



ARCHIMEDES

Support Units



Sung-il Support Units

EK, EF Type Support Units



BK, BF Type Support Units



AK, AF Type Support Units



FK, FF Type Support Units



Characteristics of SI Support Units

The Support Units of SI Machinery are standardized in order to firmly support and fasten a ball screw for transmitting linear motion very precisely.



Features

Simplicity of Design and Assembly

The design is very effective for use due to its standardization. Rigid angular contact bearings in a fixed part are combined with an optimized pre-load, so it can improve precision of liner motion of a ball screw easily without additional assembly or operation. Moreover, the standardized product ensures superior compatibility.

High Precision

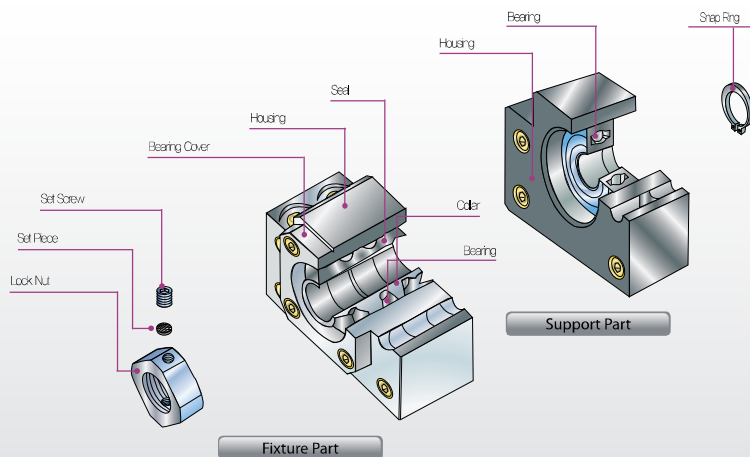
Angular contact ball bearings in the fixed parts are precisely assembled in face-to-face combination. Because it is designed in a structure to absorb the parallel error between shaft and guide, it has minimized the effect of assembly error and can maintain precise concentricity of the shaft.

Dust-Proof Effect

The support unit is framed with oil seal to prevent the influx of fine dusts or foreign substances and thus enhances operation precision. Furthermore, it allows longtime use as grease leakage is prevented by minimizing the tolerance between the oil seal and the rotation shaft.

Structure

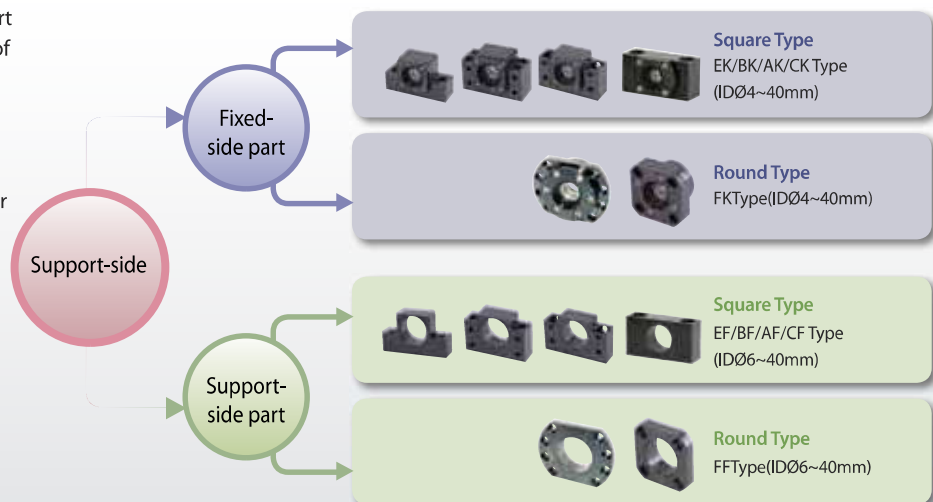
In the fixed part of support unit, highly rigid angular contact ball bearings are assembled in face-to-face combination, which is appropriate to the dynamic characteristic of the rotational shaft or screw. In addition, it can achieve highly accurate rotational or linear motion due to precisely controlled pre-load in assembly process. The angular contact bearings are filled with the appropriate volume of high quality grease, and Oil seal is framed in the fixed part to prevent fine dusts and the grease from leaking. Deep groove ball bearing is used for the simple support part of support unit.



Shape and Classification

There are 2 different types of support units for installation and condition of use.

One is the square type that fixes the unit on base surface and another is the round type to fix in a hole. Depending on the position of power transmission shaft, the fixed-side(motor) support unit and support-side support unit can be selected.



Characteristics of SI Support Units

How to Order

The Fixed Side

BK10

Model No. of the Fixed-side
(EK, BK, AK, FK)

P5

Grade: High Precision

C8

Grade: Intermediate Pre-load

P0-C7

Grade: Light Pre-load

- P5 (High Precision type): assembled with P5 bearing
- C8 (Intermediate Pre-load): assembled with preload type bearing
- P0-C7 (Light Pre-load): No clearance due to use of P0 bearing and assembled with C7 pre-load type bearing (Registration of the utility model: 20-0271941)



The Supported Side

BF10

Model No. of the Supported-side(EF, BF, AF, FF)

Please, note that the type names and numbers for the supported-side support unit (EF, BF, AF, FF (No. 8, 10, 12)) are not the same as the inner diameter of bearing used in the corresponding product. (Please, refer to page 71, 73, 75, 77)
TYPE name and number ≠ Inner diameter of bearing (EF, BF, AF, FF8=ø6, EF, BF, AF, FF12=ø10)

Support Unit Characteristic Chart

Model No.	Bearing Type			Axial Direction	
	P5	C8	P0-C7	Basic dynamic rated load (Kgf)	Static permissible load (Kgf)
EK4 / FK4	AC4-14-DF 	-	634ZZ	-	-
EK5 / FK5	AC5-14-DF 	-	625ZZ	-	-
EK6 / FK6	706ATYNDFMP5	-	606ZZ	250	110
BK6	-	-	EN6	-	-
EK8 / FK8 / CK8	708ATYNDFMP5	-	EN8	410	150
BK8	-	-	EN8	-	-
AK8	708ATYNDFMP5	-	-	410	150
EK10 / BK10 / FK10 / AK10 / CK10	7000ATYNDFMP5	7000AWDFM	7000AW	650	280
EK12 / BK12 / FK12 / AK12 / CK12	7001ATYNDFMP5	7001AWDFM	7001AW	700	310
EK15 / BK15 / FK15 / AK15	7002ATYNDFMP5	7002AWDFM	7002AW	750	350
BK17, FK17	7203ATYNDFMP5	7203AWDFM	7203AW	1300	590
EK20 / FK20 / AK20	7204ATYNDFMP5	7204AWDFM	7204AW	1750	840
BK20	7004ATYNDFMP5	7004AWDFM	7004AW	1610	840
EK25 / BK25 / FK25	7205ATYNDFMP5	7205AWDFM	7205AW	1960	1010
BK30 / FK30	7206ATYNDFMP5	7206AWDFM	7206AW	2730	1340
BK35 / FK35	7207ATYNDFMP5	7207AWDFM	7207AW	3560	1840
BK40 / FK40	7208ATYNDFMP5	7208AWDFM	7208AW	4250	2290

Bearing Combination

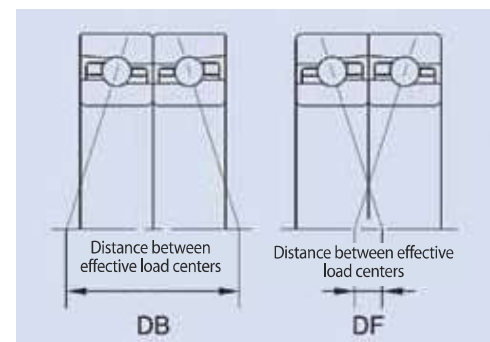
There are DB combination and DF combination in combination methods of angular bearing. SI Support Unit uses DF combination.

DB Combination

- The distance between effective load centers is long. So the stiffness is big when there is moment load. It gets flaking damage easily because of increase in internal load when there is misalignment.

DF Combination

- The distance between effective load centers is short. So the stiffness is low when there is moment load. Its absorability of assembly error is superior so it is used normally for bearing combination.

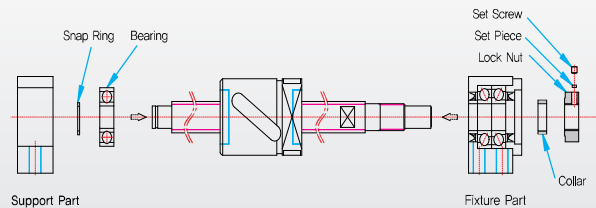


Characteristics of SI Support Units

Mounting Procedure

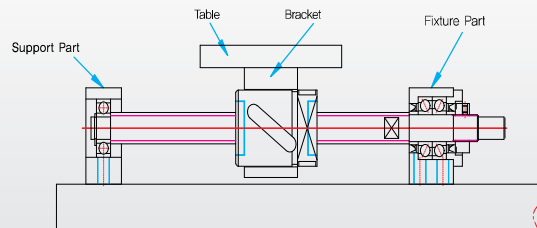
1. Installing the Support Unit

- 1) Connect the fixed-side part with ball screw shaft
 - Do not disassemble the support unit as its preload has already been adjusted
 - Take care not to let the oil seal lip turn outward when ball screw is inserted into the unit.
- 2) After inserting the ball screw into the unit, put the collar and secure the locknut by fastening the set piece and setscrew
 - Adhesive can be used to prevent the locknut from being loosened.
- 3) Mount the nut bracket on ball screw.
- 4) After connecting the ball bearing for supportive part to the ball screw shaft, fix the snap ring and mount the bearing onto the housing.



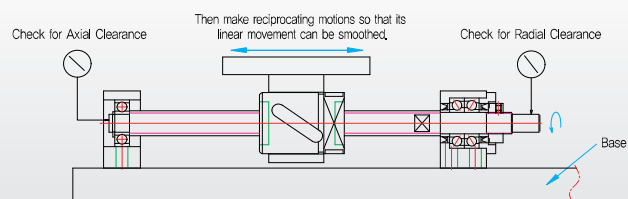
2. Installation onto Table and Base

- 1) Fasten a table with the nut bracket of ball screw.
- 2) Pre-assemble the fixed-side support unit with base as designed
 - If using the fixed side Support Unit as the reference point, provide a clearance between the ball screw nut and the table or inside the bracket when making adjustment.
 - If using the table as the reference point, make the adjustment either by using the shim (for a square type Support Unit), or providing the clearance between the outer surface of the nut and the inner surface of the mounting section (for a round type Support Unit)
- 3) Assemble the housing of support-side support unit with ball screw and then pre-assemble the unit with base as designed.



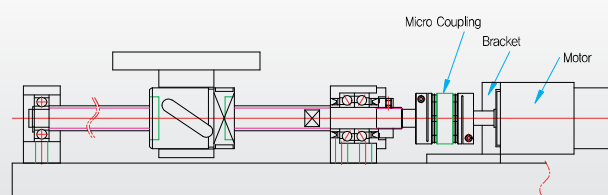
3. Checking the accuracy and Fully Mounting the Support Unit

- 1) Move the table assembled to the ball screw toward the center of the shaft in order to make it concentric. Make back-and-forth motion so that its linear movement can be smooth.
- 2) Measure the axial clearance of the shaft and the run-out at the end of the shaft of the ball screw with a dial gauge. Fully fasten in the order of nut bracket and table, the fixed-side unit, and then the support-side unit.



4. Connection with Motor

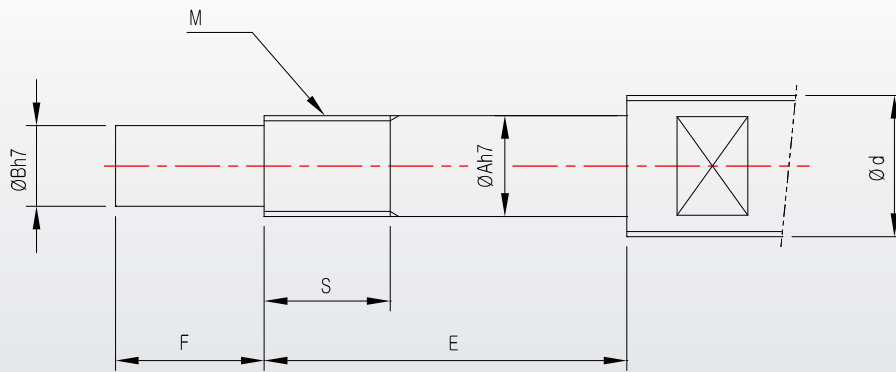
- 1) Precisely connect the bracket installed on the motor to the base by matching it to the shaft center of the ball screw.
- 2) Connect the motor and the ball screw by using a Sung-il coupling
 - Careful attention is necessary during assembly as the assembly condition of the motor bracket and the coupling affects the positioning of table.
- 3) Check the precision of the shaft center by conducting enough test operation while driving the motor at slow speed.



Characteristics of SI Support Units

Recommendable Shape of the Shaft End(Fixed-Side)

Application of Support Unit EK, BK, AK, FK Type



Unit : mm

Model No.																Outer Diameter of Ball Screw	Inner Diameter of Bearing	Dimension	Metric Screw				
AK	Dimension			BK	Dimension			CK	Dimension			EK	Dimension			FK	Dimension			d	A	B	M
	E	F	S		E	F	S		E	F	S		E	F	S		E	F	S				
-	-	-	-	-	-	-	-	-	-	-	-	4	23	5	8	4	23	5	8	6	4	3	M4×0,5
-	-	-	-	-	-	-	-	-	-	-	-	5	25	6	8	5	25	6	8	8	5	4	M5×0,5
-	-	-	-	6	30	8	8	-	-	-	-	6	30	8	8	6	30	8	8	8	6	4	M6×0,75
-	-	-	-	8	35	9	10	8	35	9	10	8	35	9	10	8	35	9	10	12	8	6	M8×1/0,75
10	36	15	16	10	39	15	16	10	38	15	11	10	36	15	11	10	36	15	11	14/15	10	8	M10×1/0,75
12	36	15	14	12	39	15	14	12	38	15	11	12	36	15	11	12	36	15	11	16/18	12	10	M12×1
15	49	20	12	15	40	20	12	15	50	20	23	15	49	20	13	15	49	20	13	20/25	15	12	M15×1
-	-	-	-	17	53	23	17	-	-	-	-	-	57	27	14	17	57	27	14	25	17	15	M17×1
20	64	25	16	20	53	25	16	-	-	-	-	20	64	25	17	20	64	25	17	28/30/32	20	17	M20×1
-	-	-	-	25	65	30	19	-	-	-	-	25	76	30	20	25	76	30	20	36	25	20	M25×1,5
-	-	-	-	30	72	38	25	-	-	-	-	-	38	25	30	72	38	25	40	30	25	25	M30×1,5
-	-	-	-	35	83	45	28	-	-	-	-	-	45	28	35	83	45	28	45	35	30	30	M35×1,5
-	-	-	-	40	98	50	35	-	-	-	-	-	50	35	40	98	50	35	50/55	40	35	35	M40×1,5

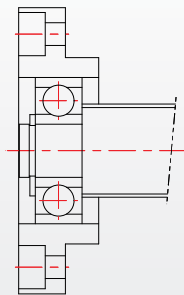
Characteristics of SI Support Units

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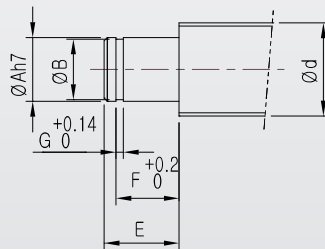
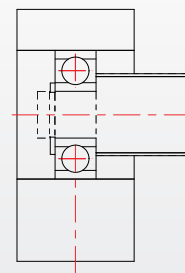
Recommendable Shape of the Shaft End(Support-side)

Application of Support Unit EF, BF, AF, FF Type

FF Type



AF Type / EF Type / BF Type



Unit : mm

Model No.				Outer Diameter of Ball Screw	Inner Diameter of Bearing		Snap Ring Dimension		
AF	FF	EF	BF	d	A	E	B	F	G
-	FF6	EF6	BF6	8	6	9	5,6	6,9	0,9
AF8	FF8	EF8	BF8	12	6	9	5,6	6,9	0,9
AF10	FF10	EF10	BF10	14	8	10	7,6	7,9	0,9
AF10	FF10	EF10	BF10	15	8	10	7,6	7,9	0,9
AF12	FF12	EF12	BF12	16	10	11	9,6	9,15	1,15
AF12	FF12	EF12	BF12	18	10	11	9,6	9,15	1,15
AF15	FF15	EF15	BF15	20	15	13	14,3	10,15	1,15
AF15	FF15	EF15	BF15	25	15	13	14,3	10,15	1,15
-	FF17	-	BF17	25	17	16	16,2	13,15	1,15
AF20	FF20	EF20	BF20	28	20	19(16)	19	15,35(13,35)	1,35
-	FF20	EF20	BF20	30	20	19(16)	19	15,35(13,35)	1,35
-	FF20	EF20	BF20	32	20	19(16)	19	15,35(13,35)	1,35
-	FF25	-	BF25	36	25	20	23,9	16,35	1,35
-	FF30	-	BF30	40	30	21	28,6	17,75	1,75
-	-	-	BF35	45	35	22	33	18,75	1,75
-	-	-	BF40	50	40	23	38	19,95	1,95
-	-	-	BF40	55	40	23	38	19,95	1,95

※ The numbers in parenthesis indicate dimensions of BF 20.

EK Type Support Unit

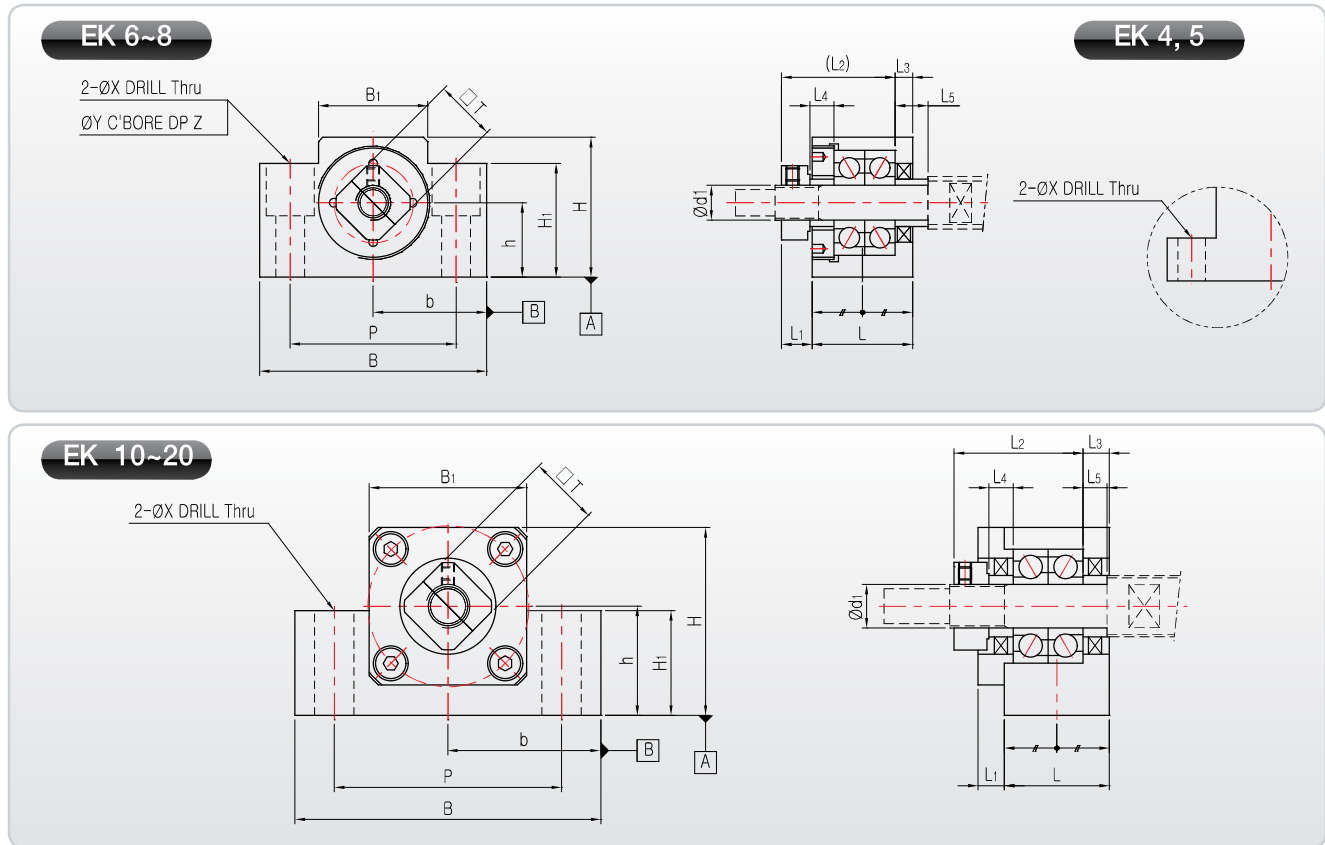
Square Type for Fixture



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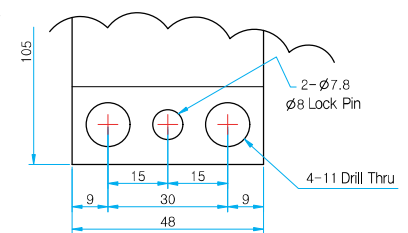
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Note

1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.
2. Do not disassemble the support unit since the preload of the bearing has already been adjusted.
3. Appropriate amount of grease is filled in the bearing of fixed-side support unit.
4. Radial ball bearing is in EK-4 and EK-5 and it is suitable for use on portions it where axial load is small.
5. Please refer to page 66 about bearing type and characteristic according to Support Unit grade
6. Please refer to page 86 for fastening torque of the lock nut.

EK 25 Reference

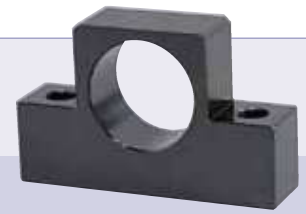


Unit : mm

Model No.	d _i	L	L ₁	L ₂	L ₃	B	H	b±0.02	h±0.02	B ₁	H ₁	P	X	Y	Z	Collar Size		□T	Mass (g)
																L ₄	L ₅		
EK4 P5 / P0-C7	4	15	5,5	17,5/18,5	3/2	34	19	17	10	18	7	26	4,5	-	-	4,5/3,5	4,5/3,5	10	50
EK5 P5 / P0-C7	5	16,5	5,5/6,5	19,5	3,5	36	21	18	11	20	8	28	4,5	-	-	5,5/4,5	5,5/4,5	11	68
EK6	6	20	5,5	22	3,5	42	25	21	13	18	20	30	5,5	9,5	11	5	7	12	120
EK8	8	23	7	26	4	52	32	26	17	25	26	38	6,6	11	12	5,5	7,5	14	230
EK10	10	24	6	29,5	6	70	43	35	25	36	24	52	9	-	-	5,5	5,5	16	430
EK12	12	24	6	29,5	6	70	43	35	25	36	24	52	9	-	-	5,5	5,5	19	420
EK15	15	25	6	36	5	80	50	40	30	41	25	60	11	-	-	10	10	22	530
EK20	20	42	10	50	10	95	58	47,5	30	56	25	75	11	-	-	11	11	30	1310
EK25	25	48	13	59	14	105	68	52,5	35	66	25	85	〈Refer to Drawing〉			14	14	35	1950

EF Type Support Unit

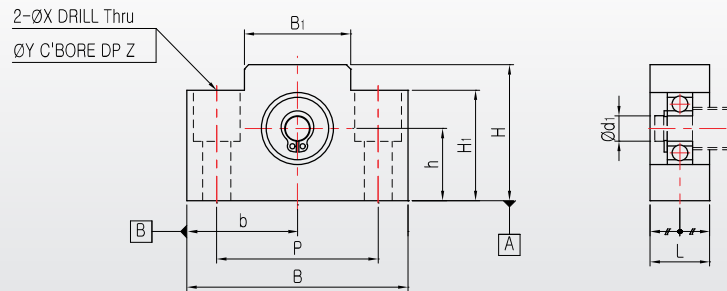
Square Type for Support



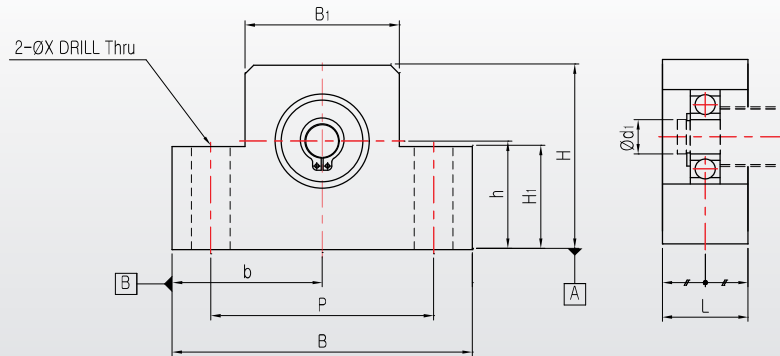
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EF 6 ~ 8



EF 10 ~ 25



Note

1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.

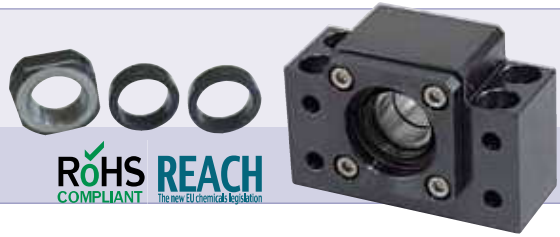


Unit : mm

Model No.	d ₁	L	B	H	b _{±0,02}	h _{±0,02}	B ₁	H ₁	P	X	Y	Z	Mass (g)	Bearing	Snap Ring
EF6	6	12	42	25	21	13	18	20	30	5,5	9,5	11	60	606ZZ	C6
EF8	6	14	52	32	26	17	25	26	38	6,6	11	12	120	606ZZ	C6
EF10	8	20	70	43	35	25	36	24	52	9	-	-	300	608ZZ	C8
EF12	10	20	70	43	35	25	36	24	52	9	-	-	280	6000ZZ	C10
EF15	15	20	80	50	40	30	41	25	60	9	-	-	320	6002ZZ	C15
EF20	20	26	95	58	47,5	30	56	25	75	11	-	-	570	6204ZZ	C20
EF25	25	30	105	68	52,5	35	66	25	85	11	-	-	880	6205ZZ	C25

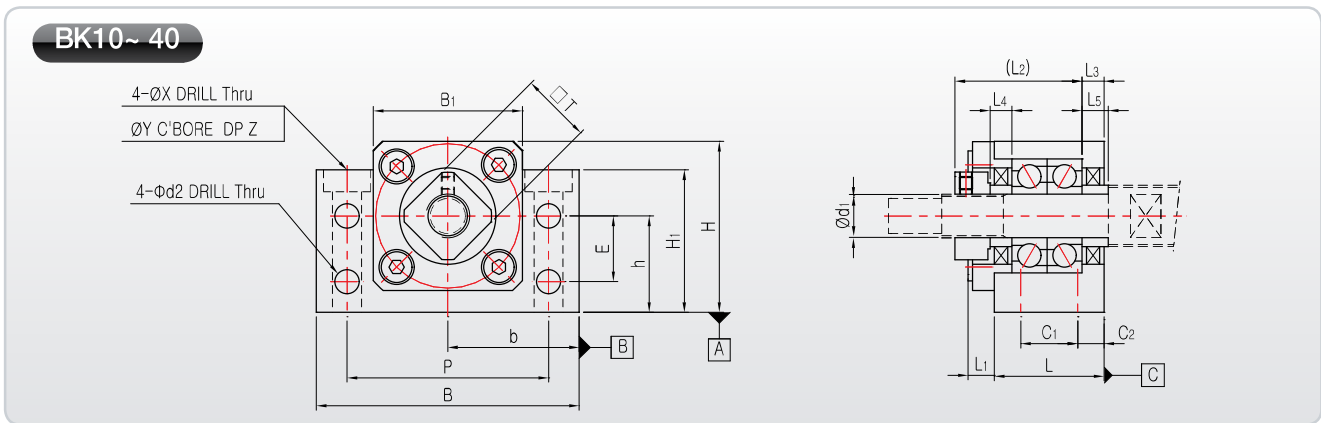
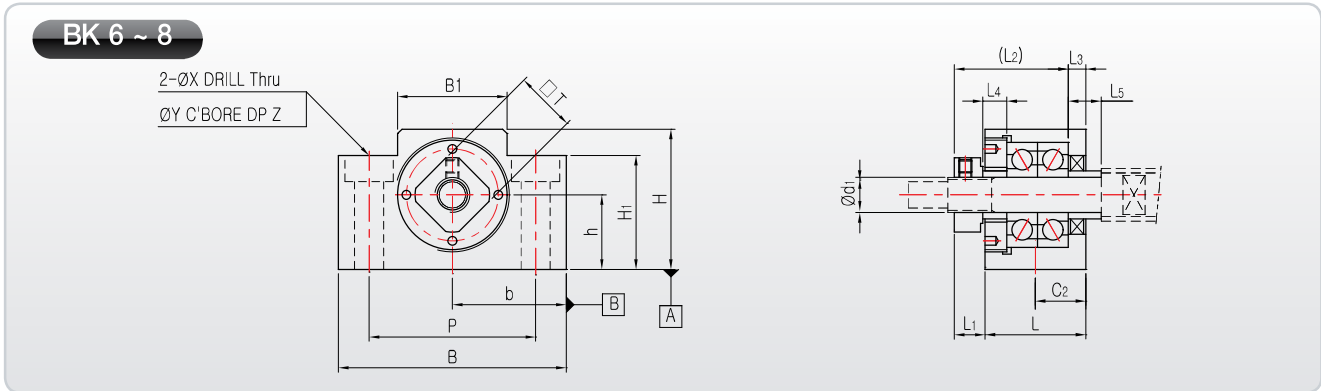
BK Type Support Unit

Square Type for Fixture



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Note

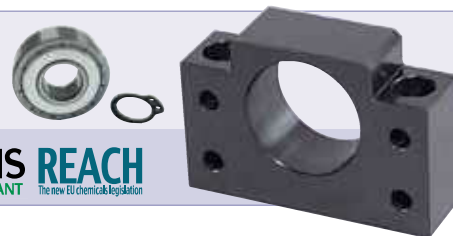
1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.
2. Do not disassemble the support unit since the preload of the bearing has already been adjusted.
3. Appropriate amount of grease is filled in the bearing of fixed-side support unit.
4. Please refer to page 66 about bearing type and characteristic according to Support Unit grade
5. Please refer to page 86 for fastening torque of the lock nut.

Unit : mm

Model No.	d ₁	L	L ₁	L ₂	L ₃	B	H	b±0,02	h±0,02	B ₁	H ₁	E	P	C ₁	C ₂	d ₂	X	Y	Z	Collar Size		□T	Mass (g)
																				L ₄	L ₅		
BK6	6	23	5	24	4	52	32	26	17	25	26	-	38	-	11,5	-	6,6	11	6	5	5	12	230
BK8	8	23	7	26	4	52	32	26	17	25	26	-	38	-	11,5	-	6,6	11	6	5,5	7,5	14	230
BK10	10	25	5	29	5	60	39	30	22	34	32,5	15	46	13	6	5,5	6,6	10,8	5	5	5	16	360
BK12	12	25	5	29	5	60	43	30	25	34	35	18	46	13	6	5,5	6,6	10,8	6	5	5	19	390
BK15	15	27	6	32	6	70	48	35	28	40	38	18	54	15	6	5,5	6,6	10,8	6	6	6	22	530
BK17	17	35	9	44	7	86	64	43	39	50	55	28	68	19	8	6,6	9	14	8,5	7	7	24	1270
BK20	20	35	8	43	8	88	60	44	34	52	50	22	70	19	8	6,6	9	14	8,5	8	8	30	1650
BK25	25	42	12	54	9	106	80	53	48	64	70	33	85	22	10	9	11	17,5	11	9	9	35	2310
BK30	30	45	14	61	9	128	89	64	51	76	78	33	102	23	11	11	14	20	13	9	9	40	3330
BK35	35	50	14	67	12	140	96	70	52	88	79	35	114	26	12	11	14	20	13	12	12	50	4380
BK40	40	61	18	76	15	160	110	80	60	100	90	37	130	33	14	14	18	26	17,5	15	15	50	6670

BF Type Support Unit

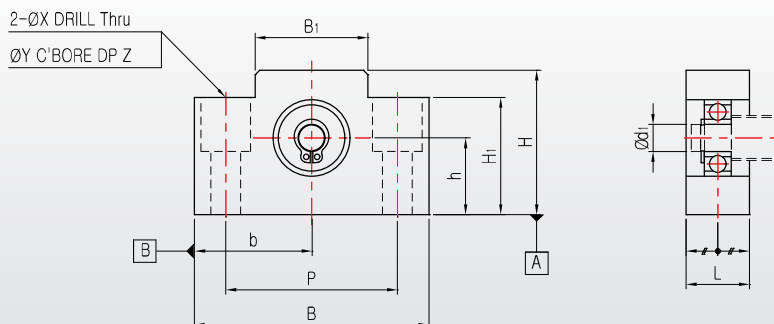
Square Type for Support



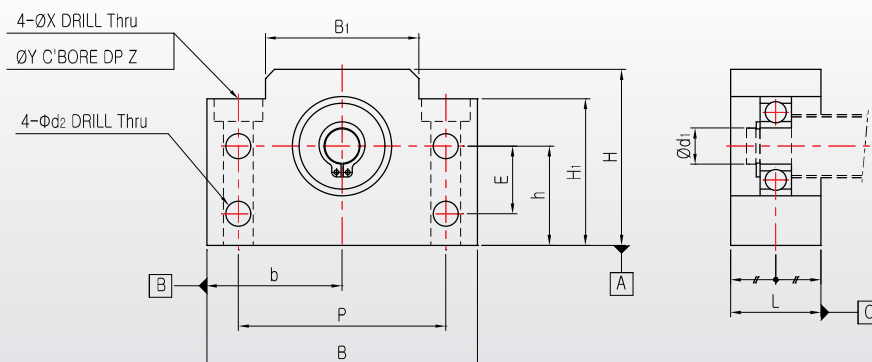
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BF6~8



BF10~40



Note

1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.



Unit : mm

Model No.	d ₁	L	B	H	b±0,02	h±0,02	B ₁	H ₁	E	P	d ₂	X	Y	Z	Mess(g)	Bearing	Snap Ring
BF6/8	6	14	52	32	26	17	25	26	-	38	-	6,6	11	12	120	606ZZ	C6
BF10	8	20	60	39	30	22	34	32,5	15	46	5,5	6,6	10,8	5	260	608ZZ	C8
BF12	10	20	60	43	30	25	34	35	18	46	5,5	6,6	10,8	6,5	270	6000ZZ	C10
BF15	15	20	70	48	35	28	40	38	18	54	5,5	6,6	10,8	6,5	310	6002ZZ	C15
BF17	17	23	86	64	43	39	50	55	28	68	6,6	9	14	8,5	680	6203ZZ	C17
BF20	20	26	88	60	44	34	52	50	22	70	6,6	9	14	8,5	710	6004ZZ	C20
BF25	25	30	106	80	53	48	64	70	33	85	9	11	17,5	11	1340	6205ZZ	C25
BF30	30	32	128	89	64	51	76	78	33	102	11	14	20	13	1880	6206ZZ	C30
BF35	35	32	140	96	70	52	88	79	35	114	11	14	20	13	2080	6207ZZ	C35
BF40	40	37	160	110	80	60	100	90	37	130	14	18	26	17,5	3100	6208ZZ	C40

AK Type Support Unit

Square Type for Fixture

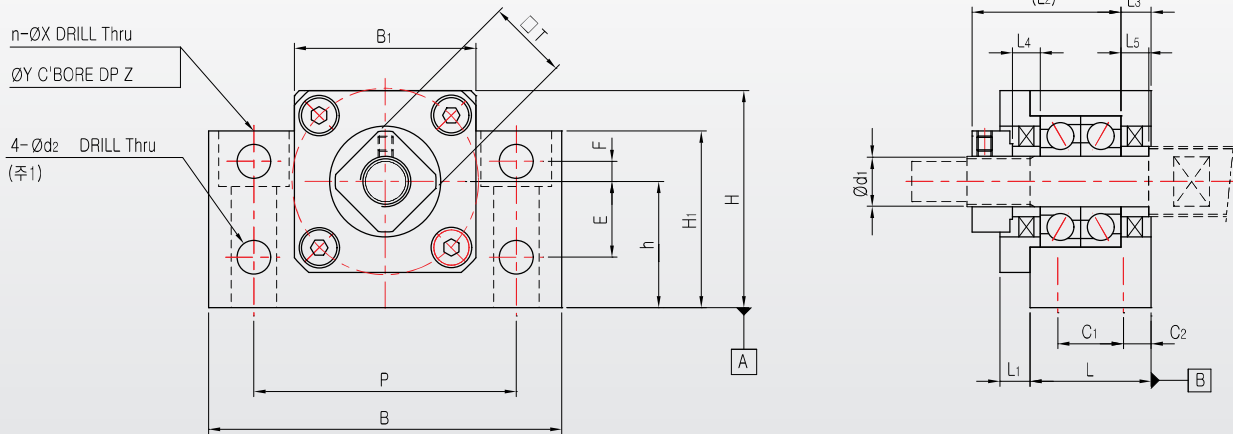


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AK 8 ~ 20



Remark (1) : AK 20 has no drilled hole at the annotated position

Note

1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.
2. Do not disassemble the support unit since the preload of the bearing has already been adjusted.
3. Appropriate amount of grease is filled in the bearing of fixed-side support unit.
4. Please refer to page 66 about bearing type and characteristic according to Support Unit grade
5. Please refer to page 86 for fastening torque of the lock nut.

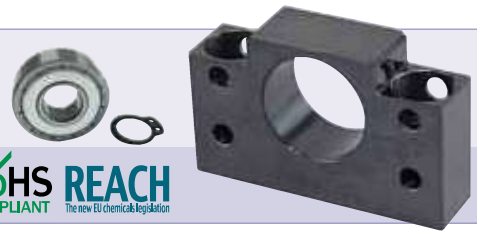
Unit : mm

Model No.	d ₁	L	L ₁	L ₂	L ₃	B	H	h±0,02	B ₁	H ₁	E	F	P	C ₁	C ₂	d ₂	n	X	Y	Z	Collar Size		□T	Mass (g)
																					L ₄	L ₅		
AK8	8	20	3	24	4	52	32	17	25	26	10	4	38	-	10	5,5	2	6,6	11	12	4	4	14	190
AK10	10	24	6	29,5	6	70	43	25	36	35	15	4	52	-	12	6,6	2	9	14	11	5,5	5,5	16	450
AK12	12	24	6	29,5	6	70	43	25	36	35	15	4	52	-	12	6,6	2	9	14	11	5,5	5,5	19	440
AK15	15	25	6	36	5	80	50	30	41	40	15	4	60	-	12,5	6,6	2	11	17	15	10	10	22	570
AK20	20	42	10	50	10	95	58	30	56	45	-	-	75	22	10	-	4	11	17	15	11	11	30	1400

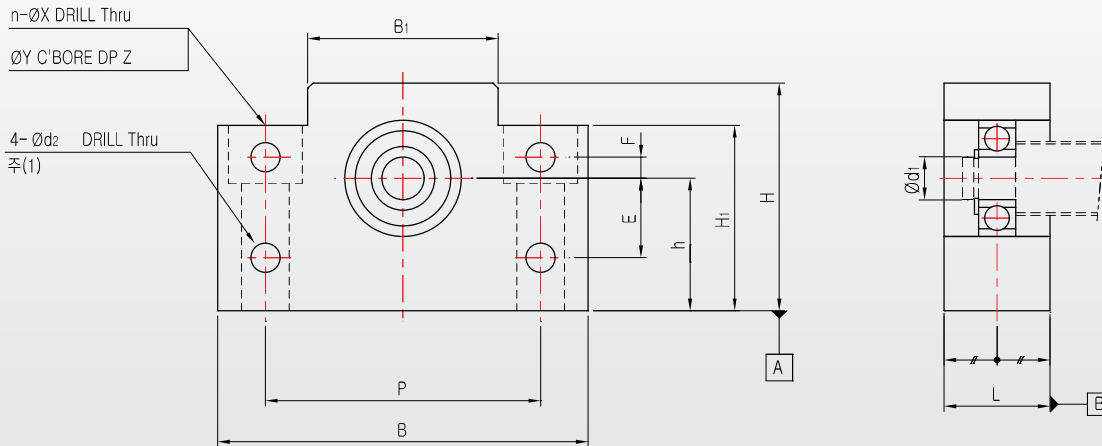
AF Type Support Unit

Square Type for Support

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AF 8 ~ 20



Remark (1) : AK 20 has no drilled hole at the annotated position

Note

1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.



Unit : mm

Model No.	d_1	L	B	H	$h \pm 0.02$	B_1	H_1	E	F	P	d_2	X	Y	Z	Mass (g)	Bearing	Snap Ring
AF8	6	15	52	32	17	25	26	10	4	38	5.5	6.6	11	12	130	606ZZ	C6
AF10	8	20	70	43	25	36	35	15	4	52	6.6	9	14	11	320	608ZZ	C8
AF12	10	20	70	43	25	36	35	15	4	52	6.6	9	14	11	300	6000ZZ	C10
AF15	15	20	80	50	30	41	40	15	4	60	6.6	9	14	11	370	6002ZZ	C15
AF20	20	26	95	58	30	56	45	-	-	75	-	11	17	15	660	6204ZZ	C20

FK Type Support Unit

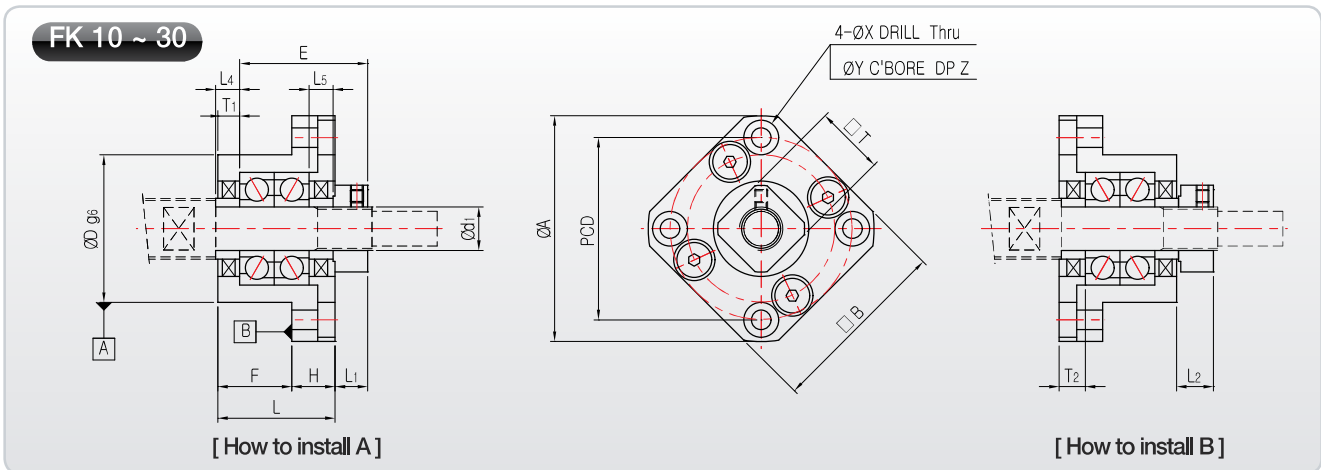
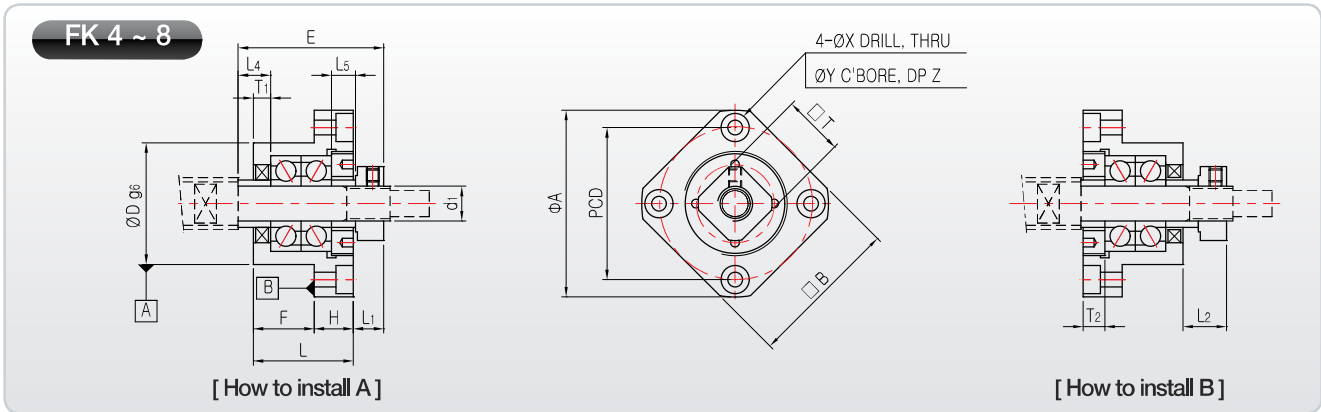
Round Type for Fixture



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※ For the FK 30, when you install like 'B way', collar sizes must be changed, so please contact us.

Note

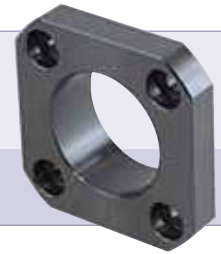
1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.
2. Do not disassemble the support unit since the preload of the bearing has already been adjusted.
3. Appropriate amount of grease is filled in the bearing of fixed-side support unit.
4. Please refer to page 66 about bearing type and characteristic according to Support Unit grade
5. Please refer to page 86 for fastening torque of the lock nut.

Unit : mm

Model No.	d ₁	L	H	F	E	D	A	PCD	□ B	How to install A		How to install B		X	Y	Z	Collar Size		□ T	Mass (g)
										L ₁	T ₁	L ₂	T ₂				L ₄	L ₅		
FK4 P5 / P0-C7	4	15	6	9	22	18	32	24	25	5,5	3/2	5,5/6,5	4/3	3,4	6	4	4,5/3,5	4,5/3,5	10	40
FK5 P5 / P0-C7	5	16,5	6	10,5	24	20	34	26	26	5,5/6,5	3,5	6	5/3	3,4	6/6,5	4	5,5/4,5	5,5/4,5	11	50
FK6	6	20	7	13	29	22	36	28	28	5,5	3,5	8,5	4,5	3,4	6,5	4	7	5	12	65
FK8	8	23	9	14	33,5	28	43	35	35	7	4	10	5	3,4	6,5	4	7,5	5,5	14	125
FK10	10	27	10	17	29,5	34	52	42	42	7,5	5	8,5	6	4,5	8	4	5,5	5,5	16	200
FK12	12	27	10	17	29,5	36	54	44	44	7,5	5	8,5	6	4,5	8	4	5,5	5,5	19	225
FK15	15	32	15	17	36	40	63	50	52	10	6	12	8	5,5	9,5	6	10	10	22	340
FK17	17	45	22	23	46	50	77	62	61	10	9	13	12	6,6	11	10	9	9	24	770
FK20	20	52	22	30	50	57	85	70	68	8	10	12	14	6,6	11	10	11	11	30	1065
FK25	25	57	27	30	60	63	98	80	79	13	10	20	17	9	15	13	15	15	35	1465
FK30	30	62	30	32	61	75	117	95	93	11	12	17	18	11	17,5	15	9	9	40	2300

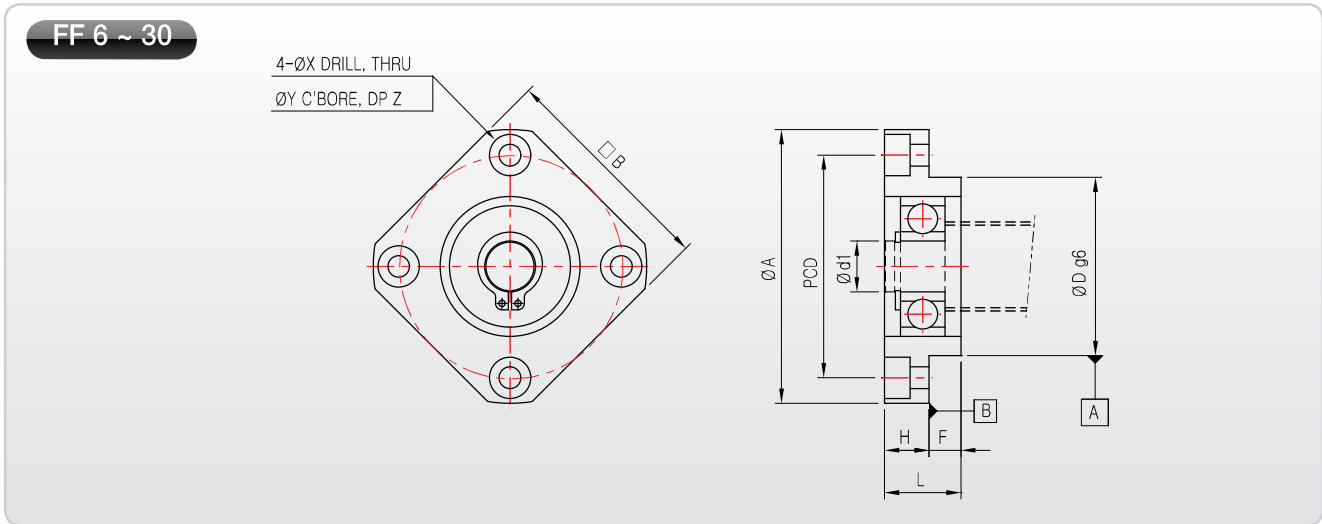
FF Type Support Unit

Round Type for Support



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Note

1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.



Unit : mm

Model No.	d_1	L	H	F	D	A	PCD	B	X	Y	Z	Mass (g)	Bearing	Snap Ring
FF6-8	6	10	6	4	22	36	28	28	3,4	6,5	3	30	606ZZ	C6
FF10	8	12	7	5	28	43	35	35	3,4	6,5	4	60	608ZZ	C8
FF12	10	15	7	8	34	52	42	42	4,5	8	4	100	6000ZZ	C10
FF15	15	17	9	8	40	63	50	52	5,5	9,5	5,5	140	6002ZZ	C15
FF17	17	20	11	9	50	77	62	61	6,5	11	6,5	290	6203ZZ	C17
FF20	20	20	11	9	57	85	70	68	6,6	11	6,5	380	6204ZZ	C20
FF25	25	24	14	10	63	98	80	79	9	14	8,5	590	6205ZZ	C25
FF30	30	27	18	9	75	117	95	93	11	17,5	11	930	6206ZZ	C30

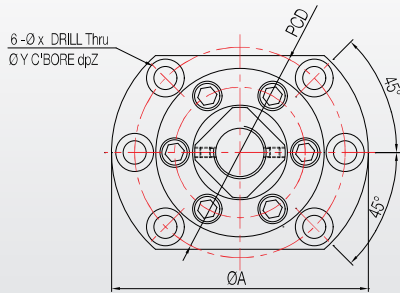
FK/FF Type Support Unit

Round Type for Fixture
Round Type for Support

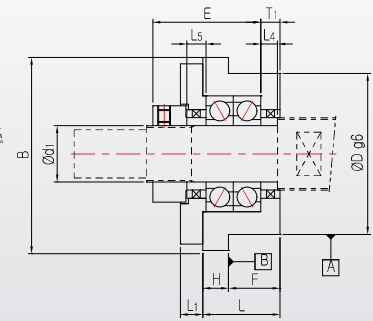
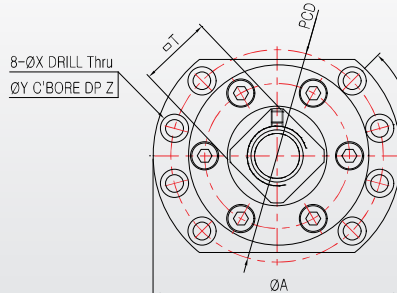


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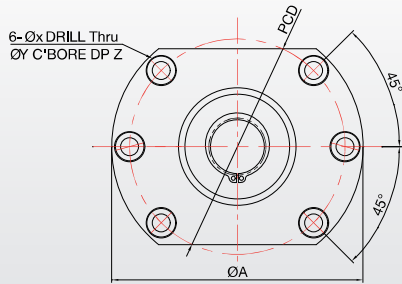
FK 25D ~ 30D



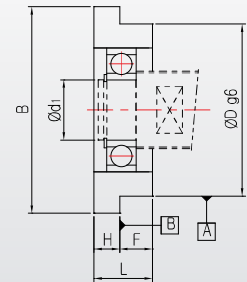
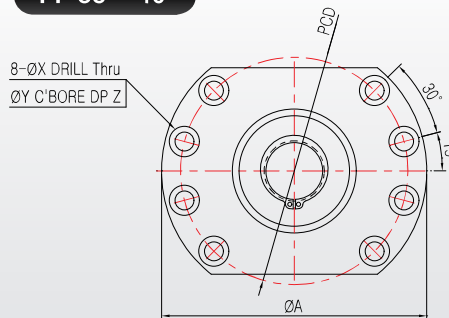
FK35 ~ 40



FF 25D ~ 30D



FF 35 ~ 40



Note

1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.
2. Do not disassemble the support unit since the preload of the bearing has already been adjusted.
3. Appropriate amount of grease is filled in the bearing of fixed-side support unit.
4. Please refer to page 64 about bearing type and characteristic according to Support Unit grade
5. Please refer to page 82 for fastening torque of the lock nut.

Unit : mm

Model No.	d ₁	L	H	F	E	D	A	PCD	B	L ₁	T ₁	X	Y	Z	Collar Size		□ T	Mass (g)
															L ₄	L ₅		
FK25D	25	42	15	27	54	80	122	100	92	12	10	11	17,5	11	10	10	35	2500
FK30D	30	45	15	30	70	90	138	116	106	14	11	11	17,5	11	11	11	40	3500
FK35	35	48	16	32	67	100	154	132	120	14	12	11	17,5	11	12	12	50	4080
FK40	40	61	18	43	76	120	176	150	128	18	16	14	20	13	15	15	50	6750

Unit : mm

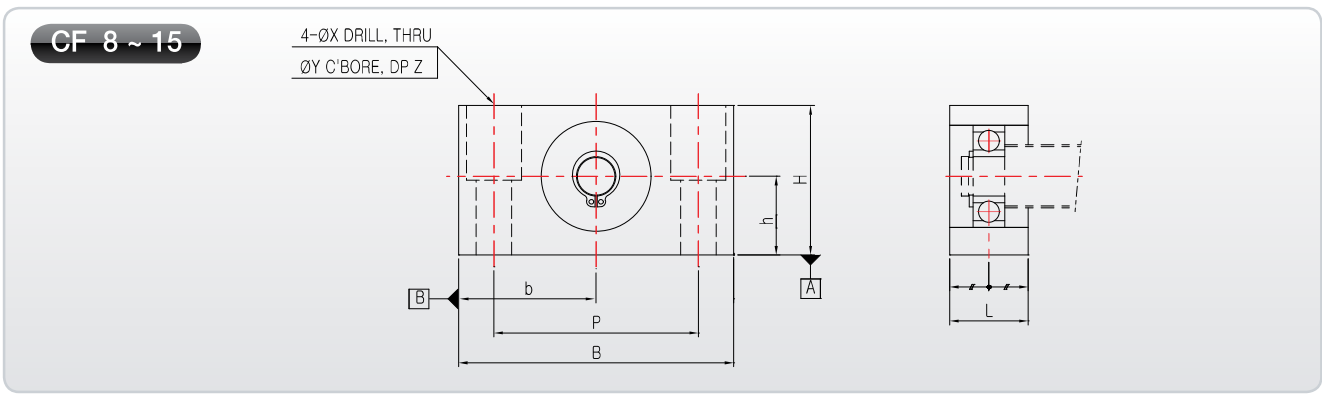
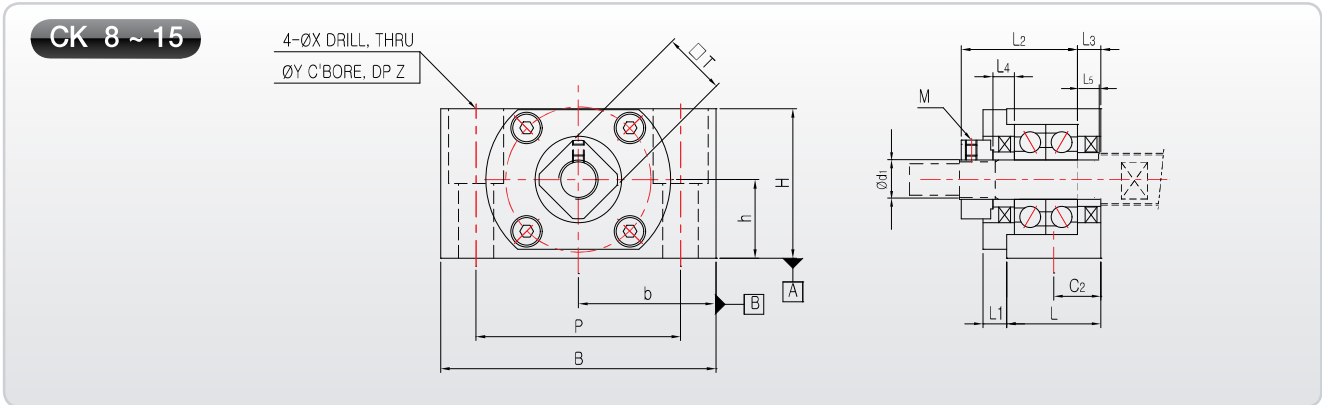
Model No.	d ₁	L	H	F	D	A	PCD	B	X	Y	Z	Bearing	Snap Ring	Mass (g)
FF25D	25	30	15	15	80	122	100	92	11	17,5	11	6205ZZ	C25	1400
FF30D	30	32	15	17	90	138	116	106	11	17,5	11	6206ZZ	C30	1800
FF35	35	34	15	19	100	154	132	120	11	17,5	11	6207ZZ	C35	2050
FF40	40	36	18	18	120	176	150	128	14	20	13	6208ZZ	C40	3050

CK/CF Type Support Unit

Low Center Type for Fixture /
Low Center Type for Support



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Note

1. The surfaces A and B are reference for installation. Please, use the accurate size spacer if adjusting height is necessary.
2. Do not disassemble the support unit since the preload of the bearing has already been adjusted.
3. Appropriate amount of grease is filled in the bearing of fixed-side support unit.
4. Please refer to page 62 about bearing type and characteristic according to Support Unit grade
5. Please refer to page 82 for fastening torque of the lock nut.

Unit : mm

Model No.	d ₁	L	L ₁	L ₂	L ₃	B	H	b±0,02	h±0,02	P	C ₂	X	Y	Z	Collar Size		M	□T	Mass (g)
															L ₄	L ₅			
CK8	8	21,5	4	26,5	3,5	62	31	31	15,5	46	11	9	14	18	6	6	M3x0,5	14	260
CK10	10	24	6	29,5	6	70	38	35	20	52	12	9	14	19	5,5	5,5	M4x0,7	16	430
CK12	12	24	6	29,5	6	70	38	35	20	52	12	9	14	19	5,5	5,5	M4x0,7	19	430
CK15	15	25	6	38	5	80	42	40	22	60	12,5	11	17	23	10	10	M4x0,7	22	540

Unit : mm

Model No.	d ₁	L	B	H	b±0,02	h±0,02	P	X	Y	Z	Bearing	Snap Ring	Mass(g)
CF8	6	16	62	31	31	15,5	46	9	14	18	606ZZ	C6	165
CF12 ★	10	20	70	38	35	20	52	9	14	19	6000ZZ	C10	285
CF15	15	20	80	42	40	22	60	9	14	23	6002ZZ	C15	355

★CF12 is used to the CK10, CK12 into the common support unit.

WBK type Support Unit

Miniature Type

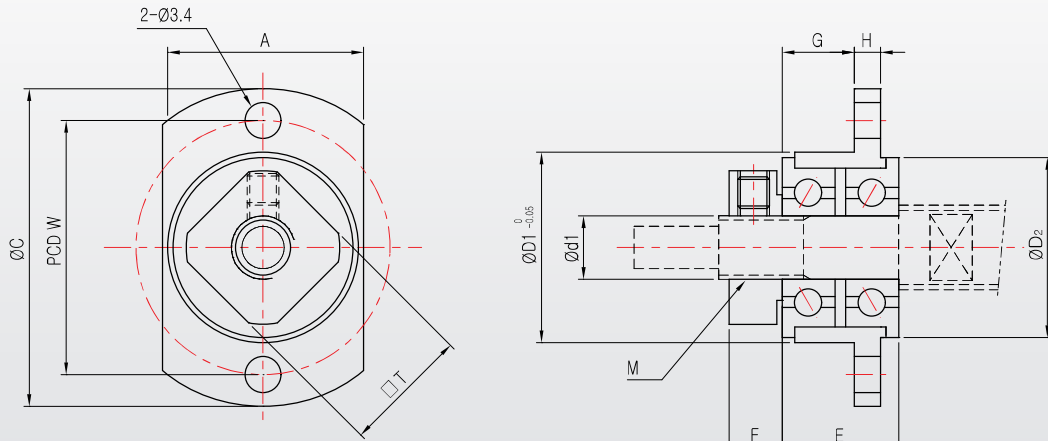


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WBK TYPE Miniature Support Unit

• Support unit can be applied when precision miniature ball screw is used.



Note

1. Tighten locknut as flange type miniature ball bearing can be slightly detached from surface due to vibration during operation.
2. To prevent the collar which is inserted from slipping out, fasten it with a bolt when release

Unit : mm

Model No.	d ₁	A	C	D ₁	D ₂	E	F	G	H	W	U	M	Space
WBK04	4	14	25	13	12,5	9	5	5	2,5	19	10	M4×0,5	ø 8 × ø 4 × 1 - 1EA
WBK06	6	19	30	18	17	11	5	6,8	2,5	24	12	M6×0,75	ø 9,1 × ø 6 × 1 - 1EA

Types of Support Units and Applicable Outer Diameter of Screw Shaft

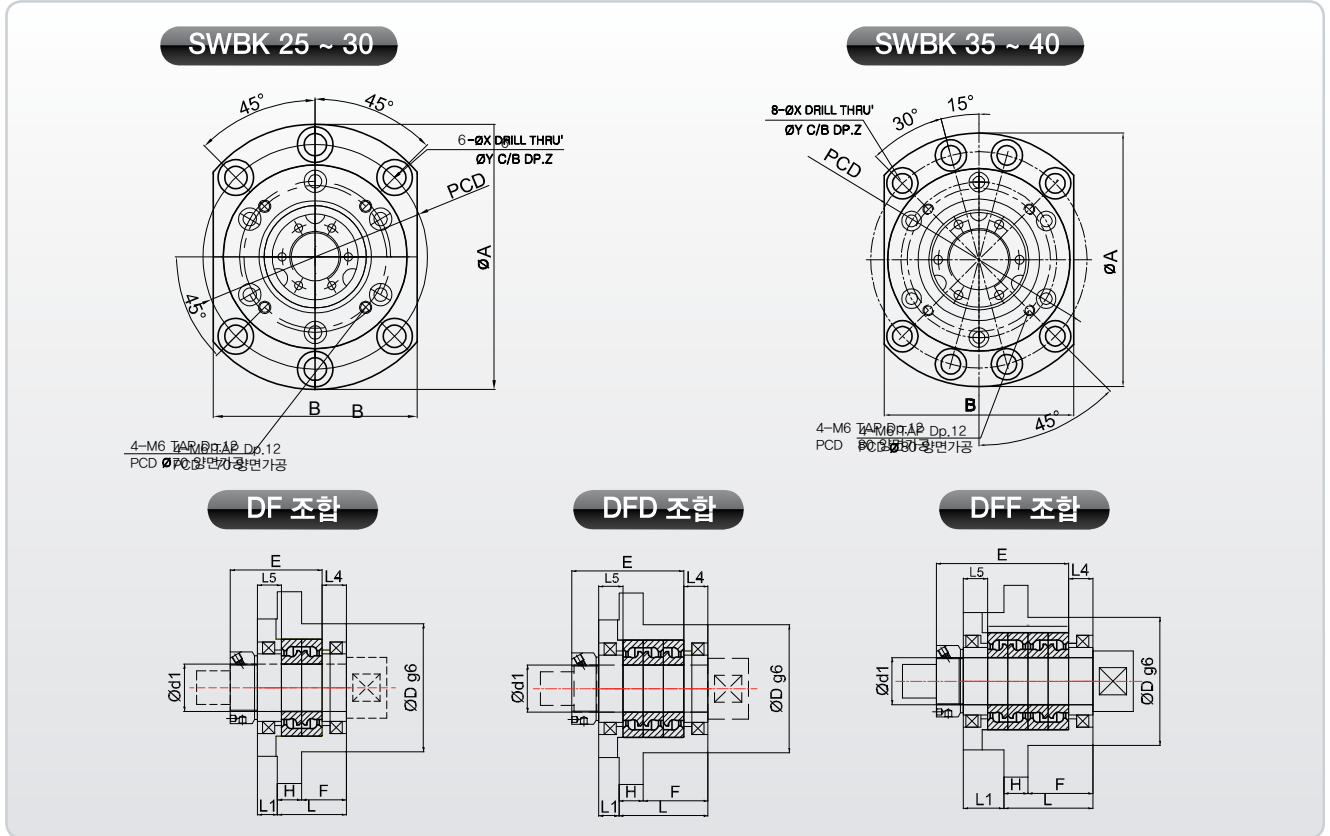
Inner Diameter of the Fixed-side (mm)	Applicable Model No. of the Fixed-side	Inner Diameter of the Support-side (mm)	Applicable Model No. of the Support-side	Applicable Shaft Outer Diameter (mm)
ø 4	EK4 / FK4	-	-	ø 6
ø 5	EK5 / FK5	-	-	ø 8
ø 6	BK6 / EK6 / FK6	ø 6	BF6 / EF6 / FF6	ø 8
ø 8	AK8 / BK8 / EK8 / FK8	ø 6	AF8 / BF8 / EF8 / FF8	ø 10, ø 12
ø 10	AK10 / BK10 / EK10 / FK10	ø 8	AF10 / BF10 / EF10 / FF10	ø 14, ø 15
ø 12	AK12 / BK12 / EK12 / FK12	ø 10	AF12 / BF12 / EF12 / FF12	ø 16, ø 18
ø 15	AK15 / BK15 / EK15 / FK15	ø 15	AF15 / BF15 / EF15 / FF15	ø 20, ø 25
ø 17	BK17 / FK17	ø 17	BF17 / FF17	ø 25
ø 20	AK20 / BK20 / EK20 / FK20	ø 20	AF20 / BF20 / EF20 / FF20	ø 28, ø 30, ø 32
ø 25	BK25 / EK25 / FK25	ø 25	BF25 / EF25 / FF25	ø 36
ø 30	BK30 / FK30	ø 30	BF30 / FF30	ø 40, ø 45
ø 35	BK35 / FK35	ø 35	BF35 / FF35	ø 45
ø 40	BK40 / FK40	ø 40	BF40 / FF40	ø 50, ø 55

SWBK Type Support Unit

Support unit for High-load applications



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Dimension and performance

Model no.	d ₁	L	H	F	E	D	A	P.C.D	B	L ₁	X	Y	Z
SWBK25 DF	25	51	18	33	68	85	130	110	100	15	11	17.5	11
SWBK25 DFD	25	66	18	48	83	85	130	110	100	15	11	17.5	11
SWBK30 DF	30	51	18	33	68	85	130	110	100	15	11	17.5	11
SWBK30 DFD	30	66	18	48	83	85	130	110	100	15	11	17.5	11
SWBK35 DF	35	51	18	33	68	95	142	121	106	15	11	17.5	11
SWBK35 DFD	35	66	18	48	83	95	142	121	106	15	11	17.5	11
SWBK35 DFF	35	66	18	48	98	95	142	121	106	30	11	17.5	11
SWBK40 DF	40	51	18	33	68	95	142	121	106	15	11	17.5	11
SWBK40 DFD	40	66	18	48	83	95	142	121	106	15	11	17.5	11

Bearing type and performance

Model no.	Bearing type	Basic dynamic rated load (Kgf)	Static permissible load (Kgf)	Pre-load (Kgf)	Axial stiffness (kgf/μm)	Starting torque (kgf·m)
SWBK25 DF	25TAC 62B	2910	4150	320	100	2
SWBK25 DFD	25TAC 62B	4700	8300	440	150	3
SWBK30 DF	30TAC 62B	2980	4400	340	105	2.5
SWBK30 DFD	30TAC 62B	4850	8800	360	155	3
SWBK35 DF	35TAC 72B	3150	5100	390	120	3
SWBK35 DFD	35TAC 72B	5150	10200	530	175	4
SWBK35 DFF	35TAC 72B	5150	10200	780	240	5.5
SWBK40 DF	40TAC 72B	3250	5300	400	125	3
SWBK40 DFD	40TAC 72B	5250	10600	540	185	4
SWBK40 DFF	40TAC 72B	5250	10600	800	245	5.5