



Support Unit

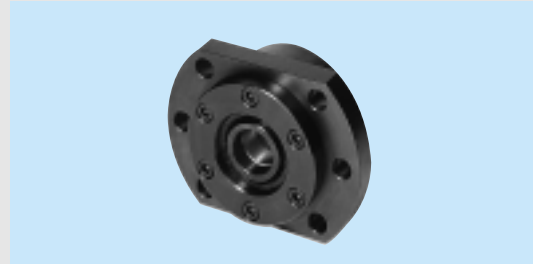
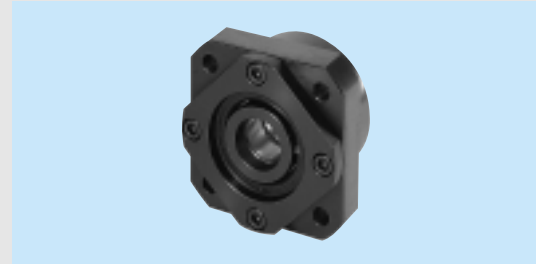
Fixed-End Support Unit / Supported-End Support Unit /
Recommended Screw End Machining

Fixed-End Support Unit

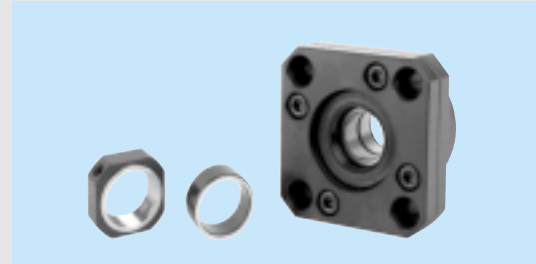
Fixed-End Support Unit

Fixed-End Support Unit

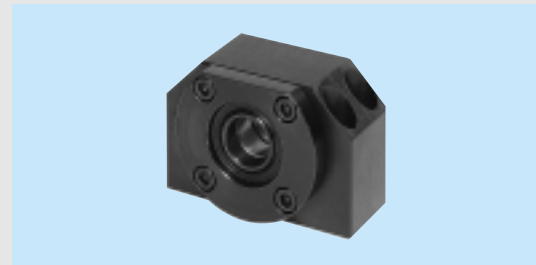
FK



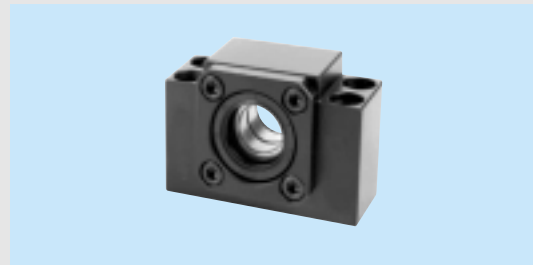
FK-DS(T)



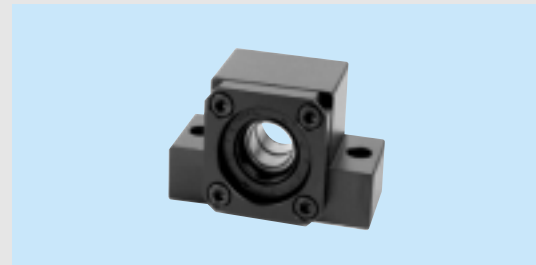
BK



BK-DS



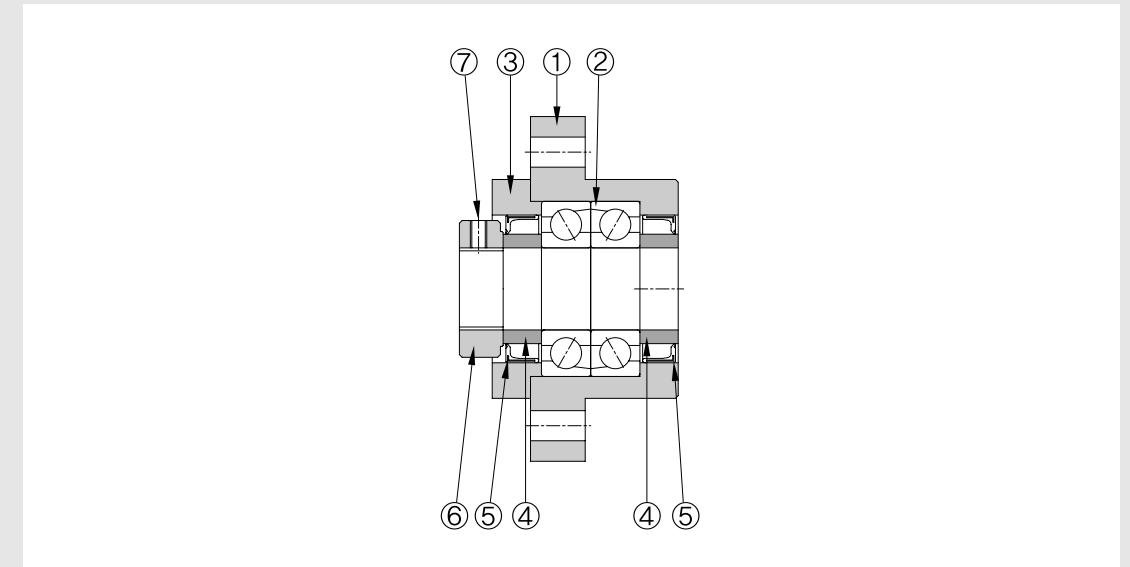
EK



AK



Structure of Fixed-End Support Unit

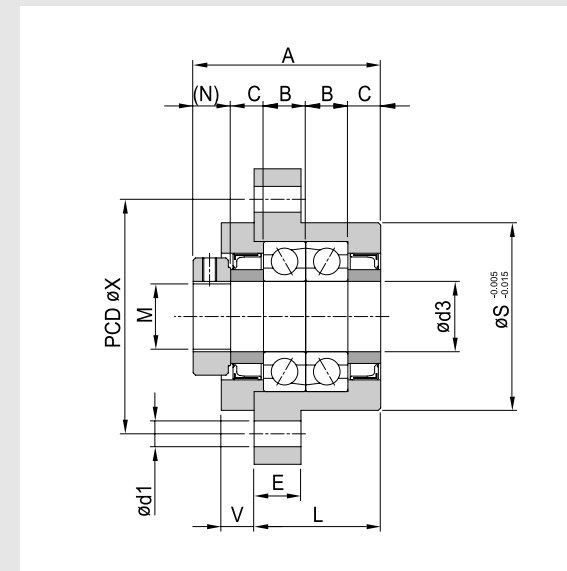
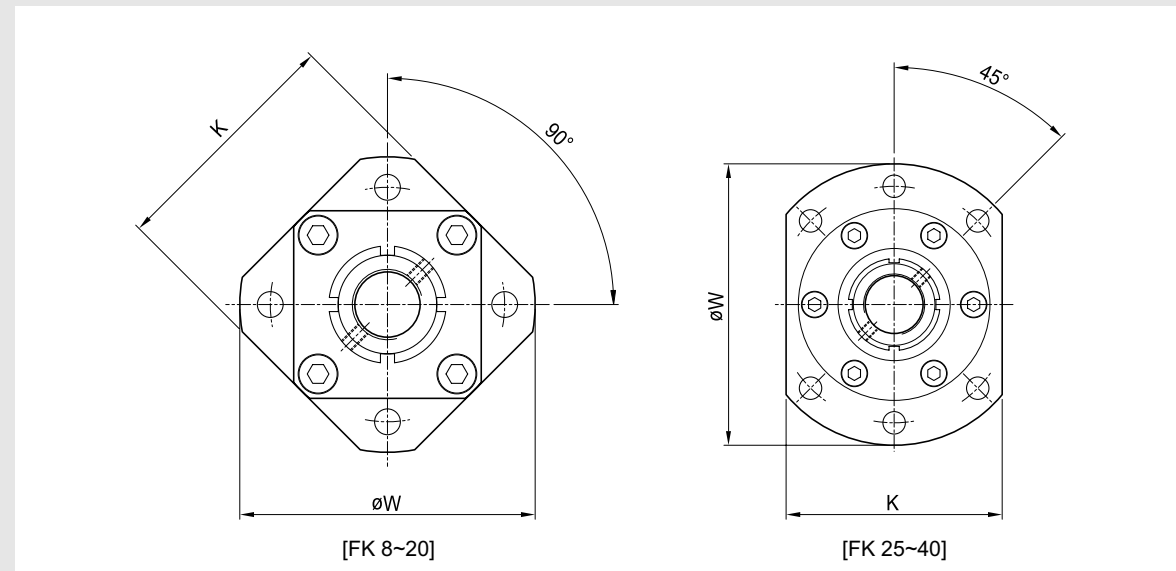


No.	Part Name	Q' ty
	HOUSING	1
	BEARING	1SET
	BRACKET	1
	COLLAR	2
	SEAL	2
	RING NUT	1
	SET SCREW	1

Fixed-End Support Unit

Fixed-End Support Unit

FK Type Fixed-End Support Unit



Model No.	W	K	S	L	E	V	X (PCD)	d1
FK 8	43	35	28	21	7	5	35	3.4
FK 10	52	42	34	25	7	6	42	4.5
FK 12	54	44	36	25	8	6	44	4.5
FK 15	63	52	40	27	10	7	50	5.5
FK 20	85	68	57	37	15	7	70	6.6
FK 25	122	92	80	42	15	11	100	11
FK 30	138	106	90	45	16	12	116	11
FK 40	176	128	120	61	19	15	150	14

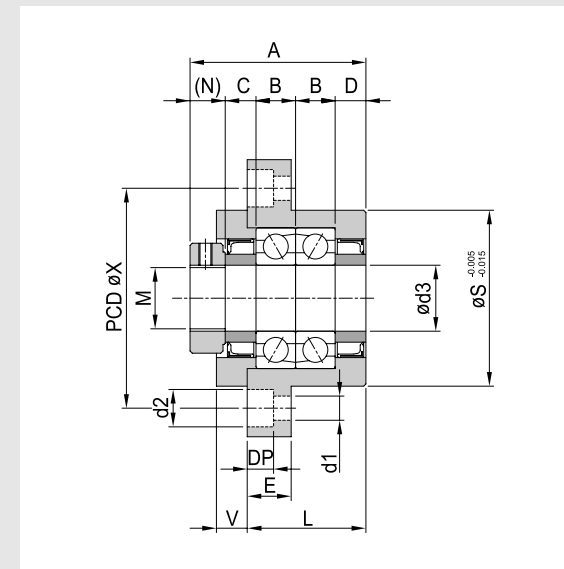
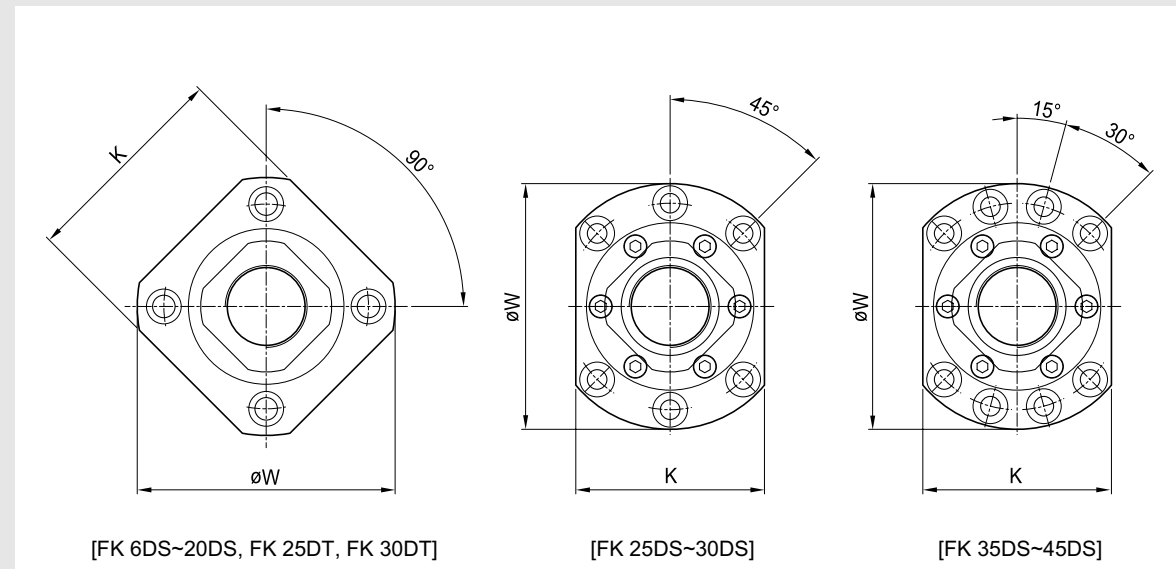
(Unit : mm)

A	B	C	N	M	d3	Basic Dynamic load rating [kN]	Permissible load [kN]	Bearing model No.
30	7	5	6	M8x1	8	1.6	-	608
38	8	7	8	M10x1	10	6.5	2.7	7000A
38	8	7	8	M12x1	12	7.1	3	7001A
40	9	7	8	M15x1	15	7.5	3.9	7002A
52	14	7	10	M20x1	20	17.9	9.5	7204A
62	15	10	12	M25x1.5	25	20.1	11.4	7205A
66	16	11	12	M30x1.5	30	28	16.2	7206A
82	18	16	14	M40x1.5	40	44.1	27.1	7208A

Fixed-End Support Unit

Fixed-End Support Unit

FK-DS(T) Type Fixed-End Support Unit



Model No.	W	K	S	L	E	V	X (PCD)	d1	d2	DP
FK 6DS	36	28	22	20	7	-	36	3.4	6	4
FK 8DS	43	35	28	23	9	-	35	3.4	6.5	4
FK 10DS	52	44	34	23	6	5	42	4.5	8	5
FK 12DS	54	44	36	23	6	5	44	4.5	8	5
FK 15DS	63	52	40	26	9	6	50	5.5	9.5	6
FK 17DS	77	61	50	35	12	10	62	6.6	11	10
FK 20DS	85	68	57	42	12	10	70	6.6	11	10
FK 25DS	122	92	80	42	15	12	100	11	17.5	11
FK 25DT	98	79	63	44	14	13	80	9	14	13
FK 30DS	138	106	90	45	15	14	116	11	17.5	11
FK 30DT	117	93	75	47	15	15	95	11	17.5	15
FK 35DS	154	120	100	50	18	14	132	11	17.5	11
FK 40DS	176	128	120	61	18	18	150	14	20	13

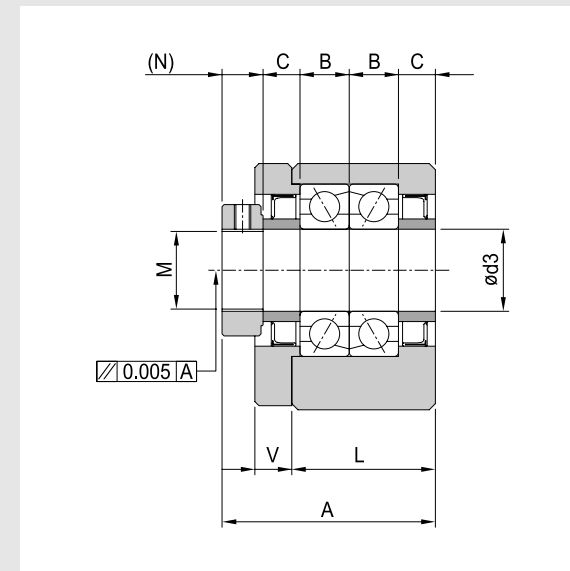
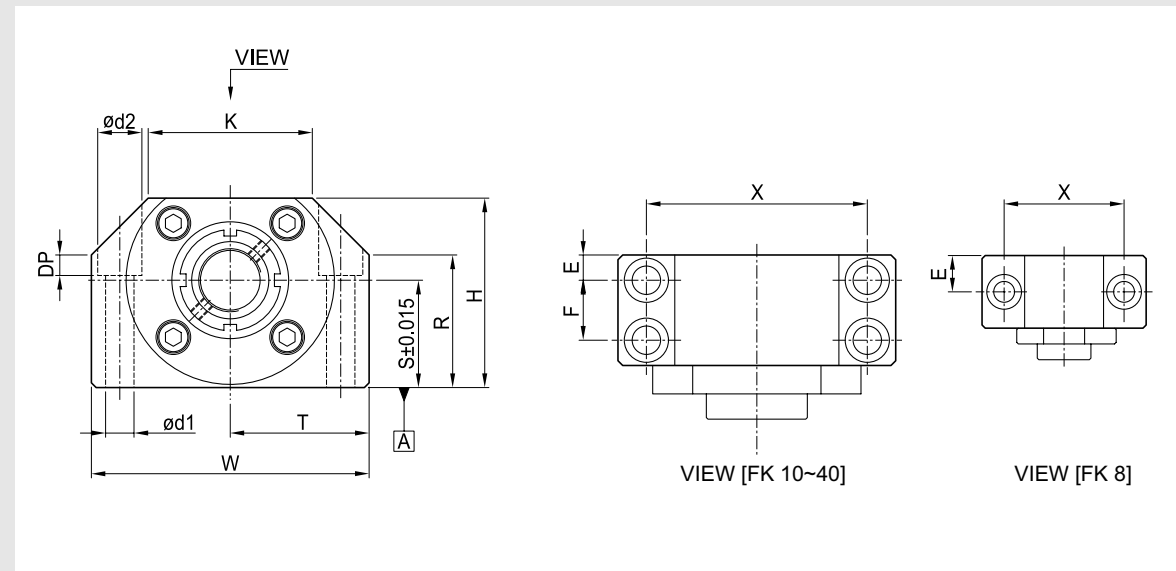
(Unit : mm)

A	B	C	D	N	M	d3	Basic Dynamic load rating [kN]	Permissible load [kN]	Bearing model No.
26.5	7	3.5	3.5	5.5	M6x0.75	6	-	-	606ZZ
33	7	6	6	7	M8x1	8	-	-	608ZZ
34	8	5	5	8	M10x1	10	6.5	2.7	7000A
34	8	5	5	8	M12x1	12	7.1	3	7001A
46	9	10	10	8	M15x1	15	7.5	3.9	7002A
52	12	9	9	10	M17x1	17	13.7	5.8	7203A
59	14	9	12	10	M20x1	20	17.9	9.5	7204A
62	15	10	10	12	M25x1.5	25	20.1	11.4	7205A
62	15	10	10	12	M25x1.5	25	20.1	11.4	7205A
66	16	11	11	12	M30x1.5	30	28	16.2	7206A
66	16	11	11	12	M30x1.5	30	28	16.2	7206A
70	17	12	12	12	M35x1.5	35	37.2	23.5	7207A
82	18	16	16	14	M40x1.5	40	44.1	27.1	7208A

Fixed-End Support Unit

Fixed-End Support Unit

BK Type Fixed-End Support Unit



Model No.	W	H	S	R	T	K	d1	d2	DP	X	E
BK 8	52	32	17	18.5	26	25	6.6	11	6.5	38	11.5
BK 10	60	39	22	26	30	34	6.6	11	6.5	46	6
BK 12	60	43	25	30	30	34	6.6	11	6.5	46	6
BK 15	70	48	28	33	35	40	6.6	11	6.5	54	6
BK 17	86	64	39	46	43	50	9	14	8.5	68	8
BK 20	88	60	34	42	44	52	9	14	8.5	70	8
BK 25	106	80	48	59	53	64	11	17.5	11	85	10
BK 30	128	89	51	63	64	76	14	20	13	102	11
BK 40	160	110	60	80	80	100	18	26	17.5	130	14

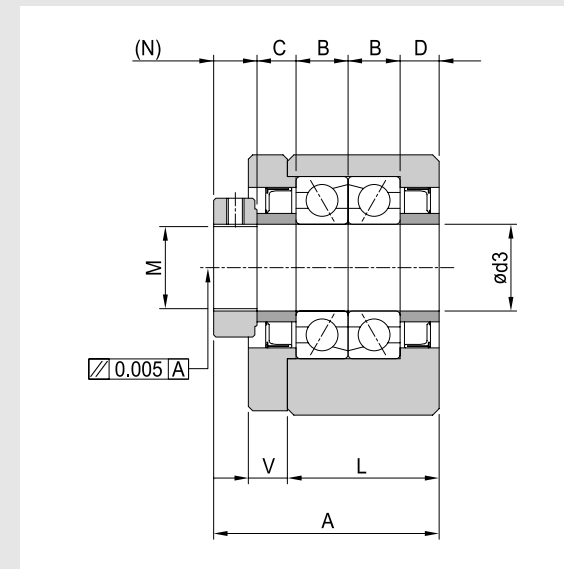
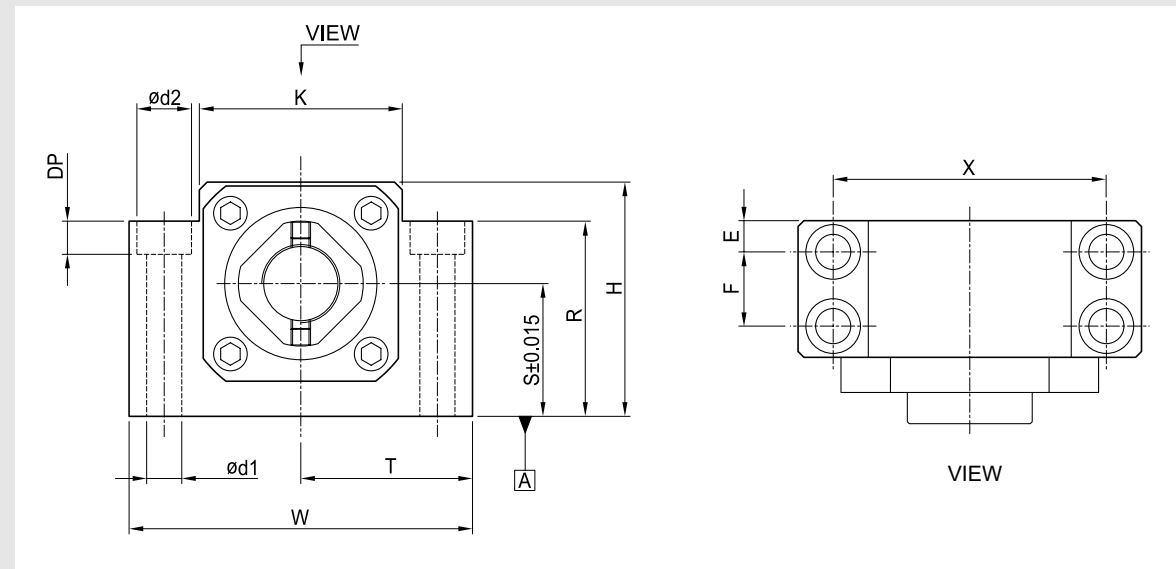
(Unit : mm)

F	L	V	A	B	C	N	M	d3	Basic Dynamic load rating [kN]	Permissible load [kN]	Bearing model No.
-	23	5	33	7	6	6	M8x1	8	-	-	608ZZ
13	25	6	38	8	7	8	M10x1	10	6.5	2.7	7000A
13	25	6	38	8	7	8	M12x1	12	7.1	3	7001A
15	27	7	40	9	7	8	M15x1	15	7.5	3.9	7002A
19	35	9	52	12	9	10	M17x1	17	13.7	5.8	7203A
19	35	9	52	12	9	10	M20x1	20	17.9	9.5	7004A
22	42	11	62	15	10	12	M25x1.5	25	20.1	11.4	7205A
23	45	12	66	16	11	12	M30x1.5	30	28	16.2	7206A
33	61	15	82	18	16	14	M40x1.5	40	44.1	27.1	7208A

Fixed-End Support Unit

Fixed-End Support Unit

BK-DS Type Fixed-End Support Unit



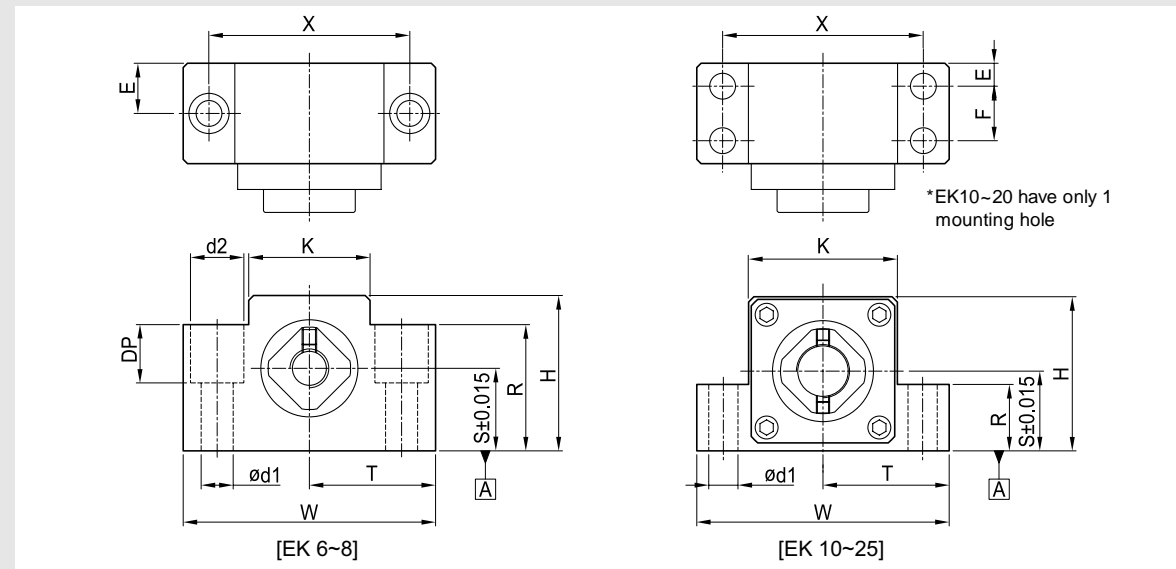
Model No.	W	H	S	R	T	K	d1	d2	DP	X	E
BK 10DS	60	39	22	32.5	30	34	6.6	11	5	46	6
BK 12DS	60	43	25	35	30	35	6.6	11	6.5	46	6
BK 15DS	70	48	28	38	35	40	6.6	11	6.5	54	6
BK 17DS	86	64	39	55	43	50	9	14	8.5	68	8
BK 20DS	88	60	34	50	44	52	9	14	8.5	70	8
BK 25DS	106	80	48	70	53	64	11	17.5	11	85	10
BK 30DS	128	89	51	78	64	76	14	20	13	102	11
BK 35DS	140	96	52	79	70	88	14	20	13	114	12
BK 40DS	160	110	60	90	80	100	18	26	17.5	130	14

(Unit : mm)

F	L	V	A	B	C	D	N	M	d3	Basic Dynamic load rating [kN]	Permissible load [kN]	Bearing model No.
13	25	6	38	8	7	7	8	M10x1	10	6.5	2.7	7000A
13	25	6	38	8	7	7	8	M12x1	12	7.1	3	7001A
15	27	6	40	9	7	7	8	M15x1	15	7.5	3.9	7002A
19	35	8	52	12	9	9	10	M17x1	17	13.7	5.8	7203A
19	35	8	52	12	9	9	10	M20x1	20	17.9	9.5	7004A
22	42	12	62	15	10	10	12	M25x1.5	25	20.1	11.4	7205A
23	45	14	66	16	11	11	12	M30x1.5	30	28	16.2	7206A
26	50	14	70	17	12	12	12	M35x1.5	35	37.2	23.5	7207A
33	61	18	82	18	16	16	14	M40x1.5	40	44.1	27.1	7208A

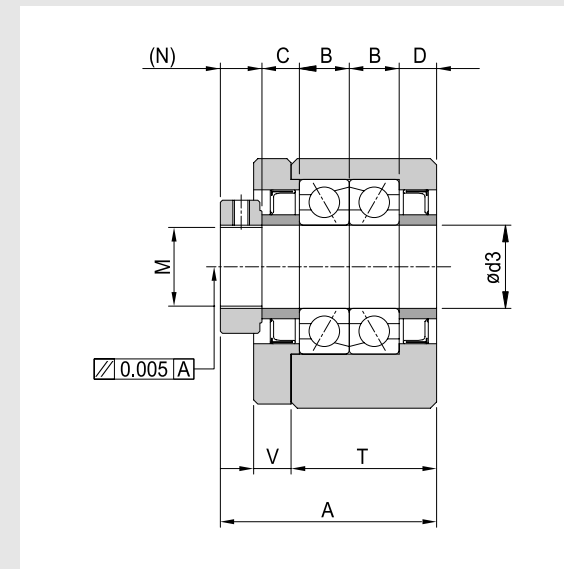
Fixed-End Support Unit

EK Type Fixed-End Support Unit



Model No.	W	H	S	R	T	K	d1	d2	DP	X	E
EK 6	42	25	13	20	21	18	5.5	9.5	5	30	10
EK 8	52	32	17	26	26	25	6.6	11	12	38	11.5
EK 10	70	43	25	24	35	36	9	-	-	52	12
EK 12	70	43	25	24	35	36	9	-	-	52	12
EK 15	80	49	30	25	40	41	11	-	-	60	12.5
EK 20	95	58	30	25	42.5	56	11	-	-	75	21
EK 25	105	68	35	25	52.5	66	11	-	-	85	9

Fixed-End Support Unit



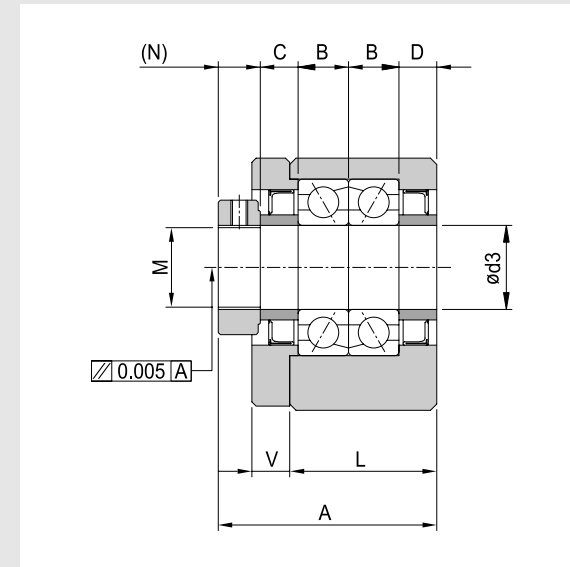
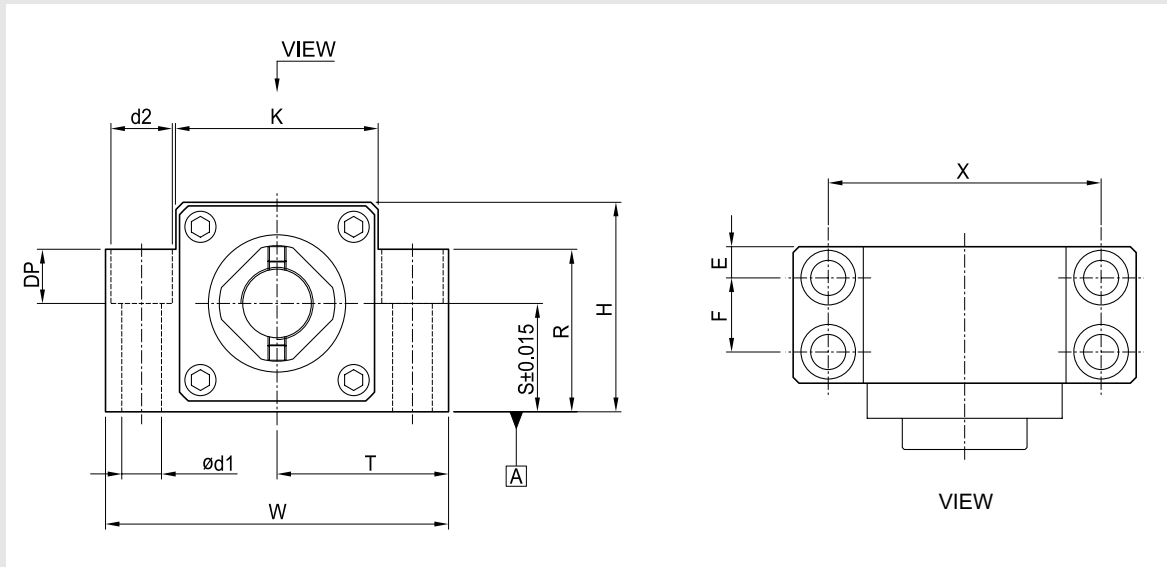
(Unit : mm)

F	L	V	A	B	C	D	N	M	d3	Basic Dynamic load rating [kN]	Permissible load [kN]	Bearing model No.
-	20	-	26.5	7	3.5	3.5	5.5	M6x0.75	6	-	-	606ZZ
-	23	-	32	7	5.5	5.5	7	M8x1	8	-	-	608ZZ
-	25	6	38	8	7	7	8	M10x1	10	6.5	2.7	7000A
-	24	6	38	8	7	7	8	M12x1	12	7.1	3	7001A
-	25	6	40	9	7	7	8	M15x1	15	7.5	3.9	7002A
-	42	10	59	14	9	12	10	M20x1	20	17.9	9.5	7204A
30	48	13	62	15	10	10	12	M25x1.5	25	20.1	11.4	7205A

Fixed-End Support Unit

Fixed-End Support Unit

AK Type Fixed-End Support Unit



Model No.	W	H	S	R	T	K	d1	d2	DP	X	E
AK 10	70	43	25	35	35	36	8.5	14	11	52	12
AK 12	70	43	25	35	35	36	8.5	14	11	52	12
AK 15	80	49	30	40	40	41	11	17	15	60	12.5
AK 20	95	58	30	45	42.5	56	11	17	15	75	10

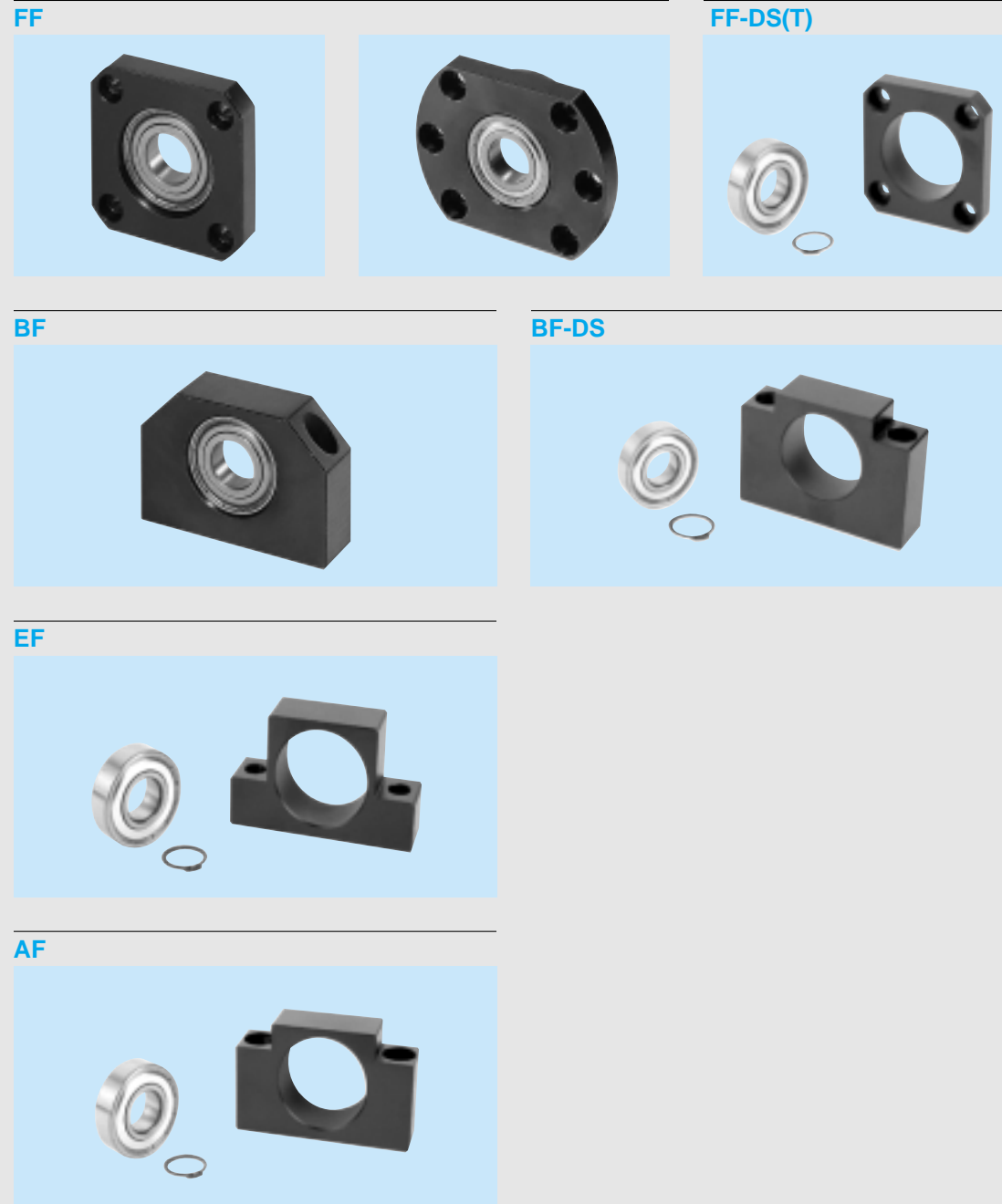
(Unit : mm)

F	L	V	A	B	C	D	N	M	d3	Basic Dynamic load rating [kN]	Permissible load [kN]	Bearing model No.
-	24	6	38	8	7	7	8	M10x1	10	6.5	2.7	7000A
-	24	6	38	8	7	7	8	M12x1	12	7.1	3	7001A
-	25	6	40	9	7	7	8	M15x1	15	7.5	3.9	7002A
22	42	10	59	14	9	12	10	M20x1	20	17.9	9.5	7204A

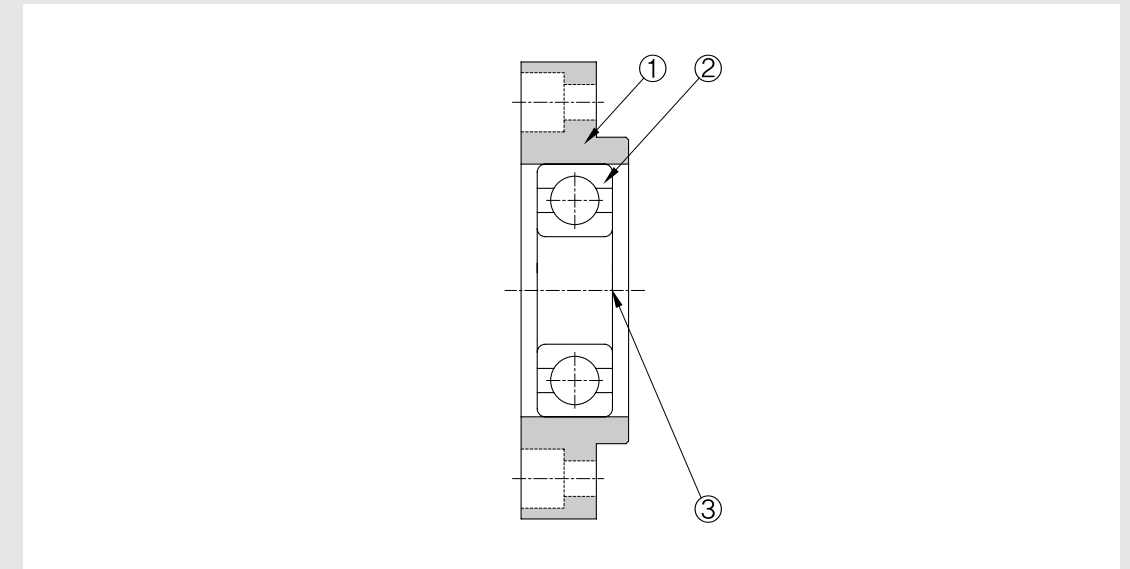
Supported-End Support Unit

Supported-End Support Unit

Supported-End Support Unit



Structure of Supported-End Support Unit

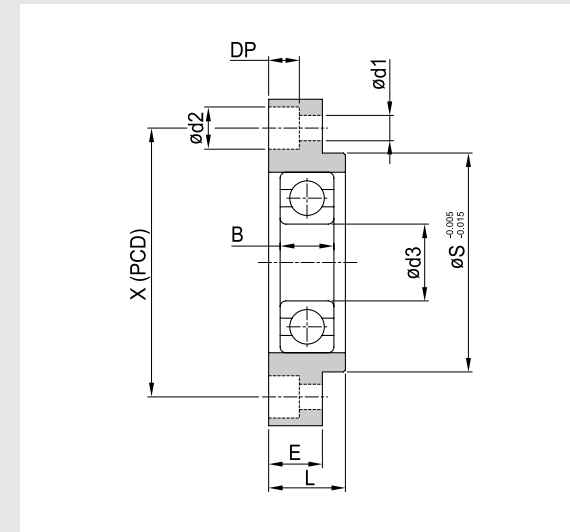
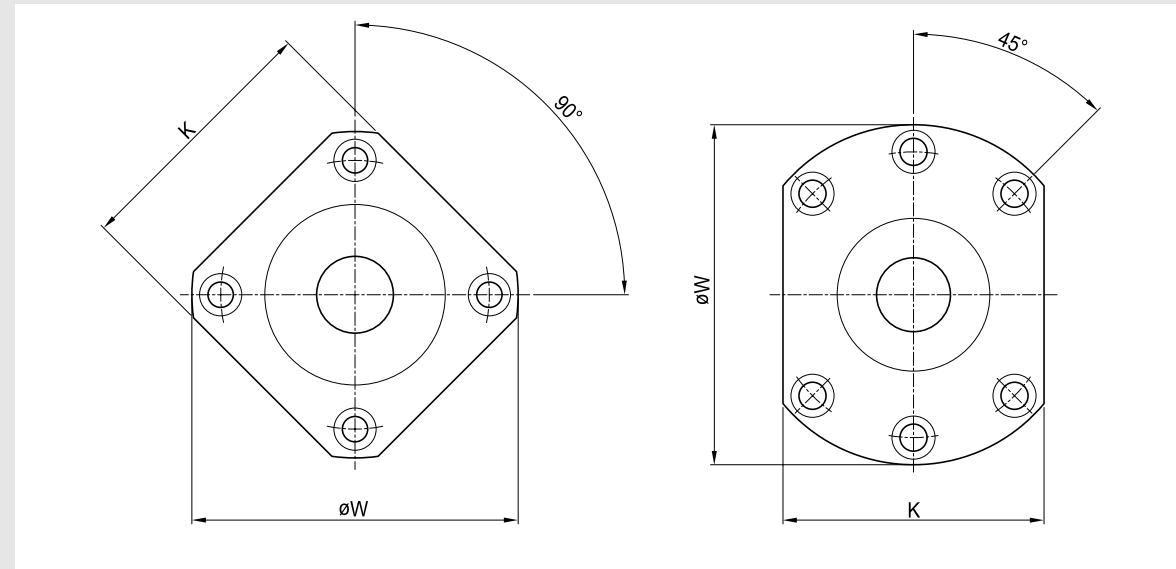


No.	Part Name	Q' ty
	HOUSING	1
	BEARING	1
	SNAP RING	1

Supported-End Support Unit

Supported-End Support Unit

FF Type Supported-End Support Unit



Model No.	W	K	S	L	E	X (PCD)
FF 8	43	35	28	11	6	35
FF 10	52	42	34	12	7	42
FF 12	54	44	36	15	8	44
FF 15	63	52	40	17	9	50
FF 20	85	68	57	20	14	70
FF 25	122	92	80	30	15	100
FF 30	138	106	90	32	15	116
FF 40	176	128	120	36	18	150

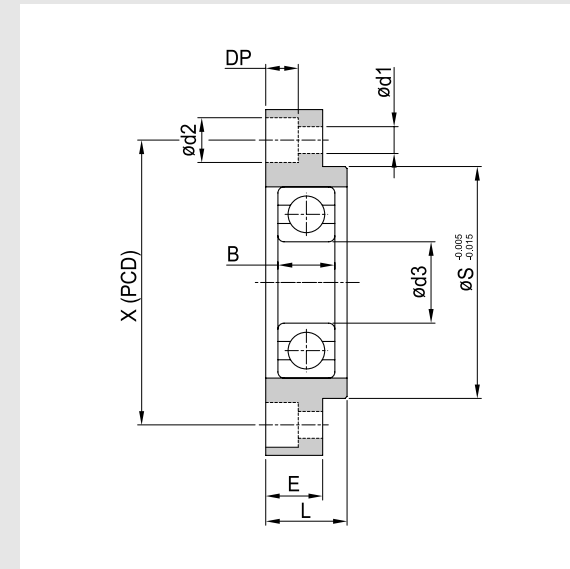
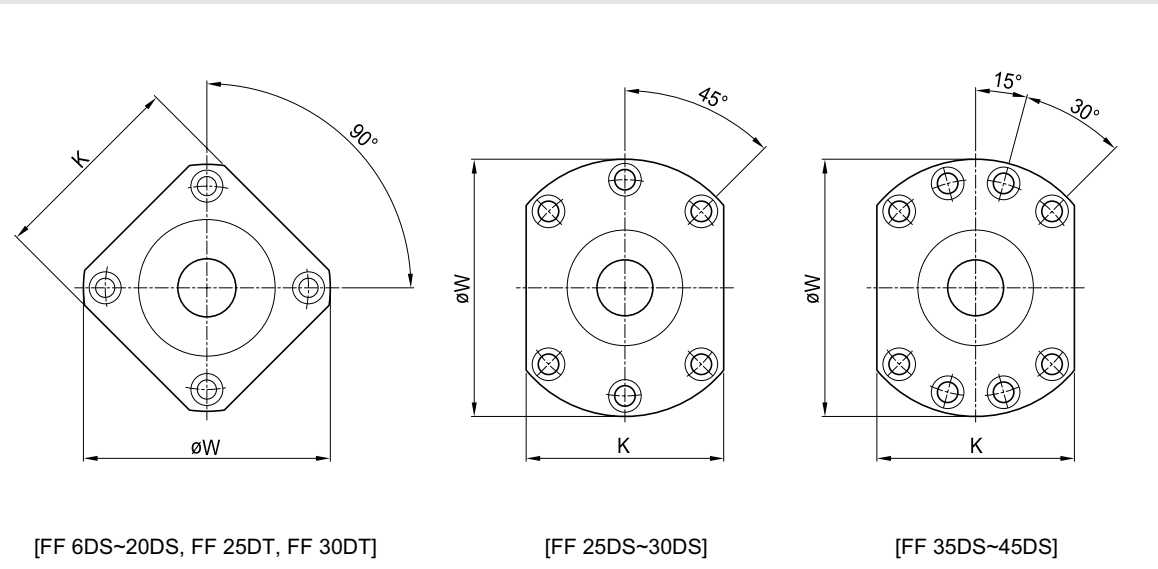
(Unit : mm)

d1	d2	DP	B	d3	Snap ring	Bearing model No.
3.4	6.5	4	6	6	C6	606ZZ
4.5	8	5	7	8	C8	608ZZ
4.5	8	5	8	10	C10	6000ZZ
5.5	9.5	6	9	15	C15	6002ZZ
6.6	11	10	14	20	C20	6204ZZ
11	17.5	11	15	25	C25	6205ZZ
11	17.5	11	16	30	C30	6206ZZ
14	20	13	18	40	C40	6208ZZ

Supported-End Support Unit

Supported-End Support Unit

FF-DS(T) Type Supported-End Support Unit



Model No.	W	K	S	L	E	X (PCD)
FF 6DS	36	28	22	10	6	28
FF 8DS	36	28	22	10	6	28
FF 10DS	43	35	28	12	7	35
FF 12DS	52	42	34	15	7	42
FF 15DS	63	52	40	17	9	50
FF 17DS	77	61	50	20	11	62
FF 20DS	85	68	57	20	11	70
FF 25DS	122	92	80	30	15	100
FF 25DT	98	79	63	24	14	80
FF 30DS	138	106	90	32	15	116
FF 30DT	117	93	75	27	18	95
FF 35DS	154	120	100	34	15	132
FF 40DS	176	128	120	36	18	150

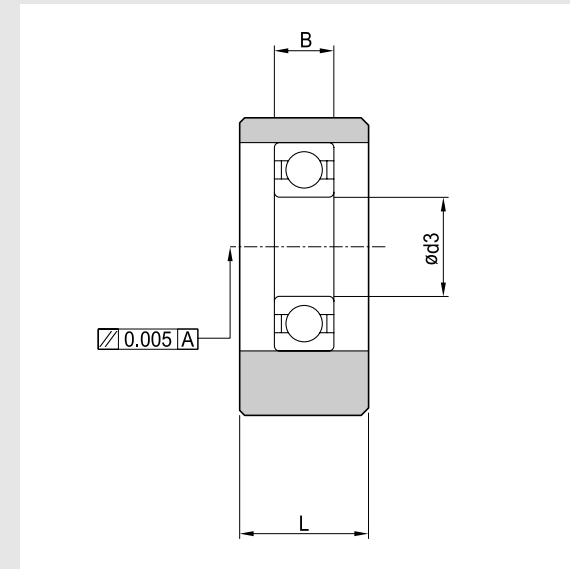
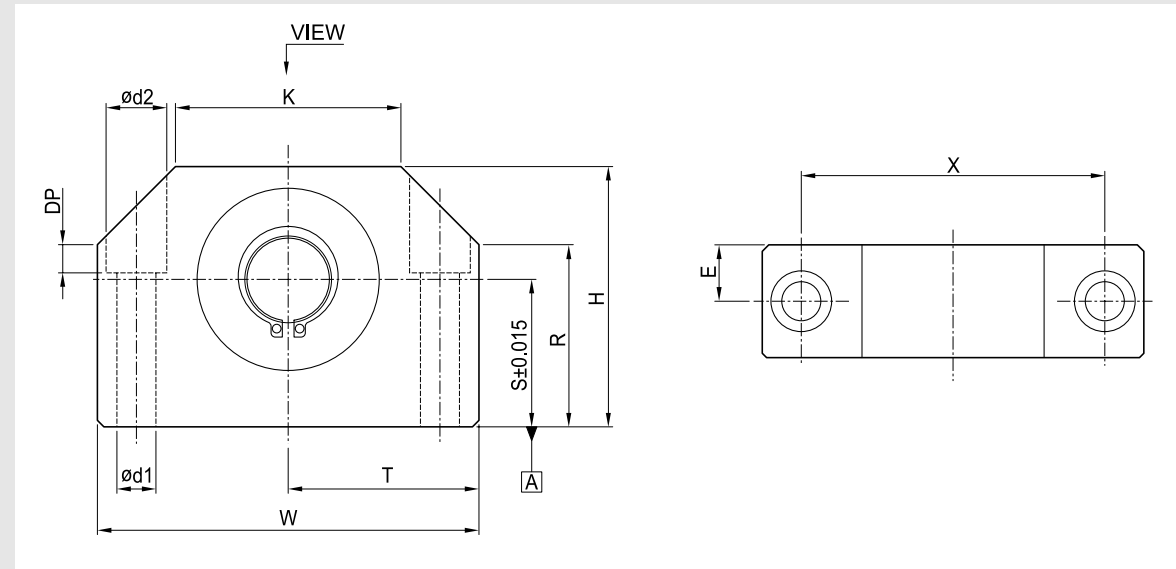
(Unit : mm)

d1	d2	DP	B	d3	Snap ring	Bearing model No.
3.4	6.5	4	6	6	C6	606ZZ
3.4	6.5	4	6	6	C6	606ZZ
3.4	6.5	4	7	8	C8	608ZZ
4.5	8	4	8	10	C10	6000ZZ
5.5	9.5	6	9	15	C15	6002ZZ
6.6	11	10	12	17	C17	6203ZZ
6.6	11	6.5	14	20	C20	6204ZZ
11	17.5	11	15	25	C25	6205ZZ
9	14	8.5	15	25	C25	6205ZZ
11	17.5	11	16	30	C30	6206ZZ
11	17.5	11	16	30	C30	6206ZZ
11	17.5	11	17	35	C35	6207ZZ
14	20	13	18	40	C40	6208ZZ

Supported-End Support Unit

Supported-End Support Unit

BF Type Supported-End Support Unit



Model No.	W	H	S	R	T	K	L	E	X
BF 8	52	32	17	18.5	26	25	20	10	38
BF 10	60	39	22	26	30	34	20	10	46
BF 12	60	43	25	30	30	34	20	10	46
BF 15	70	48	28	33	35	40	20	10	54
BF 17	86	64	39	46	43	50	23	11.5	68
BF 20	88	60	34	42	44	52	26	13	70
BF 25	106	80	48	59	53	64	30	15	85
BF 30	128	89	51	63	64	76	32	16	102
BF 40	160	110	60	80	80	100	37	18.5	130

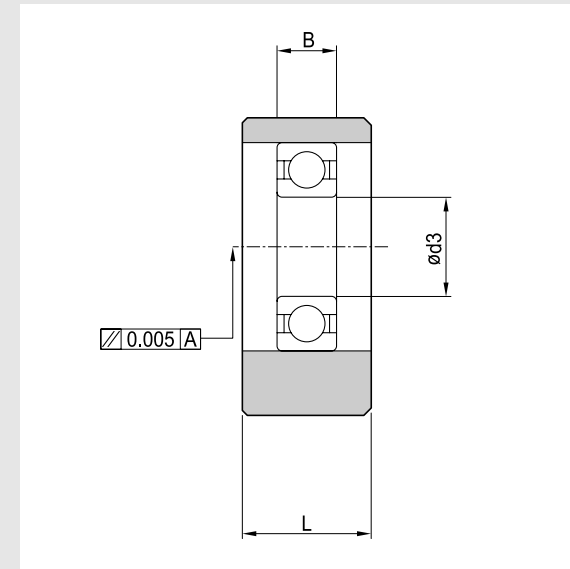
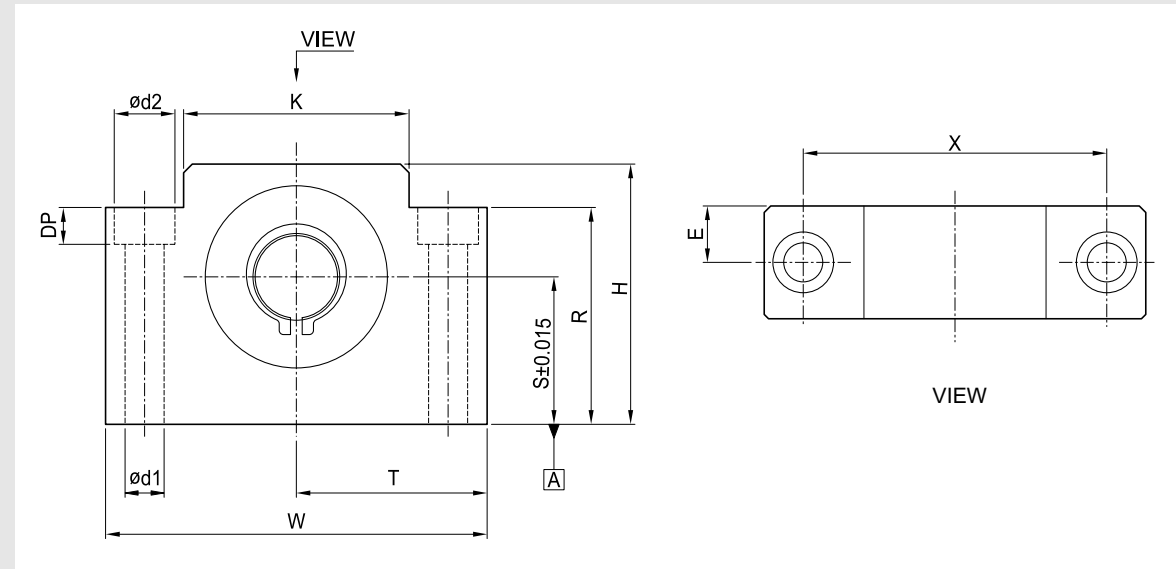
(Unit : mm)

d1	d2	DP	B	d3	Snap ring	Bearing model No.
6.6	11	6.5	6	6	C6	606ZZ
6.6	11	6.5	7	8	C8	608ZZ
6.6	11	6.5	8	10	C10	6000ZZ
6.6	11	6.5	9	15	C15	6002ZZ
9	14	8.5	12	17	C17	6203ZZ
9	14	8.5	12	20	C20	6204ZZ
11	17.5	11	15	25	C25	6205ZZ
14	20	13	16	30	C30	6206ZZ
18	26	17.5	18	40	C40	6208ZZ

Supported-End Support Unit

Supported-End Support Unit

BF-DS Type Supported-End Support Unit



Model No.	W	H	S	R	T	K	L	E	X
BF 10DS	60	39	22	32.5	30	34	20	10	46
BF 12DS	60	43	25	35	30	35	20	10	46
BF 15DS	70	48	28	38	35	40	20	10	54
BF 17DS	86	64	39	55	43	50	23	11.5	68
BF 20DS	88	60	34	50	44	52	26	13	70
BF 25DS	106	80	48	70	53	64	30	15	85
BF 30DS	128	89	51	78	64	76	32	16	102
BF 35DS	140	96	52	79	70	88	32	16	114
BF 40DS	160	110	60	90	80	100	37	18.5	130

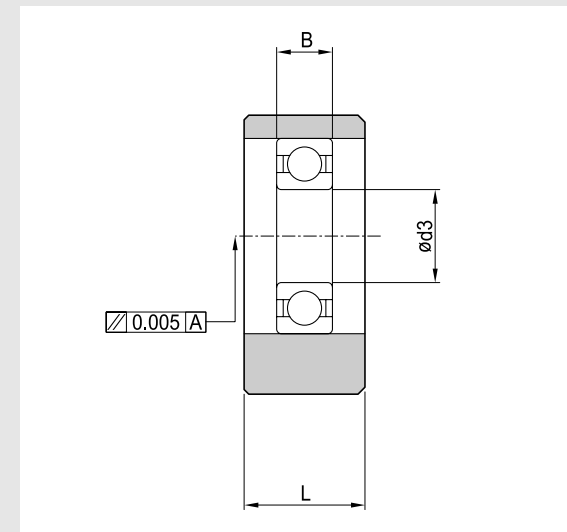
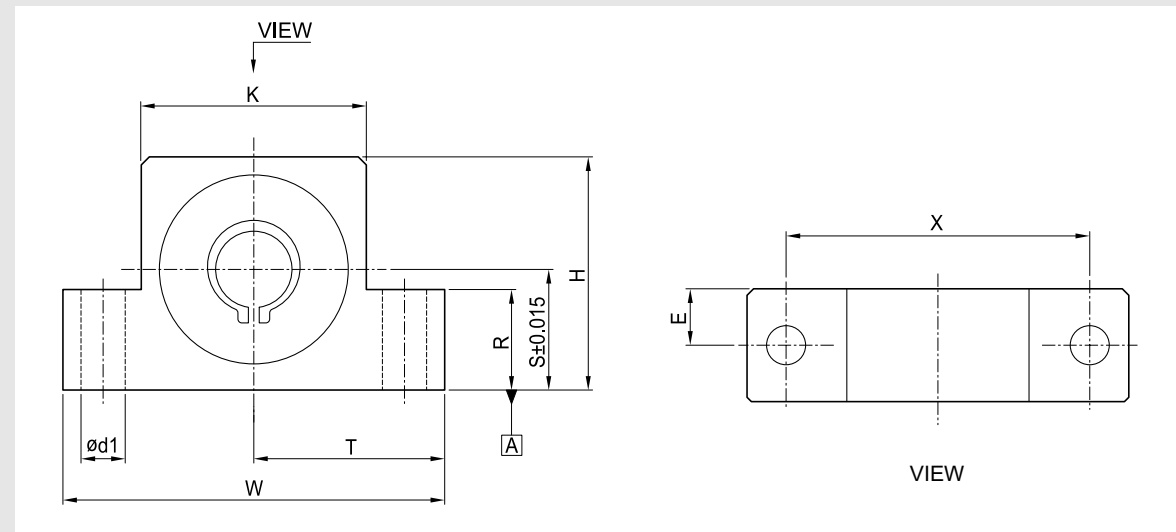
(Unit : mm)

d1	d2	DP	B	d3	Snap ring	Bearing model No.
6.6	11	5	7	8	C8	608ZZ
6.6	11	6.5	8	10	C10	6000ZZ
6.6	11	6.5	9	15	C15	6002ZZ
9	14	8.5	12	17	C17	6203ZZ
9	14	8.5	12	20	C20	6204ZZ
11	17.5	11	15	25	C25	6205ZZ
14	20	13	16	30	C30	6206ZZ
14	20	13	17	35	C35	6207ZZ
18	26	17.5	18	40	C40	6208ZZ

Supported-End Support Unit

Supported-End Support Unit

EF Type Supported-End Support Unit

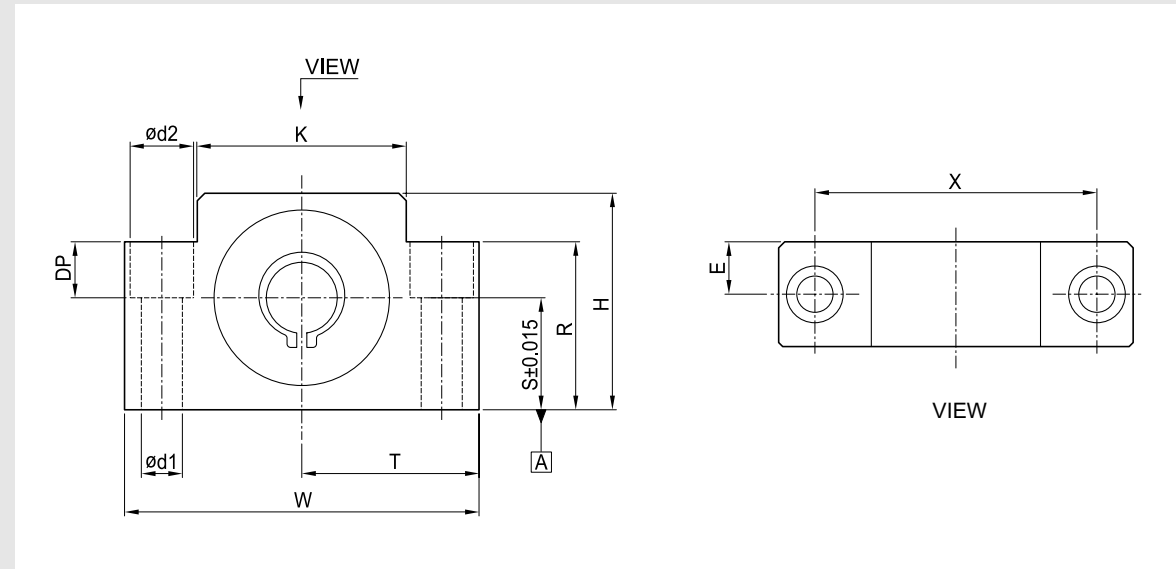


Model No.	W	H	S	R	T	K	L	E	X
EF 6	42	25	13	20	21	18	12	6	30
EF 8	52	32	17	26	26	25	14	7	38
EF 10	70	43	25	24	35	36	20	10	52
EF 12	70	43	25	24	35	36	20	10	52
EF 15	80	49	30	25	40	41	20	10	60
EF 20	95	58	30	25	42.5	56	26	13	75
EF 25	105	68	35	25	52.5	66	30	15	85

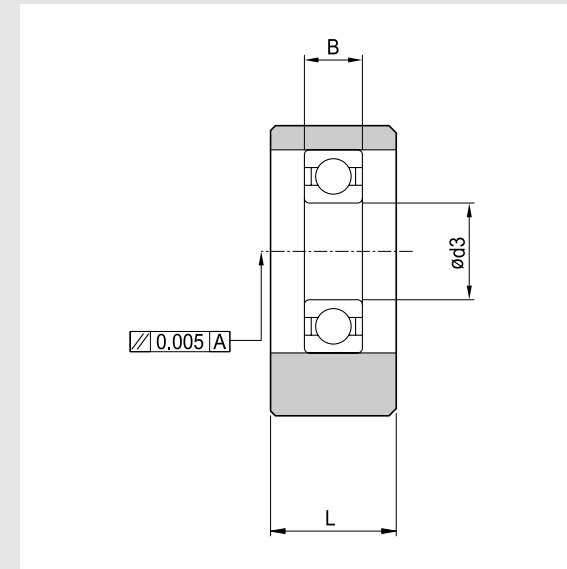
(Unit : mm)

d1	d2	DP	B	d3	Snap ring	Bearing model No.
5.5	9.5	11	6	6	C6	606ZZ
6.6	11	12	6	6	C6	606ZZ
9	-	-	7	8	C8	608ZZ
9	-	-	8	10	C10	6000ZZ
9	-	-	9	15	C15	6002ZZ
11	-	-	14	20	C20	6204ZZ
11	-	-	15	25	C25	6205ZZ

AF Type Supported-End Support Unit



Model No.	W	H	S	R	T	K	L	E	X
AF 10	70	43	25	35	35	36	20	10	52
AF 12	70	43	25	35	35	36	20	10	52
AF 15	60	49	30	40	40	41	20	10	80
AF 20	95	58	30	45	42.5	56	26	13	75



(Unit : mm)

d1	d2	DP	B	d3	Snap ring	Bearing model No.
8.5	14	11	7	8	C8	608ZZ
8.5	14	11	8	10	C10	6000ZZ
11	17	15	9	15	C15	6002ZZ
11	17	15	14	20	C20	6204ZZ

Recommended Screw End Machining

Fixed-End Recommended Screw End Machining

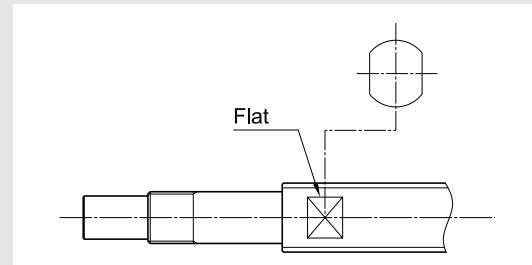
Precautions for Recommended Screw End Machining

[Install the lock nut in the fixed-End]

When machining the Fixed-End, plan for the lock nut fastened tightly against the bearings. The lock nut tightness adjusts the preload and clearance.

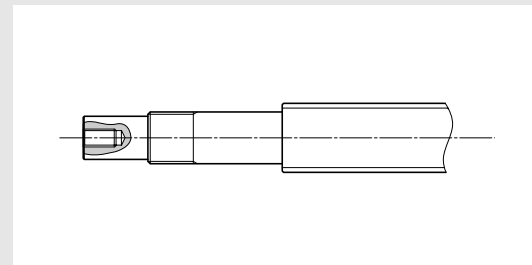
(1) Making Groove on screw shaft

Make groove on screw shaft and fix it with a spanner so that the nut travels smoothly.



(2) Tap machining

Machine a tapped hole on the end of screw. Fasten a bolt and fix it with a wrench. This is mainly used with the short shaft.



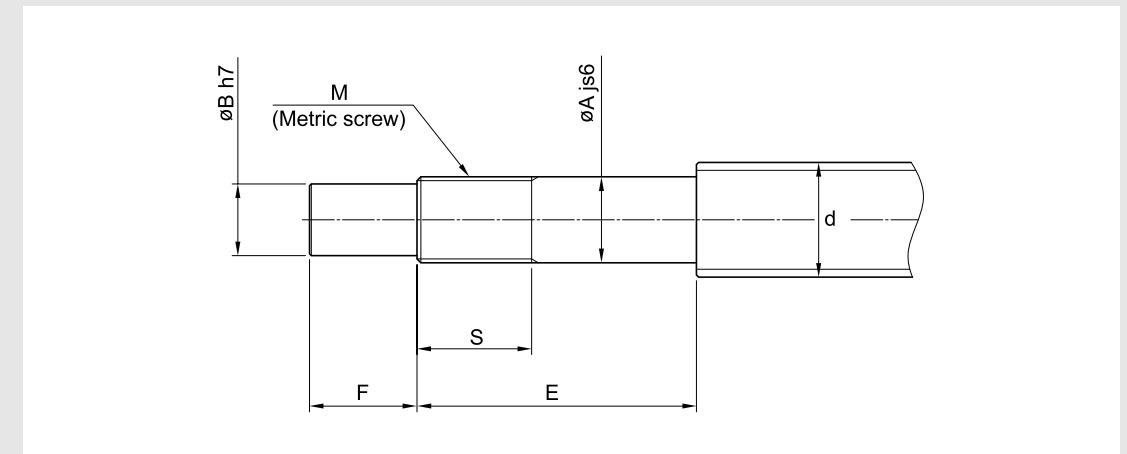
[End Machining for manual transfer]

After installing the ball screw, sometimes it needs be manually operated without a motor. Machine hexangular or square side on the supported end to fit a wrench.

[Fixing of power convey parts]

When fastening a gear on the screw shaft, machine a groove for a set screw or use a keyway for mounting the gear.

Fixed-End Recommended Screw End Machining (A Type)

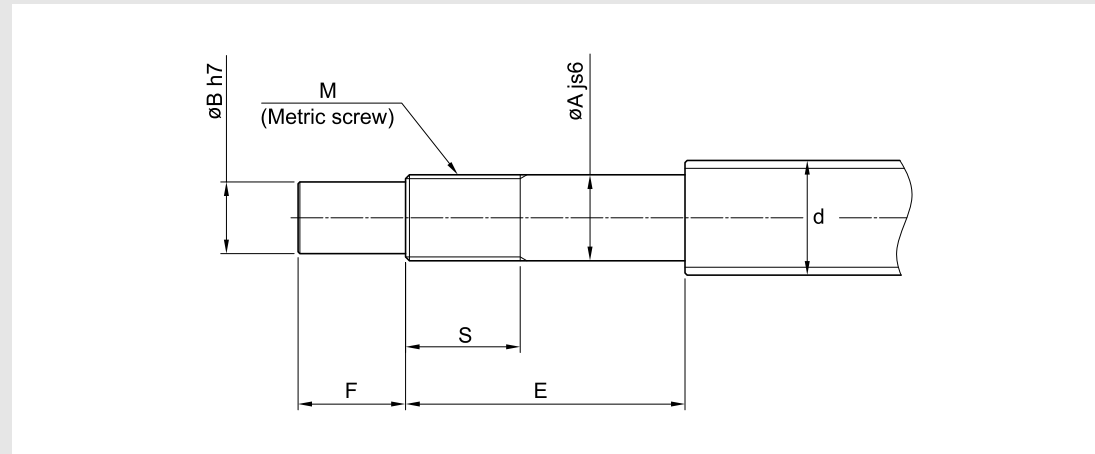


A1 Type Recommended Screw End Machining [Applied Support to Units: FK, BK]

Support Unit		Screw Outer Diameter	Bearing Outer Diameter	B	E	F	Meter Thread	
Model Name	No.	d	A				M x PICH	S
FK, BK	8	12	8	6	34	10	M8x1	10
	10	14~15	10	8	39	15	M10x1	12
	12	15~18	12	10	39	15	M12x1	12
	15	20~25	15	12	41	20	M15x1	12
BK	17	25	17	15	53	27	M17x1	14
FK, BK	20	28~32	20	17	53	27	M20x1	14
	25	32~36	25	20	65	36	M25x1.5	18
	30	40	30	25	72	42	M30x1.5	24
	40	50~55	40	35	98	70	M40x1.5	35

Fixed-End Recommended Screw End Machining

Fixed-End Recommended Screw End Machining



A2 Type Recommended Screw End Machining [Applied to Support Units: AK, EK]

Support Unit		Screw Outer Diameter	Bearing Outer Diameter	B	E	F	Meter Thread	
Model Name	No.	d	A				M x PICH	S
EK	6	8~10	6	4	30	8	M6x0.75	9
	8	12	8	6	35	9	M8x1	10
EK, AK	10	14~15	10	8	39	15	M10X1	12
	12	15~18	12	10	39	15	M12x1	12
	15	20~25	15	12	49	20	M15x1	13
EK	20	28~32	20	17	64	25	M20x1	17
	25	32~36	25	20	72	30	M25x1.5	18

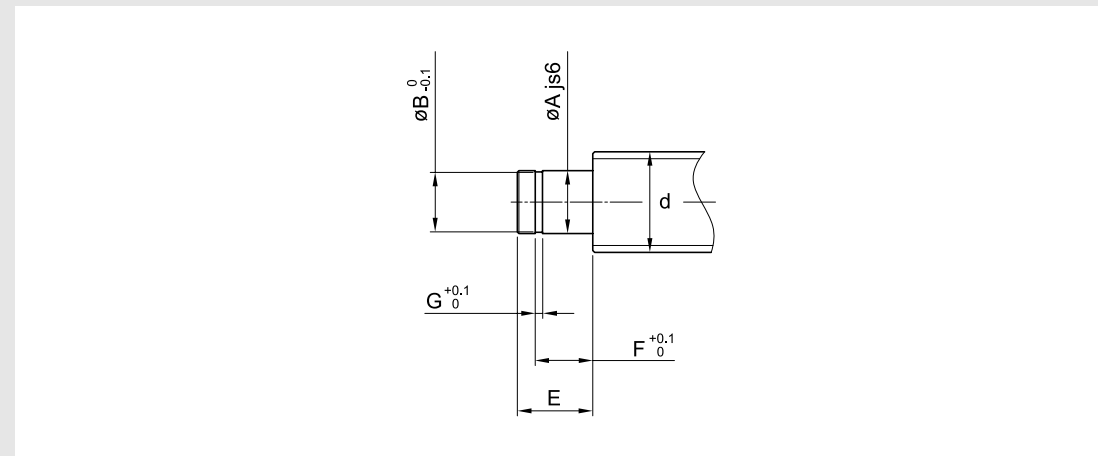
A3 Type Recommended Screw End Machining [Applied to Support Units: FK-DS, BK-DS]

Support Unit		Screw Outer Diameter	Bearing Outer Diameter	B	E	F	Meter Thread	
Model Name	No.	d	A				M x PICH	S
FK	6DS	8~10	6	4	30	8	M6x0.75	8
	8DS	12	8	6	32	9	M8x1	10
	10DS	14~15	10	8	36	15	M10X1	11
	12DS	15~18	12	10	36	15	M12x1	11
	15DS	20~25	15	12	49	20	M15x1	13
	17DS	25	17	15	53	23	M17x1	14
	20DS	28~32	20	17	64	25	M20x1	17
	25DS	32~36	25	20	65	30	M25x1.5	18
	30DS	40	30	25	69	38	M30x1.5	21
	35DS	45	35	30	83	58	M35x1.5	28
BK	40DS	50~55	40	35	98	70	M40x1.5	35
	10DS	14~15	10	8	39	15	M10X1	12
	12DS	15~18	12	10	39	15	M12x1	12
	15DS	20~25	15	12	41	20	M15x1	12
	17DS	25	17	15	53	23	M17x1	14
	20DS	28~32	20	17	53	25	M20x1	14
	25DS	32~36	25	20	65	30	M25x1.5	18
	30DS	40	30	25	72	38	M30x1.5	21
	35DS	45	35	30	83	45	M35x1.5	28
	40DS	50~55	40	35	98	50	M40x1.5	35

Supported-End Recommended Screw End Machining

Supported-End Recommended Screw End Machining

Supported-End Recommended Screw End Machining (B Type)



B1 Type Supported-End Recommended Screw End Machining [Applied to Support Units: FF, BF]

Support Unit		Screw Outer Diameter	Bearing Outer Diameter	E	Snap Ring Flute		
Model Name	No.	d	A		B	F	G
FF, BF	8	12	6	9	5.7	6.8	0.8
	10	14~15	8	11	7.6	7.9	0.9
	12	15~18	10	12	9.6	9.15	1.15
	15	20~25	15	12	14.3	10.15	1.15
BF	17	25	17	16	16.2	13.35	1.15
FF	20	28~32	20	16	19	15.35	1.35
BF	20	28~32	20	16	19	13.35	1.35
BF, FF	25	32~36	25	20	23.9	16.35	1.35
	30	40	30	20	28.6	17.75	1.75
	40	50~55	40	25	38	19.75	1.75

B2 Type Supported-End Recommended Screw End Machining [Applied to Support Units: FF-DS, BF-DS]

Support Unit		Screw Outer Diameter	Bearing Outer Diameter	E	Snap Ring Flute		
Model Name	No.	d	A		B	F	G
FF	6DS	8~10	6	9	5.7	6.8	0.8
	8DS	12	6	9	5.7	6.8	0.8
	10DS	14~15	8	10	7.6	7.9	0.9
	12DS	15~18	10	11	9.6	9.15	1.15
	15DS	20~25	15	13	14.3	10.15	1.15
	17DS	25	17	16	16.2	13.15	1.15
	20DS	28~32	20	19	19	15.35	1.35
	25DS	32~36	25	20	23.9	16.35	1.35
	30DS	40	30	21	28.6	17.75	1.75
	35DS	45	35	22	33	18.75	1.75
40DS	50~55	40	23	38	19.95	1.95	
BF	10DS	14~15	8	10	7.6	7.9	0.9
	12DS	15~18	10	11	9.6	9.15	1.15
	15DS	20~25	15	13	14.3	10.15	1.15
	17DS	25	17	16	16.2	13.15	1.15
	20DS	28~32	20	16	19	13.35	1.35
	25DS	32~36	25	20	23.9	16.35	1.35
	30DS	40	30	21	28.6	17.75	1.75
	35DS	45	35	22	33	18.75	1.75
	40DS	50~55	40	23	38	19.95	1.95

B3 Type Supported-End Recommended Screw End Machining [Applied to Support Units: EF, AF]

Support Unit		Screw Outer Diameter	Bearing Outer Diameter	E	Snap Ring Flute		
Model Name	No.	d	A		B	F	G
EF	6	8~10	6	9	5.7	6.8	0.8
	8	12	6	9	5.7	6.8	0.8
EF, AF	10	14~15	8	10	7.6	7.9	0.9
	12	15~18	10	11	9.6	9.15	1.15
	15	20~25	15	13	14.3	10.15	1.15
	20	28~32	20	19	19	15.35	1.35
EF	25	32~36	25	20	23.9	16.35	1.35