STROMAG™
A REGAL REXNORD BRAND

PRODUCT CATALOG

GE COUPLINGS

RegalRexnord™

Stromag

Founded in 1932, Stromag has grown to become a globally recognized leader in the development and manufacture of innovative power transmission components for industrial drivetrain applications. Stromag engineers utilize the latest design technologies and materials to provide creative, energy-efficient solutions that meet their customer's most challenging requirements.

Stromag's extensive product range includes flexible couplings, disc brakes, limit switches, an array of hydraulically, pneumatically, and electrically actuated brakes, and a complete line of electric, hydraulic and pneumatic clutches.

Stromag engineered solutions improve drivetrain performance in a variety of key markets including energy, off-highway, metals, marine, transportation, printing, textiles, and material handling on applications such as wind turbines, conveyor systems, rolling mills, agriculture and construction machinery, municipal vehicles, forklifts, cranes, presses, deck winches, diesel engines, gensets and stage machinery.

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CONTENT

GE COUPLINGS PRODUCT RANGE

SERIES GEF...R

Nominal torque range: 2,000 – 270.000 Nm

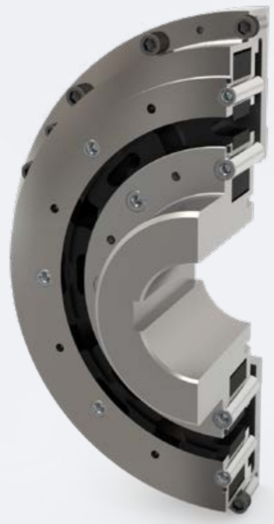
Front perspective

Back perspective

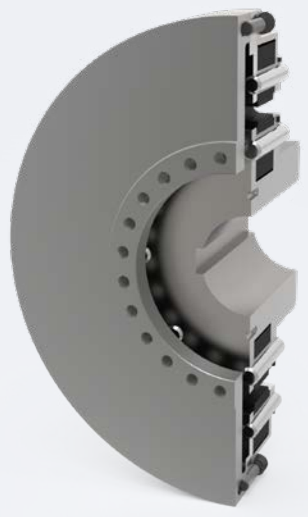
SERIES GET...R

Nominal torque range: 2,000 – 110.000 Nm

Front perspective



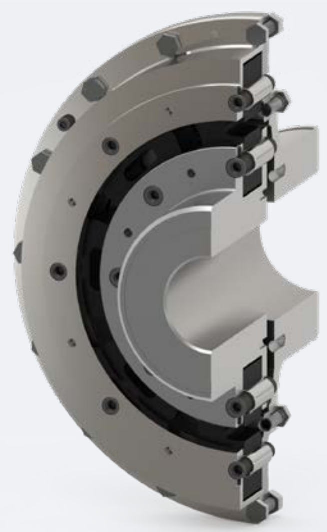
Back perspective



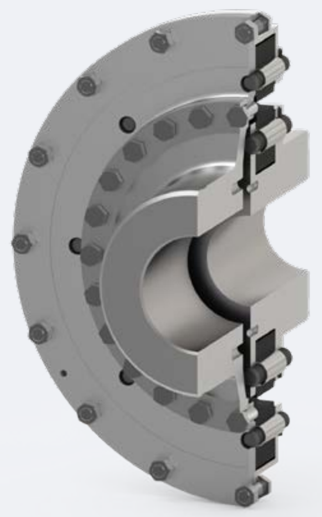
SERIES GEW...R

Nominal torque range: 2,000 – 270.000 Nm

Front perspective



Back perspective



GE COUPLINGS

BENEFITS INCLUDE

- The Stromag GE Coupling is a highly flexible coupling perfect for the transmission of high torques.
- Allows the simple connection of a flange, e.g. a flywheel, with a shaft.
- Covers the torque range from 2 to 270 kNm. Special Designs up to 450kNm are also available.
- Torque is transmitted by passing from the input to the output via radially arranged rubber elements.
- Various stiffnesses by changing the number of rubber elements to get the perfect fit for your application.
- Radial replacement of the rubber elements without moving the coupled machines.
- The Stromag GE Coupling is best suitable to absorb high torque shock loads.

APPLICATION AREAS

- The Stromag GE Coupling is designed for applications with piston engines. The outer part can be bolted directly to the flywheel of an engine or compressor.
- Other application fields are electrical assemblies, shipbuilding industry, railway and construction machine drives, diesel and gas sets, cement mills as well as pumps and compressors.

FAIL-SAFE DEVICE

The Stromag GE Coupling is available with a fail-safe device. A rupture in the flexible element causes claws to intermesh, forming a torsionally rigid, backlash connection between the drive and output sides.

Temporary emergency operation is possible with limited torque. The permissible torques and speeds must be calculated separately on the basis of torsional vibrations transferred via a torsionally rigid structure.

AT A GLANCE

CLASSIFICATIONS

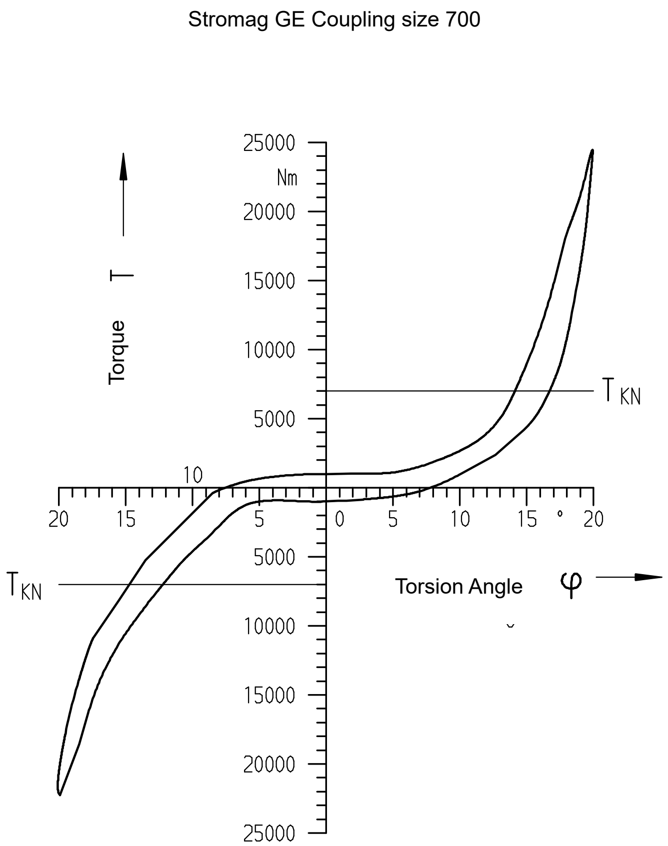
For survey of the coupling by a classification society, the regulations of the society have to be adhered to. The coupling characteristics may differ from the definitions given in this catalogue. Accordingly prepared data sheets are available on request.

A number of classification societies prescribe fail-safe devices on ships main drives.

TORQUE RANGE

- 2,000 up to 270.000 Nm

INSTRUCTIONS FOR THE DESIGNER



All metal parts of the Stromag GE coupling are made of steel or GGG. The individual rubber elements can be mounted radially and can be connected to the coupling parts by cyl. Pins.
The transmitted torque causes a tensile strain in the elements which is absorbed by the vulcanized nylon fabric inserts. Smooth running by coupling operation and less rotating radial forces are obtained by selection and arrangement of the single rubber elements according to their tensile characteristic curve. The GE coupling can be used in the temperature range from -50°C up to +80°C. The flexible elements can reach higher temperatures than the ambient temperature as a result of damping. For high ambient temperature, detect and adhere to the temperature factors from the diagram. When covering the coupling with a protective enclosure, bear this fact in mind to assure sufficient ventilation and heat dissipation.

The Stromag GE coupling has a progressive torsional characteristic curve. The static and dynamic characteristics are known. On the basis of these characteristics it is possible to select the suitable coupling size for the actual application. The decisive factors are the transmitted power and the torsional vibration charges. For stationary system conditions use T_{KN}. T_{KW} and P_{KV}; for non-stationary systems conditions use T_{Kmax}.

When suitably stored, rubber flexible elements maintain their characteristics for several years without change.

The parts need to be stored against oxygen, ozone, heat, light, moisture and solvents. The temperature in the store should be between +10°C und +25°C. The relative humidity should not exceed 65%.

Further details are given on DIN 7716 or ISO 2230.

USE IN POTENTIALLY EXPLOSIVE ENVIROMENTS

The coupling conforms to the requirements under Directive 2014/34/EU and can be used as follows:

a. **Zone 1** (gas, Category 2G) in Groups IIA, IIB, and IIC, T4

b. **Zone 2** (gas, Category 3G) in Groups IIA, IIB, and IIC, T4

c. **Zone 22** (dust, Category 3D) for dusts with a minimum ignition energy > 3 mJ, T 125°C

The Stromag GE Coupling compliance with the requirements for each of these zones / categories is documented in the form of the following codes on our products:

Use in gas atmospheres:

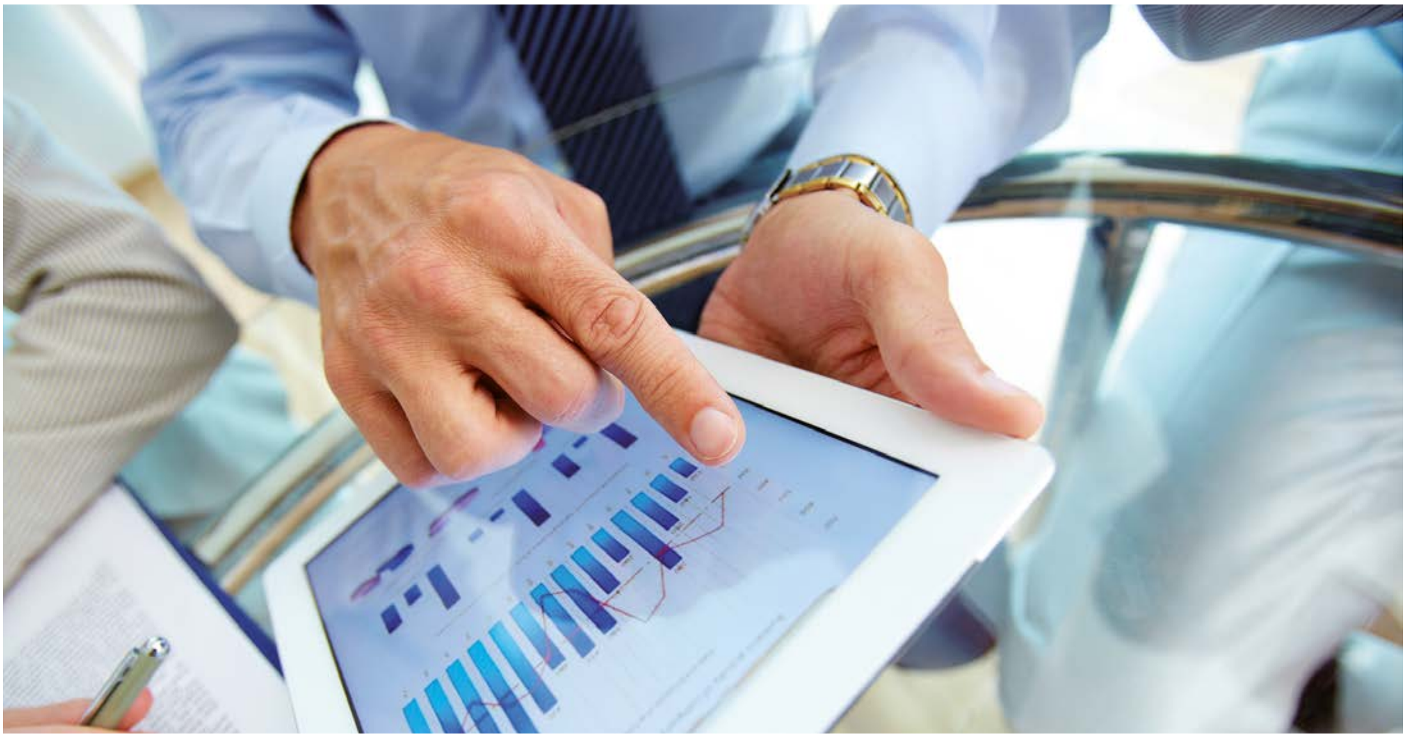
CE Ex II 2G Ex h IIC (T4) Gb

Use in dust atmospheres:

CE Ex II 3D Ex h IIIC T120°C Dc

Use in potentially explosive environments must be based on the request form annexed to this catalogue.

THE TORSIONAL VIBRATION ANALYSIS



Stromag's Know-how in Torsional Vibration Analysis (TVA) constitutes the core of each coupling design. It provides a comprehensive analysis of loads in the crankshaft, coupling and driven side to ensure that no critical speeds occur during operation.

Unevenly rotating systems can severely degrade product quality and cause great harm to the powertrain. On a daily basis, the TVA experts at Stromag work on the challenge of detecting such deviations by measuring them and protecting the entire powertrain with ideal product selection. Stromag is capable of calculating stationary and transient operating conditions considering the stiffness and damping of the elastomers.

Stromag – Flexible Couplings

GE couplings

Output table

Coupling Size	Nominal Torque T_{KN} kNm	Maximum Torque T_{Kmax} kNm	Adm. Alternating Torque T_{KW} kNm 0.25 x T_{KN}	0.5 x T_{KN}	0.75 x T_{KN}	1.0 x T_{KN}	Adm. Speed n_{max} rpm	Adm. axial Displacement DK_a mm	Axial Stiffness C_a kN/mm 4) 5)
200 R	2.0	6.0	0.48	0.87	1.27	1.66	4360	3.0	0.32
320 R	3.2	9.6	0.76	1.39	2.03	2.66	3900	3.0	0.42
500 R	5.0	15	1.19	1.90	2.60	3.31	2880	5.0	0.61
700 R	7.0	21	1.66	2.59	3.51	4.43	2880	5.0	0.61
1200 R	12	36	2.85	4.90	6.95	9.00	2500	5.0	0.90
1600 R	16	48	3.80	6.77	9.73	12.7	2150	5.0	1.08
2100 R	21	63	4.99	8.66	12.3	16.0	2150	5.0	1.08
2900 R	29	87	6.90	12.4	17.8	23.3	1840	8.0	1.56
3500 R	35	105	8.30	14.2	20.1	26.0	1840	8.0	1.56
5000 R	50	150	11.9	20.3	28.6	37.0	1540	9.0	2.93
7000 R	70	210	16.6	26.7	36.9	47.0	1540	9.0	2.93
9000 R	90	270	21.4	34.3	47.1	60.0	1340	10.0	3.58
11000 R	110	330	26.0	41.8	57.7	73.5	1340	10.0	3.58
15000 R	150	450	35.6	49.7	63.9	78.0	1175	10.0	4.18
18000 R	180	540	42.8	59.7	76.7	93.6	1095	10.0	4.18
22500 R	225	675	53.4	74.6	95.8	117	1095	11.0	5.00
27000 R	270	810	56.0	90.0	112	135	1095	11.0	6.00

1) at $T_W = 0.2 \cdot T_{KN}$; f = 10Hz
2) referred to a torque of $T = 0.8 \cdot T_{KN}$
3) at n_{max} = 600 rpm. for higher speed ratings:

$$\Delta K_r(n) = \sqrt{\frac{600\text{ rpm}}{n}} \cdot \Delta K_r$$

4) Tolerances of ±15 % related to the material are possible.

5) This value must be reduced by the temperature factor when the coupling temperatures are higher than 30 °C (see page 19).

6) $C_{Tdyn\ warm}$ for coupling operation under high damping power.

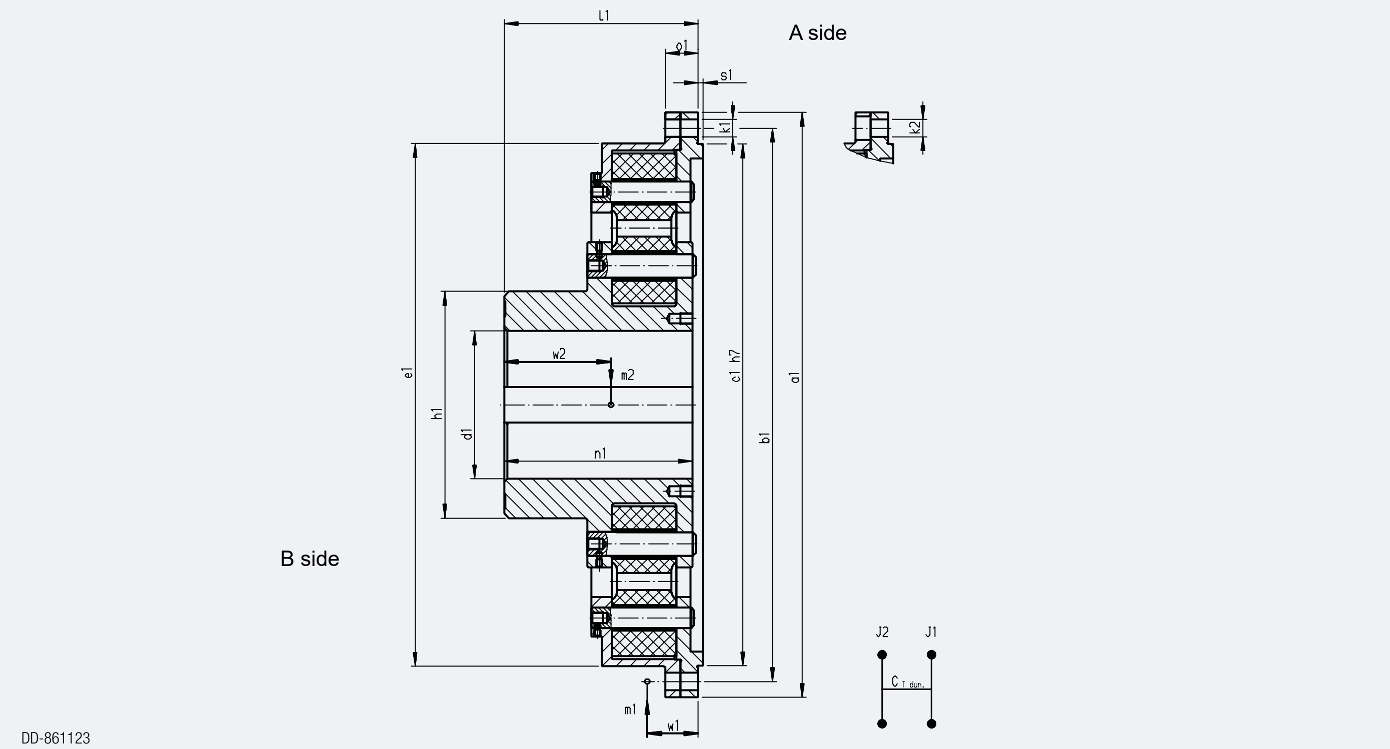
7) The value $P_{KV\,60}$ describes the damping power to be absorbed over 60 minutes.
Permanently absorbed damping power $P_{KV\infty} = 0.5 \cdot P_{KV\,60}$

Adm. radial Displacement	max. radial Displacement	Radial Stiffness	Torsional Stiffness						Relative Damping	Adm. Damping Power
DK_r mm 3) 5)	DK_{rmax} mm	C_r kN/mm 4) 5)	$C_{T\,dyn}$ kNm/rad 1) 4)						y 1) 2) 4)	$P_{KV\,60}$ W 5) 7)
			6)	0.0 x T_{KN}	0.25 x T_{KN}	0.5 x T_{KN}	0.75 x T_{KN}	1.0 x T_{KN}		
w1.5	3.0	0.71		8.5	16.1	28.7	41.4	54.0	1.0	660
			warm	5.6	10.6	18.9	27.3	35.6		
1.5	3.0	0.95		13.1	27.6	51.8	76.0	100	1.0	940
			warm	8.6	18.2	34.2	50.2	66.0		
1.5	3.0	2.47		31	56.7	99.4	142	185	1.0	1080
			warm	20.5	37.4	65.6	93.7	122		
1.5	3.0	2.47		33.8	67.8	125	181	238	1.0	1200
			warm	22.3	44.8	82.5	119	157		
2.5	5.0	3.33		60	116	209	303	396	1.0	1380
			warm	39.6	76.6	138	200	261		
2.5	5.0	5.00		142	235	391	546	702	1.0	1600
			warm	93.7	155	258	360	463		
2.5	5.0	5.00		144	262	458	654	850	1.0	1800
			warm	95.0	173	302	432	561		
2.5	5.0	8.48		275	417	653	890	1126	1.0	2100
			warm	182	275	431	587	743		
2.5	5.0	8.48		282	450	731	1011	1291	1.0	2300
			warm	186	297	483	667	852		
3.0	6.0	14.9		749	943	1267	1590	1913	1.0	2900
			warm	494	622	836	1050	1263		
3.0	6.0	14.9		760	1019	1451	1883	2315	1.0	3600
			warm	502	673	958	1243	1528		
4.0	8.0	15.0		1071	1591	2457	3323	4189	1.0	4200
			warm	707	1050	1622	2193	2765		
4.0	8.0	15.0		1100	1724	2764	3805	4845	1.0	4750
			warm	726	1138	1824	2512	3198		
4.0	8.0	17.5		1857	2889	4610	6330	8050	1.0	5600
			warm	1226	1907	3043	4178	5314		
4.0	8.0	17.5		2398	3789	6107	8425	10744	1.0	6100
			warm	1583	2501	4031	5561	7092		
7.5	15.0	16.7		2648	3793	5702	7611	9519	1.0	6600
			warm	1748	2504	3764	5024	6283		
7.5	15.0	20.0		3178	4552	6843	9133	11424	1.0	6800
			warm	2098	3005	4517	6028	7541		

Stromag – Flexible Couplings

GE couplings

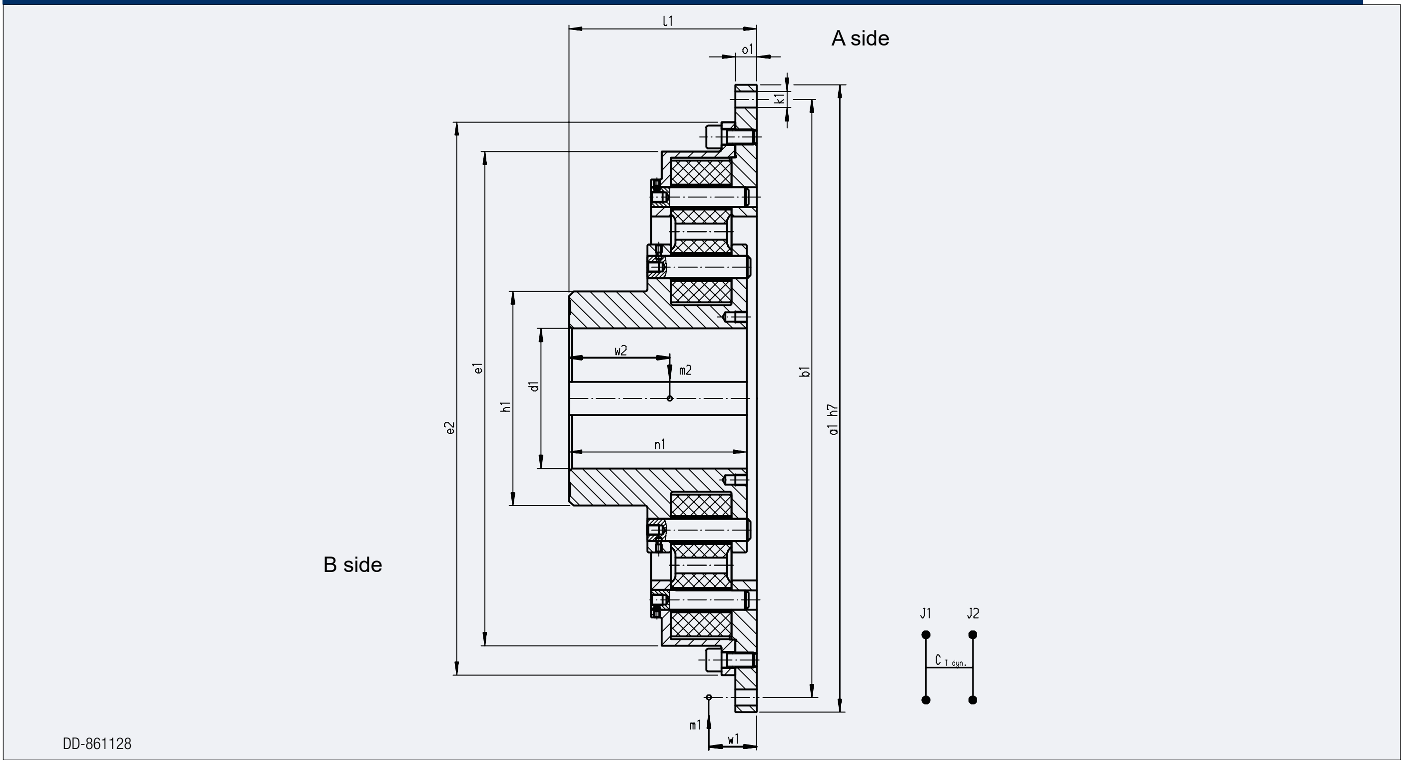
Series GEF...R



Coupling size	200 R	320 R	500 R	700 R	1200 R	1600 R	2100 R	2900 R	3500 R	5000 R	7000 R	9000 R	11000 R	15000 R	18000 R	22500 R	27000 R
Diameter [mm]																	
a_1	340	380	514	514	593	690	690	808	808	958	958	1110	1110	1262	1386	1386	1386
b_1	320	354	486	486	561	650	650	767	767	908	908	1051	1051	1195	1315	1315	1315
c_1	278	328	458	458	529	610	610	726	726	858	858	992	992	1128	1244	1244	1244
$d_{1\,vor}$	35	45	60	60	80	90	90	120	120	140	140	160	160	180	200	210	210
$d_{1\,max}$	70	90	120	120	150	180	180	220	220	280	280	320	320	360	400	420	420
e_1	300	329	460	460	530	612	612	726	726	860	860	995	995	1135	1236	1235	1235
h_1	110	140	180	180	230	270	270	330	330	385	385	480	480	540	600	590	590
Bore [mm]																	
k_1	12x 11	12x 13.5	16x 17.5	16x 17.5	16x 17.5	16x 22	16x 22	16x 26	16x 26	16x 33	16x 33	16x 36	16x 36	16x 36	24x 38	24x 38	24x 38
k_2	2x 6.6	2x 6.6	2x 9	2x 9	2x 11	2x 13.5	2x 13.5	2x 13.5	2x 13.5	2x 17.5	2x 17.5	2x 22	2x 22	2x 22	2x 22	2x 22	2x 22
Lengths [mm]																	
l_1	136	136	156	156	196	242	242	264	264	330	330	370	370	413	448	670	670
n_1	135	135	155	155	190	235	235	260	260	325	325	367	367	410	440	665	665
o_1	18	18	24	24	33	43	43	40	40	45	45	47	47	47	54	80	80
s_1	3	3	4	4	5	5	5	6	6	8	8	8	8	8	8	10	10
w_1	27	25	33	33	43	48	48	56	56	70	70	82	82	80	78	132	131
w_2 *)	72	71	82	82	101	128	128	139	139	184	184	201	201	241	262	387	390
Masses m [kg]																	
m_1	12	14	31	31	46	80	80	110	110	178	178	292	292	324	412	755	779
m_2 *)	9	14	37	37	47	83	83	135	135	220	220	358	358	594	798	998	1020
m_{ges}	21	28	68	68	93	163	163	245	245	398	398	650	650	936	1210	1753	1799
Mass mom. of inertia J [kgm²]																	
J_1	0.23	0.34	1.37	1.37	2.65	6.81	6.81	11.77	11.77	28.15	28.15	63.00	63.00	98.32	145.8	255.1	262.6
J_2 *)	0.03	0.07	0.24	0.24	0.59	1.45	1.45	2.94	2.94	8.81	8.81	19.40	19.40	44.22	73.57	91.33	94.20

*) at max. bore diameter
Other coupling sizes on request
Dimensions and construction subject to change

Series GEF...R (SAE)

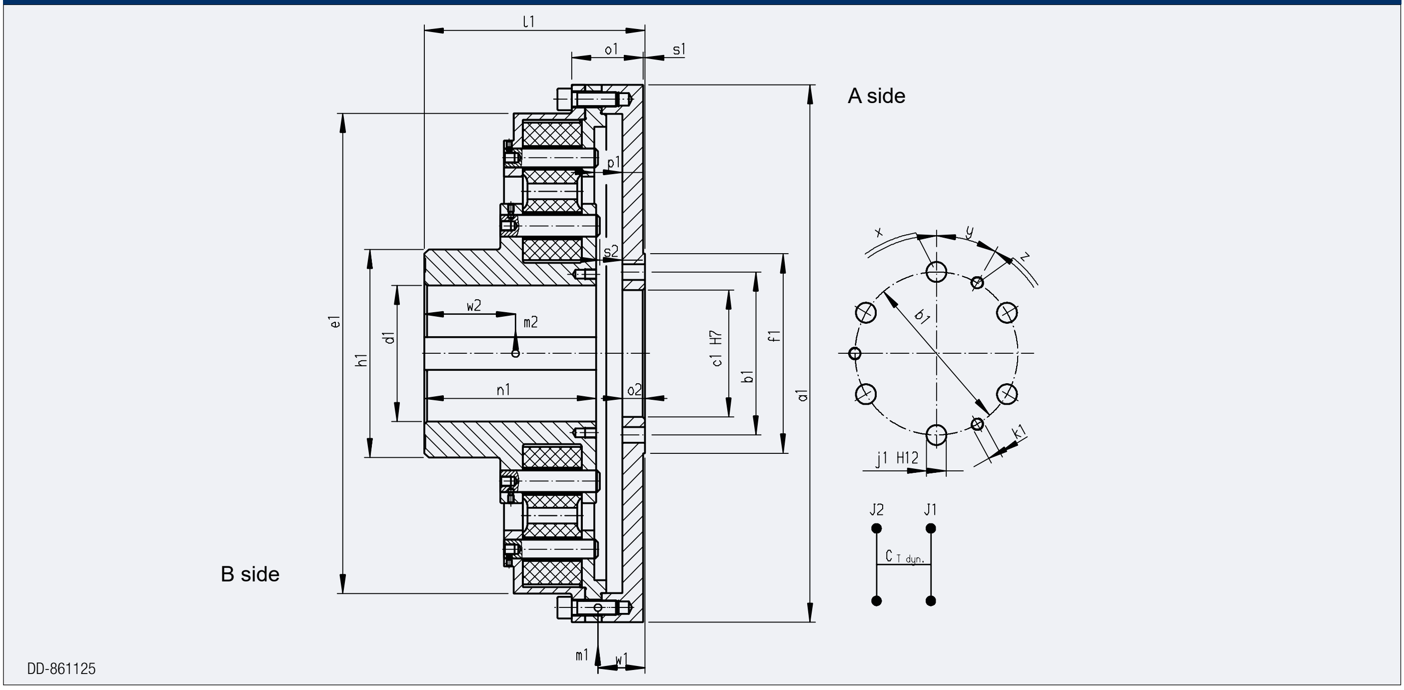


Coupling size	200 R	200 R	320 R	320 R	320 R	320 R	320 R	500 R 700 R	500 R 700 R	500 R 700 R	1200 R	1200 R	1600 R 2100 R
SAE connection	14"	16"	14"	16"	18"	18"	21"	16"	18"	21"	21"	24"	21"
Diameter [mm]													
a_1	466.7	517.5	466.7	517.5	571.5	571.5	673.1	517.5	571.5	673.1	673.1	733.4	673.1
b_1	438.2	488.9	438.2	488.9	542.9	542.9	641.4	488.9	542.9	641.4	641.4	692.2	641.4
c_1	35	35	45	45	45	45	45	60	60	60	80	80	90
$d_{1\ vor}$	70	70	90	90	90	90	90	120	120	120	150	150	180
$d_{1\ max}$	300	300	329	329	329	329	329	460	460	460	530	530	612
e_1	340	340	380	380	380	380	380	517.5	514	514	593	593	673.1
h_1	110	110	140	140	140	140	140	180	180	180	230	230	270
Bore [mm]													
k_1	8x 13.5	8x 13.5	8x 13.5	8x 13.5	6x 17.5	12x 17.5	12x 17.5	8x 13.5	12x 17.5	12x 17.5	12x 17.5	12x 20	12x 17.5
Lengths [mm]													
l_1	139	139	139	139	139	139	139	160	160	160	200	200	247
n_1	135	135	135	135	135	135	135	155	155	155	190	190	235
o_1	13	13	13	13	13	13	28	16	16	16	23	23	48
w_1	19	17	20	18	17	17	14	30	30	23	33	30	58
w_2 *)	72	72	71	71	71	71	71	82	82	82	101	101	128
Masses m [kg]													
m_1	21	25	21	25	30	30	40	33	40	52	70	82	77
m_2 *)	9	9	14	14	14	14	14	37	37	37	47	47	83
m_{ges}	30	34	35	39	44	44	54	70	77	89	117	129	160
Mass mom. of inertia J [kgm²]													
J_1	0.59	0.83	0.63	0.71	1.21	1.21	2.19	1.50	1.98	3.18	4.90	6.37	6.33
J_2 *)	0.03	0.03	0.07	0.07	0.07	0.07	0.07	0.24	0.24	0.24	0.59	0.59	1.45

*) at max. bore diameter
Other coupling sizes on request
Dimensions and construction subject to change

GE couplings

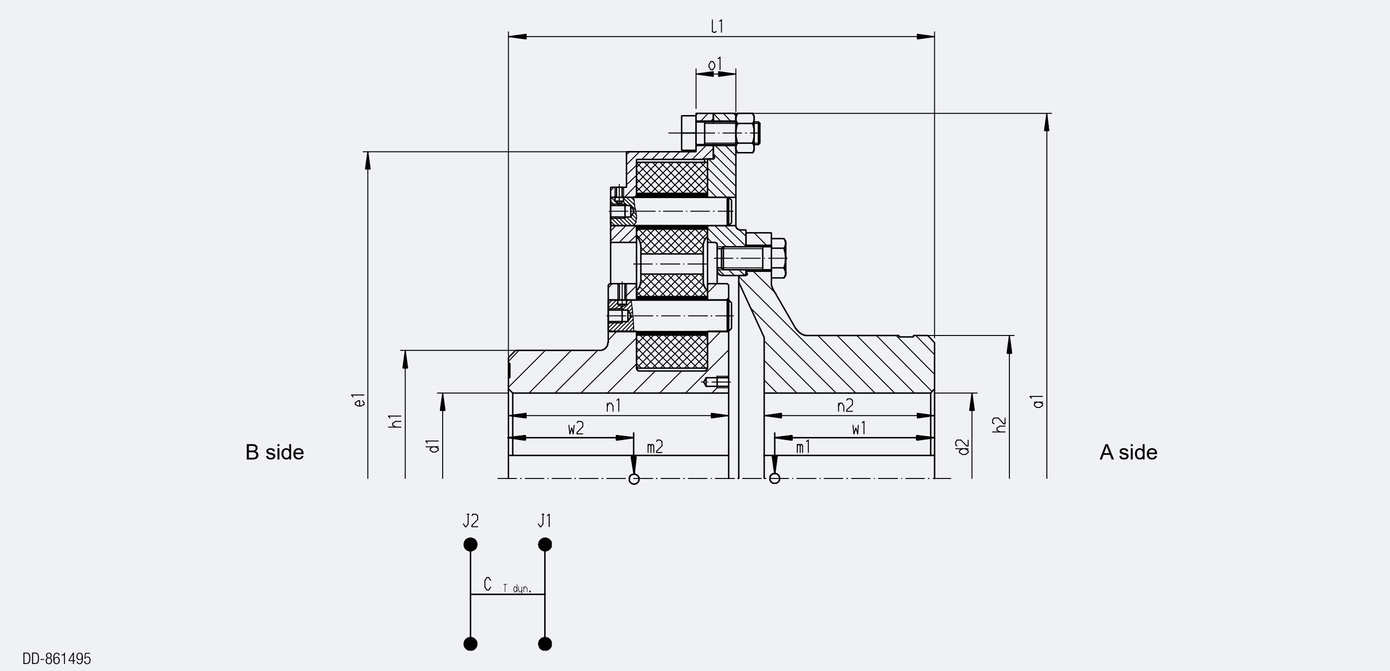
Series GET...R



Coupling size	200 R	320 R	500 R	700 R	1200 R	1600 R	2100 R	2900 R	3500 R	5000 R	7000 R	9000 R	11000 R
Diameter [mm]													
a_1	340	380	514	514	593	690	690	808	808	958	958	1110	1110
b_1	198	198	230	230	264	322	322	378	378	480	480	565	565
c_1	172	172	200	200	234	287	287	334	334	420	420	500	500
$d_{1\ vor}$	35	45	60	60	80	90	90	120	120	140	140	160	160
$d_{1\ max}$	70	90	120	120	150	180	180	220	220	280	280	320	320
e_1	300	329	460	460	530	612	612	726	726	860	860	995	995
f_1	230	230	271	271	298	358	358	420	420	540	540	630	630
h_1	110	140	180	180	230	270	270	330	330	385	385	480	480
Bore [mm]													
j_1	20	20	20	20	22	22	22	26	26	33	33	33	33
k_2	M12	M12	M14	M14	M14	M16	M16	M20	M20	M24	M24	M27	M27
Lengths [mm]													
l_1	173	173	205	205	243	294	294	337	337	411	411	472	472
n_1	135	135	155	155	190	235	235	260	260	325	325	367	367
o_1	53	53	70	70	77	91	91	108	108	121	121	144	144
o_2	18	18	23	23	29	32	32	32	32	35	35	50	50
p_1	20	20	27	27	24	27	27	45	45	51	51	55	55
s_1	2	2	3	3	4	4	4	5	5	5	5	5	5
s_2	2	2	2	2	3	5	5	5	5	5	5	5	5
w_1	39	37	47	47	52	61	61	75	75	89	89	102	102
w_2 *)	72	71	82	82	101	128	128	139	139	184	184	201	201
Angles [°]													
x	6x60°	6x60°	6x60°	6x60°	6x60°	8x45°	8x45°	8x45°	8x45°	8x45°	8x45°	12x30°	12x30°
y	30°	30°	30°	30°	30°	22.5°	22.5°	22.5°	22.5°	22.5°	22.5°	15°	15°
z	3x120°	3x120°	3x120°	3x120°	3x120°	4x90°	4x90°	4x90°	4x90°	4x90°	4x90°	6x60°	6x60°
Masses m [kg]													
m_1	25	30	67	67	101	161	161	233	233	369	369	634	634
m_2 *)	9	14	38	38	47	83	83	135	135	220	220	358	358
m_{ges}	34	44	105	105	148	244	244	368	368	589	589	992	992
Mass mom. of inertia J [kgm²]													
J_1	0.50	0.72	2.94	2.94	5.63	12.91	12.91	25.06	25.06	57.57	57.57	129.0	129.0
J_2 *)	0.03	0.07	0.24	0.24	0.59	1.45	1.45	2.94	2.94	8.81	8.81	19.40	19.40

*) at max. bore diameter Other coupling sizes on request Dimensions and construction subject to change

Series GEW...R



Coupling size	200 R	320 R	500 R	700 R	1200 R	1600 R	2100 R	2900 R	3500 R	5000 R	7000 R	9000 R	11000 R	15000 R	18000 R	22500 R	27000 R
Diameter [mm]																	
a_1	340	380	514	514	593	690	690	808	808	958	958	1110	1110	1262	1386	1386	1386
$d_{1\ vor}$	35	45	60	60	80	90	90	120	120	140	140	160	160	180	200	210	210
$d_{1\ max}$	70	90	120	120	150	180	180	220	220	280	280	320	320	360	400	420	420
$d_{2\ vor}$	35	45	60	60	80	90	90	120	120	140	140	160	160	180	200	210	210
$d_{2\ max}$	90	100	135	135	170	250	250	270	270	300	300	350	350	400	440	480	480
e_1	300	329	460	460	530	612	612	726	726	860	860	995	995	1135	1236	1225	1225
h_1	110	140	180	180	230	270	270	330	330	385	385	480	480	540	600	590	590
h_2	135	160	200	200	250	360	360	380	380	440	440	525	525	600	660	675	720
Lengths [mm]																	
l_1	250	265	300	300	365	460	460	520	520	651	651	728	728	860	906	1147	1150
n_1	135	135	155	155	190	235	235	260	260	325	325	367	367	410	440	665	665
n_2	100	115	120	120	150	200	200	220	220	280	280	320	320	405	400	420	420
o_1	18	21	28	28	33	43	43	39	39	46	46	49	49	55	54	80	80
w_1 *)	110	114	136	136	161	189	189	221	221	281	281	305	305	355	350	430	416
w_2 *)	72	71	82	82	101	128	128	139	139	184	184	201	201	241	262	388	392
Masses m [kg]																	
m_1*)	24	33	66	66	100	203	203	273	273	477	477	743	743	1098	1253	1806	1903
m_2 *)	9	14	38	38	47	83	83	135	135	220	220	358	358	593	798	1001	1021
m_{ges}	33	47	104	104	147	286	286	408	408	697	697	1101	1101	1691	2051	2807	2924
Mass mom. of inertia J [kgm²]																	
J_1*)	0.30	0.49	2.04	2.04	3.73	10.88	10.88	19.75	19.75	47.75	47.75	97.00	97.00	179.3	235.3	392.8	413.2
J_2 *)	0.03	0.07	0.24	0.24	0.59	1.45	1.45	2.94	2.94	8.81	8.81	19.40	19.40	44.22	73.57	91.89	94.01

*) at max. bore diameter   Other coupling sizes on request   Dimensions and construction subject to change

Characteristics

T_{KN}	
The coupling's nominal torque can be permanently transferred over the whole permitted speed range. It must be higher than the system's nominal torque T_N.	$T_{KN} \geq T_N$

T_{Kmax}	
The maximum torque of the Stromag GE Couplings is 3 times greater than the nominal torque and is decisive for the fatigue strength of the coupling. The coupling´s max. torque T_{Kmax} can be endured as a peak load and may not be exceeded by peak torques T_{max} when the system is operating in normal, nonstationary mode. A system's normal, nonstationary modes are unavoidable and occur repeatedly (e.g. starting/stopping, resonance passes, switchovers, accelerations, etc.).	$T_{Kmax} = 3 \cdot T_{KN}$ $T_{Kmax} \geq T_{Kmax1}$
The coupling´s max. torque T_{Kmax} can be endured as a peak load and may not be exceeded by peak torques T_{max2} when the system is operating in anomalous, nonstationary mode. A system's anomalous, nonstationary modes are avoidable and are not part of the planned operating scheme (e.g. emergency stops, sync failure, short circuits, etc.). Overloading the Stromag GE coupling with peak torques T_{max2} in a system's anomalous, nonstationary mode shortens the service life and is tolerated in individual cases. T_{Kmax2}) can be 4.5 times larger than the rated torque.	$T_{Kmax} \geq T_{Kmax2}$ $T_{Kmax(2)} = 4.5 \cdot T_{KN}$

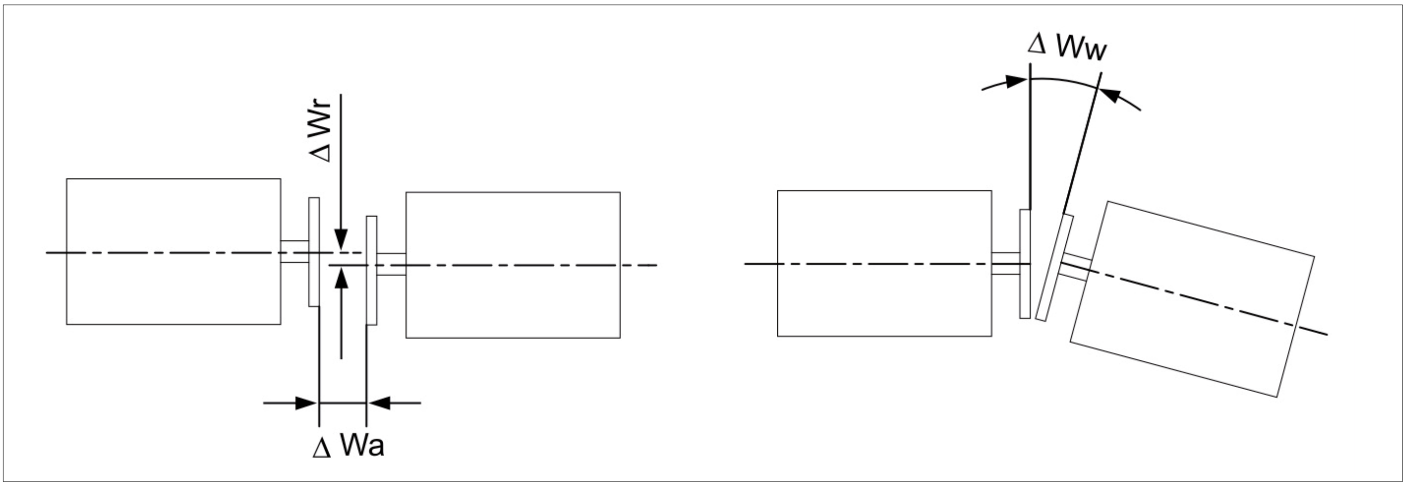
T_{Kw}
The admissible permanent alternating torque describes the amplitude of the max permanent periodic torque variation. This torque may be superimposed on a base load equal to T_{KN}. This requires in addition an analysis of the max damping power P_{KV}.

ΔK_a	
Max axial displacement of the coupling. The shaft's axial displacement ΔW_a must be less than ΔK_a.	$\Delta K_a \geq \Delta W_a$

ΔK_r	
Max radial displacement of the coupling. The shaft's radial displacement ΔW_r must be less than ΔK_r.	$\Delta K_r \geq \Delta W_r$
The values of Δ_{Kr} for the Stromag GE coupling refer to coupling shaft speeds up to 600 rpm. The conversion to other speeds is made by the equation	$\Delta K_r (n) = \sqrt{\frac{600 \text{ rpm}}{n}} \cdot \Delta K_r$
With ambient temperatures higher than 30°C, the admissible radial offset must be reduced by the temperature factor $S_{\vartheta Kr}$.	$\Delta K_r (T_U) = \frac{\Delta K_r}{S_{\vartheta Kr}}$

ΔK_w	
Max angular displacement of the coupling. The shaft's angular displacement ΔW_W must be less than ΔK_W. A Δ_{KW} value of 0.5° is permitted for GE couplings. This value, however, may be utilised to the full only when there are no other options for shaft displacement.	$\Delta K_w \geq \Delta W_w$

Characteristics



C_a	
The axial stiffness indicates the axial restoring force after axial displacement. At ambient temperatures above 30°C, the specified values must be reduced by temperature factor $S_{\vartheta C}$; see diagram on page 19.	$C_a(T_U) = \frac{C_a}{S_{\vartheta C}}$

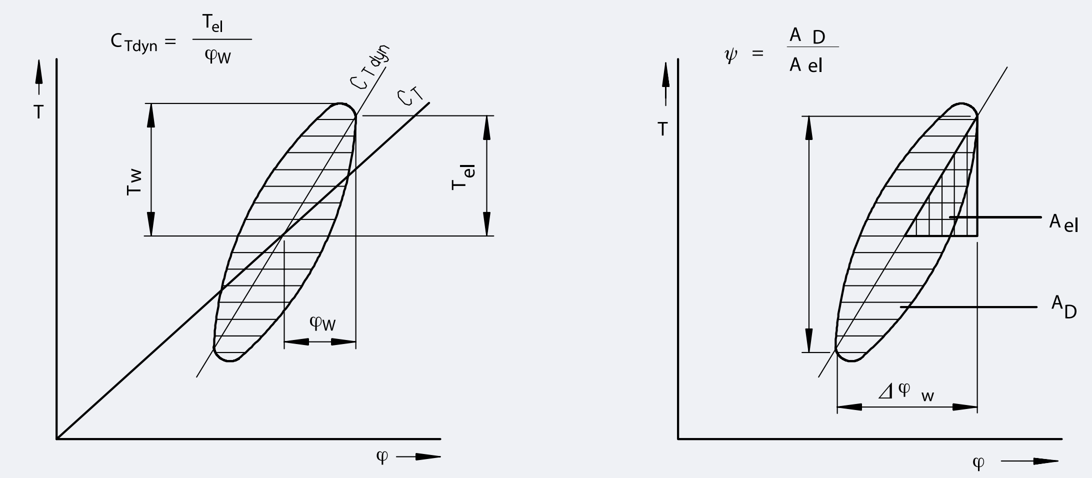
C_r	
The radial stiffness indicates the radial restoring force after radial displacement. For ambient temperatures above 30°C, the indicated values must be reduced by the temperature factor $S_{\vartheta C}$; see diagram on page 19.	$C_r(T_U) = \frac{C_r}{S_{\vartheta C}}$

C_{Tdyn}	
The dynamic torsional stiffness indicates the ratio of torque amplitude to torsion angle amplitude during an ascillation. For Stromag GE couplings the C_{Tdyn} value increases over the coupling torque (progressive characteristic) and also changes depending on the amplitude, the frequency and the temperature of the flexible element. C_{Tdyn} data relate to a coupling alternating torque of $0.2 \cdot T_{KN}$ and a frequency of 10 Hz for coupling at ambient temperature of up to 30°C. $C_{Tdyn\ warm}$ is additionally indicated, for the operation of the coupling under high power loss.	$C_{Tdyn} = \frac{T_{el}}{\varphi_w}$

GE couplings

Characteristics

Ψ	
The relative damping is a factor for the capacity of a coupling to convert a part of the occurring cyclic energy into heat. The damping can be determined by the damping loop (hysteresis loop). The area A_D is a factor for the damping work W_D during a vibration cycle. The area A_{el} represents the work done in deflection W_{el} at a given load. The specified nominal values for ϑ are based on a coupling torque of $0.8 \bullet T_{KN}$, an alternating torque of $0.2 \bullet T_{KN}$, and a frequency of 10 Hz on a coupling at operating temperature, with a surface temperature of about 30°C.	$\Psi = \frac{W_D}{W_{el}} = \frac{A_D}{A_{el}}$



P_{KV}
The admissible damping power indicates how much damping (heat) the coupling can permanently absorb resp. dissipate. The sum of the damping power of each vibration order (i.e. ΣP_{Vi})) must be less than the damping power of the coupling.

$$P_{vi} = \frac{\pi}{\sqrt{\left(\frac{2\pi}{\Psi}\right)^2 + 1}} \bullet \frac{T_{wi}^2 \bullet f_i}{C_{Tdyn}}$$

$$P_{KV} \geq \Sigma P_{Vi}$$

The stated value P_{KV60} describes the damping power which can be absorbed over the period of 1 hour. To determine the damping power which can be permanently absorbed ($P_{KV\infty}$), the value P_{KV60} has to be multiplied by the factor 0.5. With an ambient temperature T_U higher than 30°C, the admissible damping power must be reduced by the temperature factor $S_{\vartheta PKV}$.	$P_{KV}(T_U) = \frac{P_{KV}}{S_{\vartheta PKV}}$

Characteristics

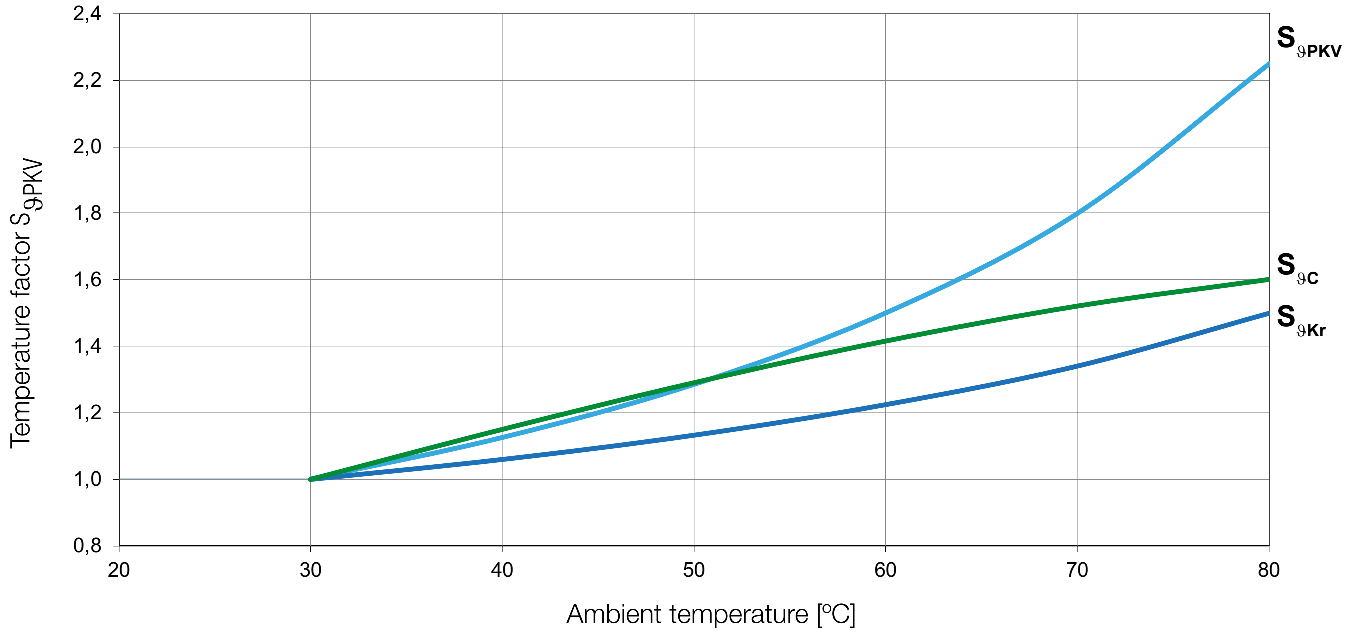
Temperature factors $S_{\vartheta Kr}$. $S_{\vartheta PKV}$ and $S_{\vartheta C}$

Temperature factors shall take into consideration the reduction of the physical characteristics of rubber-flexible material caused by heating.

The coupling temperature is determined by the ambient temperature plus an internal heating caused by internal material friction
in the rubber volume, resulting from alternating torques and alternating loads due to shaft offsets.

With higher ambient temperatures the coupling characteristic values ΔK_r and P_{KV} must be reduced through the corresponding temperature factors $S_{\vartheta Kr}$ and $S_{\vartheta PKV}$.

C_r and C_a are set to a value that is reduced by the temperature factor $S_{\vartheta C}$ due to heat.



Coupling Design, question sheet

MAIN ENGINE		
Engine type (electric, combustion engine, etc.)		
Engine full designation		
Engine installation (rigid or flexible)		
Engine housing (SAE)		
Flywheel connection		Inch
Engine mass moment of inertia		kgm²
Flywheel mass moment of inertia (for combustion engine)		kgm²
Nominal power		kW
Nominal speed		rpm
Speed range (if application operates within a speed range)		rpm
Maximum torque (breakdown torque)		Nm
GEAR		
Gear ratio		
Moment of inertia		kgm²
CARDAN SHAFT		
Type of cardan shaft deflection ("z" or "w")		
Cardan shaft type (manufacturer, size)		
Deflection angle		°
Moment of inertia		kgm²
Length of the cardan shaft		mm
DRIVEN SIDE		
Type (generator, fan, compressor, fixed or variable pitch propeller)		
Main or auxiliary drive		
Type of construction (free-standing or flange-mounted?)		
Free-standing type (rigid or flexible installation?)		
Number of blades (in case of propeller application)		
Moment of inertia of driven side		kgm²
Shaft length (l) and diameter (d)		mm
COUPLING		
Location in the drive train (enclose schematic diagram)		
Bore dimension for coupling hub		mm
Ambient temperature near the coupling		°C. °K
Maximum permissible coupling length		mm
Classification society		
ATEX certification		
Ice class		

Use in potentially explosive environments, question sheet

Applications		○	Group II (above ground)
Potentially explosive atmosphere of air and		○	gas
		○	dust
Zone (Category)	gas	○	Zone 1 (Category 2G)
		○	Zone 2 (Category 3G)
	dust	○	Zone 22 not electrically conducting (Category 3D)
Temperature category in atmosphere with gas	gas	○	T1
		○	T2
		○	T3
		○	T4
Max surface temperature	dust	○	125 °C
		○	< 120 °C
		○	-20 °C to + 40 °C
Ambient temperature		○	other ambient temperatures only with certain restrictions

Notes

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P-8675-SG-A4 I E-861-90000F 08/23