

Ball Screw



High Precision
CNC Production Equipment



SFT	R	025	05	B2	D	G	C5	1000	P0
									Axial clearance and preload code
									Overall length of shaft(mm)
									Accuracy grade code
									Process code
									Flange type
									No. of Turn(Circuits) or Turn x Row
									Lead(mm)
									Shaft dia.(mm)
									Direction of helix
									Nut type codes

Nut type codes

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

(SFI 、 DFI 、 SFT 、 DFT 、 SFE 、 SFK)

Direction of helix

R :	Right
L :	Left

No. of Turn (Circuits) or Turn x Row

Turn	T :	1
	A :	1.5 (or 1.7)
	B :	2.5
	C :	3.5

ex : (B2=2.5x2)

Flange type

N :	Not cutting
S :	Single cutting
D :	Double cutting

Process code

G :	Ground
F :	Rolled

Accuracy grade code

C0	C1	C2	C3	C5	C7	C10
----	----	----	----	----	----	-----

Axial clearance and preload code

P0	P1	P2	P3	P4
----	----	----	----	----

Technical Information

Mean Travel Deviation ($\pm E$) and Travel Variation(e) (JIS B 1192)

unit: mm

Grade			C0		C1		C2		C3		C5		C7	C10
Travel Length (mm)	Over	incl	±E	e	±E	e	±E	e	±E	e	±E	e	e300	e300
		100	3	3	3.5	5	5	7	8	8	18	18	±50 300mm	±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	27	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: μm

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	Ground : According to ABBA Catalogues Rolled : single nut	Rolled or Ground
C5	P1 or P2(Standard)	Ground : According to ABBA Catalogues Rolled : single nut	Ground screw shaft with lead error inspection certificate
C3	P1 or P2(Standard) or P3	Ground : According to ABBA Catalogues Rolled : single nut	Ground screw shaft with lead error inspection certificate

Axial Play (P0)

Clearance in the Axial Direction of the Rolled and Ground Ball Screw

Screw Shaft OD	Rolled Ball Screw Clearance in the Axial Direction(max.)	Ground Ball Screw Clearance in the Axial Direction(max.)
04-14 miniature ball screw	0.05	0.015
15-40 middle size of ball screw	0.08	0.025
50-100 big size of ball screw	0.12	0.05

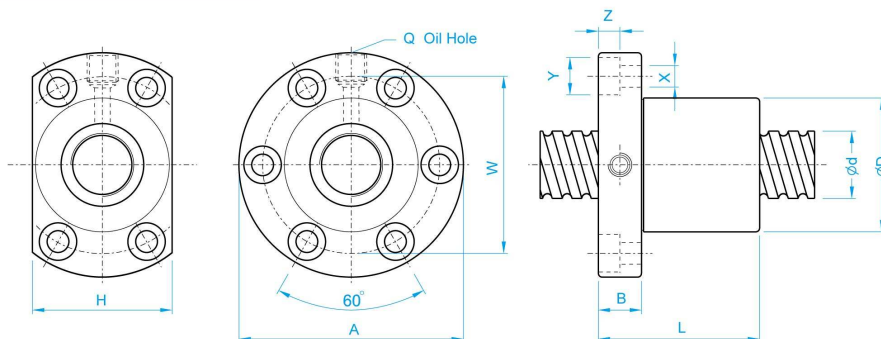
Spring Force of Light Preload (P2)

unit: kg

Model No.	Single Nut (kg)	Double Nut (kg)
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	0.3~0.6	0.5~0.8
5010	0.3~0.6	0.8~1.2
6310	0.6~1.0	0.8~1.2
8010	0.6~1.0	0.8~1.2

Ball Screw Dimension Table

Type : SFI



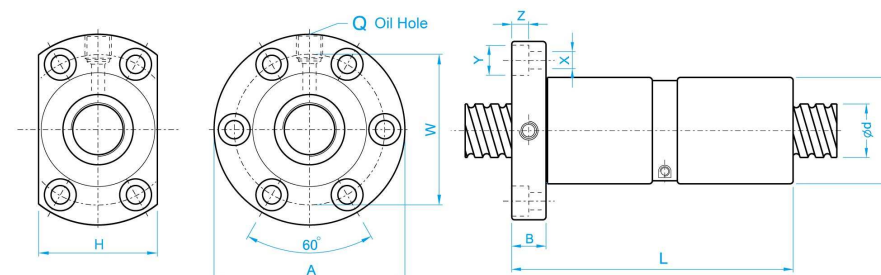
Unit: mm

I : Load	Da : Ball Dia	n : Number of Circuits	K : Stiffness(Kgf/ μm)	Ca : Basic dynamic Rating Load (Kgf)	Coa : Basic Static Rating Load(Kgf)												
Model No.	Dimensions																
	d	l	Da	D	A	B	L	W	H	X	Y	Z	Q	n	Ca	Coa	K
SFI1604-4	16	4	2.381	30	49	10	45	39	34	4.5	8	4.5	M6	4	640	1340	16
SFI1605-4		5	3.175	30	49	10	50	39	34	4.5	8	4.5	M6	4	780	1790	20
SFI1610-3		10	3.175	34	58	10	57	45	34	5.5	9.5	5.5	M6	3	833	1249	15
SFI2004-4	20	4	2.381	34	57	11	46	45	40	5.5	9.5	5.5	M6	4	670	1480	25
SFI2005-4		5	3.175	34	57	11	51	45	40	5.5	9.5	5.5	M6	4	1130	2380	25
SFI205T-4		5.08	3.175	34	57	11	51	45	40	5.5	9.5	5.5	M6	4	1130	2380	25
SFO2504-4	25	4	2.381	40	63	11	46	51	46	5.5	9.5	5.5	M6	4	760	1950	31
SFI2505-4		5	3.175	40	63	11	51	51	46	5.5	9.5	5.5	M8	4	1280	3110	35
SFI2510-4		10	4.762	46	72	12	85	58	52	6.5	11	6.5	M6	4	1944	3877	33
SFI3204-4	32	4	2.381	46	72	12	47	58	52	6.5	11	6.5	M6	4	860	3050	40
SFI3205-4		5	3.175	46	72	12	52	58	52	6.5	11	6.5	M8	4	1450	4150	40
SFI3210-4		10	6.35	54	88	15	90	70	62	9	14	8.5	M8	4	3390	7170	40
SFI4005-4	40	5	3.175	56	90	15	55	72	64	9	14	8.5	M8	4	1610	5330	49
SFI4010-4		10	6.35	62	104	18	93	82	70	11	17.5	11	M8	4	3910	9520	50
SFI5010-4		50	10	6.35	72	114	18	93	92	82	11	17.5	11	M8	4	4450	12500
SFI6310-4	63	10	6.35	85	131	22	98	107	95	14	20	13	M8	4	5070	16600	80
SFI8010-4	80	10	6.35	105	150	22	98	127	115	14	20	13	M8	4	5620	21300	90

Note:with sign ★ can produce left helix

Ball Screw Dimension Table

Type : DFI



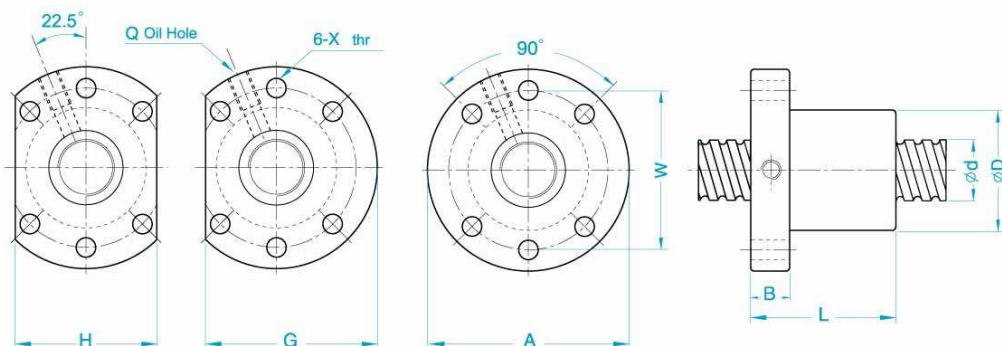
Unit: mm

I : Load	Da :Ball Dia	n : Number of Circuits	K : Stiffness(Kgf/ μ m)								Ca : Basic dynamic Rating Load (Kgf)				Coa : Basic Static Rating Load(Kgf)		
Model No.	Dimensions																
	d	l	Da	D	A	B	L	W	H	X	Y	Z	Q	n	Ca	Coa	K
DFI1604-4	16	4	2.381	30	49	10	80	39	34	4.5	8	4.5	M6	4	640	1340	35
DFI1605-4		5	3.175	30	49	10	100	39	34	4.5	8	4.5	M6	4	780	1790	36
DFI2004-4	20	4	2.381	34	57	11	80	45	40	5.5	9.5	5.5	M6	4	670	1480	41
DFI2005-4		5	3.175	34	57	11	101	45	40	5.5	9.5	5.5	M6	4	1130	2380	45
DFI2504-4	25	4	2.381	40	63	11	80	51	46	5.5	9.5	5.5	M6	4	760	1950	48
DFI2505-4		5	3.175	40	63	11	101	51	46	5.5	9.5	5.5	M8	4	1280	3110	63
DFI2510-4		10	4.762	46	72	12	145	58	52	6.5	11	6.5	M6	4	1944	3877	65
DFI3204-4	32	4	2.381	46	72	12	80	58	52	6.5	11	6.5	M6	4	860	3050	56
DFI3205-4		5	3.175	46	72	12	102	58	52	6.5	11	6.5	M8	4	1450	4150	72
DFI3210-4		10	6.35	54	88	15	162	70	62	9	14	8.5	M8	4	3390	7170	72
DFI4005-4	40	5	3.175	56	90	15	105	72	64	9	14	8.5	M8	4	1610	5330	98
DFI4010-4		10	6.35	62	104	18	165	82	70	11	17.5	11	M8	4	3910	9520	90
DFI5010-4	50	10	6.35	72	114	18	171	92	82	11	17.5	11	M8	4	4450	12500	117
DFI6310-4	63	10	6.35	85	131	22	182	107	95	14	20	13	M8	4	5070	16600	114
DFI8010-4	80	10	6.35	105	150	22	182	127	115	14	20	13	M8	4	5620	21300	162

Note:with sign ★ can produce left helix

Ball Screw Dimension Table

Type : SFU (DIN 69051 FROM B)



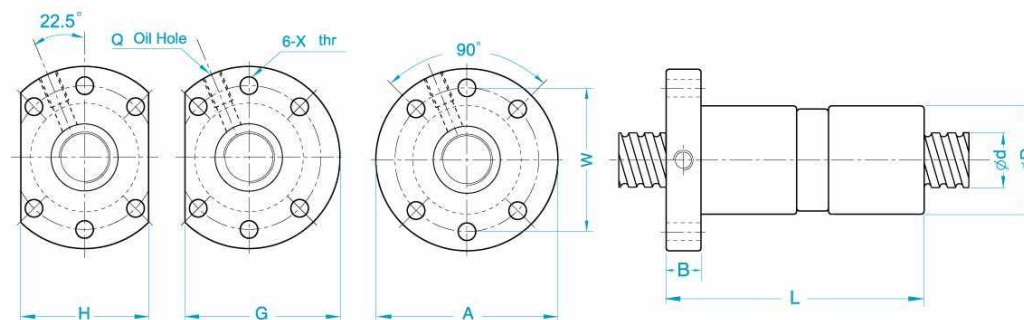
I : Load Da : Ball Dia n : Number of Circuits K : Stiffness(Kg/μm) Ca : Basic dynamic Rating Load (Kgf) Coa : Basic Static Rating Load(Kgf)

	Model No.	Dimensions															
		d	I	Da	D	A	B	L	W	X	G	H	Q	n	Ca	Coa	K
★	SFU1604-4	16	4	2.381	28	48	10	40	38	5.5	44	40	M6	4	629	1270	35
	SFU1605-4		5	3.175	28	48	10	50	38	5.5	44	40	M6	4	780	1790	20
	SFU1610-3		10	3.175	28	48	10	57	38	5.5	44	40	M6	3	721	1249	15
★	SFU-2004-4	20	4	2.381	36	58	10	42	47	6.6	51	44	M6	4	699	1617	41
	SFU-2005-4		5	3.175	36	58	10	51	47	6.6	51	44	M6	4	1130	2380	25
★	SFU-2504-4	25	4	2.381	40	62	10	42	51	6.6	55	48	M6	4	777	2052	48
	SFU-2505-4		5	3.175	40	62	10	51	51	6.6	55	48	M6	4	1280	3110	35
SFU-2506-4	6		3.969	40	62	10	54	51	6.6	55	48	M6	4	1528	3284	40	
SFU-2508-4	8		4.762	40	62	10	63	51	6.6	55	48	M6	4	1941	3863	38	
SFU-2510-4	10		4.762	40	62	12	85	51	6.6	55	48	M6	4	1944	3877	33	
★	SFU-3204-4	32	4	2.381	50	80	12	44	65	9	71	62	M6	4	871	2661	56
	SFU-3205-4		5	3.175	50	80	12	52	65	9	71	62	M6	4	1450	4150	40
SFU-3206-4	6		3.969	50	80	12	57	65	9	71	62	M6	4	1720	4298	47	
SFU-3208-4	8		4.762	50	80	12	65	65	9	71	62	M6	4	2189	5079	44	
SFU-3210-4	10		6.350	50	80	12	90	65	9	71	62	M6	4	3390	7170	79	
SFU-3220-3	20		3.969	50	80	12	99	65	9	71	62	M6	3	1354	3283	52	
★	SFU-4005-4	40	5	3.175	63	93	14	55	78	9	81.5	70	M8	4	1610	5330	49
	SFU-4006-4		6	3.969	63	93	14	60	78	9	81.5	70	M6	4	1911	5458	55
SFU-4008-4	8		4.762	63	93	14	67	78	9	81.5	70	M6	4	2435	6469	52	
SFU-4010-4	10		6.350	63	93	14	93	78	9	81.5	70	M8	4	3910	9520	50	
★	SFU-5010-4	50	10	6.350	75	110	16	93	93	11	97.5	85	M8	4	4450	12500	65
	SFU-6310-4	63	10	6.350	90	125	18	98	108	11	110	95	M8	4	5070	16600	80
★	SFU-8010-4	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 Dimension Table

Type : DFU (DIN 69051 FROM B)



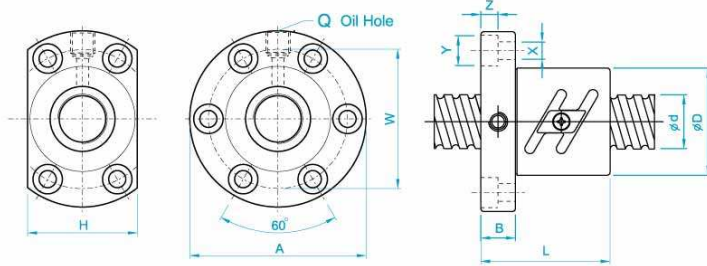
I : Load Da : Ball Dia n : Number of Circuits K : Stiffness(Kg/μm) Ca : Basic dynamic Rating Load (Kgf) Coa : Basic Static Rating Load(Kgf)

	Model No.	Dimensions															
		d	I	Da	D	A	B	L	W	X	G	H	Q	n	Ca	Coa	K
★	DFU1604-4	16	4	2.381	28	48	10	80	38	5.5	44	40	M6	4	629	1270	35
	DFU1605-4		5	3.175	28	48	10	100	38	5.5	44	40	M6	4	780	1790	20
	DFU1610-3		10	3.175	28	48	10	118	38	5.5	44	40	M6	3	721	1249	15
★	DFU-2004-4	20	4	2.381	36	58	10	80	47	6.6	51	44	M6	4	699	1617	41
	DFU-2005-4		5	3.175	36	58	10	101	47	6.6	51	44	M6	4	1130	2380	25
★	DFU-2504-4	25	4	2.381	40	62	10	80	51	6.6	55	48	M6	4	777	2052	48
	DFU-2505-4		5	3.175	40	62	10	101	51	6.6	55	48	M6	4	1280	3110	35
	DFU-2506-4		6	3.969	40	62	10	105	51	6.6	55	48	M6	4	1528	3284	40
DFU-2508-4	8		4.762	40	62	10	120	51	6.6	55	48	M6	4	1941	3863	38	
DFU-2510-4	10		4.762	40	62	12	145	51	6.6	55	48	M6	4	1944	3877	33	
★	DFU-3204-4	32	4	2.381	50	80	12	80	65	9	71	62	M6	4	871	2661	56
	DFU-3205-4		5	3.175	50	80	12	102	65	9	71	62	M6	4	1450	4150	40
	DFU-3206-4		6	3.969	50	80	12	105	65	9	71	62	M6	4	1720	4298	47
DFU-3208-4	8		4.762	50	80	12	122	65	9	71	62	M6	4	2189	5079	44	
DFU-3210-4	10		6.350	50	80	12	162	65	9	71	62	M6	4	3390	7170	79	
★	DFU-4005-4	40	5	3.175	63	93	14	105	78	9	81.5	70	M8	4	1610	5330	49
	DFU-4006-4		6	3.969	63	93	14	108	78	9	81.5	70	M6	4	1911	5458	55
	DFU-4008-4		8	4.762	63	93	14	132	78	9	81.5	70	M6	4	2435	6469	52
DFU-4010-4	10		6.350	63	93	14	165	78	9	81.5	70	M8	4	3910	9520	50	
★	DFU-5010-4		50	10	6.350	75	110	16	171	93	11	97.5	85	M8	4	4450	12500
★	DFU-6310-4	63	10	6.350	90	125	18	182	108	11	110	95	M8	4	5070	16600	80
	DFU-8010-4	80	10	6.350	105	145	20	182	125	13.5	127.5	110	M8	4	5620	21300	90

Note:with sign ★ can produce left helix

Ball Screw Dimension Table

Type : SFT

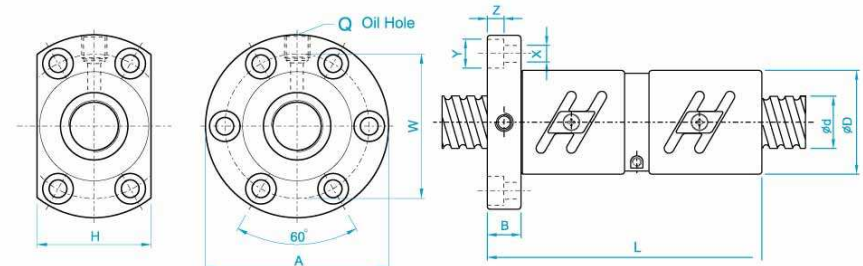


I : Load Da : Ball Dia n : Number of Circuits K : Stiffness(Kg/μm) Ca : Basic dynamic Rating Load (Kgf) Coa : Basic Static Rating Load(Kgf)

Model No.	Dimensions																
	d	I	Da	D	A	B	L	W	H	X	Y	Z	Q	n	Ca	Coa	K
SFT2005-5	20	5	3.175	44	67	11	57	55	52	5.5	9.5	5.5	M6	2.5x2	1546	3068	37
SFT2505-5	25	5	3.175	50	73	11	55	61	52	5.5	9.5	5.5	M8	2.5x2	1690	4460	46
SFT2510-2.5		10	6.350	68	102	15	70	84	82	9	14	8.5	M8	2.5x1	2440	4730	26
SFT3205-5	32	5	3.175	58	85	12	56	71	64	6.6	11	6.5	M8	2.5x2	1880	5720	55
SFT3206-5		6	3.969	62	89	12	65	75	68	6.6	11	6.5	M8	2.5x2	2520	7080	56
SFT3208-5		8	4.762	66	100	15	82	82	76	9	14	8.5	M8	2.5x2	3230	8360	58
SFT3210-5		10	6.350	74	108	15	96	90	82	9	14	9	M8	2.5x2	4820	11500	63
SFT3220-2.5		20	6.350	74	108	16	100	90	82	9	14	8.5	M8	2.5x1	2680	6020	30
SFT4005-5	40	5	3.175	67	101	15	59	83	72	9	14	8.5	M8	2.5x2	2026	7200	66
SFT4010-5		10	6.350	82	124	18	100	102	94	11	17.5	11	M8	2.5x2	5300	14000	72
SFT4020-2.5		20	6.350	82	124	18	100	102	90	11	17.5	11	M8	2.5x1	2970	7370	38
SFT5010-5	50	10	6.350	93	135	18	103	113	98	11	17.5	11	M8	2.5x2	5940	18000	89
SFT5020-2.5		20	9.525	105	152	28	121	128	110	14	20	13	M8	2.5x1	7400	18700	45
SFT6310-5	63	10	6.350	108	154	22	105	130	110	14	20	13	M8	2.5x2	6550	22700	107
SFT6320-2.5		20	9.525	122	180	28	127	150	130	18	26	18	M8	2.5x1	8110	23200	73
SFT8010-5	80	10	6.350	130	176	22	105	152	132	14	20	13	M8	2.5x2	7200	28900	129
SFT8020-5		20	9.525	143	204	28	180	172	148	18	26	18	M8	2.5x2	16700	60100	175
SFT8020-7.5		20	9.525	143	204	28	240	172	148	18	26	18	M8	2.5x3	23500	89100	252

Ball Screw Dimension Table

Type : DFT

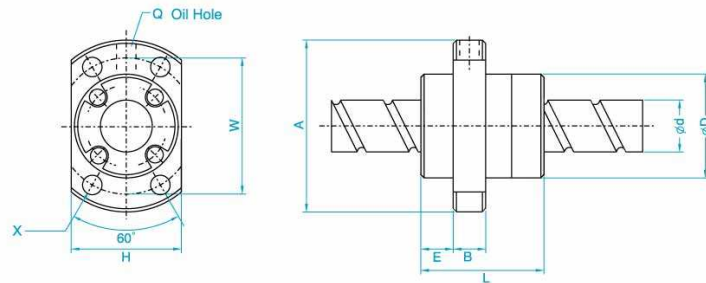


I : Load Da : Ball Dia n : Number of Circuits K : Stiffness(Kg/μm) Ca : Basic dynamic Rating Load (Kgf) Coa : Basic Static Rating Load(Kgf)

Model No.	Dimensions																
	d	I	Da	D	A	B	L	W	H	X	Y	Z	Q	n	Ca	Coa	K
DFT2005-5	20	5	3.175	44	67	11	105	55	52	5.5	9.5	5.5	M6	2.5x2	1546	3068	75
DFT2505-5	25	5	3.175	50	73	11	105	61	52	5.5	9.5	5.5	M8	2.5x2	1690	4460	89
DFT2510-2.5		10	6.350	68	102	15	130	84	82	9	14	8.5	M8	2.5x1	2440	4730	48
DFT3205-5	32	5	3.175	58	85	12	106	71	64	6.6	11	6.5	M8	2.5x2	1880	5720	108
DFT3206-5		6	3.969	62	89	12	123	75	68	6.6	11	6.5	M8	2.5x2	2520	7080	111
DFT3208-5		8	4.762	66	100	15	154	82	76	9	14	8.5	M8	2.5x2	3230	8360	113
DFT3210-5		10	6.350	74	108	16	187	90	82	9	14	8.5	M8	2.5x2	4820	11500	117
DFT3220-2.5		20	6.350	74	108	16	198	90	82	9	14	8.5	M8	2.5x1	2680	6020	60
DFT4005-5	40	5	3.175	67	101	15	109	83	72	9	14	8.5	M8	2.5x2	2060	7200	130
DFT4010-5		10	6.350	82	124	18	188	102	94	11	17.5	11	M8	2.5x2	5300	14000	141
DFT4020-2.5		20	6.350	82	124	18	200	102	90	11	17.5	11	M8	2.5x1	2970	7370	75
DFT5010-5	50	10	6.350	93	135	18	193	113	98	11	17.5	11	M8	2.5x2	5940	18000	170
DFT5020-2.5		20	9.525	105	152	28	225	128	110	14	20	13	M8	2.5x1	7400	18700	90
DFT6310-5	63	10	6.350	108	154	22	197	130	110	14	20	13	M8	2.5x2	6550	22700	200
DFT8010-5	80	10	6.350	130	176	22	195	152	132	14	20	13	M8	2.5x2	7200	28900	240
DFT8020-5		20	9.525	143	204	28	340	172	148	18	26	18	M8	2.5x2	16700	60100	330

Ball Screw Dimension Table

Type : SFE



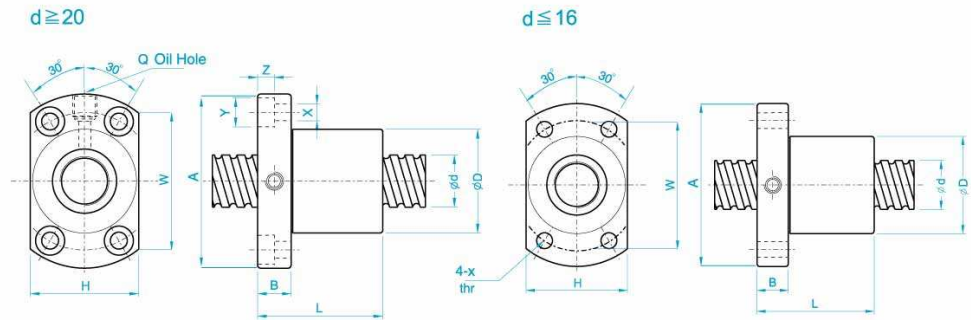
I : Load	Da : Ball Dia	n : Number of Circuits	K : Stiffness(Kg/ μm)							Ca : Basic dynamic Rating Load (Kgf)			Coa : Basic Static Rating Load(Kgf)				
Model No.		Dimensions															
		d	I	Da	D	A	E	B	L	X	W	H	Q	n	Ca	Coa	K
SFE1616-3		16	16	2.778	32	53	9.6	10	38	4.5	42	34	M6	1.7x2	650	1280	19
SFE1616-6			16	2.778	32	53	9.6	10	38	4.5	42	34	M6	1.7x4	1180	2550	36
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
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
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
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

Note 1: "-3" means 2starts, "-6" means 4 start.

Note 2: ABBA standard nuts do not have wipers, if required, please advise.

Ball Screw Dimension Table

Type : SFK



I : Load	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	H	X	Y	Z	Q	n	Ca	Coa
SFK0401	4	1	0.8	10	20	3	12	15	14	2.9				2	42	51
SFK0601	6	1	0.8	12	24	3.5	15	18	16	3.4				3	73	121
SFK0801	8	1	0.8	14	27	4	16	21	18	3.4				4	93	173
SFK0802		2	1.2	14	27	4	16	21	18	3.4				3	135	225
SFK082.5		2.5	1.2	16	29	4	26	23	20	3.4				3	177	278
SFK1002	10	2	1.2	18	35	5	28	27	22	4.5				3	185	305
SFK1004		4	2	26	46	10	34	36	28	4.5				3	395	590
SFK1202	12	2	1.2	20	37	5	28	29	24	4.5				4	173	317
SFK1204		4	2.5	24	40	6	28	32	25	3.5				3	454	722
SFK1205		5	2.5	22	37	8	39	29	24	4.5				3	619	883
SFK1402	14	2	1.2	21	40	6	23	31	26	5.5				4	287	633
SFK1602	16	2	1.2	25	43	10	40	35	29	5.5				4	253	670
SFK2002	20	2	1.2	50	80	15	55	65	68	6.5	10.5	6	M6	6	397	1269
SFK2502	25	2	1.2	50	80	13	43	65	68	6.5	10.5	6	M6	5	375	1331
SFK2503		3	2.381	40	63	11	51	51	48	5.5	9.5	5.5	M6	6	1100	3076

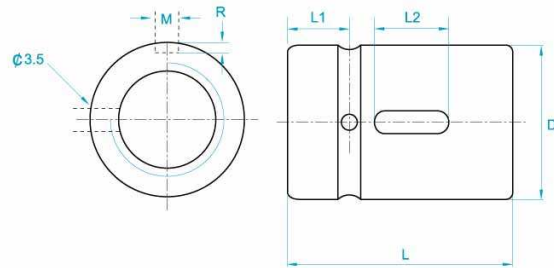
Note:1 Nuts do not have seals from $\phi 4$ to $\phi 6$.

Note:2 ABBA Standard nuts are no wipers, if required, please advise.

Note:3 Nuts do not have oil hole from $\phi 4$ to $\phi 16$.

Ball Screw Dimension Table

Type : SCI



Unit: mm

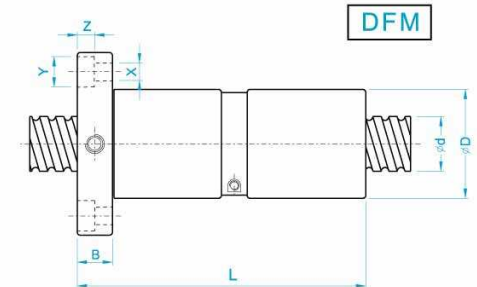
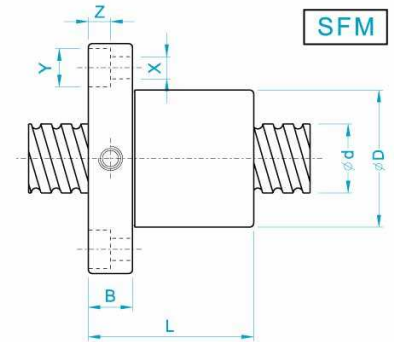
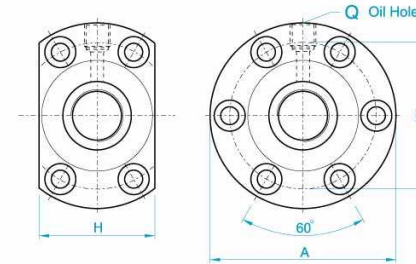
I :	Load	Da :	Ball Dia	n :	Number of Circuits	K :	Stiffness(Kg/ μ.m)	Ca :	Basic dynamic Rating Load (Kgf)	Coa :	Basic Static Rating Load(Kgf)		
Model No.	Dimensions												
	d	l	Da	D	L	L1	L2	M	R	n	Ca	Coa	K
SCI-1604	16	4	2.381	30	40	9	15	3	1.5	4	640	1340	16
SCI-1605		5	3.175	30	45	9	20	5	3	4	780	1790	20
SCI-2004	20	4	2.381	34	40	9	15	3	1.5	4	670	1480	25
SCI-2005		5	3.175	34	45	9	20	5	3	4	1130	2380	25
SCI-2504	25	4	2.381	40	40	9	15	3	1.5	4	760	1950	31
SCI-2505		5	3.175	40	45	9	20	5	3	4	1280	3110	35
SCI-2510	32	10	4.762	46	85	13	30	5	3	4	1944	3877	33
SCI-3204		4	2.381	46	40	9	15	3	1.5	4	860	3050	40
SCI-3205	40	5	3.175	46	45	9	20	5	3	4	1450	4150	40
SCI-3210		10	6.35	54	85	13	30	5	3	4	3390	7170	40
SCI-4005	50	5	3.175	56	45	9	20	5	3	4	1610	5330	49
SCI-4010		10	6.35	62	85	13	30	5	3	4	3910	9520	50
SCI-5010	63	10	6.35	72	85	13	30	5	3	4	4450	12500	65
SCI-6310	80	10	6.35	85	85	13	30	6	3.5	4	5070	16600	80
SCI-8010	80	10	6.35	105	85	13	30	8	4.5	4	5620	21300	90

Note: with sign ★ can produce left helix

Ball Screw Dimension Table

Type : SFM & DFM

Used for Milling Machine Only



I : Load		Da : Ball Dia		n : Number of Circuits		K : Stiffness(Kg/ μ m)				Ca : Basic dynamic Rating Load (Kgf)				Coa : Basic Static Rating Load(Kgf)			
Model No.	Dimensions																
	d	l	Da	D	A	B	L	W	H	X	Y	Z	Q	n	Ca	Coa	K
SFM3205-4	32	5	3.175	48	74	12	52	60	60	6.5	11	6.5	M8	4	1450	4150	40
SFM325T-4	32	5.08	3.175	48	74	12	53	60	60	6.5	11	6.5	M8	4	1450	4150	40
DFM3205-4	32	5	3.175	48	74	12	102	60	60	6.5	11	6.5	M8	4	1450	4150	72
DFM325T-4	32	5.08	3.175	48	74	12	104	60	60	6.5	11	6.5	M8	4	1450	4150	72

Note: with sign ★ can produce left helix



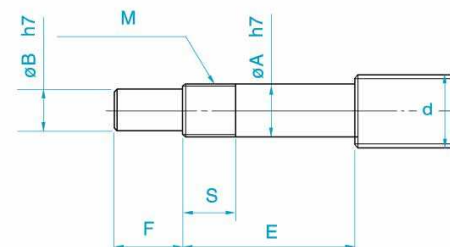
Support Unit of Ball Screw



Support Unit of Ball Screw Dimension Table

Recommended Shaft End Shape

For Support Unit Type BK and FK and EK Fixed Side



Unit : mm

Support Unit model No.	Ball Screw shaft OD	Shaft Support Portion OD				Metric screw thread	
BK (Type BK)	d	A	B	E	F	M	S
BK 10	12/14/15	10	8	39	15	M10X1	16
BK 12	16/18	12	10	39	15	M12X1	14
BK 15	20	15	12	40	20	M15X1	12
BK 17	25	17	15	53	23	M17X1	17
BK 20	28/30/32	20	17	53	25	M20X1	15
BK 25	36	25	20	65	30	M25X1.5	18
BK 30	40	30	25	72	38	M30X1.5	25
BK 35	45	35	30	83	45	M35X1.5	28
BK 40	50/55	40	35	98	50	M40X1.5	35

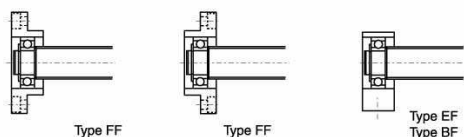
Unit : mm

Support Unit model No.		Ball Screw shaft OD	Shaft Support Portion OD				Metric screw thread	
Type FK	Type EK	d	A	B	E	F	M	S
FK 6	EK 6	8	6	4	30	8	M6X0.75	8
FK 8	EK 8	10/12	8	6	35	9	M8X1	10
FK 10	EK 10	12/14/15	10	8	36	15	M10X1	11
FK 12	EK 12	14/15/16	12	10	36	15	M12X1	11
FK 15	EK 15	18/20	15	12	49	20	M15X1	13
FK 20	EK 20	25/28/30	20	17	64	25	M20X1	17
FK 25	—	30/32/36	25	20	76	30	M25X1.5	20
FK 30	—	36/40	30	25	72	38	M30X1.5	25

Support Unit of Ball Screw Dimension Table

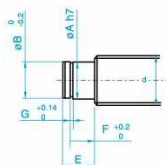
Recommended Shaft End Shape

For Support Unit Type FF and EF and BF (Floated Side)



Unit : mm

Support Unit model No.			Ball Screw shaft OD	Shaft Support Portion OD	
Type FF	Type EF	Type BF	d	A	E
FF 06	EF 06	—	8	6	9
FF 10	EF 10	BF 10	12/14/15	8	10
FF 12	EF 12	BF 12	14/15/16	10	11
FF 15	EF 15	BF 15	18/20	15	13
—	—	BF 17	20/25	17	16
FF 20	EF 20	(BF20)Note	25/28/30	20	19 (16)
FF 25	—	BF 25	30/32/36	25	20
FF 30	—	BF 30	36/40	30	21
—	—	BF 35	40/45	35	22
—	—	BF 40	50	40	23



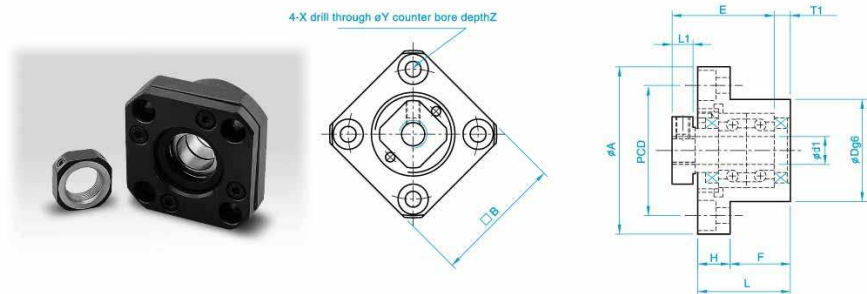
Note:
In this table, dimensions in parentheses are those of type BF20. These dimensions differ from those of type FF20 and EF20. When placing an order, always specify the model number of the Support Unit to be used.

Unit : mm

Support Unit model No.			Snap-ring Groove		
Type FF	Type EF	Type BF	B	F	G
FF 06	EF 06	—	5.7	6.8	0.8
FF 10	EF 10	BF 10	7.6	7.9	0.9
FF 12	EF 12	BF 12	9.6	9.15	1.15
FF 15	EF 15	BF 15	14.3	10.15	1.15
—	—	BF 17	16.2	13.15	1.15
FF 20	EF 20	(BF20)Note	19	15.35(13.35)	1.35
FF 25	—	BF 25	23.9	16.35	1.35
FF 30	—	BF 30	28.6	17.75	1.75
—	—	BF 35	33	18.75	1.75
—	—	BF 40	38	19.95	1.95

Support Unit of Ball Screw Dimension Table

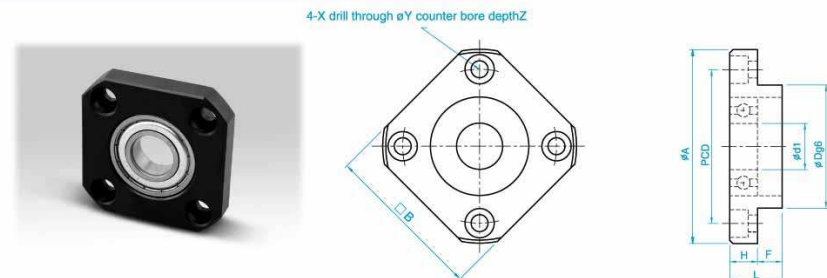
TYPE : FK (Fixed Side)



Unit : mm

Model No.	d1	L	H	F	E	Dg6	A	PCD	B	L1	T1	X	Y	Z
FK 5	5	16.5	6	10.5	18.5	20	34	26	26	5.5	3.5	3.4	6.5	4
FK 6	6	20	7	13	22	22	36	28	28	5.5	3.5	3.4	6.5	4
FK 8	8	23	9	14	26	28	43	35	35	7	4	3.4	6.5	4
FK 10	10	27	10	17	29.5	34	52	42	42	7.5	5	4.5	8	4
FK 12	12	27	10	17	29.5	36	54	44	44	7.5	5	4.5	8	4
FK 15	15	32	15	17	36	40	63	50	52	10	6	5.5	9.5	6
FK 20	20	52	22	30	50	57	85	70	68	8	10	6.6	11	10
FK 25	25	57	27	30	60	63	98	80	79	13	10	9	15	13
FK 30	30	62	30	32	61	75	117	95	93	11	12	11	17.5	15

TYPE : FF (Floated Side)

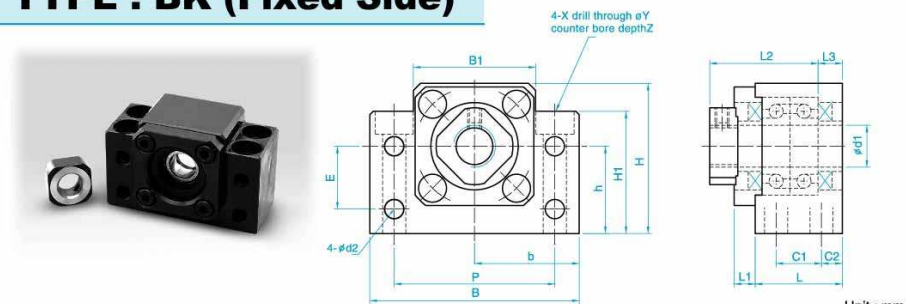


Unit : mm

Model No.	d1	L	H	F	Dg6	A	PCD	B	X	Y	Z
FF 10	8	12	7	5	28	43	35	35	3.4	6.5	4
FF 12	10	15	7	8	34	52	42	42	4.5	8	4
FF 15	15	17	9	8	40	63	50	52	5.5	9.5	5.5
FF 20	20	20	11	9	57	85	70	68	6.6	11	6.5
FF 25	25	24	14	10	63	98	80	79	9	14	8.5
FF 30	30	27	18	9	75	117	95	93	11	17.5	11

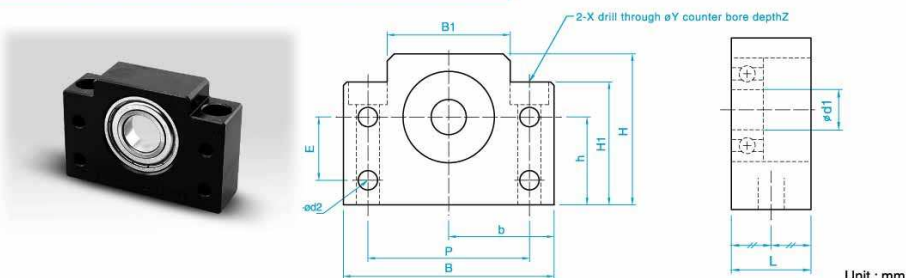
Support Unit of Ball Screw Dimension Table

TYPE : BK (Fixed Side)



Model No.	d1	L	L1	L2	L3	C1	C2	B	H	b ^{+0.02}	h ^{+0.02}	B1	H1	E	P	d2	X	Y	Z
BK 10	10	25	5	29	5	13	6	60	39	30	22	34	32.5	15	46	5.5	6.6	10.8	5
BK 12	12	25	5	29	5	13	6	60	43	30	25	35	32.5	18	46	5.5	6.6	10.8	1.5
BK 15	15	27	6	32	6	15	6	70	48	35	28	40	38	18	54	5.5	6.6	11	6.5
BK 17	17	35	9	44	7	19	8	86	64	43	39	50	55	28	68	6.6	9	14	8.5
BK 20	20	35	8	43	8	19	8	88	60	44	34	52	50	22	70	6.6	9	14	8.5
BK 25	25	42	12	54	9	22	10	106	80	53	48	64	70	33	85	9	11	17.5	11
BK 30	30	45	14	61	9	23	11	128	89	64	51	76	78	33	102	11	14	20	13
BK 35	35	50	14	67	12	26	12	140	96	70	52	88	79	35	114	11	14	20	13
BK 40	40	61	18	76	15	33	14	160	110	80	60	100	90	37	130	14	18	26	17.5

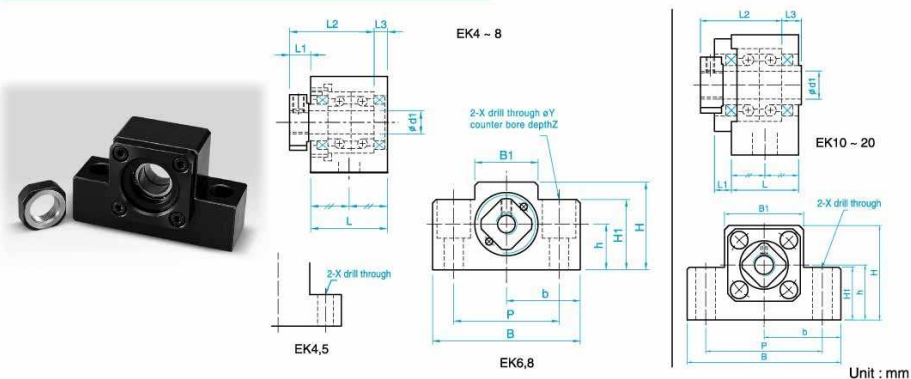
TYPE : BF (Floated Side)



Model No.	d1	L	B	H	b ^{+0.02}	h ^{+0.02}	B1	H1	E	P	d2	X	Y	Z
BF 10	8	20	60	39	30	22	34	32.5	15	46	5.5	6.6	10.8	5
BF 12	10	20	60	43	30	25	35	32.5	18	46	5.5	6.6	10.8	1.5
BF 15	15	20	70	48	35	28	40	38	18	54	5.5	6.6	11	6.5
BF 17	17	23	86	64	43	39	50	55	28	68	6.6	9	14	8.5
BF 20	20	26	88	60	44	34	52	50	22	70	6.6	9	14	8.5
BF 25	25	30	106	80	53	48	64	70	33	85	9	11	17.5	11
BF 30	30	32	128	89	64	51	76	78	33	102	11	14	20	13
BF 35	35	32	140	96	70	52	88	79	35	114	11	14	20	13
BF 40	40	37	160	110	80	60	100	90	37	130	14	18	26	17.5

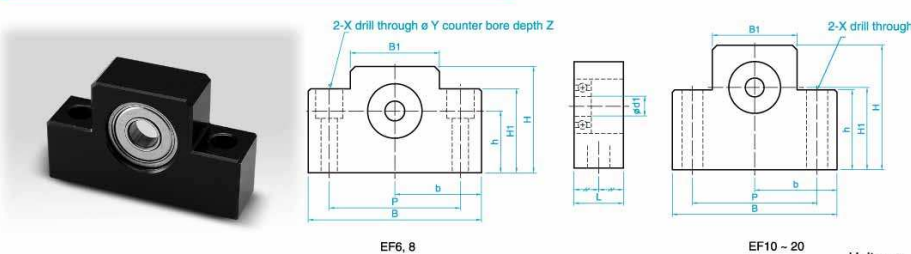
Support Unit of Ball Screw Dimension Table

TYPE : FK (Fixed Side)



Model No.	d1	L	L1	L2	L3	B	H	b ^{+0.02}	h ^{+0.02}	B1	H1	P	X	Y	Z
EK 5	5	16.5	5.5	18.5	3.5	36	21	18	11	20	8	28	4.5	—	—
EK 6	6	20	5.5	22	3.5	42	25	21	13	18	20	30	5.5	9.5	11
EK 8	8	23	7	26	4	52	32	26	17	25	26	38	6.6	11	12
EK 10	10	24	6	29.5	6	70	43	35	25	36	24	52	9	—	—
EK 12	12	24	6	29.5	6	70	43	35	25	36	24	52	9	—	—
EK 15	15	25	6	36	5	80	49	40	30	41	25	60	11	—	—
EK 20	20	42	10	50	10	95	58	47.5	30	56	25	75	11	—	—

TYPE : FF (Floated Side)



Model No.	d1	L	B	H	b ^{+0.02}	h ^{+0.02}	B1	H1	P	X	Y	Z
EF 6	6	12	42	25	21	13	18	20	30	5.5	9.5	11
EF 8	6	14	52	32	26	17	25	26	38	6.6	11	12
EF 10	8	20	70	43	35	25	36	24	52	9	—	—
EF 12	10	20	70	43	35	25	36	24	52	9	—	—
EF 15	15	20	80	49	40	30	41	25	60	9	—	—
EF 20	20	26	95	58	47.5	30	56	25	75	11	—	—