

UNIVERSAL JOINT
UZKU-N
KWN 22200



KUDOSWORLD CORPORATION

Product | Engineering Services
Maintenance

Technical Features

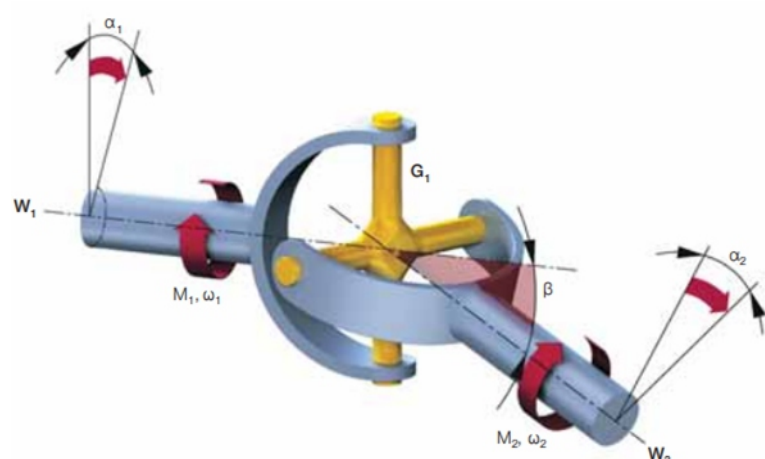
Universal joint, with its characteristics, realizes the continuous rotation of the two shafts which are not on the same axis, and transmits torque in a reliable way. The most distinctive features of universal joint are: a relatively bigger angular compensation allowed structurally, compact structure, high transmission efficiency, high production rate and long service life. Universal joints with different structures could tolerate different included angles which range from 5 to 45 degrees.

Application

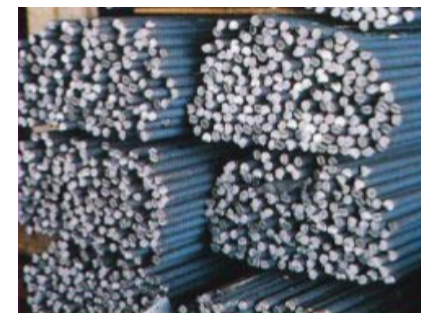
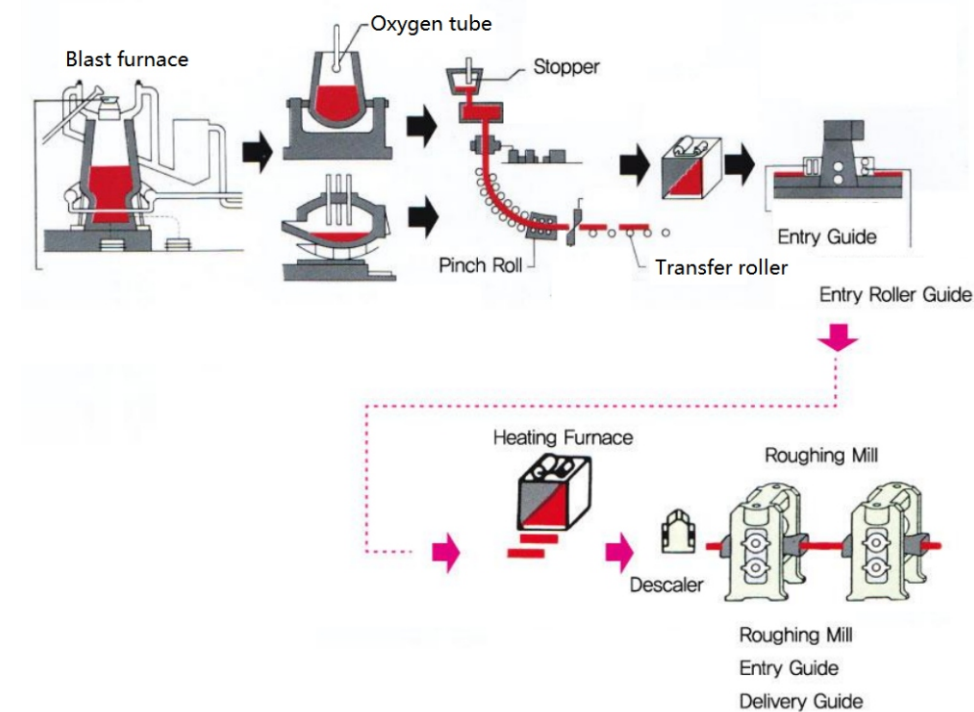
Universal joint due to its deviation Angle and high transmission torque characteristics, is widely used in all kinds of lifting, engineering transport, mining, petroleum, shipping, coal, rubber, paper machinery and other heavy industry machinery.

Style design

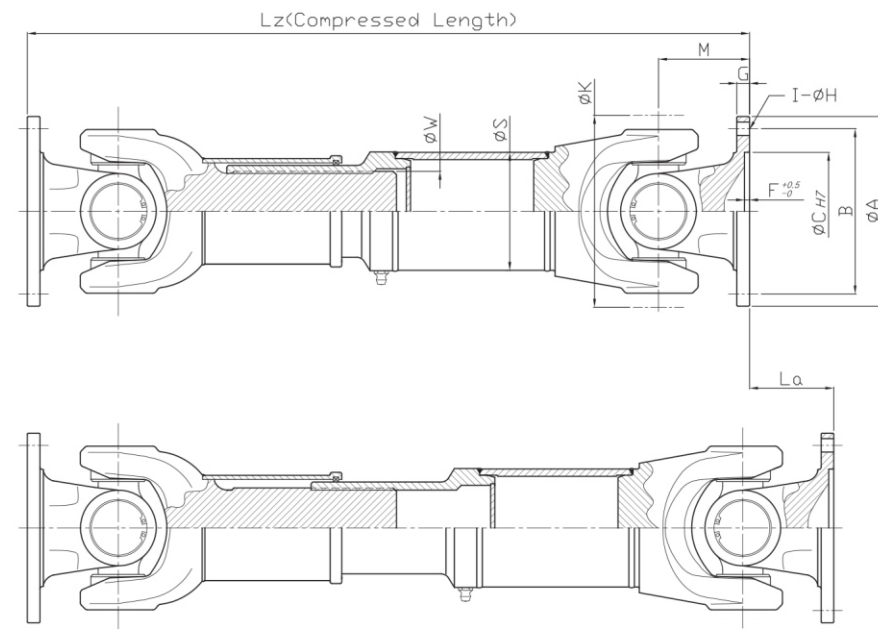
G_1	Universal joint
W_1	Input shaft
W_2	Output shaft
α_1, α_2	Rotation angle
β	Deflection angle
M_1, M_2	Torsion
ω_1, ω_2	Angular velocity



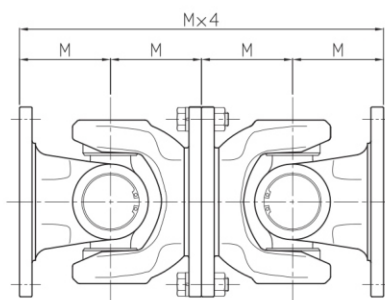
The practical application of Universal Joint



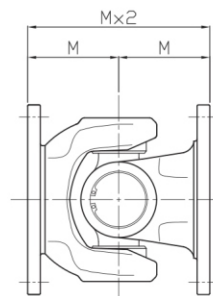
UL Type



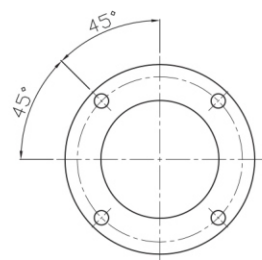
Extended Length



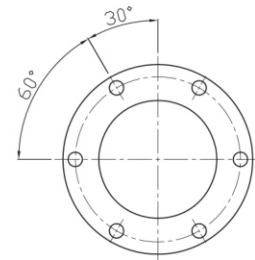
<DOUBLE-TYPE>



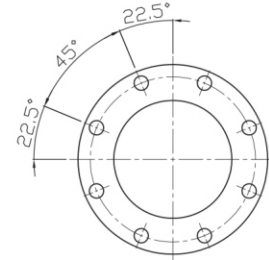
<SINGLE-TYPE>



<4-HOLE FLANGE>

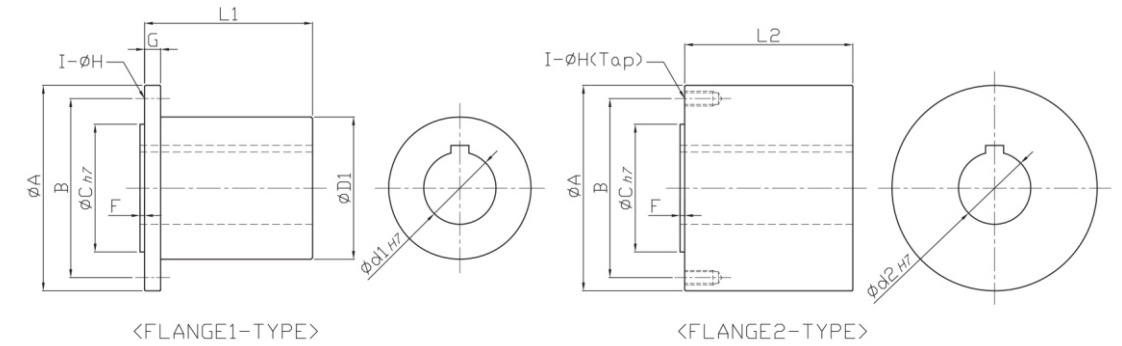


<6-HOLE FLANGE>



<8-HOLE FLANGE>

UL Type



Product name		UL58	UL65	UL75(6h)	UL75(4h)	UL90	UL100	UL120	UL150	UL160	UL180	UL200
DIN	Standard	473.10	473.20	473.30	287.00	287.10	287.20	587.15	587.20	587.30	587.35	
Bearing	mm	ø18x47	ø18x47	ø23.8x61.3	ø25x63.8	ø27x81.75	ø27x81.75	ø35x98.6	ø42x117.5	ø48x116.5	ø52x133	ø57x144
Tcs	Nm	150	250	400	550	1100	1800	2700	5000	6500	10000	12000
Tdw	Nm	110	150	300	400	400	700	1000	1800	2700	4000	4500
β (angle)	°	24	24	24	16	24	24	35	30	30	35	35
A (flange)	mm	58	65		75	90	100	120	150	160	180	200
K (swing dia.)	mm	62	62		78	96	96	116	138	145	158	170
B (pcd)	mm	47	52		62	74.5	84	101.5	130	140	155.5	175
C	mm	30	35		42	47	57	75	90	100	110	125
F	mm	2.5	2.5		2.5	3	3	3	3	4	4	5
G	mm	4	4	6	6.5	7	7	8	10	10	12	14
I (qty of holes)	—	4	4	6	4	4	6	8	8	8	8	8
H	mm	5	6		6	8.5	8.5	10	12	12	14	14
M	mm	32	32	42	40	55	55	70	72	82	92	100
S (tube)	mm	42.7x3.6	42.7x3.6	55x5	50.8x2.4	60.5x3.65	60.5x3.65	73x5.2	89.1 x7.6	89.1 x7.6	89.1 x7.6	101.6x8.1
W (spline)	—	25-m1.25	25-m1.25	30-m1.667	33.33-m1.667	36-m2	36-m2	42-m2	50-m1.5	65-m2.5	65-m2.5	75-m2.5
Lz (min.)	mm	262	262	319	295	345	345	430	480	480	583	648
La (stroke)	mm	60	60	100	50	60	60	100	120	120	120	120
G	kg	2	2	3.7	6.16	5.7	5.7	12	24	26	35	46.5
Gr	kg	3.47	3.47	6.165	2.865	5.1	5.1	8.7	15.3	15.3	15.3	18.68
d1 (max.)	mm	20	25		30	35	40	50	60	70	80	85
D1 (max.)	mm	35	40		50	55	64	80	105	110	125	130
L1	mm	30	40		48	55	63	80	90	110	125	140
d2 (max.)	mm	35	40		45	55	60	70	90	95	110	120
L2	mm	56	63		70	90	90	110	140	160	180	180

*Tcs: Functional limit Torque

*Lz(Ordor Production): Shortest possible compressed length

*G: Weight of shaft

*Tdw: Fatigue Torque

*La: Length compensation

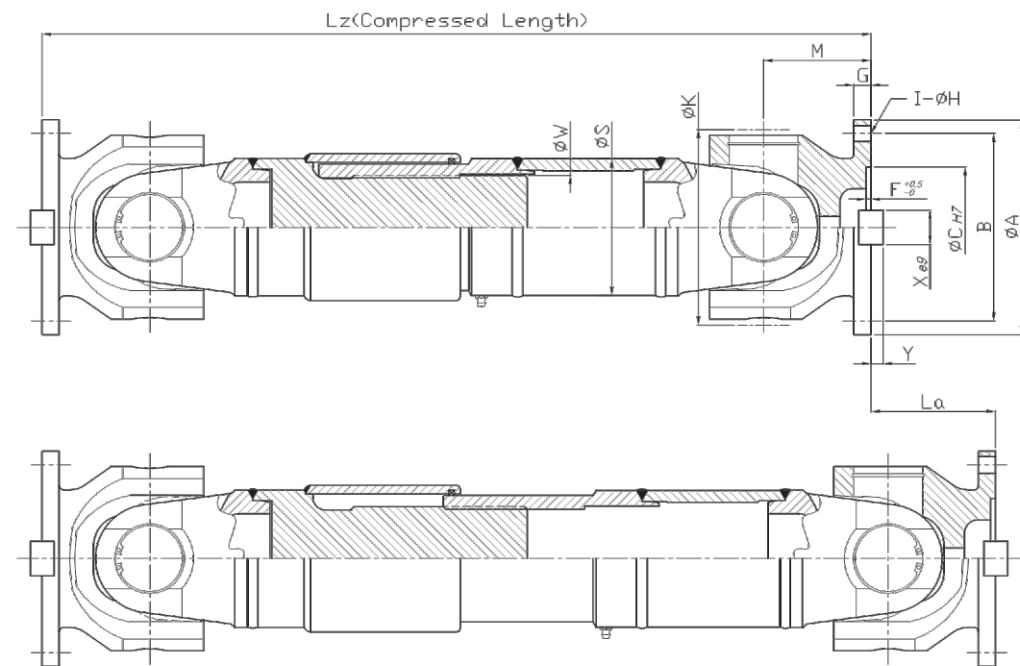
*Gr: Weight per 1,000mm tube

*β : Maximun deflection angle per joint

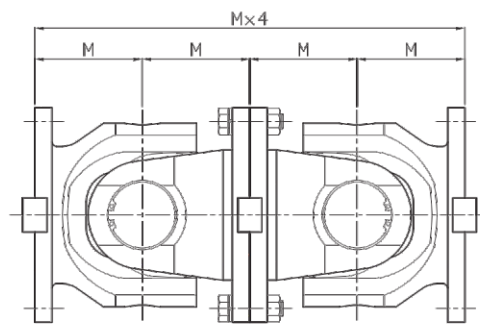
*Lz+La: Maximun operating length

How to Order: UL 150 X 1500 (+110)
TYPE A LZ La

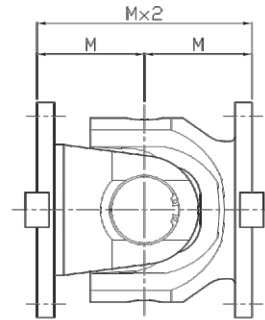
UT Type



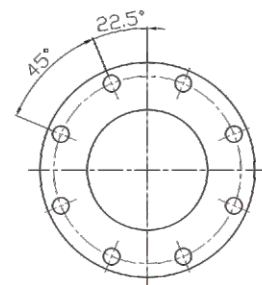
Extended Length



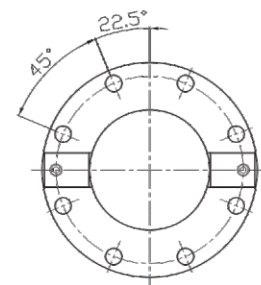
<DOUBLE-TYPE>



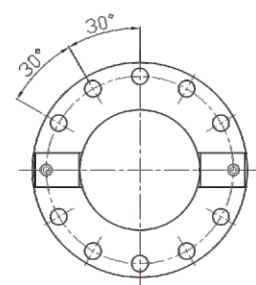
<SINGLE-TYPE>



<8-HOLE FLANGE>
(100~225)

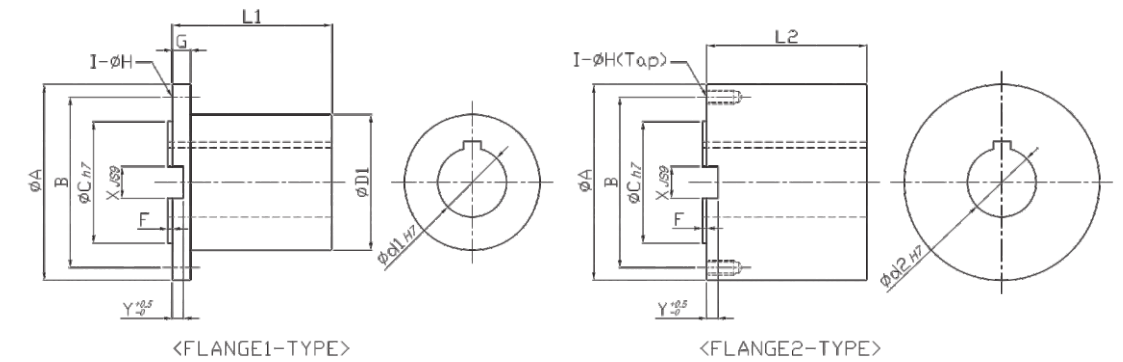


<8-HOLE FLANGE>
(250~285)



<10-HOLE FLANGE>
(315~390)

UT Type



Product name		UT100	UT120	UT150	UT160	UT180	UT225	UT250	UT285	UT315	UT350	UT390
Bearing	mm	ø32x92(57)	ø39.68x117	ø52x133	ø52x133	ø57x144	ø72x185	ø95x217	ø110x247	ø120x275	ø135x307	ø160x334
Tcs	kNm	2.4	5	10	10	12	43	80	120	160	225	320
Tdw	kNm	0.7	1.6	4	4	4.5	13	40	58	80	110	160
β (angle)	°	24	24	35	35	35	24	15	15	15	15	15
A (flange)	mm	100	120	150	160	180	225	250	285	315	350	390
K (swing dia.)	mm	98	136	158	158	170	215	250	285	315	350	390
B (pcd)	mm	84	101.5	130	140	155.5	196	218	245	280	310	345
C	mm	57	75	90	100	110	140	140	175	175	220	250
F	mm	3	3	3	4	4	6	6	6	7	7	8
G	mm	10	10	12	12	14	15	25	27	32	35	40
I (qty of holes)	—	6	8	8	8	8	8	8	8	10	10	10
H	mm	9	10	12	12	14	16	19	21	23	23	25
M	mm	62	72	90	90	100	108	160	180	200	220	240
X	mm	—	—	—	—	—	—	40	40	40	50	70
Y	mm	—	—	—	—	—	—	12.5	15	15	16	18
S (tube)	mm	76.3x3.65	90x80	89.1x7.6	89.1x7.6	101.6x8.1	139.8x9.5	168x14	194x16	216x18.2	273x19	273x36
W (spline)	—	33.33~m1.667	50~m1.5	65~m2.5	65~m2.5	75~m2.5	85~m2.5	115~m2.5	150~m3	150~m3	185~m5	185~m5
Lz (min.)	mm	310	425	590	590	630	700	960	1,055	1,165	1,270	1,420
La (stroke)	mm	40	120	120	120	120	120	140	140	140	150	170
G	kg	6	16	33	34	46.5	80	172	263	382	532	738
Gr	kg	6.54	10.48	15.3	15.3	18.7	30.5	53	70	88.9	119	210.4
d1 (max.)	mm	40	50	60	70	80	105	115	130	155	170	190
D1 (max.)	mm	64	80	105	110	125	172	191	215	248	278	309
L1	mm	63	80	90	110	125	160	175	200	235	255	285
d2 (max.)	mm	60	70	90	95	110	140	155	175	195	215	240
L2	mm	90	110	140	160	180	210	235	270	300	330	370

*Tcs: Functional limit Torque

*Lz(Order Production): Shortest possible compressed length

*G: Weight of shaft

*Tdw: Fatigue Torque

*La: Length compensation

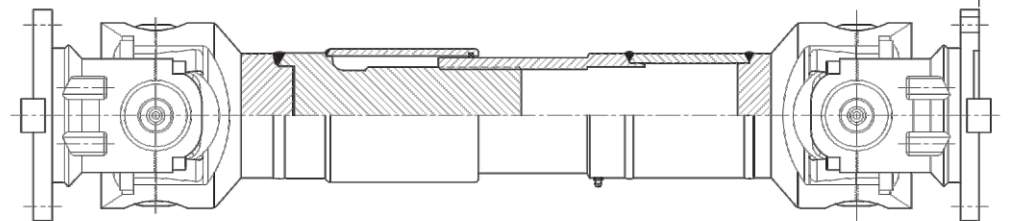
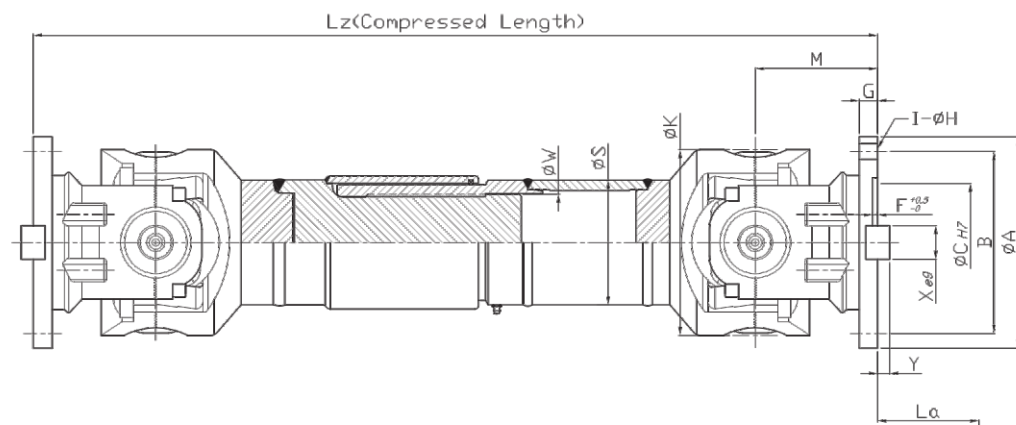
*Gr: Weight per 1,000mm tube

*β: Maximum deflection angle per joint

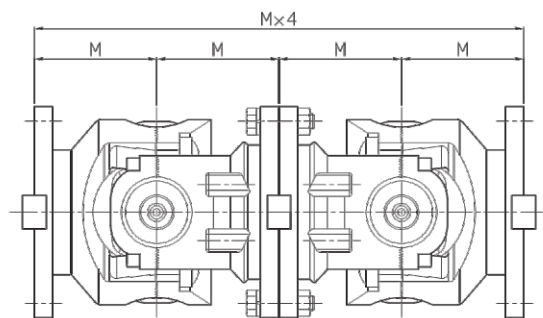
*Lz+La: Maximum operating length

How to Order: $\frac{UT}{TYPE} \frac{150}{A} \times \frac{1500}{LZ} \frac{(+120)}{La}$

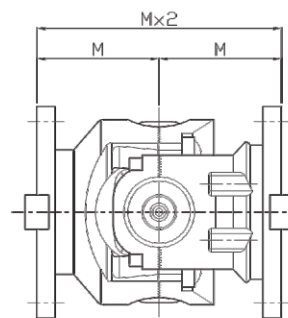
UK Type



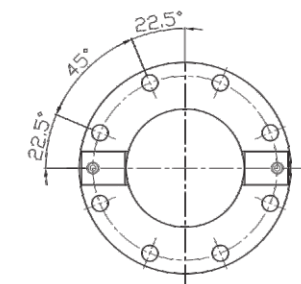
Extended Length



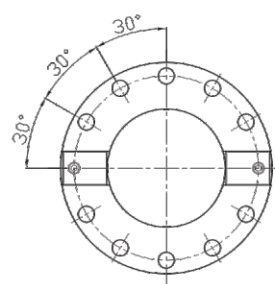
<DOUBLE-TYPE>



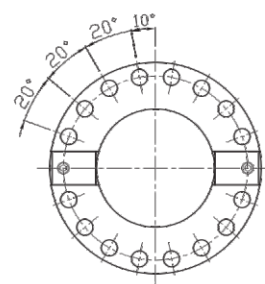
<SINGLE-TYPE>



<8-HOLE FLANGE>

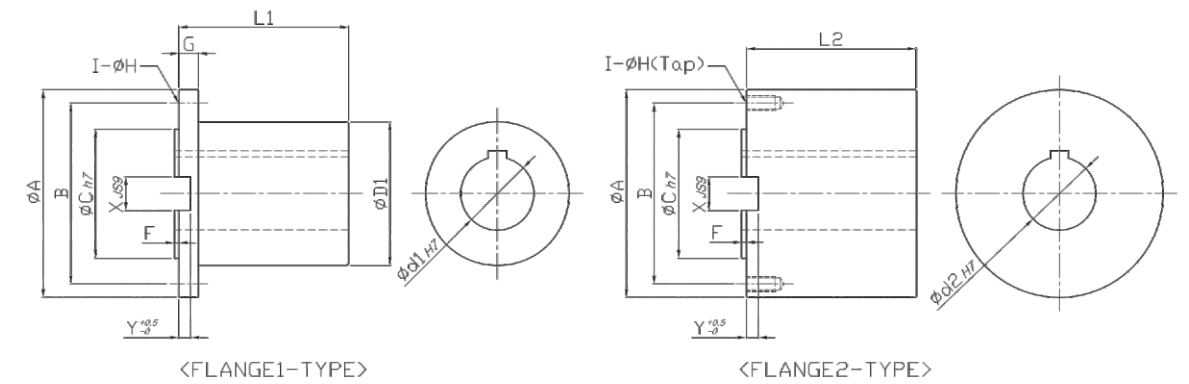


<10-HOLE FLANGE>



<16-HOLE FLANGE>

UK Type



Product name		UK225	UK250	UK285	UK315	UK350	UK390	UK435	UK480	UK550
Bearing	mm	ø88x218x124	ø95x244x138	ø110x276x156	ø125x304x176	Customize	Customize	Customize	Customize	Customize
Tcs	kNm	56	80	112	160	224	315	450	630	900
Tdw	kNm	28	40	56	80	112	158	225	315	450
β (angle)	°	15	15	15	15	15	10	10	10	10
A (flange)	mm	225	250	285	315	350	390	435	480	550
K (swing dia.)	mm	225	250	285	315	350	390	435	480	550
B (pcd)	mm	196	218	245	280	310	345	385	425	492
C	mm	140	140	175	175	220	250	280	320	380
F	mm	5	5	7	8	8	8	10	12	12
G	mm	20	25	27	32	35	40	42	47	50
I (qty of holes)	—	8	8	8	10	10	10	16	16	16
H	mm	17	19	21	23	23	25	28	31	31
M	mm	145	165	180	205	225	215	245	275	305
X	mm	32	40	40	40	50	70	80	90	100
Y	mm	9	12.5	15	15	16	18	20	22.5	22.5
S (tube)	mm	152x13.5	168x14	194x16	216.3x18.2	267.4x21.4	273x24.5	318.5x33.3	355.6x35.7	406.4x40.5
W (spline)	—	110-m2.5	130-m3	150-m3	150-m3	185-m5	185-m5	210-m5	210-m5	240-m5
Lz (min.)	mm	890	1,010	1,090	1,240	1,310	1,430	1,620	1,820	2,035
La (stroke)	mm	100	135	135	170	170	170	170	190	210
G	kg	129	214	272	406	493	732	1,055	1,468	2,209
Gr	kg	46.1	53	70	88.9	130	150	234	281.6	365.4
d1 (max.)	mm	105	115	130	155	170	190	215	235	275
D1 (max.)	mm	172	191	215	248	278	309	344	379	446
L1	mm	160	175	200	235	255	285	325	355	415
d2 (max.)	mm	140	155	175	195	215	240	270	300	340
L2	mm	210	235	270	300	330	370	405	450	510

*Tcs: Functional limit Torque

*Lz(Ord Production): Shortest possible compressed length

*G: Weight of shaft

*Tdw: Fatigue Torque

*La: Length compensation

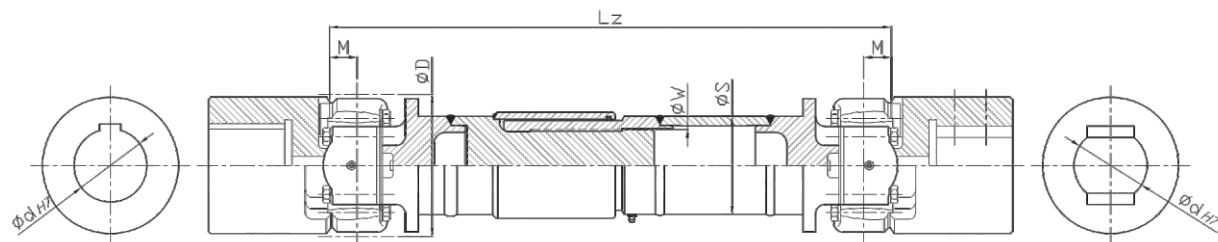
*Gr: Weight per 1,000mm tube

*β : Maximun deflection angle per joint

*Lz+La: Maximun operating length

How to Order: $\frac{UL}{TYPE} \frac{225}{A} \times \frac{1500}{LZ} \frac{(+100)}{La}$

UH Type



Product name		UH300	UH350	UH400	UH425	UH450	UH500	UH550	UH600	UH650	UH700	UH750
Tcs	kNm	190	300	445	536	634	847	1,180	1,500	1,890	2,353	2,940
Tdw	kNm	65	110	170	209	250	347	470	620	786	980	1,240
β (angle)	°	10	10	8	8	8	8	6	6	6	6	6
D	mm	300	350	400	425	450	500	550	600	650	700	750
M	mm	60	70	80	86	92	107	116	125	136	146	155
S (tube)	mm	244.5x28	273x30	323.9x36	355.6x40	406.4x40	457x50	Customize	Customize	Customize	Customize	Customize
W (spline)	—	185—m5	210—m5	210—m5	210—m5	240—m5	290—m8	Customize	Customize	Customize	Customize	Customize
Lz (min.)	mm	965	1,080	1,220	1,284	1,348	1,503	1,604	1,730	1,849	1,949	2,090
La (stroke)	mm	135	155	175	185	195	205	220	235	250	265	290
G	kg	477	767	1,125	1,351	1,627	2,227	Customize	Customize	Customize	Customize	Customize
Gr	kg	149	180	255.6	311.3	361.4	501.94	Customize	Customize	Customize	Customize	Customize
d (max.)	mm	185	215	250	265	280	310	340	375	400	435	465

*Tcs: Functional limit Torque

*Lz(Ordor Production): Shortest possible compressed length

*G: Weight of shaft

*Tdw: Fatigue Torque

*La: Length compensation

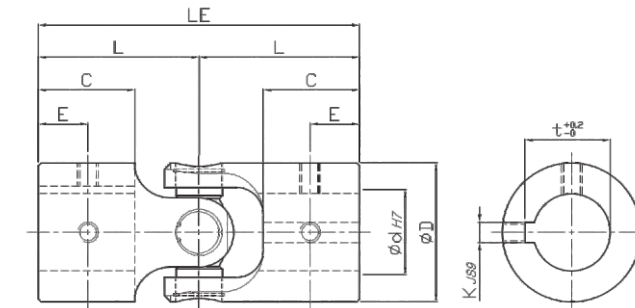
*Gr: Weight per 1,000mm tube

* β : Maximum deflection angle per joint

*Lz+La: Maximum operating length

How to Order: $\frac{UH}{TYPE} \frac{300}{D} \times \frac{1500}{LZ} \frac{(+135)}{La}$

UE Type



Product name		UE20	UE25	UE30	UE35	UE40	UE50	UE60
Bearing	mm	$\emptyset 16 \times 40(24.5)$	$\emptyset 18 \times 47$	$\emptyset 20.1 \times 57(35)$	$\emptyset 25 \times 63.8(41.2)$	$\emptyset 27 \times 81.75$	$\emptyset 32 \times 92(57)$	$\emptyset 37 \times 104(67)$
Tcs	Nm	150	250	400	550	1,100	1,800	3,800
Tdw	Nm	110	150	240	400	400	700	1,600
β (angle)	°	25	25	25	25	25	25	25
d	mm	20	25	30	35	40	50	60
D	mm	43	54	62	69	96	99	114
LE	mm	86	110	140	200	200	270	300
L	mm	43	55	70	100	100	135	150
C	mm	23	30	40	60	60	80	84
E	mm	11.5	14	20	30	30	40	42
K	mm	6	8	8	10	12	14	18
t	mm	22.8	28.3	33.3	38.3	43.3	53.8	64.4
M	mm	6	8	8	10	12	14	16

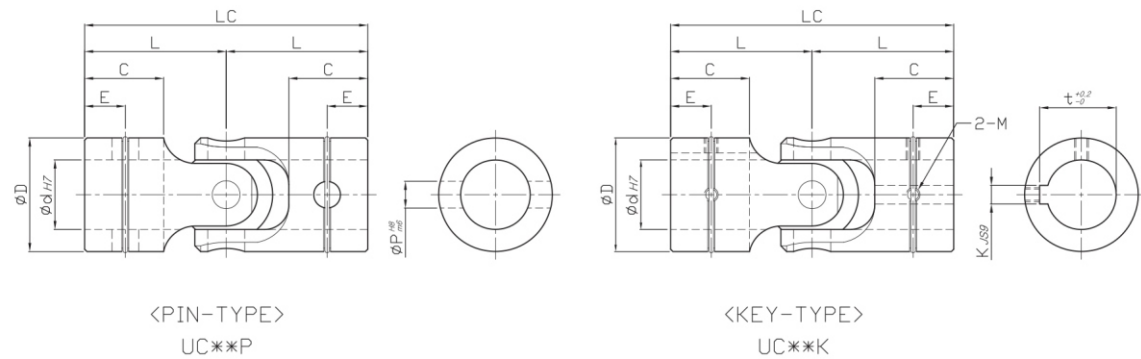
*Tcs: Functional limit Torque

*Tdw: Fatigue Torque

* β : Maximun deflection angle per joint

How to Order: $\frac{UE}{TYPE} \frac{25}{d} \frac{K8}{K(Key\ width)} \times \frac{D54}{D} \times \frac{110}{LE}$

UC Type



Product name	UC06		UC08		UC10		UC12		UC14		UC16		UC18		UC20	
	-D12	-D15	-D19	-D20	-D23	-D24	-D26	-D28	-D30	-D32	-D33	-D36	-D36	-D40	-D40	-D40
Allowable conditional variable	32,000	48,000	80,000		121,000		151,000		200,000		232,000		273,000		273,000	
Max. Speed min ⁻¹	2,500	2,200	2,000		1,800		1,600		1,400		1,200		1,000		1,000	
Tcs Nm	16	35	83	185	140	200	200	500	310	600	400	900	530	1,200		
Tdw Nm	5	12	27	62	46	67	66	167	102	200	132	300	175	400		
β (angle) °	30	30	30		30		30		30		30		30		30	
d mm	6	8	10		12		14		16		18		20			
D mm	12	15	19	20	23	24	26	28	30	32	32	36	36	40		
LC mm	31	36	42	68	52	84	59	94	74	104	81	120	87	124		
L mm	15.5	18	21	34	26	42	29.5	47	37	52	40.5	60	43.5	62		
C mm	9	10	12	23	15	29	17	31.5	22	34.5	23.5	40	25	40		
E mm	4.5	5	6	9	7.5	14	8.5	15	11	17	11.75	20	12.5	20		
P mm	3	3.5	4.5	-	5	-	5.8	-	6.5	-	7	-	8	-		
K mm	-	-	3 (4)		4 (4)		5 (5)		5 (5)		6 (5)		6 (5)			
t mm	-	-	11.4 (11.5)		13.8 (13.5)		16.3 (16)		18.3 (18)		20.8 (20)		22.8 (22)			
M mm	3	3	5	3	5	4	6	5	6	5	6	6	6	6		
KC (Rubber) mm	-	25	32	32	35	-	40	-	46	-	52	58	58	-		
DQ mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
EQ mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
I mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
R mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
JQ mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
KQ mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
tQ mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Ts kg	530	784	1,300	1,450	2,300	3,300	2,600	4,700	3,900	5,480	4,400	5,940	5,200	8,330		
Weight g	15	30	55	130	110	200	155	400	260	520	345	700	465	1,060		

*Refer to "Allowable Conditional Variables" on Page 18 before selecting one.

*Tcs: Functional limit Torque

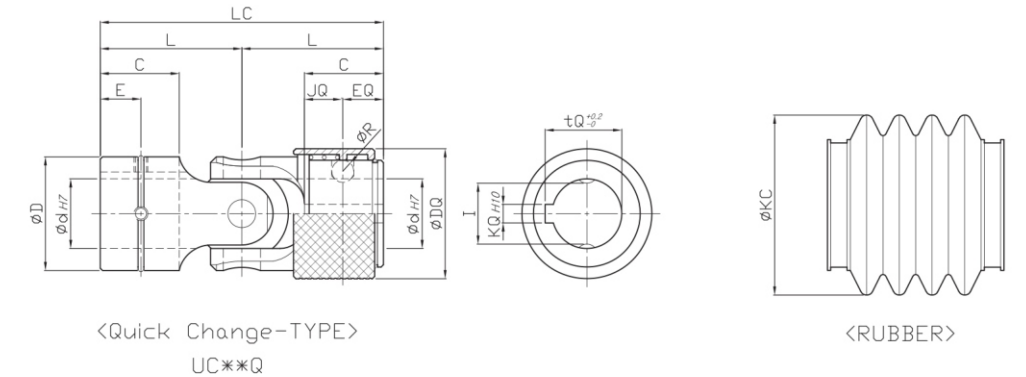
*Tdw: Fatigue Torque

*β : Maximum deflection angle per joint

*Ts: Static tensile load

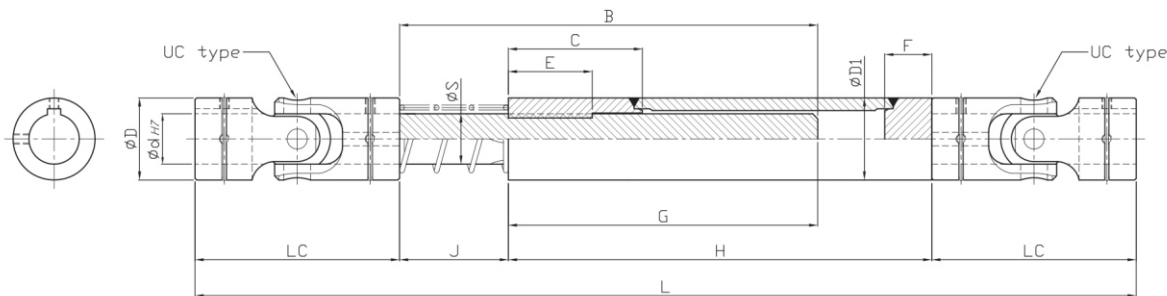
How to Order: UC $\frac{25}{d}$ K7 or P or Q7 x $\frac{D44}{D}$ x $\frac{105}{LC}$ ex)UC25K7xD44x105

UC Type



UC22		UC25		UC30		UC35		UC40		UC45		UC50	
-D40	-D44	-D44	-D50	-D50	-D60	-D60	-D70	-D67	-D80	-D75	-D90	-D83	-D100
344,000		406,000		531,000		711,000		718,000		1,150,000		1,400,000	
900		800		700		600		500		400		300	
760	1,440	1,000	2,540	1,500	3,300	2,400	5,300	3,600	10,000	4,800	12,600	5,800	15,200
251	480	330	847	495	1,100	792	1,767	1,188	3,333	1,584	4,200	1,914	5,067
30		30		30		30		30		30		30	
22		25		30		35		40		45		50	
39	44	44	50	49	60	59	70	67	80	75	90	83	100
94	130	105	140	122	178	140	200	157	228	176	250	191	270
47	65	52.5	70	61	89	70	100	78.5	114	88	125	95.5	135
27	41	30	43	35	56	40	62	45	70	50	76	55	80
13.5	20	15	21	17.5	28	20	31	22.5	35	25	38	27.5	50
9	-	10	-	11.5	-	13	-	14.5	-	16	-	17.5	-
6 (7)		8 (7)		8 (7)		10 (10)		12 (10)		14 (12)		14 (12)	
24.8 (25)		28.3 (28)		33.3 (33)		38.3 (38.5)		43.3 (43.5)		48.8 (48.5)		53.8 (53.5)	
6	6	8	8	8	10	10	10	10	10	10	12	10	12
-	68	68	82	82	-	-	-	-	-	-	-	-	-
-	-	49	50	56	60	64	70	-	-	-	-	-	-
-	-	15	20.5	17.5	25	20	28	-	-	-	-	-	-
-	-	21.54	23	26.95	28	32	32	-	-	-	-	-	-
-	-	4.4	5	4.8	5	4.8	6	-	-	-	-	-	-
-	-	15	22.5	17.5	31	20	34	-	-	-	-	-	-
-	-	7		7		10		-	-	-	-	-	-
-	-	28		33		38.5		-	-	-	-	-	-
6,800	9,200	8,100	12,190	10,000	17,800	14,000	23,698	1,800	34,125	22,000	43,130	28,000	50,978
630	1,300	790	1,820	1,160	2,800	2,255	4,600	2,730	7,000	4,350	10,000	5,200	13,000

UP Type



Product name		UP12	UP14	UP16	UP18	UP20	UP25	UP30	UP35	UP40	UP45	UP50
d	mm	12	14	16	18	20	25	30	35	40	45	50
D	mm	23	26	30	32	36	44	49	59	67	75	83
L	mm	224	238	348	362	454	501	535	572	632	652	702
La (stroke)	mm	30	30	100	100	100	100	100	100	100	100	100
B	mm	100	100	180	180	260	263	263	263	280	260	280
S (spline)	–	15–m1	15–m1	22–m1	22–m1	22–m1	30x25–6	30x25–6	38x32–6	42–m2	45x41–8	60x52–8
D1 (tube)	mm	23x3.4	24x3.9	31x3.25	33x4.25	36x5.75	44x6.5	49x7	59x8	67x9	75x6.35	83x8
E	mm	40	40	50	50	50	50	50	60	80	80	80
C	mm	67	67	80	80	80	80	80	90	120	120	120
LC	mm	52	59	74	81	87	105	122	140	157	176	191
G	mm	75	75	180	180	180	200	200	200	200	200	200(280)
F	mm	20	20	20	20	20	28	28	29	38	40	40
H	mm	95	95	200	200	200	228	228	229	238	240	320
J	mm	25	25	0	0	80	63	63	63	80	60	80(0)
Coil spring	–	–	–	–	–	ID23.5*□2 *17*200L	ID34*□3 *13*200L	ID34*□3 *13*200L	ID39*□3.5 *14*210L	ID55*□3.5 *14*210L	ID55*□3.5 *14*210L	ID65*□4 *13*210L

*L(Order Production) : Shortest possible compressed length
 *La : Length compensation

*L+La : Maximum operating length
 *LC : Refer to UC-type table

How to Order: $\frac{\text{UP}}{\text{TYPE}} \frac{25}{d} \frac{\text{K7}}{\text{K(Key width)}} \times \frac{\text{D44}}{\text{D}} \times \frac{1000}{\text{L}} \frac{(+100)}{\text{La}}$

*Refer to "Allowable Conditional Variables" on Page 18 before selecting one.

*Tcs: Functional limit Torque

*Tdw: Fatigue Torque

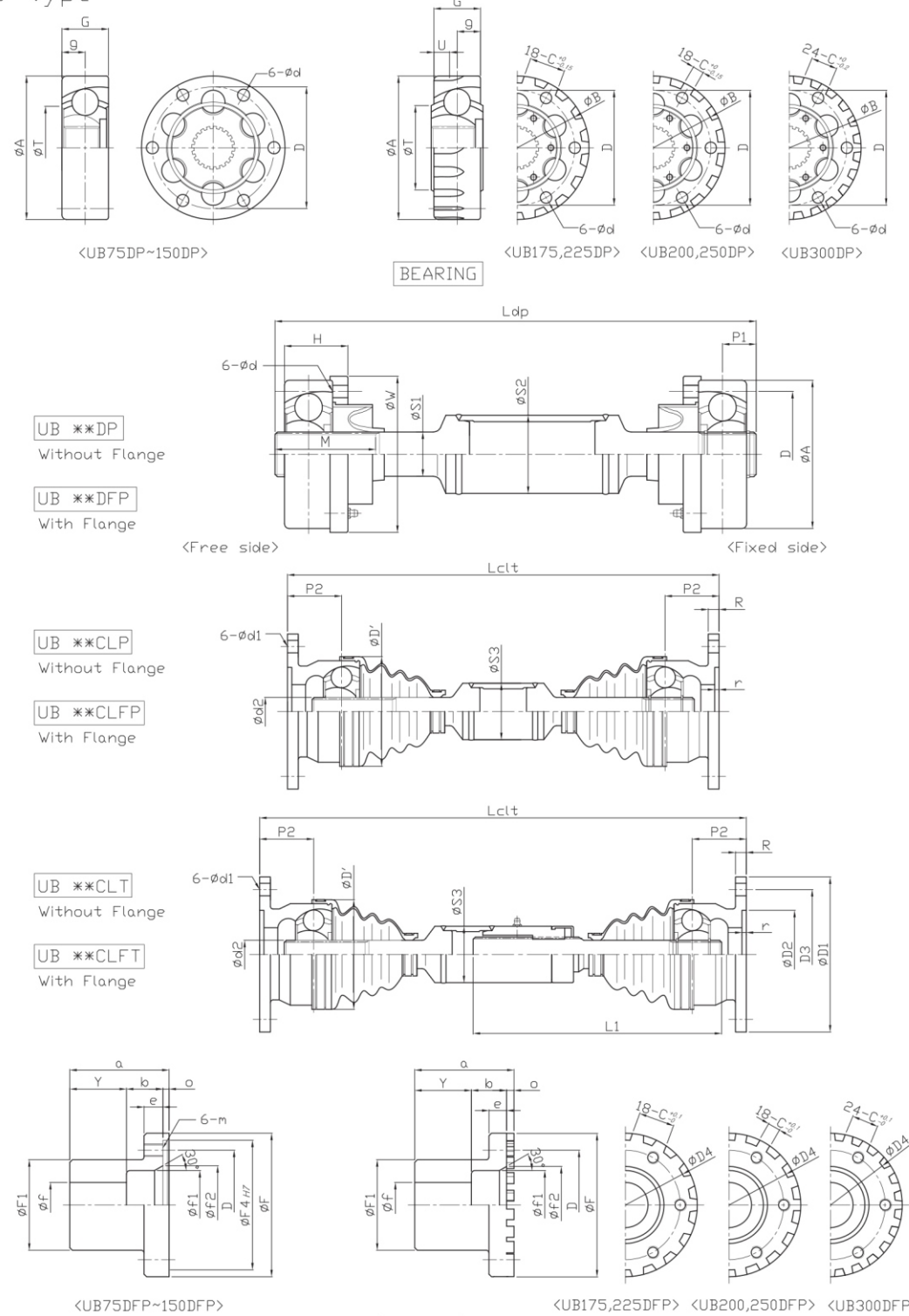
* β : Maximum deflection angle per joint

*Ts: Static tensile load

How to Order: $\frac{\text{UD}}{\text{TYPE}} \frac{25}{d} \frac{\text{K7 or P}}{\text{K(Key width) or P}} \times \frac{\text{D44}}{D} \times \frac{168}{LD} \text{ ex) UD25K7xD44x168}$

UB Type

UB-type



FLANGE

UB Type

Product name		UB75	UB95	UB100	UB125	UB150	UB175	UB200	UB225	UB250	UB300
TD1	Nm	588	1,130	1420	2,750	4,710	6,720	11,200	14,700	20,700	29,100
TD2	Nm	392	637	882	1,470	2,890	4,020	5,880	7,550	10,700	15,800
Bearing	A	80 ⁰ _{-0.046}	95 ⁰ _{-0.054}	—	125 ⁰ _{-0.063}	146 ⁰ _{-0.063}	165.1 ⁰ _{-0.1}	190 ⁰ _{-0.115}	212 ⁰ _{-0.115}	230 ⁰ _{-0.115}	266.7 ⁰ _{-0.13}
	B	—	—	—	—	—	158.5	180	203	220.4	254
	C	—	—	—	—	—	42.4	16.25	54.7	19.3	50.6
	No. of teeth	—	—	—	—	—	18	18	18	18	24
	U	—	—	—	—	—	18	18	18	18	20
	D (pcd)	66±0.15	80±0.15	—	106±0.15	124±0.15	139.7±0.2	159±0.3	180±0.3	197±0.5	225.4±0.5
	d	8.5	8.5	—	10.5	12.5	15	13.5	13.5	17.5	17.5
	G	24.4	31.8	—	40.6	48.2	50.8	60	65	75	84
	g	12.2	15.9	—	20.3	24.1	24.5	30	32.5	37.5	42
	T	45	60	—	76	92	108	126	143	156	175
DP / DFP series	W	85	100	—	130	151	170	196	218	238	273
	S1	22.33	26.36	—	36.33	45.6	51.6	59.5	65.4	74.25	83.4
	S2	48.6	48.6	—	60.5	76.3	89.1	101.6	101.6	139.8	139.8
	H	34.9	41.3	—	51.6	62	61.6	73.8	76.2	86.8	96.8
	P1	16	21	—	29	28	38	40	48	53	65
	M	60	70	—	80	135	135	135	160	160	165
	β □	14	14	—	16	16	16	16	16	18	18
	La (stroke)	±12	±16	—	±20	±24	±27	±29	±29	±30	±35
	Ldp (min.)	505	505	—	605	705	805	805	805	805	805
	D1	118	136	154	179	192	215	250	265	—	—
CLP / CLFP series	D'	81	108	112	148	165	172	199	222	—	—
	D2	62 ^{+0.074} ₀	70 ^{+0.074} ₀	80 ^{+0.074} ₀	102 ^{+0.087} ₀	110 ^{+0.087} ₀	125 ^{+0.1} ₀	140 ^{+0.1} ₀	155 ^{+0.1} ₀	—	—
	r	3	3	3	3.5	3.5	5	5	5	—	—
	R	8	10	10	10	12	15	16	18	—	—
	D3	97	110	125	150	165	185	215	228	—	—
	d1	10.5	12.5	14.5	14.5	14.5	17	19	21	—	—
	d2	22	27.5	29.75	36.75	46	52	60	66	—	—
	S3	48.6	48.6	60.5	60.5	89.1	101.6	101.6	139.8	—	—
	P2	40	46	47	55	76	83	95	105	—	—
	β □	25	25	25	25	25	25	25	25	—	—
DP series Flange(DFP)	La (stroke)	±10	±10	±10	±10	±15	±15	±15	±15	—	—
	Lclp (min.)	545	550	550	655	785	885	905	905	—	—
	L1	270	310	320	340	450	520	520	590	—	—
	La (stroke)	+80,-6	+80,-6	+90,-8	+90,-8	+120,-15	+150,-15	+150,-15	+150,-15	—	—
	Lclt (min.)	455	515	580	610	830	910	950	1050	—	—
	a	91	133	—	155	178	192	215	227	240	262
	b (fixed)	12	16	—	20	24	34	35	35	38	45
	b (free)	24	32	—	40	48	54	55	55	58	70
	Y (fixed)	74	112	—	130	148	150	170	180	190	205
	Y (free)	62	96	—	110	124	130	150	160	170	180
DP series Flange(DFP)	o	5	5	—	5	5	8	10	12	12	12
	e	12	12	—	15	18	26	28	30	34	38
	F	85	100	—	130	152	175	200	220	245	275
	F1	55	65	—	90	105	120	140	160	180	205
	F2	80	95	—	125	146	159	181	204	222	256
	f2	50	63	—	80	96	110	130	150	160	180
	f1	45	55	—	75	85	95	110	130	138	155
	f (max.)	35	42	—	60	70	80	92	105	120	135
	m	M8	M8	—	M10	M12	M14	M12	M12	M16	M16
	Bolt length	55	60	—	75	90	100	110	120	130	150

*Td1 (Dynamic allowable torque) : When torque fluctuates during revolution in one direction *β : Maximum deflection angle per joint

*TD2 (Dynamic allowable torque) : When start / stop and forward / reverserevolution are repeated frequently

*Ldp, Lclp, Lclt : Order Production

How to Order: UB 125 DEP x 1000 (+20)
TYPE d series length La

Model Selection Guide

Bearing Series

UL, UT, UK, UH, UE, UB–Type

Calculate the torque (Tn,Tsp) delivered to the universal joint in comparison with the torque (Tdw,Tcs) indicated in the table of this catalogue and then select an item accordingly.

$$T_n(N.m) = \frac{716.2 \times H_p}{RPM \times 9.8} = \frac{974 \times K_w}{RPM \times 9.8}$$

$$T_n < T_{dw}$$

Be sure that the value of Tn does not exceed that of Tdw. Otherwise, the universal joint may be damaged.

*Hp : Power of the engine

*Kw : Power of the motor

*RPM : Maximum Rotative Velocity of the Universal joint (min⁻¹)

*Tn : Nominal torque of the machine

*Tdw : Fatigue torque of Universal joint (Refer to the table)

$$T_{sp}(N.m) = T_n \times K(\text{Service factor})$$

$$T_{sp} < T_{cs}$$

*Be sure that the value of Tsp does not exceed that of Tcs. Otherwise, the universal joint may be damaged.

Tsp : Maximum peak torque of the machine Tcs : Functional limit torque of universal joint (Refer to the table)

*K : Service factor (The service factors shown in the following tables should be used as approximate values only.)

Light shock load: K = 1.1–1.5	Medium shock load: K = 1.5–2	Heavy shock load: K = 2–3
Driven machines Centrifugal pumps Generators (continuous load) Conveyors (continuous load) Small ventilators Machine tools Printing machines	Driven machines Centrifugal pumps Generators (non–continuous load) Conveyors (non–continuous load) Medium ventilators Wood handling machines Small paper and textile machines Pumps (multi–cylinder) Compressors (multi–cylinder) Road and bar mills Locomotive primary drives	Driven machines Large ventilators Marine transmissions Calender drives Transport roller tables Small pinch rolls Small tube mills Heavy paper and textile machines Compressors (single–cylinder) Pumps (single–cylinder)
Heavy shock load: K = 2– 3	Extra–heavy shock load: K = 3–5	Extreme shock load: K = 5–1 0
Driven machines Mixers Bucket wheel reclaimers Bending machines Presses Rotary drilling rigs Locomotive secondary drives Continuous casters Crane drives	Driven machines Continuous working roller tables Medium section mills Continuous slabbing and blooming mills Continuous heavy tube mills Reversing working roller tables Vibration conveyors Scale breakers Straightening machines Cold rolling mills Reeling drives Blooming stands	Driven machines Feed roller drives Wrapper roll drives Plate–shears Reversing slabbing and blooming mills

Model Selection Guide

UC, UD Series

In the use of an universal joint, many factors such as rotating speed, angle, torque and lubrication must be considered. The following seletion method shows that, firstly, it is to be checked the total multiplied value of rotating speed, angle and torque does not exceed the allowable conditional variable shown in each selection table.

Secondly, it is to be checked that each value of the above three factors does not exceed the allowable value each.

1. Conditional variable

Calculation formula

$$\text{Calculation conditional variable} = \text{Rotating speed(rpm)} \times \text{angle}(\text{°}) \times \text{torque(N.m)}$$

$$\text{Calculation conditional variable} < \text{Allowable conditional variable}$$

2. Rotating speed(rpm)

$$\text{Rotating speed} \times \text{Angle coefficient} < \text{Allowable rotating speed}$$

Angle coefficient table

Angle	Under 5°	10°	15°	20°	25°	30°
Angle coefficient	1.00	1.05	1.18	1.43	1.82	2.50

3. Angle(°)

Angle<Allowable operating angle

4. Torque(N.m)

Torque<Allowable torque

Selection example (UC series)

When UC series is to be used under a rotating speed of 800rpm, and operating angle 15° , and a ransmission torque of 10 N.m, the alculaton conditional variable 120000 is obtained from the following formula.

$$\text{Rotating speed(rpm)} \times \text{angle}(\text{°}) \times \text{torque(N.m)} = \text{Conditional variable}$$

$$800 \times 15 \times 10 = 120000$$

Secondly, check the allowable rotating speed of UC–12 according to the following formula.

$$\text{Rotating speed} \times \text{Angle coefficient} < \text{Allowable rotating speed.}$$

Do the above calculations and compare the allowable conditions to each of the items for UC–12.

1. Conditional variable–120000 < Allowable conditional variable–120000

2. Rotating speed–800rpm × 1.18 < Allowable rotating speed–1800rpm

3. Angle–15° < Allowable operating angle–30°

4. Torque–10N.m < Allowable torque 46N.m

The UC–12 universal joint meeting the equirments of the above conditions, with good lubricating conditions.