Fluid couplings

Hydrodynamic power transmission according to the Föttinger principle

Made for Motion KTR

www.ktr.com

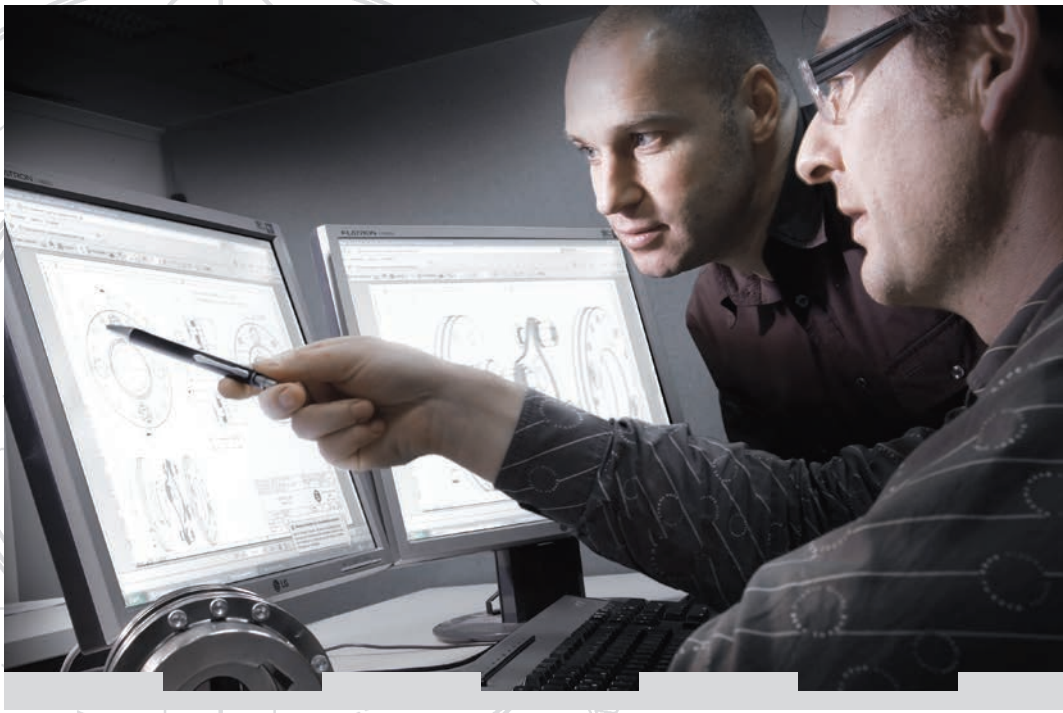
We move the world: KTR

Competence meets creativity

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

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

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



Accuracy meets speed

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

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

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

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

Föttinger principle – with KTR

More than 50 years of experience in power transmission, more than 20 subsidiaries and 90 dealers throughout the world, this is KTR. As a leading supplier of couplings, clamping sets, torque limiters, torque measuring systems, hydraulic components, brake systems and now also fluid couplings we are the right partner for all those who want to set things in motion.

Unlimited drive to serve our customers in the best possible way

One of the main characteristics of KTR is its effort to meet customer needs by providing customized and innovative engineering solutions. Moreover, we search for opportunities to complement our product portfolio in a constant attempt to serve our customers in the best possible way, and to be regarded and highly valued as a system supplier.

Fluid couplings are a new addition to our product portfolio which enables us to offer a broader product portfolio for e.g. applications in the mining industry or specific applications such as cooling towers and centrifuges.

With regards to mining applications we supply flexible couplings, brakes and electronic control systems for accurate brake processes. Fluid couplings may find applications in belt conveyors, bucket excavators, crushers and stackers to name a few. As to cooling towers and centrifuges we can provide laminae couplings and elastic couplings respectively - as well as fluid couplings.

A smart product for diverse applications

In general, typical applications for fluid couplings may be found where acceleration of large masses is required (e. g. conveyer belts, centrifuges), and start-up must be gentle. Fluid couplings limit starting torque and hence relieve the engine as the motor can start under low load conditions. Due to the limitation of the starting torque, the engine can reach 80-85 % of its speed within a few seconds. As the starting torque is limited by the fluid coupling, and the motor starts almost load-free, start-up current is low (Fig. 1).
In the case of overload, slip increases and motor and driven machine are protected as torque transmission via fluid coupling decreases.

Another benefit of fluid couplings is that almost no wear occurs since torque is transmitted via a fluid.
KTR offers various types of constant-fill fluid couplings in order to serve a wide range of application areas.

ATEX

KTR is actively associated with governing associations, for instance with the introduction of the ATEX product standard 94/9/EC, well known as ATEX 95. The standard defines the use of products in hazardous areas. We are here to support you, to make sure that you adhere to every safety standard and to advise you of the necessary markings.

Please consult with our technical sales engineers or your local KTR office.

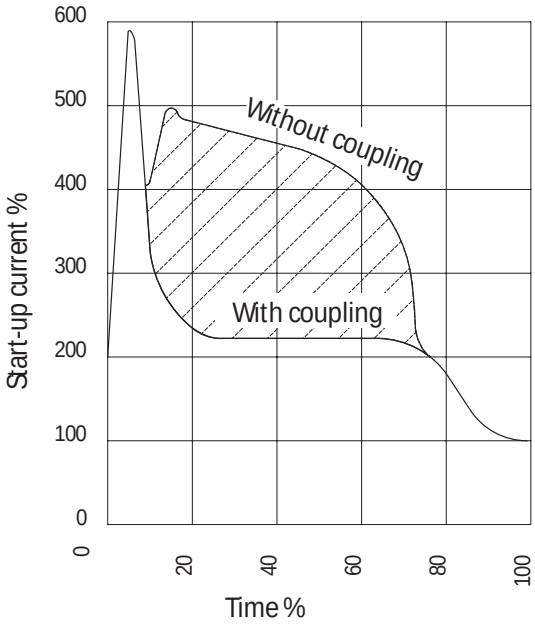


Fig. 1: Absorbed start-up current with and without fluid coupling

Hydrodynamic couplings

The operating principle of hydrodynamic couplings is based on the Föttinger principle: as opposed to the direct working principle, where, for instance, power is transmitted via mechanical couplings, hydrodynamic couplings transmit power by means of a fluid. Since torque transmission is realized via a fluid there is almost no wear in comparison to the direct working principle.

Inner drive

Figure 3 depicts a fluid coupling at standstill, during start-up and at nominal operation. During start-up the input shaft (driving side) mechanically transfers torque to the inner wheel (impeller) of the fluid coupling. Mechanical energy is converted to kinetic energy which in turn gradually accelerates the outer wheel (runner). Torque transmission from outer wheel to driven machine takes place mechanically. Due to the gradual transmission of torque by means of the hydrodynamic coupling, motors can basically start unloaded. Slippage of the coupling initially amounts to 100 % then steadily decreases as torque transmission increases, allowing for a soft start-up. An even softer start-up can be realized by fitting fluid couplings with delay chambers (Fig. 2).

Before start-up fluid rests in both the working circuit and the delay chamber. After run-up of the motor, the entire fluid gradually flows into the working circuit, thus providing for an even slower and softer start-up.

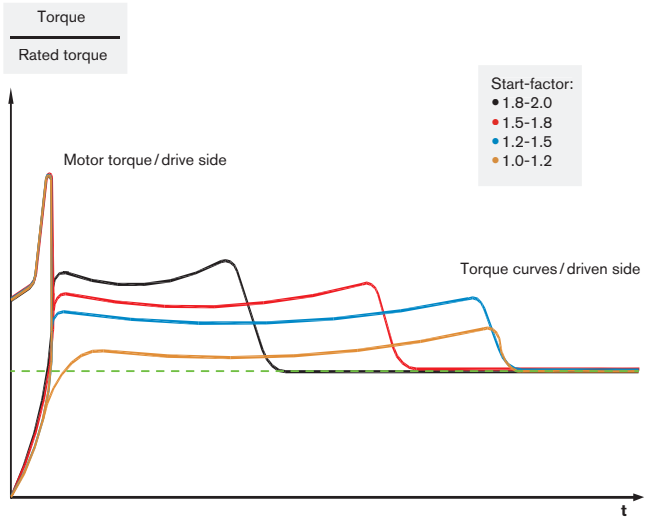


Fig. 2: Torque curves of fluid coupling with no delay chambers and delay chambers of varying sizes

Outer drive

The driving end mechanically transfers torque to the outer wheel. Mechanical energy is converted to kinetic energy which in turn gradually accelerates the outer wheel (runner). Torque transmission from outer wheel to driven machine takes place mechanically.

Slip at nominal speed

The slip of hydrodynamic couplings at nominal speed varies depending on coupling size and oil filling level.

Stand-still **Start-up** **Nominal operation**

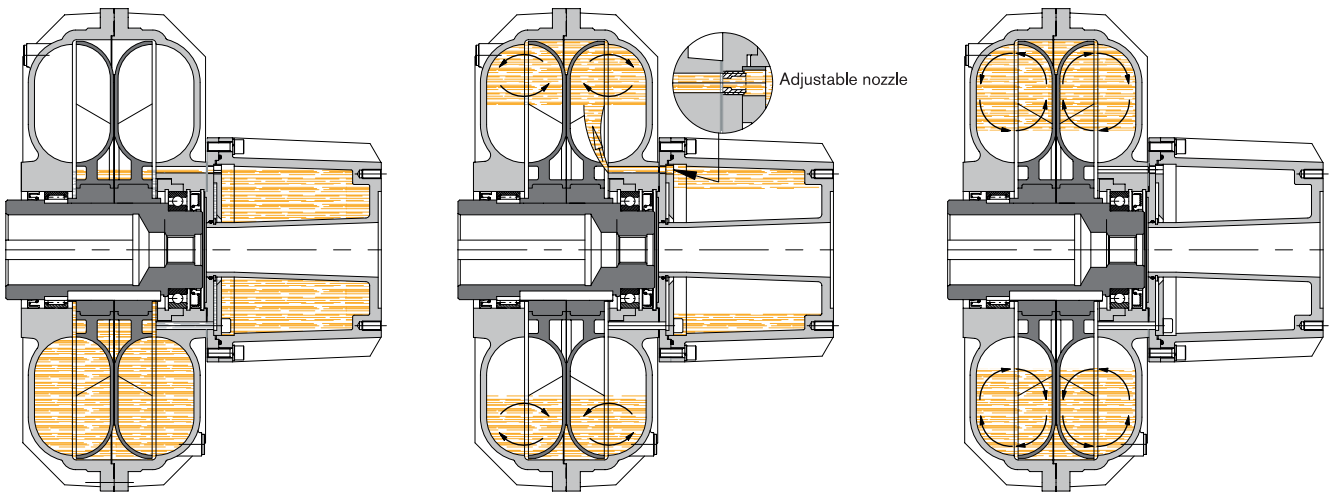


Fig. 3: Working principle of fluid

Hydrodynamic couplings at a glance

KTR offers an extensive range of fluid couplings for standard IEC motors and NEMA motors. Different requirements and fluid coupling types as well as designs entail and necessitate varying performance data:

- We can cover differing power ranges depending on speed and type of hydraulic coupling
- Fluid couplings may be supplied for vertical assembly
- Starting torque may be limited to 100 % - 200 % of nominal motor torque

Further, KTR can supply various types:

- Depending on required starting torque single, double and enlarged delay chambers may be supplied.
- Fluid coupling with pulley
- Inner or outer drive
- Fluid couplings that provide for mechanical lock-up at nominal speed thus preventing slippage

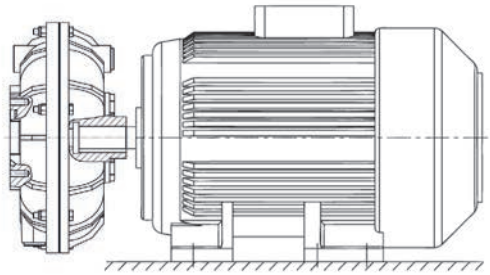
Complementary KTR-products

Our fluid couplings may be complemented with our flexible, gear-type and torsionally stiff couplings. Examples are given below:

- **ROTEX®, ROTEX® type CF**
- **REVOLEX®**
- **POLY-NORM®**
- **GEARex®**

If long distances need to be bridged, KTR's coupling RADEX®-N type NANA, with composite spacer, is recommended. KTR can also provide brake discs/drums if required as well as disc brakes (hydraulically and spring applied).

IEC-motors - selection

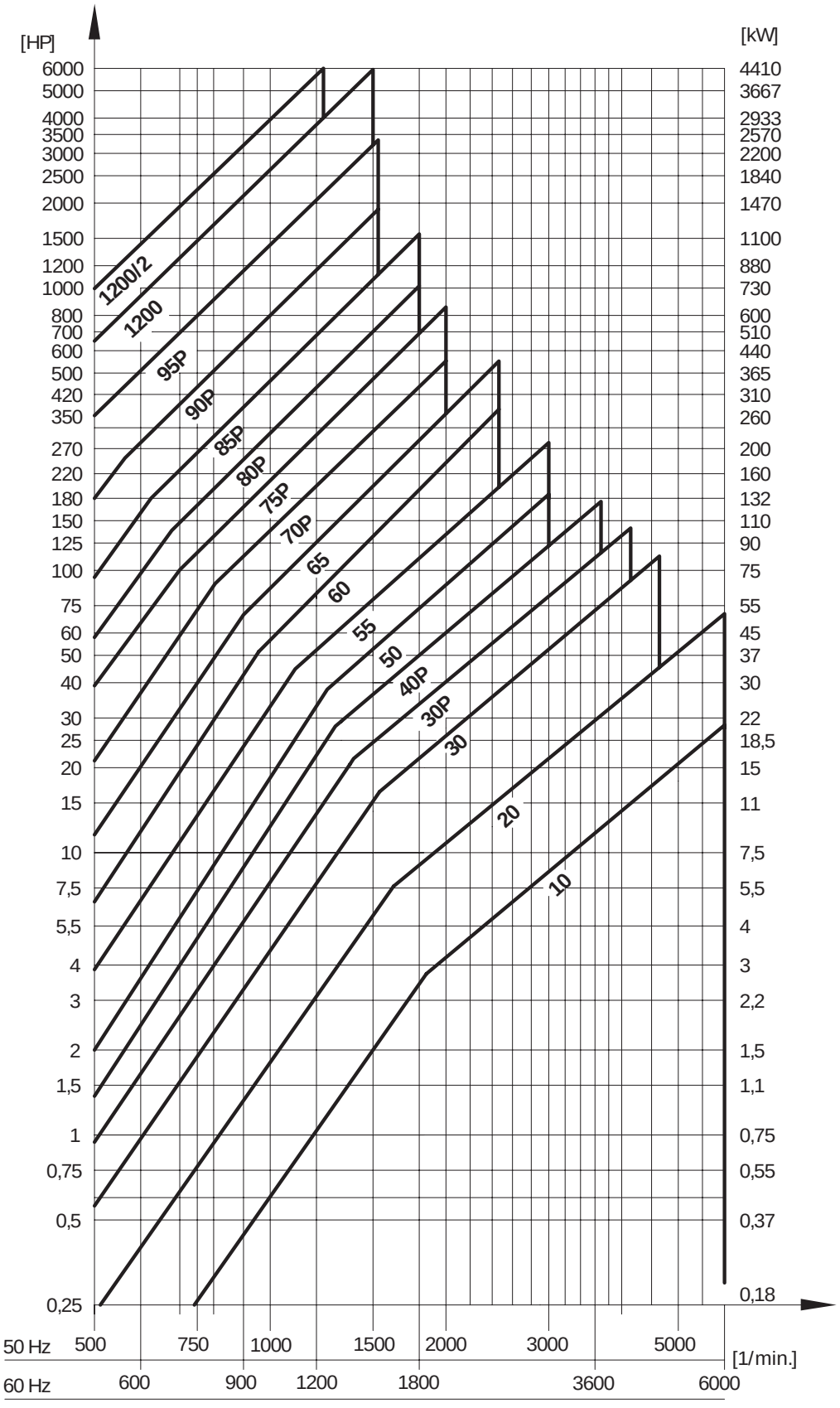


Fluid couplings for IEC-motors [1)]

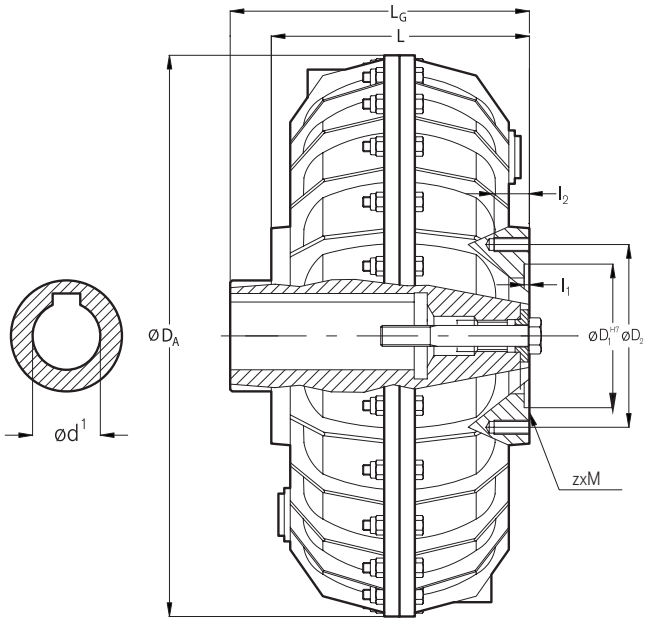
Motors			Motor speed 50 Hz												Motor speed 60 Hz					
			8-pole			6-pole			4-pole			2-pole			6-pole			4-pole		
			750 1/min			1000 1/min			1500 1/min			3000 1/min			1200 1/min			1800 1/min		
Size	Shaft end dxl [mm]		kW	HP	Coupling	kW	HP	Coupling	kW	HP	Coupling	kW	HP	Coupling	kW	HP	Coupling	kW	HP	Coupling
71	14x30					0,25	0,33		0,25	0,33		0,37	0,5		0,25	0,33		0,25	0,35	
								10	0,37	0,5		0,55	0,75					0,37	0,5	
80	19x40					0,37	0,5		0,55	0,75	10	0,75	1	10	0,37	0,5	10	0,55	0,75	
						0,55	0,75		0,75	1		1,1	1,5		0,55	0,75		0,75	1	10
90S	24x50					0,75	1	20	1,1	1,5		1,5	2		0,75	1		1,1	1,5	
90L			0,55	0,75	20	1,1	1,5		1,5	2		2,2	3		1,1	1,5		1,5	2	
100L	28x60		1,1	1,5	30	1,5	2	30	2,2	3	20	3	4		1,5	2	20	2,2	3	
									3	4								3	4	
112M			1,5	2		2,2	3		4	5,5		4	5,5		2,2	3		4	5,5	20
132S	38x80		2,2	3	30P	3	4	30P	5,5	7,5	30	5,5	7,5		3	4	30	5,5	7,5	
												7,5	10							
132M			3	4	40P	4	5,5		7,5	10		5,5	7,5	20	4	5,5		7,5	10	
						5,5	7,5	40P				7,5	10		5,5	7,5				
160M	42x110		4	5,5	50	7,5	10		11	15	30P	11	15		7,5	10	30P	11	15	30
												15	20							
160L			7,5	10	55	11	15	50	15	20		18,5	25		11	15		15	20	
180M	48x110		11	15		15	20		18,5	25	40P	22	30	30	15	20	40P	18,5	25	30P
180L									22	30					15	20		22	30	
200L	55x110		15	20	60	18,5	25	55	30	40	50	30	40		18,5	25	50	30	40	40P
						22	30					37	50		22	30				
225S	55x110	60x140	18,5	25		30	40		37	50		45	60	30P				37	50	50
225M			22	30	65			60	45	60	55	45	60		30	40	55	45	60	
250M	60x140	65x140	30	40		37	50	65	55	75		55	75	40P	37	50		55	75	55
280S	65x140	75x140	37	50	70P	45	60		75	100	60	75	100	50	45	60	60	75	100	
280M			45	60		55	75	70P	90	125		90	125		55	75		90	125	
315S		80x170	55	75	75P	75	100		110	150	65	110	150		75	100	65	110	150	60
			75	100		90	125	75P	132	180		132	180		90	125		132	180	
315M			90	125		110	150		160	220	70P	160	220	55	110	150	70P	160	220	65
			110	150	80P	132	180		200	270					132	180		200	270	
355S	75x140	95x170	132	180		160	220	80P	250	340					160	220		250	340	70P
					85P						75P						75P			
355M			160	220		200	270	85P	315	430					200	270		315	430	75P
			200	270	90P	250	340								250	340	80P			
Non standard motors			330	450	90P	370	500	85P	510	700	80P				310	420	80P	440	600	75P
			600	800	95P	600	800	90P	810	1100	85P				440	600	85P	700	950	80P
			1000	1360	1200	1000	1360	95P	1300	1740	90P				800	1100	90P	1000	1360	85P
			1550	2100	1200/2	2000	2720	1200	2300	3100	95P				1380	1880	95P			
						3200	4350	1200/2	3850	5250	1200				2580	3500	1200			
															4200	5710	1200/2			

[1)] Fluid couplings available for NEMA-motors

Selection diagram



Type K



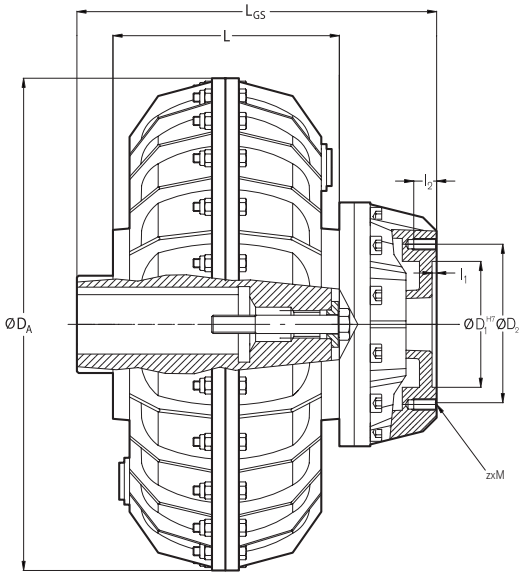
- Basic version of constant fill couplings
- Consists of pump and turbine wheel, outer shell
- Starting factor: 1.8-2
- Inner and outer drive possible:
- The coupling is usually mounted on the motor shaft (inner drive). Outer drive on request (coupling is mounted on gearbox shaft).
- Flexible couplings are used to compensate for misalignments

Technical data

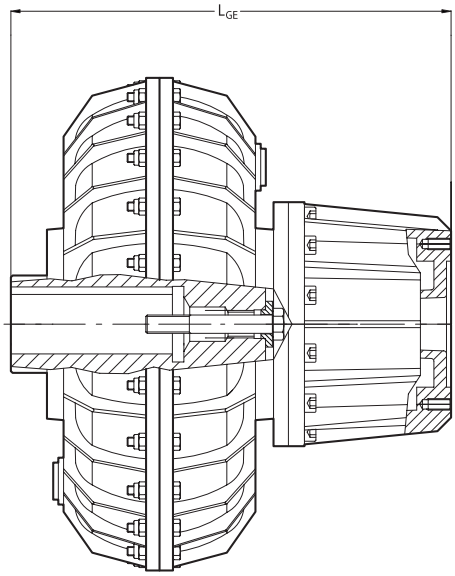
Size	Dimensions [mm]								
	Basic coupling								
	max. finish bore Ød[1]	D_A	L	L_G	D_1 H7	l_1	D_2	zxM	l_2
10	24	193	88	98	47	4	60	6x M6	12
	28			114		2			9
20	28	230	115	125	62	4	78	6x M8	16
	38			135	52				14
30	42	290	150	162	75	4	100	8x M8	16
	48			190	72				
	55			219	72				
30P	42	327	150	162	75	4	100	8x M8	16
	48			190	72				
	55			219	72				
40P	55	338	183	198	100	4	125	8x M10	22
	60				90				20
50	65	430	154	179	110	4,5	140	8x M10	22
55	65	430	196	211	110	4,5	140	8x M10	22
	75			210					
60	75	520	172	192	125	8	160	8x M10	22
	80			222					
65	80	520	220	240	125	8	160	8x M10	22
70P	90	640	190	240	150	4	195	8x M16	30
	100			280					
75P	90	640	245	265	150	4	195	8x M16	30
	100			280					
80P	110	810	226	270	160	5	230	8x M18	28
	125			286					
85P	125	810	300	340	160	5	230	8x M18	28
	135								
90P	130	1000	344	364	445	5	506	16x M20	32
	140			464					
95P	130	1000	466	479	445	5	506	16x M20	32
	140			586					
1200	max. 190	1300	425	462	220	7	310	16x M20	36

[1] Finish bore acc. to ISO fit H7, feather keyway acc. to DIN 6885 sheet 1 - JS9
Finish bore Ø ≤32: H7; Finish bore Ø ≥33: G7
Finish bore length: min. 2xd; max. 2,5xd

Type K with small and enlarged delay chamber



Fluid couplings: small delay chamber



Fluid couplings: enlarged delay chamber

- The basic type “K” is fitted with a delay chamber. The delay chamber is flange-mounted to the outer wheel of the hydrodynamic coupling.
- Start-up factor: 1.5-1.8 (small delay chamber)
- Start-up factor: 1.2-1.5 (enlarged delay chamber)
- Due to the reduced start-up factor even smoother and longer start-ups of the driven machine are enabled.
- Inner and outer drive possible
- Flexible couplings allow for compensation of misalignments

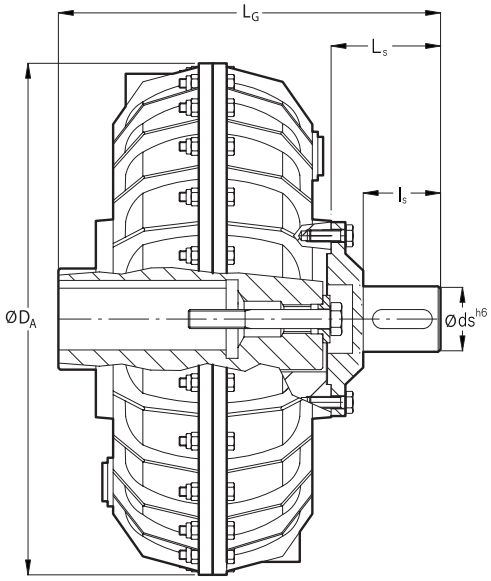
Technical data

Dimensions [mm]

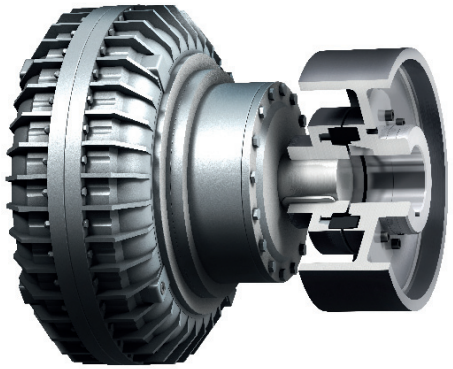
	Basic coupling								Small delay chamber	Enlarged delay chamber
Size	max. finish bore Ød[1]	D_A	L	D_1 H7	l_1	D_2	zxM	l_2	L_{GS}	L_{GE}
30	42	290	150	75	4	100	8x M8	16	217	257
	48			72					245	285
	55			72					274	314
30P	42	327	150	75	4	100	8x M8	16	217	257
	48			72					245	285
	55			72					274	314
40P	60	338	183	90	4	125	8x M10	20	256	328
50	65	430	154	110	4,5	140	8x M10	22	259	334
55	65	430	196	110	4,5	140	8x M10	22	291	366
	75								290	365
60	75	520	172	125	8	160	8x M10	22	282	362
	80								312	392
65	80	520	220	125	8	160	8x M10	22	330	410
70P	90	640	190	150	4	195	8x M16	30	350	465
	100								390	505
75P	90	640	245	150	4	195	8x M16	30	375	490
	100								390	505
80P	110	810	226	160	5	230	8x M18	28	388	488
	125								404	504
85P	125	810	300	160	5	230	8x M18	28	458	558
	135									
90P	130	1000	344	445	5	506	16x M20	32	424	504
	140								524	604
95P	130	1000	466	445	5	506	16x M20	32	599	679
	140								706	786

[1] Finish bore acc. to ISO fit H7, feather keyway acc. to DIN 6885 sheet 1- JS9
Finish bore Ø ≤32: H7; Finish bore Ø ≥33: G7
Finish bore length: min. 2xD; max. 2,5xD

Type K fitted with output shaft



- Fluid coupling is fitted with output shaft
- Also delay chambers can be provided for this version. Delay chambers are flange-connected to the coupling, and the output shaft is flange-connected to the delay chamber.
- Flexible coupling can be mounted on the output shaft and allow for compensation of misalignments

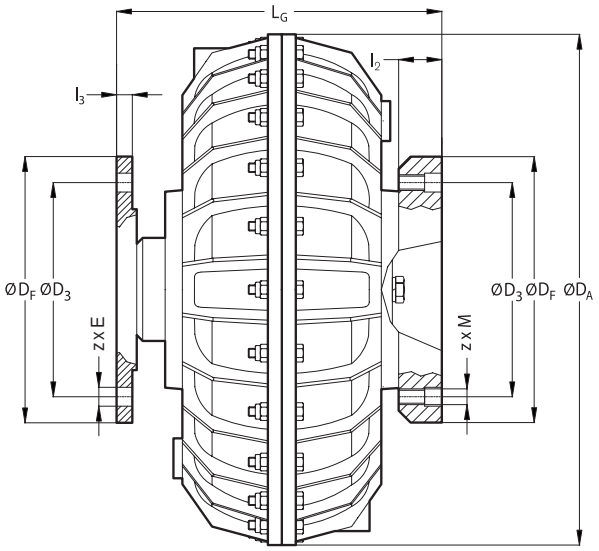


Technical data

Size	Dimensions [mm]					
	Basic coupling					
	max. finish bore Ød[1]	D_A	L_s	L_G	d_s^{h6}	l_s
10	24	193	35	133	19	25
	28			149		
20	28	230	44	169	24	32
	38			179		
30	42	290	63	225	38	45
	48			253		
	55			282		
30P	42	327	63	225	38	45
	48			253		
	55			282		
40P	55	338	76	274	48	55
	60					
50	65	430	92	271	55	65
55	65	430	92	303	55	65
	75			302		
60	75	520	110	302	60	80
	80			332		
65	80	520	110	350	60	80
70P	90	640	122	362	70	90
	100			402		
75P	90	640	122	387	70	90
	100			402		
80P	110	810	145	415	80	110
	125			431		
85P	125	810	145	485	80	110
	135					
90P	130	1000	220	584	110	180
	140			684		
95P	130	1000	220	699	160	180
	140			806		
1200	190	1300	290	752	180	250

[1] Finish bore acc. to ISO fit H7, feather keyway acc. to DIN 6885 sheet 1 - JS9
Finish bore Ø ≤32: H7; Finish bore Ø ≥33: G7
Finish bore length: min. 2xd; max. 2,5xd

Fluid coupling for flanged gear type couplings

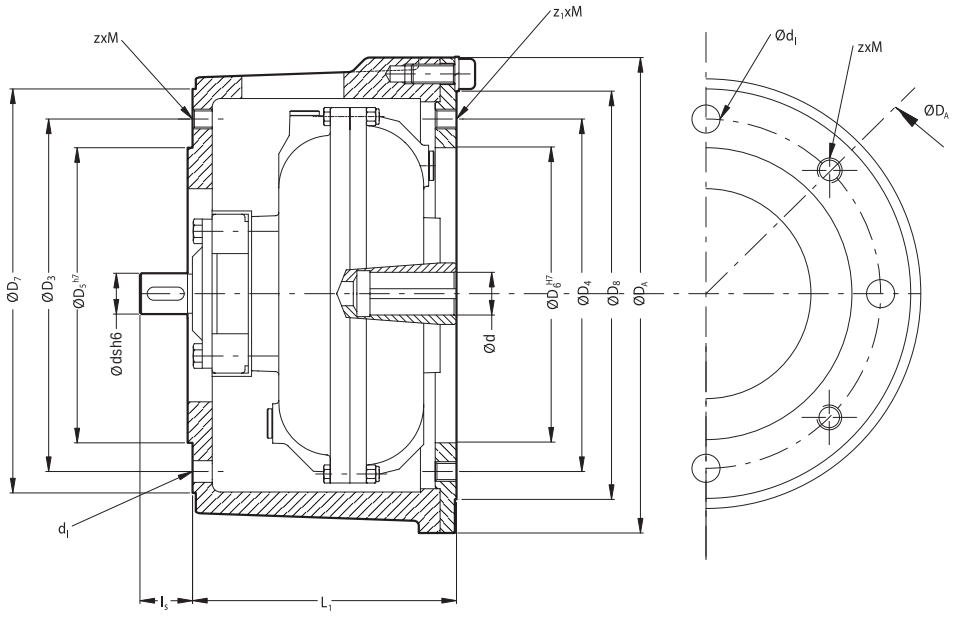


- Fluid coupling can be fitted with GEARex®
- GEARex® type FR with single parted sleeve
- GEARex® type DR with split sleeve
- Also delay chambers can be provided for this version.

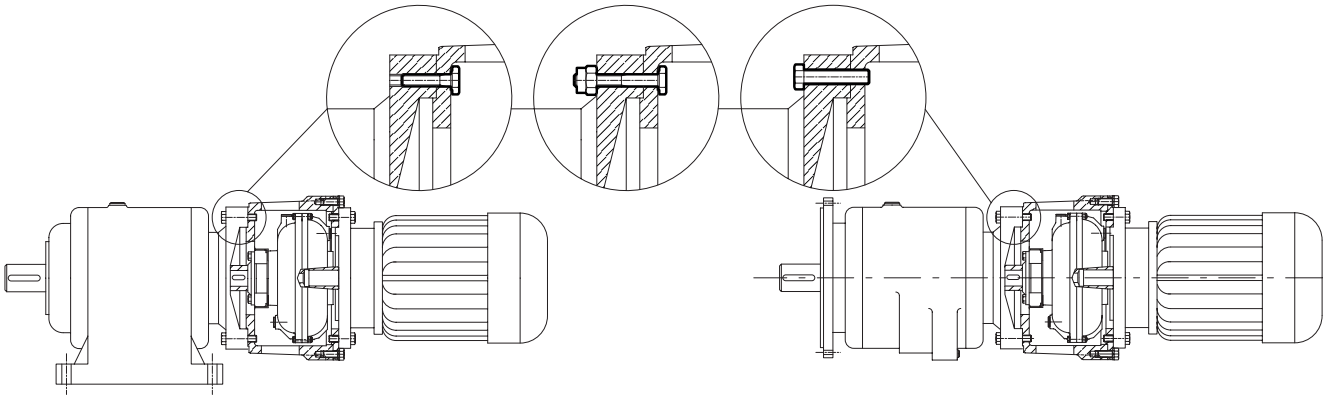
Technical data

Size	Dimensions [mm]							
	D_A	L_G	D_F	D_3	zxE	zxM	l_3	l_2
20	230	150	116	95,25	6x6,4	6x 1/4 28 UNF	6,5	17
30	290	192,5	152,5	122,22	8x9,57	8x 3/8 24 UNF	6,5	18,5
30P	327	192,5						
40P	338	231						21
50	430	212						
55	430	253	213	177,8	10x12,57	10x 1/2 20 UNF	10	24,5
60	520	235						25,5
65	520	283						
70P	640	258,5	240	206,37	8x15,875	8x 1/2 20 UNF	10	25,5
75P	640	313,5						
80P	810	355	280	241,3	8x19,05	8x 3/4 10 UNF	28	50
85P	810	425						
90P	1000	456	318	279,4	8x19,05	8x 3/4 10 UNF	28	50

Fluid coupling with housing



- Fluid coupling is fitted with housing
- To be fitted to electric motors (flange motors) and hollow shaft gearbox



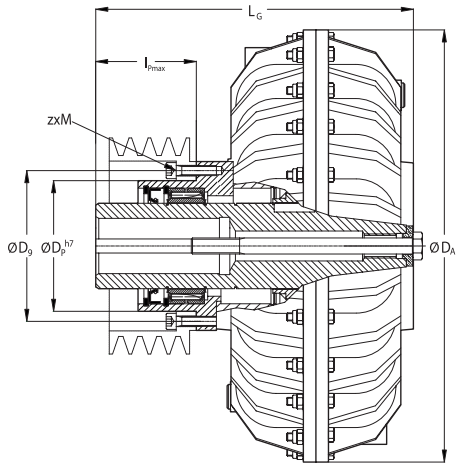
Flange mounted gearbox

Foot mounted gearbox

Technical data											
Size	Dimensions [mm]										
	max. finish bore Ød[1]	D_A	L_1	zxM	d_1	ds h6	l_s	D_3=D_4	D_5^{h7}=D_6^{h7}	D_7=D_8	z_1xM
10	19	240	128	4x M10	4x Ø11	19	25	165	130	200	8x M10
	24					24					
20	28	292	161	4x M12	4x Ø13	28	32	215	180	250	8x M112
30	38	350	210	4x M12	4x Ø13	38	45	265	230	300	8x M12
30P	42	400	210	4x M16	4x Ø17	42	45	300	250	350	8x M16
40P	48	400	255	4x M16	4x Ø17	48	48	300	250	350	8x M16

[1] Finish bore acc. to ISO fit H7, feather keyway acc. to DIN 6885 sheet 1 - JS9
Finish bore Ø ≤32: H7; Finish bore Ø ≥33: G7
Finish bore length: min. 2xd; max. 2,5xd

Hydrodynamic coupling with pulley



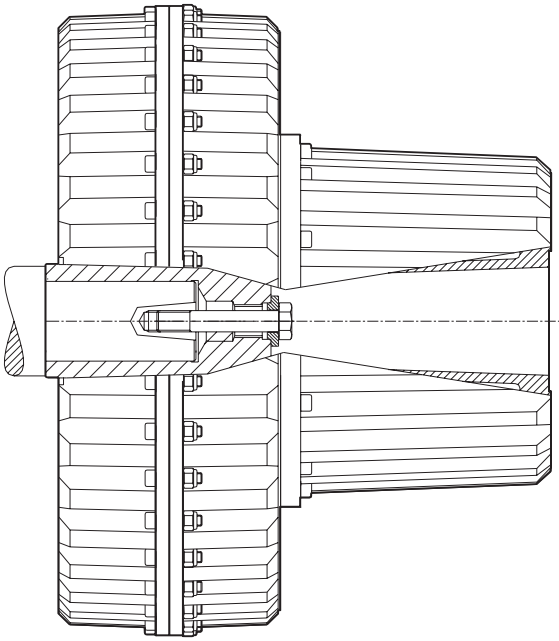
- Diverse pulleys on request
- Coupling can be fitted with delay chambers
- Vertical and horizontal assembly possible

Technical data

Size	Dimensions [mm]						
	max. finish bore Ød[1]	D_A	L_G	D_p^{h7}	D_g	l_{pmax}	zxM
20	28	229	185	60	75	70	6x M8
	38		218	75	90	85	
	42		218	85	100	50	
	55		230	96	110	62	
30	42	290	238	85	100	70	8x M8
	42		262	85	100	94	
	55		285	96	110	117	
	42		218	85	100	50	
	55		230	96	110	62	
30P	42	327	238	85	100	70	8x M8
	42		262	85	100	94	
	55		285	96	110	117	
	48		247			63	
40P	60	338	273	112	130	89	8x M8
	60		301			117	
	60		325			141	
			244			70	
50	65	430	274	130	150	100	8x M8
			309			135	
			334			160	
			286			70	
55	65	430	316	130	150	100	8x M8
			351			135	
			356			180	
	80		302			110	
			342			150	
60		520	350	150	170	158	8x M10
			390			198	
			402			210	
			350			110	
65	80	520	390	150	170	150	8x M10
			440			200	
			475			235	
			380			140	
70P	100	640	420	188	210	180	8x M12
			440			200	
			485			245	
			420			130	
75P	100	640	470	188	210	1801	8x M12
			490			200	
			535			245	
	100		386			130	
80P	100	810	436	214	240	180	8x M14
	100		481			225	
	125		481	225	250	143	8x M16
	100		460			130	
85P	100	810	530	214	240	200	8x M14
	100		555			225	
	125		555	225	250	143	8x M16

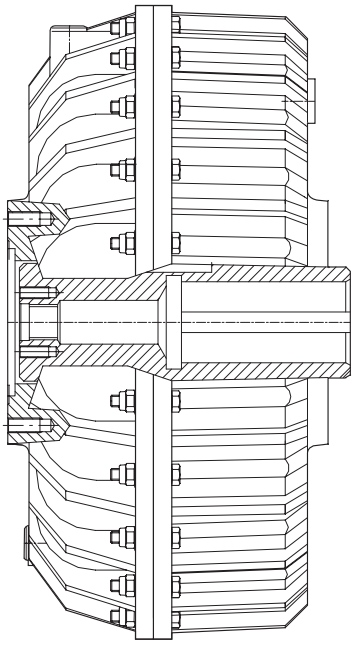
[1] Finish bore acc. to ISO fit H7, feather keyway acc. to DIN 6885 sheet 1 - JS9
Finish bore Ø ≤32: H7; Finish bore Ø ≥33: G7
Finish bore length: min. 2xd; max. 2,5xd

Additional types



Hydrodynamic coupling with and annular chamber

- Fluid coupling is fitted with enlarged delay chamber and annular chamber
- Start-up factor can be further reduced to 1.0-1.2
- Due to the reduced start-up factor even smoother and longer start-ups of the driven machine are enabled.
- Inner and outer drive possible
- Flexible couplings allow for compensation of misalignments



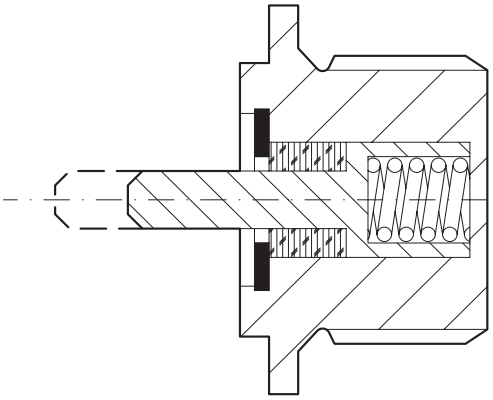
Hydrodynamic coupling with mechanical lock-up at nominal speed

- Hydraulic coupling which provides for smooth acceleration
- Mechanical lock-up at nominal operation (similar to centrifugal clutch)
- No slip at nominal operation
- Can be offered with delay chambers, pulleys, output shaft

Monitoring devices

Fusible plug and thermal switch

Diverse monitoring may be offered supplementary to the fluid coupling. To protect from overheating, fluid couplings are equipped with fusible plugs that provide for the different temperatures (120 °C; 145 °C; 180° C) at which discharge of the fluid occurs. Standard feature couplings are provided with a fusible plug which allows for discharge at 145 °C.
In order to avoid the discharge of oil, and thus loss of operation a thermal switch can be supplied (Figure i). Upon reaching response temperature, a spring-activated pin contacts a microswitch and, depending on the type of circuit, either triggers an alarm or switches off the motor



Non-contact monitoring system

The non-contact monitoring system measures speed variations between drive and driven side (input and output) of the coupling. If a set reference value is exceeded, an alarm occurs or the motor is switched off. Manual settings allow the operator to determine periods during which no alarm occurs and the motor is not switched off, thus allowing for speed fluctuation and start-up phase.

Oils and temperatures

Following oils are recommended for operating temperatures between – 20 °C and 180 °C:

The oil filling level may vary depending on the required start-up time. Decreasing the oil filling level will lead to a slower, more gradual, and thus smoother start-up as well as higher slippage during nominal operation.

Manufacturer	Oil
BP	ENERGOL HLP 22/HLP 32
Castrol	Hyspin AWS 46
ESSO	Spinesso 22
Mobil	Velocite
Shell	Tellus 22/Tellus 32

Questionnaire: Technical selection

1. Drive side

Electric-motor

Manufacturer: _____ Type: _____
Nominal power: _____ kW
Nominal speed: _____ rpm
Moment of inertia: _____ kgm^2 reduced to coupling speed
Motor shaft length: _____ mm
Motor shaft diameter: _____ mm
Activation: Star-delta ☐ Direct ☐ Other ☐
Other: _____

Diesel engine

Manufacturer: _____ Type: _____
Nominal power: _____ kW
Nominal speed: _____ Rpm

Two-stroke ☐ Four-stroke ☐ No. of cylinders Piston Ø mm

V-motor ☐ in-line ☐ V-angle ° stroke mm
Other:

2. Driven machine

Application/type of machine _____
Mass moment of inertia _____ kgm^2 based on _____ rpm
Rated power _____ kW
Start-ups/hour _____
Required starting-time: sec Start-up factor:
Dimensions of gearbox/machine shaft Ø _____ x length _____ mm

3. Design variant:

Installation position of the coupling: ☐ horizontal ☐ vertical
Vertical motor: ☐ up ☐ down
☐ Inner Drive ☐ Outer drive
Radial disassembly: ☐ Yes ☐ No

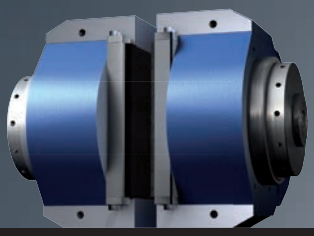
Brake drum: diameter _____ mm length _____ mm
Brake disc: diameter _____ mm length _____ mm
Pulley: diameter _____ mm groove profile _____ No. of grooves

4. General

Ambient temperature:
Environment:
Other:

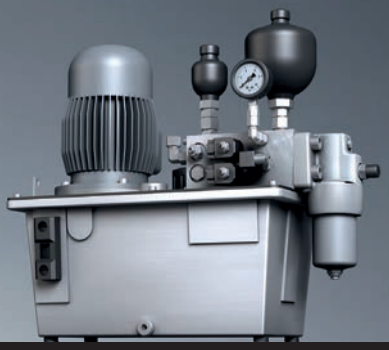
5. Remarks:

(quantity, installation, other couplings …)

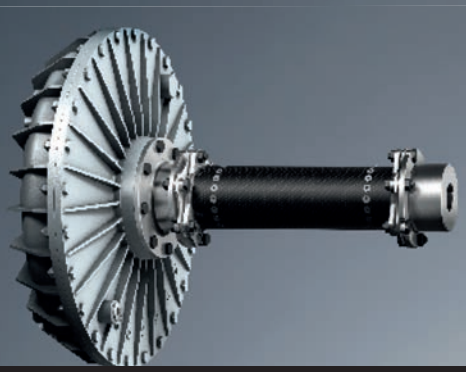


KTR-STOP®

Fluid coupling; POLY-NORM®; brake drum



Hydraulics



Fluid coupling RADEX®-N Type NANA

Fluid coupling and ROTEX®

Everything from one single source. KTR - your system supplier

KTR-STOP®

KTR-STOP® is the recently developed brake system of KTR. It was designed for applications with high forces and adverse environmental conditions.

Coupling with brake drum/-disc

KTR produce drive components for numerous industrial applications. Our couplings are often delivered combined with an integrated brake drum/disc.

Hydraulics

The brake calipers of KTR-STOP® are activated via the hydraulic power pack and for that reason we provide both solid and reliable power pack components for use under the heaviest conditions.

IntelliRamp®

IntelliRamp® is the newly developed control system for reproducing brake processes with consideration for speed against time.

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