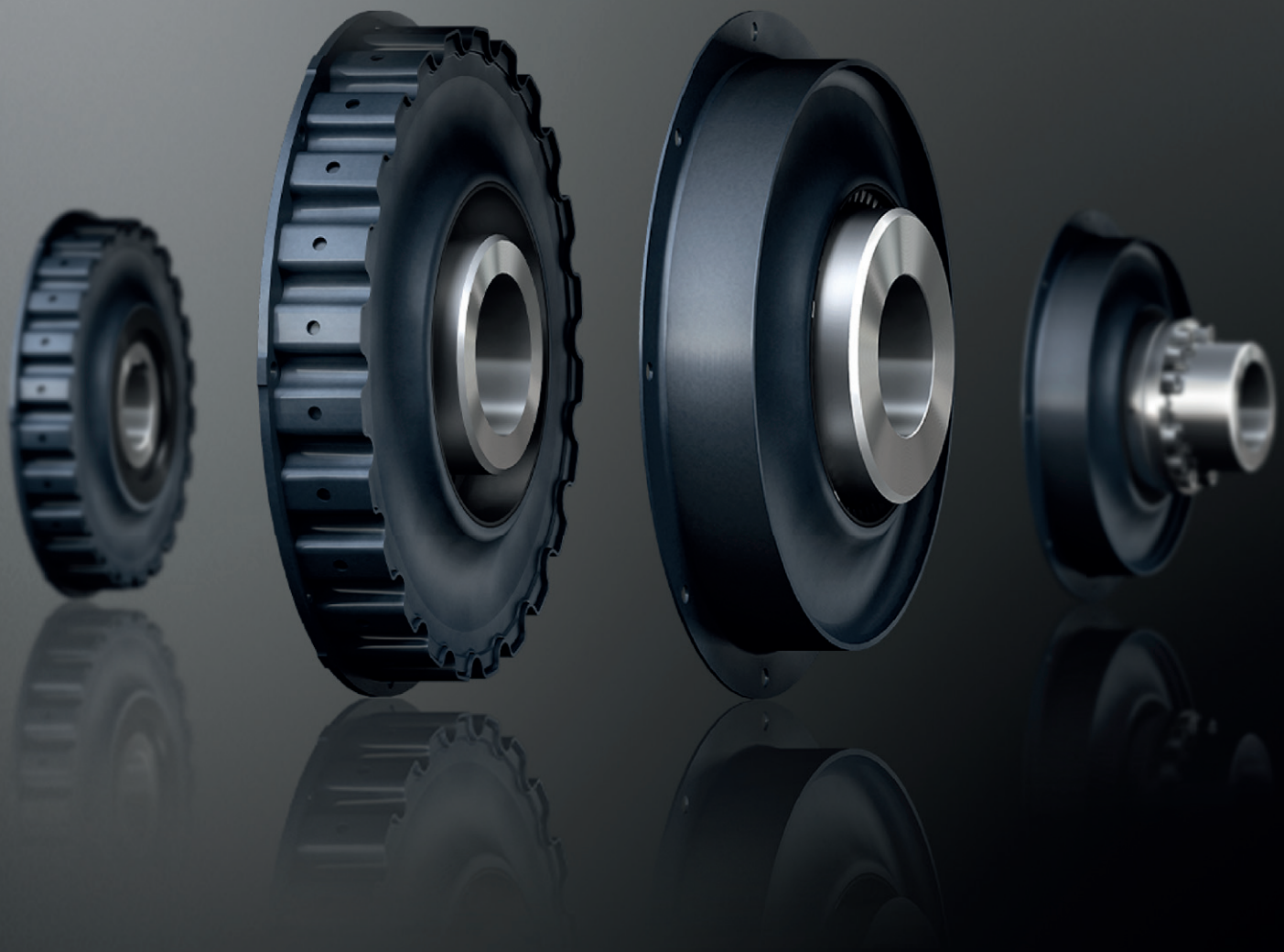
Made for Motion KTR



SINULASTIC®

Highly flexible flange couplings

ktr.com

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Online tools

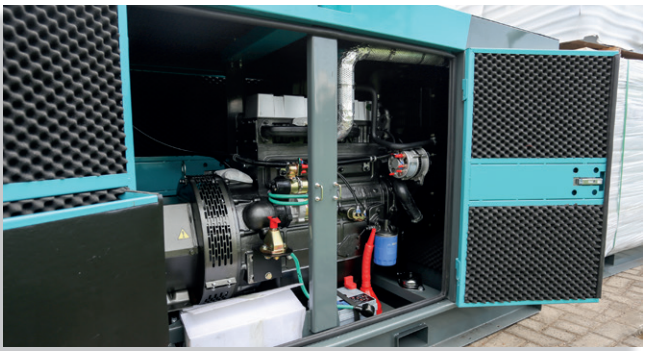
Tailor-made to your specifications - make use of our online tools

Product finder

The suitable product for your application - fast and simple with our product finder.

Examples of application

Diesel generator



Emergency generator

Working boat

Fishing vessel

Combine harvesters

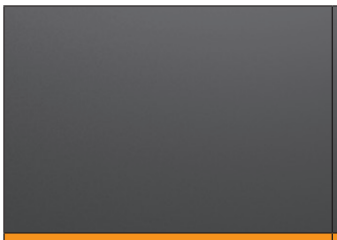
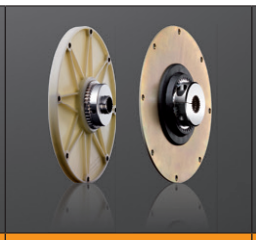
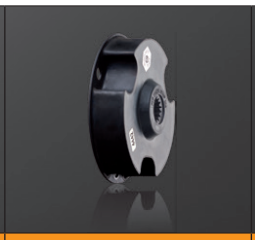
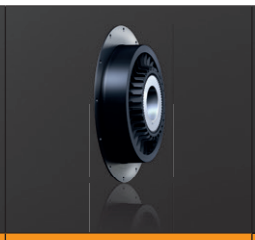
Cold milling machine

Hydraulic excavators

Wheel loaders

FLANGE COUPLINGS
TYPES AND OPERATING DESCRIPTION

Properties of flange couplings

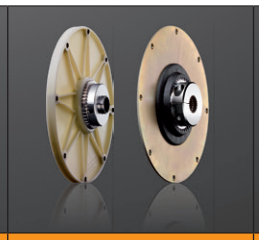
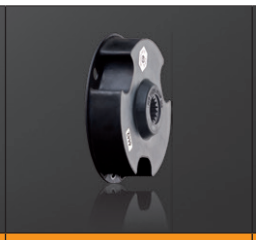
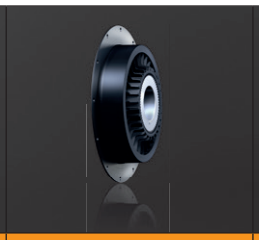





Product	BoWex® FLE-PA/-PAC	MONOLASTIC®	BoWex-ELASTIC®	SINULASTIC®
Type	Torsionally stiff flange coupling	Flexible flange coupling	Highly flexible flange coupling	Highly flexible flange coupling
Properties				
Torsionally stiff	●			
Torsionally flexible		●		
Highly flexible			●	●
Damping vibrations		●	●	●
Maintenance-free	●	●	●	●
Axial plug-in	●	●	●	●
Special features / applications				
Variant diversity	very high	high	very high	very high (type A, B, T, V)
Flange dimension	SAE standard and special dimensions	type 3/4 hole, SAE standard and special dimensions	SAE standard and special dimensions	SAE standard and special dimensions
Internal spline	see standard programme of BoWex® hubs	for SAE or DIN pump shafts	see standard programme of BoWex® hubs	Type B
Applications	hydrostatic drives of construction machines, agricultural machines, …	hydrostatic drives of construction machines, agricultural machines, …	generators, splitterboxes, water pumps, piston compressors, agricultural machines, gensets, mill drives, separator drives, …	generators, gensets, splitterboxes, traction drives, hydraulic pumps, piston compressors, ...
Performance data				
Max. rated torque T_{KN} [Nm]	6,600	1,850	70,000	25,000
Max. speed n [rpm]	6,000	6,000	6,200	3,600
Flange (standard and special)				
Material	fibre-glass reinforced polyamide (PA) combination of polyamide with carbon fibre share and steel flange (PAC)	natural rubber	natural rubber	natural rubber EPDM
Elastomer hardness	Torsionally stiff	65, 70 Shore A	various kinds of hardness for vibration adaptation of drives	miscellaneous: S, M, H, U
Flange (standard)				
Temperature range [°C] min./max.	-25 / +130 (PA) -25 / +130 (PAC)	-40 / +100	-40 / +100	-40 / +120
Engine power [kW]				
Max.	800	250	5,000	3,500

● ≈ Standard
O ≈ On request
* ≈ Depending on size

FLANGE COUPLINGS
TYPES AND OPERATING DESCRIPTION

Product finder of flange couplings

				
Product	**BoWex® FLE-PA/-PAC**	**MONOLASTIC®**	**BoWex-ELASTIC®**	**SINULASTIC®**
Type	Torsionally stiff flange coupling	Flexible flange coupling	Highly flexible flange coupling	Highly flexible flange coupling
Geometries				
Design	extremely short	short	short	short
Max. radial displacement	0.5 mm	1 mm	9.5 mm	3 mm
Shaft diameter min./max. [mm]	20 / 125	20 / 60	21 / 275	20 / 175
Types (extract)				
Intermediate shaft types » bridging larger shaft distances	–	–	HE-ZS	Type B and V
Shaft-to-shaft connection		–	HEW1 and HEW2, HEW-ZS	O
Flange-to-shaft connection	Standard	Standard	HE1, HE2, HE3 and HE4, HE-ZS	●
For cardan shafts » connecting couplings for I. C.-engines	–	–	HEG1 and HEG2	O
Combination with pump mounting flange	●	●	●	●
Certifications / type examinations				
ATEX			●	O
Bureau Veritas	●		●	O
DNV/GL			●	O
GOST R / GOST TR	●	●	●	O

● ≈ Standard

Please note: Pump mounting flanges

For connecting hydraulic pumps to the diesel engine KTR supplies mounting flanges according to SAE connection dimensions sizes SAE 6 to SAE 1. These flanges are made of steel and EN-GJL-250 for hydraulic pumps with flange connections according to SAE-A, -B, -C, -D and -E as types with 2 and 4 holes.
Pump connection housings made of EN-GJL-250 to be mounted directly to the back plate of the engine.

SINULASTIC®
highly flexible flange coupling

Description of product and application

SINULASTIC® is a modularly structured series of highly flexible flange couplings based on a disk-shaped coupling body. Four practical basic versions with individual properties cover a wide range of applications primarily for diesel engine drives, but also general drive tasks.

The main task of the coupling is reducing torsional vibrations resulting from excitations of the I. C.-engine during standard operation and misfire operation as well as protecting the drive from overload. It is a good option both for variable speed and constant speed drives, while a supercritical selection of the drive train above resonance level is always made. Particularly for the series the coupling disk requires smallest possible axial mounting space.

Depending on the type the coupling is pluggable and compensates for displacements resp. tolerances moderately to very well. It is a non-slip or shear type and radially mountable.

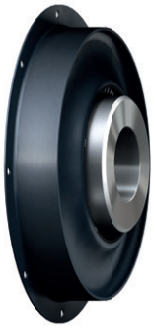
The elastomer element is available in various qualities for all types. It is composed of natural rubber compounds optimised over many years (SN, MN, HN, UN up to 90 °C) or upon request of synthetical EPDM material for higher temperatures (SE, ME, HE, UE up to 110 °C). The various kinds of rubber hardness cover one application and torque range per size. The vibratory properties of the four types are compatible within one size.

A wide portfolio of hub connections covers a large variety of shaft configurations on the driven side while special connections can be realised.

SINULASTIC® - The types

A

T



B

V

SINULASTIC® A is the evolution design of the renowned disk coupling with plug-in spline between elastomer and flange ring as well as hub vulcanized on. The tooth shape that is subject to high loads particularly with alternating loads in the contact area between motor flange and rubber was extensively optimized, the new sinusoidal tooth shape being eponymous for the series. For the first time the engine flange was realised by a deep-drawn sheet metal section creating a beneficial and smooth surface to the elastomer. Another benefit is the tight contact gap for easy mountability with at the same time highly sound and defined form fit.

In contrast to type A a Taperlock shaft connection as a standard version with feather key is used with SINULASTIC® T. The modular concept makes use of the plug-in ability of type A on the flange side.

Type B and V make use of a deep-drawn and inherently stable flange ring that the elastomer part is vulcanized on externally. This results in a low-cost solution for high speeds and overloads.

In combination with the renowned BoWex® inner hub the SINULASTIC® B as an all-rounder of the overall series is formed. The so-called BoWex® hub defines a pluggable connection resistant to high loads as well as beneficial adaptations on the driven side up to long driving shaft systems owing to the potentials for particularly high displacements. The hub and connection variants of BoWex®-ELASTIC are fully compatible with the elastomer elements of this series.

SINULASTIC® V is used beneficially where the ability for axial plug-in is not required. A resulting radial assembly is realised by a split ring on the hub side.

The slim wasteline shape of the elastomer elements of this type allows for significant displacements in axial, radial and angular direction without any wear, while the coupling element is suitable both for not flange-mounted assembly, i. e. for system configurations set up freely, and as a shaft coupling with cardanic misalignment.

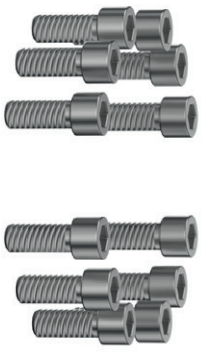
Properties of types compared

Properties of types compared			
Properties	SINULASTIC® A SINULASTIC® T	SINULASTIC® V	SINULASTIC® B
Rated torque T_{KN}	Compatible within the series		
Maximum torque T_{Kmax}	≥ 2x T_{KN}	3x T_{KN}	3x T_{KN}
Vibratory properties, e. g. torsional stiffness	Compatible within the series		
Materials [1)]	Natural rubber compounds up to 90 °C for hardness ranges WN, SN, MN and HN, synthetical EPDM up to 110 °C for hardness ranges WE, SE, ME and HE		
Plug-in	Yes	No	Yes
Radial assembly	Partially possible	Yes	No
Mounting length	++	Ø	++
Axial displacement	++	+	++
Radial displacement	Ø	+	+
Angular displacement	Ø	++	++
Standard	For flywheel flange and shaft connection (SAE J620, DIN 5480 et seqq., DIN 6281, etc.)		
Special solutions	Bearing-mounted intermediate coupling, with failure protection, combination with shifting unit	Cardanic offset joint, failure protection, shaft systems	
	Application-specific shaft connections of elastomer elements		

[1)] The standard materials and availabilities depend on the size and type, special compounds available on request

Hubs, driven side

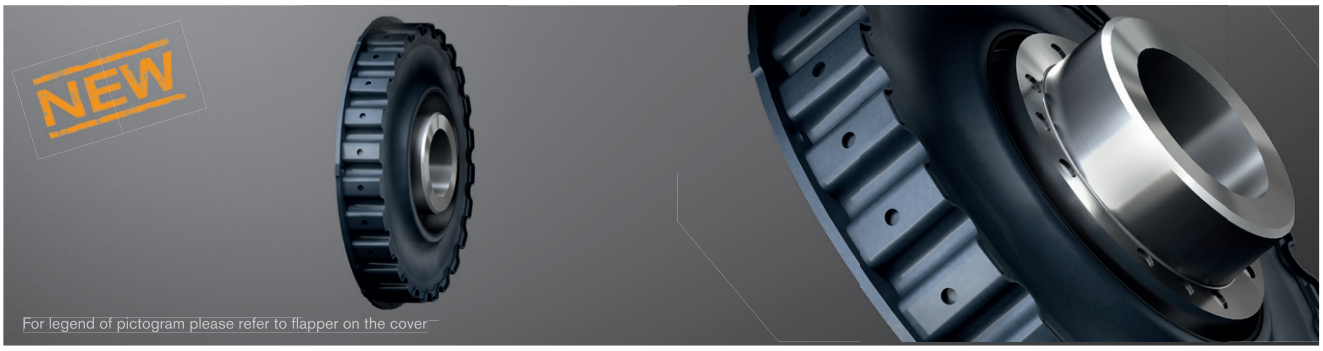
Elastomer part



Flywheel flange, driving side

SINULASTIC® A
highly flexible flange coupling

Pluggable disk coupling with optimal tooth contact



Technical data

Size	Elastomer type	Torque [Nm] [1]				Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad]		Relative damping ψ [-]		Perm. damping power P_{KW} [W] [2]		Operating speed [rpm]	
		T_{KN}	T_{Kmax}	T_{Kmax1}	T_{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	$n_{max.}$
	SN	1750	2625	3500	700	7500	6000	0.90	0.72	210	126	2700	3000
20	MN	2000	3000	4000	800	11500	9200	1.10	0.88	240	144	2700	3000
	HN	2500	3750	5000	1000	18500	14800	1.25	1.00	270	162	3240	3600
	SN	3000	4500	6000	1200	15000	12000	0.80	0.64	275	165	2520	2800
38	MN	3800	5700	7600	1520	22500	18000	1.10	0.88	300	180	2520	2800
	HN	4600	6900	9200	1840	35000	28000	1.20	0.96	330	198	2880	3200
	SN	4000	6000	8000	1600	17000	13600	0.80	0.64	285	171	2340	2600
53	MN	5300	7950	10600	2120	29000	23200	1.05	0.84	325	195	2340	2600
	HN	6200	9300	12400	2480	44000	35200	1.20	0.96	370	222	2880	3200
	SN	12000	18000	24000	4800	106000	84800	1.00	0.8	520	312	1890	2100
140	MN	14000	21000	28000	5600	149000	119200	1.10	0.88	540	324	1890	2100
	HN	16200	24300	32400	6480	218000	174400	1.25	1.00	580	348	2070	2300
	UN	19000	28500	38000	7600	310000	248000	1.40	1.12	620	372	2070	2300
	SN	14600	21900	29200	5840	132000	105600	1.00	0.8	550	330	1890	2100
180	MN	18000	27000	36000	7200	180000	144000	1.10	0.88	560	336	1890	2100
	HN	22000	33000	44000	8800	270000	216000	1.25	1.00	600	360	2070	2300
	UN	25000	37500	50000	10000	410000	328000	1.40	1.12	640	384	2070	2300

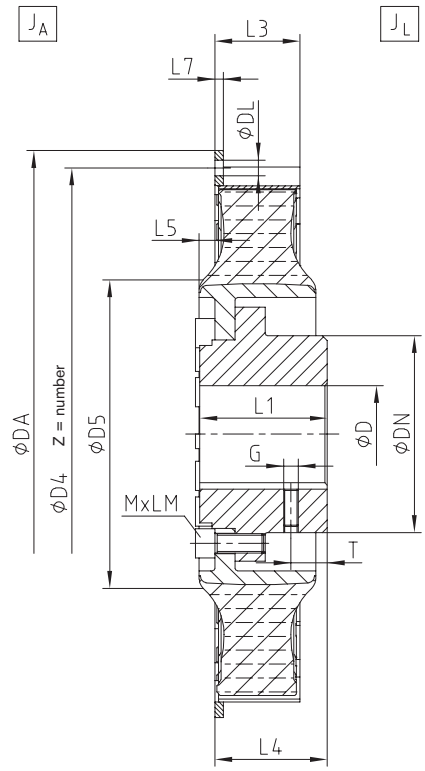
[1] T_{KN} Torque that can be constantly transmitted over the entire speed range.
T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternation pulsating / 50,000 load alternation vibratory
T_{Kmax1} Torque loads rarely, min. 1,000 load alternation
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 20 °C.
[2] Here permanent damping power. Twice the damping power figure is permissible for one hour.

SINULASTIC® type AK / AL

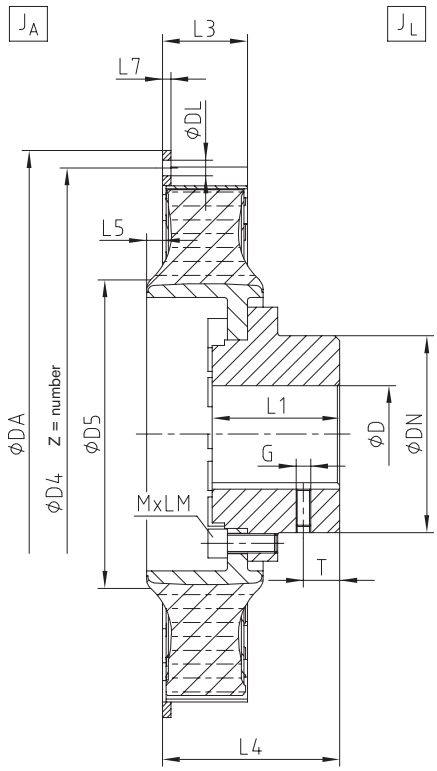
Size	Max. bore D [mm]	Flange connection acc. to SAE - J620						Dimensions [mm]											Mass moment of inertia [kgm²] [1]		Weight [kg] [1]
		11 ½"	14"	18"	21"	24"	Ø475	DN	D5	L1	L3	L4 AK	L4 AL	L5	L7	MxLM	G	T	J_A	J_L	
20	80	●						112	164	75	60	88 ±2	125 ±2	8	36	M12x30	M10	20	0.0881	0.0516	13.18
			●												13.6				0.0128	0.0516	14.25
38	115		●					162	244	100	58	93.5 ±3	123 ±3	7	7	M16x40	M16	40	0.2412	0.1994	25.47
				●															0.5506	0.1994	30.12
							●												0.2583	0.1994	25.79
53	115		●					162	247	105	70	92.5 ±3	146 ±3	13	7	M16x40	M16	40	0.2981	0.2379	29.37
				●															0.6150	0.2379	34.02
							●												0.3165	0.2379	29.69
140	175				●			248	431	200	94	200 ±3	280 ±3	3	14	M20x60	-	-	1.6680	2.1667	101.71
						●													2.5308	2.1667	108.79
180	175				●			248	431	200	114	200 ±3	300 ±3	3	14	M20x60	-	-	1.9588	2.4306	110.09
						●													2.8216	2.4306	117.17

[1] With max. bore

Type AK

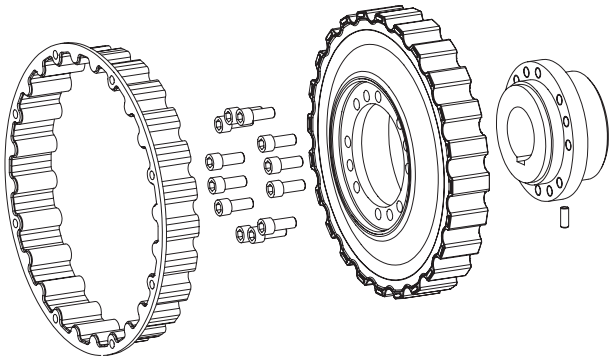


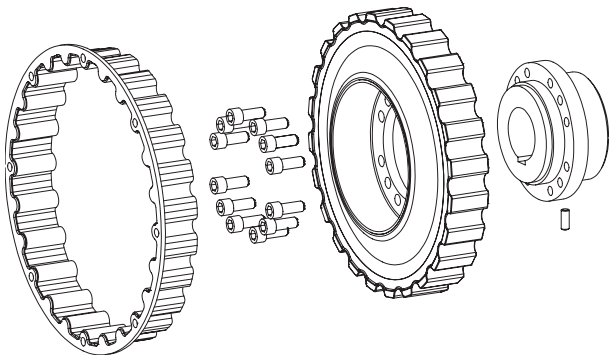
Type AL



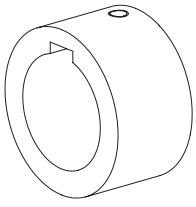
Types AK and AL specify the standard with variable hub connections as a short or long version

Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	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

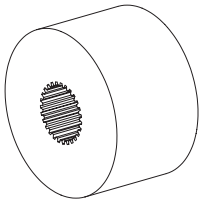




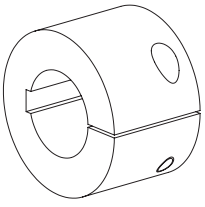
Types of hubs type AK / AL [1)]



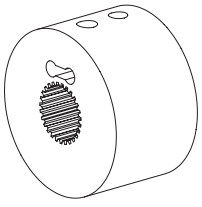
Type 1.0
with feather keyway
and setscrew
(acc. to standard AK, AL)



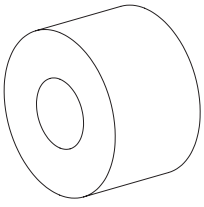
Type 1.3
spline toothing



Type 2.1
clamping hub
single slot with
feather keyway



Type 3.1
spline/clamping hub N



Type 8.0
taper interference fit

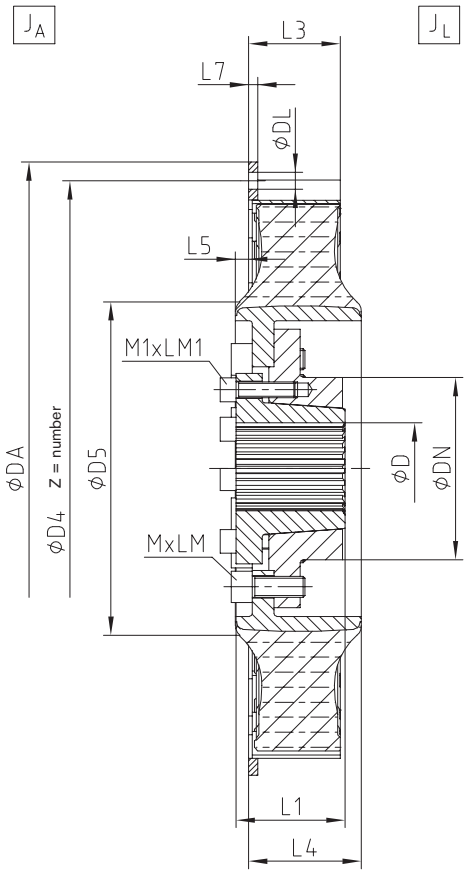
Type 8.1
cylindrical
interference fit

[1)] Dimensions and type may differ depending on size, other types of hubs on request

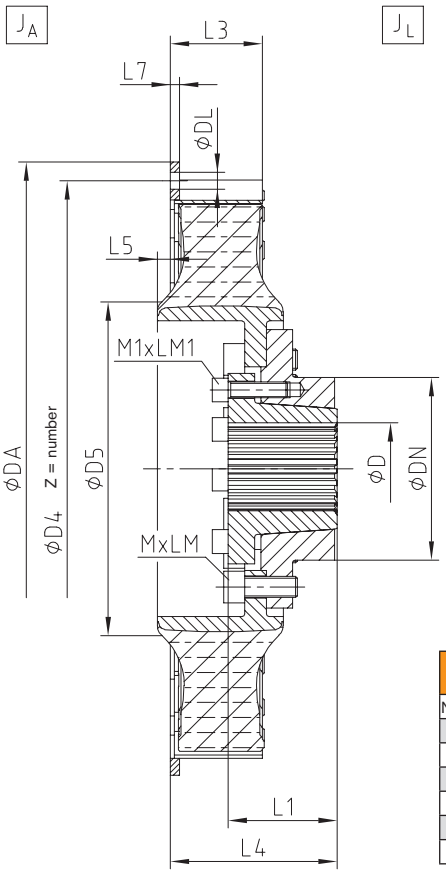
SINULASTIC® A
highly flexible flange coupling

Type ALC / AKC

Type AKC

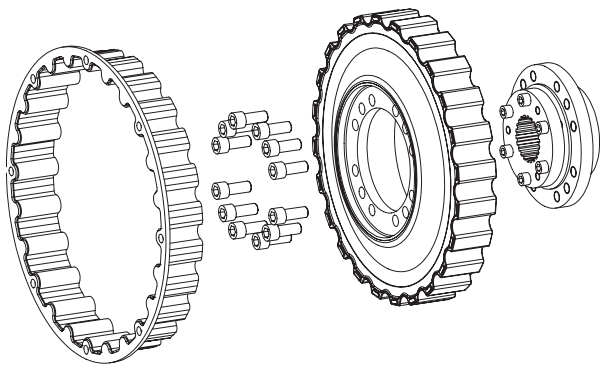


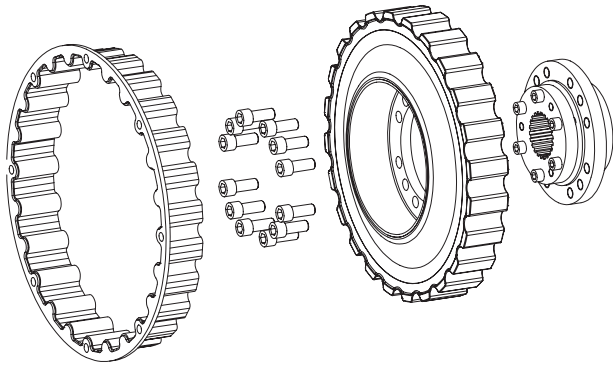
Type ALC



Types AKC and ALC specify the hub type as a spline clamping ring hub

Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	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





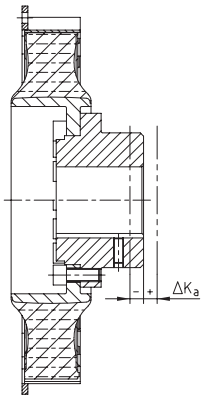
SINULASTIC® type AKC / ALC

Size	Bore D [mm]		Flange connection acc. to SAE - J620						Dimensions [mm]										Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	Pilot bored	Max.	11½"	14"	18"	21"	24"	Ø475	DN	D5	L1	L3	L4 AK	L4 AL	L5	L7	MxLM	M1xLM1	J_A	J_L	
20	30	50	●						109	164	57	60	68 ±2	93 ±2	8	36	M12x30	M10x30	0.0881	0.0504	13.49
				●												13.6			0.0128	0.0504	14.56
38	46	80		●					139	244	69	58	65 ±3	92 ±3	7	7	M16x40	M10x40	0.2412	0.1837	23.99
					●														0.5506	0.1837	28.64
								●											0.2583	0.1837	24.31
53	46	80		●					139	247	83	70	83 ±3	124 ±3	13	7	M16x40	M12x45	0.2870	0.2241	28.67
					●														0.5965	0.2241	33.32
								●											0.3042	0.2241	28.99
140	On request																				
180																					

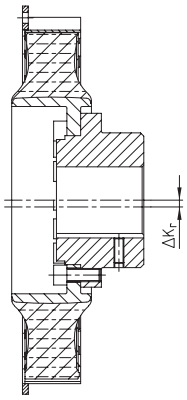
1) With max. bore

SINULASTIC® A
highly flexible flange coupling

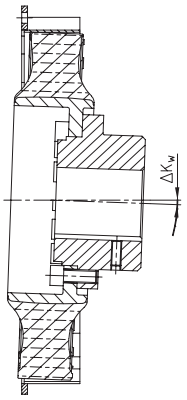
Displacements



Axial displacement



Radial displacement



Angular displacement

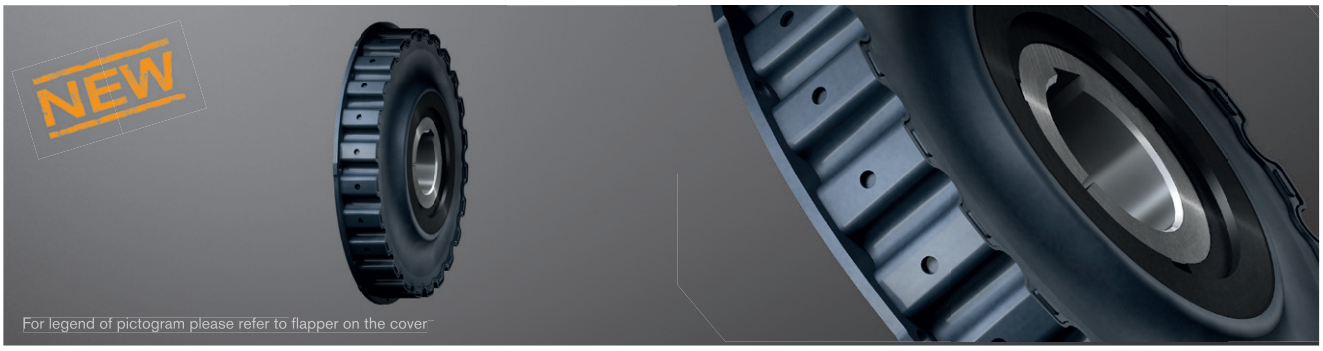
SINULASTIC® A size		20	38	53	140	180
Perm. axial displacement ΔK_a [mm] [2]		±2.0	±3.0	±3.0	±3.0	±3.0
Perm. radial displacement ΔK_r [mm]	1500 rpm	0.8	1.1	1.1	1.5	1.5
	$n_{max.}$	0.6	0.8	0.8	1.1	1.1
	max. [1]	1.6	2.2	2.2	3.0	3.0
Perm. angular displacement ΔK_w [degree]	1500 rpm	0.7	0.6	0.6	0.4	0.4
	$n_{max.}$	0.5	0.4	0.4	0.3	0.3
	max. [1]	1.1	0.9	0.9	0.6	0.6

[1] With assembly for a short time resp. rarely with downtime or start-up operation as well as exceptional load conditions.
[2] Plug-in fit in the tooth contact allows for alternative mounting lengths

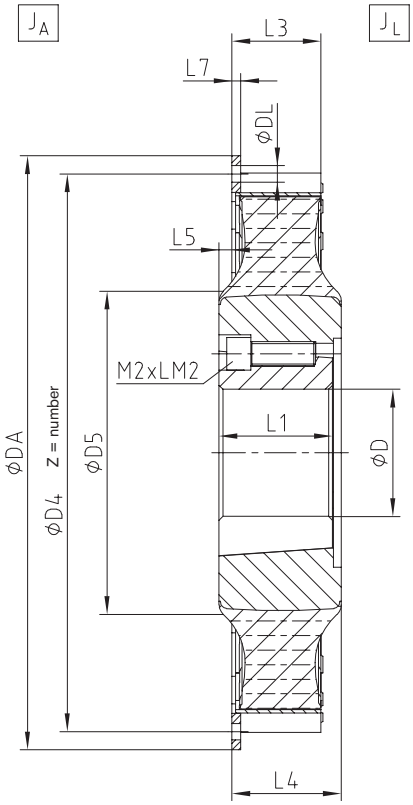
Ordering example:	SINULASTIC® 53	ALC	M	14	1.3	DIN 5480 - 60x2x28
	Coupling size	Type	Elastomer hard-ness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

SINULASTIC® T
highly flexible flange coupling

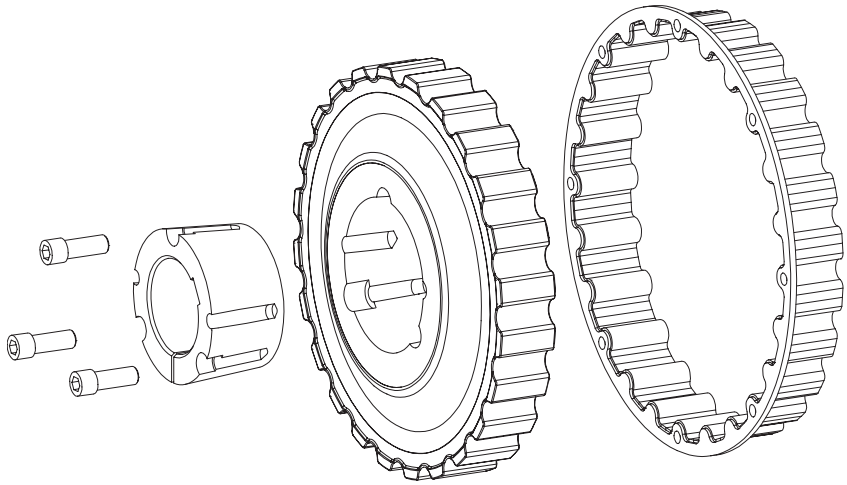
Pluggable disk coupling with optimal tooth contact



Components



Type T specifies the hub type as Taperlock shaft connection



Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	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

Technical data

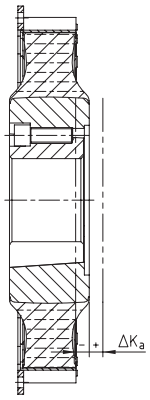
Size	Elastomer type	Torque [Nm] [1]				Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad]		Relative damping ψ [-]		Perm. damping power P_{KW} [W] [2]		Operating speed [rpm]	
		T_{KN}	T_{Kmax}	T_{Kmax1}	T_{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	$n_{max.}$
	SN	1750	2700	3600	700	7500	6000	0.90	0.72	210	126	2700	3000
20	MN	2000	3300	4400	800	11500	9200	1.10	0.88	240	144	2700	3000
	HN	2500	3750	5000	1000	18500	14800	1.25	1.00	270	162	3240	3600
	SN	3000	4500	6000	1200	15000	12000	0.80	0.64	275	165	2520	2800
38	MN	3800	5700	7600	1520	22500	18000	1.10	0.88	300	180	2520	2800
	HN	4600	6900	9200	1840	35000	28000	1.20	0.96	330	198	2880	3200
	SN	4000	6000	8000	1600	17000	13600	0.80	0.64	285	171	2340	2600
53	MN	5300	7950	10600	2120	29000	23200	1.05	0.84	325	195	2340	2600
	HN	6200	9300	12400	2480	44000	35200	1.20	0.96	370	222	2880	3200

[1] T_{KN} Torque that can be constantly transmitted over the entire speed range.
T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternation pulsating / 50,000 load alternation vibratory
T_{Kmax1} Torque loads rarely, min. 1,000 load alternation
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 20 °C.
[2] Here permanent damping power. Twice the damping power figure is permissible for one hour.

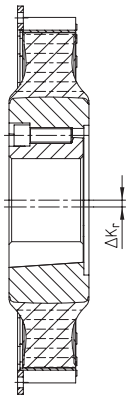
SINULASTIC® type T																		
Size	Bore D [mm]		Flange connection acc. to SAE - J620						Dimensions [mm]						Taper clamping sleeve		Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	Pilot bored	Max.	11½"	14"	18"	21"	24"	Ø475	D5	L1	L3	L4	L5	L7	M2xLM2	Type	J_A	J_L	
20	35	90	●						164	63.5	60	68 ±2	8	36	1/2"x38	3525	0.0881	0.0504	13.07
				●										13.6			0.0128	0.0504	14.14
				●													0.2412	0.2429	29.51
38	40	110			●				244	76.2	58	70 ±3	7	7	5/8"x44	4030	0.5506	0.2429	34.15
								●									0.2583	0.2429	29.82
				●													0.2870	0.2993	33.84
53	55	125			●				247	89	70	83 ±3	13	7	3/4"x50	4535	0.5965	0.2993	38.52
								●									0.3042	0.2993	34.18

1) With max. bore

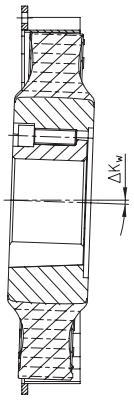
Displacements



Axial displacement



Radial displacement



Angular displacement

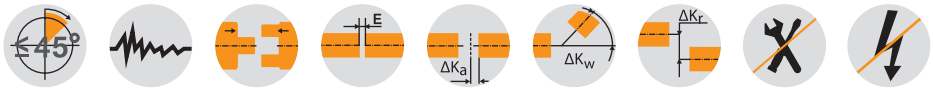
SINULASTIC® T size		20	38	53
Perm. axial displacement ΔK_a [mm] 2)		±2.0	±3.0	±3.0
Perm. radial displacement ΔK_r [mm]	1500 rpm	0.8	1.1	1.1
	$n_{max.}$	0.6	0.8	0.8
	max. 1)	1.6	2.2	2.2
Perm. angular displacement ΔK_w [degree]	1500 rpm	0.7	0.6	0.6
	$n_{max.}$	0.5	0.4	0.4
	max. 1)	1.1	0.9	0.9

1) With assembly for a short time resp. rarely with downtime or start-up operation as well as exceptional load conditions.
2) Plug-in fit in the tooth contact allows for alternative mounting lengths

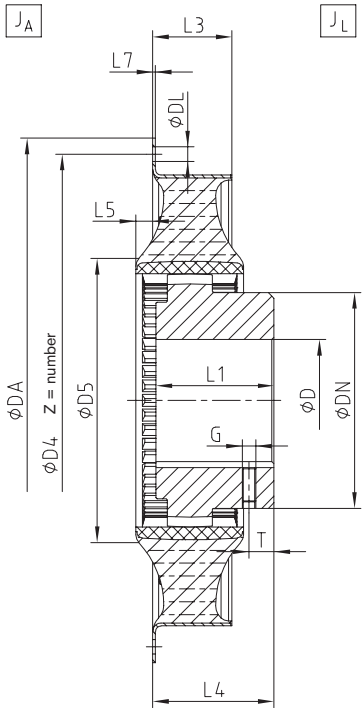
Ordering example:	SINULASTIC® 53	T	M	14	1.0	Ø75
	Coupling size	Type	Elastomer hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

SINULASTIC® B
highly flexible flange coupling

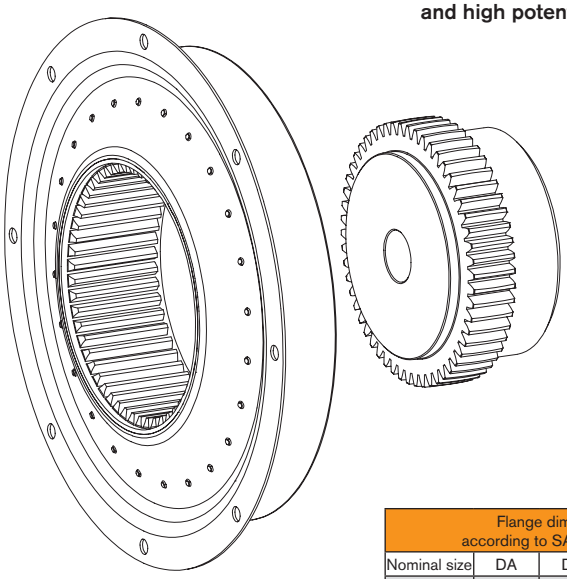
Disk coupling pluggable inside



Components



Type B specifies a type pluggable in the hub for variable use and high potential for offset



Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	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

Technical data

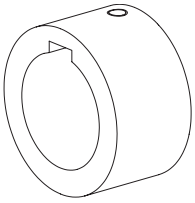
Size	Elastomer type	Torque [Nm] [1]				Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad]		Relative damping ψ [-]		Perm. damping power P_{KW} [W] [2]		Operating speed [rpm]	
		T_{KN}	T_{Kmax}	T_{Kmax1}	T_{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	$n_{max.}$
	SN	1750	2700	5250	700	7500	6000	0.90	0.72	210	126	3240	3600
20	MN	2000	3300	6000	800	12000	9600	1.10	0.88	240	144	3240	3600
	HN	2500	3750	6200	1000	18500	14800	1.25	1.00	270	162	3420	3800
	SN	3000	4500	9000	1200	14500	11600	0.80	0.64	275	165	2880	3200
38	MN	3800	5700	9600	1520	22000	17600	1.05	0.84	300	180	2880	3200
	HN	4600	6900	9600	1840	34000	27200	1.20	0.96	330	198	3240	3600
	SN	4000	6000	12000	1600	17000	13600	0.80	0.64	285	171	2700	3000
53	MN	5300	7950	14400	2120	28000	22400	1.05	0.84	325	195	2700	3000
	HN	6200	9300	14400	2480	43500	34800	1.25	1.00	370	222	3060	3400
	SN	12000	18000	36000	4800	105000	84000	1.00	0.80	540	324	2160	2400
140	MN	14000	21000	42000	5600	145000	116000	1.10	0.88	550	330	2160	2400
	HN	16200	24300	48600	6480	215000	172000	1.30	1.04	570	342	2520	2800
	SN	14600	21900	43800	5840	128000	102400	1.00	0.80	620	372	2160	2400
180	MN	18000	27000	54000	7200	170000	136000	1.10	0.88	630	378	2160	2400
	HN	22000	33000	66000	8800	270000	216000	1.30	1.04	650	390	2340	2600

[1] T_{KN} Torque that can be constantly transmitted over the entire speed range.
T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternation pulsating / 50,000 load alternation vibratory
T_{Kmax1} Torque loads rarely, min. 1,000 load alternation
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 20 °C.
[2] Here permanent damping power. Twice the damping power figure is permissible for one hour.

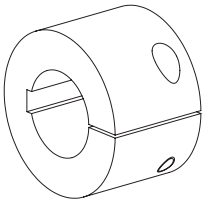
SINULASTIC® type B																		
Size	Max. bore D [mm]	Flange connection acc. to SAE - J620						Dimensions [mm]									Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
		11 ½"	14"	18"	21"	24"	Ø475	DN	D5	L1	L3	L4	L5	L7	G	T	J_A	J_L	
20	80	●						124	169	75	60	81.5 ±21	8.5	2.0	M10	20	0.0625	0.0338	9.63
			●														0.1114	0.0338	10.85
			●														0.1524	0.1521	22.96
38	110			●				172	245	100	52	96 ±14	10	2.5	M16	40	0.1578	0.1521	23.06
							●										0.2655	0.1521	24.63
			●														0.1888	0.1822	24.61
53	125			●				192	247	105	70.5	108 ±20	15	2.5	M16	40	0.1942	0.1822	24.71
							●										0.302	0.1822	26.28
140	175				●			270	431	160	81	152.5 ±14.5	10	3	-	-	0.8816	1.5701	80.73
						●											1.0708	1.5701	82.26
180	175				●			326	431	200	101	190 ±22	10	3	-	-	1.0905	2.0413	89.80
						●											1.2796	2.0413	91.34

1) With max. bore

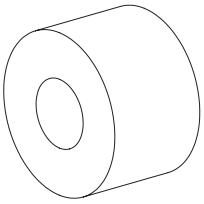
Types of hubs type B 1)



Type 1.0
with feather keyway
and setscrew



Type 2.1
clamping hub
single slot with
feather keyway

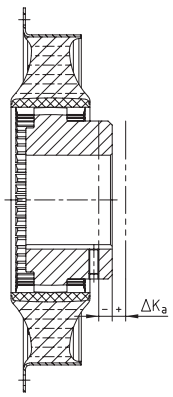


Type 8.0
taper interference fit

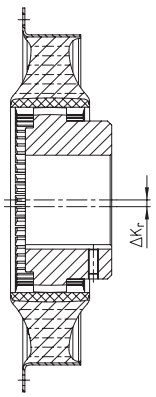
Type 8.1
cylindrical
interference fit

1) Dimensions and type may differ depending on size, other types of hubs on request

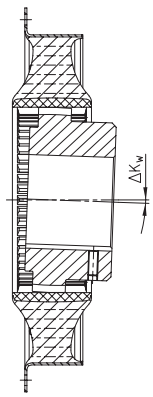
Displacements



Axial displacement



Radial displacement



Angular displacement

SINULASTIC® B size		20	38	53	140	180
Perm. axial displacement ΔK_a [mm]		±2	±3.0	±3.0	±4.0	±4.0
Perm. radial displacement ΔK_r [mm]	1500 rpm	0.8	1.1	1.1	1.5	1.5
	$n_{max.}$	0.6	0.8	0.8	1.1	1.1
	max. 1)	1.6	2.2	2.2	3.0	3.0
Perm. angular displacement ΔK_w [degree]	1500 rpm	1.0	0.8	0.8	0.6	0.6
	$n_{max.}$	0.7	0.6	0.6	0.4	0.4
	max. 1)	2.0	1.6	1.6	1.2	1.2

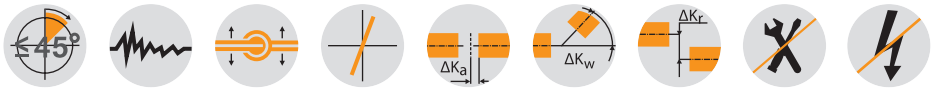
1) With assembly for a short time resp. rarely with downtime or start-up operation as well as exceptional load conditions.

Ordering example:

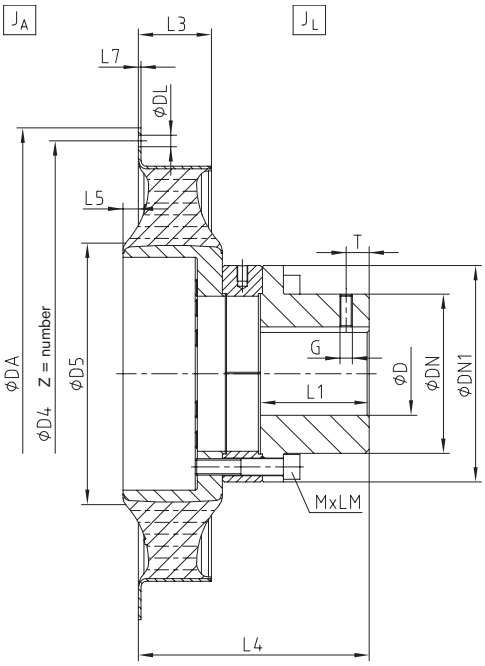
SINULASTIC® 53	B	M	14	1.3	DIN 5480 - 60x2x28
Coupling size	Type	Elastomer hard-ness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

SINULASTIC® V
highly flexible flange coupling

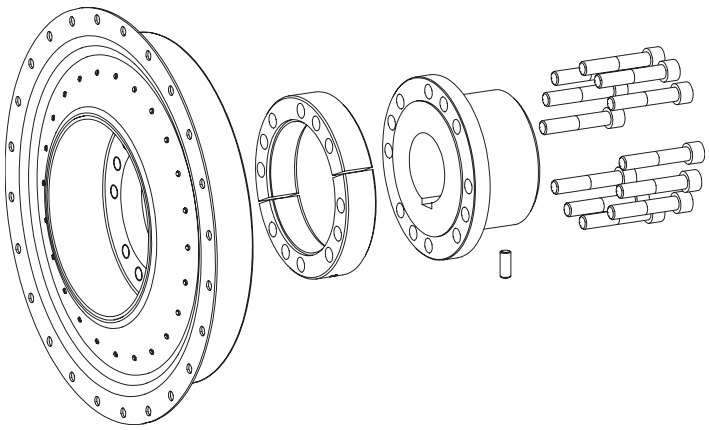
radially mountable disk coupling



Components



Type V specifies a radially replaceable type for not flange-mounted drives set up freely



Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	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

Technical data

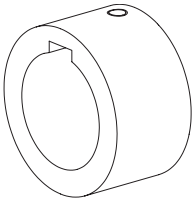
Size	Elastomer type	Torque [Nm] [1]				Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad]		Relative damping ψ [-]		Perm. damping power P_{KW} [W] [2]		Operating speed [rpm]	
		T_{KN}	T_{Kmax}	T_{Kmax1}	T_{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	$n_{max.}$
	SN	1750	2700	5250	700	7500	6000	0.90	0.72	210	126	3240	3600
20	MN	2000	3300	6000	800	12000	9600	1.10	0.88	240	144	3240	3600
	HN	2500	3750	6200	1000	18500	14800	1.25	1.00	270	162	3420	3800
	SN	3000	4500	9000	1200	14500	11600	0.80	0.64	275	165	2880	3200
38	MN	3800	5700	9600	1520	22000	17600	1.05	0.84	300	180	2880	3200
	HN	4600	6900	9600	1840	34000	27200	1.20	0.96	330	198	3240	3600
	SN	4000	6000	12000	1600	17000	13600	0.80	0.64	285	171	2700	3000
53	MN	5300	7950	14400	2120	28000	22400	1.05	0.84	325	195	2700	3000
	HN	6200	9300	14400	2480	43500	34800	1.25	1.00	370	222	3060	3400
	SN	12000	18000	36000	4800	105000	84000	1.00	0.80	540	324	2160	2400
140	MN	14000	21000	42000	5600	145000	116000	1.10	0.88	550	330	2160	2400
	HN	16200	24300	48600	6480	215000	172000	1.30	1.04	570	342	2520	2800
	SN	14600	21900	43800	5840	128000	102400	1.00	0.80	620	372	2160	2400
180	MN	18000	27000	54000	7200	170000	136000	1.10	0.88	630	378	2160	2400
	HN	22000	33000	66000	8800	270000	216000	1.30	1.04	650	390	2340	2600

[1] T_{KN} Torque that can be constantly transmitted over the entire speed range.
T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternation pulsating / 50,000 load alternation vibratory
T_{Kmax1} Torque loads rarely, min. 1,000 load alternation
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 20 °C.
[2] Here permanent damping power. Twice the damping power figure is permissible for one hour.

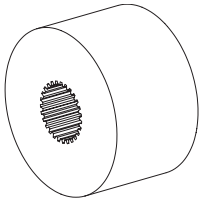
SINULASTIC® type V																				
Size	Max. bore D [mm]	Flange connection acc. to SAE - J620						Dimensions [mm]											Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
		11 ½"	14"	18"	21"	24"	Ø475	DN	DN1	D5	L1	L3	L4	L5	L7	MxLM	G	T	J_A	J_L	
20	70	●						100	145	145	75	60	196	8.5	2	M12x90	M10	20	0.0625	0.0634	15.900
			●																0.1114	0.0594	16.083
38	110		●					154	209	245	100	52	205	10	2.5	M16x90	M16	40	0.1524	0.2400	30.456
				●															0.1576	0.2295	29.299
							●												0.2655	0.2295	30.851
53	110		●					154	209	247	105	70.5	229	15	2.5	M16x90	M16	40	0.1888	0.2749	34.000
				●															0.1942	0.2692	33.401
							●												0.3020	0.2692	34,992
140	165				●			235	300	431	200	81	314	10	3	M20x80	-	-	0.8816	2.2675	97.598
						●													1.0724	2.2675	109.896
180	165				●			235	300	431	200	101	334	10	3	M20x80	-	-	1.0905	2.3956	104.973
						●													1.2796	2.3956	106.508

1) With max. bore

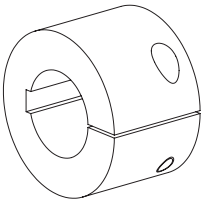
Types of hubs type V 1)



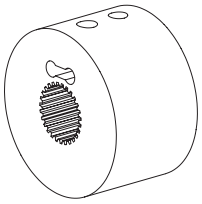
Type 1.0
with feather keyway and setscrew



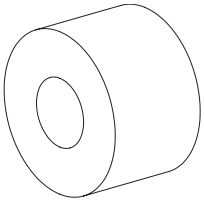
Type 1.3
spline toothing



Type 2.1
clamping hub single slot with feather keyway



Type 3.1
spline/clamping hub N

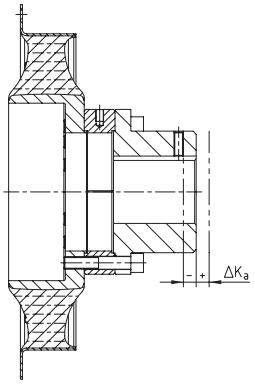


Type 8.0
taper interference fit

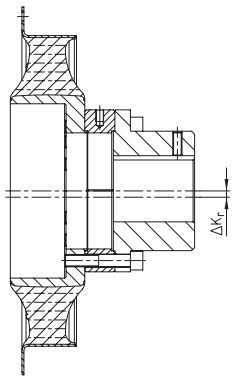
Type 8.1
cylindrical interference fit

1) Dimensions and type may differ depending on size, other types of hubs on request

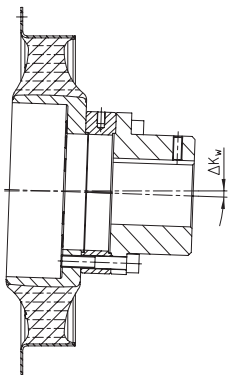
Displacements



Axial displacement



Radial displacement



Angular displacement

SINULASTIC® V size		20	38	53	140	180
Perm. axial displacement ΔK_a [mm]		±2	±3.0	±3.0	±4.0	±4.0
Perm. radial displacement ΔK_r [mm]	1500 rpm	0.8	1.1	1.1	1.5	1.5
	$n_{max.}$	0.6	0.8	0.8	1.1	1.1
	max. 1)	1.6	2.2	2.2	3.0	3.0
Perm. angular displacement ΔK_w [degree]	1500 rpm	1.0	0.8	0.8	0.6	0.6
	$n_{max.}$	0.7	0.6	0.6	0.4	0.4
	max. 1)	2.0	1.6	1.6	1.2	1.2

1) With assembly for a short time resp. rarely with downtime or start-up operation as well as exceptional load conditions.

Ordering example:

SINULASTIC® 53	V	M	14	1.0	Ø60
Coupling size	Type	Elastomer hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

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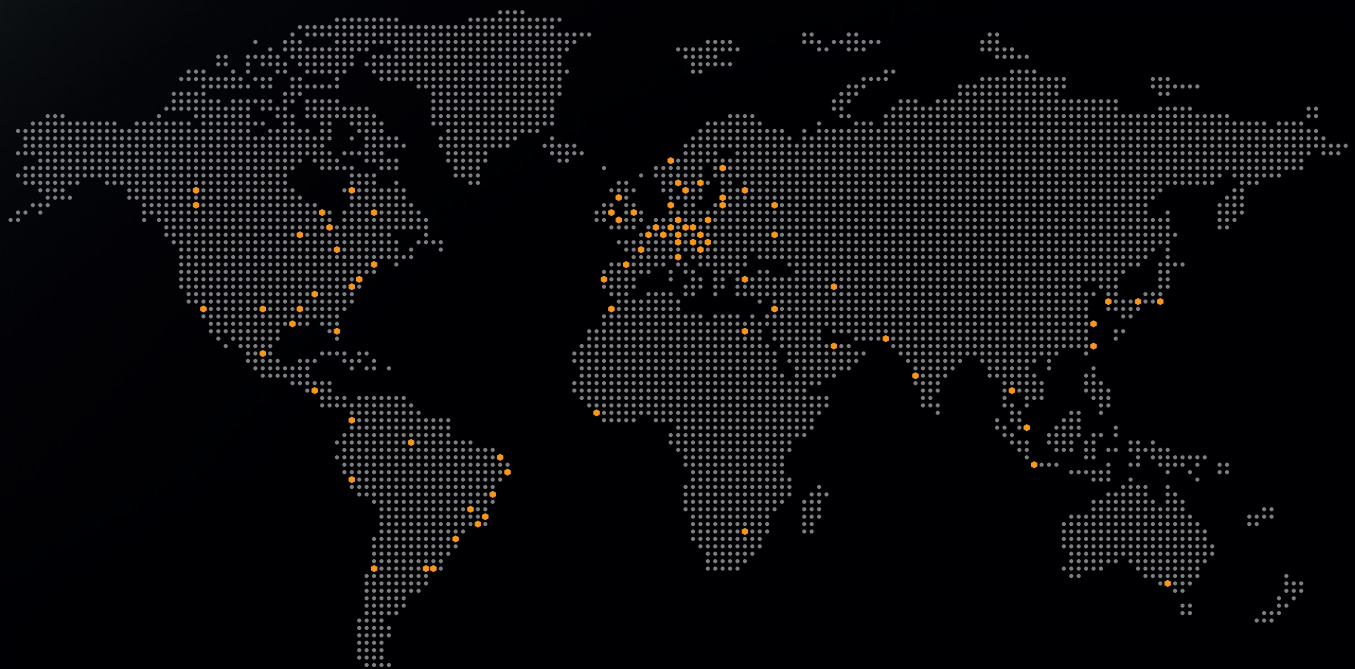

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Made for Motion KTR

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

Torsionally flexible

Highly flexible


Damping vibrations


Axial plug-in

Consider shaft distance

Relatively short shaft distance

Maximum operating temperature


High speeds

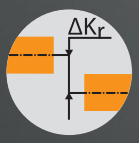

Backlash-free


Shear type, separating, slipping


Light-weight

Axial compensation

Angular compensation



Radial compensation


Shiftable at standstill


Double-cardanic


Radial disassembly, ease of service


Standard drop-out center length

Available in accordance with API

Complying with ATEX
For details refer to our ATEX leaflet

Certified in accordance with ABS


Maintenance-free


Protected against corrosion


Electrically insulating

Maximum speed


No eddy current losses

Torque limiter slipping

Torque limiter with synchronous ratching

Torque limiter with idle rotation type


Hardened surface

Accuracy X %


Consider axial displacement


Additional features compared to standard version