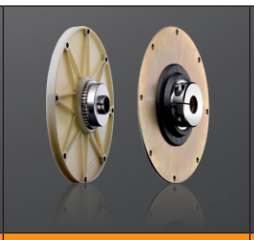
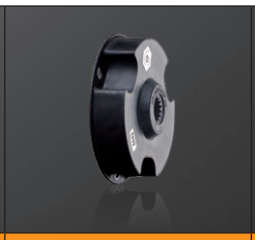
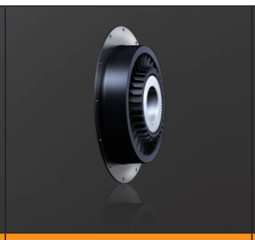
FLANGE COUPLINGS
TYPES AND OPERATING DESCRIPTION

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	3,800
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 / 240
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

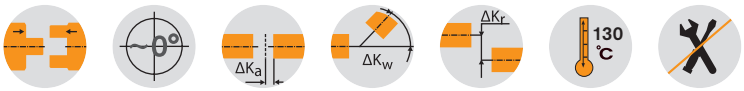
● ≈ Standard

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.

BoWex® FLE-PA
Torsionally stiff flange couplings

Axial plug-in, maintenance-free, torsionally stiff



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

Size	Pilot bore	Finish bore d		Dimensions [mm]								Special length	Nominal size acc. to SAE (D_3)						Max. axial displacement
		Min.	Max.	D	D_1	l_1	l_3	l_7	l_8	l_{10}	l_{11}	l_1 max.	6 ½"	7 ½"	8"	10"	11 ½"	14"	[mm]
48	-	20	48	68	100	50	41	50	20	13	48	up to 60	●	●	●	●			± 2
T 48	13	15	48	68	100	50	38	45	20	13	46	-	●	●	●	●			± 1
T 55	17	20	55	85	115	50	37	48	24	13	48	-	●	●	●	●			± 2
65 / T 65	21	30	65	96	132	55	45	54	27	21	51	up to 70			●	●	●		± 2
T 70	26	30	70	100	153	60	48	56	30	21	57	-				●			± 2
80 / T 80	31	35	90	124	170	90	78	87	30	21	87	-				●	●		± 2
100 / T 100	38	40	100	152	265	110	78	108	35	21	110	-					●	●	± 2
125 / T 125	45	50	125	192	250	140	113	140	50	28	97	-					●	●	± 2

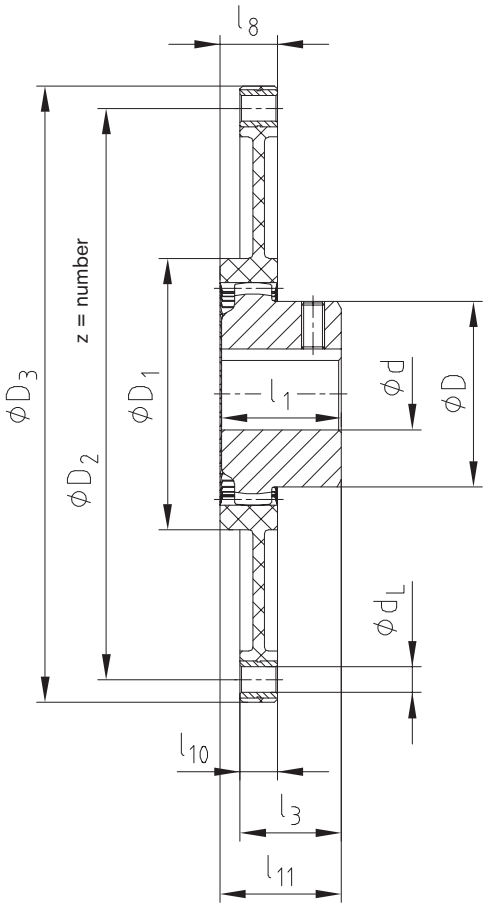
Special flange dimensions see page 234 et seqq. and on request

Technical data of BoWex® FLE-PA – Torques/weights/mass moments of inertia/torsion spring stiffness

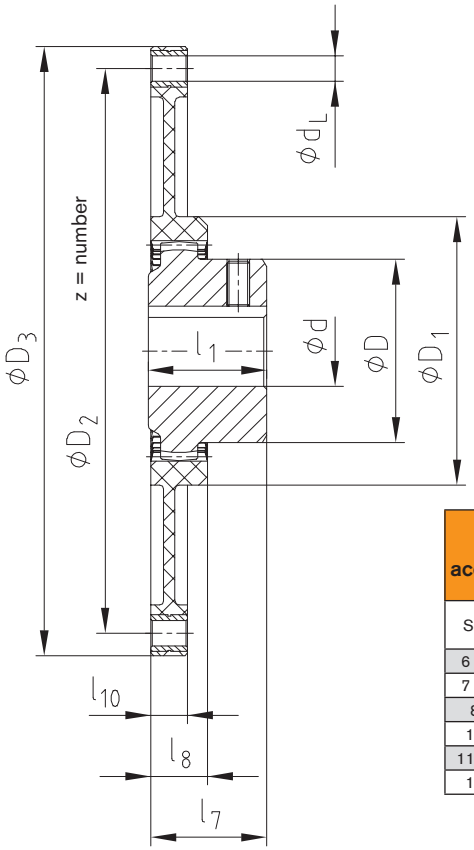
Size	Torque T_K [Nm]			Weight/mass moment of inertia J	Hub with max. bore	FLE-PA flanges according to SAE						Dynamic torsion spring stiffness with +60 °C/ψ = 0.4 [Nm/rad]			
	T_{KN}	$T_{K\ max.}$	T_{KW}			6 ½"	7 ½"	8"	10"	11 ½"	14"	0.30 T_{KN}	0.50 T_{KN}	0.75 T_{KN}	1.00 T_{KN}
48	240	600	120	[kg]	0.79	0.32	0.43	0.51	0.64	–	–	35 x 10^3	75 x 10^3	105 x 10^3	125 x 10^3
				[kgm²]	0.0007	0.0021	0.0035	0.0049	0.0085						
T 48	300	750	150	[kg]	0.79	0.32	0.43	0.51	0.64	–	–	40 x 10^3	86 x 10^3	120 x 10^3	143 x 10^3
				[kgm²]	0.0007	0.0021	0.0035	0.0049	0.0085						
T 55	450	1125	225	[kg]	1.20	0.34	0.62	0.45	0.646	–	–	90 x 10^3	140 x 10^3	170 x 10^3	195 x 10^3
				[kgm²]	0.0016	0.0022	0.0053	0.0044	0.0086						
65	650	1600	325	[kg]	1.50	–	–	0.63	0.64	0.89	–	110 x 10^3	160 x 10^3	200 x 10^3	230 x 10^3
				[kgm²]	0.0027			0.0064	0.0065	0.012					
T 65	800	2000	400	[kg]	1.60	–	–	0.63	0.64	0.89	–	130 x 10^3	190 x 10^3	240 x 10^3	280 x 10^3
				[kgm²]	0.0035			0.0064	0.0065	0.012					
T 70	1000	2500	500	[kg]	2.60	–	–	–	0.941	–	–	165 x 10^3	315 x 10^3	345 x 10^3	368 x 10^3
				[kgm²]	0.0059				0.0132						
80	1200	3000	600	[kg]	5.20	–	–	–	1.05	1.12	–	200 x 10^3	410 x 10^3	580 x 10^3	700 x 10^3
				[kgm²]	0.0151				0.015	0.022					
T 80	1500	3750	750	[kg]	5.20	–	–	–	1.05	1.12	–	240 x 10^3	450 x 10^3	638 x 10^3	770 x 10^3
				[kgm²]	0.0151				0.015	0.022					
100	2050	5150	1025	[kg]	9.37	–	–	–	–	1.16	8.45	500 x 10^3	700 x 10^3	856 x 10^3	950 x 10^3
				[kgm²]	0.0401					0.021	0.234				
T 100	2500	6250	1250	[kg]	9.37	–	–	–	–	1.16	8.45	600 x 10^3	830 x 10^3	960 x 10^3	1070 x 10^3
				[kgm²]	0.0401					0.021	0.234				
125	4250	10700	2125	[kg]	19.73	–	–	–	–	2.09	9.85	1280 x 10^3	1885 x 10^3	2280 x 10^3	2665 x 10^3
				[kgm²]	0.1359					0.043	0.306				
T 125	5300	13250	2650	[kg]	19.73	–	–	–	–	2.09	9.85	1600 x 10^3	2250 x 10^3	2700 x 10^3	3200 x 10^3
				[kgm²]	0.1359					0.043	0.306				

Mounting procedure, screw type with property class, tightening torques as per KTR assembly instructions (see www.ktr.com).

Short mounting version



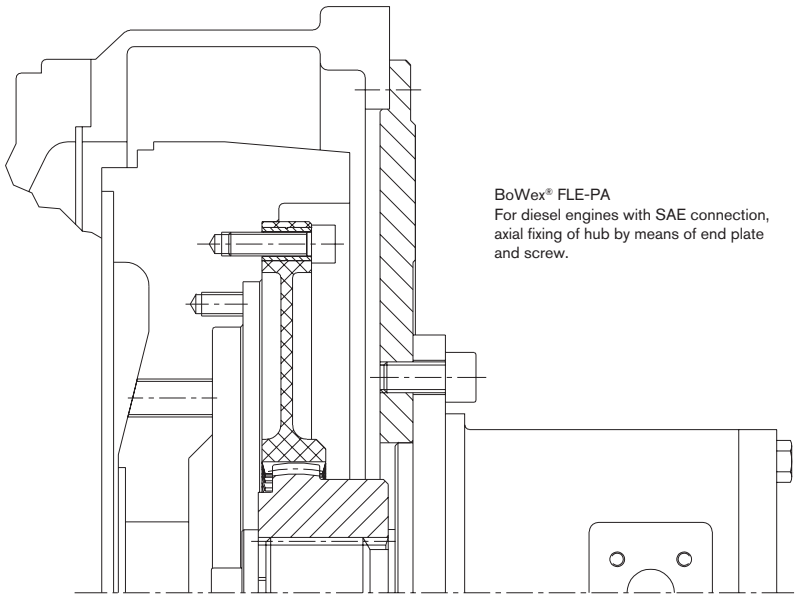
Long mounting version



Flange dimensions according to SAE J620 [mm]

Size	D_3	D_2	z	d_L
6 ½"	215.9	200.02	6	9
7 ½"	241.3	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

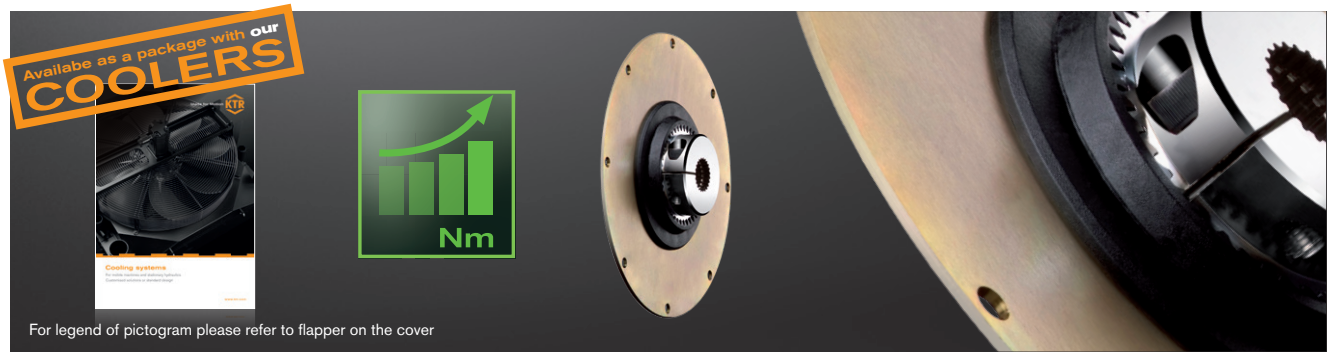
Example of installation

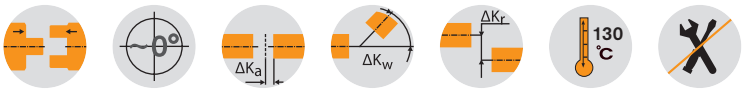


BoWex® FLE-PA
For diesel engines with SAE connection, axial fixing of hub by means of end plate and screw.

BoWex® FLE-PAC
Torsionally stiff flange couplings

Axial plug-in, extremely short design, carbon-fibre reinforced material





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

Size	Pilot bore	Finish bore d		Dimensions [mm]							Special length l_1 max.	Nominal size acc. to SAE (D_3)						Max. axial displacement [mm]
		Min.	Max.	D	D_1	l_1	l_3	l_7	l_8	l_{10}		6 ½"	7 ½"	8"	10"	11 ½"	14"	
48 / T 48	13	15	48	68	110	50	35	46	25	3	up to 60	●	●	●	●			± 3
T 55	17	20	55	85	148	50	32	42	28	3	-	●	●	●	●			± 3
65 / T 65	21	30	65	96	165	55	36	46	32	4	up to 70	●	●	●	●	●		± 3
80 / T 80	31	35	90	124	220	90	72	76	35	4	-				●	●	●	± 3
100 / T 100	38	40	100	152	280	110	85	102	47	5	-					●	●	± 3
125 / T 125	45	50	125	192	250	140	113	140	50	28	-					●	●	± 3

Special flange dimensions deviating from SAE standard are also available.

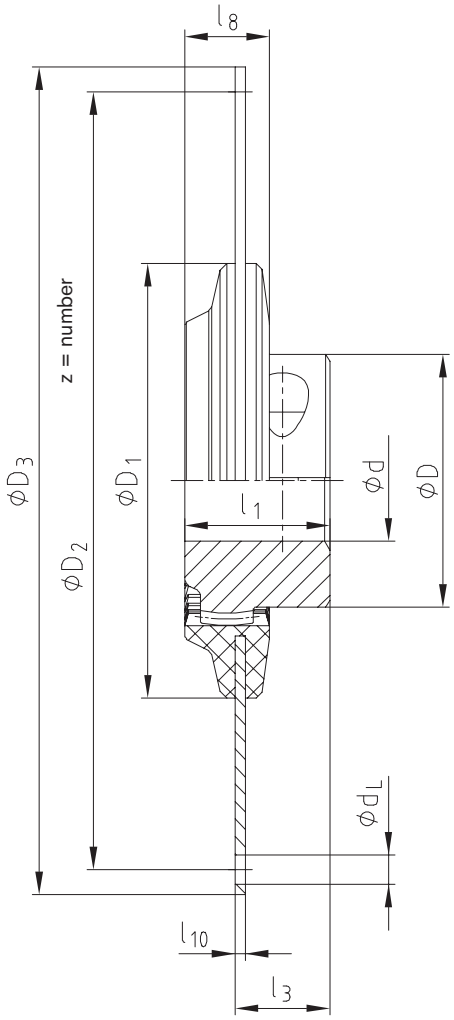
Technical data of BoWex® FLE-PAC – Torques/weights/mass moments of inertia/torsion spring stiffness

Size	Torque T_K [Nm]			Weight/mass moment of inertia J	Hub with max. bore	FLE-PAC flanges according to SAE						Dynamic torsion spring stiffness with +60 °C/ψ = 0.45 [Nm/rad]			
	T_{KN}	$T_{K\,max.}$	T_{KW}			6 ½"	7 ½"	8"	10"	11 ½"	14"	0.30 T_{KN}	0.50 T_{KN}	0.75 T_{KN}	1.00 T_{KN}
48	300	600	150	[kg]	0.79	0.77	0.98	1.19	1.73			64 x 10^3	95 x 10^3	114 x 10^3	132 x 10^3
				[kgm²]	0.0007	0.0049	0.0077	0.0109	0.0221						
T 48	370	740	185	[kg]	0.79	0.77	0.98	1.19	1.73			91 x 10^3	129 x 10^3	155 x 10^3	182 x 10^3
				[kgm²]	0.0007	0.0049	0.0077	0.0109	0.0221						
T 55	550	1100	275	[kg]	1.20	0.74	0.95	1.16	1.7			181 x 10^3	258 x 10^3	312 x 10^3	358 x 10^3
				[kgm²]	0.0016	0.0049	0.0077	0.0109	0.0222						
65	800	1600	400	[kg]	1.50	0.93	1.2	1.48	2.20	2.83		214 x 10^3	329 x 10^3	397 x 10^3	451 x 10^3
				[kgm²]	0.0027	0.0065	0.0101	0.0145	0.0294	0.0467					
T 65	1000	2000	500	[kg]	1.60	0.93	1.2	1.48	2.20	2.83		256 x 10^3	381 x 10^3	461 x 10^3	516 x 10^3
				[kgm²]	0.0035	0.0065	0.0101	0.0145	0.0294	0.0467					
80	1500	3000	750	[kg]	5.20				2.27	2.90	5.20	486 x 10^3	713 x 10^3	923 x 10^3	1156 x 10^3
				[kgm²]	0.0151				0.0312	0.0485	0.1462				
T 80	1850	3700	925	[kg]	5.20				2.27	2.90	5.20	556 x 10^3	815 x 10^3	1065 x 10^3	1329 x 10^3
				[kgm²]	0.0151				0.0312	0.0485	0.1462				
100	2550	5100	1275	[kg]	9.37					3.35	6.22	679 x 10^3	929 x 10^3	1218 x 10^3	1457 x 10^3
				[kgm²]	0.0401					0.0606	0.1828				
T 100	3100	6200	1550	[kg]	9.37					3.35	6.22	767 x 10^3	1030 x 10^3	1343 x 10^3	1594 x 10^3
				[kgm²]	0.0401					0.0606	0.1828				
125	5350	10700	2675	[kg]	19.73					2.09	9.85	1538 x 10^3	2098 x 10^3	2528 x 10^3	2980 x 10^3
				[kgm²]	0.1359					0.043	0.306				
T 125	6600	13200	3300	[kg]	19.73					2.09	9.85	1887 x 10^3	2495 x 10^3	3035 x 10^3	3629 x 10^3
				[kgm²]	0.1359					0.043	0.306				

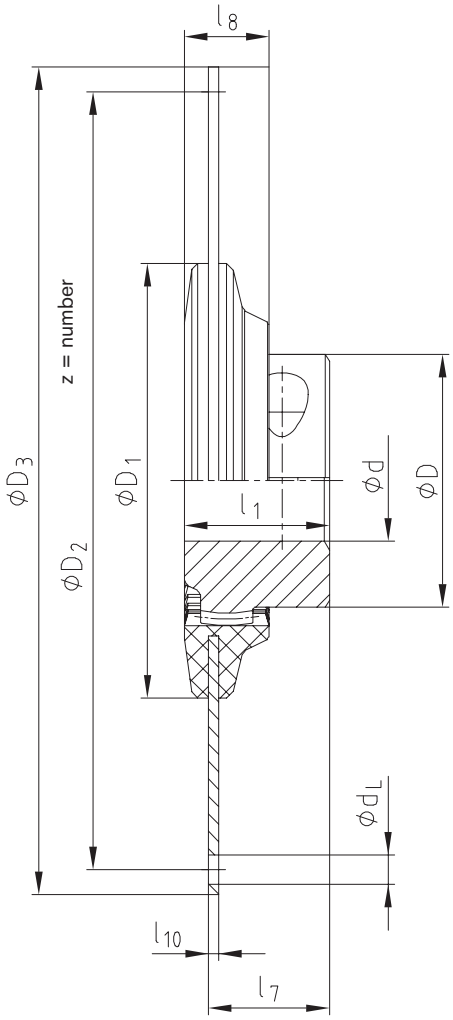
= Years of experience with applications at customer sites and additional test series in the KTR test field in Rheine enabled us to determine potentials allowing for an increase of the rated torques with some sizes of this series.

Mounting procedure, screw type with property class, tightening torques as per KTR assembly instructions (see www.ktr.com).

Short mounting version

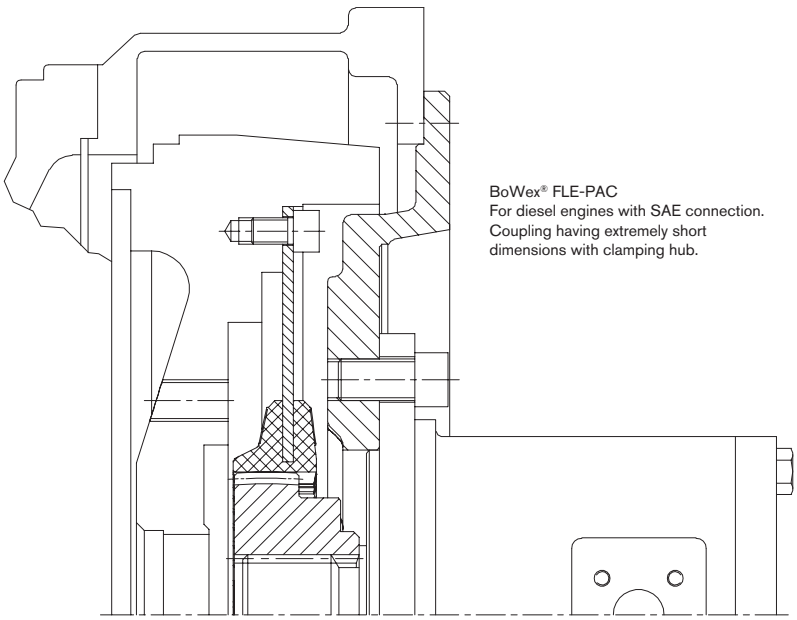


Long mounting version



Flange dimensions according to SAE J620 [mm]

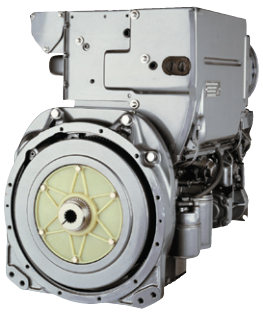
Size	D_3	D_2	z	d_L
6 ½"	215.9	200.02	6	9
7 ½"	241.3	222.25	8	9
8"	263.52	244.47	6	11
10"	314.32	295.27	8	11
11 ½"	352.42	333.37	8	11
14"	466.72	438.15	8	14



BoWex® FLE-PAC
For diesel engines with SAE connection.
Coupling having extremely short dimensions with clamping hub.

BoWex® FLE-PA / FLE-PAC
Torsionally stiff flange couplings

Selection according to SAE standard



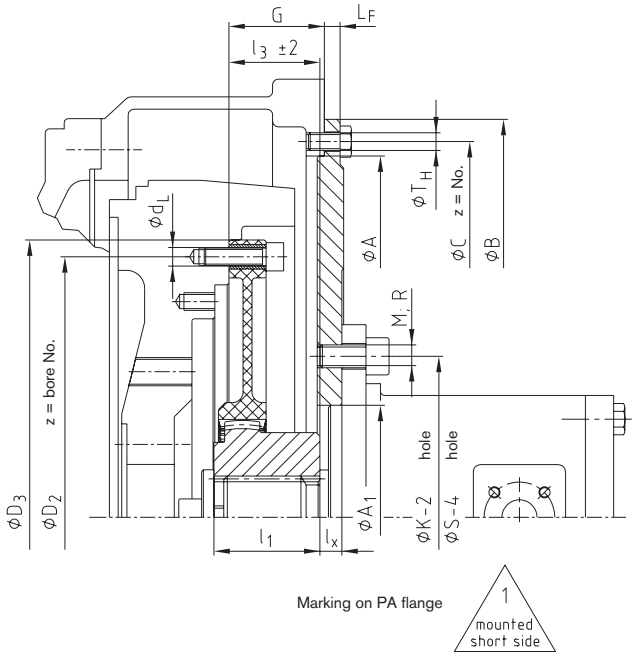
Determination of coupling

Determination of coupling size	Table 1
Connection dimension of coupling	Table 2
Hub type/mounting length	Table 3

SAE pump mounting flange

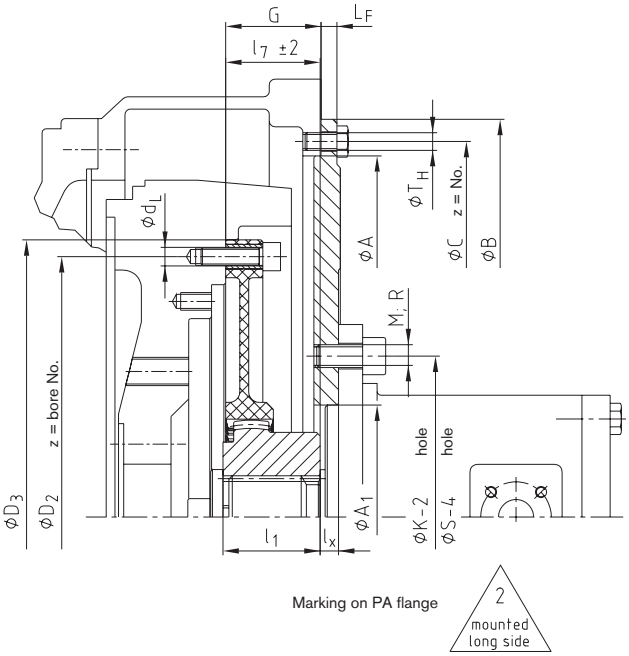
Flange size according to SAE 617	Table 4
Connection flange of hydraulic pump	Table 5

Short mounting version of coupling (l_3)



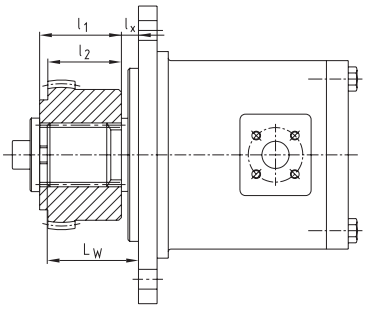
Marking on PA flange

Long mounting version of coupling (l_7)

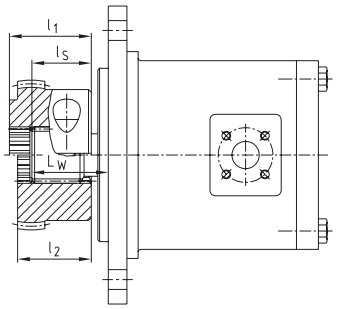


Marking on PA flange

Spline hub



Clamping hub



Determination of mounting length l_3 or l_7	
SAE shaft	$l_3 / l_7 = G + L_F - L_W + l_S$
DIN shaft	$l_3 / l_7 = G + L_F - l_X$

If axial fixing of the hub by means of an end plate and a screw is not possible for a pump shaft with involute spline, we recommend to use a clamping hub.

Mounting instructions:

The flange can be fastened to the engine flywheel by means of socket head cap screws according to DIN EN ISO 4762 quality 8.8 or by hexagon head screws quality 8.8. We recommend screws are loctited in position.

Screw tightening torque of FLE-PA flange on the flywheel	
M8	25 Nm
M10	49 Nm
M12	86 Nm

Screw tightening torque of spline clamping hubs DIN EN ISO 4762		
42/48	M10	49 Nm
T55/65/T70	M12	86 Nm
80/100/125	M16	210 Nm

BoWex® FLE-PA / FLE-PAC
Torsionally stiff flange couplings

Mounting dimensions according to SAE standard

1. Selection of coupling for diesel engine

Diesel engine power		Coupling size	Flywheel to SAE			Pump mounting flange			Driving shaft of pump
kW	PS			G			LF		
up to 40	up to 55	48 FLE-PA	6 1/2"	30.15	1.19"	For dimensions to SAE see tables 3 and 4	9.5	0.375"	See Table 3 hub type SAE J 498 /DIN 5480
			7 1/2"	30.15	1.19"				
			8	62	2.44"				
			10	54	2.12"				
up to 75	up to 100	T55 FLE-PA	6 1/2"	30.15	1.19"				
			7 1/2"	30.15	1.19"				
			8	62	2.44"				
			10	54	2.12"				
up to 90	up to 120	65 FLE-PA	8	62	2.44"		9.5	0.375"	
			10	54	2.12"				
			11 1/2"	39.6	1.56"		12.7	0.5"	
up to 150	up to 200	T70 FLE-PA	10	54	2.12"		9.5	0.375"	
up to 180	up to 240	80 FLE-PA	10	54	2.12"		9.5	0.375"	
			11 1/2"	39.6	1.56"				
up to 285	380	100 FLE-PA	11 1/2"	39.6	1.56"				
			14	25.4	1"		12.7	0.5"	
up to 540	720	125 FLE-PA	11 1/2"	39.6	1.56"				
			14	25.4	1"				

2. Dimensions of coupling flange according to SAE J620 [mm]

Nominal size	D_3	D_2	z = number	d_L
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	14

4. Housing dimensions according to SAE 617 [mm]

SAE size	A	B	C	Z	TH	
SAE-1	511.18	552	530.2	12	M10	3/8"
SAE-2	447.68	489	466.7	12	M10	3/8"
SAE-3	409.58	451	428.6	12	M10	3/8"
SAE-4	361.95	403	381.0	12	M10	3/8"
SAE-5	314.33	356	333.4	8	M10	3/8"
SAE-6	266.7	308	285.7	8	M10	3/8"

5. Mounting flange for hydraulic pump acc. to SAE [mm]

SAE size	SAE flange with 2 holes					SAE flange with 4 holes				
	A_1	K-2	M		Z	A_1	S-4	R		Z
A	82.55	106.4	M10	3/8"	2	82.55	104.6	M10	3/8"	4
B	101.6	146.0	M12	1/2"	2	101.6	127.0	M12	1/2"	4
C	127.0	181.0	M16	5/8"	2	127.0	162.0	M12	1/2"	4
D	152.4	228.6	M16	5/8"	2	152.4	228.6	M16	5/8"	4
E	-	-	-	-	-	165.1	317.5	M20	3/4"	4

3. Selection of coupling hubs - Determination of mounting length l_3 or l_7

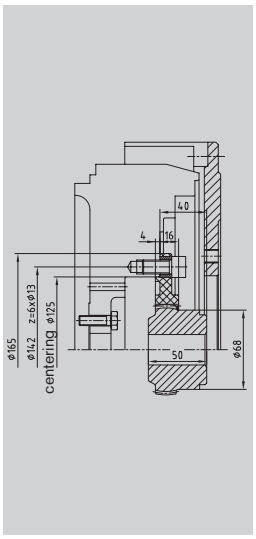
BoWex® coupling size	Pump shaft to SAE J 498 and DIN 5480	Spline hub	Spline clamping hub	Dimensions of coupling hub [mm]			Mounting length of coupling l_3 or l_7								Code to order coupling hub Specify coupling size
							Flange size 6 1/2" and 7 1/2"		Flange size 8"		Flange size 10"		Flange size 11 1/2"		
							K	L	K	L	K	L	K	L	
				l_1	l_2	l_S	l_3	l_7	l_3	l_7	l_3	l_7	l_3	l_7	
42	SAE-16/32 DP PI-S 3/4" z = 11		x	42	-	33	33	42							P559101
42	SAE-16/32 DP PB-S 7/8" z = 13		x	42	-	-	33	42							P567101
42	SAE-16/32 DP PB-BS 1" z = 15		x	42	-	27	33	42							P660201
48	SAE-16/32 DP		x	50	-	45	41	50		50	41	50			P663301
65	PA-S 1 3/8" z = 21		x	50	-	48				54	45	54	41		P663301
65	SAE-12/24 DP PC-S 1 1/4" z = 14		x	55	-	44				54	45	54	41		P656201
65	SAE-16/32 DP PD-S 1 1/2" z = 23		x	-	49	45						53	41		P664301
80	SAE-16/32 DP PE-S 1 3/4" z = 27		x	55	-	-							33	44	P565402
42	25 x 1.25 x 18	x		42	-	-	33	42							P000205
42	DIN 5480		x	42	-	-	33	42							P500202
42	30 x 2 x 14 DIN 5480		x	42	-	-	33	42							P500203
48		x		50	-	-	41	50							P000206
48			x	50	-	-	41	50		50		50			P500203
48	35 x 2 x 16 DIN 5480	x		46	-	-	37	46							P000303
65		x		55	-	-						54	39		P000303
65			x	60	-	-			50	59	50	59	39		P500301
65	40 x 2 x 18	x		55	-	-						54	39		P000304
65	DIN 5480		x	55	-	-				54	45	54	39		P500302
65	45 x 2 x 21	x		-	64	-			60	69	60	69	39		P000403
65	DIN 5480		x	55	-	-				54	45	54	39		P500401
80	50 x 2 x 24 DIN 5480		x	55	-	-							37	42	P500405

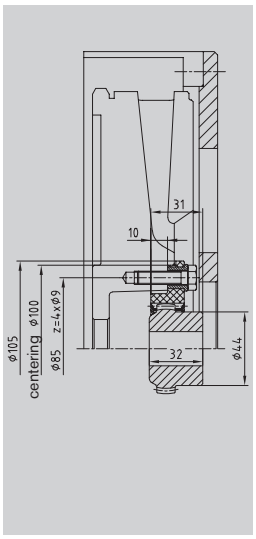
Shown above is a small overview of splines available, other SAE or DIN splines are also available.

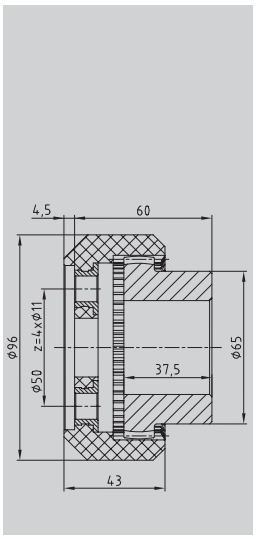
Ordering example: Coupling FLE-PA/FLE-PAC			SAE pump mounting flange	
BoWex® 48 FLE-PA	7 1/2"	P663301	SAE-4	B-2L
Coupling size	SAE connection of coupling	Code of coupling hub	Pump mounting flange for engine housing	Pump flange acc. to SAE 2 holes/4 holes standard metric fastening thread
Table 1	Table 2	Table 3	Table 4	Table 5

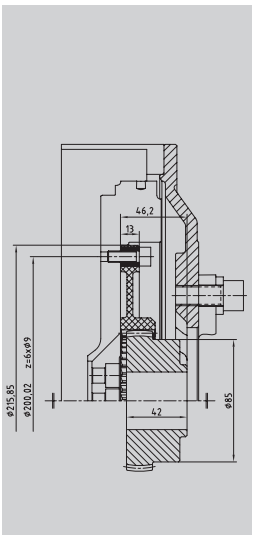
Special flange programme, deviations from the SAE standard

Fitting to diesel engines: Hatz



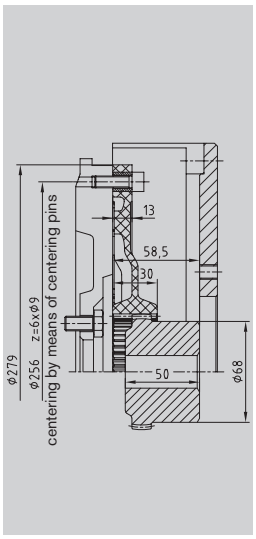


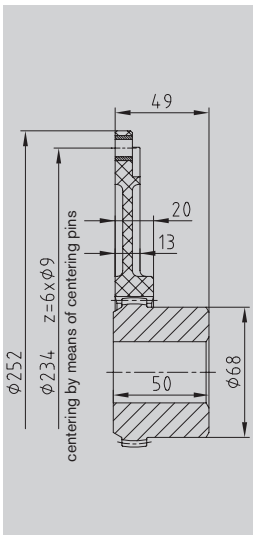


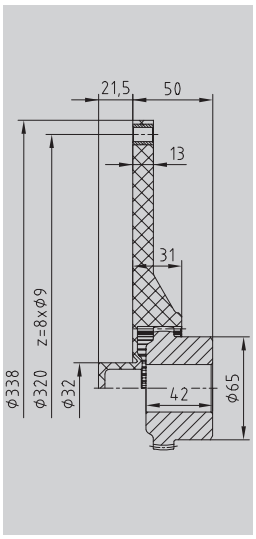


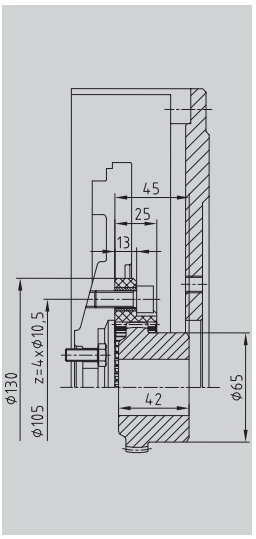
Coupling size	BoWex® 48 FLE-PA, Ø165	BoWex® 28 FLE-PA, Ø105	BoWex® 48 FLE-PA, Ø96	BoWex® T55 FLE-PA
Engine type	Hatz 2L/3L/4L41C 2M/3M/4M41 4M42,4L42C	Hatz 1D81 / 1D90	Hatz Z788 / Z789 / Z790	Hatz 2-4 H50

Fitting to diesel engines: VW Mitsubishi



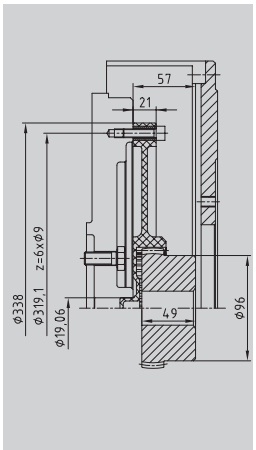


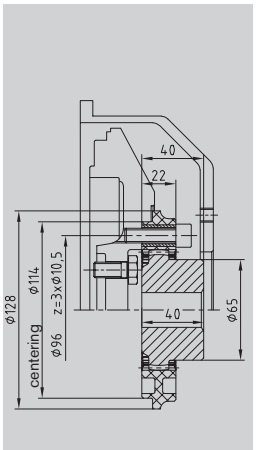


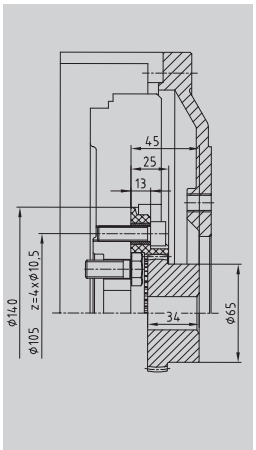


Coupling size	BoWex® 48 FLE-PA, Ø279	BoWex® 48 FLE-PA, Ø252	BoWex® 48 FLE-PA	BoWex® 48 FLE-PA, Ø130
Engine type	VW 028.B / M344	VW 062.2 / 068.5 / 6 / A / D	Mitsubishi Ø338-32	Mitsubishi Series L / Series K

Fitting to diesel engines: Perkins Lombardini





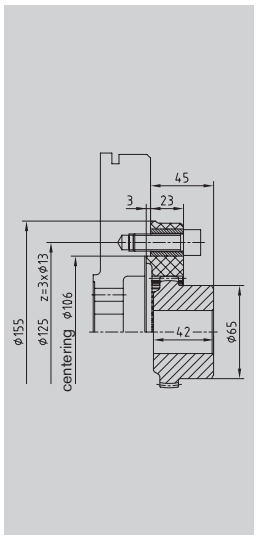


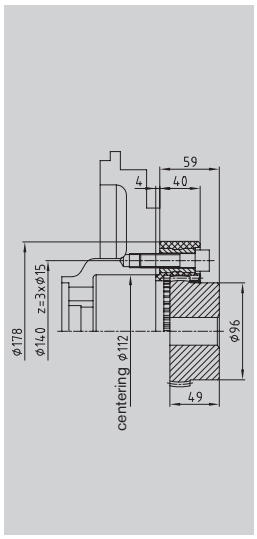
Coupling size	BoWex® 65 FLE-PA, Ø338	BoWex® 48 FLE-PA, Ø128	BoWex® 48 FLE-PA, Ø140
Engine type	Perkins 1104C-44T Flywheel No. D0014	Lombardini FOCS series	Lombardini LDW

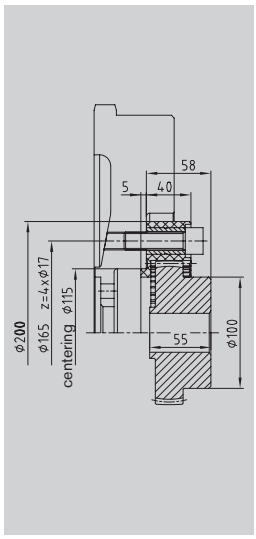
BoWex® FLE-PA
Torsionally stiff flange couplings

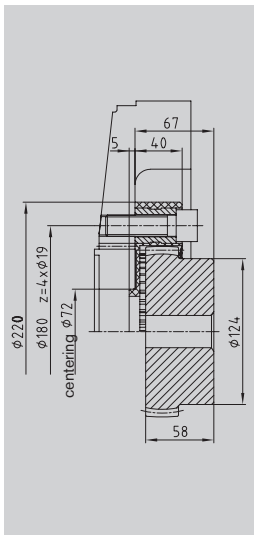
Special flange programme, deviations from the SAE standard

Fitting to diesel engines:
Perkins
Isuzu
Cummins



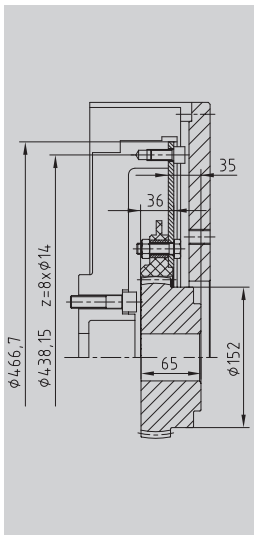


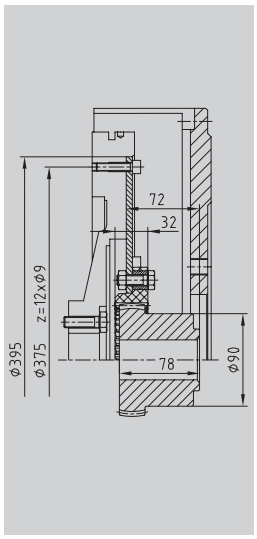


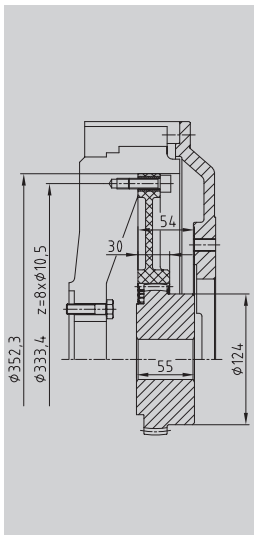


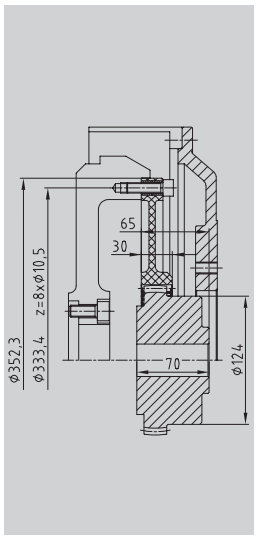
Coupling size	BoWex® 48 FLE-PA, Ø155	BoWex® 65 FLE-PA, Ø178	BoWex® 70 FLE-PA, Ø200	BoWex® 80 FLE-PA, Ø220
Engine type	3 holes, Ø125	3 holes, Ø140	4 holes, Ø165	4 holes, Ø180

Fitting to diesel engines:
Caterpillar
Daimler
Cummins
John Deere



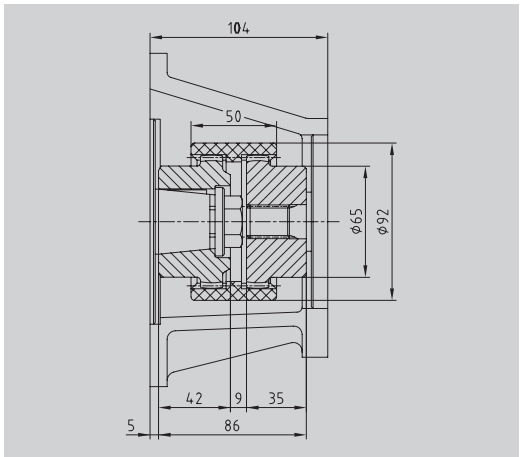


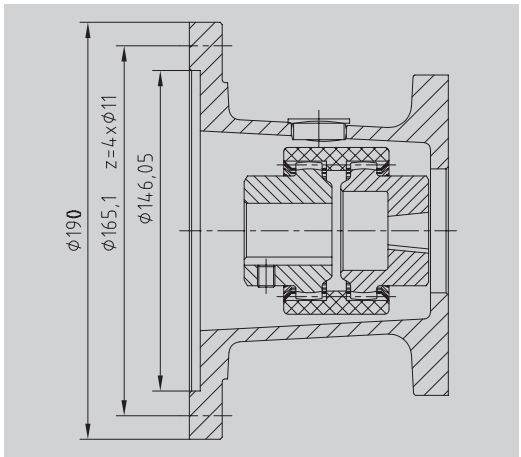




Coupling size	BoWex® T100 FLE-PA, 14”	BoWex® T65 FLE-PA, Ø395	BoWex® 80 FLE-PA, 11 1/2”	BoWex® 80 FLE-PA 11 1/2”
Engine type	Caterpillar C 10 / C 12	Daimler OM904	Cummins QSX/QSB	John Deere

Fitting to shaft motors:
Hatz
Honda
Briggs & Stratton
Yanmar
Kohler
Robin



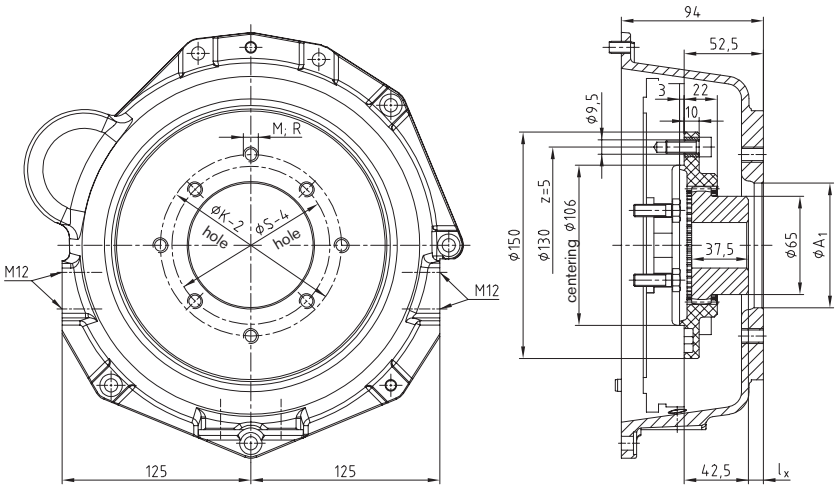


Coupling size	BoWex® M42	BoWex® shaft coupling type M28 and M32
Engine type	Hatz 2G30	Housing connection according to SAE J609A

Flange couplings and pump connection housings for KUBOTA engines

KUBOTA
Super MINI series

Z-400
Z-442-B
Z-482-B
D-600
D-662-B
D-902-B
V-800



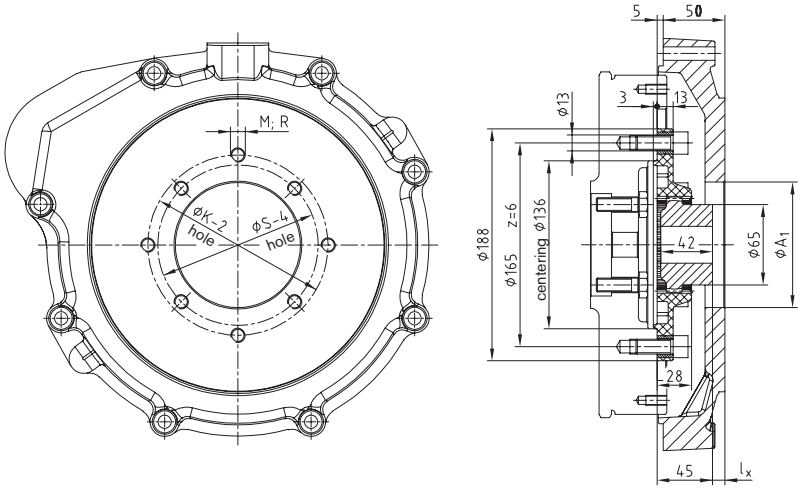
BoWex® 48 FLE-PA Ø 150 / pump connection housings

KUBOTA
Super 3 series

D 1403/1703
Flywheel
No. 190027991

V 1903/2203
Flywheel
No. 190002369

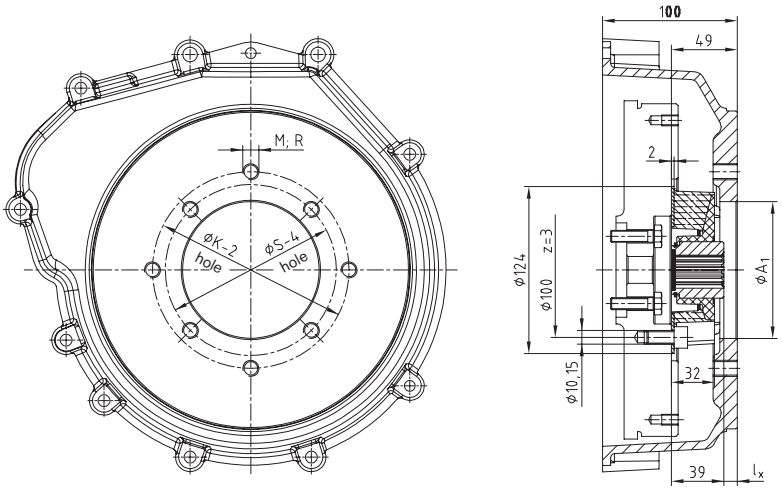
V 2003-T



BoWex® 48 FLE-PA Ø 188 / pump connection housings

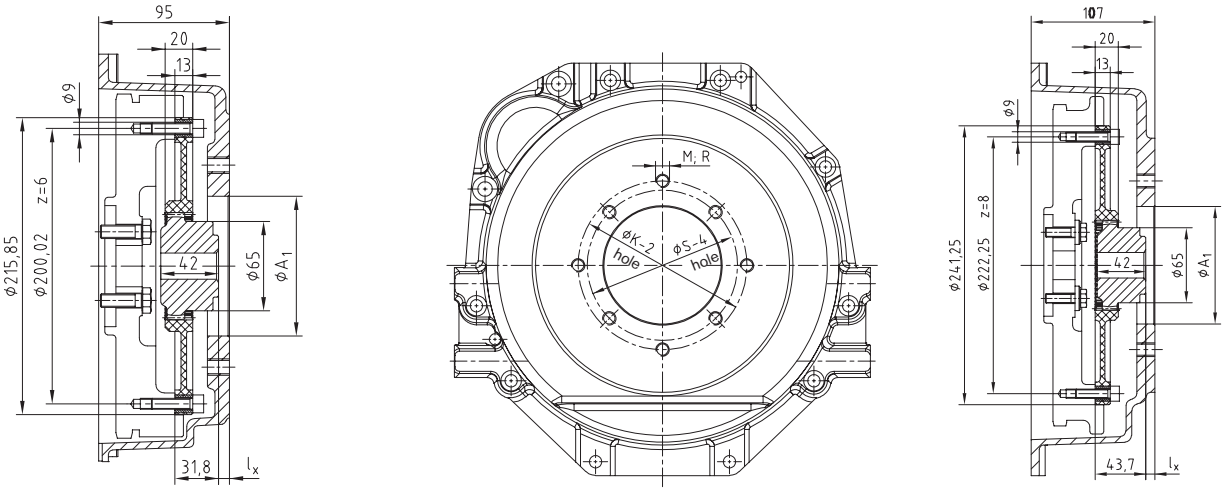
KUBOTA
Super 5 series

D 905
D 1005
D 1105
D 1105-T
V 1205
V 1305
V 1505



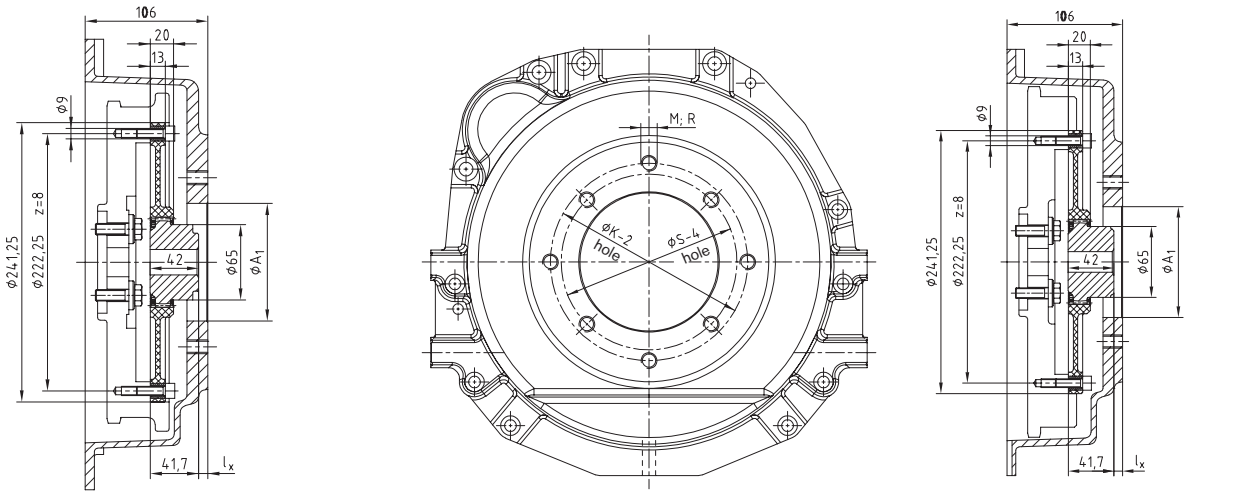
MONOLASTIC® 28 Ø 124 / pump connection housings

Flange couplings and pump connection housings for Perkins engines



Perkins 403D - 10/11

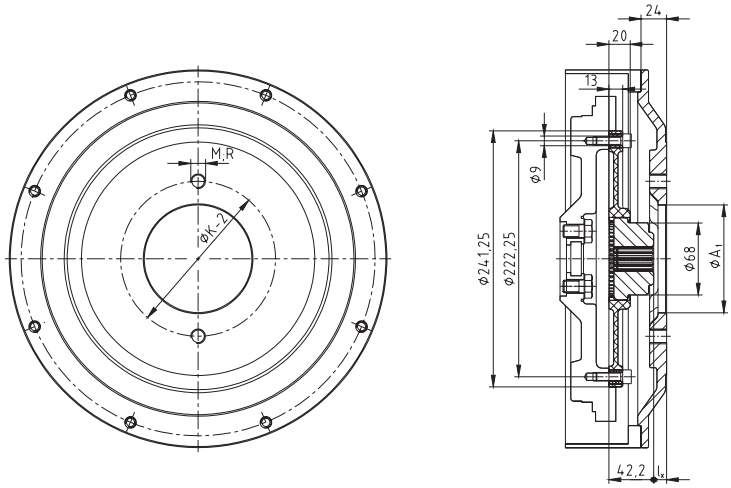
Perkins 403D - 13/15



Perkins 404D - 20

Perkins 404D - 22

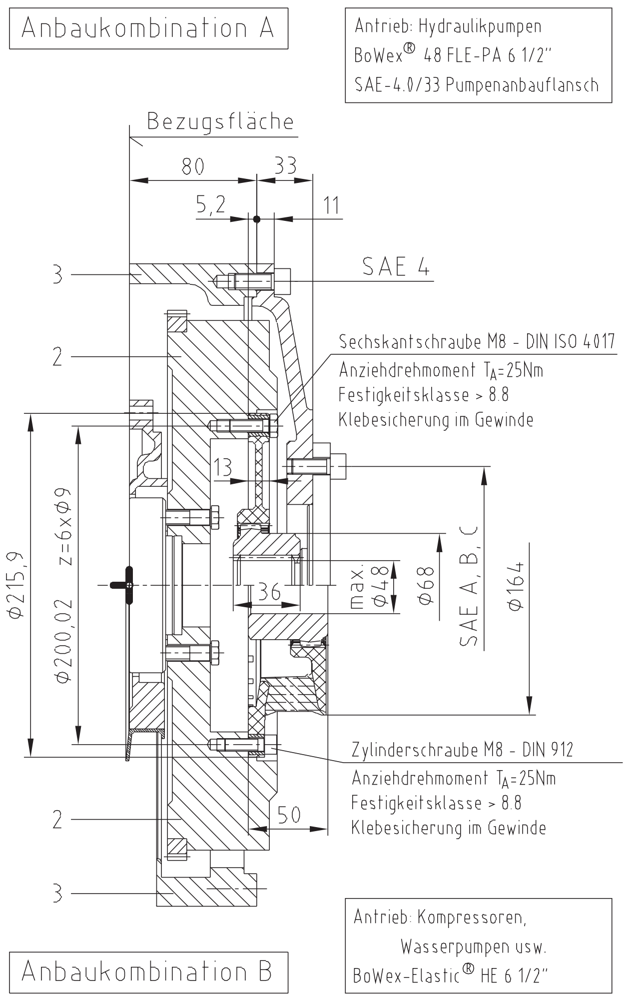
Other selections on request for Yanmar Mitsubishi etc.

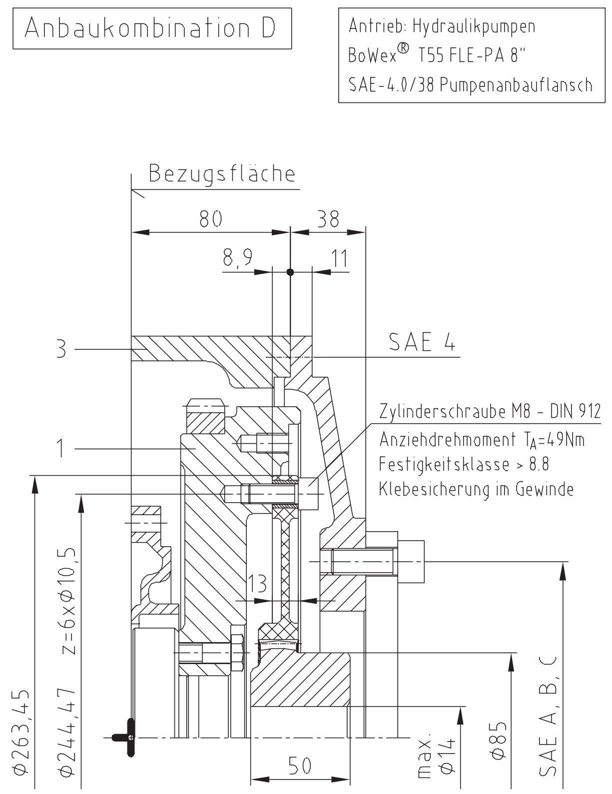


Mitsubishi SL series

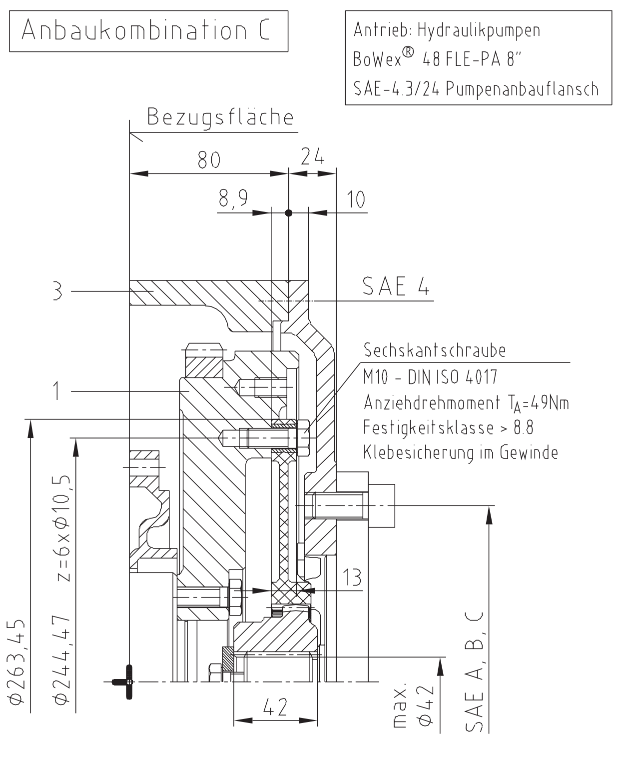
Yanmar TNV series

Selection of DEUTZ engines FL/M 1011 and FL/M 2011, TCD/TD/D 2.9 L4, TDC/T 3.6 L





ACHTUNG: Entsprechend der Motorleistung ist die Kupplungsanordnung durch den Anwender zu prüfen. Nach erfolgtem Kupplungsanbau Kurbelwellenlängsspiel prüfen. Sollmaß für Lagerluft 0,1 ... 0,3 mm.
DEUTZ übernimmt keine Haftung für außerhalb des DEUTZ Lieferumfanges liegende Maßgaben und/oder Teile.



Bei techn. Rückfragen hinsichtlich der Kupplungsausführung wenden Sie sich bitte an:
KTR-Kupplungstechnik GmbH
Postfach 1763 D-48407 Rheine
Telefon +49 - 05971 / 798-0

D	C	B	A	Pos.	Benennung	Nummer	G(kg)	Baus.-Nr.
1	1	1	1	3	Zwischengehäuse (SAE-4)	0427 0980 KZ 0138-52 0417 1040 UA 0138-52	15	0553
-	-	1	1	2	Schwungrad (SAE 6 1/2") J= 0,499 kgm²	0428 0586 KZ 0138-05 0417 1301 UA 0138-05	30,3	3174
1	1	-	-	1	Schwungrad (SAE 8 u.10") J= 0,405 kgm²	0427 2426 KZ 0138-05 0417 1301 UA 0138-05	25,3	2461

Anbaukombination

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS; CORNERS PER DIN 6784; GEOMETRIC TOLERANCES PER ISO 1101, GENERAL TOLERANCES -; SURFACE TEXTURE PER ISO 1302 IN MICROMETERS
MATERIAL
Bauart TYPE: FL/M1011, FL/M2011
Werkstückkanten nach DIN 6784; Form- und Lagetoleranzen nach DIN 7184, Allgemeintoleranzen -; Oberflächen Angaben nach ISO 1302, Rz nach DIN 4768
Maßstab SCALE 1:1 — Gewicht WEIGHT -
Werkstoff Rohteil-Nr. BLANK NO. -
PROJECTION METHOD ISO 128 Darstellungs-Methode

	Datum	Name
Bearb.	17.12.03	Sha
Gepr.	12.02.13	Sh
Norm		

OE DEPT. Ges.
Benennung TITLE: Kupplungsanbau BoWex® FLE-PA / ELASTIC HE
DEUTZ AG
Teilenummer (Sach-, Identnummer) EPN: 0428 0967 — Cha./Fer.: UB — Techn. Ordnungsnummer: 0138-97 — Blatt SHEET 1 von 1 Bl.
Mikr. Zust. Änderung REVISION Dat./Na. Gepr. Urspr. ORIGIN. Ers. f.: REPLACES:

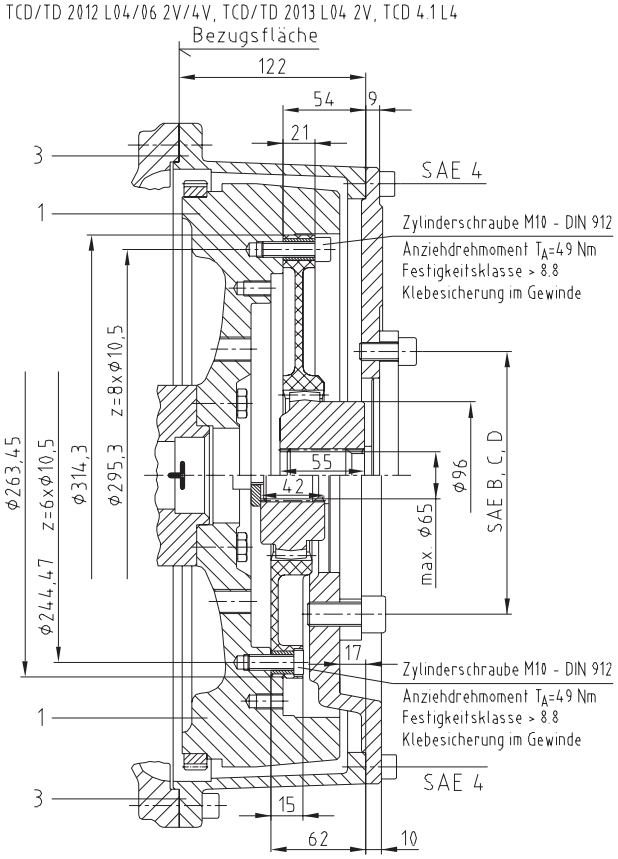
For continuously updated data please refer to our online catalogue at www.ktr.com

Selection of DEUTZ engines BFM 1012/1013/2012/2013/1015

Anbaukombination A

BoWex® 65 FLE-PA 10"
SAE-4/9 Pumpenanbauflansch

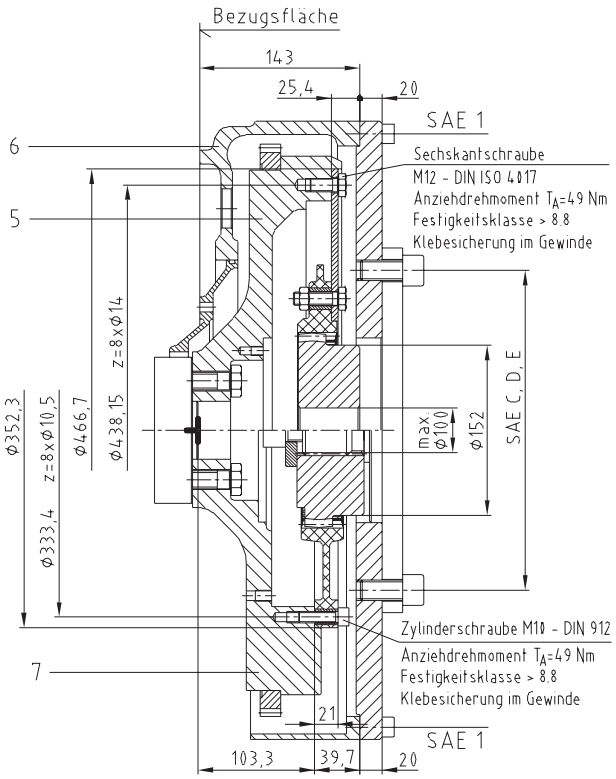
Deutz-Motor
BF4/6M 1012/2012, BF4/6 1013/2013,
TCD/TD 2012 L04/06 2V/4V, TCD/TD 2013 L04 2V, TCD 4.1 L4



Anbaukombination D

BoWex® 100 FLE-PA 14"
SAE-1/20 Pumpenanbauflansch

Deutz-Motor
BF6/8M 1015/2015,
TCD 2015 V06, TCD 12.0 V6



Anbaukombination B

BoWex® 65 FLE-PA 8"
SAE-4 2/-17 Pumpenanbauflansch

Deutz-Motor
BF4/6M 1012/2012, BF4/6 1013/2013,
TCD/TD 2012 L04/06 2V/4V, TCD/TD 2013 L04 2V, TCD 4.1 L4

Anbaukombination E

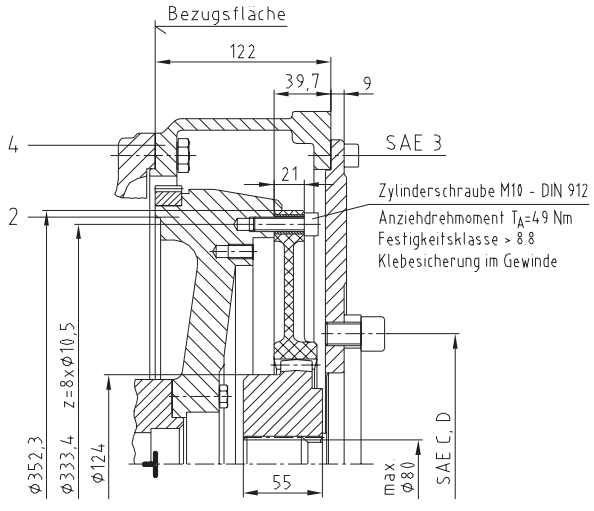
BoWex® 100 FLE-PA 11 1/2"
SAE-1/20 Pumpenanbauflansch

Deutz-Motor
BF6/8M 1015/2015,
TCD 2015 V06, TCD 12.0 V6

Anbaukombination C

BoWex® 80 FLE-PA 11 1/2"
SAE-3/9 Pumpenanbauflansch

Deutz-Motor
BF4/6M 1012/2012, BF4/6 1013/2013,
TCD/TD 2012 L04/06 2V/4V, TCD/TD 2013 L04/06 2V, TCD 4.1 L4, TCD 6.1 L6



ACHTUNG: Entsprechend der Motorleistung ist die Kupplungsanordnung durch den Anwender zu prüfen. Nach erfogtem Kupplungsanbau Kurbelwellenlängsspiel prüfen. Sollmaß für Lagerluft: Motor 1012/1013/2012/2013 = 0,1 - 0,28 mm; Motor 1015 = 0,2 - 0,4 mm
DEUTZ übernimmt keine Haftung für außerhalb des DEUTZ Lieferumfanges liegende Maßgaben und/oder Teile.

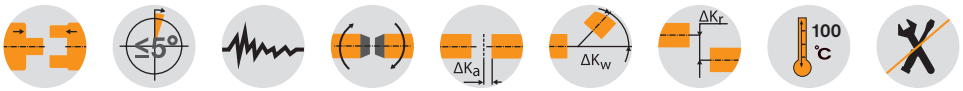
Bei techn. Rückfragen hinsichtlich der Kupplungsausführung wenden Sie sich bitte an:
KTR-Kupplungstechnik GmbH; Postfach 1763; D-48407 Rheine; Tel.: 05971/798-0

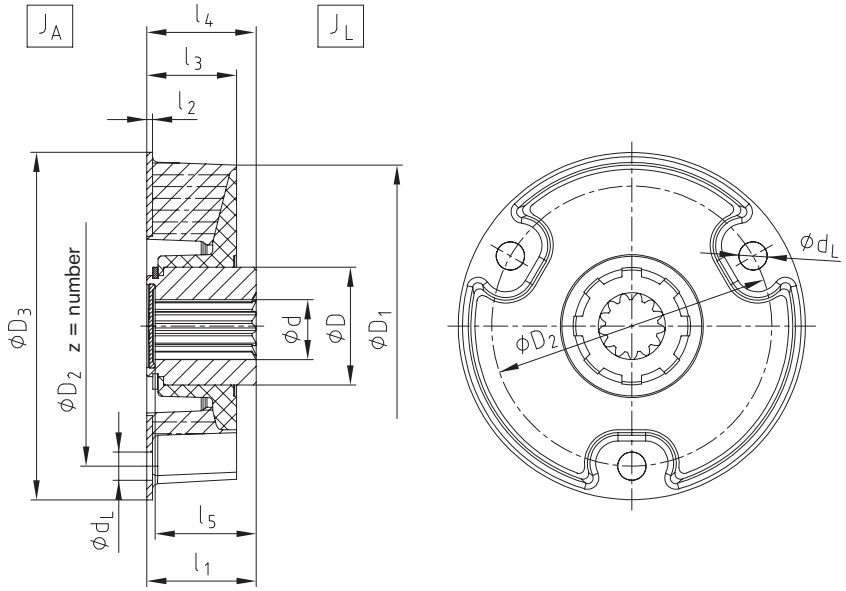
E	D	C	B	A	Pos.	Benennung	Nummer	G (kg)	Baus.-Nr.
1	-	-	-	-	7	Schwungrad (SAE-11 1/2") J= 2,255 kgm²		66,7	
1	1	-	-	-	6	Anschlußgehäuse (SAE-1)		45,6	
-	1	-	-	-	5	Schwungrad (SAE-14") J= 2,264 kgm²		61,6	
-	-	1	-	-	4	Anschlußgehäuse (SAE-3)			
-	-	-	1	1	3	Anschlußgehäuse (SAE-4)			
-	-	1	-	-	2	Schwungrad (SAE-10 u. 11 1/2") J= 0,872 kgm²			
-	-	-	1	1	1	Schwungrad (SAE-8 u. 10") J= 1,03 kgm²			

Anbau-kombination

DEUTZ 1012 / 1013
siehe 0420 8900 UB 0130-97

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



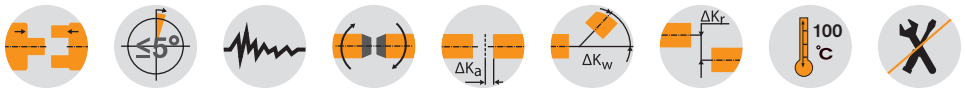


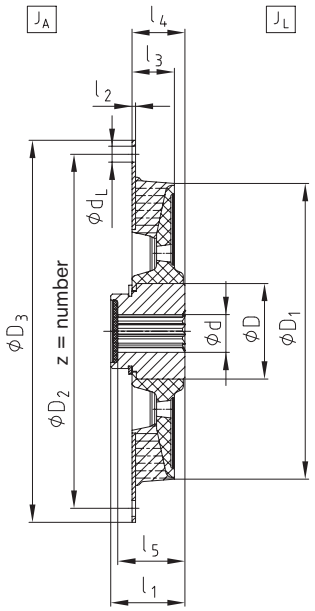
MONOLASTIC®																
Size	Elastomer hardness [Shore A]	Torque [Nm]			Dimensions [mm]											
		T_{KN}	$T_{K\,max.}$	T_{KW}	d	D	D_1	D_2	z	d_L	D_3	l_1	l_2	l_3	l_4	l_5
22	T65	40	100	20	20	34	93	80	3	8.10	100	33	1.5	32	34	30
28	T65	70	175	35	25	42	115	100	3	10.10	124	40	2	32	40	38
	T70	100	250	50												
32	T65	160	400	80	32	50	140	125	3	12.10	150	42	2	42	43	38
	T70	225	562	112												
50-140	T70	260	650	130	32	50	167	140	3	14.10	175	46	3	35	46	43
50-165	T70	300	750	150	32	50	175	165	3	16.15	200	46	3	35	46	43
50-170	T70	300	750	150	32	50	175	170	3	16.15	200	46	3	35	46	43
60-165	T70	400	1000	200	48	68	191	165	3	16.15	205	50	3	40	55	46

Technical data								
Size	Elastomer hardness [Shore A]	$C_{dyn.}$ with 60 °C [Nm/rad]	Perm. damping power with 60 °C P_{KW} [W]	Max. displacement with 2200 rpm ΔK_r [mm]	Perm. angular displacement with 2200 rpm ΔK_W [°]	Radial spring stiffness C_r [N/mm]	Mass moment of inertia [kgm²]		Perm. operating speed $n_{max.}$ [rpm]
							J_A	J_L	
22	T65	600	10	0.6		200	0.00017	0.00010	6000
28	T65	900	15	0.6		300	0.00054	0.00033	6000
	T70	1300		0.5		400			
32	T65	1800	25	0.6		400	0.00120	0.00081	6000
	T70	2400		0.5	1	500			
50-140	T70	4200	35	0.5		1365	0.00210	0.00130	6000
50-165		5600	40			1550	0.00250	0.00130	6000
50-170									
60-165	T70	7800	40	0.5		1500	0.00599	0.00358	6000

T = Temperature-stable rubber compound. The technical data specified apply for an ambient temperature of T = 60 °C.

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





Flange dimensions according to SAE J620 [mm]

Size	D_3	D_2	z	d_L
6 ½"	215.9	200.02	6	9
7 ½"	241.3	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

MONOLASTIC®

Size	Elastomer hardness [Shore A]	Torque [Nm]			Dimensions [mm]								MONOLASTIC® flanges according to SAE				
		T_{KN}	$T_{K\,max.}$	T_{KW}	$d_{max.}$	D	D_1	l_1	l_2	l_3	l_4	l_5	6 ½"	7 ½"	8"	10"	11 ½"
30	T65	200	400	100	25	42	120	39	2	21	30	36	X	X			
	T70	250	500	125													
50	T65	350	700	175	32	50	167	42	2	24	30	38	X	X	X	X	
	T70	450	900	225													
G50	T70	600	1200	300	32	50	178	42	2	24	36	38		X	X	X	
65	T65	750	1500	375	48	68	200	45	3	32	45	42				X	X
	T70	1000	2000	500													
75	T65	1500	3000	750	60	90	265	58	3	35	50	54				X	X
	T70	1850	3700	925													

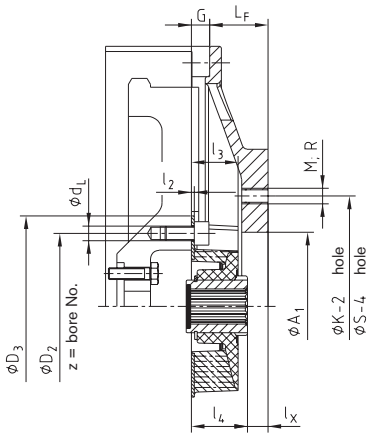
= Years of experience with applications at customer sites and additional test series in the KTR test field in Rheine enabled us to determine potentials allowing for an increase of the rated torques with some sizes of this series.

Technical data

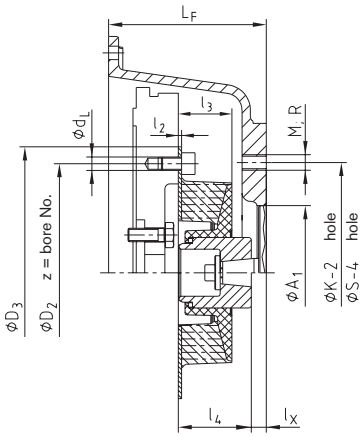
Size	Elastomer hardness [Shore A]	$C_{dyn.}$ with 60 °C [Nm/rad]	Perm. damping power with 60 °C P_{KW} [W]	Max. displacement with 2200 rpm ΔK_r [mm]	Perm. angular displacement with 2200 rpm ΔK_w [°]	Radial spring stiffness C_r [N/mm]	Mass moment of inertia [kgm²]			Perm. operating speed $n_{max.}$ [rpm]
								J_A	J_L	
30	T65	3750	25	0.5	1	1150	6 ½"	0.0038	0.00030	6000
	T70	4875				1500	7 ½"	0.0057		
50	T65	9000	35	0.5	1	1300	8"	0.0078	0.00120	6000
	T70	12000				1700	10"	0.0153		
G50	T70	17500	40	0.5	1	1910	7 ½"	0.0060	0.00120	6000
							8"	0.0080		
							10"	0.0162		
65	T65	14000	45	0.5	1	1900	10"	0.0238	0.00380	6000
	T70	18000				2450	11 ½"	0.0368		
75	T65	34000	80	0.5	1	1850	10"	0.0272	0.01450	6000
	T70	42000				2400	11 ½"	0.0402		

T = Temperature-stable rubber compound. The technical data specified apply for an ambient temperature of T = 60 °C.

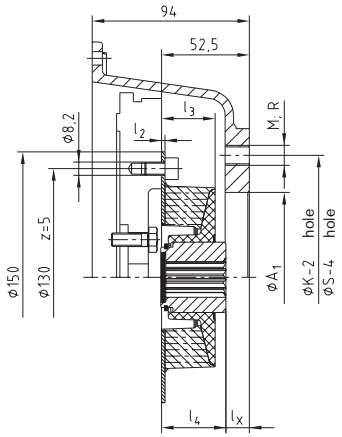
Examples of installation for type with 3 holes (EP 0853203/U.S. Patent 6,117,017)



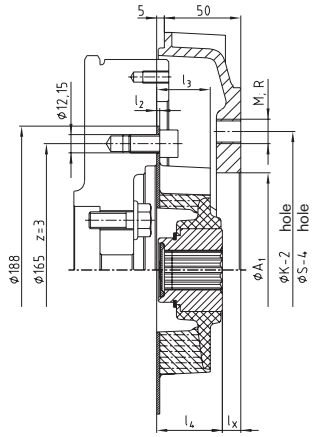
MONOLASTIC® 28
with spline shaft



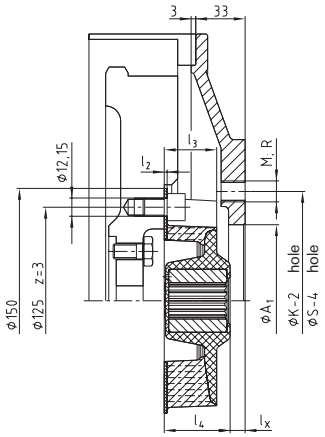
MONOLASTIC® 28
with taper shaft



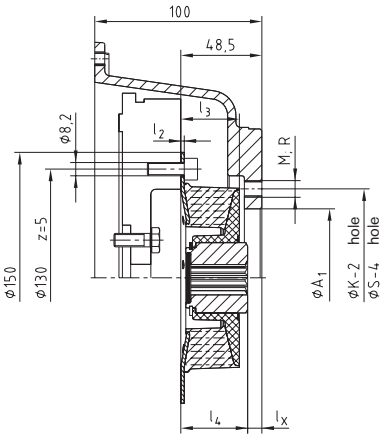
MONOLASTIC® 28
KUBOTA-Mini



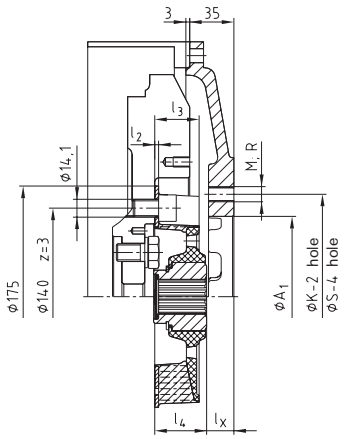
MONOLASTIC® 32 - 188
KUBOTA Super Three Series



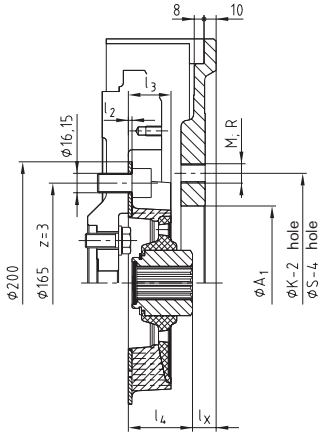
MONOLASTIC® 32 S



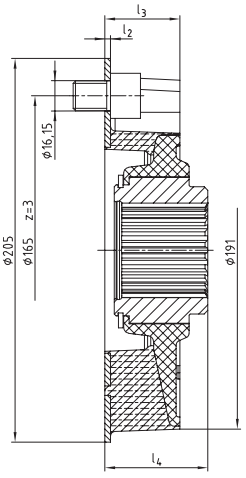
MONOLASTIC® 28
KUBOTA Super Mini



MONOLASTIC® 50 - 140

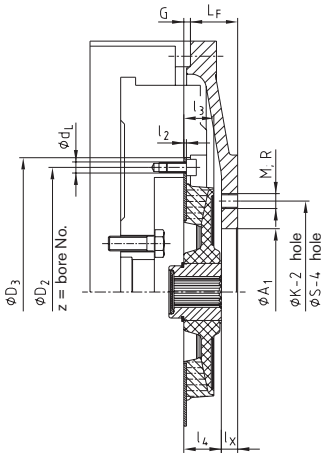


MONOLASTIC® 50 - 165

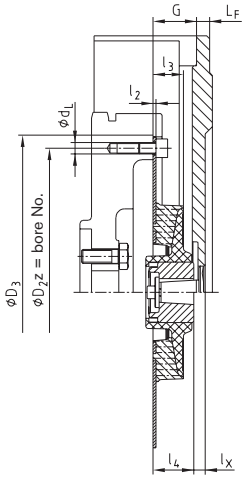


MONOLASTIC® 60 - 165

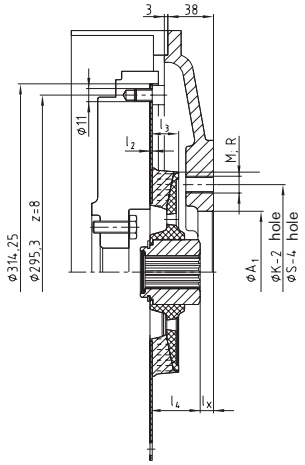
Examples of installation for SAE type (EP 0853203/U.S. Patent 6,117,017)



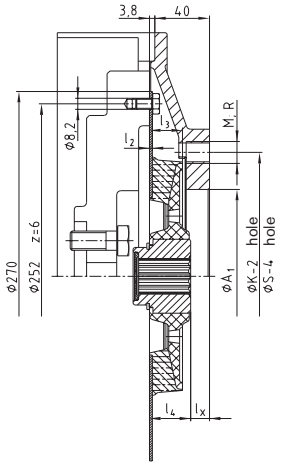
MONOLASTIC® 30
with spline shaft



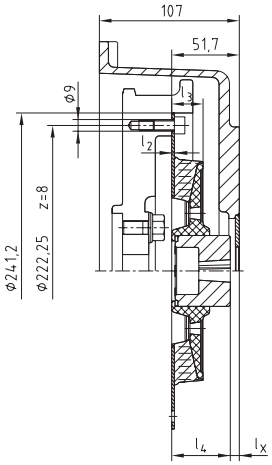
MONOLASTIC® 30
with taper shaft



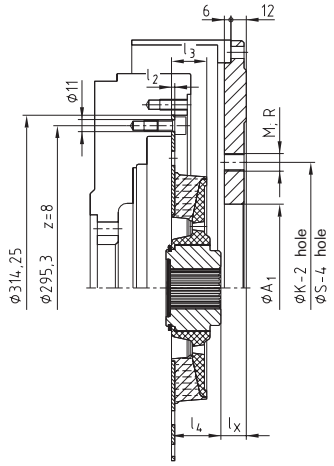
MONOLASTIC® 50 - 10“



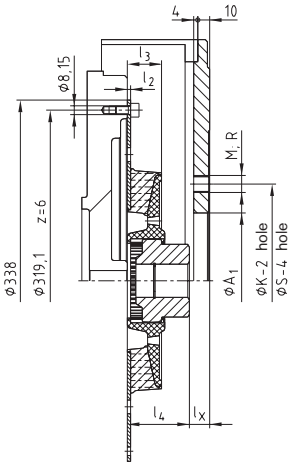
MONOLASTIC® 50 - 270
KUBOTA engine
D1803, V2403, V2403T



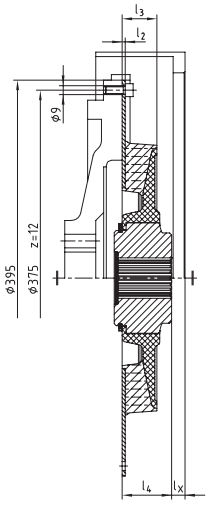
MONOLASTIC® 50
Perkins engine
403-13/403-15



MONOLASTIC® 65 - 10“



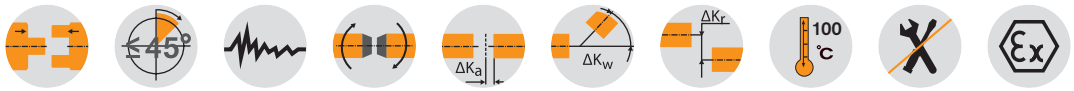
MONOLASTIC® 65 / T48



MONOLASTIC® 75 - 395

BoWex-ELASTIC® HE1 - HE4
Highly flexible flange couplings

Axial plug-in, available in different kinds of hardness



BoWex-ELASTIC® Type HE1 - HE4

Size	Bore d [mm]		Flange connection acc. to SAE - J620						Dimensions [mm]											Type HE1 / HE2			Type HE3 / HE4		
																				Weight with max. bore [kg]	Mass moment of inertia with max. bore [kgm²]		Weight with max. bore [kg]	Mass moment of inertia with max. bore [kgm²]	
	Pilot bored	Max.	6 ½"	7 ½"	8"	10"	11 ½"	14"	l_3 HE1/ HE2	l_3 HE3/ HE4	D_5	l_2 HE1/ HE2	l_2 HE3/ HE4	D_4	D	l_1	L_{HE1}	L_{HE2}	L_{HE3}	L_{HE4}		J_A	J_L		J_A	J_L
42 HE	-	42	●	●					4	2	180	44.5	37	145	65	42	70	50	55	40	1.8	0.0074	0.0016	1.8	0.0071	0.0021
					●																2.8	0.0172	0.0016	-	-	-
48 HE	-	48	●	●					4	2	198	45	37	163	68	50	78	50	68	42	2.3	0.0119	0.0021	1.9	0.0070	0.0022
					●																2.6	0.0170	0.0021	2.1	0.0103	0.0022
						●															3.4	0.0342	0.0021	2.5	0.0201	0.0022
65 HE	21	65				●			5	-	244	55.5	-	205	96	55	85	62	-	-	4.9	0.0424	0.0069			
							●														5.7	0.0647	0.0069	-	-	-
					●																			3.9	0.0147	0.0075
G 65 HE	21	65				●			-	3	-	-	45	205	96	55	-	-	73	50	-	-	-	4.1	0.0281	0.0075
							●																	4.6	0.0423	0.0075
					●																			3.8	0.0163	0.0093
GG 65 HE	21	65				●			-	3	-	-	45	220	96	55	-	-	73	50	-	-	-	4.4	0.0294	0.0093
							●																	4.9	0.0439	0.0093
80 HE	31	90				●			-	4	316	70	56	265	124	90	126	74	112	60	8.1	0.0239	0.0307	9.1	0.0414	0.0305
							●		6								132	80			10.2	0.0765	0.0307	-	-	-
G 80 HE	31	90					●		-	4	356	80	66	300	124	90	136	80	122	70	9.7	0.0426	0.0471	11.1	0.0713	0.0472
								●	6								142	84			14.7	0.2851	0.0471	-	-	-
GG 80 HE	31	90					●		-	4	-	-	71	302	124	90	-	-	130	80	-	-	-	11.9	0.0768	0.0498
100 HE	38	100						●	-	4	-	-	76	350	152	110	142	90	150	82	-	-	-	18.3	0.2028	0.1104
G 100 HE	38	100						●	-	4	-	-	76	350	152	65	-	-	102	85	-	-	-	16	0.2172	0.1013

Other flange connections on request

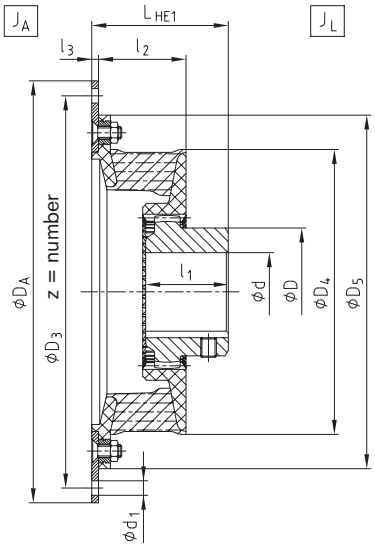
Technical data

Size	Elastomer hardness [Shore A]	Torque [Nm]				Perm. damping power P_{KW} [W]			Perm. operating speed $n_{max.}$ [rpm]	Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad]	Relative damping ψ	Resonance factor $V_R \approx 2 \bullet \pi / \psi$	Radial spring stiffness C_r [N/mm]
		T_{KN}	T_K max. 10,000 LA [Nm]	T_K max. 50,000 LA [Nm]	with 10 Hz T_{KW}	60 °C	80 °C	90 °C					
	T40	165	395	330	41					550	0.6	10.5	142
42 HE	T50	205	490	410	51	26.0	15.6	10.4	6200	850	0.8	7.9	219
	T65	260	625	520	65					2700	1.2	5.2	697
	T40	250	600	500	63					850	0.6	10.5	176
48 HE	T50	315	755	630	79	36.0	21.6	14.4	5600	1300	0.8	7.9	269
	T65	400	960	800	100					3500	1.2	5.2	724
	T40	440	1050	880	110					1600	0.6	10.5	209
65 HE	T50	550	1320	1100	138	60.0	36.0	24.0	4500	2200	0.8	7.9	288
	T65	720	1730	1440	180					6000	1.2	5.2	784
	T40	540	1300	1080	135					2350	0.6	10.5	294
G65 HE	T50	700	1700	1400	175	68.0	40.8	27.2	4300	3000	0.8	7.9	375
	T65	890	2140	1780	223					8500	1.2	5.2	1063
	T40	750	1800	1500	188					3650	0.6	10.5	420
GG 65 HE	T50	960	2300	1920	240	76.0	45.6	30.4	4000	4800	0.8	7.9	550
	T65	1250	3000	2500	313					13500	1.2	5.2	1550
	T40	950	2280	1900	238					4500	0.6	10.5	351
80 HE	T50	1300	3120	2600	325	120.0	72.0	48.0	3600	6500	0.8	7.9	507
	T65	1750	4200	3500	438					18000	1.2	5.2	1404
	T40	1600	3850	3200	400					7500	0.6	10.5	476
G 80 HE	T50	2200	5280	4400	550	180.0	108.0	72.0	3000	12000	0.8	7.9	762
	T65	2900	6960	5800	725					32000	1.2	5.2	2031
	T40	2000	4800	4000	500					9200	0.6	10.5	660
GG 80 HE	T50	2750	6600	5500	688	196.0	117.6	78.4	3000	14200	0.8	7.9	1020
	T65	3600	8650	7200	900					39600	1.2	5.2	2800
	T40	2500	6000	5000	625					12000	0.6	10.5	460
100 HE	T50	3250	7800	6500	813	210.0	126.0	84.0	2700	19000	0.8	7.9	730
	T65	4250	10200	8500	1063					48000	1.2	5.2	1840
	T40	3000	7200	6000	750					14200	0.6	10.5	584
G 100 HE	T50	3800	9120	7600	950	215.0	129.0	86.0	2700	22600	0.8	7.9	935
	T65	5000	12000	10000	1250					57000	1.2	5.2	2350

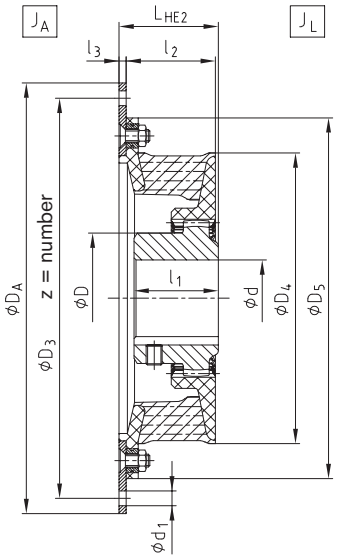
T = Temperature-stable rubber compound. The technical data specified apply for an ambient temperature of T = 60 °C.

Ordering example:

BoWex-ELASTIC® 42	HE1	T40	8	70	U
Coupling size	Type	Elastomer hardness	Flange Ø D_A according to SAE or special	Mounting length L_{HE}	Unbored or with finish bore

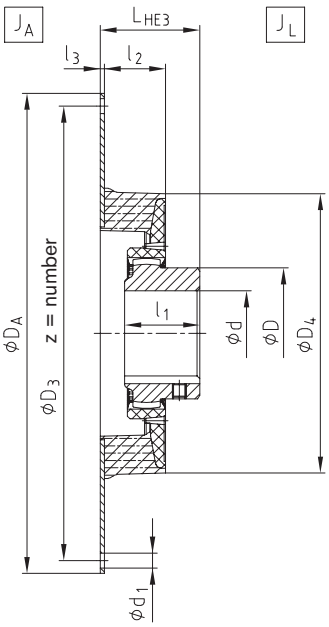


Type HE1

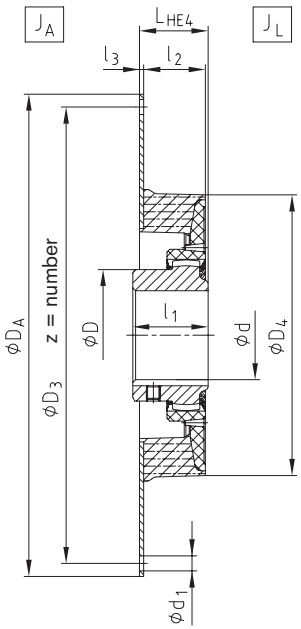


Type HE2

Flange dimensions according to SAE J620 [mm]				
Nominal size	D_A	D_3	z	d_1
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



Type HE3



Type HE4

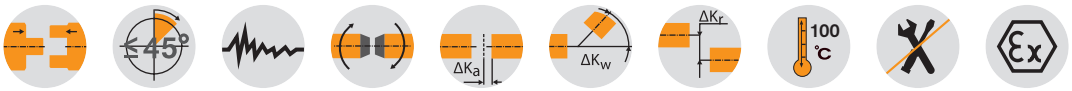
Displacements																	
Size		42 HE			48 HE			65 HE G65 HE GG65 HE			80 HE G80 HE GG80 HE			100 HE G100 HE		
Elastomer hardness [Shore A]		T40	T50	T65	T40	T50	T65	T40	T50	T65	T40	T50	T65	T40	T50	T65
Perm. radial displacement ΔK_r [mm]	n=1500 rpm	1.1	1.0	0.5	1.2	1.1	0.5	1.6	1.5	0.7	1.8	1.7	0.8	2.2	2.0	1.0
	max. [1]	3.6	3.3	1.5	3.8	3.5	1.7	5.1	4.7	2.2	5.7	5.3	2.4	6.5	6.0	3.0
Perm. angular displacement ΔK_W [°]	n=1500 rpm	1.0	0.75	0.5	1.0	0.75	0.5	1.0	0.75	0.5	1.0	0.75	0.5	1.0	0.75	0.5
	n=3000 rpm	0.5	0.4	0.25	0.5	0.4	0.25	0.5	0.4	0.25	0.5	0.4	0.25	0.5	0.4	0.25
Perm. angular displacement ΔK_W [°]	max. [1]	1.5			1.5			1.5			1.5			1.5		
Perm. axial displacement ΔK_a [mm]		± 2			± 2			± 2			± 2			± 3		

[1] For short-term start-up operation

Mounting procedure, screw type with property class, tightening torques as per KTR assembly instructions (see www.ktr.com).

BoWex-ELASTIC® HE3 / HE4 / HE-D
Highly flexible flange couplings

Axial plug-in, available in different kinds of hardness



BoWex-ELASTIC® Type HE3, HE4 and HE-D

Size	Bore d [mm]		Flange connection acc. to SAE - J620							Dimensions [mm]							Weight with max. bore [kg]	Mass moment of inertia with max. bore [kgm²]	
	Pilot bored	Max.	14"	16"	18"	21"	24"	Ø800	Ø885	l_3	l_2	D_4	D	l_1	L_{HE3}	L_{HE4}		J_A	J_L
125 HE	45	125	●							6	92	416	192	140	186	103	33.1	0.3142	0.2750
				●											192	109	34.8	0.4231	0.2750
G125 HE	45	125		●						6	89	440	192	140	179	91	36.6	0.4634	0.3264
					●												39.5	0.6812	0.3264
150 HE	44	160			●					6	140	470	225	150	205	160	46.8	0.7277	0.5414
						●											51.5	1.2120	0.5414
150 HE-D	44	160			●					-	286	470	225	275	291	-	113	3.0045	1.0738
						●											155	6.4399	1.0738
G150 HE	44	160			●					6	140	504	225	150	205	160	51.9	0.8164	0.6500
						●											56.6	1.3007	0.6500
G150 HE-D	44	160			●					-	286	504	225	275	291	-	123	3.1820	1.291
						●											165	6.6173	1.291
200 HE	46	180				●				6	149	568	250	175	240	160	76.8	1.4880	1.2952
							●										81.2	2.0390	1.2952
200 HE-D	46	180				●				-	325	568	250	298	310	-	228	11.80	2.4672
							●										216	10.66	2.4672
G200 HE	46	180				●				6	149	600	250	175	240	160	81.6	1.6272	1.5409
							●										86.0	2.1782	1.5409
G200 HE-D	46	180				●				-	325	600	250	298	310	-	238	12.00	3.0387
							●										230	10.92	3.0387
240 HE	80	240						●		8	172	772	326	200	270	205	138	4.2414	4.0410
275 HE	80	275							●	10	185	810	372	240	312	215	206	7.3696	7.6845

Technical data

Size	Elastomer hardness [Shore A]	Torque [Nm]				Perm. damping power P_{KW} [W]			Perm. operating speed $n_{max.}$ [rpm]	Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad] 60 °C	Relative damping ψ	Resonance factor $V_R \approx 2 \bullet \pi / \psi$	Radial spring stiffness C_r [N/mm]
		T_{KN} [Nm]	T_K max. 10,000 LA [Nm]	T_K max. 50,000 LA [Nm]	T_{KW} [Nm]	60 °C	80 °C	90 °C					
125 HE	T40	3500	10500	7000	875	221	133	88	2300	20000	0.6	10.5	625
	T50	4800	11400	9600	1200					30000	0.8	7.9	988
	T70	6800	20400	13600	1700					54000	1.2	5.2	2434
G125 HE	T40	4800	14400	7200	1200	240	144	96	2250	34000	0.6	10.5	890
	T50	6600	19800	9900	1650					51000	0.8	7.9	1305
	T70	10000	30000	15000	2500					98000	1.2	5.2	1915
150 HE	T50	8000	24000	12000	2000	262	157	105	2200	67500	0.8	7.9	714
	T70	14000	42000	21000	3500					140000	1.2	5.2	2500
150 HE-D	T50	16000	48000	24000	4000	524	314	210	2200	134000	0.8	7.9	1428
	T70	28000	84000	42000	7000					279000	1.2	5.2	5000
G150 HE	T50	10000	30000	15000	2500	278	167	111	2100	85000	0.8	7.9	1485
	T70	18000	54000	27000	4500					160000	1.2	5.2	5874
G150 HE-D	T50	20000	60000	30000	5000	556	334	222	2100	170000	0.8	7.9	2970
	T70	36000	108000	54000	9000					320000	1.2	5.2	11748
200 HE	T50	14500	43500	21750	3625	308	185	123	1900	119000	0.8	7.9	1720
	T70	25000	75000	37500	6250					241000	1.2	5.2	6769
200 HE-D	T50	29000	87000	43500	7250	616	370	246	1900	238000	0.8	7.9	3440
	T70	50000	150000	75000	12500					482000	1.2	5.2	13538
G200 HE	T50	17500	52500	26250	4375	324	194	130	1800	139000	0.8	7.9	1952
	T70	30000	90000	45000	7500					281500	1.2	5.2	7708
G200 HE-D	T50	35000	105000	52500	8750	648	388	260	1800	278000	0.8	7.9	3904
	T70	60000	180000	90000	15000					563000	1.2	5.2	15416
240 HE	T50	29000	87000	43500	7250	372	223	149	1500	259000	0.8	7.9	2326
	T70	49000	147000	73500	12250					521000	1.2	5.2	9160
275 HE	T50	42000	126000	63000	10500	410	246	164	1500	375000	0.8	7.9	2950
	T70	70000	210000	105000	17500					758000	1.2	5.2	11785

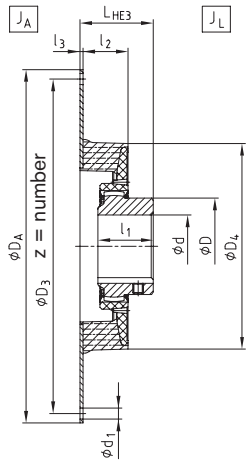
■ = Years of experience with applications at customer sites and additional test series in the KTR test field in Rheine enabled us to determine potentials allowing for an increase of the rated torques with some sizes of this series.

Other kinds of elastomer hardness on request.

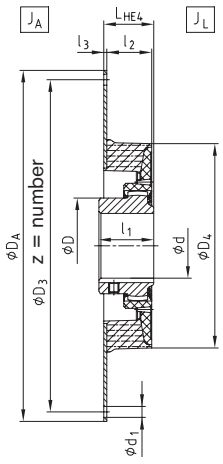
Ordering example:

BoWex-ELASTIC® 125	HE3	T40	14"	186	U
Coupling size	Type	Elastomer hardness	Flange Ø D_A according to SAE or special	Mounting length L_{HE}	Unbored or with finish bore

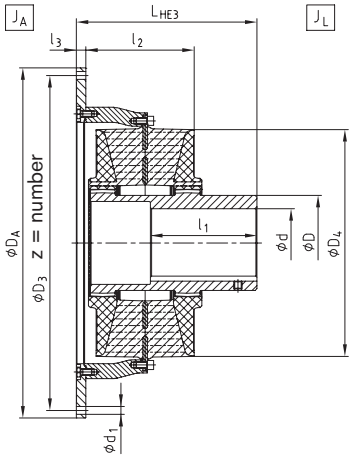
Type HE3



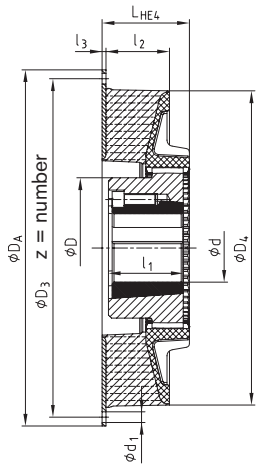
Type HE4



Type D



Type HE4 with taper clamping sleeve



Flange dimensions according to SAE J620 [mm]

Nominal size	D_A	D_3	z	d_1
14"	466.72	438.15	8	13
16"	517.50	489.00	8	13
18"	571.50	542.90	6	17
21"	673.10	641.35	12	17
24"	733.42	692.15	12	21
Ø800 [1]	800	770	32	17
Ø885 [1]	885	855	36	17

[1] Flange connection differing from SAE standard, dimensions in mm.

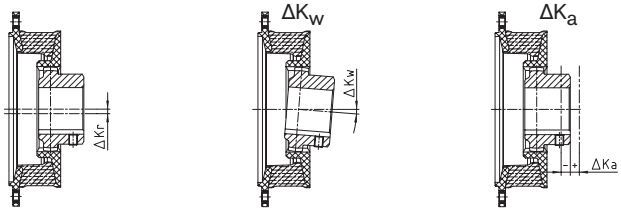
Displacements

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

$$\Delta K_{r\,perm.} = \Delta K_r \bullet St \bullet \sqrt{1500 / nx}$$

nx = speed / **St** = temperature factor

Radial displacement ΔK_r Angular displacement ΔK_w Axial displacement ΔK_a



Displacements

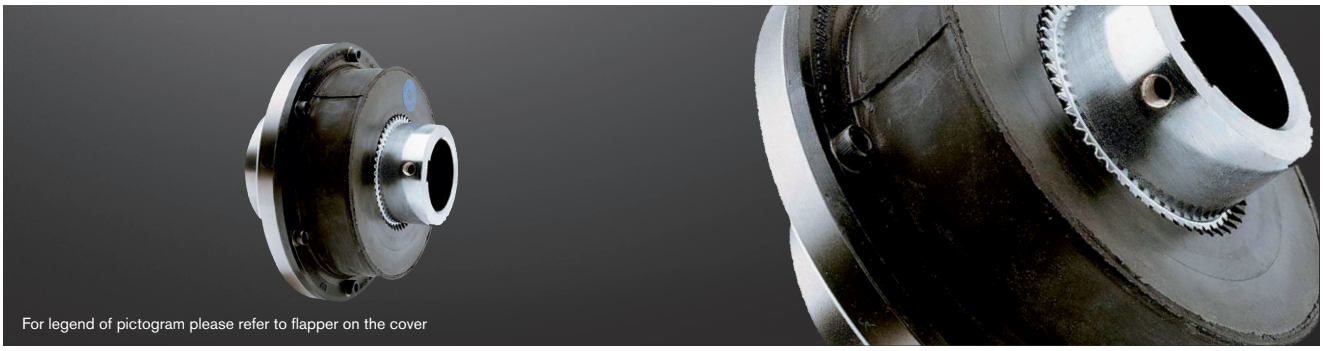
Size		125 HE G125 HE			150 HE G150 HE			200 HE G200 HE			240 HE			275 HE		
Elastomer hardness [Shore A]		T40	T50	T70	T40	T50	T70	T40	T50	T70	T40 Sh	T50	T70	T40	T50	T70
Perm. radial displacement ΔK_r [mm]	n=1500 rpm	2.5	2.3	1.1	2.8	2.5	1.3	3.0	2.7	1.5	3.2	2.9	1.6	3.4	3.1	1.8
	max. [2]	7.5	6.9	3.3	8.0	7.5	4.0	8.5	8.0	4.5	9.0	8.5	5.0	9.5	9.0	5.5
Perm. angular displacement ΔK_w [°]	n=1500 rpm	1.0	0.75	0.5	1.0	0.75	0.5	1.0	0.75	0.5	1.0	0.75	0.5	1.0	0.75	0.5
	n=3000 rpm	0.5	0.4	0.25	–	–	–	–	–	–	–	–	–	–	–	–
Perm. angular displacement ΔK_w [°]	max. [2]	1.5			1.5			1.5			1.5			1.5		
Perm. axial displacement ΔK_a [mm]		± 3			± 4			± 4			± 4			± 4		

[2] For short-term start-up operation

Mounting procedure, screw type with property class, tightening torques as per KTR assembly instructions (see www.ktr.com).

BoWex-ELASTIC® HE-ZS and HEW
Highly flexible flange couplings

With drop-out center part for pump drives, highly flexible shaft-to-shaft coupling



BoWex-ELASTIC® Type HE-ZS

Size	Max. finish bore d_4	Flange connection acc. to SAE - J620 D_A for HE-ZS										Dimensions [mm]									Drop-out center part HE-ZS L_Z [mm]					Weight with max. bore [kg]	Mass moment of inertia [kgm²]	
		6 ½"	7 ½"	8"	10"	11 ½"	14"	16"	18"	21"	24"	D_1	D_4	D_5	D_7	D_8	l_1	l_2	l_3	l_6	100	120	140	180	250		J_A	J_L
		●																48	10		●	●				2.9 [1]	0.0026	0.0033
48 [3]	28		●									160	164	200	78	45	40			37	●	●				3.6 [1]	0.0106	0.0033
				●														37	4		●	●				3.9 [1]	0.0148	0.0033
					●																●	●				4.6 [1]	0.0298	0.0033
G65 [3]	45				●								205		110	72	60	48	3	56		●	●			7.3 [1]	0.0242	0.0129
						●																	●	●		8.9 [2]	0.0372	0.0150
80 [3]	65				●							265	266	318	145	100	80	70	11	76			●	●		13.7 [2]	0.0211	0.0497
						●													6				●	●		15.9 [2]	0.0726	0.0497
G80 [3]	65					●						300	302	358	145	100	80	80	11	76			●	●		14.6 [2]	0.0402	0.0634
							●												6					●	●	19.5 [2]	0.2251	0.0634
100 [3]	95						●						350		202	148	110	80	4	106				●	●	29.8 [2]	0.1951	0.1779
125 [4]	100						●						416		225	165	120	99	6	116				●	●	41.7 [2]	0.3013	0.3363
								●																●	●	43.6 [2]	0.4123	0.3363
G125 [4]	120							●					440		225	165	120	95	6	116				●	●	45.6 [2]	0.4781	0.3700
									●															●	●	47.7 [2]	0.6380	0.3700
150 [4]	135								●				470		245	185	140	140	6	136					●	63.2	0.6918	0.6647
										●															●	67.9	1.1410	0.6647
G150 [4]	135								●				504		245	185	140	140	6	136					●	68.3	0.7540	0.7677
										●															●	73.0	1.2460	0.7677
200 [4]	150									●			568		270	205	160	149	6	156					●	98.7	1.5348	1.4109
											●														●	101.7	1.9138	1.4109
G200 [4]	150									●			600		270	205	160	149	6	156					●	103.5	1.7270	1.6401
											●														●	106.6	2.1060	1.6401

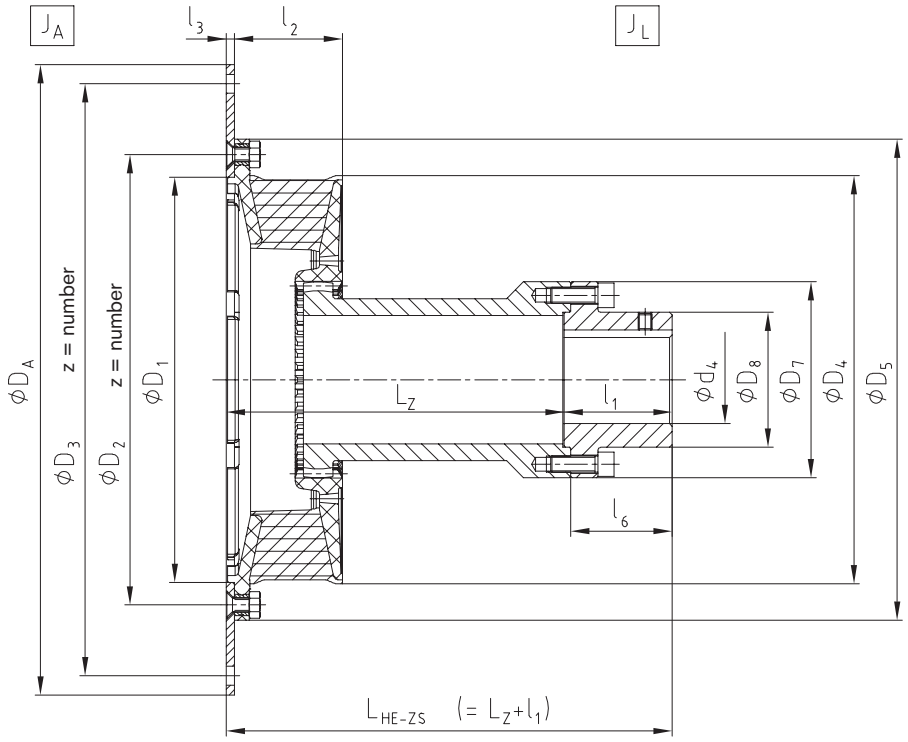
[1] with L_Z 120
[2] with L_Z 100
[3] For technical data see page 245
[4] For technical data see page 246

BoWex-ELASTIC® Type HEW

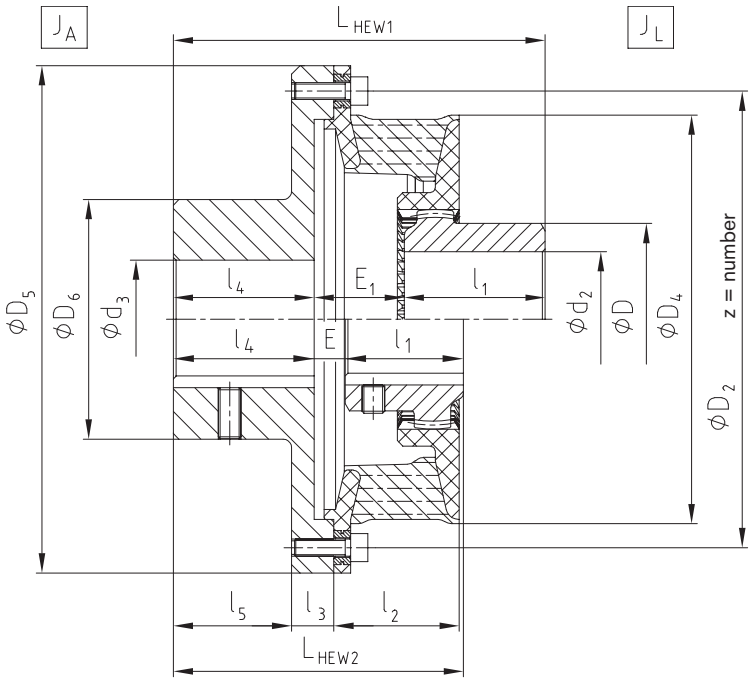
Size	Max. finish bore		Dimensions [mm]																	Weight with max. bore [kg]	Mass moment of inertia [kgm²]	
	d_2	d_3	D	D_2	z x M		D_4	D_5	D_6	l_1	l_2	l_3	l_4	l_5	E	E_1	L_{HEW1}	L_{HEW2}		J_A	J_L
42	48	50	68	162	6	M6	146	180	85	50	45	15	50	42	4	32	132	104	4.3	0.0121	0.0015
48 [3]	48	55	68	180	8	M6	164	200	92	50	45	17	55	45	4	32	137	109	5.5	0.0204	0.0019
65 [3]	65	75	96	224	8	M8	205	245	125	70	55	28	75	63	5	42	187	150	13.2	0.0752	0.0071
80 [3]	90	80	124	295.27	8	M10	266	318	130	90	70	17	80	70	5	45	215	160	19.7	0.1449	0.0285
G80 [3]	90	95	124	333.4	8	M10	302	358	145	90	80	22	90	78	5	55	235	185	25.9	0.2748	0.0422
100 [3]	100	110	152	438.15	8	M12	350	478	158	110	80	14	111.5	113	26	57	278	207	48.5	0.8356	0.1050
125 [4]	125	125	192	438.15	8	M12	416	478	175	140	99	14	170	158	-	45	335	-	67.2	0.9498	0.2617
G125 [4]	125	125	192	489	8	M12	440	530	175	140	95	14	170	158	-	45	335	-	76.6	1.4492	0.3034
150 [4]	160	160	225	542.9	6	M16	470	585	225	150	100	18	160	145	-	70	380	-	110	2.7206	0.5303
G150 [4]	160	160	225	542.9	6	M16	504	585	225	150	108	18	160	145	-	70	380	-	113.4	2.7809	0.5861
200 [4]	180	200	250	641.35	12	M16	568	683	280	175	149	26	220	214	-	85	480	-	195	6.6418	1.1406
G200 [4]	180	200	250	641.35	12	M16	600	683	280	175	149	26	220	214	-	85	480	-	200	6.6099	1.3419

[3] For technical data see page 245
[4] For technical data see page 246
Other sizes available. Please consult with us.

Type HE-ZS



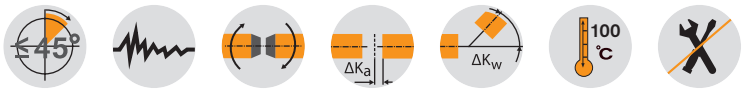
Type HEW1



Type HEW2

BoWex-ELASTIC® HEG
Highly flexible flange couplings

Cardan shaft connecting coupling



BoWex-ELASTIC® Type HEG1 and type HEG2

Size	Flywheel connection acc. to SAE-J620					Metric flange connection HEG1 dimensions [mm]										MECHANICS cardan shaft connection HEG2 dimensions [mm]								Dimensions [mm]			Weight [kg]	Mass moment of inertia	
	8"	10"	11 ½"	14"	16"	58	65	75	90	100	120	150	180	l_4	L	2 C	4 C	5 C	6 C	7 C	8,5 C	8 C	L_1	D_4	l_2	l_3		J_A [kgm²]	J_L [kgm²]
48 [1]	●					●	●	●						8	58.5									163	43.5	8	7	0.03	0.006
		●				●	●	●																			8	0.06	0.006
G65 [1]		●						●	●	●				8	66	●	●	●					71	205	48.0	10	12	0.07	0.02
			●					●	●	●						●	●	●									14	0.10	0.02
80 [1]		●						●	●	●	●			10	88.5		●	●	●				104	265	68.5	23	21	0.11	0.06
			●					●	●	●	●						●	●	●							12	23	0.17	0.06
G80 [1]			●						●	●	●	●		10	96			●	●	●			110	302	74.0	23	26	0.18	0.09
				●					●	●	●	●						●	●	●						12	33	0.48	0.09
100 [1]				●						●	●	●	●	12	98					●	●		128	350	78.0	16	41	0.63	0.19
125 [2]				●						●	●	●	●	12	111						●	●	135	416	96.0	18	56	0.74	0.42
					●					●	●	●	●								●	●				12	59	0.97	0.42

[1] For technical data see page 245
[2] For technical data see page 246

Flywheel connection acc. to SAE-J620

Size	D_A	D_1	z_1	d_1
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	14
16"	517.50	489.00	8	14

Metric flange connection HEG1 [mm]

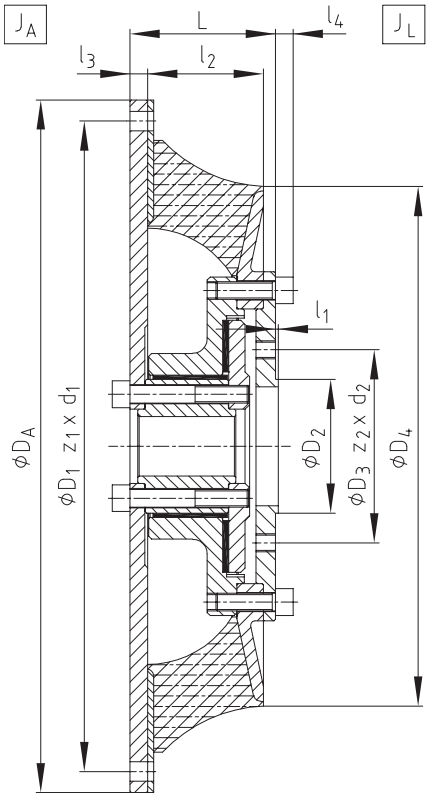
Size	D_2	l_1	D_3	z_2	d_2
58	30	1.0	47.0	4	M5
65	35	1.0	52.0	4	M6
75	42	1.5	62.0	6	M6
90	47	2.0	74.5	4	M8
100	57	2.0	84.0	6	M8
120	75	2.0	101.5	8	M10
150	90	2.5	130.0	8	M12
180	110	3.0	155.5	8	M14

MECHANICS cardan shaft connection HEG2 [mm]

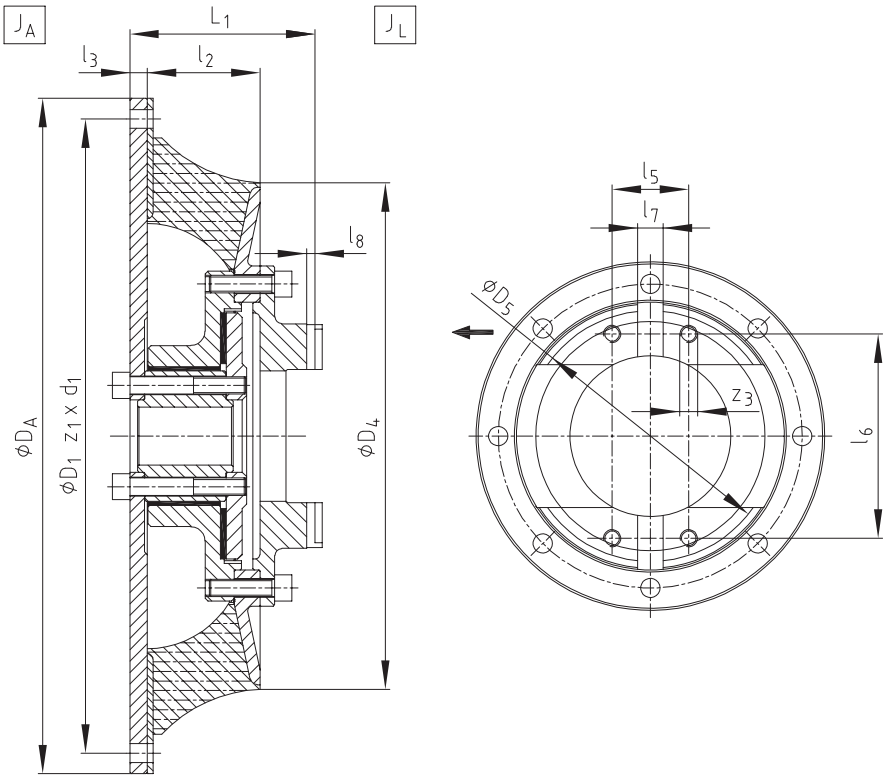
Size	D_5	l_5	l_6	l_7	l_8	z_3
2 C	79.35	33.3	59.5	9.50	3.8	M8
4 C	107.92	36.5	87.3	9.50	3.8	M8
5 C	115.06	42.9	88.9	14.26	5.1	M10
6 C	140.46	42.9	114.3	14.26	5.1	M10
7 C	148.39	49.2	117.5	15.85	6.0	M12
8,5 C	165.08	71.4	123.8	15.85	6.0	M12
8 C	206.32	49.2	174.6	15.85	6.0	M12

BoWex-ELASTIC® type HEG has a maintenance-free plain bearing compensating for the radial loads generated by the cardan shaft. Moreover, the coupling has a friction disk which is axially prestressed by the elastomer part. The elastomer part is made of natural rubber via vulcanizing.
The permanent friction provides the coupling with excellent damping properties reducing the high vibratory torques generated in the coupling during the starting process and passing through resonance considerably.

Type HEG1



Type HEG2



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.

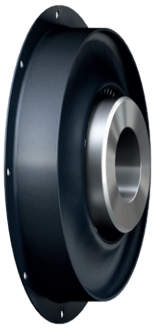
The elastomer element is available in various qualities for all types. It is composed of natural rubber compounds optimised over many years (SN, MN, HN, UN up to 80 °C) or upon request of synthetical EPDM material for higher temperatures (SE, ME, HE, UE up to 100 °C). The various kinds of rubber hardness 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 simultaneously 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.

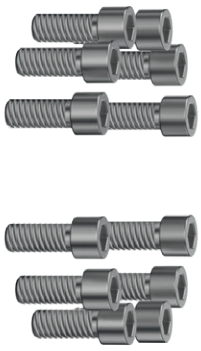
Properties of types compared

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 80 °C for hardness ranges WN, SN, MN and HN, synthetical EPDM up to 100 °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	$n_{max.}$
20	SN	1750	2625	3500	700	7200	5760	1,00	0,80	210	126	2700	3000
	MN	2000	3000	4000	800	11500	9200	1,10	0,90	240	144	2700	3000
	HN	2500	3750	7500	1000	18500	14800	1,30	1,10	270	162	3240	3600
28	SN	2200	3300	4400	880	9500	7600	1,00	0,80	260	156	2340	2600
	MN	2800	4200	5600	1120	14000	11200	1,10	0,90	270	162	2340	2600
	HN	3400	5100	10200	1360	21000	16800	1,30	1,10	290	174	2520	2800
38	SN	3000	4500	6000	1200	14500	11600	1,00	0,80	275	165	2520	2800
	MN	3800	5700	7600	1520	22000	17600	1,10	0,90	300	180	2520	2800
	HN	4600	6900	13800	1840	34000	27200	1,30	1,10	330	198	2880	3200
53	SN	4000	6000	8000	1600	17000	13600	1,00	0,80	285	171	2340	2600
	MN	5300	7950	10600	2120	28000	22400	1,10	0,90	325	195	2340	2600
	HN	6200	9300	18600	2480	43500	34800	1,30	1,10	370	222	2700	3000
96	SN	7800	11700	15600	3120	60000	48000	1,00	0,80	480	288	2070	2300
	MN	9600	14400	19200	3840	84000	67200	1,10	0,90	500	300	2070	2300
	HN	11200	16800	33600	4480	125000	100000	1,30	1,10	510	306	2250	2500
	UN	13200	19800	39600	5280	156000	124800	1,40	1,20	520	312	2250	2500
114	SN	9200	13800	18400	3680	70000	56000	1,00	0,80	500	300	2070	2300
	MN	11400	17100	22800	4560	100000	80000	1,10	0,90	530	318	2070	2300
	HN	13400	20100	40200	5360	148000	118400	1,30	1,10	550	330	2250	2500
	UN	15600	23400	46800	6240	185000	148000	1,40	1,20	560	336	2250	2500
140	SN	12000	18000	24000	4800	106000	84800	1,00	0,80	540	324	1890	2100
	MN	14000	21000	28000	5600	149000	119200	1,10	0,90	550	330	1890	2100
	HN	16200	24300	48600	6480	235000	188000	1,30	1,10	570	342	2070	2300
	UN	19000	28500	57000	7600	310000	248000	1,40	1,20	590	354	2070	2300
180	SN	14600	21900	29200	5840	132000	105600	1,00	0,80	620	372	1890	2100
	MN	18000	27000	36000	7200	185000	148000	1,10	0,90	630	378	1890	2100
	HN	22000	33000	66000	8800	295000	236000	1,30	1,10	650	390	2070	2300
	UN	25000	37500	75000	10000	410000	328000	1,40	1,20	670	402	2070	2300

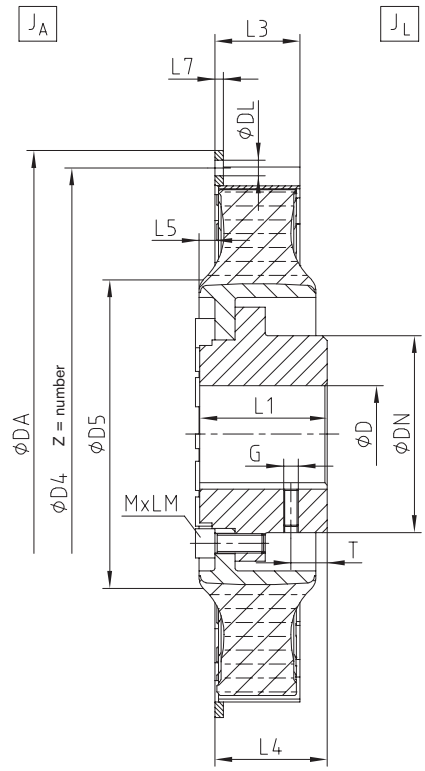
1) T_{KN} Torque that can be constantly transmitted over the entire speed range.
T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternations pulsating / 50,000 load alternations vibratory
T_{Kmax1} Impact loads rarely, min. 1,000 load alternations
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 30 °C.
2) Here permanent damping power. Twice the damping power figure is permissible for one hour.

SINULASTIC® type AK / AL

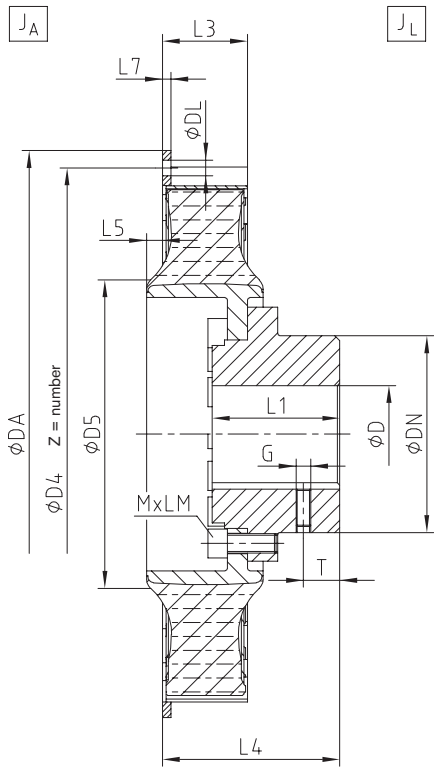
Size	Max. bore D [mm]	Flange connection acc. to SAE - J620						Dimensions [mm]											Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
		11 ½"	14"	18"	21"	24"	Ø475	DN	D5	L1	L3	L4 AK	L4 AL	L5	L7	MxLM	G	T	J_A	J_L	
20	80	●						112	164	75	65	90.5+4.5/-3	127.5±4.5	5.5	41	M12x30	M10	30	0.0947	0.0533	13.71
			●												13.6				0.1350	0.0533	14.79
28	115		●					162	244	90	44	93.5+3/-1.5	109±3	7	7	M16x40	M12	35	0.1873	0.1667	21.90
				●															0.4968	0.1667	26.55
			●				●												0.2013	0.1667	22.16
38	115			●				162	244	100	58	93.5+3/-1.5	123±3	7	7	M16x40	M12	35	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/-1.5	146±3	13	7	M16x40	M12	40	0.2981	0.2379	29.37
							●												0.6150	0.2379	34.02
				●															0.3165	0.2379	29.69
96	175				●			248	352	150	84	129+4/-2.5	192±4	1	11	M20x50	-	-	0.7310	1.0324	63.90
						●													1.5407	1.0324	72.37
				●															2.2186	1.0324	77.94
114	175				●			248	352	150	98	129+4/-2.5	206±4	1	11	M20x50	-	-	0.8367	1,1215	68.04
						●													1.6464	1,1215	76.51
140	175				●			248	431	200	94	200+3/-1.5	206±4	3	14	M20x60	-	-	2.3243	1,1215	82.08
						●													1.6680	2.1667	101.71
180	175				●			248	431	200	114	200+3/-1.5	300±3	3	14	M20x60	-	-	2.5308	2.1667	108.79
						●													1.9588	2.4306	110.09
																			2.8216	2.4306	117.17

1) With max. bore

Type AK

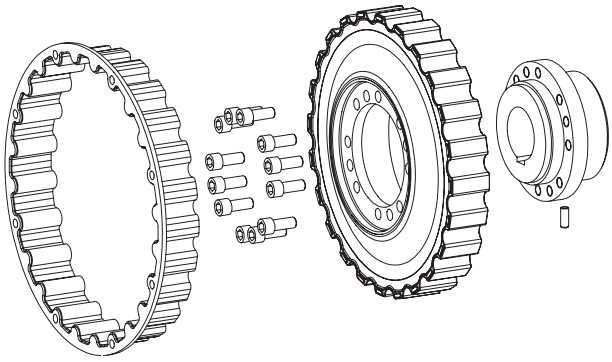


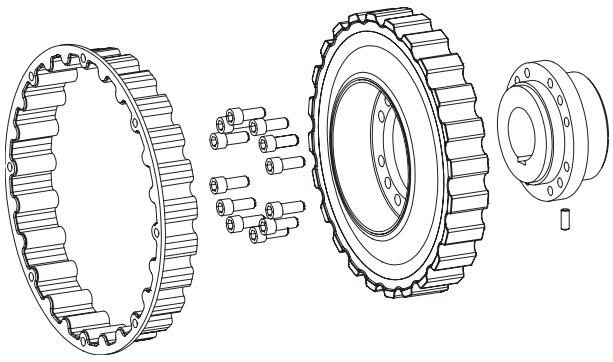
Type AL



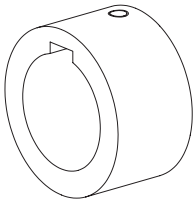
Types AK and AL specify the standard with variable hub connections as a short or long version

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

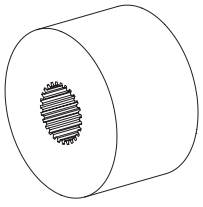




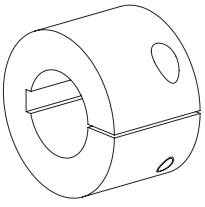
Types of hubs type AK / AL [1)]



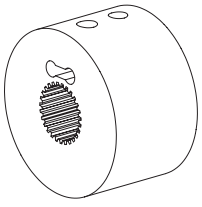
Type 1.0
with feather keyway and setscrew (acc. to standard AK, AL)



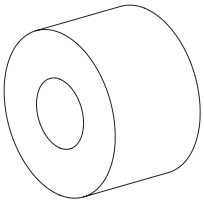
Type 1.3
spline toothing



Type 2.1
clamping hub single slot with feather keyway



Type 3.1
spline/clamping hub N



Type 8.0
taper interference fit

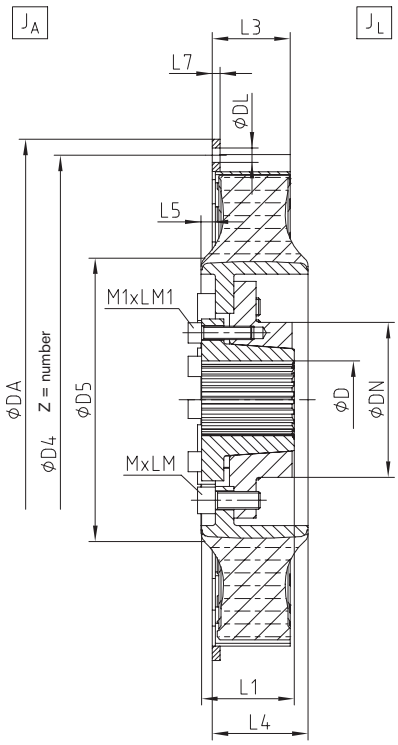
Type 8.1
cylindrical interference fit

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

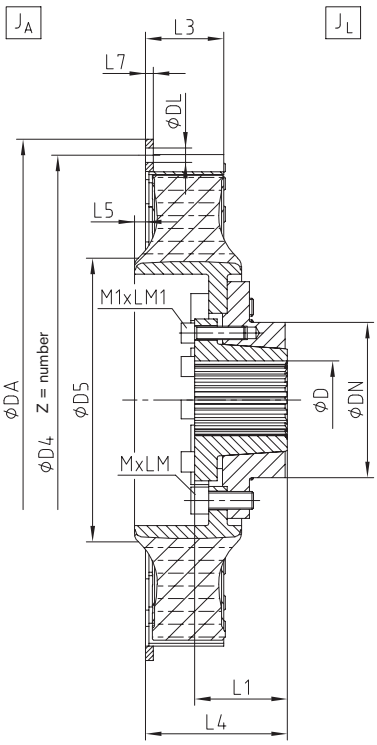
SINULASTIC® A
Highly flexible flange coupling

Type ALC / AKC

Type AKC

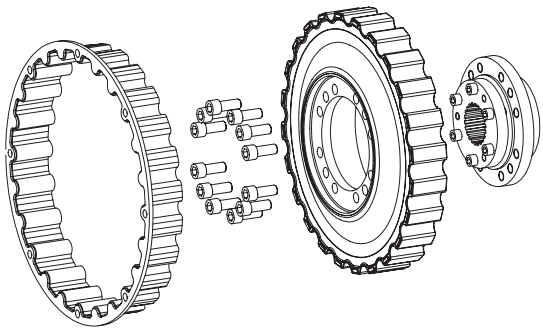


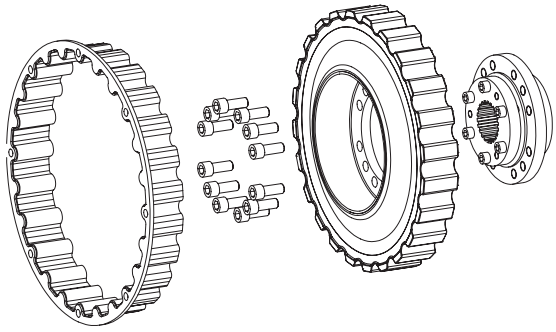
Type ALC



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





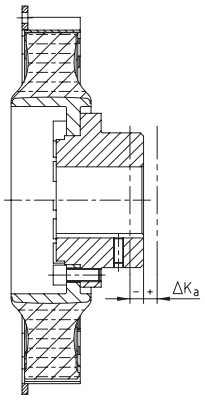
SINULASTIC® type AKC / ALC

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	65	70.5+4.5/-3	95.5 ± 4.5	5.5	41	M12x30	M10x30	0.0947	0.0521	14.02
				●												13.6			0.1353	0.0521	15.09
				●															0.1873	0.1531	21.88
28	46	65			●				139	244	63	44	56.5+3/-1.5	72 ± 3	7	7	M16x40	M10x40	0.4968	0.1531	26.53
								●											0.2013	0.1531	22.14
				●															0.2412	0.1837	23.99
38	46	80			●				139	244	69	58	65+3/-1.5	92 ± 3	7	7	M16x40	M10x40	0.5506	0.1837	28.64
								●											0.2583	0.1837	24.31
				●															0.2870	0.2241	28.67
53	46	80			●				139	247	83	70	83+3/-1.5	124 ± 3	13	7	M16x40	M12x45	0.5965	0.2241	33.32
								●											0.3042	0.2241	28.99
96	On request																				
114																					
140																					
180																					

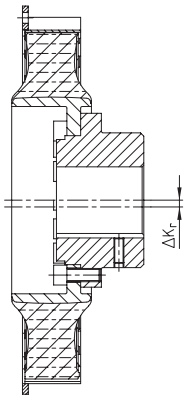
1) With max. bore

SINULASTIC® A
Highly flexible flange coupling

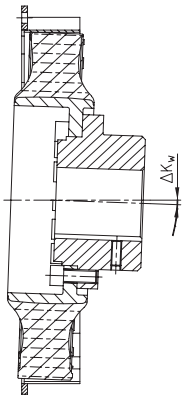
Displacements



Axial displacement



Radial displacement



Angular displacement

SINULASTIC® A size		20	28	38	53	96	114	140	180
Perm. axial displacement ΔK_a [mm] [2]		±2.0	±3.0	±3.0	±3.0	±3.0	±3.0	±3.0	±3.0
Perm. radial displacement ΔK_r [mm]	1500 rpm	0.8	1.1	1.1	1.1	1.25	1.25	1.5	1.5
	$n_{max.}$	0.6	0.8	0.8	0.8	0.9	0.9	1.1	1.1
	max. [1]	1.6	2.2	2.2	2.2	2.5	2.5	3.0	3.0
Perm. angular displacement ΔK_w [degree]	1500 rpm	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4
	$n_{max.}$	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3
	max. [1]	1.1	0.9	0.9	0.9	0.8	0.8	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

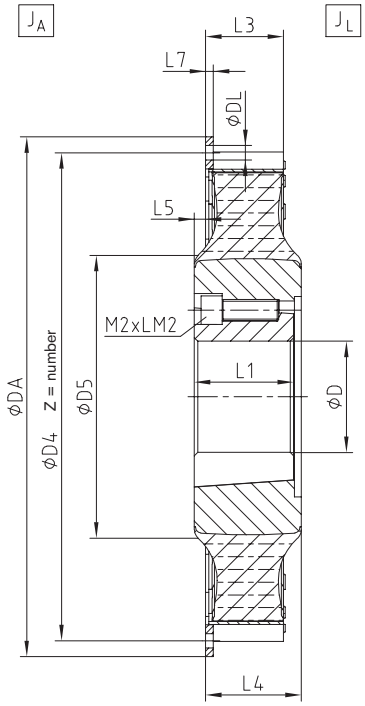
Ordering example:

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

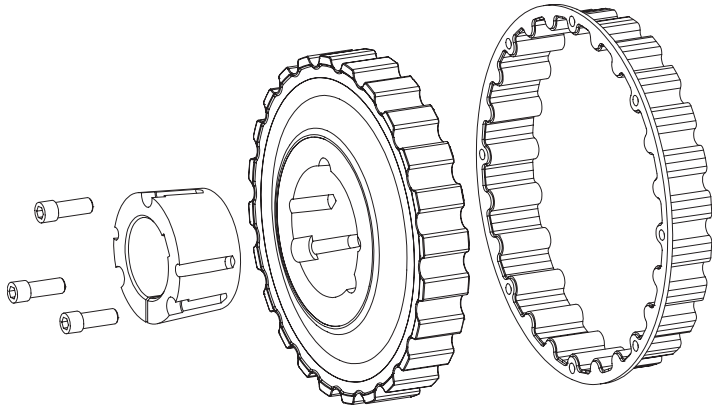
SINULASTIC® T
Highly flexible flange coupling

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

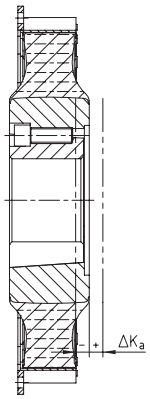
Size	Elastomer type	Torque [Nm] [1]				Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad]		Relative damping ψ [-]		Perm. damping power P_{KW} [W] [2]		Operating speed [rpm]	
		T_{KN}	T_{Kmax}	T_{Kmax1}	T_{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	$n_{max.}$
	SN	1750	2625	3500	700	7200	5760	1,00	0,80	210	126	2700	3000
20	MN	2000	3000	4000	800	11500	9200	1,10	0,90	240	144	2700	3000
	HN	2500	3750	7500	1000	18500	14800	1,30	1,10	270	162	3240	3600
	SN	2200	3300	4400	880	9500	7600	1,00	0,80	260	156	2340	2600
28	MN	2800	4200	5600	1120	14000	11200	1,10	0,90	270	162	2340	2600
	HN	3400	5100	10200	1360	21000	16800	1,30	1,10	290	174	2520	2800
	SN	3000	4500	6000	1200	14500	11600	1,00	0,80	275	165	2520	2800
38	MN	3800	5700	7600	1520	22000	17600	1,10	0,90	300	180	2520	2800
	HN	4600	6900	13800	1840	34000	27200	1,30	1,10	330	198	2880	3200
	SN	4000	6000	8000	1600	17000	13600	1,00	0,80	285	171	2340	2600
53	MN	5300	7950	10600	2120	28000	22400	1,10	0,90	325	195	2340	2600
	HN	6200	9300	18600	2480	43500	34800	1,30	1,10	370	222	2700	3000

[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 alternations pulsating / 50,000 load alternations vibratory
T_{Kmax1} Impact loads rarely, min. 1,000 load alternations
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 30 °C.
[2] Here permanent damping power. Twice the damping power figure is permissible for one hour.

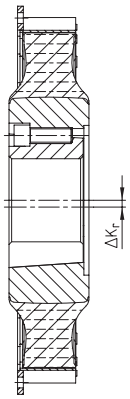
SINULASTIC® type T																		
Size	Bore D [mm]		Flange connection acc. to SAE - J620						Dimensions [mm]						Taper clamping sleeve		Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
	Pilot bored	Max.	11½"	14"	18"	21"	24"	Ø475	D5	L1	L3	L4	L5	L7	M2xLM2	Type	J_A	J_L	
20	35	90	●						164	63.5	60	70.5 ± 4.5	5.5	41	1/2"x38	3525	0.0947	0.0568	13.75
				●										13.6			0.1353	0.0568	14.83
				●													0.1873	0.1919	24.37
28	35	90			●				244	63.5	44	57 ± 3	7	7	1/2"x38	3525	0.4968	0.1919	29.02
								●									0.2013	0.1919	24.63
				●													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

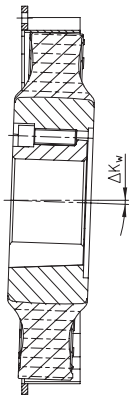
Displacements



Axial displacement



Radial displacement



Angular displacement

SINULASTIC® T size		20	28	38	53
Perm. axial displacement ΔK_a [mm] 2)		±2.0	±3.0	±3.0	±3.0
Perm. radial displacement ΔK_r [mm]	1500 rpm	0.8	1.1	1.1	1.1
	$n_{max.}$	0.6	0.8	0.8	0.8
	max. 1)	1.6	2.2	2.2	2.2
Perm. angular displacement ΔK_w [degree]	1500 rpm	0.7	0.6	0.6	0.6
	$n_{max.}$	0.5	0.4	0.4	0.4
	max. 1)	1.1	0.9	0.9	0.9

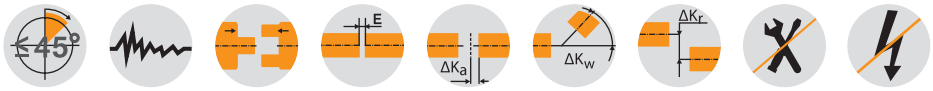
1) With assembly, for a short time resp. rarely with downtime or start-up operation as well as exceptional load conditions.
2) Plug-in fit in the tooth contact allows for alternative mounting lengths

Ordering example:

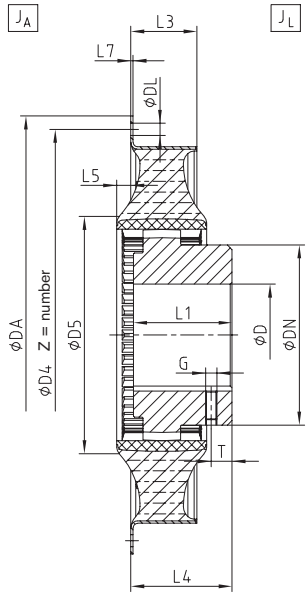
SINULASTIC® 53	T	M	14	1.0	Ø75
Coupling size	Type	Elastomer hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

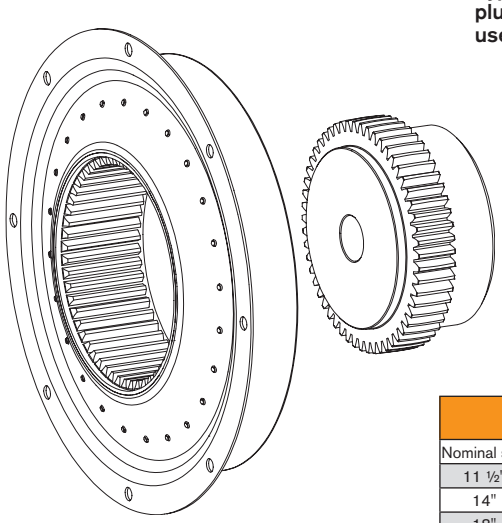
SINULASTIC® B
Highly flexible flange coupling

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

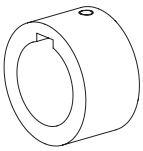
Size	Elastomer type	Torque [Nm] [1]				Dynamic torsion spring stiffness $C_{dyn.}$ [Nm/rad]		Relative damping ψ [-]		Perm. damping power P_{KW} [W] [2]		Operating speed [rpm]	
		T_{KN}	T_{Kmax}	T_{Kmax1}	T_{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	$n_{max.}$
	SN	1750	2625	5250	700	7200	5760	1,00	0,80	210	126	3240	3600
20	MN	2000	3000	6000	800	11500	9200	1,10	0,90	240	144	3240	3600
	HN	2500	3750	7500	1000	18500	14800	1,30	1,10	270	162	3420	3800
	SN	2200	3300	6600	880	9500	7600	1,00	0,80	260	156	2880	3200
28	MN	2800	4200	8400	1120	14000	11200	1,10	0,90	270	162	2880	3200
	HN	3400	5100	10200	1360	21000	16800	1,30	1,10	290	174	3240	3600
	SN	3000	4500	9000	1200	14500	11600	1,00	0,80	275	165	2880	3200
38	MN	3800	5700	9600	1520	22000	17600	1,10	0,90	300	180	2880	3200
	HN	4600	6900	13800	1840	34000	27200	1,30	1,10	330	198	3240	3600
	SN	4000	6000	12000	1600	17000	13600	1,00	0,80	285	171	2700	3000
53	MN	5300	7950	14400	2120	28000	22400	1,10	0,90	325	195	2700	3000
	HN	6200	9300	18600	2480	43500	34800	1,30	1,10	370	222	3060	3400
	SN	7800	11700	23400	3120	60000	48000	1,00	0,80	480	288	2340	2600
96	MN	9600	14400	28800	3840	84000	67200	1,10	0,90	500	300	2340	2600
	HN	11200	16800	33600	4480	125000	100000	1,30	1,10	510	306	2700	3000
	SN	9200	13800	27600	3680	70000	56000	1,00	0,80	500	300	2340	2600
114	MN	11400	17100	33900	4560	100000	80000	1,10	0,90	530	318	2340	2600
	HN	13400	20100	40200	5360	148000	118400	1,30	1,10	550	330	2520	2800
	SN	12000	18000	36000	4800	106000	84800	1,00	0,80	540	324	2160	2400
140	MN	14000	21000	42000	5600	149000	119200	1,10	0,90	550	330	2160	2400
	HN	16200	24300	48600	6480	235000	188000	1,30	1,10	570	342	2520	2800
	SN	14600	21900	43800	5840	132000	105600	1,00	0,80	620	372	2160	2400
180	MN	18000	27000	54000	7200	185000	148000	1,10	0,90	630	378	2160	2400
	HN	22000	33000	66000	8800	295000	236000	1,30	1,10	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 alternations pulsating / 50,000 load alternations vibratory
T_{Kmax1} Impact loads rarely, min. 1,000 load alternations
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 30 °C.
[2] Here permanent damping power. Twice the damping power figure is permissible for one hour.

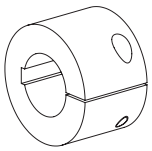
SINULASTIC® type B																		
Size	Max. bore D [mm]	Flange connection acc. to SAE - J620						Dimensions [mm]									Mass moment of inertia [kgm²] 1)		Weight [kg] 1)
		11 ½"	14"	18"	21"	24"	Ø475	DN	D5	L1	L3	L4	L5	L7	G	T	J_A	J_L	
20	80	●						124	169	75	60	80.5 ± 21	8.5	2.0	M10	20	0.0625	0.0338	9.71
			●														0.1114	0.0338	10.85
			●														0.1159	0.1979	27.16
28	125			●				200	244	140	38	129 ± 7	10	2.5	M10	20	0.2291	0.1979	28.83
							●										0.1213	0.1979	27.26
			●														0.1524	0.2076	28.94
38	125			●				200	245	140	52	136 ± 14	10	2.5	M16	40	0.1578	0.2076	30.62
							●										0.2655	0.2076	29.04
			●														0.1888	0.2280	30.85
53	125			●				200	247	140	70.5	143 ± 20	15	2.5	M16	40	0.1942	0.2280	32.52
							●										0.302	0.2280	30.95
				●													0.3857	0.5405	41.28
96	160				●			225	352	150	69	131.5 ± 13	7	2.5	-	-	0.5741	0.5405	43.23
						●											0.7318	0.5405	44.50
				●													0.4591	0.5970	44.37
114	160				●			225	352	150	83	138.5 ± 20	7	2.5	-	-	0.6475	0.5970	46.32
						●											0.8052	0.5970	47.60
140	240				●			326	431	200	81	175 ±12	10	3	-	-	0.8816	1.8812	83.57
						●											1.0708	1.8812	85.10
180	240				●			326	431	200	101	185 ±22	10	3	-	-	1.0905	2.0194	88.83
						●											1.2796	2.0194	90.37

1) With max. bore

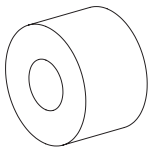
Types of hubs type B 1)



Type 1.0
with feather keyway
and setscrew



Type 2.1
clamping hub
single slot with
feather keyway

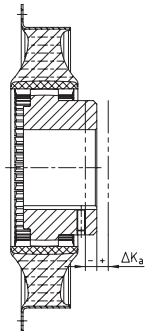


Type 8.0
taper interference fit

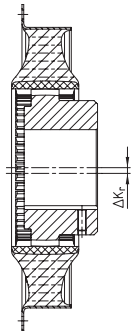
Type 8.1
cylindrical
interference fit

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

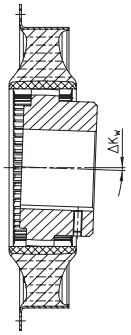
Displacements



Axial displacement



Radial displacement



Angular displacement

SINULASTIC® B size		20	28	38	53	96	114	140	180
Perm. axial displacement ΔK_a [mm]		±2	±3	±3.0	±3.0	±4.0	±4.0	±4.0	±4.0
Perm. radial displacement ΔK_r [mm]	1500 rpm	0.8	1.1	1.1	1.1	1.25	1.25	1.5	1.5
	$n_{max.}$	0.6	0.8	0.8	0.8	0.9	0.9	1.1	1.1
	max. 1)	1.6	2.2	2.2	2.2	2.5	2.5	3.0	3.0
Perm. angular displacement ΔK_W [degree]	1500 rpm	1.0	0.8	0.8	0.8	0.7	0.7	0.6	0.6
	$n_{max.}$	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4
	max. 1)	2.0	1.6	1.6	1.6	1.4	1.4	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 hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore