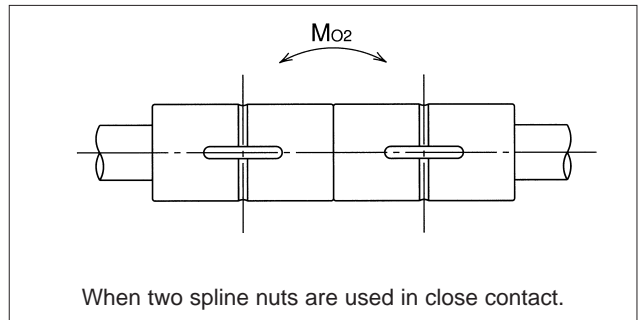
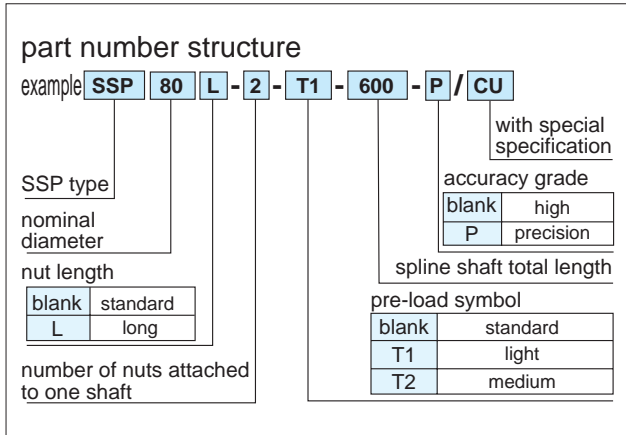
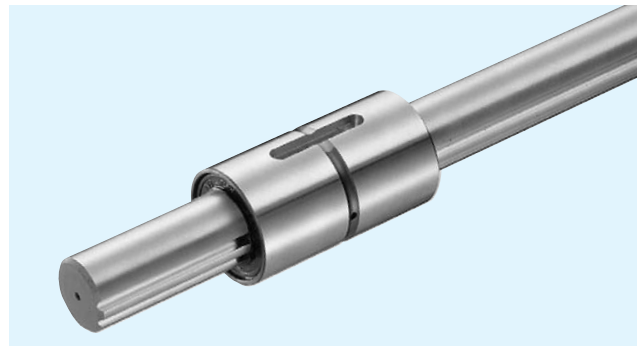
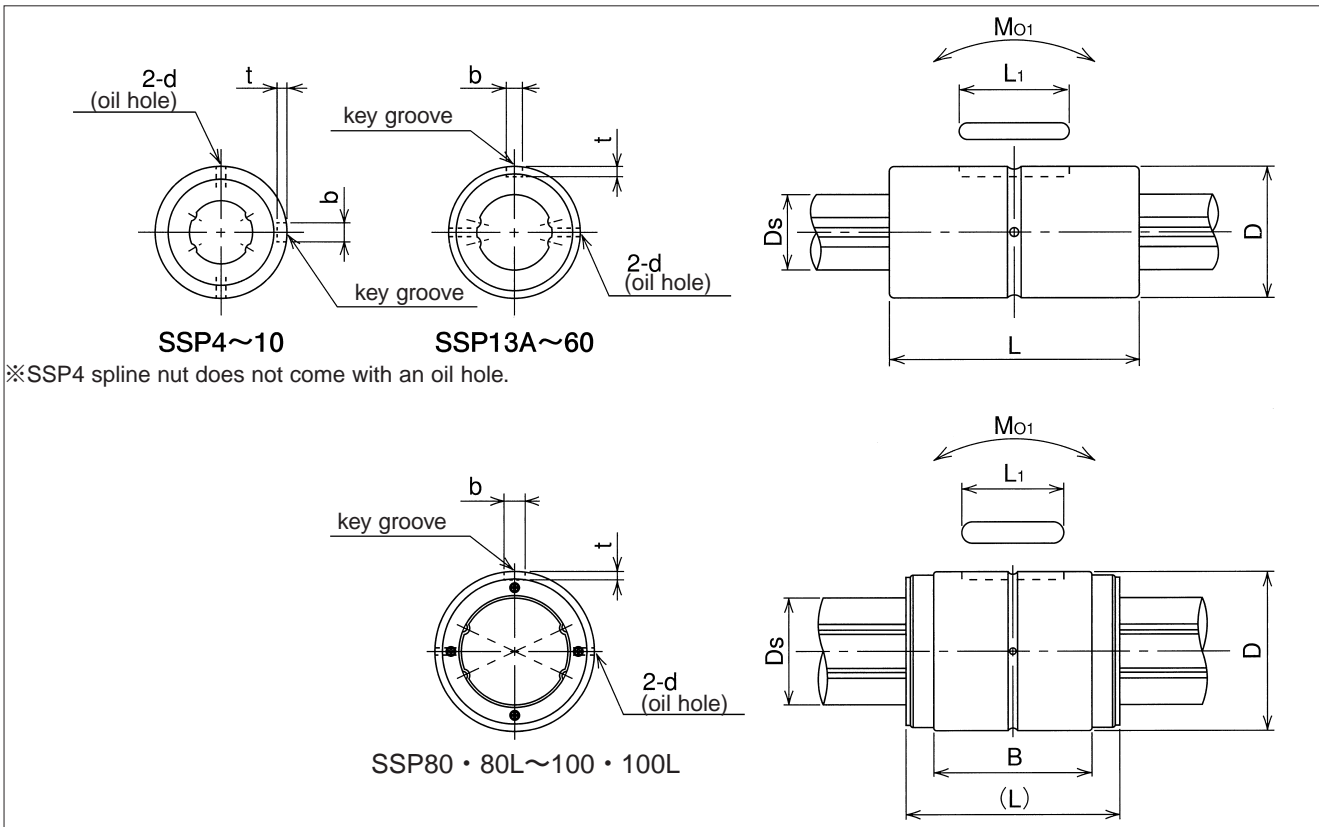


SSP TYPE

– Cylindrical Spline Nut –



part number		major dimensions											
		D		L		B	b		t +0.05 0 mm	L ₁	d	Ds	
standard	anticorrosion	mm	tolerance μm	mm	tolerance mm		mm	mm				μm	mm
SSP 4	SSPS 4	10	0/-9	16	0	-	2	+14 0	1.2	6	-	4	0
SSP 6	SSPS 6	14	0	25			2.5		1.2	10.5	1	6	-12
SSP 8	SSPS 8	16	-11	25			2.5		1.2	10.5	1.5	8	0
SSP 10	SSPS 10	21	0	33			3		1.5	13	1.5	10	-15
SSP 13A	SSPS 13A	24	-13	36			3		1.5	15	1.5	13	0
SSP 16A	SSPS 16A	31	0	50			3.5	2	17.5	2	16	-18	
SSP 20A	SSPS 20A	35		63			4	2.5	29	2	20	0	
SSP 20	SSPS 20	32		60			4	2.5	26	2	18.2		
SSP 25A	SSPS 25A	42		71			4	2.5	36	3	25		
SSP 25	SSPS 25	37		70			5	3	33	3	23		
SSP 30	-	45		80	7	4	41	3	28				
SSP 40	-	60		100	10	4.5	55	4	37.4	0			
SSP 50	-	75		112	15	5	60	4	47	-25			
SSP 60	-	90		127	18	6	68	4	56.5	0			
SSP 80	-	120		160	-	118.2	76	5	80	-30			
SSP 80L	-		175.2	110									
SSP100	-	150	185	-	132.6	110	5	100	0				
SSP100L	-		248		195.6					160	-35		

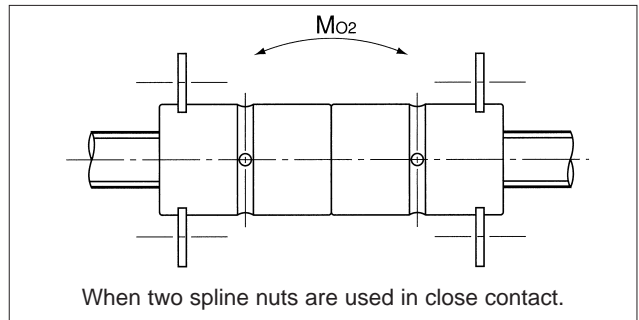
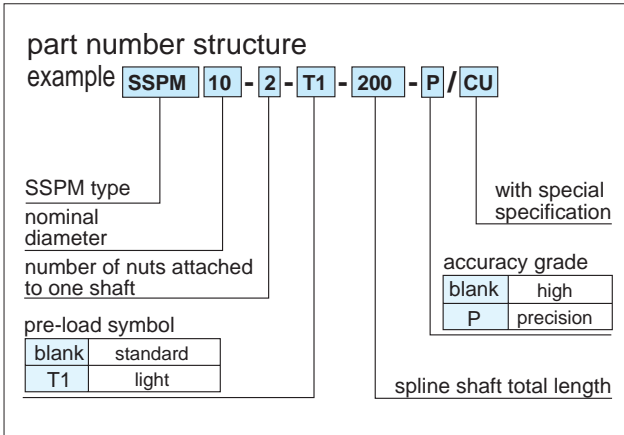
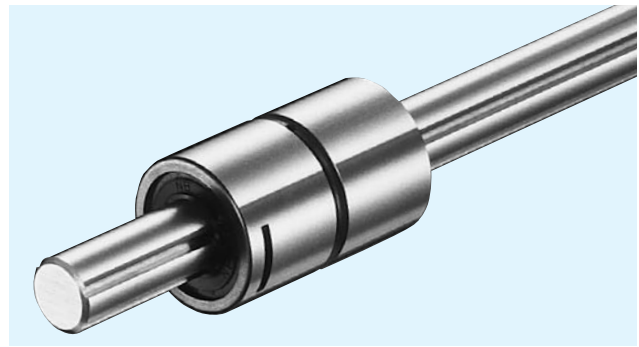


basic torque rating		basic load rating		allowable static moment		second cross-sectional moment of inertia	cross-sectional coefficient	mass		part number
dynamic C _T N·m	static C _{0T} N·m	dynamic C kN	static C ₀ kN	M ₀₁ N·m	M ₀₂ N·m			nut kg	shaft kg/m	
0.74	1.05	0.86	1.22	1.97	10.3	1.18 × 10	5.90	0.0065	0.10	SSP 4
1.5	2.4	1.22	2.28	5.1	40	5.9 × 10	1.97 × 10	0.019	0.21	SSP 6
2.1	3.7	1.45	2.87	7.4	50	1.9 × 10 ²	4.76 × 10	0.023	0.38	SSP 8
4.4	8.2	2.73	5.07	18.0	116	4.61 × 10 ²	9.22 × 10	0.054	0.60	SSP 10
21	39.2	2.67	4.89	13.7	109	1.38 × 10 ³	2.13 × 10 ²	0.07	1.0	SSP 13A
60	110	6.12	11.2	46	299	2.98 × 10 ³	3.73 × 10 ²	0.15	1.5	SSP 16A
105	194	8.9	16.3	110	560	7.35 × 10 ³	7.34 × 10 ²	0.22	2.4	SSP 20A
83	133	7.84	11.3	63	500	5.05 × 10 ³	5.54 × 10 ²	0.20	2.0	SSP 20
189	346	12.8	23.4	171	1,029	1.79 × 10 ⁴	1.43 × 10 ³	0.33	3.7	SSP 25A
162	239	12.3	16.1	104	830	1.27 × 10 ⁴	1.11 × 10 ³	0.22	3.1	SSP 25
289	412	18.6	23.2	181	1,470	2.75 × 10 ⁴	1.96 × 10 ³	0.35	4.8	SSP 30
637	882	30.8	37.5	358	2,940	8.73 × 10 ⁴	4.67 × 10 ³	0.81	8.6	SSP 40
1,390	3,180	46.1	74.2	696	4,400	2.16 × 10 ⁵	9.21 × 10 ³	1.5	13.1	SSP 50
2,100	4,800	58.0	127	1,300	8,800	4.51 × 10 ⁵	1.60 × 10 ⁴	2.5	19	SSP 60
3,860	6,230	83.1	134	2,000	11,100	1.93 × 10 ⁶	4.38 × 10 ⁵	5.1	39	SSP 80
5,120	9,340	110	201	4,410	21,100			7.6		SSP 80L
6,750	11,570	135	199	3,360	19,300	4.69 × 10 ⁶	9.38 × 10 ⁵	9.7	61	SSP100
8,960	17,300	179	298	7,340	37,700			13.9		SSP100L

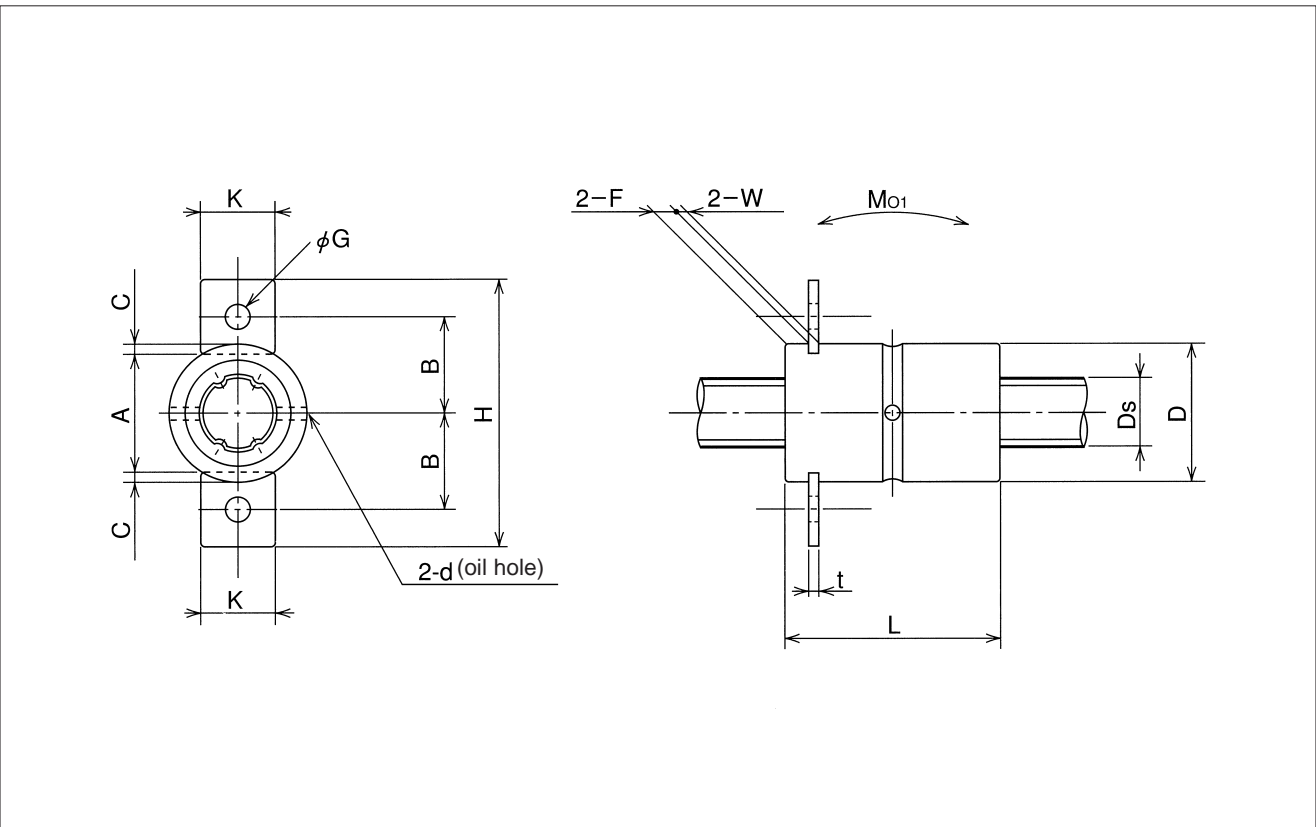
1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

SSPM TYPE

– Keyless Spline Nut –



part number	major dimensions												
	D		L		F	W	C	A	d	B	H	K	G
	mm	tolerance μm	mm	tolerance mm									
SSPM 6	14	0	25	0 -0.2	2.2	1.1	1.0	12.0	1	9.4	25.6	6.8	2.9
SSPM 8	16	-11	25		2.7	1.3	1.2	13.6	1.5	11	30.6	8.5	3.5
SSPM10	21	0/-13	33		2.7	1.3	1.2	18.6	1.5	13.5	35.6	8.5	3.5

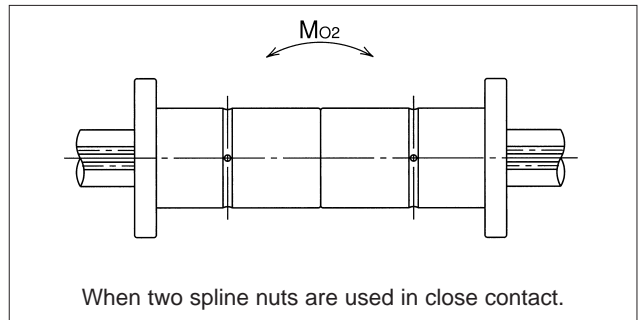
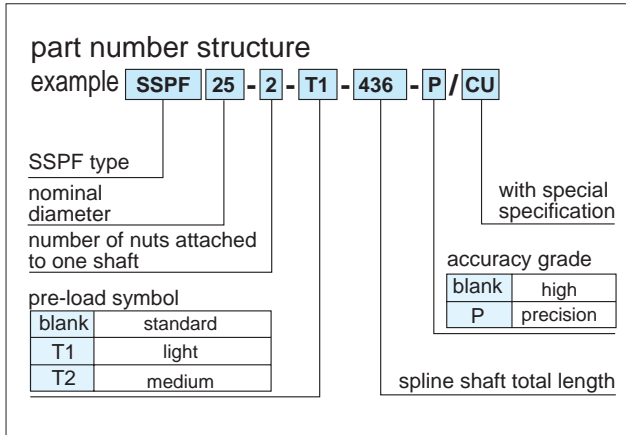
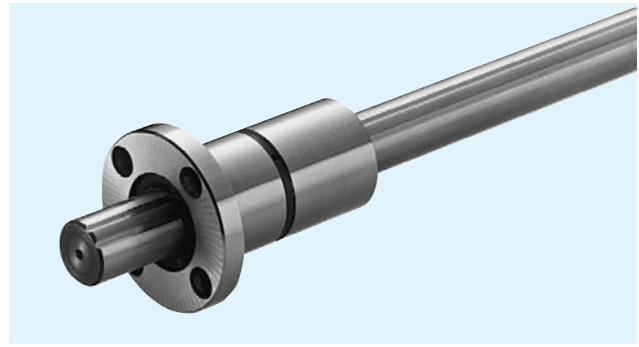


t	Ds		basic torque rating		basic load rating		allowable static moment		second cross-sectional moment of inertia	cross-sectional coefficient	mass		part number
			dynamic	static	dynamic	static	M ₀₁	M ₀₂			nut	shaft	
			C _T	C _{0T}	C	C ₀							
mm	mm	tolerance μm	N·m	N·m	kN	kN	N·m	N·m	mm ⁴	mm ³	kg	kg/m	
1.0	6	0/-12	1.5	2.4	1.22	2.28	5.1	40	5.9 × 10	1.97 × 10	0.019	0.21	SSPM 6
1.2	8	0	2.1	3.7	1.45	2.87	7.4	50	1.9 × 10 ²	4.76 × 10	0.023	0.38	SSPM 8
1.2	10	-15	4.4	8.2	2.73	5.07	18.0	116	4.61 × 10 ²	9.22 × 10	0.054	0.60	SSPM10

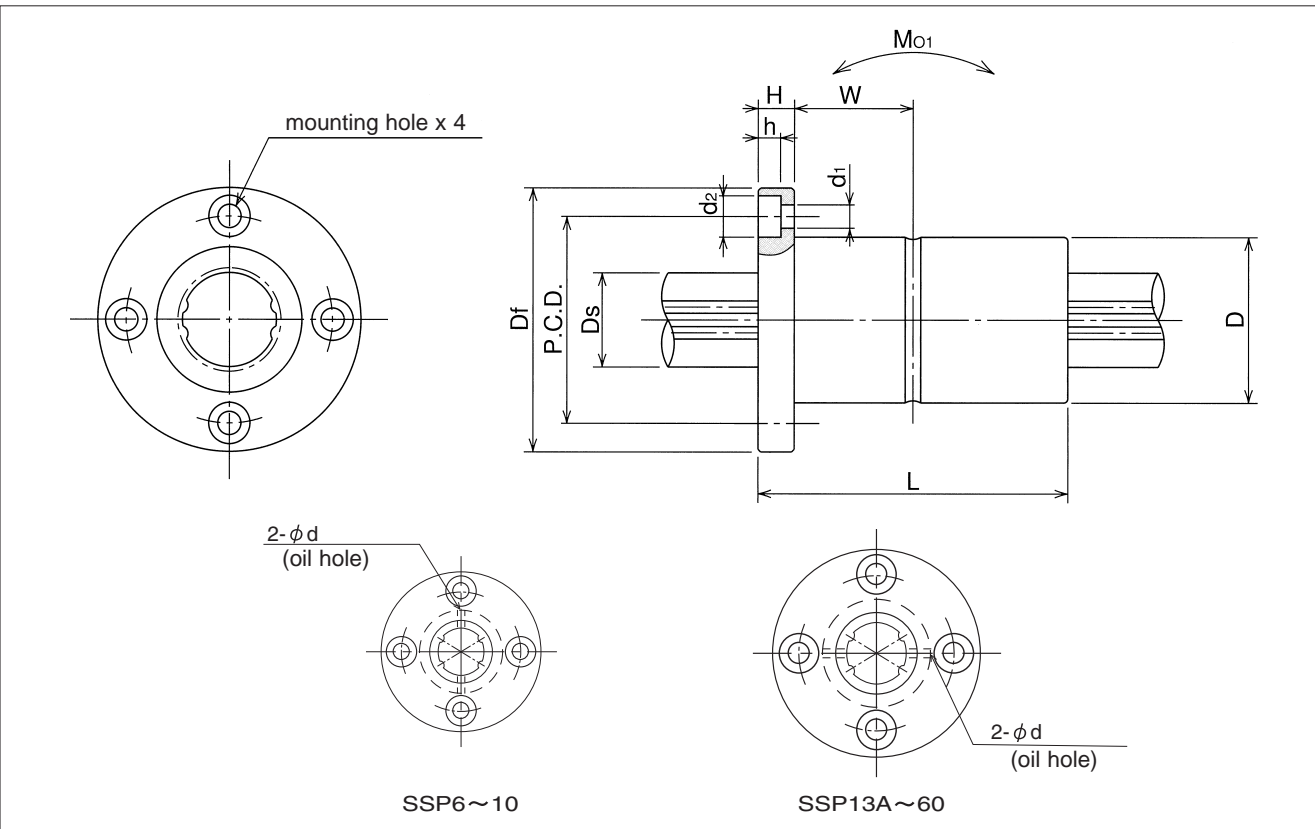
1kN ≒ 102kgf 1N·m ≒ 0.102kgf·m

SSPF TYPE

– Flange Type Nut –



part number		major dimensions										
		D mm	tolerance μm	L		Df mm	H mm	P.C.D. mm	$d_1 \times d_2 \times h$ mm	W mm	d mm	
mm	tolerance mm											
standard	anticorrosion											
SSPF 6	SSPFS 6	14	0	25	0 -0.2	30	5	22	3.4×6.5×3.3	7.5	1	
SSPF 8	SSPFS 8	16	-11	25		32	5	24	3.4×6.5×3.3	7.5	1.5	
SSPF10	SSPFS10	21	0	33		42	6	32	4.5×8×4.4	10.5	1.5	
SSPF13A	SSPFS13A	24	-13	36		43	7	33	4.5×8×4.4	11	1.5	
SSPF16A	SSPFS16A	31	0	50		50	7	40	4.5×8×4.4	18	2	
SSPF20A	SSPFS20A	35		63	58	9	45	5.5×9.5×5.4	22.5	2		
SSPF20	SSPFS20	32		60	51	7	40	4.5×8×4.4	23	2		
SSPF25A	SSPFS25A	42		-16	71	65	9	52	5.5×9.5×5.4	26.5	3	
SSPF25	SSPFS25	37		70	60	9	47	5.5×9.5×5.4	26	3		
SSPF30	—	45	0	80	0 -0.3	70	10	54	6.6×11×6.5	30	3	
SSPF40	—	60		100		90	14	72	9×14×8.6	36	4	
SSPF50	—	75		-19		112	113	16	91	11×17.5×11	40	4
SSPF60	—	90		0/-22		127	129	18	107	11×17.5×11	45.5	4

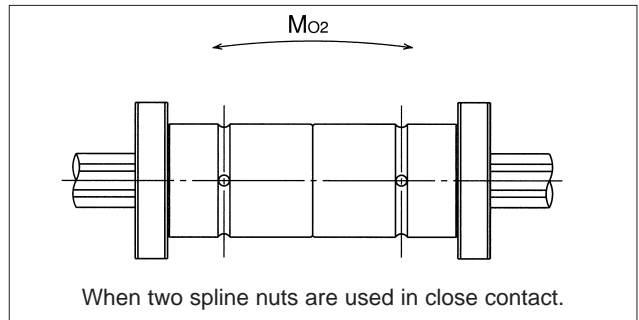
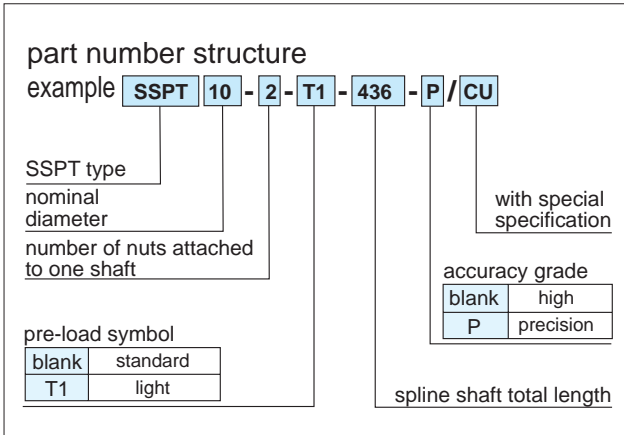
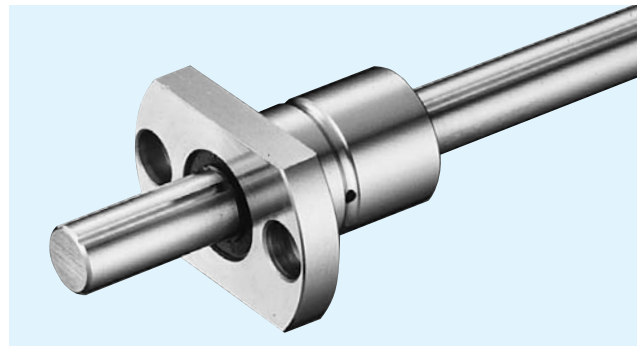


D _s mm	tolerance μm	basic torque rating		basic load rating		allowable static moment		second cross-sectional moment of inertia mm ⁴	cross-sectional coefficient mm ³	mass		part number
		dynamic	static	dynamic	static	M ₀₁ N·m	M ₀₂ N·m			nut kg	shaft kg/m	
		C _T N·m	C _{0T} N·m	C kN	C ₀ kN							
6	0/-12	1.5	2.4	1.22	2.28	5.1	40	5.9 × 10	1.97 × 10	0.037	0.21	SSPF 6
8	0	2.1	3.7	1.45	2.87	7.4	50	1.9 × 10 ²	4.76 × 10	0.042	0.38	SSPF 8
10	-15	4.4	8.2	2.73	5.07	18.0	116	4.61 × 10 ²	9.22 × 10	0.094	0.6	SSPF10
13	0	21	39.2	2.67	4.89	13.7	109	1.38 × 10 ³	2.13 × 10 ²	0.1	1	SSPF13A
16	-18	60	110	6.12	11.2	46	299	2.98 × 10 ³	3.73 × 10 ²	0.2	1.5	SSPF16A
20	0 -21	105	194	8.9	16.3	110	560	7.35 × 10 ³	7.34 × 10 ²	0.33	2.4	SSPF20A
18.2		83	133	7.84	11.3	63	500	5.05 × 10 ³	5.54 × 10 ²	0.22	2	SSPF20
25		189	346	12.8	23.4	171	1,029	1.79 × 10 ⁴	1.43 × 10 ³	0.45	3.7	SSPF25A
23		162	239	12.3	16.1	104	830	1.27 × 10 ⁴	1.11 × 10 ³	0.32	3.1	SSPF25
28		289	412	18.6	23.2	181	1,470	2.75 × 10 ⁴	1.96 × 10 ³	0.51	4.8	SSPF30
37.4	0	637	882	30.8	37.5	358	2,940	8.73 × 10 ⁴	4.67 × 10 ³	1.15	8.6	SSPF40
47	-25	1,390	3,180	46.1	74.2	696	4,400	2.16 × 10 ⁵	9.21 × 10 ³	2.1	13.1	SSPF50
56.5	0/-30	2,100	4,800	58.0	127	1,300	8,800	4.51 × 10 ⁵	1.60 × 10 ⁴	3.3	19	SSPF60

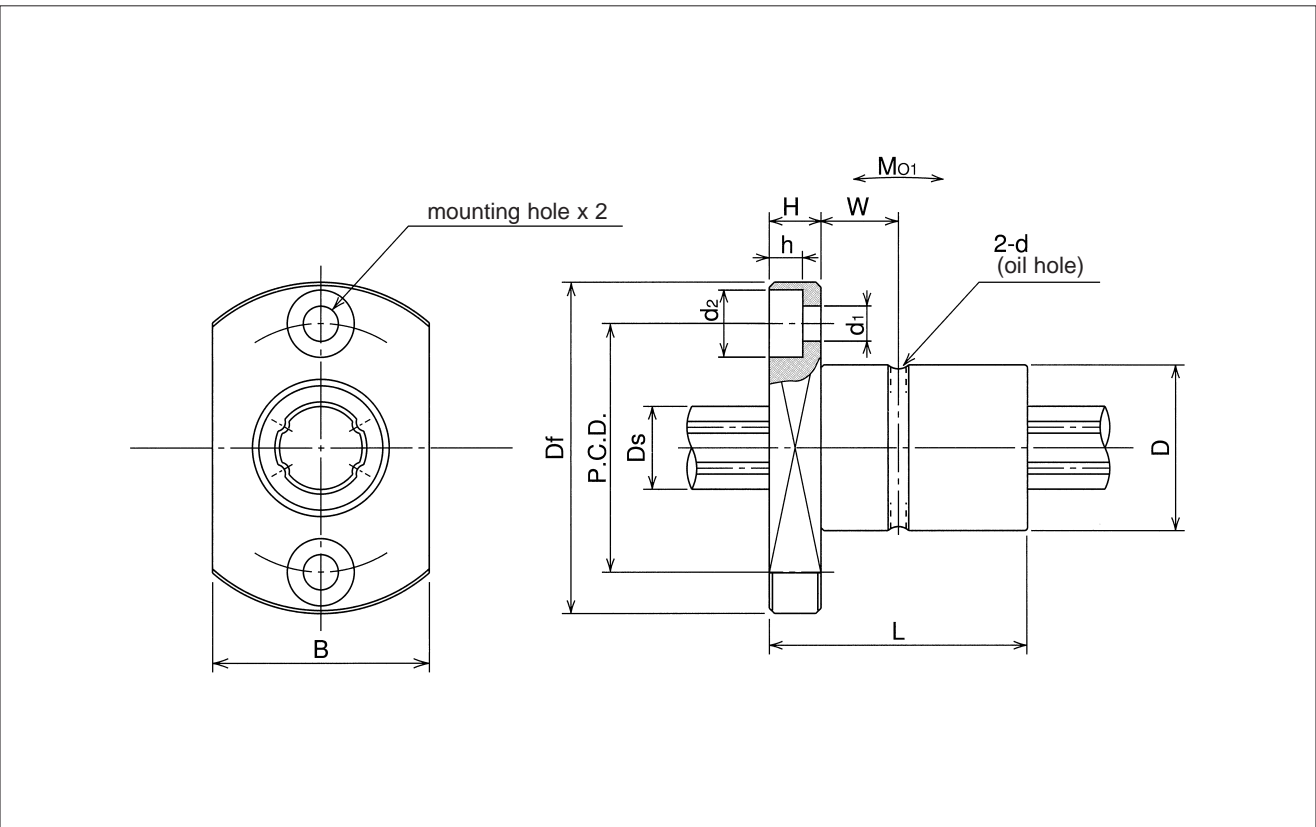
1kN ≒ 102kgf 1N·m ≒ 0.102kgf·m

SSPT TYPE

– Two Side Cut Flange Type –



part number	major dimensions										
	D		L		Df	B	H	P.C.D.	d ₁ × d ₂ × h	W	d
	mm	tolerance μm	mm	tolerance mm							
SSPT 6	14	0	25	0 -0.2	30	18	5	22	3.4 × 6.5 × 3.3	7.5	1
SSPT 8	16	-11	25		32	21	5	24	3.4 × 6.5 × 3.3	7.5	1.5
SSPT10	21	0/-13	33		42	25	6	32	4.5 × 8 × 4.4	10.5	1.5

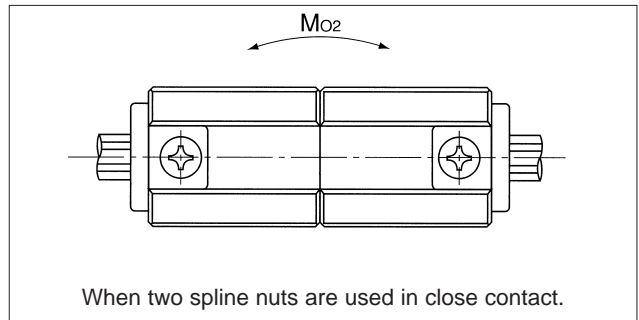
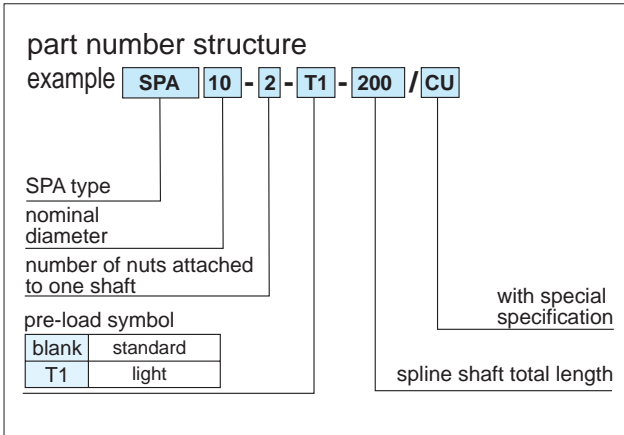
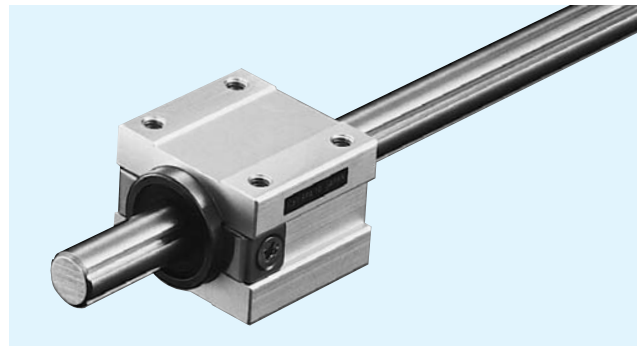


mm	D_s tolerance μm	basic torque rating		basic load rating		allowable static moment		second cross-sectional moment of inertia mm^4	cross-sectional coefficient mm^3	mass		part number
		dynamic C_T $N \cdot m$	static C_{0T} $N \cdot m$	dynamic C kN	static C_0 kN	M_{01} $N \cdot m$	M_{02} $N \cdot m$			nut kg	shaft kg/m	
		6	0/-12	1.5	2.4	1.22	2.28			5.1	40	
8	0	2.1	3.7	1.45	2.87	7.4	50	1.9×10^2	4.76×10	0.035	0.38	SSPT 8
10	-15	4.4	8.2	2.73	5.07	18.0	116	4.61×10^2	9.22×10	0.075	0.6	SSPT10

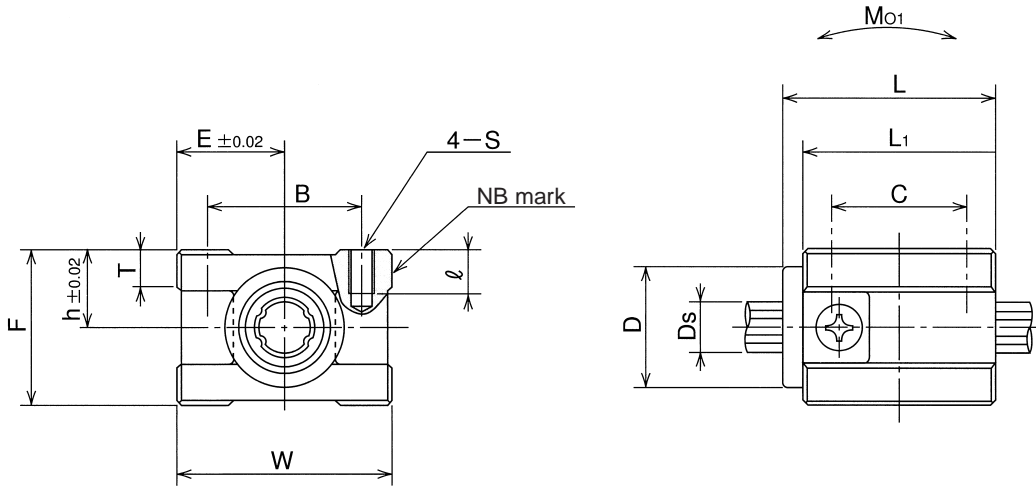
1kN \approx 102kgf 1N \cdot m \approx 0.102kgf \cdot m

SPA TYPE

– Keyless Block Type –



part number	major dimensions											
	h	E	W	L	F	L ₁	T	B	C	S	ℓ	D
	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm
SPA 6	9	12.5	25	25	18	22.5	4.2	18	16	M3	5	14
SPA 8	10	14	28	25	20	22	5	20	16	M3	5	16
SPA10	12.5	16.5	33	33	25	30	7.5	25	20	M4	6	21

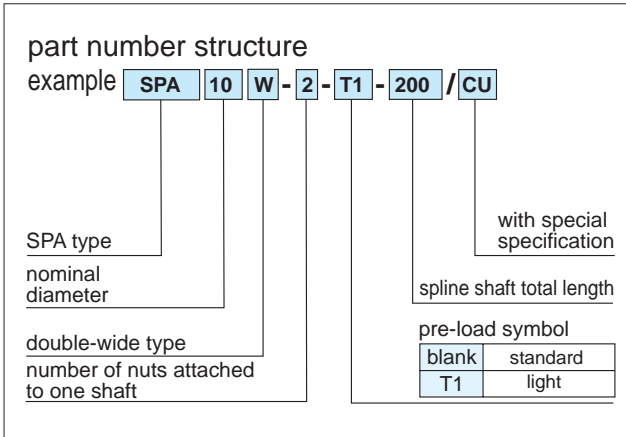
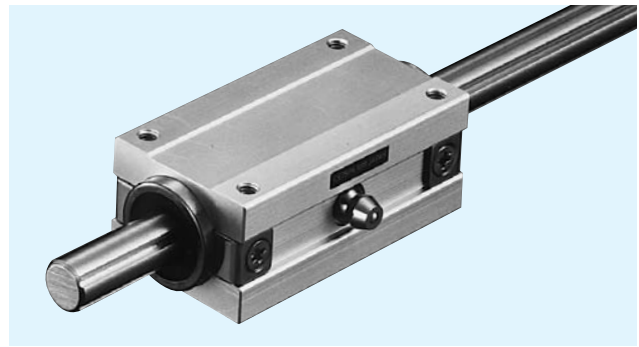


Ds		basic torque rating		basic load rating		allowable static moment		second cross-sectional moment of inertia	cross-sectional coefficient	mass		part number
		dynamic	static	dynamic	static	M ₀₁	M ₀₂			nut	shaft	
mm	tolerance μm	N · m	N · m	kN	kN	N · m	N · m	mm ⁴	mm ³			
6	0/-12	1.5	2.4	1.22	2.28	5.1	40	5.9 × 10	1.97 × 10	0.035	0.21	SPA 6
8	0	2.1	3.7	1.45	2.87	7.4	50	1.9 × 10 ²	4.76 × 10	0.042	0.38	SPA 8
10	-15	4.4	8.2	2.73	5.07	18	116	4.61 × 10 ²	9.22 × 10	0.088	0.6	SPA10

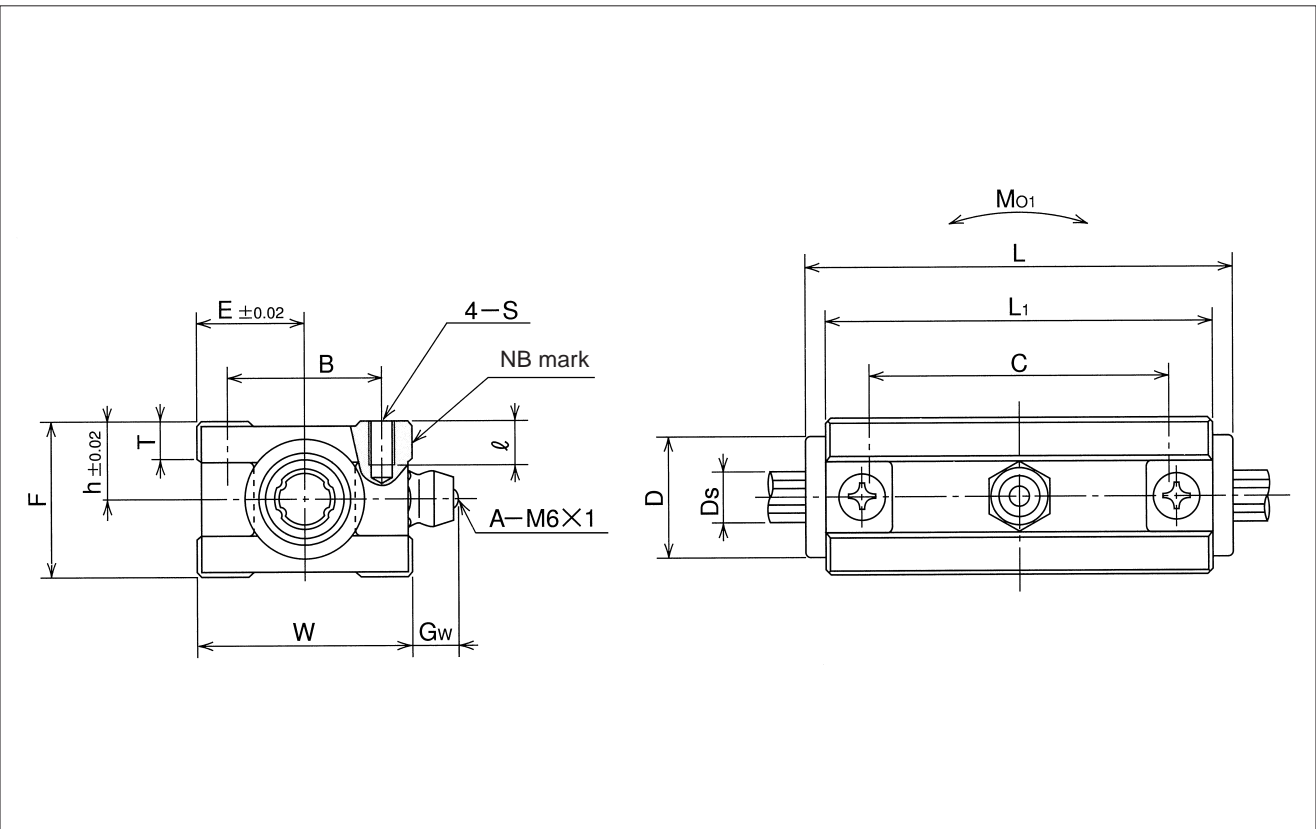
1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

SPA-W TYPE

— Keyless Block Double Type —



part number	major dimensions											
	h	E	W	L	F	L ₁	T	Gw	B	C	S	ℓ
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm
SPA 6W	9	12.5	25	50	18	45	4.2	6.5	18	35	M3	5
SPA 8W	10	14	28	50	20	44	5		20	34	M3	5
SPA10W	12.5	16.5	33	66	25	60	7.5		25	50	M4	6

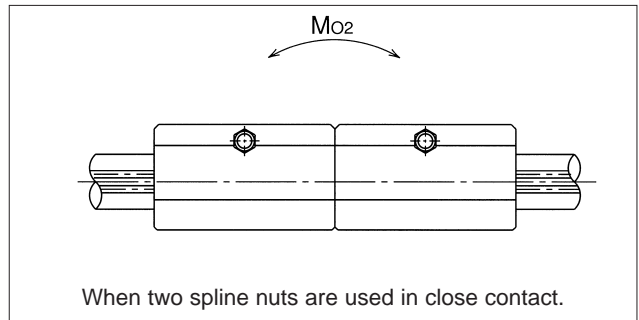
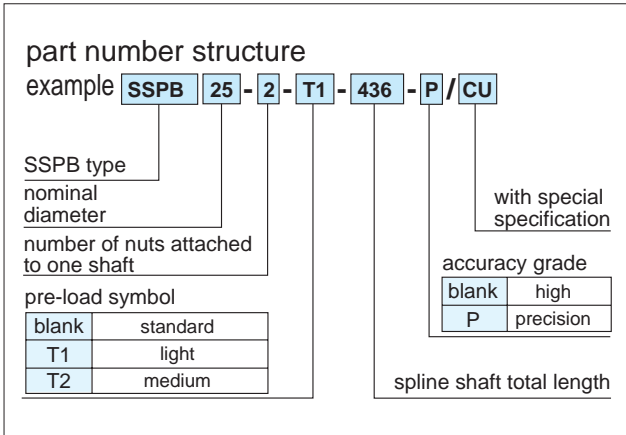
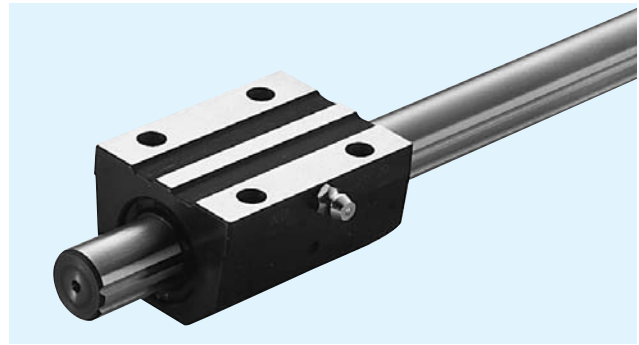


D mm	Ds mm	tolerance μm	basic torque rating		basic load rating		allowable static moment Mo1 N · m	second cross- sectional moment of inertia mm ⁴	cross- sectional coefficient mm ³	mass		part number
			dynamic C _T N · m	static C _{0T} N · m	dynamic C kN	static C ₀ kN				nut kg	shaft kg/m	
			14	6	0/-12	3.0				4.8	1.98	
16	8	0	4.2	7.4	2.35	5.78	50	1.9 × 10 ²	4.76 × 10	0.085	0.38	SPA 8W
21	10	-15	8.8	16.4	4.42	10.14	116	4.61 × 10 ²	9.22 × 10	0.179	0.60	SPA10W

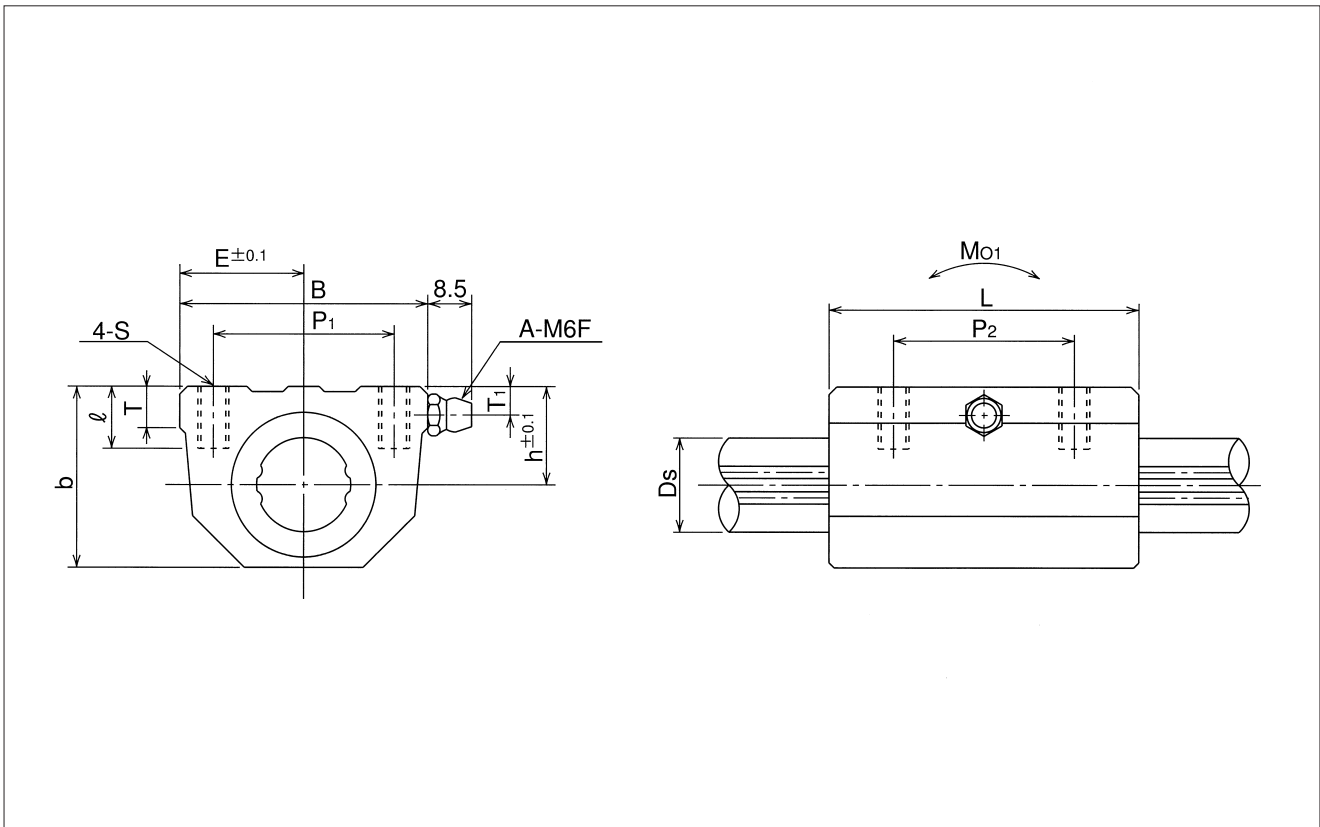
1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

SSPB TYPE

– Block Type –



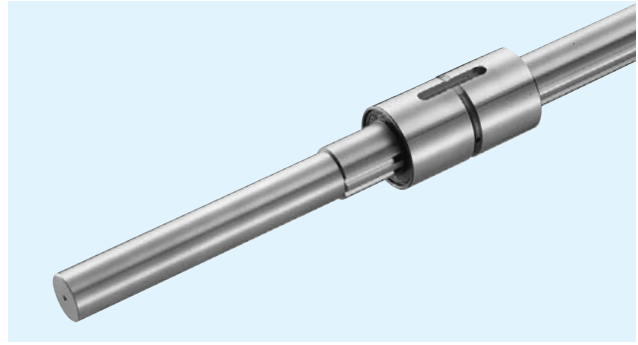
part number	major dimensions										
	h	B	L	E	b	T	P ₁	P ₂	S	ℓ	T ₁
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SSPB20	19	48	60	24	35	8	35	35	M6	12	5.5
SSPB25	22	60	70	30	41.5	10	40	40	M8	12	6
SSPB30	26	70	80	35	50	12	50	50	M8	12	7
SSPB40	32	86	100	43	63	15	60	60	M10	15	8



Ds		basic torque rating		basic load rating		allowable static moment		second cross-sectional moment of inertia	cross-sectional coefficient	mass		part number
		dynamic	static	dynamic	static	M ₀₁	M ₀₂			nut	shaft	
		C _T	C _{0T}	C	C ₀							
mm	tolerance μm	N·m	N·m	kN	kN	N·m	N·m	mm ⁴	mm ³			
18.2	0 -21	83	133	7.84	11.3	63	500	5.05 × 10 ³	5.54 × 10 ²	0.55	2.0	SSPB20
23		162	239	12.3	16.1	104	830	1.27 × 10 ⁴	1.11 × 10 ³	0.9	3.1	SSPB25
28		289	412	18.6	23.2	181	1,470	2.75 × 10 ⁴	1.96 × 10 ³	1.4	4.8	SSPB30
37.4	0/-25	637	882	30.8	37.5	358	2,940	8.73 × 10 ⁴	4.67 × 10 ³	2.5	8.6	SSPB40

1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

STANDARD BALL SPLINE



part number structure example **SPA 10 W S - 2 - T1 - 400**

nut shape

SSP	cylindrical type
SSPM	key less type
SSPF	flange type
SSPT	two side cut flange type
SPA	aluminum block type
SSPB	block type

nominal diameter

standard length L

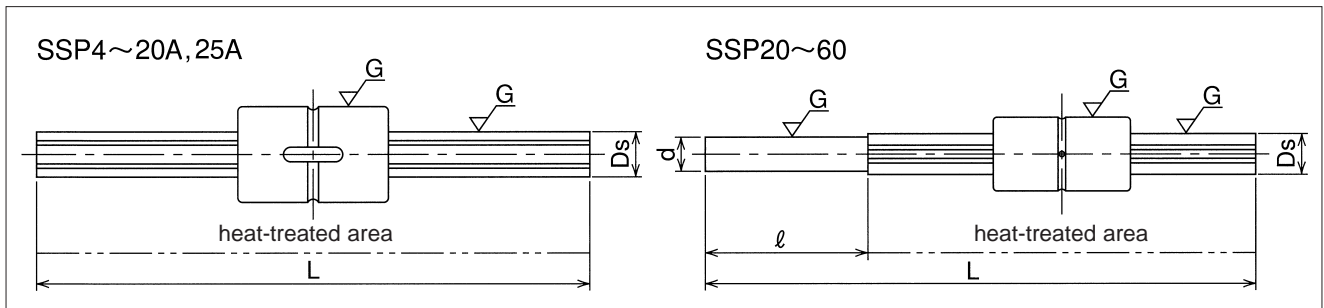
pre-load symbol

blank	standard
T1	light
T2	medium

number of nuts attached to one shaft

standard spline shaft

double-wide type



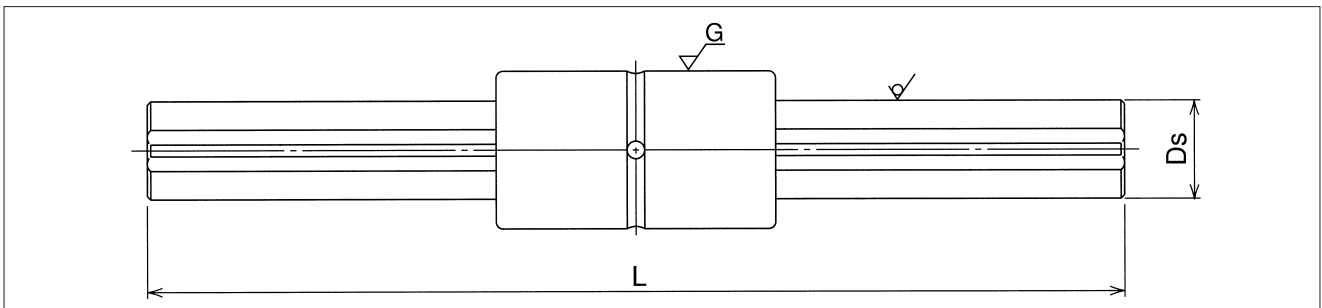
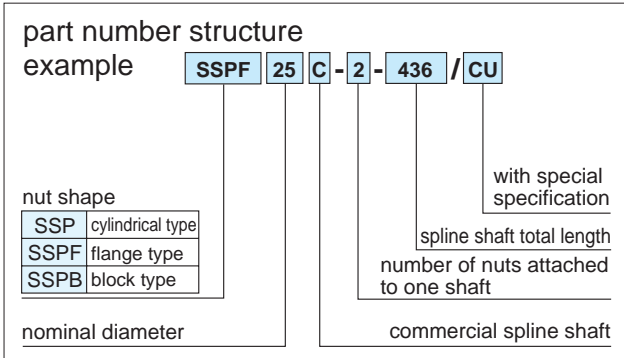
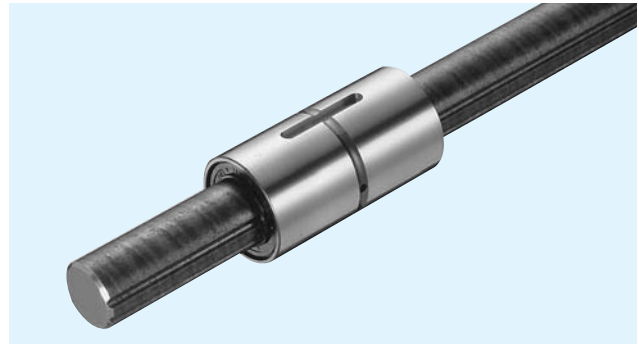
nominal diameter	major dimensions									applicable nut							
	Ds		d		ℓ	standard length L				SSP	SSPM	SSPF	SSPT	SPA	SPA-W	SSPB	
	mm	tolerance μm	mm	tolerance μm		mm											
4	4	0	-	-	-	100	150	200	300	-	○	-	-	-	-	-	
6	6	-12	-	-	-	150	200	300	400	-	○	○	○	○	○	-	
8	8	0	-	-	-	150	200	300	400	500	○	○	○	○	○	-	
10	10	-15	-	-	-	200	300	400	500	600	○	○	○	○	○	-	
13A	13	0	-	-	-	200	300	400	500	600	○	-	○	-	-	-	
16A	16	-18	-	-	-	200	300	400	500	600	○	-	○	-	-	-	
20A	20	0	-	-	-	300	400	500	800	1,000	○	-	○	-	-	-	
20	18.2		15	0/-18	150	350	450	550	650	-	○	-	○	-	-	○	
25A	25		-	-	-	300	400	500	800	1,000	○	-	○	-	-	-	
25	23	-21	20	0	-21	150	350	450	550	650	850	○	-	○	-	-	○
30	28		25			150	450	550	650	750	1,150	○	-	○	-	-	-
40	37.4	0	30	0	-21	150	550	750	950	1,150	-	○	-	○	-	-	○
50	47	-25	40			150	650	850	1,150	1,350	-	○	-	○	-	-	-
60	56.5	0/-30	45	-25	150	650	850	1,150	1,350	-	○	-	○	-	-	-	-

Tolerance of length L for nominal diameter sizes 4-16A: JIS B0405 coarse grade.

○ yes - no

Refer to dimensional tables for nut shape and dimensions.

COMMERCIAL BALL SPLINE



nominal diameter	major dimensions							applicable nut						
	Ds mm	standard length L mm						SSP	SSPM	SSPF	SSPT	SPA	SPA-W	SSPB
		500	1,000	2,000	3,000	4,000	5,000							
20	18.2	500	1,000	2,000	3,000	4,000	5,000	<input type="radio"/>	-	<input type="radio"/>	-	-	-	<input type="radio"/>
25	23	500	1,000	2,000	3,000	4,000	5,000	<input type="radio"/>	-	<input type="radio"/>	-	-	-	<input type="radio"/>
30	28	500	1,000	2,000	3,000	4,000	5,000	<input type="radio"/>	-	<input type="radio"/>	-	-	-	<input type="radio"/>
40	37.4	500	1,000	2,000	3,000	4,000	5,000	<input type="radio"/>	-	<input type="radio"/>	-	-	-	<input type="radio"/>
50	47	500	1,000	2,000	3,000	4,000	5,000	<input type="radio"/>	-	<input type="radio"/>	-	-	-	-

- tolerance of total length and length of splined portion ○ yes - no
 - total length less than 4000: JIS B0405 coarse grade
 - total length greater than 4,000: +/- 5.0mm
- Please specify for tolerances other than those above.
- Refer to dimensional tables for nut shape and dimensions
- When a commercial shaft is used, the rated load for the nut is about 70% that indicated in the dimensional tables.