

# Costruzione Allunghe e Trasmissioni

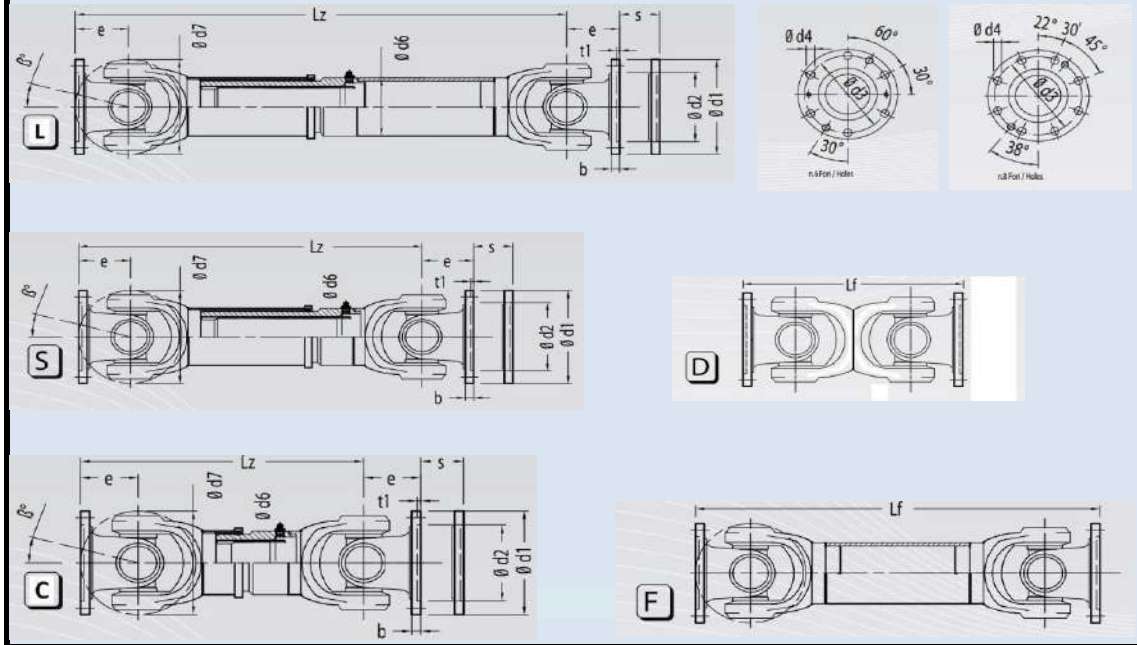


## UNIVERSAL SHAFTS HL-HS-HH-HST SERIES CATALOGUE 2018



## UNIVERSAL SHAFTS LIGHT DUTY

# HL 52-138



### PRODUCT CODE KEY - EXAMPLE

<b>HL</b>	<b>86</b>	<b>100</b>	<b>80</b>		
Model					
Size					
type					
Flange $\varnothing d1$					
Lz					
S**					

HL SIZE ( $\varnothing d7$ )	CODE	Torque (Nm)		flange (mm)	angle ( $^{\circ}$ )
		Nom.	Max		
		Tn	Tlim	$\varnothing d1$	beta*
52	105	190	250	58/65	30/25
60	106	400	520	65/75	30/20
70	107	920	1200	75/90	30/18
86	109	1700	2200	90/100	20/18
98	110	2300	3000	100/120	20/18
115	112	3350	4350	120/150	20/18
125	113	4100	5350	120/150	20/18
138	148	5500	7050	150/180	20

\* check value for type D which may be different from catalogue one

\*\* Longer stroke may be available on request



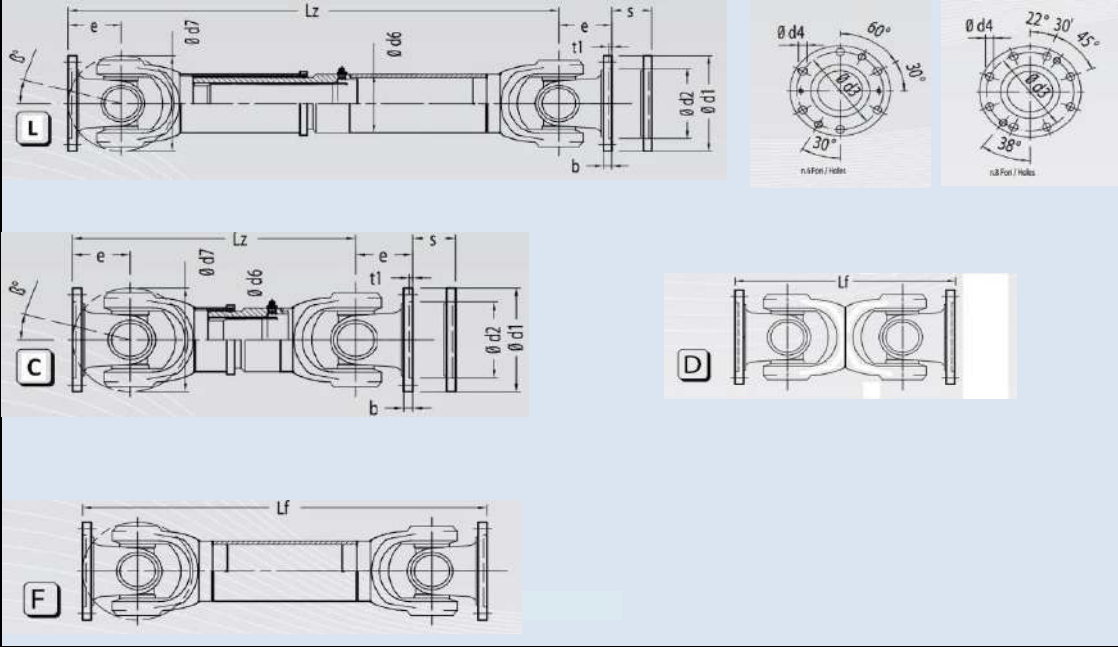
## UNIVERSAL SHAFTS LIGHT DUTY

HL SIZE (Ød7)	TYPE	DIMENSION											
		mm	mm	mm	mm	mm	mm (H/7)	mm	mm	n°	mm	weight	mmXmXz
		Lz	s**	Ød6	e	Ød3	Ød2	t1	b	z holes	Ød4	kg	DIN 5480
52	S	240	25	28*1,5	30	47/52	30/35	1,5/1,7	3,5/4	4	5/6	1,18/1,25	20X1,5X12
	L	257	40	28*1,5								1,26/1,33	
	C	165	20	-								0,93/1	
	F	160	-	28*1,5								0,88/0,95	
	D	110	-	-								0,69/0,76	
60	S	260	30	32*1,5	32	52/62	35/42	1,7/2,2	4/5,5	4/6	6	1,77/1,95	25X1,5X15
	L	290	60	32*1,5								1,87/2,04	
	C	180	20	-								1,39/1,56	
	F	165	-	32*1,5								1,16/1,34	
	D	120	-	-								0,99/1,16	
70	S	300	35	40*2	36	62/74,5	42/47	2,2/2,5	5,5/6	4/6	6/8	2,60/2,90	28X1,5X17
	L	360	70	40*2								3,04/3,35	
	C	200	25	-								1,98/2,29	
	F	200	-	40*2								1,89/2,20	
	D	140	-	-								1,51/1,82	
86	S	348	40	50*2	42	74,5/84	47/57	2,5	6/7	4/6	8	4,91/5,12	32X2X14
	L	393	80	50*2								5,41/5,61	
	C	225	25	-								3,80/4,00	
	F	216	-	50*2								3,73/3,94	
	D	152	-	-								3,02/3,23	
98	S	374	40	50*3	46	84/101,5	57/75	2,5	7/8	6/8	8	6,32/6,70	35X2X16
	L	464	95	50*3								7,48/7,93	
	C	255	30	-								5,12/5,57	
	F	250	-	50*3								4,90/5,35	
	D	160	-	-								3,98/4,43	
115	S	473	60	60*4	60	101,5/130	75/90	2,5/3	8/9	8	8/10	10,66/12,0	42X2X20
	L	523	120	60*4								11,55/12,9	
	C	325	35	-								8,75/10,11	
	F	301	-	60*4								7,88/9,24	
	D	200	-	-								6,44/7,80	
125	S	491	60	70*4	60	101,5/130	75/90	2,5/3	9	8	10	13,66/15,0	50X2X24
	L	556	130	70*4								15,46/16,8	
	C	345	35	-								11,31/12,6	
	F	307	-	70*4								9,36/10,72	
	D	200	-	-								7,97/9,33	
138	L	550	110	80*4	65	130/155,5	90/110	3/3,6	10	8	12	20,87/22,1	55X2,5X20
	C	360	40	-								15,63/16,9	
	F	345	-	80*4								14,53/15,8	
	D	230	-	-								11,92/13,2	



## UNIVERSAL SHAFTS MEDIUM DUTY

# HL 150-204



### PRODUCT CODE KEY - EXAMPLE

<b>HL</b>	<b>178</b>	<b>C</b>	<b>180</b>	<b>820</b>	<b>45</b>
Model					
Size					
type					
Flange Ød1					
Lz					
s **					

HL SIZE (Ød7)	CODE	Torque (Nm)		flange (mm) Ød1	angle (°) β *
		Nom. Tn	Max Tlim		
<b>150</b>	158	8200	10650	<b>150/180</b>	20
<b>158</b>	117	10000	13000	<b>150/165</b>	30
<b>178</b>	120	16850	21900	<b>180/225</b>	30
<b>204</b>	122	26750	35000	<b>180/225</b>	30

\* check value for type D which may be different from catalogue one

\*\* Longer stroke may be available on request



## UNIVERSAL SHAFTS MEDIUM DUTY

HL SIZE ( Ød7)	TYPE	DIMENSION											
		mm	mm	mm	mm	mm	mm (H/7)	mm	mm	n°	mm	weight	mmXmXz
		Lz	s**	Ød6	e	Ød3	Ød2	t1	b	z holes	Ød4	kg	DIN 5480
150	L	710	110	90*4	150	130/155,5	90/110	3/3,6	12	8	12/14	31,10/31,80	60X2,5X22
	C	400	50	-								19,62/21,18	
	F	425	-	90*4								20,26/21,82	
	D	300	-	-								16,68/19,80	
158	L	660	110	100*5	158	130/140	90/95	3	12	12/8	12/16	35,03/35,51	65X2,5X24
	C	495	45	-								28,21/28,69	
	F	430	-	100*5								25,31/25,79	
	D	296	-	-								21,02/21,50	
178	L	740	110	110*6	178	155,5/196	110/140	3,6/5	14/15	10/8	16	48,75/52,89	75X2,5X28
	C	560	45	-								40,27/44,41	
	F	465	-	110*6								33,90/38,05	
	D	384	-	-								28,20/37,76	
204	L	830	140	120*6	204	155,5/196	110/140	3,6/5	15	10/8	16	72,05/76,93	90X2,5X34
	C	650	80	-								60,67/65,55	
	F	520	-	120*6								45,70/50,58	
	D	440	-	-								41,54/51,28	

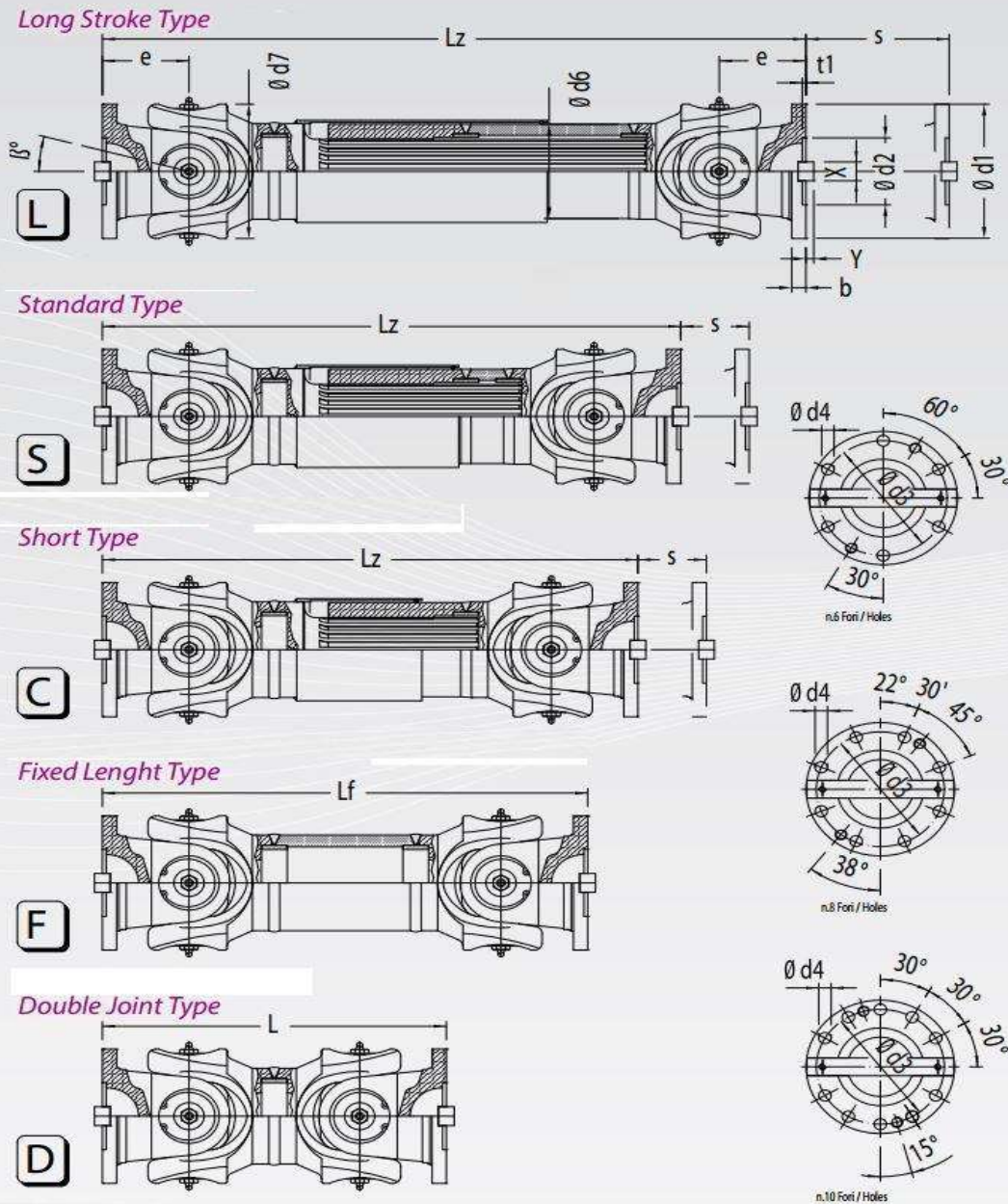
### LEGENDA

HL size	Size of the shaft equal to cross rotation
Code	Company internal production code
Tn	Nominal torque
Tlim	Max limit torque
Ø d1	standard flange/ bigger flange
β	maximum angle of deflection per joint
Lz	compressed lenght
s	skip( elongation)
DIN 5480	spline shafts DIN standard



## UNIVERSAL SHAFTS STRONG DUTY

# HS 225-350



### PRODUCT CODE KEY - EXAMPLE

HS	250 / 315	C	920	50
Model				
Size				
Ød1 ( mm )*				
Type				
Lz ( mm )				
s ( mm )				

\*indicate only if it is different from Size

### LEGENDA

Tn (kNm)	Rating designed torque.
Tlim (kNm)	limit torque.
Tdw(kNm)	Pulsating torque.
Tk(kNm)	Alternating torque.
β(°)	maximum angle of deflection per joint.
Lz (mm)	compressed length
s (mm)	skip( elongation)





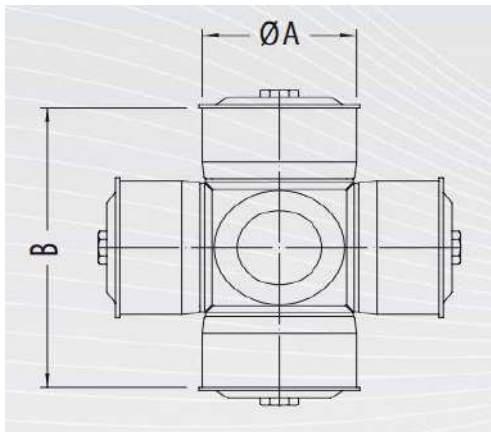
## UNIVERSAL SHAFTS HEAVY DUTY

# HS 225-350

	225	250	285	315	350
<b>T<sub>n</sub></b> (kNm)	55	80	115	170	225
<b>T<sub>lim</sub></b> (kNm)	72	104	150	221	293
<b>T<sub>dw</sub></b> (kNm)	37	49	70	100	140
<b>T<sub>k</sub></b> (kNm)	26	35	50	71	100
<b>β(°)</b>	15	15	15	15	15

<b>L</b>	Lz (mm)	1370	1520	1635	1870	2150
	s (mm)	600	650	700	750	800
	Mass (Kg)	228	307	464	644	1121
<b>S</b>	Lz (mm)	915	1020	1090	1280	1515
	s (mm)	145	150	155	160	165
	Mass (Kg)	130	182	279	396	700
<b>C</b>	Lz (mm)	820	920	995	1180	1415
	s (mm)	50	50	60	60	65
	Mass (Kg)	110	157	247	354	634
<b>F</b>	Lz (mm)	565	655	720	815	100
	Mass (Kg)	92	152	215	306	440
<b>D</b>	Lz (mm)	505	595	655	735	780
	Mass (Kg)	90	130	189	270	355

<b>Ød1-Ød7</b>	225	250	285	315	350
<b>Ød2 (H7)</b>	105	105	125	130	210
<b>Ød3</b>	196	218	245	280	310
<b>Ød4</b>	17	19	21	23	23
<b>t1</b>	5	6	7	8	8
<b>Ød6</b>	157*21	181*21	200*23	225*26	245*19
<b>e</b>	130	145	165	185	195
<b>b</b>	20	25	27	32	35
<b>X(h9)</b>	32	40	40	40	50
<b>Y</b>	12,5	15	15	15	16
<b>z</b>	8	8	8	10	10
<b>flange bolt</b>	M16	M18	M20	M22	M22
<b>DIN 5480</b>	110X3X35	130X4X31	140X4X34	160X5X30	190X5X36



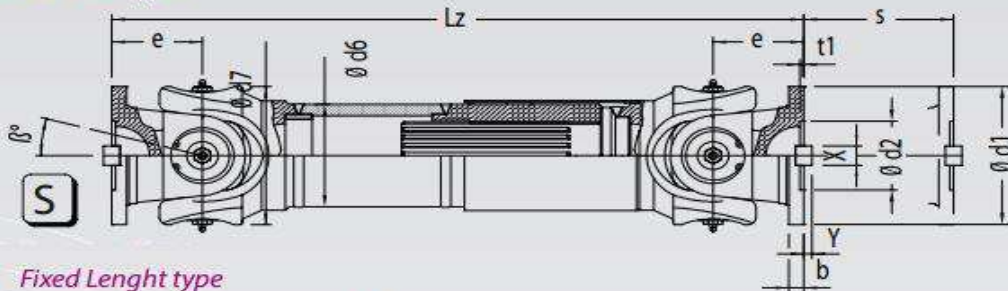
	ØA(mm)	B	Weight
<b>225</b>	90	192	14,2
<b>250</b>	100	214	19,5
<b>285</b>	115	243	29,3
<b>315</b>	130	269	41,4
<b>350</b>	145	377	57,2



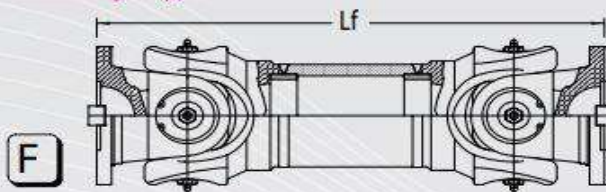
# UNIVERSAL SHAFTS STRONG DUTY

## HS 390-620

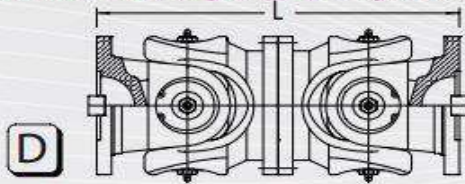
Standard type



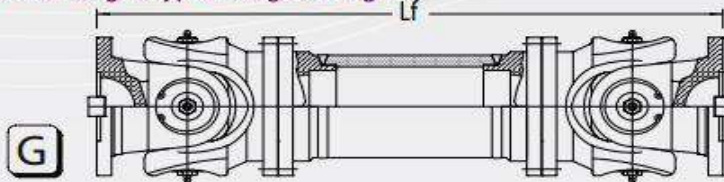
Fixed Length type



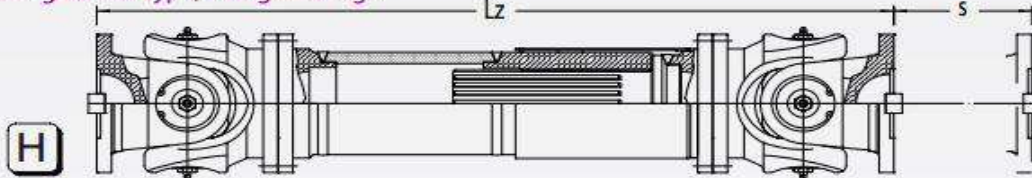
Double Joint Flanged Type, Flanged design



Fixed Length Type, Flanged design



Long Stroke Type, Flanged design



### PRODUCT CODE KEY - EXAMPLE

Model	HS	390 / 440	H	2600	900
Size					
$\varnothing d1$ (mm) *					
Type					
Lz (mm)					
s (mm)					

\*indicate only if it is different from Size

### LEGENDA

Tn (kNm)	Rating designed torque.
Tlim (kNm)	limit torque.
Tdw(kNm)	Pulsating torque.
Tk(kNm)	Alternating torque.
$\beta$ (°)	maximum angle of deflection per joint.
Lz (mm)	compressed length
s (mm)	skip( elongation)





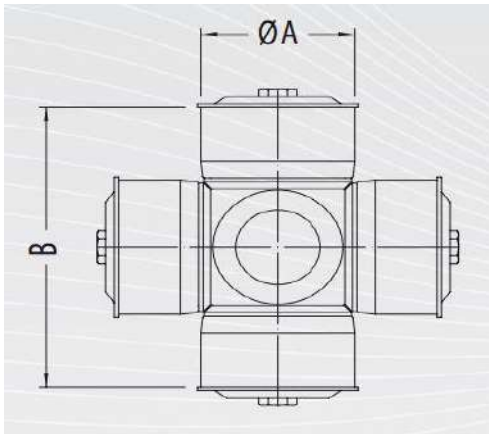
## UNIVERSAL SHAFTS HEAVY DUTY

# HS 390-620

	390	440	490	550	620
<b>T<sub>n</sub></b> (kNm)	325	500	730	1000	225
<b>T<sub>lim</sub></b> (kNm)	423	650	949	1300	293
<b>T<sub>dw</sub></b> (kNm)	224	350	483	700	140
<b>T<sub>k</sub></b> (kNm)	160	250	345	500	100
<b>β</b> (°)	15	15	15	15	15

<b>S</b>	Lz (mm)	1740	1880	2060	2280	2520
	s (mm)	180	190	200	210	220
	Mass (Kg)	770	1200	1560	2260	2950
<b>F</b>	Lf (mm)	1010	1190	1280	1420	1660
	Mass (Kg)	571	855	1092	1703	2267
<b>D</b>	Lf (mm)	860	1040	1080	1220	1360
	Mass (Kg)	602	891	1157	1789	2405
<b>G</b>	Lf (mm)	505	595	655	735	780
	Mass (Kg)	647	945	1226	1875	2541
<b>H</b>	Lz (mm)	2410	2590	2860	3170	3500
	s (mm)	850	900	1000	1100	1200
	Mass (Kg)	1313	1962	2151	3751	4847

<b>Ød1-Ød7</b>	<b>390</b>	<b>440</b>	<b>490</b>	<b>550</b>	<b>620</b>
<b>Ød2 (H7)</b>	235	255	275	320	380
<b>Ød3</b>	345	390	435	492	555
<b>Ød4</b>	25	28	31	31	38
<b>t1</b>	8	10	12	12	15
<b>Ød6</b>	273*21	325*25	351*30	402*32	426*40
<b>e</b>	215	260	270	305	340
<b>b</b>	40	42	47	50	55
<b>X(h9)</b>	70	80	90	100	100
<b>Y</b>	18	20	22,5	22,5	25
<b>z</b>	10	16	16	16	18
<b>flange bolt</b>	M24	M27	M30	M30	M36



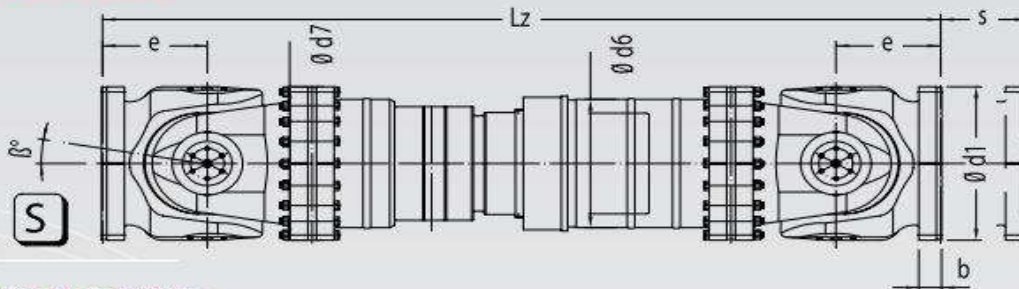
	<b>ØA(mm)</b>	<b>B</b>	<b>Weight</b>
<b>390</b>	165	333	102,9
<b>440</b>	185	377	146,6
<b>490</b>	210	419	209,6
<b>550</b>	240	472	307,9
<b>620</b>	265	526	418,7



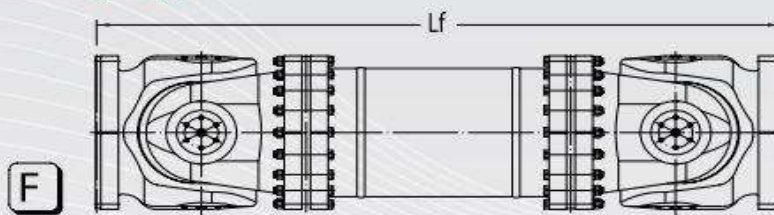
## UNIVERSAL SHAFTS HEAVY DUTY HIRTH SERRATION

# HH 680-840

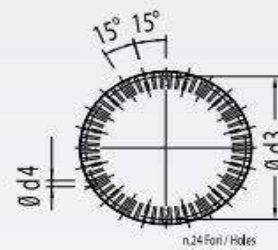
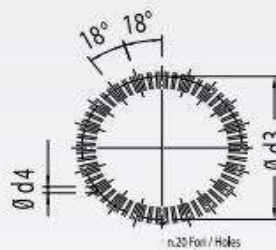
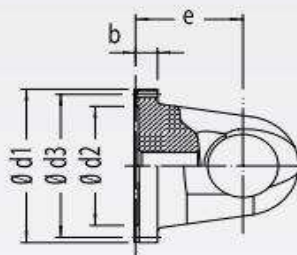
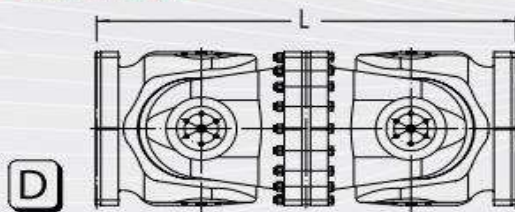
*Standard Type*



*Fixed Length Type*



*Double Joint Type*



### PRODUCT CODE KEY - EXAMPLE

	<b>HH</b>	<b>750</b>	<b>S</b>	<b>4070</b>	<b>600</b>
Model					
Size					
Type					
Lz ( mm )					
s ( mm )					

### LEGENDA

Tn (kNm)	Rating designed torque.
Tlim (kNm)	limit torque.
Tdw(kNm)	Pulsating torque.
Tk(kNm)	Alternating torque.
β(°)	maximum angle of deflection per joint.
Lz (mm)	compressed length
s (mm)	skip( elongation)



## UNIVERSAL SHAFTS HEAVY DUTY

### HH 680-840

	680	700	750	800	840
<b>T<sub>n</sub></b> (kNm)	1640	1750	2250	2670	3100
<b>T<sub>dw</sub></b> (kNm)	1372	1470	1890	2240	2604
<b>T<sub>k</sub></b> (kNm)	980	1050	1350	1600	1860
<b>β(°)</b>	10÷15	10÷15	10÷15	10÷15	10÷15

<b>S</b>	<b>L<sub>z</sub></b> (mm)	3230	3460	3620	4000	4250
	<b>s</b> (mm)	250	250	250	250	250
	<b>Mass</b> (Kg)	4880	5400	8000	9070	11800
<b>F</b>	<b>L<sub>z</sub></b> (mm)	1940	2100	2400	2500	2680
	<b>Mass</b> (Kg)	3220	3530	4500	5800	7470
<b>D</b>	<b>L<sub>z</sub></b> (mm)	1540	1600	1840	1920	2120
	<b>Mass</b> (Kg)	3150	3450	4300	5050	6400

<b>Ød1-Ød7</b>	680	700	750	800	840
<b>Ød2 (H9)</b>	550	570	610	660	710
<b>Ød3</b>	635	655	695	745	775
<b>Ød4</b>	26	26	31	36	38
<b>Ød6</b>	560	560	620	660	660
<b>e</b>	385	400	460	480	530
<b>b</b>	70	70	95	95	110
<b>z</b>	24	24	24	24	24
<b>flange bolt</b>	M24	M24	M30	M34	M36

### HH 900-1200

	900	920	1000	1060	1200
<b>T<sub>n</sub></b> (kNm)	380	4050	5200	6500	9000
<b>T<sub>dw</sub></b> (kNm)	3192	3405	4368	5460	7560
<b>T<sub>k</sub></b> (kNm)	2280	2430	3120	3900	5400
<b>β(°)</b>	10÷15	10÷15	10÷15	10÷15	10÷15

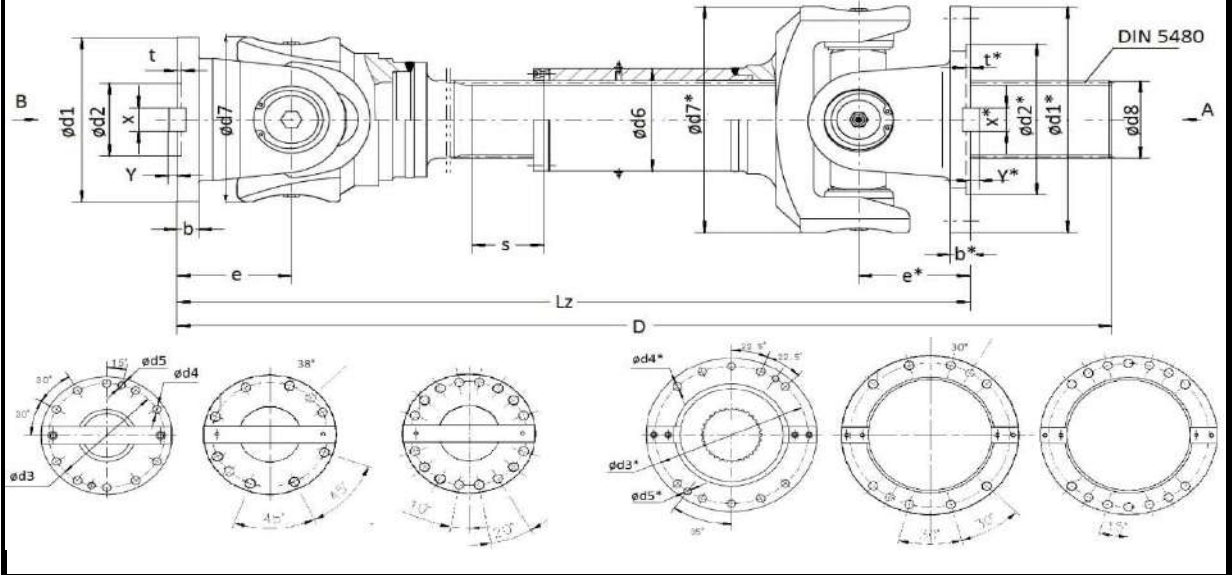
<b>S</b>	<b>L<sub>z</sub></b> (mm)	4580	4650	4770	4950	5660
	<b>s</b> (mm)	300	300	300	300	300
	<b>Mass</b> (Kg)	15900	16500	19900	22000	34800
<b>F</b>	<b>L<sub>z</sub></b> (mm)	2950	2950	3130	3200	3570
	<b>Mass</b> (Kg)	9980	10500	12300	14500	19500
<b>D</b>	<b>L<sub>z</sub></b> (mm)	2280	2280	2380	2480	2720
	<b>Mass</b> (Kg)	8420	8950	10600	12100	16900

<b>Ød1-Ød7</b>	900	920	1000	1060	1200
<b>Ød2 (H9)</b>	740	760	840	840	1000
<b>Ød3</b>	835	855	915	980	1100
<b>Ød4</b>	38	38	50	50	58
<b>Ød6</b>	750	750	790	800	900
<b>e</b>	570	570	595	620	680
<b>b</b>	120	120	130	130	130
<b>z</b>	24	24	24	24	24
<b>flange bolt</b>	M36	M36	M48	M48	M56



## UNIVERSAL SHAFTS THROUGH SPLINE

# HST



	225	250	285	315	350	390	440	490	550
<b>Tn (kNm)</b>	55	80	115	170	225	325	500	730	1000
<b>Tlim (kNm)</b>	72	104	150	221	293	423	650	949	1300
<b>Tdw(kNm)</b>	37	49	70	100	140	224	350	483	700
<b>Tk(kNm)</b>	26	35	50	71	100	160	250	345	500
<b>β(°)</b>	15	15	15	15	15	15	15	15	15
<b>β*(°)</b>	10	10	10	10	10	10	10	10	10
<b>Lz (mm)</b>	945	1025	1145	1260	1469	1575	1760	1860	2055
<b>s (mm)</b>	650	650	750	750	800	800	800	900	1000
<b>D (mm)</b>	1415	1475	1670	1765	2000	2070	2215	2375	2625
<b>Mass (Kg)</b>	198	272	409	553	772	973	1378	1732	2495
<b>Ød1-Ød7</b>	<b>225</b>	<b>250</b>	<b>285</b>	<b>315</b>	<b>350</b>	<b>390</b>	<b>440</b>	<b>490</b>	<b>550</b>
<b>Ød2 (H7)</b>	105	105	125	130	210	235	255	275	320
<b>Ød3</b>	196	218	245	280	310	345	390	435	492
<b>Ød4-Ød4*</b>	17	19	21	23	23	25	28	31	31
<b>t</b>	5	6	7	8	8	8	10	12	12
<b>Ød6</b>	157*21	181*21	200*23	225*26	245*19	273*21	325*25	351*30	402*32
<b>e</b>	130	145	165	185	195	215	260	270	305
<b>b</b>	20	25	27	32	35	40	42	47	50
<b>X-X*(h9)</b>	32	40	40	40	50	70	80	90	100
<b>Y</b>	12,5	15	15	15	16	18	20	22,5	22,5
<b>z</b>	8	8	8	10	10	10	16	16	16
<b>flange bolt</b>	M16	M18	M20	M22	M22	M24	M27	M30	M30
<b>Ød1*-Ød7*</b>	<b>315</b>	<b>330</b>	<b>390</b>	<b>435</b>	<b>480</b>	<b>520</b>	<b>600</b>	<b>650</b>	<b>710</b>
<b>Ød2* (H7)</b>	130	210	260	275	320	360	420	450	520
<b>Ød3*</b>	285	300	355	390	430	480	550	595	650
<b>t*</b>	5	6	7	8	8	12	12	12	15
<b>e*</b>	140	155	175	190	210	235	265	290	325
<b>b*</b>	30	30	35	35	40	50	55	55	60
<b>Y*</b>	9	12,5	15	15	16	18	20	22,5	22,5
<b>z*</b>	8	8	8	10	10	10	10	14	14
<b>Ød8</b>	100X2,5	115X2,5	130X3	150X3	170X5	185X5	210X5	220X5	245X5



## UNIVERSAL SHAFTS THROUGH SPLINE

# HST

### PRODUCT CODE KEY - EXAMPLE

HST	440 / 600	2575	1745	1200
Model				
Size				
$\varnothing d7^*$				
D				
Lz				
s				

### LEGENDA

Tn (kNm)	Rating designed torque. It correspond to the maximum allowable static
Tlim (kNm)	Company internal production code
Tdw(kNm)	Pulsating torque. It correspond to the fatigue maximum limit torque for shafts subject to a pulsating load
Tk(kNm)	Alternating torque. It correspond to the fatigue maximum limit torque for shafts subject to alternating load
$\beta(^{\circ})$	maximum angle of deflection per joint small flange side
$\beta^*(^{\circ})$	maximum angle of deflection per joint big flange side
Lz (mm)	compressed lenght
s (mm)	skip( elongation)
D (mm)	total lenght