

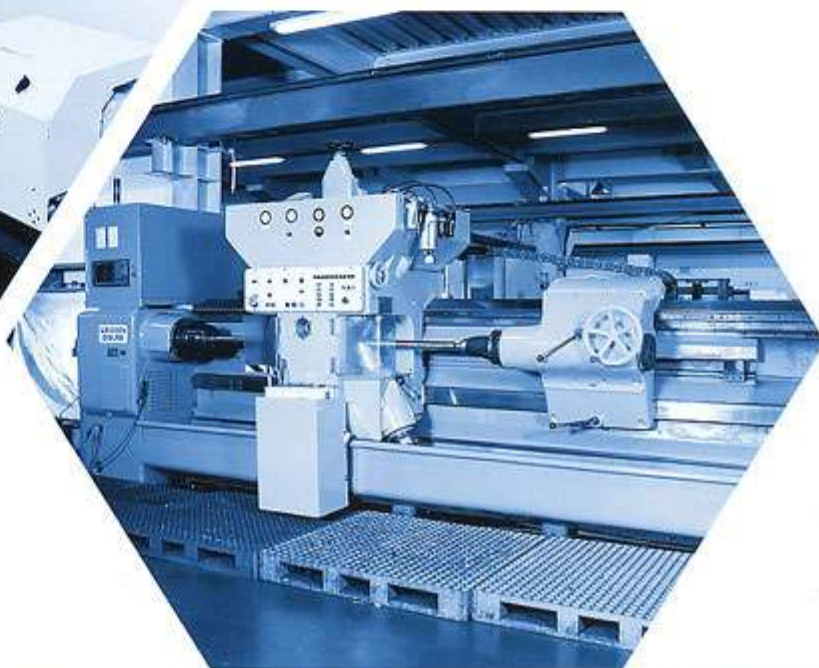
## Feature of ABBA Ball Screw

High Reliability

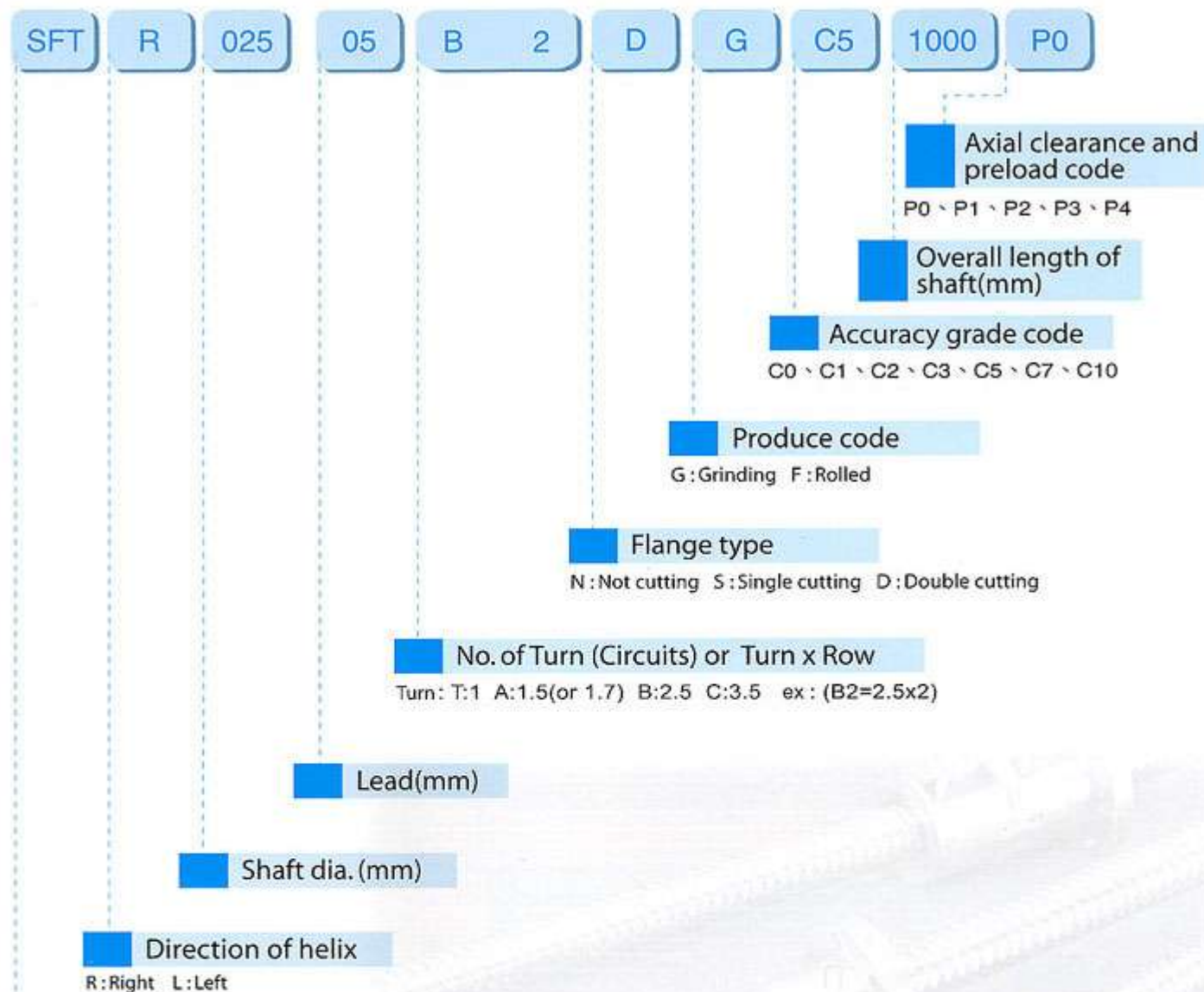
High Durability

Smooth Operation

High Rigidity and Preload



# The Model Number Coding of Ball Screw



## Nut type codes

- S** S : Single nut  
D : Double nut
- F** F : With flange  
C : Without flange
- T** T : T type nut  
I : I type nut  
D : D type nut  
E : E type nut  
K : K type nut  
U : DIN nut

(SFI, DFI, SFT, DFT, SFE, SFK)



## Mean Travel Deviation( $\pm E$ ) and Travel Variation( $e$ )

unit:  $\mu m$

Grade		C0		C1		C2		C3		C5		C7	C10
Travel Length (mm)	Over incl	$\pm E$	$e$	$\pm E$	$e$	$\pm E$	$e$	$\pm E$	$e$	$\pm E$	$e$	$\pm E$	$\pm E$
	100	3	3	3.5	5	5	7	8	8	18	18	$\pm 50$ 300mm	$\pm 210$ 300mm
	100 200	3.5	3	4.5	5	7	7	10	8	20	18		
	200 315	4	3.5	6	5	8	7	12	8	23	18		
	315 400	5	3.5	7	5	9	7	13	10	25	20		
	400 500	6	4	8	5	10	7	15	10	30	20		
	500 630	6	4	9	6	11	8	16	12	30	23		
	630 800	7	5	10	7	13	9	18	13	35	25		
	800 1000	8	6	11	8	15	10	21	15	40	27		
	1000 1250	9	6	13	9	18	11	24	16	46	30		
	1250 1600	11	7	15	10	21	13	29	18	54	35		
	1600 2000			18	11	25	15	35	21	65	40		
	2000 2500			22	13	30	18	41	24	77	46		
	2500 3150			26	15	36	21	50	29	93	54		
	3150 4000			30	18	44	25	60	35	115	65		
	4000 5000					52	30	72	41	140	77		
	5000 6300					65	36	90	50	170	93		
	6300 8000							110	60	210	115		
	8000 10000									260	140		
	10000 12500									320	170		

## Variation per 300mm ( $e_{300}$ ) and Wobble Error( $e_{2\pi}$ ) (JIS B 1192)

unit:  $\mu m$

Grade	C0	C1	C2	C3	C5	C7	C10
$e_{300}$	3.5	5	7	8	18	50	210
$e_{2\pi}$	2.5	4	5	6	8		

## Combination of Accuracy Grade, Preload and Axial Play

Grade	P0	P1	P2	P3	P4
Axial Play	Yes	No	No	No	No
Preload	No	No	Light	Medium	Heavy

## Guidelines for selecting Accuracy, Preload, Axial Play, Nut and Screw shaft.

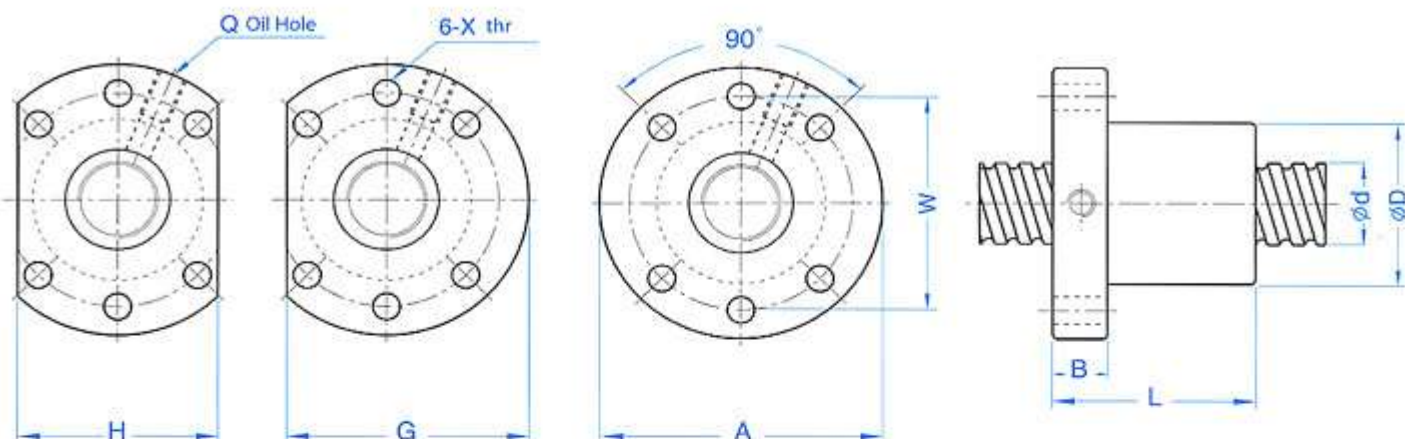
Accuracy	Preload and Axial Play	Nut Type	Screw shaft Type
C10	P0(With Axial Play)	Single Nut	Rolled screw shaft
C7	P1 or P0 ABBA standrd is P1	According to the demand of customers	Rolled or Ground (ABBA standard is Ground)
C5	According to the demand of customers. If no idea, ABBA standard is P2	According to the demand of customers	Ground screw shaft with lead error inspection certificate
C3	According to the demand of customers. If no idea, ABBA standard is P2	According to the demand of customers	Ground screw shaft with lead error inspection certificate

## Spring Force of Light Preload (P2)

unit:kg

Model No	Spring Force (Kg) Single Nut	Spring Force(Kg) Double Nut
1605	0.1~0.3	0.3~0.6
2005	0.1~0.3	0.3~0.6
2505	0.2~0.5	0.3~0.6
3205	0.2~0.5	0.5~0.8
4005	0.2~0.5	0.5~0.8
2510	0.2~0.5	0.5~0.8
3210	0.3~0.6	0.5~0.8
4010	0.3~0.5	0.5~0.8
5010	0.3~0.5	0.8~1.2
6310	0.6~1.0	0.8~1.2
8010	0.6~1.0	0.8~1.2





Unit : mm

I: Lead    Da: Ball Dia.    n: Number of Circuits    K: Stiffness (Kg/μm)    Ca: Basic Dynamic Rating Load (Kgf)    Coa: Basic Static Rating Load (Kgf)

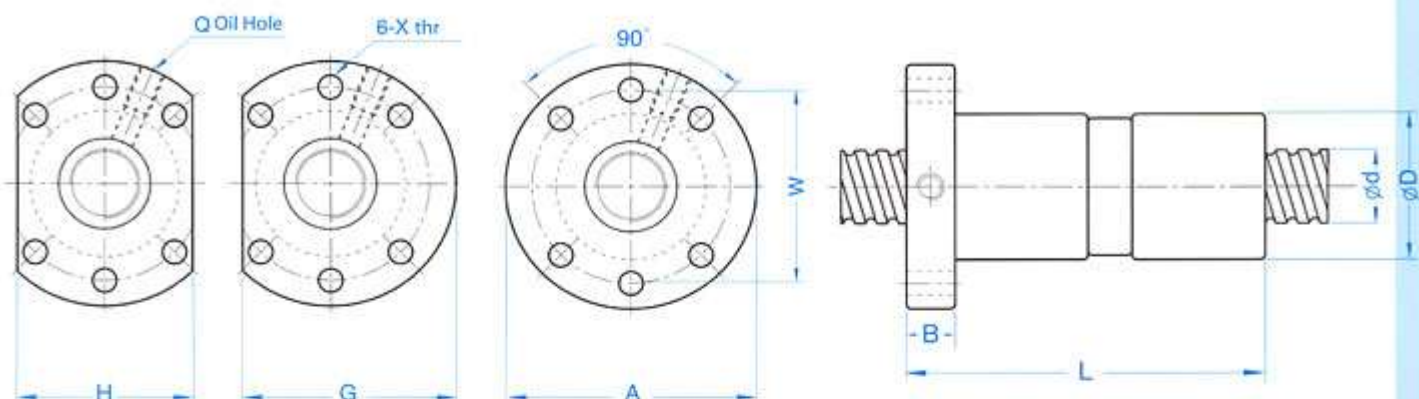
### Dimensions

Model No.	d	I	Da	D	A	B	L	W	X	G	H	Q	n	Ca	Coa	K
SFU1605-4	16	5	3.175	28	48	10	50	38	5.5	44	40	M6	4	780	1790	20
★ SFU2005-4	20	5	3.175	36	58	10	51	47	6.6	51	44	M6	4	1130	2380	25
★ SFU2505-4	25	5	3.175	40	62	10	51	51	6.6	55	48	M6	4	1280	3110	35
★ SFU3205-4	32	5	3.175	50	80	12	52	65	9	71	62	M6	4	1450	4150	40
SFU3210-4		10	6.350	50	80	12	90	65	9	71	62	M6	4	3390	7170	40
★ SFU4005-4	40	5	3.175	63	93	14	55	78	9	81.5	70	M8	4	1610	5330	49
SFU4010-4		10	6.350	63	93	14	93	78	9	81.5	70	M8	4	3910	9520	50
SFU5010-4	50	10	6.350	75	110	16	93	93	11	97.5	85	M8	4	4450	12500	65
★ SFU6310-4	63	10	6.350	90	125	18	98	108	11	110	95	M8	4	5070	16600	80
★ SFU8010-4	80	10	6.350	105	145	20	98	125	13.5	127.5	110	M8	4	5620	21300	90

Note: with sign ★ can produce left helix

# Ball Screw List

DFU(DIN 69051 FORM B)



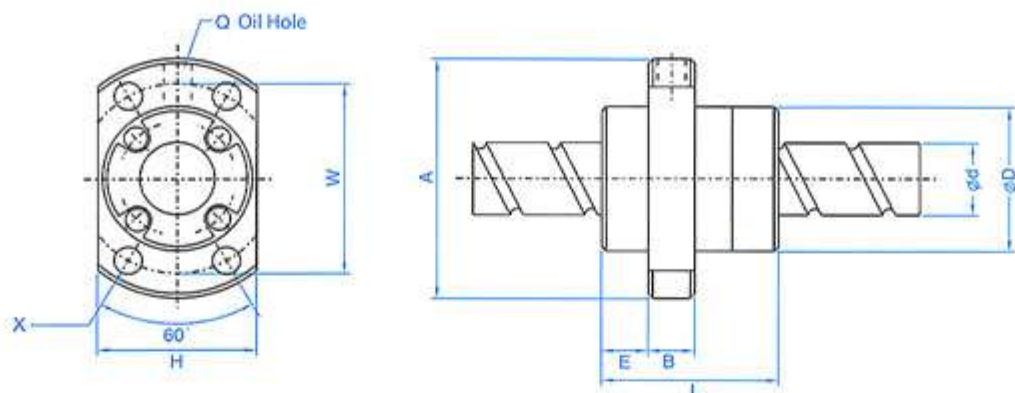
Unit : mm

I: Lead    Da: Ball Dia.    n: Number of Circuits    K: Stiffness (Kg/μm)    Ca: Basic Dynamic Rating Load (Kgf)    Coa: Basic Static Rating Load(Kgf)

Model No.	Dimensions															
	d	I	Da	D	A	B	L	W	X	G	H	Q	n	Ca	Coa	K
DFU1605-4	16	5	3.175	28	48	10	100	38	5.5	44	40	M6	4	780	1790	36
★ DFU2005-4	20	5	3.175	36	58	10	101	47	6.6	51	44	M6	4	1130	2380	52
★ DFU2505-4	25	5	3.175	40	62	10	101	51	6.6	55	48	M6	4	1280	3110	64
★ DFU3205-4	32	5	3.175	50	80	12	102	65	9	71	62	M6	4	1450	4150	80
DFU3210-4		10	6.350	50	80	12	162	65	9	71	62	M6	4	3390	7170	79
★ DFU4005-4	40	5	3.175	63	93	14	105	78	9	81.5	70	M8	4	1610	5330	98
DFU4010-4		10	6.350	63	93	14	165	78	9	81.5	70	M8	4	3910	9520	99
DFU5010-4	50	10	6.350	75	110	16	171	93	11	97.5	85	M8	4	4450	12500	122
★ DFU6310-4	63	10	6.350	90	125	18	182	108	11	110	95	M8	4	5070	16600	154
★ DFU8010-4	80	10	6.350	105	145	20	182	125	13.5	127.5	110	M8	4	5620	21300	187

Note: with sign ★ can produce left helix





Unit : mm

L: Lead    Da: Ball Dia.    n: Number of Circuits    K: Stiffness (Kg/ $\mu$ m)    Ca: Basic Dynamic Rating Load (Kgf)    Coa: Basic Static Rating Load (Kgf)

Model No.	Dimensions															
	d	l	Da	D	A	E	B	L	X	W	H	Q	n	Ca	Coa	K
SFE1616-3	16	16	2.778	32	53	15	10	38	4.5	42	34	M6	1.7x2	650	1280	19
SFE1616-6		16	2.778	32	53	15	10	38	4.5	42	34	M6	1.7x4	1180	2550	36
SFE1632-3	16	32	3.175	34	55	10.5	10	34	5.5	45	36	M6	0.7x2	410	680	21
SFE1632-6		32	3.175	34	55	10.5	10	34	5.5	45	36	M6	0.7x4	820	1360	41
SFE2020-3	20	20	3.175	39	62	11.5	10	47	5.5	50	41	M6	1.7x2	980	2140	25
SFE2020-6		20	3.175	39	62	11.5	10	47	5.5	50	41	M6	1.7x4	1780	4280	49
SFE2040-3	20	40	3.175	38	58	11	10	41	5.5	48	40	M6	0.7x2	455	880	25
SFE2040-6		40	3.175	38	58	11	10	41	5.5	48	40	M6	0.7x4	910	1760	49
SFE2525-3	25	25	3.969	47	74	13	12	57	6.6	60	49	M6	1.7x2	1470	3350	31
SFE2525-6		25	3.969	47	74	13	12	57	6.6	60	49	M6	1.7x4	2660	6690	60
SFE2550-3	25	50	3.969	46	70	13	12	50	6.6	58	48	M6	0.7x2	685	1380	31
SFE2550-6		50	3.969	46	70	13	12	50	6.6	58	48	M6	0.7x4	1370	2760	60
SFE3232-3	32	32	4.762	58	92	16	12	71	9	74	60	M6	1.7x2	2140	5260	40
SFE3232-6		32	4.762	58	92	16	12	71	9	74	60	M6	1.7x4	3890	10500	76
SFE3264-3	32	64	4.762	58	92	15.5	12	62	9	74	60	M6	0.7x2	1000	2130	40
SFE3264-6		64	4.762	58	92	15.5	12	62	9	74	60	M6	0.7x4	2000	4260	77
SFE4040-3	40	40	6.350	73	114	19	15	89	11	93	75	M6	1.7x2	3410	8820	49
SFE4040-6		40	6.350	73	114	19	15	89	11	93	75	M6	1.7x4	6200	17600	95
SFE5050-3	50	50	7.938	90	135	21.5	20	107	14	112	92	M6	1.7x2	5100	13800	60
SFE5050-6		50	7.938	90	135	21.5	20	107	14	112	92	M6	1.7x4	7260	27600	117

"-3" means 2 starts, "-6" means 4 starts.



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