Nut Types and Axial Clearance

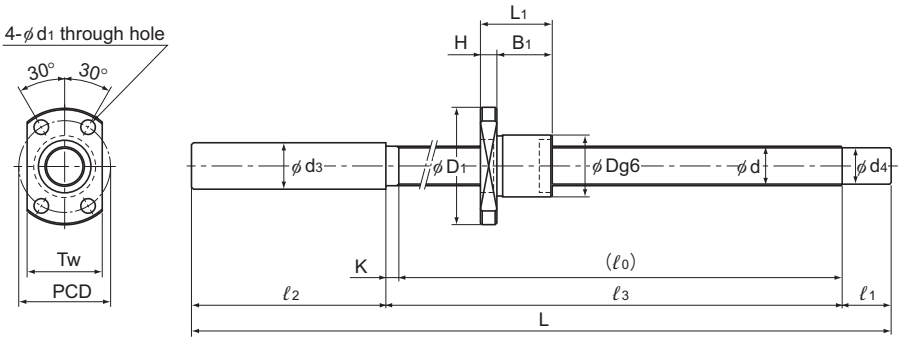
Screw shaft outer diameter (mm)	ϕ 4 to 14			
Nut type	Model MDK		Model MBF	
	 No preload type		 No preload type	
Accuracy grades	C3, C5	C7	C3, C5	C7
Axial clearance (mm)	0.005 or less (GT)	0.02 or less (G2)	0.005 or less (GT)	0.02 or less (G2)

Note) The symbols in the parentheses indicate axial clearance symbols.

Screw shaft out diameter (mm)	ϕ16 to 50			
Nut type	Model BIF		Model BNF	
	 Preload Type		 No preload type	
Accuracy grades	C5	C7	C5	C7
Axial clearance (mm)	0 or less (G0)	0 or less (G0)	0.01 or less (G1)	0.02 or less (G2)

Note1) The symbols in the parentheses indicate axial clearance symbols.
Note2) Symbol “Ca” for preload indicates the basic dynamic load rating.

Unfinished Shaft Ends



Model MDK

Model No.	Ball screw specifications							Nut			
	Screw shaft outer diameter	Lead	Ball center-to-center diameter	Thread minor diameter	No. of loaded circuits	Basic load rating		Outer diameter	Flange diameter	Overall length	
						Ca	C_0a				
	d	Ph	dp	dc	Rows × turns	kN	kN	D	D_1	L_1	H
MDK 0401-3	4	1	4.15	3.4	3×1	0.29	0.42	9	19	13	3
MBF 0401-3.7	4	1	4.15	3.2	1×3.7	0.59	0.93	11	24	18	4
MDK 0601-3	6	1	6.2	5.3	3×1	0.54	0.94	11	23	14.5	3.5
MBF 0601-3.7	6	1	6.15	5.2	1×3.7	0.74	1.5	13	30	21	5

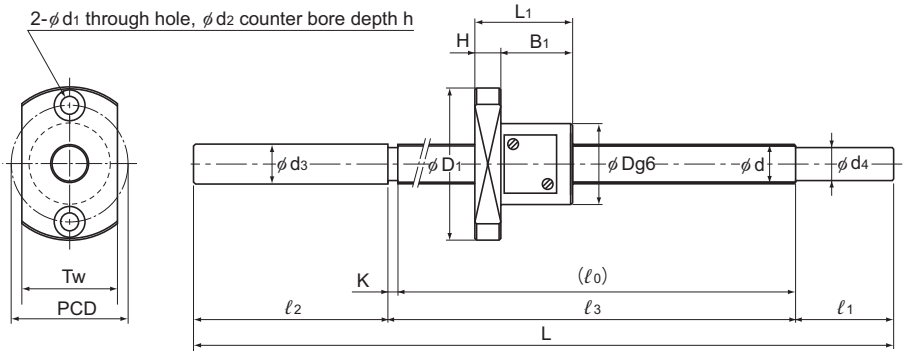
Note) Models MDK/MBF 0401 and 0601 are not provided with a labyrinth seal.

Model number coding

MDK0401-3 GT +95L C5 A

- MDK0401-3: Model number
- GT: Symbol for clearance in the axial direction (*1)
- +95L: Overall screw shaft length (in mm)
- C5: Accuracy symbol (*2)
- A: Symbol for standard-stock type (A: with unfinished shaft ends)

(*1) See **A15-19**. (*2) See **A15-12**.



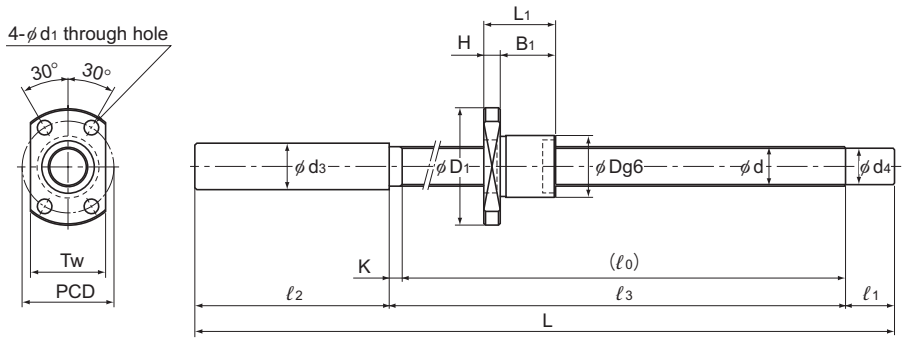
Model MBF

Unit: mm

Dimensions							Screw shaft dimensions								Nut mass	Shaft mass
	B_1	PCD	d_1	d_2	h	Tw	Standard-stock symbol	Overall length L	ℓ_0	ℓ_1	ℓ_2	ℓ_3	d_3	d_4	K	kg	kg/m
	10	14	2.9	—	—	13	A	95	47	10	35	50	6.2	3.2	3	0.01	0.07
								115	67	10	35	70	6.2	3.2	3	0.01	0.07
								145	97	10	35	100	6.2	3.2	3	0.01	0.07
	14	17	3.4	6.5	2.5	13	A	90	48	10	30	50	4.3	3.2	2	0.02	0.07
								110	68	10	30	70	4.3	3.2	2	0.02	0.07
								130	88	10	30	90	4.3	3.2	2	0.02	0.07
	11	17	3.4	—	—	15	A	120	67	10	40	70	8.2	5.3	3	0.02	0.14
								150	97	10	40	100	8.2	5.3	3	0.02	0.14
								180	127	10	40	130	8.2	5.3	3	0.02	0.14
	16	21.5	3.4	6.5	3	17	A	131	58	20	50	61	6.3	5.2	3	0.04	0.14
								161	88	20	50	91	6.3	5.2	3	0.04	0.14
								201	128	20	50	131	6.3	5.2	3	0.04	0.14

Options⇒A15-351

Unfinished Shaft Ends



Model MDK

Model No.	Ball screw specifications							Nut			
	Screw shaft outer diameter	Lead	Ball center-to-center diameter	Thread minor diameter	No. of loaded circuits	Basic load rating		Outer diameter	Flange diameter	Overall length	
						Ca	C_0a				
	d	Ph	dp	dc	Rows × turns	kN	kN	D	D_1	L_1	H
MDK 0801-3	8	1	8.2	7.3	3×1	0.64	1.4	13	26	15	4
MDK 0802-3	8	2	8.3	7	3×1	1.4	2.3	15	28	22	5
MBF 0802-3.7	8	2	8.3	6.4	1×3.7	2.5	4.2	20	40	28	6

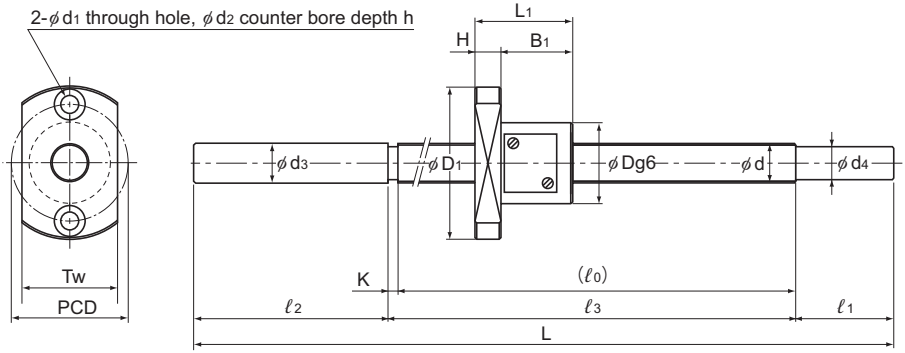
Note) Model MDK 0801 is not provided with a labyrinth seal.

Model number coding

MBF0802-3.7 RR GT +218L C5 A

- MBF0802-3.7: Model number
- RR: Seal symbol (*1)
- GT: Symbol for clearance in the axial direction (*2)
- +218L: Overall screw shaft length (in mm)
- C5: Accuracy symbol (*3)
- A: Symbol for standard-stock type (A: with unfinished shaft ends)

(*1) See A**15-352**. (*2) See A**15-19**. (*3) See A**15-12**.



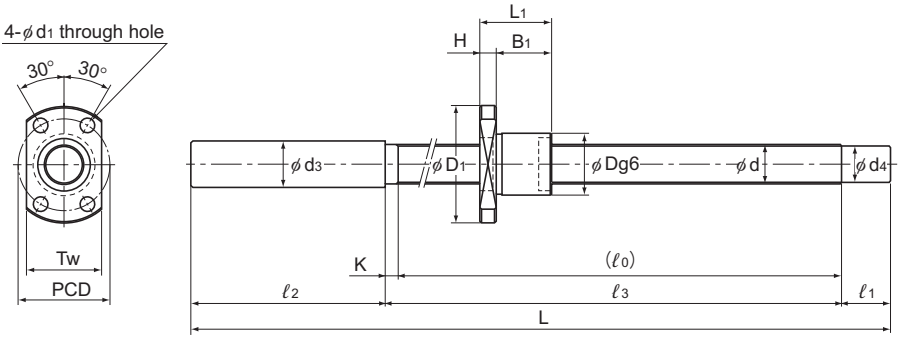
Model MBF

Unit: mm

Dimensions							Screw shaft dimensions								Nut mass	Shaft mass
	B_1	PCD	d_1	d_2	h	Tw	Standard-stock symbol	Overall length L	ℓ_0	ℓ_1	ℓ_2	ℓ_3	d_3	d_4	K	kg	kg/m
	11	20	3.4	—	—	17	A	130	67	15	45	70	10.2	7.3	3	0.02	0.29
								160	97	15	45	100	10.2	7.3	3	0.02	0.29
								190	127	15	45	130	10.2	7.3	3	0.02	0.29
								240	177	15	45	180	10.2	7.3	3	0.02	0.29
	17	22	3.4	—	—	19	A	140	76	15	45	80	10.2	7	4	0.04	0.27
								170	106	15	45	110	10.2	7	4	0.04	0.27
								200	136	15	45	140	10.2	7	4	0.04	0.27
								250	186	15	45	190	10.2	7	4	0.04	0.27
	22	30	4.5	8	4	24	A	168	85	25	55	88	8.3	6.2	3	0.1	0.19
								193	110	25	55	113	8.3	6.2	3	0.1	0.19
								218	135	25	55	138	8.3	6.2	3	0.1	0.19

Options⇒A15-351

Unfinished Shaft Ends



Model MDK

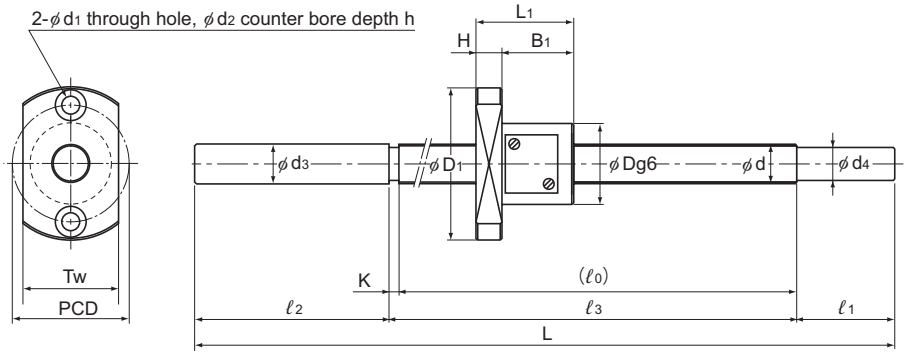
Model No.	Ball screw specifications							Nut			
	Screw shaft outer diameter	Lead	Ball center-to-center diameter	Thread minor diameter	No. of loaded circuits	Basic load rating		Outer diameter	Flange diameter	Overall length	
						Ca	C0a				
	d	Ph	dp	dc	Rows X turns	kN	kN	D	D1	L1	H
MDK 1002-3	10	2	10.3	9	3×1	1.5	2.9	17	34	22	5
MBF 1002-3.7	10	2	10.3	8.6	1×3.7	2.8	5.3	23	43	28	6
MDK 1202-3	12	2	12.3	11	3×1	1.7	3.6	19	36	22	5
MBF 1202-3.7	12	2	12.3	10.6	1×3.7	3	6.5	25	47	30	8

Model number coding

MDK1202-3 RR GT +165L C5 A

- MDK1202-3: Model number
- RR: Seal symbol (*1)
- GT: Symbol for clearance in the axial direction (*2)
- +165L: Overall screw shaft length (in mm)
- C5: Accuracy symbol (*3)
- A: Symbol for standard-stock type (A: with unfinished shaft ends)

(*1) See A15-352. (*2) See A15-19. (*3) See A15-12.



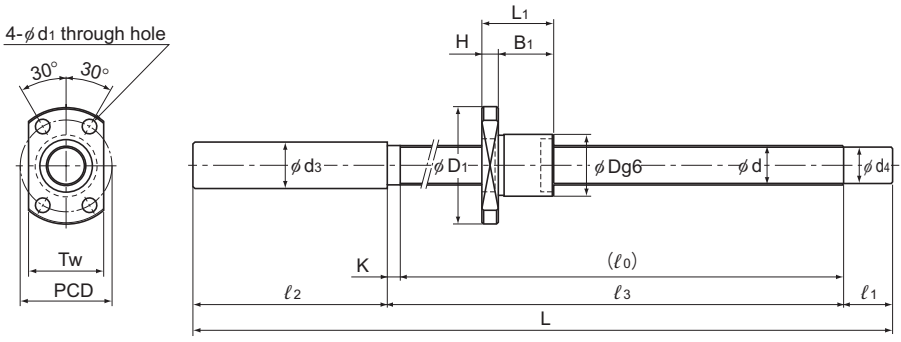
Model MBF

Unit: mm

Dimensions							Screw shaft dimensions								Nut mass	Shaft mass
	B_1	PCD	d_1	d_2	h	Tw	Standard-stock symbol	Overall length L	ℓ_0	ℓ_1	ℓ_2	ℓ_3	d_3	d_4	K	kg	kg/m
	17	26	4.5	—	—	21	A	160	86	15	55	90	12.2	9	4	0.05	0.47
								210	136	15	55	140	12.2	9	4	0.05	0.47
								260	186	15	55	190	12.2	9	4	0.05	0.47
								310	236	15	55	240	12.2	9	4	0.05	0.47
	22	33	4.5	8	4	27	A	183	95	25	60	98	10.3	8.2	3	0.11	0.36
								223	135	25	60	138	10.3	8.2	3	0.11	0.36
								273	185	25	60	188	10.3	8.2	3	0.11	0.36
	17	28	4.5	—	—	23	A	165	86	15	60	90	14.2	11	4	0.05	0.71
								215	136	15	60	140	14.2	11	4	0.05	0.71
								265	186	15	60	190	14.2	11	4	0.05	0.71
								315	236	15	60	240	14.2	11	4	0.05	0.71
								365	286	15	60	290	14.2	11	4	0.05	0.71
	22	36	5.5	9.5	5.5	29	A	210	117	30	60	120	12.3	10.2	3	0.15	0.58
								235	142	30	60	145	12.3	10.2	3	0.15	0.58
								285	192	30	60	195	12.3	10.2	3	0.15	0.58

Options⇒A15-351

Unfinished Shaft Ends



Model MDK

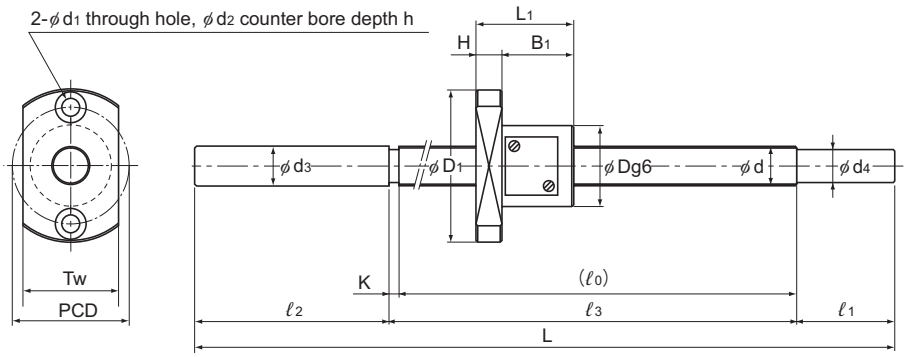
Model No.	Ball screw specifications							Nut			
	Screw shaft outer diameter	Lead	Ball center-to-center diameter	Thread minor diameter	No. of loaded circuits	Basic load rating		Outer diameter	Flange diameter	Overall length	
						Ca	C0a				
	d	Ph	dp	dc	Rows × turns	kN	kN	D	D1	L1	H
MDK 1402-3	14	2	14.3	13	3×1	1.8	4.3	21	40	23	6
MBF 1402-3.7	14	2	14.3	12.5	1×3.7	3.3	7.5	26	48	30	8

Model number coding

MBF1402-3.7 RR GT +245L C3 A

- MBF1402-3.7: Model number
- RR: Seal symbol (*1)
- GT: Symbol for clearance in the axial direction (*2)
- +245L: Overall screw shaft length (in mm)
- C3: Accuracy symbol (*3)
- A: Symbol for standard-stock type (A: with unfinished shaft ends)

(*1) See A15-352. (*2) See A15-19. (*3) See A15-12.



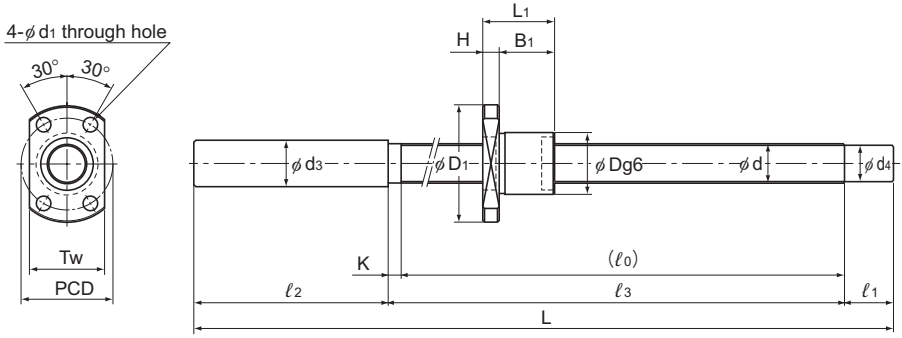
Model MBF

Unit: mm

Dimensions							Screw shaft dimensions								Nut mass	Shaft mass
	B_1	PCD	d_1	d_2	h	Tw	Standard-stock symbol	Overall length L	ℓ_0	ℓ_1	ℓ_2	ℓ_3	d_3	d_4	K	kg	kg/m
	17	31	5.5	—	—	26	A	175	86	25	60	90	15.2	13	4	0.07	1.0
								225	136	25	60	140	15.2	13	4	0.07	1.0
								275	186	25	60	190	15.2	13	4	0.07	1.0
								325	236	25	60	240	15.2	13	4	0.07	1.0
								425	336	25	60	340	15.2	13	4	0.07	1.0
	22	37	5.5	9.5	5.5	32	A	205	102	40	60	105	14.3	12.2	3	0.16	0.85
								245	142	40	60	145	14.3	12.2	3	0.16	0.85
								295	192	40	60	195	14.3	12.2	3	0.16	0.85
								345	242	40	60	245	14.3	12.2	3	0.16	0.85

Options⇒A15-351

Unfinished Shaft Ends



Model MDK

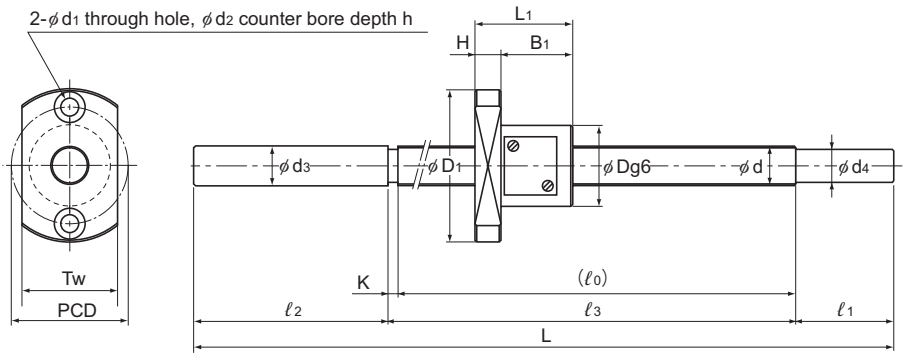
Model No.	Ball screw specifications							Nut			
	Screw shaft outer diameter	Lead	Ball center-to-center diameter	Thread minor diameter	No. of loaded circuits	Basic load rating		Outer diameter	Flange diameter	Overall length	
						Ca	C_0a				
	d	Ph	dp	dc	Rows × turns	kN	kN	D	D_1	L_1	H
MDK 1404-3	14	4	14.65	11.9	3×1	4.2	7.6	26	45	33	6
MBF 1404-3.7	14	4	14.3	11.8	1×3.7	5.7	11.1	30	54	38	8
MDK 1405-3	14	5	14.75	11.2	3×1	7	11.6	26	45	42	10

Model number coding

MDK1404-3 RR G2 +240L C7 A

- MDK1404-3: Model number
- RR: Seal symbol (*1)
- G2: Symbol for clearance in the axial direction (*2)
- +240L: Overall screw shaft length (in mm)
- C7: Accuracy symbol (*3)
- A: Symbol for standard-stock type (A: with unfinished shaft ends)

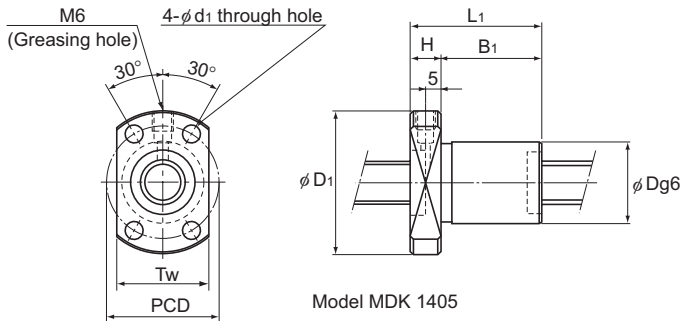
(*1) See A15-352. (*2) See A15-19. (*3) See A15-12.



Model MBF

Unit: mm

Dimensions							Screw shaft dimensions								Nut mass	Shaft mass
	B_1	PCD	d_1	d_2	h	Tw	Standard-stock symbol	Overall length L	ℓ_0	ℓ_1	ℓ_2	ℓ_3	d_3	d_4	K	kg	kg/m
	27	36	5.5	—	—	28	A	240	150	25	60	155	15.2	11.9	5	0.14	0.8
								290	200	25	60	205	15.2	11.9	5	0.14	0.8
								340	250	25	60	255	15.2	11.9	5	0.14	0.8
								440	350	25	60	355	15.2	11.9	5	0.14	0.8
								540	450	25	60	455	15.2	11.9	5	0.14	0.8
	30	42	5.5	9.5	5.5	34	A	233	129	40	60	133	14.3	11.2	4	0.25	1.2
								293	189	40	60	193	14.3	11.2	4	0.25	1.2
								353	249	40	60	253	14.3	11.2	4	0.25	1.2
								413	309	40	60	313	14.3	11.2	4	0.25	1.2
	32	36	5.5	—	—	28	A	250	160	25	60	165	14	11.2	5	0.19	1.2
								300	210	25	60	215	14	11.2	5	0.19	1.2
								350	260	25	60	265	14	11.2	5	0.19	1.2
								450	360	25	60	365	14	11.2	5	0.19	1.2
								550	460	25	60	465	14	11.2	5	0.19	1.2



Model MDK 1405

Options⇒A15-351