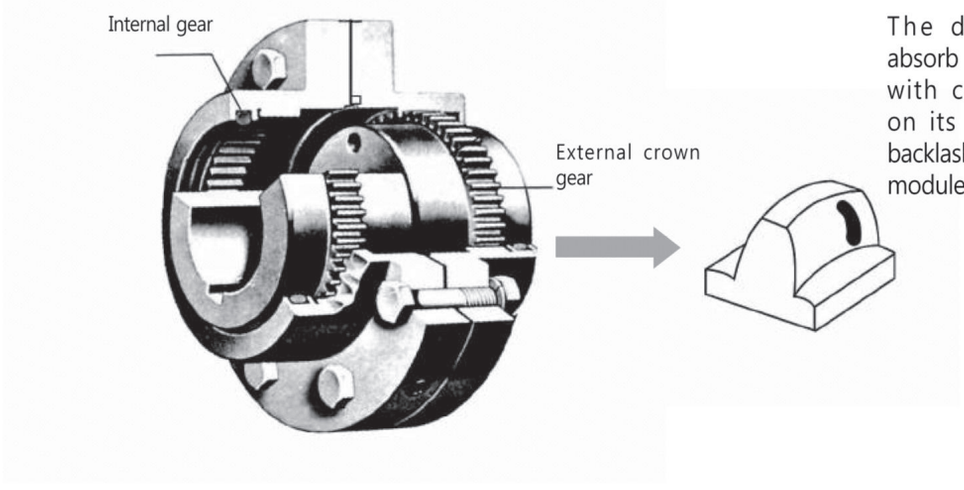
GEAR

COUPLING

GEAR COUPLING

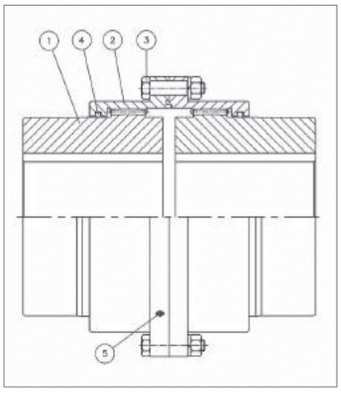
FEATURE

1. It is much smaller and lighter than any other couplings even it has the capacity of handling heavy loads. Noise or vibrations is hardly produced even in high speed operation.
2. Gear coupling has no difference of rotation angles between two shafts due to coupling deflection, therefore it can use a connected middle shaft or working at high speed and heavy duty applications.
3. The flexible coupling using crowned teeth features high durability and excellent wear resistant.
4. If the shaft take any misalignment, the gear coupling is possible to adjust and absorb the misalignment. So it transmitted the power smoothly and protects the machine from over loads.

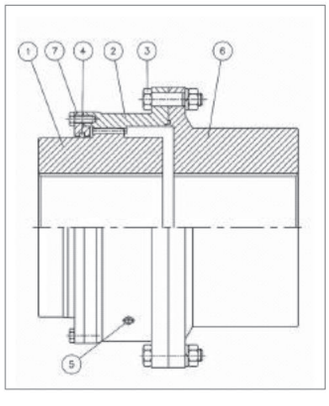


The displacement absorb it by the gears with crowned teeth on its hubs and the backlash and low-teeth module on its sleeves.

STRUCTURE

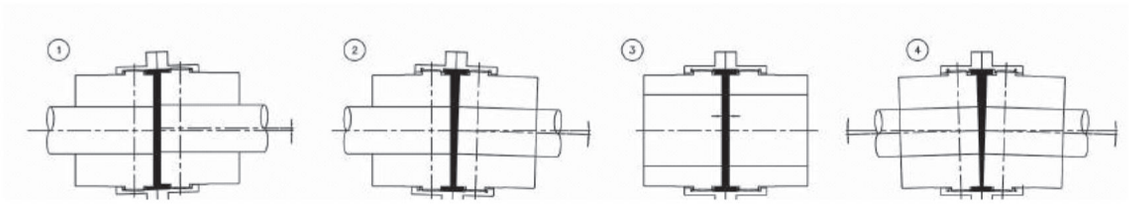


PARTS	
①	HUB
②	SLEEVE
③	REAMER BOLTS
④	O-RINGS
⑤	OIL PLUGS
⑥	FLANGE
⑦	SIDE COVER



MISALIGNMENT CAPACITY

1. The type of misalignment



① **Parallel misalignment : The driving shaft and driven shaft are parallel to each other but not on the same straight line.**

② **Angular misalignment : The driving shaft and driven shaft cross to each other but not on the same straight line.**

③ **Axial Misalignment : The driving shaft and driven shaft are on the same line but the distance between the two shaft varies (The permissible axial misalignment is ±25% of C)**

④ **Composite misalignment : The driving shaft and driven shaft do not cross to each other nor are they parallel to each other.**

2. Allowable misalignment

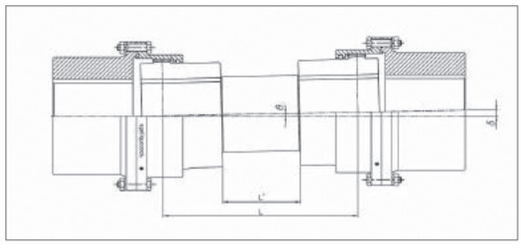
SSM, CCM type

Size	Parallel (mm)	Axial (mm)	Angular (°)
112	1.00	2.0	3°
125	1.00	2.5	3°
140	1.25	2.5	3°
160	1.25	3.0	3°
180	1.50	3.0	3°
200	1.50	3.0	3°
224	1.50	4.0	3°
250	2.00	4.0	3°
280	2.00	4.5	3°
315	2.50	5.5	3°
355	3.00	5.5	3°
400	3.00	6.5	3°
450	3.00	5.0	2°
500	3.50	6.0	2°
560	4.00	6.5	2°
630	4.50	8.0	2°
710	5.00	8.5	2°
800	5.50	9.5	2°
900	6.50	10.5	2°
1000	7.00	12.0	2°
1120	8.00	13.0	2°

GD, GDL type

Size	Parallel (mm)	Axial (mm)	Angular (°)
10	1.0	1.5	3°
15	1.3	1.5	3°
20	1.6	2.0	3°
25	2.0	3.0	3°
30	2.5	3.0	3°
35	3.0	3.0	3°
40	3.4	3.5	3°
45	3.7	4.0	3°
50	4.0	4.0	3°
55	4.5	5.0	3°
60	5.0	5.0	3°
70	6.0	5.0	2°
80	6.6	5.0	2°
90	7.5	5.0	2°
100	8.4	6.0	2°
110	12.3	6.0	2°
120	12.7	8.0	2°

- The allowable misalignment is for double engagement(SSM,CCM, GD, GDL). For the single engagement(SEM, CEM, GS,GSL), the allowable misalignment is a half of the value shown in the table.



One single engagement type is applied with the two units in combination which uses a floating shaft as shown aside. In this case, offset misalignment should be determined from the following equation.

$$\delta = L \times \tan\theta$$

Usually taking as (L) ≒ (L') if you are unknown the dimension of (L).

INSTALLATION

1. For the accurate alignment of shafts, please use the feeler gauge and dial indicator.
2. The maximum rpm of coupling can be increased by adjusting the alignment and improving the sleeve balancing on the high speed.
3. Install and use as shown in Table 1 below.

Service type	Recommended	Unrecommended
Single Engagement	(1) (2)	(5) (6)
Double Engagement with Floating shaft	(3)	(7)
Combined the single and double engagement	(4)	(8)

Symbol				
	Double	Single	Fixed bearing	Self aligning bearing

(Table 1)

LUBRICATION

Gear couplings must use appropriate lubricants to maintain sufficient function and life. Since the injection of lubricant forms an oil film on the contact surface of the teeth, it increases the wear resistance of the teeth and prevents noise and temperature rise.

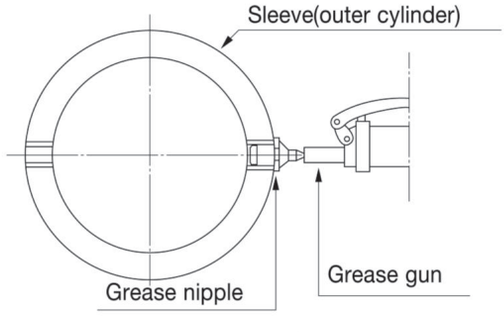
1. Method

① After applying enough grease to the teeth of the sleeve and hub, fasten the reamer bolt and fill it with grease using a grease gun (Fig. 5) through the plug hole.
② At this time, the plug on the other side of the grease nipple must be disassembled for grease injection. When grease is finished, remove the grease nipple and assemble the plug.
③ You should replenish the grease after 3 months or 2,000 hours running at the beginning.
④ After 6 months or 4,000 hours running, the coupling must be disassembled and get rid of the deteriorated grease. Then replenish the grease for use.
⑤ The range of grease temperature will be −17°C~70°C, you choose the grease according to the RPM and circumstance.
⑥ Refer to the specification table of each coupling for the amount of grease injected.

2. Refer to the table below for recommended greases.

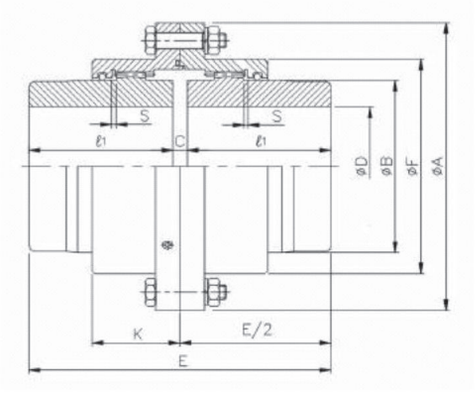
Company	Grease types
GULF	Gulf Crown EP#1
SHELL	Gadus S2 V220 1
TEXACO	Multfak EP-1
MOBIL	Mobilux EP-1

(Table 2)

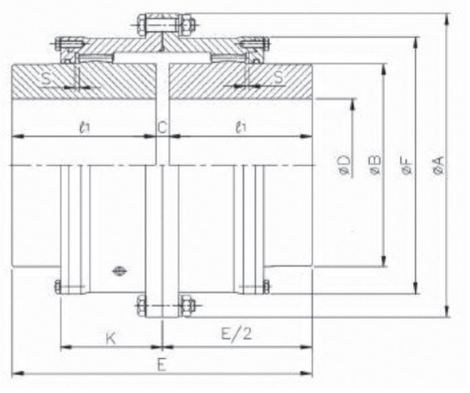


(Fig 1)

DIMENSION



SSM



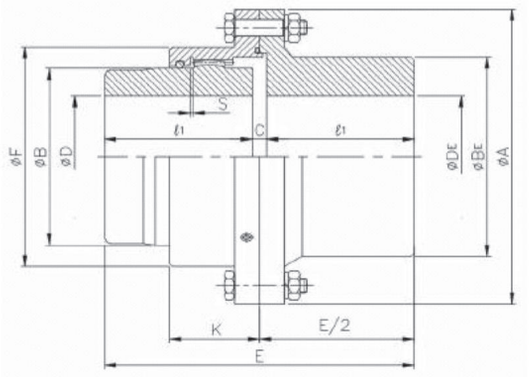
CCM

Size	Torque rating (kgf • m)	Allow speed (rpm)	Dimension(mm)								Grease (kg)	Weight (kg)	GD² (kgf • m²)
			Bore(D) Max.	E	ℓ1	C	B	F	K	S			
SSM112	80.3	4,000	40	108	50	8	58	79	40	2.0	0.055	4.3	0.0198
SSM125	142.0	4,000	50	134	63	8	70	92	43	2.5	0.072	6.6	0.0353
SSM140	205.0	4,000	56	150	71	8	80	107	47	2.5	0.110	9.3	0.0612
SSM160	314.0	4,000	65	170	80	10	95	120	52	3.0	0.140	14.0	0.1130
SSM180	482.0	4,000	75	190	90	10	105	134	56	3.0	0.180	19.0	0.1910
SSM200	689.0	3,810	85	210	100	10	120	149	61	3.0	0.240	26.0	0.3150
SSM224	1,000.0	3,410	100	236	112	12	145	174	65	4.0	0.360	39.0	0.5990
SSM250	1,470.0	3,050	115	262	125	12	165	200	74	4.0	0.530	55.0	1.0800
SSM280	2,340.0	2,720	135	294	140	14	190	224	82	4.5	0.690	81.0	2.0600
SSM315	3,680.0	2,420	160	356	170	16	225	260	98	5.5	1.100	129.0	4.2400
SSM355	5,550.0	2,150	180	396	190	16	250	288	108	5.5	1.300	177.0	7.1300
SSM400	7,790.0	1,900	200	418	200	18	285	330	114	6.5	2.000	242.0	12.5000

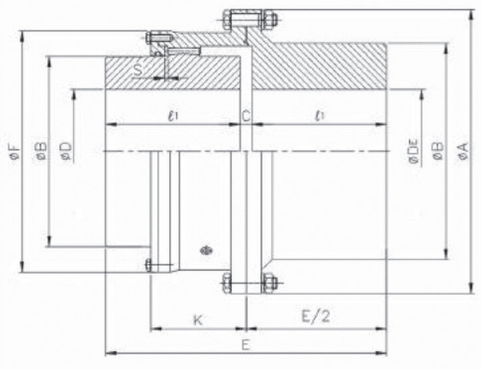
Size	Torque rating (Tonf • m)	Allow speed (rpm)	Dimension(mm)								Grease (kg)	Weight (kg)	GD² (kgf • m²)
			Bore(D) Max.	E	ℓ1	C	B	F	K	S			
CCM450	11.0	1,690	205	418	200	18	290	372	151	5.0	2.6	298	16.6
CCM500	16.6	1,520	250	494	236	22	335	424	168	6.0	3.8	446	36.9
CCM560	26.5	1,360	280	552	265	22	385	472	187	6.5	4.6	642	67.6
CCM630	42.0	1,210	325	658	315	28	455	544	213	8.0	6.7	1,010	137.0
CCM710	61.2	1,070	360	738	355	28	510	622	242	8.5	9.4	1,440	250.0
CCM800	87.5	950	405	832	400	32	570	690	267	9.5	13.0	2,030	441.0
CCM900	125.0	840	475	932	450	32	670	792	295	10.5	17.0	3,030	860.0
CCM1000	171.0	760	510	1,040	500	40	720	858	322	12.0	23.0	4,120	1,380.0
CCM1120	240.0	682	600	1,160	560	40	840	990	360	13.0	31.0	5,920	2,650.0
CCM1250	331.0	610	710	1,460	710	40	960	1,126	399	14.0	45.0	9,410	5,290.0

※ The values of weight and GD² are only for without machining.

DIMENSION



SEM



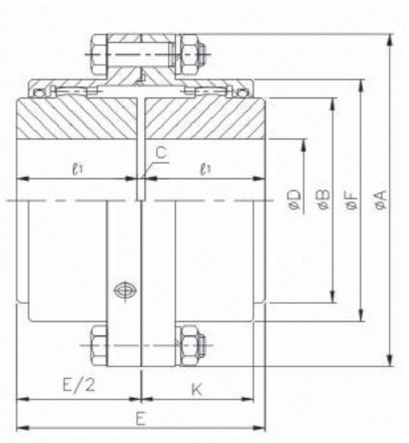
CEM

Size	Torque rating (kgf • m)	Allow speed (rpm)	Dimension(mm)										Grease (kg)	Weight (kg)	GD² (kgf • m²)
			Bore(D)		E	ℓ1	C	B	BE	F	K	S			
			Max. (D)	Max. (DE)											
SEM112	80.3	4,000	40	50	108	50	8	58	70	79	40	2.0	0.042	4.6	0.0197
SEM125	142.0	4,000	50	56	134	63	8	70	80	92	43	2.5	0.056	6.7	0.0348
SEM140	205.0	4,000	56	63	150	71	8	80	90	107	47	2.5	0.085	9.3	0.0591
SEM160	314.0	4,000	65	75	170	80	10	95	105	120	52	3.0	0.110	14	0.1110
SEM180	482.0	4,000	75	80	190	90	10	105	115	134	56	3.0	0.140	19	0.1830
SEM200	689.0	3,810	85	95	210	100	10	120	135	149	61	3.0	0.180	26	0.3170
SEM224	1,000.0	3,410	100	105	236	112	12	145	150	174	65	4.0	0.290	38	0.5790
SEM250	1,470.0	3,050	115	125	262	125	12	165	180	200	74	4.0	0.410	56	1.0800
SEM280	2,340.0	2,720	135	150	294	140	14	190	210	224	82	4.5	0.560	83	2.1400
SEM315	3,680.0	2,420	160	180	356	170	16	225	250	260	98	5.5	0.900	135	4.5500
SEM355	5,550.0	2,150	180	200	396	190	16	250	275	288	108	5.5	1.100	184	7.5000
SEM400	7,790.0	1,900	200	236	418	200	18	285	325	330	114	6.5	1.600	261	14.1000

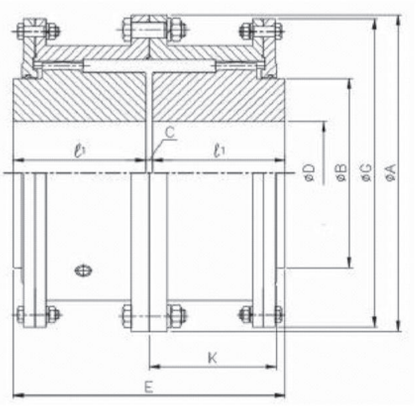
Size	Torque rating (Tonf • m)	Allow speed (rpm)	Dimension(mm)										Grease (kg)	Weight (kg)	GD² (kgf • m²)
			Bore(D)		E	ℓ1	C	B	BE	F	K	S			
			Max. (D)	Max. (DE)											
CEM450	11.0	1,690	205	225	418	200	18	290	320	372	151	5.0	2.1	304	18.2
CEM500	16.6	1,520	250	270	494	236	22	335	380	424	168	6.0	3.1	453	37.0
CEM560	26.5	1,360	280	305	552	265	22	385	430	472	187	6.5	3.8	664	70.0
CEM630	42.0	1,210	325	355	658	315	28	455	500	544	213	8.0	5.8	1,020	139.0
CEM710	61.2	1,070	360	400	738	355	28	510	565	622	242	8.5	7.8	1,460	252.0
CEM800	87.5	950	405	450	832	400	32	570	635	690	267	9.5	11.0	2,090	451.0
CEM900	125.0	840	475	510	932	450	32	670	715	792	295	10.5	14.0	3,020	743.0
CEM1000	171.0	760	510	570	1,040	500	40	720	800	858	322	12.0	20.0	4,130	1,440.0
CEM1120	240.0	682	600	640	1,160	560	40	840	900	990	360	13.0	26.0	5,970	2,810.0
CEM1250	331.0	610	710	800	1,460	710	40	960	1,060	1,126	399	14.0	37.0	9,820	5,630.0

※ The values of weight and GD² are only for without machining.

DIMENSION



GD



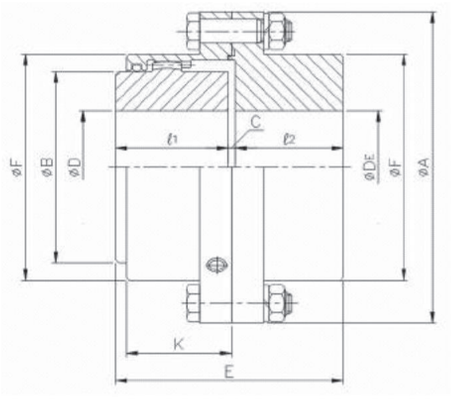
GDL

Size	Torque rating (kgf • m)	Allow speed (rpm)	Dimension(mm)								Grease (Kg)	Weight (kg)
			Bore(D) Max.	A	E	ℓ1	C	B	F	K		
GD10	116.3	8,000	50	116	89	43	3.0	69	84	39	0.04	4.5
GD15	239.8	6,500	60	152	101	49	3.0	86	105	48	0.07	9.1
GD20	435.7	5,600	73	178	127	62	3.0	105	126	59	0.11	15.9
GD25	762.2	5,000	92	213	159	77	5.0	131	155	72	0.21	29.5
GD30	1,234.7	4,400	105	240	187	91	5.0	152	180	84	0.36	43.1
GD35	1,887.8	3,900	124	279	218	106	5.5	178	211	98	0.54	68.0
GD40	3,122.4	3,600	146	318	248	121	6.0	210	245	111	0.91	97.5
GD45	4,285.7	3,200	165	346	278	135	8.0	235	274	123	1.04	136.0
GD50	5,714.8	2,900	178	389	314	153	8.0	254	306	141	1.77	191.0
GD55	7,551.0	2,650	197	425	344	168	8.0	279	334	158	2.22	219.0
GD60	9,224.5	2,450	214	457	384	188	8.0	305	366	169	3.18	306.0
GD70	1,3776	2,150	240	527	452	221	9.5	343	425	196	4.35	485.0

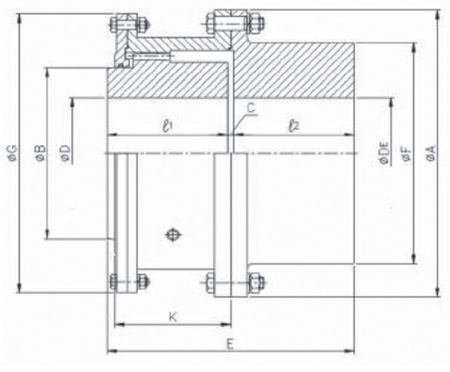
Size	Torque rating (Tonf • m)	Allow speed (rpm)	Dimension(mm)								Grease (Kg)	Weight (kg)
			Bore(D) Max.	A	E	ℓ1	C	B	G	K		
GDL80	17.3	1,750	250	591	508	249	9.5	356	572	243	9.5	703
GDL90	23.0	1,550	275	660	565	276	13	394	641	265	12.3	984
GDL100	31.6	1,450	310	711	623	305	13	445	699	294	15.0	1,302
GDL110	42.1	1,330	345	775	679	333	13	495	749	322	17.7	1,678
GDL120	56.6	1,200	380	838	719	353	13	546	826	341	20.9	2,114
GDL130	73.3	1,075	410	911	761	371	19	584	887	362	32.7	2,595
GDL140	92.1	920	480	965	805	393	19	686	940	378	33.1	3,107

※ The values of weight and GD² are only for without machining.

DIMENSION



GS



GSL

Size	Torque Rating (kgf • m)	Allow Speed (rpm))	Dimension(mm)										Grease (Kg)	Weight (kg)
			Bore		A	E	ℓ1	ℓ2	C	B	F	K		
			Max. (D)	Max. (DE)										
GS10	116.3	8,000	50	60	116	87.0	43	40	4.0	69	84	39	0.04	4.5
GS15	239.8	6,500	65	75	152	99.0	49	46	4.0	86	105	48	0.07	9.1
GS20	435.7	5,600	78	92	178	124.0	62	58	4.0	105	126	59	0.11	15.9
GS25	762.2	5,000	98	111	213	156.0	77	74	5.0	131	155	72	0.21	29.5
GS30	1,234.7	4,400	111	130	240	184.0	91	88	5.0	152	180	84	0.36	43.1
GS35	1,887.8	3,900	134	149	279	213.5	106	102	5.5	178	211	98	0.54	68.0
GS40	3,122.4	3,600	160	171	318	243.0	121	115	7.0	210	245	111	0.91	97.5
GS45	4,285.7	3,200	183	194	346	274.0	135	131	8.0	235	274	123	1.04	136.0
GS50	5,714.8	2,900	200	222	389	309.0	153	147	9.0	254	306	141	1.77	191.0
GS55	7,551.0	2,650	220	248	425	350.0	168	173	9.0	279	334	158	2.22	219.0
GS60	9,224.5	2,450	244	267	457	384.0	188	186	10.0	305	366	169	3.18	306.0
GS70	13,776.0	2,150	289	305	527	454.0	221	220	13.0	343	425	196	4.35	485.0

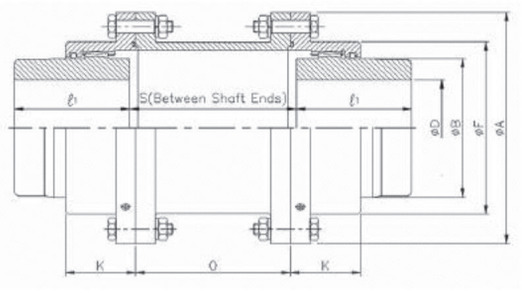
Size	Torque Rating (Tonf • m)	Allow Speed (rpm)	Dimension(mm)										Grease (Kg)	Weight (kg)
			Bore		A	E	ℓ1	ℓ2	C	B	F	K		
			Max. (D)	Max. (DE)										
GSL80	17.3	1,750	250	400	591	511	249	249	13	356	451	243	5	699
GSL90	23.0	1,550	275	450	660	566	276	276	14	394	508	265	6	984
GSL100	31.6	1,450	310	490	711	626	305	305	16	445	530	294	8	1,252
GSL110	42.1	1,330	345	525	775	682	333	333	16	495	584	322	9	1,637
GSL120	56.6	1,200	380	580	838	722	353	353	16	546	648	341	11	2,077
GSL130	73.3	1,075	410	620	911	761	371	371	19	584	700	362	17	2,572
GSL140	92.1	920	480	660	965	805	393	393	19	686	743	378	17	3,602

※ The values of weight and GD² are only for without machining.

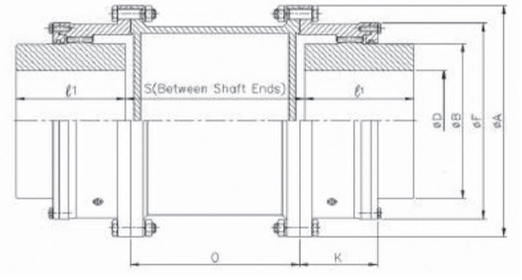
DIMENSION

Type (Size)		Dimension(mm)				
		Bore(D) Max.	ℓ1	B	F	K
SAM	112	40	50	58	79	40
	125	50	63	70	92	43
	140	56	71	80	107	47
	160	65	80	95	120	52
	180	75	90	105	134	56
	200	85	100	120	149	61
	224	100	112	145	174	65
	250	115	125	165	200	74
	280	135	140	190	224	82
	315	160	170	225	260	98
	355	180	190	250	288	108
	400	200	200	285	329	114
CAM	450	205	200	290	372	151
	500	250	236	335	424	168
	560	275	265	385	472	187
	630	325	315	455	544	213
	710	360	355	510	622	242
	800	405	400	570	690	267
	900	475	450	670	792	295
	1,000	510	500	720	858	322
	1,120	600	560	840	990	360
	1,250	710	710	960	1,126	399

※ The torque rating should refer to the values of SSM, CCM.

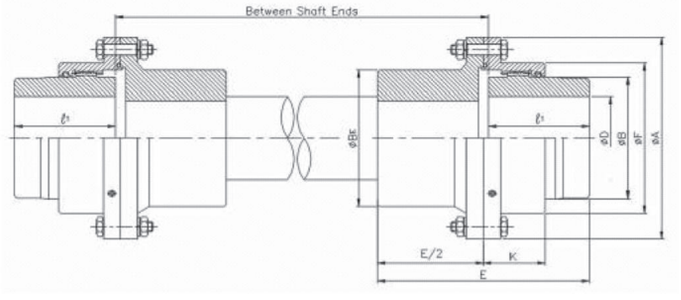


SAM

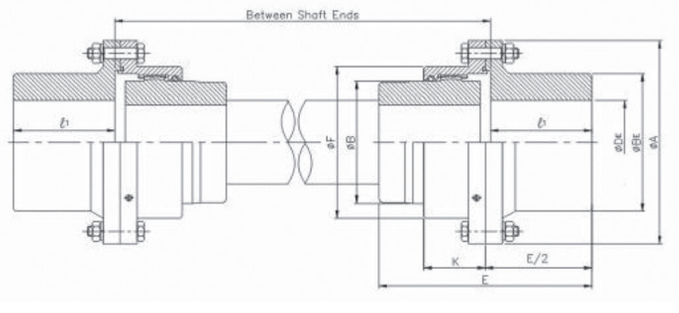


CAM

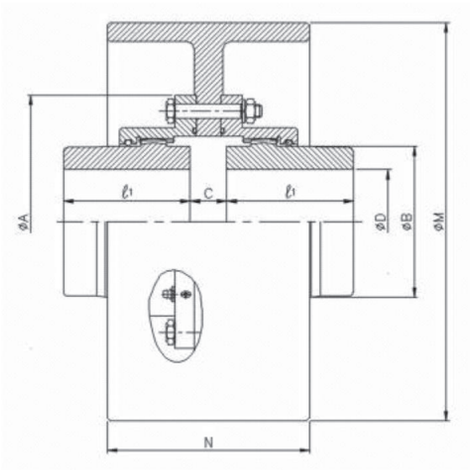
SFM



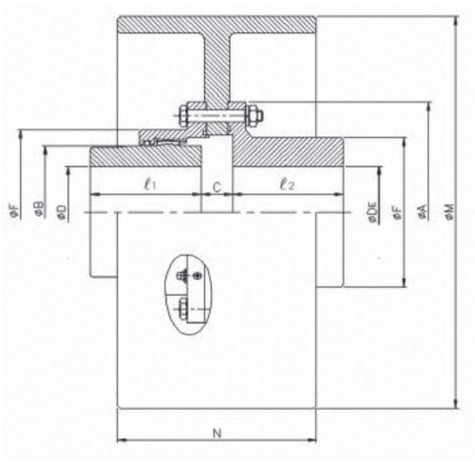
SHM



DIMENSION



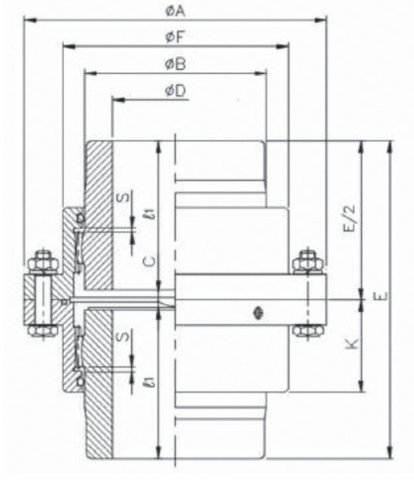
SSMB/GDBW



SEMB/GSBW

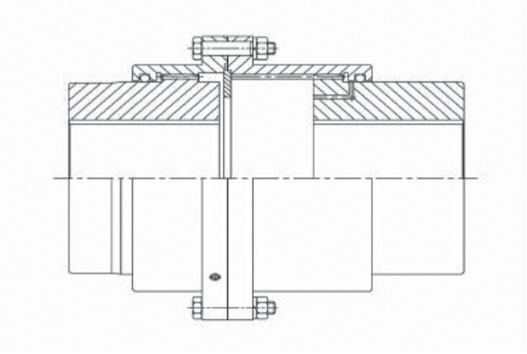
SSMB / SEMB					Drum size		GDBW / GSBW						
Size	ℓ1	C	D	DE			D	DE	C	ℓ1	ℓ2	A	Size
			Max.	Max.	M	N	Max.	Max.					
140	71	24	56	63	200	100	65	75	16	49	46	152	15
160	80	26	65	75			78	92	16	62	58	178	20
180	90	29	75	80	250	125	98	111	19	77	74	213	25
200	100	29	85	95									
224	112	31	100	105	315	160	111	130	19	91	88	240	30
250	125	31	115	125									
280	140	31	135	150	355	180	134	149	25	106	102	279	35
315	170	41	160	180	400	200	160	171	25	121	115	318	40
355	190	43	180	200	450	224	183	194	27	135	131	346	45
400	200	49	200	236	500	250	200	222	33	153	147	389	50

SVM			
Size	E	ℓ1	C
SVM112	108	45	18
SVM125	134	58	18
SVM140	150	66	18
SVM160	170	75	18
SVM180	190	85	18
SVM200	210	95	18
SVM224	236	107	20
SVM250	262	120	20
SVM280	294	135	22
SVM315	356	165	22
SVM355	396	185	22
SVM400	418	195	22

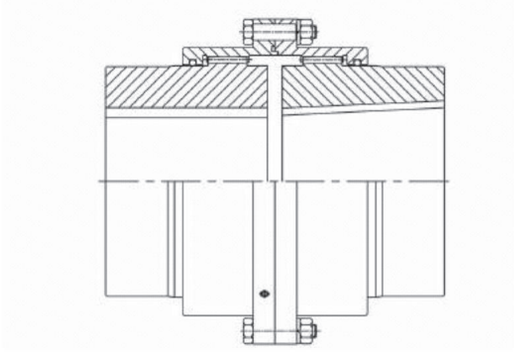


SVM

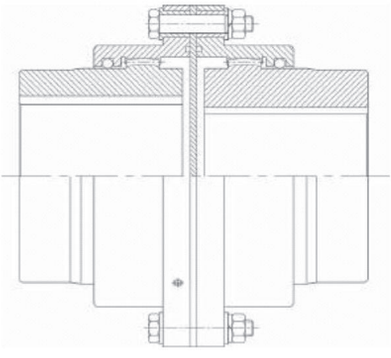
SPECIAL TYPES



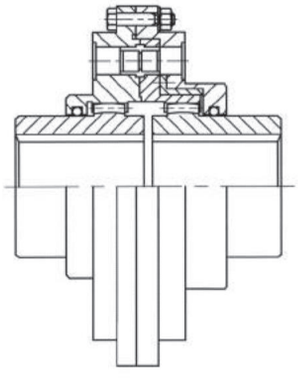
SLIDE TYPE



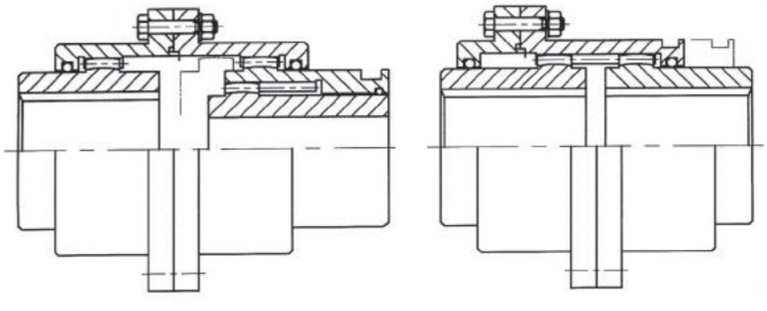
MILL MOTOR TYPE



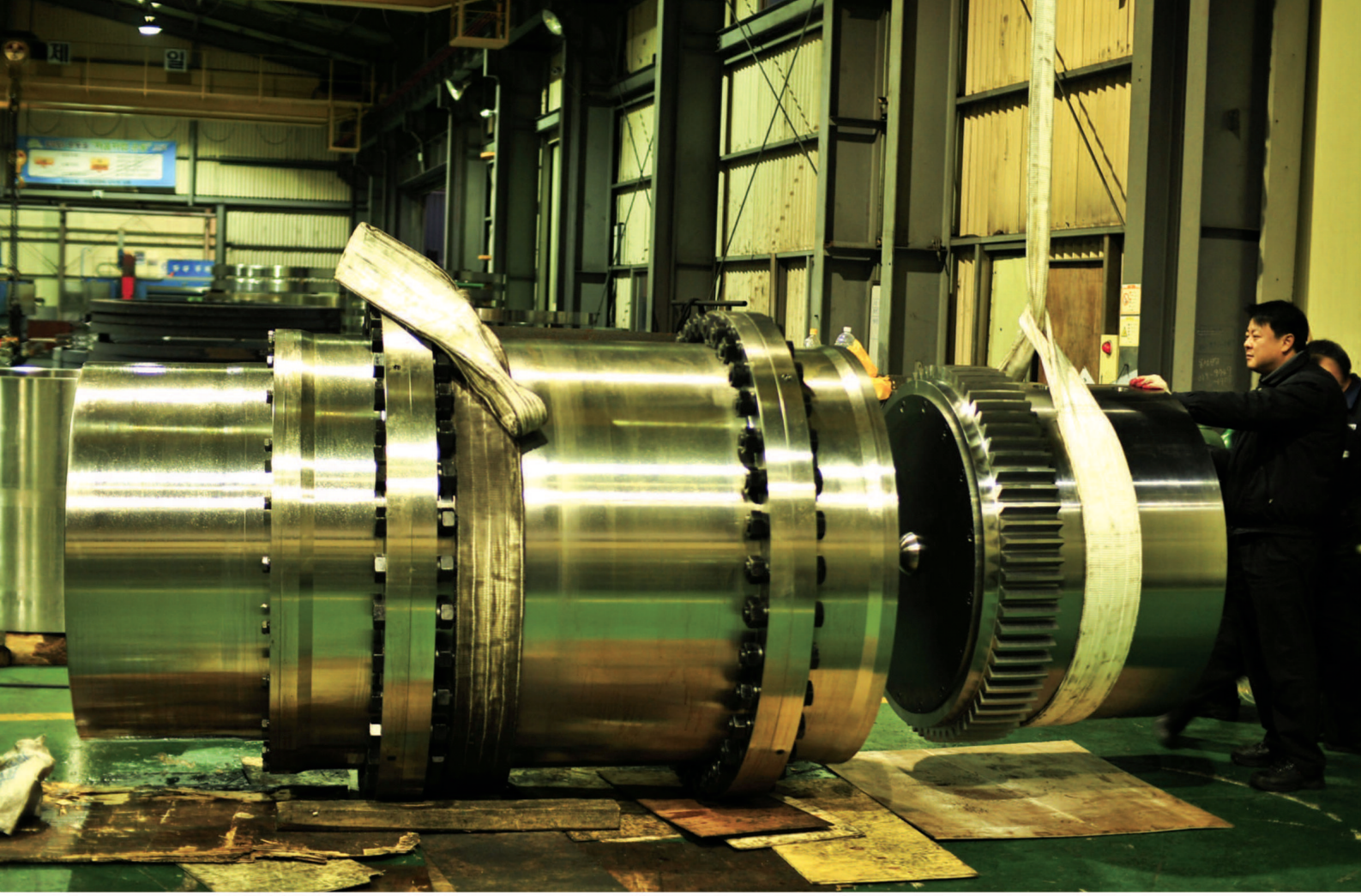
INSULATION TYPE



SHEAR PIN TYPE



DETACHABLE CLUTCH TYPE



Jac coupling

HOME PAGE http ：// www.jacoup.co.kr
E-mail ： jac@jacoup.co.kr