

Rolled Ball Screw

Models JPF, BTK, MTF, BLK/WTF, CNF and BNT

Ball Screw

B Product Specifications

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A Technical Descriptions of the Products (Separate)

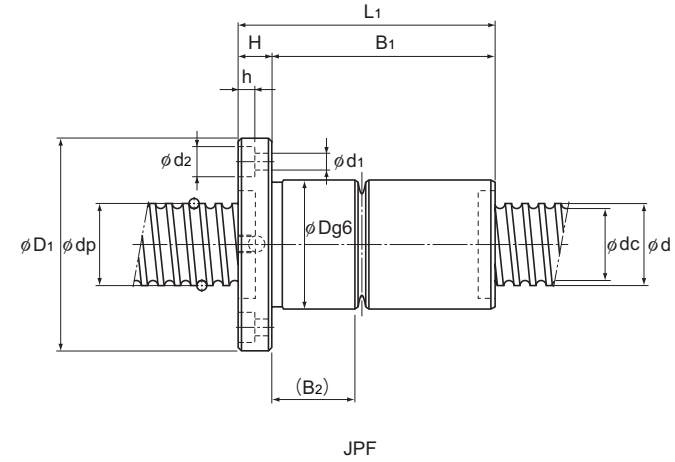
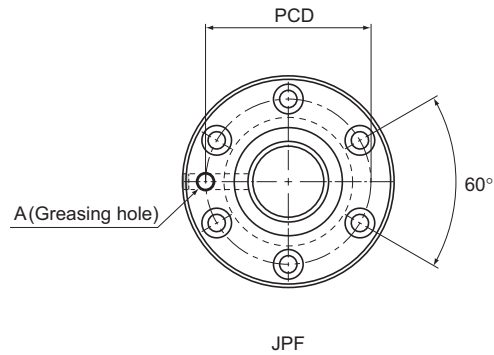
Technical Descriptions

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* Please see the separate "A Technical Descriptions of the Products".

Preload Type of Rolled Ball Screw

Screw shaft outer diameter	14 to 40
Lead	4 to 10



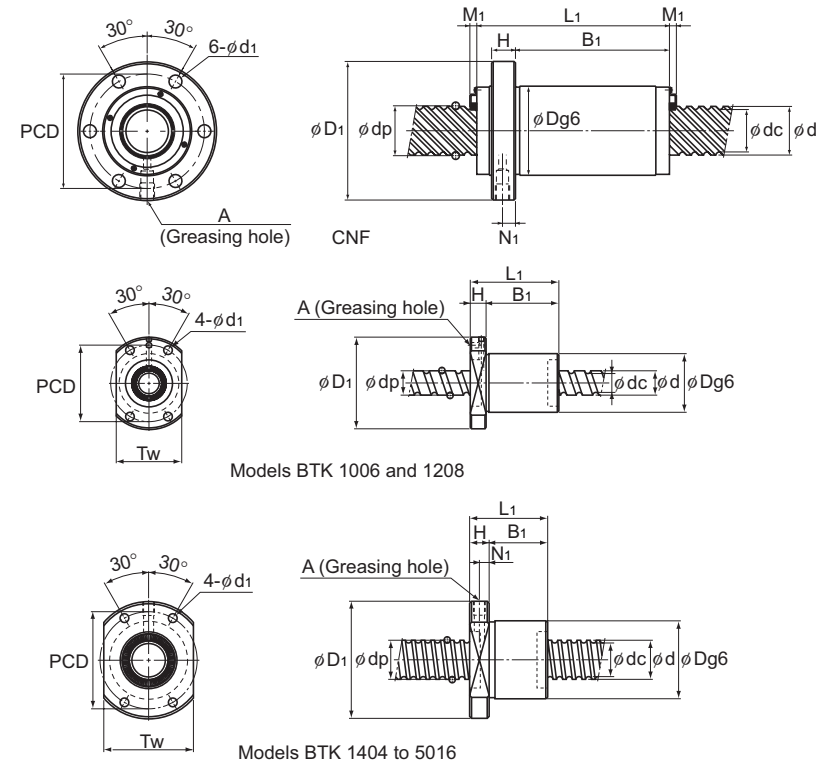
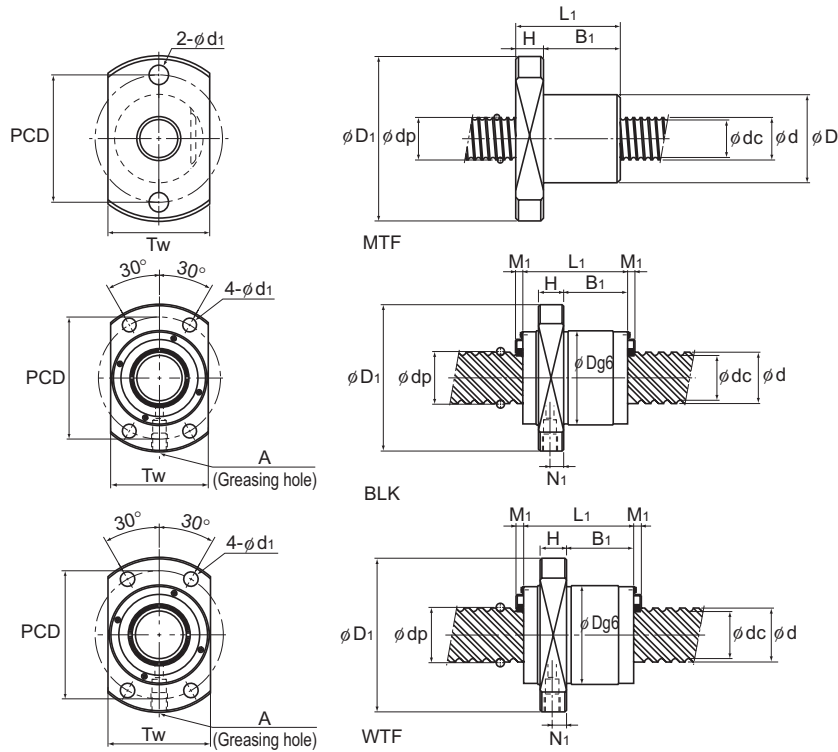
Unit: mm

Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating		Nut dimensions								Screw shaft inertial moment/mm ⁴ kg · cm ² /mm	Nut mass kg	Shaft mass kg/m	
						Ca kN	Ca kN	Outer diameter D	Flange diameter D ₁	Overall length L ₁	H	B ₁	B ₂	PCD	d ₁ × d ₂ × h				Greasing hole A
14	4	JPF 1404-4	14.4	11.5	2×1	2.8	5.1	26	46	52	10	42	16.5	36	4.5×8×4.5	M6	2.96×10 ⁻⁴	0.22	1.0
	5	JPF 1405-4	14.5	11.2	2×1	3.9	8.6	26	46	60	10	50	20	36	4.5×8×4.5	M6	2.96×10 ⁻⁴	0.24	0.99
16	5	JPF 1605-4	16.75	13.5	2×1	3.7	8.2	30	49	60	10	50	19.5	39	4.5×8×4.5	M6	5.05×10 ⁻⁴	0.3	1.34
20	5	JPF 2005-6	20.5	17.2	3×1	6	16	34	57	80	11	69	26.5	45	5.5×9.5×5.5	M6	1.23×10 ⁻³	0.46	2.15
25	5	JPF 2505-6	25.5	22.2	3×1	6.9	20.8	40	66	80	11	69	26	51	5.5×9.5×5.5	M6	3.01×10 ⁻³	0.6	3.45
	10	JPF 2510-4	26.8	20.2	2×1	11.4	24.5	47	72	112	12	100	42	58	6.6×11×6.5	M6	3.01×10 ⁻³	1.2	3.26
28	5	JPF 2805-6	28.75	25.2	3×1	7.3	23.9	43	69	80	12	68	25	55	6.6×11×6.5	M6	4.74×10 ⁻³	0.66	4.27
	6	JPF 2806-6	28.5	25.2	3×1	7.3	23.9	43	69	90	12	78	35	55	6.6×11×6.5	M6	4.74×10 ⁻³	0.72	4.44
32	10	JPF 3210-6	33.75	27.2	3×1	19.3	49.9	54	88	135	15	120	53.5	70	9×14×8.5	M6	8.08×10 ⁻³	1.84	5.49
36	10	JPF 3610-6	37	30.5	3×1	20.6	56.2	58	98	138	18	120	53.5	77	11×17.5×11	M6	1.29×10 ⁻²	2.22	6.91
40	10	JPF 4010-6	41.75	35.2	3×1	22.2	65.3	62	104	138	18	120	53.5	82	11×17.5×11	PT 1/8	1.97×10 ⁻²	2.42	8.81

Note) The ball screw nut and the screw shaft of model JPF are not sold alone.

No Preload Type of Rolled Ball Screw

Screw shaft outer diameter	6 to 16
Lead	1 to 30

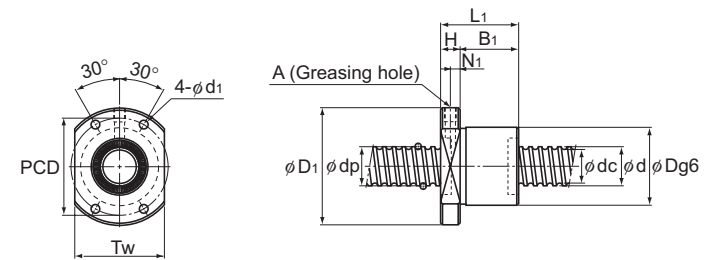
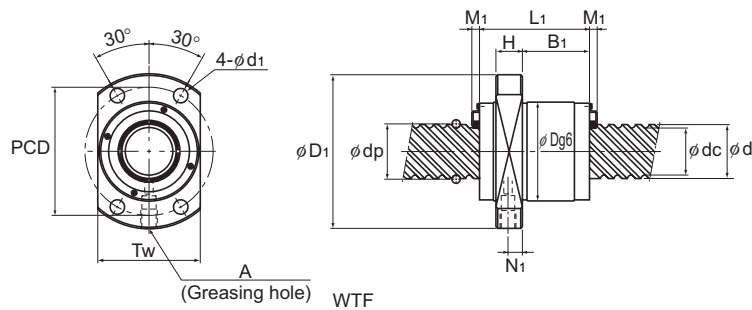
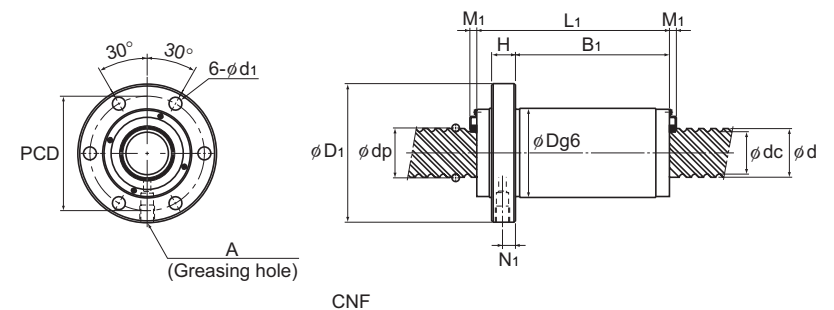
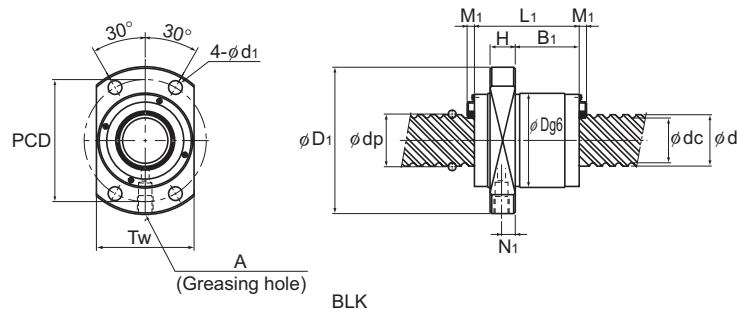


Screw shaft outer diameter	Lead	Model No.	Ball center-to-center diameter	Thread minor diameter	No. of loaded circuits Rows x turns	Basic load rating			Rigidity	Nut dimensions										Axial clearance	Standard shaft length	Screw shaft inertial moment/mm	Nut mass	Shaft mass	
						Ca	C _{0a}	K		Outer diameter	Flange diameter	Overall length	H	B ₁	PCD	d ₁	T _w	Greasing hole							Seal
																		N ₁	A						
6	1	MTF 0601-3.7	6.15	5.3	1×3.7	0.7	1.2	70	13	30	21	5	16	21.5	3.4	17	—	—	—	0.05	150, 250	9.99×10 ⁻⁶	0.03	0.19	
8	2	MTF 0802-3.7	8.3	6.6	1×3.7	2.1	3.8	90	20	40	28	6	22	30	4.5	24	—	—	—	0.05		3.16×10 ⁻⁵	0.08	0.31	
10	2	MTF 1002-3.7	10.3	8.6	1×3.7	2.3	4.8	110	23	43	28	6	22	33	4.5	27	—	—	—	0.05	200, 300	7.71×10 ⁻⁵	0.1	0.52	
	6	BTK 1006-2.6	10.5	7.8	1×2.65	2.8	4.9	88	26	42	36	8	28	34	4.5	29	—	3	—	0.05		7.71×10 ⁻⁵	0.19	0.48	
12	2	MTF 1202-3.7	12.3	10.6	1×3.7	2.5	5.8	130	25	47	30	8	22	36	5.5	29	—	—	—	0.05	500, 1000	1.6×10 ⁻⁴	0.13	0.77	
	8	BTK 1208-2.6	12.65	9.7	1×2.65	3.8	6.8	108	29	45	44	8	36	37	4.5	32	—	3	—	0.05		1.6×10 ⁻⁴	0.20	0.72	
14	4	BTK 1404-3.6	14.4	11.5	1×3.65	5.5	11.5	150	31	50	40	10	30	40	4.5	37	5	M6	—	0.1	500, 1000	2.96×10 ⁻⁴	0.23	1.0	
	5	BTK 1405-2.6	14.5	11.2	1×2.65	5	11.4	116	32	50	40	10	30	40	4.5	38	5	M6	—	0.1		2.96×10 ⁻⁴	0.24	0.99	
15	10	BLK 1510-5.6	15.75	12.5	2×2.8	9.8	25.2	260	34	57	44	10	24	45	5.5	40	5	M6	3.5	0.1	500, 1000	3.9×10 ⁻⁴	0.26	1.16	
	20	WTF 1520-3	15.75	12.5	2×1.5	5.5	14.2	140	32	53	45	10	28	43	5.5	33	5	M6	3.5	0.1		3.9×10 ⁻⁴	0.20	1.17	
		WTF 1520-6	15.75	12.5	4×1.5	10.1	28.5	280	32	53	45	10	28	43	5.5	33	5	M6	3.5	0.1		3.9×10 ⁻⁴	0.20	1.17	
	30	WTF 1530-2	15.75	12.5	4×0.6	4.3	9.3	120	32	53	33	10	17	43	5.5	33	5	M6	3.5	0.1		3.9×10 ⁻⁴	0.22	1.19	
		WTF 1530-3	15.75	12.5	2×1.6	5.6	12.4	160	32	53	63	10	47	43	5.5	33	5	M6	3.5	0.1		3.9×10 ⁻⁴	0.4	1.19	
	WTF 1530-6	15.75	12.5	4×1.6	10.1	24.7	310	32	53	63	10	47	43	5.5	—	—	5	M6	3.5	0.1		3.9×10 ⁻⁴	0.42	1.19	
16	5	BTK 1605-2.6	16.75	13.5	1×2.65	5.4	13.3	130	34	54	40	10	30	44	4.5	40	5	M6	—	0.1	500, 1000	5.05×10 ⁻⁴	0.27	1.34	
	16	BLK 1616-3.6	16.65	13.7	2×1.8	5.8	12.9	170	32	53	38	10	21.5	42	4.5	38	5	M6	3.5	0.1		5.05×10 ⁻⁴	0.21	1.35	
		BLK 1616-7.2	16.65	13.7	4×1.8	10.5	25.9	340	32	53	38	10	21.5	42	4.5	38	5	M6	3.5	0.1		5.05×10 ⁻⁴	0.25	1.35	

Note) Model MTF cannot be attached with seal.

No Preload Type of Rolled Ball Screw

Screw shaft outer diameter	18 to 30
Lead	5 to 60



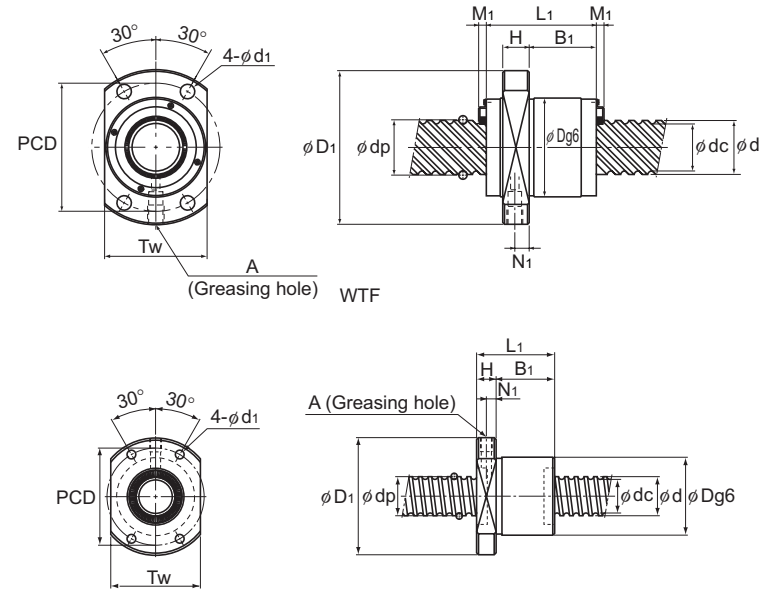
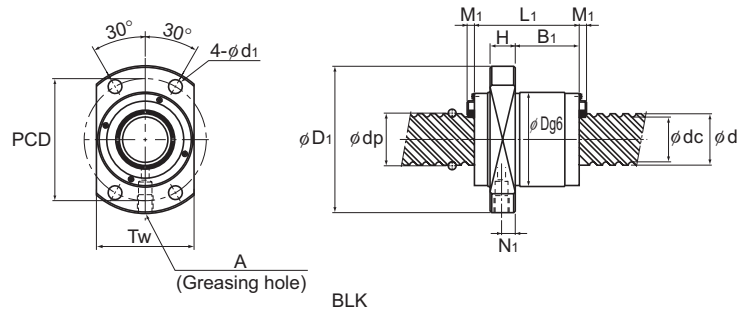
Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating		Rigidity K N/μm	Nut dimensions										Axial clearance	Standard shaft length	Screw shaft inertial moment/mm ² kg·cm ² /mm	Nut mass kg	Shaft mass kg/m		
						Ca kN	Ca kN		Overall length L ₁	H	B ₁	PCD	d ₁	T _w	Greasing hole		Seal M ₁								
															N ₁	A									
18	8	BTK 1808-3.6	19.3	14.4	1×3.65	13.1	31	210	50	80	61	12	49	65	6.6	60	5	M6	—	0.1	500, 1000	8.09×10 ⁻⁴	0.98	1.71	
20	5	BTK 2005-2.6	20.5	17.2	1×2.65	6	16.5	150	40	60	40	10	30	50	4.5	46	5	M6	—	0.1	500, 1000, 1500	1.23×10 ⁻³	0.35	2.15	
	10	BTK 2010-2.6	21.25	16.4	1×2.65	10.6	25.1	160	52	82	61	12	49	67	6.6	64	5	M6	—	0.1		1.23×10 ⁻³	1.08	2.16	
	20	BLK 2020-3.6	20.75	17.5	2×1.8	7.7	22.3	210	39	62	45	10	27.5	50	5.5	46	5	M6	3.5	0.1		1.23×10 ⁻³	0.35	2.18	
		BLK 2020-7.2	20.75	17.5	4×1.8	13.9	44.6	410	39	62	45	10	27.5	50	5.5	46	5	M6	3.5	0.1		1.23×10 ⁻³	0.35	2.18	
	40	WTF 2040-2	20.75	17.5	4×0.65	5.4	13.6	160	37	57	41.5	10	25.5	47	5.5	38	5.5	M6	3.5	0.1		1.23×10 ⁻³	0.25	2.12	
		WTF 2040-3	20.75	17.5	2×1.65	6.6	17.2	200	37	57	81.5	10	65.5	47	5.5	38	5.5	M6	3.5	0.1		1.23×10 ⁻³	0.5	2.12	
25	5	BTK 2505-2.6	25.5	22.2	1×2.65	6.7	20.8	180	43	67	40	10	30	55	5.5	50	5	M6	—	0.1	1000, 1500, 2000	1.23×10 ⁻³	0.5	2.12	
	10	BTK 2510-5.3	26.8	20.2	2×2.65	31.2	83.7	400	60	96	98	15	83	78	9	72	5	M6	—	0.1		3.01×10 ⁻³	2.06	3.26	
	25	BLK 2525-3.6	26	22	2×1.8	12.1	35	270	47	74	55	12	35	60	6.6	56	6	M6	3.5	0.1		3.01×10 ⁻³	0.64	3.41	
		BLK 2525-7.2	26	22	4×1.8	21.9	69.9	520	47	74	55	12	35	60	6.6	56	6	M6	3.5	0.1		3.01×10 ⁻³	0.64	3.41	
	50	WTF 2550-2	26	21.9	4×0.65	8.5	21.2	200	45	69	52	12	31.5	57	6.6	46	7	M6	3.5	0.1		3.01×10 ⁻³	0.45	3.34	
		WTF 2550-3	26	21.9	2×1.65	10.4	26.9	260	45	69	102	12	81.5	57	6.6	46	7	M6	3.5	0.1		3.01×10 ⁻³	0.85	3.34	
	CNF 2550-6	26	21.9	4×1.65	18.9	53.9	460	45	69	45	69	102	12	81.5	57	6.6	—	7	M6	3.5		0.1	3.01×10 ⁻³	0.85	3.34
		4	BTK 2806-2.6	28.5	25.2	1×2.65	7	23.4	200	50	80	47	12	35	65	6.6	60	6	M6	—		0.1	500, 1000, 2000, 2500	4.74×10 ⁻³	0.66
30	60	BTK 2806-5.3	28.5	25.2	2×2.65	12.8	46.8	390	50	80	65	12	53	65	6.6	60	6	M6	—	0.1	4.74×10 ⁻³	0.84	4.44		
	WTF 3060-2	31.25	26.4	4×0.65	11.8	30.6	240	55	89	62.5	15	37.5	71	9	56	9	M6	3.8	0.14	6.24×10 ⁻³	0.8	4.84			
		WTF 3060-3	31.25	26.4	2×1.65	14.5	38.9	310	55	89	122.5	15	97.5	71	9	56	9	M6	3.8	0.14	6.24×10 ⁻³	1.7	4.84		
	CNF 3060-6	31.25	26.4	4×1.65	26.2	77.7	600	55	89	122	15	97	71	9	—	9	M6	3.8	0.14	6.24×10 ⁻³	1.7	4.84			

Unit: mm

Ball Screw

No Preload Type of Rolled Ball Screw

Screw shaft outer diameter	32 to 50
Lead	10 to 100



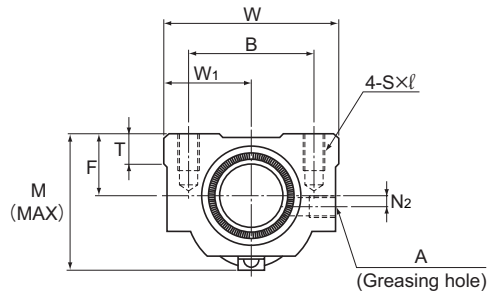
Models BTK 1404 to 5016

Unit: mm

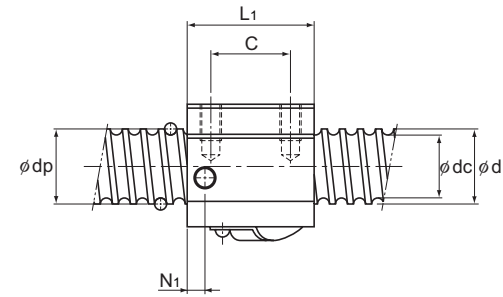
Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating		Rigidity K	Nut dimensions										Axial clearance	Standard shaft length	Screw shaft inertial moment/mm ² kg·cm ² /mm	Nut mass kg	Shaft mass kg/m	
						Ca kN	Ca kN		Outer diameter D	Flange diameter D ₁	Overall length L ₁	H	B ₁	PCD	d ₁	T _w	Greasing hole							Seal M ₁
																	N ₁	A						
32	10	BTK 3210-2.6	33.75	27.2	1×2.65	19.8	53.8	250	67	103	68	15	53	85	9	78	5	M6	—	0.14	500, 1000,	8.08×10 ⁻³	1.77	5.49
		BTK 3210-5.3	33.75	27.2	2×2.65	36	107.5	490	67	103	98	15	83	85	9	78	5	M6	—	0.14	2000, 2500	8.08×10 ⁻³	2.35	5.49
	32	BLK 3232-3.6	33.25	28.3	2×1.8	17.3	53.9	330	58	92	70	15	45	74	9	68	7.5	M6	3.8	0.14	1000, 1500,	8.08×10 ⁻³	1.14	5.69
		BLK 3232-7.2	33.25	28.3	4×1.8	31.3	107.8	650	58	92	70	15	45	74	9	68	7.5	M6	3.8	0.14	2000, 2500	8.08×10 ⁻³	1.14	5.69
36	10	BTK 3610-2.6	37	30.5	1×2.65	20.8	59.8	270	70	110	70	17	53	90	11	82	7	M6	—	0.17	500, 1000, 2000,	1.29×10 ⁻²	1.94	6.91
		BTK 3610-5.3	37	30.5	2×2.65	37.8	118.7	530	70	110	100	17	83	90	11	82	7	M6	—	0.17	2500, 3000	1.29×10 ⁻²	2.55	6.91
	20	BLK 3620-5.6	37.75	31.2	2×2.8	39.8	121.7	570	70	110	78	17	45	90	11	80	8.5	M6	5	0.17	1000, 1500, 2000, 3000	1.29×10 ⁻²	1.74	7.09
		BLK 3624-5.6	38	30.7	2×2.8	46.2	137.4	590	75	115	94	18	59	94	11	86	9	M6	5	0.17		1.29×10 ⁻²	2.42	7.02
	36	BLK 3636-3.6	37.4	31.7	2×1.8	22.4	70.5	370	66	106	77	17	50	85	11	76	8.5	M6	5	0.17		1.29×10 ⁻²	1.74	7.12
		BLK 3636-7.2	37.4	31.7	4×1.8	40.6	141.1	730	66	106	77	17	50	85	11	76	8.5	M6	5	0.17		1.29×10 ⁻²	1.74	7.12
40	10	BTK 4010-5.3	41.75	35.2	2×2.65	40.3	134.9	590	76	116	100	17	83	96	11	88	7	M6	—	0.17	1000, 1500, 2000, 3000, 3500	1.97×10 ⁻²	2.91	8.81
		BLK 4040-3.6	41.75	35.2	2×1.8	28.1	89.8	420	73	114	85	17	56.5	93	11	84	8.5	M6	5.4	0.17	1.97×10 ⁻²	2.16	8.76	
	40	BLK 4040-7.2	41.75	35.2	4×1.8	51.1	179.6	810	73	114	85	17	56.5	93	11	84	8.5	M6	5.4	0.17	1000, 1500,	1.97×10 ⁻²	2.16	8.76
		WTF 4080-2	41.75	35.2	4×0.65	19.8	54.5	320	73	114	79	17	50.5	93	11	74	8.5	M6	5.4	0.17	2000, 3000	1.97×10 ⁻²	2.1	8.66
45	12	WTF 4080-3	41.75	35.2	2×1.65	24.3	69.2	400	73	114	159	17	130.5	93	11	74	8.5	M6	5.4	0.17	1.97×10 ⁻²	3.67	8.66	
		BTK 4512-5.3	46.5	39.2	2×2.65	49.5	169	650	82	128	118	20	98	104	14	94	8	M6	—	0.17	1000, 1500, 2000,	3.16×10 ⁻²	3.9	11.08
50	16	BTK 5016-5.3	52.7	42.9	2×2.65	93.8	315.2	930	102	162	145	25	120	132	18	104	12.5	PT 1/8	—	0.2	3000, 3500	4.82×10 ⁻²	7.8	13.66
		BLK 5050-3.6	52.2	44.1	2×1.8	42.1	140.4	510	90	135	106	20	72	112	14	104	10	M6	5.4	0.2	4.82×10 ⁻²	3.89	13.79	
	50	BLK 5050-7.2	52.2	44.1	4×1.8	76.3	280.7	1000	90	135	106	20	72	112	14	104	10	M6	5.4	0.2	1000, 1500,	4.82×10 ⁻²	3.86	13.79
		WTF 50100-2	52.2	44.1	4×0.65	29.6	85.2	390	90	135	98	20	64	112	14	92	10	M6	5.4	0.2	2000, 3000	4.82×10 ⁻²	3.5	13.86
	100	WTF 50100-3	52.2	44.1	2×1.65	36.3	108.1	500	90	135	198	20	164	112	14	92	10	M6	5.4	0.2	4.82×10 ⁻²	6.4	13.86	

No Preload Type of Rolled Ball Screw (Square Nut)

Screw shaft outer diameter	14 to 45
Lead	4 to 12



BNT



BNT

Unit: mm

Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating			Rigidity			Nut dimensions										Axial clearance	Screw shaft inertial moment/mm ² kg·cm ² /mm	Nut mass kg	Shaft mass kg/m
						Ca kN	Caα kN	K N/μm	Width W	Center height F	Overall length L ₁	Mounting hole			W ₁	T	M	N ₁	N ₂	A					
												B	C	S×ℓ											
14	4	BNT 1404-3.6	14.4	11.5	1×3.65	5.5	11.5	150	34	13	35	26	22	M4×7	17	6	30	6	2	M6	0.1	2.96×10 ⁻⁴	0.15	1.0	
	5	BNT 1405-2.6	14.5	11.2	1×2.65	5	11.4	110	34	13	35	26	22	M4×7	17	6	31	6	2	M6	0.1	2.96×10 ⁻⁴	0.15	0.99	
16	5	BNT 1605-2.6	16.75	13.5	1×2.65	5.4	13.3	130	42	16	36	32	22	M5×8	21	21.5	32.5	6	2	M6	0.1	5.05×10 ⁻⁴	0.3	1.34	
18	8	BNT 1808-3.6	19.3	14.4	1×3.65	13.1	31	210	48	17	56	35	35	M6×10	24	10	44	8	3	M6	0.1	8.09×10 ⁻⁴	0.47	1.71	
20	5	BNT 2005-2.6	20.5	17.2	1×2.65	6	16.5	150	48	17	35	35	22	M6×10	24	9	39	5	3	M6	0.1	1.23×10 ⁻³	0.28	2.15	
	10	BNT 2010-2.6	21.25	16.4	1×2.65	10.6	25.1	160	48	18	58	35	35	M6×10	24	9	46	10	2	M6	0.1	1.23×10 ⁻³	0.5	2.16	
25	5	BNT 2505-2.6	25.5	22.2	1×2.65	6.7	20.8	180	60	20	35	40	22	M8×12	30	9.5	45	7	5	M6	0.1	3.01×10 ⁻³	0.41	3.45	
	10	BNT 2510-5.3	26.8	20.2	2×2.65	31.2	83.7	400	60	23	94	40	60	M8×12	30	10	55	10	—	M6	0.1	3.01×10 ⁻³	1.18	3.26	
28	6	BNT 2806-2.6	28.5	25.2	1×2.65	7	23.4	200	60	22	42	40	18	M8×12	30	10	50	8	—	M6	0.1	4.74×10 ⁻³	0.81	4.44	
		BNT 2806-5.3	28.5	25.2	2×2.65	12.8	46.8	390	60	22	67	40	40	M8×12	30	10	50	8	—	M6	0.1	4.74×10 ⁻³	0.78	4.44	
32	10	BNT 3210-2.6	33.75	27.2	1×2.65	19.8	53.8	250	70	26	64	50	45	M8×12	35	12	62	10	—	M6	0.14	8.08×10 ⁻³	1.3	5.49	
		BNT 3210-5.3	33.75	27.2	2×2.65	36	107.5	490	70	26	94	50	60	M8×12	35	12	62	10	—	M6	0.14	8.08×10 ⁻³	2.0	5.49	
36	10	BNT 3610-2.6	37	30.5	1×2.65	20.8	59.3	270	86	29	64	60	45	M10×16	43	17	67	11	—	M6	0.17	1.29×10 ⁻²	1.8	6.91	
		BNT 3610-5.3	37	30.5	2×2.65	37.8	118.7	530	86	29	96	60	60	M10×16	43	17	67	11	—	M6	0.17	1.29×10 ⁻²	2.4	6.91	
45	12	BNT 4512-5.3	46.5	39.2	2×2.65	49.5	169	650	100	36	115	75	75	M12×20	50	20.5	80	13	—	M6	0.2	3.16×10 ⁻²	4.1	11.08	

Ball Screw

Model number coding

Model number coding

Ball Screw Nut

BTK1405-2.6 ZZ

Model number

Seal symbol

no symbol: without seal

ZZ: brush seal attached to both ends of the ball screw nut (see page 1466)

Screw Shaft

TS 14 05 +500L C7

Accuracy symbol (see page 1140) (no symbol for class C10)

Overall screw shaft length (in mm)

Lead (in mm)

Screw shaft outer diameter (in mm)

Symbol for rolled ball screw shaft

Combination of the Ball Screw Nut and the Screw Shaft

BTK1405-2.6 ZZ +500L C7 T

Model number

Symbol for rolled shaft

Accuracy symbol (see page 1140) (no symbol for class C10)

Overall screw shaft length (in mm)

Seal symbol

no symbol: without seal

ZZ: brush seal attached to both ends of the ball screw nut (see page 1466)
