Made for Motion KTR



Cross section

Couplings
Torque limiters
Clamping elements
Torque measuring systems

2026/27
www.ktr.com



Quality signed and sealed

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Certificates

Highest quality is our standard. That is why we have our products and processes certified by independent bodies.

Product certificates

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- Subassemblies configurator for complete couplings
- Tracking of shipments (track & trace)
- Download of order confirmations and invoices
- Direct reference to offers and contracts

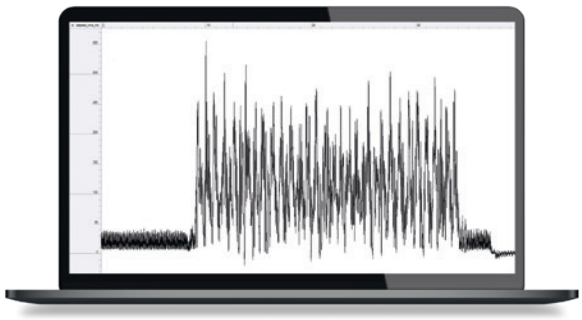


NEWS

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SYNTEX®-NC with MONITEX® BT





Backlash-free overload coupling with torque sensor

- Disconnecting plus monitoring
- Backlash-free safety coupling
- Integrated torque sensor
- Real time transparency for maximum process reliability

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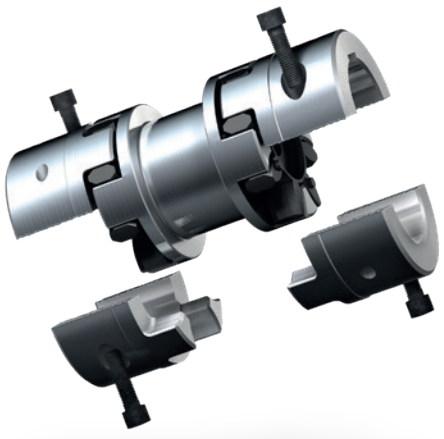
Electroconductive spider for ROTEX®couplings



Polyurethane (PUR) 61 Shore D-E-GS

- For double-cardanic ATEX applications
- Electroconductive
- Damping vibrations
- Transmission of high torques with medium damping
- Recommended hub materials: steel, GJL, GJS, Al-H, sinter material

(see page 32)





Drive technology and shaft connections

Brake systems

Cooling systems

Hydraulic components



KTR worldwide – Our worldwide locations for quality and service.

- Headquarter (Rheine / Germany)
- **24** subsidiaries
- **90** sales partners
- More than 1,200 employees worldwide

KTR Systems - Solutions across industries for a global market.

As a future-oriented and innovative knowledge partner for our customers, we are actively shaping the technological future. By consciously responding to the needs of our customers and a profound understanding of their technology, we are able to develop solutions across all industries. We always strive for excellence and optimise existing approaches. And that has been the case since 1959.

PART OF EXCELLENCE

Our philosophy of "PART OF EXCELLENCE" is reflected in every single component and service we provide. With our expertise and innovative strength, we achieve top performance together with our customers. With over 500 employees at its headquarters in Rheine, more than 1,200 employees worldwide, 24 subsidiaries and over 90 sales partners, KTR is at home in industrial markets on every continent.
As a leading manufacturer of high-quality drive technology, brake and cooling systems as well as hydraulic components, KTR is a reliable partner for all companies that want to keep moving. As a leading expert in these fields, we take pride in offering our versatile solutions in the following industry:



Wherever motion is essential, we have the right answer.

Drive technology and shaft connections



Mechanical components are and will remain essential in drive technology. The industry's demands on components grow continuously: energy efficiency, power density, ease of servicing and electrification. Our portfolio includes couplings and torque limiters, clamping sets and universal joints as well as torque measuring shafts.

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Brake systems



Our hydraulic and electromechanical brake systems are globally used in various industries. Customer preference and parameters of the application decide upon the selection of the right brake.

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Hydraulic components



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Cooling systems



As a customised product or standard solution, multi-medium or oil-air cooler, for mobile machines or stationary hydraulics, optionally available as a maritime or ATEX version, powerful and efficient.

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Energy



Construction machinery



Agriculture



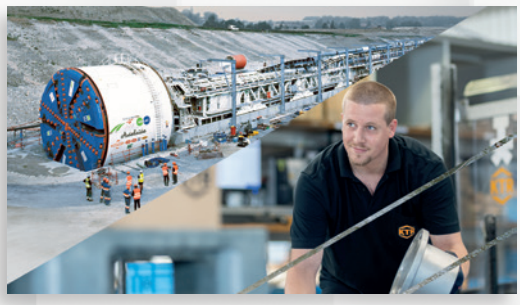
Oil & Gas



Automation



Machine Tools



Hydraulics



Gearboxes



Transportation



Recycling



Cross section

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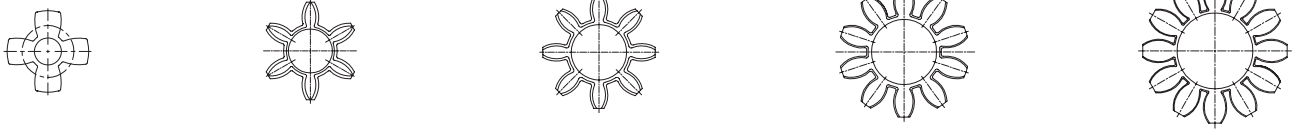
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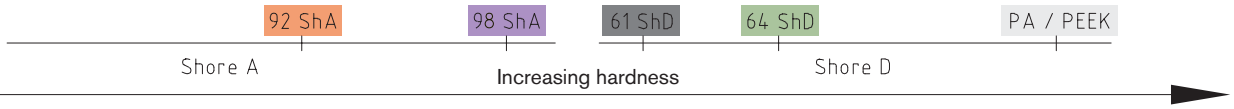
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Properties of standard spiders

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Hardness level



Spider type (Shore hardness)	T-PUR® (92 Shore A)	T-PUR® (98 Shore A)
		
Size	14 to 180	14 to 180
Material	Polyurethane	Polyurethane
Permissible temperature range Permanent temperature Short-term temperature	 -40 °C to +120 °C -40 °C to +150 °C	 -40 °C to +120 °C -40 °C to +150 °C
Features	– significantly higher service life expectancy – very good temperature resistance – improved damping of vibrations – good damping, medium flexibility – suitable for all hub materials	– significantly higher service life expectancy – very good temperature resistance – improved damping of vibrations – transmission of high torques with medium damping – recommended hub material: steel, GJL and GJS

Spider type (Shore hardness)	T-PUR® (64 Shore D)	PUR (61 Shore D-E-GS)
		
Size	14 to 180	19 to 90
Material	Polyurethane	Polyurethane (PUR)
Permissible temperature range Permanent temperature Short-term temperature	 -40 °C to +120 °C -40 °C to +150 °C	 -30 °C to +90 °C -40 °C to +120 °C
Features	– significantly higher service life expectancy – very good temperature resistance – improved damping of vibrations – transmission of very high torques with low damping – recommended hub material: steel and GJS	– electroconductive – for double-cardanic connections in ATEX applications – improved damping of vibrations – transmission of high torques with medium damping – recommended hub material: steel, Al-H, Sint, GJL and GJS

Spider type (Shore hardness)	PA	PEEK
		
Size	14 to 125	14 to 125
Material	Polyamide	Polyetheretherketone
Permissible temperature range Permanent temperature Short-term temperature	 -40 °C to +100 °C [1] -40 °C to +120 °C [1]	 up to +180 °C up to +250 °C
Features	– small twisting angle and high torsion spring stiffness – transmission of very high torques with very low damping – good resistance to chemicals [1] – recommended hub material: steel – high restoring forces with displacements	– small twisting angle and high torsion spring stiffness – transmission of very high torques with very low damping – highly temperature-resistant, resistant to hydrolysis – good resistance to chemicals – recommended hub material: steel – high restoring forces with displacements

[1] different properties depending on compound

Technical data of standard spiders

92 Shore A spider made of T-PUR®

ROTEX® size	Torsion angle ϕ with		Torque [Nm]				Damping power P_{KW} [W] 3)	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
			DIN 740 1)										
	T_{KN}	$T_{K\,max}$	Rated T_{KN}	Max. $T_{K\,max}$	Vibratory T_{KW}	$T_{K\,max}$ 2)				1.0 T_{KN}	0.75 T_{KN}	0.5 T_{KN}	0.25 T_{KN}
14	6.4°	10°	7.5	15	2.0	22.5	–			0.38x10³	0.31x10³	0.24x10³	0.14x10³0.14x10³
19			10	20	2.6	30	4.8			1.28x10³	1.05x10³	0.8x10³	0.31x10³
24			35	70	9.1	105	6.6			4.86x10³	3.98x10³	3.01x10³	1.79x10³
28			95	190	25	285	8.4			10.9x10³	8.94x10³	6.76x10³	4.01x10³
38			190	380	49	570	10.2			21.05x10³	17.26x10³	13.05x10³	7.74x10³
42			265	530	69	795	12.0			23.74x10³	19.47x10³	14.72x10³	8.73x10³
48			310	620	81	930	13.8			36.7x10³	30.09x10³	22.75x10³	13.49x10³
55			410	820	107	1230	15.6			50.7x10³	41.59x10³	31.45x10³	18.64x10³
65	3.2°	5°	625	1250	163	1875	18.0	0.80	7.90	97.1x10³	79.65x10³	60.2x10³	35.7x10³
75			1280	2560	333	3840	21.6			113.3x10³	92.9x10³	70.3x10³	41.65x10³
90			2400	4800	624	7200	30.0			190.1x10³	155.9x10³	117.9x10³	69.9x10³
100			3300	6600	858	9900	36.0			253.1x10³	207.5x10³	156.9x10³	93x10³
110			4800	9600	1248	14400	42.0			415.5x10³	336.9x10³	257.6x10³	177.4x10³
125			6650	13300	1729	19950	48.0			647.7x10³	537.3x10³	412.2x10³	277.5x10³
140			8550	17100	2223	25650	54.6			813.4x10³	670.2x10³	519.7x10³	351.7x10³
160			12800	25600	3328	38400	75.0			1298x10³	1104x10³	901.9x10³	655.7x10³
180			18650	37300	4849	55950	78.0			2327x10³	1981x10³	1618x10³	1176x10³

98 Shore A spider made of T-PUR®

ROTEX® size	Torsion angle ϕ with		Torque [Nm]				Damping power P_{KW} [W] 3)	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
			DIN 740 1)										
	T_{KN}	$T_{K\,max}$	Rated T_{KN}	Max. $T_{K\,max}$	Vibratory T_{KW}	$T_{K\,max}$ 2)				1.0 T_{KN}	0.75 T_{KN}	0.5 T_{KN}	0.25 T_{KN}
14	6.4°	10°	12.5	25	3.3	37.5	–			0.56x10³	0.46x10³	0.35x10³	0.21x10³
19			17	34	4.4	51	4.8			2.92x10³	2.39x10³	1.81x10³	1.07x10³
24			60	120	16	180	6.6			9.93x10³	8.14x10³	6.16x10³	3.65x10³
28			160	320	42	480	8.4			26.77x10³	21.95x10³	16.6x10³	9.84x10³
38			325	650	85	975	10.2			48.57x10³	39.83x10³	30.11x10³	17.85x10³
42			450	900	117	1350	12.0			54.5x10³	44.69x10³	33.79x10³	20.03x10³
48			525	1050	137	1575	13.8			65.3x10³	53.54x10³	40.48x10³	24x10³
55			685	1370	178	2055	15.6			95x10³	77.9x10³	58.88x10³	34.9x10³
65	3.2°	5°	940	1880	244	2820	18.0	0.80	7.90	129.5x10³	106.2x10³	80.3x10³	47.6x10³
75			1920	3840	499	5760	21.6			197.5x10³	162x10³	122.5x10³	72.6x10³
90			3600	7200	936	10800	30.0			312.2x10³	256x10³	193.6x10³	114.7x10³
100			4950	9900	1287	14850	36.0			383.3x10³	314.3x10³	237.6x10³	140.9x10³
110			7200	14400	1872	21600	42.0			805.9x10³	663.1x10³	515.3x10³	360.5x10³
125			10000	20000	2600	30000	48.0			1207x10³	1003x10³	787.6x10³	552.5x10³
140			12800	25600	3328	38400	54.6			1549x10³	1283x10³	979.8x10³	674.1x10³
160			19200	38400	4992	57600	75.0			2481x10³	2137x10³	1781x10³	1275x10³
180			28000	56000	7280	84000	78.0			4220x10³	3635x10³	3031x10³	2170x10³

64 Shore D spider made of T-PUR®

ROTEX® size	Torsion angle ϕ with		Torque [Nm]				Damping power P_{KW} [W] 3)	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
			DIN 740 1)										
	T_{KN}	$T_{K\,max}$	Rated T_{KN}	Max. $T_{K\,max}$	Vibratory T_{KW}	$T_{K\,max}$ 2)				1.0 T_{KN}	0.75 T_{KN}	0.5 T_{KN}	0.25 T_{KN}
14	4.5°	7.0°	16	32	4.2	48	9.0			0.76x10³	0.62x10³	0.31x10³	0.28x10³
19			21	42	5.5	63	7.2			5.35x10³	4.39x10³	3.32x10³	1.97x10³
24			75	150	19.5	225	9.9			15.11x10³	12.39x10³	9.37x10³	5.55x10³
28			200	400	52	600	12.6			27.52x10³	22.57x10³	17.06x10³	10.12x10³
38			405	810	105	1215	15.3			70.15x10³	57.52x10³	43.49x10³	25.78x10³
42			560	1120	146	1680	18.0			79.9x10³	65.5x10³	49.52x10³	29.35x10³
48			655	1310	170	1965	20.7			95.5x10³	78.3x10³	59.22x10³	35.1x10³
55			825	1650	215	2475	23.4			107.9x10³	88.5x10³	66.9x10³	39.66x10³
65	2.5°	3.6°	1175	2350	306	3525	27.0	0.75	8.50	151.1x10³	123.9x10³	93.7x10³	55.53x10³
75			2400	4800	624	7200	32.4			248.2x10³	203.5x10³	153.9x10³	91.2x10³
90			4500	9000	1170	13500	45.0			674.5x10³	553.1x10³	418.2x10³	247.9x10³
100			6185	12370	1608	18555	54.0			861.2x10³	706.2x10³	533.9x10³	316.5x10³
110			9000	18000	2340	27000	63.0			1230x10³	1001x10³	773.1x10³	531.4x10³
125			12500	25000	3250	37500	72.0			1749x10³	1436x10³	1149x10³	832.1x10³
140			16000	32000	4160	48000	81.9			2312x10³	1929x10³	1521x10³	1082x10³
160			24000	48000	6240	72000	112.5			3415x10³	2961x10³	2471x10³	1830x10³
180			35000	70000	9100	105000	117.0			5670x10³	4917x10³	4103x10³	3038x10³

1) see catalogue page 15
2) ≤ 1000 load cycles
3) with +30 °C

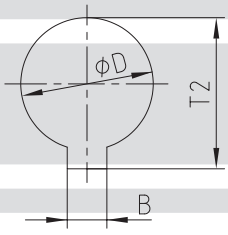
Temperature factor S_t

	-40 °C +30 °C	+40 °C	+50 °C	+60 °C	+70 °C	+80 °C	+90 °C	+100 °C	+110 °C	+120 °C
T-PUR®	1.0	1.0	1.2	1.3	1.45	1.6	1.8	2.1	2.5	3.0
PUR	1.0	1.0	1.3	1.4	1.55	1.8	2.2	–	–	–

With temperatures below -40 °C consult with KTR.
For circumferential speeds exceeding v = 30 m/s dynamic balancing is required. For circumferential speeds exceeding v = 35 m/s only steel or nodular iron.

Cylindrical bores and inch bores

Bore ØD		Width of keyway B		Keyway depth T2	KTR code Inch bore	ROTEX® basic bores, available from stock Hub material aluminium●; hub material steel●; hub material EN-GJL●										
						ROTEX® sizes										
ØD [mm]	ØD [inch]	B [mm]	B [inch]	T2 [mm]		14	19	24	28	38	42	48	55	65	75	90
Ø6 H7 +0.012		2 JS9 ±0.0125		7 +0.1		●										
Ø8 H7 +0.015		2 JS9 ±0.0125		9 +0.1		●●	●									
Ø9 H7 +0.015		3 JS9 ±0.0125		10.4 +0.1		●●	●●									
Ø9.525 +0.0254	3/8	3.175 +0.051	1/8	10.972 +0.381	Tb											
Ø10 H7 +0.015		3 JS9 ±0.0125		11.4 +0.1		●●	●●	●	●							
Ø11 H7 +0.018		4 JS9 ±0.015		12.8 +0.1		●●	●●	●								
Ø11.112 +0.0254	7/16	2.382 +0.051	3/32	12.293 +0.381	DNB											
Ø12 H7 +0.018		4 JS9 ±0.015		13.8 +0.1		●●	●●	●●								
Ø12.7 +0.0254	1/2	3.175 +0.051	1/8	14.224 +0.381	Ta		●	●								
Ø12.7 +0.0254	1/2	4.762 +0.051	3/16	14.757 +0.381	T											
Ø13.495 +0.0254	17/32	3.175 +0.051	1/8	15.011 +0.381	DNC											
Ø14 H7 +0.018		5 JS9 ±0.015		16.3 +0.1		●●	●●	●●	●●							
Ø14.287 +0.0254	9/16	3.175 +0.051	1/8	15.824 +0.381	Do											
Ø15 H7 +0.018		5 JS9 ±0.015		17.3 +0.1		●	●●	●●	●	●						
Ø15.875 +0.0254	5/8	3.175 +0.051	1/8	17.424 +0.381	E											
Ø15.875 +0.0254	5/8	3.968 +0.051	5/32	17.729 +0.381	Es		●	●	●							
Ø15.875 +0.0254	5/8	4.762 +0.051	3/16	18.008 +0.381	Ed		●	●								
Ø16 H7 +0.018		5 JS9 ±0.015		18.3 +0.1		●●	●●	●●	●●	●						
Ø17 H7 +0.018		5 JS9 ±0.015		19.3 +0.1			●●	●●	●							
Ø17.462 +0.0254	11/16	4.762 +0.051	3/16	19.634 +0.381	DNH											
Ø18 H7 +0.018		6 JS9 ±0.015		20.8 +0.1			●●	●●	●	●●	●					
Ø19 H7 +0.021		6 JS9 ±0.015		21.8 +0.1			●●	●●	●●	●●	●					
Ø19.05 +0.0254	3/4	3.175 +0.051	1/8	20.624 +0.381	Ad											
Ø19.05 +0.0254	3/4	4.762 +0.051	3/16	21.259 +0.381	A		●	●	●	●	●					
Ø20 H7 +0.021		6 JS9 ±0.015		22.8 +0.1			●●	●●	●●	●●●	●					
Ø22 H7 +0.021		6 JS9 ±0.015		24.8 +0.1			●●	●●	●●	●●	●●					
Ø22.225 +0.0254	7/8	4.762 +0.051	3/16	24.485 +0.381	G		●	●	●	●	●	●				
Ø22.225 +0.0254	7/8	6.35 +0.051	1/4	25.069 +0.381	F			●	●	●	●	●				
Ø23.812 +0.0254	15/16	6.35 +0.051	1/4	26.695 +0.381	Gf											
Ø24 H7 +0.021		8 JS9 ±0.018		27.3 +0.2			●●	●●	●●	●●●	●●	●				
Ø25 H7 +0.021		8 JS9 ±0.018		28.3 +0.2			●●	●●	●●	●●●	●●	●●	●	●		
Ø25.4 +0.0254	1	4.762 +0.051	3/16	27.686 +0.381	H											
Ø25.4 +0.0254	1	6.35 +0.051	1/4	28.295 +0.381	Hs			●	●	●	●	●	●			
Ø26.987 +0.0254	1 1/16	4.762 +0.051	3/16	29.286 +0.381	R											
Ø28 H7 +0.021		8 JS9 ±0.018		31.3 +0.2				●●	●●	●●●	●●	●●	●			
Ø28.575 +0.0254	1 1/8	6.35 +0.051	1/4	31.521 +0.381	Sb			●	●	●						
Ø28.575 +0.0254	1 1/8	7.937 +0.051	5/16	32.105 +0.381	Sd							●				
Ø30 H7 +0.021		8 JS9 ±0.018		33.3 +0.2				●	●●	●●	●●	●●	●			
Ø31.75 +0.0254	1 1/4	6.35 +0.051	1/4	34.721 +0.381	Js					●						
Ø31.75 +0.0254	1 1/4	7.937 +0.051	5/16	35.331 +0.381	K					●	●●	●	●	●		
Ø32 H7 +0.025		10 JS9 ±0.018		35.3 +0.2				●	●●	●●●	●●	●●	●●	●		
Ø34.925 +0.0254	1 3/8	7.937 +0.051	5/16	38.557 +0.381	Ma				●	●	●					
Ø34.925 +0.0254	1 3/8	9.525 +0.0635	3/8	39.141 +0.381	RH1											
Ø35 H7 +0.025		10 JS9 ±0.018		38.3 +0.2				●	●●	●●●	●●	●●	●●	●	●	
Ø36.512 +0.0254	1 7/16	9.525 +0.0635	3/8	40.767 +0.381	Cb											
Ø38 H7 +0.025		10 JS9 ±0.018		41.3 +0.2					●●	●●●	●●	●●	●●	●	●●	
Ø38.1 +0.0254	1 1/2	7.937 +0.051	5/16	41.783 +0.381	Ca											
Ø38.1 +0.0254	1 1/2	9.525 +0.0635	3/8	42.392 +0.381	C				●	●	●	●	●	●	●	
Ø40 H7 +0.025		12 JS9 ±0.0215		43.3 +0.2					●	●●●	●●	●●	●●	●●	●●	●
Ø41.275 +0.0254	1 5/8	9.525 +0.0635	3/8	45.618 +0.381	Nb					●	●●	●				
Ø42 H7 +0.025		12 JS9 ±0.0215		45.3 +0.2						●●●	●●	●●	●	●●	●●	
Ø44.45 +0.0254	1 3/4	9.525 +0.0635	3/8	48.818 +0.381	Ls											
Ø44.45 +0.0254	1 3/4	11.112 +0.0635	7/16	49.428 +0.381	L							●	●	●	●	
Ø45 H7 +0.025		14 JS9 ±0.0215		48.8 +0.2						●●●	●●	●●	●●	●●	●●	
Ø47.625 +0.0254	1 7/8	12.7 +0.0635	1/2	53.238 +0.381	Lu						●	●	●	●	●	
Ø48 H7 +0.025		14 JS9 ±0.0215		51.8 +0.2						●	●●	●●	●●	●●	●●	●
Ø49.212 +0.0254	1 15/16	12.7 +0.0635	1/2	54.864 +0.381	Da											
Ø50 H7 +0.025		14 JS9 ±0.0215		53.8 +0.2							●●	●●	●●	●●	●●	●●
Ø50.8 +0.0254	2	12.7 +0.0635	1/2	56.464 +0.381	Ds									●		●
Ø53.975 +0.0381	2 1/8	12.7 +0.0635	1/2	59.69 +0.381	Pa						●●		●		●	
Ø55 H7 +0.03		16 JS9 ±0.0215		59.3 +0.2							●●	●●	●●	●●	●●	●●
Ø57.15 +0.0381	2 1/4	12.7 +0.0635	1/2	62.915 +0.381	U											
Ø60 H7 +0.03		18 JS9 ±0.0215		64.4 +0.2								●●	●●	●●	●●	●●
Ø60.325 +0.0381	2 3/8	15.875 +0.076	5/8	67.335 +0.381	Ub										●	●
Ø65 H7 +0.03		18 JS9 ±0.0215		69.4 +0.2									●●	●●	●●	●●
Ø70 H7 +0.03		20 JS9 ±0.026		74.9 +0.2									●●	●●	●●	●●
Ø75 H7 +0.03		20 JS9 ±0.026		79.9 +0.2									●	●●	●●	●●
Ø80 H7 +0.03		22 JS9 ±0.026		85.4 +0.2										●	●●	●●
Ø85 H7 +0.035		22 JS9 ±0.026		90.4 +0.2											●	●
Ø85.725 +0.0381	3 3/8	22.225 +0.076	7/8	95.504 +0.381	Wd											
Ø90 H7 +0.035		25 JS9 ±0.026		95.4 +0.2											●	●●
Ø92.075 +0.0381	3 5/8	22.225 +0.076	7/8	101.955 +0.381	Wf											
Ø100 H7 +0.035		28 JS9 ±0.026		106.4 +0.2												●



For manufacturing reasons KTR reserves the right to insert a recess on the cam side.

Spline bores

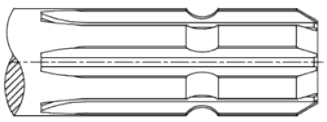
Basic range ANSI B92.1-involute spline											
Spline code	Size	Pitch circle	pitch	No. of teeth	Angle	Spline code	Size	Pitch circle	pitch	No. of teeth	Angle
PH-S	5/8"	14.28	16/32	9	30°	**PS-S**	1 1/2"	35.98	12/24	17	30°
PI-S	3/4"	17.46	16/32	11	30°	**PD-S**	1 1/2"	36.51	16/32	23	30°
PB-S	7/8"	20.63	16/32	13	30°	**PE-S**	1 3/4"	42.86	16/32	27	30°
PB-BS	1"	23.81	16/32	15	30°	**PK-S**	1 3/4"	41.275	8/16	13	30°
PJ	1 1/8"	26.98	16/32	17	30°	**PT-C** [1]	2"	47.625	8/16	15	30°
PC-S	1 1/4"	29.63	12/24	14	30°	**PQ-C** [1]	2 1/4"	53.975	8/16	17	30°
PA-S	1 3/8"	33.33	16/32	21	30°						

Basic programme of spline bores acc. to DIN 5482									
Size	Pitch circle	Module	No. of teeth	Profile correction	Size	Pitch circle	Module	No. of teeth	Profile correction
A 17 x 14	14.40	1.6	9	+0.600 [2]	**A 35 x 31**	31.50	1.75	18	+0.676
A 20 x 17	19.20	1.6	12	-0.200	**A 40 x 36**	38.00	1.9	20	+0.049
A 25 x 22	22.40	1.6	14	+0.550	**A 45 x 41**	44.00	2	22	+0.181
A 28 x 25	26.25	1.75	15	+0.302	**A 50 x 45**	48.00	2	24	+0.181
A 30 x 27	28.00	1.75	16	+0.327					

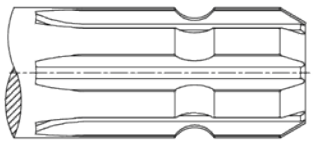
Basic programme of spline bores acc. to DIN 5480							
Spline code	Pitch circle	Module	No. of teeth	Spline code	Pitch circle	Module	No. of teeth
20 x 1 x 18 x 8H	18.0	1	18	**40 x 2 x 18 x 8H**	36.0	2	18
20 x 1.25 x 14 x 8H	17.5	1.25	14	**45 x 2 x 21 x 8H**	41.0	2	21
25 x 1.25 x 18 x 8H	22.5	1.25	18	**48 x 2 x 22 x 9H**	44.0	2	22
28 x 1.25 x 21 x 8H	26.25	1.25	21	**50 x 2 x 24 x 8H**	48.0	2	24
30 x 2 x 14 x 8H	26.0	2	14	**60 x 2 x 28 x 8H**	56.0	2	28
32 x 2 x 14 x 8H	28.0	2	14	**75 x 3 x 24 x 8H**	72.0	3	24
35 x 2 x 16 x 8H	32.0	2	16	**80 x 3 x 25 x 8H**	75.0	3	25

Basic programme of spline bores acc. to DIN 9611 - ISO 500 (p.t.o. shaft connection)				
Size	Width of keyway	No. of teeth	Tip circle	Root circle
1 3/8"	8.69	6	34.93	29.65
1 3/8"	–	21	34.95	34.80 [3]
1 3/4"	11.07	6	44.45	37.74
1 3/4"	–	20	45.20	40.20

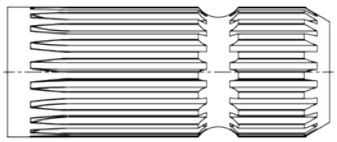
1 3⁄8“, 6 teeth



1 3⁄4“, 6 teeth



1 3⁄4 “, 20 teeth



Spline clamping hubs are often adapted to the shafts of hydraulic pump/hydraulic motor shafts. Please contact us for the respective hub length of the spline code!

[1] For clamping hubs only, with plug-in hubs use code PT or PQ.

[2] Profile correction different from DIN

[3] Similar to code PA-S

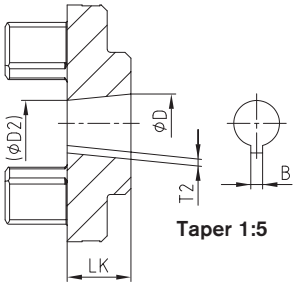
Taper bores

Basic programme taper 1:8					
Code	$D^{+0.05}$	(D2)	B^{JS9}	$T2^{+0.1}$	LK
N/1	9.7	7.575	$2.4^{+0.05}$	10.85	17.0
N/1c	11.6	9.5375	3^{JS9}	12.90	16.5
N/1e	13.0	10.375	$2.4^{+0.05}$	13.80	21.0
N/1d	14.0	11.813	3^{JS9}	15.50	17.5
N/1b	14.3	11.8625	$3.2^{+0.05}$	15.65	19.5
N/2	17.287	14.287	$3.2^{+0.05}$	18.24	24.0
N/2a	17.287	14.287	4^{JS9}	18.94	24.0
N/2b	17.287	14.287	3^{JS9}	18.34	24.0
N/3	22.002	18.502	4^{JS9}	23.40	28.0
N/4	25.463	20.963	$4.78^{+0.05}$	27.83	36.0
N/4b	25.463	20.963	5^{JS9}	28.23	36.0
N/4a	27.0	22.9375	$4.78^{+0.05}$	28.80	32.5
N/4g	28.45	23.6375	6^{JS9}	29.32	38.5
N/5	33.176	27.676	$6.38^{+0.05}$	35.39	44.0
N/5a	33.176	27.676	7^{JS9}	35.39	44.0

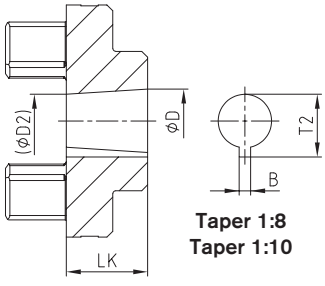
With code N/6 and N/6a keyway in parallel with taper.

Basic programme of taper 1:10					
Code	$D^{+0.05}$	(D2)	B^{JS9}	$T2^{+0.1}$	LK
CX	19.95	16.75	5^{JS9}	22.08	32
DX	24.95	20.45	6^{JS9}	26.68	45
EX	29.75	24.75	8^{JS9}	31.88	50

Basic programme taper 1:5					
Code	$D^{+0.05}$	(D2)	B^{JS9}	$T2^{+0.1}$	LK
A-10	9.85	7.55	2^{JS9}	1.0	11.5
B-17	16.85	13.15	3^{JS9}	1.8	18.5
C-20	19.85	15.55	4^{JS9}	2.2	21.5
Cs-22	21.95	17.65	3^{JS9}	1.8	21.5
D-25	24.85	19.55	5^{JS9}	2.9	26.5
E-30	29.85	23.55	6^{JS9}	2.6	31.5
F-35	34.85	27.55	6^{JS9}	2.6	36.5
G-40	39.85	32.85	6^{JS9}	2.6	35.0

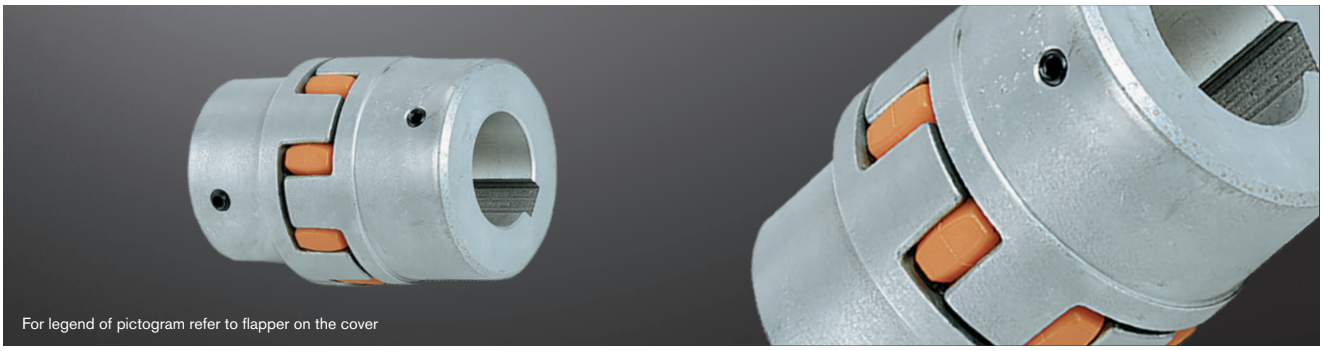


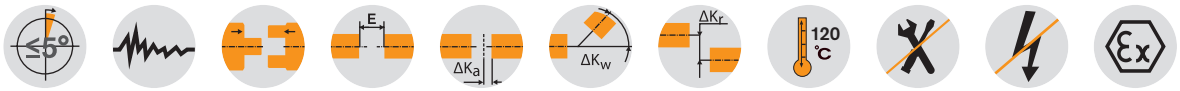
Taper 1:5



Taper 1:8
Taper 1:10

Materials: aluminium + cast + sinter material





Size	Compo-nent	Spider [1] (component 2) Rated torque T_{KN} [Nm]			Finish bore D (min. - max.)	Dimensions [mm]											
						General									Setscrew		
		92 ShA	98 ShA	64 ShD		DH	L	L1, L2	E	S	B1	DI1	DN	N	G	T	TA [Nm]
ROTEX® Sintered steel (Sint)																	
14	1a	7.5	12.5	—	0-16	30	35	11	13	1.5	10	10	30	–	M4	5	1.5
19	1a	10	17	—	0-25	40	66	25	16	2.0	12	18	40	–	M5	10	2
24	1a	35	60	—	0-35	56	78	30	18	2.0	14	27	56	–	M5	10	2
ROTEX® Aluminium diecast (Al-D)																	
19	1	10	17	—	0-19	41	66	25	16	2	12	18	32	20	M5	10	2
	1a				19-24								41				
24	1	35	60	—	0-24	56	78	30	18	2	14	27	40	24	M5	10	2
	1a				22-28								56				
28	1	95	160	—	0-24	66	90	35	20	2.5	15	30	48	28	M8	15	10
	1a				24-38								66				
38	1	190	325	—	0-38	114	45	24	18	3.0	80	38	66	36	M8	15	10
	1a				25-45								77				
ROTEX® Aluminium (Al-H)																	
14	1a	7.5	12.5	—	0-16	30	35	11	13	1.5	10	10.5	-	-	M4	5	1.5
19	1a	10	17	—	0-24	40	66	25	16	2.0	12	18	-	-	M5	10	2
24	1a	35	60	—	0-28	55	78	30	18	2.0	14	27	-	-	M5	10	2
28	1a	95	160	—	0-38	65	90	35	20	2.5	15	30	-	-	M8	15	10
38	1a	190	325	—	0-45	80	114	45	24	3.0	18	38	-	-	M8	15	10
42	1a	265	450	—	0-55	95	126	50	26	3.0	20	46	-	-	M8	20	10
48	1a	310	525	—	0-62	105	140	56	28	3.5	21	51	-	-	M8	20	10
ROTEX® Cast iron (GJL)																	
38	1	190	325	405	12-40	80	114	45	24	3	18	38	66	37	M8	15	10
	1a				38-48								78				
	1b				12-48		164	70						62			
42	1	265	450	560	14-45	95	126	50	26	3	20	46	75	40	M8	20	10
	1a				42-55								94				
	1b				14-55		176	75						65			
48	1	310	525	655	15-52	105	140	56	28	3.5	21	51	85	45	M8	20	10
	1a				48-62								104				
	1b				15-62		188	80						69			
55	1	410	685	825	20-60	120	160	65	30	4	22	60	98	52	M10	20	17
	1a				55-74								118				
65	1	625	940	1175	22-70	135	185	75	35	4.5	26	68	115	61	M10	20	17
75	1	1280	1920	2400	30-80	160	210	85	40	5	30	80	135	69	M10	25	17
90	1	2400	3600	4500	40-100	200	245	100	45	5.5	34	100	160	81	M12	30	40
ROTEX® Nodular iron (GJS)																	
100	1	3300	4950	6185	50-115	225	270	110	50	6	38	113	180	89	M12	30	40
110	1	4800	7200	9000	60-125	255	295	120	55	6.5	42	127	200	96	M16	35	80
125	1	6650	10000	12500	60-145	290	340	140	60	7	46	147	230	112	M16	40	80
140	1	8550	12800	16000	60-160	320	375	155	65	7.5	50	165	255	124	M20	45	140
160	1	12800	19200	24000	80-185	370	425	175	75	9	57	190	290	140	M20	50	140
180	1	18650	28000	35000	85-200	420	475	195	85	10.5	64	220	325	156	M20	50	140

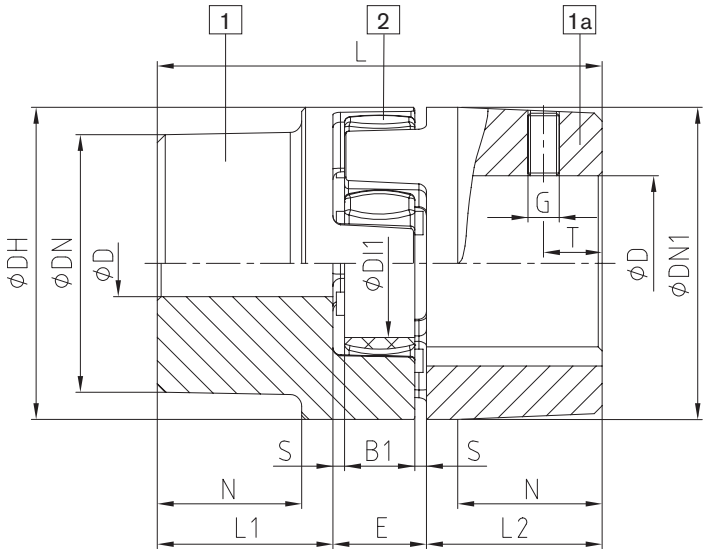
■ =Unless any material is specified in the order, it is defined with the calculation/order.

[1] Maximum torque of the coupling $T_{K\,max}$ = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

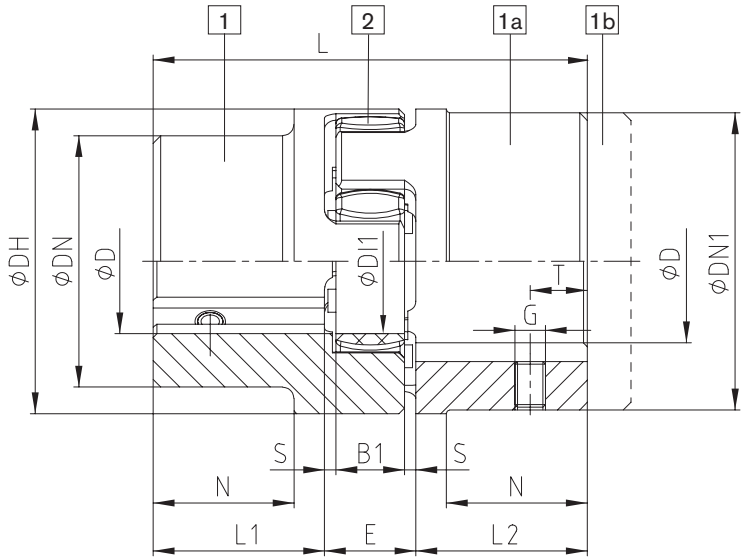
Ordering example:

ROTEX® 38	GJL	92 ShA	1a	Ø45	1	Ø25
Coupling size	Material	Spider hardness	Component	Finish bore	Component	Finish bore

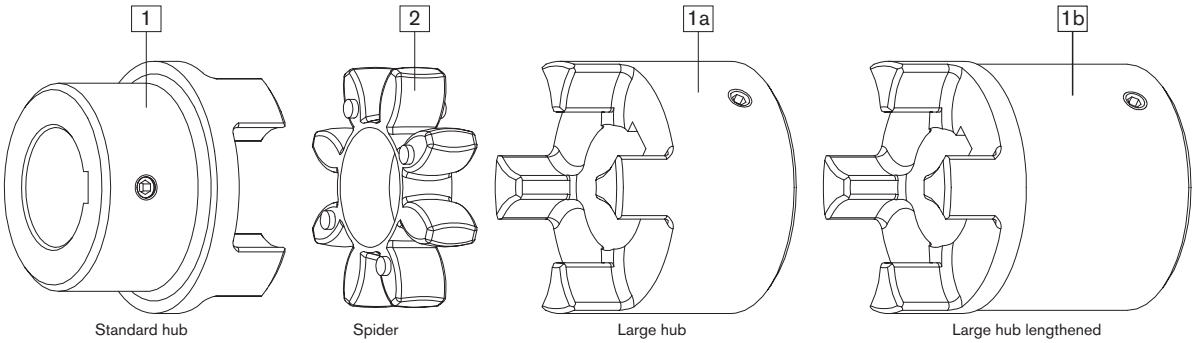
Components



Al-D (thread opposite the keyway)

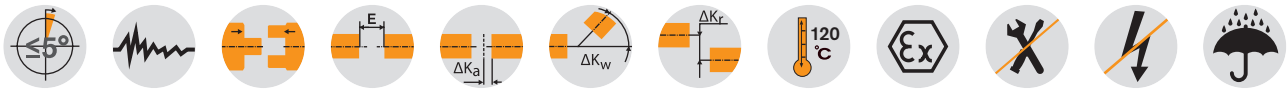


Sint / Al-H / GJL / GJS (thread on the keyway)



Material steel/stainless steel





ROTEX® Steel (St)

Size	Compo-nent	Spider [1] (component 2) Rated torque T_{KN} [Nm]			Finish bore D (min. - max.)	Dimensions [mm]											
						General									Setscrew		
		92 ShA	98 ShA	64 ShD		DH	L	L1, L2	E	S	B1	Dl1	DN	N	G	T	TA [Nm]
14	1a	7.5	12.5	16	0-16	30	35	11	13	1.5	10	10	30	—	M4	5	1.5
	1b						50	18.5									
19	1a	10	17	21	0-25	40	66	25	16	2	12	18	40	—	M5	10	2
	1b						90	37									
24	1a	35	60	75	0-35	55	78	30	18	2	14	27	55	—	M5	10	2
	1b						118	50									
28	1a	95	160	200	0-40	65	90	35	20	2.5	15	30	65	—	M8	15	10
	1b						140	60									
38	1	190	325	405	0-48	80	114	45	24	3	18	38	70	27	M8	15	10
	1b						164	70					80	—			
42	1	265	450	560	0-55	95	126	50	26	3	20	46	85	28	M8	20	10
	1b						176	75					95	—			
48	1	310	525	655	0-62	105	140	56	28	3.5	21	51	95	32	M8	20	10
	1b						188	80					105	—			
55	1	410	685	825	0-75	120	160	65	30	4	22	60	110	37	M10	20	17
	1b						210	90					120	—			
65	1	625	940	1175	0-80	135	185	75	35	4.5	26	68	115	47	M10	20	17
	1b						235	100					135	—			
75	1	1280	1920	2400	0-95	160	210	85	40	5	30	80	135	53	M10	25	17
	1b						260	110					160	—			
90	1	2400	3600	4500	0-110	200	245	100	45	5.5	34	100	160	62	M12	30	40
	1b						295	125					200	—			
100	1	3300	4950	6185	0-115	225	270	110	50	6	38	113	180	89	M12	30	40
110	1	4800	7200	9000	0-130	255	295	120	55	6.5	42	127	200	96	M16	35	80
125	1	6650	10000	12500	60-145	290	340	140	60	7	46	147	230	112	M16	40	80
140	1	8550	12800	16000	60-160	320	375	155	65	7.5	50	165	255	124	M20	45	140
160	1	12800	19200	24000	80-185	370	425	175	75	9	57	190	290	140	M20	50	140
180	1	18650	28000	35000	85-200	420	475	195	85	10.5	64	220	325	156	M20	50	140

=Unless any material is specified in the order, it is defined with the calculation/order.
[1] Maximum torque of the coupling $T_{K\,max}$ = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

ROTEX® stainless steel (1.4305[1])

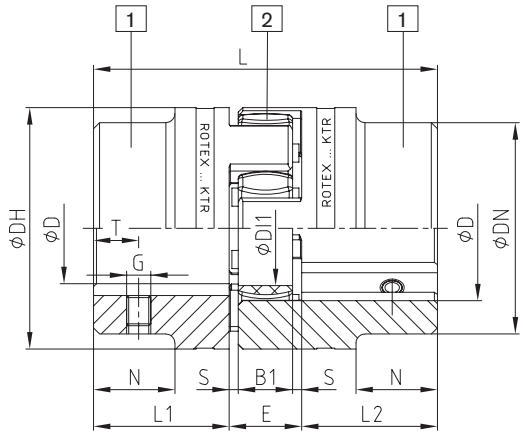
Size	Compo-nent	Spider (component 2) Rated torque T_{KN} [Nm]			Finish bore D (min. - max.)	Dimensions [mm]											
						General									Setscrew		
		92 ShA	98 ShA	64 ShD		DH	L	L1, L2	E	S	B1	Dl1	DN	N	G	T	T_A [Nm]
19	1a	10	17	21	0-25	40	66	25	16	2	12	18	40	-	M5	10	2
24	1a	35	60	75	0-35	55	78	30	18	2	14	27	55	-	M5	10	2
28	1a	95	160	200	0-40	65	90	35	20	2.5	15	30	65	-	M8	15	10
38	1	190	325	405	0-48	80	114	45	24	3	18	38	70	27	M8	15	10
42	1	265	450	560	0-55	95	126	50	26	3	20	46	85	28	M8	20	10
48	1	310	525	655	0-62	105	140	56	28	3.5	21	51	95	32	M8	20	10

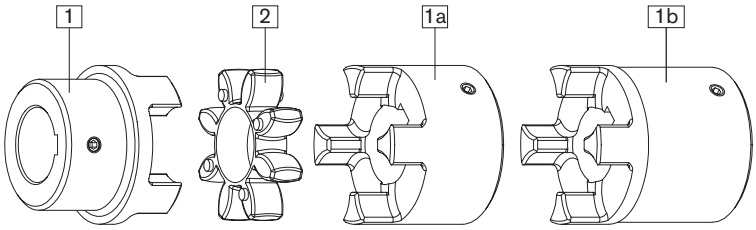
[1] Material 1.4571 on request.

Ordering example:	ROTEX® 38	1.4305	92 ShA	1 - Ø45		1 - Ø25	
	Coupling size	Material	Spider hardness	Component	Finish bore	Component	Finish bore

DIN EN 10204 - 3.1 and 3.2 material test certificate

Components





Standard hub | Spider | Large hub | Large hub lengthened

Steel (thread on the keyway)

ROTEX® Coupling hubs with test certificate [1]				
Size	Component	Material [2]	Inspection certificate acc. to DIN EN 10204	Notch impact strength
19	1a	S355 [2]	3.1	>=27 J
24	1a	S355 [2]	3.1	>=27 J
28	1a	S355 [2]	3.1	>=27 J
38	1a	S355 [2]	3.1	>=27 J
42	1	S355 [2]	3.1	>=27 J
48	1	S355 [2]	3.1	>=27 J
55	1	S355 [2]	3.1	>=27 J
65	1	S355 [2]	3.1	>=27 J
75	1	S355 [2]	3.1/3.2	>=27 J
		42CrMoS4+QT [3]		
90	1	S355 [2]	3.1/3.2	>=27 J
		42CrMoS4+QT [3]		
100	1	S355 [2]	3.1/3.2	>=27 J
		42CrMoS4+QT [3]		
110	1	S355 [2]	3.1/3.2	>=27 J
		42CrMoS4+QT [3]		
125	1	S355 [2]	3.1/3.2	>=27 J
		42CrMoS4+QT [3]		
140	1	S355 [2]	3.1/3.2	>=27 J
		42CrMoS4+QT [3]		
160	1	S355 [2]	3.1/3.2	>=27 J
		42CrMoS4+QT [3]		
180	1	S355 [2]	3.1/3.2	>=27 J
		42CrMoS4+QT [3]		

[1] S355 suitable for feather key connections, 42CrMoS4+QT for oil press-fits
[2] Notch impact strength with -40 °C
[3] Notch impact strength with -20 °C

Marine programme:
Hub materials S355J2+N and 42CrMo4+QT acc. to DIN EN 10204 - 3.1+3.2, size 75 - 180 available from stock.

DNV·GL ABS BUREAU VERITAS Lloyd's Register ClassNK

UL

CERTIFIED SAFETY US EX15517

Use in fire pumps
ROTEX® couplings comply with the specifications of NFPA 20 standards for the installation of stationary pumps for fire protection and due to completion of the endurance tests required they also comply with the specifications of UL 448A, flexible couplings and connection shafts for stationary fire pumps.

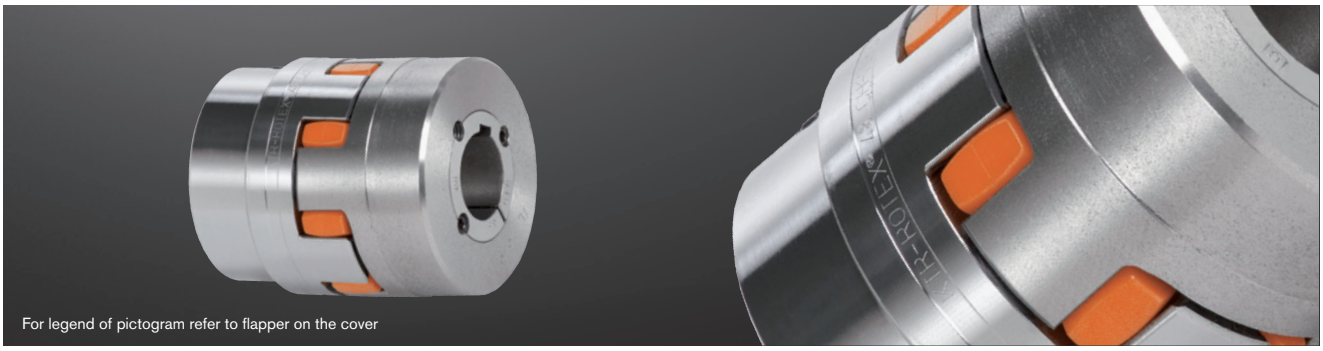
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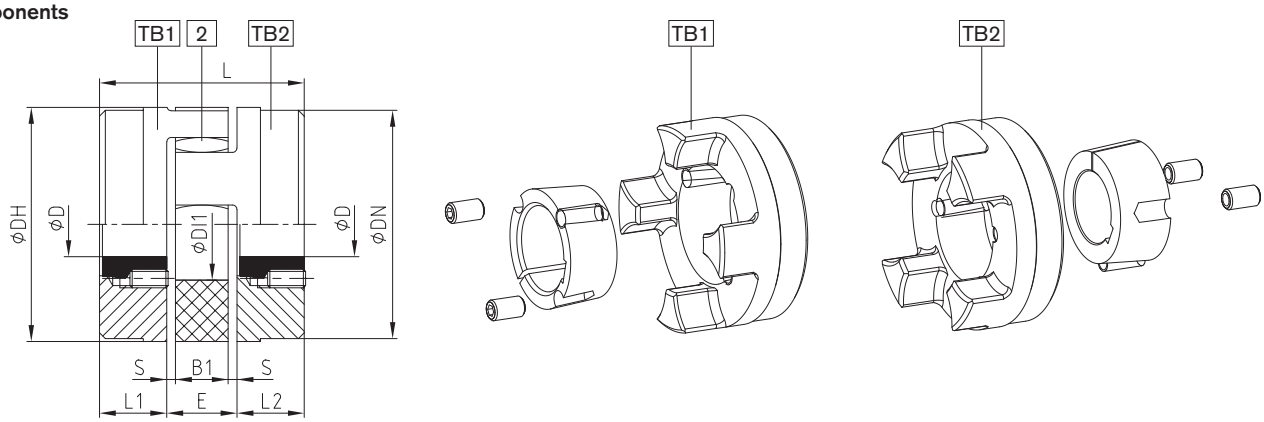
ROTEX® UL Listed								
Size	Compo-nent	Material	Spider (component 2) Rated torque T_{KN} [Nm] 92 ShA	Dimensions [mm] Finish bore D (min. - max.)	DH	L	L1; L2	E
42	1	St	265	18-55	95	126	50	26
55	1	St	410	24-74	120	160	65	30
65	1	St	625	24-80	135	185	75	35
75	1	St	1280	24-95	160	210	85	40
90	1	St	2400	30-110	200	245	100	45

* for complete dimensions see table on page 40

Taper clamping sleeve



Components



ROTEX® shaft coupling for taper clamping sleeve													
Size	Taper clamping sleeve	Spider [1] (component 2) Rated torque T_{KN} [Nm]			Dimensions [mm]					Fastening screws for taper clamping sleeve			
		92 ShA	98 ShA	64 ShD	DH	L	L1, L2	E	S	Size [inch][2]	Length [mm]	Number	T_A [Nm]
24	1008	35	60	75	55	62	22	18	2.0	1/4"	13	2	5.7
28	1108	95	160	200	65	66	23	20	2.5	1/4"	13	2	5.7
38	1108	190	325	405	80	70	23	24	3.0	1/4"	13	2	5.7
42	1610	265	450	560	95	78	26	26	3.0	3/8"	16	2	20
48	1615	310	525	655	105	106	39	28	3.5	3/8"	16	2	20
55	2012	410	685	825	120	96	33	30	4.0	7/16"	22	2	31
65	2012	625	940	1175	135	101	33	35	4.5	7/16"	22	2	31
75	2517	1280	1920	2400	160	144	52	40	5.0	1/2"	25	2	49
	• 3020									5/8"	32		92
90	3020	2400	3600	4500	200	149	52	45	5.5	5/8"	32	2	92
100	3535	3300	4950	6185	225	230	90	50	6.0	1/2"	49	3	113
125	4545	6650	10000	12500	290	288	114	60	7.0	3/4"	49	3	192

Taper clamping sleeve																			
Size	Summary of bore dimensions D [mm], H7 fit - feather keyway acc. to DIN 6885 sheet 1																		
1008	Ø10	Ø11	Ø12	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25								
1108	Ø10	Ø11	Ø12	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28 [3]							
1610	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42 [3]				
1615	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42 [3]				
2012	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	
2517	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60
3020	Ø25	Ø28	Ø30	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75				
3535	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80	Ø85	Ø90				
4545	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80	Ø85	Ø90	Ø95	Ø100	Ø105	Ø110							

• Available for type TB2 only
[1] Maximum torque of the coupling $T_{K\,max}$ = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.
[2] 1. BSW thread
Coupling type TB1/TB2, TB1/TB1 and TB2/TB2 possible.
Please order our separate dimension sheet (M373054).
[3] Bores with feather keyway (flat design) acc. to DIN 6885 sheet 3

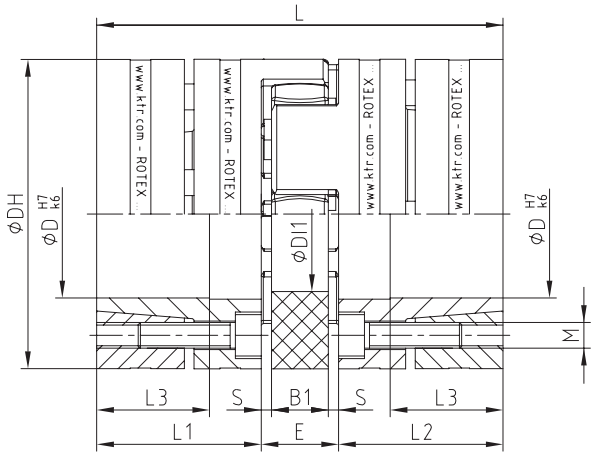
Ordering example:

ROTEX® 38	92 ShA	1108	TB1 - Ø24		TB2 - Ø22	
Coupling size	Spider hardness	Taper clamping sleeve	Hub type	Finish bore	Hub type	Finish bore

Clamping ring hubs







Extraction thread M between clamping screws.

Clamping ring hubs steel

Size	Spider [1] Rated torque T_{KN} [Nm] 92 ShA	98 ShA	64 ShD	Dimensions [mm]							Clamping screws			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kgm²]
	T_{KN}	$T_{K\,max}$	T_{KN}	D (max.)	DH [2]	L	L1, L2	L3	E	S	M	Z = number	T_A [Nm]		
19	10.0	17	21	20	40	66	25	18	16	2.0	M4	6	4.1	0.179	0.44×10^{-4}
24	35.0	60	75	28	55	78	30	22	18	2.0	M5	4	8.5	0.399	1.91×10^{-4}
28	95.0	160	200	38	65	90	35	27	20	2.5	M5	8	8.5	0.592	4.18×10^{-4}
38	190.0	325	405	48	80	114	45	35	24	3.0	M6	8	14	1.225	12.9×10^{-4}
42	265	450	560	51	95	126	50	35	26	3.0	M8	4	41	2.30	31.7×10^{-4}
48	310	525	655	55	105	140	56	41	28	3.5	M10	4	69	3.08	52.0×10^{-4}
55	375	685	825	70	120	160	65	45	30	4.0	M10	4	69	4.67	103.0×10^{-4}
65	—	940	1175	70	135	185	75	55	35	4.5	M12	4	120	6.70	191.0×10^{-4}
75	—	1920	2400	80	160	210	85	63	40	5.0	M12	5	120	9.90	396.8×10^{-4}
90	—	3600	4500	105	200	245	100	75	45	5.5	M16	5	295	17.70	1136×10^{-4}

Bore D and the respective transmittable friction torques T_R of clamping ring hub in [Nm] [1]

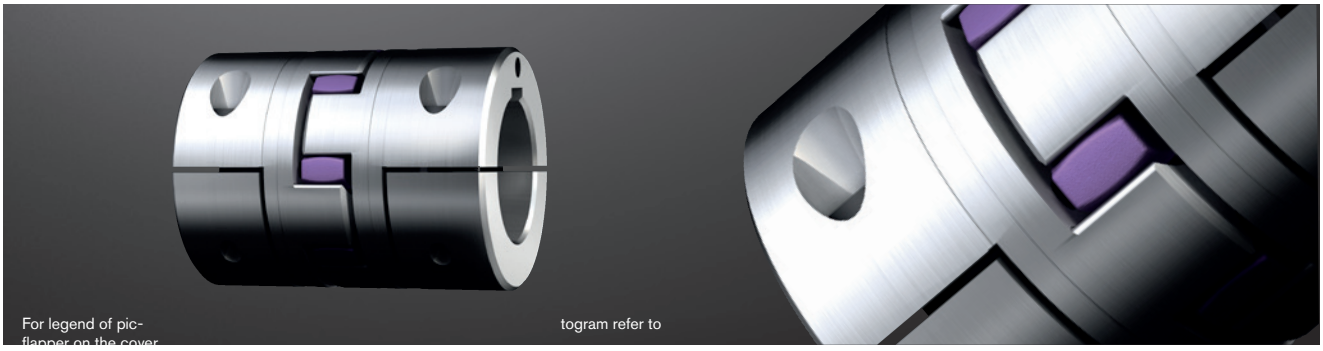
Size	Ø10	Ø11	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*	Ø60*	Ø65*	Ø70*	Ø80*	Ø90*	Ø95*	Ø100*	Ø105*
19	27	32	69	84	57	94	110																					
24			70	87	56	97	114	116	133	192																		
28				108	131	207	148	253	285	315	382	330	433	503														
38							208	353	395	439	531	463	603	593	689	793	776											
42									445	495	595	526	678	671	775	718	872	1043	1061									
48											616	704	899	896	1030	962	1160	1379	1222	1543								
55													863	856	991	918	1119	1110	1247	1277	1665	1605	2008					
65															1446	1355	1637	1635	1827	1887	2429	2368	2930					
75																1710	2053	2059	2294	2384	3040	2983	3664	4293				
90																			3845	4249	4794	5858	5900	7036	8047	9247	9575	10845

[1] For selection see page 14 et seqq.
[2] ØDH + 2 mm with high speeds for expansion of spider
*) The transmittable torques of the clamping connection consider the max. clearance with shaft clearance k6/bore H7, from Ø55 G7/m6. The torque is reduced with bigger clearance. For the strength calculation of shaft/hollow shaft see KTR standard 45510 on our homepage www.ktr.com.

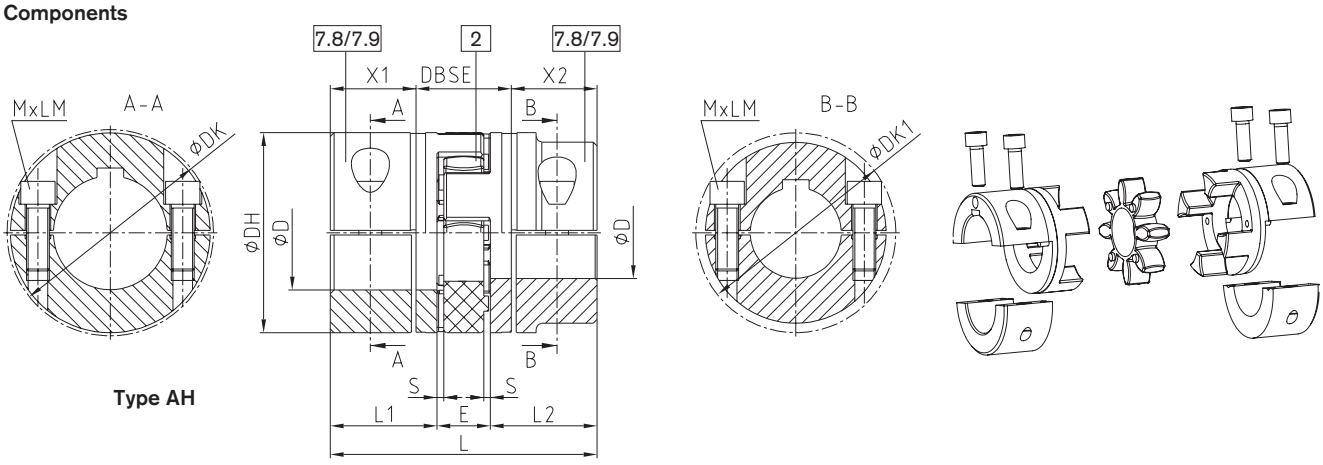
Ordering example:

ROTEX® GS 24	98 ShA	6.0 steel	Ø24	6.0 steel	Ø20
Coupling size	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

Drop-out center design coupling



Components



Type AH

ROTEX® Type AH															
Size	Spider [1] Rated torque T_{KN} [Nm]			Dimensions [mm]										Cap screws DIN EN ISO 4762	
	92 ShA	98 ShA	64 ShD	Finish bore D (max.)	DH	L	L1, L2	E	S	DK	DK1	X1, X2	DBSE	MxLM	Tightening torque T_A [Nm]
19	10	17	21	20	40	66	25	16	2.0	46.0	—	17.5	31	M6x16	14
24	35	60	75	28	55	78	30	18	2.0	57.5	—	22.5	33	M6x20	14
28	95	160	200	38	65	90	35	20	2.5	73.0	—	25.5	39	M8x25	35
38	190	325	405	45	80	114	45	24	3.0	83.5	—	35.5	43	M8x30	35
42	265	450	560	50	95	126	50	26	3.0	—	93.5	39.0	48	M10x30	69
				55						97.0	—			M10x35	
48	310	525	655	55	105	140	56	28	3.5	—	105.0	45.0	50	M12x35	120
				60						108.5	—			M12x40	
55	410	685	825	65	120	160	65	30	4.0	—	119.5	50.0	60	M12x40	120
				70						122.0	—			M12x45	
65	625	940	1175	70	135	185	75	35	4.5	—	123.5	60.0	65	M12x40	120
				80						132.5	—			M12x45	
75	1280	1920	2400	80	160	210	85	40	5.0	—	147.5	67.5	75	M16x50	295
				90						158.0	—				
90	2400	3600	4500	90	200	245	100	45	5.5	—	176.0	81.5	82	M20x60	580
				110						197.0	—				
100 [2]	3300	4950	6185	110	225	270	110	50	6.0	—	185.5	84.0	102	M16x50	295
110 [2]	4800	7200	9000	120	255	295	120	55	6.5	—	208.0	90.0	115	M20x60	580
125 [2]	6650	10000	12500	140	290	340	140	60	7.0	—	242.5	105.0	130	M24x70	1000

CAUTION:
With maximum bore the feather keyways are offset to each other by approx. 5°!
Hub material up to size 90: steel, from size 100: GJS

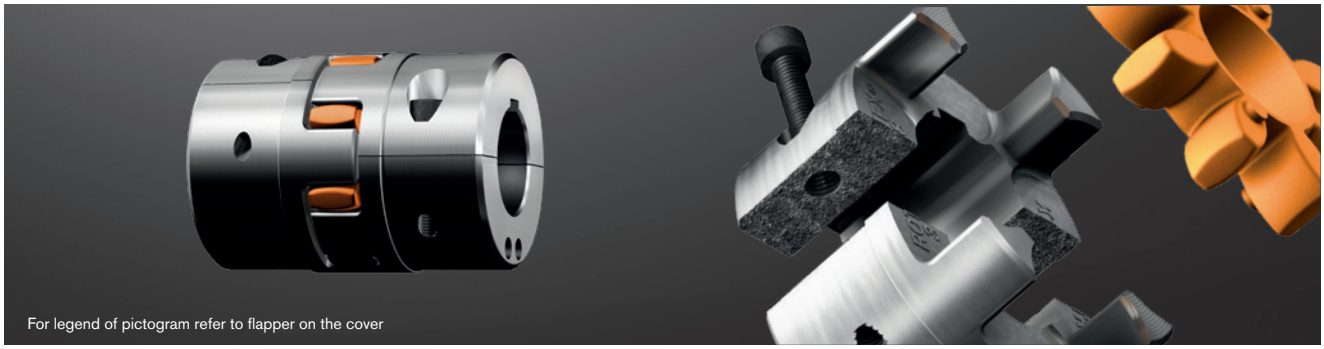
7.8 = Half shell clamping hub without feather keyway max. circumferential speed of v = 35 m/s.
From a circumferential speed of v = 25 m/s dynamic balancing is necessary; from a circumferential speed of v = 25 m/s the frictional torque of shaft/hub must be reviewed. Please consult with KTR.
7.9 = Half shell clamping hub with feather keyway max. circumferential speed of v = 35 m/s. From a circumferential speed of v = 25 m/s dynamic balancing is required.

Speed: max. circumferential speed of 25 m/s on the outside diameter DH of the coupling
[1] Maximum torque of the coupling $T_{K\,max}$ = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.
[2] from size 100: 4-off clamping screws per clamping hub

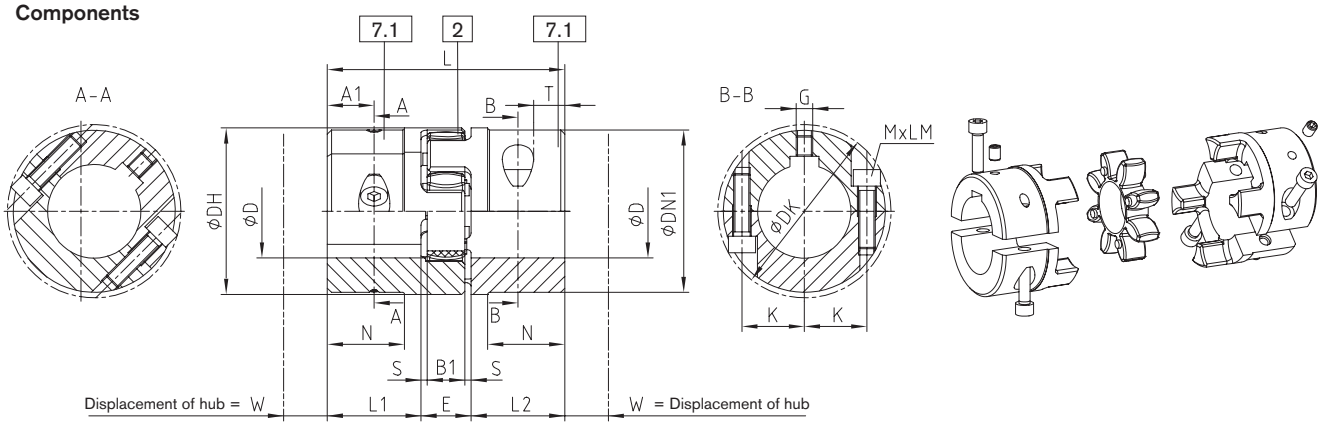
Ordering example:

ROTEX® 38	AH	98 ShA	7.9	Ø38	7.9	Ø30
Coupling size	Type	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

Drop-out center design coupling with SPLIT hubs



Components



Type SH

ROTEX® Type SH Sintered steel (Sinter)													
Size	Spider [1] Rated torque T_{KN} [Nm]		Dimensions [mm]								Cap screws DIN EN ISO 4762	
	92 ShA	98 ShA	Finish bore D (min. - max.)	DH	L	L1, L2	E	S	DK	W	MxLM	Tightening torque T_A [Nm]
19	10	17	0-24	40	66	25	16	2.0	44	-	M4x14	4.1
24	35	60	0-28	55	78	30	18	2.0	57.5	12	M6x20	14
28	95	160	0-38	65	90	35	20	2.5	73	12	M8x25	34

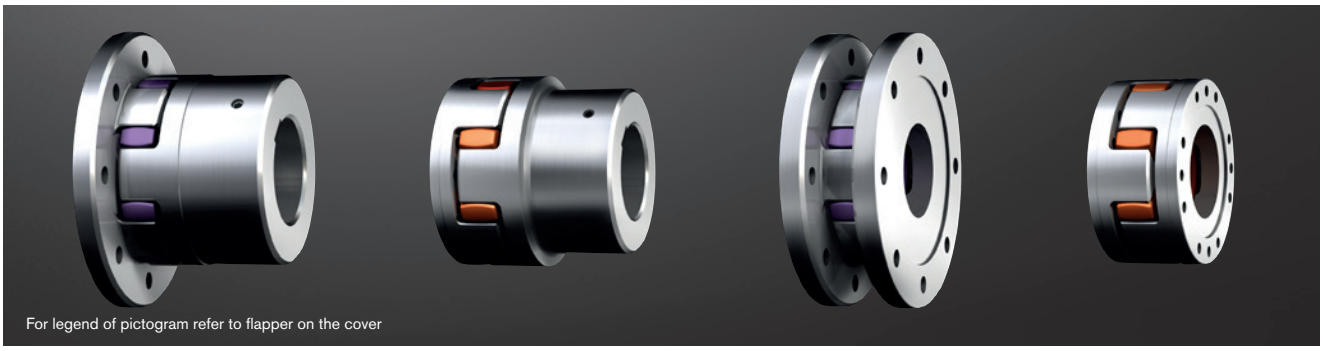
ROTEX® Type SH Cast iron (GJL)													
Size	Spider [1] Rated torque T_{KN} [Nm]			Dimensions [mm]								Cap screws DIN EN ISO 4762	
	92 ShA	98 ShA	64 ShD	Finish bore D (min. - max.)	DH	L	L1, L2	E	S	DK	W	MxLM	Tightening torque T_A [Nm]
38	190	325	405	24-48	80	114	45	24	3.0	83.5	15	M8x30	34
42	265	450	560	24-55	95	126	50	26	3.0	97	15	M10x35	67
48	310	525	655	24-60	105	140	56	28	3.5	108.5	15	M12x40	115
55	410	685	714	24-70	120	160	65	30	4.0	122	15	M12x45	115
65	625	940	1175	28-70	135	185	75	35	4.5	123.5	15	M12x40	115
				70-80						132.5		M12x45	
75	1280	1920	2400	40-80	160	210	85	40	5.0	147	20	M16x50	290
				80-90						158			
90	2400	3800	4500	40-90	200	245	100	45	5.5	176	30	M20x60	560
				90-110						197			
100	3300	4950	6185	51 - 100	225	270	110	50	6	199.5	44	M20x70	560
110	4800	7200	9000	51 - 120	255	295	120	55	6.5	224	48.5	M24x80	1000

7.1 = SPLIT hub with feather keyway
[1] Maximum torque of the coupling $T_{K\,max}$ = rated torque of the coupling T_{KN} x 2. For selection see catalogue Drive Technology.
Available from stock

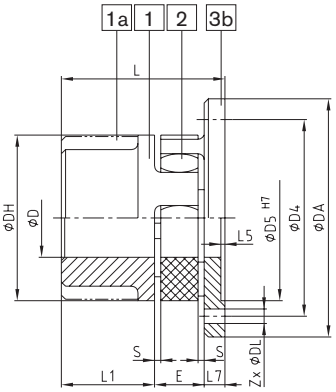
Ordering example:	ROTEX® 38	SH	98 ShA	7.1	Ø38	7.1	Ø30
	Coupling size	Type	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

ROTEX® CF, CFN, DF and DFN
Flexible jaw couplings

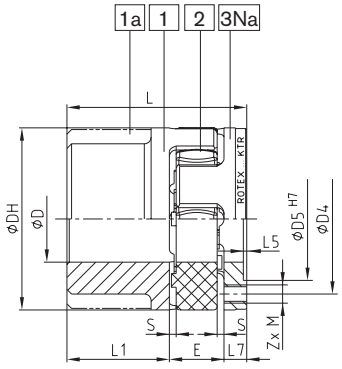
Flange programme



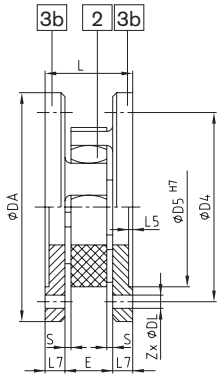
Components



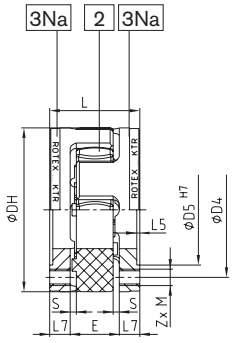
Type CF



Type CFN



Type DF



Type DFN

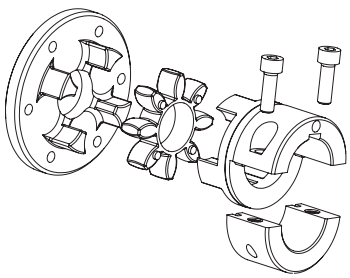
ROTEX® Type CF, CFN and DF, DFN

Size	Spider [1] Rated torque T_{KN} [Nm]			Dimensions [mm]																				
										CF and DF							CFN and DFN						
	92 ShA	98 ShA	64 ShD	DH	L1	E	S	L5	L7	DA	D4	D5	Z	DL	L CF	L DF	D4	D5	M	Z	pitch	LCFN	L DFN
24	35	60	75	55	30	18	2.0	1.5	8	80	65	55	5	4.5	56	34	45	36	M5	8		56	34
28	95	160	200	65	35	20	2.5	1.5	10	100	80	65	6	6.6	65	40	54	44	M6	8	8x45°	65	40
38	190	325	405	80	45	24	3.0	1.5	10	115	95	80	6	6.6	79	44	66	54	M8	8		79	44
42	265	450	560	95	50	26	3.0	2.0	12	140	115	95	6	9.0	88	50	80	65	M8	12	16x22.5°	88	50
48	310	525	655	105	56	28	3.5	2.0	12	150	125	105	8	9.0	96	52	90	75	M8	12		96	52
55	410	685	825	120	65	30	4.0	2.0	16	175	145	120	8	11.0	111	62	102	84	M10	8	8x45°	111	62
65	625	940	1175	135	75	35	4.5	2.0	16	190	160	135	10	11.0	126	67	116	96	M10	12	16x22.5°	126	67
75	1280	1920	2400	160	85	40	5.0	2.5	19	215	185	160	10	13.5	144	78	136	112	M12	15		144	78
90	2400	3600	4500	200	100	45	5.5	3.0	20	260	225	200	12	13.5	165	85	172	145	M16	15		165	85
100	3300	4950	6185	225	110	50	6.0	4.0	25	285	250	225	12	13.5	185	100	195	165	M16	15		185	100
110	4800	7200	9000	255	120	55	6.5	4.0	26	330	290	255	12	17.5	201	107	218	180	M20	15	20x18°	201	107
125	6650	10000	12500	290	140	60	7.0	5.0	30	370	325	290	16	17.5	230	120	252	215	M20	15		230	120
140	8550	12800	16000	320	155	65	7.5	5.0	34	410	360	320	16	22.0	254	133	282	245	M20	15		254	133
160	12800	19200	24000	370	175	75	9.0	5.0	38	460	410	370	16	22.0	288	151	325	280	M24	15		288	151
180	18650	28000	35000	420	195	85	10.5	5.5	40	520	465	420	16	26.0	320	165	375	330	M24	18	24x15°	320	165

[1] Maximum torque of the coupling $T_{K\,max}$ = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.
For other flange programmes see page 45.

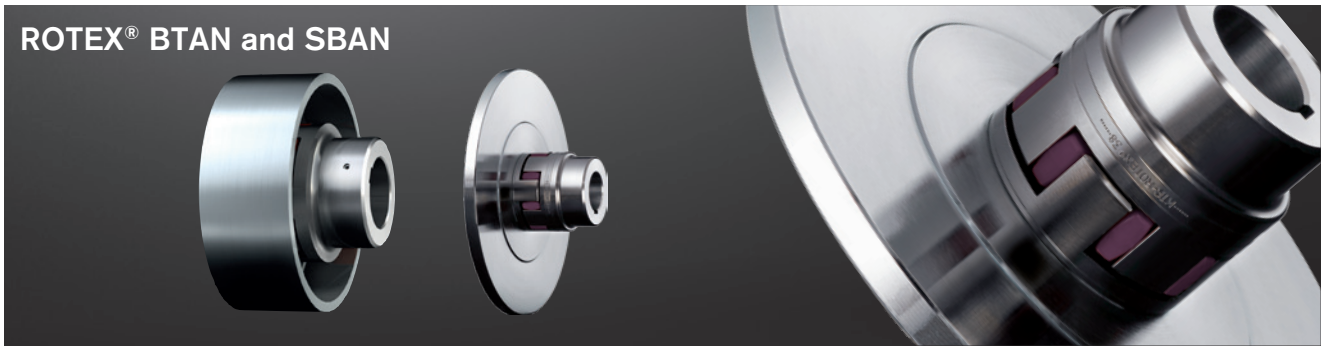
Other types: ROTEX® CF-H
Flange drop-out center design coupling
Please order our separate dimension sheet (M412069).





Ordering example:	ROTEX® 38	CF	92 ShA	1	GJL	Ø20
	Coupling size	Type	Spider hardness	Hub side, component	Material	Finish bore

Other types



BTAN
- With brake drum for external drum brakes with double shoes
- Following DIN 15431/15435

SBAN
- With disk for braking caliper

Every coupling type can be combined with various sizes of brake drums/brake disks.

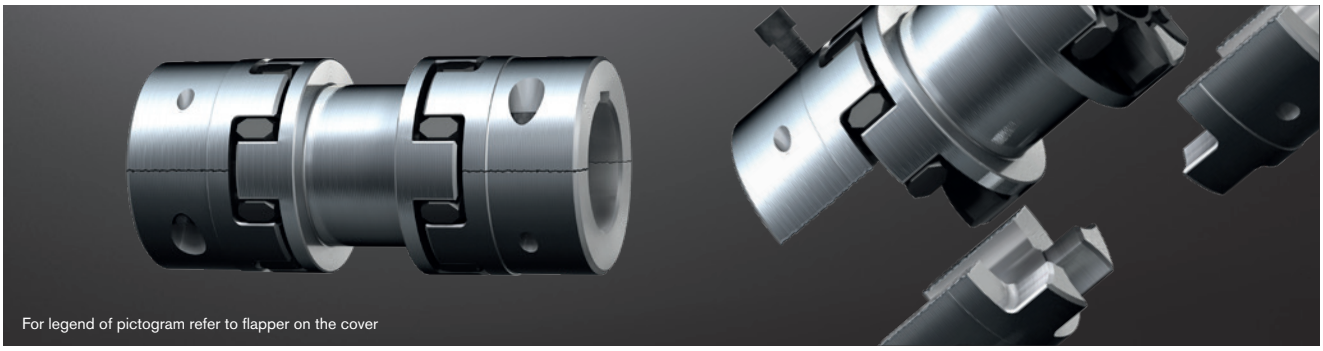


- Double-cardanic jaw coupling for large shaft displacements
- Good damping properties due to double arrangement of spiders
- spacers adapted to drop-out center lengths of standard pumps
- For bigger radial displacements generated by thermal expansion
- assembly/disassembly via four screws
- For reduced load on bearings / axial forces on mechanical seals

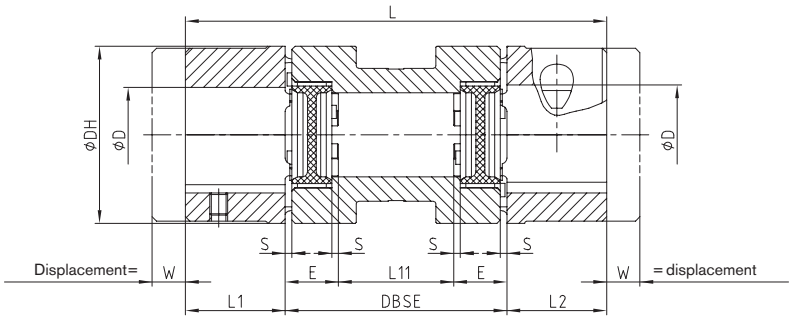
ROTEX® ZS-DKM-SH
Flexible jaw couplings

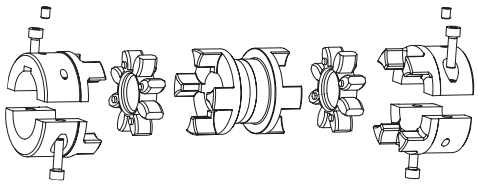
Discover our assembly videos

Double-cardanic shaft coupling with SPLIT hubs









ROTEX® type ZS-DKM-SH

Size [3]	Spider ROTEX GS T_{KN} [Nm] [1) 2)]	Dimensions [mm]											Screws DIN EN ISO 4762		Max. displacements				
		Drop-out center design length DBSE	Finish bore D		DH	L1, L2	L11	E	S	L	W	DK				with n = 1500 rpm		with n = 3000 rpm	
			min.	max.									M	T_A [Nm]	Axial [mm]	Radial [mm]	Angular [°]	Radial [mm]	Angular [°]
19	12	42 [5)]	0	24	40	25	10	16	2.0	92	-	-	-	-	1.2	0.45		-	
		52 [5)]					16			112						0.59		-	
24	35	100	0	28	55	30	64	18	2.0	160	12	57.5	M6	14	1.4	1.43		1.07	
		140					104			200						2.13		1.60	
		58 [5)]					18			128						0.66		-	
28	95	100	0	38	65	35	60	20	2.5	170	12	73	M8	34	1.5	1.40		1.05	
		140					100			210						2.10		1.57	
		68 [5)]					20			158						0.77		-	
38	190	100	24	45	80	45	52	24	3.0	190	15	83.5	M8	34	1.8	1.33		0.99	
		140					92			230						2.02		1.52	
		74 [5)]					22			174						0.84		-	
42	265	100	24	55	95	50	48	26	3.0	200	15	97	M10	67	2.0	1.29		0.97	
		140					88			240						2.00		1.49	
		80 [5)]					24			192						0.91		-	
48	310	100	24	60	105	56	44	28	3.5	212	15	108.5	M12	115	2.1	1.26		0.94	
		140					84			252						1.95	1	1.47	0.75
		88 [5)]					28			218						1.01		-	
		100					40			230						1.22		0.92	
55	410	140	24	70	120	65	80	30	4.0	270	15	122	M12	115	2.2	1.92		1.44	
		180					120			310						2.62		1.96	
		200					140			330						2.97		2.22	
		102 [5)]					32			252						1.17		-	
65	625	140	24	80	135	75	70	35	4.5	290	15	132.5 [6)]	M12	115	2.6	1.83		1.37	
		180					110			330						2.53		1.90	
		116 [5)]					36			286						1.33		-	
		140					60			310						1.75		1.31	
75	1280	180	40	90	160	85	100	40	5.0	350	20	158 [6)]	M16	290	3.0	2.44		1.83	
		200					120			370						2.79		2.09	
		250					170			420						3.67		2.75	
		130 [5)]					40			330						1.48		-	
90	2400	180	40	110	200	100	90	45	5.5	380	30	197 [6)]	M20	560	3.4	2.36		1.76	
		250					160			450						3.58		2.68	

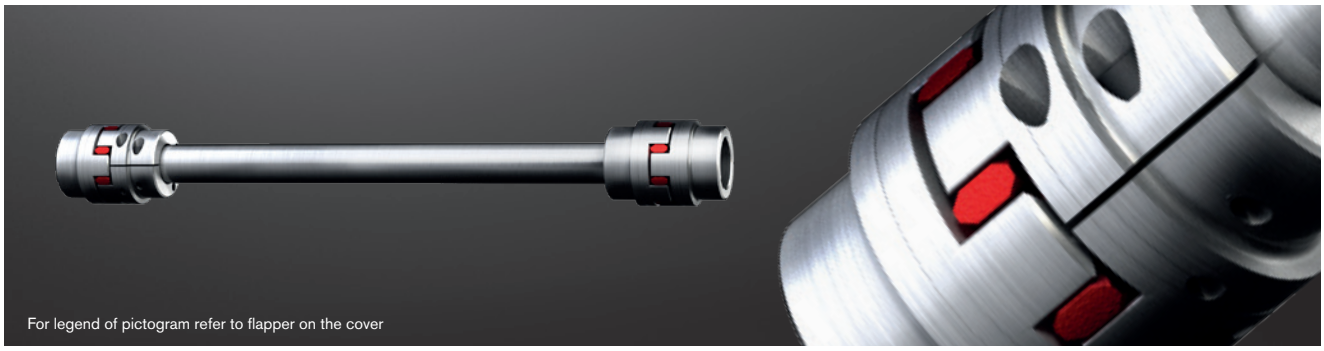
[1)] Maximum torque of coupling $T_{K\,max}$ = rated torque of coupling T_{KN} x 2
[2)] Mathematically transmittable torque with double-cartdanic types acc. to 92 ShA-GS using the higher quality spiders 61 ShD-E-GS
[3)] ROTEX®-SPLIT hub material sizes 24 and 28 = sintered steel; hub material sizes 38 to 90 = EN-GJL
[4)] Hub type 7.1 = SPLIT hub with feather keyway and thread for setscrews
[5)] Material of spacer Al-H
[6)] ØDN and ØDK depending on finish bore ØD, see page 36/37

The max. permissible circumferential speed for double-cardanic ROTEX® DKM and ZS-DKM-SH couplings is 20m/s, with higher speeds please consult with KTR.
ROTEX® 98 ShA-GS and 64 ShD-GS spiders applicable, while the transmittable torque [T_{KN}; T_{Kmax}] of the 92 ShA-GS spider must not be exceeded.

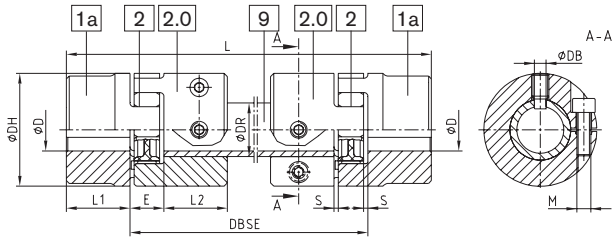
Ordering example:

ROTEX® 38	ZS-DKM-SH	140	98 ShA-GS	7.1 [4)]	Ø 38	7.1 [4)]	Ø30
Coupling size	Type	Shaft distance dimension DBSE	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

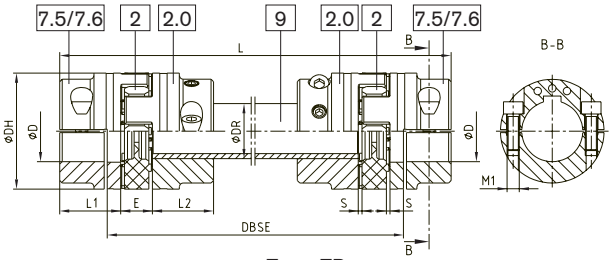
Intermediate shaft programme



Components



Type ZR
(with GS spider) [3]



Type ZR
(with GS spider and clamping hubs type DH for a double-cardanic connection 7.5 or 7.6) [3]

ROTEX® Type ZR

Size	Spider ROTEX GS T_{KN} [Nm] [1) 2)]	Dimensions [mm]									Screw DIN EN ISO 4762						Fastening screw G	Pin hole DB in mm	Intermediate pipe	
		Finish bore D (min. - max.)		DH	L		L1, L2	E	S	Min. DBSE [3]		Component 2.0			Component 7.5/7.6					DR [mm]	Torsional stiffness C [4] [Nm²/rad]
		Component 1a	Component 7.5/7.6		Component 1/1a	Component 7.5/7.6				Component 1a	Component 7.5/7.6	DK1	M	T_A [Nm]	DK	M1	T_A [Nm]				
19	12	0-25	0-20	40	L = DBSE + L1 + L2	35+DBSE	25	16	2.0	82	97	46.0	M6	14	46.0	M6	10	M6	4.0	Ø20x3	954.9
24	35	0-35	0-28	55		45+DBSE	30	18	2.0	96	111	59.5	M6	14	57.5	M6	14	M8	5.5	Ø30x4	4522
28	95	0-40	0-38	65		51+DBSE	35	20	2.5	110	128	73.0	M8	35	73.0	M8	35	M10	7.0	Ø35x4	7611
38	190	0-48	24-45	80		71+DBSE	45	24	3.0	138	157	81.6	M8	25	83.5	M8	35	M12	8.5	Ø40x4	11870
42	265	0-55	24-55	95		78+DBSE	50	26	3.0	152	174	95.0	M10	49	97.0	M10	69	M12	8.5	Ø45x4	17487
48	310	0-62	24-60	105		90+DBSE	56	28	3.5	168	190	105.0	M12	86	108.5	M12	120	M16	12	Ø50x4	24648
55	410	0-74	24-70	120		100+DBSE	65	30	4.0	190	220	120.0	M12	120	120.0	M12	120	M16	12	Ø55x4	33544
65	625	0-80	24-80	135		120+DBSE	75	35	4.5	220	250	135.0	M12	120	135.0	M12	120	M16	12	Ø65x5	68329
75	1280	0-95	40-90	160		135+DBSE	85	40	4.0	250	285	160.0	M16	295	160.0	M16	295	M16	12	Ø75x5	108000

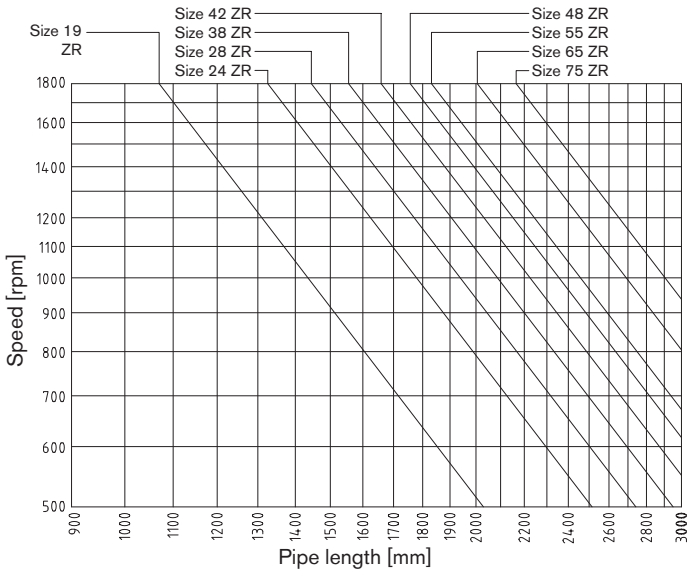
[1)] Maximum torque of coupling $T_{K\,max}$ = rated torque of coupling T_{KN} x 2
[2)] Mathematically transmittable torque with double-cardanic types acc. to 92 ShA-GS using the higher quality spiders 98 ShA-GS
[3)] With inquiries and orders please specify the shaft distance dimension DBSE along with the maximum speed to review the critical bending speed.
[4)] Torsion spring stiffness with 1 m length of intermediate pipe
finish bore acc. to ISO fit H7, feather keyway acc. to DIN 6885 sheet 1 [JS9].
Friction torques of clamping hubs must be considered.
Please order dimension sheet M583613.

Not permissible for crane and hoist drives

Displacements

Size	Axial displacement in mm	Radial displacement in [mm] per 1m of pipe length	Angular displacement in degree
19	1.2	15.9	0.9
24	1.4	15.9	0.9
28	1.5	15.9	0.9
38	1.8	17.9	1.0
42	2.0	17.9	1.0
48	2.1	19.7	1.1
55	2.2	19.7	1.1
65	2.6	21.7	1.2
75	3.0	21.7	1.2

Diagramme for coupling selection:

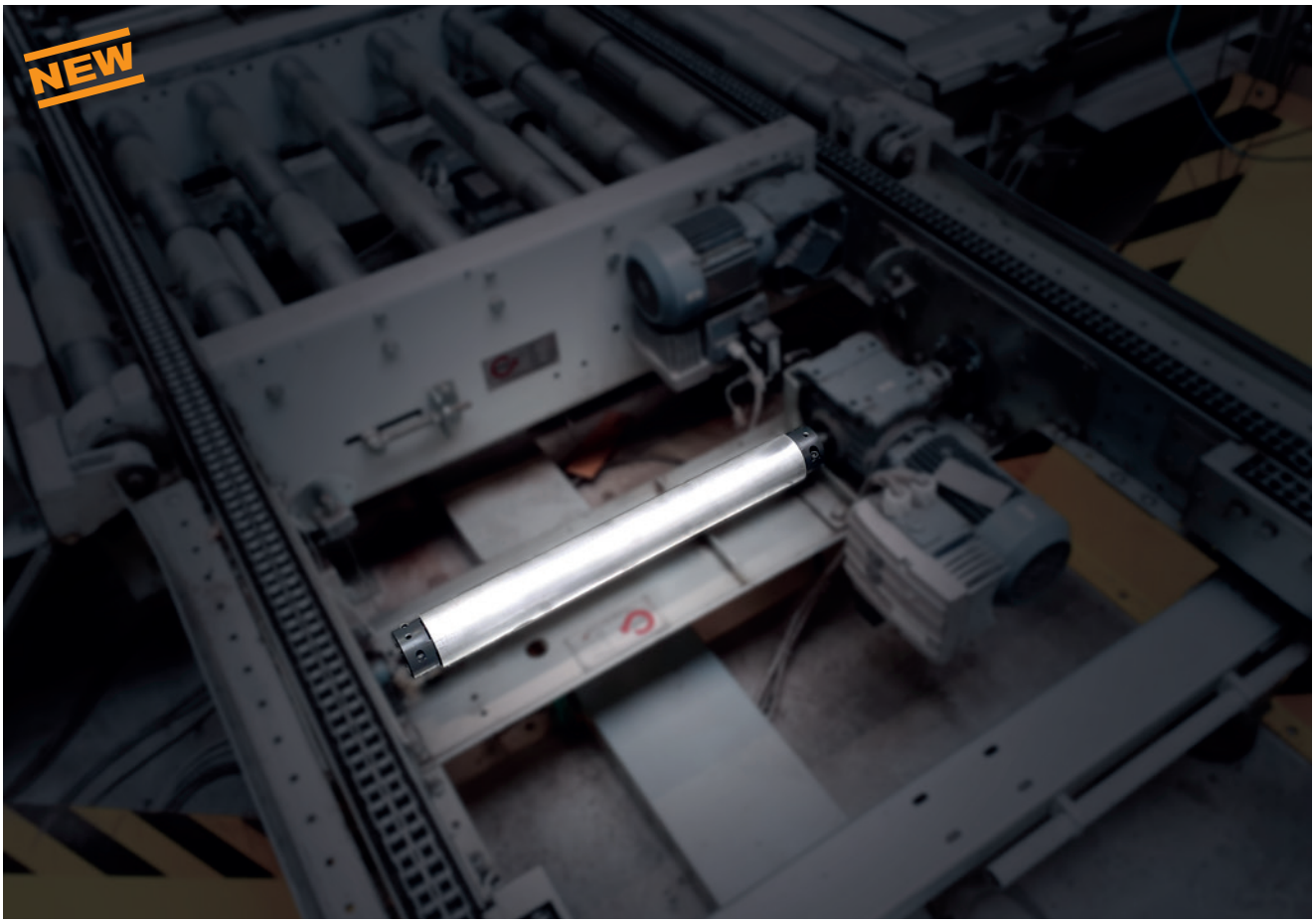


Ordering example:

ROTEX® 38	ZR	1200	98 ShA-GS	7.5	Ø38	7.5	Ø30
Coupling size	Type	Shaft distance dimension DBSE	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

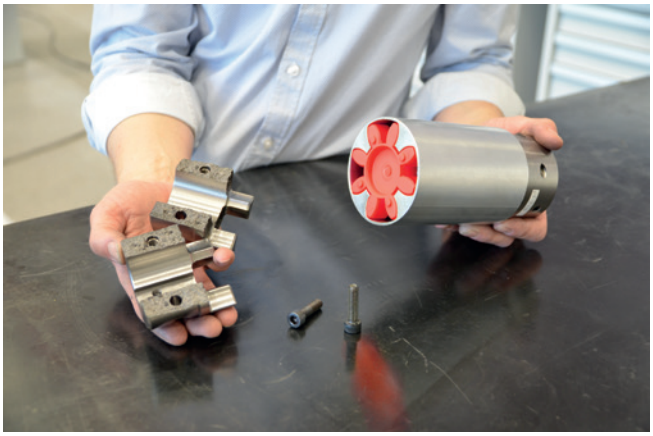
ROTEX® ZRS
Flexible / backlash-free intermediate shaft coupling

Example of application of horizontal assembly in the KTR logistics centre



- ROTEX® 28 ZRS with SPLIT hubs
- Connecting electric gear motor with chain drive
- More than 10,000 operating hours in use

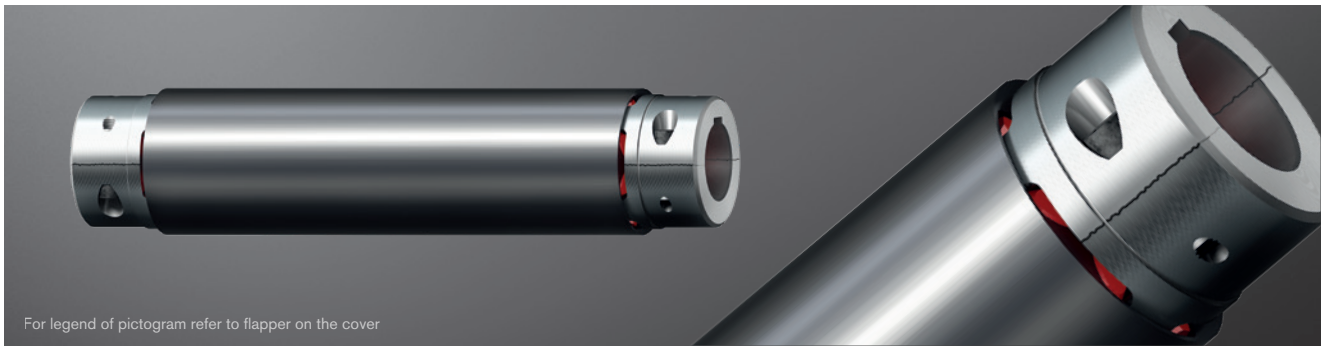
Various types

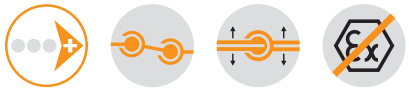


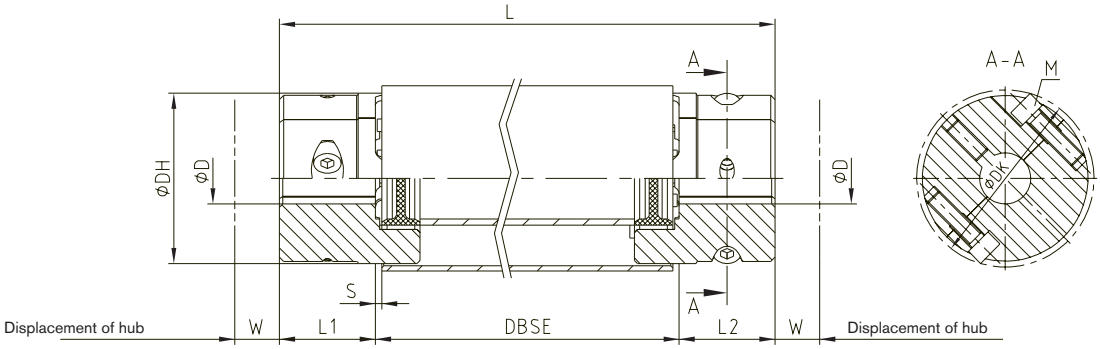


ROTEX® ZRS
Flexible / backlash-free intermediate shaft coupling

Intermediate shaft programme



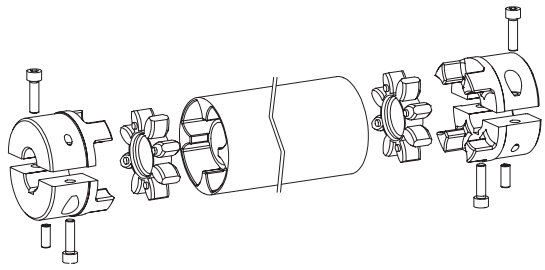




ROTEX® type ZRS

Size	Spider ROTEX GS T_{KN} [Nm] 1) 2)	Dimensions [mm]												Clamping screw DIN EN ISO 4762		Intermediate pipe Torsion spring stiffness C 5) [Nm/rad]
		Finish bore D 3)		DH	L 1)	L1, L2	E	S	DK	DH1	min. DBSE 4)	W	DK	M	Tightening torque T_A [Nm]	
		min.	max.													
19	12	0	20	40	L = DBSE + L1 + L2	25	16	2.0	46.0	45	33	14.0	46.0	M4	4.1	3800
24	35	0	24	55		30	18	2.0	57.5	60	37	16.0	57.5	M6	14	11100
28	95	0	38	65		35	20	2.5	73.0	72	40	17.5	73.0	M8	34	23600
38	190	24	45	80		45	24	3.0	83.5	87	49	21.0	83.5	M8	34	43800
42	265	24	55	95		50	26	3.0	97.0	103	53	23.0	97.0	M10	67	82600

1) Maximum torque of coupling $T_{K\,max}$ = rated torque of coupling T_{KN} x 2
2) Mathematically transmittable torque with double-cardanic types acc. to 92 ShA-GS using the higher quality spiders 98 ShA-GS
3) Finish bore according to ISO fit H7, feather keyway according to DIN 6885, sheet 1 [JS9]
4) With inquiries and orders please specify the shaft distance dimension DBSE along with the maximum speed to review the critical bending speed. Maximum DBSE = 4000 mm (different lengths on request).
5) Torsion spring stiffness with an intermediate pipe length of 1 m

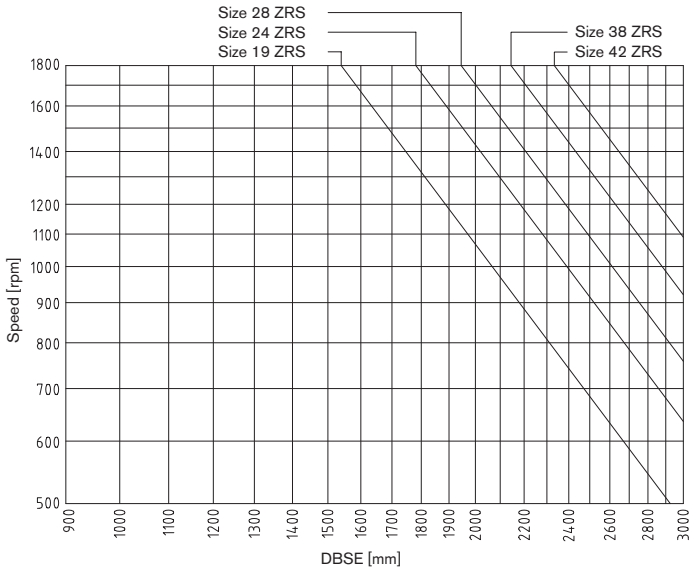


7.1 = SPLIT hub with feather keyway

Displacements

Size	Axial displacement in mm	Radial displacement [mm] per 1m of pipe length	Angular displacement in degree
19	1.2	15.7	0.9
24	1.4	15.7	0.9
28	1.5	15.7	0.9
38	1.8	17.5	1.0
42	2.0	17.5	1.0

Diagramme for coupling selection:

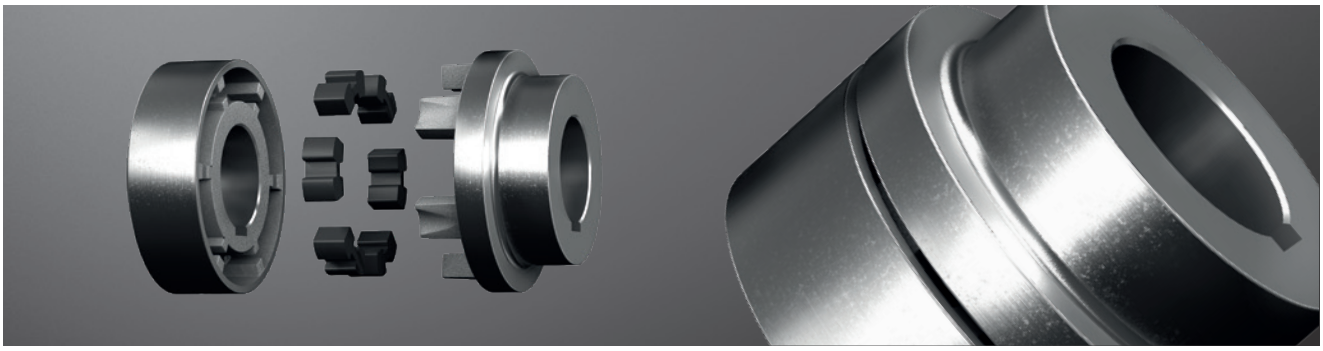


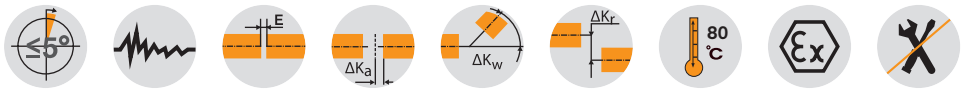
Ordering example:

ROTEX® 38	ZRS	1200	98 ShA-GS	7.1	Ø30	7.1	Ø30
Coupling size	Type	Shaft distance dimension DBSE	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

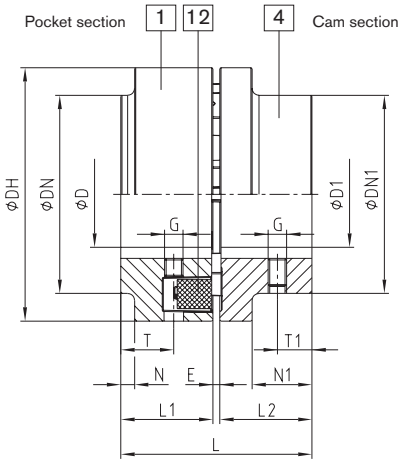
ROFLEX® N
Flexible jaw couplings

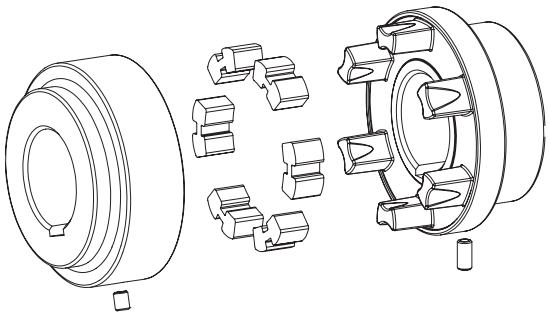
Two-part





Components





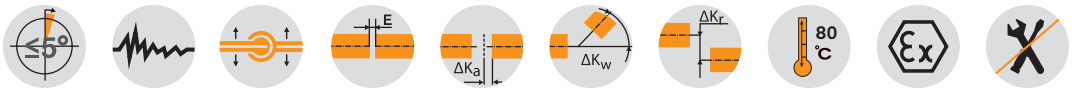
ROFLEX® type N																			
Size	Torque [Nm] acc. to DIN 740 [1]		Max. speed [rpm]	Dimensions [mm]													Mass moment of inertia J1 [kgm²] [2]	Mass moment of inertia J4 [kgm²] [2]	Weight [kg] [2]
				Max. finish bore		General								Thread for setscrews					
	T_{KN}	$T_{K\,max}$		D	D1	DH	L	L1, L2	DN	DN1	E	N	N1	G	T	T1	TA [Nm]			
68	65	180	8500	28	38	68	43	20	-	-	3	-	-	M5	8.5	8	2	0.00016	0.00029	0.6
80	80	220	7500	35	45	80	63	30	-	68	3	-	20	M8	20.5	12	10	0.00059	0.00055	1.2
95	125	345	6800	45	48	95	73	35	76	76	3	5	23	M8	22	15	10	0.00116	0.00120	1.9
110	205	565	6500	50	55	110	83	40	86	86	3	6	26	M8	24	18	10	0.0024	0.0024	2.9
125	315	865	5800	60	65	125	103	50	100	100	3	14	32	M8	32	20	10	0.0046	0.0052	4.5
140	450	1240	5400	70	65	140	113	55	100	100	3	21	35	M10	13	22	17	0.0062	0.0077	5.3
160	790	2170	4800	75	70	160	124	60	108	108	4	21	40	M10	13	25	17	0.014	0.013	8.1
180	1150	3160	4350	85	80	180	144	70	125	125	4	28	50	M10	16	32	17	0.021	0.023	11.0
200	1800	4950	3950	90	90	200	164	80	140	140	4	33	56	M12	20	40	40	0.038	0.044	16.3
225	2100	5775	3600	100	100	225	184	90	150	150	4	38	72	M12	22	40	40	0.06	0.06	20.4
250	3550	9765	3000	110	110	250	205.5	100	165	165	5.5	40	82	M16	24	45	80	0.11	0.10	28.2
280	5000	13750	3000	120	120	280	225.5	110	180	180	5.5	45	90	M16	28	45	80	0.19	0.16	38.1

[1] see catalogue page 15
[2] Mass moments of inertia J1 and J4 as well as the total weight refer to the maximum bore diameters

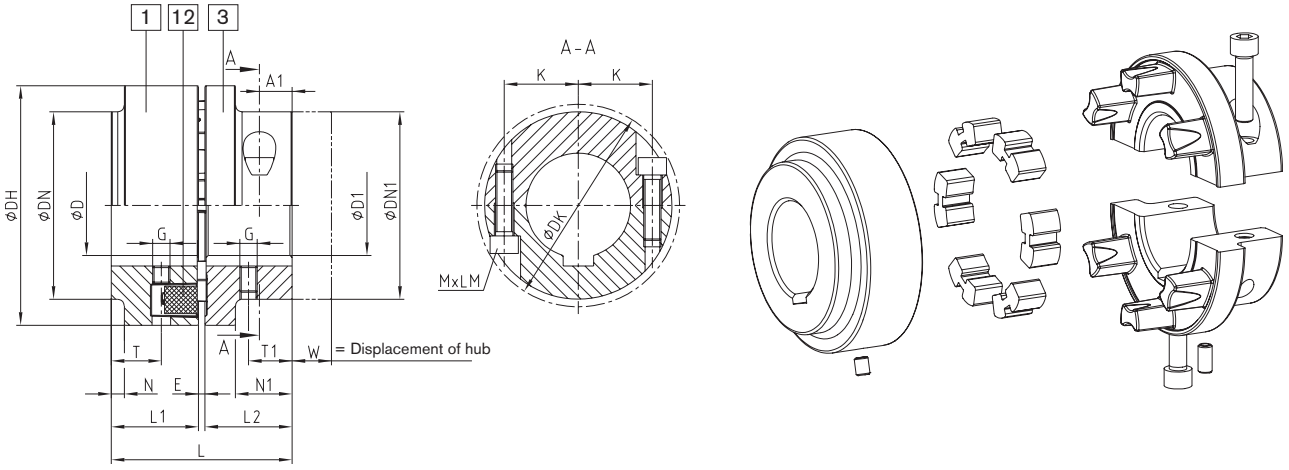
Ordering example:	ROFLEX® 110	N	ØD = 50	ØD1 = 55
	Coupling size	Type	Finish bore	Finish bore

Coupling with SPLIT hub





Components

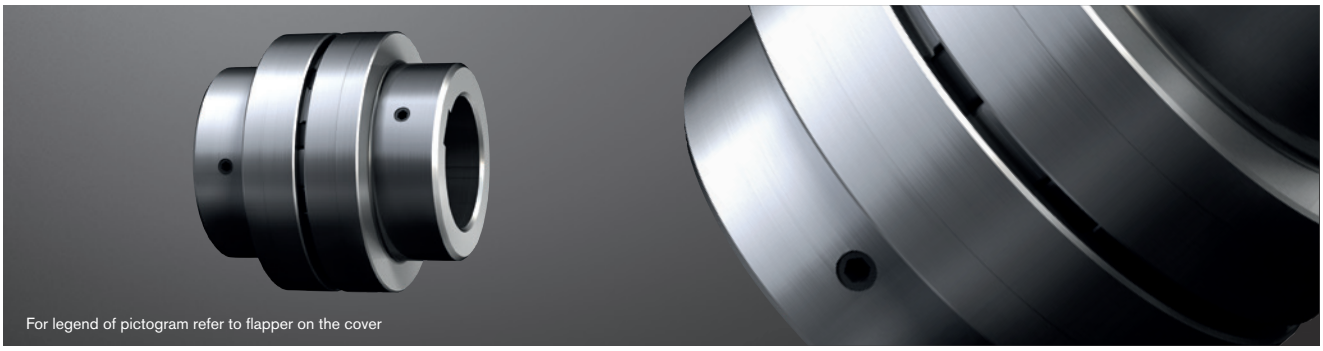


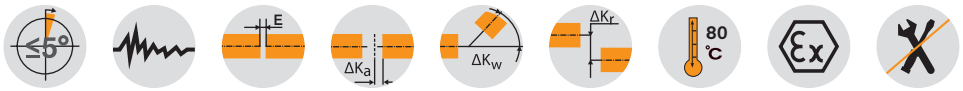
ROFLEX® type SH																												
Size	Torque [Nm] DIN 740 [1]		Max. speed [rpm]	Dimensions [mm]																							Mass moment of inertia J1 [kgm²] [2]	Mass moment of inertia J3 [kgm²] [2]	Weight [kg] [2]
				Max. finish bore		General											Thread for setscrews				Cap screws								
	T_{KN}	$T_{K\,max}$		D	D1	DH	L	L1	L2	E	DN	DN1	N	N1	W	G	T	T1	T_A in Nm	MxLM	DK	K	A1	A2	T_A in Nm			
80	80	220	7500	35	38	80	63	30	30	3	80	68	-	20	15.5	M8	20.5	12	10	M8x25	75	25	11	-	34	0.00059	0.00058	1.3
95	125	345	6800	45	42	95	73	35	35	3	76	76	5	23	18	M8	22	15	10	M8x30	82	28.5	13	-	34	0.00116	0.00123	2.0
110	205	565	6500	50	48	110	83	40	40	3	86	86	6	26	21	M8	24	18	10	M8x35	94	31.5	15	-	34	0.0024	0.0025	3.1
125	315	865	5800	60	55	125	103	50	50	3	100	100	14	32	23.5	M8	32	20	10	M10x40	108	38.5	20	-	67	0.0046	0.0052	4.5
140	450	1240	5400	70	60	140	113	55	55	3	100	100	21	35	25	M10	13	22	17	M10x35	108	39.0	10.5	25.5	67	0.0062	0.0080	5.7
160	790	2170	4800	75	65	160	124	60	60	4	108	108	21	40	30	M10	13	25	17	M12x35	118	42.5	12	29	115	0.014	0.014	8.5
180	1150	3160	4350	85	75	180	144	70	70	4	125	125	28	50	32	M10	16	32	17	M12x40	135	50	15	35	115	0.021	0.024	11.6
200	1800	4950	3950	90	85	200	164	80	80	4	140	140	33	56	34	M12	20	40	40	M16x50	153	54	17	40	290	0.038	0.044	17.8
225	2100	5775	3600	100	90	225	184.0	90	90	4.0	150	150	38	73	39.0	M12	22	40	40	M20x50	170	58	22	30	560	0.06	0.06	20.4
250	3550	9765	3000	110	100	250	205.5	100	100	5.5	165	165	40	82	44.5	M16	24	40	80	M20x55	182	63	25	35	560	0.11	0.1	28.2
280	5000	13750	3000	120	120	280	225.5	110	110	5.5	180	180	45	90	50.0	M16	28	45	80	M16x60	194	72	17	29	290	0.19	0.16	38.1

[1] see catalogue page 15
[2] Mass moments of inertia J1 and J3 as well as the total weight refer to the maximum bore diameters

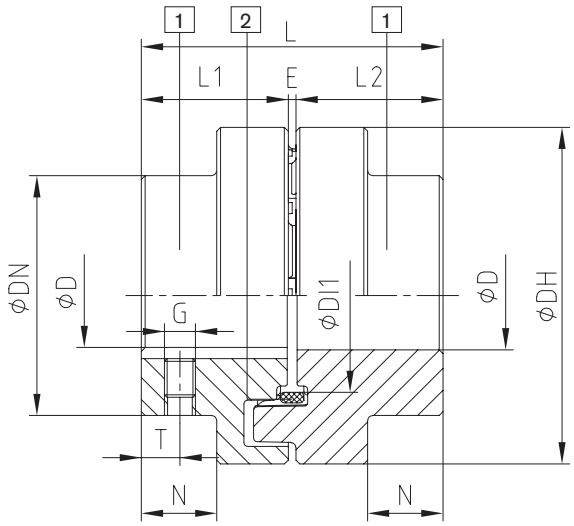
Ordering example:	ROFLEX® 110	SH	ØD = 42	ØD1 = 48
	Coupling size	Type	Finish bore	Finish bore

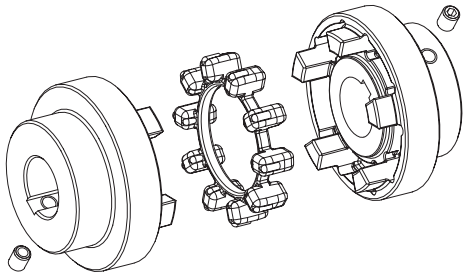
Two-part



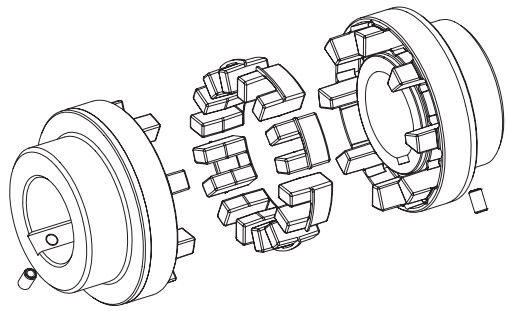


Components





Size 28 - 125



Size 140 - 280

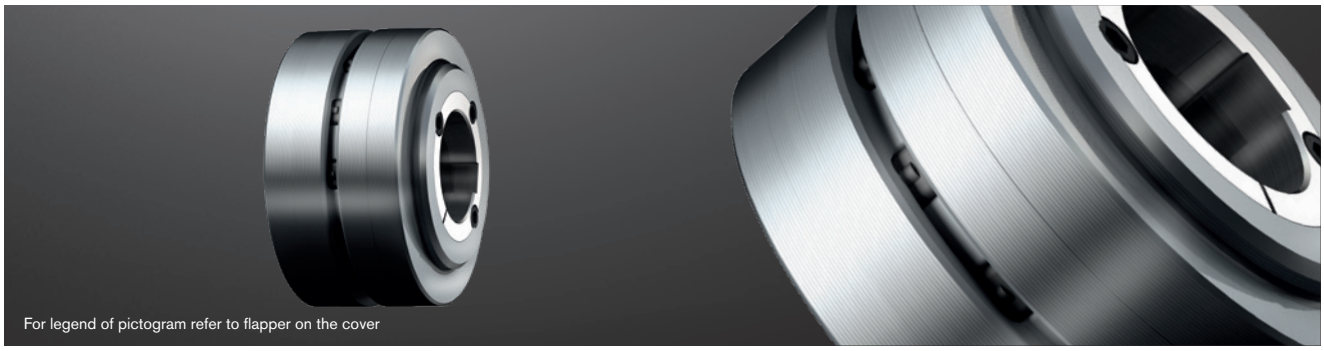
Components of type AR:
1 = Standard hub (GJL)
2 = Elastomer ring (up to size 180: NBR 78 ShA; from size 200: T-PUR® 84 ShA)

POLY-NORM® Type AR

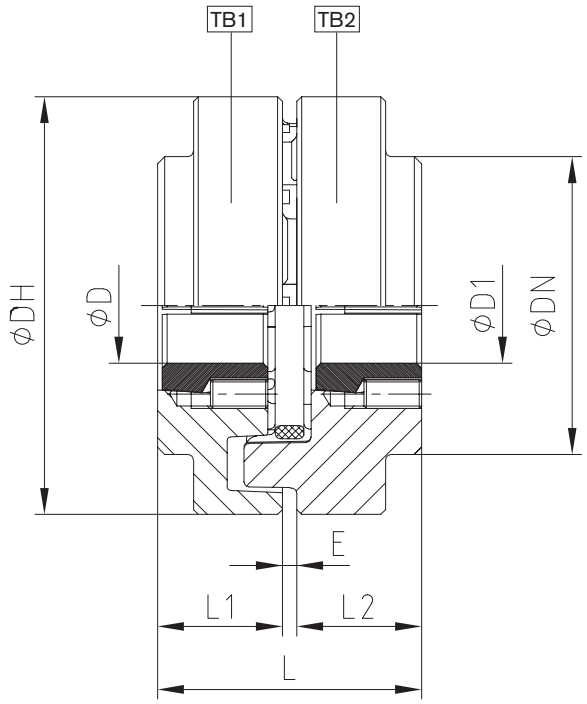
Size	Elastomer ring [1] (component 2) Torque [Nm]		Finish bore D [2] (min.-max.)	Dimensions [mm]									Mass moment of inertia [3] [kgm²]	Weight [3] [kg]
				General							Setscrew [2]			
	T_{KN}	$T_{K\,max}$		DH	L	L1, L2	E	DN	DI1	N	G	T		
28	40	80	12-30	69	59	28	3	46	36.5	12	M5	7	0.0004	0.9
32	60	120	12-35	78	68	32	4	53	41.5	14	M8	7	0.0008	1.4
38	90	180	19-40	87	80	38	4	62	50	19.5	M8	10	0.0016	2.0
42	150	300	19-45	96	88	42	4	69	55.5	20	M8	10	0.0026	2.7
48	220	440	19-50	106	101	48	5	78	64	24	M8	15	0.0042	3.7
55	300	600	19-60	118	115	55	5	90	73	29	M8	14	0.0070	5.5
60	410	820	19-65	129	125	60	5	97	81	33	M8	15	0.0112	6.9
65	550	1100	19-70	140	135	65	5	105	86	36	M10	20	0.0174	8.8
75	850	1700	32-80	158	155	75	5	123	100	42.5	M10	20	0.028	13.5
85	1350	2700	32-90	182	175	85	5	139	116	48.5	M10	25	0.052	19.5
90	2000	4000	32-95	200	185	90	5	148	128	49	M12	25	0.090	23.2
100	2900	5800	42-110	224	206	100	6	165	143	55	M12	25	0.160	31.9
110	3900	7800	50-120	250	226	110	6	185	158	60	M16	30	0.317	38.0
125	5500	11000	55-140	280	256	125	6	210	178	70	M16	35	0.570	55.2
140	7200	14400	65-155	315	286	140	6	235	216	76.5	M20	35	1.030	92.6
160	10000	20000	75-175	350	326	160	6	265	246	94.5	M20	45	1.746	126.9
180	13400	26800	75-200	400	366	180	6	300	290	111.5	M20	50	3.239	181.8
200	19000	38000	85-200	450	408	200	8	335	-	126	M24	50	5.728	263.7
220	30000	60000	95-220	500	448	220	8	370	-	140	M24	50	9.489	355.9
240	43000	86000	105-240	550	488	240	8	405	-	154	M24	50	14.963	466.3
260	55000	110000	115-260	650	530	260	10	440	-	158	M24	60	29.504	672.2
280	67000	134000	125-280	700	570	280	10	475	-	172	M24	60	42.451	836.6

[1] Standard material Perbunan [NBR] 78 Shore A, size 140 - 280 double tooth elastomers, for selection see page 14 et seqq.
[2] Bores H7 with keyway to DIN 6885 sheet 1 [JS9] and setscrew on the keyway
[3] Referring to medium bore

For taper clamping sleeve



Components



POLY-NORM® for taper clamping sleeve												
Size	Taper clamping sleeve	Elastomer ring [1] (component 2) Torque [Nm]		Dimensions [mm]					Fastening screws [1] for taper clamping sleeve			
		TKN	TK max	max. D, D1	DH	L	L1, L2	E	Size [Inch]	Length [mm]	SW [mm]	T_A [Nm]
32	1108	60	120	25	78	55	25.5	4	1/4"	13	3	5.7
42	1210	150	300	32	96	66	31.0	4	3/8"	16	5	20
48	1610	220	440	40	96	65	30.0	5	3/16"	16	5	20
	1615			40		90	42.5		3/8"	16	5	20
60	2012	410	820	50	129	82	38.5	5	7/16"	22	6	31
65	2517	550	1100	60	140	130	62.5	5	1/2"	25	6	49
75	2517	850	1700	60	158	110	52.5	5	1/2"	25	6	49
85	2517	1350	2700	60	182	98	46.5	5	1/2"	25	6	49
	3030			75		169	82.0		5/8"	32	8	90
90	3020	2000	4000	75	200	109	52.0	5	5/8"	32	8	92
100	3535	2900	5800	90	224	202	98.0	6	1/2"	38	10	115
125	4040	5500	11000	100	280	229	111.5	6	5/8"	45	12	172

[1] Each 2 fastening screws, with 3535/4040 3-off
For coupling type TB1 screw connection on cam side - TB2 screw connection on collar side
Combination possible! Please order our separate dimension sheet (M407045).

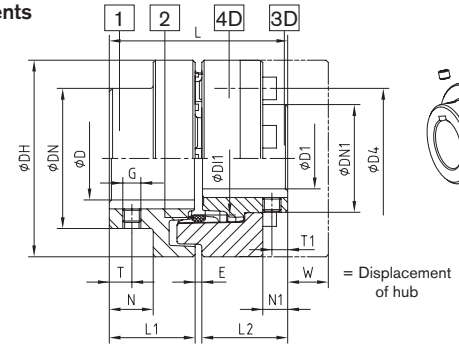
Ordering example:	POLY-NORM® 32 AR TB1 / TB1	AR	Ø38	Ø30
	Coupling size	Type	Finish bore	Finish bore

POLY-NORM® ADR
Flexible couplings

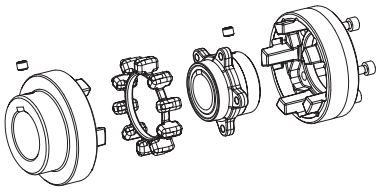
Three-part



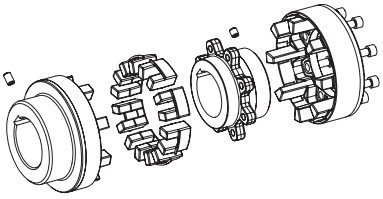
Components



= Displacement of hub



Size 38 - 125



Size 140 - 280

Components of type ADR (three-part):
1 = Standard hub* (GJL)
2 = Elastomer ring (up to size 180: NBR 78 ShA; from size 200: T-PUR® 84 ShA)
3D = Flange hub (GJS); 4D = Cam ring (GJL)
* To be preferably used on driving side

POLY-NORM® Type ADR

Size	Elastomer ring [1] (component 2) Torque [Nm]		Dimensions [mm]															
			Finish bore [2] (min.-max.)		General										Setscrew			
	T_{KN}	$T_{K\,max}$	D	D1	DH	L	L1, L2	E	DN	DN1	DI1	N	N1	W	G	T	T1	T_A [Nm]
38	90	180	19-40	0-34	87	80	38	4	62	48	50	19.5	11.0	12	M8	10	7	10
42	150	300	19-45	0-38	96	88	42	4	69	54	55.5	20	12.0	16	M8	10	7	10
48	220	440	19-50	0-44	106	101	48	5	78	62	64	24	13.7	16	M8	15	7	10
55	300	600	19-60	0-50	118	115	55	5	90	72	73	29	18.7	15	M8	14	14	10
60	410	820	19-65	0-56	129	125	60	5	97	80	81	33	22.2	14	M8	15	15	10
65	550	1100	19-70	0-60	140	135	65	5	105	86	86	36	26.7	11	M10	20	20	17
75	850	1700	32-80	0-68	158	155	75	5	123	98	100	42.5	27.8	16	M10	20	20	17
85	1350	2700	32-90	0-78	182	175	85	5	139	112	116	48.5	33.7	18	M10	25	25	17
90	2000	4000	32-95	0-85	200	185	90	5	148	122	128	49	31.5	26	M12	25	25	40
100	2900	5800	42-110	0-95	224	206	100	6	165	136	143	55	37.5	28	M12	25	25	40
110	3900	7800	50-120	0-105	250	226	110	6	185	150	158	60	39.5	30	M16	30	30	80
125	5500	11000	55-140	0-115	280	256	125	6	210	168	178	70	48.0	35	M16	35	35	80
140	7200	14400	65-155	55-135	315	286	140	6	235	195	216	76.5	47.0	59	M20	35	35	140
160	10000	20000	75-175	65-155	350	326	160	6	265	225	246	94.5	65.0	43	M20	45	45	140
180	13400	26800	75-200	65-175	400	366	180	6	300	255	290	111.5	79.0	33	M20	50	50	140
200	19000	38000	85-200	73-200	450	408	200	8	335	290	320	126	95	7	M24	50	50	240
220	30000	60000	95-220	83-220	500	448	220	8	370	320	354	140	103	8	M24	50	50	240
240	43000	86000	105-240	93-240	550	488	240	8	405	350	388	154	119	1	M24	50	50	240
260	55000	110000	115-260	103-260	650	530	260	10	440	380	445	158	109	34	M24	60	60	240
280	67000	134000	125-280	113-280	700	570	280	10	475	410	478	172	109	29	M24	60	60	240

Selection of cap screws DIN EN ISO 4762 - 12.9

Size	M x l [mm]	z = number	Pitch z x angle	D_4 [mm]	T_A [Nm] [3]	Size	M x l [mm]	z = number	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	416	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

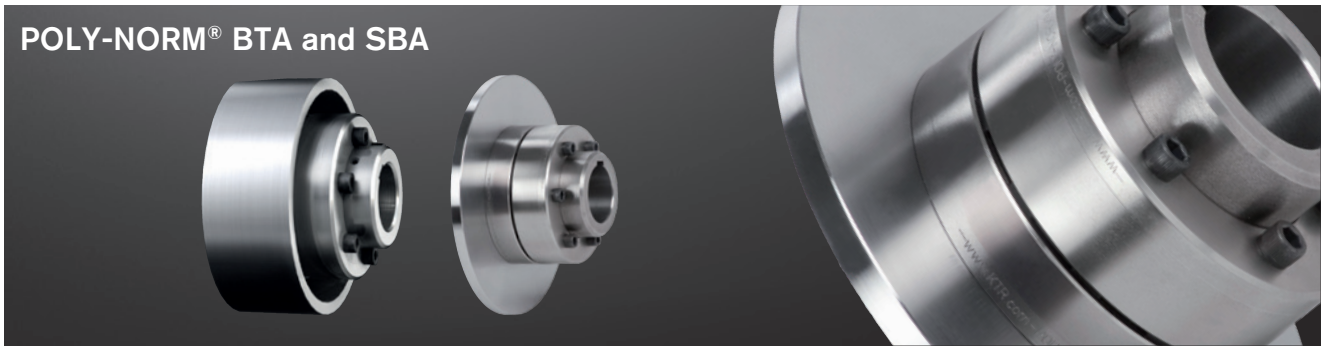
[1] Standard material Perbunan [NBR] 78 Shore A, size 140 - 280 double tooth elastomers, for selection see page 14 et seqq.
[2] Bores H7 with keyway to DIN 6885 sheet 1 [JS9] and setscrew [3] Screw tightening torques acc. to 8.8

Ordering example:

POLY-NORM® 65	ADR	D = Ø55	D1 = Ø60
Coupling size	Type	Finish bore	Finish bore

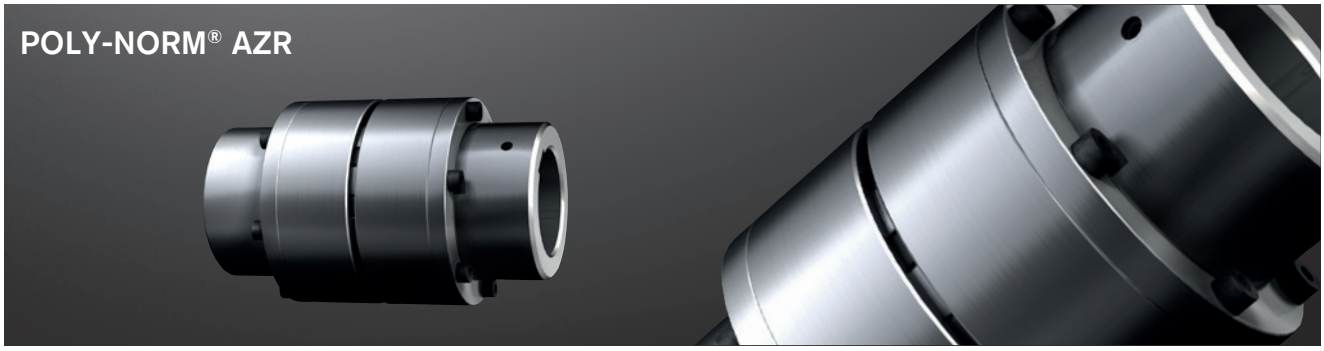
Other types

POLY-NORM® BTA and SBA



- For drum brakes as a holding brake
- elastomer spider can be replaced when assembled
- Axial plug-in, easy assembly
- Maintenance-free
- Short dimensions, small shaft distance dimension
- torques from 90 to 13,400 Nm

POLY-NORM® AZR



- intermediate flange coupling for torsional vibration-damping power transmission
- Axial plug-in, easy assembly
- Maintenance-free
- spacer with standard lengths for radial assembly operations
- Main applications: pump industry and compressor technology

POLY-NORM® ADR-SB

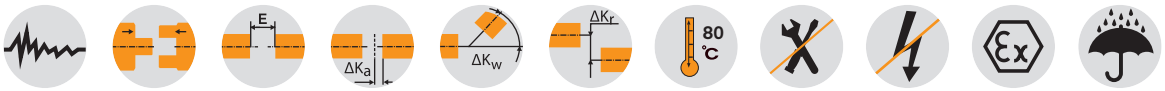


- elastomer spider can be replaced when assembled
- Axial plug-in, easy assembly
- Maintenance-free
- Short dimensions, small shaft distance dimension
- torques from 300 to 10,000 Nm

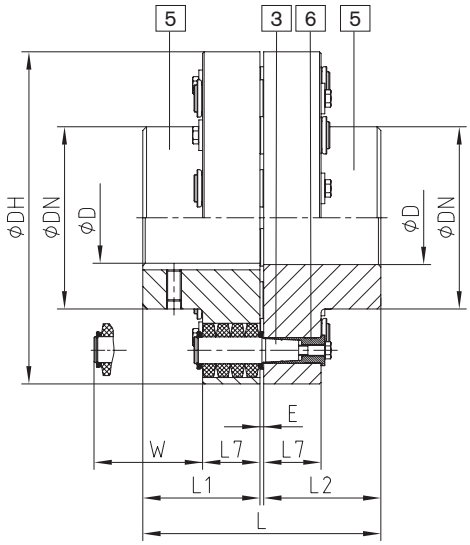
REVOLEX® KX-D
Flexible pin & bush coupling

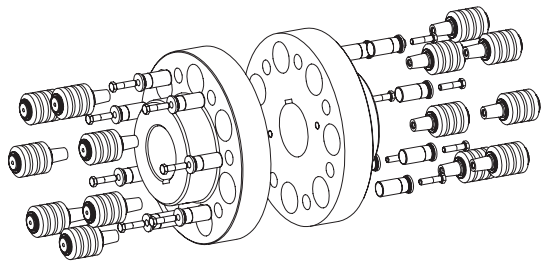
Material cast





Components





Components of type KX-D:
5 = Hub part 5
3 = Pins complete
6 = KX-D sleeve (hardened and corrosion-protected)

REVOLEX® Type KX-D

Size	Torque [1] [Nm]		Max. speed [2] [rpm]	Finish bore (min. - max.)	Dimensions [mm]							Mass moment of inertia [3] [kgm²]	Weight [3] [kg]
	T_{KN}	$T_{K\,max}$		D	DH	DN	L	L1, L2	E	L7	W*		
KX-D 105	9400	18800	2000	38-110	330	180	237	117	3	56	76	0.888	68
KX-D 120	15200	30400	1800	45-125	370	206	270	132	6	76	100	1.833	108
KX-D 135	20000	40000	1600	75-140	419	230	300	147	6	76	100	3.079	145
KX-D 150	25000	50000	1450	85-160	457	256	336	165	6	76	100	4.477	180
KX-D 170	41000	82000	1250	95-180	533	292	382	188	6	92	130	9.944	291
KX-D 190	54000	108000	1100	110-205	597	330	428	211	6	92	130	16.096	385
KX-D 215	67500	135000	1000	125-230	660	368	480	237	6	92	130	24.851	498
KX-D 240	98000	196000	900	140-250	737	407	534	264	6	122	170	49.483	760
KX-D 265	134000	268000	800	160-285	826	457	590	292	6	122	170	79.035	997
KX-D 280	170000	340000	720	180-315	927	508	628	311	6	122	170	127.366	1301
KX-D 305	205000	410000	675	180-330	991	533	654	324	6	122	170	166.748	1509
KX-D 330	265000	530000	625	200-355	1067	572	666	330	6	122	170	222.853	1755
KX-D 355	350000	700000	575	225-380	1156	610	721	356	9	164	220	332.514	2263
KX-D 370	430000	860000	535	225-450	1250	720	773	382	9	164	220	484.695	2701

* Drop-out center design dimension required
[1] Standard material Perbunan [NBR] 80 Shore A, for selection see page 18 et seqq.
[2] Higher speeds on request.
[3] Referring to max. bore
Finish bore according to ISO fit H7, feather keyway according to DIN 6885, sheet 1 [JS9].
If requested, coupling is dynamically balanced (semi-key balancing G 6.3 with speed as specified by the customer). For circumferential speeds exceeding v = 30 m/s dyn. balancing is recommended.
■ = Pilot bored available from stock

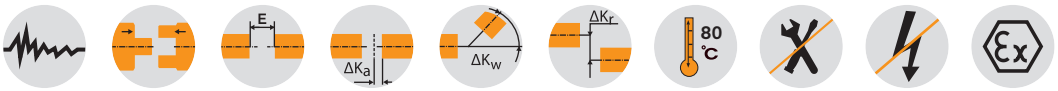
Ordering example:

REVOLEX® KX-D 170	GJL	Ø120	Ø150
Type and size of coupling	Material	Finish bore	Finish bore

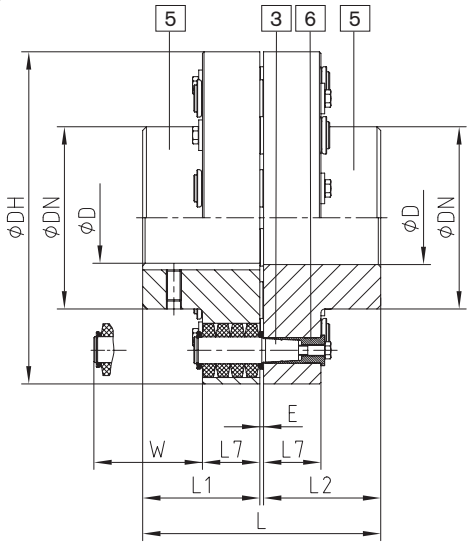
REVOLEX® KX-D
Flexible pin & bush coupling

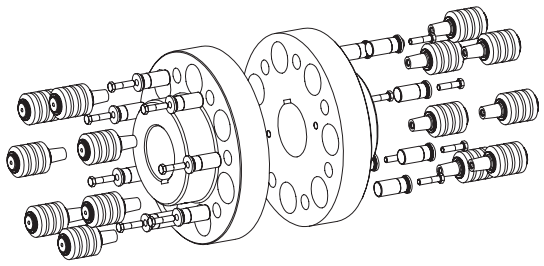
Material steel





Components





Components of type KX-D:
5 = Hub part 5
3 = Pins complete
6 = KX-D sleeve (hardened and corrosion-protected)

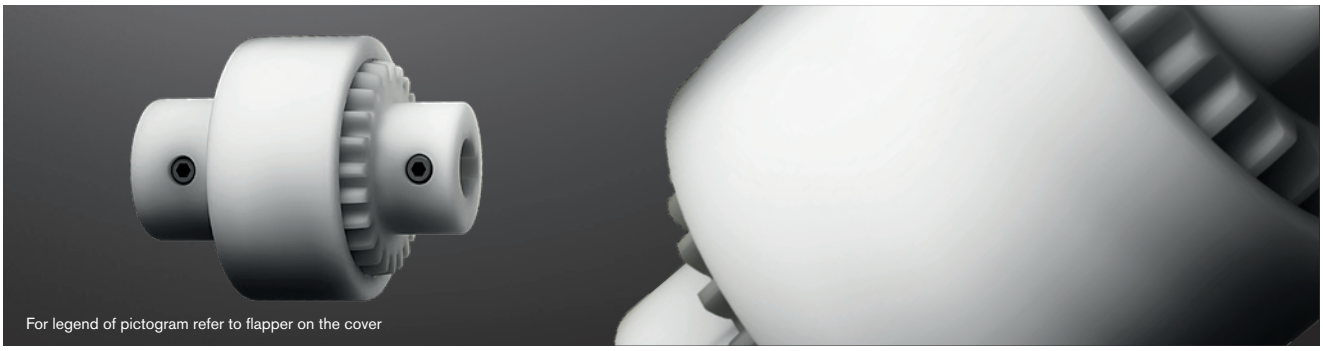
REVOLEX® Type KX-D

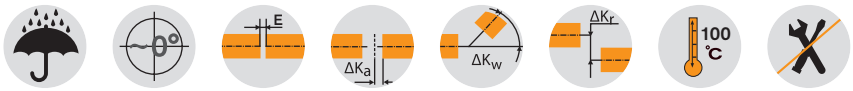
Size	Torque [1] [Nm]		Max. speed [2] [rpm]	Finish bore (min. - max.)	Dimensions [mm]							Mass moment of inertia [3] [kgm²]	Weight [3] [kg]
	T_{KN}	$T_{K\,max}$		D	DH	DN	L	L1, L2	E	L7	W*		
KX-D 75	4300	8600	4500	0-100	255	136	193	95	3	56	76	0.320	39
KX-D 85	5500	11000	4175	0-110	274	152	213	105	3	56	76	0.432	46
KX-D 95	7200	14400	3825	0-125	298	168	227	112	3	56	76	0.606	56
KX-D 105	9400	18800	3475	0-130	330	180	237	117	3	56	76	0.922	80
KX-D 120	15200	30400	3100	0-150	370	206	270	132	6	76	100	1.901	124
KX-D 135	20000	40000	2725	75-170	419	230	300	147	6	76	100	3.185	165
KX-D 150	25000	50000	2500	85-190	457	256	336	165	6	76	100	4.618	205
KX-D 170	41000	82000	2150	95-220	533	292	382	188	6	92	130	10.231	322
KX-D 190	54000	108000	1900	110-245	597	330	428	211	6	92	130	16.585	431
KX-D 215	67500	135000	1725	125-275	660	368	480	237	6	92	130	25.481	559
KX-D 240	98000	196000	1550	140-310	737	407	534	264	6	122	170	50.702	833
KX-D 265	134000	268000	1375	160-350	826	457	590	292	6	122	170	80.593	1099
KX-D 280	170000	340000	1225	180-385	927	508	628	311	6	122	170	130.323	1436
KX-D 305	205000	410000	1150	180-405	991	533	654	324	6	122	170	170.770	1669
KX-D 330	265000	530000	1075	200-435	1067	572	666	330	6	122	170	228.024	1954
KX-D 355	350000	700000	975	225-450	1156	610	721	356	9	164	220	415.157	2451
KX-D 370	430000	860000	900	225-530	1250	720	773	382	9	164	220	586.682	2925
KX-D 470	520000	1040000	855	240-520 [4]	1340	705 [4]	969 [4]	480 [4]	9	164	220	785.618	3631
KX-D 520	810000	1620000	760	240-520 [4]	1540	780 [4]	1089 [4]	540 [4]	9	164	220	1756.791	5155
KX-D 590	1000000	2000000	680	260-590 [4]	1735	885 [4]	1212 [4]	600 [4]	12	164	220	2928.115	6895
KX-D 650	1350000	2700000	610	280-650 [4]	1935	975 [4]	1332 [4]	660 [4]	12	164	220	4595.941	8893

* Drop-out center design dimension required [1] Standard material Perbunan [NBR] 80 Shore A, for selection see page 18 et seqq.
[2] Higher speeds on request. [3] Referring to max. bore [4] Variable according to customer's requests
Finish bore according to ISO fit H7, feather keyway according to DIN 6885, sheet 1 [JS9]. If requested, coupling is dynamically balanced (semi-key balancing G 6.3 with speed as specified by the customer). For circumferential speeds exceeding v = 30 m/s dyn. balancing is recommended.
■ = Pilot bored available from stock

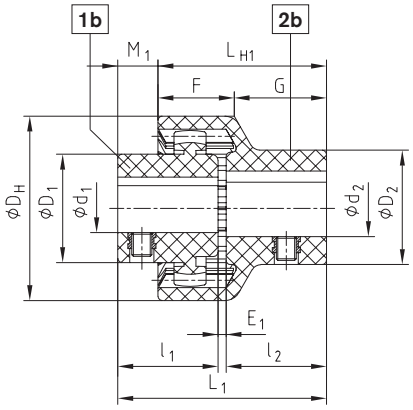
Ordering example:	REVOLEX® KX-D 170	steel	Ø120	Ø150
	Type and size of coupling	Material	Finish bore	Finish bore

Plug-in coupling made of nylon (two-part and three-part)

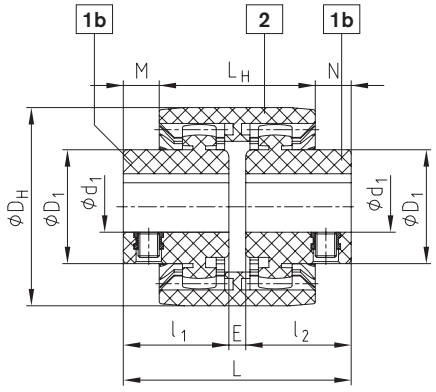




Components



Type junior plug-in coupling (two-part)



Type junior M coupling (three-part)

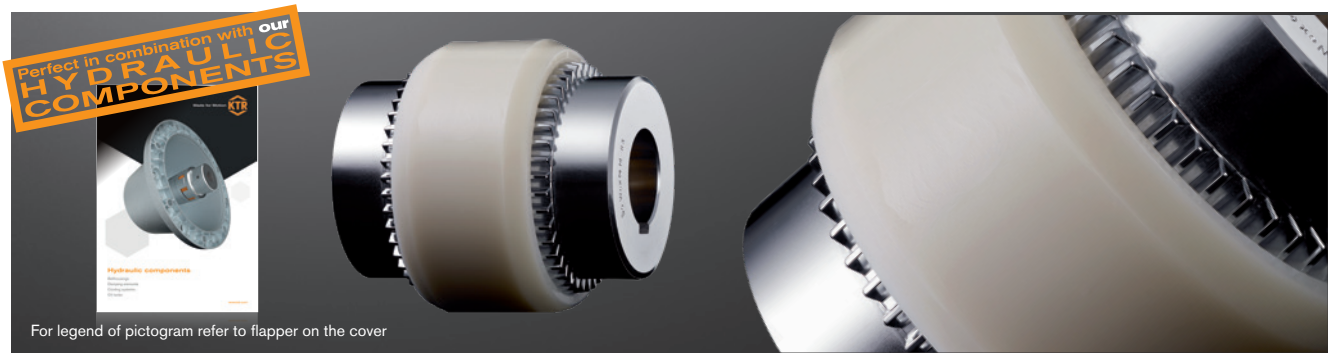
BoWex® junior plug-in coupling (two-part) and BoWex® junior M (three-part)																				
Size	Torque [Nm]		Finish bore				Dimensions [mm]													Max. speed [rpm]
			Hub Component 1b [1]		Plug-in sleeve Component 2b [1]		DH	l_1, l_2	E_1	L_1	L_{H1}	M 1	F	G	E	L	L_H	M, N		
	T_{KN}	$T_{K\,max.}$	d_1 [1]	D_1	d_2 [1]	D_2														
14 M-14	5	10	Ø6, Ø7, Ø8, Ø9	22	Ø6, Ø7, Ø8	22	40	23	2	48	40	8	18.5	21.5	4	50	37	6.5	6000	
			Ø10, Ø11	25	Ø10, Ø11	25														
			Ø12, Ø14	26	Ø12, Ø14	26														
19 M-19	8	16	Ø10, Ø11, Ø12, Ø14	27	Ø12, Ø14,	29	47	25	2	52	42	10	19.0	23.0	4	54	37	8.5	6000	
			Ø15, Ø16	30	Ø15, Ø16															
			Ø19	32	Ø19	35														
24 M-24	12	24	Ø10, Ø11, Ø12	26	Ø12, Ø14, Ø15, Ø16, Ø18	32	53	26	2	54	45	9	21.5	23.5	4	56	41	7.5	6000	
			Ø14, Ø15, Ø16	32																
			Ø18, Ø19, Ø20	36	Ø19, Ø20	36														
			Ø24	38	Ø24	40														

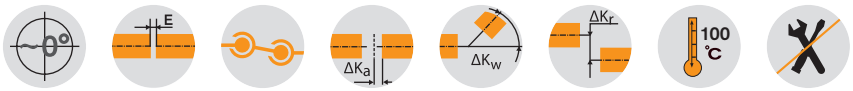
[1] Finish bore with tolerance +0.05/-0.1; feather keyway ±0.08

Ordering example:	BoWex® junior 19	d_1 Ø19	d_2 Ø14
	Coupling size of two-part type or BoWex® junior M-19 three-part type	Finish bore	Finish bore

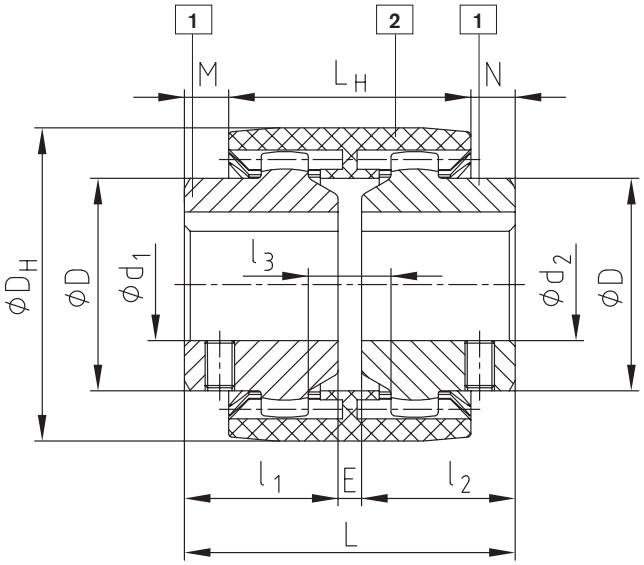
BoWex® M, I
Curved-tooth gear coupling®

Compact and maintenance-free

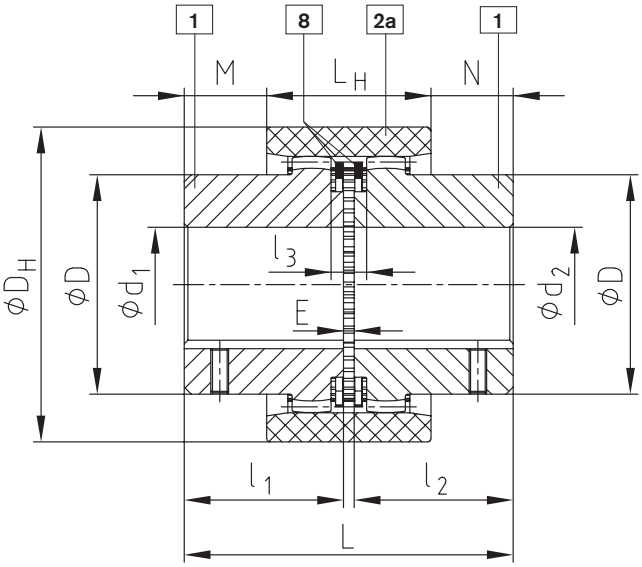




Components



Type M



Type I

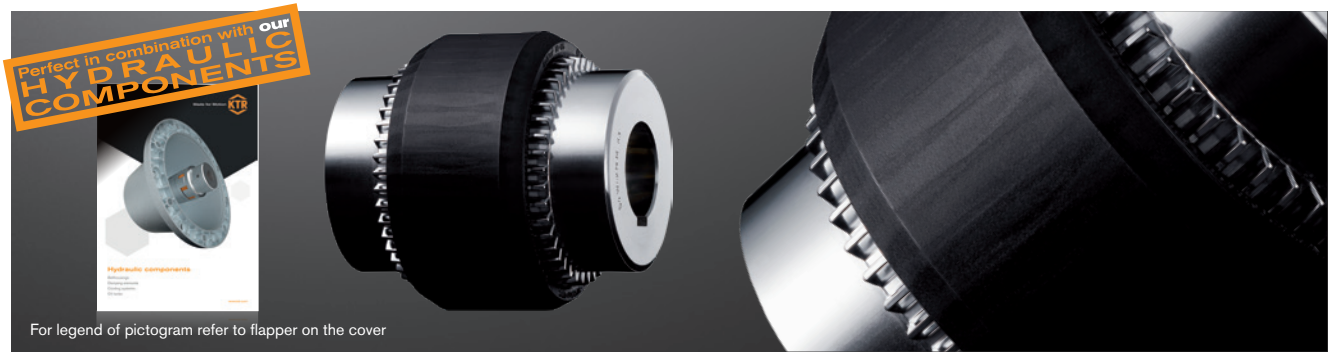
BoWex® type M, type I																					
Size	Torque [Nm]			Finish bore d1, d2		Dimensions [mm]											Weight with max. bore [kg]			Mass moment of inertia J with max. bore [kgcm²]		
	T_{KN}	$T_{K\,max.}$	T_{KW}	Pilot bored	max.	l_1, l_2	E	L	L_H	M, N	l3	D	DH	Tip circle $ØD_Z$ hub	Number of teeth	Hub lengthened max. l_1, l_2 [1]	Sleeve	Hub	Total	Sleeve	Hub	Total
M-14	10	30	5	-	15	23	4	50	37	6.5	10	25	40	33	20	40	0.03	0.07	0.1	0.08	0.09	0.26
M-19	16	48	8	-	20	25	4	54	37	8.5	10	32	47	39	24	40	0.03	0.1	0.23	0.15	0.16	0.47
M-24	20	60	10	-	24	26	4	56	41	7.5	14	36	53	45	28	50	0.04	0.14	0.32	0.21	0.36	0.93
M-28	45	135	23	-	28	40	4	84	46	19	13	44	65	54	34	55	0.08	0.33	0.74	0.65	1.22	3.09
M-32	60	180	30	-	32	40	4	84	48	18	13	50	75	63	40	55	0.09	0.43	0.95	1.14	2.17	5.48
M-38	80	240	40	-	38	40	4	84	48	18	13	58	83	69	44	60	0.13	0.55	1.23	1.58	3.55	8.68
M-42	100	300	50	-	42	42	4	88	50	19	13	65	92	78	50	60	0.14	0.68	1.5	2.32	5.98	14.28
M-48	140	420	70	-	48	50	4	104	50	27	13	68	95	78	50	60	0.23	0.79	1.81	3.9	7.22	18.34
M-65	380	1140	190	21	65	55	4	114	68	23	16	96	132	110	42	70	0.55	1.9	4.35	21.2	31.8	84.8
I-80	700	2100	350	31	90	90	6	186	93	46.5	20	124	178	145	46	-	1.13	5.2	11.53	68.9	150.8	370.5
I-100	1200	3600	600	38	100	110	8	228	102	63	22	152	210	176	48	-	1.78	9.37	20.52	158.6	401.3	961.2
I-125	2500	7500	1250	44	125	140	10	290	134	78	30	192	270	225	54	-	3.88	19.44	42.76	562.9	1362.3	3287.5

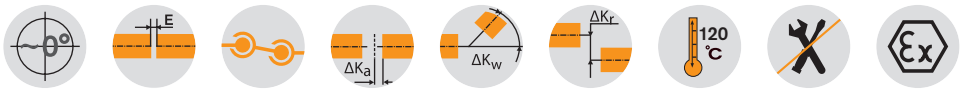
[1] Different lengths on request

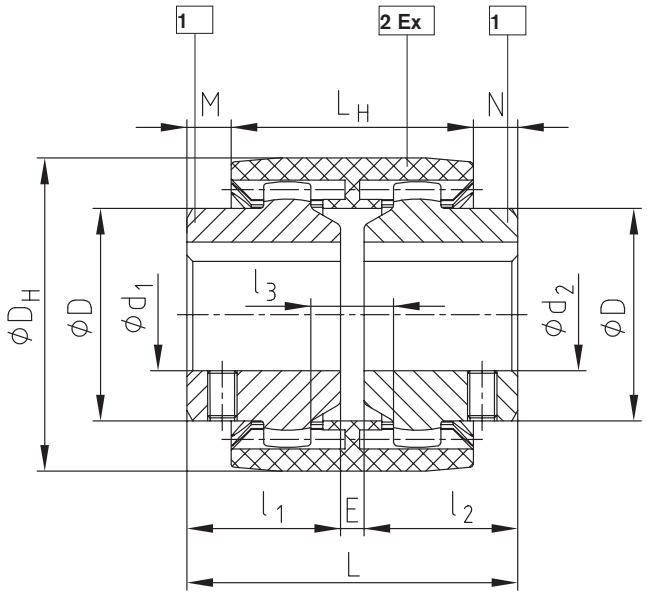
Ordering example:	BoWex® M-28	d_1 Ø20	d_2 Ø28
	Size and type of coupling	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

BoWex® M...C
Curved-tooth gear coupling®

Compact and maintenance-free







Type M...C Ex

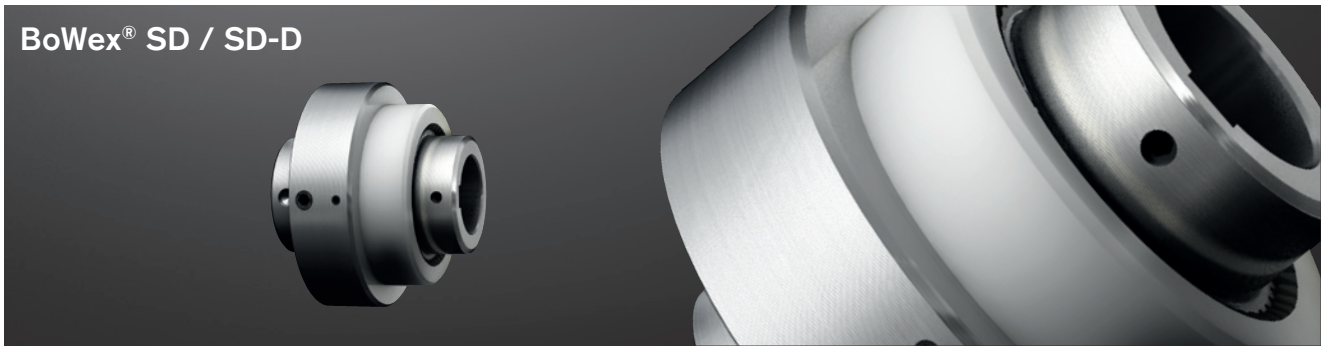
BoWex® Type M...C Ex																					
Size	Torque [Nm]			Finish bore d1, d2		Dimensions [mm]											Weight with max. bore [kg]			Mass moment of inertia J with max. bore [kgcm²]		
	T_{KN}	$T_{K\,max.}$	T_{KW}	Pilot bored	max.	l_1, l_2	E	L	L_H	M, N	l3	D	DH	Tip circle ØD$_z$ hub	Number of teeth	Hub lengthened max. l_1, l_2	Sleeve	Hub	Total	Sleeve	Hub	Total
M-14C	15	45	7.5	-	15	23	4	50	37	6.5	10	25	40	33	20	40	0.03	0.07	0.1	0.08	0.09	0.26
M-19C	24	72	12	-	20	25	4	54	37	8.5	10	32	47	39	24	40	0.03	0.1	0.23	0.15	0.16	0.47
M-24C	30	90	15	-	24	26	4	56	41	7.5	14	36	53	45	28	50	0.04	0.14	0.32	0.21	0.36	0.93
M-28C	70	210	35	-	28	40	4	84	46	19	13	44	65	54	34	55	0.08	0.33	0.74	0.65	1.22	3.09
M-32C	90	270	45	-	32	40	4	84	48	18	13	50	75	63	40	55	0.09	0.43	0.95	1.14	2.17	5.48
M-38C	120	360	60	-	38	40	4	84	48	18	13	58	83	69	44	60	0.13	0.55	1.23	1.58	3.55	8.68
M-48C	200	600	100	-	48	50	4	104	50	27	13	68	97	78	50	60	0.23	0.79	1.81	3.9	7.22	18.34
M-65C	560	1680	280	21	65	55	4	114	68	23	16	96	134	110	42	70	0.55	1.9	4.35	21.2	31.8	84.8
M-80C	1000	3000	500	31	90	90	6	186	75	46.5	20	124	172	145	46	-	1.13	5.2	11.53	68.9	150.8	370.5

Ordering example:

BoWex® M-28C	d_1 Ø20	d_2 Ø28
Size and type of coupling	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

Other types

BoWex® SD / SD-D



- Curved-tooth gear coupling® shiftable at standstill
- Power packs can be quickly switched on and off at standstill
- For all applications in mechanical engineering
- maintenance-free due to material combination nylon/steel

BoWex® AS and Spec.-I



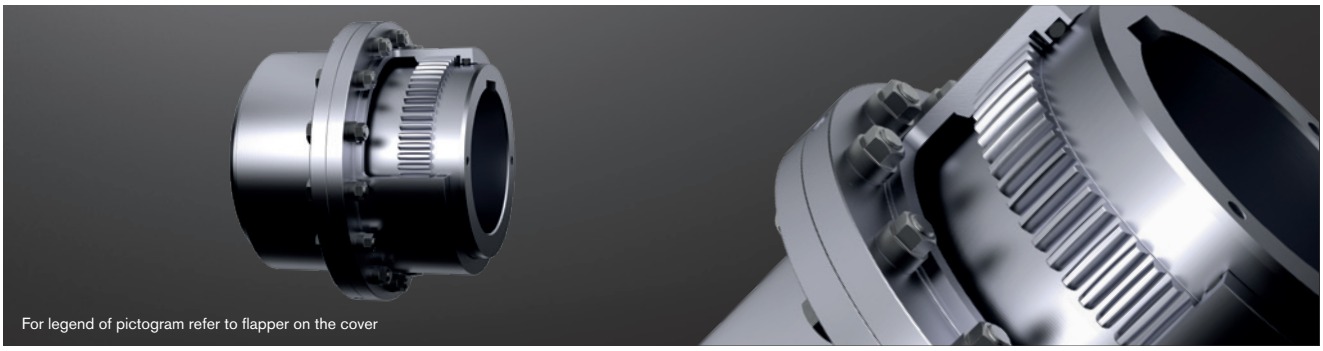
- Double-cardanic curved-tooth gear coupling®
- separable coupling type
- Sleeve can be axially shifted while assembled
- Application range from -25° C to +100° C
- maintenance-free due to material combination nylon/steel

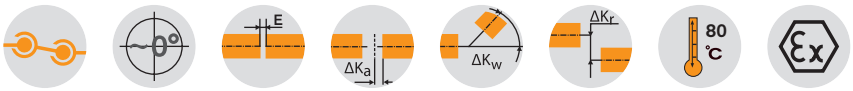
BoWex® SG, SSR and Spec.-I/CD



- Double-cardanic curved-tooth gear coupling®
- type with dust protection circlips for drives subject to dirt
- maintenance-free due to material combination nylon/steel
- Operating range -25 °C to +100 °C

Coupling in accordance with AGMA 9008-B00, high power density





Dimensions

Size	Pilot bore	Max. finish bore	Dimensions [mm]													
		d_1, d_2	l_1, l_2	Hub lengthened max. l_1, l_2 [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	26	50	43	105	3	21	12	89	107	98	55	67	111	83	74	52
15	26	65	50	115	3	15	9	103	115	109	59	87	142	106	84	68
20	31	82	62	130	3	31	17	127	155	141	79	108	174	129	107	85
25	38	100	76	150	5	29	17	157	181	169	93	130	213	157	126	105
30	44.5	115	90	170	5	33	19	185	213	199	109	153	240	181	148	125
35	46	135	105	185	6	40	23	216	250	233	128	180	280	213	172	150
40	52	160	120	215	6	42	24	246	282	264	144	214	318	249	192	175
45	80	175	135	245	8	50	29	278	320	299	164	233	347	273	216	190
50	80	195	150	295	8	56	32	308	356	332	182	260	390	308	241	220
55	90	215	175	300	8	70	39	358	420	389	214	283	425.5	333	279	250
60	100	240	190	305	8	84	46	388	464	426	236	312	457	364.5	316	265
70	100	285	220	310	10	76	43	450	516	483	263	371	527	424	360	300

Technical data

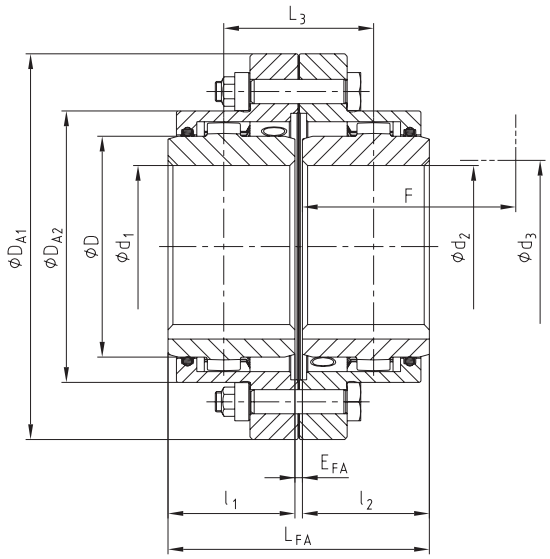
Size	Torque [Nm] [3]		Max. speed [rpm]	Weight with max. bore [kg]			Mass moment of inertia with max. bore [kgm²]	Dowel screw (10.9)		
	T_{KN}	T_{KN} (42CrMo4)		Sleeve	Hub	Total		z	M	T_A [Nm]
10	930	1580	8500	0.75	0.55	2.75	0.004	6	M6	15
15	2000	3300	6400	1.50	1.10	5.60	0.015	8	M8	36
20	3500	6300	5400	2.40	2.10	9.50	0.037	6	M10	72
25	6500	11000	4500	4.30	3.60	16.60	0.096	6	M12	125
30	10000	17400	4000	5.70	6.20	25.00	0.178	8	M12	125
35	17000	28800	3500	9.50	9.90	40.90	0.410	8	M14	200
40	28500	48500	3100	11.60	16.00	57.50	0.746	8	M14	200
45	37000	62000	3000	15.40	21.40	76.40	1.163	10	M14	200
50	51000	86000	2500	25.30	29.50	113.50	2.229	8	M18	430
55	65000	110000	2300	31.00	40.20	149.00	3.415	14	M18	430
60	85000	145000	2100	32.10	52.80	175.70	4.514	14	M18	430
70	135000	240000	1850	42.50	85.50	265.50	9.212	16	M20	610

■ = Standard
[1] Space required to align the coupling and replace the gasket
[2] Lengthened hubs available as a standard for type FA only. For type FB and FAB lengthened hubs are available on request only.
[3] Maximum torque of the coupling $T_{K\,max}$ = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

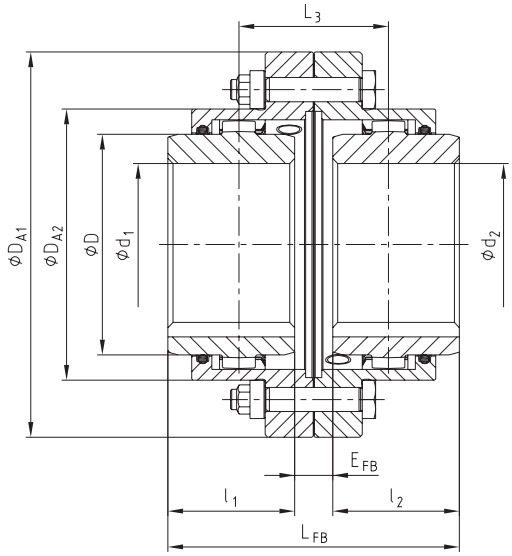
Ordering example:

GEARex® FA 10	d_1 Ø50	d_2 Ø50
Type and size of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1

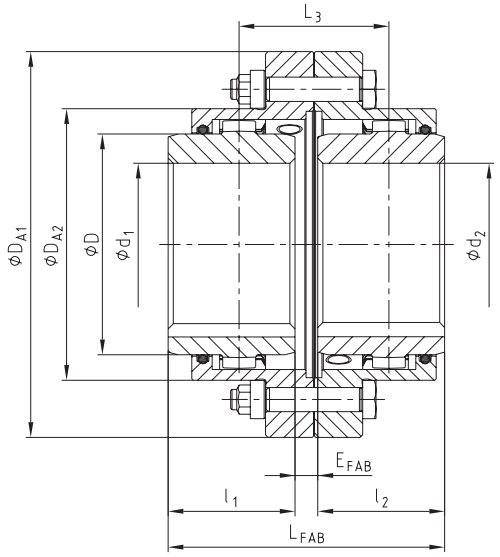
Type FA



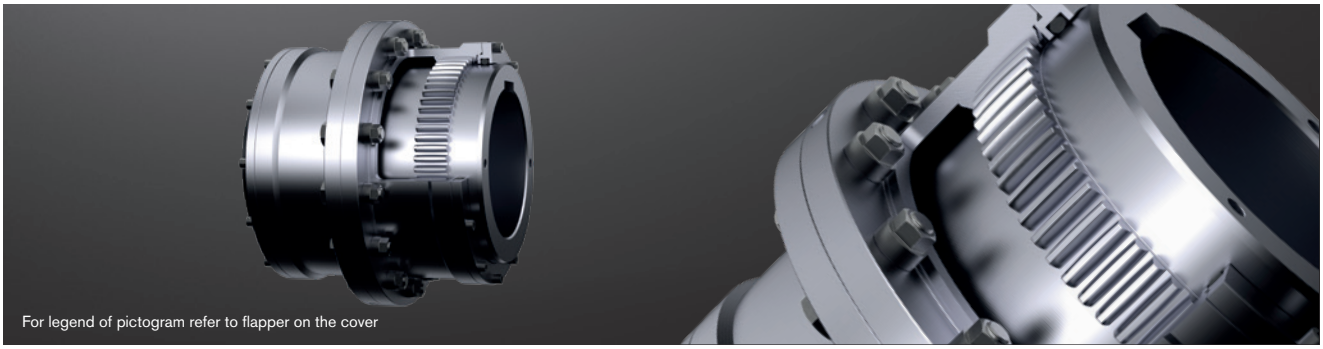
Type FB

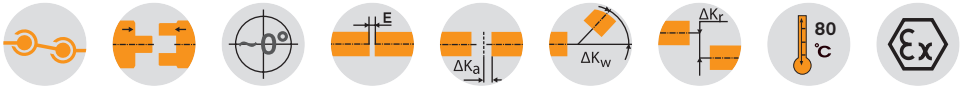


Type FAB



Easy to assemble, high power density





Dimensions

Size	Pilot bore	Max. finish bore	Dimensions [mm]													
		d_1, d_2	l_1, l_2	Hub lengthened max. l_1, l_2 [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	31	82	62	130	3	31	17	127	155	141	79	108	187	146	107	85
25	38	100	76	150	5	29	17	157	181	169	93	130	220	172	126	105
30	44.5	115	90	170	5	33	19	185	213	199	109	153	248	194	140	125
35	46	135	105	185	6	40	23	216	250	233	128	180	285	228	155	155
40	52	160	120	215	6	42	24	246	282	264	144	214	335	270	180	180
45	80	175	135	245	8	50	29	278	320	299	164	233	358	294	195	200
50	80	195	150	295	8	56	32	308	356	332	182	260	390	322	210	230
55	90	215	175	300	8	70	39	358	420	389	214	283	425.5	354	235	250
60	100	240	190	305	8	84	46	388	464	426	236	312	457	380	270	275
70	100	285	220	310	10	76	43	450	516	483	263	371	527	445	300	335
80	140	300	280	-	10	50	30	570	610	590	310	394	545	475	360	358
85	160	325	292	-	13	53	33	597	637	617	325	430	585	515	372	395
90	180	350	305	-	13	83	48	623	693	658	353	464	640	560	385	428
100	220	390	330	-	13	93	53	673	753	713	383	512	690	612	410	465
110	220	420	350	-	20	296	158	720	996	858	508	560	765	665	440	515
120	260	450	420	-	25	421	223	865	1261	1063	643	608	825	720	510	560
130	300	500	440	-	25	415	220	905	1295	1100	660	684	980	805	540	628
140	380	550	460	-	20	430	225	940	1350	1145	685	750	1055	875	560	695
150	460	630	520	-	30	460	245	1070	1500	1285	765	850	1180	975	630	785

Technical data

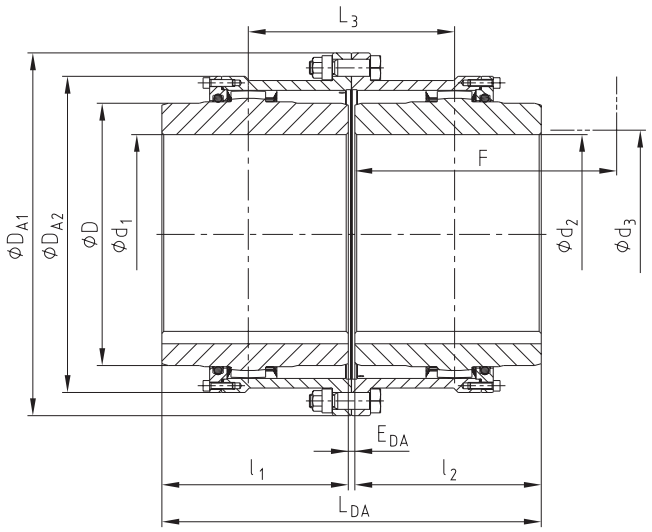
Size	Torque [Nm] [3]		Max. speed [rpm]	Weight with max. bore [kg]			Mass moment of inertia with max. bore [kgm²]	Dowel screw (10.9)		
	T_{KN}	T_{KN} (42CrMo4)		Sleeve	Hub	Total		z	M	T_A [Nm]
20	3500	6300	5400	3.6	2.1	12.8	0.056	6	M10	72
25	6500	11000	4500	5.5	3.6	20.3	0.125	6	M12	125
30	10000	17400	4000	6.9	6.2	28.9	0.219	8	M12	125
35	17000	28800	3500	11.2	9.8	46.6	0.488	8	M14	200
40	28500	48500	3100	16.3	15.9	70.9	1.011	8	M14	200
45	37000	62000	3000	20.2	21.4	90.7	1.482	10	M14	200
50	51000	86000	2500	27.0	29.5	123.5	2.474	8	M18	430
55	65000	110000	2300	32.6	40.2	159.1	3.714	14	M18	430
60	85000	145000	2100	32.0	52.8	184.4	4.810	14	M18	430
70	135000	240000	1850	43.8	85.5	280	9.907	16	M20	610
80	175000	300000	1750	64	117	362	14.214	18	M20	610
85	225000	380000	1650	75	148	446	20.320	20	M20	610
90	-	500000	1550	101	183	568	31.036	20	M24	1000
100	-	650000	1500	117	232	698	45.358	24	M24	1000
110	-	820000	1250	140	295	940	73.880	20	M30	1700
120	-	1050000	1150	188	430	1312	118.40	24	M30	1700
130	-	1450000	1000	330	595	1965	235.431	20	M36	2800
140	-	1950000	950	391	751	2411	343.432	24	M36	2800
150	-	2750000	850	488	1057	3242	575.453	30	M36	2800

■ = Standard
[1] Space required to align the coupling and replace the gasket
[2] Lengthened hubs as a standard available for type DA only. For type DB and DAB lengthened hubs available on request only.
[3] Maximum torque of the coupling $T_{K\,max}$ = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

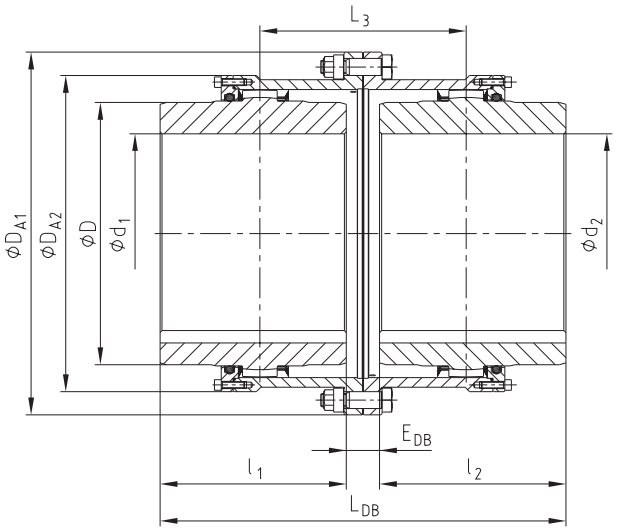
Ordering example:

GEARex® DA 80	d_1 Ø300	d_2 Ø300
Type and size of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1

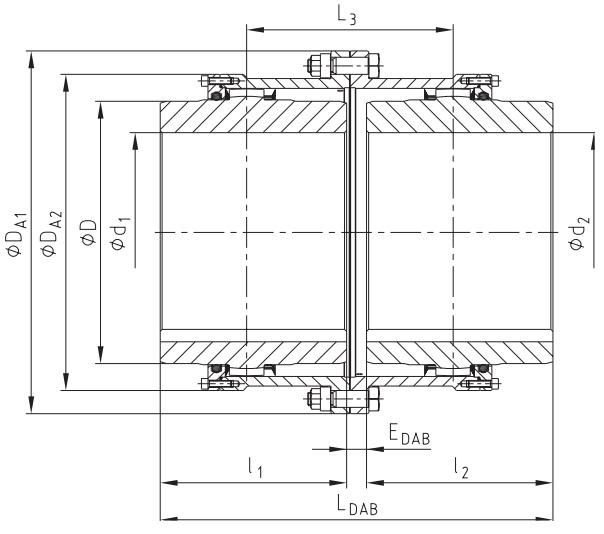
Type DA



Type DB



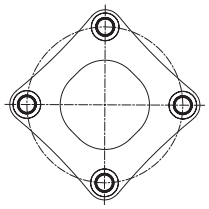
Type DAB



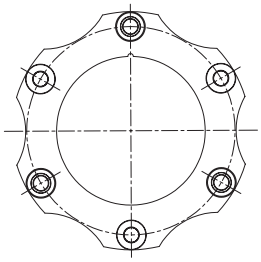
Technical data

The following laminae types are to be distinguished with RADEX®-N:

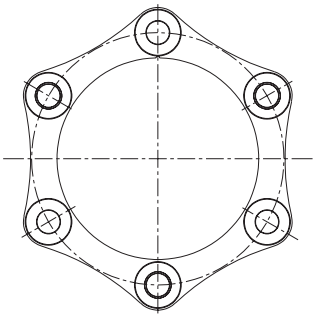
Size 20 – 50
(lamina with 4 holes)



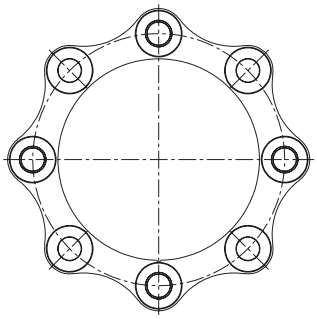
Size 60 – 135
(lamina with 6 holes)



Size 136 – 336
(lamina with 6 holes)



Size 138 – 338
(lamina with 8 holes)



Torques and displacements

Size	Lamina type	Torques [Nm] [1]			Perm. displacements [2]				
		T_{KN}	$T_{K\,max}$	T_{KW}	Angular [°] each lamina	Axial [mm]		Radial [mm]	
						NN	NANA 1/ NANA2/ NNZ	NANA 1	NANA 2
20	lamina with 4 holes	30	60	15	1.0	0.60	1.2	1.0	0.2
25		60	120	30	1.0	0.80	1.6	1.0	0.2
35		120	240	60	1.0	1.00	2.0	1.1	0.3
38		240	480	120	1.0	1.20	2.4	1.2	0.3
42		320	640	160	1.0	1.40	2.8	1.2	0.4
50		470	940	235	1.0	1.60	3.2	1.5	0.4
60	lamina with 6 holes	900	1800	450	1.0	1.00	2.0	1.5	0.8
70		1300	2600	650	1.0	1.10	2.2	1.8	1.0
80		1800	3600	900	1.0	1.30	2.6	2.1	1.2
85		2600	5200	1300	1.0	1.30	2.6	2.2	1.2
90		4600	9200	2300	1.0	1.00	2.0	2.2	1.1
105		5600	11200	2800	1.0	1.20	2.4	2.4	1.4
115		9900	19800	4950	1.0	1.40	2.8	2.5	1.5
135		13500	27000	6750	1.0	1.75	3.5	3.8	–
136	lamina with 8 holes	17500	35000	8750	0.7	1.85	3.7		
156		25000	50000	12500	0.7	2.10	4.2		
166		35000	70000	17500	0.7	2.25	4.5		
186		42000	84000	21000	0.7	2.40	4.8		
206		52500	105000	26250	0.7	2.60	5.2		
246		90000	180000	45000	0.7	3.00	6.0		
286		150000	300000	75000	0.7	3.35	6.7		
336		210000	420000	105000	0.7	3.75	7.5	Depending on	
138	lamina with 8 holes	23000	46000	11500	0.5	1.30	2.6	drop-out center design dimension E	
158		33000	66000	16500	0.5	1.40	2.8		
168		45000	90000	22500	0.5	1.50	3.0		
188		56000	112000	28000	0.5	1.60	3.2		
208		70000	140000	35000	0.5	1.75	3.5		
248		120000	240000	60000	0.5	2.00	4.0		
288		200000	400000	100000	0.5	2.40	4.5		
338		280000	560000	140000	0.5	2.50	5.0		

= Years of experience with applications at customer sites and additional test series in the KTR test field in Rheine enabled us to determine potentials allowing for an increase of the rated and maximum torques with some sizes of this series.

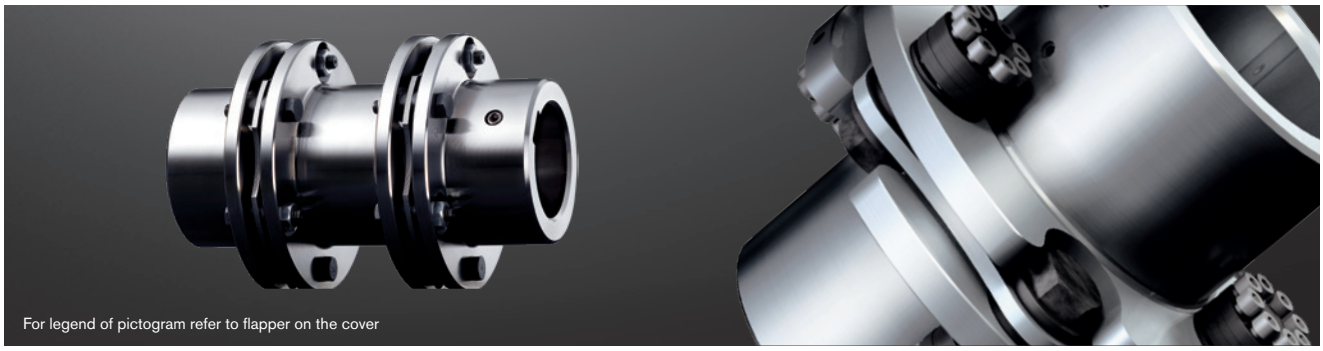
Permissible speeds and torsional stiffness figures

Size	Max. speed [rpm] (higher speeds on request)	Torsion spring stiffness x 10^6 [Nm/rad] per laminae set	Size	Max. speed [rpm] (higher speeds on request)	Torsion spring stiffness x 10^6 [Nm/rad] per laminae set
20	20400	0.02	156	3500	17.00
25	16800	0.03	166	3300	19.00
35	13900	0.11	186	3000	25.00
38	12000	0.20	206	2800	31.00
42	11000	0.28	246	2300	55.00
50	9000	0.50	286	2000	79.00
60	8200	0.56	336	1800	125.00
70	7300	0.90	138	3800	20.00
80	6300	1.10	158	3500	26.00
85	5900	1.50	168	3300	30.00
90	5400	2.00	188	3000	39.00
105	5000	2.50	208	2800	49.00
115	4300	3.50	248	2300	83.00
135	3700	6.90	288	2000	125.00
136	3800	13.00	338	1800	200.00

[1] For selection of coupling see page 18 et seqq.
[2] The permissible displacement figures specified are maximum figures which must not arise simultaneously. If axial, radial and angular displacement arises at the same time, these values must be reduced.

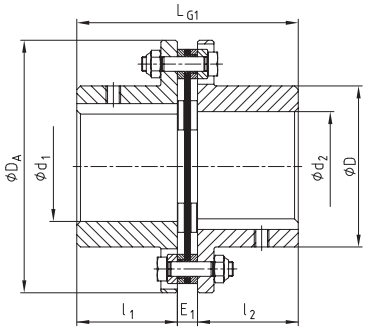
RADEX®-N NN, NANA 1 and NANA 2
Steel laminae couplings

Standard types

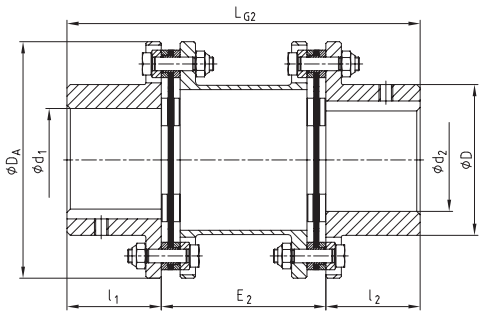




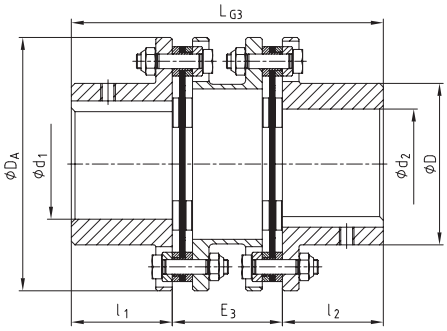
Components



Type NN



Type NANA 1



Type NANA 2

Dismounting dimension E = DBSE (shaft distance dimension)

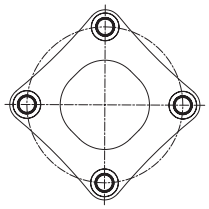
RADEX®-N Types NN, NANA 1, NANA 2										
Size	Max. finish bore	Dimensions [mm]								
	d_1, d_2	D	D_A	l_1, l_2	L_{G1}	E_1	L_{G2}	E_2	L_{G3}	E_3
20	20	32	56	20	45	5	100	60	–	–
25	25	40	68	25	56	6	110	60	–	–
35	38	54	82	40	86	6	150	70	–	–
38	42	58	94	45	98	8	170	80	–	–
42	50	68	104	45	100	10	170	80	–	–
50	55	78	126	55	121	11	206	96	–	–
60	65	88	138	55	121	11	206	96	170	60
70	75	102	156	65	141	11	246	116	200	70
80	85	117	179	75	164	14	286	136	233	83
85	90	123	191	80	175	15	300	140	246	86
90	100	132	210	80	175	15	300	140	251	91
105	110	147	225	90	200	20	340	160	281	101
115	120	163	265	100	223	23	370	170	309	109
135	135	184	305	135	297	27	520	250	–	–
136	135	180	300	135	293	23				
156	150	195	325	150	327	27				
166	170	225	350	165	361	31				
186	190	250	380	185	401	31				
206	210	275	420	200	437	37				
246	245	320	500	240	524	44				
286	290	383	567	280	612	52				
336	340	445	660	330	718	58	According to customer specification			
138	135	180	300	135	293	23				
158	150	195	325	150	327	27				
168	170	225	350	165	361	31				
188	190	250	380	185	401	31				
208	210	275	420	200	437	37				
248	245	320	500	240	524	44				
288	290	383	567	280	612	52				
338	340	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

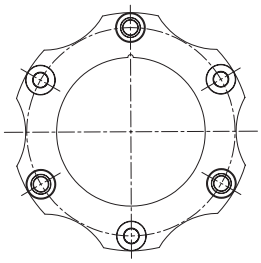
Technical data

The following laminae types are to be distinguished with RIGIFLEX®-N:

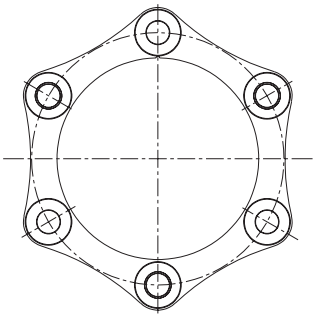
Size 35 – 65 (lamina with 4 holes)



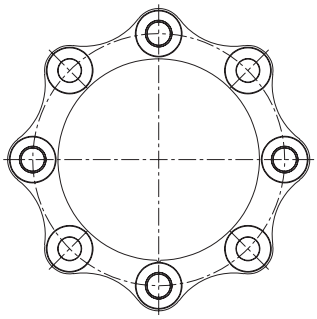
Size 75 – 160 (lamina with 6 holes)



Size 166 – 406 (lamina with 6 holes)



Size 168 – 408 (lamina with 8 holes)



Torques and displacements

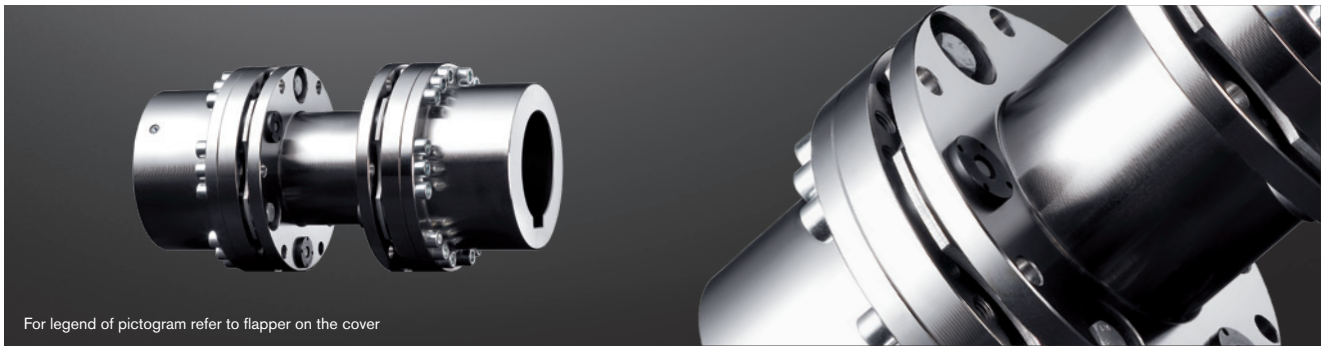
Size	Lamina type	Torques [Nm]			Perm. displacements						
		T_{KN}	$T_{K\,max}$	T_{KW}	Angular displacement $\pm K_w$ [1] [°]	Axial displacement $\pm K_a$ [mm]	Radial $\pm K_r$ [mm]				
							DBSE = 100	DBSE = 140	DBSE = 180	DBSE = 200	DBSE = 250
35		130	260	65	0.7	1.2	0.90	1.40	–	–	–
50	lamina with 4 holes	270	540	135	0.7	1.4	0.77	1.26	–	–	–
65		550	1100	275	0.7	1.5	0.75	1.23	1.72	–	–
75		1100	2200	550	0.7	1.8	0.73	1.22	1.71	–	–
85		1900	3800	950	0.7	2.1	–	1.14	1.62	1.87	2.48
110		3500	7000	1750	0.7	2.4	–	1.05	1.54	1.78	2.39
120		5750	11500	2875	0.7	2.6	–	1.00	1.49	1.73	2.35
140		10500	21000	5250	0.7	3.3	–	–	–	1.55	2.16
160		16000	32000	8000	0.7	3.8	–	–	–	–	1.99
166	lamina with 6 holes	19000	38000	9500	0.7	3.7					
196		22500	45000	11250	0.7	4.2					
216		32000	64000	16000	0.7	4.5					
256		52500	105000	26250	0.7	5.2					
306		86000	172000	43000	0.7	6.0					
346		135000	270000	67500	0.7	6.7					
406		210000	420000	105000	0.7	7.5	depending on DBSE				
168		25000	50000	12500	0.5	2.6					
198		30000	60000	15000	0.5	2.8					
218		42500	85000	21500	0.5	3.0					
258	lamina with 8 holes	70000	140000	35000	0.5	3.5					
308		115000	230000	57500	0.5	4.0					
348		180000	360000	90000	0.5	4.5					
408		280000	560000	140000	0.5	5.0					

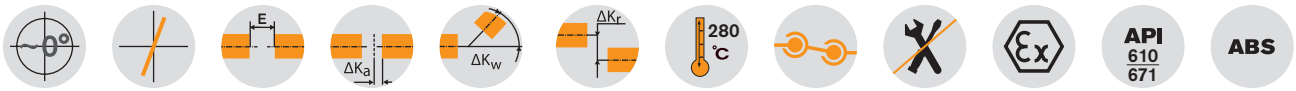
[1] Angular displacement each laminae set

If axial, angular and radial shaft displacement arises in parallel, observe the following table:

Size	Permissible angular displacement							
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7
	Permissible axial displacement							
35	1.20	1.00	0.85	0.74	0.60	0.40	0.20	0.00
50	1.40	1.20	1.00	0.80	0.60	0.40	0.20	0.00
65	1.50	1.29	1.07	0.86	0.64	0.43	0.22	0.00
75	1.80	1.54	1.29	1.03	0.77	0.52	0.26	0.00
85	2.10	1.80	1.50	1.20	0.90	0.60	0.30	0.00
110	2.40	2.06	1.71	1.37	1.03	0.69	0.34	0.00
120	2.60	2.23	1.86	1.48	1.11	0.74	0.37	0.00
140	3.30	2.83	2.36	1.88	1.41	0.94	0.47	0.00
160	3.80	3.26	2.71	2.17	1.63	1.09	0.54	0.00
166	3.70	3.17	2.64	2.12	1.59	1.06	0.53	0.00
196	4.20	3.60	3.00	2.40	1.80	1.20	0.60	0.00
216	4.50	3.86	3.21	2.57	1.93	1.29	0.64	0.00
256	5.20	4.46	3.71	2.97	2.23	1.49	0.74	0.00
306	6.00	5.14	4.29	3.43	2.57	1.72	0.86	0.00
346	6.75	5.79	4.82	3.86	2.89	1.93	0.96	0.00
406	7.50	6.43	5.36	4.28	3.21	2.14	1.07	0.00
168	2.60	2.08	1.56	1.04	0.52	0.00	–	–
198	2.80	2.24	1.68	1.12	0.56	0.00	–	–
218	3.00	2.40	1.80	1.20	0.60	0.00	–	–
258	3.50	2.80	2.10	1.40	0.70	0.00	–	–
308	4.00	3.20	2.40	1.60	0.80	0.00	–	–
348	4.50	3.60	2.70	1.80	0.90	0.00	–	–
408	5.00	4.00	3.00	2.00	1.00	0.00	–	–

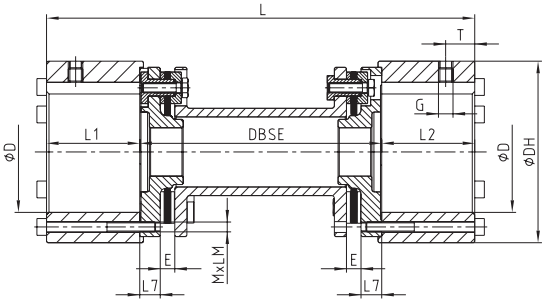
Standard type A



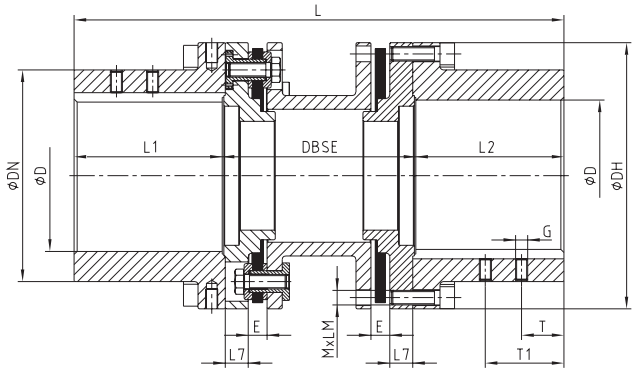


Components

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	DN	DH	L1, L2	L7	G	T	T1	E	DBSE [1]					MxLM	TA [Nm]
35	130	260	65	50	–	75	38.5	8.5	M6	15	–	6	100	140	–	–	–	M4x45	4.1
50	270	540	135	50	70	95	50	12	M6	10	–	9	100	140	–	–	–	M6x22	14
65	550	1100	275	70	100	126	63	12	M8	20	–	11	100	140	180	–	–	M6x25	14
75	1100	2200	550	75	105	138	62.5	12	M8	20	–	11	100	140	180	–	–	M8x30	35
85	1900	3800	950	90	120	156	72.5	15	M10	20	–	12	–	140	180	200	250	M8x30	35
110	3500	7000	1750	110	152	191	87	18	M10	25	–	12	–	140	180	200	250	M10x35	69
120	5750	11500	2875	120	165	213	102	20	M12	25	–	12	–	–	180	200	250	M12x40	120
140	10500	21000	5250	150	200	265	126	25	M12	30	–	15	–	–	–	200	250	M16x50	295
160	16000	32000	8000	165	230	305	145	31	M12	30	–	15	–	–	–	–	250	M16x55	295
166	19000	38000	9500	165	230	305	155	31	M16	30	70	17						M20x50	560
196	22500	45000	11250	195	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	260	350	440	245	38	M20	70	130	31						M24x80	970
306	86000	172000	43000	305	400	515	295	43	M24	70	130	36						M27x100	1450
346	135000	270000	67500	350	460	590	335	55	M24	95	175	45						M30x110	1950
406	210000	420000	105000	405	530	675	395	58.5	M24	95	175	50	According to customer specification					M36x130	3300
168	25000	50000	12500	165	230	305	155	31	M16	30	70	17						M20x50	560
198	30000	60000	15000	195	260	330	185	32	M16	40	90	24						M20x50	560
218	42500	85000	21500	210	285	370	205	32	M20	50	110	26						M20x65	560
258	70000	140000	35000	260	350	440	245	38	M20	70	130	31						M24x80	970
308	115000	230000	57500	305	400	515	295	43	M24	70	130	36						M27x100	1450
348	180000	360000	90000	350	460	590	335	55	M24	95	175	45						M30x110	1950
408	280000	560000	140000	405	530	675	395	58.5	M24	95	175	50						M36x130	3300

[1] Other shaft distance dimensions available on request.
For selection of coupling see page 18 et seqq. Assembly instructions of KTR standard 47410 available at www.ktr.com.

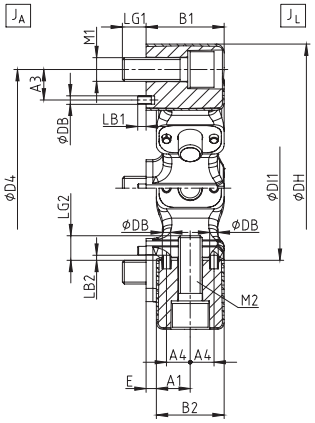
Ordering example:	RIGIFLEX®-N 120	A	Ø 100	Ø 120	200
	Coupling size	Type	Bore d_1	Bore d_2	DBSE

EVOLASTIC® E
Highly flexible couplings

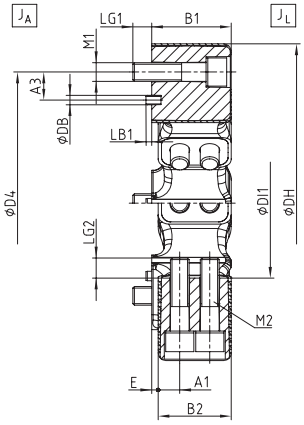
Individual element - available in various kinds of Shore hardness



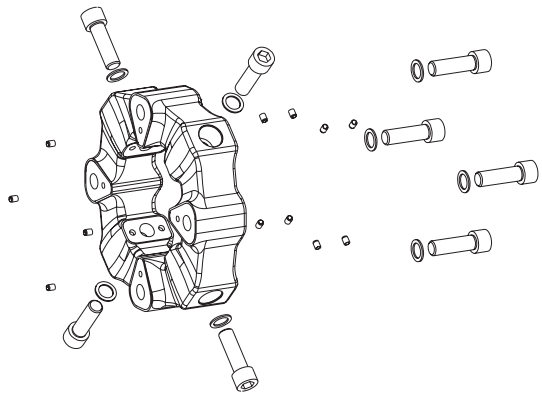




Size 12 - 280



Size 360 - 560



EVOLASTIC® type E																
Size	Dimensions [mm]														Mass moment of inertia [kgm²]		Weight [kg]
	DH	DI1	B1	B2	E	D4	Z x Pitch	A3	LG	LB1	DB	A1	A4	LB2	J_A	J_L	
12	122	60	32	28	4	100	3 x 120°	12	10	4	4	14.0	10.0	-	0.0005	0.0005	0.50
24	150	70	42	36	6	125	3 x 120°	18	12	4	5	18.0	13.5	5	0.0010	0.0010	0.93
32	150	70	42	36	6	125	4 x 90°	18	12	4	5	18.0	13.5	5	0.0020	0.0020	1.13
48	170	85	46	40	6	140	4 x 90°	18	14	5	5	20.0	14.0	5	0.0040	0.0030	1.55
60	200	100	58	50	8	165	3 x 120°	20	16	5	5	25.0	18.0	5	0.0070	0.0070	2.28
86	200	100	58	50	8	165	4 x 90°	20	16	5	5	25.0	18.0	5	0.0090	0.0080	2.76
125	260	125	70	63	7	215	3 x 120°	25	20	5	8	31.5	22.5	5	0.0240	0.0220	4.74
200	260	125	70	63	7	215	4 x 90°	25	20	5	8	31.5	22.5	5	0.0300	0.0280	5.79
280	300	145	80	72	8	250	4 x 90°	25	20	5	8	36.0	22.5	5	0.0550	0.0500	7.89
360	340	160	85	78	7	280	4 x 90°	30	20	6	10	2 x 23.0	-	-	0.0960	0.0950	11.50
560	363	170	105	95	10	300	4 x 90°	40	24	6	10	2 x 28.5	-	-	0.1510	0.1450	15.38

Delivery condition:
EVOLASTIC® couplings type E are supplied with a mounting kit consisting of cap screws, screw locking washers and positioning sleeves. With the connection design make sure sufficient screw-in depth.

Size	Cap screw DIN EN ISO 4762 - 12.9		Tightening torque T_A
	M1 / axial	M2 / radial	[Nm]
12	M10 x 30	M10 x 30	71
24	M12 x 35	M12 x 35	123
32	M12 x 35	M12 x 35	123
48	M14 x 40	M14 x 40	195
60	M16 x 50	M16 x 50	302
86	M16 x 50	M16 x 50	302
125	M20 x 65	M20 x 65	592
200	M20 x 65	M20 x 65	592
280	M20 x 65	M20 x 65	592
360	M20 x 80	M20 x 80	592
560	M24 x 90	M20 x 90	1,017 / 592

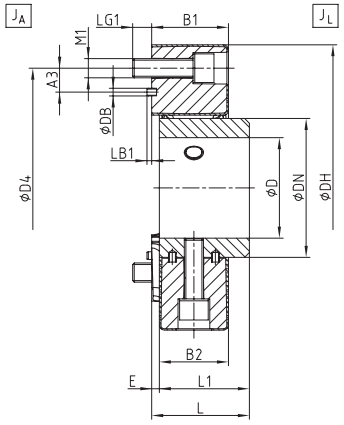
Ordering example:

EVOLASTIC® 48	E	SN
Coupling size	Type	Elastomer type

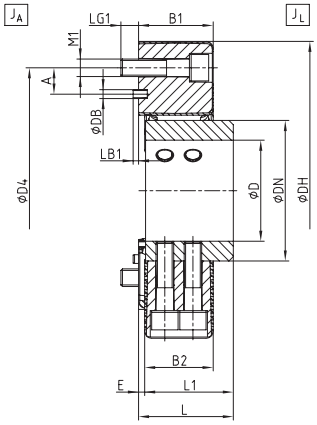
Individual element + shaft connection



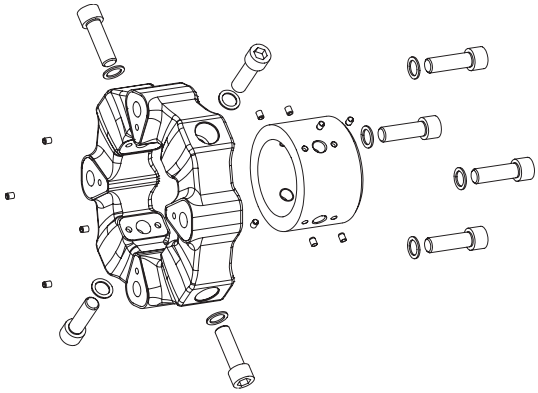




Size 12 - 280



Size 360 - 560



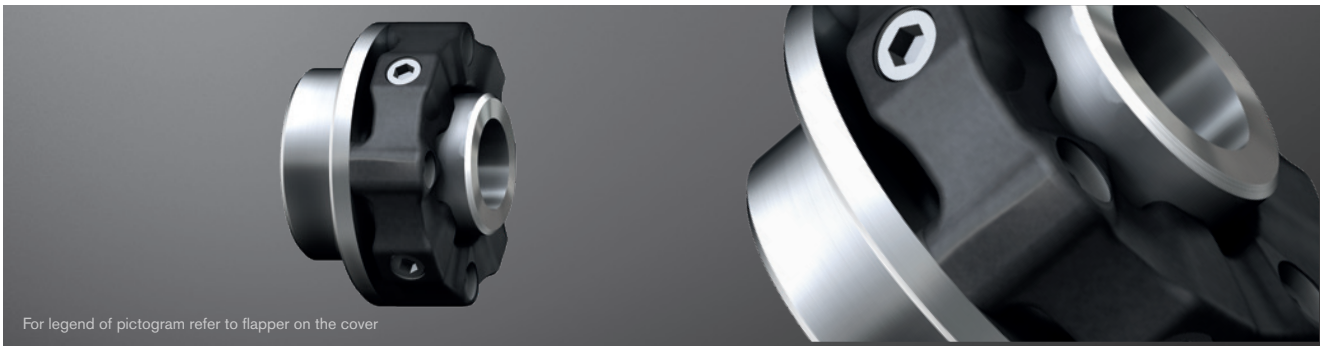
EVOLASTIC® type EH																	
Size	Dimensions [mm]															Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	Max. finish bore D	DH	DN	B1	B2	E	L	L1	D4	Z x Pitch	M1	A3	LG	LB1	DB	J_A	J_L	
12	38	122	60	32	28	4	46	42	100	3 x 120°	M10	12	10	4	4	0.0006	0.0009	1.04
24	46	150	70	42	36	6	56	50	125	3 x 120°	M12	18	12	4	5	0.0016	0.0021	1.76
32	46	150	70	42	36	6	56	50	125	4 x 90°	M12	18	12	4	5	0.0020	0.0030	1.95
48	55	170	85	46	40	6	61	55	140	4 x 90°	M14	18	14	5	5	0.0040	0.0050	2.90
60	65	200	100	58	50	8	74	66	165	3 x 120°	M16	20	16	5	5	0.0070	0.0110	4.55
86	65	200	100	58	50	8	74	66	165	4 x 90°	M16	20	16	5	5	0.0090	0.0120	5.03
125	85	257	125	70	63	7	88	80	215	3 x 120°	M20	25	20	5	8	0.0240	0.0340	8.77
200	85	257	125	70	63	7	88	80	215	4 x 90°	M20	25	20	5	8	0.0300	0.0400	9.80
280	105	299	145	80	72	8	102	94	250	4 x 90°	M20	25	20	5	8	0.0560	0.0730	13.54
360	115	340	160	85	78	7	108	100	280	4 x 90°	M20	30	20	6	10	0.0960	0.1320	18.85
560	120	363	170	105	95	10	135	125	300	4 x 90°	M24	40	24	6	10	0.1530	0.2080	26.34

1) With max. bore

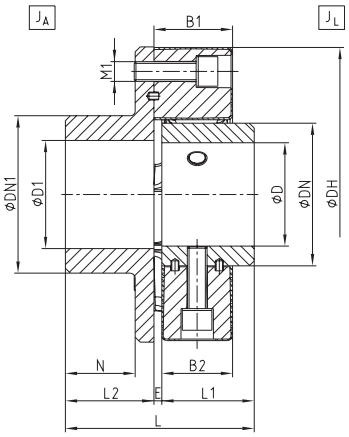
Ordering example:	EVOLASTIC® 48	EH	SN	1.0	Ø52
	Coupling size	Type	Elastomer type	Hub type	Finish bore

EVOLASTIC® E2H
Highly flexible couplings

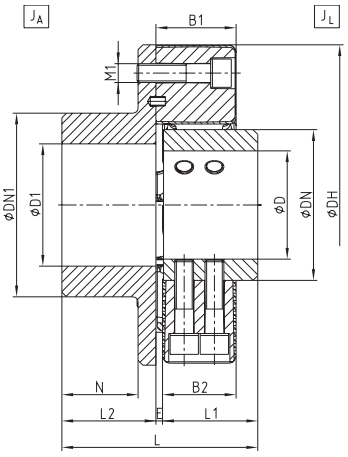
shaft-to-shaft connection



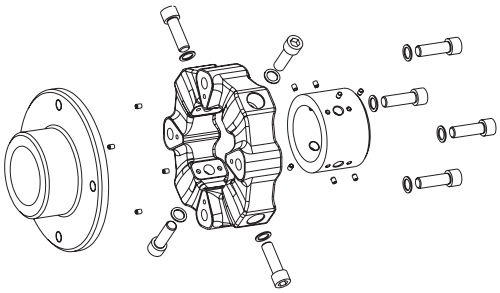




Size 12 - 280



Size 360 - 560



EVOLASTIC® type E2H															
Size	Dimensions [mm]													Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	Max. finish bore		DH	DN	DN1	B1	B2	E	N	L	L1	L2	M1			
	D	D1												J_A	J_L	
12	38	55	122	60	80	32	28	4	32	88	42	42	M10	0.0030	0.0010	2.38
24	46	70	150	70	100	42	36	6	38	106	50	50	M12	0.0081	0.0021	4.22
32	46	70	150	70	100	42	36	6	38	106	50	50	M12	0.0090	0.0030	4.40
48	55	85	170	85	115	46	40	6	41	116	55	55	M14	0.0160	0.0050	6.21
60	65	100	200	100	140	58	50	8	50	140	66	66	M16	0.0360	0.0110	10.39
86	65	100	200	100	140	58	50	8	50	140	66	66	M16	0.0370	0.0120	10.83
125	85	110	260	125	160	70	63	7	60	168	80	80	M20	0.1110	0.0340	20.17
200	85	110	260	125	160	70	63	7	60	168	80	80	M20	0.1160	0.0400	21.15
280	105	110	300	145	160	80	72	8	70	192	94	90	M20	0.1960	0.0730	28.30
360	115	130	340	160	195	85	78	7	80	208	100	100	M20	0.3540	0.1320	40.66
560	120	140	370	170	200	105	95	10	100	260	125	125	M24	0.5890	0.2080	56.56

1) With max. bore

Ordering example:

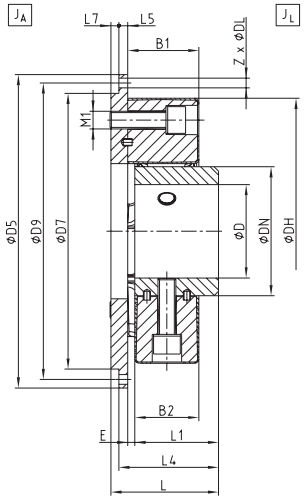
EVOLASTIC® 48	E2H	SN	1.0	Ø52	1.0	Ø52
Coupling size	Type	Elastomer type	Hub type	Finish bore	Hub type	Finish bore

EVOLASTIC® EFH
Highly flexible couplings

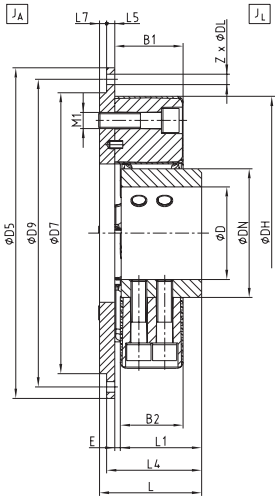
flange-to-shaft connection



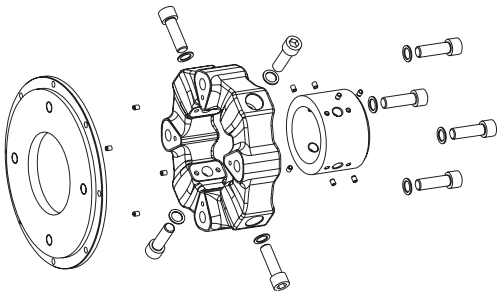




Size 12 - 280



Size 360 - 560



Flange dimensions according to SAE J620 [mm]				
Size	D5	D9	Z	DL
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

EVOLASTIC® type EFH

Size	Flange connection acc. to SAE - J620						Dimensions [mm]											Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	6.5"	7.5"	8"	10"	11.5"	14"	Max. finish bore D	DH	DN	B1	B2	E	L	L1	L4	L5	L7	M1	D7	J_A	J_L	
12	●						38	122	60	32	28	4	56	42	52	6	4	M10	180	0.013	0.001	3.26
		●																	190	0.020	0.001	3.78
24	●						46	150	70	42	36	6	68	50	62	6	6	M12	180	0.016	0.002	4.26
		●																	190	0.023	0.002	4.82
32	●						46	150	70	42	36	6	68	50	62	6	6	M12	180	0.016	0.003	4.44
		●																	190	0.023	0.003	5.00
		●													67	6	8		190	0.026	0.005	6.03
48			●				55	170	85	46	40	6	75	55				M14	200	0.034	0.005	6.62
				●											71	10	4		260	0.091	0.005	9.91
60				●			65	200	100	58	50	8	90	66	84	10	6	M16	270	0.103	0.011	12.07
					●														310	0.165	0.011	14.49
86				●			65	200	100	58	50	8	90	66	84	10	6	M16	270	0.105	0.012	12.52
					●														360	0.166	0.012	14.94
125				●			85	260	125	70	63	7	107	80	98	10	9	M16	270	0.129	0.034	16.72
					●														310	0.199	0.034	19.57
				●															270	0.135	0.039	17.64
200					●		85	260	125	70	63	7	107	80	98	10	9	M20	310	0.205	0.039	20.50
						●													405	0.572	0.039	30.01
280					●		105	300	145	80	72	8	121	94	112	10	9	M20	310	0.226	0.072	23.54
						●													405	0.593	0.072	33.05
360						●	115	340	160	85	78	7	127	100	118	10	9	M20	405	0.628	0.130	37.55
560						●	120	363	170	105	95	10	160	125	145	10	15	M24	405	0.794	0.203	49.06

1) With max. bore

Ordering example:

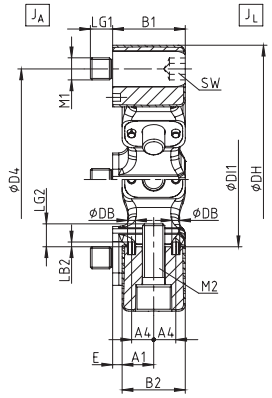
EVOLASTIC® 48	EFH	SN	8	1.0	Ø52
Coupling size	Type	Elastomer type	Flange ØDA acc. to SAE or special	Hub type	Finish bore

EVOLASTIC® EP
Highly flexible couplings

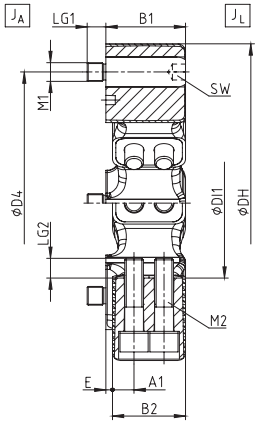
Pluggable elastomer - available in various kinds of Shore hardness



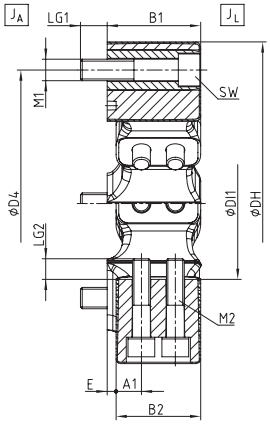




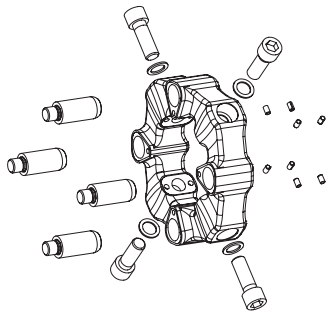
Size 12 - 280



Size 360



Size 560



EVOLASTIC® type EP															
Size	Dimensions [mm]												Mass moment of inertia [kgm²]		Weight [kg]
	DH	DI1	B1	B2	E	D4	Z x Pitch	LG	DB	A1	A4	LB2	J_A	J_L	
12	122	60	32	28	4	100	3 x 120°	10	4	14.0	10.0	-	0.001	0.001	0.55
24	150	70	42	36	6	125	3 x 120°	12	5	18.0	13.5	5	0.002	0.001	1.03
32	150	70	42	36	6	125	4 x 90°	12	5	18.0	13.5	5	0.003	0.002	1.26
48	170	85	46	40	6	140	4 x 90°	14	5	20.0	14.0	5	0.005	0.003	1.74
60	200	100	58	50	8	165	3 x 120°	16	5	25.0	18.0	5	0.009	0.007	1.52
86	200	100	58	50	8	165	4 x 90°	16	5	25.0	18.0	5	0.010	0.008	3.08
125	260	125	70	63	7	215	3 x 120°	20	8	31.5	22.5	5	0.028	0.022	5.16
200	260	125	70	63	7	215	4 x 90°	20	8	31.5	22.5	5	0.036	0.028	6.35
280	300	145	80	72	8	250	4 x 90°	20	8	36.0	22.5	5	0.068	0.050	8.71
360	340	160	85	78	7	280	4 x 90°	20	-	2 x 23.0	-	-	0.110	0.096	12.21
560	363	170	105	95	10	300	4 x 90°	30	-	2 x 28.5	-	-	0.203	0.145	17.67

Delivery condition:
EVOLASTIC® couplings type EP are supplied with a mounting kit consisting of cap screws, screw locking washers, locking pins and positioning sleeves. With the connection design make sure sufficient screw-in depth. For the locking pin provide for an adhesive (e. g. Loctite® 243).

Size	Pin			Cap screw radial DIN EN ISO 4762 - 12.9	
	M1 / axial	SW	Tightening torque [Nm]	M2 / radial	Tightening torque [Nm]
12	M10	8	71	M10 x 30	71
24	M12	10	123	M12 x 35	123
32	M12	10	123	M12 x 35	123
48	M14	12	195	M14 x 40	195
60	M16	14	302	M16 x 50	302
86	M16	14	302	M16 x 50	302
125	M20	17	592	M20 x 65	592
200	M20	17	592	M20 x 65	592
280	M20	17	592	M20 x 65	592
360	M20	17	592	M20 x 80	592
560	M24	19	1017	M20 x 90	592

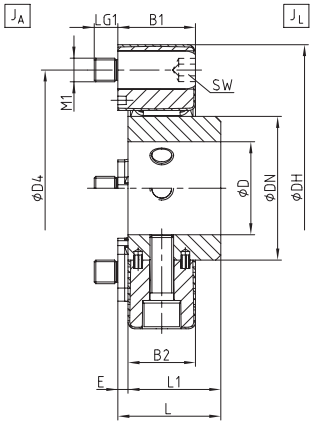
Ordering example:

EVOLASTIC® 48	EP	SN
Coupling size	Type	Elastomer type

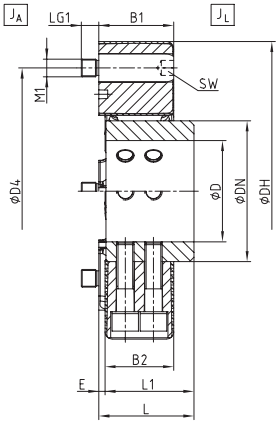
Pluggable elastomer + shaft connection



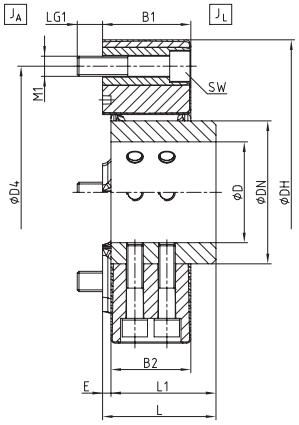




Size 12 - 280



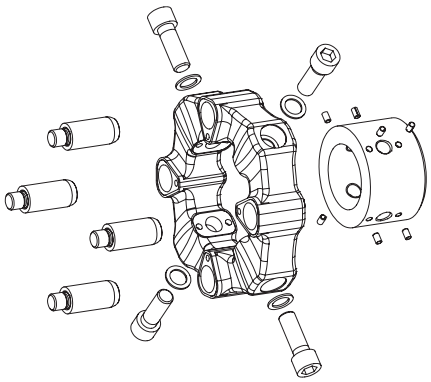
Size 360



Size 560

EVOLASTIC® type EHP																
Size	Dimensions [mm]													Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	Max. finish bore D	DH	DN	B1	B2	E	L	L1	D4	Z x Pitch	LG	M1	SW	J_A	J_L	
12	38	122	60	32	28	4	46	42	100	3 x 120°	10	M10	8	0.001	0.001	1.09
24	46	150	70	42	36	6	56	50	125	3 x 120°	12	M12	10	0.002	0.002	1.85
32	46	150	70	42	36	6	56	50	125	4 x 90°	12	M12	10	0.003	0.003	2.08
48	55	170	85	46	40	6	61	55	140	4 x 90°	14	M14	12	0.004	0.005	3.07
60	65	200	100	58	50	8	74	66	165	3 x 120°	16	M16	14	0.009	0.010	4.79
86	65	200	100	58	50	8	74	66	165	4 x 90°	16	M16	14	0.010	0.012	5.32
125	85	260	125	70	63	7	88	80	215	3 x 120°	20	M20	17	0.028	0.024	9.15
200	85	260	125	70	63	7	88	80	215	4 x 90°	20	M20	17	0.036	0.039	10.30
280	105	300	145	80	72	8	102	94	250	4 x 90°	20	M20	17	0.068	0.076	14.29
360	115	340	160	85	78	7	108	100	280	4 x 90°	20	M20	17	0.110	0.131	19.44
560	120	363	170	105	95	10	135	125	300	4 x 90°	30	M24	19	0.203	0.203	28.41

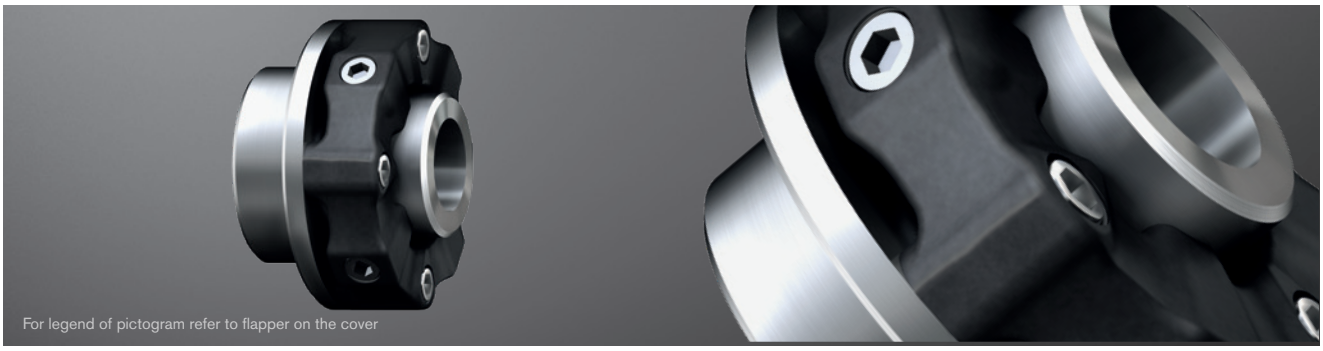
1) With max. bore



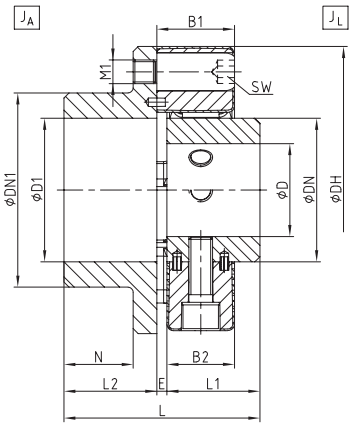
Ordering example:	EVOLASTIC® 48	EHP	SN	1.0	Ø52
	Coupling size	Type	Elastomer type	Hub type	Finish bore

EVOLASTIC® E2HP
Highly flexible couplings

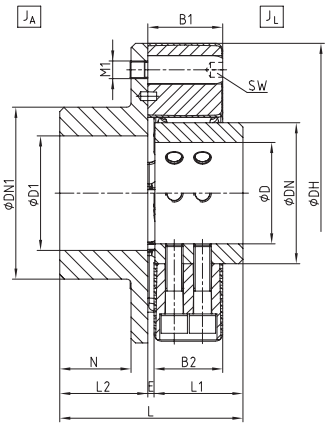
Shaft-to-shaft connection, plug-in



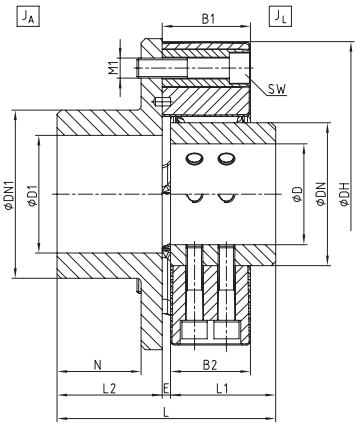




Size 12 - 280



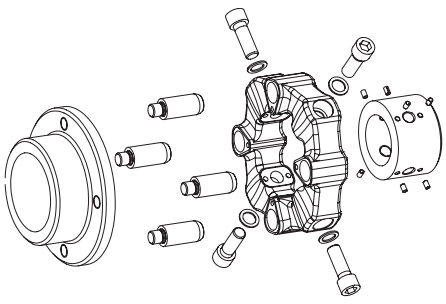
Size 360



Size 560

EVOLASTIC® type E2HP																
Size	Dimensions [mm]														Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	Max. finish bore		DH	DN	DN1	B1	B2	E	N	L	L1	L2	M1	SW			
	D	D1													J_A	J_L	
12	38	55	122	60	80	32	28	4	32	88	42	42	M10	8	0.003	0.001	2.44
24	46	70	150	70	100	42	36	6	38	106	50	50	M12	10	0.009	0.002	4.26
32	46	70	150	70	100	42	36	6	38	105	50	50	M12	10	0.009	0.003	4.53
48	55	85	170	85	115	46	40	6	41	116	55	55	M14	12	0.016	0.005	6.41
60	65	100	200	100	140	58	50	8	50	140	66	66	M16	14	0.038	0.010	10.62
86	65	100	200	100	140	58	50	8	50	140	66	66	M16	14	0.039	0.012	11.13
125	85	110	260	125	160	70	63	7	60	168	80	80	M20	17	0.115	0.034	20.55
200	85	110	260	125	160	70	63	7	60	168	80	80	M20	17	0.123	0.039	21.65
280	105	110	300	145	160	80	72	8	70	192	94	90	M20	17	0.208	0.073	29.05
360	115	130	340	160	195	85	78	7	80	208	100	100	M20	17	0.368	0.104	41.25
560	120	140	363	170	200	105	95	10	100	260	125	125	M24	19	0.640	0.203	58.62

1) With max. bore



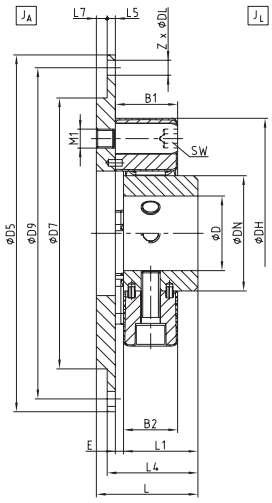
Ordering example:

EVOLASTIC® 48	E2HP	SN	1.0	Ø52	1.0	Ø52
Coupling size	Type	Elastomer type	Hub type	Finish bore	Hub type	Finish bore

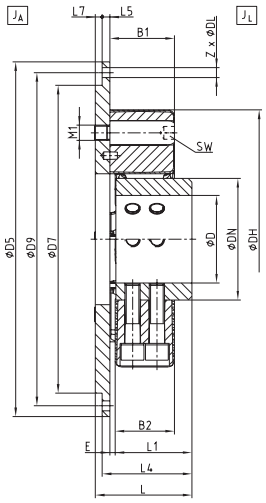
Flange-to-shaft connection, pluggable



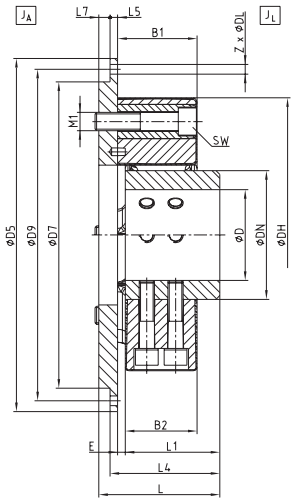




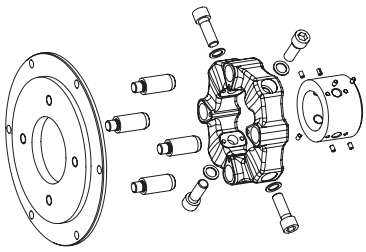
Size 12 - 280



Size 360



Size 560



Flange dimensions according to SAE J620 [mm]				
Size	D5	D9	Z	DL
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

EVOLASTIC® type EFHP

Size	Flange connection acc. to SAE - J620						Dimensions [mm]											Mass moment of inertia [kgm²] [1]		Weight [kg] [1]
	6.5"	7.5"	8"	10"	11.5"	14"	Max. finish bore D	DH	DN	B1	B2	E	L	L1	L4	L5	L7	M1	SW	D7	J_A	J_L	
12	●						38	122	60	32	28	4	56	42	52	6	4	M10	8	180	0.014	0.001	3.33
		●																		190	0.020	0.001	3.84
24	●						46	150	70	42	36	6	68	50	62	6	6	M12	10	180	0.016	0.002	4.30
		●																		190	0.027	0.002	4.86
32	●						46	150	70	42	36	6	68	50	62	6	6	M12	10	180	0.017	0.003	4.57
		●																		190	0.024	0.003	5.13
		●													67	6	8			190	0.027	0.005	6.20
48			●				55	170	85	46	40	6	75	55				M14	12	200	0.035	0.005	6.80
				●											71	10	4			260	0.091	0.005	10.09
60				●			65	200	100	58	50	8	90	66	84	10	6	M16	14	270	0.105	0.011	12.30
					●															310	0.166	0.011	14.73
86				●			65	200	100	58	50	8	90	66	84	10	6	M16	14	270	0.107	0.012	12.82
					●															310	0.168	0.012	15.24
125				●			85	260	125	70	63	7	107	80	98	10	9	M20	17	270	0.134	0.034	17.10
					●															310	0.204	0.034	19.95
				●																270	0.141	0.039	18.20
200					●		85	260	125	70	63	7	107	80	98	10	9	M20	17	310	0.212	0.039	21.06
						●														405	0.578	0.039	30.57
280					●		105	300	145	80	72	8	121	94	112	10	9	M20	17	310	0.239	0.072	24.35
						●														405	0.606	0.072	33.87
360						●	115	340	160	85	78	7	127	100	118	10	9	M20	17	405	0.642	0.130	38.25
560						●	120	363	170	105	95	10	160	125	145	10	15	M24	19	405	0.847	0.203	51.35

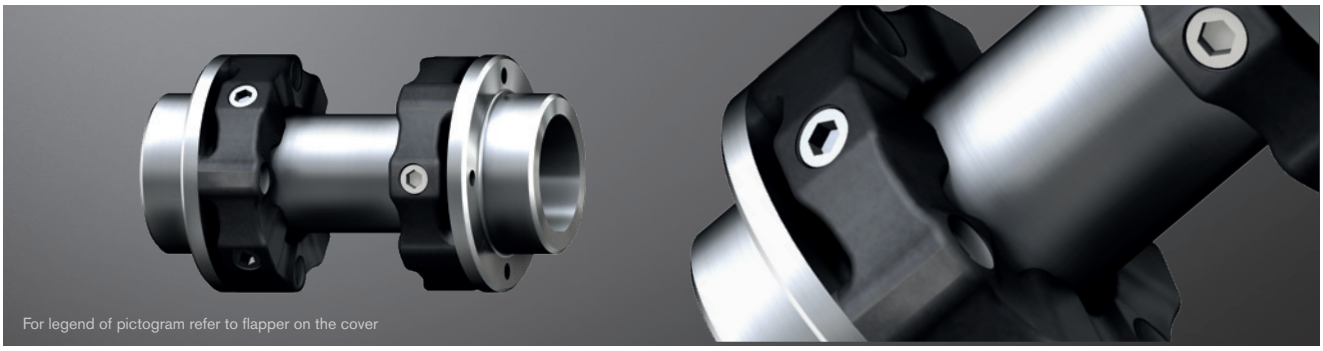
[1] With max. bore

Ordering example:

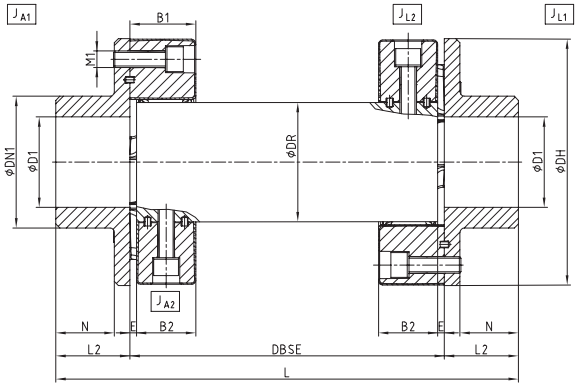
EVOLASTIC® 48	EFHP	SN	8	1.0	Ø55
Coupling size	Type	Elastomer type	Flange ØDA acc. to SAE or special	Hub type	Finish bore

EVOLASTIC® D2H
Highly flexible couplings

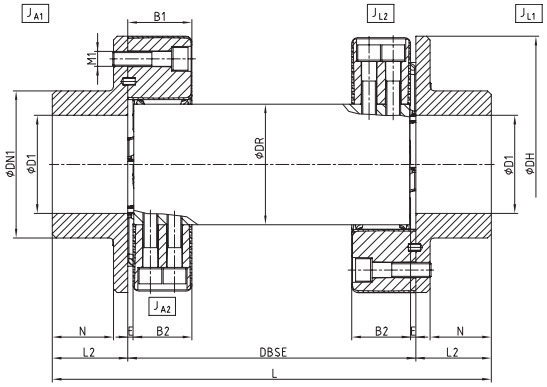
Double-cardanic shaft-to-shaft connection



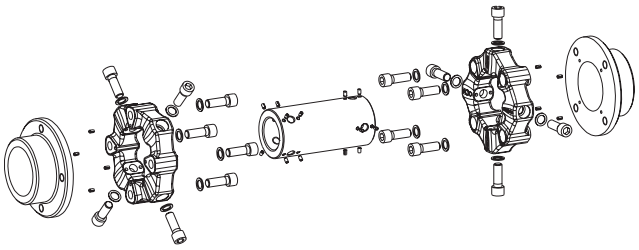




Size 12 - 280



Size 360 - 560



EVOLASTIC® type D2H												
Size	Dimensions [mm]										Mass moment of inertia [kgm²] 1)	
	Max. finish bore D1	DH	DN1	DR	B1	B2	E	L2	N	M1	J_{A1}	J_{L1}
12	55	122	80	60	32	28	4	42	32	M10	0.003	0.003
24	70	150	100	70	42	36	6	50	38	M12	0.008	0.008
32	70	150	100	70	42	36	6	50	38	M12	0.009	0.009
48	85	170	115	85	46	40	6	55	41	M14	0.016	0.016
60	100	200	140	100	58	50	8	66	50	M16	0.036	0.036
86	100	200	140	100	58	50	8	66	50	M16	0.037	0.037
125	110	260	160	125	70	63	7	80	60	M20	0.111	0.111
200	110	260	160	125	70	63	7	80	60	M20	0.116	0.116
280	110	300	160	145	80	72	8	94	70	M20	0.196	0.196
360	130	340	195	160	85	78	7	100	80	M20	0.354	0.354
560	140	370	200	170	105	95	10	125	100	M24	0.589	0.589

1) With max. bore
Dimension L and DBSE as well as total weight depend on the mounting length
Mass moments JA2 and JL2 depend on the mounting length and are available on request

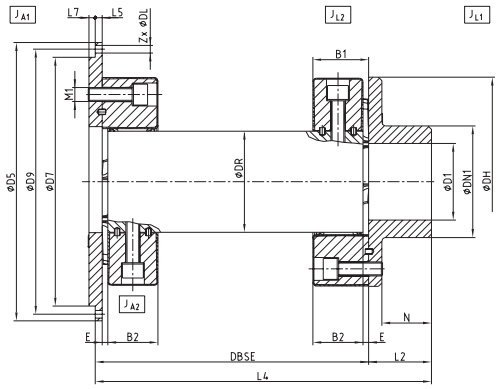
Ordering example:

EVOLASTIC® 48	D2H	140	SN	1.0	Ø52	1.0	Ø52
Coupling size	Type	Shaft distance DBSE	Elastomer type	Hub type	Finish bore	Hub type	Finish bore

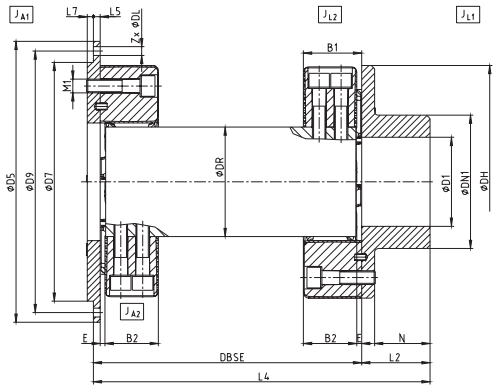
Double-cardanic flange-to-shaft connection



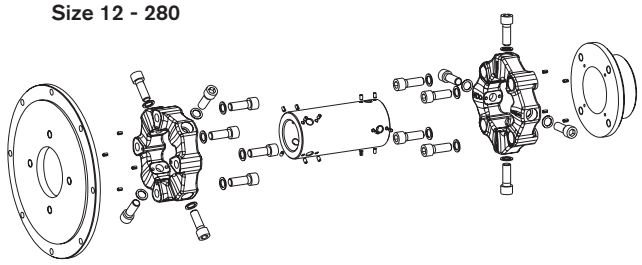




Size 12 - 280



Size 360 - 560



Flange dimensions according to SAE J620 [mm]				
Size	D5	D9	Z	DL
6 ½"	215.90	200.02	6	9
7 ½"	241.30	222.25	8	9
8"	263.52	244.47	6	11
10"	314.32	295.27	8	11
11 ½"	352.42	333.37	8	11
14"	466.72	438.15	8	13

EVOLASTIC® type DFH

Size	Flange connection acc. to SAE - J620						Dimensions [mm]											Mass moment of inertia [kgm²] [1]	
	6.5"	7.5"	8"	10"	11.5"	14"	Max. finish bore D1	DH	DN1	DR	B1	B2	E	L2	L5	L7	N	M1	D7	J_{A1}	J_{L1}
12	●						55	122	80	60	32	28	4	42	6	4	32	M10	180	0.013	0.003
		●																	190	0.020	
24	●						70	150	100	70	42	36	6	50	6	6	38	M12	180	0.016	0.008
		●																	190	0.023	
32	●						70	150	100	70	42	36	6	50	6	6	38	M12	180	0.016	0.009
		●																	190	0.023	
		●																	190	0.026	
48			●				85	170	115	85	46	40	6	55	6	8	41	M14	200	0.034	0.016
				●											10	4			260	0.091	
60				●			100	200	140	100	58	50	8	66	10	6	50	M16	270	0.103	0.036
					●														310	0.165	
86				●			100	200	140	100	58	50	8	66	10	6	50	M16	270	0.105	0.037
					●														310	0.166	
125				●			110	260	160	125	70	63	7	80	10	9	60	M20	270	0.129	0.111
					●														310	0.199	
200				●			110	260	160	125	70	63	7	80	10	9	60	M20	270	0.135	0.116
					●														310	0.205	
						●													405	0.572	
280					●		110	300	160	145	80	72	8	94	10	9	70	M20	310	0.226	0.196
						●													405	0.593	
360						●	130	340	195	160	85	78	7	100	10	9	80	M20	405	0.628	0.354
560						●	140	370	200	170	105	95	10	125	10	15	100	M24	405	0.794	0.589

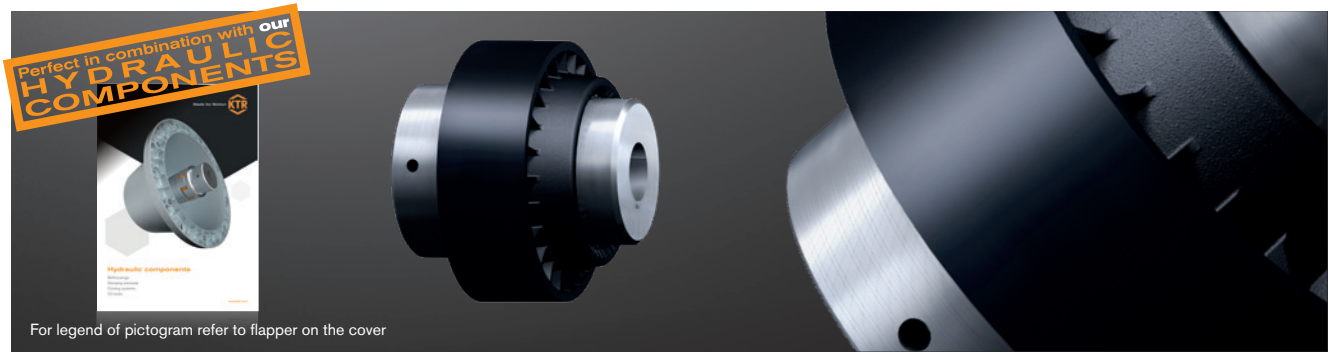
[1] With max. bore
Dimension L4 and DBSE as well as total weight depend on the mounting length
Mass moments JA2 and JL2 depend on the mounting length and are available on request

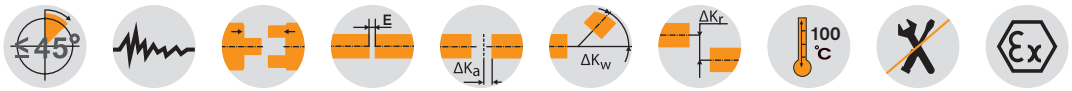
Ordering example:

EVOLASTIC® 48	DFH	140	SN	8	1.0	Ø52
Coupling size	Type	Shaft distance DBSE	Elastomer type	Flange ØDA acc. to SAE or special	Hub type	Finish bore

BoWex-ELASTIC® HEW Compact
Curved-tooth gear coupling®

Compensating for large displacements, very compact design





BoWex-ELASTIC® type HEW Compact

Size	Dimensions [mm]																	Weight with pilot bored coupling [kg]	Mass moment of inertia with pilot bored coupling [kgm²]		
	Max. finish bore		L		L1		L2	E		DA	DN	DN1	D4	D7	B1	NH	Z	M				
	D	D1	HEW1	HEW2	HEW1	HEW2		HEW1	HEW2											J_A	J_{L1}	J_{L2}
42-130	42	42	118	98	42	42	42	34	14	131	65	65	78	90	45	37	6	M6	3.4	0.003	0.001	0.001
65-180	65	60	145	122	55	55	60	30	7	180	98	85	110	130	44	47	8	M10	9.0	0.014	0.006	0.006
80-225	90	75	210	158	90	70	70	50	18	225	124	100	120	145	77	51	10	M12	18.9	0.035	0.029	0.021
100-305	100	100	258	187	110	70	90	58	17	305	152	170	175	200	90	73	16	M12	40.2	0.152	0.087	0.068
125-365	125	125	328	240	140	100	120	68	20	365	192	170	205	230	105	90	12	M16	75.0	0.360	0.260	0.192

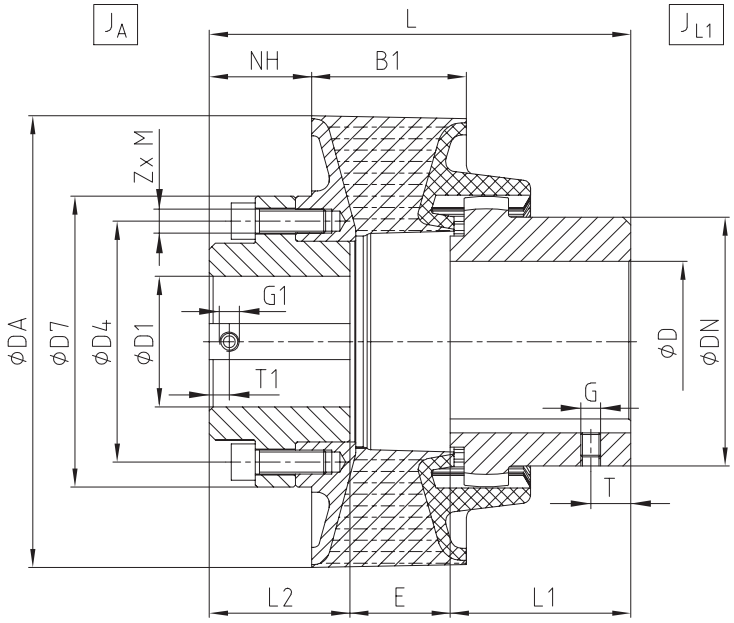
Technical data

Coupling size	Elastomer hardness [Shore A]	Torque [Nm]			Perm. speed $n_{max.}$ [rpm]	Perm. damping power P_{KW}			Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad]	Relative damping ψ	Resonance factor $V_R \approx 2 \cdot \Pi/\psi$	Radial spring stiffness C_r [N/mm]
		T_{KN}	$T_{K\,max.}$	with 10 Hz T_{KW}		60 °C	80 °C	90 °C				
	T50	200	400	50					780	0.8	7.9	178
42 HEW Compact	T65	270	540	68	7300	30	18	12	2400	1.2	5.2	600
	T70	320	640	80					2900	1.2	5.2	710
	T50	550	1100	138					2850	0.8	7.9	379
65 HEW Compact	T65	740	1500	185	5500	55	33	22	7800	1.2	5.2	955
	T70	860	1700	215					9500	1.2	5.2	1240
	T50	1250	2500	313					5000	0.8	7.9	420
80 HEW Compact	T65	1600	3200	400	4400	90	54	36	13000	1.2	5.2	1090
	T70	1900	3800	475					16500	1.2	5.2	1450
	T50	2750	5500	688					17000	0.8	7.9	760
100 HEW Compact	T65	3900	7800	975	3200	150	90	60	44000	1.2	5.2	1850
	T70	4500	9000	1125					50000	1.2	5.2	2250
	T50	5500	11000	1375					25000	0.8	7.9	750
125 HEW Compact	T65	7500	15000	1875	2900	220	132	88	62000	1.2	5.2	1930
	T70	8400	16800	2100					70000	1.2	5.2	2300

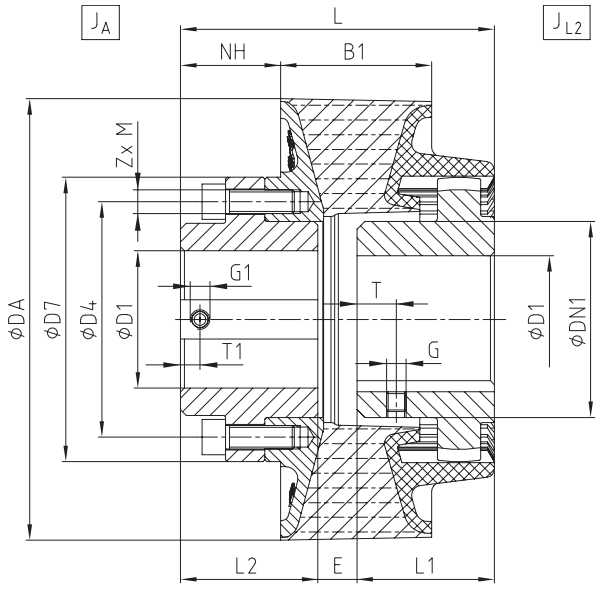
Ordering example:

BoWex® 65 HEW Compact	T50	d_1 Ø40	d_2 Ø65
Size and type of coupling	Elastomer hardness	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

BoWex-ELASTIC® HEW1 Compact



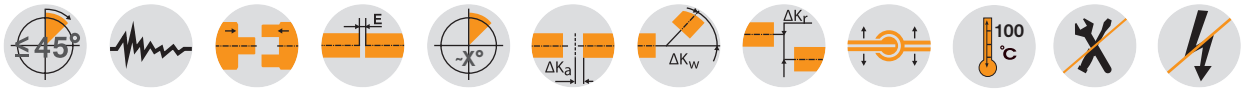
BoWex-ELASTIC® HEW2 Compact (with reduced hub)



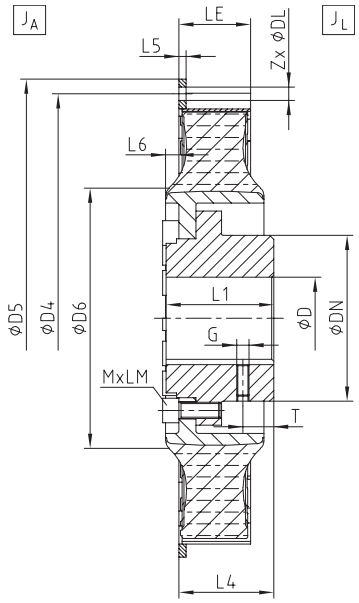
Displacements – type HEW Compact															
BoWex-ELASTIC® size	42-130			65-180			80-225			100-305			125-365		
Elastomer hardness [Shore A]	T50	T65	T70	T50	T65	T70	T50	T65	T70	T50	T65	T70	T50	T65	T70
Max. axial displacement ΔK_a [mm]	± 2			± 2			± 2			± 2			± 2		
Max. radial displacement with n=1500 rpm ΔK_r [mm]	± 1.1	± 1	± 0.5	± 1.6	± 1.5	± 0.7	± 1.8	± 1.7	± 0.8	± 2.2	± 2	± 1	± 2.5	± 2.3	± 1.1
Max. radial displacement with n=3000 rpm ΔK_r [mm]	± 0.55	± 0.5	± 0.25	± 0.8	± 0.75	± 0.35	± 0.9	± 0.85	± 0.5	± 1.1	± 1	± 0.5	± 1.25	± 1.15	± 0.55
Max. angular displacement with n=1500 rpm ΔK_w [degree]	± 1	± 0.75	± 0.5	± 1	± 0.75	± 0.5	± 1	± 0.75	± 0.4	± 1	± 0.75	± 0.5	± 1	± 0.75	± 0.5
Max. angular displacement with n=3000 rpm ΔK_w [degree]	± 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

Pluggable disk coupling with optimal tooth contact

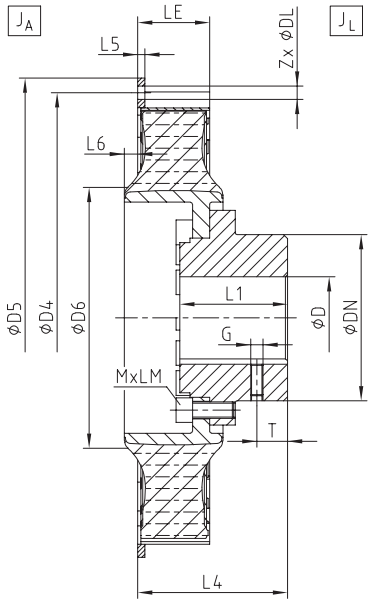




Type AK



Type AL



Types AK and AL specify the standard with variable hub connections as a short or long version

Flange dimensions according to SAE J620 [mm]				
Nominal size	D5	D4	Z	DL
11 ½"	352.42	333.37	8	11
14"	466.72	438.15	8	13
18"	571.50	542.90	6	17
21"	673.10	641.35	12	17
24"	733.42	692.15	12	21
Ø475	475	450	12	11

SINULASTIC® type AK / AL

Size	Flange connection acc. to SAE - J620						Dimensions [mm]													Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	11 ½"	14"	18"	21"	24"	Ø475	Max. finish bore D	DN	D6	LE	L1	L4 AK	L4 AL	L4 Tol. (erance)	L5	L6	MxLM	G	T	J_A	J_L	
20	●						80	112	164	65	75	90.5	127.5	+/-4.5	41.0	5.5	M12x30	M10	30	0.0947	0.0533	13.70
		●													13.6					0.1353	0.0533	14.79
28		●					115	162	244	44	90	93.5	109	+/-3	7.0	7.0	M16x40		35	0.1873	0.1667	21.89
		●																		0.2444	0.1994	25.53
38			●				115	162	244	58	100	93.5	123	+/-3	7.0	7.0	M16x40	M12	35	0.5539	0.1994	30.18
						●														0.2584	0.1994	25.79
		●																		0.2906	0.2378	29.44
53			●				115	162	247	70	105	92.5	146	+/-3	7.0	13.0	M16x40	M12	40	0.6000	0.2378	34.09
						●														0.3046	0.2378	29.70
96			●				175	248	352	84	150	129	192	+/-4	11.0	1.0	M20x50	-	-	0.7310	1.0321	63.86
				●																1.5407	1.0321	72.34
			●																	0.8367	1.1212	68.00
114				●			175	248	352	98	150	129	206	+/-4	11.0	1.0	M20x50	-	-	1.6464	1.1212	76.48
					●															2.3243	1.1212	82.05
140				●			175	248	431	94	200	200	280	+/-3.5	14.0	3.0	M20x60	-	-	1.6664	2.1577	101.52
					●															2.5280	2.1577	108.59
180				●			175	248	431	114	200	200	300	+/-3.5	14.0	3.0	M20x60	-	-	1.9539	2.4188	109.82
					●															2.8167	2.4188	116.90

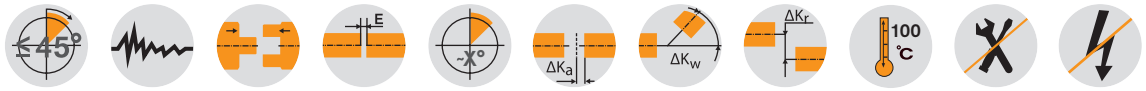
1) With max. bore

Ordering example:

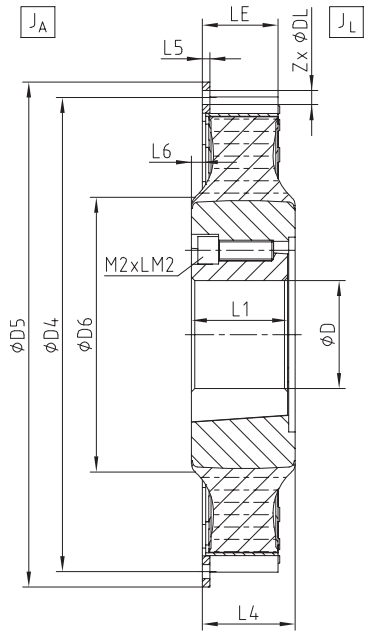
SINULASTIC® 96	AK	MN	18“	1.0	Ø150
Coupling size	Type	Elastomer type	Flange ØDA acc. to SAE or special	Hub type	Finish bore

Pluggable disk coupling with optimal tooth contact





Type T



Type T specifies the hub type as Taperlock shaft connection

Flange dimensions according to SAE J620 [mm]				
Nominal size	D5	D4	Z	DL
11 ½"	352.42	333.37	8	11
14"	466.72	438.15	8	13
18"	571.50	542.90	6	17
21"	673.10	641.35	12	17
24"	733.42	692.15	12	21
Ø475	475	450	12	11

SINULASTIC® type T

Size	Flange connection acc. to SAE - J620						Dimensions [mm]								Taper clamping sleeve		Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
							Finish bore D		D6	LE	L1	L4	L5	L6	M2xLM2	Type			
	11½"	14"	18"	21"	24"	Ø475	Pilot bored	max.									J_A	J_L	
20	●						35	90	164	60	63.5	70.5 +3.5/-4.5	41.0	5.5	1/2"x38	3525	0.0947	0.0568	13.75
		●											13.6				0.1353	0.0568	14.83
28		●					35	90	244	44	63.5	57.0 ± 3	7.0	7.0	1/2"x38	3525	0.1873	0.1919	24.37
		●															0.2444	0.2404	28.68
38			●				40	110	244	58	76.2	70.0 ± 3	7.0	7.0	5/8"x44	4030	0.5539	0.2404	33.33
						●											0.2584	0.2404	28.93
		●															0.2906	0.2993	33.72
53			●				55	125	247	70	89.0	83.0 ± 3	7.0	13.0	3/4"x50	4535	0.6000	0.2993	38.36
						●											0.3046	0.2993	33.97

1) With max. bore

Ordering example:

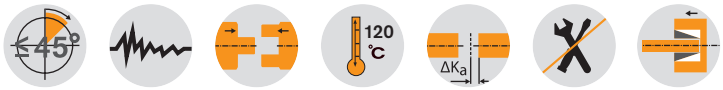
SINULASTIC® 38	T	MN	14"	TL	Ø100
Coupling size	Type	Elastomer type	Flange ØDA acc. to SAE or special	Hub type	Finish bore

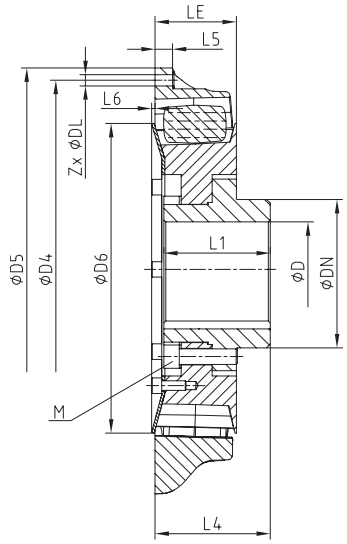
VAROLASTIC® F

highly flexible flange coupling with progressive torsion spring stiffness

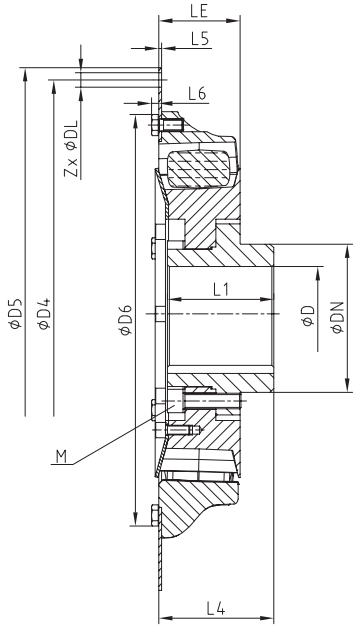
Pluggable roller coupling with optimised characteristic curve







Type A
(direct flange connection)



Type B
(adaptive flange connection)

Flange dimensions according to SAE J620 [mm]				
Nominal size	D5	D4	Z	DL
8"	263.52	244.47	6	11
10"	314.32	295.27	8	11
11 ½"	352.42	333.37	8	11
14"	466.72	438.15	8	13
18"	571.50	542.90	6	17

VAROLASTIC® type F

Size	Bore D [mm]	Type	Flange connection acc. to SAE - J620					Dimensions [mm]							Cap screws DIN EN ISO 4762		Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
			8"	10"	11 ½"	14"	18"	DN	D6	LE	L1	L4	L5	L6	M	T_A in Nm	J_A	J_L	
80	50	A	●					70	175	49	50	57	21	6.5	M8	32	0.0220	0.0100	4.84
		B		●					264				1.8				0.0330	0.0100	5.49
160	70	A		●				100	234	51	70	75	22	6.5	M12	100	0.0360	0.0730	8.88
		B			●				315				3				0.0590	0.0730	9.81
240	60	A			●			85	227	66	65	82	22	2	M12	100	0.0807	0.0377	11.23
		B				●			353				3	6.5			0.1706	0.0377	13.55
300	80	A			●			112	263	65	75	83	26	6	M12	100	0.0829	0.0648	12.80
		B				●			353				3	6.5			0.1719	0.0648	15.08
450	90	A				●		124	300	84	90	99	21.5	3.8	M16	240	0.2844	0.1544	26.96
600	110	A				●		162	338	85	110	119	19.5	3.7	M16	240	0.3022	0.2344	28.86
		B					●		460				3	7.5			0.4876	0.2344	31.91

1) With max. bore

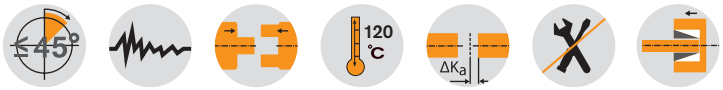
Ordering example:	VAROLASTIC® 600	F	14“	2.7	DIN 5480 - 60x2x28
	Coupling size	Type	Motor flange	Hub type	Finish bore

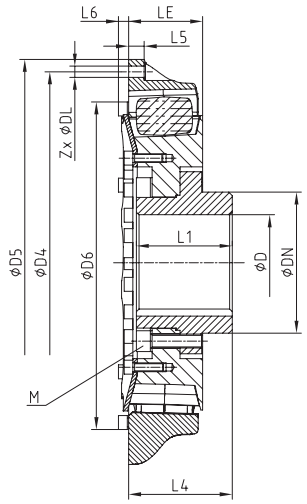
VAROLASTIC® F

highly flexible flange coupling with progressive torsion spring stiffness

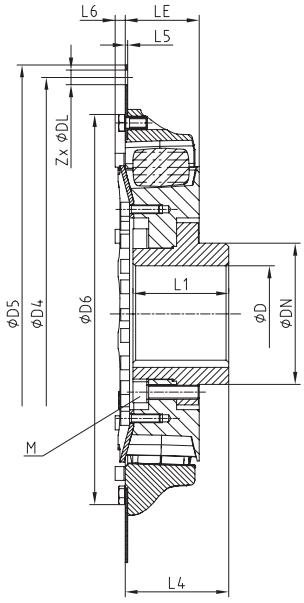
Pluggable roller coupling with optimised characteristic curve







Type C
(direct flange connection)



Type D
(adaptive flange connection)

Flange dimensions according to SAE J620 [mm]				
Nominal size	D5	D4	Z	DL
8"	263.52	244.47	6	11
10"	314.32	295.27	8	11
11 ½"	352.42	333.37	8	11
14"	466.72	438.15	8	13
18"	571.50	542.90	6	17

VAROLASTIC® type FD

Size	Bore D [mm]	Type	Flange connection acc. to SAE - J620					Dimensions [mm]							Cap screws DIN EN ISO 4762		Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
			8"	10"	11 ½"	14"	18"	DN	D6	LE	L1	L4	L5	L6	M	T_A in Nm	J_A	J_L	
80	50	C	●					70	213	49	50	57	21	9.2	M8	32	0.0223	0.0120	5.41
		D		●					264				1.8				0.0339	0.0120	6.06
160	70	C		●				100	273	51	70	75	22	9.2	M12	100	0.0370	0.0450	9.76
		D			●				314				3				0.0699	0.0450	10.69
240	60	C			●			85	271	66	65	82	22	9.5	M12	100	0.0834	0.0452	12.31
		D				●			353				3				0.1732	0.0452	14.62
300	80	C			●			112	311	65	75	83	26	11.5	M12	100	0.0875	0.0815	14.43
		D				●			353				3				0.1766	0.0815	16.71
450	90	C				●		124	351	84	90	99	21.5		M16	240	0.2896	0.1744	26.49
600	110	C				●		162	383	85	110	119	19.5	3.7	M16	240	0.3095	0.2781	31.27
		D					●		460				3	7.5			0.4949	0.2781	34.32

1) With max. bore

Ordering example:	VAROLASTIC® 300	FD	11.5“	1.0	Ø60
	Coupling size	Type	Motor flange	Hub type	Finish bore

Spiders

The flexible spiders for the GS series are available in seven different kinds of Shore hardness, injected in different colours, either as a torsionally soft or hard material. These five spiders with different kinds of Shore hardness allow to easily adjust the ROTEX® GS to the individual conditions of an application considering the torsional spring stiffness and the vibration characteristics. The flexible prestress varies depending on the coupling size, the spiders/materials and the production tolerances. Resulting from it is the axial plug-in force starting from low as a close sliding fit resp. with torsionally soft spider to heavy with big prestress resp. torsionally rigid spider (see operating/assembly instruction KTR-N 45510 at www.ktr.com).
Along with an increasing hardness of the spider the torques to be transmitted and the stiffness of the spider increase, too. Along with reduced hardness of the spider, the ability of compensating for displacements and damping of the spider increases.

Properties of ROTEX® GS spiders

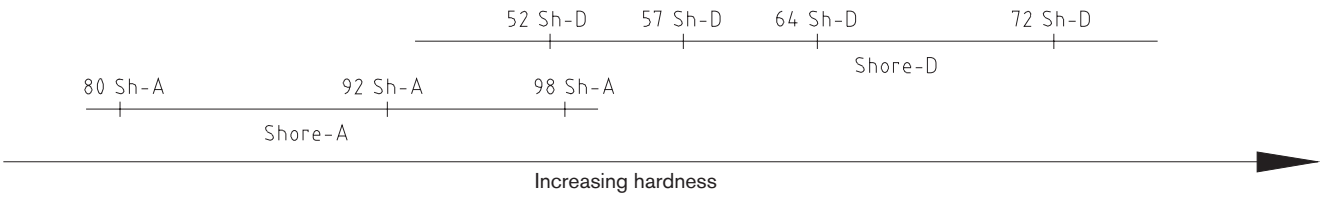
Description of spider hardness [Shore]	Marking of colour	Material	Perm. temperature range [°C]		Available for coupling size	Typical applications
			Permanent temperature [1]	Max. temperature (short-time) [1]		
80 ShA-GS		Polyurethane	-50 to +80	-60 to +120	Size 5 to 19	– drives of electrical measuring systems
92 ShA-GS		Polyurethane	-40 to +90	-50 to +120	Size 5 to 38	– drives of electrical measuring and control systems – Main spindle drives
98 ShA-GS		Polyurethane	-30 to +90	-40 to +120	Size 5 to 90	– Positioning drives – Main spindle drives – high load
52 ShD-S-GS [2]		Polyurethane	-40 to +120	-50 to +150	Size 24 to 42	– Positioning drives with increased temperature – 40 % of torque benefit from 60 ° C – Permanently pressure-resistant up to 120 °C
57 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 19 to 65	– Positioning drives – Main spindle drives – high load
61 ShD-E-GS [2]		Polyurethane	-30 to +90	-40 to +120	Size 19 to 90	– Electroconductive
64 ShD-H-GS 64 ShD-GS		Hytrel	-50 to +120	-60 to +150	Size 7 to 38	– planetary gears/backlash-free gears – higher torsion spring stiffness
		Polyurethane	-20 to +110	-30 to +120	Size 42 to 90	– higher load – higher torsion spring stiffness
72 ShD-H-GS 72 ShD-GS		Hytrel	-50 to +120	-60 to +150	Size 24 to 38	– very high torsion spring stiffness – very high load
		Polyurethane	-20 to +110	-30 to +120	Size 42 to 90	– very high torsion spring stiffness – very high load

Properties of ROTEX® GS HP tooth elements

Description of spider hardness [Shore]	Marking of colour	Material	Perm. temperature range [°C]		Available for coupling size	Typical applications
			Permanent temperature	Max. temperature (short-time)		
98 ShA-GS 52 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 24 to 65 (for ROTEX® GS HP only)	– HSC main spindle drives – test benches with severely high speeds
65 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 24 to 65 (for ROTEX® GS HP only)	– HSC main spindle drives – test benches with severely high speeds – higher load – higher torsion spring stiffness

[1] The temperature factors specified on page 23 must be considered.
[2] Torques and displacements same as with 98 ShA-GS spider

Hardness level



Spider material	Polyurethane					Hytrel
Hardness level	92 Shore A	98 Shore A	52 Shore D	57 Shore D	64 Shore D	64 Shore D
Relative damping ψ [-] [1]	0.80	0.80	0.75	0.75	0.75	0.60
Resonance factor V_R [-] [1]	7.90	7.90	8.50	8.50	8.50	10.5

[1] Special figures apply for ROTEX® GS HP, please contact us.

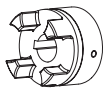
Technical data

Size	Spider GS Shore hardness	Shore scale	Max. speed [rpm] for type						Torque [Nm]		Static torsion spring stiffness [1] [Nm/rad]	Dynamic torsion spring stiffness [1] [Nm/rad]	Radial spring stiffness C_r [N/mm]	Weight [kg]		Mass moment of inertia J [kgm²]	
			2.0 / 2.1 2.5 / 2.6	2.8 2.9	1.0 1.1	6.0 light [2]	6.0 P [2]	DKM	T_{KN}	$T_{K\,max}$				Per hub [5]	Spider	Per hub [5]	Spider
	80	A							0.3	0.6	3.15	10	82				
5	92	A	38000	38000	47700			57300	0.5	1.0	5.16	16	154	0.001	0.2 x 10^{-3}	0.015 x 10^{-6}	0.002 x 10^{-6}
	98	A							0.9	1.7	8.3	25	296				
	80	A							0.7	1.4	8.6	26	114				
7	92	A	27000	27000	34100			40900	1.2	2.4	14.3	43	219	0.003	0.7 x 10^{-3}	0.085 x 10^{-6}	0.01 x 10^{-6}
	98	A							2.0	4.0	22.9	69	421				
	64	D							2.4	4.8	34.3	103	630				
	80	A							0.7	1.4	8.8	27	117				
8	98	A		23800					2.0	4.0	23.5	71	433	0.003	0.5 x 10^{-3}	0.117 x 10^{-6}	0.0124 x 10^{-6}
	64	D							2.4	4.8	35.3	106	648				
	80	A							1.8	3.6	17.2	52	125				
	92	A							3.0	6.0	31.5	95	262				
9	98	A	19000	19000	23800			28600	5.0	10.0	51.6	155	518	0.01	1.7 x 10^{-3}	0.48 x 10^{-6}	0.085 x 10^{-6}
	64	D							6.0	12.0	74.6	224	739				
	80	A							3.0	6.0	84.3	252	274				
	92	A							5.0	10.0	160.4	482	470				
12	98	A	15200	15200	19100			22900	9.0	18.0	240.7	718	846	0.02	2.3 x 10^{-3}	1.5 x 10^{-6}	0.139 x 10^{-6}
	64	D							12.0	24.0	327.9	982	1198				
	80	A							3.6	7.2	111	330	359				
13	98	A		12700		38200			11.0	22.0	316	941	1109	0.01	2.0 x 10^{-3}	1.1 x 10^{-6}	0.155 x 10^{-6}
	64	D							14.5	29.0	430	1287	1570				
	80	A							4.0	8.0	60.2	180	153				
	92	A							7.5	15.0	114.6	344	336				
14	98	A	12700	12700	15900	32000	47700	19100	12.5	25.0	171.9	513	654	0.02	4.7 x 10^{-3}	2.8 x 10^{-6}	0.509 x 10^{-6}
	64	D							16.0	32.0	234.2	702	856				
	80	A							5.0	10.0	157	471	400				
16	98	A		12000					15.0	30.0	450	1341	1710	0.02	3.6 x 10^{-3}	2.8 x 10^{-6}	0.435 x 10^{-6}
	64	D							19.0	38.0	612	1835	2238				
	80	A							6.0	12.0	618	1065	582				
	92	A							12.0	24.0	1090	1815	1120				
19	98	A	9550	9550	11900	24000 19000 [4]	35800	14300	21.0	42.0	1512	2540	2010	0.09	7.6 x 10^{-3}	19.5 x 10^{-6}	1.35 x 10^{-6}
	57	D							23.0	46.0	2036	3175	2470				
	64	D							26.0	52.0	2560	3810	2930				
	92	A							35	70	2280	4010	1480				
	98	A							60	120	3640	5980	2560				
	52	D				17000			60	120	3640	5980	2560			81.9	6.7
24	57	D	6950	10400	8650	14000 [4]	26000	10400	68	136	4335	8438	3128	0.2	0.02	x 10^{-6}	x 10^{-6}
	64	D							75	150	5030	10896	3696				
	72 [3]	D							97	194	9944	17095	5799				
	92	A							95	190	4080	6745	1780				
	98	A							160	320	6410	9920	3200				
	52	D				15000			160	320	6410	9920	3200			184.2	14.85
28	57	D	5850	8800	7350	12000 [4]	22000	8800	180	360	8335	15050	3775	0.3	0.03	x 10^{-6}	x 10^{-6}
	64	D							200	400	10260	20177	4348				
	72 [3]	D							260	520	21526	36547	7876				
	92	A							190	380	6525	11050	2350				
	98	A							325	650	11800	17160	4400				
	52	D				12000			325	650	11800	17160	4400			542.7	39.4
38	57	D	4750	7150	5950	9600 [4]	17900	7150	365	730	19050	28745	5437	0.6	0.05	x 10^{-6}	x 10^{-6}
	64	D							405	810	26300	40335	6474				
	72 [3]	D							525	1050	44584	71180	11425				
	98	A							450	900	21594	37692	5570				
	52	D				10000			450	900	21594	37692	5570			2802	85
42	57	D	4000		5000	8050 [4]	15000	6000	495	990	29225	53760	6420	2.4	0.08	x 10^{-6}	x 10^{-6}
	64	D							560	1120	36860	69825	7270				
	72 [3]	D							728	1456	58600	93800	9766				
	98	A							525	1050	25759	45620	5930				
	57	D				9100			590	1180	41695	72685	7102			4709	135
48	64	D	3600		4550	7200 [4]	13600	5450	655	1310	57630	99750	8274	3.3	0.09	x 10^{-6}	x 10^{-6}
	72 [3]	D							852	1704	80000	136948	11359				
	98	A							685	1370	42117	61550	6686				
55	57	D	3150		3950	6350 [4]	11900	4750	770	1540	68175	98065	8005	5.1	0.12	9460	229
	64	D							825	1650	105730	130200	9248			x 10^{-6}	x 10^{-6}
	72 [3]	D							1072	2144	150000	209530	12762				
	98	A							940	1880	48520	71660	6418				
65	57	D	2800		3500	5650 [4]	11000		1055	2110	78535	114175	7685	6.7	0.2	15143	437
	64	D							1175	2350	118510	189189	8870			x 10^{-6}	x 10^{-6}
	72 [3]	D							1527	3054	160000	310000	11826				
	98	A							1920	3840	79150	150450	8650				
75	64	D	2350		2950	4750 [4]	8950		2400	4800	182320	316377	11923	10.5	0.3	32750	1179
	72 [3]	D							3120	6240	360540	586429	16454			x 10^{-6}	x 10^{-6}
	98	A							3600	7200	204500	302900	10700				
90	64	D	1900		2380	3800 [4]	7150		4500	9000	429450	908700	14700	18.2	0.6	87099 x 10^{-6}	3362 x 10^{-6}
	72 [3]	D							5850	11700	847440	1308852	20290				

[1] Static and dynamic torsion spring stiffness with 0.5 x T_{KN}
[2] For higher speeds see ROTEX® GS HP
[3] When using 64ShD-GS or 72ShD-GS we recommend to use hubs made of steel.
[4] Clamping ring hubs 6.0 made of steel
[5] Hubs with an average bore type 1.0
The coupling must be dimensioned in that the permissible coupling load is not exceeded during any operating condition (see coupling selection on page 22 et seqq.).
The specified torques T_{KN}/$T_{K\,max}$ refer to the spider. The shaft-hub-connection needs to be verified by the customer.

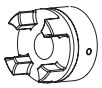
Types of hubs

Due to the numerous applications of ROTEX® GS for many different mounting situations, this coupling system is available with various hub types. The different hub types can be randomly combined within one size.



Type 1.0
with feather keyway and setscrew

Positive-locking power transmission, permissible torque depending on the permissible surface pressure. Not suitable for backlash-free power transmission with heavily reversing operation.
(see page 128)



Type 1.1
without feather keyway, with setscrew

Non-positive torque transmission. Suitable for backlash-free transmission of very low torques.
(For ATEX cat. 3 only) (page 128)



Type 2.0 clamping hub
single slot without feather keyway

Frictionally engaged, backlash-free shaft-hub-connection. Transmittable torques depending on bore diameter. Type 2.0 up to size 14 as standard.
(For ATEX cat. 3 only) (see page 129)



Type 2.1 clamping hub
single slot with feather keyway

Positive-locking power transmission with additional friction fit. The friction fit avoids resp. reduces reverse backlash. Surface pressure of the keyway connection is reduced. Type 2.1 up to size 14 as standard.
(see page 129)



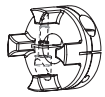
Type 2.5 clamping hub
double slotted, without feather keyway

Frictionally engaged, backlash-free shaft-hub-connection. Transmittable torques depending on bore diameter. Type 2.5 from size 19 as standard.
(For ATEX cat. 3 only) (see page 129)



Type 2.6 clamping hub
double slotted, with feather keyway

Positive-locking power transmission with additional friction fit. The friction fit avoids resp. reduces reverse backlash. Surface pressure of the keyway connection is reduced. Type 2.6 from size 19 as standard.
(see page 129)



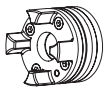
Type 2.8 compact type clamping hub C
with axial slot, without feather keyway

Frictionally engaged, backlash-free shaft-hub-connection, good properties of concentric running. Transmittable torques depending on bore diameter. Type 2.8 from size 24 as standard; size 7 - 19 type 2.8 single slotted.
(For ATEX cat. 3 only) (see page 130)



Type 2.9 compact type clamping hub C
with axial slot, with feather keyway

Positive-locking power transmission with additional friction fit. Surface pressure of the keyway connection is reduced. Type 2.9 from size 24 as standard;
size 7 - 19 type 2.9 single slotted. (see page 130)



Type 6.0 clamping ring hub

Integrated frictionally engaged shaft-hub-connection for the transmission of higher torques. Screwing on elastomer side. For details about torque and dimensions see page 132/133 and HP page 136. Suitable for high speeds. (see page 132)



Type 6.0 precision clamping ring hub

Operating principle equal to type 6.0, but highly accurate machining with slight modifications of design. (see page 134).



Type 7.5 clamping hub type DH
without feather keyway for double-cardanic connections

Frictionally engaged, backlash-free shaft-hub-connection for radial assembly of coupling. Transmittable torques depending on bore diameter. For details of torque (see page 142).



Type 7.6 clamping hub type DH
with feather keyway for double-cardanic connections

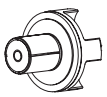
Positive-locking shaft-hub-connection with additional friction fit for radial assembly of coupling. The friction fit avoids resp. reduces reverse backlash. Surface pressure of the keyway connection is reduced.
(see page 142)



Type 7.8 clamping hub type H
without feather keyway for single-cardanic connection
Frictionally engaged shaft-hub-connection
for radial assembly of coupling
(see page 140)



Type 7.9 clamping hub type H
with feather keyway for single-cardanic connection
Positive-locking shaft-hub-connection
for radial assembly of coupling (see page 140)



Type 9.0 expansion hub

Frictionally engaged connection for hollow shaft. Transmittable torques depend on bore diameter and hollow shaft.
(see page 139)

Special designs on request of customers



Type 6.5 clamping ring hub

Design equal to 6.0, but only clamping screws externally. For instance for radial disassembly of intermediate pipe (special design).

Stock programme

Finish bore [mm] according to ISO fit H7 / feather keyway with thread according to DIN 6885 sheet 1 - JS9																																		
Size	Hub type	un/pilot bored	Ø2	Ø3	Ø4	Ø5	Ø6	Ø 6.35	Ø7	Ø8	Ø9	Ø9.5	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø17	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45
	1.1	●			●	●	●																											
7	2.0	●		●	●	●	●	●	●																									
	2.8	●				●	●																											
8	2.8	●					●			●																								
	1.0	●					●			●	●		●																					
	1.1	●			●	●	●		●	●			●																					
9	2.0	●		●	●	●	●	●	●	●	●		●	●	●																			
	2.1	●					●			●	●		●																					
	2.8	●				●	●			●	●																							
	1.0	●											●		●																			
	1.1	●																																
12	2.0	●			●	●	●	●		●	●		●	●	●	●																	
	2.1	●								●			●		●																			
	2.8	●					●			●			●	●																				
13	2.8	●								●	●		●	●	●																			
	1.0	●					●			●	●		●	●	●	●	●	●																
	1.1	●					●			●			●	●	●	●	●																	
	2.0	●			●	●	●	●	●	●	●	●	●	●	●	●	●	●																
14	2.1	●					●			●	●		●	●	●	●	●	●																
	2.8	●					●			●	●		●	●	●	●		●																
	6.0 light									●	●		●	●	●	●																		
	6.0 P															●																		
16	2.8	●								●	●		●		●	●		●																
	1.0	●									●		●	●	●	●	●	●		●	●	●	●	●										
	2.5	●				■				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										
	2.6	●								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										
	2.8	●								●	●		●	●	●	●	●	●	●	●	●	●		●										
19	2.9												●		●	●	●	●	●	●	●	●												
	6.0 light												●	●	●	●	●	●		●	●	●												
	6.0 steel															●	●	●			●	●												
	6.0 P																				●													
	1.0	●													●	●	●	●		●	●	●	●	●	●	●							
	2.5	●								■					●	●	●	●	●	●	●	●	●	●	●	●	●						
	2.6	●													●	●	●	●	●	●	●	●	●	●	●	●							
	2.8															●	●	●		●	●	●	●	●	●		●						
24	2.9															●	●	●		●	●	●		●	●								
	6.0 light																●	●		●	●	●	●	●	●	●							
	6.0 steel																	●		●	●	●	●	●	●	●							
	6.0 P50																							●									
	6.0 P																								●								
	1.0	●																			●	●	●	●	●	●	●	●	●	●			
	2.5	●											■					●		●	●	●	●	●	●	●	●	●	●				
	2.6	●																●		●	●	●	●	●	●	●	●	●	●				
28	2.8																	●			●	●	●	●	●	●	●	●					
	6.0 light																	●		●	●	●	●	●	●	●	●	●	●				
	6.0 steel																					●	●	●	●	●	●	●	●				
	6.0 P																												●				
	1.0	●																				●			●	●	●	●	●	●	●	●	
	2.5	●													■										●		●	●	●	●	●	●	●	
	2.6	●																				●	●		●	●	●	●	●	●			
38	2.8																								●	●	●	●	●	●			
	2.9																								●		●						
	6.0 light																					●	●	●	●	●	●	●	●	●	●	●	●
	6.0 steel																							●	●	●	●	●	●	●	●	●	●
	6.0 P																											●		●	●		

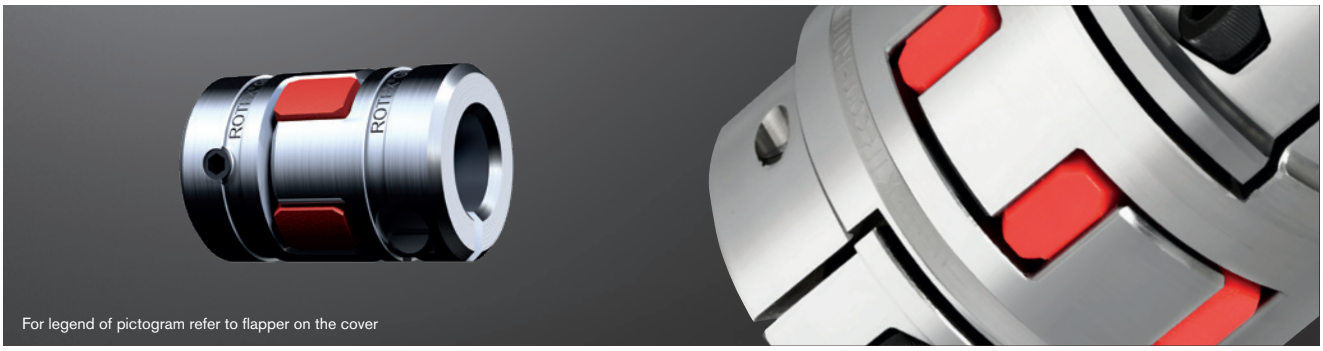
Taper bores for Fanuc motors:
GS 19 1:10 Ø11
GS 24 1:10 Ø16
[1] Type 2.0/2.1

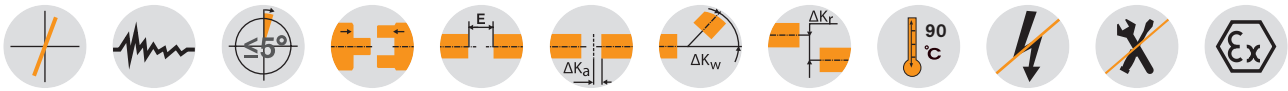
Finish bores [mm]																	
Size	Hub type	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø80
42	6.0 light	●		●	●	●		●								
	6.0 steel	●	●	●	●	●	●	●	●	●	●					
48	6.0 steel			●	●	●	●	●	●	●	●	●				
55	6.0 steel					●	●	●	●	●	●	●	●			
65	6.0 steel						●	●	●	●	●	●	●	●		
75	6.0 steel										●	●	●		●	●
90	6.0 steel	Bores on request														

■ = Pilot bored clamping hubs
● = Standard bore from stock
Unbored hubs up to size 65 available from stock
Other dimensions on request

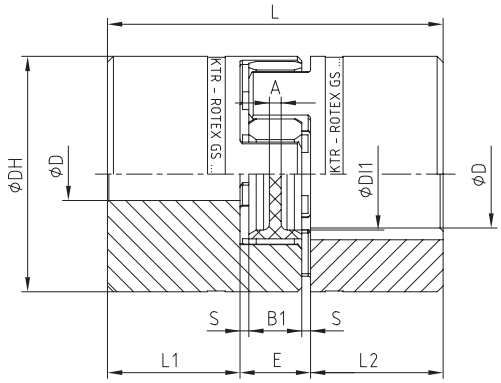
ROTEX® GS
Backlash-free jaw couplings

Standard types

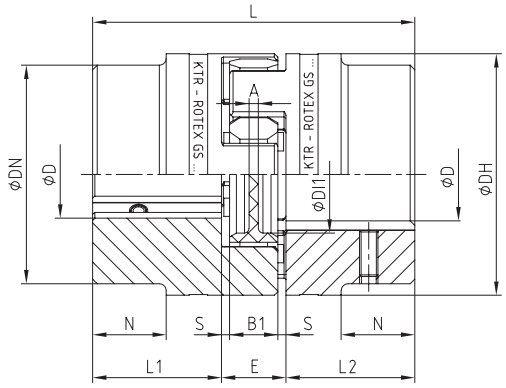




ROTEX® GS 5 - 38

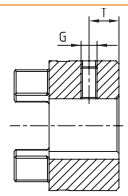


ROTEX® GS 42 - 90



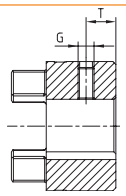
Types of hubs:

Type 1.0



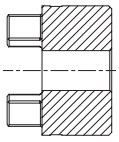
with feather keyway and setscrew

Type 1.1



without feather keyway, with setscrew

Type 1.2



without feather keyway and without setscrew

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

Size	Spider GS [1] torque T_{KN} [Nm]			$D_{max.}$ for hub type			Dimensions [mm]										Setscrew DIN EN ISO 4029		
	98 ShA	57 ShD	64 ShD	1.0	1.1	1.2	DN	DH	DI1	L	L1, L2	M, N	E	B1	S	A	G	T	TA [Nm]
5	0.9	–	–	–	6	6	–	10	–	15	5	–	5	4	0.5	4.0	M2	2.5	0.35
7	2.0	–	2.4	7	7	7	–	14	–	22	7	–	8	6	1.0	6.0	M3	3.5	0.6
9	5.0	–	6	10	11	11	–	20	7.2	30	10	–	10	8	1.0	1.5	M4	5.0	1.5
12	9.0	–	12	12	12	12	–	25	8.5	34	11	–	12	10	1.0	3.5	M4	5.0	1.5
14	12.5	–	16	16	16	16	–	30	10.5	35	11	–	13	10	1.5	2.0	M4	5.0	1.5
19	21	23	26	24	–	–	–	40	18	66	25	–	16	12	2.0	3.0	M5	10	2.0
24	60	68	75	32	–	–	–	55	27	78	30	–	18	14	2.0	3.0	M5	10	2.0
28	160	180	200	38	–	–	–	65	30	90	35	–	20	15	2.5	4.0	M8	15	10
38	325	365	405	45	–	–	–	80	38	114	45	–	24	18	3.0	4.0	M8	15	10
42	450	495	560	55	–	–	85	95	46	126	50	28	26	20	3.0	4.0	M8	20	10
48	525	590	655	62	–	–	95	105	51	140	56	32	28	21	3.5	4.0	M8	20	10
55	685	770	825	74	–	–	110	120	60	160	65	37	30	22	4.0	4.5	M10	20	17
65	940	1055	1175	80	–	–	115	135	68	185	75	47	35	26	4.5	4.5	M10	20	17
75	1920	–	2400	95	–	–	135	160	80	210	85	53	40	30	5.0	5.0	M10	25	17
90	3600	–	4500	110	–	–	160	200	104	245	100	62	45	34	5.5	6.5	M12	30	40

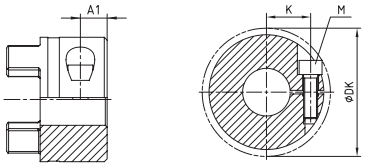
[1] For selections see page 22 et seqq./other spiders see page 127.

Ordering example:

ROTEX® GS 24	98 ShA-GS	Ø20	2.5 - Ø24		1.0 - Ø20	
Coupling size	Spider hardness	**Optional:** Bore in spider	Hub type	Finish bore	Hub type	Finish bore

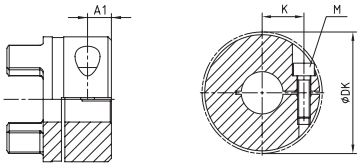
Types of hubs:

Type 2.0
Type 2.1



Size 5 to 14
Type 2.0: single slotted clamping hub **without** feather keyway (only for ATEX cat. 3), torque depending on bore Ø
Type 2.1: single slotted clamping hub **with** feather keyway

Type 2.5
Type 2.6



from size 19
Type 2.5: double slotted clamping hub **without** feather keyway (only for ATEX cat. 3), torque depending on bore Ø
Type 2.6: double slotted clamping hub **with** feather keyway

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

Size	Spider GS [1] torque T_{KN} [Nm] for 98 ShA			$D_{max.}$ for hub type				Dimensions [mm]										Clamping screws DIN EN ISO 4762 (ROTEX® GS 5 - DIN EN ISO 1207)				
	98 ShA	57 ShD	64 ShD	2.0	2.1	2.5	2.6	DN	DH	DI1	L	L1, L2	M, N	E	B1	S	A	M	A1	K	DK	TA [Nm]
5	0.9	–	–	5	–	–	–	–	10	–	15	5	–	5	4	0.5	4.0	M 1.2	2.5	3.5	11.4	– [2]
7	2	–	2.4	7	7	–	–	–	14	–	22	7	–	8	6	1.0	6.0	M2	3.5	5.0	16.5	0.37
9	5	–	6	11	11	–	–	–	20	7.2	30	10	–	10	8	1.0	1.5	M 2.5	5.0	7.5	23.4	0.76
12	9	–	12	12	12	–	–	–	25	8.5	34	11	–	12	10	1.0	3.5	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	M3	5.0	11.5	32.2	1.34
19	21	23	26	–	–	24	24	–	40	18	66	25	–	16	12	2.0	3.0	M6	11.0	14.5	46	10
24	60	68	75	–	–	28	28	–	55	27	78	30	–	18	14	2.0	3.0	M6	10.5	20.0	57.5	10
28	160	180	200	–	–	38	38	–	65	30	90	35	–	20	15	2.5	4.0	M8	11.5	25.0	73	25
38	325	365	405	–	–	45	45	–	80	38	114	45	–	24	18	3.0	4.0	M8	15.5	30.0	83.5	25
42	450	495	560	–	–	50	48	85	95	46	126	50	28	26	20	3.0	4.0	M10	18	32.0	93.5	69
48	525	590	655	–	–	55	55	95	105	51	140	56	32	28	21	3.5	4.0	M12	21	36.0	105	120
55	685	770	825	–	–	70	70 [3]	110	120	60	160	65	37	30	22	4.0	4.5	M12	26	42.5	119.5	120
65	940	1055	1175	–	–	75	75 [3]	115	135	68	185	75	47	35	26	4.5	4.5	M12	33	45.0	124	120
75	1920	–	2400	–	–	85	85	135	160	80	210	85	53	40	30	5.0	5.0	M16	36	51.0	147.5	295
90	3600	–	4500	–	–	90	90	160	200	104	245	100	62	45	34	5.5	6.5	M20	40	60.0	176	580

[1] For selections see page 22 et seqq./other spiders see page 121.
[2] No T_A defined (slotted screw)
[3] From Ø60 keyway opposite the clamping screw

ROTEX® GS clamping hubs made of stainless steel - hub material 1.4404/clamping screws A4-80

Size	Dmax. for hub type		Dimensions [mm]						Clamping screws DIN EN ISO 4762				
	2.5	2.6	DH	L	L1, L2	E	B1	S	M	A1	K	DK	TA [Nm]
19	20	20	40	66	25	16	12	2	M6	11	14.5	46	8
24	28	28	55	78	30	18	14	2	M6	10.5	20	57.5	8
28	38	38	65	90	35	20	15	2.5	M8	11.5	25	73	19
38	45	45	80	114	45	24	18	3	M8	15.5	30	83.5	19

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.0

Size	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16
7	0.7	0.9	1.1	1.2	1.4									
9		1.6	1.9	2.2	2.6	2.9	3.2	3.5	3.8					
12		2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.8	6.3				
14			3.1	3.6	4.2	4.7	5.2	5.7	6.2	6.7	7.1	7.6	8.0	8.5

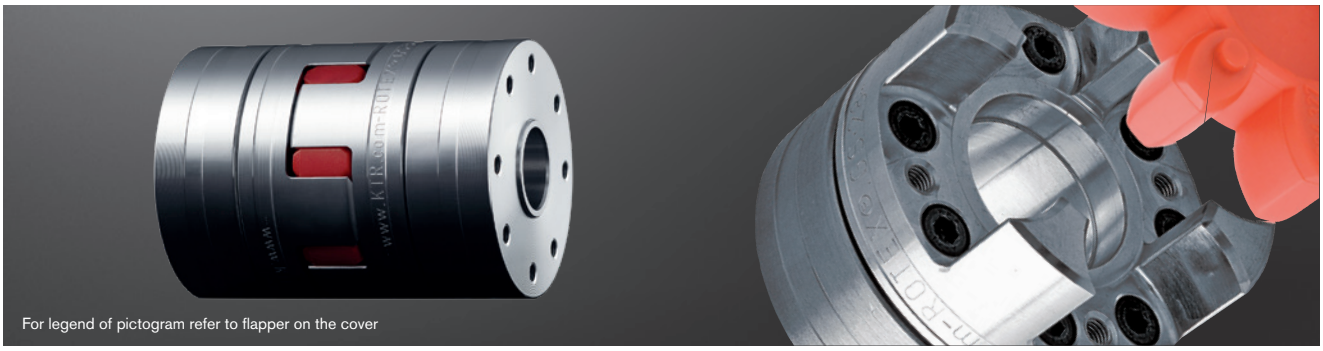
Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.5

Size	Ø8	Ø10	Ø11	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80	Ø85	Ø90
19	19	23	25	31	33	35	39	41	42	46 [4]	49 [4]																			
24		24	26	33	35	37	41	43	45	48	52	54	59																	
28				63	67	71	79	82	86	94	101	105	115	122	129	139	148													
38					67	71	79	83	87	95	102	106	117	124	131	142	152	158	165	175										
42								188	197	214	231	240	264	281	297	320	343	358	373	395	417	431								
48												356	394	418	442	478	513	536	558	592	624	646	699							
55															456	493	529	553	577	611	646	668	724	778	830	882				
65																499	536	560	584	620	655	677	734	789	842	895	946			
75																			1107	1175	1242	1287	1396	1503	1607	1709	1810	1908	2005	
90																			1764	1876	1985	2057	2235	2409	2579	2746	2911	3072	3231	3387

[4] Clamping hub single slotted with 2-off clamping screws M4 and dimension K = 15, T_A = 2.9 Nm

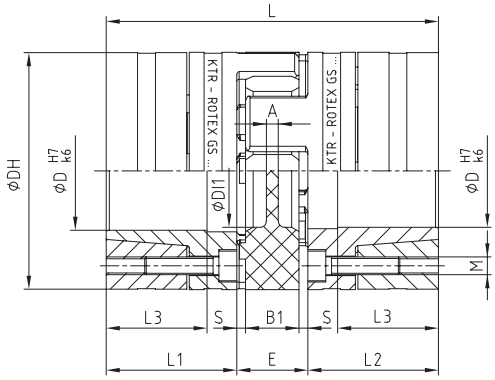
ROTEX® GS Clamping ring hubs light
Backlash-free jaw couplings

Integrated clamping system made of aluminium



Extraction thread M between clamping screws.

Clamping ring hub light with block mounting
(hub and clamping ring mounted as a block)



ROTEX® GS clamping ring hubs light

Size	Spider GS [1] torque T_{KN} [Nm]			Dimensions [mm]										Clamping screws DIN EN ISO 4762			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kgm²]
	98 ShA	57 ShD	64 ShD	D_{max}	DH [2]	DI1	L	L1, L2	L3	E	B1	S	A	M	Z = number	T_A [Nm]		
13	11	-	14.5	13	25	10	34	12	9	10	8	1	-	M2	6	0.37	0.014	1.39×10^{-6}
14	12.5	-	16.0	14	30	10.5	50	18.5	13.5	13	10	1.5	2.0	M3	4	1.34	0.032	0.04×10^{-4}
19	21	23	26	20	40	18	66	25	18	16	12	2.0	3.0	M4	6	3	0.077	0.19×10^{-4}
24	60	68	75	32	55	27	78	30	22	18	14	2.0	3.0	M5	4	6	0.162	0.78×10^{-4}
28	160	180	200	38	65	30	90	35	27	20	15	2.5	4.0	M5	8	6	0.240	1.70×10^{-4}
38	325	365	405	48	80	38	114	45	35	24	18	3.0	4.0	M6	8	10	0.490	5.17×10^{-4}
42	450	495	560	51	95	46	126	50	35	26	20	3.0	4.0	M8	4	25	0.772	11.17×10^{-4}
48	525	590	655	55	105	51	140	56	41	28	21	3.5	4.0	M10	4	49	1.066	18.81×10^{-4}

[1] For selections see page 22 et seqq./other spiders see page 121.
[2] ØDH + 2 mm with high speeds for expansion of spider

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 6.0 light

Size		Ø3	Ø4	Ø5	Ø6	Ø8	Ø9	Ø10	Ø11	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*
13	H7/k6	1.3 [3]	2.3 [3]	4.3 [3]	5.4 [3]	10 [3]	6.3	8.9	10.6																		
	H7/h6						2.4	4.8	5.4																		
14	H7/k6				8.2	13.1	18.7	20.5	25.9	36.2																	
	H7/h6				5.8	9.5	15.7	16.6	21.6	24.7																	
19	H7/k6							33	41	59	71	51	80	92													
	H7/h6							27	35	52	65	39	68	81													
24	H7/k6									84	99	93	139	157	160	177	232	177 [4]									
	H7/h6									75	92	79	125	145	119	136	190	147 [4]									
28	H7/k6											140	207	188	289	316	355	414	324	404	422						
	H7/h6											121	187	157	263	293	318	381	245	324	343						
38	H7/k6													290	439	480	567	656	617	759	733	825	922	808	937		
	H7/h6													247	403	447	530	626	499	636	606	696	792	678	809		
42	H7/k6																651	752	747	916	1001	1115	1044	1218	1404	1432	
	H7/h6																574	681	613	774	881	1001	888	1058	1241	1295	
48	H7/k6																765	822	927	1121	1220	1357	1318	1536	1768	1535	1823
	H7/h6																678	760	837	1047	1085	1231	1128	1339	1566	1331	1475

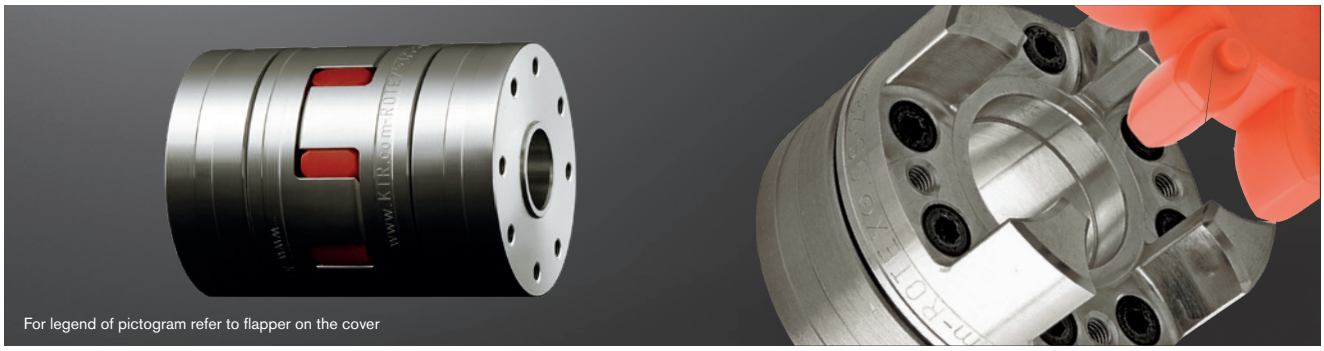
* Standard bore tolerance H7, special tolerances on request * From Ø55 tolerance G7/m6
The friction torque is reduced with bigger clearance. Steel or nodular iron with a yield strength of approx. 250 N/mm² or more can be used as shaft material. For strength calculation of shaft/hollow shaft see KTR standard 45510 on our homepage www.ktr.com.
[3] Taper of hub with slot
[4] Clamping ring hub with screws M4, Z = 8 and T_A = 2.9 Nm

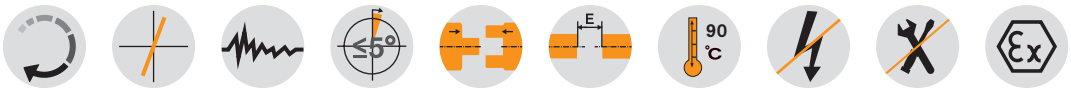
Ordering example:

ROTEX® GS 24	98 ShA-GS	Ø20	6.0 light - Ø24		6.0 light - Ø20	
Coupling size	Spider hardness	**Optional:** Bore in spider	Hub type	Finish bore	Hub type	Finish bore

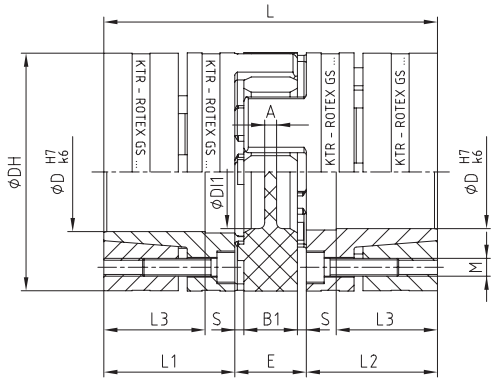
ROTEX® GS Clamping ring hubs made of steel
Backlash-free jaw couplings

Integrated clamping system made of steel





Extraction thread M between clamping screws.



ROTEX® GS clamping ring hubs steel

Size	Spider GS [1] torque T_{KN} [Nm]			Dimensions [mm]										Clamping screws DIN EN ISO 4762			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kgm²]
	98 ShA	57 ShD	64 ShD	D_{max}	DH [2]	Dl1	L	L1, L2	L3	E	B1	S	A	M	Z = number	T_A [Nm]		
19	21	23	26	20	40	18	66	25	18	16	12	2.0	3.0	M4	6	4.1	0.179	0.44×10^{-4}
24	60	68	75	28	55	27	78	30	22	18	14	2.0	3.0	M5	4	8.5	0.399	1.91×10^{-4}
28	160	180	200	38	65	30	90	35	27	20	15	2.5	4.0	M5	8	8.5	0.592	4.18×10^{-4}
38	325	365	405	48	80	38	114	45	35	24	18	3.0	4.0	M6	8	14	1.225	12.9×10^{-4}
42	450	495	560	51	95	46	126	50	35	26	20	3.0	4.0	M8	4	41	2.30	31.7×10^{-4}
48	525	590	655	55	105	51	140	56	41	28	21	3.5	4.0	M10	4	69	3.08	52.0×10^{-4}
55	685	770	825	70	120	60	160	65	45	30	22	4.0	4.5	M10	4	69	4.67	103.0×10^{-4}
65	940	1055	1175	70	135	68	185	75	55	35	26	4.5	4.5	M12	4	120	6.70	191.0×10^{-4}
75	1920	-	2400	80	160	80	210	85	63	40	30	5.0	5.0	M12	5	120	9.90	396.8×10^{-4}
90	3600	-	4500	105	200	104	245	100	75	45	34	5.5	6.5	M16	5	295	17.7	1136×10^{-4}

[1] For selections see page 22 et seqq./other spiders see page 121.
[2] ØDH + 2 mm with high speeds for expansion of spider

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 6.0 steel

Size		Ø10	Ø11	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*	Ø60*	Ø65*	Ø70*	Ø80*	Ø90*	Ø95*	Ø100*	Ø105*
19	H7/k6	27	32	69	84	57	94	110																					
	H7/h6	15	18	57	74	38	76	94																					
24	H7/k6			70	87	56	97	114	116	133	192																		
	H7/h6			55	74	32	72	93	84	103	173																		
28	H7/k6				108	131	207	148	253	285	315	382	330	433	503														
	H7/h6				74	97	172	94	207	242	267	343	260	377	453														
38	H7/k6							208	353	395	439	531	463	603	593	689	793	776											
	H7/h6							136	290	337	373	476	367	525	491	601	721	677											
42	H7/k6									445	495	595	526	677	671	775	718	872	1043	1061									
	H7/h6									387	429	540	429	600	569	687	599	773	970	978									
48	H7/k6											616	704	899	896	1030	962	1160	1379	1222	1543								
	H7/h6											513	590	806	775	924	822	1042	1290	1073	–								
55	H7/k6													863	856	991	918	1119	1110	1247	1277	1665	1605	2008					
	H7/h6													750	710	863	750	976	934	1089	–	–	–	–					
65	H7/k6															1446	1355	1637	1635	1827	1887	2429	2368	2930					
	H7/h6															1275	1135	1447	1404	1619	–	–	–	–					
75	H7/k6																1710	2053	2059	2294	2384	3040	2983	3664	4293				
	H7/h6																1460	1836	1797	2056	–	–	–	–	–				
90	H7/k6																			3845	4249	4795	5859	5906	7036	8047	9247	9575	10845
	H7/h6																			3445	–	–	–	–	–	–	–	–	–

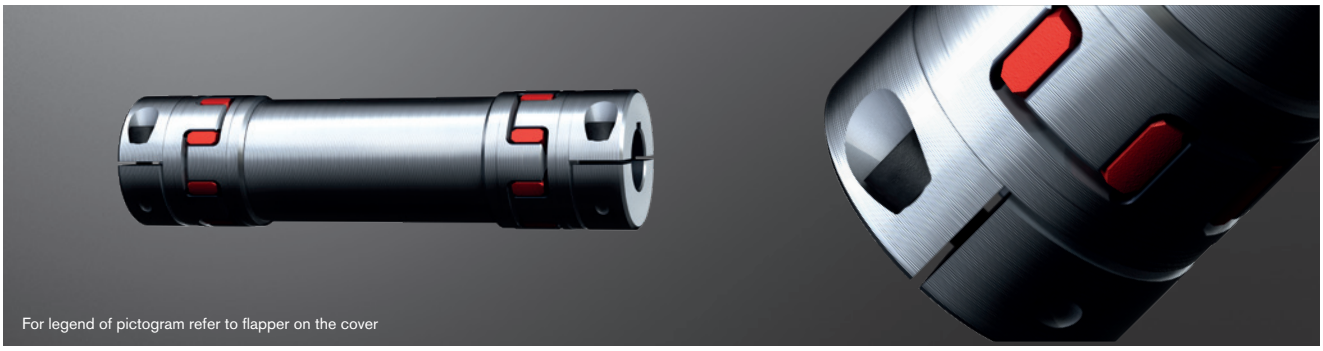
* From Ø55 tolerance G7/m6
The friction torque is reduced with bigger clearance. For the strength calculation of shaft/hollow shaft see KTR standard 45510 on our homepage www.ktr.com.

Ordering example:

ROTEX® GS 24	98 ShA-GS	Ø20	6.0 steel - Ø24		6.0 steel - Ø20	
Coupling size	Spider hardness	**Optional:** Bore in spider	Hub type	Finish bore	Hub type	Finish bore

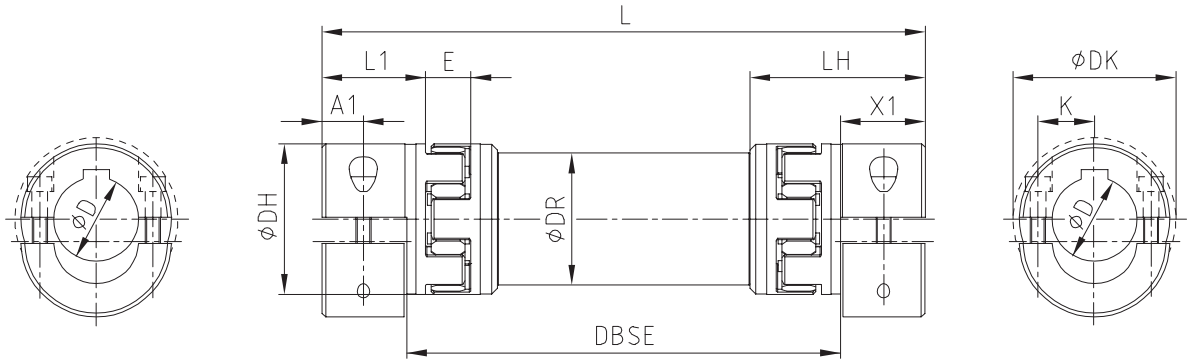
ROTEX® GS ZR3
Backlash-free intermediate shaft couplings

Intermediate shaft coupling with aluminium pipe





Type ZR3



Shaft distance dimension

ROTEX® GS Type ZR3 - Hub material aluminium/intermediate pipe material aluminium																
Size	Dimensions [mm]															
	D_{max}	DH	L1	LH	X1	E	DBSE		L = DBSE + 2 x X1		DR	DK	A1	K	Cap screws DIN EN ISO 4762	
							min.	max.	min.	max.					M	T_A [Nm]
14	15	30	18.5	36.0	14.5	13	72	2971	101	3000	28	33.3	7.5	10.5	M4	2.9
19	20	40	25	49.0	17.5	16	98	2965	133	3000	40	46	8.0	14.5	M6	10
24	30	55	30	59.0	22.0	18	121	3456	165	3500	50	57.5	10.5	20	M6	10
28	38	65	35	67.0	25.0	20	137	3950	187	4000	60	73	11.5	25	M8	25
38	45	80	45	83.5	33.0	24	169	3934	235	4000	70	83.5	15.5	30	M8	25
42	50	95	50	93.0	36.5	26	180	3927	253	4000	80	93.5	18.0	32	M10	49
48	55	105	56	100.0	39.5	28	202	3921	281	4000	100	105	18.5	36	M12	86

Technical data of type ZR3							
Size	Spider GS [1] torque T_{KN} [Nm]			Moment of inertia [10^{-3} kgm²]			Static torsion spring stiffness [3] [Nm/rad]
	98 ShA	57 ShD	64 ShD	Hub [2]	ZR hub	Pipe/meter	ZW C_2
14	12.5	-	16.0	0.00362	0.00238	0.088	858
19	21.0	23	26.0	0.02002	0.01304	0.329	3243.6
24	60.0	68	75.0	0.07625	0.04481	0.673	6631.8
28	160	180	200	0.17629	0.10950	1.199	11814.1
38	325	365	405	0.50385	0.2572	2.972	29290.4
42	450	495	560	1.12166	0.5523	4.560	44929.7
48	525	590	655	1.87044	1.1834	9.251	91158.2

[1] For selections see page 22 et seqq./other spiders see page 121.
[2] with D_{max}
[3] Torsion spring stiffness with an intermediate pipe length of 1 m
[4] With vertical applications a support washer must be used (please specify in your order).

With inquiries and orders please specify the shaft distance dimension DBSE along with the maximum speed to review the critical bending speed. See diagramme on page 125.
The intermediate pipe can be combined with other hub types, but in that case it can no longer be radially disassembled. Please specify the required shaft distance dimension in your order.
Straightness/concentricity of pipes according to DIN EN 755-1.

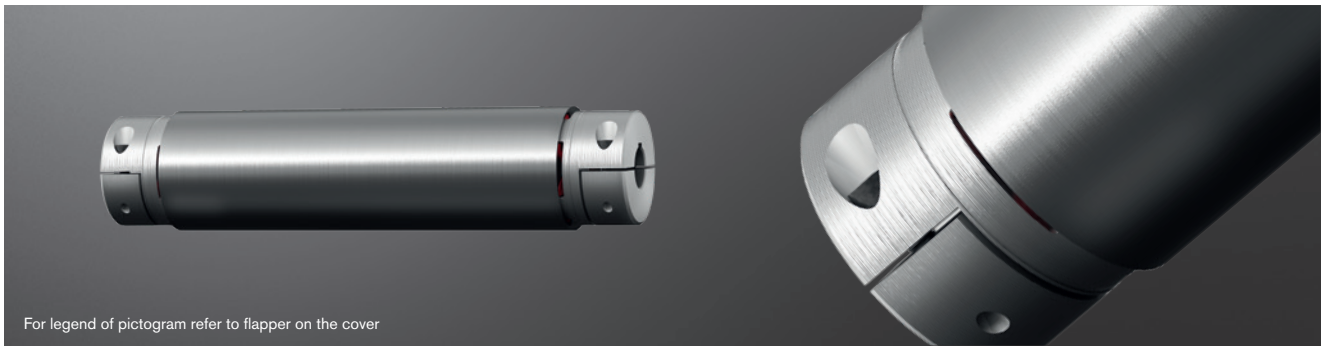
For diagramme for coupling selection see page 125.

Ordering example:

ROTEX® GS 24	ZR3	1200 mm	98 ShA-GS	7.5 - Ø24		7.5 - Ø24	
Coupling size	Type	Shaft distance dimension (DBSE)	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

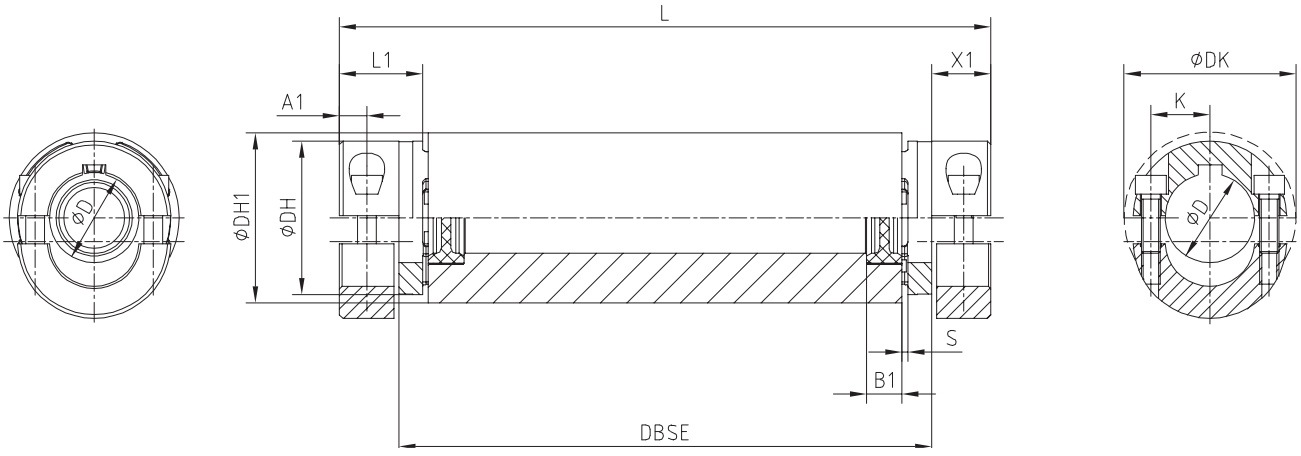
ROTEX® GS ZRS
backlash-free intermediate shaft coupling

Intermediate shaft coupling with aluminium pipe





Type ZRS



Shaft distance dimension

ROTEX® type ZRS																
Size	Dimensions [mm]												Intermediate pipe Torsion spring stiffness C [4]	Cap screws DIN EN ISO 4762		L	Min. DBSE
	98 ShA	64 ShD	D_{max}	DH	L1	X1	A1	K	DK	DH1	B1	S	[Nm/rad]	M	Tightening torque T_A [Nm]		
19	21	26	20	40	25	17.5	8.0	14.5	46.0	45	12	2	3800	M6x16	14		33
24	60	75	24	55	30	22.0	15.0	20.0	57.5	60	14	2	11100	M6x20	14		37
28	160	200	38	65	35	25.0	17.5	25.0	73.0	72	15	2.5	23600	M8x25	34	L = DBSE + 2 x X1	40
38	325	405	45	80	45	33.0	22.5	30.0	83.5	87	18	3	43800	M8x30	34		49
42	450	560	55	95	50	36.5	25.0	30.0	97.0	103	20	3	82600	M10x35	67		53

[4] Torsion spring stiffness with an intermediate pipe length of 1 m
With vertical applications a support washer must be used (please specify in your order).
Insertion dimension of shaft X1, to make sure the coupling can be radially assembled/disassembled.
For diagramme for coupling selection see page 50.

Friction torques																							
	Ø8	Ø10	Ø11	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø46	Ø48	Ø50
19	17	21	23	30	32	34	38	40	42														
24		21	23	30	32	34	38	40	42	47	51	53	59	63									
28				54	58	62	70	74	78	86	93	97	109	117	124	136	148						
38							70	74	78	86	93	97	109	117	124	136	148	156	163	175			
42										136	149	155	174	186	198	217	235	248	260	279	285	297	310

Types of hubs

Type 7.5



Clamping hub type DH without feather keyway for double-cardanic connections

Type 7.6



Clamping hub type DH with feather keyway for double-cardanic connections

Ordering example:	ROTEX® GS 24	ZRS	1200 mm	98 ShA-GS	7.5 - Ø24		7.5 - Ø24	
	Coupling size	Type	Shaft distance dimension (DBSE)	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

Technical data

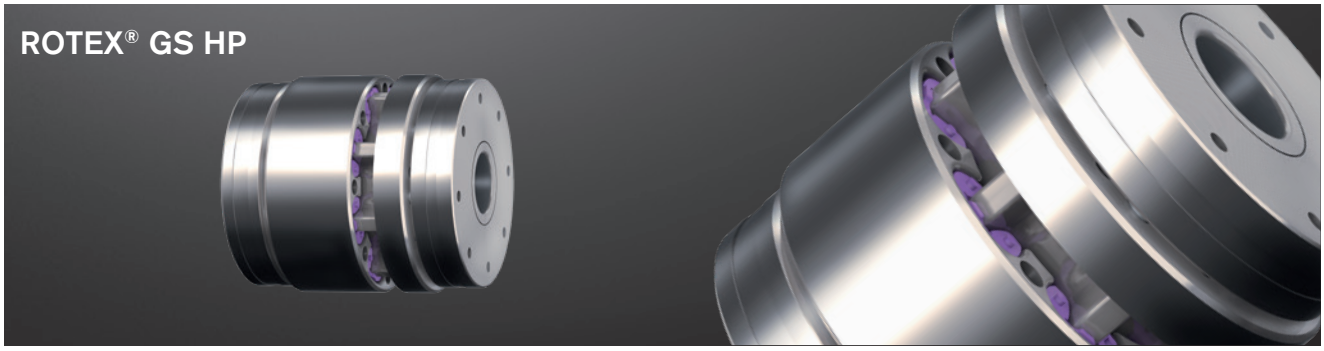
Size	Spider GS Shore hardness	Shore scale	Max. speed [rpm] for type						Torque [Nm]		Static torsion spring stiffness [1] [Nm/rad]	Dynamic torsion spring stiffness [1] [Nm/rad]	Radial spring stiffness C_r [N/mm]	Weight [kg]		Mass moment of inertia J [kgm²]	
			2.0 / 2.1 2.5 / 2.6	2.8 2.9	1.0 1.1	6.0 light [2]	6.0 P [2]	DKM	T_{KN}	$T_{K\,max}$				Per hub [5]	Spider	Per hub [5]	Spider
	80	A							0.3	0.6	3.15	10	82				
5	92	A	38000	38000	47700			57300	0.5	1.0	5.16	16	154	0.001	0.2 x 10^{-3}	0.015 x 10^{-6}	0.002 x 10^{-6}
	98	A							0.9	1.7	8.3	25	296				
	80	A							0.7	1.4	8.6	26	114				
7	92	A	27000	27000	34100			40900	1.2	2.4	14.3	43	219	0.003	0.7 x 10^{-3}	0.085 x 10^{-6}	0.01 x 10^{-6}
	98	A							2.0	4.0	22.9	69	421				
	64	D							2.4	4.8	34.3	103	630				
	80	A							0.7	1.4	8.8	27	117				
8	98	A		23800					2.0	4.0	23.5	71	433	0.003	0.5 x 10^{-3}	0.117 x 10^{-6}	0.0124 x 10^{-6}
	64	D							2.4	4.8	35.3	106	648				
	80	A							1.8	3.6	17.2	52	125				
	92	A							3.0	6.0	31.5	95	262		1.7 x 10^{-3}	0.48 x 10^{-6}	0.085 x 10^{-6}
9	98	A	19000	19000	23800			28600	5.0	10.0	51.6	155	518	0.01			
	64	D							6.0	12.0	74.6	224	739				
	80	A							3.0	6.0	84.3	252	274				
	92	A							5.0	10.0	160.4	482	470		2.3 x 10^{-3}	1.5 x 10^{-6}	0.139 x 10^{-6}
12	98	A	15200	15200	19100			22900	9.0	18.0	240.7	718	846	0.02			
	64	D							12.0	24.0	327.9	982	1198				
	80	A							3.6	7.2	111	330	359				
13	98	A		12700		38200			11.0	22.0	316	941	1109	0.01	2.0 x 10^{-3}	1.1 x 10^{-6}	0.155 x 10^{-6}
	64	D							14.5	29.0	430	1287	1570				
	80	A							4.0	8.0	60.2	180	153				
	92	A							7.5	15.0	114.6	344	336		4.7 x 10^{-3}	2.8 x 10^{-6}	0.509 x 10^{-6}
14	98	A	12700	12700	15900	32000	47700	19100	12.5	25.0	171.9	513	654	0.02			
	64	D							16.0	32.0	234.2	702	856				
	80	A							5.0	10.0	157	471	400				
16	98	A		12000					15.0	30.0	450	1341	1710	0.02	3.6 x 10^{-3}	2.8 x 10^{-6}	0.435 x 10^{-6}
	64	D							19.0	38.0	612	1835	2238				
	80	A							6.0	12.0	618	1065	582				
	92	A							12.0	24.0	1090	1815	1120				
19	98	A	9550	9550	11900	24000 19000 [4]	35800	14300	21.0	42.0	1512	2540	2010	0.09	7.6 x 10^{-3}	19.5 x 10^{-6}	1.35 x 10^{-6}
	57	D							23.0	46.0	2036	3175	2470				
	64	D							26.0	52.0	2560	3810	2930				
	92	A							35	70	2280	4010	1480				
	98	A							60	120	3640	5980	2560				
	52	D				17000			60	120	3640	5980	2560			81.9	6.7
24	57	D	6950	10400	8650	14000 [4]	26000	10400	68	136	4335	8438	3128	0.2	0.02	x 10^{-6}	x 10^{-6}
	64	D							75	150	5030	10896	3696				
	72 [3]	D							97	194	9944	17095	5799				
	92	A							95	190	4080	6745	1780				
	98	A							160	320	6410	9920	3200				
	52	D				15000			160	320	6410	9920	3200			184.2	14.85
28	57	D	5850	8800	7350	12000 [4]	22000	8800	180	360	8335	15050	3775	0.3	0.03	x 10^{-6}	x 10^{-6}
	64	D							200	400	10260	20177	4348				
	72 [3]	D							260	520	21526	36547	7876				
	92	A							190	380	6525	11050	2350				
	98	A							325	650	11800	17160	4400				
	52	D				12000			325	650	11800	17160	4400			542.7	39.4
38	57	D	4750	7150	5950	9600 [4]	17900	7150	365	730	19050	28745	5437	0.6	0.05	x 10^{-6}	x 10^{-6}
	64	D							405	810	26300	40335	6474				
	72 [3]	D							525	1050	44584	71180	11425				
	98	A							450	900	21594	37692	5570				
	52	D							450	900	21594	37692	5570				
42	57	D	4000		5000	10000 8050 [4]	15000	6000	495	990	29225	53760	6420	2.4	0.08	2802 x 10^{-6}	85 x 10^{-6}
	64	D							560	1120	36860	69825	7270				
	72 [3]	D							728	1456	58600	93800	9766				
	98	A							525	1050	25759	45620	5930				
48	57	D	3600		4550	9100 7200 [4]	13600	5450	590	1180	41695	72685	7102	3.3	0.09	4709 x 10^{-6}	135 x 10^{-6}
	64	D							655	1310	57630	99750	8274				
	72 [3]	D							852	1704	80000	136948	11359				
	98	A							685	1370	42117	61550	6686				
55	57	D	3150		3950	6350 [4]	11900	4750	770	1540	68175	98065	8005	5.1	0.12	9460 x 10^{-6}	229 x 10^{-6}
	64	D							825	1650	105730	130200	9248				
	72 [3]	D							1072	2144	150000	209530	12762				
	98	A							940	1880	48520	71660	6418				
65	57	D	2800		3500	5650 [4]	11000		1055	2110	78535	114175	7685	6.7	0.2	15143 x 10^{-6}	437 x 10_{-6}
	64	D							1175	2350	118510	189189	8870				
	72 [3]	D							1527	3054	160000	310000	11826				
	98	A							1920	3840	79150	150450	8650				
75	64	D	2350		2950	4750 [4]	8950		2400	4800	182320	316377	11923	10.5	0.3	32750 x 10^{-6}	1179 x 10^{-6}
	72 [3]	D							3120	6240	360540	586429	16454				
	98	A							3600	7200	204500	302900	10700				
90	64	D	1900		2380	3800 [4]	7150		4500	9000	429450	908700	14700	18.2	0.6	87099 x 10^{-6}	3362 x 10^{-6}
	72 [3]	D							5850	11700	847440	1308852	20290				

[1] Static and dynamic torsion spring stiffness with 0.5 x T_{KN}
[2] For higher speeds see ROTEX® GS HP
[3] When using 64ShD-GS or 72ShD-GS we recommend to use hubs made of steel.
[4] Clamping ring hubs 6.0 made of steel
[5] Hubs with an average bore type 1.0
The coupling must be dimensioned in that the permissible coupling load is not exceeded during any operating condition (see coupling selection on page 22 et seqq.).
The specified torques T_{KN}/$T_{K\,max}$ refer to the spider. The shaft-hub-connection needs to be verified by the customer.

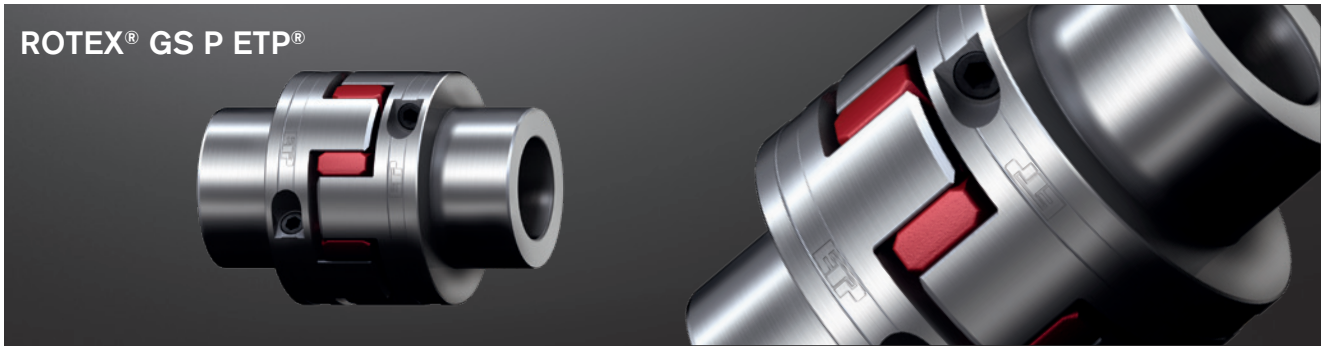
Other types



- It is up to 1/3 shorter than standard types
- Axial slot, DBGM (German utility model)
- Good concentric running
- Uniform power transmission by cams without slots



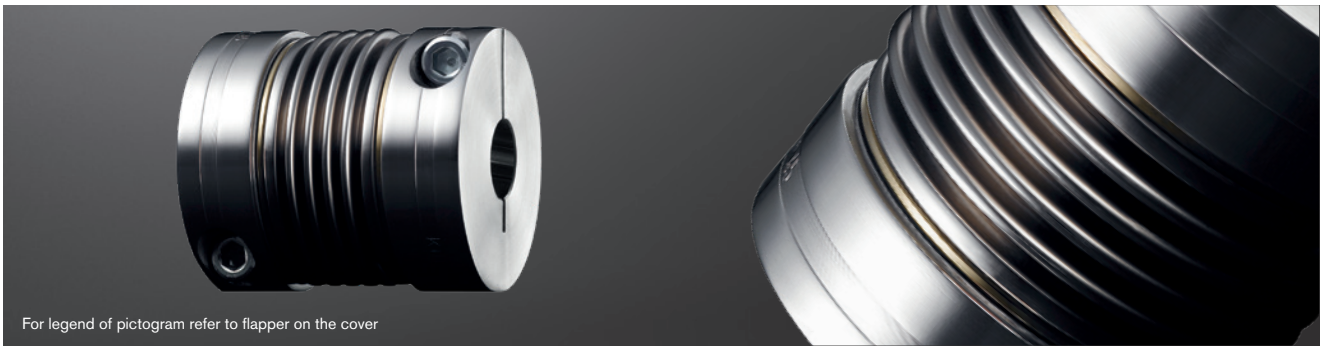
- Highly accurate jaw coupling for severely high speeds (up to a circumferential speed of 175 m/s)
- Compact dimensions
- Easy assembly due to internal clamping screws
- High friction torques

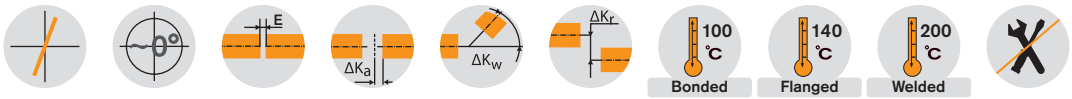


- Backlash-free shaft coupling damping vibrations with integrated ETP quick clamping system
- Quick assembly / disassembly since one screw only needs to be tightened
- Severely good concentric running properties even after repeated assembly operations
- Assembly / disassembly for thousands of times
- Assembly in spaces difficult to access possible, since the pressure screw is tightened in axial direction to the shaft
- Compact mounting dimensions
- The hub can be easily and accurately set

TOOLFLEX® S
Metal bellow-type couplings

Type S: with clamping hubs





TOOLFLEX® Type S with clamping hubs - Hub material aluminium (size 55/65 steel)/bellow material stainless steel

Size	Dimensions [mm]											
	Finish bore D		General					Clamping screws DIN EN ISO 4762				
	min.	max.	L	L1, L2	E	DH	DI1	M	DK	A1	K	T_A [Nm]
7	3	7	24	9	6	15	9	M2	16.5	3.2	5	0.37
9	3	9	29	11	7	20	12	M 2.5	21.5	3.5	7.1	0.76
12	4	12	34.5	13	8.5	25	16	M3	26.5	4	8.5	1.34
16	5	16	45	17.0	11	32	20	M4	35.0	5	12.0	2.9
20	8	20	55	21.5	12	40	27	M5	43.5	6	14.5	6
30	10	30	63	23.0	17	55	33	M6	58.0	7	19	10
38	12	38	69	25.5	18	65	42	M8	72.6	9	25	25
42	14	42	84	30.0	24	70	46	M8	76.1	9	27	25
45	14	45	86.5	32.0	22.5	83	58	M10	89.0	11	30	49
55 Al	20	55	111	40.0	31	100	73	M12	106.0	14	37	86
55 [3]	20	55	111	40.0	31	100	73	M12	106.0	14	37	120
65 [3]	30	65	126	45.0	36	125	95	M14	127.2	15	45	190

Technical data

Size	Bellow-hub-connection	Torque of bellow T_{KN} [1] [Nm]	Max. speed [rpm]	Moment of inertia [2] [x10^{-6}kgm^2]	Torsion spring stiffness C_T [Nm/rad]	Axial stiffness C_a [N/mm]	Radial stiffness C_r [N/mm]	Perm. displacements			Weight [2] [kg]
								Axial [mm]	Radial [mm]	Angular [degree]	
7	Bonded	1	31800	0.26	390	—	—	±0.3	0.10	0.7	0.007
9		1.5	23800	0.97	750	—	—	±0.35	0.15	1.0	0.014
12		2	19100	2.6	1270	—	—	±0.4	0.15	1.0	0.025
16	Flanged	5	14900	9	4500	43	138	±0.3	0.15	1.0	0.06
20		15	11950	30	9600	63	189	±0.4	0.15	1.0	0.12
30		35	8700	114	17800	97	233	±0.5	0.20	1.5	0.24
38		65	7350	245	37400	108	318	±0.6	0.20	1.5	0.35
42		95	6820	396	54700	120	499	±0.6	0.20	1.5	0.49
45		170	5750	931	95800	132	738	±0.9	0.20	1.5	0.82
55 Al		340	4800	1665	144100	160	894	±1.1	0.25	1.5	1.50
55 [3]	[3]	340	4800	4996	144100	160	894	±1.0	0.25	1.5	3.20
65 [3]		600	3850	13318	322740	212	1365	±1.0	0.30	1.5	5.50

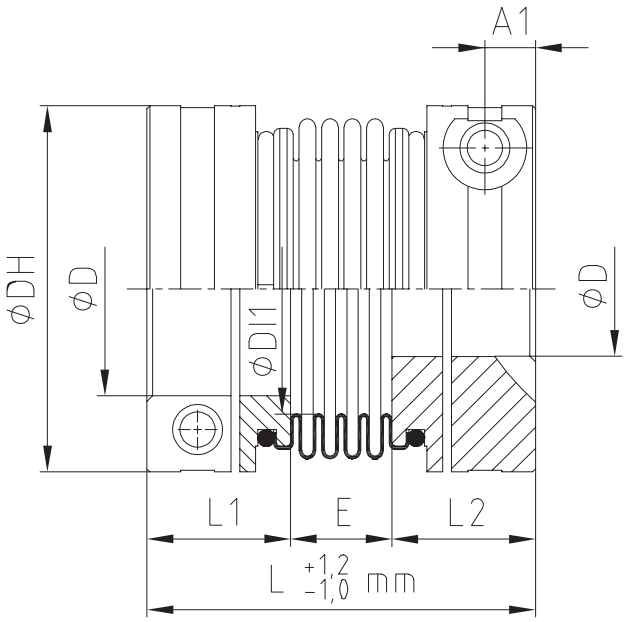
[1] For selections see page 22 et seqq.
[2] Figures refer to the complete coupling with max. bore.
[3] Hub made of steel welded with bellow.

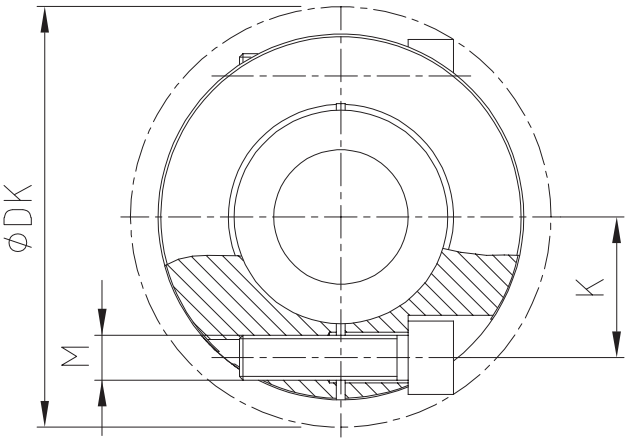
Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.5

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	0.7	0.9	1.0	1.2	1.4																									
9	1.2	1.5	1.9	2.2	2.5	2.8	3.1																							
12		2.3	2.8	3.3	3.8	4.3	4.8	5.2	5.7	6.1																				
16			5.4	6.4	7.3	8.2	9.1	10.0	10.9	11.7	13.4	14.2	15.0																	
20						13.5	15.0	16.5	18.0	19.3	22.1	23.5	24.8	27.4	28.7	30.0														
30									26	28	32	34	36	40	42	43	51	53	58	61										
38											63	67	71	79	82	86	101	105	115	122	129	139	148							
42											63	67	71	79	83	87	102	106	117	124	130	141	150	157	163					
45																136	160	166	183	194	206	222	238	248	259	274				
55 Al																205	242	251	277	295	312	337	362	378	394	418	457	494		
55 [3]																	341	354	391	416	440	475	510	533	556	589	644	697		
65 [3]																				576	610	660	710	743	775	823	901	977	1051	1124

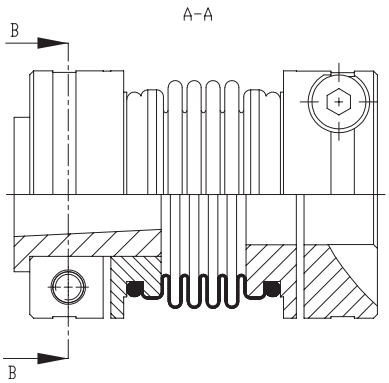
Ordering example:

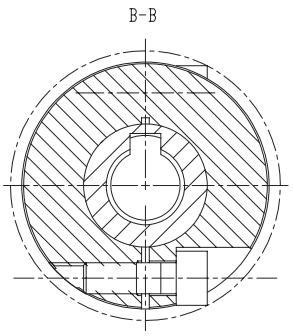
TOOLFLEX® 30 S	2.5 - Ø25		2.5 - Ø30	
Size and type of coupling	Hub type	Finish bore	Hub type	Finish bore





Other types:
Type for FANUC motors





Types of hubs

Type 2.5



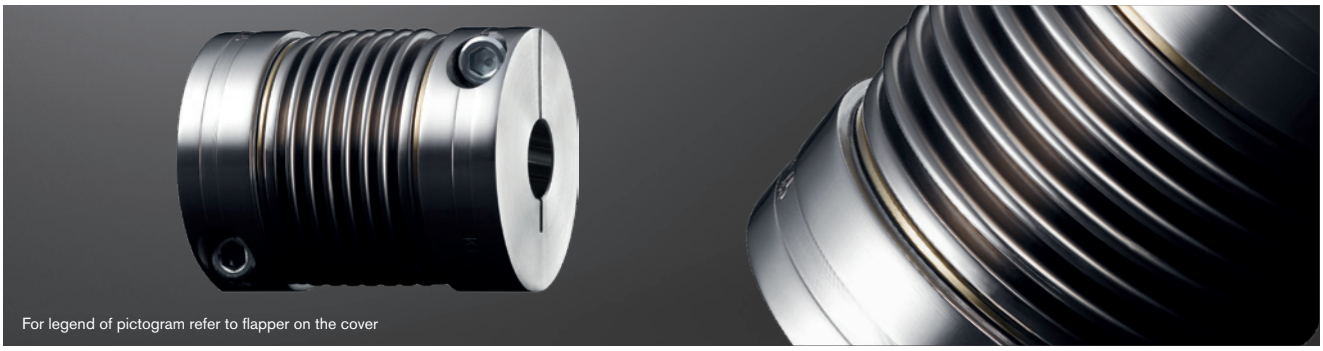
Clamping hub double slot without feather keyway

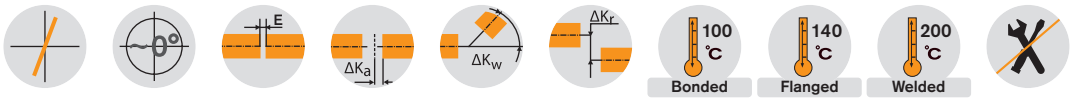
Type 2.6



Clamping hub double slot with feather keyway

Type M: with clamping hubs





TOOLFLEX® Type M with clamping hubs - Hub material aluminium (size 55/65 steel)/bellow material stainless steel

Size	Dimensions [mm]											
	Finish bore D		General					Clamping screws DIN EN ISO 4762				
	min.	max.	L	L1, L2	E	DH	DI1	M	DK	A1	K	T_A [Nm]
7	3	7	26	9	8	15	9	M2	16.5	3.2	5	0.37
9	3	9	32	11	10	20	12	M 2.5	21.5	3.5	7.1	0.76
12	4	12	38	13	12	25	16	M3	26.5	4	8.5	1.34
16	5	16	49	17.0	15	32	20	M4	35.0	5	12	2.9
20	8	20	62	21.5	19	40	27	M5	43.5	6	14.5	6
30	10	30	72	23.0	26	55	33	M6	58.0	7	19	10
38	12	38	81	25.5	30	65	42	M8	72.6	9	25	25
42	14	42	95	30.0	35	70	46	M8	76.1	9	27	25
45	14	45	103	32.0	39	83	58	M10	89.0	11	30	49
55 Al	20	55	125	40.0	45	100	73	M12	106.0	14	37	86
55 [3]	20	55	125	40.0	45	100	73	M12	106.0	14	37	120
65 [3]	30	65	142	45.0	52	125	95	M14	127.2	15	45	190

Technical data

Size	Bellow-hub-connection	Torque of bellow T_{KN} [1] [Nm]	Max. speed [rpm]	Moment of inertia [2] [x10^{-6}kgm^2]	Torsion spring stiffness C_T [Nm/rad]	Axial stiffness C_a [N/mm]	Radial stiffness C_r [N/mm]	Perm. displacements			Weight [2] [kg]
								Axial [mm]	Radial [mm]	Angular [degree]	
7	Bonded	1	31800	0.3	300	—	—	±0.4	0.15	1.0	0.008
9		1.5	23800	1.0	580	—	—	±0.5	0.20	1.5	0.015
12		2	19100	2.7	980	—	—	±0.6	0.20	1.5	0.03
16	Flanged	5	14900	10	3050	29	92	±0.5	0.20	1.5	0.06
20		15	11950	32	6600	42	126	±0.6	0.20	1.5	0.14
30		35	8700	123	14800	65	155	±0.8	0.25	2.0	0.31
38		65	7350	262	24900	72	212	±0.8	0.25	2.0	0.45
42		95	6820	427	36500	80	333	±0.8	0.25	2.0	0.52
45		170	5750	1020	64000	88	492	±1.0	0.25	2.0	1.13
55 Al		340	4800	1706	96100	107	598	±1.1	0.30	2.0	2.0
55 [3]	[3]	340	4800	5118	96100	107	598	±1.0	0.30	2.0	3.3
65 [3]		600	3850	13727	226550	135	910	±2.0	0.35	2.0	5.6

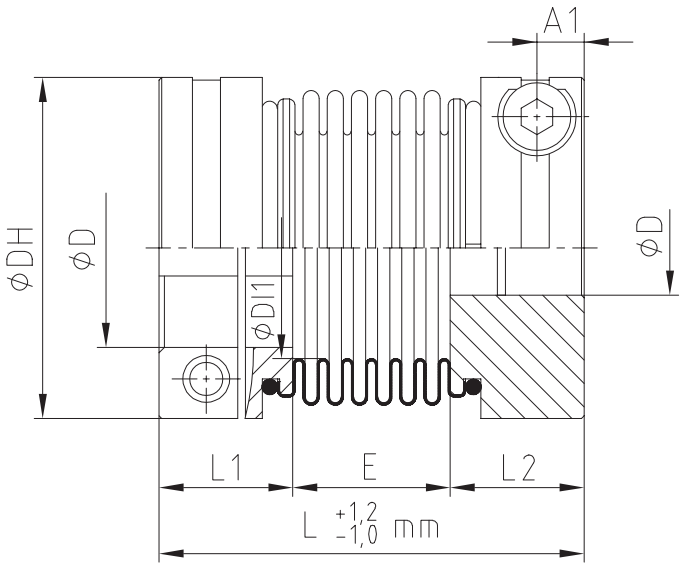
[1] For selections see page 22 et seqq.
[2] Figures refer to the complete coupling with max. bore.
[3] Hub made of steel welded with bellow.

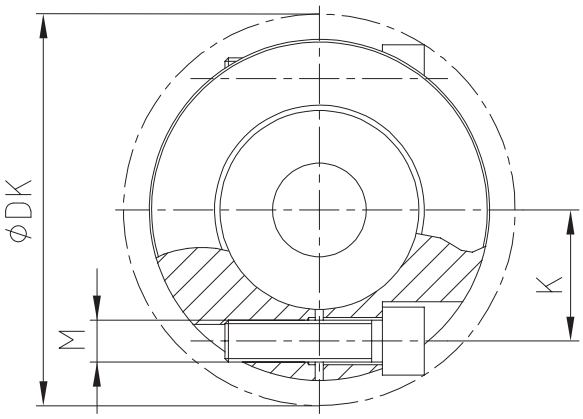
Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.5

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	0.7	0.9	1.0	1.2	1.4																									
9	1.2	1.5	1.9	2.2	2.5	2.8	3.1																							
12		2.3	2.8	3.3	3.8	4.3	4.8	5.2	5.7	6.1																				
16			5.4	6.4	7.3	8.2	9.1	10.0	10.9	11.7	13.4	14.2	15.0																	
20						13.5	15.0	16.5	18.0	19.3	22.1	23.5	24.8	27.4	28.7	30.0														
30									26	28	32	34	36	40	42	43	51	53	58	61										
38											63	67	71	79	82	86	101	105	115	122	129	139	148							
42											63	67	71	79	83	87	102	106	117	124	130	141	150	157	163					
45																136	160	166	183	194	206	222	238	248	259	274				
55 Al																205	242	251	277	295	312	337	362	378	394	418	457	494		
55 [3]																	341	354	391	416	440	475	510	533	556	589	644	697		
65 [3]																				576	610	660	710	743	775	823	901	977	1051	1124

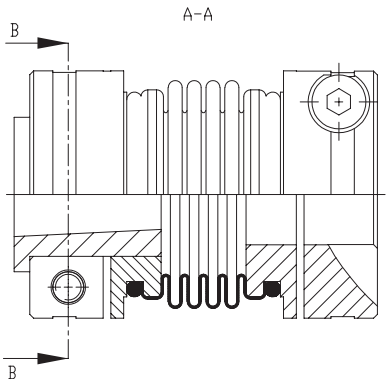
Ordering example:

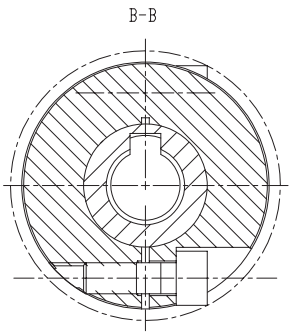
TOOLFLEX® 30 M	2.5 - Ø25		2.5 - Ø30	
Size and type of coupling	Hub type	Finish bore	Hub type	Finish bore





Other types:
Type for FANUC motors





Types of hubs

Type 2.5



Clamping hub double slot without feather keyway

Type 2.6

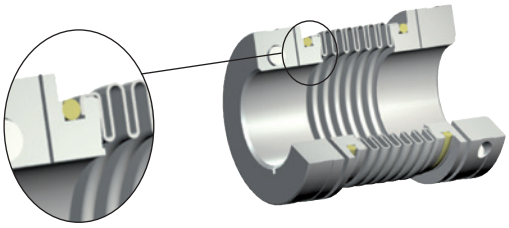


Clamping hub double slot with feather keyway

TOOLFLEX®
Metal bellow-type couplings

Technical description

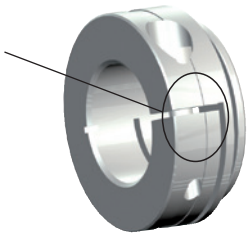
TOOLFLEX® is a metal bellow-type coupling, a coupling system which has proven in the field with numerous applications. The metal bellow optimally compensates for axial, radial and angular displacements. At the same time its geometric shape allows for high torsion spring stiffness and a low mass moment of inertia. TOOLFLEX® is manufactured in twelve sizes for maximum torques up to 600 Nm.
Its main application ranges are both positioning drives, e. g. ball spindles with a high pitch, as well as indexing tables or planetary and worm gears with small gear ratios.



Subject to its proven bonding technique a non-positive, backlash-free connection of the aluminium hubs with the multilayer bellows made of stainless steel is generated. The flanged insert connection for sizes 16 to 55 ensures torque transmission of every single bellow layer. Since TOOLFLEX® is a metal coupling, it remains fatigue-endurable in the high-temperature range up to a maximum of 200 °C. Apart from that it is resistant to the effect of media respectively critical operating conditions.

The renowned shaft-hub-connection made by clamping hubs ensures an easy assembly by a radial clamping screw.
Subject to two slots in the hub there is no deformation of the bellow when tightening the clamping screw.
For higher friction torques type KN with taper hubs can be used.

Double slotted clamping hub



Types



Type with setscrew



Type with clamping hubs



Type S-H / M-H



Type ZR



Type PI

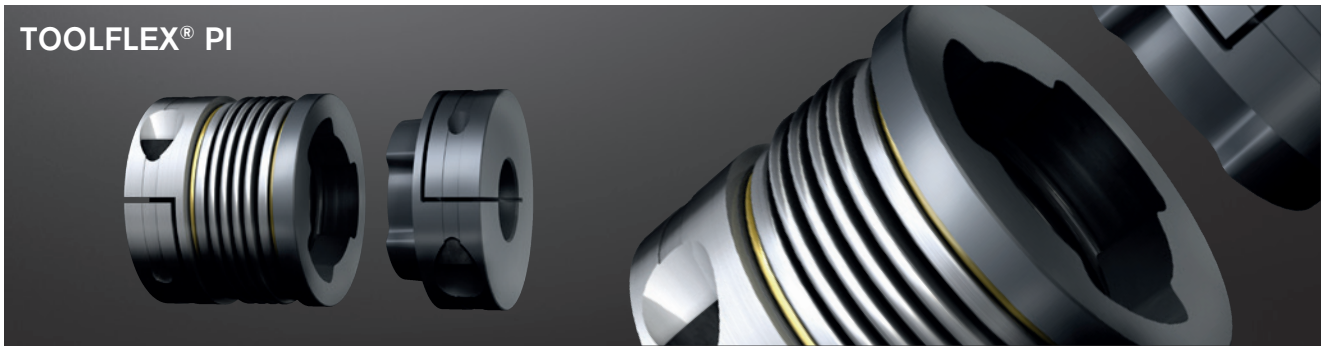


Type CF

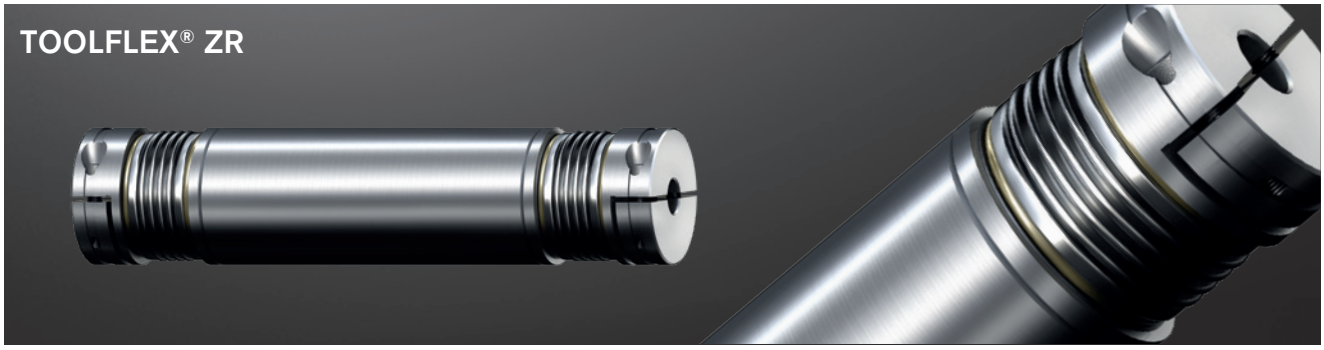
Overview

Size	Type	Bellow-hub-connection	Torque of bellow [Nm]		Standard types – Max. speed [rpm]					
			T_{KN} [Nm]	$T_{K\,max}$ [Nm]	Setscrew 1.0 / 1.1	Clamping hubs 2.5 / 2.6	S-H / M-H 7.8 / 7.9	ZR 7.5 / 7.6	PI	CF
5	S	**Bonded** Maximum ambient temperature 100 °C	0.1	0.15	47,700					
	M									
7	S		1	1.5	31,800	31,800				
	M									
9	S		1.5	2.25	23,800	23,800				
	M									
12	S		2	3	19,000	19,100				
	M									
16	S		5	7.5	14,900	14,900				
	M									
20	S		15	22.5	11,900	11,900	9,550	3,000	11,900	
	M									
30	S	**Flanged** Maximum ambient temperature 140 °C	35	52.5		8,700	6,950	3,000	8,700	8,700
	M									
38	S		65	97.5		7,350	5,850	3,000	7,350	7,350
	M									
42	S		95	142.5		6,820			6,820	6,820
	M									
45	S		170	255		5,750	4,750	3,000	5,750	5,750
	M									
55 Al	S		340	510		4,800				
	M									
55	S	**Welded** Maximum ambient temperature 200 °C	340	510		4,800			4,800	
	M									
65	S		600	900		3,850				
	M									

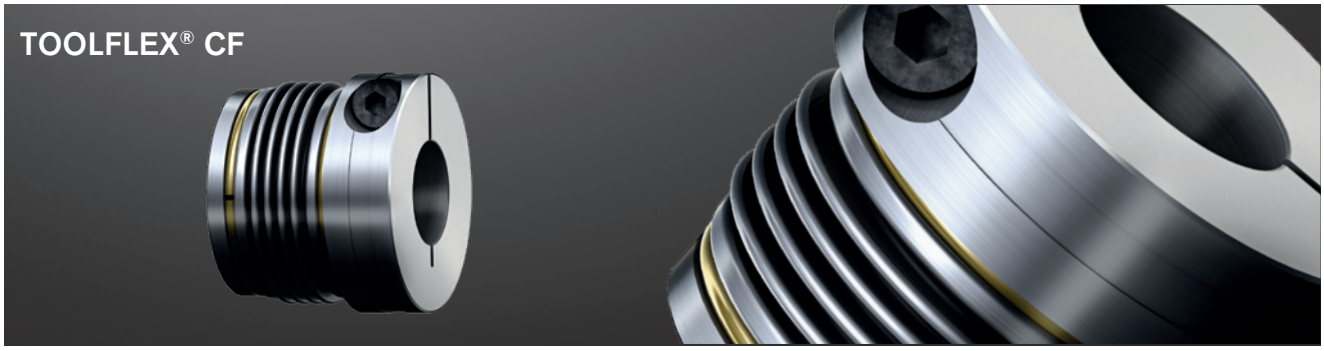
Other types



- Axial plug-in
- Optionally available with short bellow with 4 layers (type S) or bellow with 6 layers (type M)



- Variable length up to 4 m
- High torsion stiffness
- High critical bending speed
- Low moments of inertia
- Easy radial assembly / disassembly
- Optionally available with feather keyways acc. to DIN 6885 sheet 2



- Extremely short design
- 25 % higher torques possible than with type M or type S
- Higher torsion stiffness
- Backlash-free and torsionally stiff
- Maintenance-free
- Due to welded connection suitable for high temperatures (max. 280 °C)
- Specifically suitable for use on gearboxes
- flange-to-shaft connection
- Optionally available with short bellow with 4 layers (type S) or bellow with 6 layers (type M)
- torques from 35 - 340 Nm
- Special type with bellow with either 1, 2 or 3 layers available

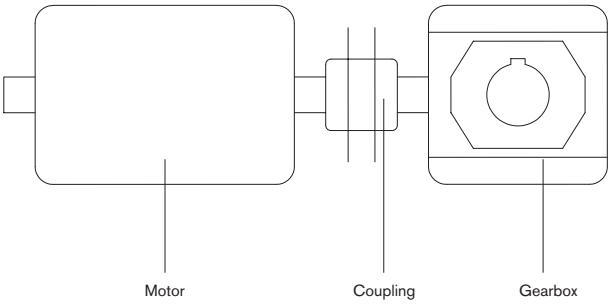
RADEX®-NC
Servo laminae couplings

Technical description

RADEX®-NC is a line specifically developed for servo technology. With this coupling a set of torsionally stiff steel laminas yet soft in bending ensure reliable compensation for axial, angular and radial shaft displacements. As an all-metal coupling - the laminas are made of stainless steel - RADEX®-NC can even be used with high temperatures (up to 140 °C) and under aggressive ambient conditions. RADEX®-NC is manufactured in 10 sizes from size 5 to 75 for max. torques up to 4800 Nm. In addition to the two different types (EK = single-cardanic and DK = double-cardanic) it is available in five different hub types.



A typical application of RADEX®-NC are backlash-free worm gear pairs with low gear ratios. For reason of the gear ratio of the gearbox the stiffness of the coupling must be converted from the drive side into the driven side. Here the gear ratio itself has a decisive effect because it is included in the calculation by square. This converted stiffness is added in line with the gearbox stiffness in order to obtain the total stiffness. In case of gear ratios that are smaller than i = 8 we recommend to use RADEX®-NC due to the loss of stiffness of the total system arising with the use of flexible couplings.



Use in potentially explosive atmospheres

RADEX®-NC couplings are suitable for power transmission in drives in potentially explosive atmospheres. The couplings are assessed and approved as units of category 2G/2D according to EU directive 2014/34/EU and thus suitable for the use in potentially explosive atmospheres of zone 1, 2, 21 and 22. Please read through our information included in the respective type examination certificate and the operating and assembly instructions at www.ktr.com.

Selection:

If used in potentially explosive atmospheres, the clamping hubs without feather keyway only for use in category 3 (with feather keyway for cat. 2) must be selected in that there is a minimum safety factor of s = 2 between the peak torque of the unit (including all operating parameters) and the nominal torque and frictional torque of engagement of the coupling.

RADEX®-NC DK and EK
Servo laminae couplings

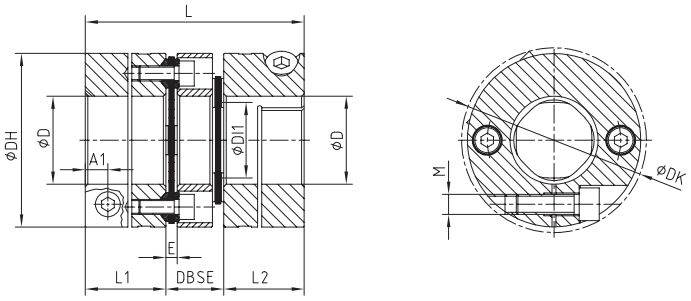
Double- and single-cardanic types



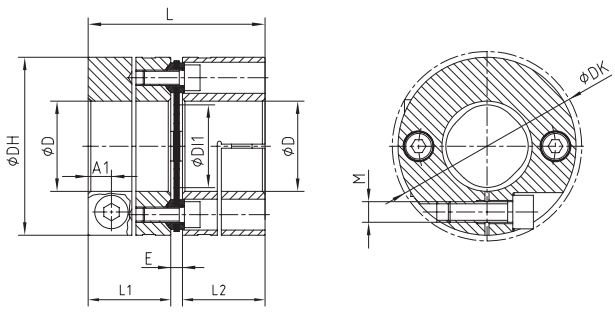


Hub type 2.5/2.6

Type DK



Type EK



RADEX®-NC Types DK and EK - Hub and spacer material aluminium/laminas made of stainless steel													
Size	Dimensions [mm]										Clamping screws DIN EN ISO 4762		Mass moment of inertia [kgm²]	
	$D_{max.}$	DH	DK	L1, L2	Type DK		Type EK	DI1	E	A1	M	T_A [Nm]	Type DK	Type EK
					L	DBSE	L							
5	12	26	26	12	34	10	26.5	12	2.5	3.5	M 2.5	0.8	0.000004	0.000003
10	15	35	35	16	44	12	35	14.5	3	5	M4	3	0.000016	0.000012
16	20	46	49	22	58	14	47	19.5	3	6.8	M6	10	0.000063	0.00005
21	30	58	59	25	69	19	53.5	24	3.5	6.8	M6	10	0.00018	0.00014
26	38	69	73	32	88	24	69	30	5	9	M8	25	0.00046	0.00036
36	45	84	87	35	93.6	23.6	74.8	48	4.8	10.5	M10	49	0.0011	0.00091

Technical data												
Size	T_{KN} [1] [Nm]	$T_{K\,max}$ [1] [Nm]	Max. speed [rpm]	Torsion spring stiffness [Nm/rad]		Lamina type	Displacements of type DK			Displacements of type EK		
				Type EK	Type DK		Radial [mm]	Axial [mm]	Angular per lamina [degree]	Radial [mm]	Axial [mm]	Angular per lamina [degree]
5	2.5	5	18,300	2,400	1,200	4 holes	0.13	± 0.4	1	-	± 0.2	1
10	7.5	15	13,600	5,600	2,800	4 holes	0.16	± 0.8	1	-	± 0.4	1
16	35	53	10,500	20,000	10,000	4 holes	0.19	± 1.0	1	-	± 0.5	1
21	70	105	8,500	40,000	20,000	4 holes	0.27	± 1.2	1	-	± 0.6	1
26	120	180	7,000	84,000	42,000	4 holes	0.33	± 1.6	1	-	± 0.8	1
36	340	510	5,700	280,000	140,000	6 holes	0.32	± 2.0	1	-	± 1.0	1

[1] For selection see page 22 et seqq.

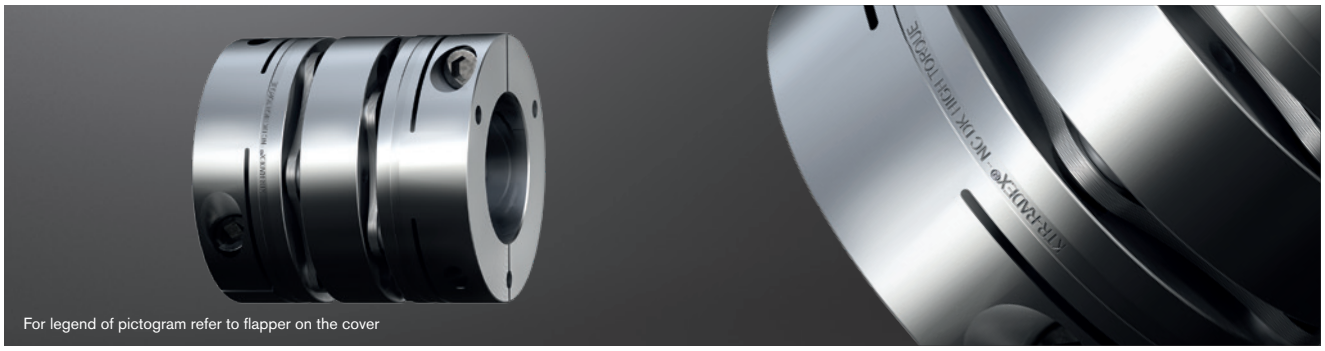
Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.5																						
Size	Pilot bored	Ø3	Ø5	Ø8	Ø10	Ø12	Ø14	Ø15	Ø16	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45
5	2.5	1.1	1.8	2.8	3.4	4																
10	4.5		5	7.7	9.5	11.1	12.7	13.5														
16	5.5				23	27	31	33	35	41	43											
21	7.5					28	32	34	36	42	44	48	52	54	59	63						
26	9.5							66	70	81	85	92	100	103	114	121	127	137	147			
36	11.5									129	135	147	159	165	182	194	199	221	237	247	258	273

Ordering example:

RADEX®-NC 21	DK	2.5 - Ø20		2.5 - Ø25	
Coupling size	Type	Hub type	Finish bore	Hub type	Finish bore

RADEX®-NC DK and EK
Servo laminae couplings

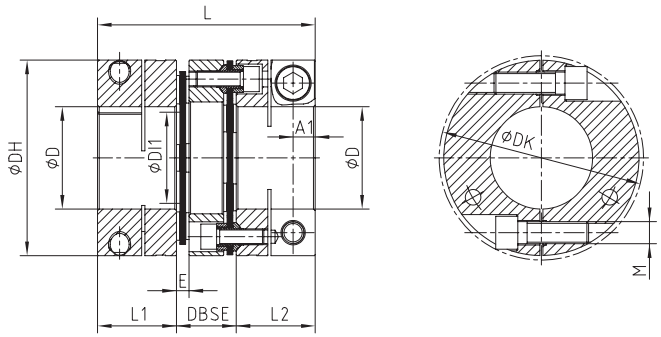
Double- and single-cardanic types



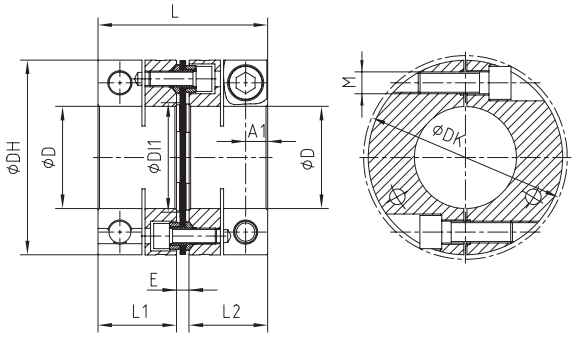


Hub type 3.5/3.6

Type DK



Type EK



RADEX®-NC Types DK and EK - Hub and spacer material aluminium up to size 61, steel with size 75 / laminas made of stainless steel													
Size	Dimensions [mm]										Clamping screws DIN EN ISO 4762		Mass moment of inertia [kgm²]	
	$D_{max.}$	DH	DK	L1, L2	Type DK		Type EK	DI1	E	A1	M	T_A [Nm]	Type DK	Type EK
					L	DBSE	L							
43	55	104	104	40.5	115	34	89	61	8	10.5	M10	49	0.0033	0.0025
51	70	124	130	50	138	38	108	73	8	14	M14	135	0.0082	0.006
61	80	144	148.5	54	150	42	118	88	10	16	M16	210	0.016	0.012
75	90	170	181.1	70	189	49	152	104	12	21.5	M20	610	0.099	0.077

Technical data												
Size	T_{KN} [1] [Nm]	$T_{K\,max}$ [1] [Nm]	Max. speed [rpm]	Torsion spring stiffness [Nm/rad]		Lamina type	Displacements of type DK			Displacements of type EK		
				Type EK	Type DK		Radial [mm]	Axial [mm]	Angular per lamina [degree]	Radial [mm]	Axial [mm]	Angular per lamina [degree]
43	600	900	8,100	510,000	255,000	6 holes	0.45	± 2.20	1	—	± 1.10	1
51	1,300	1,950	6,700	920,000	460,000	6 holes	0.52	± 2.50	1	—	± 1.25	1
61	2,000	3,000	6,100	1,500,000	750,000	6 holes	0.56	± 2.60	1	—	± 1.30	1
75	3,200	4,800	5,100	2,100,000	1,050,000	6 holes	0.64	± 2.90	1		± 1.45	1

[1] For selection see page 22 et seqq.

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 3.5																						
Size	Pilot bored	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø58	Ø60	Ø65	Ø70	Ø75	Ø80	Ø85	Ø90
43	15.0	238	248	258	297	317	347	377	397	416	446	476	496	545								
51	28.0				594	633	693	752	792	831	891	950	990	1089	1148	1188	1286	1385				
61	30.0							1039	1093	1148	1230	1312	1367	1503	1585	1640	1777	1913	2050	2187		
75	35												3129	3192	3630	3755	4068	4381	4694	5006	5319	5632

Ordering example:

RADEX®-NC 43	DK	3.5 - Ø25		3.5 - Ø35	
Coupling size	Type	Hub type	Finish bore	Hub type	Finish bore

RADEX®-NC DK and EK with clamping ring hubs
Servo laminae couplings

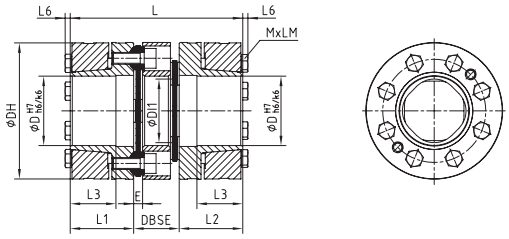
Double- and single-cardanic types



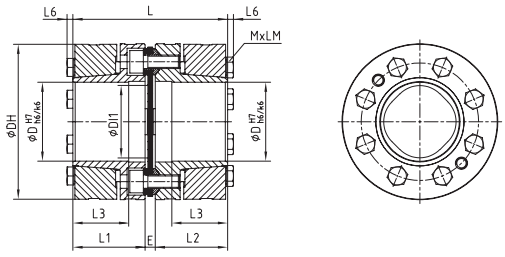


Hub type 6.5

Type DK



Type EK



RADEX®-NC Types DK and EK - Hub and spacer material aluminium/laminas made of stainless steel

Size	Dimensions [mm]										Clamping screws DIN EN ISO 4017			Mass moment of inertia [kgm²]	
					Type DK		Type EK								
	D_{max}	DH	L1, L2	L3	L	DBSE	L	L6	Dl1	E	M x LM	Z = number[1]	T_A [Nm]	Type DK	Type EK
16	20	46	24	18	62	14	3.0	3.0	19.5	3	M5 x 20	4	6	0.000075	0.000063
21	28	58	28	22	75	19	3.1	3.1	24	3.5	M6 x 25	4	10	0.000218	0.000177
26	35	69	36	28	96	24	2.4	2.4	30	5	M5 x 30	8	6	0.000565	0.000467
36	42	84	43	35	109.6	23.6	4.35	4.35	48	4.8	M8 x 40	6	25	0.001581	0.001294
43	60	104	46	35	126	34	4.95	4.95	61	8	M8 x 40	6	25	0.004051	0.003250
51	70	124	50	38	138	38	6.25	6.25	73	8	M10 x 45	6	49	0.008981	0.007096
61	80	144	55	43	152	42	6.75	6.75	88	10	M12 x 50	6	85	0.024188	0.020678

Technical data

Size	T_{KN} [2] [Nm]	$T_{K\,max}$ [2] [Nm]	Max. speed [rpm]	Torsion spring stiffness [Nm/rad]		Lamina type	Displacements of type DK			Displacements of type EK		
				Type EK	Type DK		Radial [mm]	Axial [mm]	Angular per lamina [degree]	Radial [mm]	Axial [mm]	Angular per lamina [degree]
16	35	53	31,150	20,000	10,000	4 holes	0.19	± 1.00	1.00	—	± 0.50	1
21	70	105	24,700	40,000	20,000	4 holes	0.27	± 1.20	1.00	—	± 0.60	1
26	120	180	20,800	84,000	42,000	4 holes	0.33	± 1.60	1.00	—	± 0.80	1
36	340	510	17,100	280,000	140,000	6 holes	0.32	± 2.00	1.00	—	± 1.00	1
43	600	900	13,800	510,000	255,000	6 holes	0.45	± 2.20	1.00	—	± 1.10	1
51	1300	1950	11,600	920,000	460,000	6 holes	0.52	± 2.50	1.00	—	± 1.25	1
61	2000	3000	10,000	1,500,000	750,000	6 holes	0.56	± 2.60	1.00	—	± 1.30	1

[1] per clamping ring hub
[2] For selection see page 22 et seqq.

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 6.5

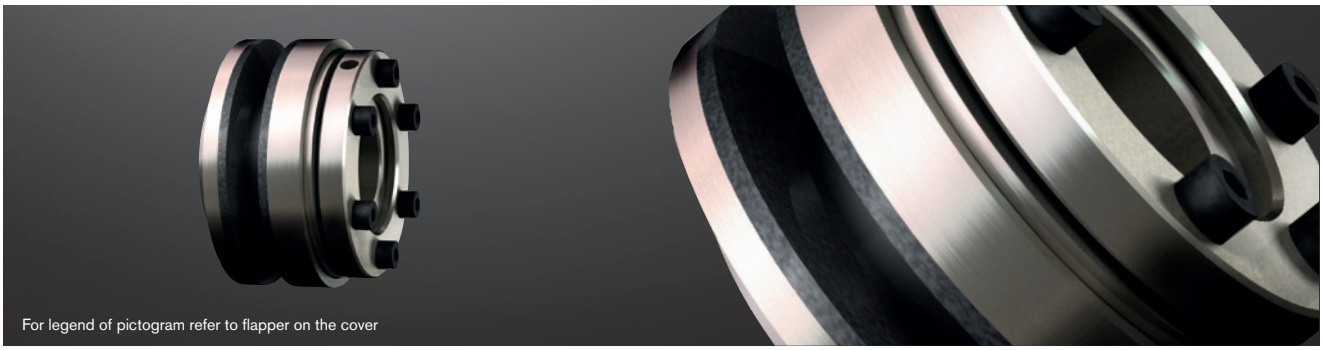
Size	Tolerance fit	Ø10	Ø12	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*	Ø60*	Ø65*	Ø70*	Ø75*	Ø80*
16	H7/h6	29	33	57	70	50	83	97																		
	H7/k6	34	42	64	76	62	96	109																		
21	H7/h6	27	45	75	91	79	125	145	127	144	201															
	H7/k6	36	56	83	99	93	139	157	169	187	245															
26	H7/h6				104	126	194	169	279	311	338	404	273	357												
	H7/k6				124	145	214	200	305	334	382	444	355	441												
36	H7/h6							241	395	438	521	616	523	664	647	741	841									
	H7/k6							284	430	471	558	646	640	779	778	875	974									
43	H7/h6										595	705	647	814	946	1073	980	1163	1360	1200	1072	1372				
	H7/k6										684	789	784	916	1096	1219	1144	1332	1534	1376	1370	1669				
51	H7/h6											750	818	1020	1085	1228	1166	1377	1605	1450	1607	2283	2255	2704		
	H7/k6											822	927	1117	1254	1392	1348	1568	1803	1652	1960	2387	2447	2842		
61	H7/h6													880	1074	1211	1264	1480	1597	1750	1911	2097	2542	2669	2718	3168
	H7/k6													951	1131	1258	1333	1534	1668	1810	2032	2239	2635	2785	2855	3252

* From Ø55 tolerance G7/h6 or G7/m6

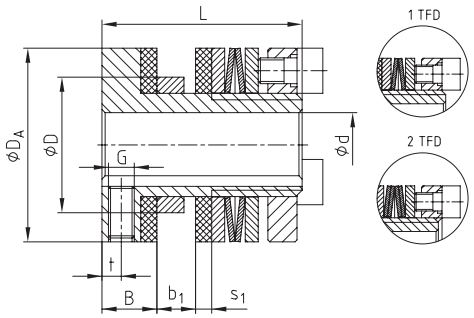
Ordering example:

RADEX®-NC 26	DK	6.5 - Ø24		6.5 - Ø35	
Coupling size	Type	Hub type	Finish bore	Hub type	Finish bore

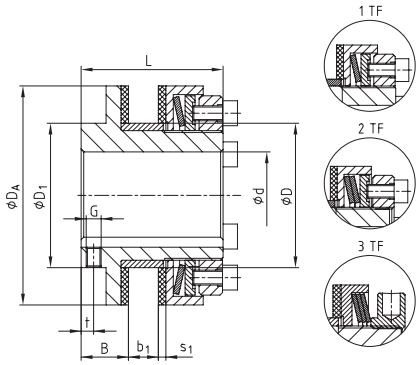
Standard width of drive component



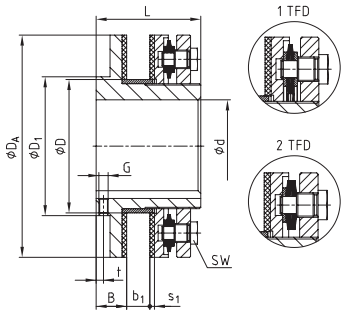




Size 00



Size 0 - 5



Size 6 - 9

Technical data – dimensions

Size	Max. speed [rpm]	Torques [Nm]			Dimensions [mm]											
					Bore d		D [2]	D_1	D_A	B	Drive component b_1		s_1	L	Setscrew	
		1TF	2TF	3TF [3]	Pilot bore	max.					min.	max.			t	G
00	10000	(0.5) [4] 1-3	2-5	–	–	10	21	-	30	8.5	2	6	2.5	31	3	M4
0	8500	2-10	4-20	–	–	19 (20) [1]	35	45	45	8.5	2	6	2.5	33	3	M4
01	6600	5-35	10-70	–	–	22	40	40	58	16	3	8	3	45	4	M5
1	5600	20-75	40-150	130-200	–	25	44	45	68	17	3	10	3	52	5	M5
2	4300	25-140	50-280	250-400	–	35	58	58	88	19	4	12	3	57	5	M6
3	3300	50-300	100-600	550-800	–	45	72	75	115	21	5	15	4	68	5	M6
4	2700	90-600	180-1200	1100-1600	–	55	85	90	140	23	6	18	4	78	5	M8
5	2200	400-800	800-1600	1400-2100	–	65	98	102	170	29	8	20	5	92	8	M8
6	1900	300-1200	600-2400	–	38	80	116	120	200	31	8	23	5	102	8	M8
7	1600	600-2200	1200-4400	–	45	100	144	150	240	33	8	25	5	113	8	M10
8	1300	900-3400	1800-6800	–	58	120	170	180	285	35	8	25	5	115	8	M10
9	1000	2500-6000	6000-12000	–	65	140	237	225	350	53	16	28	6	162	11	M12

[1] The figure in brackets specifies the max. bore with keyway to DIN 6885 sheet 3 (low-rise design)
[2] Bore tolerance (drive component): F8 with size 00 - 4, H8 with size 5 - 9
[3] 3 disk springs (3TF), for low friction work only
[4] With special disk spring

On request:



- With clamping setting nut for size 1 - 5 (standard with 3TF)
- For radial torque setting



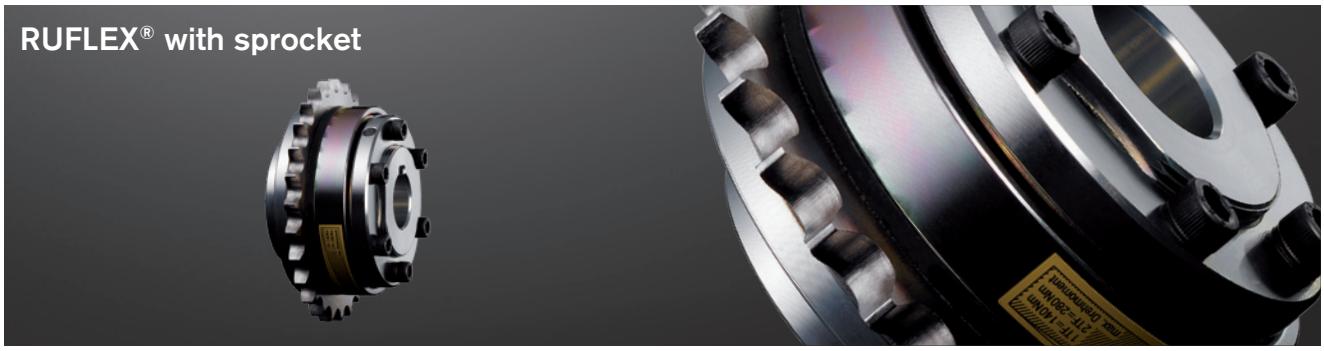
- With taper sleeve (hub type 4.5)
- Frictionally engaged shaft-hub-connection

Ordering example:

RUFLEX® 1	2TF	b_1 10	d Ø20
Type/size	Disk spring layering	Width of drive component b_1	Finish bore

Other types

RUFLEX® with sprocket



- Torque limiter with integrated sprocket
- overload protection up to 800 Nm
- Subassembly ready to fit
- torque setting as requested by the customer available ex works
- Available from stock with standard sprockets
- other sprockets available as requested by the customer

RUFLEX® with torsionally flexible ROTEX®



- Torque limiter for shaft-to-shaft connections
- Torsionally flexible torque limiter able to compensate for displacements
- Axial plug-in
- Easy setting of slipping torque via standard tools
- overload protection up to 12,000 Nm

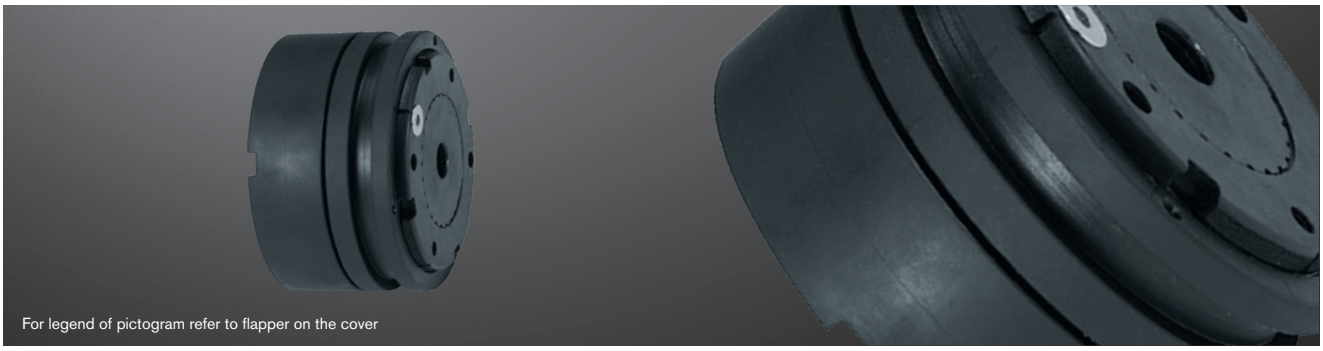
RUFLEX® with torsionally stiff BoWex®



- Torque limiter as a torsionally stiff double-cardanic shaft-to-shaft connection
- Big displacements subject to double-cardanic design
- low-cost torque protection for shaft-to-shaft connections
- Axial plug-in
- Easy setting of slipping torque via standard tools
- overload protection up to 400 Nm

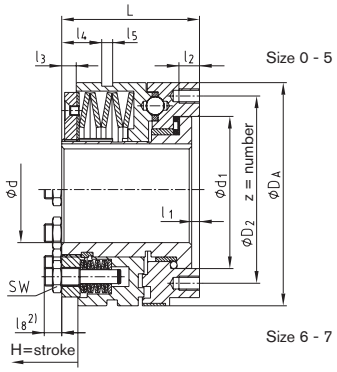
KTR-SI
Overload system

Flange type

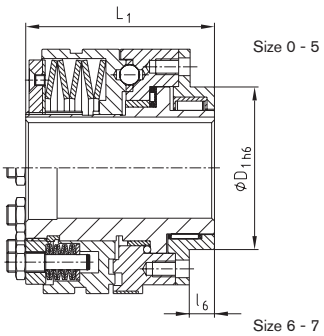




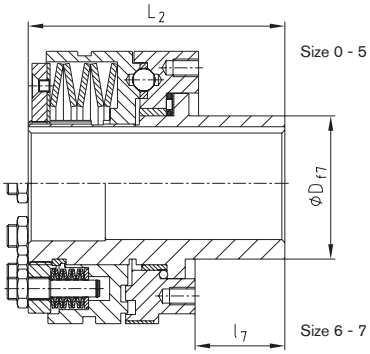
Type FT



Type KT



Type LT



Technical data

Size	Torques [Nm]												Weight with max. bore [kg]
	Type DK				Type SR and SGR				Type FR				
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	$n_{max.}$ [rpm]	
0	2.5-5	5-20	–	20-40	5-10	10-40	–	–	5-10	10-20	20-40	6000	0.41
1	6-12	12-25	25-55	55-100	12-25	25-50	50-100	–	12-25	25-50	50-100	5000	1.30
2	12-25	25-50	50-120	120-200	25-50	50-100	100-200	–	25-50	50-100	100-200	4000	2.27
3	25-50	50-100	100-250	200-450	50-100	100-200	200-450	–	50-100	100-200	200-450	3500	3.88
4	50-100	100-200	200-500	500-1000	100-200	200-400	400-800	800-2000	100-200	200-400	400-800	3000	8.34
5	85-250	230-600	300-1000	600-2000	170-450	350-900	600-1800	1200-3400	170-450	350-900	600-1800	2300	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	D_1	D_2	D_A	l1	l2	l3	l4	l5	l6	l7	L	L_1	L_2	z	H=stroke			
	Pilot bore	max.																	DK	SR	SGR	FR
0	7	20	41.0	28	38	48	55	4.0	6.5	3.0	7.5	9	8	27.5	38.5	51.0	66.0	6xM5	1.4	1.2	0.6	1.6
1	10	25	60.0	38	50	70	82	4.0	8.0	6.0	11.5	9	10	33.0	52.0	70.0	85.0	6xM5	2.3	1.8	0.8	2.3
2	14	35	78.0	52	60	89	100	5.0	10.0	5.0	12.0	9	12	39.0	61.0	78.0	100.0	6xM6	2.4	2.0	1.1	3.0
3	18	45	90.5	65	80	105	120	5.0	12.0	8.5	21.0	10	12	47.0	78.0	96.0	125.0	6xM8	2.7	2.2	1.2	3.5
4	24	55	105.0	78	100	125	146	6.5	15.0	11.0	27.0	9	16	52.5	100.0	124.5	152.5	6xM10 [1]	3.7	2.5	1.2	3.8
5	30	65 (70)[3]	120.5	90	120	155	176	6.5	17.0	12.0	33.0	9	18	57.5	113.5	140.0	171.0	6xM12 [1]	4.6	3.0	1.6	4.5
6 [2]	40	80	136.0	108	130	160	200	7.0	20.0	14.0	39.0	9	20	64.0	119.0	150.0	183.0	6xM12 [1]	5.0	3.5	2.5	–
7 [2]	50	100 (110) [3]	168.0	135	160	200	240	8.0	25.0	15.0	46.0	9	25	72.0	141.0	175.0	213.0	6xM16 [1]	5.5	4.0	2.7	–

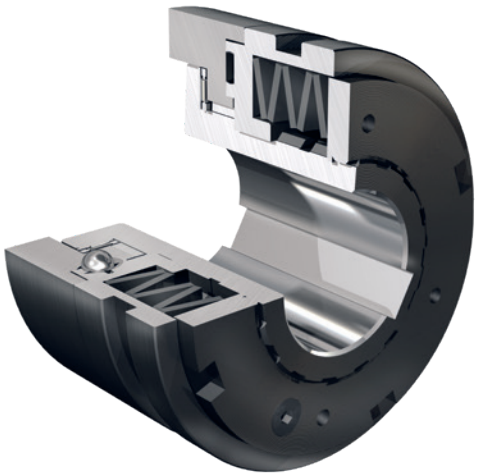
[1] Type T4 SR and SGR: tightening torques according to 12.9
[2] Size 6: dimension l_8 = 15 mm, size 7: dimension l_8 = 21 mm
[3] The figure in brackets specifies the max. bore with keyway to DIN 6885 sheet 3 (low-rise design)

Ordering example:

KTR-SI 2	FR	FT	T2	d Ø20	40 Nm
Type/size	Type (DK/SR/SGR/FR)	Type	Disk spring layering	Bore	Torque set

Design and operation

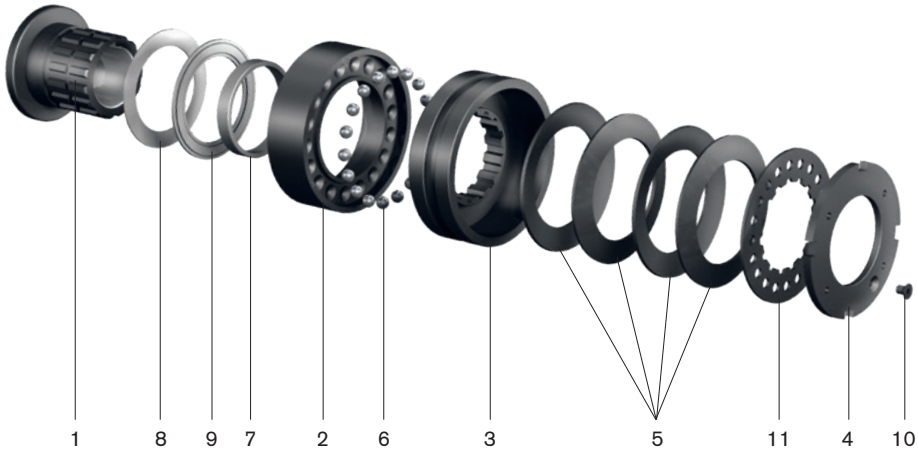
- Overload protection up to 8,200 Nm
- Available as a ratchet, synchronous, idle rotation and fail-safe design with the same dimensions
- Reduction of torque peaks
- High response accuracy, even after a long operating period
- Disconnection of the drive with overload by retrieving limit switch
- Automatically operative (DK, SR, SGR)



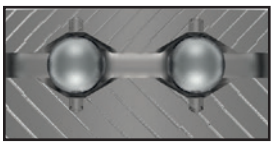
- Available in various types (e. g. with needle bearing) and combinations (e. g. with torsionally flexible ROTEX®)
- Easy assembly and torque setting
- Maintenance-free
- Insensitive to oil and grease
- Long service life due to high-quality materials

In case of overload the ratchet components (balls resp. rollers) leave their indentations, and a relative motion between the driving and driven side is generated. Damages caused by overload are reliably prevented in this way. The shift ring (3) makes an axial motion to the engagement travel „H“ activating the limit switch or proximity initiator. The signal can be used for controlling or disconnecting the drive. For restarting we would recommend to electrically bypass the limit switch or proximity switch for a short time.

Component	Description
1	Hub
2	Flange ring
3	Shifting ring
4	Setting nut
5	Disk spring
6	Ball bearing cage
7	Plain bush
8	Axial disk
9	Axial needle bearing
10	Setscrew
11	Lock washer



No signal with normal operation

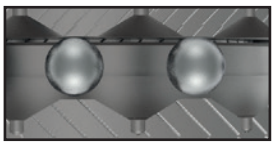


Engaged



Limit switch

Signal with overload



Disengaged



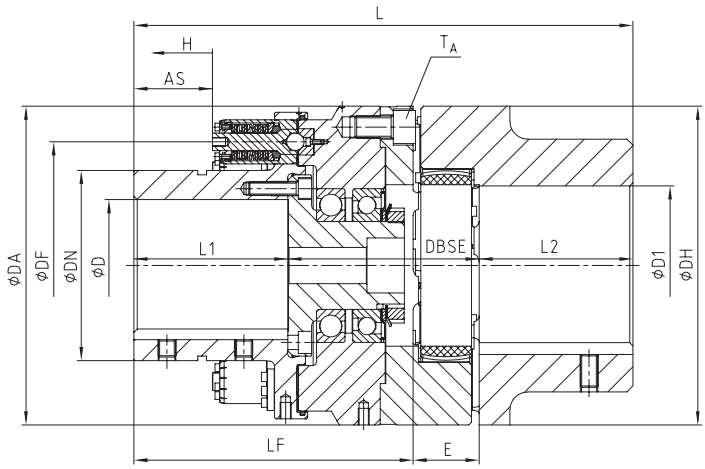
Limit switch

KTR-SI FRE
Idle rotation overload system

With torsionally flexible ROTEX®







Torques [Nm]							
Size	Type of element	3 idle rotation elements		6 idle rotation elements		9 idle rotation elements	
		min.	max.	min.	max.	min.	max.
9	1T1	800	2600	–	–	–	–
	1T2	1000	4000	2000	8000	–	–
	1T3	2400	5500	4800	11000	–	–
12	1T2	1300	5000	2600	10000	3900	15000
	1T3	2900	6700	5800	13400	8700	20100
15	1T2	1700	6000	3400	12000	5100	18000
	1T3	3500	8200	7000	16400	10500	24600
20	2T2	5000	15000	10000	30000	15000	45000
	2T3	13100	20000	26300	40000	39400	60000

Technical data – dimensions																				
Size [1]	ROTEX®			Max. bore		Dimensions [mm]												T_A [Nm]	Speed [2] [rpm]	Weight with max. bore [kg]
	Size	Torque [3] [Nm] 64 ShD		D	D1	DN	D_F	DH	D_A	L1	AS	L2	DBSE	LF	E	L	H=stroke			
		T_{KN}	$T_{K\,max}$																	
9	90	4500	9000	90	110	135	185	200	260	120	53.3	100	133	217	45	362	5.2	117	3300	59
12	125	12500	25000	120	145	173	225	290	290	146	71.3	140	165	254	60	454	5.2	560	2300	106
15	140	16000	32000	150	160	215	270	320	324	170	103.3	155	176	292	65	512	5.2	560	2050	147
20	180	35000	70000	200	200	285	370	420	460	220	110.6	195	227	381	85	661	8.9	970	1550	349

[1] Other sizes on request
[2] Higher speeds possible on request
[3] See ROTEX®coupling selection on page 14 et seqq. in catalogue „Drive Technology“



Special type:

- KTR-SI FRE with torsionally flexible pin & bush coupling REVOLEX® KX-D and limitation of axial backlash
- KTR-SI FRE with torsionally stiff all-steel gear coupling GEARex® and integrated brake disk
- KTR-SI FRE with torsionally stiff laminae coupling RADEX®-N and integrated brake disk

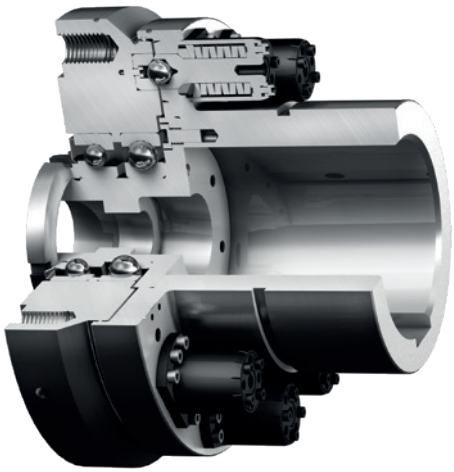
Ordering example:

KTR-SI FRE 12	1T3	9	d Ø85	ROTEX® 125	98 ShA	d_1 Ø85	12000 Nm
Type/size	Type of element	Number of idle rotation elements	KTR-SI FRE bore	Type/size	Spider	ROTEX® bore	Torque set

KTR-SI FRE
Idle rotation overload system

Design and operation

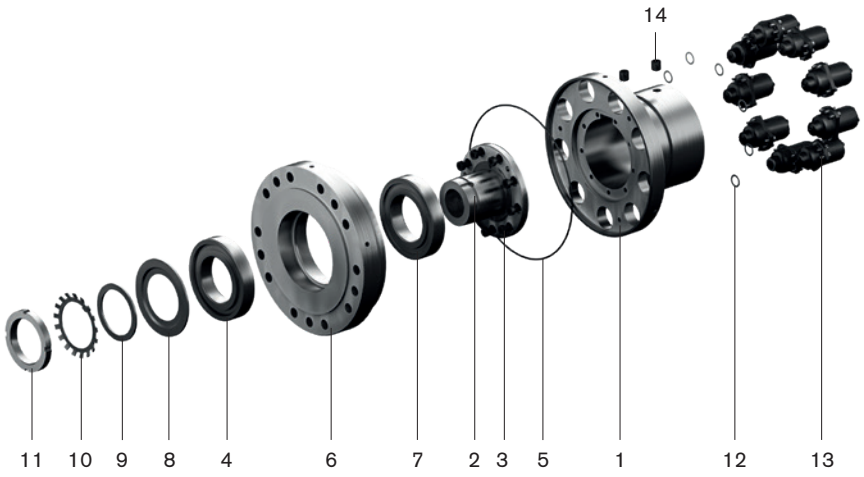
- Setting range up to 60,000 Nm (higher torques available on request)
- Idle rotation overload system (load-separating)
- High repeatability



- Flange type to connect toothed belt pulleys or sprockets
- Combination with ROTEX®, GEARex® or RADEX®-N as a shaft-to-shaft connection
- The intelligent further development of shear pin couplings and hydraulic clamping sets

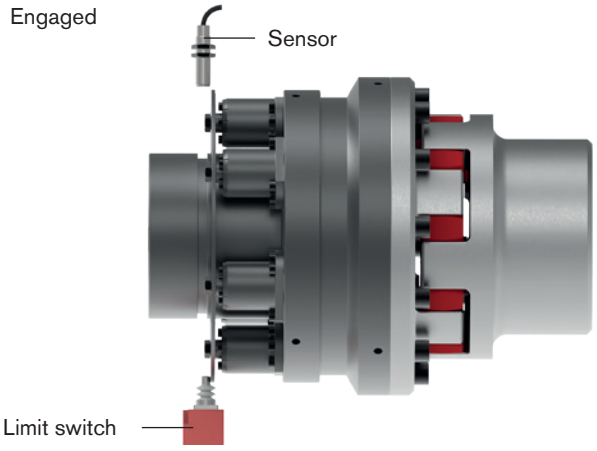
The core of the overload system is formed by the idle rotation elements. They uncouple the driving and driven side in case of overload while protecting the drive train from damages. After eliminating the overload, the idle rotation elements are manually re-engaged so that the drive is released again. In order to set the coupling to the requested release torque, a defined pre-stress is generated on the disk springs in each idle rotation element via the setting nut. The number of idle rotation elements varies depending on the required release torque. If requested, the coupling can be preset by the manufacturer. It is also possible to individually adapt the coupling when in place.

Component	Description
1	Hub
2	Bearing flange
3	Cap screw
4	Angular ball bearing
5	O-ring
6	KTR-SI FRE connection flange
7	Groove ball bearing
8	NILOS ring
9	Support washer
10	Safety plate
11	Groove nut
12	Shim ring
13	Idle rotation element
14	Setscrew



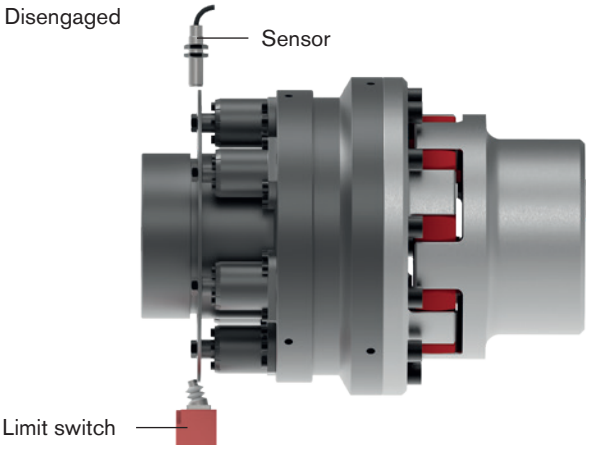
No signal with normal operation

Engaged



Signal with overload

Disengaged



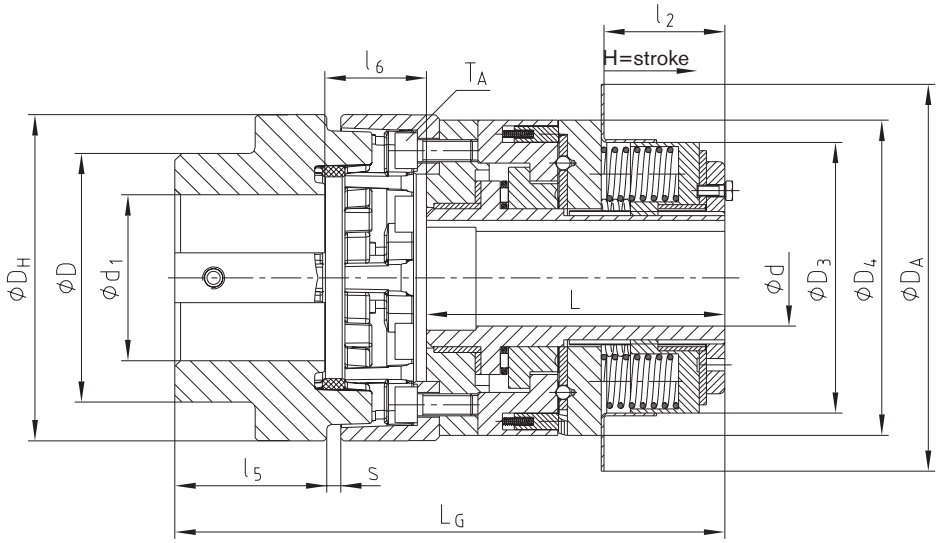
KTR-SI FRA

Idle rotation overload system with automatic re-engagement when reversing the direction of rotation

With torsionally flexible POLY-NORM®







Torques [Nm]				
KTR-SI FRA size	T1	T2	T3	T4
2	5-20	15-70	40-135	80-260
3	24-104	57-360	110-540	245-730
4	45-210	145-435	340-960	465-1320
5	90-415	240-640	490-1880	1060-3000

Technical data – dimensions

KTR-SI FRA size	POLY-NORM®			Max. bore		Dimensions [mm]													T_A [Nm]	Speed [rpm]	Weight with max. bore [kg]
	Size	Torque [Nm]		d	d_1	D	D_3	D_4	DH	D_A	l1	l2	l5	l6	s	L_G	L	H=stroke			
		T_{KN}	$T_{K\,max}$																		
2	55	300	600	35	60	90	98	114	118	140	108	45	55	27	5	189.3	108	2.8	23	3600	9
3	75	850	1700	45	70	123	131	149	158	184	111	42	75	33.8	5	218.8	111	3.5	46	3600	18
4	85	1350	2700	55	80	139	147	166	182	203	121	46	85	52.6	5	257.6	121	3.5	79	2000	25
5	100	3900	7800	80	90	165	196	223	224	279	164	70	100	63.2	6	326.2	164	4.4	195	2000	51

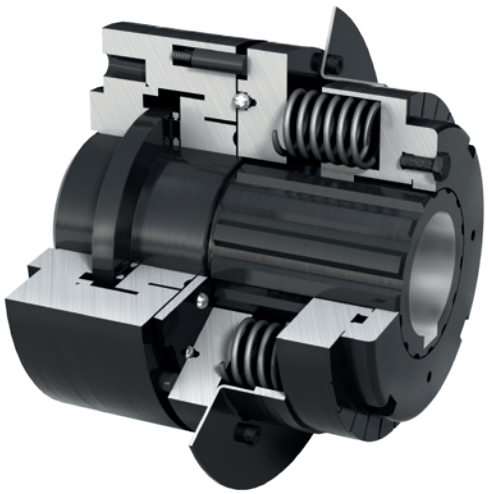
Ordering example:

KTR-SI FRA 3	T3	d Ø35	POLY-NORM® 75	AR	d_1 Ø45	300 Nm
Type/size	Torque setting range	KTR-SI FRA bore	Type/size	Type	POLY-NORM® bore	Torque set

KTR-SI FRA
Idle rotation overload system with automatic re-engagement when reversing the direction of rotation

Design and operation

- Overload protection up to 3,000 Nm
- Idle rotation overload system (load-separating)
- Re-engagement by reversing the direction of rotation, thus optimally suitable for locations difficult to accesss



- Flange type to connect toothed belt pulleys or sprockets
- Combination with torsionally flexible POLY-NORM® as a shaft-to-shaft connection

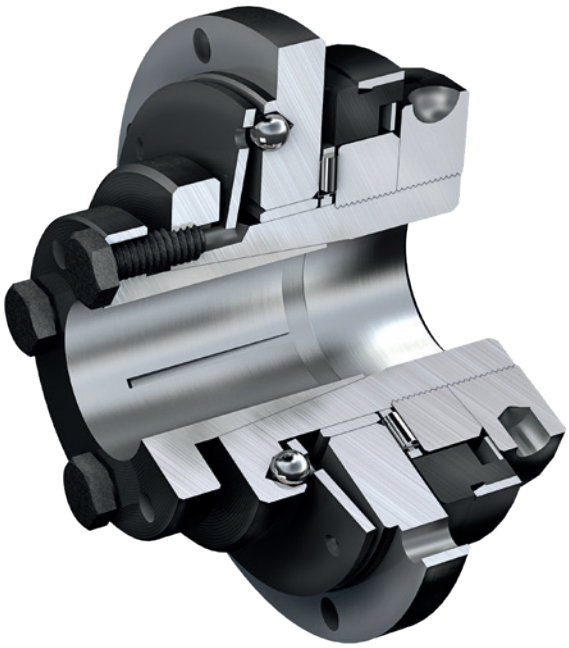
Component	Description
1	Connection flange
2	Plain bearing
3	Axial disk
4	Hub
5	Axial bearing
6	Bearing flange
7	Flange ring
8	Balls
9	Shifting ring
10	Disk springs
11	Pressure ring
12	Lock washer
13	Setting nut



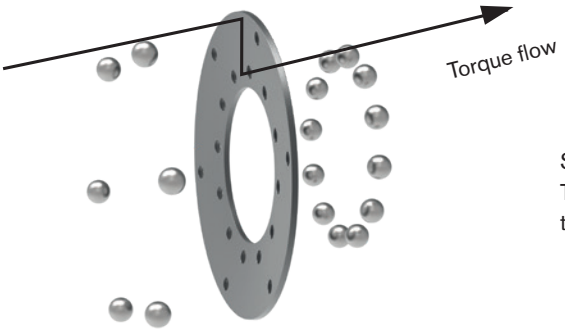
SYNTEX®
Backlash-free overload systems

Design and operation

- Backlash-free, torsionally stiff overload protection up to 400 Nm, suitable for reversing operation
- Disconnection of the drive in case of overload
- Reduction of torque peaks
- High response accuracy, even after a long operating period
- Easy integration of customer components
- Compact design, low mass moment of inertia
- User-variable due to modular system
- Special disk springs available for special applications



- Low-cost protection even for simple drives
- Easy assembly and torque setting
- Maintenance-free
- Insensitive to oil and grease
- Long service life due to small internal loads
- Backlash-free shaft-hub-connections
- Any or synchronous re-engagement
- Automatically ready for operation again



SYNTEX® is an overload system with positive locking operation.
The punched disk spring is a component serving for transmitting the torque.

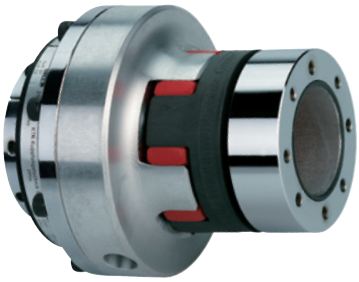
SYNTEX®
Overload system with mounting flange



SYNTEX®
Overload system with sprocket



SYNTEX®
Overload system with ROTEX® GS



Other types

SYNTEX® flange type



- Overload system with positive locking operation for torques up to 400 Nm
- Backlash-free and torsionally stiff
- High response accuracy
- Synchronous and ratchet design
- Protection of high-quality drive units

SYNTEX® with sprocket



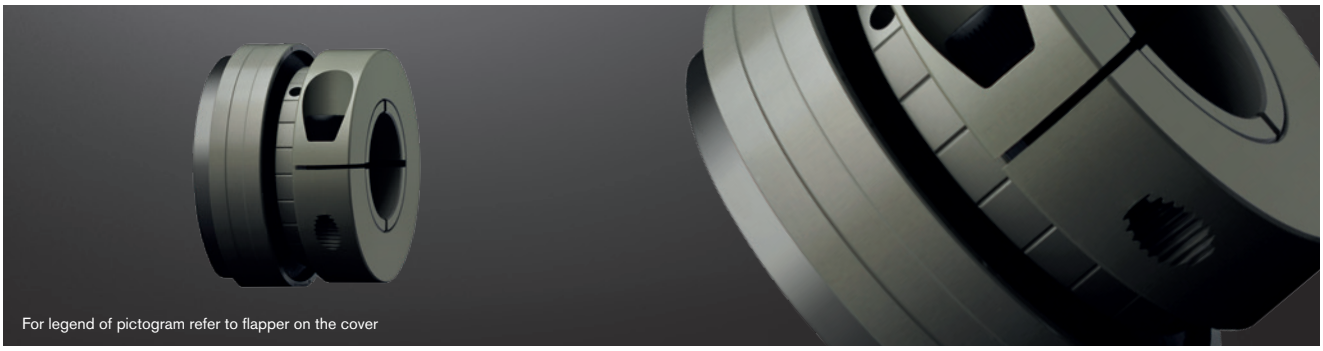
- Backlash-free overload system with integrated sprocket
- Available ready for assembly with the torque set
- standard sprockets available from stock
- Torque setting possible while in place
- reduction of components and costs due to integrated sprocket

SYNTEX® with toothed belt pulley



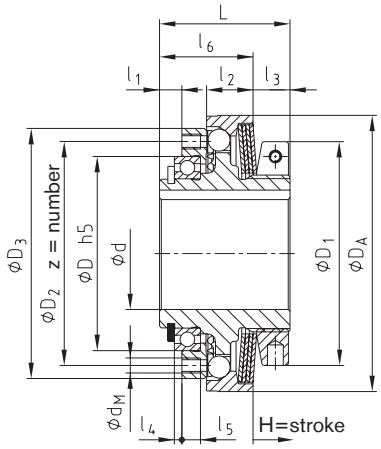
- Backlash-free overload system with integrated toothed belt pulley
- Ready to fit with slipping torque set
- Available as a synchronous and ratchet design
- Torque setting possible while in place
- reduction of components and costs due to integrated toothed belt pulley

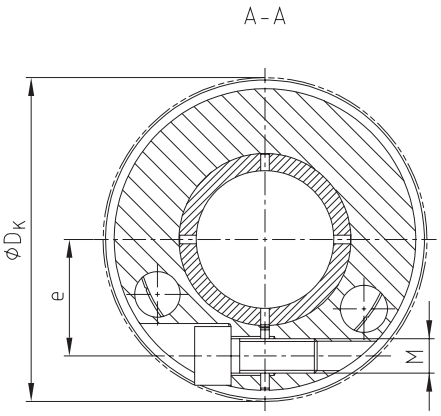
Hub type



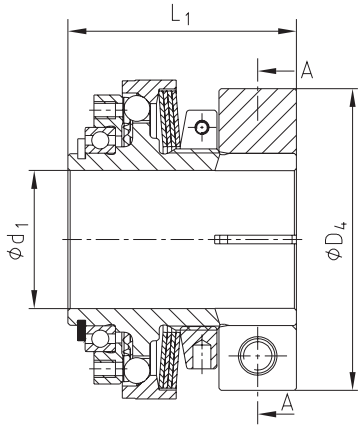


Hub type 1.0 (keyway acc. to DIN 6885)





Hub type 6.1 (clamping ring)



Technical data – dimensions

Size	Max. speed [rpm]	Torques [Nm]			Max. bore	Dimensions [mm]													
		T1	T2	T3	d	D_{H5}	D_1	D_2	D_3	D_A	l1	l2	l3	l4	l5	l6	L	z x d_M	H=stroke
15	3500	2-3.5	3.5-7	7-14	12	32	33	37	42	42	5.0	7.0	9.2	2	4	18.8	28	12xM3	0.8
25	3000	9-15	20-35	40-65	20 (22) [1]	42	50	48	56	61	5.5	11.5	9.1	2	5	23.9	33	8xM4	1.2
32	3000	25-38	50-75	100-150	27 (30) [1]	52	60	60	67	74	6	12.5	9.9	2	5	25.1	35	8xM4	1.5
42	2500	30-65	60-135	120-265	36 (38) [1]	65	72	75	83	90	7	16	11.2	2	6	31.8	43	8xM5	1.5
60 [3]	2000	70-140	120-180	220-550	50	90	96	100	113	116	8	21	11.8	2	7	38.2	52	12xM6	1.8

Dimensions – Hub type 6.1

Size	Bore d_1		Dimensions [mm]						Weight with max. bore [kg]	Mass moment of inertia [2] J_{total} [kgm²]
	Pilot bore	max.	D_4	DK	L_1	e	M	T_A [Nm]		
15	7.5	15	40	43	38	15	M4	1.7	0.124	0.029 x 10^{-3}
25	9.5	25	55	-	45	21	M6	14	0.282	0.14 x 10^{-3}
32	13.5	32	70	-	53	27	M8	34	0.471	0.35 x 10^{-3}
42	18.5	42	86	91.2	63	33	M10	67	0.815	0.95 x 10^{-3}
60 [3]	24	60	112	119.4	75	45	M12	115	3.04	5.9 x 10^{-3}

Transmittable friction torques T_R [Nm] (clearance H7/h6) of hub type 6.1

Size	Ø8	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø36	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60
15	8	12	14	16	22	24																				
25		30	35	42	55	62	69	48	53	58	69	80	86													
32						74	83	104	114	125	148	116	125	153	172	192										
42										149	178	209	225	275	310	264	309	324	356	389	422					
60 [3]													247	310	356	405	485	513	571	633	394	452	514	558	675	803

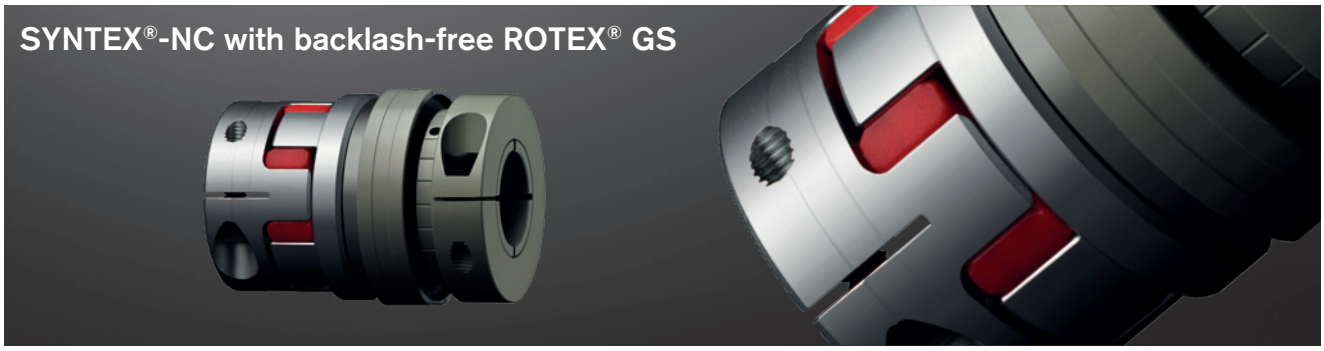
[1] The figure in brackets specifies the max. bore with keyway to DIN 6885 sheet 3 (low-rise design)
[2] With max. bore
[3] Material steel

Ordering example:

SYNTEX®-NC 32	SK	6.1	T3	d_1 Ø25	120
Type/size	Type (DK/SK)	Hub type	Disk springs	Bore	Torque set

SYNTEX®-NC
Backlash-free overload systems

Other types



- Overload system in combination with a backlash-free flexible ROTEX® GS
- Compact dimensions
- Torsionally flexible, able to compensate for displacements
- Axial plug-in
- Electrical insulation

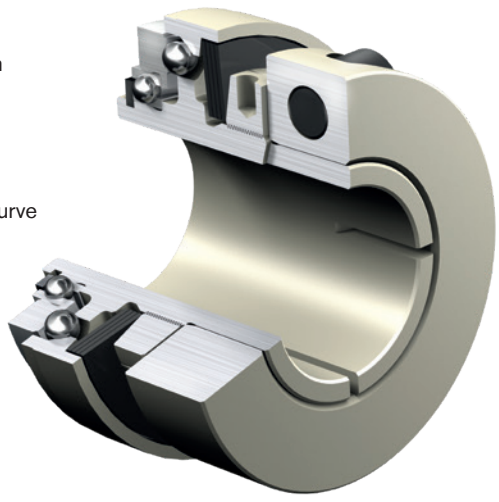


- Overload system in combination with a torsionally rigid, backlash-free TOOLFLEX®
- Able to compensate for displacements
- TOOLFLEX® with frictionally engaged clamping hub or taper hub

Operating principle

SYNTEX®-NC

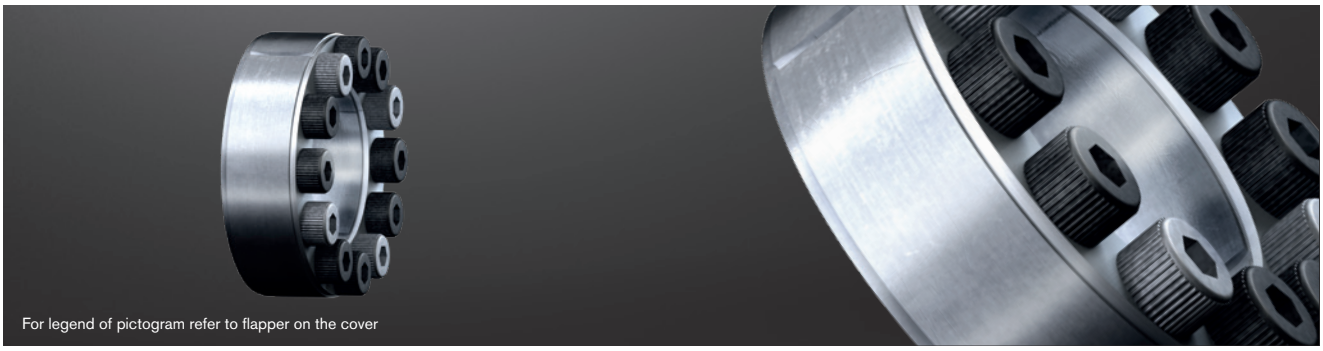
- Overload protection up to 550 Nm
- Backlash-free torque transmission
- Light-weight design
- Degressive spring characteristic curve
- Low mass moment of inertia
- Large bore diameters
- Short response times
- High power density



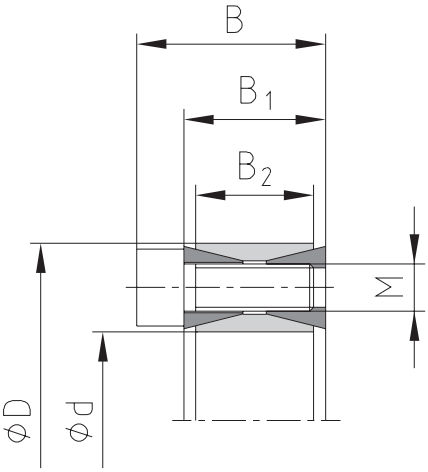
- Clamping ring design easy to assemble
- Available both as a ratchet (DK) and synchronous design (SK)
- Backlash-free shaft-hub-connection
- In combination with the backlash-free, torsionally flexible ROTEX® GS or backlash-free, torsionally stiff TOOLFLEX®
- Direct assembly of toothed belt pulleys, as an example, possible (integrated groove ball bearing)

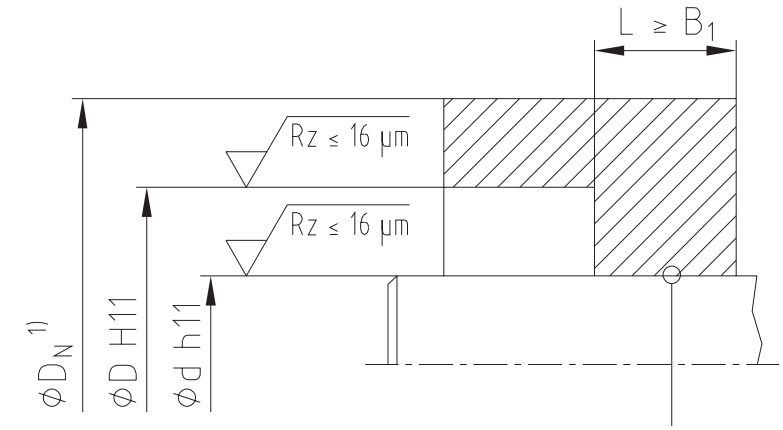
CLAMPEX® KTR 100
Clamping elements

Not self-centering, suitable for large shaft and hub tolerances



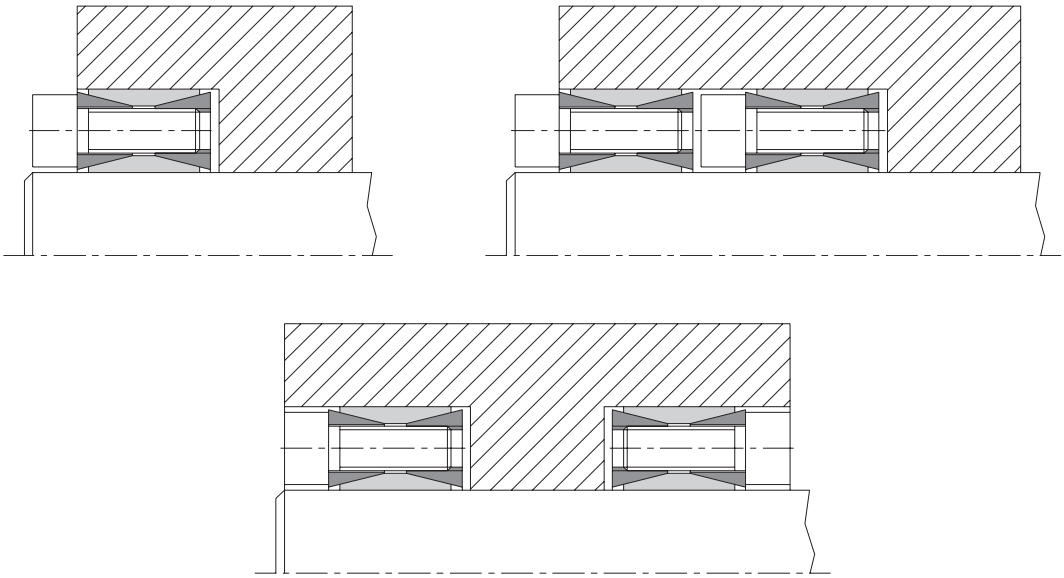






1) Dimension D_N: for calculation see page 295 in the catalogue „Drive Technology“

Example of application of hub type



● Sizes of clamping elements available from stock.

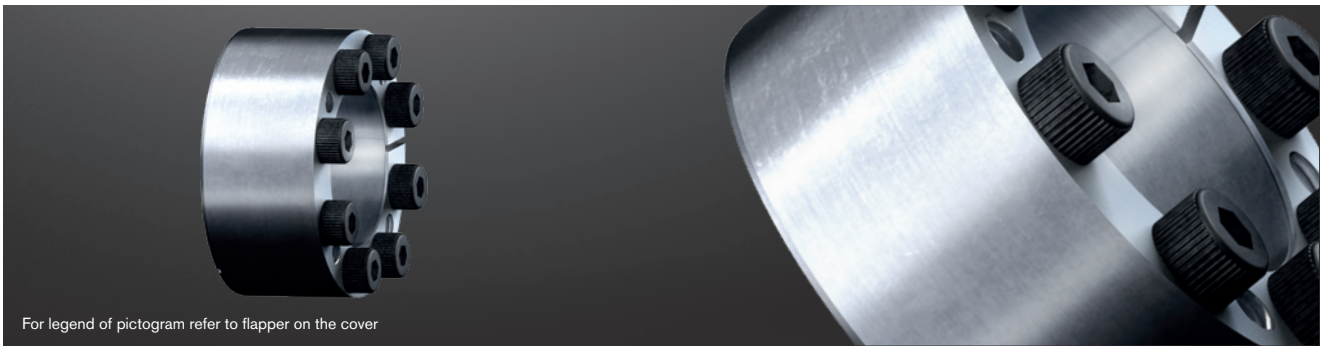
1) These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T, F_{ax}, P_W and P_N decreasing proportionately.

Ordering example:	KTR 100	50	x	80
	Series	Size of internal diameter d		Size of external diameter D

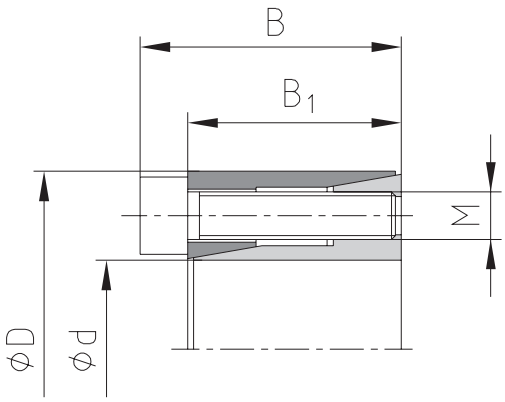
CLAMPEX® – KTR 100

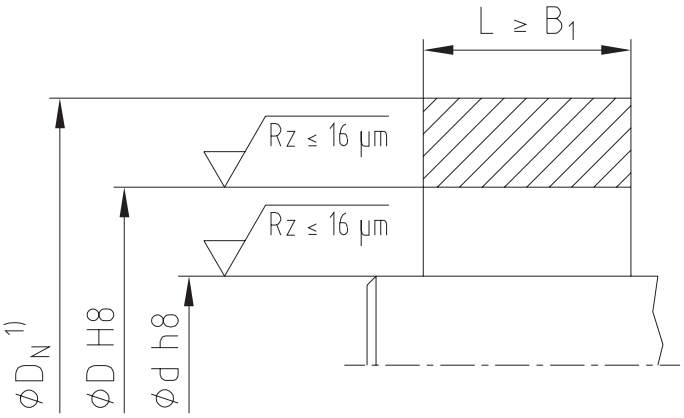
d x D [mm]	Dimensions [mm]			Clamping screws DIN EN ISO 4762 - 12.9 μ_{total}=0.14				Transmittable torque or axial force		Surface pressure between clamping element		Weight [~kg]	Stock programme
	B	B1	B2	M	Length	z = number	T_A [Nm] 1)	T [Nm]	F_{ax} [kN]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]		
17 x 47	26	20	17	M6	18	8	16	260	31	281	102	0.2	
18 x 47	26	20	17	M6	18	8	16	280	31	270	103	0.2	
19 x 47	26	20	17	M6	18	8	16	290	31	251	101	0.2	●
20 x 47	26	20	17	M6	18	8	16	310	31	242	103	0.2	●
22 x 47	26	20	17	M6	18	8	16	340	31	219	103	0.2	●
24 x 50	26	20	17	M6	18	8	16	370	31	200	96	0.3	●
25 x 50	26	20	17	M6	18	8	16	390	31	195	97	0.3	●
28 x 55	26	20	17	M6	18	12	16	650	46	259	132	0.3	●
30 x 55	26	20	17	M6	18	12	16	700	47	243	132	0.3	●
32 x 60	26	20	17	M6	18	12	16	750	47	229	122	0.3	●
35 x 60	26	20	17	M6	18	12	16	820	47	209	122	0.3	●
38 x 65	26	20	17	M6	18	15	16	1100	58	238	139	0.4	●
40 x 65	26	20	17	M6	18	15	16	1170	59	228	140	0.3	●
42 x 75	32	24	20	M8	22	12	40	1670	80	251	141	0.6	●
45 x 75	32	24	20	M8	22	12	40	1790	80	234	141	0.5	●
48 x 80	32	24	20	M8	22	12	40	1900	79	219	131	0.6	●
50 x 80	32	24	20	M8	22	12	40	1990	80	211	132	0.6	●
55 x 85	32	24	20	M8	22	15	40	2740	100	240	155	0.6	●
60 x 90	32	24	20	M8	22	15	40	2990	100	220	147	0.7	●
65 x 95	32	24	20	M8	22	15	40	3240	100	203	139	0.8	●
70 x 110	38	28	24	M10	25	15	78	5550	159	250	159	1.3	●
75 x 115	38	28	24	M10	25	15	78	5950	159	234	152	1.2	●
80 x 120	38	28	24	M10	25	15	78	6350	159	219	146	1.4	●
85 x 125	38	28	24	M10	25	15	78	6740	159	206	140	1.4	●
90 x 130	38	28	24	M10	25	15	78	7140	159	195	135	1.5	●
95 x 135	38	28	24	M10	25	18	78	9000	189	220	155	1.6	●
100 x 145	44	32	26	M12	30	15	135	11600	232	237	163	2.2	●
110 x 155	44	32	26	M12	30	15	135	12750	232	215	153	2.3	●
120 x 165	44	32	26	M12	30	16	135	14800	247	210	153	2.4	●
130 x 180	50	38	34	M12	30	20	135	20150	310	186	134	3.5	●
140 x 190	50	38	34	M12	30	22	135	23850	341	190	140	3.8	●
150 x 200	50	38	34	M12	30	24	135	27850	371	193	145	4.0	●
160 x 210	50	38	34	M12	30	26	135	32200	403	196	150	4.4	●
170 x 225	58	44	38	M14	45	22	215	40300	474	195	147	5.7	●
180 x 235	58	44	38	M14	45	24	215	46600	518	201	154	6.0	●
190 x 250	66	52	46	M14	45	28	215	57300	603	183	139	8.0	●
200 x 260	66	52	46	M14	45	30	215	71000	710	205	157	8.2	●
220 x 285	72	56	50	M16	50	26	335	93200	847	204	158	11.0	●
240 x 305	72	56	50	M16	50	30	335	117300	978	216	170	12.2	
260 x 325	72	56	50	M16	50	34	335	144000	1108	226	181	13.2	
280 x 355	84	66	60	M18	60	32	465	177700	1269	200	158	19.2	
300 x 375	84	66	60	M18	60	36	465	214100	1427	210	168	20.5	
320 x 405	98	78	72	M20	70	36	660	295800	1849	213	168	29.6	
340 x 425	98	78	72	M20	70	36	660	314300	1849	200	160	31.1	
360 x 455	112	90	84	M22	80	36	900	413300	2296	201	159	42.2	
380 x 475	112	90	84	M22	80	36	900	436300	2296	191	153	44.0	
400 x 495	112	90	84	M22	80	36	900	459300	2297	181	147	46.0	
420 x 515	112	90	84	M22	80	40	900	535800	2551	192	156	50.0	
440 x 545	130	102	96	M24	90	40	1130	647600	2944	185	149	64.6	
460 x 565	130	102	96	M24	90	40	1130	677000	2943	177	144	67.4	
480 x 585	130	102	96	M24	90	42	1130	741800	3091	178	146	71.0	
500 x 605	130	102	96	M24	90	44	1130	809500	3238	179	148	72.6	
520 x 630	130	102	96	M24	90	45	1130	861000	3312	176	145	80	
540 x 650	130	102	96	M24	90	45	1130	894000	3311	169	141	82	
560 x 670	130	102	96	M24	90	48	1130	989000	3532	174	146	85	
580 x 690	130	102	96	M24	90	50	1130	1067000	3679	175	147	88	
600 x 710	130	102	96	M24	90	50	1130	1103800	3679	169	143	91	
620 x 730	130	102	96	M24	90	52	1130	1186200	3826	171	145	93	
640 x 750	130	102	96	M24	90	54	1130	1271600	3974	172	146	96	
660 x 770	130	102	96	M24	90	56	1130	1359900	4121	173	148	99	
680 x 790	130	102	96	M24	90	56	1130	1401100	4121	167	144	102	
700 x 810	130	102	96	M24	90	60	1130	1545400	4415	174	151	104	
720 x 830	130	102	96	M24	90	60	1130	1589500	4415	169	147	107	
740 x 850	130	102	96	M24	90	62	1130	1688100	4562	170	148	110	
760 x 870	130	102	96	M24	90	64	1130	1789700	4710	171	150	113	
780 x 890	130	102	96	M24	90	65	1130	1865500	4783	169	149	116	
800 x 910	130	102	96	M24	90	66	1130	1942700	4857	168	147	118	
820 x 930	130	102	96	M24	90	68	1130	2051600	5004	169	149	121	
840 x 950	130	102	96	M24	90	70	1130	2163500	5151	169	150	124	
860 x 970	130	102	96	M24	90	72	1130	2278300	5298	170	151	127	
880 x 990	130	102	96	M24	90	74	1130	2396000	5445	171	152	129	
900 x 1010	130	102	96	M24	90	75	1130	2483600	5519	169	151	132	
920 x 1030	130	102	96	M24	90	76	1130	2572600	5593	168	150	135	
940 x 1050	130	102	96	M24	90	78	1130	2697700	5740	169	151	138	
960 x 1070	130	102	96	M24	90	80	1130	2825800	5887	169	152	140	
980 x 1090	130	102	96	M24	90	81	1130	2920700	5961	168	151	143	
1000 x 1110	130	102	96	M24	90	82	1130	3017100	6034	167	150	146	

Self-centering clamping element in a compact design



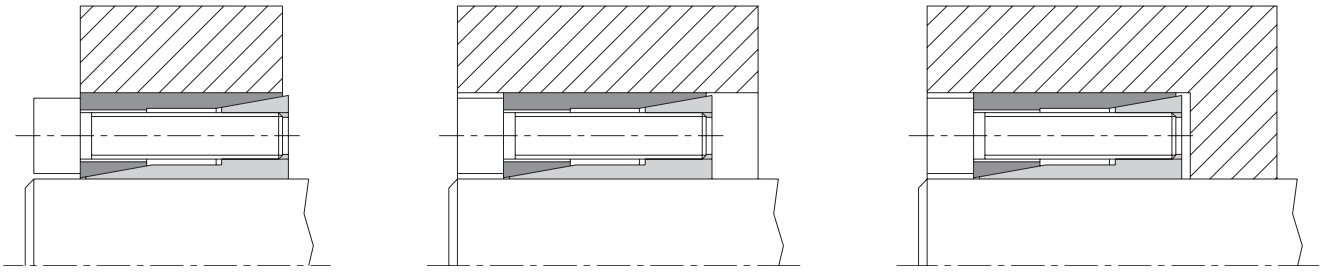






[1] Dimension D_N: for calculation see page 295 in the catalogue „Drive Technology“

Example of application of hub type



Ordering example:	KTR 105	8	x	18
	Series	Size of internal diameter d		Size of external diameter D

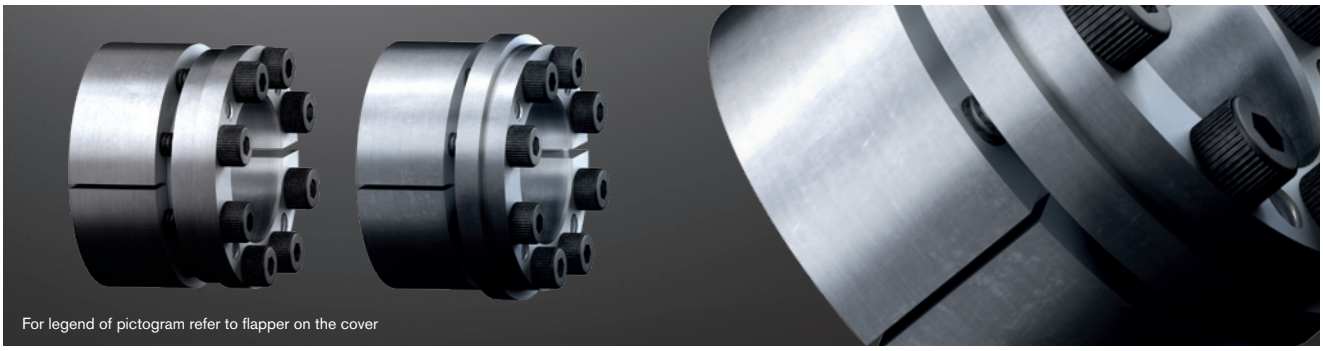
CLAMPEX® – KTR 105

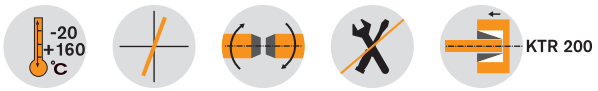
d x D [mm]	Dimensions [mm]		Clamping screws DIN EN ISO 4762 - 12.9 μ_{total}=0.14				Transmittable torque or axial force		Surface pressure between clamping element		Weight [~kg]	Stock programme
	B	B1	M	Length	z = number	T_A [Nm] [1]	T [Nm]	F_{ax} [kN]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]		
5 x 16	13.5	11	M 2.5	10	3	1.2	5	2	177	55	0.01	
6 x 16	13.5	11	M 2.5	10	3	1.2	6	2	147	55	0.01	●
6.35 x 16	13.5	11	M 2.5	10	3	1.2	6	2	132	52	0.01	●
7 x 17	13.5	11	M 2.5	10	3	1.2	8	2	144	59	0.01	●
8 x 18	13.5	11	M 2.5	10	3	1.2	10	3	138	61	0.02	●
9 x 20	15.5	13	M 2.5	12	4	1.2	15	3	140	63	0.02	●
9.53 x 20	15.5	13	M 2.5	12	4	1.2	15	3	125	60	0.02	
10 x 20	15.5	13	M 2.5	12	4	1.2	15	3	114	57	0.02	●
11 x 22	15.5	13	M 2.5	12	4	1.2	18	3	113	56	0.02	●
12 x 22	15.5	13	M 2.5	12	4	1.2	20	3	105	57	0.02	●
14 x 26	20	17	M3	16	4	2.1	35	5	105	57	0.04	●
15 x 28	20	17	M3	16	4	2.1	40	5	94	51	0.04	●
16 x 32	21	17	M4	16	4	4.9	70	9	132	66	0.07	●
17 x 35	25	21	M4	20	4	4.9	75	9	125	61	0.09	●
18 x 35	25	21	M4	20	4	4.9	80	9	119	61	0.09	●
19 x 35	25	21	M4	20	4	4.9	85	9	114	62	0.08	●
20 x 38	26	21	M5	20	4	9.7	150	15	153	81	0.1	●
22 x 40	26	21	M5	20	4	9.7	160	15	135	74	0.1	●
24 x 47	32	26	M6	25	4	16.5	250	21	154	78	0.2	●
25 x 47	32	26	M6	25	4	16.5	260	21	147	78	0.2	●
28 x 50	32	26	M6	25	6	16.5	440	31	198	111	0.2	●
30 x 55	32	26	M6	25	6	16.5	470	31	185	101	0.3	●
32 x 55	32	26	M6	25	6	16.5	500	31	173	100	0.25	●
35 x 60	37	31	M6	30	8	16.5	730	42	166	97	0.35	●
38 x 65	37	31	M6	30	8	16.5	800	42	155	90	0.4	●
40 x 65	37	31	M6	30	8	16.5	840	42	147	90	0.4	●
42 x 75	44	36	M8	35	6	40	911	43	125	70	0.7	●
45 x 75	44	36	M8	35	8	40	1300	58	155	93	0.6	●
48 x 80	44	36	M8	35	8	40	1824	76	191	115	0.7	
50 x 80	44	36	M8	35	8	40	1900	76	183	115	0.7	●

● Sizes of clamping elements available from stock.

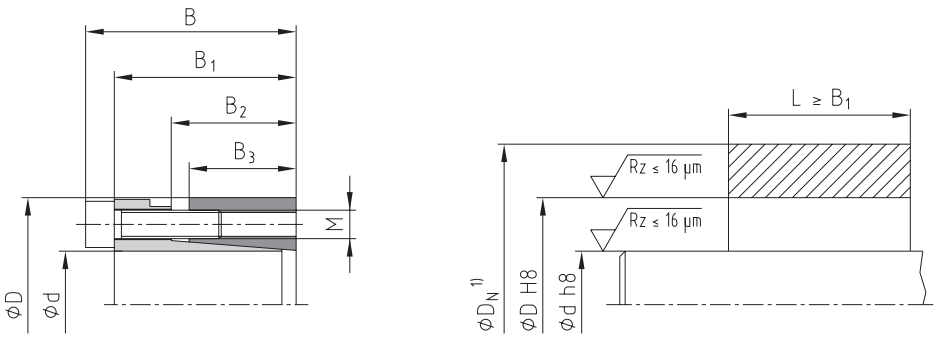
[1] These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T, F_{ax}, P_W and P_N decreasing proportionately.

Self-centering clamping elements with a wide range of applications



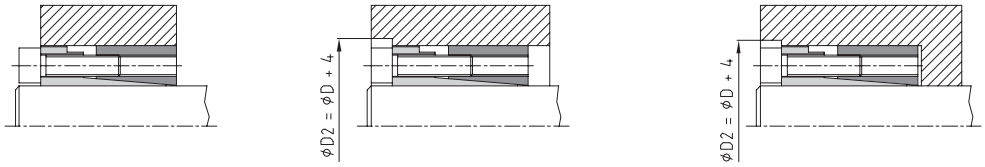


KTR 200

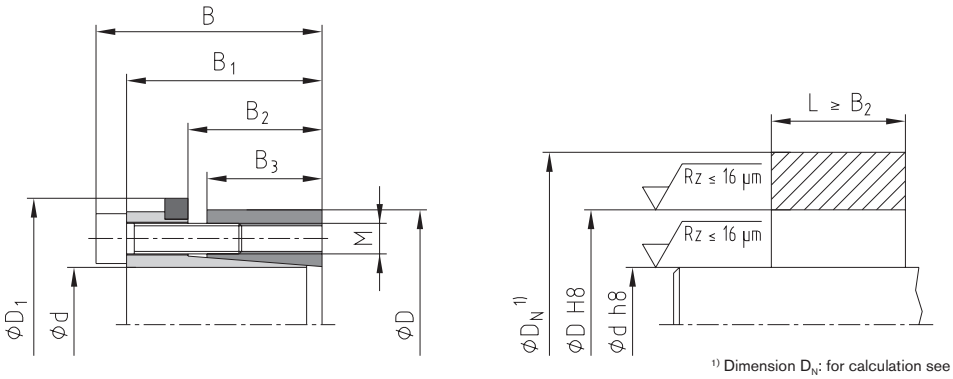


1) Dimension D_N: for calculation see page 295 in the catalogue „Drive Technology“

Example of application of hub type

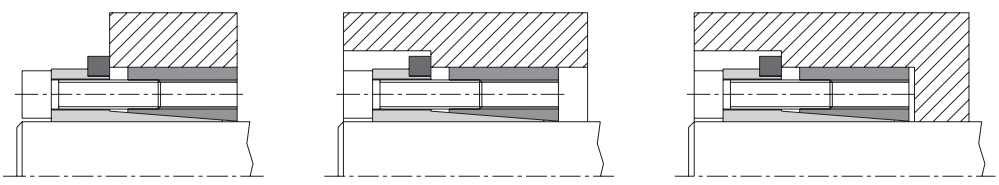


KTR 201



1) Dimension D_N: for calculation see page 295 in the catalogue „Drive Technology“

Example of application of hub type



Ordering example:	KTR 200	40	x	65
	Series	Size of internal diameter d		Size of external diameter D

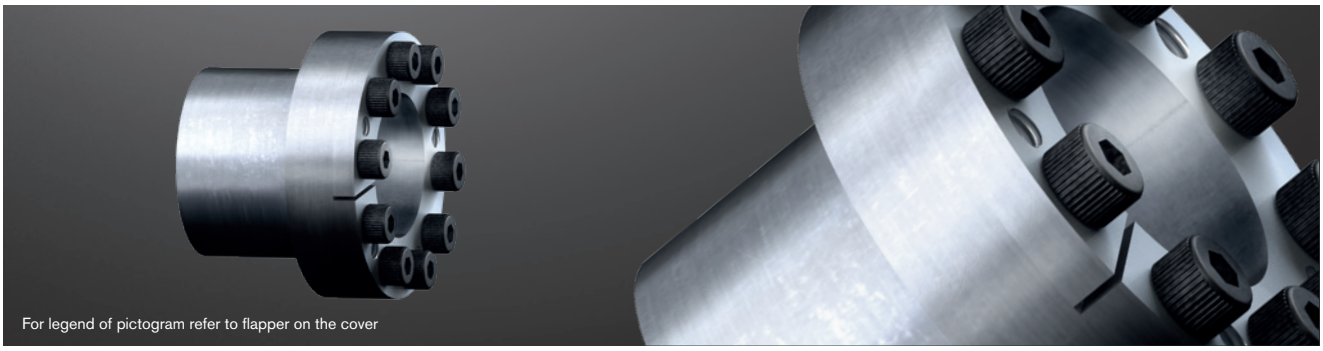
CLAMPEX® – KTR 200 and KTR 201

d x D [mm]	Dimensions [mm]					Clamping screws DIN EN ISO 4762 - 12.9 μ_{total}=0.14					KTR 200						KTR 201					
									T_A [Nm] [1]		Transmittable torque or axial force		Surface pressure between clamping element		Weight [~kg]	Stock programme	Transmittable torque or axial force		Surface pressure between clamping element		Weight [~kg]	Stock programme
	B	B1	B2	B3	D_1	M	Length	z = number	KTR 200	KTR 201	T [Nm]	F_{ax} [kN]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]			T [Nm]	F_{ax} [kN]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]		
20 x 47	48	42	31	26	53	M6	25	6	17	17	530	53	270	115	0.4	●	320	32	163	69	0.4	●
22 x 47	48	42	31	26	53	M6	25	6	17	17	580	53	245	114	0.4	●	360	33	152	71	0.4	●
24 x 50	48	42	31	26	56	M6	25	6	17	17	630	53	223	107	0.4	●	390	33	138	66	0.4	●
25 x 50	48	42	31	26	56	M6	25	6	17	17	660	53	215	108	0.4	●	400	32	131	65	0.4	●
28 x 55	48	42	31	26	61	M6	25	6	17	17	740	53	193	98	0.5	●	450	32	117	60	0.5	●
30 x 55	48	42	31	26	61	M6	25	6	17	17	790	53	179	98	0.5	●	490	33	111	61	0.5	●
32 x 60	48	42	31	26	66	M6	25	8	17	17	1150	72	229	122	0.6	●	690	43	137	73	0.6	●
35 x 60	48	42	31	26	66	M6	25	8	17	17	1300	74	217	126	0.5	●	750	43	125	73	0.5	●
38 x 65	48	42	31	26	71	M6	25	8	17	17	1300	68	184	107	0.6	●	820	43	116	68	0.6	●
40 x 65	48	42	31	26	71	M6	25	8	17	17	1400	70	179	110	0.6	●	860	43	110	67	0.6	●
42 x 75	59	51	35	30	81	M8	30	6	41	41	2000	95	200	112	1.0	●	1300	62	130	73	1.0	●
45 x 75	59	51	35	30	81	M8	30	6	41	41	2200	98	192	115	1.0	●	1400	62	122	73	1.0	●
48 x 80	59	51	35	30	86	M8	30	8	41	41	3200	133	246	147	1.1	●	1900	79	146	87	1.1	●
50 x 80	59	51	35	30	86	M8	30	8	41	41	3300	132	233	146	1.1	●	2000	80	141	88	1.1	●
55 x 85	59	51	35	30	91	M8	30	8	41	41	3600	131	210	136	1.2	●	2200	80	129	83	1.2	●
60 x 90	59	51	35	30	96	M8	30	8	41	41	3900	130	192	128	1.2	●	2400	80	118	79	1.2	●
65 x 95	59	51	35	30	101	M8	30	8	41	41	4300	132	180	123	1.3	●	2600	80	109	74	1.3	●
70 x 110	71	61	46	40	119	M10	30	8	83	83	7500	214	203	129	2.2	●	4600	131	125	79	2.3	●
75 x 115	71	61	46	40	124	M10	30	8	83	83	8000	213	189	123	2.3	●	5000	133	118	77	2.4	●
80 x 120	71	61	46	40	129	M10	30	8	83	83	8500	213	176	117	2.4	●	5200	130	108	72	2.6	●
85 x 125	71	61	46	40	134	M10	30	10	83	83	11400	268	209	142	2.6	●	7000	165	128	87	2.7	●
90 x 130	71	61	46	40	139	M10	30	10	83	83	12000	267	196	136	2.7	●	7400	164	121	84	2.8	●
95 x 135	71	61	46	40	144	M10	30	10	83	83	12600	265	185	130	2.8	●	7800	164	115	81	2.9	●
100 x 145	80	68	52	45	155	M12	35	8	145	145	15000	300	177	122	3.9	●	9800	196	116	80	4.1	●
110 x 155	80	68	52	45	165	M12	35	8	145	145	16500	300	161	114	4.2	●	10700	195	104	74	4.4	●
120 x 165	80	68	52	45	175	M12	35	10	145	145	22500	375	184	134	4.5	●	14600	243	120	87	4.7	●
130 x 180	80	68	52	45	188	M12	35	12	145	145	29000	446	202	146	5.5		19000	292	133	96	5.7	
140 x 190	90	76	58	50	199	M14	40	10	210	230	32000	457	173	128	6.6		23000	329	125	92	6.9	
150 x 200	90	76	58	50	209	M14	40	12	210	230	41000	547	193	145	6.9	●	30000	400	141	106	7.2	
160 x 210	90	76	58	50	219	M14	40	12	210	230	44000	550	182	139	7.4		32000	400	133	101	7.8	
170 x 225	90	76	58	50	234	M14	40	14	210	230	54500	641	200	151	8.6		39000	459	143	108	9.0	
180 x 235	90	76	58	50	244	M14	40	14	210	230	57500	639	188	144	9.1		41000	456	134	103	9.5	
190 x 250	90	76	58	50	259	M14	40	15	210	230	65000	684	191	145	10.6		46400	488	136	104	11.1	
200 x 260	90	76	58	50	269	M14	40	15	210	230	68000	680	180	139	11.2		48800	488	129	100	11.7	

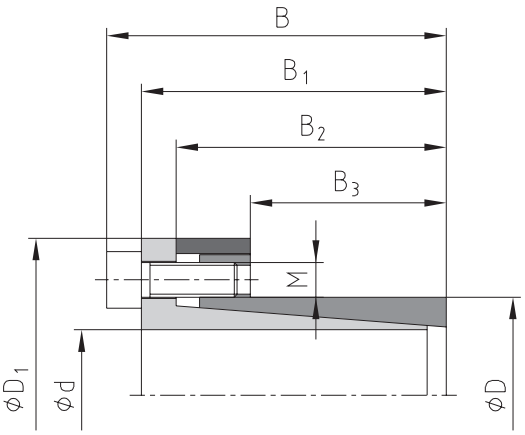
● Sizes of clamping elements available from stock.

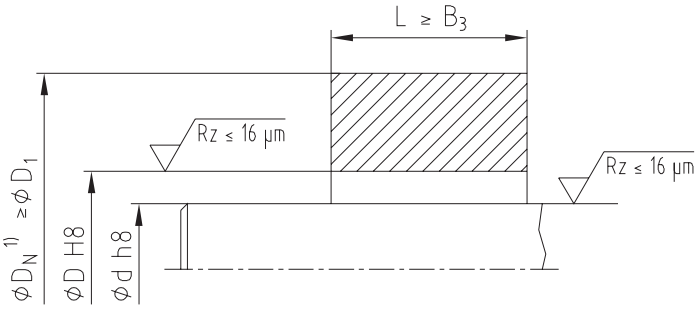
[1] These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T, F_{ax}, P_W and P_N decreasing proportionately.

Self-centering clamping element, particularly suitable for thin-walled hubs



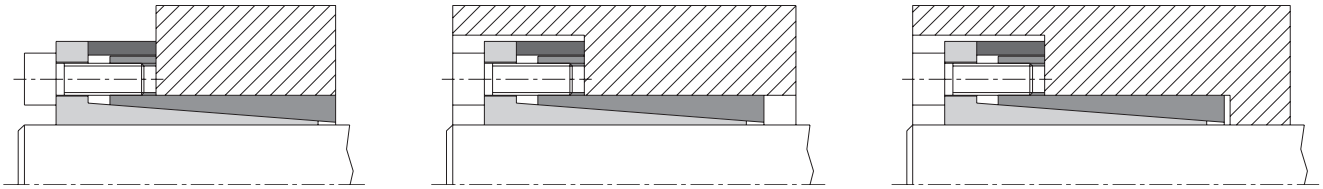






1) Dimension D_N: for calculation see page 295 in the catalogue „Drive Technology“

Example of application of hub type



Ordering example:	KTR 250	28	x	39
	Series	Size of internal diameter d		Size of external diameter D

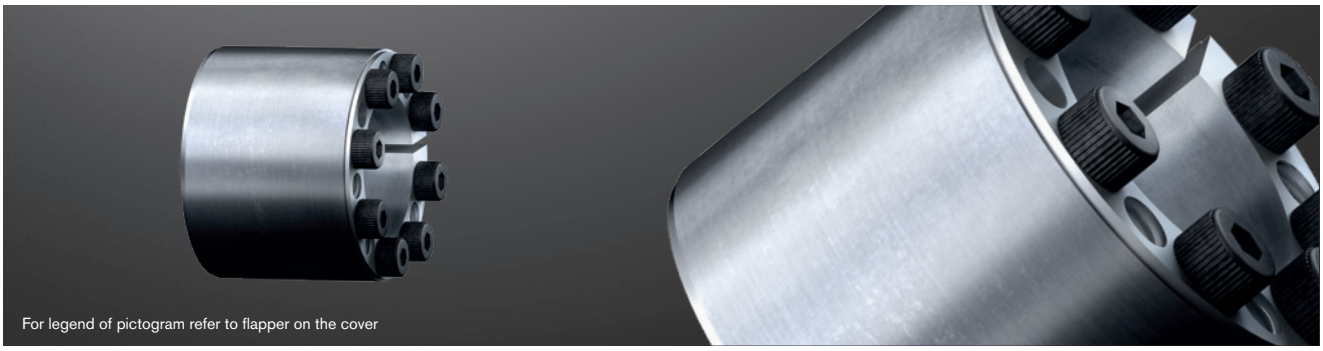
CLAMPEX® – KTR 250

d x D [mm]	Dimensions [mm]					Clamping screws DIN EN ISO 4762 - 12.9 μ_{total}=0.14				Transmittable torque or axial force		Surface pressure between clamping element		Weight [~kg]	Stock programme
	B	B1	B2	B3	D_1	M	Length	z = number	T_A [Nm] [1]	T [Nm]	F_{ax} [kN]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]		
6 x 14	24.5	21.5	18.5	10	25	M3	10	4	2.6	11	4	162	69	0.05	●
8 x 15	29	25	21.5	11.5	27	M4	10	3	5.6	26	7	187	100	0.05	●
9 x 16	30	26	22.5	14	28	M4	10	4	5.6	37	8	173	97	0.06	●
10 x 16	30	26	22.5	14	29	M4	10	4	5.6	42	8	159	99	0.16	●
11 x 18	30	26	22.5	13.5	32	M4	10	4	5.6	50	9	162	99	0.18	●
12 x 18	30	26	22.5	13.5	32	M4	10	4	5.6	55	9	150	100	0.18	●
14 x 23	30	26	22.5	14	38	M4	10	6	5.6	100	14	193	118	0.20	●
15 x 24	42	36	28.5	16	44	M6	18	4	15	145	19	214	134	0.2	●
16 x 24	42	36	28.5	16	44	M6	18	4	15	155	19	201	134	0.3	●
17 x 25	42	36	28.5	16	45	M6	18	4	15	162	19	186	126	0.2	
17 x 26	44	38	31	18	47	M6	18	4	17	180	21	184	120	0.2	
18 x 26	44	38	31	18	47	M6	18	4	17	200	22	182	126	0.2	●
19 x 27	44	38	31	18	48	M6	18	4	17	210	22	171	121	0.3	●
20 x 28	44	38	31	18	49	M6	18	4	17	220	22	162	116	0.2	●
22 x 32	51	45	38	25	54	M6	18	4	17	250	23	110	75	0.3	●
24 x 34	51	45	38	25	56	M6	18	4	17	270	23	99	70	0.3	●
25 x 34	51	45	38	25	56	M6	18	4	17	280	22	95	70	0.3	●
28 x 39	51	45	38	25	61	M6	18	6	17	480	34	130	93	0.4	●
30 x 41	51	45	38	25	62	M6	18	6	17	510	34	120	88	0.4	●
32 x 43	51	45	38	25	65	M6	18	8	17	730	46	151	113	0.5	●
35 x 47	56	50	43	30	69	M6	18	8	17	800	46	115	86	0.5	●
38 x 50	56	50	43	30	72	M6	18	8	17	860	45	105	80	0.6	●
40 x 53	56	50	43	30	75	M6	18	8	17	900	45	99	75	0.6	●
42 x 55	65	57	49	32	78	M8	22	8	41	1800	86	169	129	0.9	●
45 x 59	73	65	57	40	85	M8	22	8	41	1900	84	124	95	1.0	●
48 x 62	78	70	62	45	87	M8	22	8	41	2000	83	102	79	1.0	●
50 x 65	78	70	62	45	92	M8	22	10	41	2600	104	123	94	1.3	●
55 x 71	83	75	67	50	98	M8	22	10	41	2900	105	102	79	1.5	●
60 x 77	83	75	67	50	104	M8	22	10	41	3100	103	91	71	1.7	●
65 x 84	83	75	67	50	111	M8	22	10	41	3400	105	85	66	1.9	●
70 x 90	101	91	80	60	119	M10	25	10	83	5800	166	105	81	2.9	●
75 x 95	101	91	80	60	126	M10	25	10	83	6200	165	97	77	2.3	●
80 x 100	106	96	85	65	131	M10	25	12	83	8000	200	102	82	3.3	●
85 x 106	106	96	85	65	137	M10	25	12	83	8500	200	96	77	3.6	●
90 x 112	106	96	85	65	143	M10	25	15	83	11200	249	113	91	3.9	●
95 x 120	106	96	85	65	153	M10	25	15	83	11800	248	107	84	4.5	
100 x 125	114	102	89	65	162	M12	30	12	145	14600	292	119	95	5.5	●
110 x 140	140	128	114	90	180	M12	30	12	145	16000	291	78	61	8.0	●
120 x 155	140	128	114	90	198	M12	30	12	145	17400	290	71	55	10.5	
130 x 165	140	128	114	90	208	M12	30	16	145	25000	385	87	69	11.9	

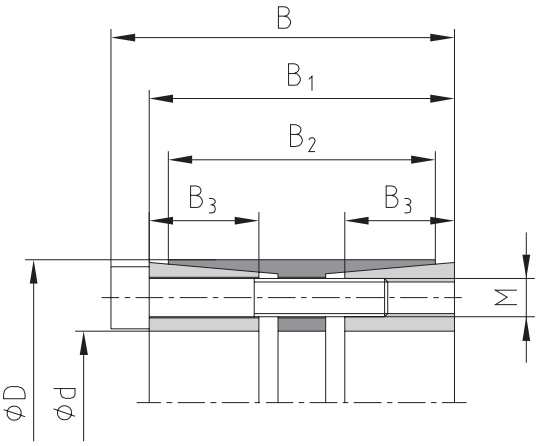
● Sizes of clamping elements available from stock.

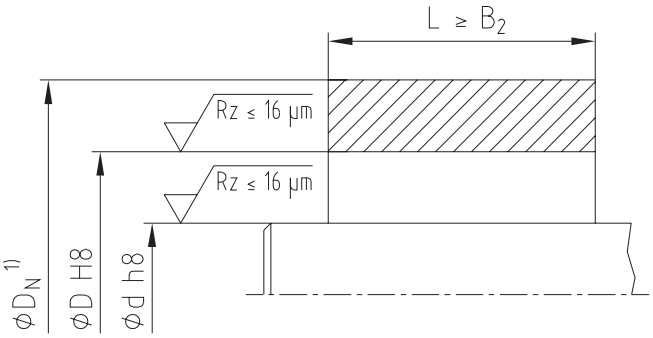
[1] These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T, F_{ax}, P_W and P_N decreasing proportionately.

Self-centering clamping element with highest transmission performance



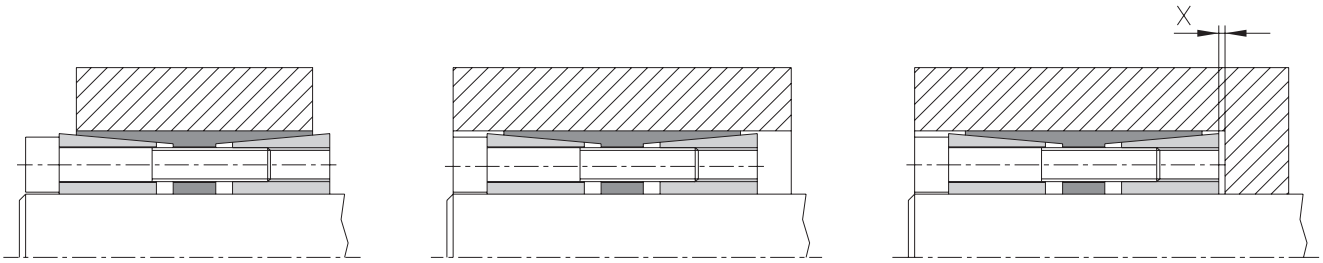






[1] Dimension D_N: for calculation see page 295 in the catalogue „Drive Technology“

Example of application of hub type



Formula to calculate space x for disassembly:

$$x = \frac{B_1 - B_2}{2}$$

Ordering example:	KTR 400	100	x	145
	Series	Size of internal diameter d		Size of external diameter D

CLAMPEX® – KTR 400

d x D [1] [mm]	Dimensions [mm]				Standard applications in industry								Applications with components subjected to bending and torsion stress								Weight [~kg]	Stock programme
					Clamping screws DIN EN ISO 4762 - 12.9 μ_{total}=0.14				Transmittable torque or axial force		Surface pressure between clamping element		Clamping screws DIN EN ISO 4762 - 12.9 μ_{total}=0.14				Transmittable torque or axial force		Transmittable bending moment $M_{b\ perm.}$ [Nm]	Surface pressure between clamping element			
	B	B1	B2	B3	M	z = number	Length	T_A [2] [Nm]	T [Nm]	F_{ax} [kN]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]	M	z = number	Length	T_A [Nm]	T [Nm]	F_{ax} [kN]		Shaft P_W [N/mm²]	Hub P_N [N/mm²]		
24 x 50	51	45	41	16	M6	6	35	17	700	58	202	92	M6	6	35	14	460	38	420	230	93	0.5	●
25 x 50	51	45	41	16	M6	6	35	17	730	58	194	92	M6	6	35	14	470	38	430	222	94	0.5	●
28 x 55	51	45	41	16	M6	8	35	17	1100	79	233	112	M6	8	35	14	740	53	490	257	110	0.5	●
30 x 55	51	45	41	16	M6	8	35	17	1180	79	217	112	M6	8	35	14	790	53	520	243	112	0.5	●
32 x 60	51	45	41	16	M6	8	35	17	1270	79	206	103	M6	8	35	14	830	52	560	230	104	0.8	●
35 x 60	51	45	41	16	M6	8	35	17	1390	79	188	104	M6	8	35	14	890	51	610	214	106	0.7	●
38 x 65	51	45	41	16	M6	10	35	17	1880	99	216	119	M6	10	35	14	1250	66	660	240	119	1.1	●
40 x 65	51	45	41	16	M6	10	35	17	1980	99	205	119	M6	10	35	14	1300	65	700	230	120	1.1	●
40 x 75	51	45	41	16	M8	8	35	41	2850	143	296	149	M8	8	35	35	2030	102	700	320	142	1.1	●
42 x 75	51	45	41	16	M8	8	35	41	3000	143	282	149	M8	8	35	35	2120	101	730	307	142	1.2	●
45 x 75	51	45	41	16	M8	8	35	41	3250	144	266	151	M8	8	35	35	2260	100	780	289	145	1.1	●
48 x 80	70	62	58	23	M8	8	55	41	3450	144	173	98	M8	8	55	35	2160	90	1700	202	101	1.5	●
50 x 80	70	62	58	23	M8	8	55	41	3600	144	166	98	M8	8	55	35	2220	89	1770	196	102	1.4	●
55 x 85	70	62	58	23	M8	8	55	41	3950	144	151	92	M8	8	55	35	2350	85	1950	182	98	1.5	●
60 x 90	70	62	58	23	M8	10	55	41	5400	180	173	109	M8	10	55	35	3380	113	2130	202	113	1.6	●
65 x 95	70	62	58	23	M8	10	55	41	5850	180	160	103	M8	10	55	35	3560	110	2310	190	109	1.7	●
70 x 110	86	76	70	28	M10	10	60	83	10200	291	197	118	M10	10	60	69	6620	189	3650	222	120	3.1	●
75 x 115	86	76	70	28	M10	10	60	83	10950	292	184	113	M10	10	60	69	6970	186	3920	210	117	3.3	●
80 x 120	86	76	70	28	M10	12	60	83	14000	350	207	130	M10	12	60	69	9210	230	4180	231	131	3.5	●
85 x 125	86	76	70	28	M10	12	60	83	15000	353	197	126	M10	12	60	69	9710	228	4440	220	129	3.6	●
90 x 130	86	76	70	28	M10	12	60	83	15800	351	185	121	M10	12	60	69	10000	222	4700	210	124	3.8	●
95 x 135	86	76	70	28	M10	12	60	83	16800	354	176	117	M10	12	60	69	10500	221	4960	201	122	4.0	●
100 x 145	110	98	92	35	M12	12	80	145	26000	520	197	121	M12	12	80	120	16850	337	8580	219	124	6.1	●
110 x 155	110	98	92	35	M12	12	80	145	28600	520	179	114	M12	12	80	120	18000	327	9440	203	118	6.6	●
120 x 165	110	98	92	35	M12	14	80	145	36300	605	191	124	M12	14	80	120	23350	389	10300	214	128	7.1	●
130 x 180	128	114	108	41	M14	12	90	230	46000	708	176	114	M14	12	90	190	29950	461	15300	201	119	10.0	●
140 x 190	128	114	108	41	M14	14	90	230	57800	826	191	126	M14	14	90	190	37200	531	16500	214	129	10.6	●
150 x 200	128	114	108	41	M14	16	90	230	70800	944	204	136	M14	16	90	190	46400	619	17700	226	139	11.2	●
160 x 210	128	114	108	41	M14	16	90	230	75500	944	191	130	M14	16	90	190	48600	608	18800	214	133	11.9	●
170 x 225	162	146	136	52	M16	14	110	355	95900	1128	169	114	M16	14	110	295	59100	695	32000	196	119	17.6	●
180 x 235	162	146	136	52	M16	15	110	355	108800	1209	171	117	M16	15	110	295	67500	750	33900	198	122	18.5	●
190 x 250	162	146	136	52	M16	16	110	355	122500	1289	173	117	M16	16	110	295	76100	801	35800	199	122	21.4	●
200 x 260	162	146	136	52	M16	16	110	355	128900	1289	164	113	M16	16	110	295	78600	786	37700	192	118	22.4	●
220 x 285	162	146	136	52	M16	18	110	355	171800	1562	181	120	M16	18	110	295	105000	955	41400	195	126	26.6	●
240 x 305	162	146	136	52	M16	20	110	355	208000	1733	184	125	M16	20	110	295	128000	1067	45200	198	130	28.7	●
260 x 325	166	150	134	55	M16	21	110	355	237000	1823	169	117	M16	21	110	295	142000	1092	51000	187	123	31.2	
280 x 355	197	177	165	66	M20	18	130	690	340000	2429	174	119	M20	18	130	580	208000	1486	81300	192	125	46.8	
300 x 375	197	177	165	66	M20	20	130	690	405000	2700	181	125	M20	20	130	580	252000	1680	87100	198	130	69.7	
320 x 405	197	177	165	66	M20	21	130	690	453000	2831	178	121	M20	21	130	580	280000	1750	92900	196	127	60.5	
340 x 425	197	177	165	66	M20	22	130	690	504900	2970	176	121	M20	22	130	580	311000	1829	98700	193	127	63.9	
360 x 455	224	203	190	76	M22	21	150	930	626000	3478	169	115	M22	21	150	780	381000	2117	138500	189	121	86.8	
380 x 475	224	203	190	76	M22	22	150	930	692000	3642	167	115	M22	22	150	780	420000	2211	146000	188	122	91.0	
400 x 495	224	203	190	76	M22	24	150	930	795000	3975	173	121	M22	24	150	780	489000	2445	154000	194	127	95.3	
420 x 515	224	203	190	76	M22	24	150	930	835000	3976	165	116	M22	24	150	780	505000	2405	161500	186	123	100	
440 x 535	224	203	190	76	M22	24	150	930	875000	3977	158	112	M22	24	150	780	517000	2350	169000	178	120	105	
460 x 555	224	203	190	76	M22	24	150	930	914000	3974	151	108	M22	24	150	780	530000	2304	177000	172	117	109	
480 x 575	224	203	190	76	M22	28	150	930	1113000	4638	169	121	M22	28	150	780	678000	2825	184500	189	128	114	
500 x 595	224	203	190	76	M22	28	150	930	1160000	4640	162	117	M22	28	150	780	692000	2768	192000	182	125	119	
520 x 615	224	203	190	76	M22	30	150	930	1292000	4969	167	122	M22	30	150	780	780000	3000	200000	186	129	122.5	
540 x 635	224	203	190	76	M22	30	150	930	1342000	4970	161	118	M22	30	150	780	799000	2959	207500	180	126	128	
560 x 655	224	203	190	76	M22	32	150	930	1484000	5300	165	122	M22	32	150	780	893000	3189	215500	184	129	131	
580 x 675	224	203	190	76	M22	32	150	930	1537000	5300	159	118	M22	32	150	780	912000	3145	223000	179	127	136	
600 x 695	224	203	190	76	M22	33	150	930	1640000	5467	159	118	M22	33	150	780	972000	3240	231000	179	127	139	

● Sizes of clamping elements available from stock.

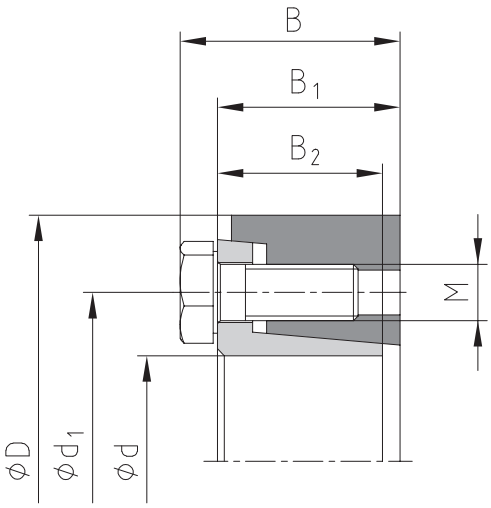
[1] External ring without slot from size 400 x 495.

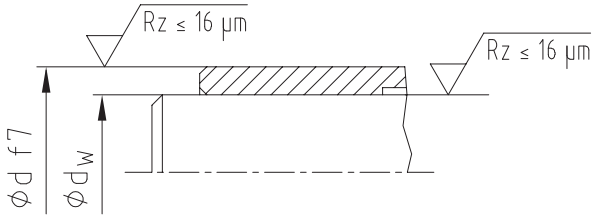
[2] These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T, F_{ax}, P_W and P_N decreasing proportionately.

Two-part external clamping set for applications on hollow shafts







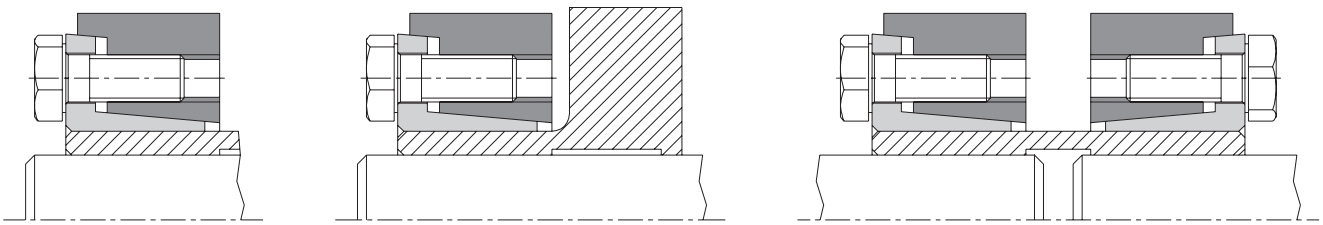


Tolerances for d_w

$d_w \leq Ø\ 160$ = h6/H7

$d_w > Ø\ 160$ = g6/H7

Example of application of hub type



Ordering example:	KTR 620	55	x	100
	Series	Size of internal diameter d		Size of external diameter D

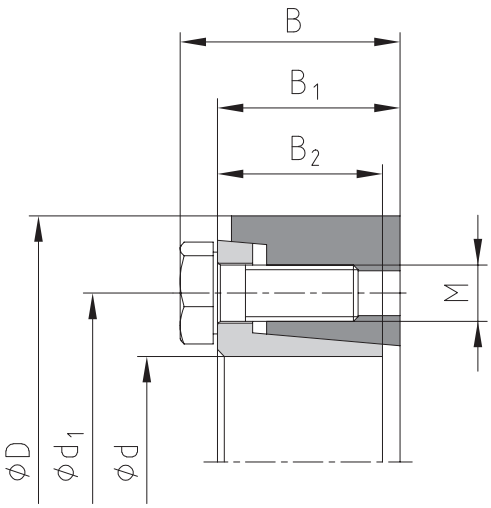
CLAMPEX® – KTR 620

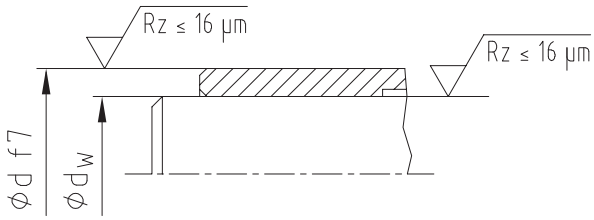
d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 [1] μ_{total}=0.10				Surface pressure of clamping element/hollow shaft	Weight [~kg]	Stock programme
		T [Nm]	F_{ax} [kN]	B	B1	B2	d_1	M	Length	z = number	T_A [Nm]	P_H [N/mm²]		
16 x 41	13	70	11	19.5	15.3	13.5	28	M6	12	3	13	254	0.1	
	14	90	13											
18 x 44	15	80	11	19.5	15.3	13.5	30	M6	12	4	13	222	0.1	
	16	110	14											
20 x 47	17	150	18	19.5	15.3	13.5	32	M6	12	4	13	274	0.1	●
	18	175	19											
	19	165	17											
24 x 50	20	215	22	22	18.22	16	36	M6	16	5	13	243	0.2	●
	22	280	25											
	20	200	20											
26 x 51.5	22	260	24	22	18.05	16	38	M6	16	5	13	238	0.2	
	24	330	28											
	24	370	31											
30 x 60	25	420	34	24	20.26	18	44	M6	16	6	13	255	0.3	●
	26	465	36											
	27	480	36											
36 x 72	30	650	43	27.5	22.1	20	52	M8	20	5	30	250	0.5	●
	33	835	51											
	27	480	36											
38 x 72	30	645	43	27.5	22.1	20	54	M8	20	5	30	240	0.5	●
	33	765	46											
40 x 80	34	830	49	29.5	24.22	22	61	M8	20	6	30	209	0.6	●
44 x 80	35	770	44	29.5	24.22	22	61	M8	20	6	30	192	0.6	●
	37	880	48											
	38	1130	59											
50 x 90	40	1260	63	31.5	26.1	23.5	68	M8	20	8	30	212	0.8	●
	42	1400	67											
	42	1300	62											
55 x 100	45	1600	71	34.5	29	26	72	M8	20	8	30	195	1.1	●
	48	1900	79											
	48	1700	71											
60 x 110	50	1950	78	34.5	29.25	26	80	M8	20	9	30	191	1.3	●
	52	2160	83											
	48	1700	71											
62 x 110	50	1950	78	34.5	29.25	26	80	M8	20	9	30	189	1.3	●
	52	2160	83											
	50	1900	76											
68 x 115	55	2500	91	35	29.4	26	86	M8	20	9	30	206	1.3	●
	60	3150	105											
	55	2700	98											
75 x 138	60	3400	113	37.5	30.7	27	100	M10	25	10	60	211	2.3	●
	65	4100	126											
	60	3300	110											
80 x 141	65	4100	126	37.5	31.1	27	104	M10	25	10	60	215	2.3	●
	70	4950	141											
	65	5500	169											
85 x 155	70	6400	183	44.5	38.2	34	114	M10	25	11	60	216	3.2	
	75	7300	195											
	65	5500	169											
90 x 155	70	6600	189	44.5	38.2	34	114	M10	25	11	60	223	3.2	●
	75	7900	211											
	70	6200	177											
95 x 170	75	7400	197	50	43.45	39	124	M10	30	14	60	182	4.3	
	80	8600	215											
	70	6200	177											
100 x 170	75	7400	197	50	43.45	39	124	M10	30	14	60	176	4.3	●
	80	8600	215											
	80	10500	263											
105 x 185	85	11800	278	56.5	49.1	43.5	136	M12	35	12	100	208	5.8	
	90	13700	304											
	80	10500	263											
110 x 185	85	11800	278	56.5	49.1	43.5	136	M12	35	12	100	202	5.8	●
	90	13700	304											
	85	12500	294											
115 x 197	90	14100	313	60.5	53	48	147	M12	35	14	100	193	6.9	
	95	16000	337											
	85	12500	294											
120 x 197	90	14100	313	60.5	53	48	147	M12	35	14	100	189	6.9	
	95	16000	337											

● Sizes of clamping elements available from stock.

[1] DIN EN ISO 4017-10.9 for size 16 x 41 to 20 x 47

Two-part external clamping set for applications on hollow shafts





CLAMPEX® – KTR 620

d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 µtotal=0.10				Surface pressure of clamping element/hollow shaft	Weight [~kg]	Stock programme
		T [Nm]	F_{ax} [kN]	B	B1	B2	d_1	M	Length	z = number	T_A [Nm]	P_H [N/mm²]		
	90	14500	322											
125 x 215	95	16600	349	61	53.4	48	158	M12	35	14	100	196	8.7	●
	100	18800	376											
	95	17000	358											
130 x 215	100	18400	368	61	53.4	48	158	M12	35	14	100	187	9.4	
	110	22000	400											
	95	18400	387											
130 x 230	100	20800	416	66.5	57.5	51	165	M14	40	12	160	213	10.8	●
	110	26200	476											
	95	18400	387											
135x 230	100	20800	416	66.5	57.5	51	165	M14	40	12	160	209	10.8	
	110	26200	476											
	100	19900	398											
140 x 230	105	22200	423	67	57.8	51	172	M14	40	12	160	207	10.3	
	115	27800	483											
	110	27000	491											
150 x 263	120	32000	533	71	62.2	55	186	M14	40	14	160	202	15.2	
	125	36200	579											
	110	27000	491											
155 x 263	120	32000	533	71	62.2	55	186	M14	40	14	160	199	15.2	
	125	36200	579											
	120	39000	650											
160 x 290	130	48000	738	78.5	68.5	61	198	M16	45	12	250	215	21.5	
	135	51000	756											
	120	39000	650											
165 x 290	130	48000	738	78.5	68.5	61	198	M16	45	12	250	212	21.5	
	135	51000	756											
	130	46500	715											
170 x 300	140	53000	757	79	68.9	61	208	M16	50	14	250	212	22.5	
	145	59000	814											
	130	46500	715											
175 x 300	140	53000	757	79	68.9	61	208	M16	50	14	250	209	22.5	●
	145	59000	814											
	140	66000	943											
180 x 320	150	76000	1013	95	85	77.5	222	M16	50	16	250	210	32.7	
	155	83000	1071											
	140	66000	943											
185 x 320	150	76000	1013	95	85	77.5	222	M16	50	16	250	207	32.7	
	155	83000	1071											
	150	82000	1093											
190 x 340	160	91000	1138	98	87.7	77.5	238	M16	50	16	250	225	36.3	
	165	102000	1236											
	150	82000	1093											
195 x 340	160	91000	1138	98	87.7	77.5	238	M16	50	16	250	222	36.3	
	165	102000	1236											
	150	82000	1093											
200 x 340	160	91000	1138	98	87.7	77.5	238	M16	50	16	250	219	36.3	
	165	102000	1236											

● Sizes of clamping elements available from stock.

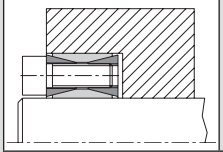
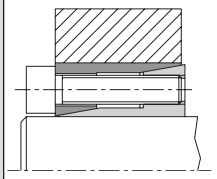
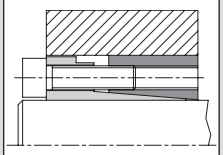
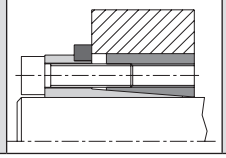
CLAMPEX® – KTR 620

d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 [2] μ_{total}=0.10				Surface pressure of clamping element/hollow shaft	Weight [~kg]	Stock programme
		T [Nm]	F_{ax} [kN]	B	B1	B2	d_1	M	Length	z = number	T_A [Nm]	P_H [N/mm²]		
	160	105000	1313											
220 x 370	170	122000	1435	120	107.55	96.5	268	M20	60	15	480	205	53	
	180	138000	1533											
	170	125000	1471											
240 x 405	180	145000	1611	123.5	111.1	98	288	M20	60	16	480	214	66	
	200	182000	1820											
	190	165000	1737											
260 x 430	200	190000	1900	138	125.3	110.5	312	M20	60	16	480	202	82	
	220	238000	2164											
	210	220000	2095											
280 x 460	220	245000	2227	152.5	140	121	334	M20	60	18	480	193	103	
	240	300000	2500											
	220	297000	2700											
300 x 485	230	330000	2870	159	139.8	124	360	M24	70	16	840	205	120	
	250	399000	3192											
	240	331000	2758											
320 x 520	250	365000	2920	160.5	141.6	124	380	M24	70	18	840	190	138	
	270	437000	3237											
	250	429000	3432											
340 x 570	260	469000	3608	177.5	158.4	139	402	M24	70	18	840	195	189	
	280	556000	3971											
	270	545000	4037											
360 x 590	280	592000	4229	182	163	143	424	M24	70	20	840	216	207	
	290	694000	4786											
	290	704000	4855											
390 x 650	300	760000	5067	191	169.2	148	454	M27	70	18	1250	216	249	
	320	879000	5494											
	320	827000	5169											
420 x 670	330	876000	5309	208.4	186.4	166	486	M27	70	20	1250	184	285	
	350	1000000	5714											
	340	1117000	6571											
440 x 710	350	1190000	6800	220	198	179	506	M27	70	21	1250	222	343	
	370	1345000	7270											
	360	1306000	7256											
460 x 750	370	1386000	7492	223	201	179	534	M27	70	21	1250	230	387	
	390	1554000	7969											
	370	950000	5135											
470 x 705	380	1000000	5263	241.6	219.6	200	538	M27	70	21	1250	151	340	
	400	1150000	5750											
	380	1557000	8195											
480 x 770	390	1648000	8451	247	223	201	552	M30	100	21	1650	223	449	
	410	1818000	8868											
	400	1653000	8265											
500 x 820	410	1725000	8415	241	217	198	572	M30	100	24	1650	214	515	
	430	1915000	8907											
	430	2048000	9526											
530 x 850	440	2154000	9791	262.3	238.3	216	606.5	M30	100	24	1650	208	585	
	460	2374000	10322											
	450	2306000	10249											
560 x 885	460	2419000	10517	266	242	220	632	M30	100	24	1650	212	636	
	480	2654000	11058											
	470	2735000	11638											
590 x 950	480	2863000	11929	281.5	257.5	236	664	M30	100	28	1650	211	805	
	500	3128000	12512											
	500	3150000	12600											
620 x 960	520	3396000	13062	307	283	258	706	M30	100	28	1650	201	853	
	540	3689000	13663											
	530	3636000	13721											
660 x 1020	550	3942000	14335	319	293	267	748	M33	130	28	2250	199	993	
	570	4261000	14951											
	560	4189000	14961											
700 x 1085	580	4520000	15586	318.5	292.5	263	788	M33	130	28	2250	187	1112	
	600	4863000	16210											
	600	5281000	17603											
750 x 1100	620	5672000	18297	346	320	280	850	M33	130	32	2250	202	1111	
	650	6287000	19345											
	640	6091000	19034											
800 x 1230	660	6511000	19730	359	333	296	900	M33	130	32	2250	202	1589	
	700	7394000	21126											

● Sizes of clamping elements available from stock.
[2] DIN EN ISO 4014-12.9 for size 660 x 1020 to 800 x 1230

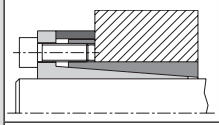
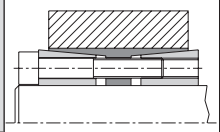
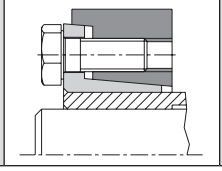
CLAMPEX® CLAMPING ELEMENTS
TYPES AND OPERATING DESCRIPTION

Properties of clamping elements

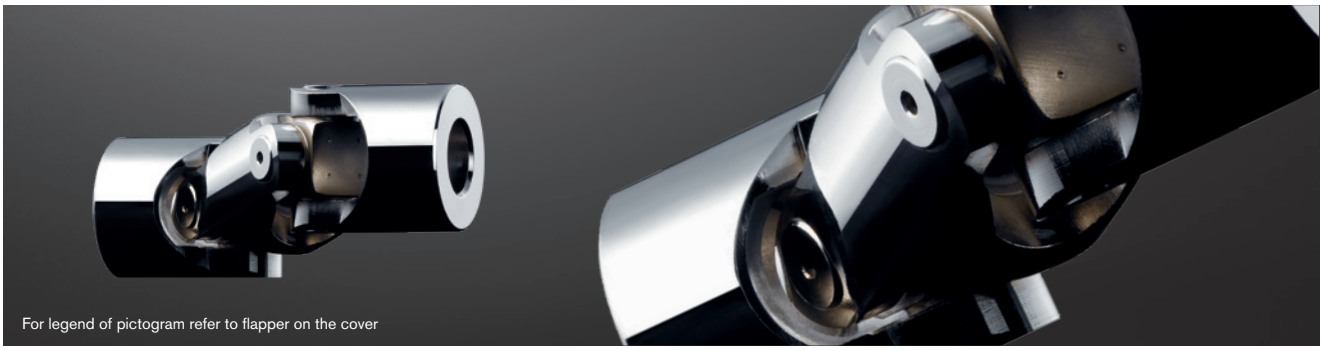
Type	Series		Shaft diameter [mm]	Transmittable torque T [Nm]	Centering of hub to shaft via the clamping element	Centering between hub and shaft required	Axial displacement of hub during assembly of clamping element	Details on page
Internal clamping elements		KTR 100	17 — 1,000	260 — 3,017,100		●		98 99
		KTR 105	5 — 50	5 — 1,900	●		●	100 101
		KTR 200	20 — 200	530 — 68,000	●		●	102 103
		KTR 201	20 — 200	320 — 48,800	●			102 103

* Depending on mounting position

CLAMPEX® CLAMPING ELEMENTS
TYPES AND OPERATING DESCRIPTION

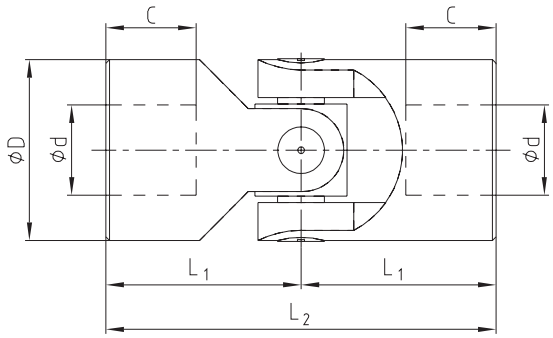
Type	Series		Shaft diameter [mm]	Transmittable torque T [Nm]	Centering of hub to shaft via the clamping element	Centering between hub and shaft required	Axial displacement of hub during assembly of clamping element	Details on page
		KTR 250	6 — 130	11 — 25,000	●			104 105
		KTR 400	24 — 600	700 — 1,640,000	●		●	106 107
		KTR 620	13 — 700	70 — 7,394,000	●			108 - 111

According to DIN 808 with plain bearing

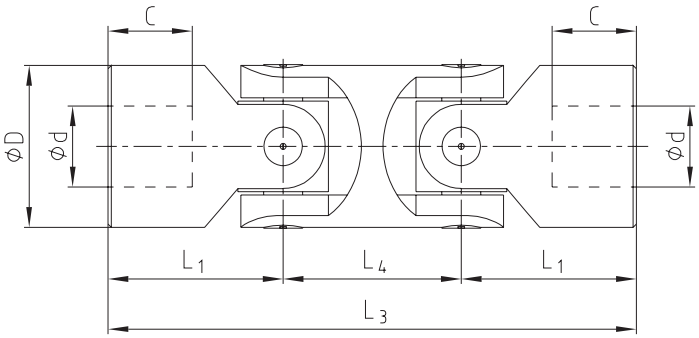




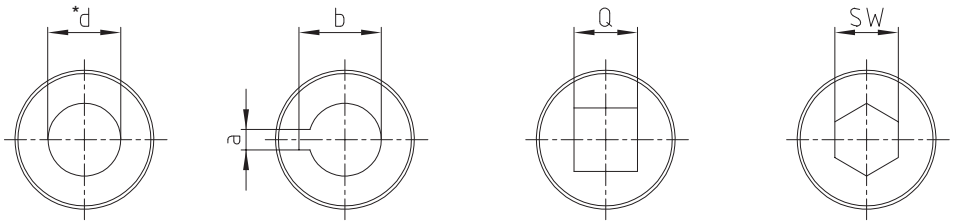
Precision single joint G



Precision double joint GD



Bore options:

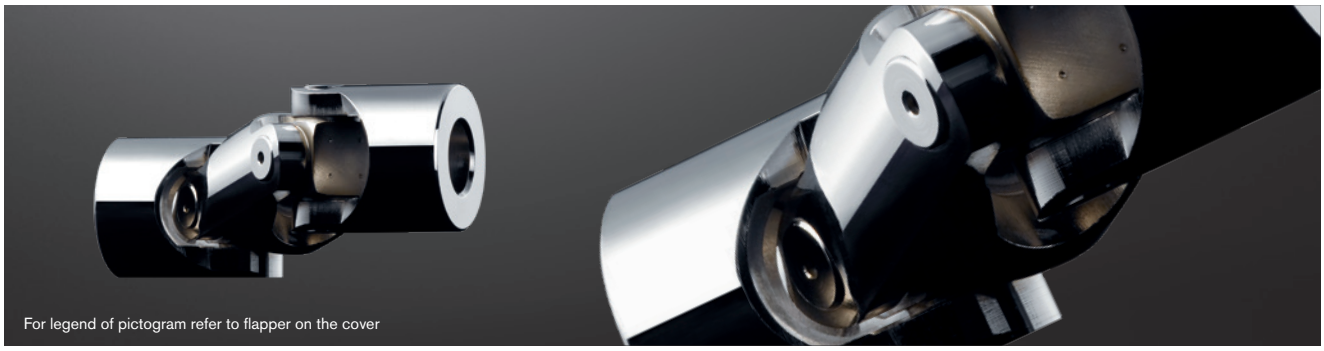


* Standard type of bore, unless differently inquired/ordered

Type G and GD																
Types and size															Weight [kg]	
Size G	DIN designation G	Size GD	DIN designation GD	d (H7)	D	L_2	L_1	C	L_4	L_3	a (JS9)	b	Q (H10)	SW (H10)	G	GD
01 G	E6 x 16-G	01 GD	D6 x 16-G	6	16	34	17	8	22	56	2	7.0	6	6	0.05	0.08
02 G	E8 x 16-G	02 GD	D8 x 16-G	8	16	40	20	11	22	62	2	9.0	8	8	0.05	0.08
03 G	E10 x 22-G	03 GD	D10 x 22-G	10	22	48	24	12	26	74	3	11.4	10	10	0.10	0.15
04 G	E12 x 25-G	04 GD	D12 x 25-G	12	25	56	28	13	30	86	4	13.8	12	12	0.16	0.25
05 G	E14 x 28-G	05 GD	D14 x 28-G	14	28	60	30	14	36	96	5	16.3	14	14	0.20	0.40
1 G	E16 x 32-G	1 GD	D16 x 32-G	16	32	68	34	16	37	105	5	18.3	16	16	0.30	0.45
2 G	E18 x 36-G	2 GD	D18 x 36-G	18	36	74	37	17	40	114	6	20.8	18	18	0.45	0.70
3 G	E20 x 42-G	3 GD	D20 x 42-G	20	42	82	41	18	47	129	6	22.8	20	20	0.60	1.00
4 G	E22 x 45-G	4 GD	D22 x 45-G	22	45	95	47.5	22	50	145	6	24.8	22	22	0.95	1.55
5 G	E25 x 50-G	5 GD	D25 x 50-G	25	50	108	54	26	55	163	8	28.3	25	25	1.20	2.00
6 G	E30 x 58-G	6 GD	D30 x 58-G	30	58	122	61	29	68	190	8	33.3	30	30	1.85	2.90
6 G1	E32 x 58-G	6 GD1	D32 x 58-G	32	58	130	65	33	68	198	10	35.3	30	30	2.00	3.00
7 G	E35 x 70-G	7 GD	D35 x 70-G	35	70	140	70	33	72	212	10	38.3	-	-	3.15	4.75
8 G	E40 x 80-G	8 GD	D40 x 80-G	40	80	160	80	38	85	245	12	43.3	-	-	4.60	7.20
9 G	E50 x 95-G	9 GD	D50 x 95-G	50	95	190	95	46	100	290	14	53.8	-	-	7.60	12.0

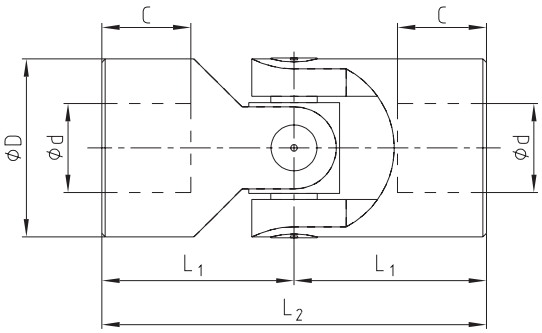
Ordering example:	04 G	Ø12	Ø12 keyway to DIN
	Size and type of joint	Finish bore (H7)	Finish bore (H7), feather keyway acc. to DIN 6885 sheet 1 (JS9)

According to DIN 808 with needle bearing

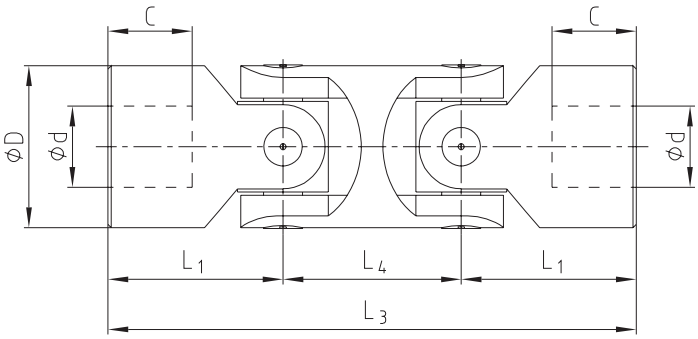




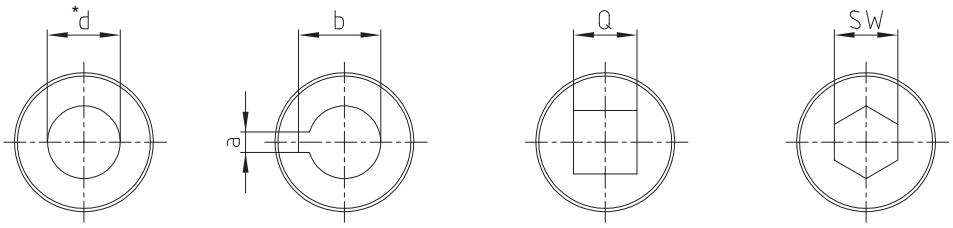
Precision single joint type H



Precision double joint type HD



Bore options:



* Standard type of bore, unless differently inquired/ordered

Type H and HD																
Types and size				Dimensions [mm]											Weight [kg]	
Size H	DIN designation H	Size HD	DIN designation HD	d (H7)	D	L_2	L_1	C	L_4	L_3	a (JS9)	b	Q (H10)	SW (H10)	H	HD
03 H	E10 x 22-W	03 HD	D10 x 22-W	10	22	48	24	12	26	74	3	11.4	10	10	0.10	0.15
04 H	E12 x 25-W	04 HD	D12 x 25-W	12	25	56	28	13	30	86	4	13.8	12	12	0.16	0.25
05 H	E14 x 28-W	05 HD	D14 x 28-W	14	28	60	30	14	36	96	5	16.3	14	14	0.20	0.40
1 H	E16 x 32-W	1 HD	D16 x 32-W	16	32	68	34	16	37	105	5	18.3	16	16	0.30	0.45
2 H	E18 x 36-W	2 HD	D18 x 36-W	18	36	74	37	17	40	114	6	20.8	18	18	0.45	0.70
3 H	E20 x 42-W	3 HD	D20 x 42-W	20	42	82	41	18	47	129	6	22.8	20	20	0.60	1.00
4 H	E22 x 45-W	4 HD	D22 x 45-W	22	45	95	47.5	22	50	145	6	24.8	22	22	0.95	1.55
5 H	E25 x 50-W	5 HD	D25 x 50-W	25	50	108	54	26	55	163	8	28.3	25	25	1.20	2.00
6 H	E30 x 58-W	6 HD	D30 x 58-W	30	58	122	61	29	68	190	8	33.3	30	30	1.85	2.90
6 H1	E32 x 58-W	6 HD1	D32 x 58-W	32	58	130	65	33	68	198	10	35.3	30	30	2.00	3.00
7 H	E35 x 70-W	7 HD	D35 x 70-W	35	70	140	70	33	72	212	10	38.3	-	-	3.15	4.75
8 H	E40 x 80-W	8 HD	D40 x 80-W	40	80	160	80	38	85	245	12	43.3	-	-	4.60	7.20
9 H	E50 x 95-W	9 HD	D50 x 95-W	50	95	190	95	46	100	290	14	53.8	-	-	7.60	12.0

Ordering example:	1 H	Ø16	Ø16 keyway to DIN
	Size and type of joint	Finish bore (H7)	Finish bore (H7), feather keyway acc. to DIN 6885 sheet 1 (JS9)

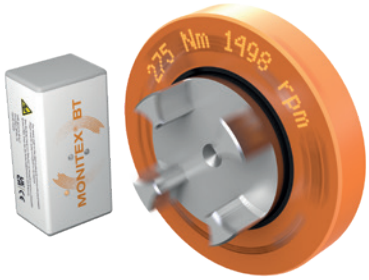
Properties of torque measuring shafts

DATAFLEX® 16, 32, 42, 70, 110 – Dual-range measuring shaft providing for high precision



The KTR torque sensors type DATAFLEX® 16 to DATAFLEX® 110 cover a torque range from 10 Nm to 20,000 Nm.
The torque is measured using the approved technology of DMS wire strain gauges while processing contactlessly with a revolution of 24 bits. Thus, the inaccuracy of torque measuring is reduced to less than 0.1 % of the measuring range. By integrating a high-resolution speed sensor the new series combines four measurements in one: Measuring the torque, speed, rotation angle and rotation direction is part of the standard equipment. A new feature is the option to switch the measuring range of each measuring shaft to one fifth of the rated torque. This option allows to measure smaller torques precisely without changing the design.

MONITEX® BT 28/200, 42/800, 65/1600 – Torque-measuring coupling hub



MONITEX® BT is a ROTEX® GS coupling hub with an integrated measuring system for measuring torque and speed. Subject to its short design the system can replace a standard ROTEX® hub in many cases while easy to assemble.
The inductive energy supply is implemented by an inductive head that is fitted radially to the coupling with a maximum distance of 10 mm. As soon as the system is switched on, the measured torque and speed data are sent by the MONITEX® BT via Bluetooth and can be received by a smartphone, a tablet or a PC via the free MONITEX® BT app. Besides, a digital-to-analog converter is available displaying the torque and speed data as voltage (±10 V) and simultaneously as current (4-20 mA) (e. g. for existing controls).

Customised solutions and special designs



Besides KTR precision measuring shafts KTR manufactures and calibrates customised measuring shafts for measuring ranges up to 500 kNm. In this context key parameters such as measuring range, size, length and coupling type can be adjusted to the specifications. The torque is measured contactlessly so that bearings are not required.

Apart from customised torque sensors KTR provides special solutions with couplings equipped with torque measuring technology so that the design does not have to be modified.

Product finder of torque measuring shafts

Product	DATAFLEX® 16	DATAFLEX® 32	DATAFLEX® 42	DATAFLEX® 70	DATAFLEX® 110	MONITEX® BT 28/200	MONITEX® BT 42/800	MONITEX® BT 65/1600	customised
maintenance-free	●	●	●	●	●	●	●	●	●
For rotating applications	●	●	●	●	●	●	●	●	●
Dual-range measuring shaft	●	●	●	●	●	–	–	–	–
Measuring range 1 T_{KN} [Nm]	10, 30, 50	100, 300, 500	1000	3000, 5000	10000, 20000	200	800	1600	up to 500000
Measuring range 2 T_{KN2} [Nm]	2, 6, 10	20, 60, 100	200	600, 1000	2000, 4000	–	–	–	–
Inaccuracy (% of T_{KN}/T_{KN2})	< 0.1 / 0.2	< 0.1 / 0.2	< 0.1 / 0.2	< 0.1 / 0.2	< 0.1 / 0.2	< 0.25	< 0.25	< 0.25	< 0.2
Torque output	-10 … 10 V	-10 … 10 V	-10 … 10 V	-10 … 10 V	-10 … 10 V	Bluetooth, App, PC, -10 ... 10 V, 4 ... 20 mA [1]			-10 ... 10 V, 4 … 20 mA
Speed output									
Square-wave signal [pulses/rev.]	2 x 360	2 x 720	2 x 720	2 x 450	2 x 720	–	–	–	–
DC - direct voltage signal [0 ... 10V] 10V]	●	●	●	●	●	●[1]	●[1]	●[1]	–
Direction signal	●	●	●	●	●	–	–	–	–
Maximum speed [rpm]	10,000	7,500	6,500	4,000	3,000	3500	3500	3500	miscellaneous
Recommended coupling	RADEX®-NC 21, 26	RADEX®-NC 36 RADEX®-N 60	RADEX®-N 80	RADEX®-N 90, 115	as specified	ROTEX® GS 28	ROTEX® GS 42	ROTEX® GS 65	as specified
Connection housing DF2	●	●	●	●	●	–	–	–	–

[1] With DAC (digital-to-analog converter)

DATAFLEX® Connection housing DF2



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 pulsed outputs of the speed signals can be configured both for 5 V (TTL) and 24 V (HTL) controls. This makes the outputs compatible with data logging boards and SPS controls.
- In parallel with the pulse outputs, an integrated frequency voltage converter supplies a DC voltage from 0 – 10 V proportionally to the speed, the scaling of which can be individually adapted. This makes an expensive counter superfluous so that the signal can either be processed as a voltage or displayed.
- A direction signal indicates the rotational direction of the drive (with DATAFLEX® 16, 32, 42, 70 and 110).

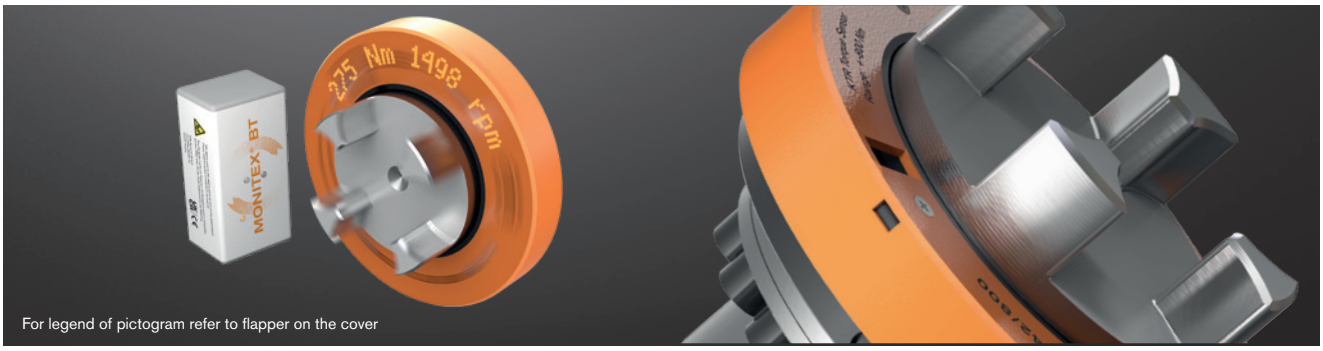
MONITEX® BT DAC - Analog outputs

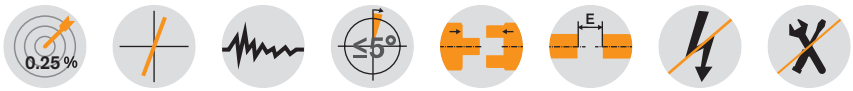


The DAC connects to the torque measuring MONITEX® BT coupling hub displaying the data for torque and speed as analog voltage and current. The DAC allows for integrating the MONITEX® BT torque and speed data in the control systems.

MONITEX® BT 28/200, 42/800, 65/1600
Torque measuring coupling hub

For torques of 200 Nm and 1600 Nm





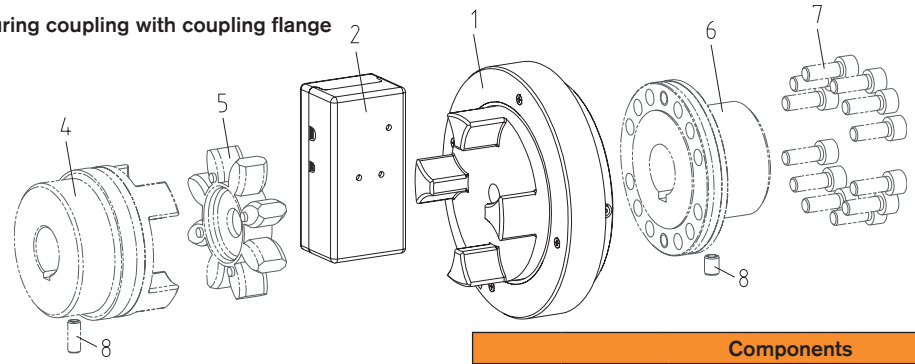
General properties				
MONITEX® BT type	Coupling type	Supply voltage [2] [V]	Current consumption [2] [mA]	Operating temperature range [°C]
28/200	ROTEX® GS 28			
42/800	ROTEX® GS 42	24 ±4	<200	0 ... 55
65/1600	ROTEX® GS 65			

Technical data of torque signal					Technical data of speed signal			Technical data of display		
MONITEX® BT type	Measuring range T_{KN} [Nm]	Inaccuracy [% of T_{KN}]	Measuring frequency of App/Windows software/DAC [Hz]	Influence of temperature [1] [%/10 °C]	Measuring range [rpm]	Resolution [rpm]	Measuring frequency of App/Windows software/DAC [Hz]	Number of digits of torque	Number of digits of speed	Switch-on threshold [rpm]
28/200	-200 ... +200							3+1 decimals + ± sign		
42/800	-800 ... +800	±0.25	60/500/500	0.05	30-3500	1	3/5/5		4	300
65/1600	-1600 ... 1600							4+1 decimals + ± sign		

Mechanical data of the coupling hub										
MONITEX® BT type	Static load limit [1] $T_{K\,max}$ [%]	Breaking load $T_{K\,break}$ [1] [%]	Max. bending torque [Nm]	Max. radial force [N]	Max. axial force [kN]	Weight [kg]	Torsion spring stiffness C_T [Nm/rad]	Torsion angle with T_{KN} [degrees]	Mass moment of inertia [kgmm²]	Max. speed [rpm]
28/200			22	250	8	0.84	46000	0.25	765	
42/800	150	300	86	700	20	1.72	194000	0.24	2690	3500
65/1600			170	1100	32	4.51	460000	0.20	12600	

[1] Referring to rated torque T_{KN}
[2] MONITEX® BT inductive head

MONITEX® BT measuring coupling with coupling flange



Components		
Component	Quantity	Subassembly
1	1	MONITEX® BT measuring hub
2	1	MONITEX® BT inductive head (inductive current transmission)
3 [1]	1	MONITEX® BT connection cable
4 [2]	1	ROTEX®/ROTEX® GS hub
5 [2]	1	ROTEX® GS spider
6 [2]	1	ROTEX® coupling flange N
7 [2]	see page 355	Cap screws DIN EN ISO 4762 - 12.9
8 [2]	2	Setscrew DIN EN ISO 4029
9 [1] [2]	1	DAC (digital-to-analog converter)

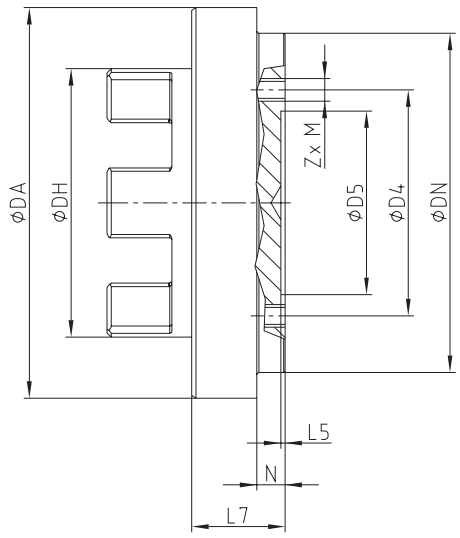
[1] not graphically shown in the left image
[2] Optionally available

Ordering example:

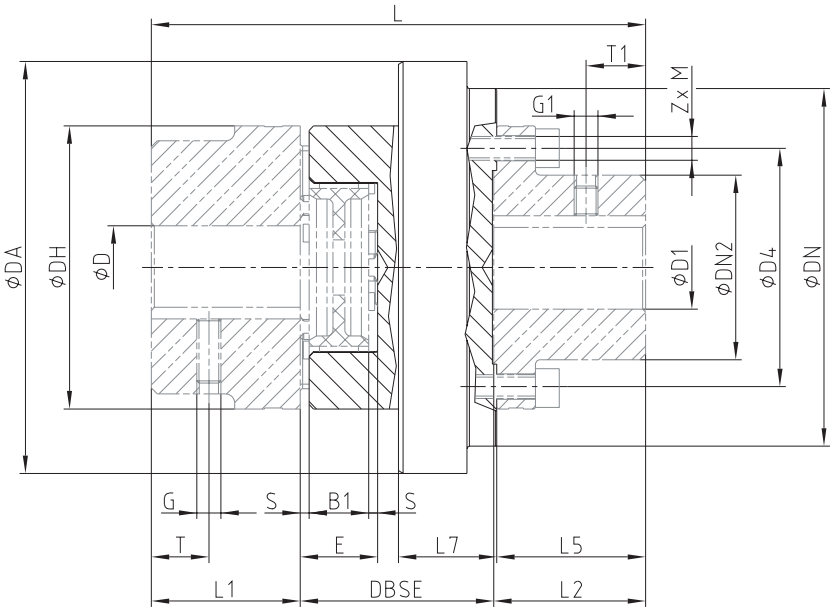
MONITEX® BT 42/800	Inductive head	2 m	Ø38	ROTEX® GS 2.5 - Ø38	98 ShA-GS
Measuring hub size	Inductive power supply	Connection cable	ROTEX® coupling flange N, finish bore	Hub type, finish bore	Spider hardness, see catalogue page 121

Components

MONITEX® BT measuring coupling



Dimensions [mm]									
MONITEX® BT type	DA	DH	DN	D4	D5	L5	L7	N	Z x M
28/200	112.4	65	90	54	44	1.5	28	10	8 x M6
42/800	138.4	95	120	80	65	1.5	33	10	12 x M8
65/1600	178.3	135	160	116	96	2	38	15	12 x M10



Dimensions in mm								
MONITEX® BT type	ROTEX® GS size	Max. finish bore [1]		DA	DH	DBSE	DN	DN2	D4
		D	D1						
28/200	28	38	30	112.4	65	54.5	90	42	54
42/800	42	55	45	138.4	95	65.0	120	62	80
65/1600	65	80	70	178.3	135	86.0	160	94	116

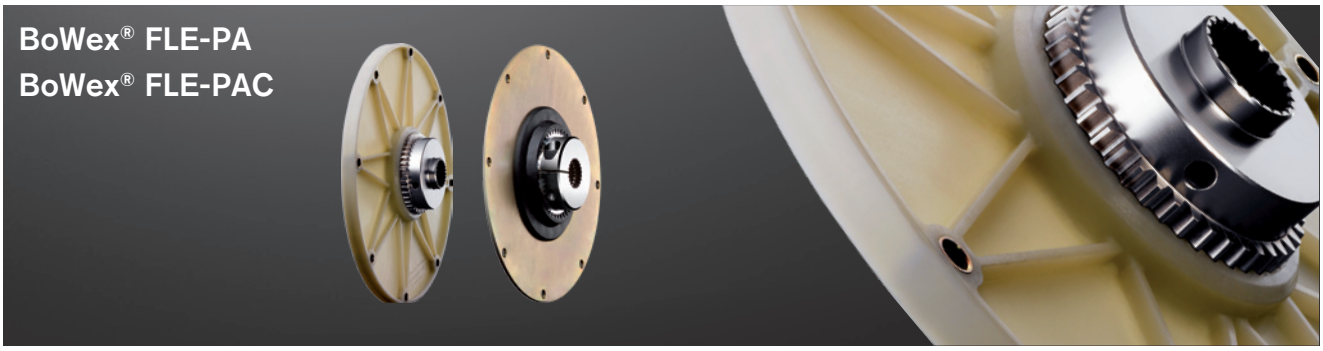
[1] Special hubs on request

Dimensions in mm											
MONITEX® BT type	L	L1	L2	L5	L7	E	B1	S	Cap screws DIN EN ISO 4762		
									Number Z	M	T_A [Nm]
28/200	125	35	35.5	35	28	20	15	2.5	8	M6	17
42/800	166	50	51.0	50	33	26	20	3.0	12	M8	41
65/1600	235	75	75.0	75	38	35	26	4.5	12	M10	83

Setscrew DIN EN ISO 4029			
Size	28	42	65
Dimension G, G1 in mm	M8	M8	M10
Dimension T, T1 in mm	15	20	20
Tightening torque T_A [Nm]	10	10	17

Other types

BoWex® FLE-PA
BoWex® FLE-PAC



- For I. C.-engines
- engine power up to 2500 kW
- Axial plug-in, easy assembly
- compact dimension
- Torsionally rigid

BoWex-ELASTIC®



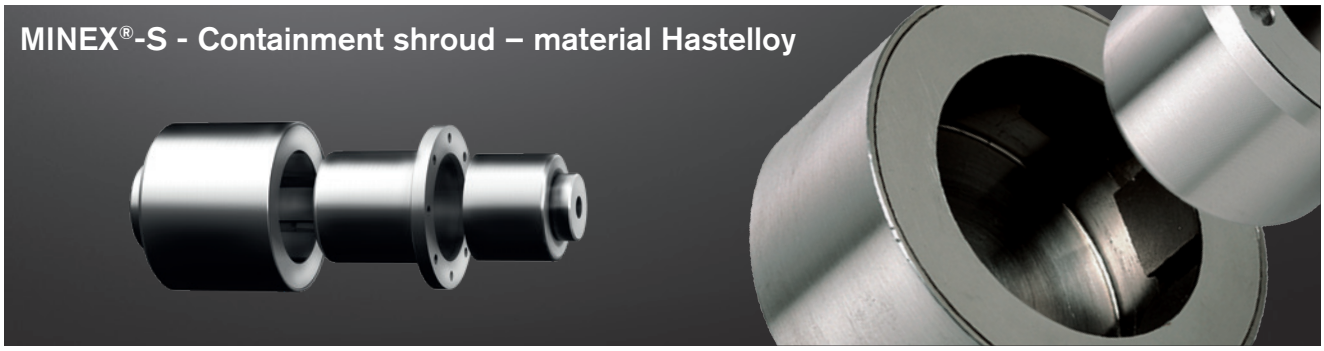
- Highly flexible flange coupling with SAE and special dimensions
- For the drive with diesel engines up to 2500 kW
- Available as a Shore hardness (T) 40, (T) 50 and (T) 65 Shore
- damping torsional vibrations
- compensating for displacements on the driving and driven side
- Axial fitting without subsequent screwing
- Available as a Shore hardness 40, 50 and 65 Shore A
- Specifically short dimensions
- Special dimensions without adapter possible

MONOLASTIC®

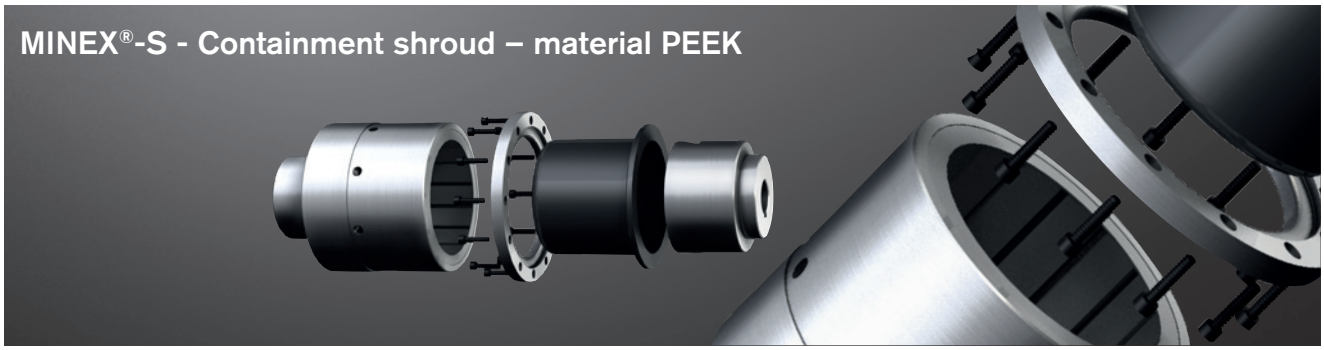


- One-piece, flexible flange coupling
- For the drive in diesel engine/hydraulic pump up to 250 kW
- available in various kinds of Shore hardness
- Axial plug-in in combination with pump spline shaft
- Available for SAE and DIN pump spline shafts
- Available with connection with 3 holes and acc. to SAE

Other types



- Contactless torque transmission with permanent magnets
- Hermetical separation of driving and driven side
- torque range from 10 to 1,000 Nm
- Containment shroud made of Hastelloy



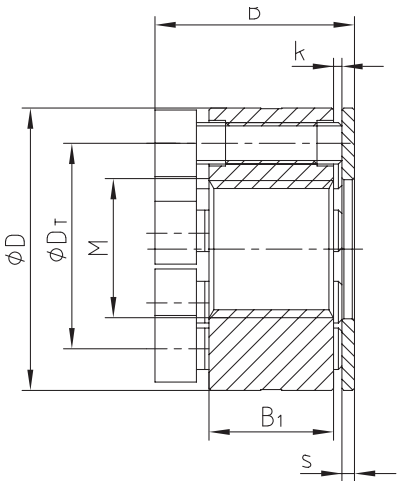
- No eddy current losses
- No generation of heat in the coupling caused by the containment shroud
- Low sensitivity to fracture, low weight, easy handling
- Ideally suitable with low demands on temperature and pressure resistance (up to 16 bars and +130 °C)
- torque range from 10 to 390 Nm
- internal cooling measures not required
- Specifically suitable for dry-running drives

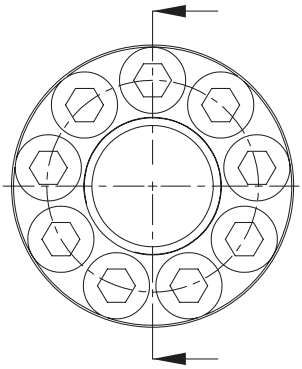


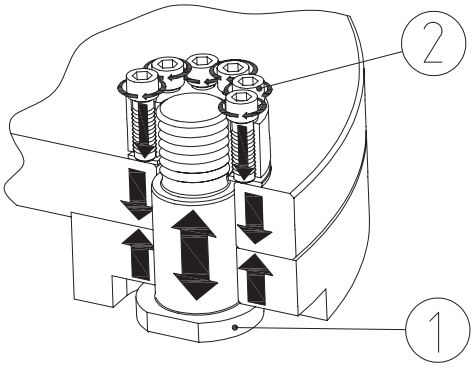
- No eddy current losses
- No generation of heat in the coupling caused by the containment shroud
- Ideally suitable for higher demands on temperature and pressure resistance (up to 25 bars and +300 °C)
- torque range from 25 to 550 Nm
- internal cooling measures not required
- Specifically suitable for dry-running drives

Large screw connections for easy and quick assembly





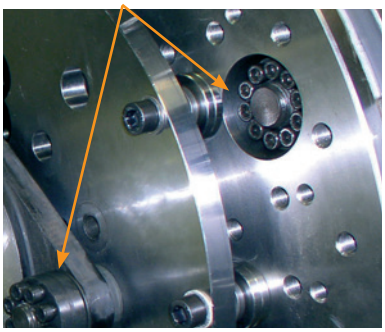




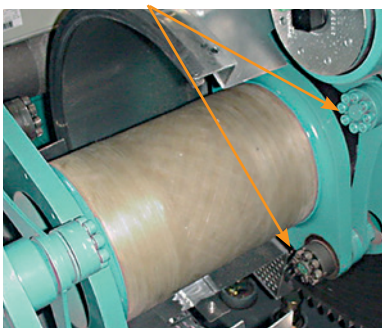
KTR Clamping nuts												
Size	Dimensions [mm]						Pressure screw pos. 2		Property class 8.8, screw pos. 1		Property class 10.9, screw pos. 1	
	D	D_T	B	B1	s	k	DIN EN ISO 4762	z = number	Tightening torque * [Nm]	Preload force [N]	Tightening torque * [Nm]	Preload force [N]
M24 x 3.0	52	39	36.0	20	3.0	1 - 2	M8	8	21	174000	30	249000
M27 x 3.0	57	42	41.0	25	3.0	1 - 2	M8	9	24	224000	30	280000
M30 x 3.5	65	48	43.0	25	3.0	1 - 2	M10	8	41	274000	60	401000
M33 x 3.5	68	51	48.0	30	3.0	1 - 2	M10	9	45	338000	60	451000
M36 x 4.0	80	58	50.0	30	3.0	1 - 2	M12	8	71	396000	105	586000
M42 x 4.5	86	64	55.0	35	3.0	1 - 2	M12	10	78	544000	105	732000
M48 x 5.0	90	72	60.0	40	3.0	1 - 2	M12	11	94	721000	105	806000
M52 x 5.0	100	79	66.5	42	4.5	1 - 2	M12	13	95	862000	105	952000
M56 x 5.5	108	83	75.5	45	4.5	1 - 2	M16	9	210	1001000	250	1192000
M60 x 5.5	112	86	80.5	48	4.5	1 - 2	M16	10	215	1139000	250	1325000
M64 x 6.0	120	92	84.0	52	8.0	1 - 2	M16	11	225	1311000	250	1457000
M72 x 6.0	142	107	98.0	58	8.0	1 - 2	M20	10	400	1696000	490	2077000
M80 x 6.0	164	122	103.0	64	8.0	1 - 2	M20	12	420	2137000	490	2493000

* per screw pos. 2

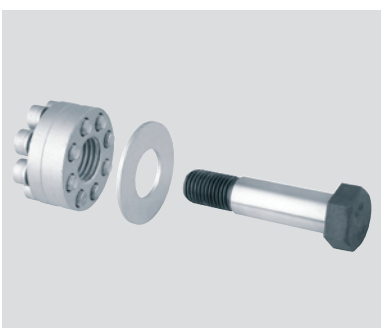
Used on 100 kNm test bench flanges



Used on couplings for wind power stations



Available as a complete unit including dowel screw



Ordering example:	KTR clamping nut	M33 x 3.5
	Description	Size

Summary of literature

No matter if a perfect drive, a brake that takes effect, space-saving cooling or accurate hydraulics is required, if on land, by sea or at an airy height - KTR's product portfolio is just as manifold as its applications. The following catalogues and leaflets provide an overview. Available at **www.ktr.com**

Product catalogues









KTR Germany:

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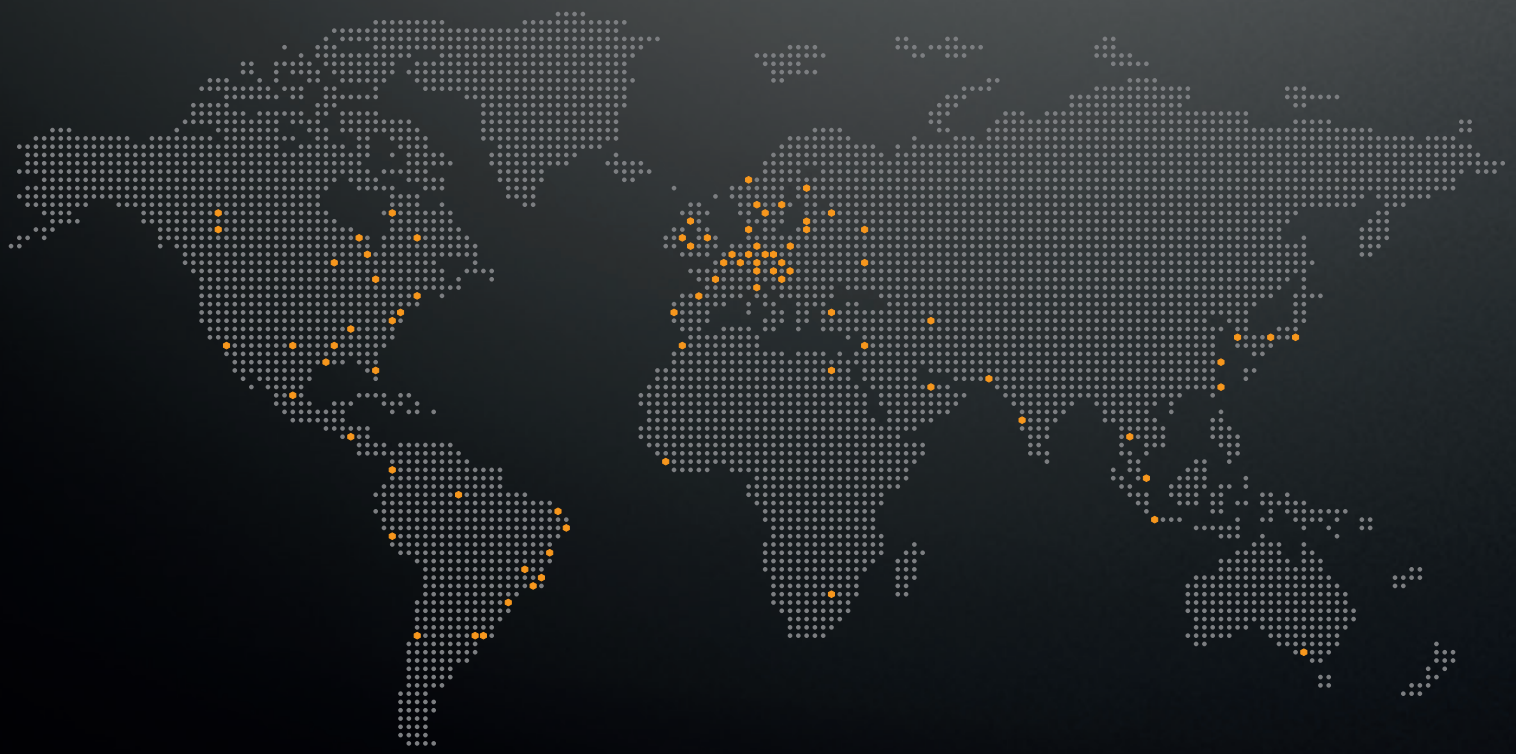
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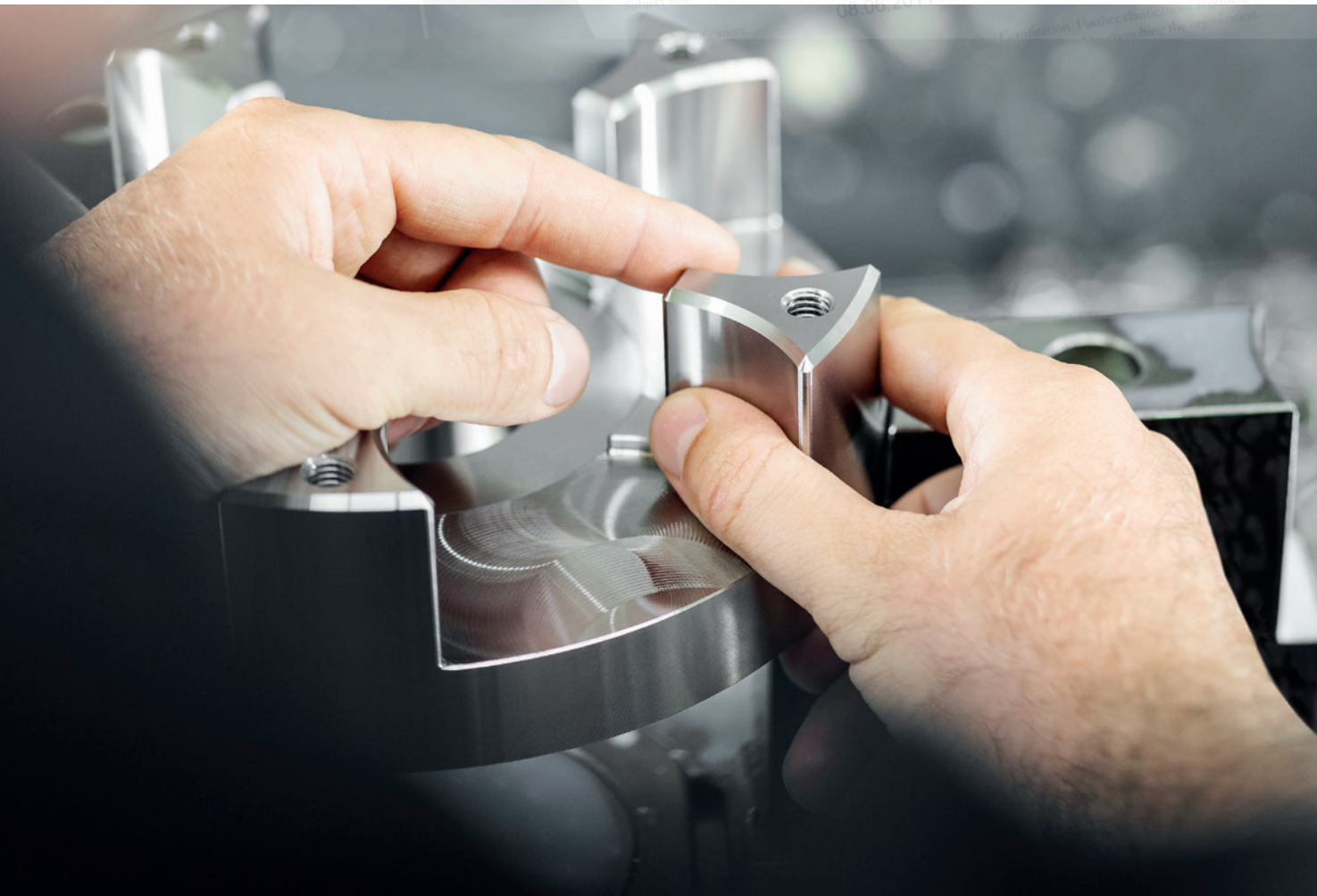
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Made for Motion KTR

Certificates and Approvals

Being one of the first companies in the field of drive technology, KTR was certified in accordance with DIN EN ISO 9001 already in 1993, including the plants in Poland, China, India and USA.

Currently KTR products have been approved by numerous internationally renowned societies for standardization and classification. Individual approvals by other societies can be implemented on request without fail.



Legend of pictograms



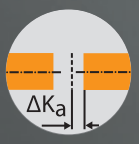
torsionally stiff


Light-weight


maintenance-free



torsionally flexible



Axial compensation


Protected against corrosion



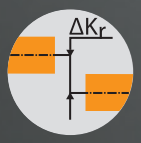
Highly flexible



Angular compensation


Electrically insulating


Damping vibrations



Radial compensation



Maximum speed


Axial plug-in


Shiftable at standstill


No eddy current losses



Consider shaft distance


double-cardanic



Torque limiter ratcheting



Relatively short shaft distance


Radial disassembly, ease of service



Torque limiter with synchronous ratcheting



Maximum operating temperature


standard drop-out centre lengths available



Torque limiter with idle rotation type


High speeds



Available in accordance with API


Hardened surface


backlash-free



Complying with ATEX
For details refer to our ATEX leaflet



Accuracy X %


non fail-safe type, separating, slipping



Certified in accordance with ABS


Consider axial displacement


Additional features compared to standard version