

# FBS FKB FDB FEB Flanged Mount

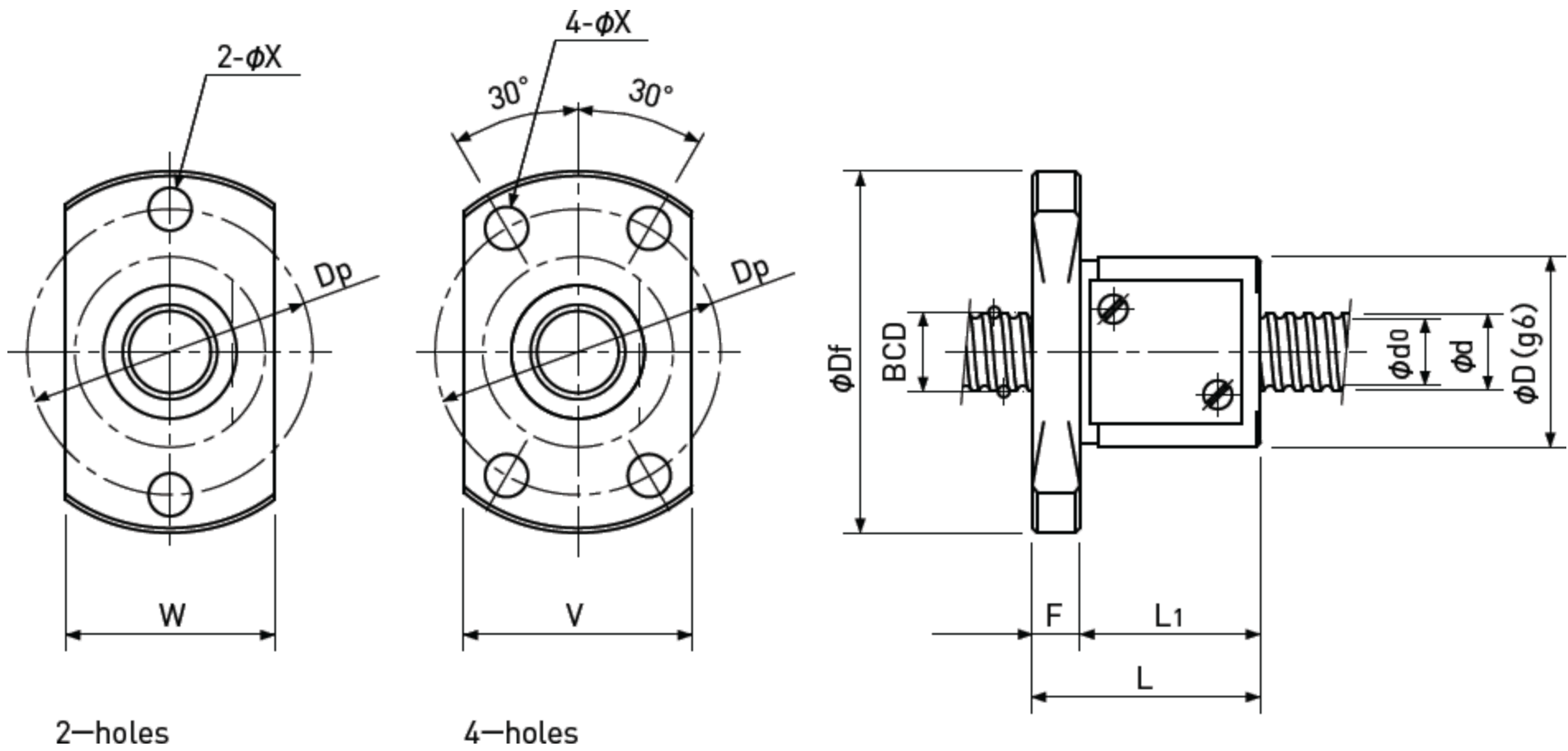


**ABSSAC**

PRECISION MOTION SINCE 1982

# Single Nut with Flange

Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

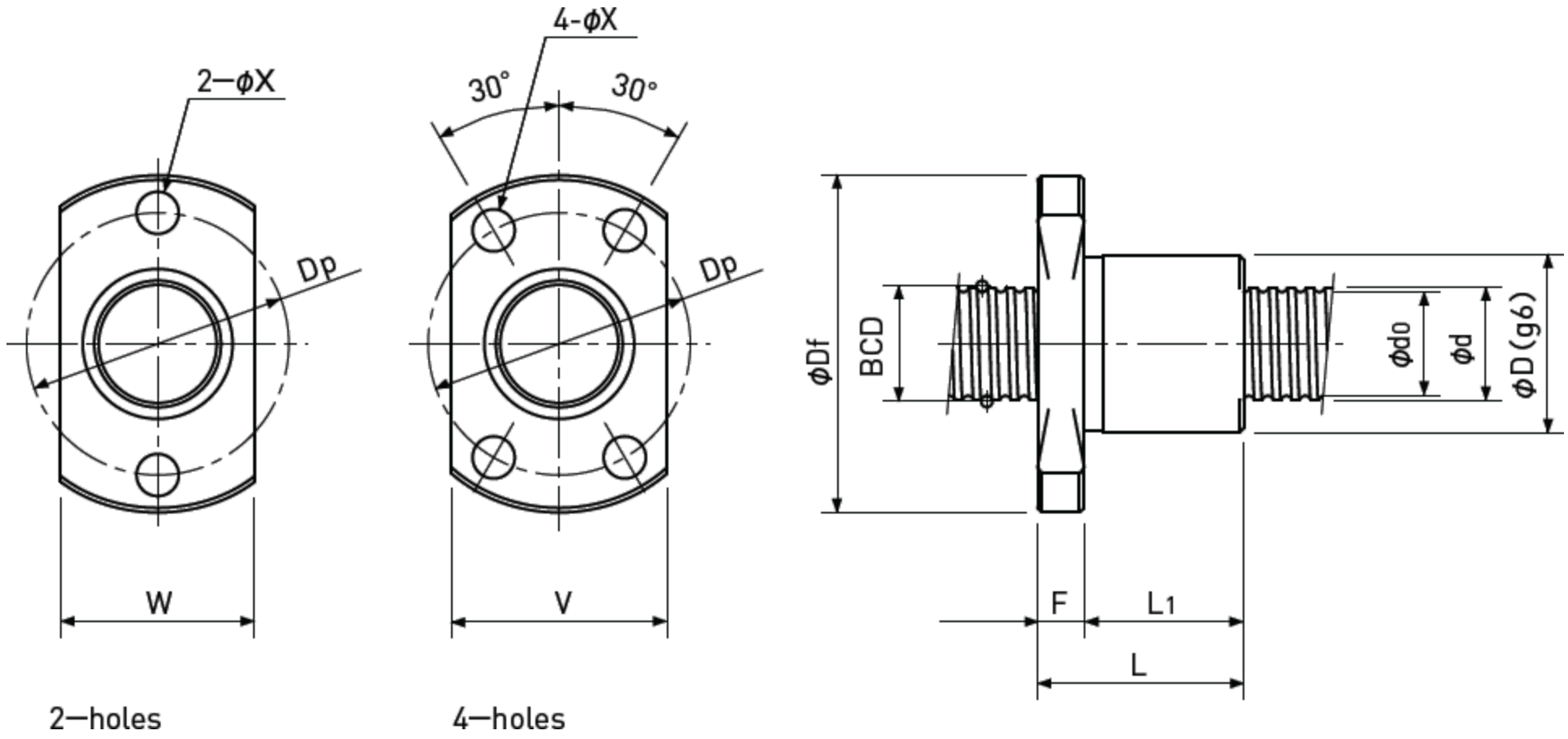
Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FBS 01800.5 A	1.8	0.5	0.4	1.95	4°40'	1.5	2.7□×1	110 / □-	130 / □-	19 / □-
FBS 0300.5 A	3	0.5	0.4	3.1	2°56'	2.6	2.7□×1	150 / □-	220 / □-	29 / □-
FBS 0301 B	3	1	0.6	3.18	5°43'	2.4	3.7□×1	330 / □-	440 / □-	42 / □-
FBS 0400.5 A	4	0.5	0.4	4.1	2°13'	3.6	2.7□×1	160 / □-	290 / □-	36 / □-
FKB 0401 A	4	1	0.6	4.15	4°23'	3.4	1□×3	300 / 300	430 / 430	38 / 59
FBS 0401 A	4	1	0.8	4.15	4°23'	3.3	2.7□×1	420 / 270	570 / 290	40 / 34
FBS 0401 B	4	1	0.8	4.15	4°23'	3.3	3.7□×1	560 / 350	790 / 400	54 / 45
FBS 0402 A	4	2	0.8	4.15	8°43'	3.3	2.7□×1	420 / 260	570 / 290	39 / 33
FBS 0403 A	4	3	0.8	4.15	12°57'	3.3	2.7□×1	420 / □-	570 / □-	39 / □-
FEB 0404 A	4	4	0.8	4.2	16°51'	3.3	2.6□×2	750 / □-	1150 / □-	73 / □-

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FBS 01800.5 A	1	6	14	8.5	7	1.5	8	□-	10	2.4
FBS 0300.5 A	1	8	16	11	8	3	8	□-	12	2.4
FBS 0301 B	1	9	19	14	11	3	11	□-	14	2.9
FBS 0400.5 A	1	10	20	13	10	3	12	□-	15	2.9
FKB 0401 A	2	9	19	13	10	3	11	13	14	2.9
FBS 0401 A	1	10	20	12	9	3	12	14	15	2.9
FBS 0401 B	1	11	23	17	13	4	13	15	17	3.4
FBS 0402 A	1	11	23	19	15	4	13	15	17	3.4
FBS 0403 A	1	11	23	21	17	4	13	15	17	3.4
FEB 0404 A	3	11	23	17.5	11	3	□-	15	17	3.4

Precision Ball Screws

# Single Nut with Flange

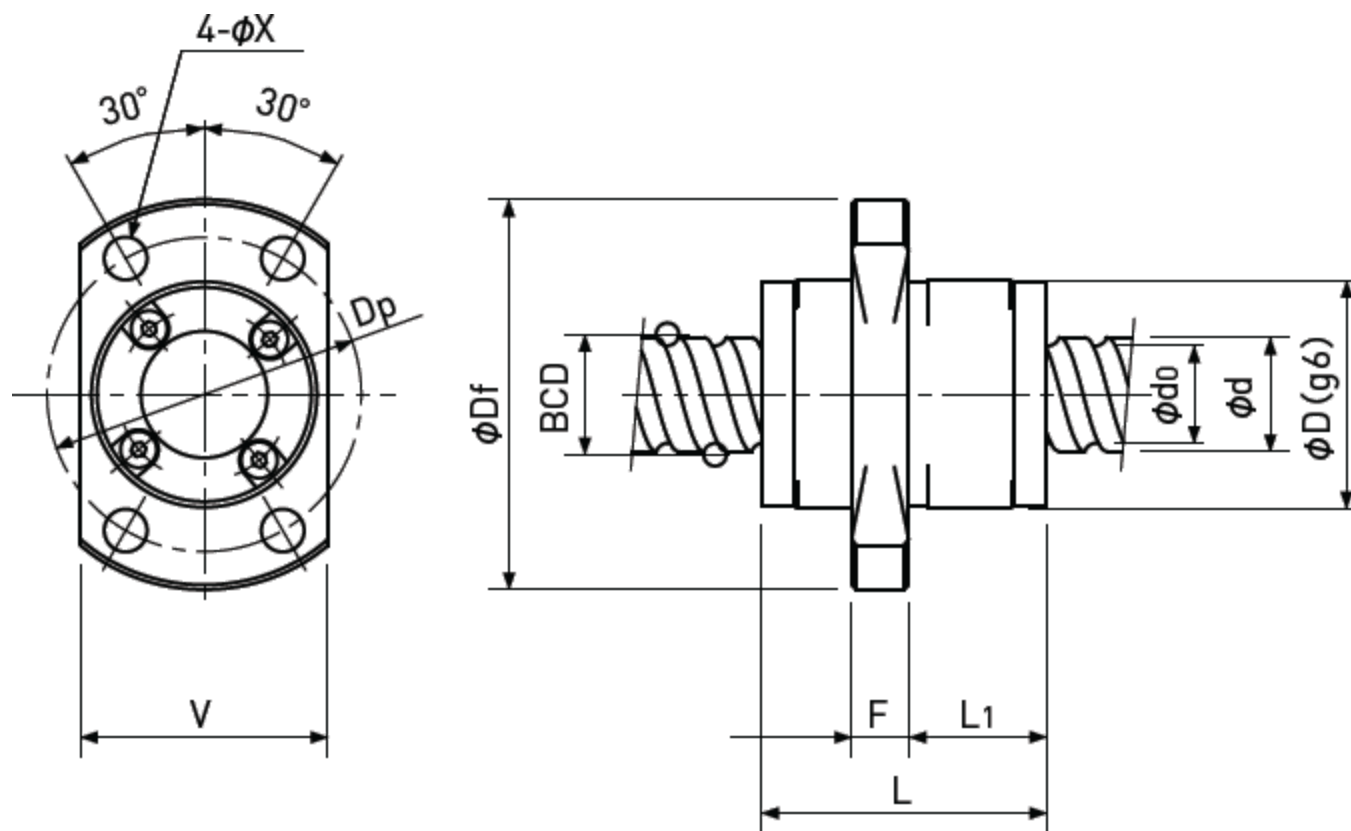
## Backlash type/Preload type



2-holes

4-holes

Type-2: Internal-deflector type or End-deflector type



Type-3: End-cap type or End-deflector type

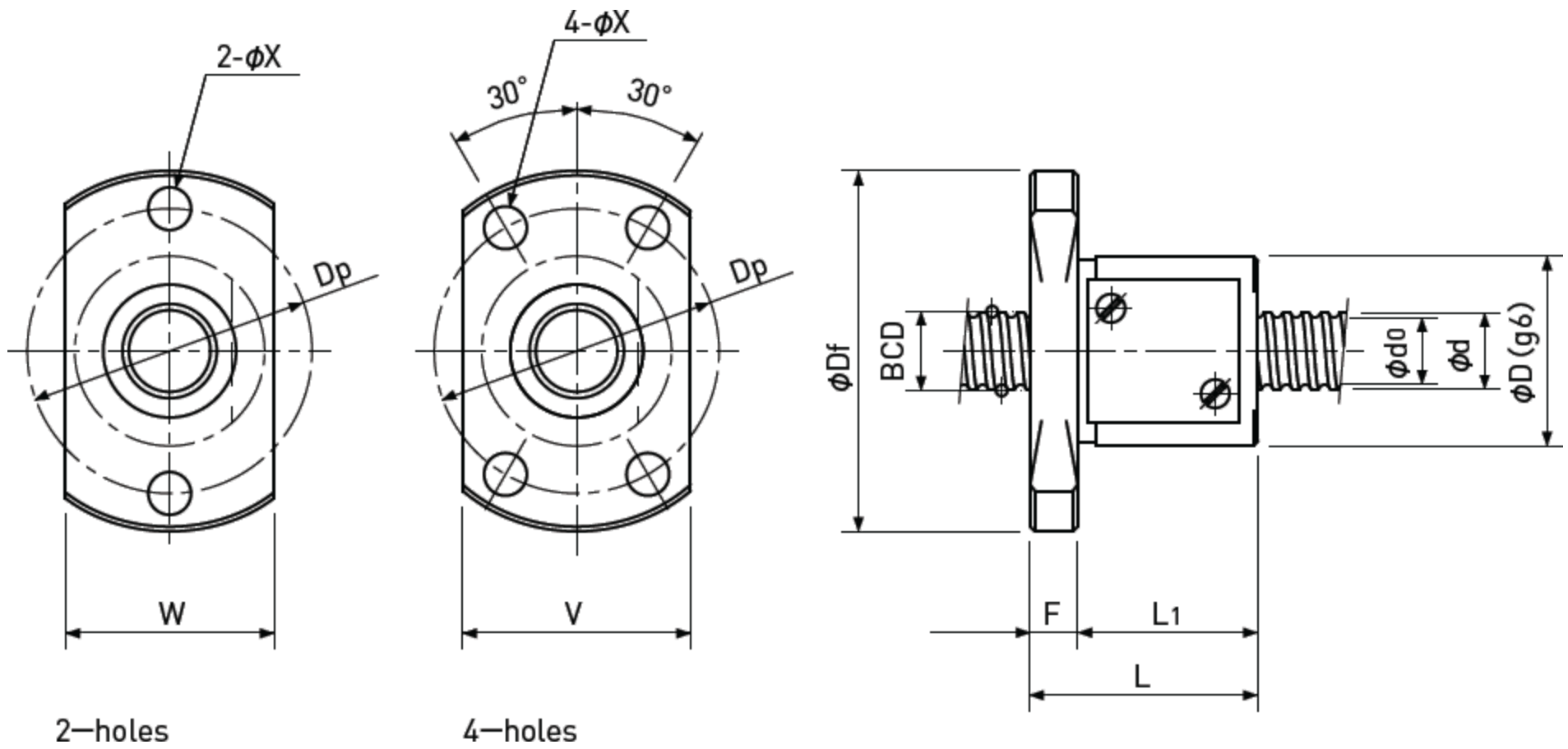
Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
		Preload type
		Backlash type

- Note 1)
- Note 2)
- Note 3)
- Note 4)
- Note 5)

The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.  
 Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.  
 The Rigidity values shown in the table are theoretical values of Ball Nut Rigidity calculated from the amount of Elastic Displacement under the following conditions.  
 Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
 Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.  
 All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.  
 Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.

# Single Nut with Flange

## Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FBS 0500.5 A	5	0.5	0.4	5.1	1□°47'	4.6	2.7□×1	180 / □-	370 / □-	44 / □-
FKB 0501 A	5	1	0.6	5.15	3□°32'	4.4	1□×3	330 / 330	560 / 560	45 / 70
FBS 0501 B	5	1	0.8	5.15	3□°32'	4.3	3.7□×1	630 / 400	1000 / 500	65 / 55
FBS 0504 A	5	4	0.8	5.15	13□°53'	4.3	2.7□×1	470 / 300	720 / 360	47 / 39

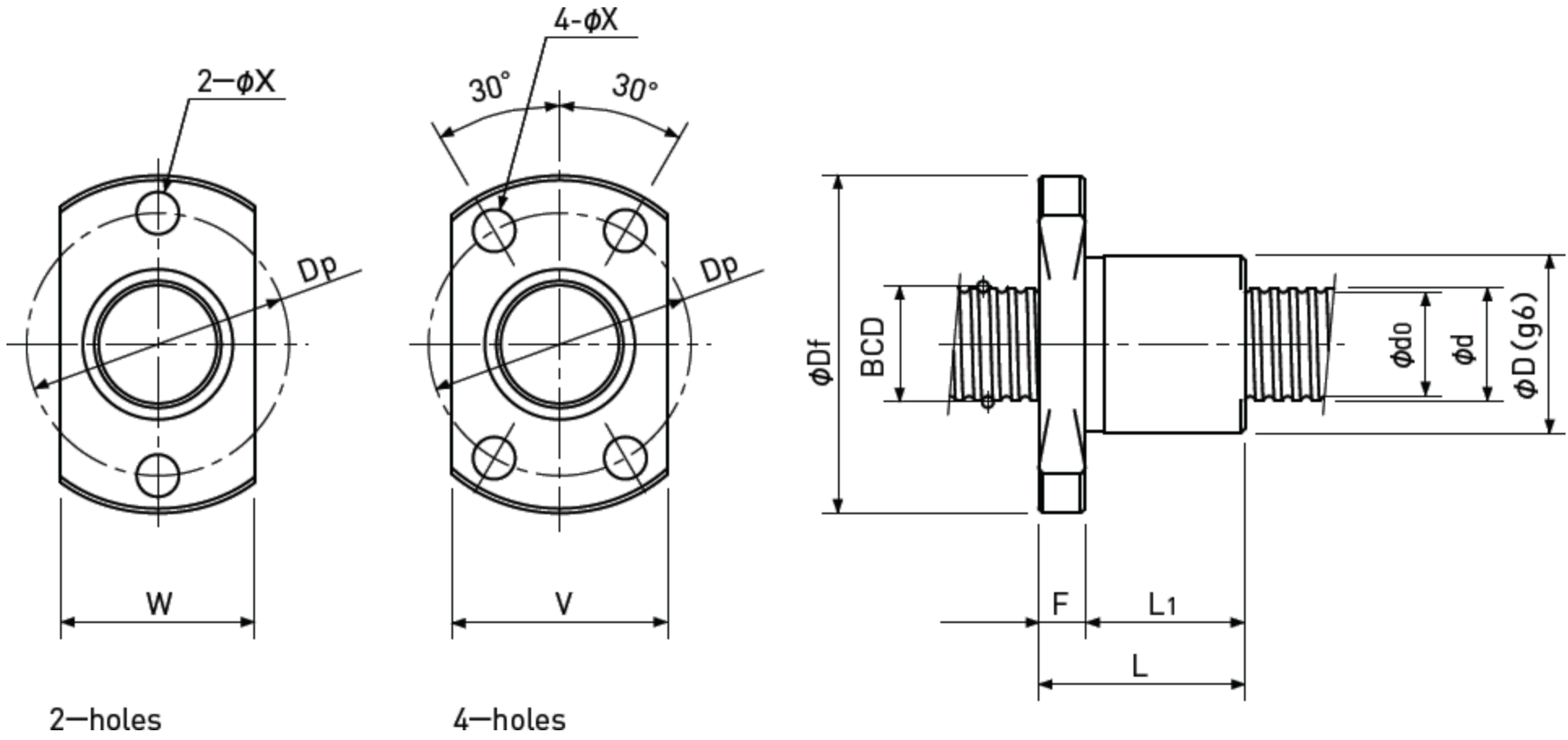
Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
		Preload type
		Backlash type

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.  
 Note 2) Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.  
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 Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
 Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.  
 Note 4) All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.  
 Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.



# Single Nut with Flange

Backlash type/Preload type

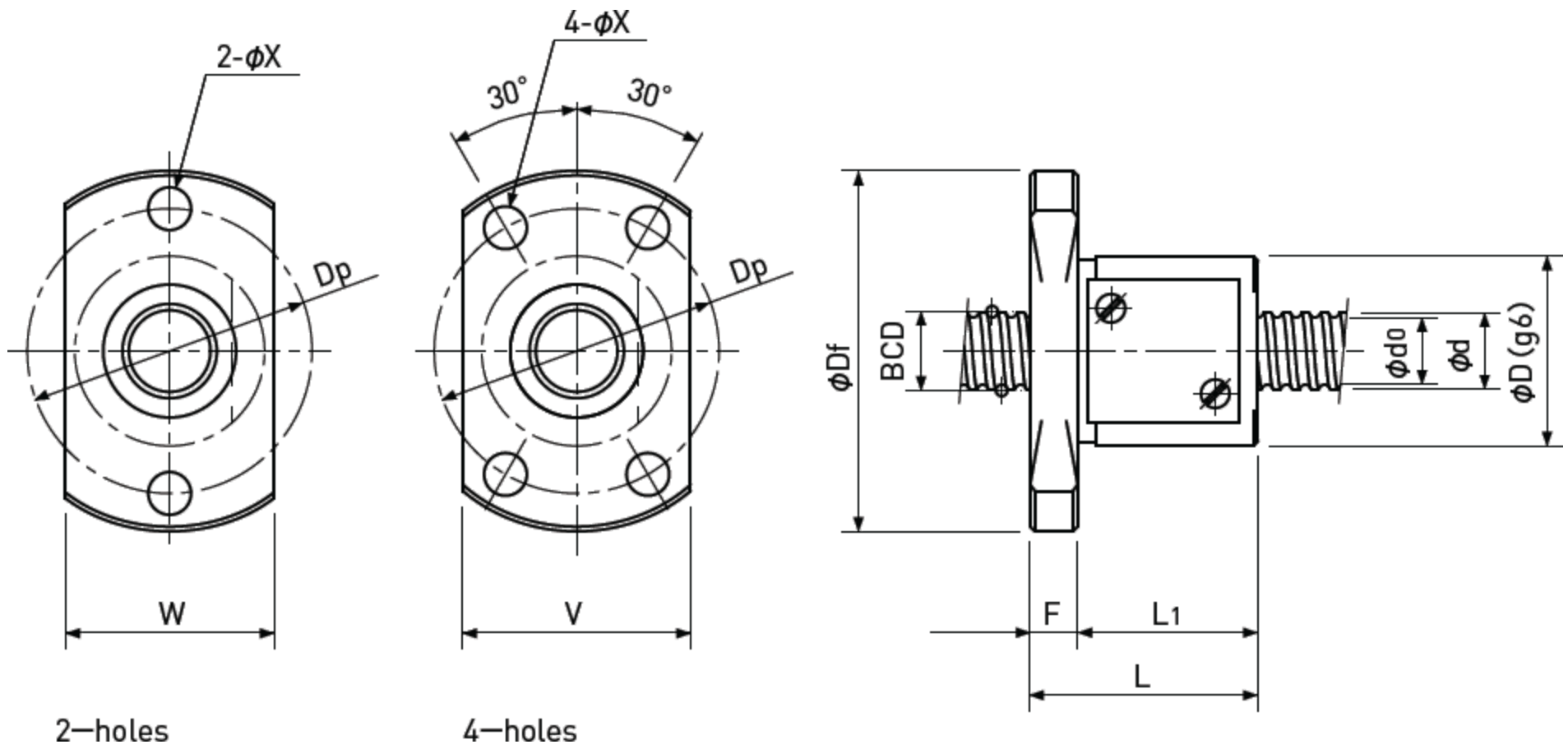


Type-2: Internal-deflector type or End-deflector type

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FBS 0500.5 A	1	11	23	13	10	3	13	□-	17	3.4
FKB 0501 A	2	10	20	13	10	3	12	14	15	2.9
FBS 0501 B	1	12	24	17	13	4	14	15	18	3.4
FBS 0504 A	1	12	24	22	18	4	14	15	18	3.4

# Single Nut with Flange

Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

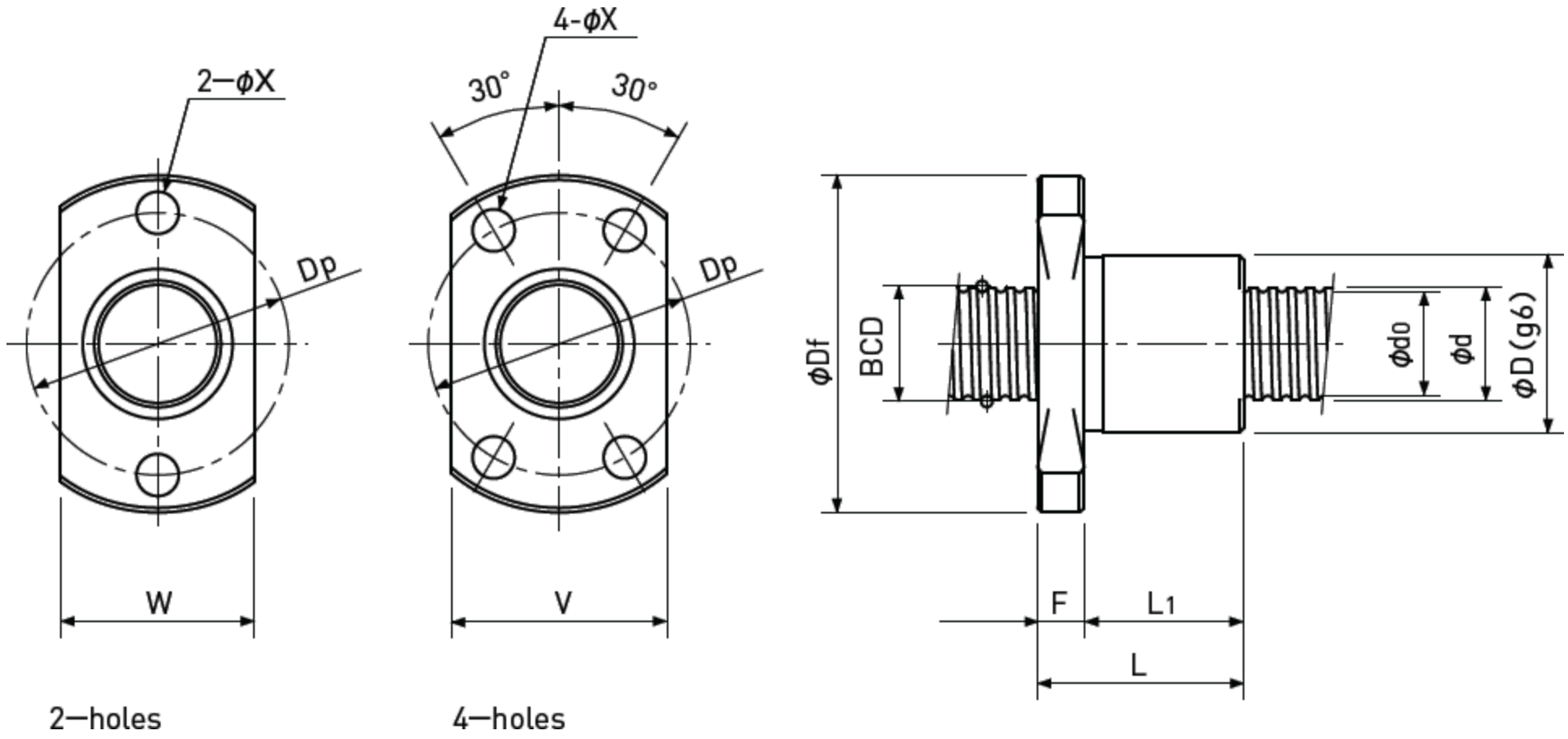
Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FBS 0600.5 A	6	0.5	0.4	6.1	1°30'	5.6	2.7□×1	190 / □-	440 / □-	50 / □-
FKB 0601 A	6	1	0.8	6.2	2°56'	5.3	1□×3	560 / 560	950 / 950	55 / 86
FBS 0601 B	6	1	0.8	6.15	2°58'	5.3	3.7□×1	680 / 430	1200 / 610	75 / 63
FBS 0601.5 B	6	1.5	1	6.2	4°24'	5.1	3.7□×1	980 / 620	1600 / 800	79 / 67
FBS 0602 A	6	2	1	6.2	5°52'	5.1	2.7□×1	750 / 470	1200 / 590	58 / 49
FBS 0602 B	6	2	1	6.2	5°52'	5.1	3.7□×1	980 / 620	1600 / 800	79 / 67
FBS 0602.5 A	6	2.5	1	6.2	7°19'	5.1	2.7□×1	750 / 470	1200 / 590	59 / 49
FEB 0606 A	6	6	1	6.3	16°52'	5.2	1.6□×2	870 / □-	1450 / □-	67 / □-
FEB 0610 A	6	10	1.2	6.3	26°48'	5	1.2□×2	950 / □-	1600 / □-	50 / □-
FEB 0612 A	6	12	1.2	6.3	31°13'	5	0.7□×2	600 / □-	950 / □-	29 / □-

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FBS 0600.5 A	1	12	25	13	10	3	14	□-	19	3.4
FKB 0601 A	2	11	23	14.5	11	3.5	13	15	17	3.4
FBS 0601 B	1	13	28	17	13	4	15	17	21.5	3.4
FBS 0601.5 B	1	14	28	19	15	4	16	17	22	3.4
FBS 0602 A	1	15	29	17	13	4	17	18	23	3.4
FBS 0602 B	1	15	29	21	17	4	17	18	23	3.4
FBS 0602.5 A	1	15	29	18	14	4	17	18	23	3.4
FEB 0606 A	3	14	27	17	8	4	□-	16	21	3.4
FEB 0610 A	3	14	27	23	11.5	4	□-	16	21	3.4
FEB 0612 A	3	14	27	16	8.3	4	□-	16	21	3.4

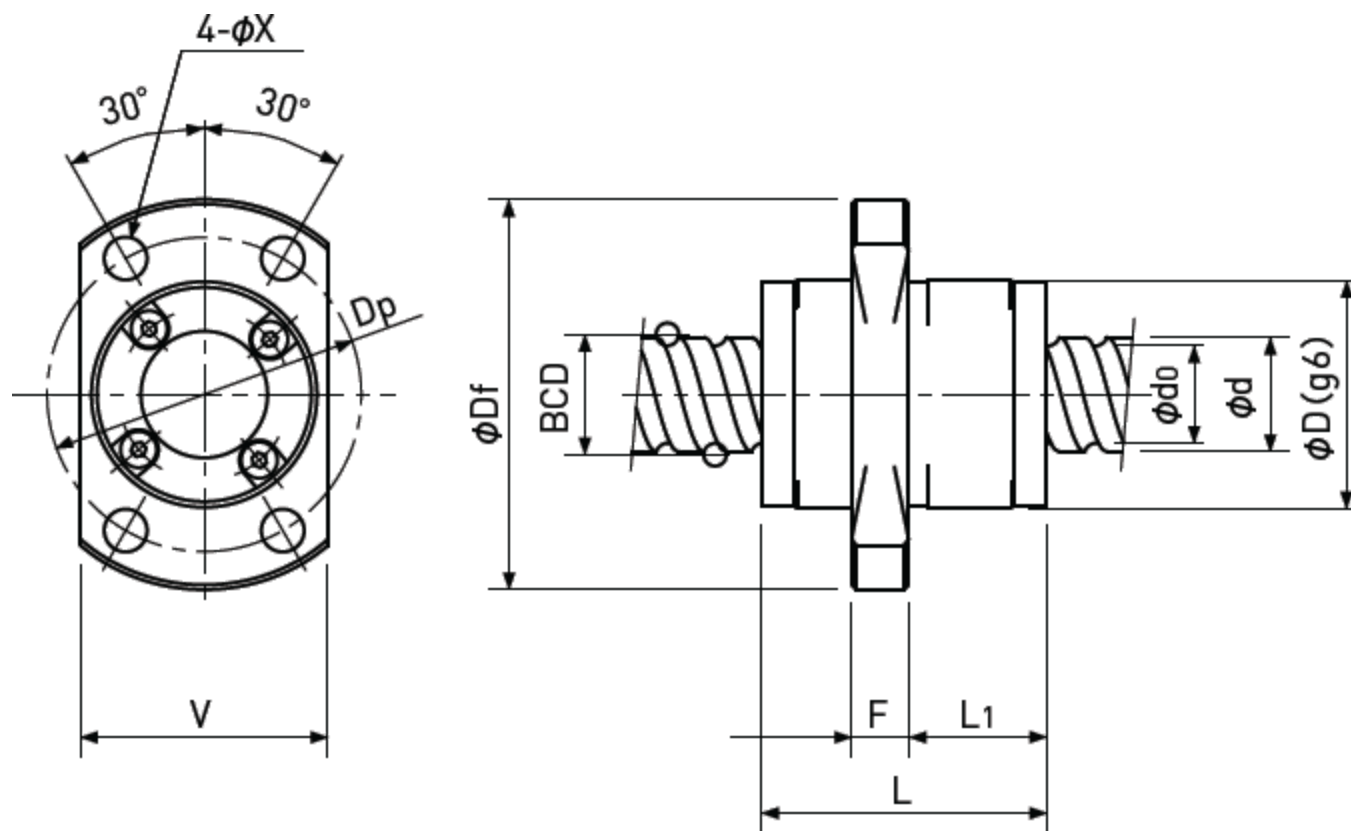
Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-2: Internal-deflector type or End-deflector type



Type-3: End-cap type or End-deflector type

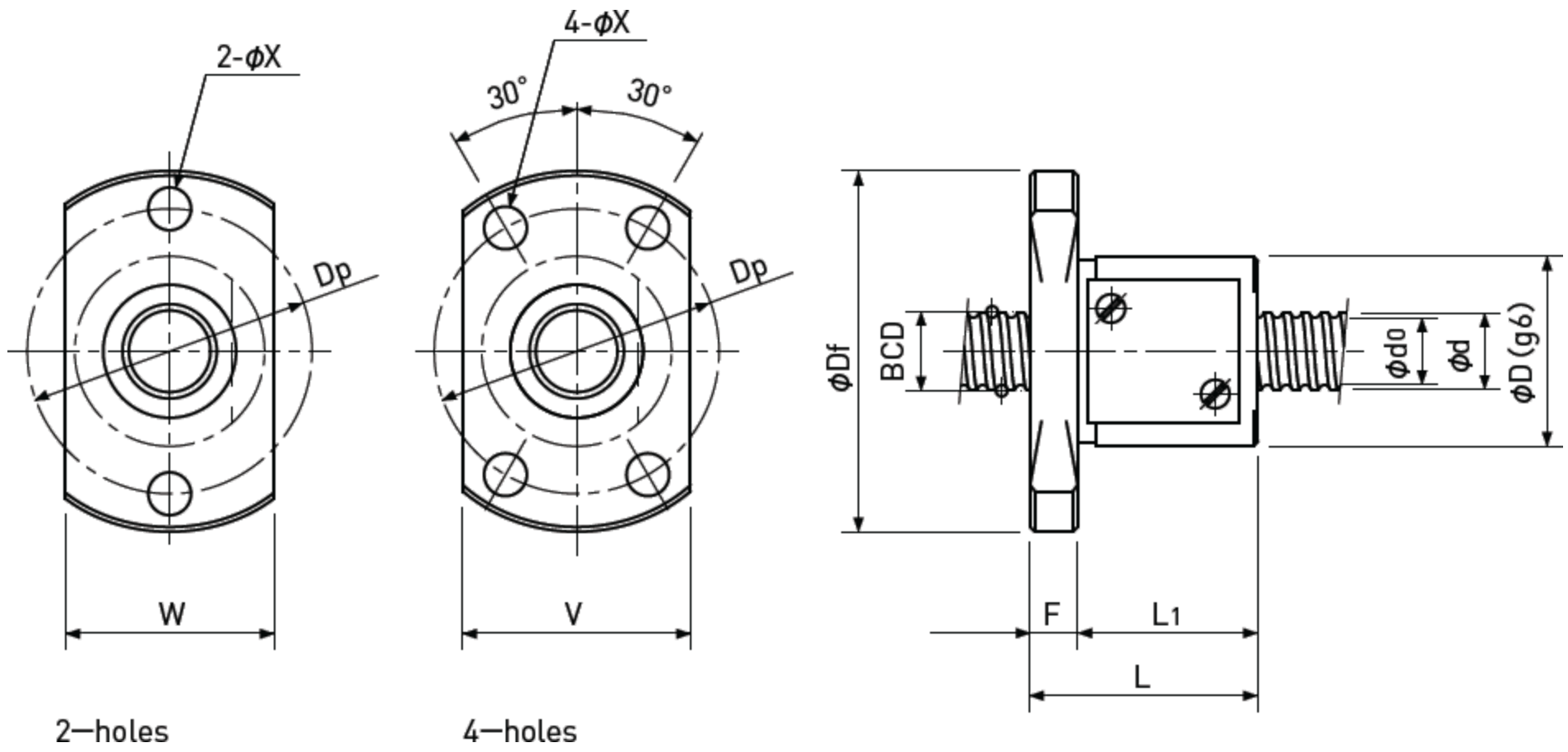
Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 50%; height: 50%; border: 1px solid black;"></div> </div>		Preload type
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 50%; height: 50%; border: 1px solid black;"></div> </div>		Backlash type

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.
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Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.
- Note 4) All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.
- Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.

Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FBS 0800.5 A	8	0.5	0.4	8.1	1°08'	7.6	2.7□×1	220 / □-	590 / □-	64 / □-
FKB 0801 A	8	1	0.8	8.2	2°13'	7.3	1□×3	650 / 650	1300 / 1300	70 / 109
FBS 0801 B	8	1	0.8	8.15	2°15'	7.3	3.7□×1	780 / 490	1650 / 820	95 / 80
FKB 0801.5 A	8	1.5	1	8.3	3°18'	7.2	1□×3	890 / 890	1650 / 1650	73 / 113
FBS 0801.5 B	8	1.5	1	8.2	3°20'	7.1	3.7□×1	1100 / 700	2200 / 1100	99 / 83
FKB 0802 A	8	2	1.2	8.3	4°23'	7	1□×3	1300 / 1300	2300 / 2300	77 / 121
FBS 0802 A□(1)	8	2	1	8.2	4°26'	7.1	2.7□×1	850 / 540	1600 / 800	74 / 61
FBS 0802 B□(1)	8	2	1	8.2	4°26'	7.1	3.7□×1	1100 / 700	2200 / 1100	99 / 83
FBS 0802 A□(2)	8	2	1.5875	8.3	4°23'	6.6	2.7□×1	1850 / 1150	3000 / 1500	82 / 69
FBS 0802 B□(2)	8	2	1.5875	8.3	4°23'	6.6	3.7□×1	2400 / 1550	4100 / 2100	111 / 94

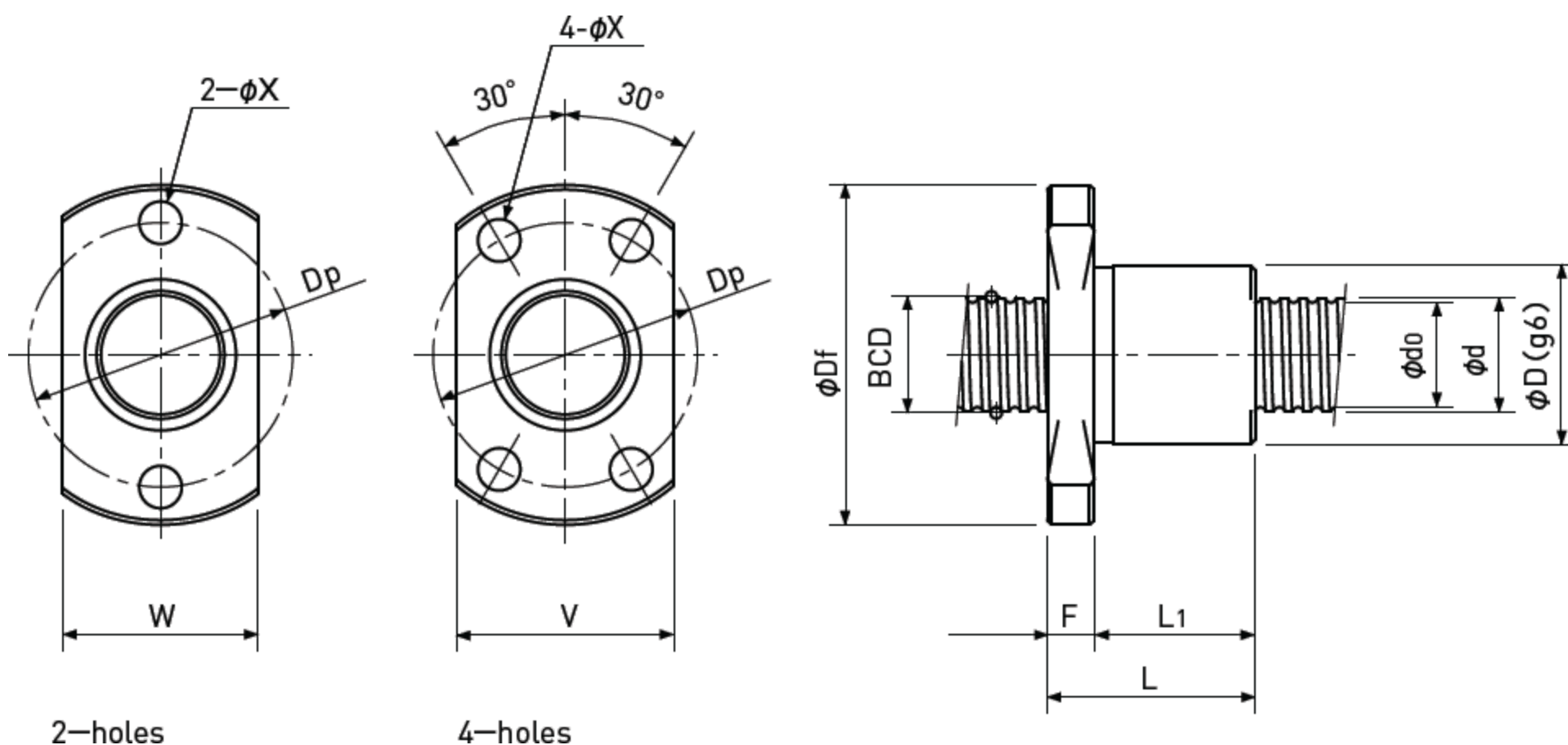
Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
		Preload type
		Backlash type

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.
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- Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.



# Single Nut with Flange

**Backlash type/Preload type**



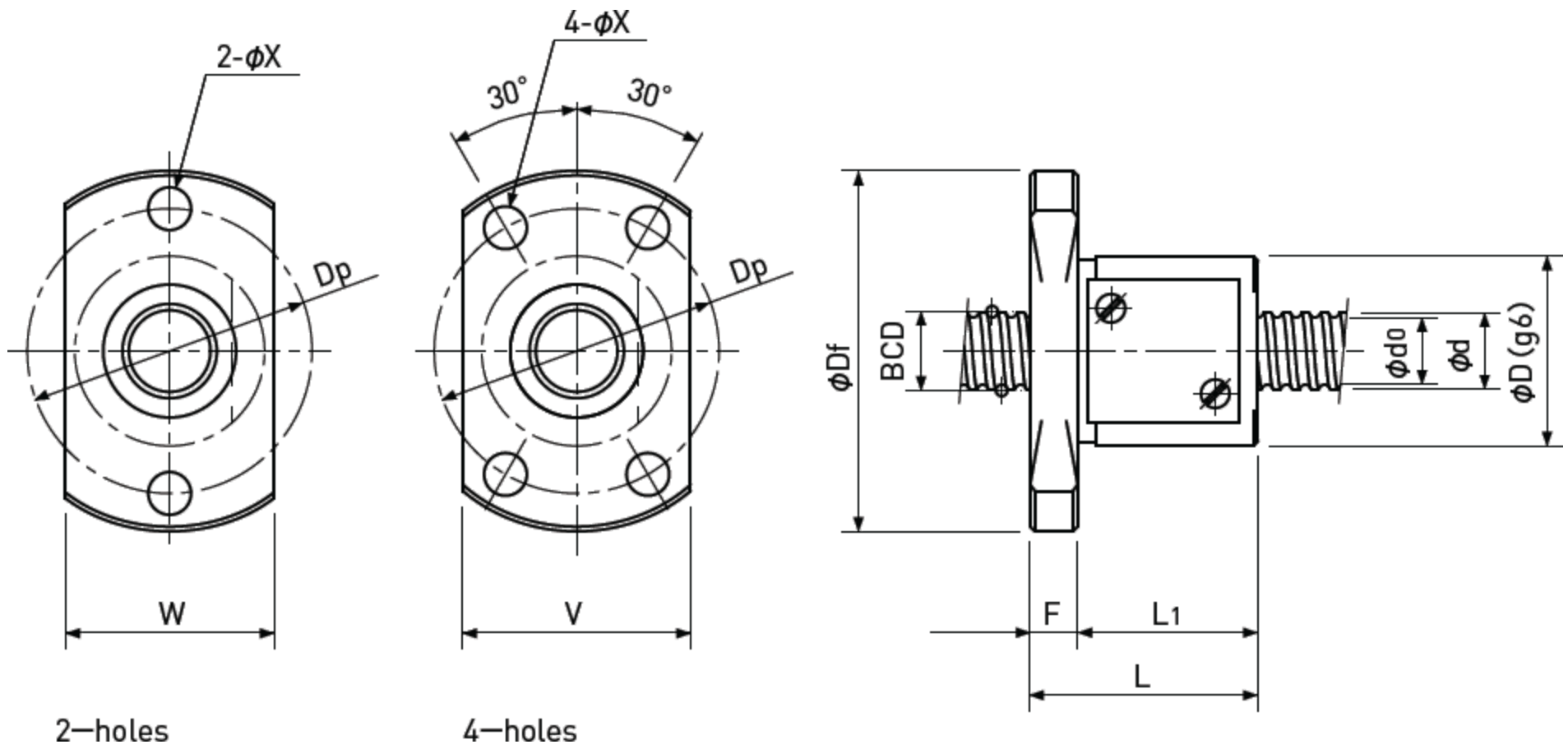
Type-2: Internal-deflector type or End-deflector type

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FBS 0800.5 A	1	14	27	13	10	3	16	□-	21	3.4
FKB 0801 A	2	13	26	15	11	4	15	17	20	3.4
FBS 0801 B	1	16	30	17	13	4	18	18	24	3.4
FKB 0801.5 A	2	15	28	20	16	4	17	19	22	3.4
FBS 0801.5 B	1	16	30	19	15	4	18	18	24	3.4
FKB 0802 A	2	15	28	18	14	4	17	19	22	3.4
FBS 0802 A□(1)	1	16	30	17	13	4	18	18	24	3.4
FBS 0802 B□(1)	1	16	30	21	17	4	18	18	24	3.4
FBS 0802 A□(2)	1	20	38	21	16	5	22	23	30	4.5
FBS 0802 B□(2)	1	20	38	24	19	5	22	23	30	4.5

Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

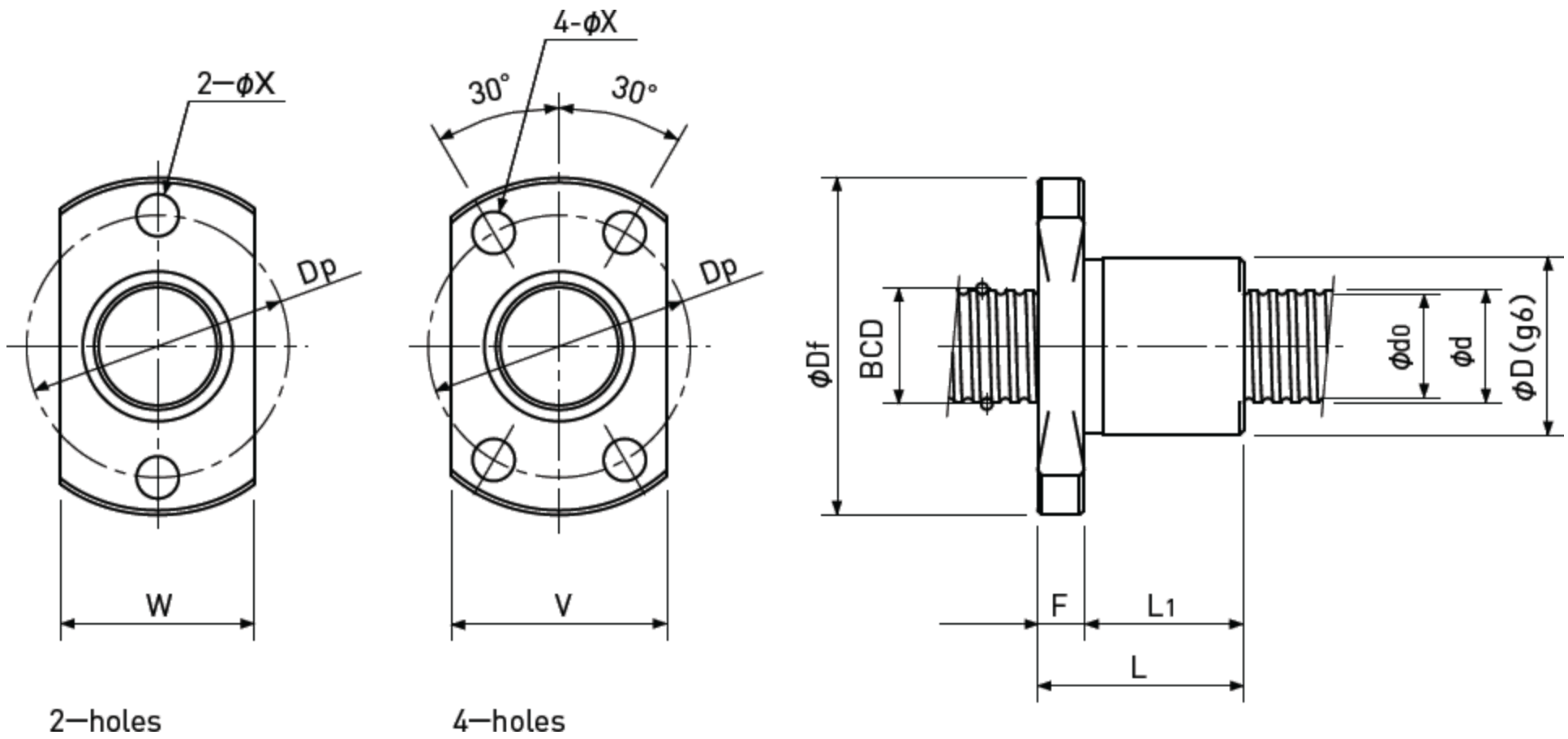
Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FDB 0802.5 A	8	2.5	1.5875	8	5°41'	6.3	2.7□×1	1850 / □-	3000 / □-	80 / □-
FBS 0802.5 A	8	2.5	1.5875	8.3	5°29'	6.6	2.7□×1	1850 / 1150	3000 / 1500	82 / 69
FBS 0802.5 B	8	2.5	1.5875	8.3	5°29'	6.6	3.7□×1	2400 / 1550	4100 / 2100	111 / 93
FBS 0803 A	8	3	2	8.3	6°34'	6.2	2.7□×1	2600 / 1650	4200 / 2100	85 / 70
FBS 0803 B	8	3	2	8.3	6°34'	6.2	3.7□×1	3500 / 2200	5700 / 2800	116 / 97
FBS 0804 A	8	4	2	8.3	8°43'	6.2	2.7□×1	2600 / 1650	4200 / 2100	84 / 70
FBS 0805 A	8	5	1.5875	8.3	10°51'	6.6	2.7□×1	1850 / 1150	3000 / 1500	82 / 67
FEB 0808 A	8	8	1.5875	8.4	16°52'	6.7	1.6□×2	2200 / □-	3800 / □-	95 / □-
FEB 0810 A	8	10	1.5875	8.4	20°45'	6.7	1.6□×2	2200 / □-	3900 / □-	92 / □-
FEB 0812 A	8	12	1.5875	8.4	24°27'	6.7	1.6□×2	2200 / □-	4000 / □-	90 / □-

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FDB 0802.5 A	2	16	29	16	12	4	□-	18	23	3.4
FBS 0802.5 A	1	20	38	23	18	5	22	23	30	4.5
FBS 0802.5 B	1	20	38	26	21	5	22	23	30	4.5
FBS 0803 A	1	20	38	25	20	5	22	23	30	4.5
FBS 0803 B	1	20	38	29	24	5	22	23	30	4.5
FBS 0804 A	1	21	39	28	23	5	23	23	31	4.5
FBS 0805 A	1	18	31	28	24	4	20	20	25	3.4
FEB 0808 A	3	18	31	20	10	4	□-	20	25	3.4
FEB 0810 A	3	18	31	24	13	4	□-	20	25	3.4
FEB 0812 A	3	18	31	27	17	4	□-	20	25	3.4

Precision Ball Screws

# Single Nut with Flange

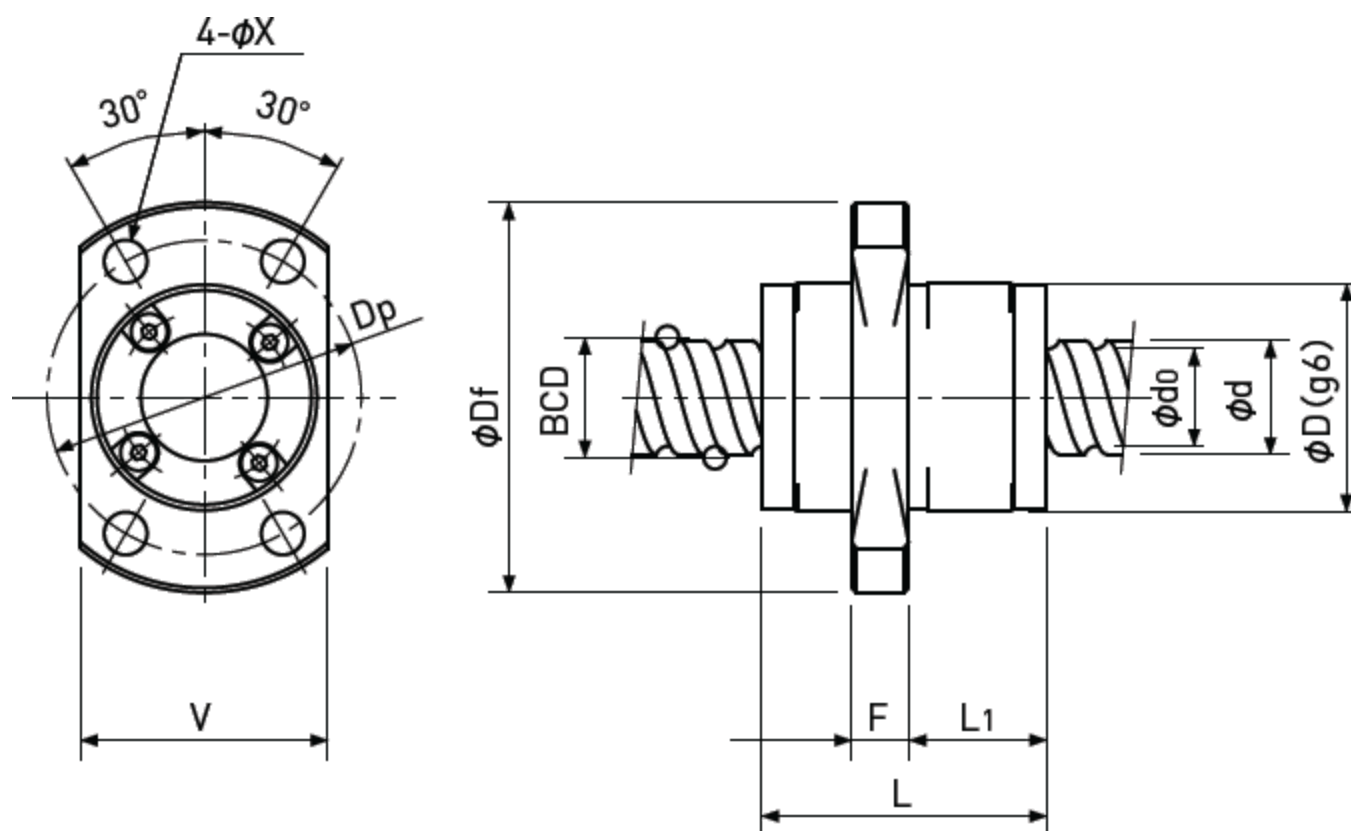
## Backlash type/Preload type



2-holes

4-holes

Type-2: Internal-deflector type or End-deflector type



Type-3: End-cap type or End-deflector type

Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
		Preload type
		Backlash type

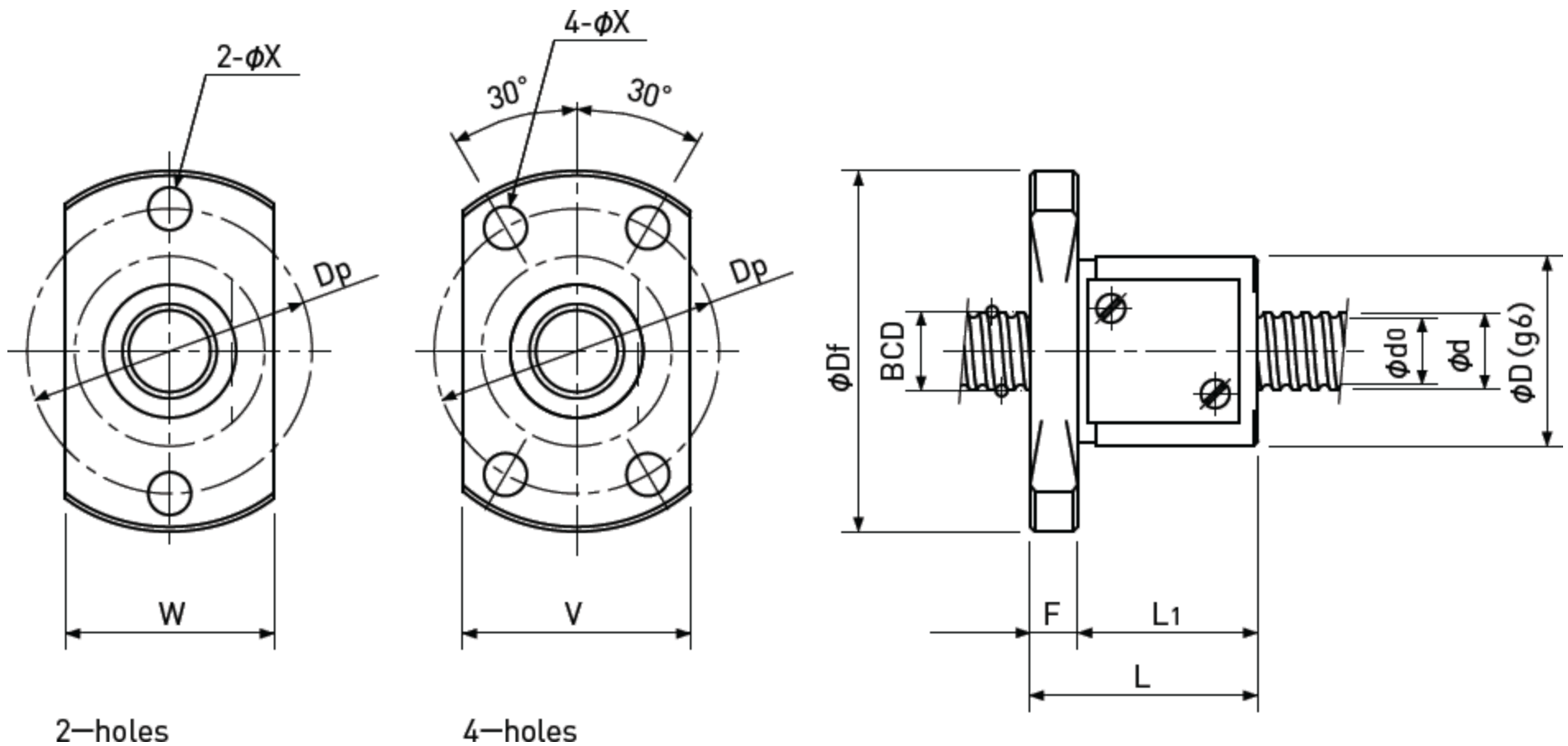
- Note 1)
- Note 2)
- Note 3)
- Note 4)
- Note 5)

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 All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.  
 Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.

Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FKB 1001 A	10	1	0.8	10.2	1°47'	9.3	1□×3	720 / 720	1650 / 1650	84 / 131
FBS 1001 B	10	1	0.8	10.15	1°48'	9.3	3.7□×1	840 / 530	2000 / 1000	113 / 95
FKB 1001.5 A	10	1.5	1	10.3	2°39'	9.2	1□×3	990 / 990	2100 / 2100	87 / 136
FBS 1001.5 B	10	1.5	1	10.2	2°41'	9.1	3.7□×1	1250 / 790	2800 / 1400	120 / 101
FKB 1002 A	10	2	1.2	10.3	3°32'	9	1□×3	1450 / 1450	3000 / 3000	93 / 144
FBS 1002 A	10	2	1.5875	10.3	3°32'	8.6	2.7□×1	2100 / 1300	3800 / 1900	100 / 82
FBS 1002 B	10	2	1.5875	10.3	3°32'	8.6	3.7□×1	2700 / 1750	5300 / 2700	134 / 112
FKB 1002.5 A	10	2.5	1.5875	10.4	4°23'	8.7	1□×3	2100 / 2100	3800 / 3800	96 / 150
FBS 1002.5 A	10	2.5	1.5875	10.3	4°25'	8.6	2.7□×1	2100 / 1300	3800 / 1900	100 / 82
FBS 1002.5 B	10	2.5	1.5875	10.3	4°25'	8.6	3.7□×1	2700 / 1750	5300 / 2700	133 / 112

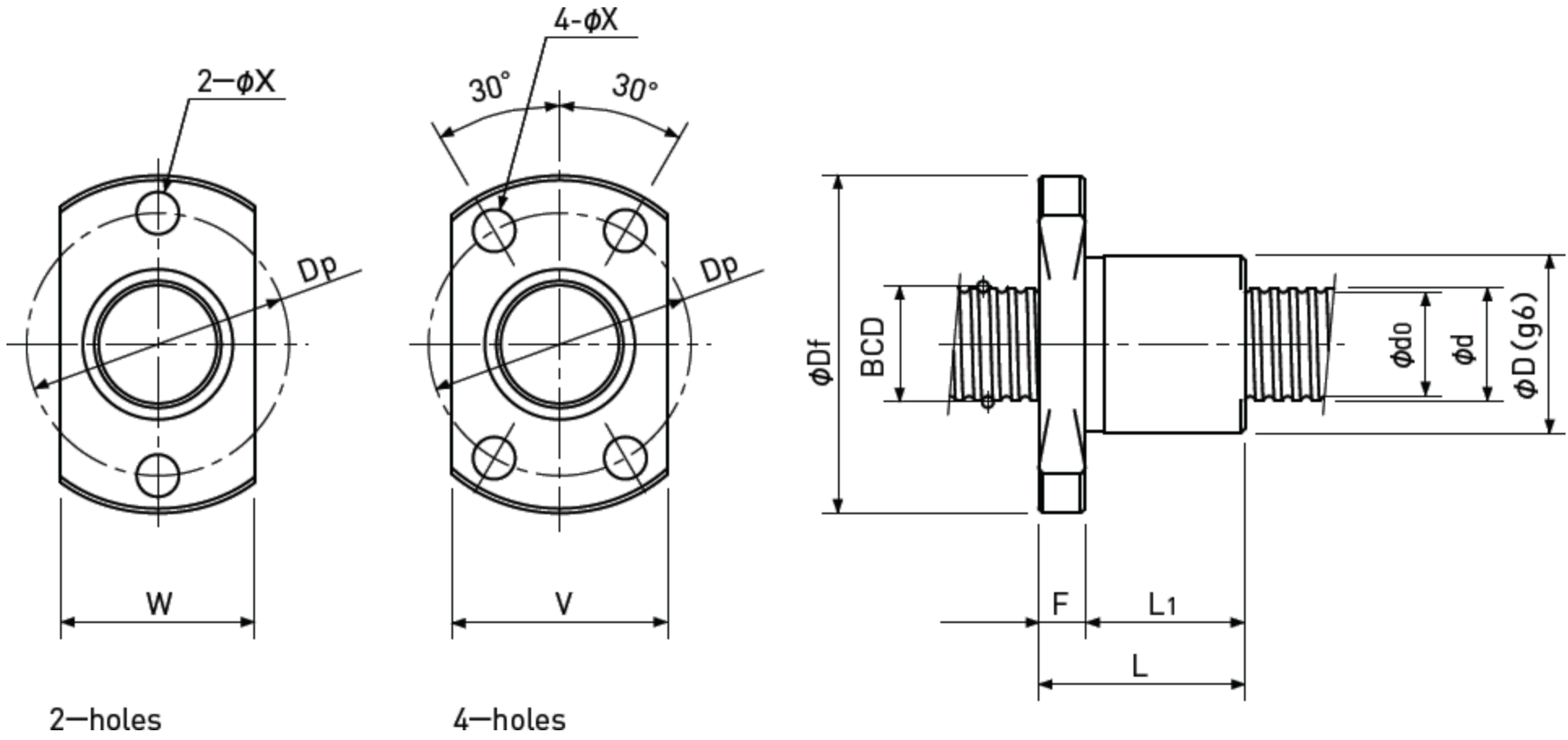
Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
		Preload type
		Backlash type

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.
- Note 2) Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.
- Note 3) The Rigidity values shown in the table are theoretical values of Ball Nut Rigidity calculated from the amount of Elastic Displacement under the following conditions.  
Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.
- Note 4) All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.
- Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.



# Single Nut with Flange

Backlash type/Preload type



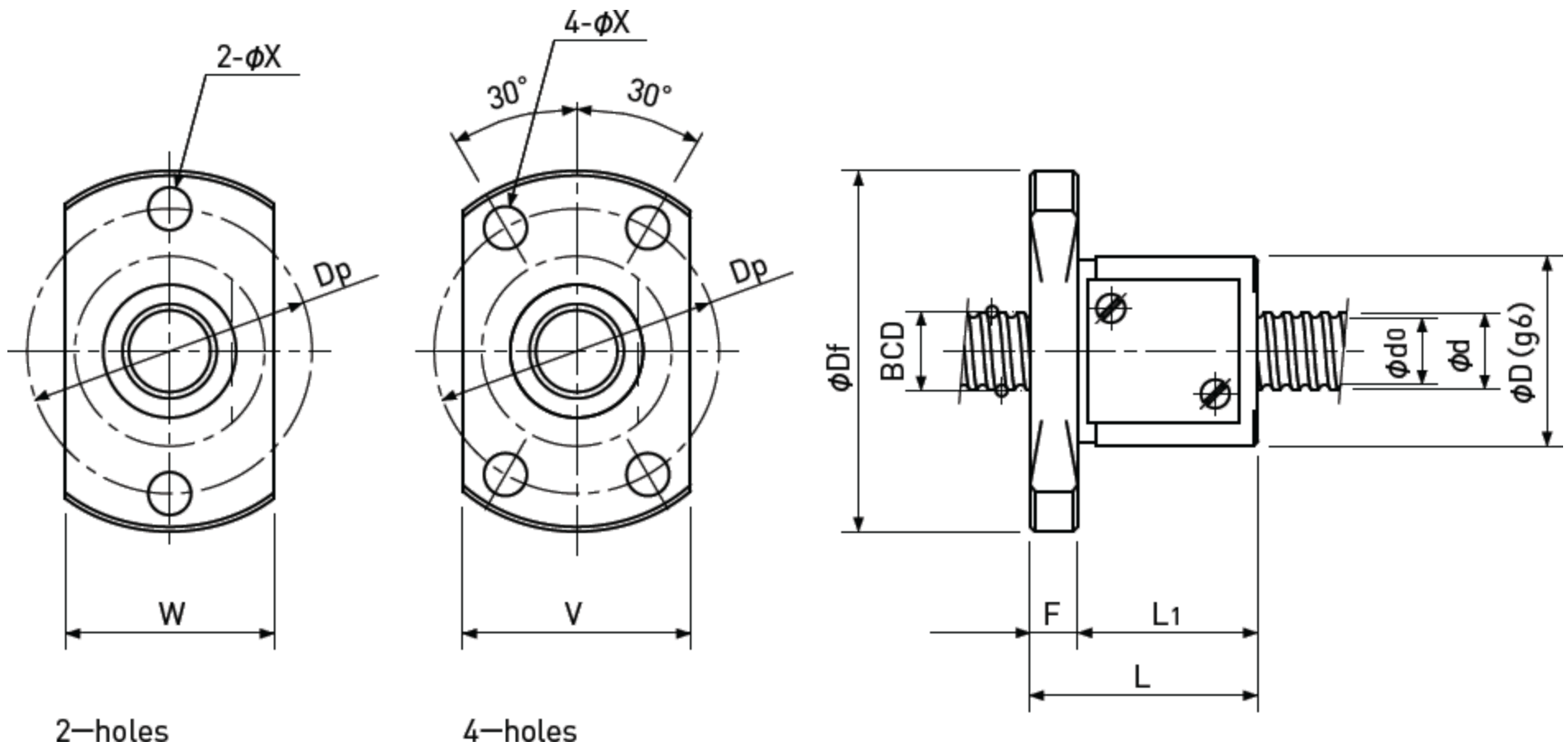
Type-2: Internal-deflector type or End-deflector type

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FKB 1001 A	2	15	28	15	11	4	17	19	22	3.4
FBS 1001 B	1	19	37	18	13	5	21	22	29	4.5
FKB 1001.5 A	2	17	34	21	16	5	19	21	26	4.5
FBS 1001.5 B	1	19	37	20	15	5	21	22	29	4.5
FKB 1002 A	2	17	34	19	14	5	19	21	26	4.5
FBS 1002 A	1	23	41	21	16	5	25	25	33	4.5
FBS 1002 B	1	23	41	24	19	5	25	25	33	4.5
FKB 1002.5 A	2	18	35	21	16	5	20	22	27	4.5
FBS 1002.5 A	1	24	44	24	18	6	26	27	35	5.5
FBS 1002.5 B	1	24	44	27	21	6	26	27	35	5.5

Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

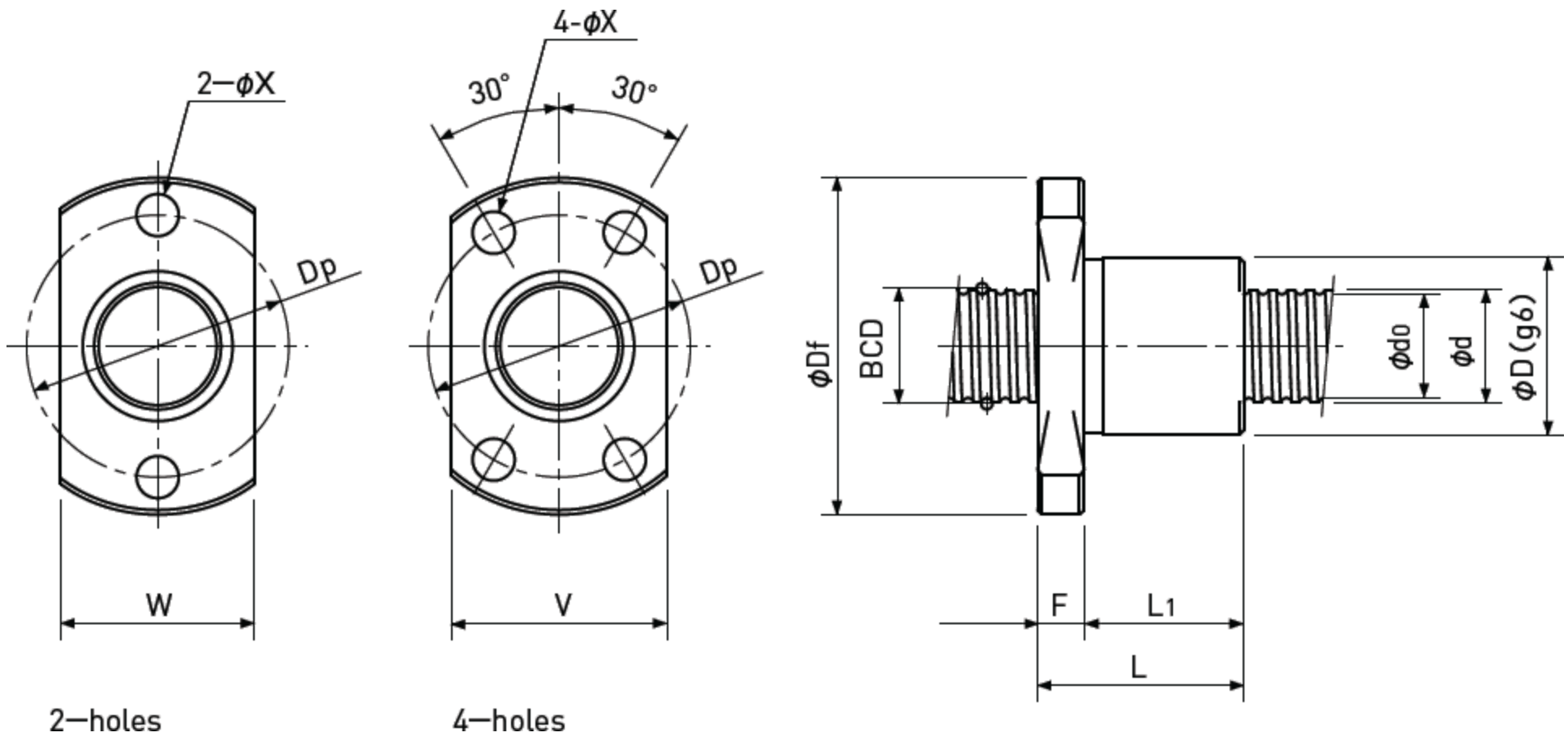
Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FBS 1003 A	10	3	2	10.3	5°18'	8.2	2.7□×1	3000 / 1800	5200 / 2600	103 / 84
FBS 1003 B	10	3	2	10.3	5°18'	8.2	3.7□×1	3900 / 2500	7200 / 3600	140 / 118
FBS 1004 A	10	4	2	10.3	7°03'	8.2	2.7□×1	3000 / 1800	5200 / 2600	104 / 86
FBS 1004 B	10	4	2	10.3	7°03'	8.2	3.7□×1	3900 / 2500	7200 / 3600	139 / 118
FDB 1005 A	10	5	2	10.3	8°47'	8.2	2.7□×1	3000 / □-	5200 / □-	103 / □-
FBS 1005 A	10	5	2	10.3	8°47'	8.2	2.7□×1	3000 / 1800	5200 / 2600	103 / 85
FEB 1010 A	10	10	2	10.5	16°52'	8.4	1.6□×2	3300 / □-	5900 / □-	117 / □-
FEB 1012 A	10	12	2	10.5	19°59'	8.4	1.6□×2	3300 / □-	6200 / □-	115 / □-
FEB 1015 A	10	15	2	10.5	24°27'	8.4	1.6□×2	3300 / □-	6400 / □-	110 / □-
FEB 1020 A	10	20	1.5875	10.4	31°28'	8.7	0.7□×4	2100 / □-	4000 / □-	88 / □-
FEB 1025 A	10	25	1.5875	10.4	37°25'	8.7	0.7□×4	2100 / □-	4000 / □-	82 / □-
FEB 1030 A	10	30	1.5875	10.4	42°33'	8.7	0.7□×4	2100 / □-	4000 / □-	76 / □-

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FBS 1003 A	1	24	44	26	20	6	26	27	35	5.5
FBS 1003 B	1	24	44	30	24	6	26	27	35	5.5
FBS 1004 A	1	24	44	29	23	6	26	27	35	5.5
FBS 1004 B	1	24	44	33	27	6	26	27	35	5.5
FDB 1005 A	2	23	40	26	21	5	□-	25	32	4.5
FBS 1005 A	1	24	44	34	28	6	26	27	35	5.5
FEB 1010 A	3	23	40	24	13	5	□-	25	32	4.5
FEB 1012 A	3	23	40	28	17	5	□-	25	32	4.5
FEB 1015 A	3	23	40	33	22	5	□-	25	32	4.5
FEB 1020 A	3	20	37	23	13	5	□-	22	29	4.5
FEB 1025 A	3	20	37	27.5	17.5	5	□-	22	29	4.5
FEB 1030 A	3	20	37	31.5	21.7	5	□-	22	29	4.5

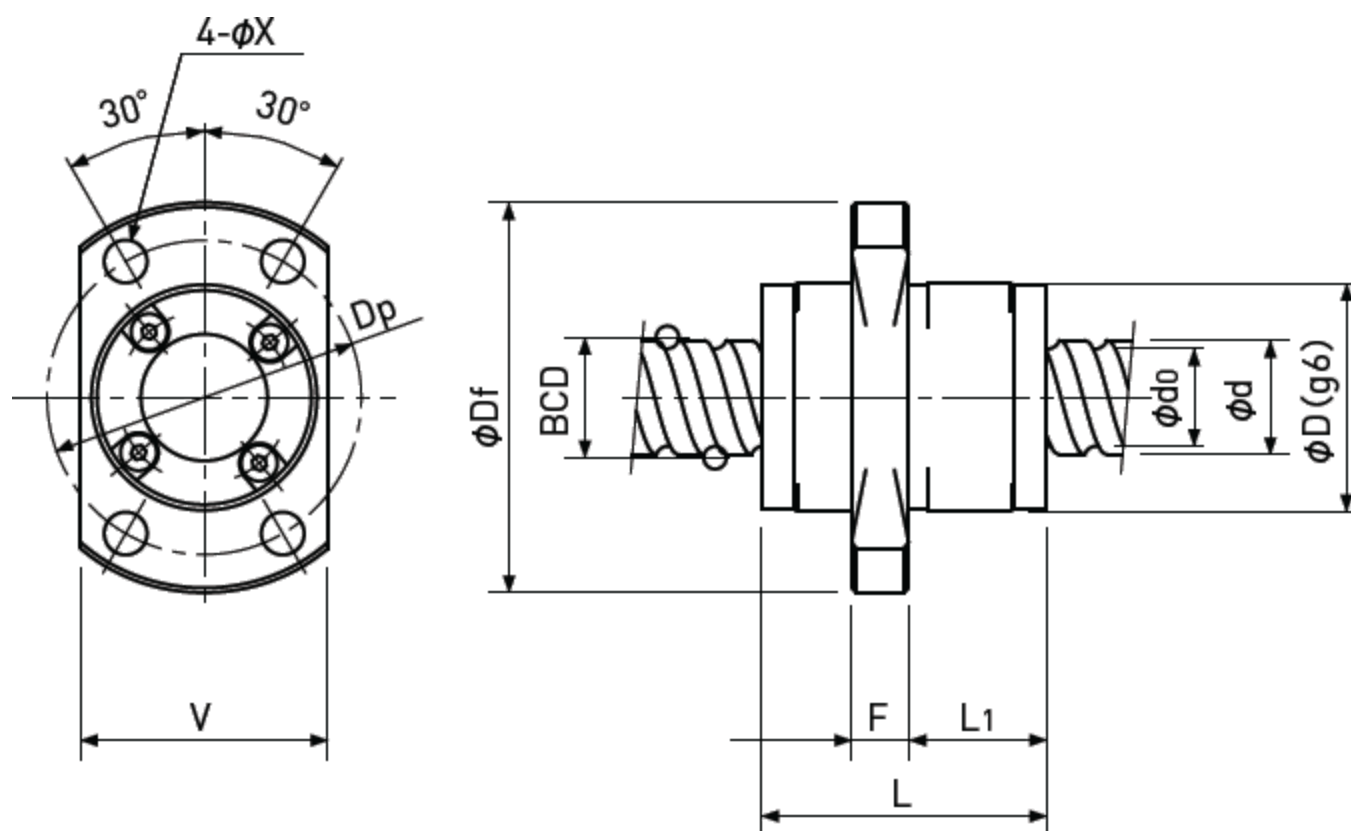
Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-2: Internal-deflector type or End-deflector type



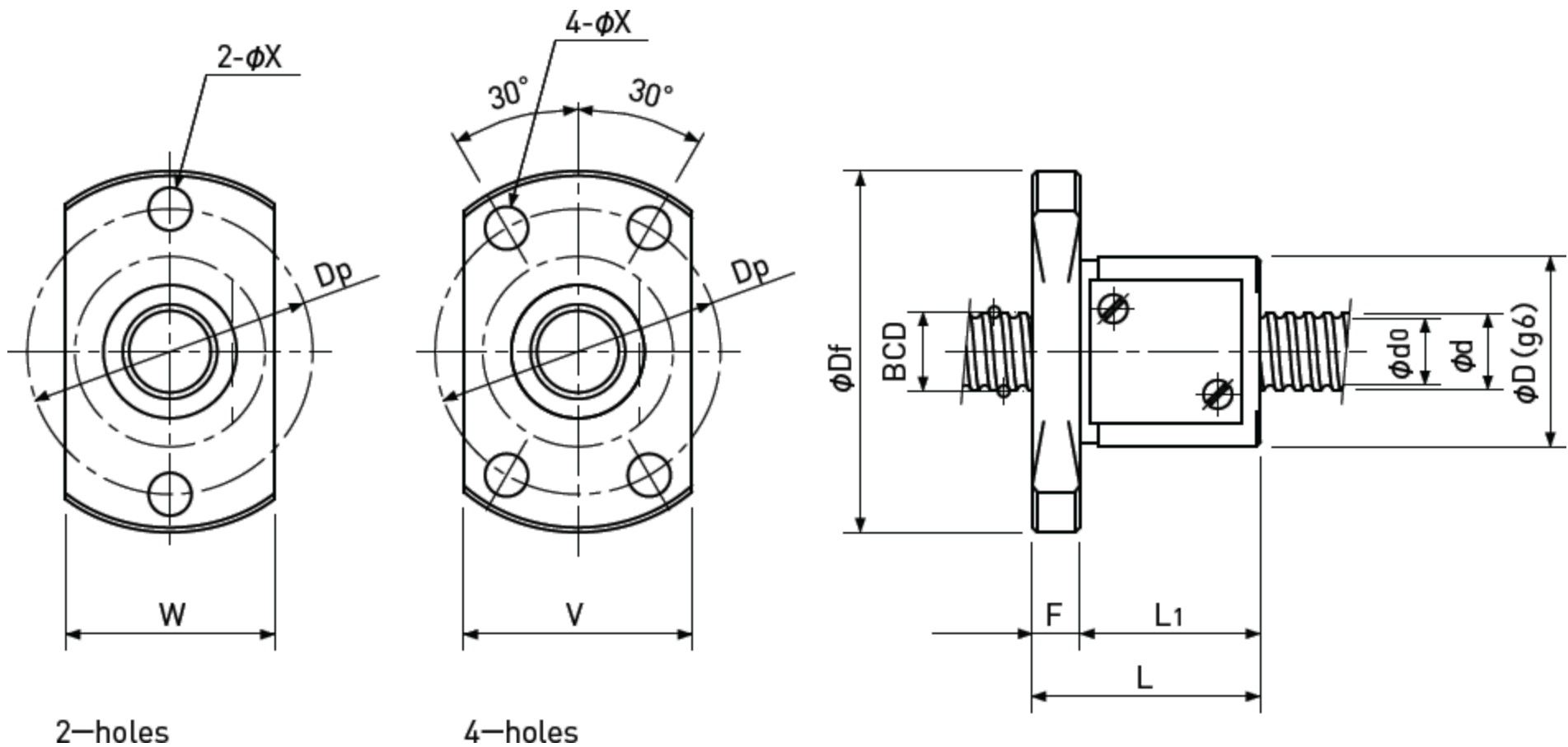
Type-3: End-cap type or End-deflector type

Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 50%; height: 50%; border: 1px solid black;"></div> </div>		Preload type
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 50%; height: 50%; border: 1px solid black;"></div> </div>		Backlash type

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.
- Note 2) Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.
- Note 3) The Rigidity values shown in the table are theoretical values of Ball Nut Rigidity calculated from the amount of Elastic Displacement under the following conditions.  
Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.
- Note 4) All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.
- Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.

# Single Nut with Flange

Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FKB 1201 A	12	1	0.8	12.2	1°30'	11.3	1□×3	780 / 780	2000 / 2000	97 / 152
FBS 1201 B	12	1	0.8	12.15	1°30'	11.3	3.7□×1	910 / 570	2400 / 1200	131 / 110
FKB 1202 A	12	2	1.2	12.3	2°58'	11	1□×3	1600 / 1600	3700 / 3700	109 / 169
FBS 1202 B	12	2	1.5875	12.3	2°58'	10.6	3.7□×1	3000 / 1900	6400 / 3200	156 / 132
FKB 1202.5 A	12	2.5	1.5875	12.4	3°41'	10.7	1□×3	2300 / 2300	4700 / 4700	112 / 174
FBS 1202.5 B	12	2.5	1.5875	12.3	3°42'	10.6	3.7□×1	3000 / 1850	6400 / 3200	156 / 130
FKB 1203 A	12	3	2	12.5	4°22'	10.4	1□×3	3100 / 3100	5700 / 5700	115 / 179
FBS 1203 B	12	3	2	12.3	4°26'	10.2	3.7□×1	4300 / 2800	8700 / 4300	162 / 137
FBS 1204 B	12	4	2.381	12.3	5°55'	9.8	3.7□×1	5400 / 3400	10200 / 5100	165 / 139
FBS 1205 A	12	5	2.381	12.3	7°22'	9.8	2.7□×1	4100 / 2500	7400 / 3700	122 / 101
FEB 1210 A	12	10	2.381	12.65	14°7'	10.2	1.7□×2	5100 / □-	9800 / □-	152 / □-

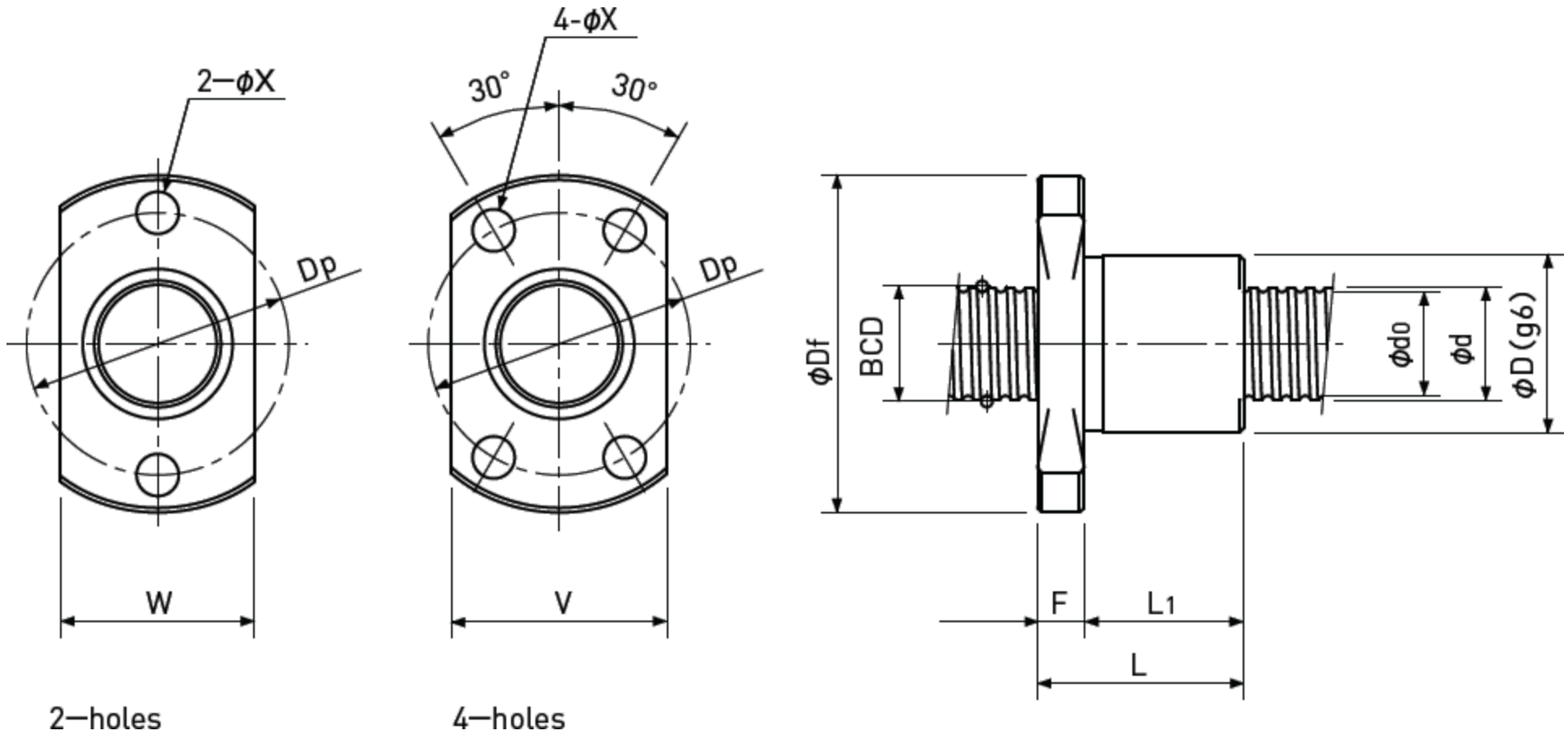
Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FKB 1201 A	2	17	34	16	11	5	19	21	26	4.5
FBS 1201 B	1	22	40	18	13	5	24	24	32	4.5
FKB 1202 A	2	19	36	19	14	5	21	23	28	4.5
FBS 1202 B	1	25	45	25	19	6	27	27	36	5.5
FKB 1202.5 A	2	20	37	21	16	5	22	24	29	4.5
FBS 1202.5 B	1	26	46	27	21	6	28	28	37	5.5
FKB 1203 A	2	22	41	32	26	6	24	26	32	5.5
FBS 1203 B	1	28	48	30	24	6	30	30	39	5.5
FBS 1204 B	1	28	48	33	27	6	30	30	39	5.5
FBS 1205 A	1	28	48	33	27	6	30	30	39	5.5
FEB 1210 A	3	24	41	30	14.5	6	□-	26	33	4.5



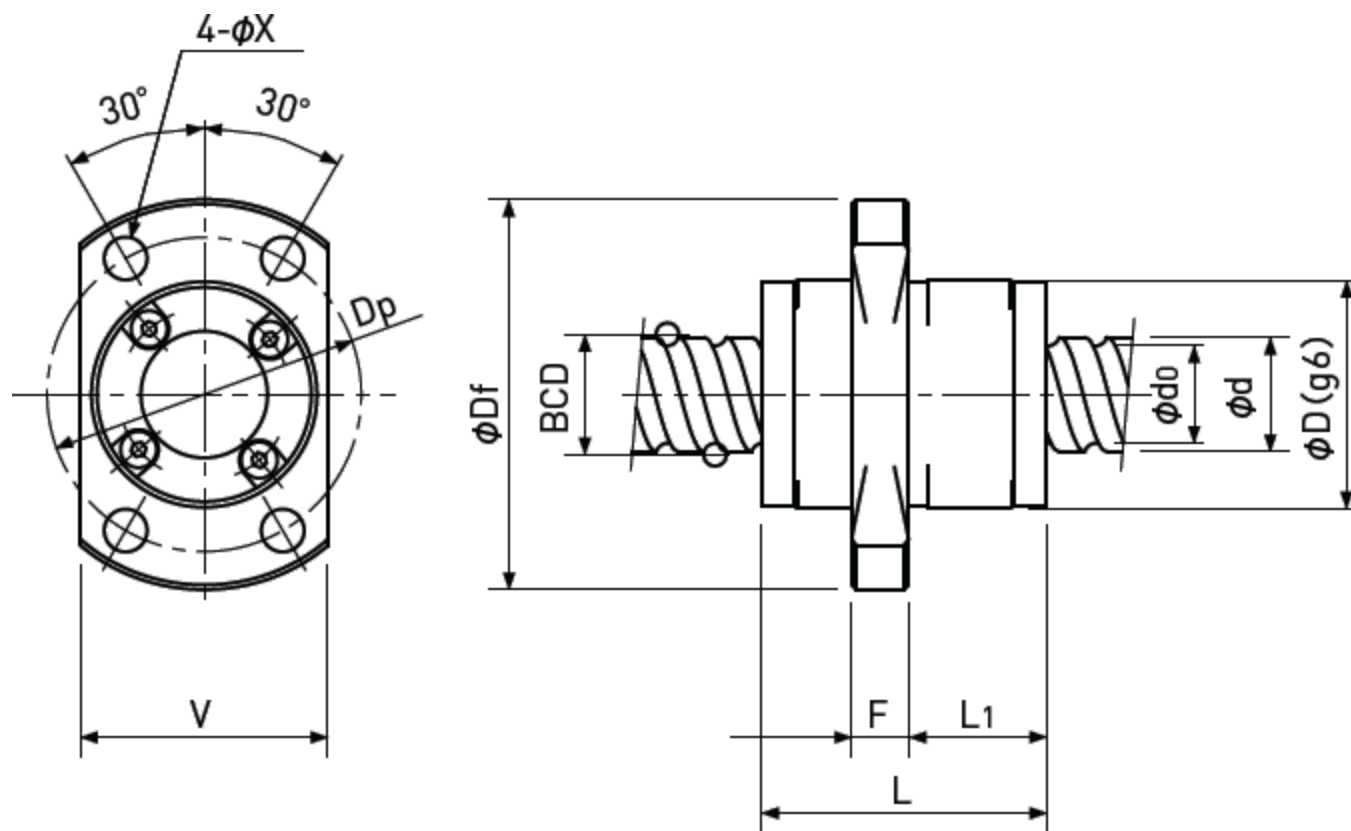
Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-2: Internal-deflector type or End-deflector type



Type-3: End-cap type or End-deflector type

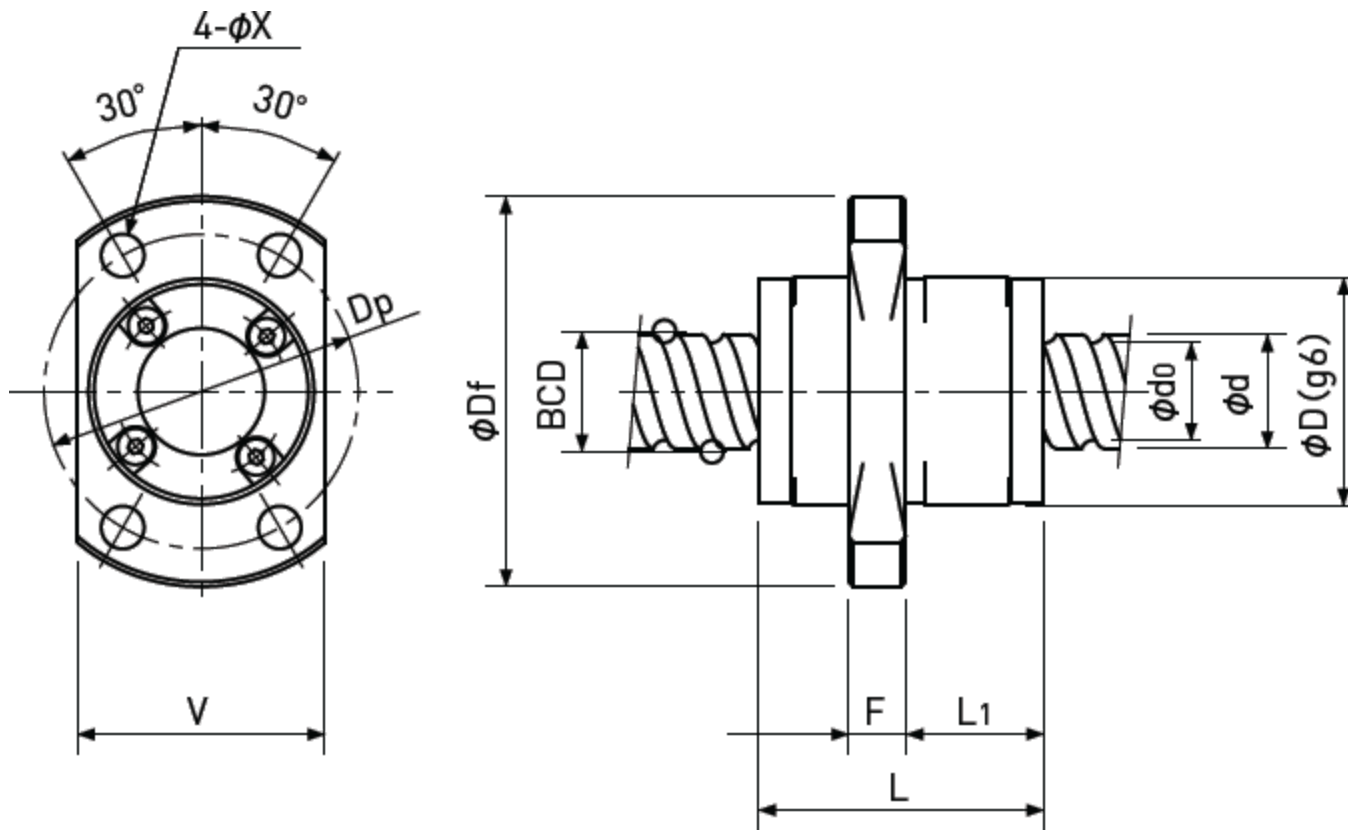
Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 50%; height: 50%; border: 1px solid black;"></div> </div>		Preload type
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 50%; height: 50%; border: 1px solid black;"></div> </div>		Backlash type

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.
- Note 2) Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.
- Note 3) The Rigidity values shown in the table are theoretical values of Ball Nut Rigidity calculated from the amount of Elastic Displacement under the following conditions.  
Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.
- Note 4) All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.
- Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.

Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-3: End-cap type or End-deflector type

Unit : mm

Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FEB 1312 A	13	12	2.381	13.5	15°48'	11	1.6□×2	5000 / □-	9900 / □-	151 / □-
FEB 1315 A	13	15	2.381	13.5	19°29'	11	1.6□×2	5000 / □-	10300 / □-	147 / □-
FEB 1320 A	13	20	2.381	13.5	25°15'	11	1.6□×2	5000 / □-	10700 / □-	142 / □-

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FEB 1312 A	3	28	45	30	17	5	□-	30	37	4.5
FEB 1315 A	3	28	45	35	22	5	□-	30	37	4.5
FEB 1320 A	3	28	45	43	29	5	□-	30	37	4.5

Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
<input type="checkbox"/> Preload type <input type="checkbox"/> Backlash type		

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.  
 Note 2) Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.  
 Note 3) The Rigidity values shown in the table are theoretical values of Ball Nut Rigidity calculated from the amount of Elastic Displacement under the following conditions.  
 Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
 Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.  
 Note 4) All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.  
 Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.



Precision Ball Screws

# Single Nut with Flange

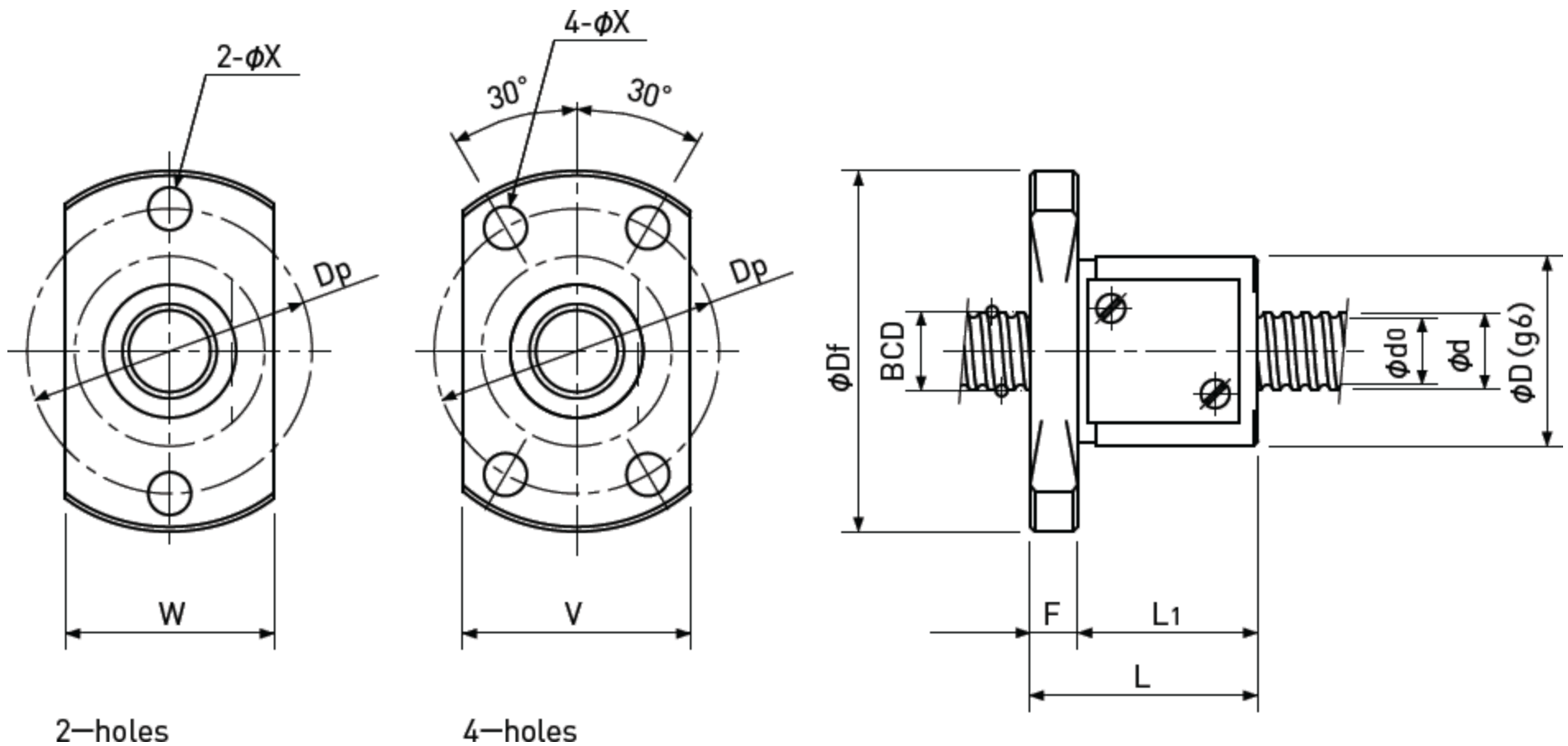
## Backlash type/Preload type



Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FBS 1401 B	14	1	0.8	14.15	1°17'	13.3	3.7□×1	960 / 610	2900 / 1450	148 / 124
FKB 1402 A	14	2	1.2	14.3	2°33'	13	1□×3	1700 / 1700	4300 / 4300	122 / 190
FBS 1402 B	14	2	1.5875	14.3	2°33'	12.6	3.7□×1	3200 / 2000	7500 / 3800	176 / 148
FKB 1402.5 A	14	2.5	1.5875	14.4	3°10'	12.7	1□×3	2500 / 2500	5600 / 5600	127 / 197
FBS 1402.5 B	14	2.5	1.5875	14.3	3°11'	12.6	3.7□×1	3200 / 2000	7500 / 3700	176 / 148
FKB 1403 A	14	3	2	14.5	3°46'	12.4	1□×3	3400 / 3400	6800 / 6800	131 / 204
FBS 1403 B	14	3	2	14.3	3°49'	12.2	3.7□×1	4600 / 2900	10100 / 5000	184 / 154
FKB 1404 A	14	4	2.381	14.65	4°58'	11.9	1□×3	4500 / 4500	8600 / 8600	136 / 212
FBS 1404 B	14	4	2.381	14.3	5°05'	11.8	3.7□×1	5700 / 3600	11600 / 5800	187 / 157
FBS 1405 B	14	5	2.381	14.3	6°21'	11.8	3.7□×1	5700 / 3600	11600 / 5800	186 / 157

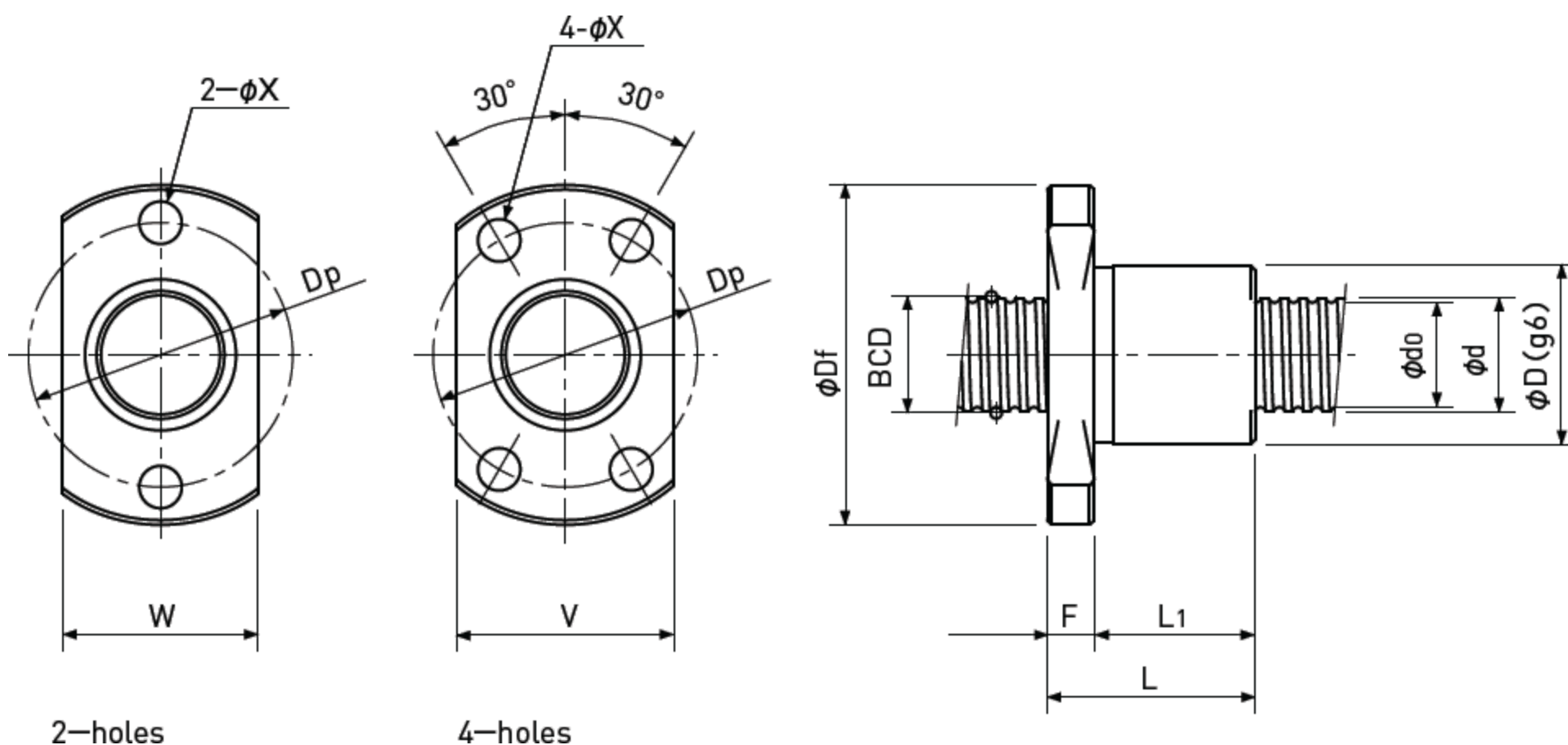
Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 50%; height: 50%; border: 1px solid black;"></div> </div>		Preload type
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; width: 50%; height: 50%; border: 1px solid black;"></div> </div>		Backlash type

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.
- Note 2) Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.
- Note 3) The Rigidity values shown in the table are theoretical values of Ball Nut Rigidity calculated from the amount of Elastic Displacement under the following conditions.  
Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.
- Note 4) All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.
- Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.



# Single Nut with Flange

Backlash type/Preload type



2-holes

4-holes

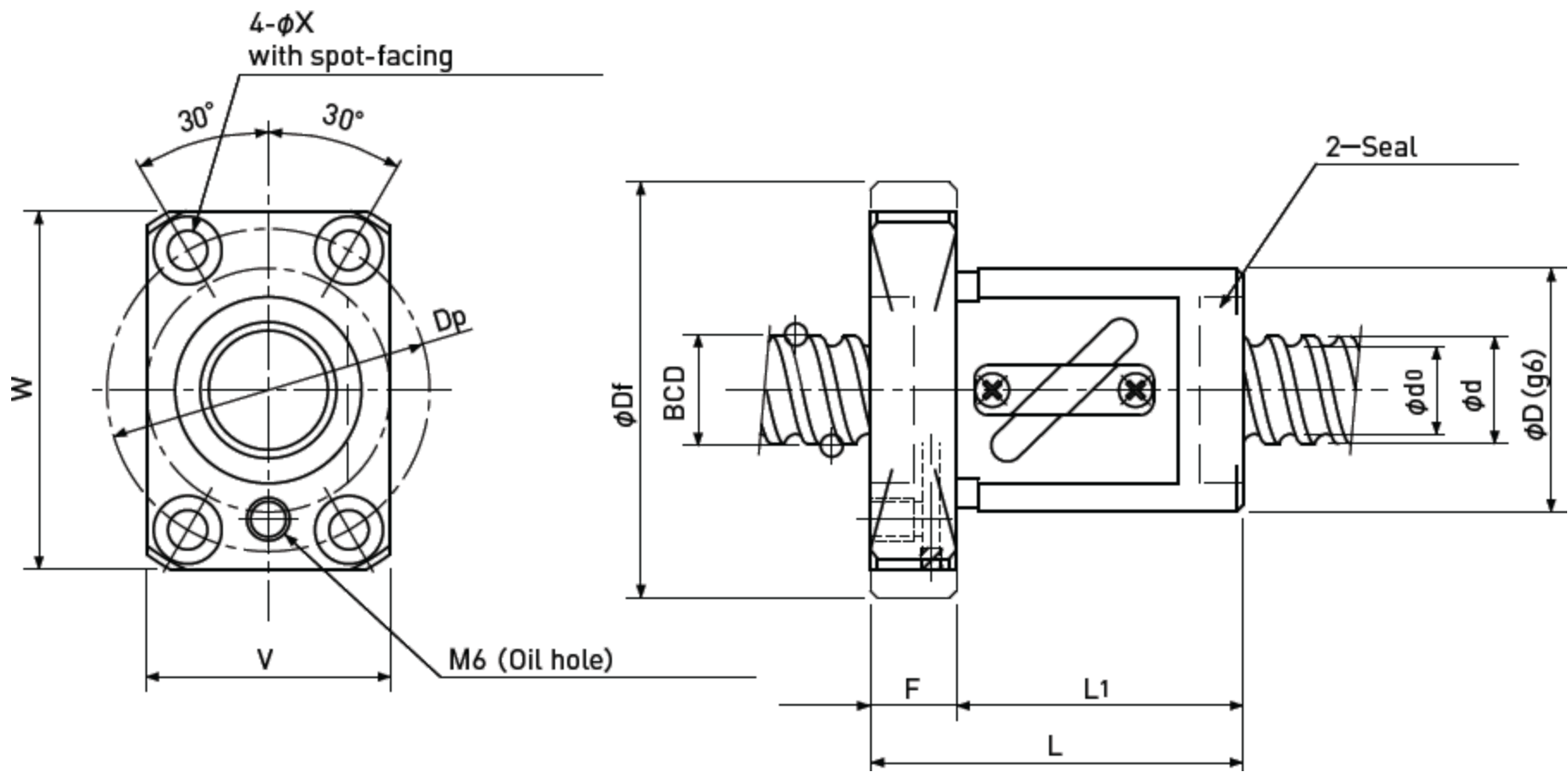
Type-2: Internal-deflector type or End-deflector type

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FBS 1401 B	1	26	46	21	15	6	28	28	37	5.5
FKB 1402 A	2	21	40	20	14	6	23	26	31	5.5
FBS 1402 B	1	26	46	25	19	6	28	28	37	5.5
FKB 1402.5 A	2	22	41	22	16	6	24	26	32	5.5
FBS 1402.5 B	1	28	48	27	21	6	30	30	39	5.5
FKB 1403 A	2	24	43	32	26	6	26	27	34	5.5
FBS 1403 B	1	30	51	30	24	6	32	32	42	5.5
FKB 1404 A	2	26	45	29	23	6	28	28	36	5.5
FBS 1404 B	1	30	51	33	27	6	32	32	42	5.5
FBS 1405 B	1	30	51	39	33	6	32	32	42	5.5

Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-4: Return-tube type

Unit : mm

Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FBS 1504 T	15	4	2.381	15.5	4°42'	13	2.5□×1	4100 / 2580	8550 / 4300	136 / 112
FEB 1505 A□(1)	15	5	3.175	15.5	5°41'	12.2	3.7□×1	8900 / □-	17000 / □-	208 / □-
FEB 1505 A□(2)	15	5	3.175	15.5	5°41'	12.2	3.7□×1	8900 / □-	17000 / □-	208 / □-
FBS 1505 T	15	5	3.175	15.8	5°45'	12.4	2.5□×1	6900 / 4350	12500 / 6250	148 / 122
FEB 1510 A□(1)	15	10	3.175	15.5	11°36'	12.2	2.7□×2	12000 / □-	25000 / □-	289 / □-
FEB 1510 A□(2)	15	10	3.175	15.5	11°36'	12.2	2.7□×2	12000 / □-	25000 / □-	289 / □-
FBS 1510 T	15	10	3.175	15.8	11°23'	12.4	1.5□×1	4400 / 2540	7900 / 3450	87 / 69
FEB 1520 A□(1)	15	20	3.175	15.75	22°1'	12.4	1.7□×2	8000 / □-	16000 / □-	178 / □-
FEB 1520 A□(2)	15	20	3.175	15.75	22°1'	12.4	1.7□×2	8000 / □-	16000 / □-	178 / □-
FBS 1520 T	15	20	3.175	15.8	21°56'	12.4	1.5□×1	4400 / 2540	7900 / 3450	84 / 67
FEB 1530 A□(1)	15	30	3.175	15.75	31°14'	12.4	1.7□×2	8000 / □-	16000 / □-	163 / □-
FEB 1530 A□(2)	15	30	3.175	15.75	31°14'	12.4	1.7□×2	8000 / □-	16000 / □-	163 / □-

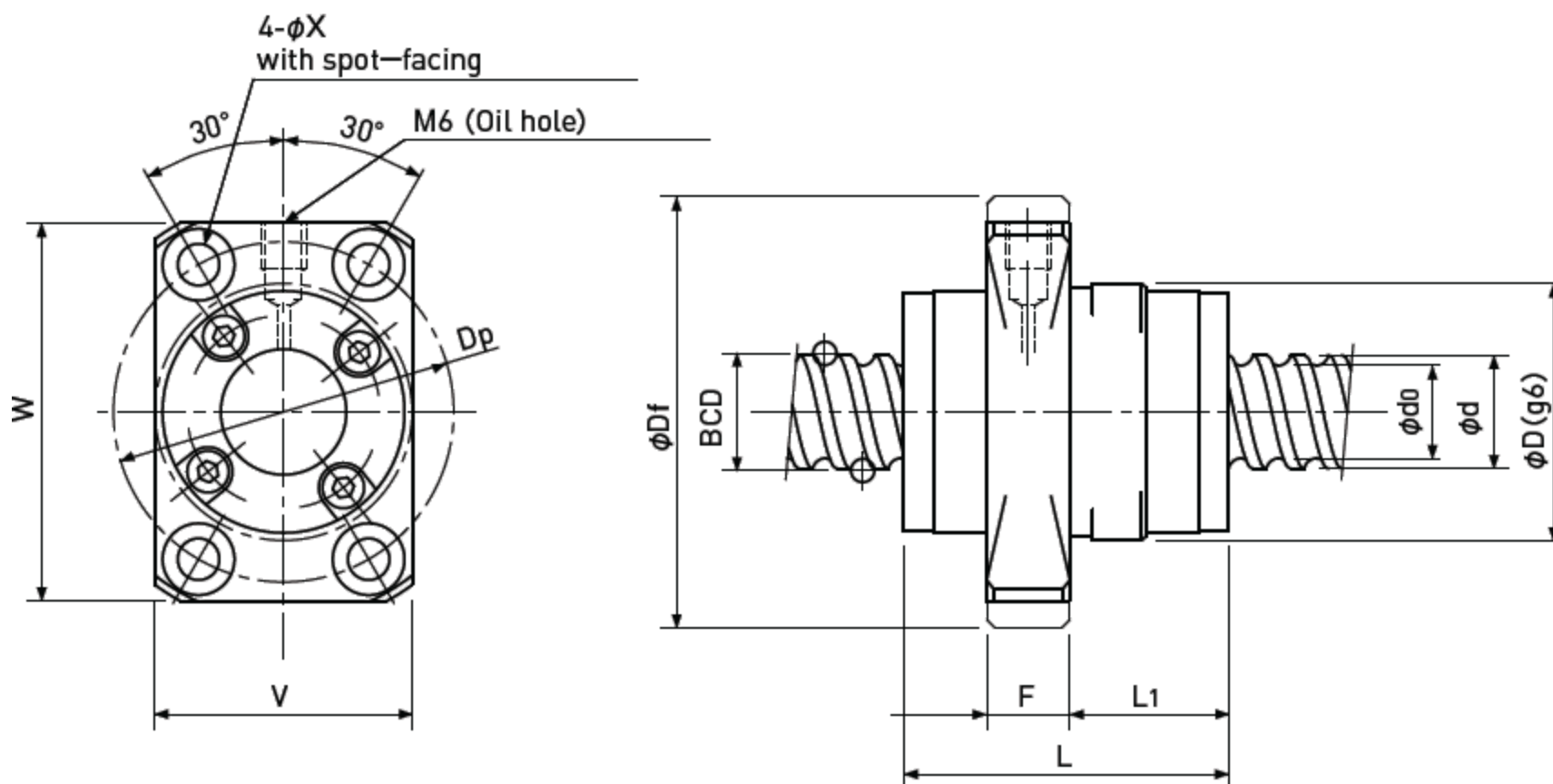
Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
		Preload type
		Backlash type

- Note 1)
- Note 2)
- Note 3)
- Note 4)
- Note 5)

The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.  
 Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.  
 The Rigidity values shown in the table are theoretical values of Ball Nut Rigidity calculated from the amount of Elastic Displacement under the following conditions.  
 Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
 Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.  
 All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.  
 Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.

# Single Nut with Flange

Backlash type/Preload type



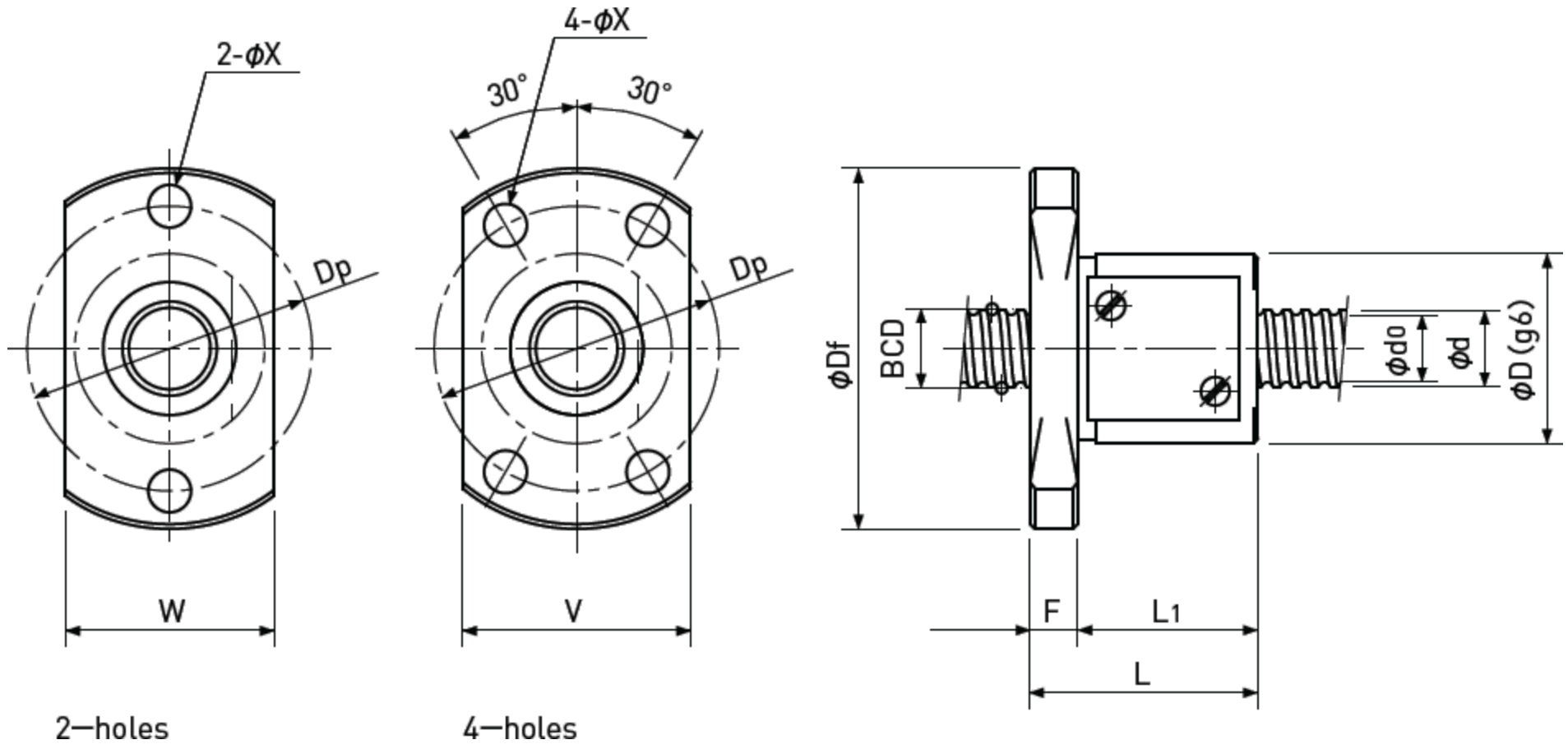
Type-5: End-deflector type

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FBS 1504 T	4	32	56	41	31	10	48	32	43	5.5
FEB 1505 A□(1)	5	32	55	33	16	11	49	33	43	5.5
FEB 1505 A□(2)	5	34	57	33	16	11	50	34	45	5.5
FBS 1505 T	4	34	58	44	34	10	50	34	45	5.5
FEB 1510 A□(1)	5	32	55	43	21	11	49	33	43	5.5
FEB 1510 A□(2)	5	34	57	43	21	11	50	34	45	5.5
FBS 1510 T	4	34	58	52	40	12	50	34	45	6
FEB 1520 A□(1)	5	32	55	52	28.5	11	49	33	43	5.5
FEB 1520 A□(2)	5	34	57	52	28.5	11	50	34	45	5.5
FBS 1520 T	4	34	58	62	50	12	50	34	45	6
FEB 1530 A□(1)	5	32	55	71	45.5	11	49	33	43	5.5
FEB 1530 A□(2)	5	34	57	71	45.5	11	50	34	45	5.5

Precision Ball Screws

# Single Nut with Flange

## Backlash type/Preload type



Type-1: Return-plate type

Unit : mm

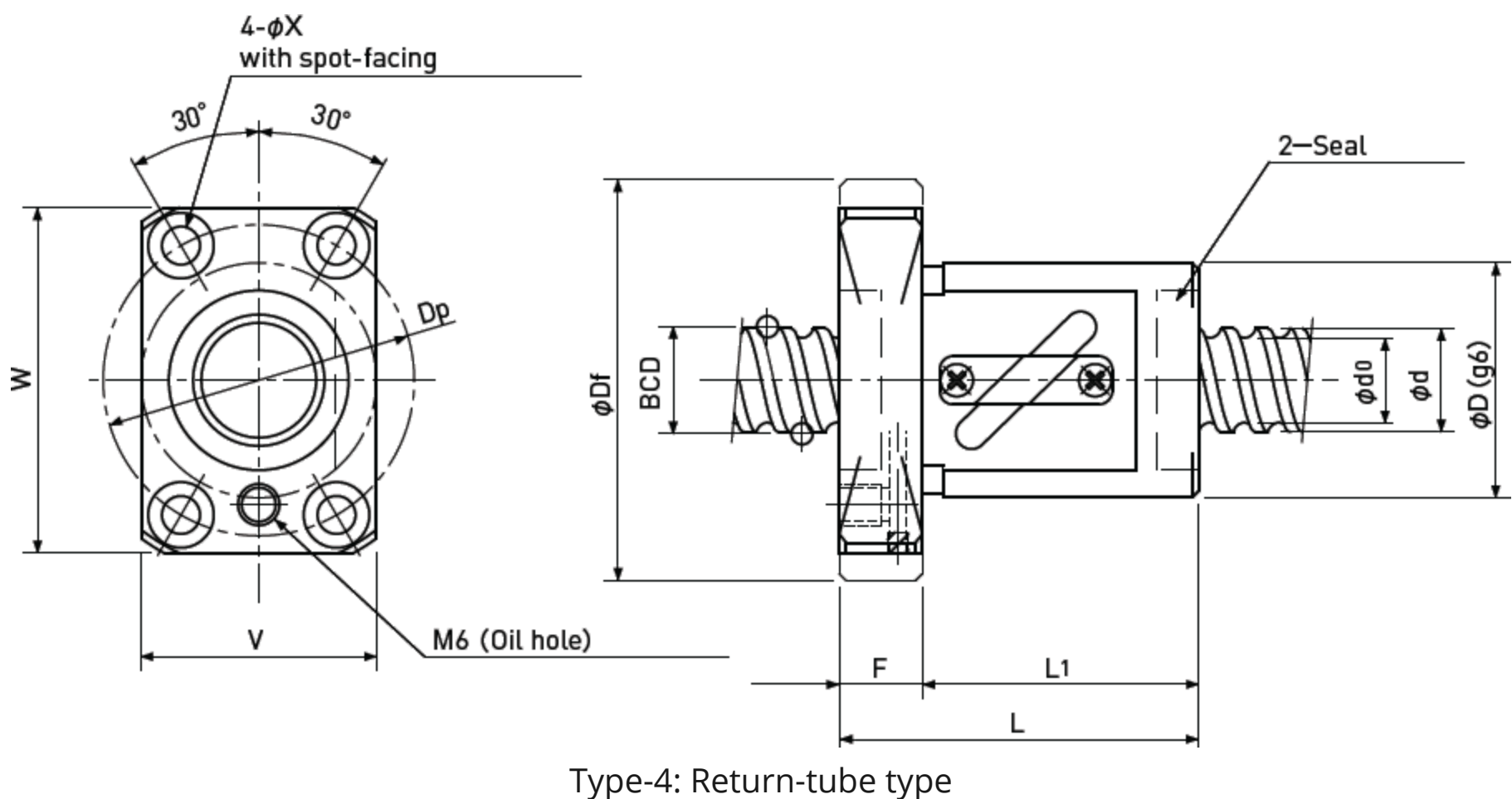
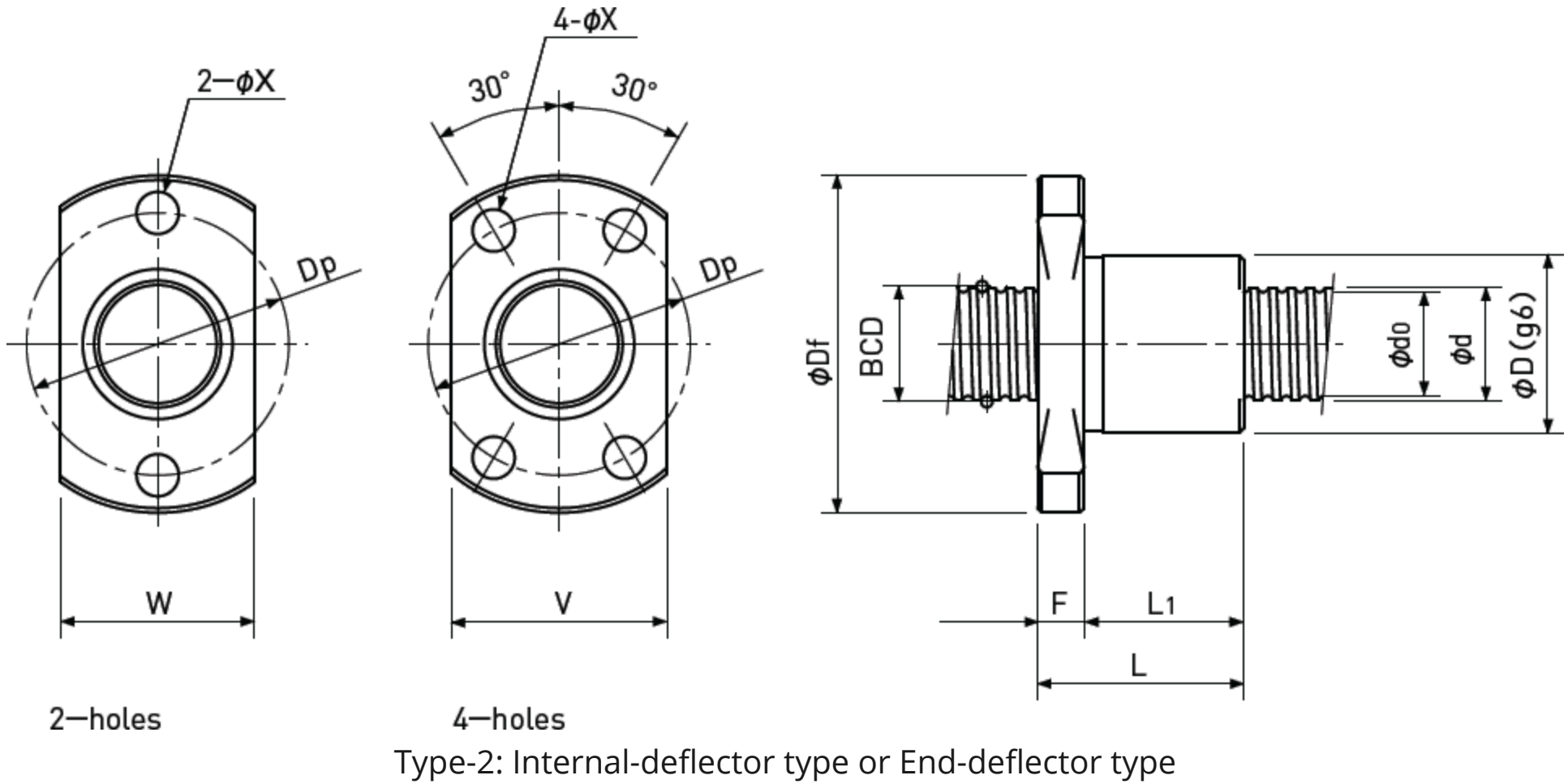
Ball Nut Model number	Shaft nominal dia. d	Lead	Ball size	BCD	Lead angle	Root dia. d <sub>0</sub>	Number of Circuit	Basic Load Rating N		Nut Rigidity N/μm
								Dynamic Ca	Static Coa	
FBS 1601 B	16	1	0.8	16.15	1°08'	15.3	3.7□×1	1000 / 640	3300 / 1650	164 / 138
FKB 1602 A	16	2	1.2	16.3	2°15'	15	1□×3	1850 / 1850	5000 / 5000	137 / 213
FBS 1602 B	16	2	1.5875	16.3	2°14'	14.6	3.7□×1	3400 / 2100	8600 / 4300	197 / 163
FKB 1602.5 A	16	2.5	1.5875	16.4	2°47'	14.7	1□×3	2700 / 2700	6500 / 6500	142 / 221
FBS 1602.5 B	16	2.5	1.5875	16.3	2°48'	14.6	3.7□×1	3400 / 2100	8600 / 4300	197 / 163
FKB 1603 A	16	3	2	16.5	3°19'	14.4	1□×3	3600 / 3600	8000 / 8000	146 / 227
FBS 1603 B	16	3	2	16.3	3°21'	14.2	3.7□×1	4900 / 3100	11600 / 5800	205 / 172
FKB 1604 A	16	4	2.381	16.65	4°22'	13.9	1□×3	4800 / 4800	10000 / 10000	152 / 237
FBS 1604 B	16	4	2.381	16.3	4°28'	13.8	3.7□×1	6200 / 3900	13600 / 6800	209 / 174
FBS 1605 B	16	5	3.175	16.5	5°31'	13.2	3.7□×1	9100 / 5700	18200 / 9100	217 / 182
FBS 2005 T	20	5	3.175	20.8	4°23'	17.5	2.5□×1	8350 / 5260	17500 / 8750	189 / 157
FBS 2010 T	20	10	4.7625	21	8°37'	17.7	2.5□×1	13500 / 8350	25100 / 12800	195 / 160

Ball Nut Model number	Nut dimension									
	Nut type	D	Df	L	L <sub>1</sub>	F	W	V	Dp	Bolt Hole X
FBS 1601 B	1	28	48	21	15	6	30	30	39	5.5
FKB 1602 A	2	24	43	20	14	6	26	27	34	5.5
FBS 1602 B	1	28	48	25	19	6	30	30	39	5.5
FKB 1602.5 A	2	24	43	22	16	6	26	27	34	5.5
FBS 1602.5 B	1	28	48	27	21	6	30	30	39	5.5
FKB 1603 A	2	26	45	32	26	6	28	28	36	5.5
FBS 1603 B	1	32	53	30	24	6	34	34	44	5.5
FKB 1604 A	2	28	47	29	23	6	30	30	38	5.5
FBS 1604 B	1	34	54	34	28	6	36	36	45	5.5
FBS 1605 B	1	38	57	42	36	6	40	40	48	5.5
FBS 2005 T	4	40	68	48	36	12	60	40	53	6.6
FBS 2010 T	4	46	74	65	50	15	66	46	59	6.6



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Basic Load Rating N		Nut Rigidity N/μm
Dynamic Ca	Static Coa	
1000 / 640	3300 / 1650	164 / 138
		Preload type
		Backlash type

- Note 1) The diameter of one of the Screw Shaft ends must be less than the Screw Shaft Root diameter, otherwise Ball Nut cannot be installed.
- Note 2) Ball Nut dimension is without seal at the both ends. If the seals are required, Ball Nut dimension should be changed, in that case, please ask ABSSAC. Some type of Ball Nuts cannot equip with seals, please ask ABSSAC representative.
- Note 3) The Rigidity values shown in the table are theoretical values of Ball Nut Rigidity calculated from the amount of Elastic Displacement under the following conditions.  
Backlash type ; Apply the Axial load equivalent to 30% of the Basic Dynamic Load Rating Ca.  
Preload type ; Apply the Preload equivalent to 5% of the Basic Dynamic Load Rating Ca.
- Note 4) All models are Right-hand Screw. If Left-hand Screw is required, please ask ABSSAC representative.
- Note 5) Basic Load Rating and Rigidity for Backlash type and Preload type are described in the same cell.