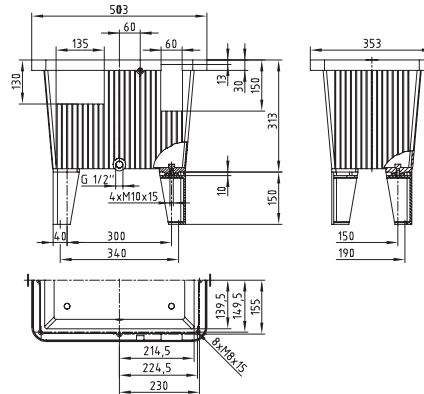
- Made of aluminium for depressurized operation (0,5 bar at the maximum)
- With oil collecting groove moulded on periphery for collection of leakage oil (Water Resources Act)
- O-ring seal for all tank sizes, ready to use
- No painting or priming of the tank required
- Good heat loss capacity due to high caloric conductivity and large heat dissipating surfaces
- All tanks are 100 % tight and may be stacked without jamming
- All sizes available from stock
- All tanks including drain plug similar to DIN 908
- Temperature resistant up to + 100 °C

BAK 13



Effective volume [Litres]	Gasket
11,5	O-ring seal RS 13 NBR

BAK 30



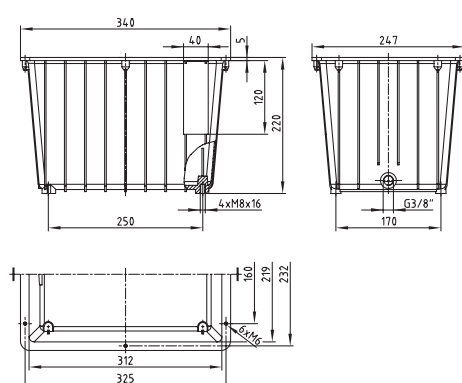
Effective volume [Litres]	Gasket
27,0	O-ring seal RS 30 NBR

Aluminium tank



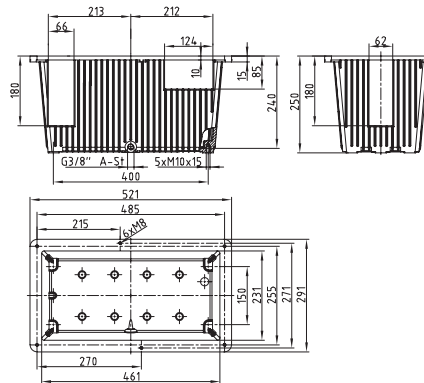
- Made of aluminium for depressurized operation (0,5 bar at the maximum)
- Without oil collecting groove
- O-ring seal or flat seal for all tank sizes, ready to use
- No painting or priming of the tank required
- Good heat loss capacity due to high caloric conductivity and large heat dissipating surfaces
- All tanks are 100 % tight and may be stacked without jamming
- All sizes available from stock
- All tanks including drain plug similar to DIN 908
- Temperature resistant up to + 100 °C

BAK 10



Effective volume [Litres]	Gasket
9,5	Flat seal FD 20 FD 10

BAK 20



Effective volume [Litres]	Gasket
18,0	Flat seal FD 20

Series BSK



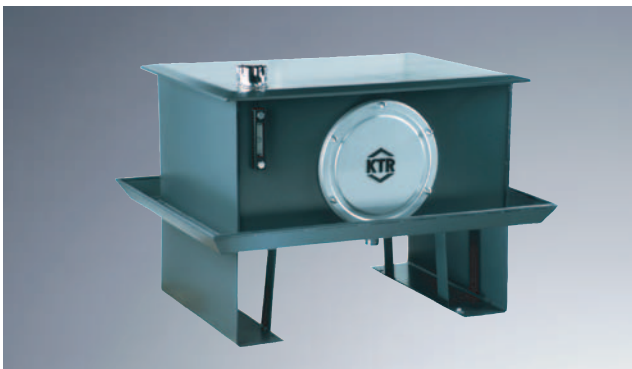
- Tanks made of high-grade steel
- Tanks sand-blasted, with high-quality internal and external coating resistant to hydraulic oils on a mineral oil basis
- Priming is compatible with other varnish paints
- All tanks are subject to 100 % tightness test
- Subsequent assembly of KTR standard separation sheet metals possible for all tank sizes (assembly of separation sheet metals across cleaning hole)
- Cover machining as per customer's request
- Transport eyes on request of customer

Series BNK type A



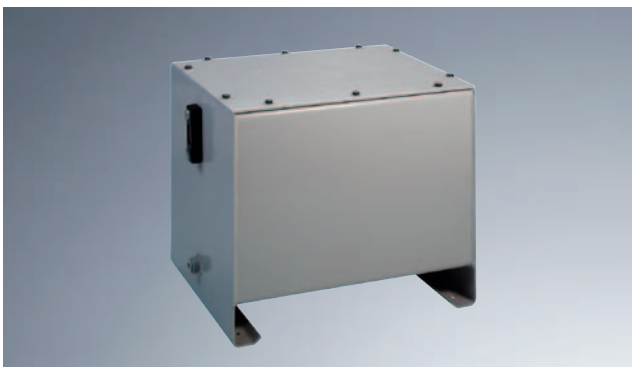
- DIN tanks made of high-grade steel
- Tanks sand-blasted, with high-quality internal and external coating resistant to hydraulic oils on a mineral oil basis
- Priming is compatible with other varnish paints
- All tanks are subject to 100 % tightness test
- Subsequent assembly of KTR standard separation sheet metals possible for all tank sizes (assembly of separation sheet metals across cleaning hole)
- Cover machining as per customer's request
- Transport eyes on request of customer

Series BNK type B



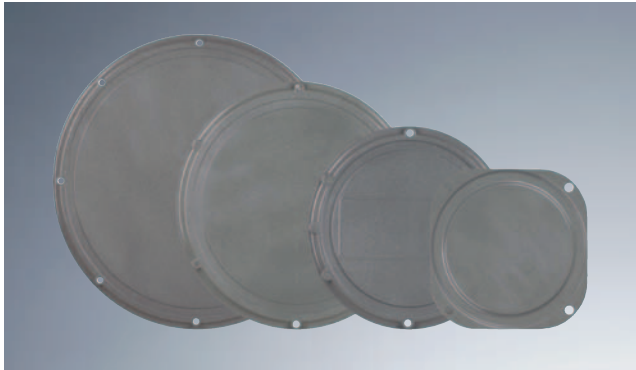
- DIN tanks made of high-grade steel
- Tanks sand-blasted, with high-quality internal and external coating resistant to hydraulic oils on a mineral oil basis
- Priming is compatible with other varnish paints
- All tanks are subject to 100 % tightness test
- Cover machining as per customer's request
- Transport eyes on request of customer

Series BEK



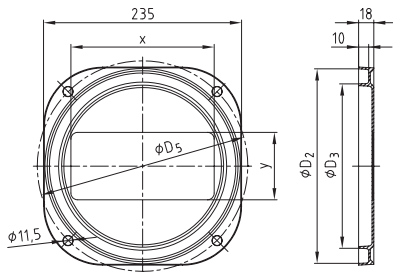
- Tanks made of high-grade steel
- Tanks sand-blasted, with high-quality internal and external coating resistant to hydraulic oils on a mineral oil basis
- Priming is compatible with other varnish paints
- All tanks are subject to 100 % tightness test
- Cover machining as per customer's request

Accessories for oil tanks

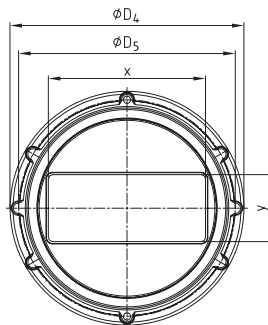


- Cleaning covers V324 and V449 according to DIN 24339
- Material aluminium
- Screw tightening torque for all cleaning cover sizes 10 Nm at the maximum
- Cleaning cover V324-6/HFC, V449-6/HFC and V580-8/HFC are resistant to HFC fluids
- Gaskets type PRD made of buna N (NBR), made of material Viton on request
- Available with logo on request
- Max. permissible pressure = 0,5 bar

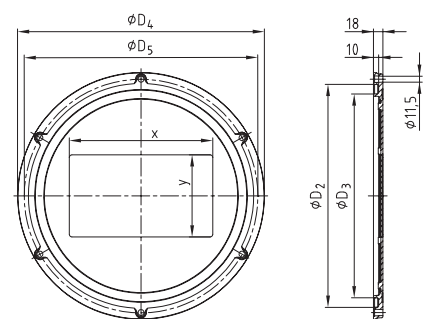
Cleaning cover type
V250-4 PRD



Cleaning cover type
DIN 24339



Cleaning cover type

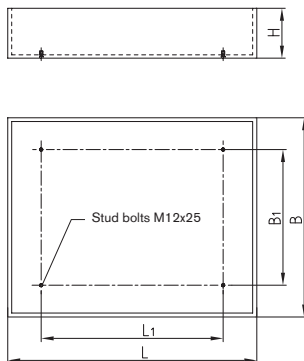


Oil Sump Pans

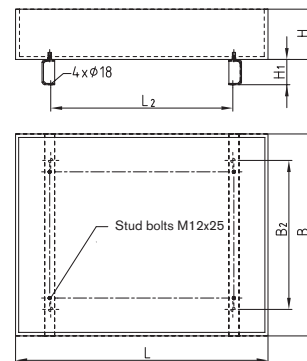


- Oil sump pans made of high-grade steel
- Collection volume corresponds to the full load volume of the tank
- Oil sump pans are sand-blasted, with high-quality internal and external coating resistant to hydraulic oils on a mineral oil basis
- Priming is compatible with other varnish paints
- All oil sump pans are subject to 100 % tightness test
- Oil sump pans meet with the standards of WHG

Oil sump pans
without feet

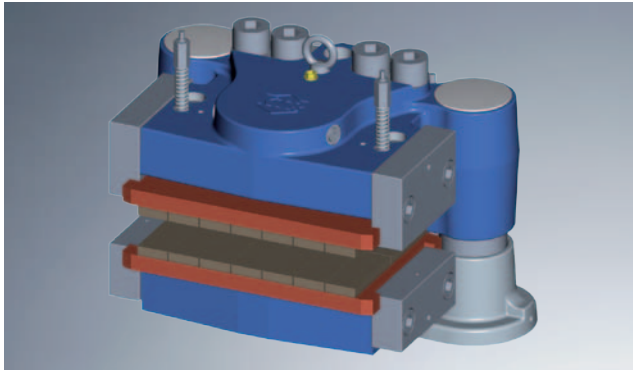


Oil sump pans
with feet

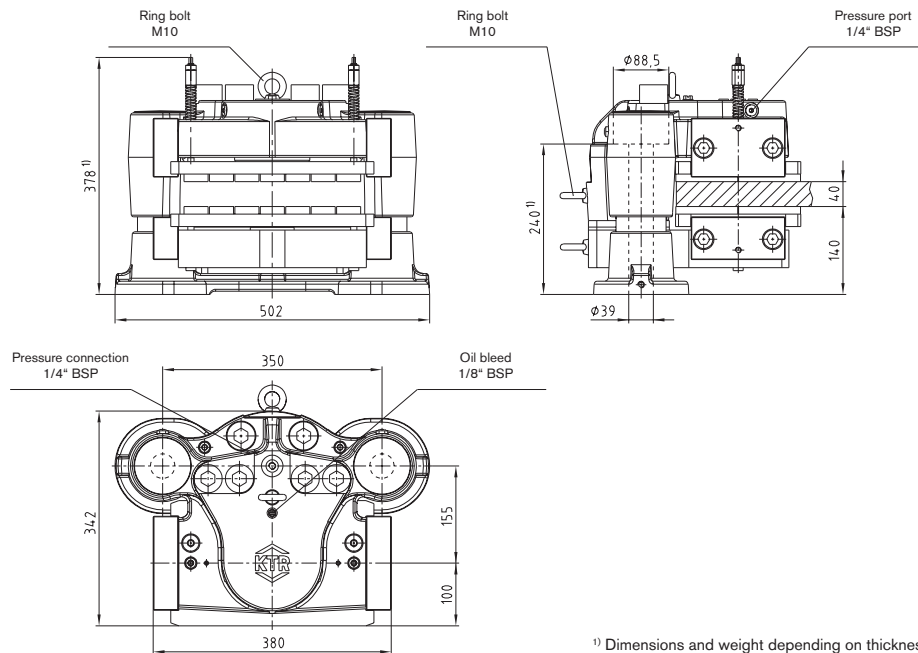


For distance dimensions
of stud bolts see company
catalogue

KTR-STOP® M-A-F



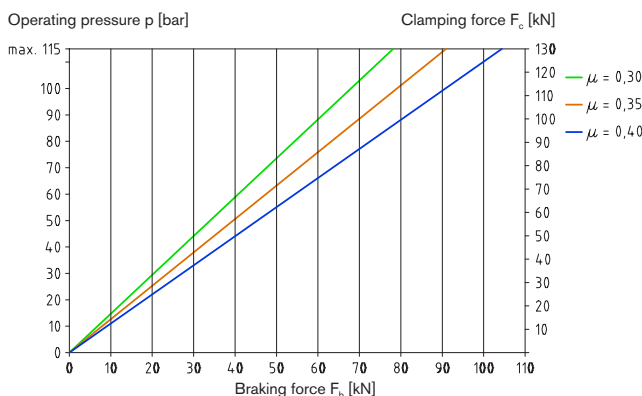
- Short reaction times due to the small distance between brake pad and brake disk as well as the low oil volume
- Large surface of pad results in a low surface pressure, low wear of pads and low temperature
- Low maintenance effort because of few mobile components only
- Drain ports avoid leakages on the brake pads
- Brake pads made of various materials available
- Brake pads easy to replace
- Suitable for rough ambient conditions
- Easy assembly of brake by means of two screws



¹⁾ Dimensions and weight depending on thickness of brake disk.

KTR-STOP® M-A-F			
Total weight	ca. 172 kg ¹⁾	Max. clamping force	130 kN
Width of brake pad	200 mm	Max. operating pressure	115 bar
Surface area of each brake pad - organic	57.900 mm ²	Thickness of brake disk	25 mm - 50 mm
Surface area of each brake pad - powder metal	53.500 mm ²	Pressure port	1/4\"
Max. wear of each brake pad	10 mm	Oil bleed	1/8\"
Nominal coefficient of friction ²⁾	$\mu = 0,4$	Backlash on axles - towards mounting surface	5 mm
Total brake piston area - complete brake	113 cm ²	Backlash on axles - away from mounting surface	10 mm
Volume with 1 mm stroke - complete brake	11,3 cm ³	Min. diameter of brake disk $\varnothing D_A$	800 mm
		Operating temperature	-30 °C to +40 °C

²⁾ The coefficient of friction each depends on the application or material of the brake pad, respectively. Please consult with KTR.



$$F_b = F_c \cdot 2 \cdot \mu$$

$$M_b = z \cdot F_b \cdot D_{av} / 2$$

F_b = Braking force [kN]

F_c = Clamping force [kN]

M_b = Braking torque [kNm]

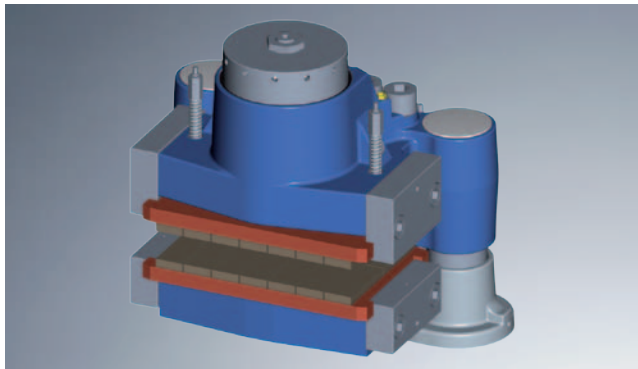
z = Number of brakes

D_{av} = Effective diameter of brake [m]

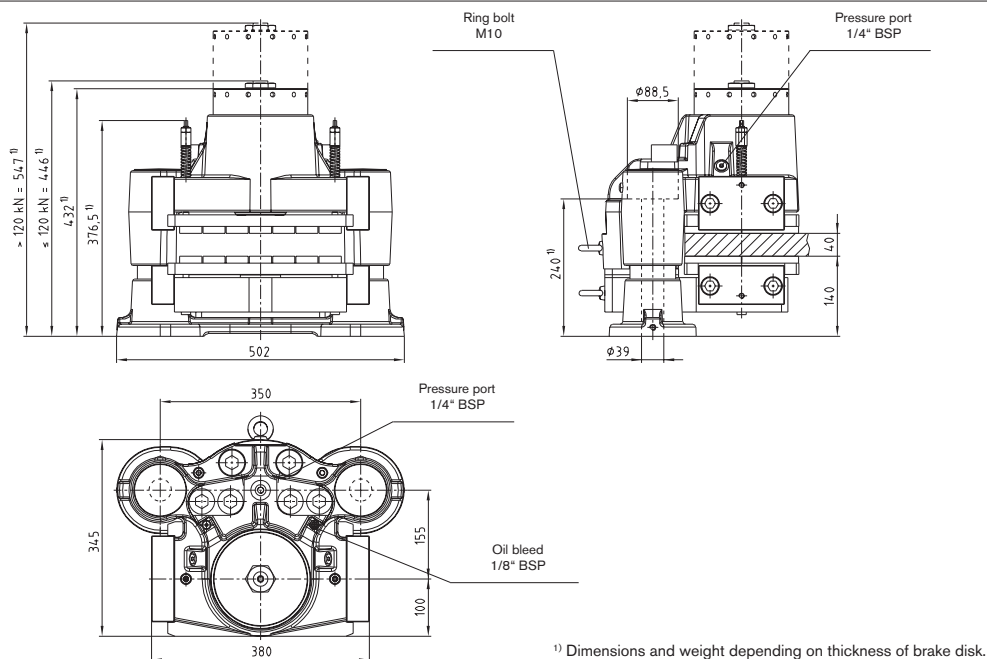
Ordering
example:

KTR-STOP®	M	-	A	-	F	A	-	40
KTR brake	Size of brake		Active		Floater	Option		Thickness of brake disk

KTR-STOP® M-xxx-F



- Sealed shafts for difficult ambient conditions
- Large surface of pad results in a low surface pressure, low wear of pads and low temperature
- Low wear of pistons due to arrangement of the pistons in guide rings
- High power density
- Brake pads made of various materials available
- Dirt is prevented by strippers in the shaft guidance
- Easy assembly of brake by means of two screws



¹⁾ Dimensions and weight depending on thickness of brake disk.

KTR-STOP® M-xxx-F			
Total weight	ca. 193 kg - 212 kg ¹⁾	Max. operating pressure	200 bar
Width of brake pad	200 mm	Thickness of brake disk	25 mm - 50 mm
Surface area of each brake pad - organic	57.900 mm ²	Pressure port	1/4" BSP
Surface area of each brake pad - powder metal	53.500 mm ²	Oil bleed	1/8" BSP
Max. wear of each brake pad	10 mm	Backlash on axles - towards mounting surface	5 mm
Nominal coefficient of friction ²⁾	$\mu = 0,4$	Backlash on axles - away from mounting surface	less than 120 kN = 10 mm more than 120 kN = 5 mm
Total brake piston area - complete brake	137,4 cm ²	Min. diameter of brake disk ØDA	800 mm
Volume with 1 mm stroke - complete brake	13,74 cm ³	Operation temperature	-30 °C to +40 °C

Types of brakes				
Type of brake ³⁾	Clamping force F_c [kN]	Loss of prestress ⁴⁾ [%]	Opening pressure [bar]	Weight ¹⁾ [kg]
KTR-STOP® M-100-F	100	7,0	110	200
KTR-STOP® M-120-F	120	8,5	130	200
KTR-STOP® M-140-F	140	4,5	150	212
KTR-STOP® M-160-F	160	7,0	180	212
KTR-STOP® M-180-F	180	6,0	190	212

²⁾ The coefficient of friction each depends on the application or material of the brake pad, respectively. Please consult with KTR.

³⁾ Other types of brakes on request

⁴⁾ With 1 mm stroke (0,5 mm wear of pad on each side)

$$F_b = F_c \cdot 2 \cdot \mu$$

F_b = Braking force [kN]

z = Number of brakes

$$M_b = z \cdot F_b \cdot D_{av} / 2$$

F_c = Clamping force [kN]

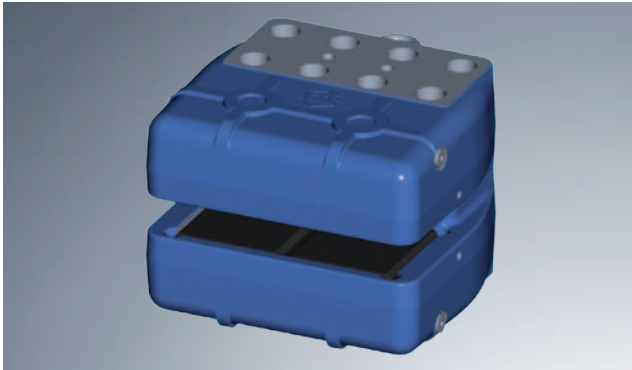
D_{av} = Effective diameter of brake [m]

M_b = Braking torque [kNm]

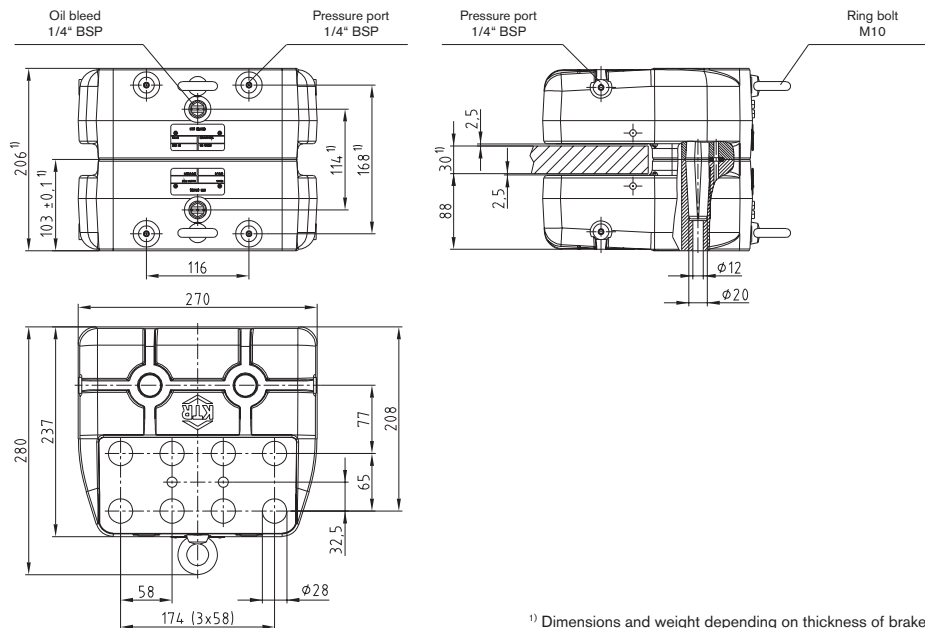
Ordering example:

KTR-STOP®	M	100	F	A	40
KTR brake	Size of brake	Clamping force	Floater	Option	Thickness of brake disk

KTR-STOP® YAW M



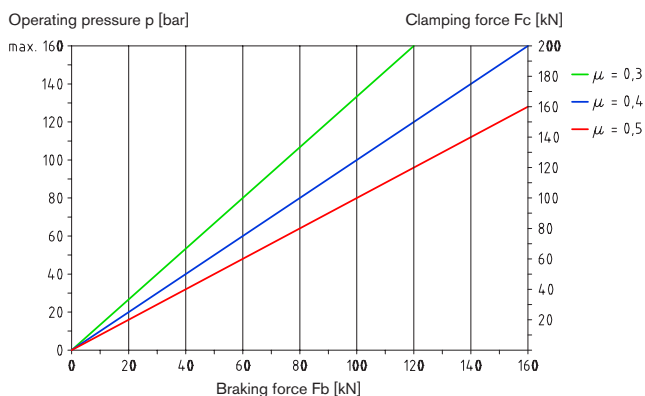
- Short reaction times due to the small distance between brake pad and brake disk as well as the low oil volume
- Large surface of pad results in a low surface pressure, low wear of pads and low temperature
- Low maintenance effort because of few mobile components only
- Drain ports avoid leakages on the brake pads
- Brake pads made of various materials available
- Brake pads easy to replace
- Suitable for rough ambient conditions



¹⁾ Dimensions and weight depending on thickness of brake disk.

KTR-STOP® YAW M			
Total weight	ca. 63 kg ¹⁾	Max. clamping force	203 kN
Width of brake pad	108 mm	Max. operating pressure (bis $\mu = 0,4$)	160 bar
Surface of each brake pad	20.300 mm ²	Thickness of brake disk	20 mm - 70 mm
Max. wear of each brake pad	7 mm (Material: Organic)	Assembly of brake externally	400 mm
Nominal coefficient of friction ²⁾	$\mu = 0,4$	Min. diameter of brake disk $\varnothing D_A$	900 mm
Total brake piston area - complete brake	254 cm ²	Assembly of brake internally	900 mm
Volume with 1 mm stroke - complete brake	25,4 cm ³	Min. diameter of brake disk $\varnothing D_i$	-30 °C to +40 °C
Pressure port	1/4" BSP	Operating temperature	
Oil bleed	1/4" BSP		

²⁾ The coefficient of friction each depends on the application or material of the brake pad, respectively. Please consult with KTR.



$$F_b = F_c \cdot 2 \cdot \mu$$

$$M_b = z \cdot F_b \cdot D_{av} / 2$$

F_b = Braking force [kN]

F_c = Clamping force [kN]

M_b = Braking torque [kNm]

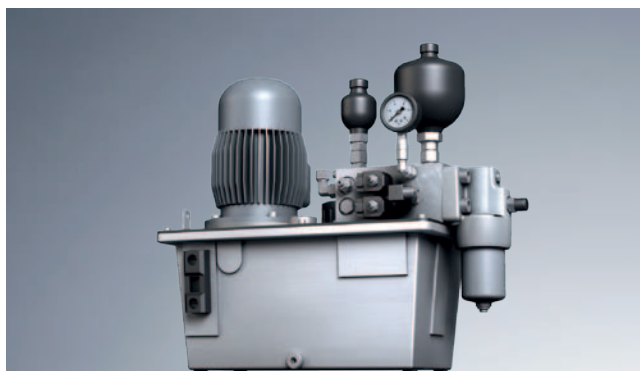
z = Number of brakes

D_{av} = Effective diameter of brake [m]

Ordering
example:

KTR-STOP®	YAW M	A	30
KTR brake	Size of brake	Option	Thickness of brake disk

Hydraulic power pack



The hydraulic power pack activates the brake calipers of KTR-STOP®. For that purpose we provide for power packs with rough components for reliable operation with hardest conditions.

IntelliRamp®



IntelliRamp® is the recently developed control system performing braking processes reproducibly with the variables speed versus time.

Stand



The steel structure serves for mounting KTR-STOP® brake systems and is each adjusted to the application individually by KTR.



KTR Germany:

Headquarters:

KTR Kupplungstechnik GmbH

Postfach 1763

D-48407 Rheine

Phone: +49(0)5971 798-0

Fax: +49(0)5971 798-698 and 798-450

E-Mail: mail@ktr.com

Internet: www.ktr.com

Schleswig-Holstein, Nord-Niedersachsen, Hamburg, Bremen

Martin Lau

staatl. gepr. Techniker Maschinenbau

KTR Kupplungstechnik GmbH

Ingenieurbüro Hamburg

Geschwister-Scholl-Allee 44

25524 Itzehoe

Phone: +49(0)4821 4050812

Fax: +49(0)4821 4050814

Mobile: +49(0)172 5310014

E-Mail: m.lau@ktr.com

NRW: Reg.-Bez.: Düsseldorf

Günter Enk

Dipl.-Ing.

KTR Kupplungstechnik GmbH

Ingenieurbüro Bocholt

Stormstraße 35

46397 Bocholt

Phone: +49(0)2871 227488

Fax: +49(0)2871 227489

Mobile: +49(0)172 5355704

E-Mail: g.enk@ktr.com

Hessen, Rheinland-Pfalz, Saarland

Martin Dietrich

Ingenieur

KTR Kupplungstechnik GmbH

Ingenieurbüro Frankfurt

Im Mühlahl 6

61203 Reichelsheim

Phone: +49(0)6035 2077284

Fax: +49(0)6035 2077285

Mobile: +49(0)172 5329968

E-Mail: m.dietrich@ktr.com

Mitte- und Süd-Niedersachsen, Ostwestfalen, Nord-Hessen

Rainer Lüttmann

KTR Kupplungstechnik GmbH

Rodder Damm 170

48432 Rheine

Phone: +49(0)5971 798-340

Fax: +49(0)5971 798-6340

Mobile: +49(0)172 5322164

E-Mail: r.luettmann@ktr.com

Bayern-Süd

Peter Benkard

Dipl.-Ing. (FH)

KTR Kupplungstechnik GmbH

Ingenieurbüro Adelsried

Am Mittelfeld 13

86477 Adelsried

Phone: +49(0)8293 960504

Fax: +49(0)8293 960505

Mobile: +49(0)172 5313059

E-Mail: p.benkard@ktr.com

Emsland, Ruhrgebiet, Siegerland

Rainer Lüttmann

staatl. geprüfter Techniker Maschinenbau

KTR Kupplungstechnik GmbH

Ingenieurbüro Kamen

Südfeld 7b

59174 Kamen

Phone: +49(0)2307 4385020

Fax: +49(0)2307 4385021

Mobile: +49(0)162 2186045

E-Mail: r.pottmann@ktr.com

Berlin, Mecklenburg-Vorpommern

Südost, Sachsen-Anhalt, Brandenburg

Thüringen Nord, Sachsen

Harald Scholze

Dipl.-Ing. (TU)

KTR Kupplungstechnik GmbH

Ingenieurbüro Wittenberg

August-Bebel-Straße 7

06886 Lutherstadt-Wittenberg

Phone: +49(0)3491 663526

Fax: +49(0)3491 610060

Mobile: +49(0)172 5329887

E-Mail: h.scholze@ktr.com

Baden-Württemberg Nord

Reiner Till

Ingenieur

KTR Kupplungstechnik GmbH

Ingenieurbüro Bietigheim-Bissingen

Stuttgarter Str. 59

74321 Bietigheim-Bissingen

Phone: T+49(0)7142 7707979

Fax: +49(0)7142 7739221

Mobile: +49(0)172 5355056

E-Mail: r.till@ktr.com

Baden-Württemberg Süd

Jochen Glöckler

staatl. gepr. Techniker Maschinenbau

KTR Kupplungstechnik GmbH

Ingenieurbüro Balingen

Hölzlestraße 44

72336 Balingen

Phone: +49(0)7433 91381

Fax: +49(0)7433 91382

Mobile: +49(0)172 5310049

E-Mail: j.gloeckler@ktr.com

Bayern-Nord, Thüringen Süd

Eduard Schadly

Ingenieur

KTR Kupplungstechnik GmbH

Ingenieurbüro Prebitz

In der Heide 27

95473 Prebitz-Engelmannsreuth

Phone: +49(0)9270 9666

Fax: +49(0)9270 9667

Mobile: +49(0)172 5329967

E-Mail: e.schadly@ktr.com

Sales Manager Brake Systems

Leitung Vertrieb Bremsen

Thomas Wienkotte

Dipl.-Ing. (FH)

Peter-Schumacher-Straße 102

50171 Kerpen

Phone: +49(0)2237 971796

Fax: +49(0)2237 971795

Mobile: +49(0)172 5859448

E-Mail: t.wienkotte@ktr.com

KTR worldwide:

Algeria

● KTR Alger
Algeria Buisness Center -
Pins Maritimes
DZ-16130 Alger Mohammadia
Phone: +213 661 92 24 00
E-mail: ktr-dz@ktr.com

Australia

Deanquip PowerTrans Hydraulics &
Tools Pty. Ltd.,
2 / 1570-1572 Centre Road
Springvale, VIC 3171
Phone: +61 1800 338 171
Fax: +61 1800 638 171
E-mail: sales@deanquip.com
Internet: www.deanquip.com

Austria

Lenze Verbindungstechnik GmbH
lpf-Landesstr. 1
A-4481 Asten
Phone: 43 7224 210 0
Fax: +43 7224 210 998
E-mail: sale@lenze-verbindung.com

Belgium/Luxemburg

● KTR Benelux B. V. (Bureau Belgian)
Blancefloerlaan 167/22
B-2050 Antwerpen
Phone: +32 3 2110567
Fax: +32 3 2110568
E-mail: ktr-be@ktr.com

Brazil

● KTR do Brasil Ltda.
Rua Jandaia do Sul 471 -
Bairro Emiliano Perneta
Pinhais - PR - Cep: 83321-040
Brasil
Phone: +55 41 36 69 57 13
Fax: +55 41 36 69 57 13
E-mail: ktr-br@ktr.com

China

● KTR Power Transmission Technology
(Shanghai) Co. Ltd.
Building 1005, ZOBON Business
Park
999 Wangqiao Road
Pudong
Shanghai 201201
China
Phone: +86 21 58 38 18 00
Fax: +86 21 58 38 19 00
E-mail: ktr-cn@ktr.com

Czech Republic

● KTR CR, spol. s. r. o.
Olomoucká 226
CZ-569 43 Jevicko
Phone: +420 461 325 162
Fax: +420 461 325 162
E-mail: ktr-cz@ktr.com

Denmark

Manicus ApS
Høsten Teglværksvej 98
4690 Haslev, Denmark
Phone: +45 45 82 09 00
Fax: +45 45 82 09 03
E-mail: man@manicus.dk

Finland

● KTR Finland OY
Tiistiniityntie 4
SF-02230 Espoo
PL 23
SF-02231 Espoo
Phone: +358 2 07 41 46 10
Fax: +358 2 07 41 46 19
E-mail: ktr-fi@ktr.com

France

● KTR France S.A.R.L.
46 - 48 Chemin de la Bruyère
F-69570 Dardilly
Phone: +33 478 64 54 66
Fax: +33 478 64 54 31
E-mail: ktr-fr@ktr.com

Great Britain

● KTR Couplings Ltd.
Robert House
Unit 7, Acorn Business Park
Woodseats Close
Sheffield
England, S8 0TB
Phone: +44 11 42 58 77 57
Fax: +44 11 42 58 77 40
E-mail: ktr-uk@ktr.com

Indonesia

PT. Duta Rantai Mas
Jl. Mangga Besar Raya No. 107
Block C3
RI - Jakarta 11170
P. O. Box 4597
RI - Jakarta 11045
Phone: +62 21 6 59 41 80
Fax: +62 21 6 59 45 94
E-mail: drm@bit.net.id

Iran

Paralog Engineering Co., Ltd.
P. O. Box 19 395-7366
No. 35, Shangarf St.
Mirdamad Blvd.,
Phone: +98 21 22 90 55 51
Fax: +98 21 22 90 55 50
E-mail: info@paralog.ir

India

● KTR Couplings (India) Pvt. Ltd.,
T-36 / 37 / 38, MIDC Bhosari
Pune 411026
India
Phone: +91 20 27 12 73 22
Fax: +91 20 27 12 73 23
E-mail: ktr-in@ktr.com

Israel

G - G Yarom Getter Ltd.
Rolling & Conveying Ltd.
6, Hamaktesh Street
Industrial Zone
IL - Holon 58810
Phone: +972 3 5 57 01 11
Fax: +972 3 5 59 32 46
E-mail: gginfo@gg.co.il

Italy

● KTR Kupplungstechnik GmbH
Sede senza rappresentanza stabile
sul
Territorio Nazionale
Via Fermi, 25
I-40033 Casalecchio di Reno (BO)
Phone: +39 051 613 32 32
Fax: +39 02 700 37 570
E-mail: ktr-it@ktr.com

Mondial S.p.A.

Via G. Keplero, 18
I - 20124 Milano
Phone: +39 02 66 81 01
Fax: +39 02 66 81 02 64
E-mail: mkt@mondial.it
Internet: www.mondial.it

Japan

● KTR Japan Co., Ltd.
3-1-23 Daikaidori
Hyogo-ku, Kobe-shi
652-0803 Japan
Phone: +81 7 85 74 03 13
Fax: +81 7 85 74 03 10
E-mail: ktr-jp@ktr.com

● KTR Japan - Tokyo Office
1-11-6, Higashi-Ueno, Taito-Ku,
Tokyo 110-0015 Japan
(Takeno-building, 5F)
Japan
Phone: +81 3 58 18 32 07
Fax: +81 3 58 18 32 08

Korea

● KTR Korea Ltd.
101, 978-10, Topyung-Dong
Guri-City, Gyeonggi-Do
471-060 Korea
Phone: +82 3 15 69 45 10
Fax: +82 3 15 69 45 25
E-mail: ktr-kr@ktr.com

Malaysia

Wellcotech Sdn Bhd
NO: 6, Jalan Tabla 33/21
Shah Alam Technology Park
Seksyen 33, 40400 Shah Alam
Selangor Darul Ehsan, Malaysia
Phone: +60 351218722
Fax: +60 351218692
E-mail: wctsb@wellcotech.my
Internet: www.wellcotech.my

Netherlands

● KTR Benelux B. V.
Postbus 87
NL-7550 AB Hengelo (O)
Adam Smithstraat 37
NL-7559 SW Hengelo (O)
Tel.: +31 74 2553680
Fax: +31 74 2553689
E-Mail: ktr-nl@ktr.com

Norway

● KTR Kupplungstechnik Norge AS
Fjellbovegen 13
N-2016 Frogner
Phone: +47 64 83 54 90
Fax: +47 64 83 54 95
E-mail: ktr-no@ktr.com

Poland

● KTR Polska SP. Z. O. O.
ul. Czerwone Maki 65
PL - 30-392 Kraków
Phone: +48 12 267 28 83
Fax: +48 12 267 07 66
E-mail: ktr-pl@ktr.com

Portugal

● KTR Kupplungstechnik GmbH
c) Estartetxe, nº 5 - Oficina 218
E-48940 Leioa (Vizcaya)
Phone: +34 9 44 80 39 09
Fax: +34 9 44 31 68 07
E-mail: ktr-es@ktr.com

Gustavo Cudell, LDA
Rua Eng. Ferreira Dias, 954
P - 4149-008 Porto
+351 22 615 80 00
+351 22 615 80 11
Phone: +351 22 615 80 00
Fax: +351 22 615 80 11
E-mail: info-e+s@cudell.pt
Internet: www.cudell.pt

Russia

● KTR Privodnaya tehnika, LLC
6 Verhni Pereulok 12
Litera A, Office 229
194292 St. Petersburg
Russia
Phone: +7 812 383 51 20
Fax: +7 812 383 51 25
E-mail: ktr-ru@ktr.com
Internet: www.ktr.ru

Saudi Arabia

Petroengineering est.
P. O. Box: 3937
Al Khobar 31952
Kingdom of Saudi Arabia
Phone: +966 38 67 74 00
Fax: +966 38 67 73 00
E-mail: sales@petroengineering.net
Internet: www.petroengineering.net

Singapore

Drives & Control (S.E.A.) Pte. Ltd.
47L Tuas South Avenue 1
Singapore 637249
Phone: + 65 67 77 57 77
Fax: + 65 67 78 43 26
E-mail: sales@drivescontrol.com.sg

Slovenia

Bell d.o.o.
Ptujška Cesta 13
2204 Miklavž na Dravskem polju
Phone: +38 6 26 29 69 20
Fax: +38 6 26 29 21 20
E-mail: info@bell.si

Spain

● KTR Kupplungstechnik GmbH
c) Estartetxe, nº 5 - Oficina 218
E-48940 Leioa (Vizcaya)
Phone: +34 9 44 80 39 09
Fax: +34 9 44 31 68 07
E-mail: ktr-es@ktr.com

Aguirrezabal Hnos., S. A.

Irura 3
E - 48014 Bilbao
Phone: +34 9 44 47 33 58
Fax: +34 9 44 47 63 20
E-mail: aguirrezabal@aguirrezabal.com

Brammer Iberia S. A.

Plataforma D-152, Pab. 1
Poligono Ind. Erletxe
E-48960 Galdacano (Vizcaya)
Phone: +34 94 457 94 00
Fax: +34 94 457 94 20
E-mail: es@brammer.biz

South Africa

Hytec Coupling Technology
A division of Hydraulic & Automation
Warehouse
P. O. Box 2272
Kempton Park, 1620
28 Spartan Road, Spartan Ext 21
South Africa
Phone: +27 11 281 3800
Fax: +27 11 281 3812
E-mail: info@hytec.co.za

Sweden

● KTR Sverige AB
Box 742
S - 191 27 Sollentuna
Phone: +46 86 25 02 90
Fax: +46 86 25 02 99
E-mail: info.se@ktr.com

Switzerland

● KTR Kupplungstechnik AG
Bahnstr. 60
CH - 8105 Regensdorf
Phone: +41 4 33 11 15 55
Fax: +41 4 33 11 15 56
E-mail: ktr-ch@ktr.com

Taiwan

● KTR Taiwan Ltd.
1 F, No.: 17, Industry 38 Road
Taichung Industry Zone
Taichung
Taiwan, R. O. C.
Phone: +886 4 23 59 32 78
Fax: +886 4 23 59 75 78
E-mail: ktr-tw@ktr.com

Turkey

● KTR Turkey
Güç Aktarma Sistemleri San. ve Tic. Ltd. Sti.
Kayışdağı Cad. No: 117/2
34758 Atasehir -İstanbul
Phone: +90 216 574 37 80
Fax: +90 216 574 34 45
E-mail: ktr-tr@ktr.com

HİDROPAR KOCAELİ

Hidrolik Otomasyon ve Elektronik San. ve
Tic. Ltd. Şti.
Osman Yılmaz Mah. İstanbul Cd. No: 80/A
41400 Gebze / Kocaeli
Turkey
Phone: +90 262 643 84 11
Fax: +90 262 643 84 14
E-mail: info@hktm.com.tr
Internet: www.hidroparkocaeli.com.tr

USA

● KTR Corporation
122 Anchor Road
Michigan City, Indiana 46360
USA
Phone: +1 2 19 8 72 91 00
Fax: +1 2 19 8 72 91 50
E-mail: ktr-us@ktr.com

Subsidiary companies



KTR Kupplungstechnik GmbH

P.O. Box 1763

D-48407 Rheine

Phone: +49(0)5971 798-0

Fax: +49(0)5971 798-698 u. 798-450

E-mail: mail@ktr.com

Internet: www.ktr.com

Made for Motion

