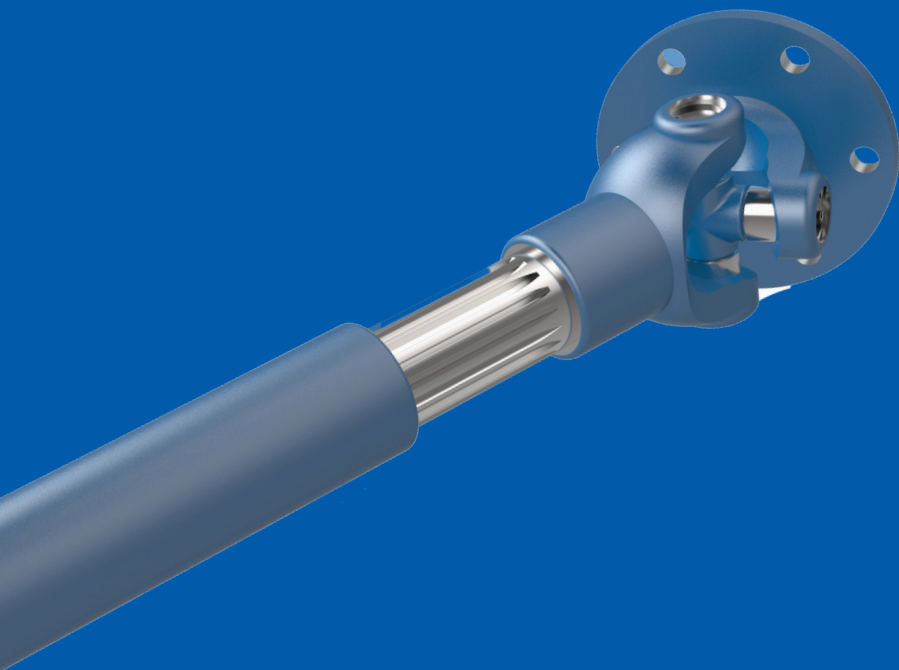
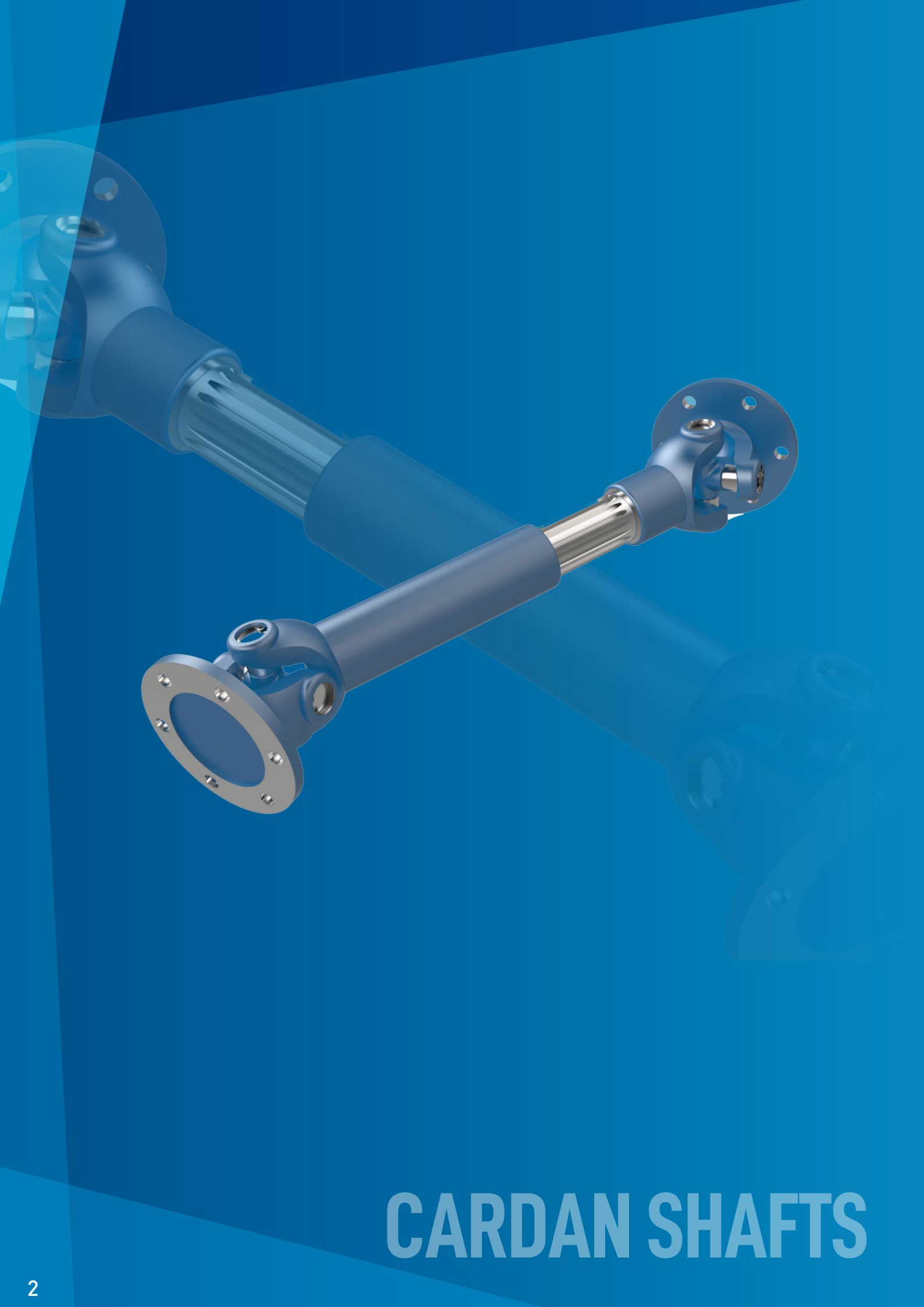


the world of
industrial brakes



 **CARDAN SHAFTS**



CARDAN SHAFTS



CARDAN SHAFTS

B06 20 224 E-EN-2020-11

PRODUCT INTRODUCTION

The cardan shaft 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	180-22000
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.

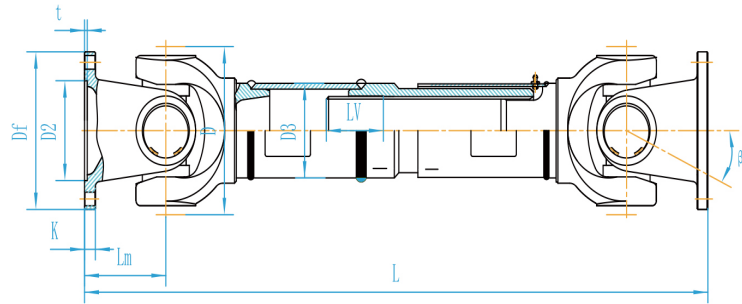


CARDAN SHAFTS

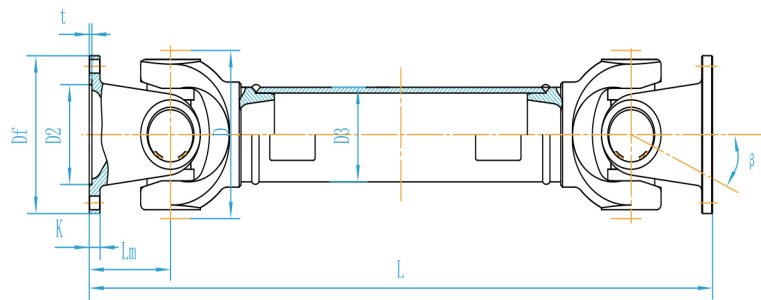
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SWC-I SERIES — LIGHT DUTY DESIGNS

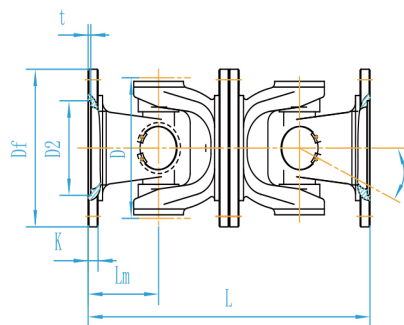
Type A- Welded shaft design with length compensation



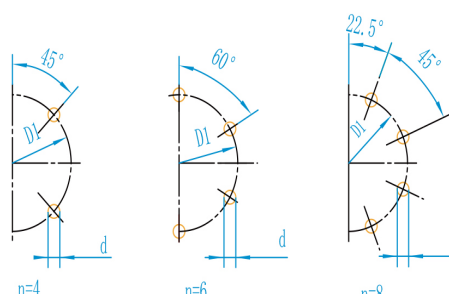
Type B- Welded shaft design without length compensation



Type C- Short flanged design without length compensation



Flange bolthole patterns



CARDAN SHAFTS

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DATA AND SIZES OF SWC-I CARDAN SHAFT

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
	L _v	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 ₃ xδ		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
L _m		32	39	45	52	55	63	85	87	110	120
K		3.5	4.5	5.5	6	8	8	10	12	1	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
	Tightening torque	7	13	13	32	32	64	110	180	270	270

1. Notations:

L = Standard length, or compressed length for designs with length compensation;

L_v = Length compensation;

m = Weight;

T_n = Nominal torque;

T_f = 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.

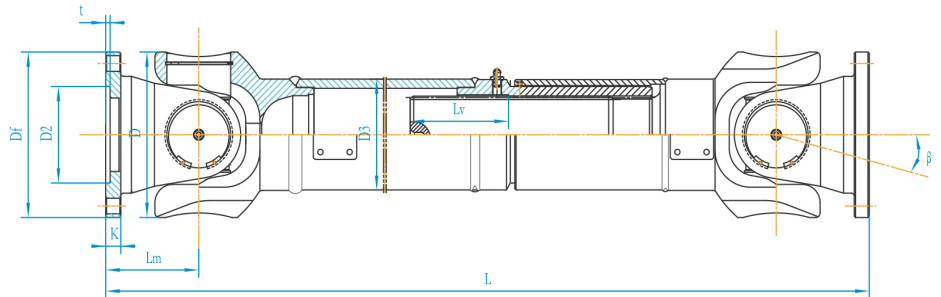
3. Please consult us for customizations regarding length, length compensation and flange connections.(DIN or SAE etc.).

CARDAN SHAFTS

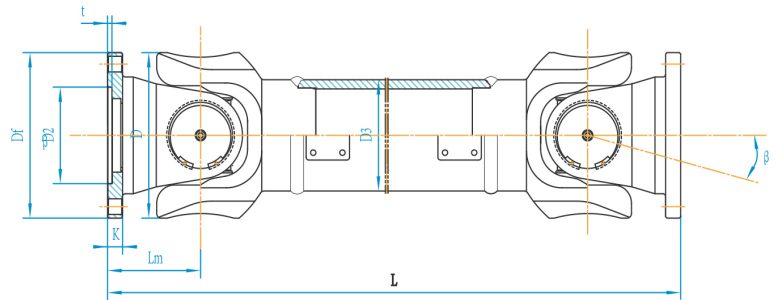
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SWC-L SERIES — MEDIUM DUTY DESIGNS

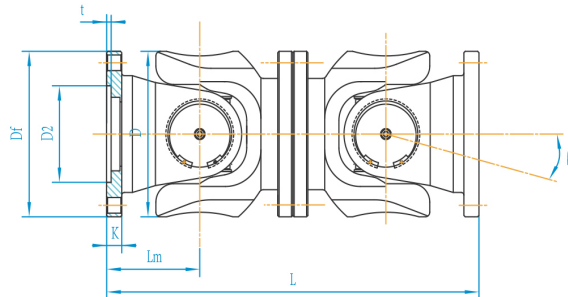
Type A - Welded shaft design,
with length compensation



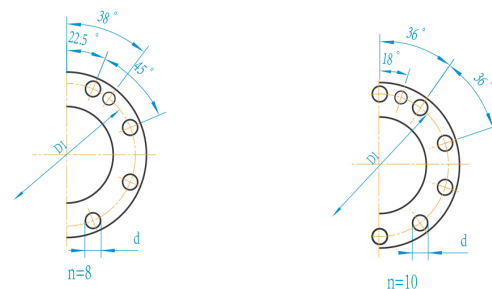
Type B - Welded shaft design,
without length compensation



Type C - Short flanged design,
without length compensation



Flange bolthole patterns



DATA AND SIZES OF SWCL CARDAN SHAFT

TYPE		SWCL 225	SWCL 250	SWCL 285	SWCL 315	SWCL 350	SWCL 390
A	L	960	1010	1150	1300	1420	1570
	L_v	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	390	435
D_1		218	245	280	310	345	385
D_2 (H9)		140	175	175	220	250	280
$D_3 \times \delta$		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
	Tightening torque	372	526	710	710	906	1340

1. Notations:

L = Standard length, or compressed length for designs with length compensation;

L_v = Length compensation;

m = Weight;

T_n = Nominal torque;

T_f = 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.

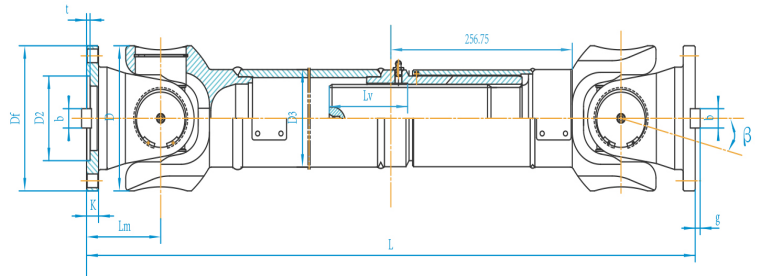
3. Please consult us for customizations regarding length, length compensation and flange connections. (DIN or SAE etc.).

CARDAN SHAFTS

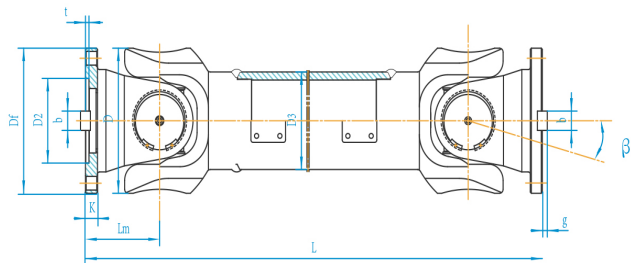
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SWC SERIES — MEDIUM DUTY DESIGNS

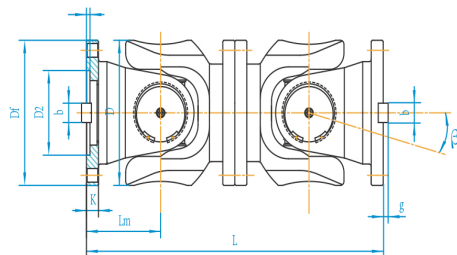
Type A - Welded shaft design, with length compensation



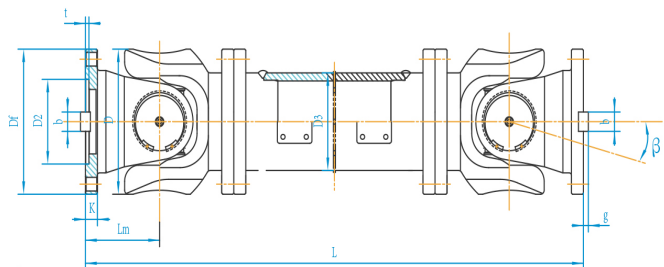
Type B - Welded shaft design, without length compensation



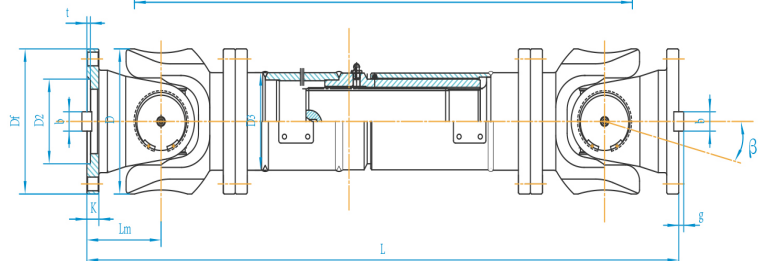
Type C - Short flanged design, without length compensation



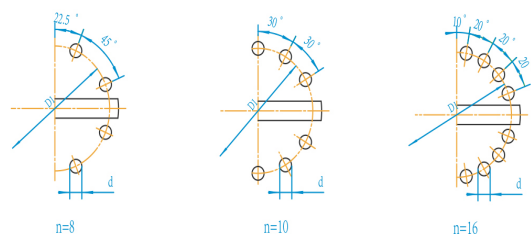
Type D - Long flanged design, without length compensation



Type E - Flanged shaft design, with length compensation



Flange bolthole patterns



n=8

n=10

n=16

Alt

CARDAN SHAFTS

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DATA AND SIZES OF SWC SERIES CARDAN SHAFT

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
	L _v	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	480	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
	L _v	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
T _n (kN*m)		21	28	40	56	80	100	120	160	225	320	500	700	1000	1250
T _f (kN*m)		10.5	14	20	28	40	50	58	80	110	160	250	350	500	325
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
D _i		160	180	200	225	250	265	285	315	350	390	440	490	550	620
D ₁		137	155	170	196	218	233	245	280	310	345	390	435	492	555
D ₂ (H9)		100	105	120	135	150	160	1740	185	210	235	255	275	320	380
D ₃ xδ		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
L _m		95	102	110	125	140	150	1690	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	21	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	28	28	31	40	40	40	40	50	70	80	90	100	100
g		6	8	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 bolt	size	M14	M16	M16	M16	M18	M18	M20	M22	M22	M24	M27	M30	M30	M26
	Tightening torque	180	270	270	270	372	372	526	710	710	906	1340	1820	1820	3170

1. Notations:

L = Standard length, or compressed length for designs with length compensation;

L_v = Length compensation;

m = Weight;

T_n = Nominal torque;

T_f = 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.

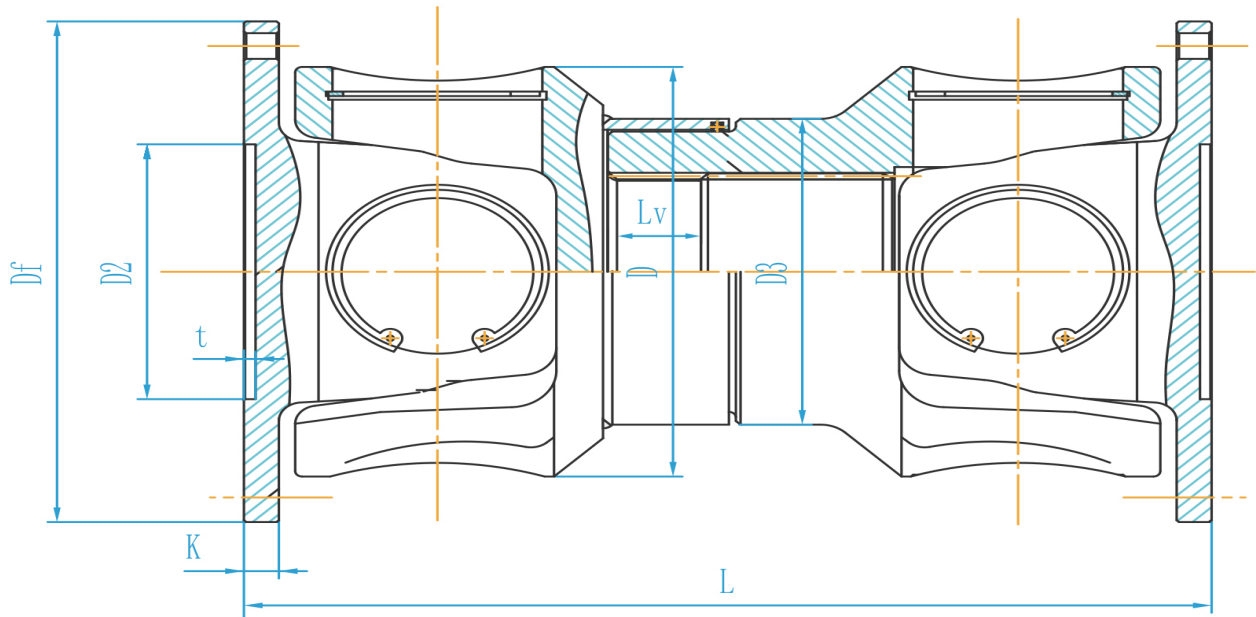
2. Millimeters are used as measurement units except where noted.

3. Please consult us for customizations regarding length, length compensation and flange connections.(DIN or SAE etc.).

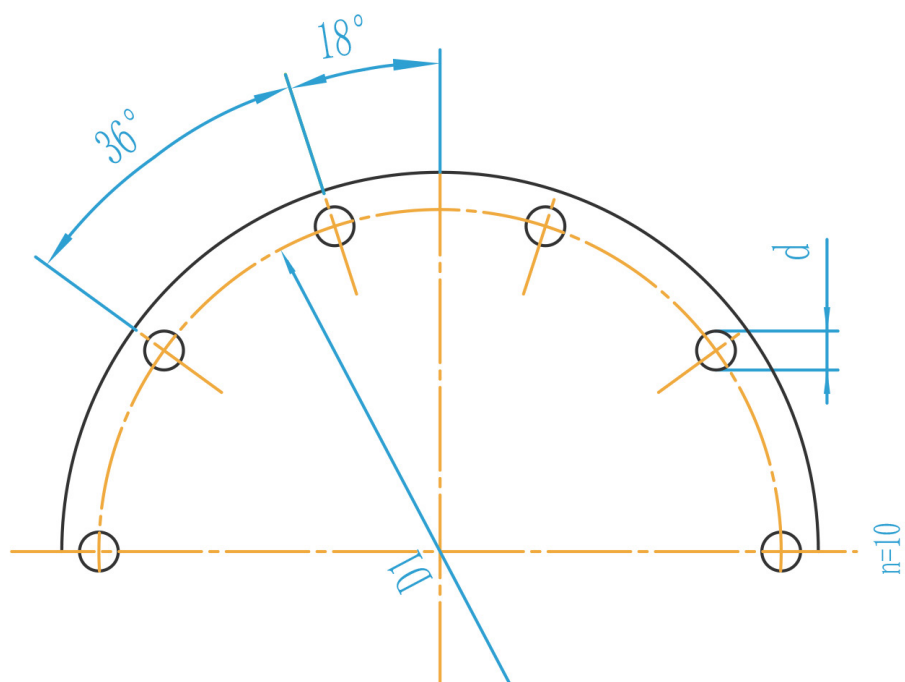
CARDAN SHAFTS

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SWCD SERIES — SHORT DESIGNS



FLANGE BOLTHOLE PATTERNS



DATA AND SIZES OF SWCD SERIES CARDAN SHAFT

	SWCD 215	SWCD 250	SWCD 285	SWCD 315	SWCD 350
L	415	495	545	600	688
L _v	40	40	40	40	55
m(kg)	60	98	120	169	256
T _n (kN*m)	25	35.5	40	63	90
T _f (kN*m)	12.5	18	20	31.5	45
β(°)	5	5	5	5	5
D	215	225	250	285	315
D _f	275	305	348	360	405
D ₁	248	275	314	328	370
D ₂ (H9)	140	140	175	175	220
D ₃	114	140	152	168	194
L _m	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

1. Notations:

L = Standard length, or compressed length for designs with length compensation;

L_v = Length compensation;

m = Weight;

T_n = Nominal torque;

T_f = Fatigue torque, i.e. the permissible torque as determined according 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.

Example

