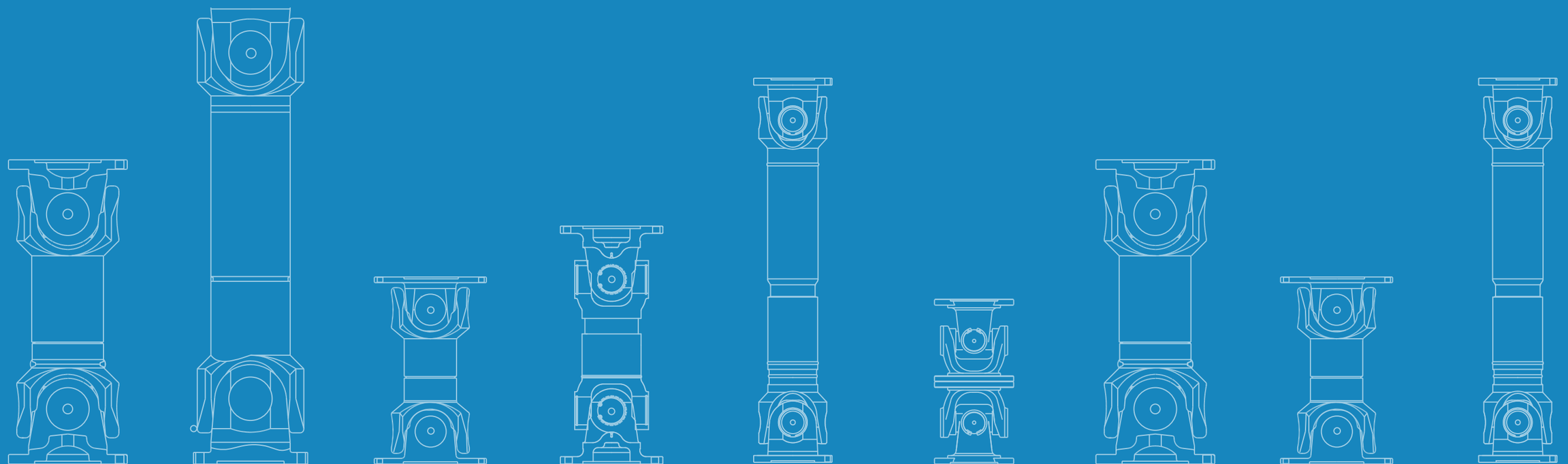
HUMMER

POWER TRANSMISSION



Enterprise Profile

Torsion Cardan Shaft CO., Ltd is mainly engaged in metallurgy, automobile, paper, oil and other industries couplings. Products are widely used in metallurgical industry (cross universal coupling, drum gear coupling, cage-type universal coupling, guide and guard, steel head); power industry (heat-resistant steel); ships, locomotives, construction machinery (concrete pump truck, excavators, rollers, drive); packaging machinery. Jiangsu Sitong Cardan Shaft CO., Ltd has many years of manufacturing experience, and mass production of high precision products and the great advantage of favorable conditions. The company achieved a AUTO CAD computer aided design and information management, collection of manufacturing as a whole, has a wealth of manufacturing experience and strong technical force, perfect testing means, the variety specification is complete, stable and reliable quality to meet the needs of different customer orders, products with good quality, reliable performance,easy maintenance, the majority of users trust. Jiangsu Sitong Cardan Shaft CO., Ltd is located in Jiangsu Jingjiang park of Jiangyin economic development zone, close to Nanjing, Shanghai, Changzhou, Wuxi. water and land transportation is very convenient.

The company takes "integrity management, sustainable development, create pragmatic, return to society" as its management tenet and development concept, with science and technology innovation as the source, relying on excellent quality, complete and fast service. Gathered a group of highly qualified and experienced in the production and development of talent, superb technology, excellent manufacturing process, to provide customers with excellent products and services.

Continuous Casting Machine

Cranes And Hoists

Engineering Vehicle

Ground Service Tractor

APPLICATION EXAMPLES

Minging

Paper Machine

Rolling Mill

Steel Factory

PRODUCT INTRODUCTION

The cross shaft universal coupling is abbreviated as the universal shaft. It is an increasingly widely used transmission foundation. The SWC universal shaft is the most compact structure with the largest load capacity and the highest. reliability.

Series	Flange diameters (mm)	Torque range (nm)
SWC-I LIGHT DUTY	58-225	180-22,000
SWC MEDIUM DUTY	160-220	21000-1250000

SWC-I LIGHT DUTY

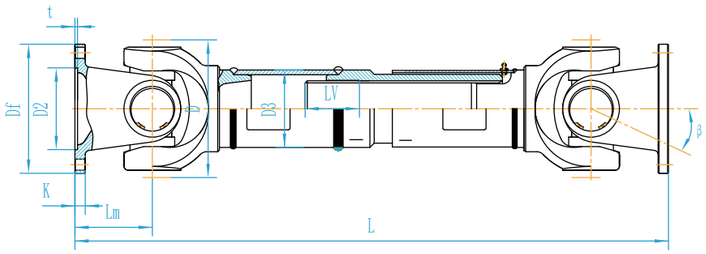
The light duty cardan shaft is mainly used in paper making equipment, general machinery, water pump equipment and test bench, etc. The flange is 58-225 mm in diameter, the rated torque is 150-22000 N·m, axis angle is 25 °-35 °.
Advantages: large angular compensation ability, small rotary inertia, simple disassembly and installation, low maintenance, etc.

SWC MEDIUM DUTY

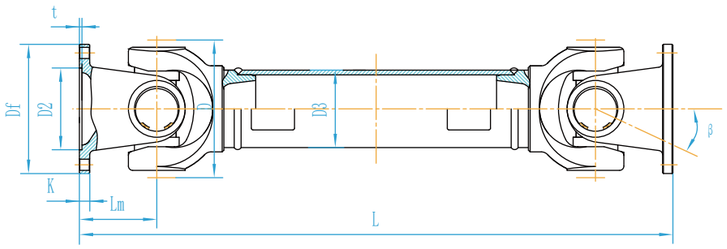
The medium duty cardan shaft is mainly used in rolling mill, hole piercing machine, straightening machine, crusher and ship drive. It is the most widely used cardan shaft series. The flange is 160-620 mm in diameter, the rated torque is 16-1000 kN·
m, the axis Angle is 15 °.
Advantages: compact structure, large transmission torque, long service life and can be used in bad working conditions for a long time, etc.

SWC-I Series —Light Duty Designs

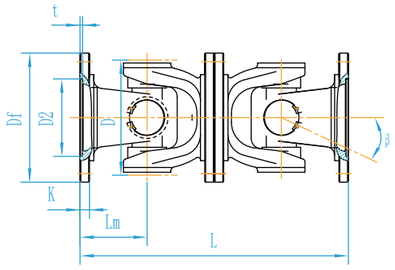
Type A- welded shaft design
with length compensation



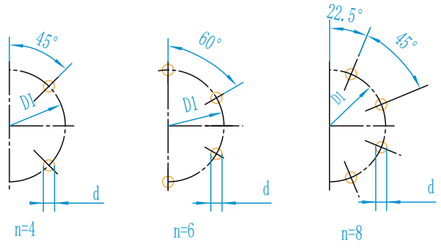
Type B- welded shaft design
without length compensation



Type C-Short flanged design
without length compensation



Flange bolthole patterns



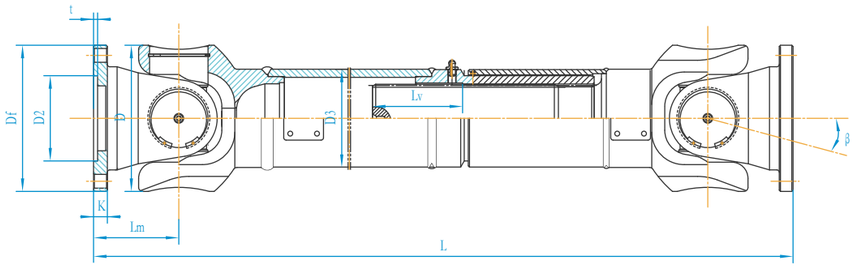
TYPE		SWC-I 58	SWC-I 65	SWC-I 75	SWC-I 90	SWC-I 100	SWC-I 120	SWC-I 150	SWC-I 180	SWC-I 200	SWC-I 225
A	L	225	285	335	385	445	500	590	640	775	860
	Lv	35	40	40	45	55	80	80	80	100	120
	m(kg)	2	3	5	6.6	9.5	17	32	40	76	128
B	L	150	175	200	240	260	295	370	430	530	600
	m(kg)	1.7	2.4	3.8	5.7	7.7	13.1	23	28	55	98
C	L	128	156	180	208	220	252	340	348	440	480
	m(kg)	1.3	1.95	3.1	5	7	12.3	22	30	56	96
T_n(N*m)		180	240	500	800	1200	2300	4500	8400	16000	22000
T_f(N*m)		90	120	250	400	600	1150	2250	4200	8000	11000
β(°)		35	35	35	35	35	35	35	25	25	25
D		52	63	72	92	100	112	142	154	187	204
D_f		58	65	75	90	100	120	150	180	200	225
D_1		47	52	62	74.5	84	101.5	130	155.5	170	196
D_2(H9)		30	35	42	47	57	75	90	110	125	140
D_3x δ		38*1.5	45*1.5	63.5*2.5	63.5*2.5	89*2.5	89*2.5	120*3	120*3	127*5.5	140*6.5
Lm		32	39	45	52	55	63	85	87	110	120
K		3.5	4.5	5.5	6	8	8	10	12	14	15
t		1.5	1.7	2	2.5	2.5	2.5	3	4	4	5
n		4	4	6	4	6	8	8	8	8	8
d		5.1	6.5	6.5	8.5	8.5	10.5	13	15	17	17
mL(kg)		0.14	0.16	0.38	0.38	0.53	0.53	0.87	0.87	1.65	2.14
Flange bolt	size	M5	M6	M6	M8	M8	M10	M12	M14	M16	M16
	Tighterning torque	7	13	13	32	32	64	110	180	270	270

Data and sizes of SWC-I cardan shaft

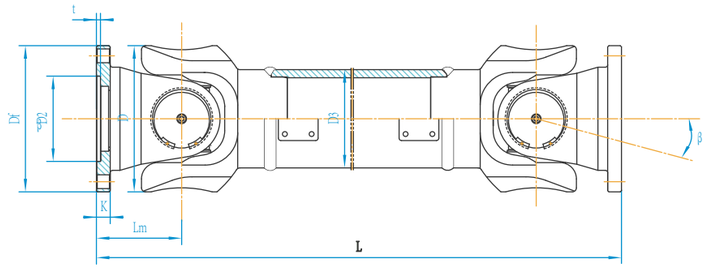
1. Notations：
   L = Standard length, or compressed length for designs with length compensation
   Lv = Length compensation;
   m = Weight;
   Tn = Nominal torque;
   Tf = Fatigue torque, i.e. permissible torque as determined according to the fatigue strength under reversing loads;
   β= Maximum deflection angle;
   δ=Thickness of the tube;
   mL= weight per 100mm tube.
2. Millimeters are used as measurement units except where noted;
3. Please consult us for customizations regarding length, length compensation and flange connections.(DIN or SAE etc.)

SWC-L Series — Medium-Duty Designs

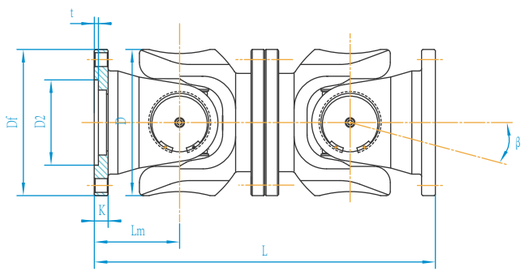
Type A - Welded shaft design, with length compensation



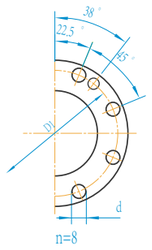
Type B - Welded shaft design, without length compensation

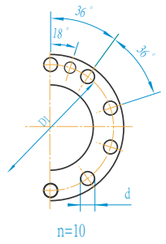


Type C - Short flanged design, without length compensation



Flange bolthole patterns



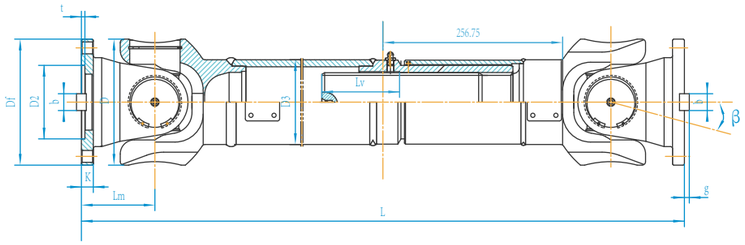


TYPE		SWCL 225	SWCL 250	SWCL 285	SWCL 315	SWCL 350	SWCL 390
A	L	960	1010	1150	1300	1420	1570
	Lv	140	140	140	140	200	200
	m(kg)	130	185	255	360	510	680
B	L	630	690	770	870	970	1090
	m(kg)	100	140	200	280	400	550
C	L	600	640	720	800	880	1000
	m(kg)	105	135	200	270	365	940
T_n(kN*m)		40	56	80	120	160	225
T_f(kN*m)		20	28	40	58	80	110
β(°)		15	15	15	15	15	15
D		225	250	285	315	350	390
D_f		250	285	315	350	39 0	435
D_1		218	245	280	310	345	385
D_2(H9)		140	175	175	220	250	280
D_3xδ		180*7.5	203*7.5	219*9.0	245*11	273*11.5	299*15
Lm		150	160	180	200	220	250
K		20	20	22	25	28	32
t		6	7	7	8	8	10
n		8	8	8	10	10	10
D(+0.2)		18.1	20.1	22.1	22.1	24.1	27.1
mL(kg)		3.19	3.62	4.66	6.35	7.42	10.51
Flange bolt	size	M18	M20	M22	M22	M24	M27
	Tighterning torque	372	526	710	710	906	1340

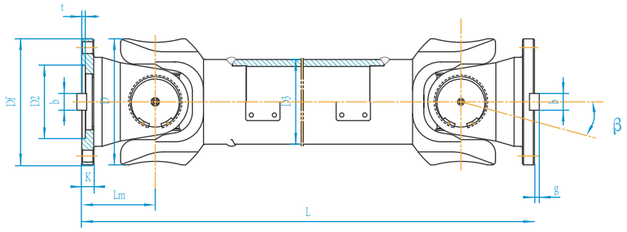
1. Notations:
   L = Standard length, or compressed length for designs with
   Lv = Length compensation;
   m = Weight;
   Tn = Nominal torque;
   Tf = Fatigue torque, i.e. permissible torque as determined according to the fatigue strength under reversing loads;
   β= Maximum deflection angle;
   δ=Thickness of the tube;
   mL= weight per 100mm tube.
2. Millimeters are used as measurement units except where noted;
3. Please consult us for customizations regarding length, length compensation and flange connections.(DIN or SAE etc.)

SWC Series — Medium- Duty Designs

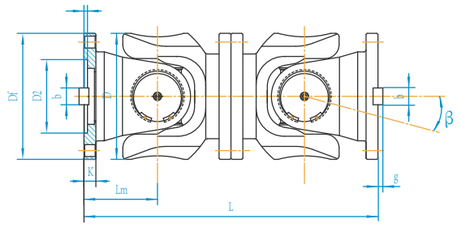
Type A - Welded shaft design, with length compensation



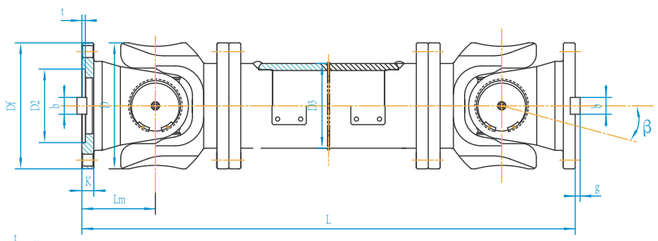
Type B - Welded shaft design, without length compensation



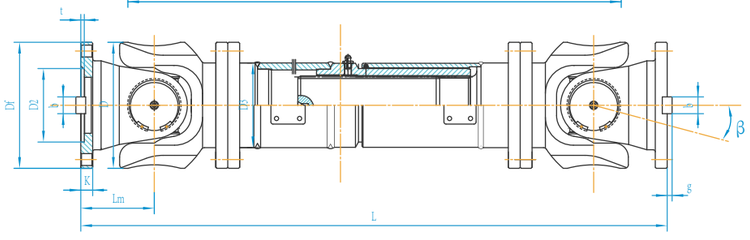
Type C - Short flanged design, without length compensation



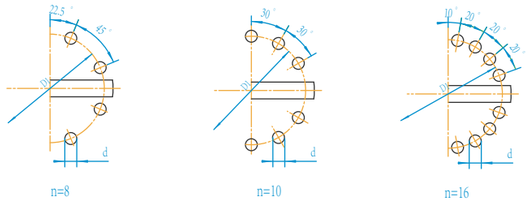
Type D - Long flanged design, without length compensation



Type E - Flanged shaft design, with length compensation



Flange bolthole patterns

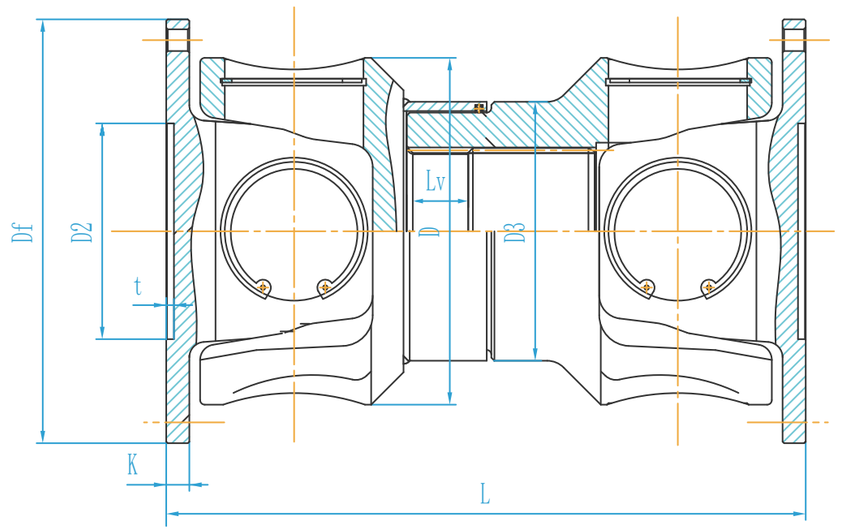


Type		SWC 160	SWC 180	SWC 200	SWC 225	SWC 250	SWC 265	SWC 285	SWC 315	SWC 350	SWC 390	SWC 440	SWC 490	SWC 550	SWC 620
A	L	740	800	900	1000	1060	1120	1270	1390	1520	1530	1690	1850	2060	2280
	Lv	100	100	120	140	140	140	140	140	150	170	190	190	240	250
	m(kg)	65	83	115	152	219	260	311	432	610	804	1122	1468	2154	2830
B	L	480	530	590	640	730	790	840	930	1000	1010	1130	1240	1400	1520
	m(kg)	44	60	85	110	160	180	226	320	440	590	820	1090	1560	2100
C	L	380	420	440	500	560	600	640	720	780	860	1040	1080	1220	1360
	m(kg)	35	48	66	90	130	160	189	270	355	510	780	970	1330	1865
D	L	520	580	620	690	760	810	860	970	1030	1120	1230	1360	1550	1720
	m(kg)	48	65	90	120	173	220	250	355	485	665	920	1240	1765	2390
E	L	800	850	940	1050	1120	1180	1320	1440	1550	1710	1880	2050	2310	2540
	Lv	100	100	120	140	140	140	140	140	150	170	190	190	240	250
	m(kg)	70	92	126	168	238	280	340	472	660	886	1230	1625	2268	3135
Tn(kN ·m)		21	28	40	56	80	100	120	160	225	320	500	700	1000	1250
Tf(kN·m)		10.5	14	20	28	40	50	58	80	110	160	250	350	500	625
β(°)		15	15	15	15	15	15	15	15	15	15	15	15	15	15
D		160	180	200	225	250	265	285	315	350	390	440	490	550	620
Df		160	180	200	225	250	265	285	315	350	390	440	490	550	620
D1		137	155	170	196	218	233	245	280	310	345	390	435	492	555
D2(H9)		100	105	120	135	150	160	170	185	210	235	255	275	320	380
D3X δ		114*10	127*10.5	146*11.5	159*10.5	180*12.5	194*13.5	203*14.5	219*16.5	245*19	273*21	325*25	351*30	402*32	426*40
Lm		95	102	110	125	140	150	160	180	195	215	260	270	305	340
K		16	17	18	20	25	25	27	32	35	40	42	47	50	55
t		4	5	5	5	6	6	7	8	8	8	10	12	12	12
n		8	8	8	8	8	8	10	10	10	10	16	16	16	16
d		15	17	17	17	19	19	21	23	23	25	28	31	31	38
b		20	24	28	32	40	40	40	40	50	70	80	90	100	100
g		6	7	8	9	12.5	12.5	15	15	16	18	20	22.5	22.5	25
mL(kg)		2.57	3	3.82	3.85	5.17	6	6.75	8.25	10.6	13	18.5	23.75	29.12	38.08
Flange	Size	M14	M16	M16	M16	M18	M18	M20	M22	M22	M24	M27	M30	M30	M36
bolt	Tighterning torque	180	270	270	270	372	372	526	710	710	906	1340	1820	1820	3170

Data and Sizes of SWC Series Cardan Shaft

1. Notations:
   L = Standard length, or compressed length for designs with length compensation;
   Lv = Length compensation;
   m = Weight;
   Tn = Nominal torque;
   Tf = Fatigue torque, i.e. permissible torque as determined according to the fatigue strength under reversing loads;
   β= Maximum deflection angle;
   δ=Thickness of the tube;
   mL= weight per 100mm tube.
2. Millimeters are used as measurement units except where noted;
3. Please consult us for customizations regarding length, length compensation and flange connections. (DIN or SAE etc.)

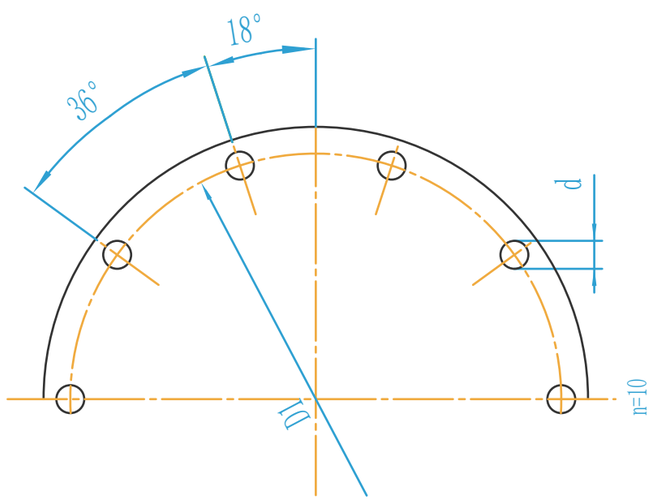
SWCD Series — Short Designs



	SWCD 215	SWCD 250	SWCD 285	SWCD 315	SWCD 350
L	415	495	545	600	688
Lv	40	40	40	40	55
m(kg)	60	98	120	169	256
Tn(kN.m)	25	35.5	40	63	90
Tf(Kn.m)	12.5	18	20	31.5	45
β（ °）	5	5	5	5	5
D	215	225	250	285	315
Df	275	305	348	360	405
D1	248	275	314	328	370
D2(H9)	140	140	175	175	220
D3	114	140	152	168	194
Lm	68	80	90	100	108
K	15	15	18	18	22
t	4.2	5.2	6.2	6.2	6.8
n	10	10	10	10	10
d	15	17	19	19	21

Data and Sizes of SWCD Series Cardan Shaft

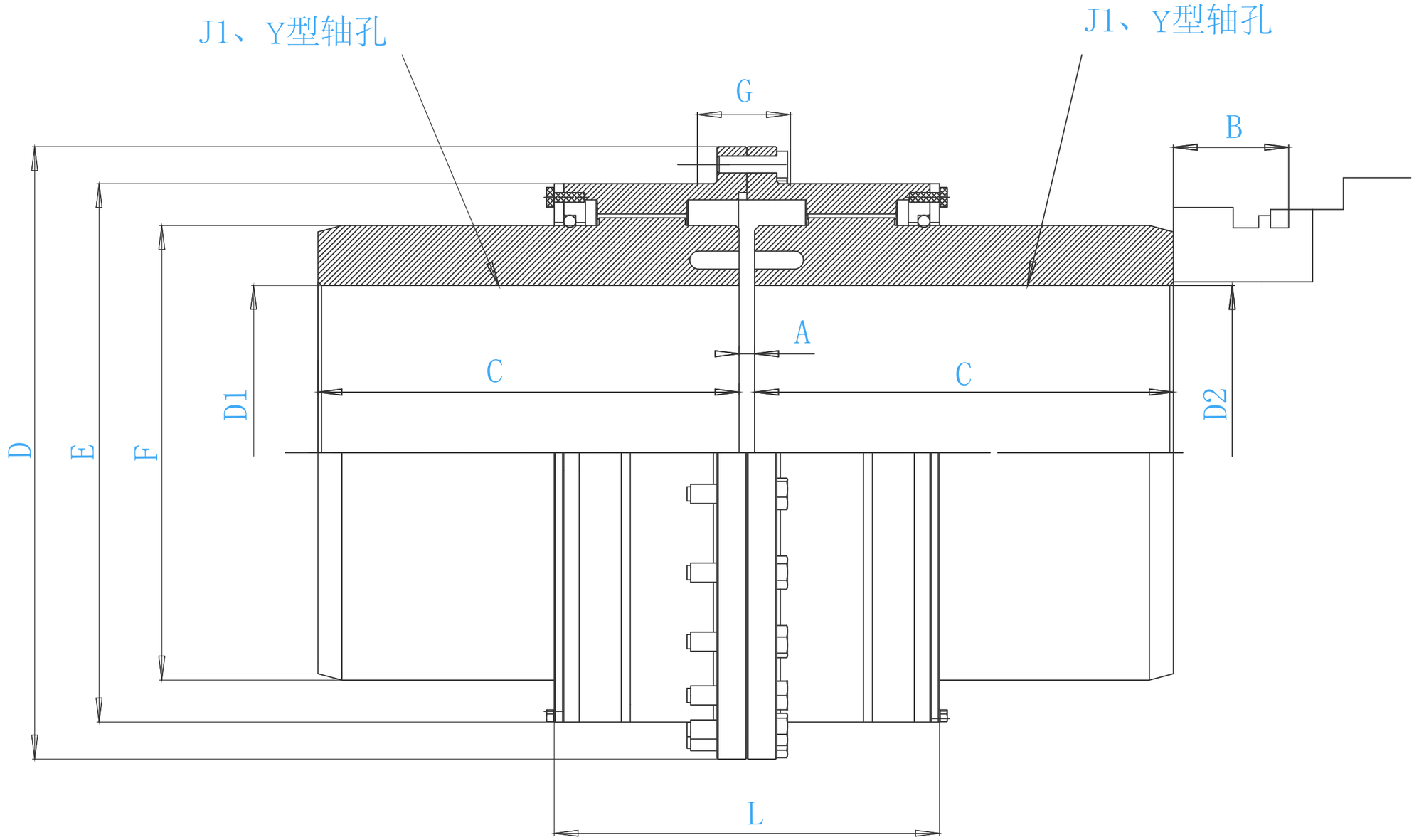
Flange bolthole patterns



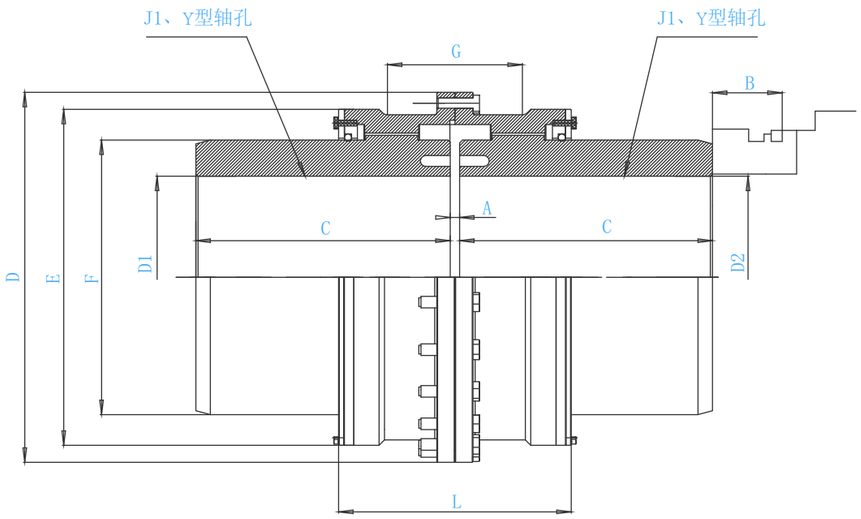
1. Notations:
   L = Standard length, or compressed length for designs with length compensation;
   Lv = Length compensation;
   m = Weight;
   Tn = Nominal torque;
   Tf = Fatigue torque, i.e. the permissible torque as deteaccording to the fatigue strength under reversing loads;
   β= Maximum deflection angle.
2. Millimeters are used as measurement units except where noted;
3. Please consult us for customizations regarding length, length compensation and flange connections.

Drum teeth coupling

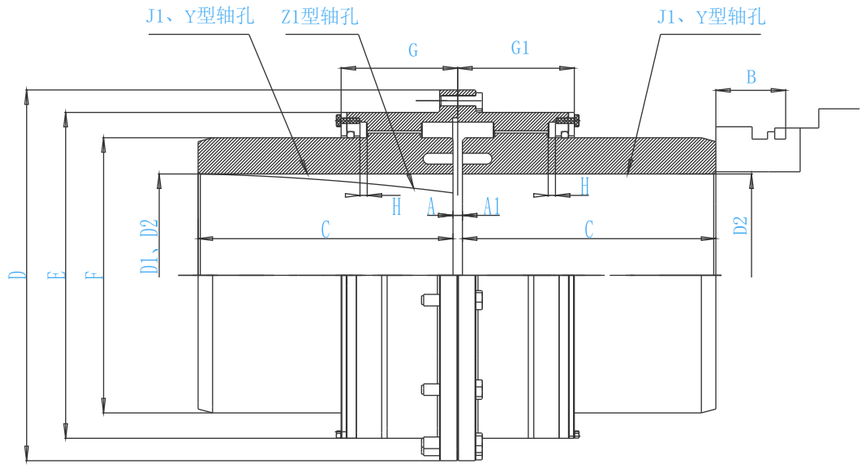
GIICL-A Type Drum teeth coupling(see table1)



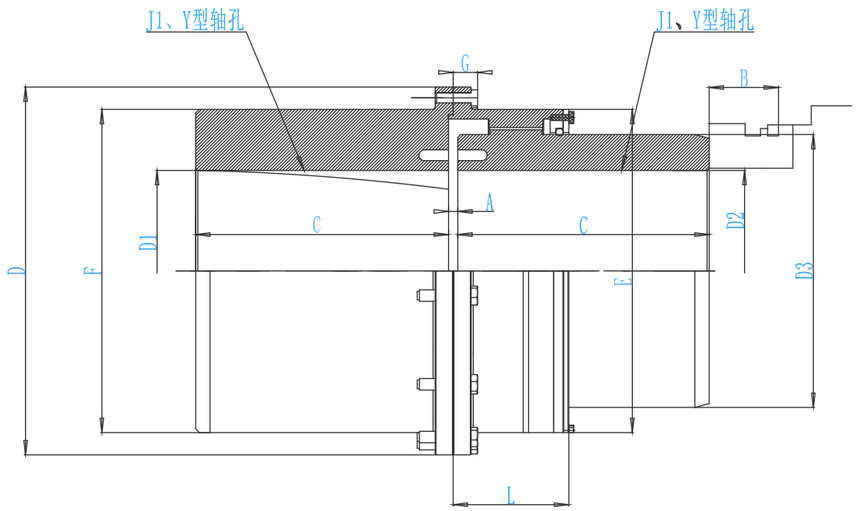
GIICL-B Type Drum Gear Coupling(see table2)



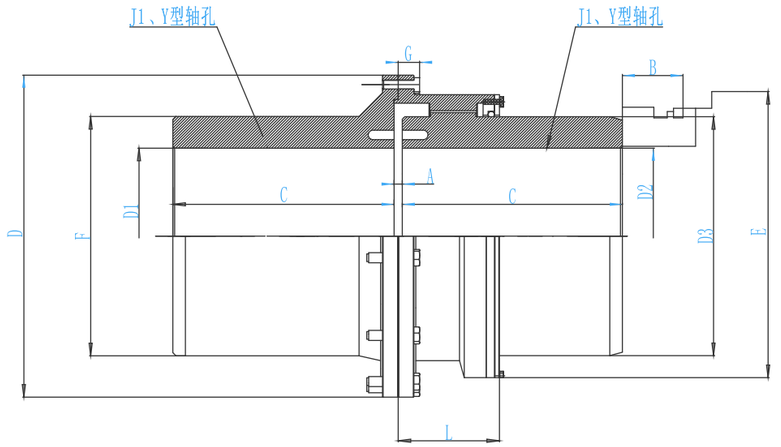
GIICL-D Type Drum Gear Coupling(see table3)



GIICLZ-A Type Drum Gear Coupling(see table4)



GIICLZ-B Type Drum Gear Coupling(see table5)



Parameter and Dimensions of GIICL-A Type Drum Teeth Coupling (Table1)

Model	Nominal torque Tm (KN.m)	Permissible speed [n] (rpm)	Shaft hole diameter D1,D2	shaft hole length		D	E	F	G	A	L	B	Grease usage	Mass (kg)
				Y	J1									
				C										
				mm										
$G_{II}CL1$	0.4	4000	16-35	42-82	38-60	103	71	50	36	8	76	38	51	5.1
$G_{II}CL2$	0.71	4000	20-45	52-112	44-84	115	83	60	42	8	88	42	70	6.7
$G_{II}CL3$	1.12	4000	22-56	52-112	44-84	127	95	75	44	8	90	42	68	9.6
$G_{II}CL4$	1.8	4000	38-65	82-142	60-107	149	116	90	49	8	98	42	87	17.4
$G_{II}CL5$	3.15	4000	40-75	112-142	84-107	167	134	105	55	10	108	42	125	26.6
$G_{II}CL6$	5	4000	45-90	112-172	84-132	187	153	125	56	10	110	42	148	38.7
$G_{II}CL7$	7.1	3750	50-100	112-212	84-167	204	170	140	60	10	118	42	175	58.2
$G_{II}CL8$	10	3300	55-110	112-212	84-167	230	186	155	67	12	142	47	268	73.6
$G_{II}CL9$	16	3000	60-130	142-252	107-202	256	212	180	69	12	146	47	310	117
$G_{II}CL10$	22.4	2650	65-150	142-252	107-202	287	239	200	78	14	164	47	472	144
$G_{II}CL11$	35.5	2350	70-170	142-302	107-242	325	276	235	81	14	170	47	550	300
$G_{II}CL12$	50	2100	75-200	142-352	107-282	362	313	270	89	16	190	49	695	348
$G_{II}CL13$	71	1850	150-220	252-352	202-282	412	350	300	98	18	208	49	1019	440
$G_{II}CL14$	112	1650	170-250	302-410	242-330	462	418	335	172	22	296	63	3900	682
$G_{II}CL15$	180	1500	190-280	352-470	282-380	512	465	380	182	22	316	63	3700	977
$G_{II}CL16$	250	1300	220-320	352-470	282-380	580	522	430	209	28	354	67	4500	1828
$G_{II}CL17$	355	1200	250-360	410-550	330-450	644	582	490	198	28	364	67	4900	2676
$G_{II}CL18$	500	1050	280-400	470-650	380-540	726	654	540	222	28	430	75	7000	3560
$G_{II}CL19$	710	950	300-460	470-650	380-540	818	748	630	232	32	440	75	8900	4975
$G_{II}CL20$	1000	800	360-530	550-800	450-680	928	832	720	247	32	470	75	111000	7159
$G_{II}CL21$	1400	750	400-600	650-800	540-680	1022	924	810	255	40	490	75	13000	8448
$G_{II}CL22$	1800	650	450-670	650-900	540-780	1134	1028	915	262	40	510	75	16000	13401
$G_{II}CL23$	2500	600	530-750	800-900	680-780	1282	1174	1030	299	50	580	80	28000	13401
$G_{II}CL24$	3550	550	560-850	800-1000	680-880	1428	1320	1175	317	50	610	80	33000	18835
$G_{II}CL25$	4500	460	670-1000	900-1000	780-1000	1644	1538	1390	325	50	620	80	43000	27797

Parameter and Dimensions of GIICL-B Type Drum Teeth Coupling (Table2)

Model	Nominal torque Tm (KN.m)	Permissible speed [n] (rpm)	Shaft hole diameter D1,D2	shaft hole length		D	E	F	G	A	L	B	Grease usage	Mass (kg)
				Y	J1									
				C										
				mm										
GⅡCL1	0.4	4000	16-35	42-82	38-60	103	71	50	36	8	76	38	51	5.1
GⅡCL2	0.71	4000	20-45	52-112	44-84	115	83	60	42	8	88	42	70	6.7
GⅡCL3	1.12	4000	22-56	52-112	44-84	127	95	75	44	8	90	42	68	9.6
GⅡCL4	1.8	4000	38-65	82-142	60-107	149	116	90	49	8	98	42	87	17.4
GⅡCL5	3.15	4000	40-75	112-142	84-107	167	134	105	55	10	108	42	125	26.6
GⅡCL6	5	4000	45-90	112-172	84-132	187	153	125	56	10	110	42	148	38.7
GⅡCL7	7.1	3750	50-100	112-212	84-167	204	170	140	60	10	118	42	175	58.2
GⅡCL8	10	3300	55-110	112-212	84-167	230	186	155	67	12	142	47	268	73.6
GⅡCL9	16	3000	60-130	142-252	107-202	256	212	180	69	12	146	47	310	117
GⅡCL10	22.4	2650	65-150	142-252	107-202	287	239	200	78	14	164	47	472	144
GⅡCL11	35.5	2350	70-170	142-302	107-242	325	276	235	81	14	170	47	550	300
GⅡCL12	50	2100	75-200	142-352	107-282	362	313	270	89	16	190	49	695	348
GⅡCL13	71	1850	150-220	252-352	202-282	412	350	300	98	18	208	49	1019	440
GⅡCL14	112	1650	170-250	302-410	242-330	462	418	335	172	22	296	63	3900	682
GⅡCL15	180	1500	190-280	352-470	282-380	512	465	380	182	22	316	63	3700	977
GⅡCL16	250	1300	220-320	352-470	282-380	580	522	430	209	28	354	67	4500	1828
GⅡCL17	355	1200	250-360	410-550	330-450	644	582	490	198	28	364	67	4900	2676
GⅡCL18	500	1050	280-400	470-650	380-540	726	654	540	222	28	430	75	7000	3560
GⅡCL19	710	950	300-460	470-650	380-540	818	748	630	232	32	440	75	8900	4975
GⅡCL20	1000	800	360-530	550-800	450-680	928	832	720	247	32	470	75	111000	7159
GⅡCL21	1400	750	400-600	650-800	540-680	1022	924	810	255	40	490	75	13000	8448
GⅡCL22	1800	650	450-670	650-900	540-780	1134	1028	915	262	40	510	75	16000	13401
GⅡCL23	2500	600	530-750	800-900	680-780	1282	1174	1030	299	50	580	80	28000	13401
GⅡCL24	3550	550	560-850	800-1000	680-880	1428	1320	1175	317	50	610	80	33000	18835
GⅡCL25	4500	460	670-1000	900-1000	780-1000	1644	1538	1390	325	50	620	80	43000	27797

Parameter and Dimensionsof GIICL-D Type Drum Teeth Coupling (Table3)

Model	Nominal torque Tm (KN.m)	Permissible speed [n] (rpm)	Shaft hole diameter D1,D2	shaft hole length		D	E	F	G	A	L	B	Grease usage	Mass (kg)
				Y	J1									
				C										
				mm										
$G_{II}CL1$	0.4	4000	16-35	42-82	38-60	103	71	50	36	8	76	38	51	5.1
$G_{II}CL2$	0.71	4000	20-45	52-112	44-84	115	83	60	42	8	88	42	70	6.7
$G_{II}CL3$	1.12	4000	22-56	52-112	44-84	127	95	75	44	8	90	42	68	9.6
$G_{II}CL4$	1.8	4000	38-65	82-142	60-107	149	116	90	49	8	98	42	87	17.4
$G_{II}CL5$	3.15	4000	40-75	112-142	84-107	167	134	105	55	10	108	42	125	26.6
$G_{II}CL6$	5	4000	45-90	112-172	84-132	187	153	125	56	10	110	42	148	38.7
$G_{II}CL7$	7.1	3750	50-100	112-212	84-167	204	170	140	60	10	118	42	175	58.2
$G_{II}CL8$	10	3300	55-110	112-212	84-167	230	186	155	67	12	142	47	268	73.6
$G_{II}CL9$	16	3000	60-130	142-252	107-202	256	212	180	69	12	146	47	310	117
$G_{II}CL10$	22.4	2650	65-150	142-252	107-202	287	239	200	78	14	164	47	472	144
$G_{II}CL11$	35.5	2350	70-170	142-302	107-242	325	276	235	81	14	170	47	550	300
$G_{II}CL12$	50	2100	75-200	142-352	107-282	362	313	270	89	16	190	49	695	348
$G_{II}CL13$	71	1850	150-220	252-352	202-282	412	350	300	98	18	208	49	1019	440
$G_{II}CL14$	112	1650	170-250	302-410	242-330	462	418	335	172	22	296	63	3900	682
$G_{II}CL15$	180	1500	190-280	352-470	282-380	512	465	380	182	22	316	63	3700	977
$G_{II}CL16$	250	1300	220-320	352-470	282-380	580	522	430	209	28	354	67	4500	1828
$G_{II}CL17$	355	1200	250-360	410-550	330-450	644	582	490	198	28	364	67	4900	2676
$G_{II}CL18$	500	1050	280-400	470-650	380-540	726	654	540	222	28	430	75	7000	3560
$G_{II}CL19$	710	950	300-460	470-650	380-540	818	748	630	232	32	440	75	8900	4975
$G_{II}CL20$	1000	800	360-530	550-800	450-680	928	832	720	247	32	470	75	111000	7159
$G_{II}CL21$	1400	750	400-600	650-800	540-680	1022	924	810	255	40	490	75	13000	8448
$G_{II}CL22$	1800	650	450-670	650-900	540-780	1134	1028	915	262	40	510	75	16000	13401
$G_{II}CL23$	2500	600	530-750	800-900	680-780	1282	1174	1030	299	50	580	80	28000	13401
$G_{II}CL24$	3550	550	560-850	800-1000	680-880	1428	1320	1175	317	50	610	80	33000	18835
$G_{II}CL25$	4500	460	670-1000	900-1000	780-1000	1644	1538	1390	325	50	620	80	43000	27797

Parameter and Dimensionsof GIICLZ-A Type Drum Teeth Coupling (Table4)

Model	Nominal torque Tm (KN.m)	Permissible speed [n] (rpm)	Shaft hole diameter D1,D2	shaft hole length		D	D3	F	G	A	L	E	B	Grease usage ml	Mass (kg)
				Y	J1										
				C											
				mm											
G_{II}CLZ1	0.4	4000	16-35	42-112	38-84	103	50	71	8	8	38	71	38	31	7
G_{II}CLZ2	0.71	4000	20-45	52-142	44-107	115	60	83	8	8	45	83	42	42	7
G_{II}CLZ3	1.12	4000	22-56	52-142	44-107	127	75	95	8	8	45	95	42	42	11
G_{II}CLZ4	1.8	4000	38-65	82-172	60-132	149	90	116	8	8	49	116	42	53	18
G_{II}CLZ5	3.15	4000	40-75	112-172	84-132	167	105	134	10	10	54	134	42	77	24
G_{II}CLZ6	5	4000	45-90	112-212	84-167	187	125	153	10	10	55	153	42	91	39
G_{II}CLZ7	7.1	3750	50-100	112-212	84-167	204	140	170	10	10	59	170	42	108	58
G_{II}CLZ8	10	3300	55-110	112-212	84-167	230	155	186	12	12	71	186	47	161	74
G_{II}CLZ9	16	3000	60-130	142-252	107-202	256	180	212	12	12	73	212	47	184	116
G_{II}CLZ10	22.4	2650	65-150	142-252	107-202	287	200	239	14	14	82	239	47	276	144
G_{II}CLZ11	35.5	2350	110-170	212-302	167-242	325	235	250	14	14	85	276	47	322	230
G_{II}CLZ12	50	2100	130-200	252-352	202-282	362	270	286	16	16	95	313	49	404	348
G_{II}CLZ13	71	1850	150-220	252-352	202-282	412	300	322	18	18	104	350	49	585	438
G_{II}CLZ14	112	1650	170-250	302-410	242-330	462	-	420	22	22	148	335	63	1600	655
G_{II}CLZ15	180	1500	190-280	352-470	282-380	512	-	465	22	22	158	380	63	2100	946
G_{II}CLZ16	250	1300	220-320	352-470	282-380	580	-	522	28	28	177	430	67	2500	1232
G_{II}CLZ17	355	1200	250-360	410-550	330-450	644	-	582	28	28	182	490	67	2700	1828
G_{II}CLZ18	500	1050	280-400	470-650	380-540	726	-	658	28	28	215	540	75	3900	2674
G_{II}CLZ19	710	950	300-460	470-650	380-540	818	-	748	32	32	220	630	75	5000	3565
G_{II}CLZ20	1000	800	360-530	550-800	450-680	928	-	838	32	32	235	720	75	6200	5198
G_{II}CLZ21	1400	750	400-600	650-800	540-680	1022	-	928	40	40	245	810	75	7000	7124
G_{II}CLZ22	1800	650	450-670	650-900	540-780	1134	-	1036	40	40	255	915	75	8700	8978
G_{II}CLZ23	2500	600	530-750	800-900	680-780	1282	-	1178	50	50	290	1030	80	15000	13124
G_{II}CLZ24	3550	550	560-850	800-1000	680-880	1428	-	1322	50	50	305	1175	80	18000	18659
G_{II}CLZ25	4500	460	670-1000	900-1000	780-1000	1644	-	1538	50	50	310	1390	80	23000	27797

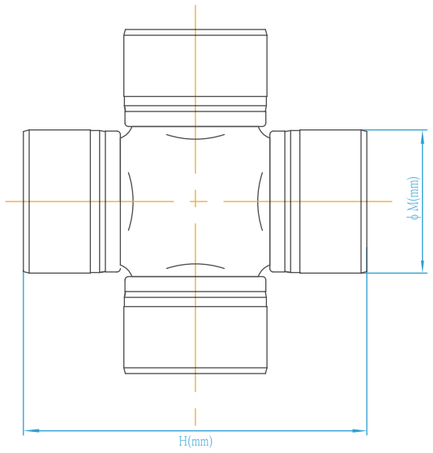
Parameter and Dimensionsof GIICLZ-B Type Drum Teeth Coupling (Table5)

Model	Nominal torque Tm (KN.m)	Permissible speed [n] (rpm)	Shaft hole diameter D1,D2	shaft hole length		D	D3	F	G	A	L	E	B	Grease usage (ml)	Mass (kg)
				Y	J1										
				C											
				mm											
GIICLZ1	0.4	4000	16-35	42-112	38-84	103	50	71	8	8	38	71	38	31	7
GIICLZ2	0.71	4000	20-45	52-142	44-107	115	60	83	8	8	45	83	42	42	7
GIICLZ3	1.12	4000	22-56	52-142	44-107	127	75	95	8	8	45	95	42	42	11
GIICLZ4	1.8	4000	38-65	82-172	60-132	149	90	116	8	8	49	116	42	53	18
GIICLZ5	3.15	4000	40-75	112-172	84-132	167	105	134	10	10	54	134	42	77	24
GIICLZ6	5	4000	45-90	112-212	84-167	187	125	153	10	10	55	153	42	91	39
GIICLZ7	7.1	3750	50-100	112-212	84-167	204	140	170	10	10	59	170	42	108	58
GIICLZ8	10	3300	55-110	112-212	84-167	230	155	186	12	12	71	186	47	161	74
GIICLZ9	16	3000	60-130	142-252	107-202	256	180	212	12	12	73	212	47	184	116
GIICLZ10	22.4	2650	65-150	142-252	107-202	287	200	239	14	14	82	239	47	276	144
GIICLZ11	35.5	2350	110-170	212-302	167-242	325	235	250	14	14	85	276	47	322	230
GIICLZ12	50	2100	130-200	252-352	202-282	362	270	286	16	16	95	313	49	404	348
GIICLZ13	71	1850	150-220	252-352	202-282	412	300	322	18	18	104	350	49	585	438
GIICLZ14	112	1650	170-250	302-410	242-330	462	-	420	22	22	148	335	63	1600	655
GIICLZ15	180	1500	190-280	352-470	282-380	512	-	465	22	22	158	380	63	2100	946
GIICLZ16	250	1300	220-320	352-470	282-380	580	-	522	28	28	177	430	67	2500	1232
GIICLZ17	355	1200	250-360	410-550	330-450	644	-	582	28	28	182	490	67	2700	1828
GIICLZ18	500	1050	280-400	470-650	380-540	726	-	658	28	28	215	540	75	3900	2674
GIICLZ19	710	950	300-460	470-650	380-540	818	-	748	32	32	220	630	75	5000	3565
GIICLZ20	1000	800	360-530	550-800	450-680	928	-	838	32	32	235	720	75	6200	5198
GIICLZ21	1400	750	400-600	650-800	540-680	1022	-	928	40	40	245	810	75	7000	7124
GIICLZ22	1800	650	450-670	650-900	540-780	1134	-	1036	40	40	255	915	75	8700	8978
GIICLZ23	2500	600	530-750	800-900	680-780	1282	-	1178	50	50	290	1030	80	15000	13124
GIICLZ24	3550	550	560-850	800-1000	680-880	1428	-	1322	50	50	305	1175	80	18000	18659
GIICLZ25	4500	460	670-1000	900-1000	780-1000	1644	-	1538	50	50	310	1390	80	23000	27797

Designs and Data of Journal Cross Assemblies

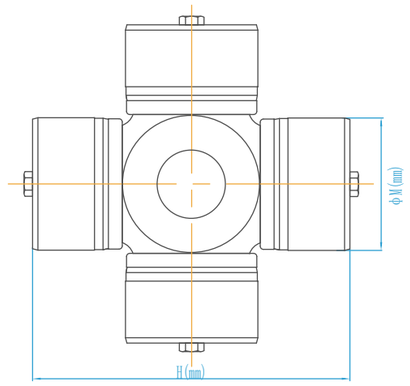
The designs and technical data of journal cross assemblies vary with different types of universal joint shafts. The most commonly used are the cross assemblies for SWC- I Series and SWC Series Universal joint shafts, whose configurations and specifications are shown in the following illustrations and tables. Customizations are available on request.

Cross Assemblies for SWC-I Series Universal Joint Shafts



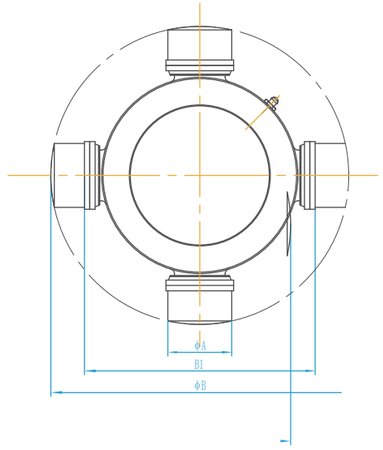
Coupling Specifications	ΦM (mm)	H (mm)
SWC-I 58	17	44
SWC-I 65	20	55
SWC-I 75	24	62
SWC-I 90	27	81.7
SWC-I 100	30	88
SWC-I 120	35	98
SWC-I 150	45	126
SWC-I 180	50	135
SWC-I 200	59	168
SWC-I 225	72	180

Cross Assemblies for SWC Series Universal Joint Shafts



Coupling Specification	ΦM (mm)	H (mm)
SWC160	65	136
SWC180	72	154
SWC200	82	171
SWC225	90	192
SWC250	100	214
SWC265	108	226
SWC285	115	243
SWC315	130	269
SWC350	145	299
SWC390	165	333
SWC440	185	377
SWC490	210	419
SWC550	240	472
SWC620	265	526

Cross Assemblies for KSWC Series Universal Joint Shafts



Coupling Specification	ΦB (mm))	A (mm)	ΦB1 (mm)
KSWC225	315	74	225
KSWC250	327	74	237
KSWC285	390	83	286
KSWC315	436	95	318
KSWC350	480	110	350
KSWC390	519	120	376
KSWC440	600	130	436
KSWC490	650	154	475

The Selection of Cardan Shafts

According as standard JB5513-91, use the following methods to select SWC- Ⅰ series and SWC series cardan shafts. Please consult us for selecting other product series.

1. Cardan shafts are selected according to the load features, calculated torques, bearing life, and operating speed.
2. The calculated torque is acquired from Formulas. (1)、 (2) or (1)、(3)

$$T_C = KT \quad \cdots\cdots (1)$$

$$T = 9550\frac{P_W}{n} \quad \cdots\cdots (2)$$

$$T = 7020\frac{P_H}{n} \quad \cdots\cdots (3)$$

or

Where, T_C = Calculated torque, N•m; T = Theoretic torque, N •m;
P_W = Driving power, kW ; P_H = Driving power, hp;
n = Operating speed, rpm; K = Service factors (See Table)

3. Generally, cardan shafts are selected according to the torque to be transmitted and the required bearing life. They can also be selected by checking their torque strengths or bearing life with relation to the requirements of the applicable equipment.
3.1 Checking the torsional strength using Formula (4),

$$T_C \le T_n \text{ or } T_C \le T_f \text{ or } T_C \le T_P \quad \cdots\cdots (4)$$

Where: T_C = Calculated torque, N•m
T_n = Nominal torque, N•m (i.e., a theoretically calculated value under these pre-determined conditions: speed of shaft n≈10 rpm, deflection angle β = 3°, and a bearing life
L_N = 5000 hours under even Icad).
T_f = Permissible torque according to the fatigue strength under alternating loads, N•m
T_P = Permissible torque according to the fatigue strength under pulsating loads, N•m
T_P = 1.45Tf

3.2. Checking the bearing life
Using Formula (5),

$$LN = \frac{K_L}{K_1 n \beta T^{10/3}} \times 10^{10} \ge L_{min} \quad \cdots\cdots (5)$$

LN = Service life, hrs;
n = Operating speed, rpm;
β= Joint operating angle in operation, (°);
K_1 = Prime motor factor
Electric motor: K_1 = 1
Diesel generator: K_1 = 1.2
K_L = Bearing capacity factor (See Table);
L_{min} = Min. bearing life, hrs;
T = Theoretic torque, kN•m .

4. When there are simultaneous horizontal andvertical angular misalignments on the cardan shaft, the composite deflection angle is calculated using Formula (6):

$$tg\beta = \sqrt{tg^2\beta_1 + tg^2\beta_2} \quad \cdots\cdots (6)$$

Where, β=Composite deflection angle, (°);
β1=Horizontal deflection angle, (°);
β2=Vertical deflection angle, (°).

5. If the joint diameter of the shaft is 390mm or less, Formulas (7) and (8) should be used to check the maximum speed in addition to the considerations of torque and bearing life.

$$n_{max} \le [n_\beta] \cdots\cdots (7)$$

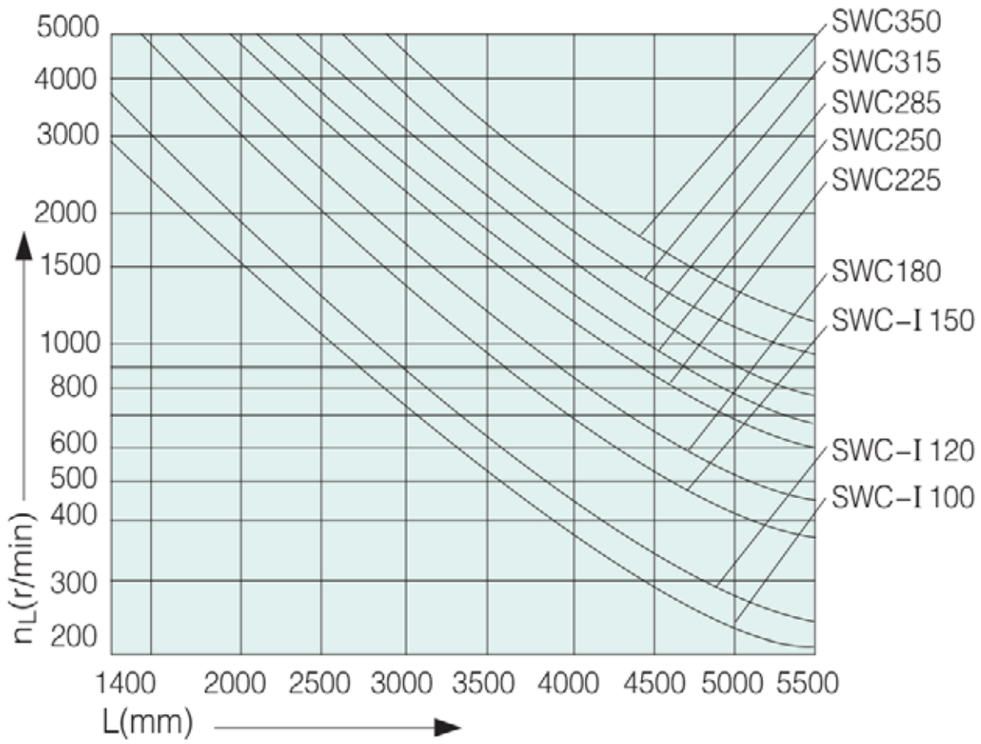
$$n_{max} \le [n_L] \cdots\cdots (8)$$

Where, n_{max} = Maximum operating speed, rpm;
$[n_\beta]$ = Maximum permissible speed in relation to operating deflection angle, rpm.
$[n_L]$ = Maximum permissible speed in relation to operating length, rpm. (See Figure)

Service Factor Type	Driven Equipment	K
Light shock load	Generators Centrifugal pumps Ventilators Wood handling machines Belt conveyers	1.1～1.3
Medium shock load	Compressors (multi-cyl.) Pumps (multi-cyl.) Small section mills Continuous wire mills Conveyer primary drives	1.3～1.8
Heavy shock load	Marine transmissions Transport roller tables Continuous tube mills Continuous working roller tables Medium section mills Compressors (single-cyl.) Pumps (single-cyl.) Mixers Presses Straightening machines Crane drives Ball mills	2～3
Extra heavy shock load	Paper machines Crane accessory drives Crushers Reversing working roller tables Reeling drives Scale breakers Blooming stands	3～5
Extreme shock load	Feed roller drives Plate shears	6～15

Bearing capacity factor

	KL	Design	KL	Design	KL	Design	KL
SWC-I 58	0.022×10-5	SWC160	0.16	SWC440	8.25×103	SWCL225	9.79
SWC-I 65	0.012×10-4	SWC180	0.51	SWC490	2.145×104	SWCL250	34.7
SWC-I 75	0.058×10-4	SWC200	1.47	SWC550	6.335×104	SWCL285	106
SWC－I 90	0.048×10-3	SWC225	7.812	SWC620	0.13×106	SWCL315	356
SWC-I 100	0.26×10-3	SWC250	28.2	SWCZ700	0.32×106	SWCL350	938
SWC-I 120	0.26×10-2	SWC265	54.8	SWCZ750	0.75×106	SWCL390	2323
SWC-I 150	2.65×10-2	SWC285	82.8	SWCZ800	1.06×106		
SWC-I 180	3.60×10-2	SWC315	279	SWCZ900	5.62×106		
SWC-I 200	1.03	SWC350	744	SWCZ1060	30.3×106		
SWC-I 225	1.89	SWC390	1860				



The Installation and Maintenance of Universal Joint Couplings

For installation and maintenance of cardan shafts, please refer to the《Installation & Maintenance Manual》, which is provided in the package boxes with the products.

Maintenance

Attention points for installation of cardan shafts:

1. Cardan drive shaft is delivered as a whole assembly, so there is no need for disassembly and washing before installation.

2. Hoisting cardan shaft should be carried out in horizontal state, and its lifting should use hemp rope or nylon rope.

3. The fork head at both ends of the spline shaft and spline sleeve should be in the same phase.

4. The anti-rust paint, grease, rust and dust on the flange mounting surface shall be cleaned.

5. Flange connection bolts can only be put in from the flange side matching the crossed drive shaft, and the nut is tightened by the flange side of the cardan drive shaft.

6. Flange connections shall be made with grade 10.9 high strength bolts and grade 10 nuts.

7. Apply a small amount of MoS2-free grease to the threaded portion of the bolt before the nut is screwed into the bolt.

8. The connection bolts shall be symmetrical in accordance with the required pre-tightening torque and uniformly tightened with a torque wrench. The relevant connection and pre-tightening torque shall conform to the following table.

TYPE	SWC 100	SWC 120	SWC 150	SWC 180	SWC 200	SWC 225	SWC 250	SWC 285	SWC 315	SWC 350	SWC 390	SWC 440	SWC 490	SWC 550	SWC 620
Specification of bolt(mm)	M8 ×1	M10 ×1	M12 ×1.5	M16 ×1.5	M16 ×1.5	M16 ×1.5	M18 ×1.5	M20 ×1.5	M22 ×1.5	M22 ×1.5	M24 ×2	M27 ×2	M30 ×2	M30 ×2	M36 ×3
pretightening torque(N.m)	32	64	111	270	270	270	372	526	710	710	906	1340	1820	1820	3170

Installation

1. Check

Checking whether there is any abnormality in the running of cardan drive shaft can not only ensure safety, but also improve the operation rate of mechanical equipment, which is also beneficial to extending the service life of drive shaft. If any abnormality is found, stop operation immediately to find out the cause. The crossed drive shaft coupling in normal operation shall be serviced every six months. The items to be examined are as follows:

A) Check the wear condition of cross pin shaft journal, bearing outer ring and short cylindrical roller surface, measure its radial clearance, observe whether the contact surface has indentation, pitting, peeling, cracking and other phenomena.

B) Check whether the spline shaft slides flexibly. When spline teeth are worn, distorted or have excessive fit clearance, replacement or repair shall be carried out.

2. Lubricate

Bearings and spline shall be lubricated periodically. Except for the operation, oil shall be injected once a week within six months and once every half a year after the working conditions are stable. For the spline shaft and the universal coupling shaft used for the main drive of the mill, the oil is injected every three months. The new oil should be used to squeeze out from the t-type oil seal until the new oil spills out (normally 2# lithium base fat or 2# molybdenum disulfide calcium base fat).

To ensure the safe operation of universal coupling shaft, avoid the situation that the end of the connection is stuck, causing the cross bag to twist off and fly out to hurt someone, the spindle connected with the cross pack must be fully lubricated, spindle bearing must be replaced regularly and install safety cover on both flange forks if necessary.

3. Maintain

If abnormal sound, vibration, oil leakage and other abnormal phenomena are found, the decomposition inspection should be stopped as soon as possible. Periodic inspection should be carried out even if no abnormality is found, especially for cardan shafts, which are used in important parts and continuously for a long period of time and cannot be stopped in the middle process. The standard time is 5000 hours or one year, and the specific time should be determined according to the use conditions.

A) Disassemble

Dirt and oil should be removed from the cardan drive shaft when disassembling, and external foreign matter should be prevented from entering the bearing and spline. Prior to disassembly, use white paint to mark all joint parts, bearings, cross shafts and other parts to prevent misalignment during assembly.

B) Clean

Bearings and cross shafts can no longer be cleaned in the same oil tank of other parts, and compressed air is used to dry them after cleaning.

C) Check

After decomposition, the main parts should be carefully checked for wear and tear, and replaced according to the extent.Check for spalling, pitting, abrasion and indentation on the cross shaft and rolling surface. Replace if found.

D) Assemble

When assembling, proceed in the opposite order of disassembly and follow the white mark to make the total position exactly the same before disassembly. The fork head at both ends of the spline shaft and spline sleeve should be in the same phase;ensure the axial clearance of the single side of the cross axis from 0.05 to 0.10mm;connection bolts shall be pre-tightened with torque wrenches in accordance with the pre-tightening torque specified;After assembly, re-lubricate its bearings and spline again.