

SLIDE GUIDE

BALL SPLINE  
ROTARY BALL SPLINE  
STROKE BALL SPLINE

TOPBALL® PRODUCTS

SLIDE BUSH

SLIDE UNIT

STROKE BUSH  
SLIDE ROTARY BUSH

SLIDE SHAFT

SLIDE WAY/GONIO WAY  
SLIDE TABLE  
MINIATURE SLIDE

ACTUATOR

SLIDE SCREW

# SLIDE UNIT

# SLIDE UNIT

A wide variety of linear motion slide units are available. Their high precision blocks increase the accuracy of machinery and other equipment. The blocks can be constructed of resin to reduce cost and weight. The use of standard shaft end supports and shaft support rails simplifies the components. The use of commercial units help to reduce design time and installation and component costs.

## TYPES

Table E-1






types	description		shaft support type	page
metric series block type	SMA	 <p>housing material : aluminum alloy commonly used standard type inner contact diameter : <math>\phi 3\sim 60</math></p>	SH-A SH SHF	P.E-8
	SMA-W	 <p>double wide housing material : aluminum alloy inner contact diameter : <math>\phi 3\sim 60</math></p>		P.E-10
	AK	 <p>compact type housing material : aluminum alloy inner contact diameter : <math>\phi 6\sim 30</math></p>		P.E-12
	AK-W	 <p>compact type double wide housing material : aluminum alloy inner contact diameter : <math>\phi 6\sim 30</math></p>		P.E-14
	SMB	 <p>housing material : aluminum alloy inner contact diameter : <math>\phi 13\sim 40</math></p>		P.E-16

Table E-2

types		description		shaft support type	page	
metric series	block type	RB 	light weight housing material : resin cost effective inner contact diameter : $\phi 10\sim 20$	SH-A SH SHF	P.E-28	
	pillow block type	SMP 	self-aligning feature housing material : cast iron inner contact diameter : $\phi 13\sim 60$		P.E-18	
	adjustable type	SMJ 	clearance adjustable housing material : aluminum alloy inner contact diameter : $\phi 10\sim 60$		P.E-20	
	open type	SME		open type housing material : aluminum alloy suitable for a long distance application inner contact diameter : $\phi 10\sim 50$	SA	P.E-22
		SME-W		open type double wide moment resistant housing material : aluminum alloy inner contact diameter : $\phi 10\sim 30$		P.E-24
		SMD		open type clearance adjustable housing material : aluminum alloy inner contact diameter : $\phi 16\sim 30$		P.E-26

Table E-3




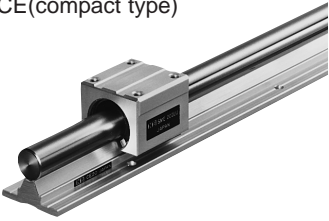
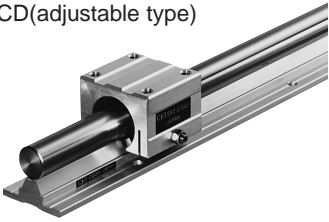

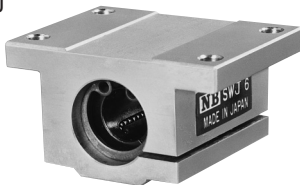




types		description		page
metric series	shaft supporter	SH-A 	shaft end supporter material : aluminum alloy (SH-A), cast iron (SH) inner contact diameter : $\phi 8\sim 60$ (SH-A), $\phi 10\sim 60$ (SH)	P.E-29
		SH 		P.E-30
		SHF/SHF-FC 	shaft end supporter flanged type material : aluminum alloy (SHF 10-60) cast iron (SHF-FC 35-60) inner contact diameter : $\phi 10\sim 60$	P.E-31
	shaft support rail	SA 	shaft support rail for open type block material : aluminum alloy maximum length : 600mm inner contact diameter : $\phi 10\sim 50$	P.E-32
	assembly	CE(compact type) 	open type block and support rail assembly easy installation cost performance available clearance adjustable type and compact block type standard maximum length : 2,000mm longer length are available Please contact NB in case of the length exceeds 2,000mm inner contact diameter : $\phi 16\sim 30$	P.E-34
		CD(adjustable type) 		P.E-36

Table E-4

types		description		shaft support type	page
inch series	block type	SWA 	housing material : aluminum alloy inner contact diameter : $\phi 1/4" \sim 2"$	WH-A	PE-38
	adjustable type	SWJ 	clearance adjustable housing material : aluminum alloy inner contact diameter : $\phi 1/2" \sim 2"$		PE-40
	open type	SWD 	open type clearance adjustable housing material : aluminum alloy inner contact diameter : $\phi 1/2" \sim 2"$	WA	PE-42
	resin block type	RBW 	anti-corrosion light weight housing material : resin cost effective inner contact diameter : $\phi 1/2" \sim 1"$	WH-A	PE-44
	shaft supporter	WH-A 	shaft end supporter material : aluminum alloy inner contact diameter : $\phi 1/4" \sim 2"$	-	PE-45
	shaft support rail	WA 	shaft support rail for open type block material : aluminum alloy maximum length : 24" inner contact diameter : $\phi 1/2" \sim 2"$		PE-46

See C-1 TOPBALL PRODUCTS.

## ACCURACY

The accuracy of the SA type and CE/CD-types support rails are measured as shown in Figure E-1.

Figure E-1 Measurement Method

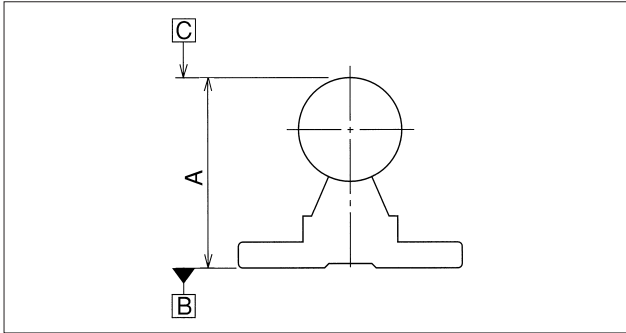


Figure E-2 Accuracy of SA Type Support

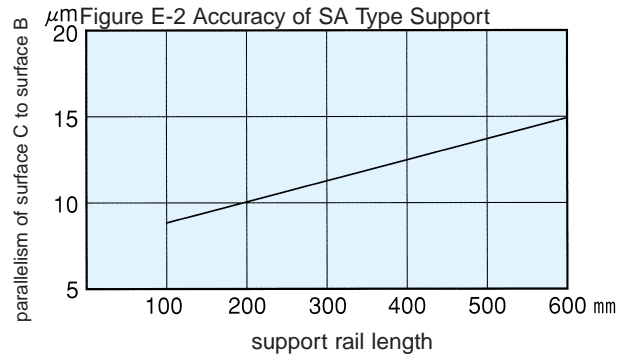
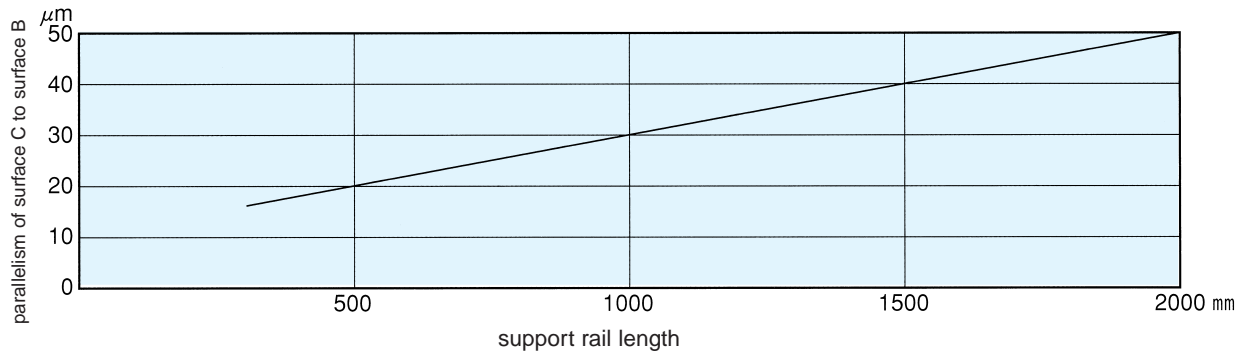


Figure E-3 Accuracy of CE/CD-Type Support Rails



## LIFE

The life of a slide unit is estimated using the following equations, which are similar to that of a slide bushing.

Travel life:

$$L = \left( \frac{f_H \cdot f_T \cdot f_C}{f_W} \cdot \frac{C}{P} \right)^3 \cdot 50$$

L : travel life (km)  $f_H$  : hardness coefficient  $f_T$  : temperature coefficient  
 $f_C$  : contact coefficient  $f_W$  : load coefficient C : dynamic load rating(N)  
 P : applied load(N)

※ When an open-type slide unit is used with the load in the direction shown in Figure E-4, the load rating must be calibrated using the coefficients listed in Table E-5.

Table E-5 Calibration Coefficients for Load Rating

part number		coefficient
SME(D)10G-16G	CE(D)16G	0.64
SME(D)20G	CE(D)20G	0.54
SME(D)25G-50G	CE(D)25G-30G	0.57

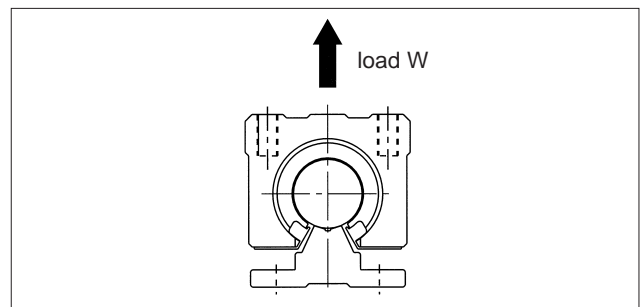
Contact NB for information on using steel retainers.

Life time:

$$L_h = \frac{L \cdot 10^3}{2 \cdot l_s \cdot n_1 \cdot 60}$$

$L_h$  : life time(hr)  $l_s$  : stroke distance (m)  
 $n_1$  : stroke frequency per min. (cpm)

Figure E-4 Load Direction



## NOTES ON USAGE

### Reference Surface:

A reference surface is provided with NB slide units as a standard feature. Excellent accuracy can be achieved by simply pushing the reference surface against the shoulder of the installation surface. (Excludes RB/RBW/SMP types)

### Clearance Adjustment:

The adjustment of pre-load for the slide unit must be done carefully so that pre-load is not excessive. Care should be taken not to apply excessive torque when tightening the screws.

### Mounting of RB Type Unit:

RB type unit has a resin housing. Mounting should be done using the proper torque values given in Table E-6.

### Recommended Fit:

A standard grade slide bush is installed in NB slide units. For clearance and transition fit, g6 and h6 tolerance shafts, respectively, should be used. (Excludes adjustable-clearance type and open type)

### Example: Special Installation Case of SMJ Type Slide Unit

When installing a Clearance Adjustable Unit such as illustrated in Figure D-6, please consult with NB. Special mounting holes will be required to allow for installations such as this.

Figure E-5 Reference Surface

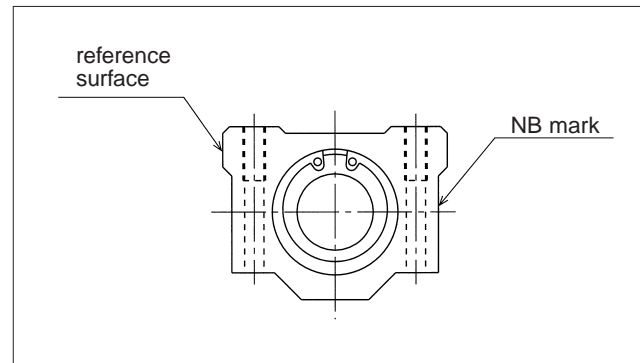
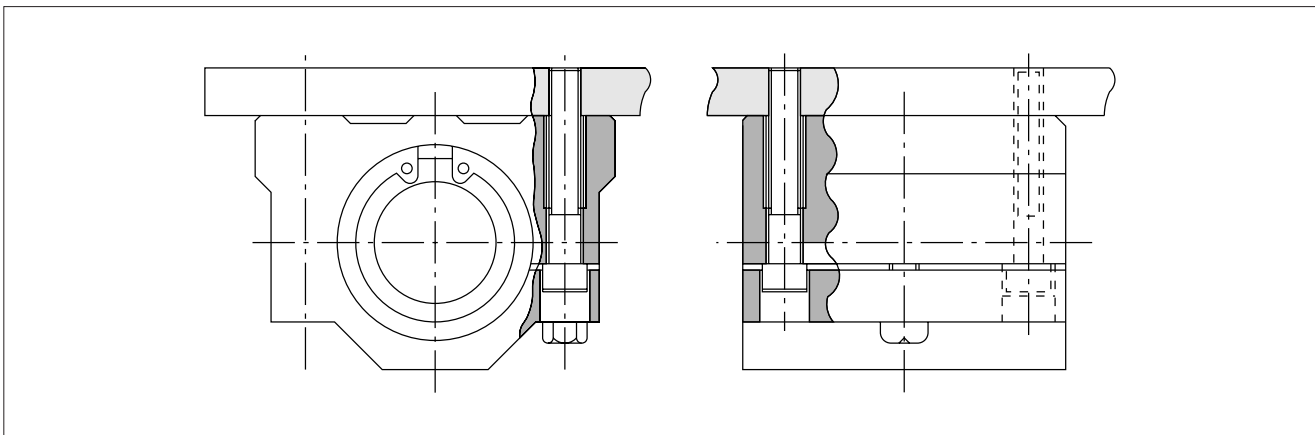


Table E-6 Torque Values

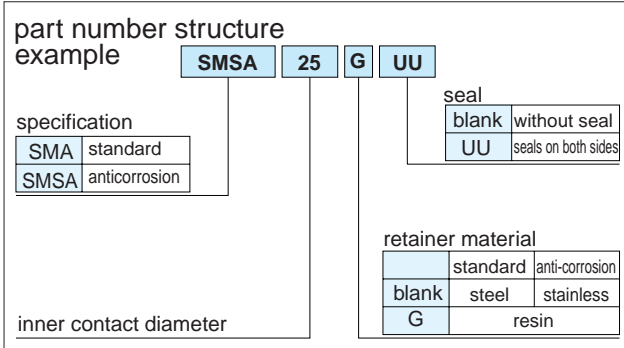
part number	mounting bolt	torque N-m
RB10~16	M4	1.8
RB20	M5	5.3

Figure D-6 Example: Special Installation Case of SMJ Type Slide Unit



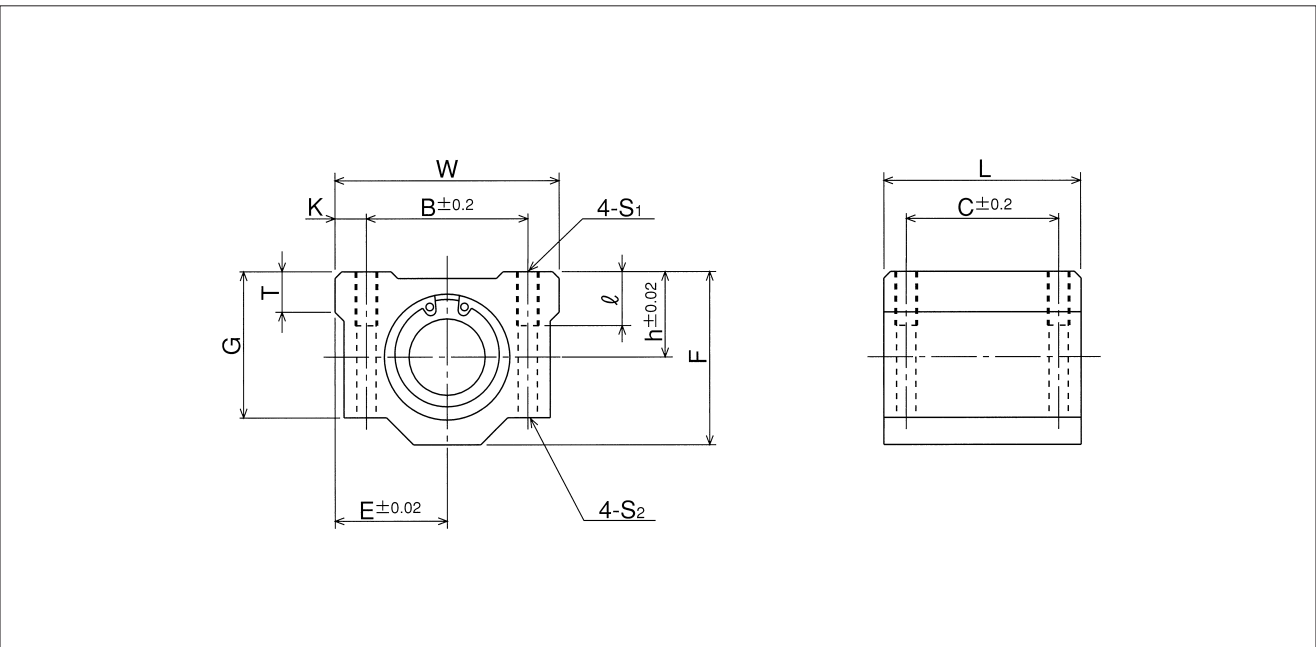
# SMA TYPE

– Block Type –



part number	major dimensions								
	inner contact diameter		outer dimensions						
	mm	tolerance $\mu\text{m}$	h mm	E mm	W mm	L mm	F mm	G mm	T mm
SMA 3GUU	3	0	5	8	16	13	10	8	—
SMA 4GUU	4	— 8	5.5	8.5	17	15	11	9	—
SMA 5GUU	5		7	11	22	18	14	11	—
SMA 6GUU	6		9	15	30	25	18	15	6
SMA 8GUU	8		11	17	34	30	22	18	6
SMA10GUU	10	0	13	20	40	35	26	21	8
SMA12GUU	12	— 9	15	21	42	36	28	24	8
SMA13GUU	13		15	22	44	39	30	24.5	8
SMA16GUU	16		19	25	50	44	38.5	32.5	9
SMA20GUU	20	0	21	27	54	50	41	35	11
SMA25GUU	25	— 10	26	38	76	67	51.5	42	12
SMA30GUU	30		30	39	78	72	59.5	49	15
SMA35GUU	35	0	34	45	90	80	68	54	18
SMA40GUU	40	— 12	40	51	102	90	78	62	20
SMA50GUU	50		52	61	122	110	102	80	25
SMA60GUU	60	0/— 15	58	66	132	122	114	94	30



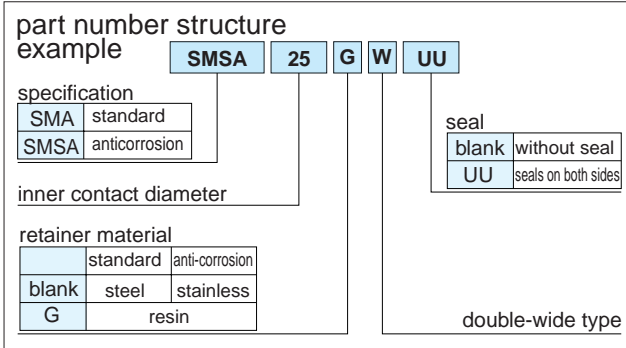
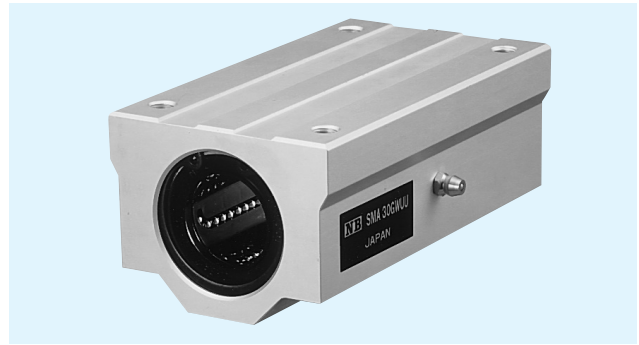


mounting dimensions						basic load rating		mass g	part number
						dynamic C N	static Co N		
B mm	C mm	K mm	S <sub>1</sub>	ℓ mm	S <sub>2</sub> mm				
11	8	2.5	M 2	—	—	69	105	5	<b>SMA 3GUU</b>
12	10	2.5	M 3	—	—	88	127	7	<b>SMA 4GUU</b>
16	12	3	M 3	—	—	167	206	14	<b>SMA 5GUU</b>
20	15	5	M 4	8	3.4	206	265	34	<b>SMA 6GUU</b>
24	18	5	M 4	8	3.4	274	392	52	<b>SMA 8GUU</b>
28	21	6	M 5	12	4.3	372	549	92	<b>SMA10GUU</b>
30.5	26	5.75	M 5	12	4.3	510	784	102	<b>SMA12GUU</b>
33	26	5.5	M 5	12	4.3	510	784	120	<b>SMA13GUU</b>
36	34	7	M 5	12	4.3	774	1,180	200	<b>SMA16GUU</b>
40	40	7	M 6	12	5.2	882	1,370	255	<b>SMA20GUU</b>
54	50	11	M 8	18	7	980	1,570	600	<b>SMA25GUU</b>
58	58	10	M 8	18	7	1,570	2,740	735	<b>SMA30GUU</b>
70	60	10	M 8	18	7	1,670	3,140	1,100	<b>SMA35GUU</b>
80	60	11	M10	25	8.7	2,160	4,020	1,590	<b>SMA40GUU</b>
100	80	11	M10	25	8.7	3,820	7,940	3,340	<b>SMA50GUU</b>
108	90	12	M12	25	10.7	4,700	10,000	4,270	<b>SMA60GUU</b>

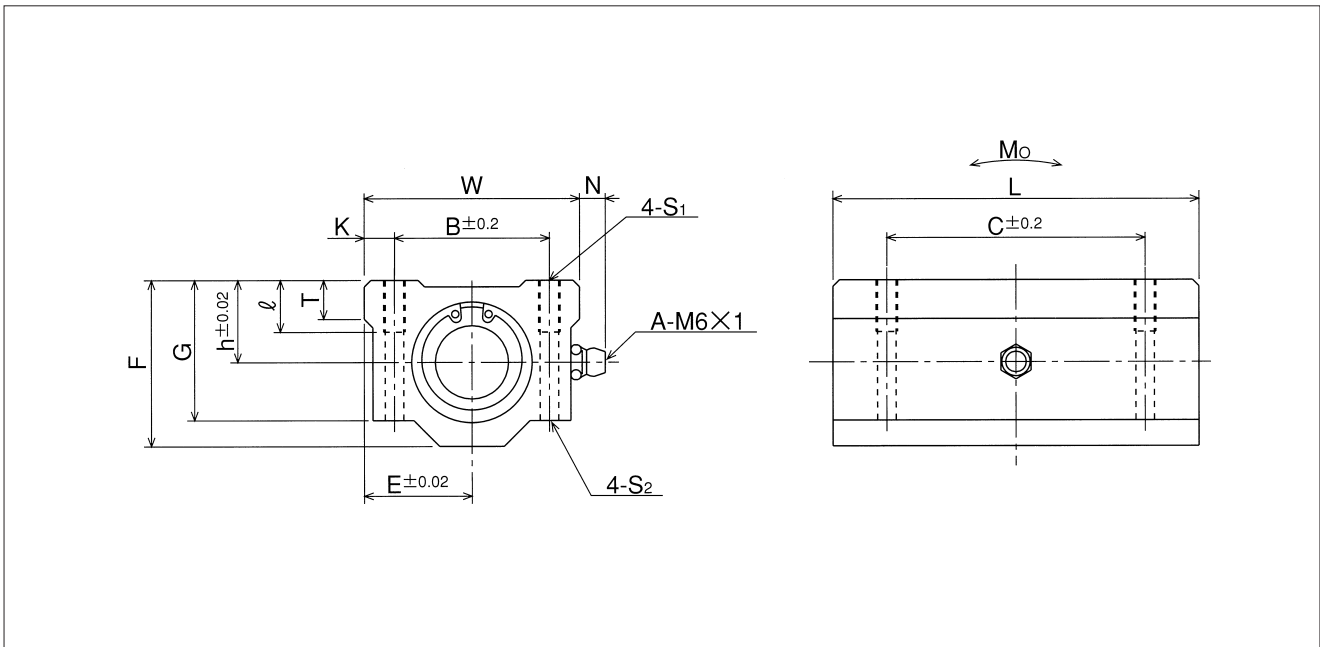
1N ≅ 0.102kgf

# SMA-W TYPE

– Double-Wide Block Type –



part number	major dimensions									
	inner contact diameter		outer dimensions							
	mm	tolerance μm	h mm	E mm	W mm	L mm	F mm	G mm	T mm	N mm
<b>SMA 3GWUU</b>	3	0	5	8	16	23	10	8	—	—
<b>SMA 4GWUU</b>	4	− 8	5.5	8.5	17	27	11	9	—	—
<b>SMA 5GWUU</b>	5		7	11	22	33	14	11	—	—
<b>SMA 6GWUU</b>	6		9	15	30	48	18	15	6	7
<b>SMA 8GWUU</b>	8		11	17	34	58	22	18	6	7
<b>SMA10GWUU</b>	10	0	13	20	40	68	26	21	8	7
<b>SMA12GWUU</b>	12	− 9	15	21	42	70	28	24	8	6.5
<b>SMA13GWUU</b>	13		15	22	44	75	30	24.5	8	6.5
<b>SMA16GWUU</b>	16		19	25	50	85	38.5	32.5	9	6
<b>SMA20GWUU</b>	20	0	21	27	54	96	41	35	11	7
<b>SMA25GWUU</b>	25	− 10	26	38	76	130	51.5	42	12	4
<b>SMA30GWUU</b>	30		30	39	78	140	59.5	49	15	5
<b>SMA35GWUU</b>	35	0	34	45	90	155	68	54	18	5.5
<b>SMA40GWUU</b>	40	− 12	40	51	102	175	78	62	20	5
<b>SMA50GWUU</b>	50		52	61	122	215	102	80	25	5
<b>SMA60GWUU</b>	60	0/− 15	58	66	132	240	114	94	30	5

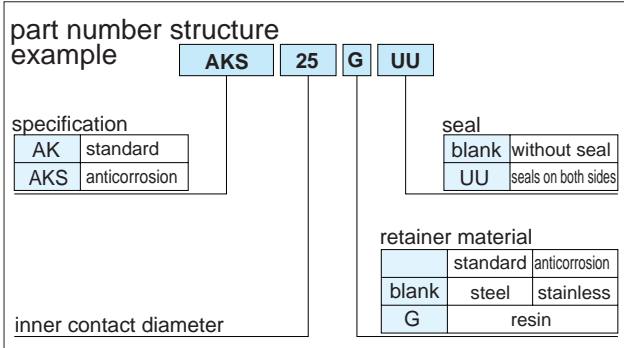


mounting dimensions						basic load rating		allowable static moment Mo N · m	mass g	part number
B mm	C mm	K mm	S <sub>1</sub>	ℓ mm	S <sub>2</sub> mm	C N	Co N			
11	16	2.5	M 2	—	—	108	206	0.49	10	SMA 3GWUU
12	20	2.5	M 3	—	—	137	255	0.72	13	SMA 4GWUU
16	25	3	M 3	—	—	265	412	1.54	27	SMA 5GWUU
20	36	5	M 4	8	3.4	323	530	2.18	63	SMA 6GWUU
24	42	5	M 4	8	3.4	431	784	4.31	102	SMA 8GWUU
28	46	6	M 5	12	4.3	588	1,100	7.24	180	SMA10GWUU
30.5	50	5.75	M 5	12	4.3	813	1,570	10.9	205	SMA12GWUU
33	50	5.5	M 5	12	4.3	813	1,570	11.6	240	SMA13GWUU
36	60	7	M 5	12	4.3	1,230	2,350	19.7	400	SMA16GWUU
40	70	7	M 6	12	5.2	1,400	2,740	26.8	570	SMA20GWUU
54	100	11	M 8	18	7	1,560	3,140	43.4	1,200	SMA25GWUU
58	110	10	M 8	18	7	2,490	5,490	82.8	1,480	SMA30GWUU
70	120	10	M 8	18	7	2,650	6,270	110	2,200	SMA35GWUU
80	140	11	M10	25	8.7	3,430	8,040	147	3,200	SMA40GWUU
100	160	11	M10	25	8.7	6,080	15,900	397	6,700	SMA50GWUU
108	180	12	M12	25	10.7	7,550	20,000	530	8,560	SMA60GWUU

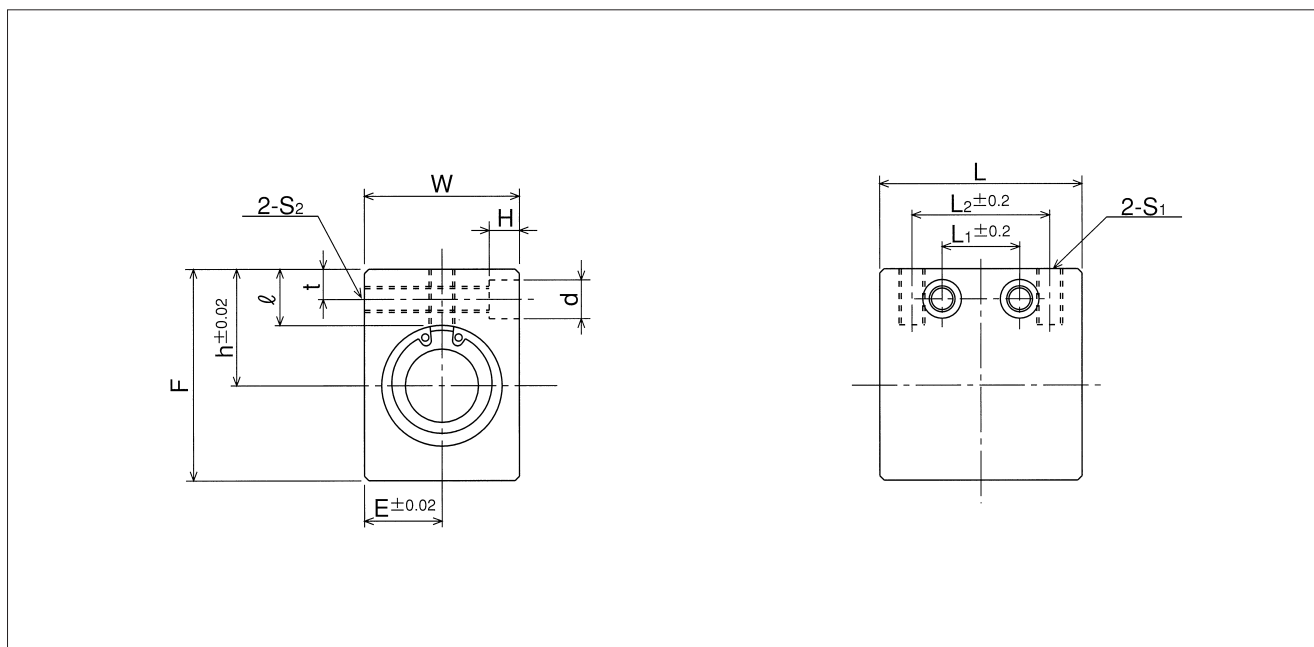
1N ≙ 0.102kgf    1N·m ≙ 0.102kgf·m

# AK TYPE

— Compact Block Type —



part number	major dimensions								
	inner contact diameter		outer dimensions						
	mm	tolerance $\mu\text{m}$	h mm	E mm	W mm	L mm	F mm	L <sub>2</sub> mm	S <sub>1</sub>
AK 6GUU	6	- 9	14	8	16	27	22	18	M 4
AK 8GUU	8		16	10	20	32	26	20	M 5
AK10GUU	10		19	13	26	39	32	27	M 6
AK12GUU	12		20	14	28	40	34	27	M 6
AK13GUU	13		25	15	30	42	43	28	M 6
AK16GUU	16		27	18	36	47	49	32	M 6
AK20GUU	20	- 10	31	21	42	52	54	36	M 8
AK25GUU	25		37	26	52	69	65	42	M10
AK30GUU	30		40	29	58	74	71	44	M10



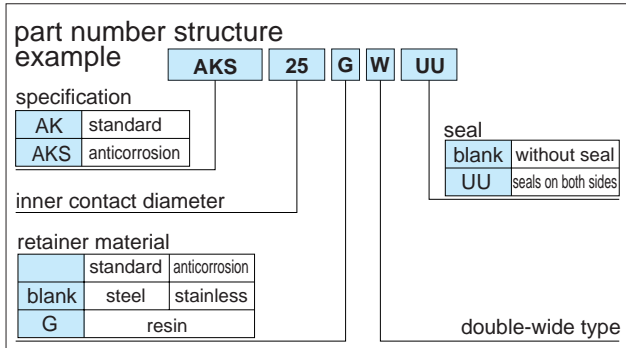
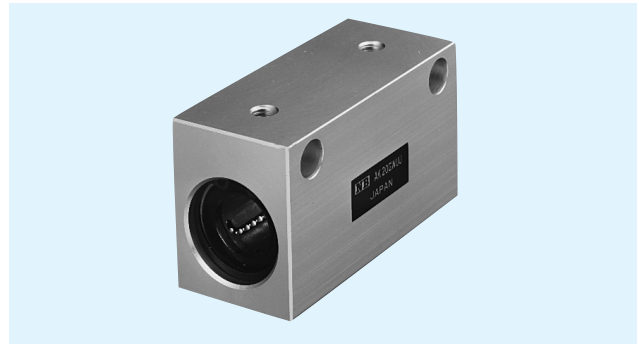
mounting dimensions						basic load rating		mass g	part number
						dynamic C N	static Co N		
$\ell$ mm	$L_1$ mm	$t$ mm	$S_2$	$d$ mm	$H$ mm				
8	9	5	M 4	6	5	206	265	21.5	<b>AK 6GUU</b>
8.5	10	5	M 4	6	5	274	392	40	<b>AK 8GUU</b>
9.5	15	6	M 5	8	6	372	549	80	<b>AK10GUU</b>
9.5	15	6	M 5	8	6	510	784	90	<b>AK12GUU</b>
13.5	16	7	M 6	9	7	510	784	132	<b>AK13GUU</b>
13	18	7	M 6	9	7	774	1,180	204	<b>AK16GUU</b>
15	18	8	M 8	11	8	882	1,370	272	<b>AK20GUU</b>
17	22	9	M10	14	10	980	1,570	574	<b>AK25GUU</b>
17.5	22	9	M10	14	10	1,570	2,740	710	<b>AK30GUU</b>

1N  $\approx$  0.102kgf

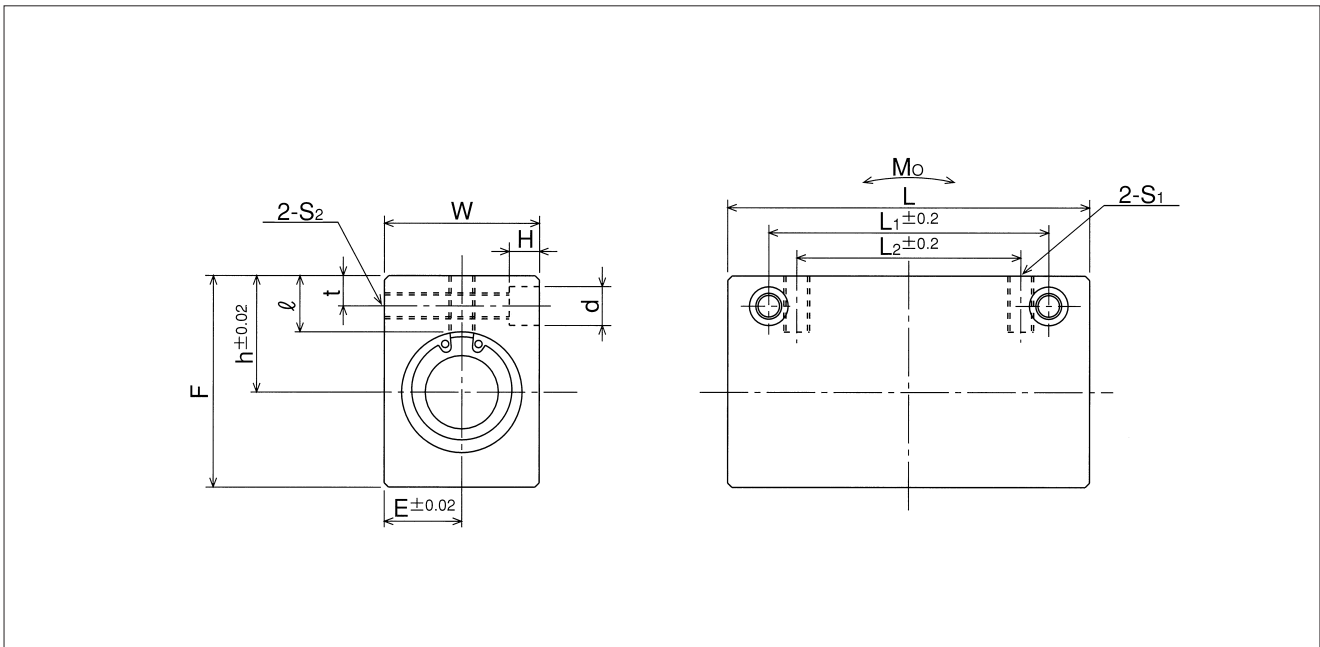
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# AK-W TYPE

– Double-Wide Compact Block Type –



part number	major dimensions									
	inner contact diameter		outer dimensions							
	mm	tolerance $\mu\text{m}$	h mm	E mm	W mm	L mm	F mm	L <sub>2</sub> mm	S <sub>1</sub>	$\ell$ mm
<b>AK 6GWUU</b>	6	0 - 9	14	8	16	46	22	20	M 4	8
<b>AK 8GWUU</b>	8		16	10	20	56	26	30	M 5	8.5
<b>AK10GWUU</b>	10		19	13	26	68	32	36	M 6	9.5
<b>AK12GWUU</b>	12		20	14	28	70	34	36	M 6	9.5
<b>AK13GWUU</b>	13		25	15	30	74	43	42	M 6	13.5
<b>AK16GWUU</b>	16	27	18	36	84	49	52	M 6	13	
<b>AK20GWUU</b>	20	0 -10	31	21	42	94	54	58	M 8	15
<b>AK25GWUU</b>	25		37	26	52	128	65	80	M10	17
<b>AK30GWUU</b>	30		40	29	58	138	71	90	M10	17.5

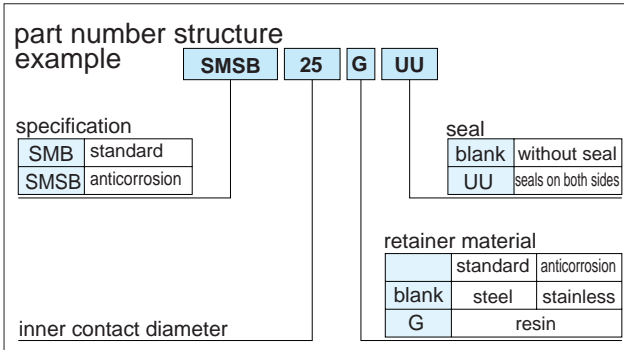
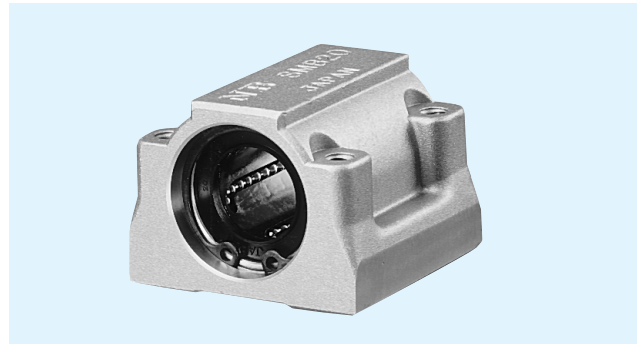


mounting dimensions					basic load rating		allowable static moment $M_o$ $N \cdot m$	mass $g$	part number
					dynamic $C$ $N$	static $C_o$ $N$			
$L_1$ $mm$	$t$ $mm$	$S_2$	$d$ $mm$	$H$ $mm$					
30	5	M 4	6	5	323	530	2.18	40	<b>AK 6GWUU</b>
42	5	M 4	6	5	431	784	4.31	75	<b>AK 8GWUU</b>
50	6	M 5	8	6	588	1,100	7.24	150	<b>AK10GWUU</b>
50	6	M 5	8	6	813	1,570	10.9	168	<b>AK12GWUU</b>
55	7	M 6	9	7	813	1,570	11.6	248	<b>AK13GWUU</b>
65	7	M 6	9	7	1,230	2,350	19.7	383	<b>AK16GWUU</b>
70	8	M 8	11	8	1,400	2,740	26.8	520	<b>AK20GWUU</b>
100	9	M10	14	10	1,560	3,140	43.4	1,120	<b>AK25GWUU</b>
110	9	M10	14	10	2,490	5,490	82.8	1,384	<b>AK30GWUU</b>

1N  $\approx$  0.102kgf    1N·m  $\approx$  0.102kgf·m

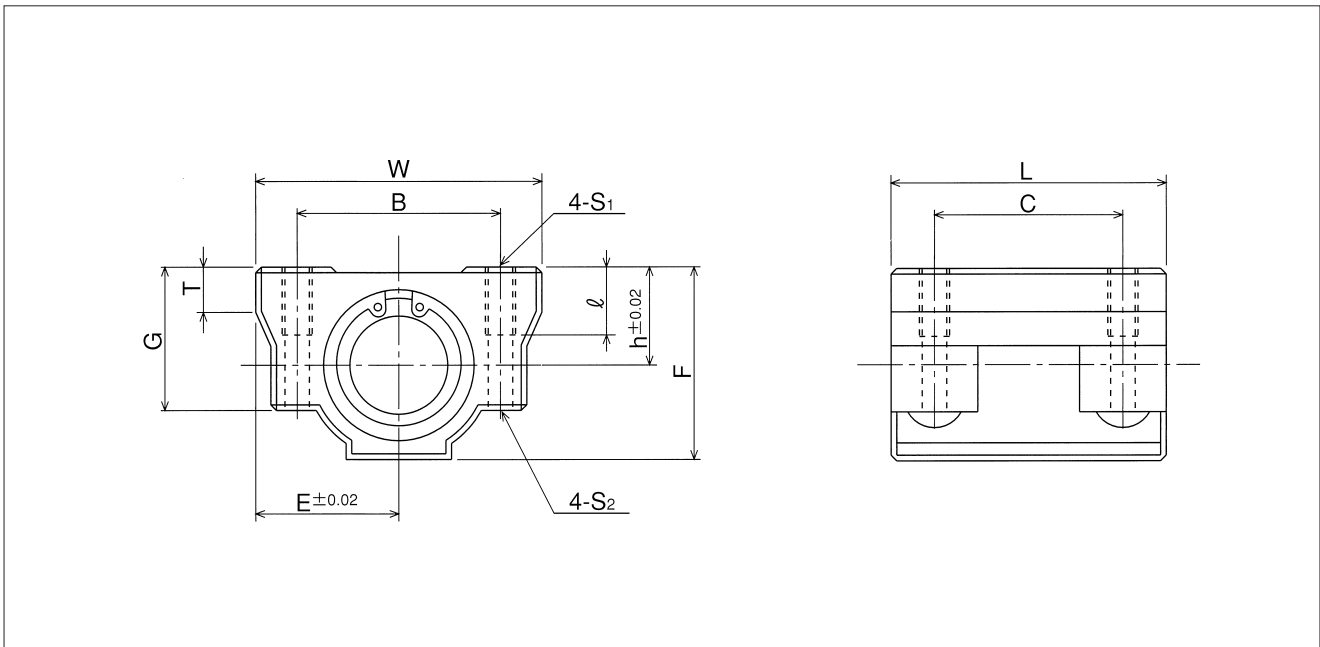
# SMB TYPE

– Block Type –



part number	major dimensions								
	inner contact diameter		outer dimensions						
	mm	tolerance $\mu\text{m}$	h mm	E mm	W mm	L mm	F mm	G mm	T mm
SMB13GUU	13	0	16	22	44	39	31	22	8
SMB16GUU	16	-9	19	25	50	49	37	28	9
SMB20GUU	20	0	21	27	54	55	41	31	11
SMB25GUU	25	-10	26	38	76	73	51	38	12
SMB30GUU	30	-10	30	39	78	80	57	45	15
SMB40GUU	40	0/-12	40	51	102	96	75	59	22



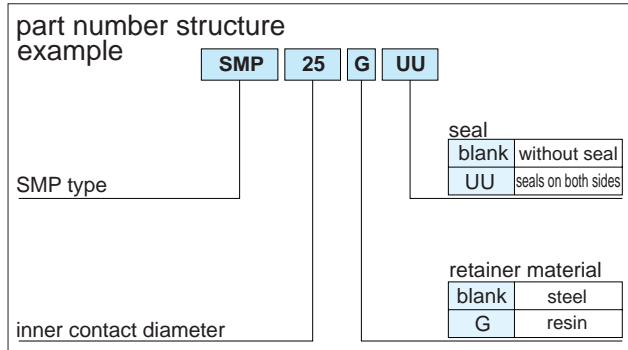
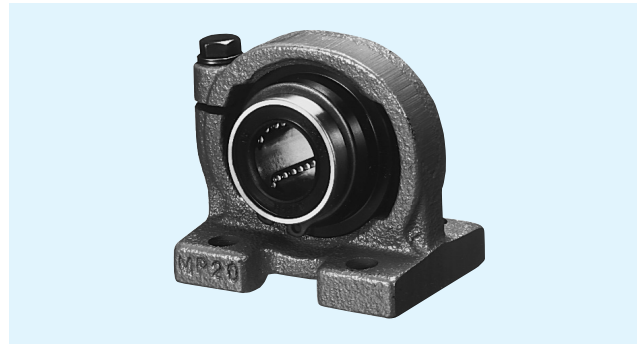


mounting dimensions					basic load rating		mass g	part number
					dynamic C N	static Co N		
B mm	C mm	S <sub>1</sub>	ℓ mm	S <sub>2</sub> mm				
33	26	M 5	10	4.3	510	784	120	<b>SMB13GUU</b>
36	34	M 5	12	4.3	774	1,180	170	<b>SMB16GUU</b>
40	40	M 6	12	5.1	882	1,370	210	<b>SMB20GUU</b>
54	50	M 8	18	6.8	980	1,570	500	<b>SMB25GUU</b>
58	58	M 8	18	6.8	1,570	2,740	600	<b>SMB30GUU</b>
80	60	M10	25	8.6	2,160	4,020	1,200	<b>SMB40GUU</b>

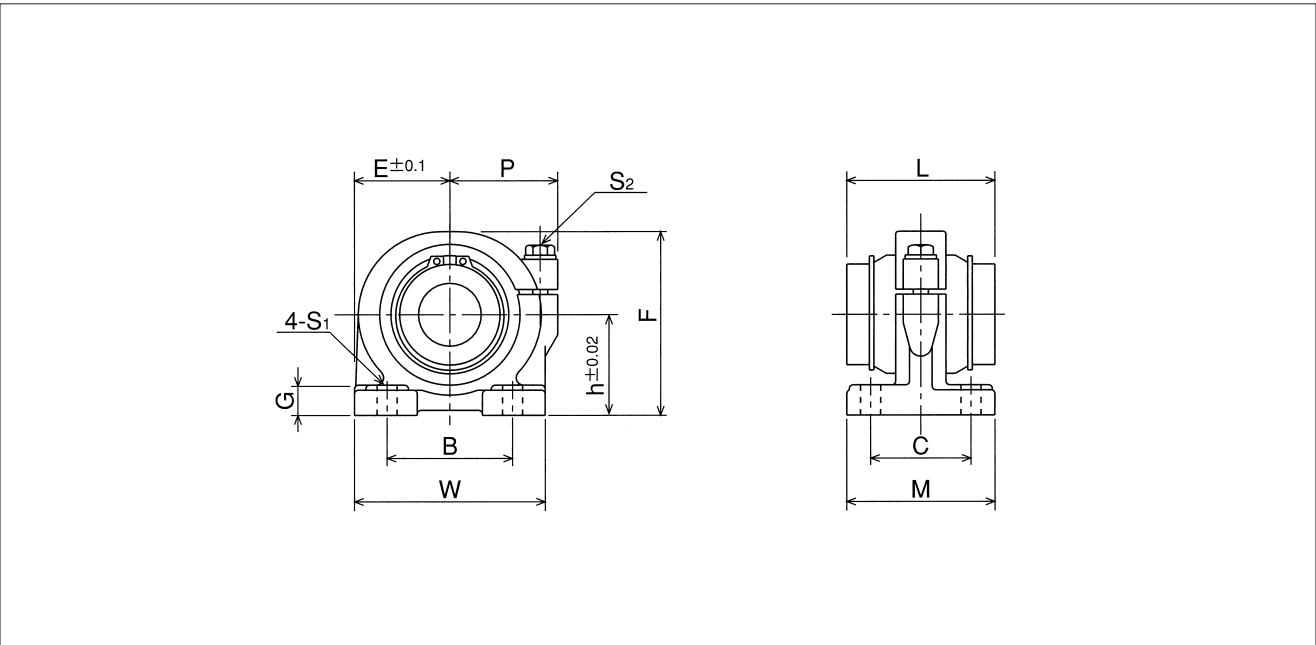
1N ≅ 0.102kgf

# SMP TYPE

– Pillow Block Type –



part number	major dimensions								
	inner contact diameter		outer dimensions						
	mm	tolerance $\mu\text{m}$	h mm	E mm	W mm	L mm	F mm	G mm	M mm
SMP13GUU	13	0	25	25	50	32	46	8	36
SMP16GUU	16	-9	29	27.5	55	37	53	10	40
SMP20GUU	20	0	34	32.5	65	42	62	12	48
SMP25GUU	25	-10	40	38	76	59	73	12	59
SMP30GUU	30	-10	45	42.5	85	64	84	15	69
SMP35GUU	35	0	50	49	98	70	94	15	76
SMP40GUU	40	-12	60	62	124	80	112	18	86
SMP50GUU	50	-12	70	72	144	100	134	20	105
SMP60GUU	60	0/-15	82	84.5	169	110	154	23	115

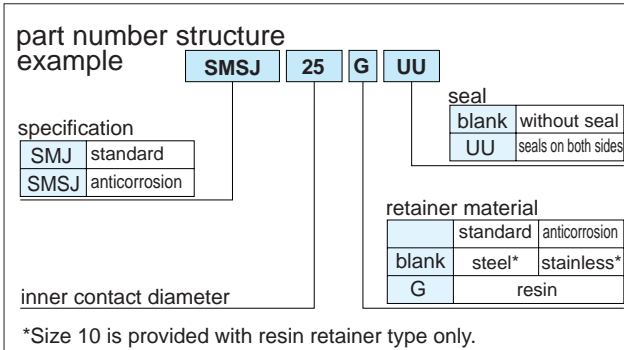
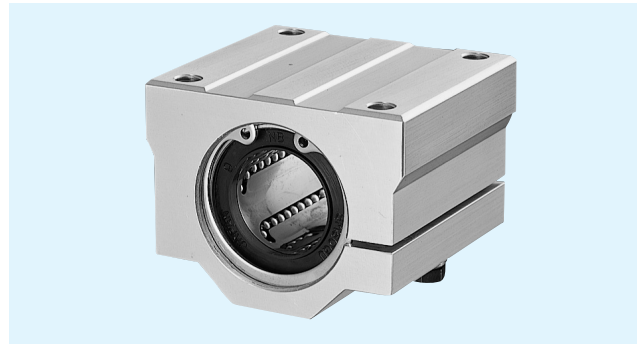


P mm	mounting dimensions			adjustment bolt size $S_2$	basic load rating		mass g	part number
	B mm	C mm	$S_1$ (bolt size) mm		dynamic C N	static $C_0$ N		
30	30	26	7(M 5)	M 5	510	784	270	<b>SMP13GUU</b>
32	35	29	7(M 5)	M 5	774	1,180	380	<b>SMP16GUU</b>
37	40	35	8(M 6)	M 6	882	1,370	680	<b>SMP20GUU</b>
43	50	40	8(M 6)	M 6	980	1,570	1,000	<b>SMP25GUU</b>
49	58	46	10(M 8)	M 8	1,570	2,740	1,400	<b>SMP30GUU</b>
58	62	53	12(M10)	M10	1,670	3,140	2,100	<b>SMP35GUU</b>
68	76	64	12(M10)	M10	2,160	4,020	3,700	<b>SMP40GUU</b>
80	100	70	14(M12)	M12	3,820	7,940	6,100	<b>SMP50GUU</b>
88	115	80	14(M12)	M12	4,700	10,000	8,700	<b>SMP60GUU</b>

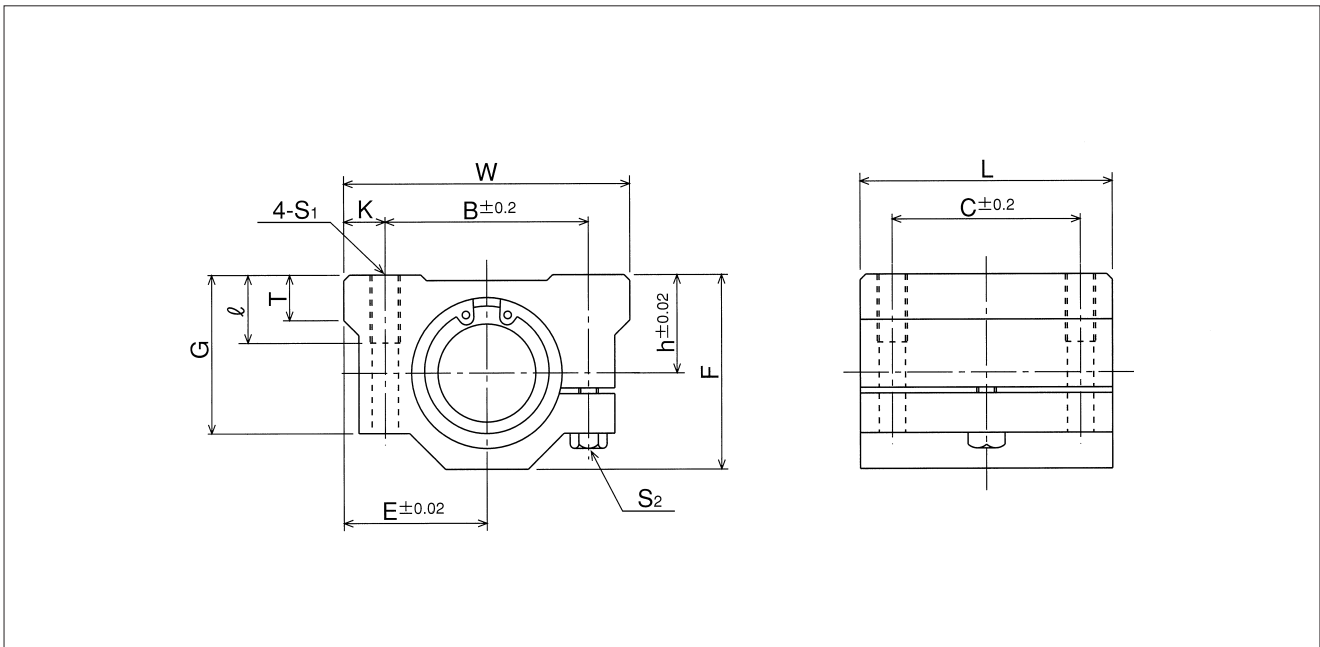
1N  $\approx$  0.102kgf

# SMJ TYPE

– Clearance Adjustable Type –



part number	major dimensions								
	inner contact diameter mm	outer dimensions							
		h mm	E mm	W mm	L mm	F mm	G mm	T mm	B mm
SMJ10GUU*	10	13	20	40	35	26	21	8	28
SMJ12GUU	12	15	21	42	36	28	24	8	30.5
SMJ13GUU	13	15	22	44	39	30	24.5	8	33
SMJ16GUU	16	19	25	50	44	38.5	32.5	9	36
SMJ20GUU	20	21	27	54	50	41	35	11	40
SMJ25GUU	25	26	38	76	67	51.5	42	12	54
SMJ30GUU	30	30	39	78	72	59.5	49	15	58
SMJ35GUU	35	34	45	90	80	68	54	18	70
SMJ40GUU	40	40	51	102	90	78	62	20	80
SMJ50GUU	50	52	61	122	110	102	80	25	100
SMJ60GUU	60	58	66	132	122	114	94	30	108

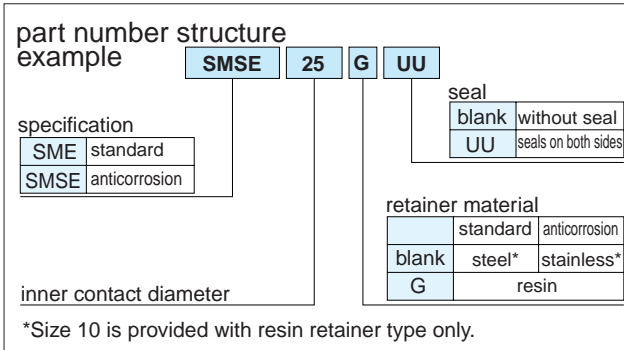


mounting dimensions				adjusting bolt size $S_2$	basic load rating		mass g	part number
C mm	K mm	$S_1$	$\ell$ mm		dynamic C N	static $C_0$ N		
21	6	M 5	12	M 4	372	549	92	<b>SMJ10GUU</b>
26	5.75	M 5	12	M 4	510	784	102	<b>SMJ12GUU</b>
26	5.5	M 5	12	M 4	510	784	120	<b>SMJ13GUU</b>
34	7	M 5	12	M 4	774	1,180	200	<b>SMJ16GUU</b>
40	7	M 6	12	M 5	882	1,370	255	<b>SMJ20GUU</b>
50	11	M 8	18	M 6	980	1,570	600	<b>SMJ25GUU</b>
58	10	M 8	18	M 6	1,570	2,740	735	<b>SMJ30GUU</b>
60	10	M 8	18	M 6	1,670	3,140	1,100	<b>SMJ35GUU</b>
60	11	M10	25	M 8	2,160	4,020	1,590	<b>SMJ40GUU</b>
80	11	M10	25	M 8	3,820	7,940	3,340	<b>SMJ50GUU</b>
90	12	M12	25	M10	4,700	10,000	4,270	<b>SMJ60GUU</b>

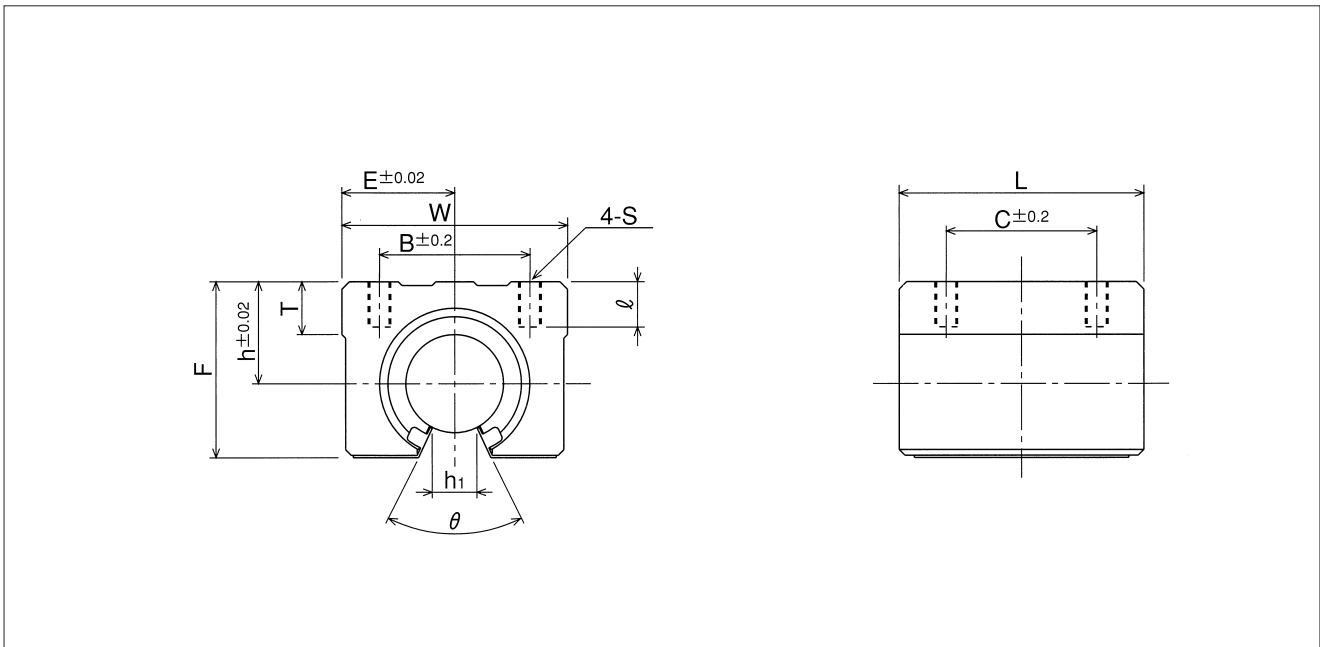
1N  $\approx$  0.102kgf

# SME TYPE

– Open Block Type –



part number	major dimensions							
	inner contact diameter mm	h mm	E mm	W mm	L mm	F mm	T mm	h <sub>1</sub> mm
SME10GUU*	10	15	18	36	32	24	7	6
SME13GUU	13	17	20	40	39	28	8	8.5
SME16GUU	16	20	22.5	45	45	33	9	10
SME20GUU	20	23	24	48	50	39	11	10
SME25GUU	25	27	30	60	65	47	14	11.5
SME30GUU	30	33	35	70	70	56	15	14
SME35GUU	35	37	40	80	80	63	18	16
SME40GUU	40	42	45	90	90	72	20	19
SME50GUU	50	53	60	120	110	92	25	23

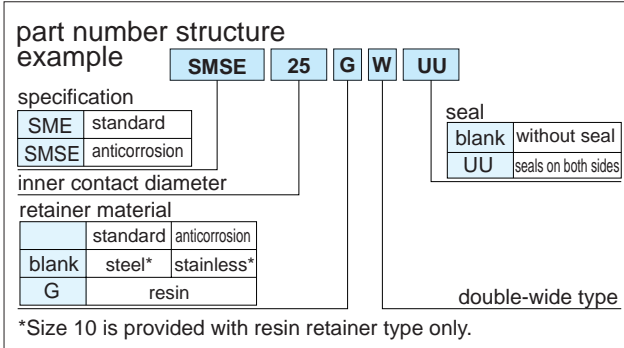
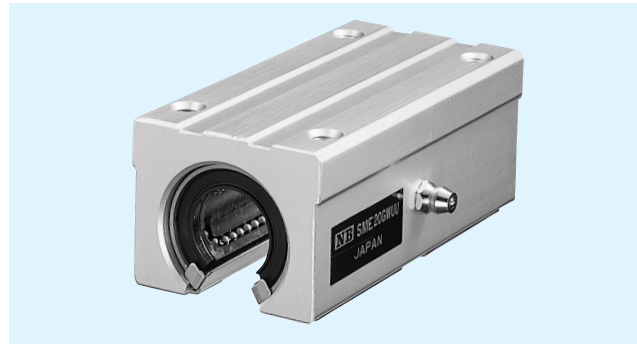


$\theta$	mounting dimensions				basic load rating		mass g	part number
	B mm	C mm	S	$\ell$ mm	dynamic C N	static Co N		
80°	25	20	M 5	10	372	549	65	<b>SME10GUU</b>
80°	28	26	M 5	10	510	784	100	<b>SME13GUU</b>
80°	32	30	M 5	12	774	1,180	150	<b>SME16GUU</b>
60°	35	35	M 6	12	882	1,370	200	<b>SME20GUU</b>
50°	40	40	M 6	12	980	1,570	450	<b>SME25GUU</b>
50°	50	50	M 8	18	1,570	2,740	630	<b>SME30GUU</b>
50°	55	55	M 8	18	1,670	3,140	925	<b>SME35GUU</b>
50°	65	65	M10	20	2,160	4,020	1,330	<b>SME40GUU</b>
50°	94	80	M10	20	3,820	7,940	3,000	<b>SME50GUU</b>

1N≐0.102kgf

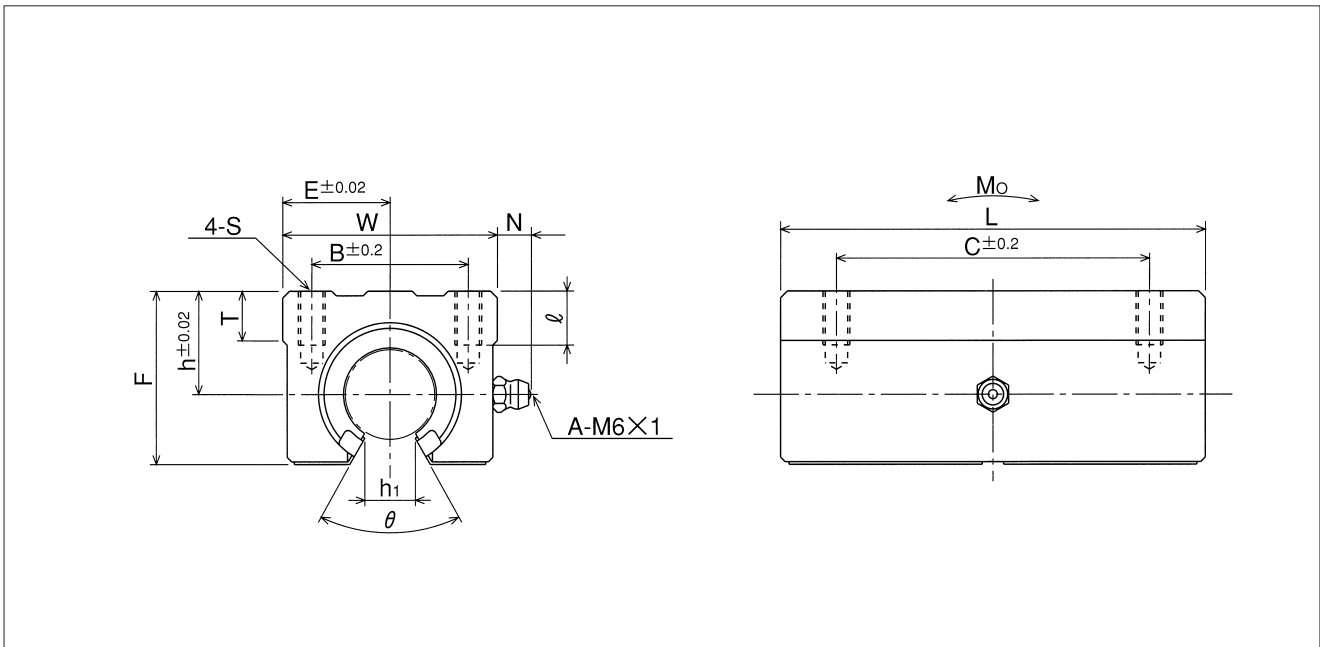
# SME-W TYPE

– Double-wide Open Block Type –



part number	major dimensions								
	inner contact diameter mm	outer dimensions							
		h mm	E mm	W mm	L mm	F mm	T mm	N mm	h <sub>1</sub> mm
<b>SME10GWUU*</b>	10	15	18	36	65	24	7	7.5	6
<b>SME13GWUU</b>	13	17	20	40	75	28	8	7.5	8.5
<b>SME16GWUU</b>	16	20	22.5	45	85	33	9	7.5	10
<b>SME20GWUU</b>	20	23	24	48	95	39	11	7.5	10
<b>SME25GWUU</b>	25	27	30	60	130	47	14	7.5	11.5
<b>SME30GWUU</b>	30	33	35	70	140	56	15	7.5	14



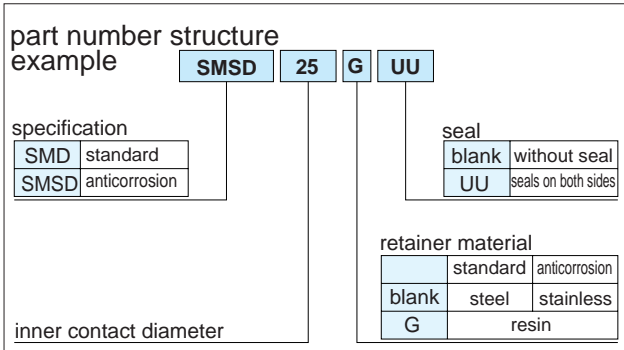


$\theta$	mounting dimensions				basic load rating		allowable static moment $M_o$ N·m	mass g	part number
	B mm	C mm	S	$l$ mm	dynamic C N	static $C_o$ N			
80°	25	40	M5	10	588	1,100	4.63	140	<b>SME10GWUU</b>
80°	28	50	M5	10	813	1,570	7.42	200	<b>SME13GWUU</b>
80°	32	60	M5	12	1,230	2,350	12.6	300	<b>SME16GWUU</b>
60°	35	70	M6	12	1,400	2,740	14.5	400	<b>SME20GWUU</b>
50°	40	90	M6	12	1,560	3,140	24.7	900	<b>SME25GWUU</b>
50°	50	100	M8	18	2,490	5,490	47.2	1,260	<b>SME30GWUU</b>

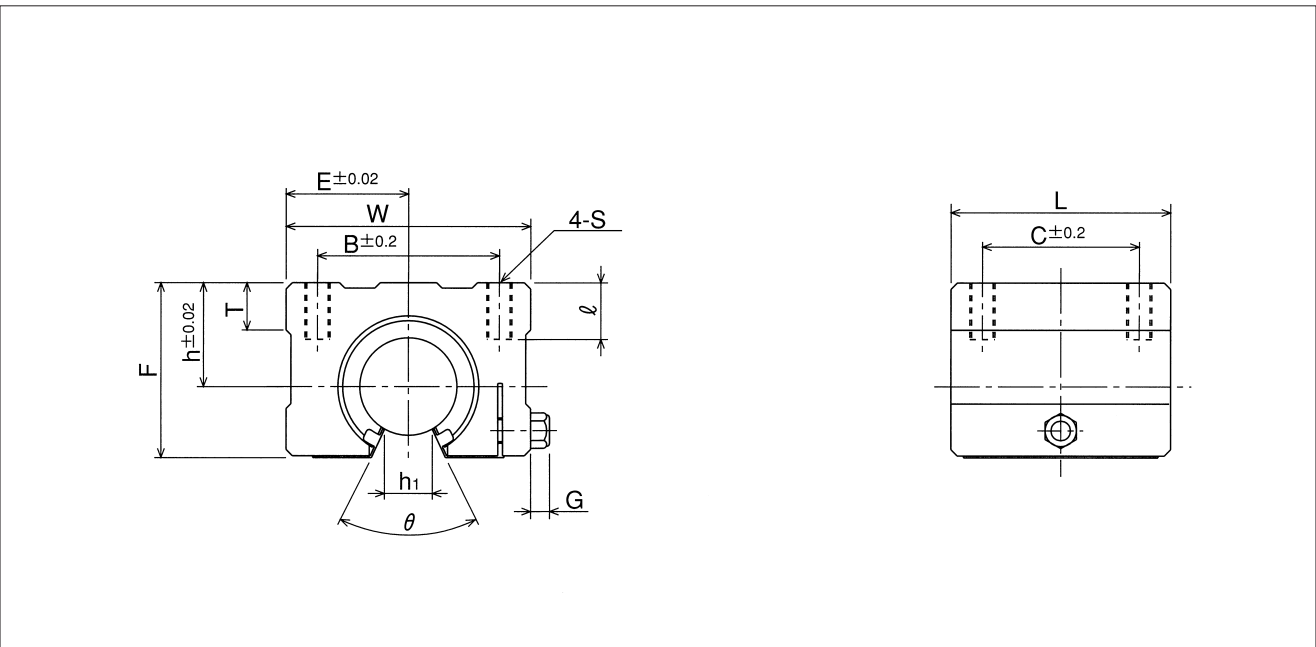
1N  $\approx$  0.102kgf    1N·m  $\approx$  0.102kgf·m

# SMD TYPE

— Open Block with Clearance Adjustable Type —



part number	major dimensions								
	inner contact diameter mm	outer dimensions							
		h mm	E mm	W mm	L mm	F mm	T mm	G mm	h <sub>1</sub> mm
<b>SMD16GUU</b>	16	20	25	50	45	33	9	6	10
<b>SMD20GUU</b>	20	23	27	54	50	39	11	7	10
<b>SMD25GUU</b>	25	27	38	76	65	47	14	7	11.5
<b>SMD30GUU</b>	30	33	39	78	70	56	15	7	14

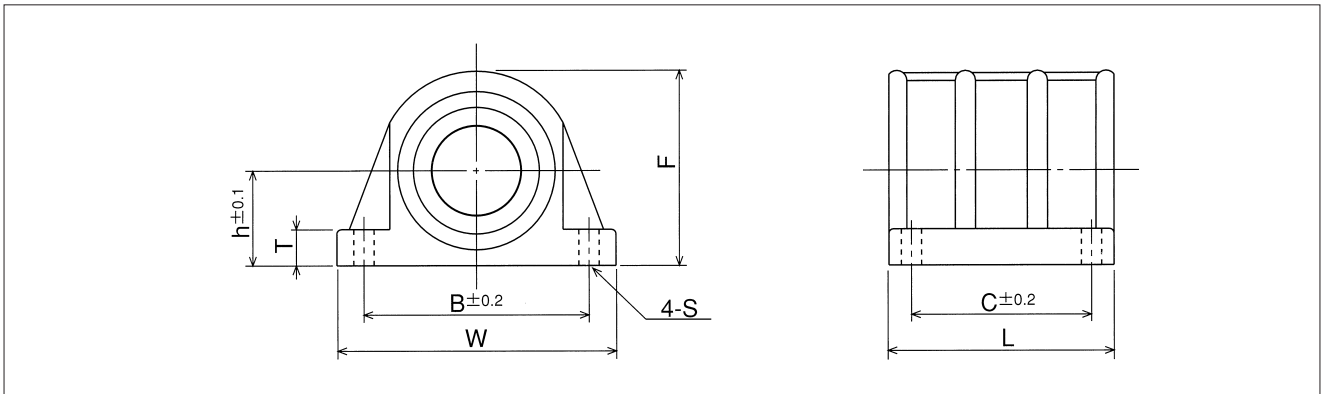
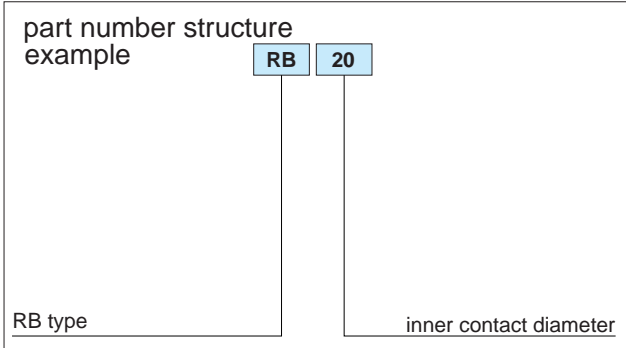
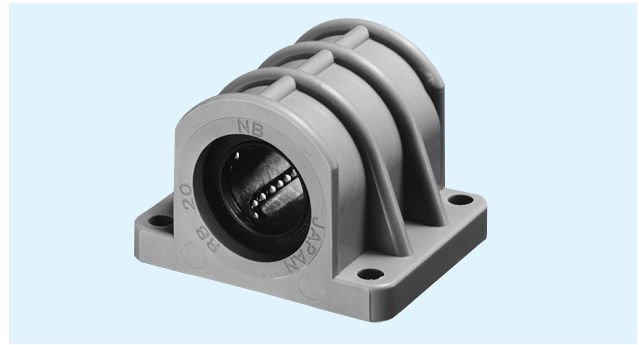


$\theta$	mounting dimensions				basic load rating		mass g	part number
	B mm	C mm	S	$l$ mm	dynamic C N	static Co N		
80°	36	30	M5	12	774	1,180	170	<b>SMD16GUU</b>
60°	40	35	M6	12	882	1,370	240	<b>SMD20GUU</b>
50°	54	40	M6	12	980	1,570	580	<b>SMD25GUU</b>
50°	58	50	M8	18	1,570	2,740	720	<b>SMD30GUU</b>

1N  $\approx$  0.102kgf

# RB TYPE

— Resin Block Type —



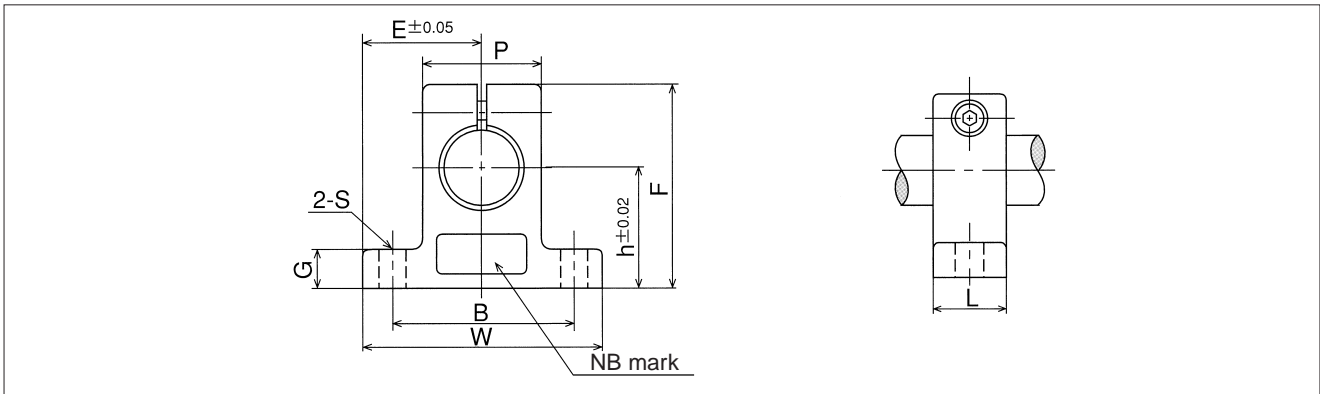
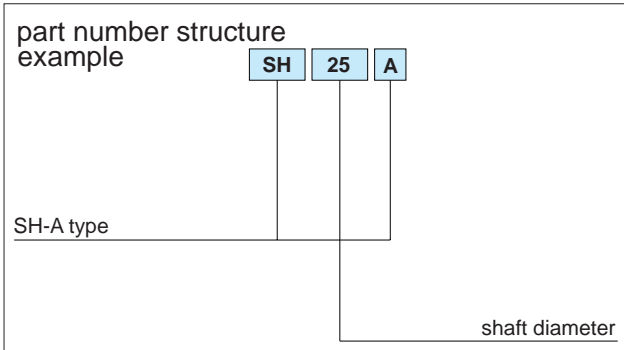
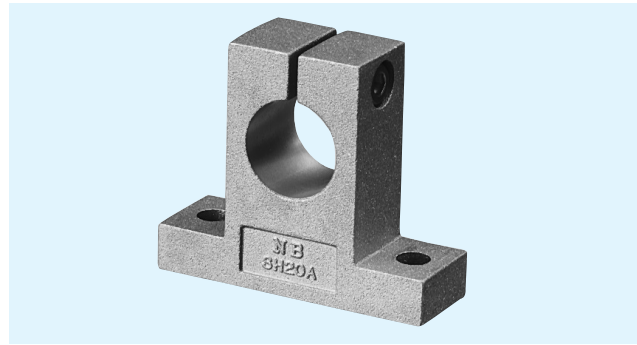
part number	major dimensions										basic load rating		mass
	inner contact diameter		outer dimensions				dimension				dynamic	static	
	mm	tolerance μm	h mm	W mm	L mm	F mm	T mm	B mm	C mm	S mm	C N	Co N	
RB10	10	0 -9	13	45	35	26.5	6	35	21	4.5	372	549	43
RB12	12		15	50	36	30	6.5	40	26	4.5	510	784	50
RB13	13		15	50	39	31	6.5	40	26	4.5	510	784	63
RB16	16		19	56	44	38.5	7	46	34	4.5	774	1,180	99
RB20	20		0/-10	21	62	50	43	8	50	40	5.5	882	1,370

(RB type has side-seals as standard.)

1N≒0.102kgf

## SH-A TYPE

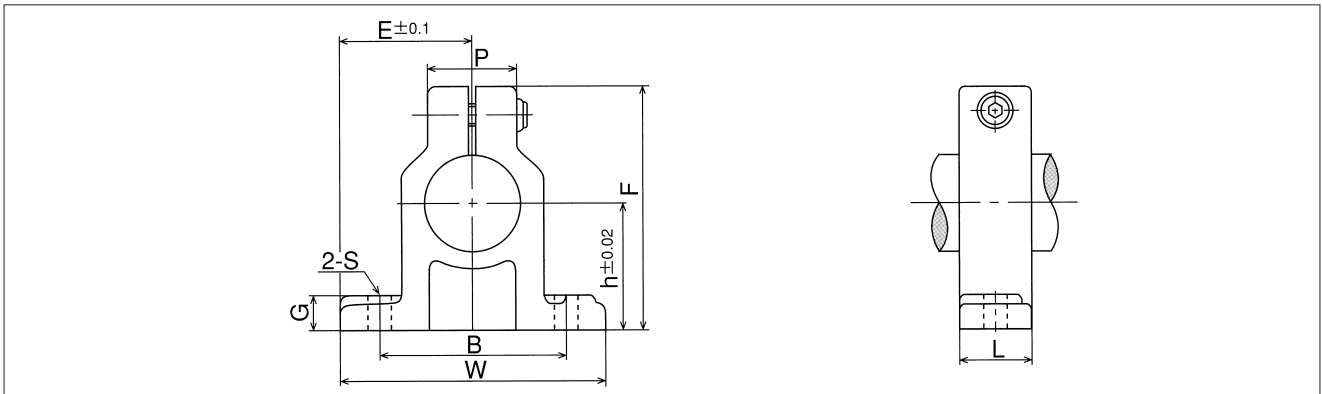
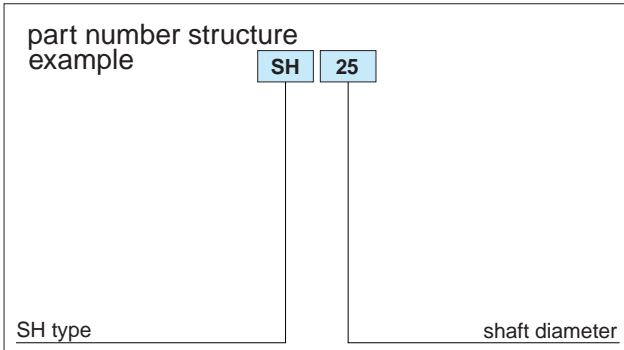
– Shaft End Supporter – (Aluminum)



part number	shaft diameter mm	major dimensions									adjusting bolt size	mass g
		h mm	E mm	W mm	L mm	F mm	G mm	P mm	B mm	S (bolt size) mm		
SH 8A	8	20	21	42	14	32.8	6	18	32	5.5(M 5)	M 4	24
SH10A	10	20	21	42	14	32.8	6	18	32	5.5(M 5)	M 4	24
SH12A	12	23	21	42	14	37.5	6	20	32	5.5(M 5)	M 4	30
SH13A	13	23	21	42	14	37.5	6	20	32	5.5(M 5)	M 4	30
SH16A	16	27	24	48	16	44	8	25	38	5.5(M 5)	M 4	40
SH20A	20	31	30	60	20	51	10	30	45	6.6(M 6)	M 5	70
SH25A	25	35	35	70	24	60	12	38	56	6.6(M 6)	M 6	130
SH30A	30	42	42	84	28	70	12	44	64	9 (M 8)	M 6	180
SH35A	35	50	49	98	32	82	15	50	74	11 (M10)	M 8	270
SH40A	40	60	57	114	36	96	15	60	90	11 (M10)	M 8	420
SH50A	50	70	63	126	40	120	18	74	100	14 (M12)	M12	750
SH60A	60	80	74	148	45	136	18	90	120	14 (M12)	M12	1,100

# SH TYPE

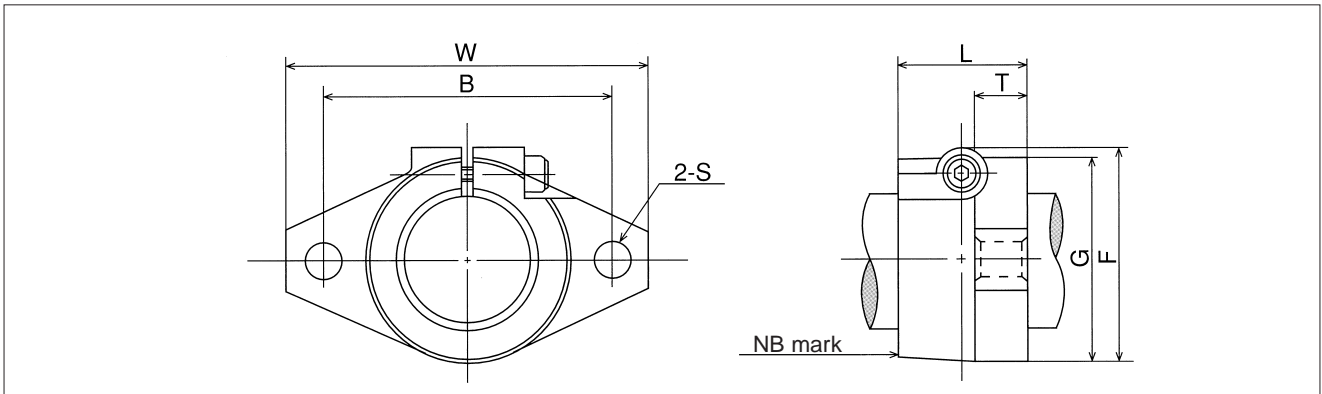
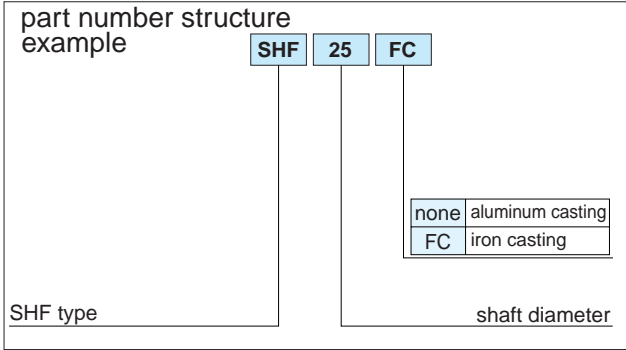
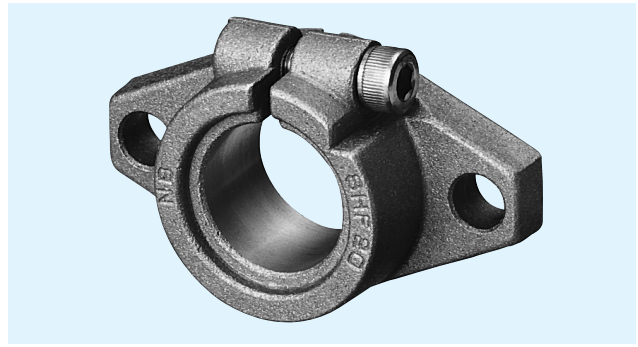
– Shaft End Supporter – (Cast Iron)



part number	shaft diameter mm	major dimensions									adjusting bolt size	mass g
		h mm	E mm	W mm	L mm	F mm	G mm	P mm	B mm	S (bolt size) mm		
SH10	10	20	22	44	15	35	7	19	32	4.5(M 4)	M 4	80
SH13	13	23	25	50	17	40	8	17	32	7 (M 5)	M 4	120
SH16	16	27	27.5	55	17	45	10	16	38	7 (M 5)	M 4	120
SH20	20	31	32.5	65	20	53	12	22	45	8 (M 6)	M 5	190
SH25	25	35	38	76	24	61	12	24	56	8 (M 6)	M 6	300
SH30	30	42	42.5	85	28	73	15	28	64	10 (M 8)	M 6	490
SH35	35	50	50	100	32	87	15	34	74	12 (M10)	M 8	690
SH40	40	60	60	120	36	104	18	38	90	12 (M10)	M10	1,200
SH50	50	70	70	140	40	122	20	48	100	14 (M12)	M12	1,700
SH60	60	80	82.5	165	45	140	23	58	120	14 (M12)	M12	2,500

# SHF TYPE

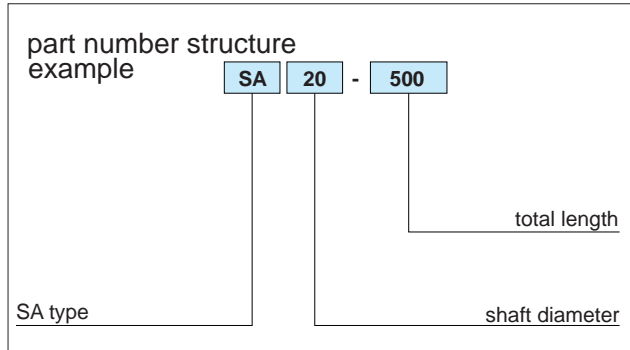
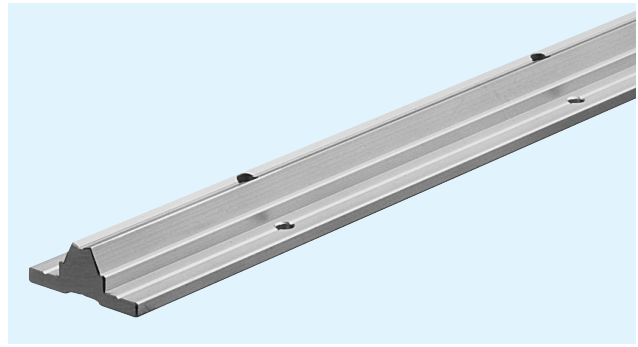
— Shaft End Supporter Flange Type —



part number		shaft diameter	major dimensions								adjusting bolt size	mass g	
aluminum casting	iron casting	mm	W mm	L mm	T mm	F mm	G mm	B mm	S (bolt size) mm	aluminum		iron	
SHF10	—	10	43	10	5	24	20	32	5.5(M 5)	M 4	13	—	
SHF12	—	12	47	13	7	28	25	36	5.5(M 5)	M 4	20	—	
SHF13	—	13	47	13	7	28	25	36	5.5(M 5)	M 4	20	—	
SHF16	—	16	50	16	8	31	28	40	5.5(M 5)	M 4	27	—	
SHF20	—	20	60	20	8	37	34	48	7 (M 6)	M 5	40	—	
SHF25	—	25	70	25	10	42	40	56	7 (M 6)	M 5	60	—	
SHF30	—	30	80	30	12	50	46	64	9 (M 8)	M 6	110	—	
SHF35	SHF35FC	35	92	35	14	58	50	72	12 (M10)	M 8	140	380	
SHF40	SHF40FC	40	102	40	16	67	56	80	12 (M10)	M10	205	510	
SHF50	SHF50FC	50	122	50	19	83	70	96	14 (M12)	M12	360	890	
SHF60	SHF60FC	60	140	60	23	95	82	112	14 (M12)	M12	530	1,500	

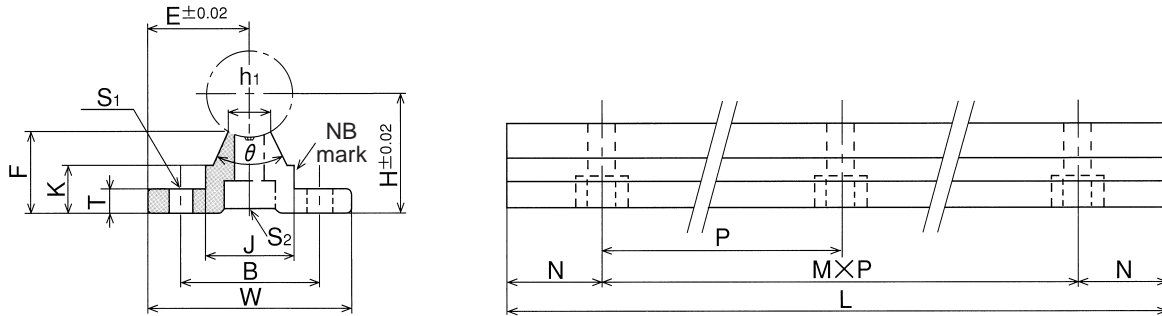
# SA TYPE

## – Shaft Support Rail –



part number	shaft diameter mm	major dimensions														mass g	
		H mm	E mm	W mm	L mm	F mm	T mm	K mm	J mm	h <sub>1</sub> mm	θ	B mm	N mm	M×P mm	S <sub>1</sub> mm		S <sub>2</sub> (bolt size)
SA10-200	10	18	16	32	200	13.5	4	8.9	12.4	4.7	80°	22	50	1×100	4.5	M4	110
SA10-300					300								50	2×100			160
SA10-400					400								50	3×100			220
SA10-500					500								50	4×100			270
SA10-600					600								50	5×100			330
SA13-200					13								21	17			34
SA13-300	300	50	2×100	210													
SA13-400	400	50	3×100	280													
SA13-500	500	50	4×100	350													
SA13-600	600	50	5×100	420													
SA16-200	16	25	20	40		200	17.8	5	11.7	18.5	8	80°			30	25	
SA16-300					300	75							1×150	300			
SA16-400					400	50							2×150	400			
SA16-500					500	25							3×150	500			
SA16-600					600	75							3×150	600			
SA20-200					20	27							22.5	45		200	17.7
SA20-300	300	75	1×150	300													
SA20-400	400	50	2×150	400													
SA20-500	500	25	3×150	510													
SA20-600	600	75	3×150	610													
SA25-200	25	33	27.5	55			200	21	6	12	21.5	8			50°	35	
SA25-300					300	50	1×200						430				
SA25-400					400	100	1×200						580				
SA25-500					500	50	2×200						730				
SA25-600					600	100	2×200						880				



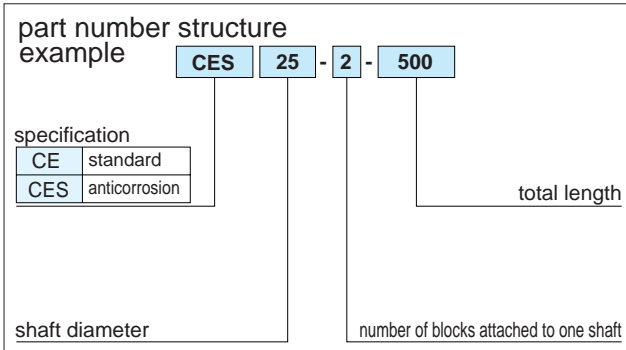
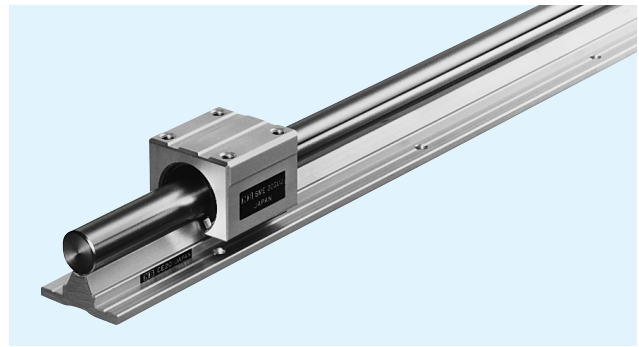


※ Mounting bolts for pre-drilled shaft are included.

part number	shaft diameter mm	major dimensions														mass g	
		H mm	E mm	W mm	L mm	F mm	T mm	K mm	J mm	h <sub>1</sub> mm	θ	B mm	N mm	M×P mm	S <sub>1</sub> mm		S <sub>2</sub> (bolt size)
SA30-200	30	37	30	60	200	22.8	7	13	26.5	10.3	50°	40	25	1×150	6.5	M 8	360
SA30-300					300								50	1×200			550
SA30-400					400								100	1×200			730
SA30-500					500								50	2×200			920
SA30-600					600								100	2×200			1,100
SA35-200	35	43	32.5	65	200	26.5	8	15.5	28	13	50°	45	25	1×150	9	M 8	460
SA35-300					300								50	1×200			700
SA35-400					400								100	1×200			950
SA35-500					500								50	2×200			1,190
SA35-600					600								100	2×200			1,420
SA40-200	40	48	37.5	75	200	29.4	9	17	38	16	50°	55	25	1×150	9	M 8	630
SA40-300					300								75	1×150			960
SA40-400					400								50	1×300			1,290
SA40-500					500								100	1×300			1,610
SA40-600					600								150	1×300			1,950
SA50-200	50	62	47.5	95	200	38.8	11	21	45	20	50°	70	25	1×150	11	M10	1,000
SA50-300					300								75	1×150			1,500
SA50-400					400								50	1×300			2,000
SA50-500					500								100	1×300			2,500
SA50-600					600								150	1×300			3,000

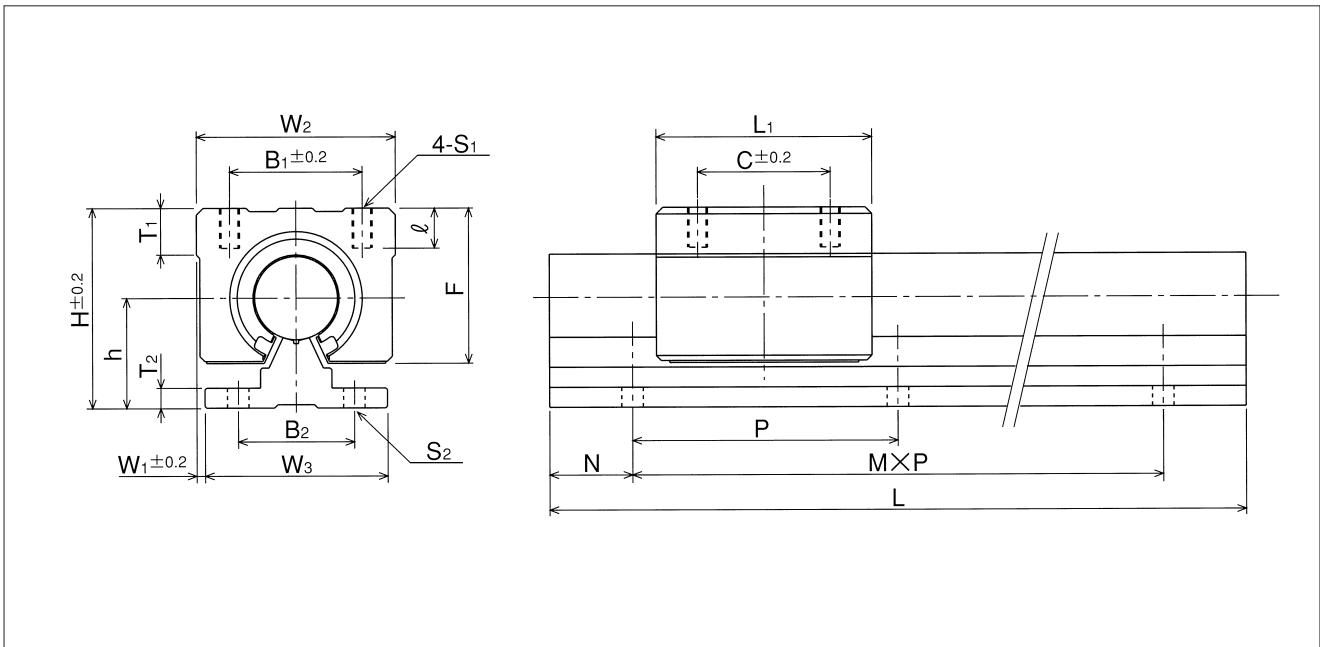
# CE TYPE

– Non-Clearance Adjustable Type –



part number		shaft diameter mm	assembly dimension											major dimensions				
standard	anticorrosion		H	h	W <sub>1</sub>	W <sub>2</sub>	L <sub>1</sub>	B <sub>1</sub>	C	T <sub>1</sub>	ℓ	S <sub>1</sub>	F	W <sub>3</sub>	B <sub>2</sub>	T <sub>2</sub>	P	S <sub>2</sub>
CE16	CES16	16	45	25	2.5	45	45	32	30	9	12	M5	33	40	30	5	150	5.5
CE20	CES20	20	50	27	1.5	48	50	35	35	11	12	M6	39	45	30	5	150	5.5
CE25	CES25	25	60	33	2.5	60	65	40	40	14	12	M6	47	55	35	6	200	6.5
CE30	CES30	30	70	37	5	70	70	50	50	15	18	M8	56	60	40	7	200	6.5

\* Longer length are available. Please contact NB in case of the length exceeds 2,000mm.

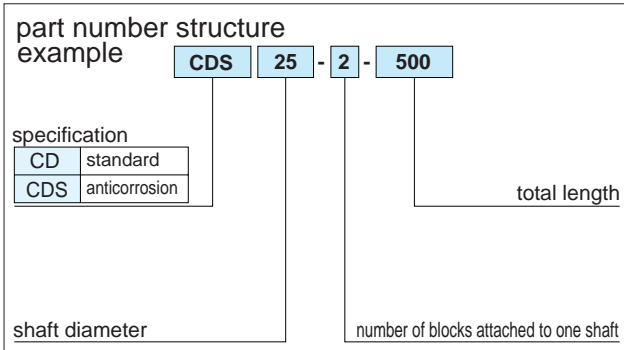
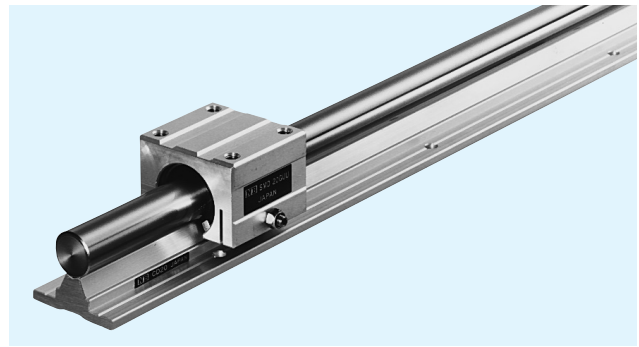


rail dimensions				basic load rating		mass		size
				dynamic C N	static Co N	block g	rail kg/m	
*L(M,N) mm								
300( 1,75)	500( 3,25)	800( 5,25)	1,000( 6,50)	774	1,180	150	2.58	<b>16</b>
1,500( 9,75)	1,800(11,75)	2,000(13,25)						
300( 1,75)	500( 3,25)	800( 5,25)	1,000( 6,50)	882	1,370	200	3.49	<b>20</b>
1,500( 9,75)	1,800(11,75)	2,000(13,25)						
300( 1,50)	500( 2,50)	800( 3,100)	1,000( 4,100)	980	1,570	450	5.31	<b>25</b>
1,500( 7,50)	1,800( 8,100)	2,000( 9,100)						
300( 1,50)	500( 2,50)	800( 3,100)	1,000( 4,100)	1,570	2,740	630	7.39	<b>30</b>
1,500( 7,50)	1,800( 8,100)	2,000( 9,100)						

1N≐0.102kgf

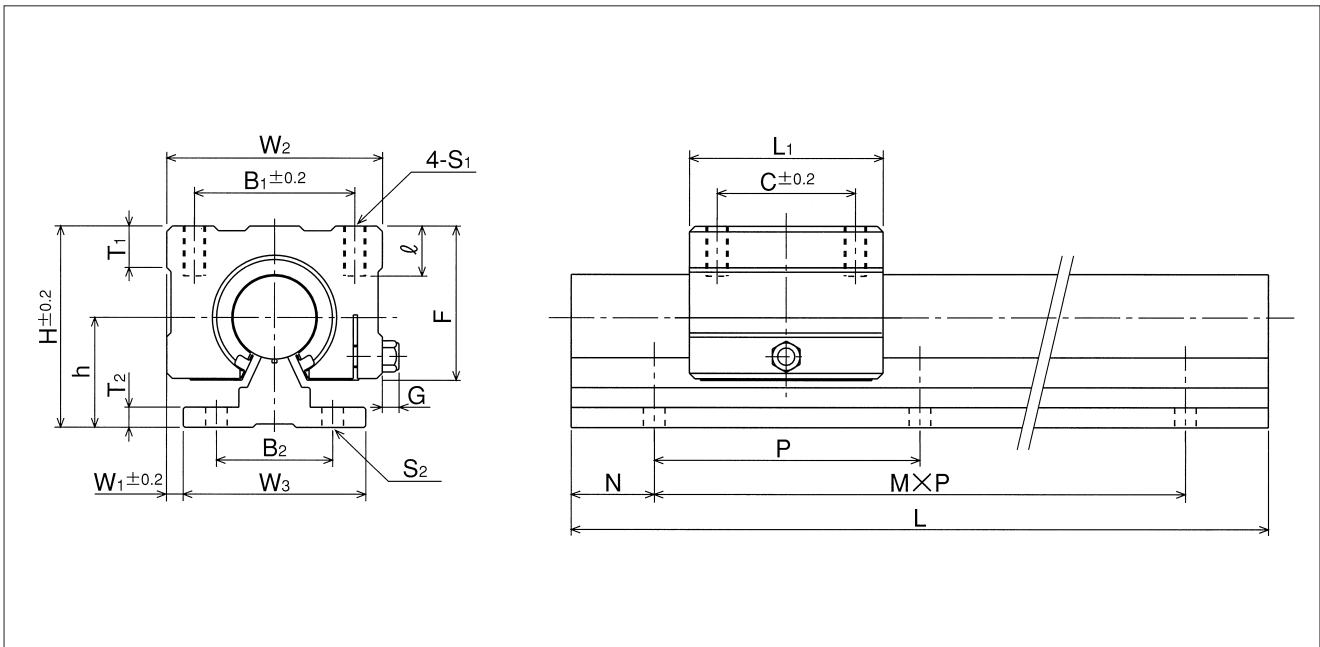
# CD TYPE

– Clearance Adjustable Type –



part number		shaft diameter mm	assembly dimensions											major dimensions					
standard	anticorrosion		H	h	W <sub>1</sub>	W <sub>2</sub>	L <sub>1</sub>	B <sub>1</sub>	C	T <sub>1</sub>	ℓ	S <sub>1</sub>	G	F	W <sub>3</sub>	B <sub>2</sub>	T <sub>2</sub>	P	S <sub>2</sub>
CD16	CDS16	16	45	25	5	50	45	36	30	9	12	M5	6	33	40	30	5	150	5.5
CD20	CDS20	20	50	27	4.5	54	50	40	35	11	12	M6	7	39	45	30	5	150	5.5
CD25	CDS25	25	60	33	10.5	76	65	54	40	14	12	M6	7	47	55	35	6	200	6.5
CD30	CDS30	30	70	37	9	78	70	58	50	15	18	M8	7	56	60	40	7	200	6.5

\* Longer length are available. Please contact NB in case of the length exceeds 2,000mm.



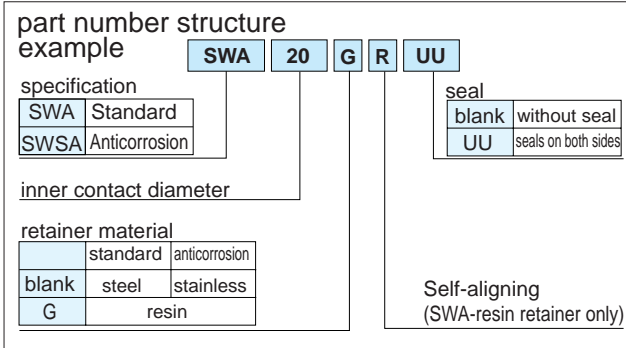
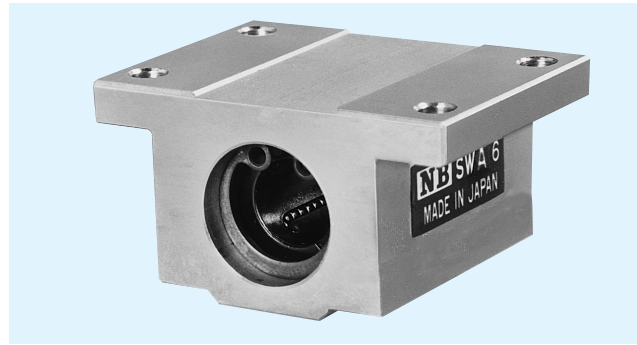
rail dimensions				basic load rating		mass		size
				dynamic C N	static Co N	block g	rail kg/m	
*L(M,N) mm								
300( 1,75)	500( 3,25)	800( 5,25)	1,000( 6,50)	774	1,180	170	2.58	<b>16</b>
1,500( 9,75)	1,800(11,75)	2,000(13,25)						
300( 1,75)	500( 3,25)	800( 5,25)	1,000( 6,50)	882	1,370	240	3.49	<b>20</b>
1,500( 9,75)	1,800(11,75)	2,000(13,25)						
300( 1,50)	500( 2,50)	800( 3,100)	1,000( 4,100)	980	1,570	580	5.31	<b>25</b>
1,500( 7,50)	1,800( 8,100)	2,000( 9,100)						
300( 1,50)	500( 2,50)	800( 3,100)	1,000( 4,100)	1,570	2,740	720	7.39	<b>30</b>
1,500( 7,50)	1,800( 8,100)	2,000( 9,100)						

1N $\approx$ 0.102kgf

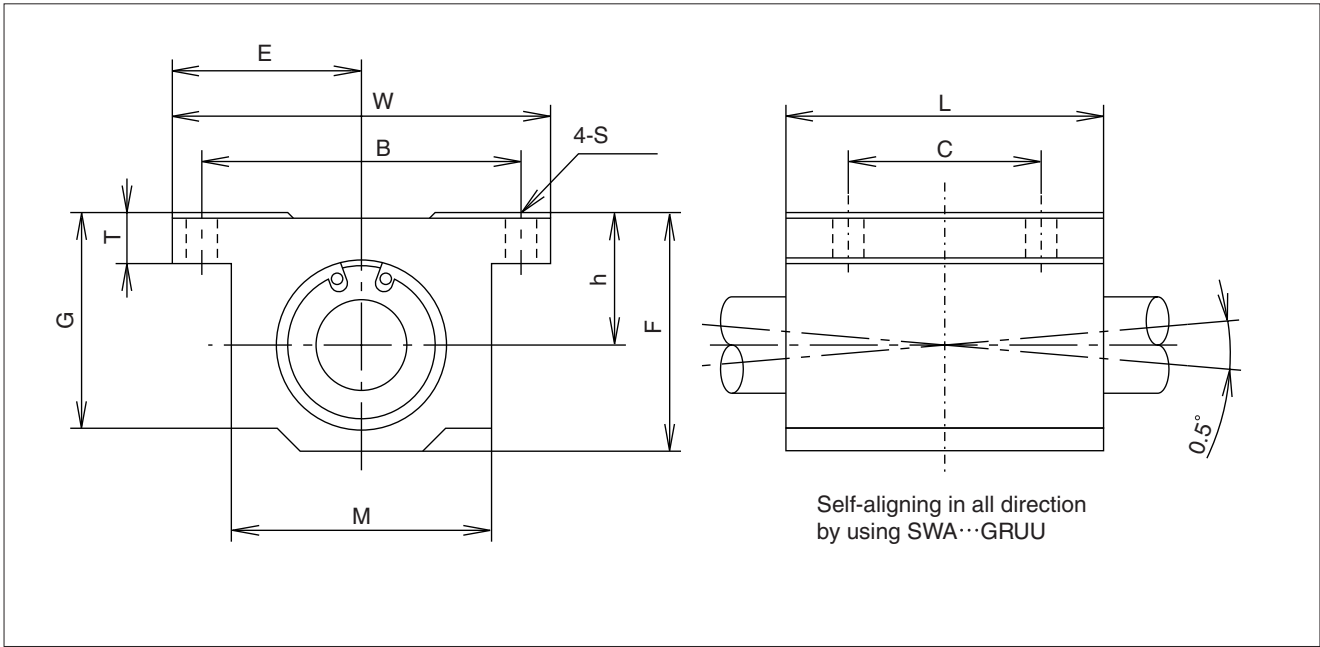
# SWA TYPE

– Block Type –

(Inch Series)



part number	major dimensions							
	inner contact diameter		outer dimensions					
	inch/mm	tolerance inch/ $\mu$ m	h $\pm .001/\pm 0.02$ inch/mm	E $\pm .001/\pm 0.02$ inch/mm	W inch/mm	L inch/mm	F inch/mm	T inch/mm
SWA 4GUU	.2500 6.350	0 - .00040	.4370 11.100	.8125 20.638	1.625 41.28	1.188 30.16	.813 20.64	.188 4.76
SWA 6GUU	.3750 9.525		.5000 12.700	.8750 22.225	1.750 44.45	1.313 33.34	.938 23.82	.188 4.76
SWA 8GUU	.5000 12.700		.6870 17.450	1.0000 25.400	2.000 50.80	1.688 42.86	1.250 31.75	.250 6.35
SWA 10GUU	.6250 15.875	0 -9	.8750 22.225	1.2500 31.750	2.500 63.50	1.938 49.21	1.625 41.28	.281 7.14
SWA 12GUU	.7500 19.050	0 - .00040	.9370 23.800	1.3750 34.925	2.750 69.85	2.063 52.39	1.750 44.45	.313 7.94
SWA 16GUU	1.0000 25.400	0 -10	1.1870 30.150	1.6250 41.275	3.250 82.55	2.813 71.44	2.188 55.56	.375 9.53
SWA 20GUU	1.2500 31.750	0 - .00050	1.5000 38.100	2.0000 50.800	4.000 101.60	3.625 92.08	2.813 71.44	.438 11.11
SWA 24GUU	1.5000 38.100	0 - .00050	1.7500 44.450	2.3750 60.325	4.750 120.65	4.000 101.60	3.250 82.55	.500 12.70
SWA 32GUU	2.0000 50.800	0 -12	2.1250 53.975	3.0000 76.200	6.000 152.40	5.000 127.00	4.063 103.19	.625 15.88

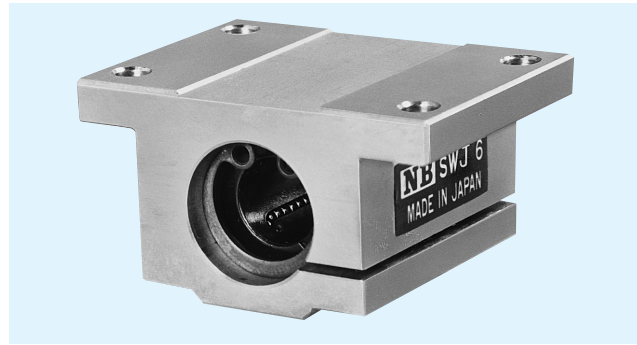


G	M	mounting dimension			basic load rating		mass	part number
		B	C	S	dynamic C	static Co		
inch/mm	inch/mm	$\pm 0.01/\pm 0.2$ inch/mm	$\pm 0.01/\pm 0.2$ inch/mm	inch/mm	N	N	g	
.750 19.05	1.000 25.40	1.312 33.33	.750 19.05	.156 4.0	206	265	45	<b>SWA 4GUU</b>
.875 22.23	1.125 28.58	1.437 36.50	.875 22.23	.156 4.0	225	314	62	<b>SWA 6GUU</b>
1.125 28.58	1.375 34.93	1.688 42.88	1.000 25.40	.156 4.0	510	784	130	<b>SWA 8GUU</b>
1.437 36.50	1.750 44.45	2.125 53.98	1.125 28.58	.188 4.8	774	1,180	240	<b>SWA 10GUU</b>
1.563 39.69	1.875 47.63	2.375 60.33	1.250 31.75	.188 4.8	862	1,370	290	<b>SWA 12GUU</b>
1.938 49.21	2.375 60.33	2.875 73.03	1.750 44.45	.219 5.6	980	1,570	615	<b>SWA 16GUU</b>
2.500 63.50	3.000 76.20	3.500 88.90	2.000 50.80	.219 5.6	1,570	2,740	1,300	<b>SWA 20GUU</b>
2.875 73.03	3.500 88.90	4.125 104.78	2.500 63.50	.281 7.2	2,160	4,020	1,900	<b>SWA 24GUU</b>
3.625 92.08	4.500 114.30	5.250 133.35	3.250 82.55	.406 10.5	3,820	7,940	3,600	<b>SWA 32GUU</b>

SI UNIT 1N  $\approx$  0.225lbs  
1kg  $\approx$  2.205lbs

# SWJ TYPE

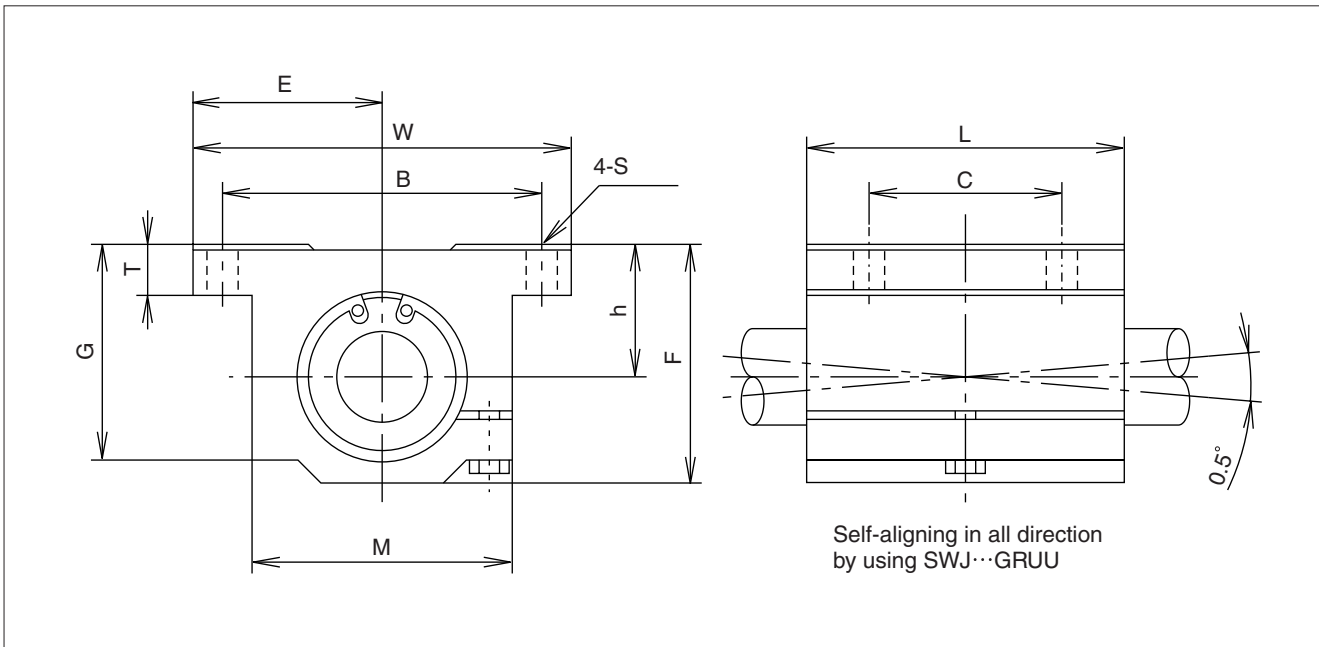
– Clearance Adjustable Block Type –  
(Inch Series)



part number structure		example		SWJ		20		G		R		UU			
specification		SWJ		Standard		SWSJ		Anticorrosion		seal		blank		without seal	
inner contact diameter		UU		seals on both sides		retainer material		blank		steel		stainless			
G		resin		Self-aligning		(SWA-resin retainer only)									

part number	major dimensions						
	inner contact diameter	outer dimensions					
		h	E	W	L	F	T
inch/mm	$\pm.001/\pm 0.02$ inch/mm	$\pm.001/\pm 0.02$ inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	
SWJ 8GUU	.5000 12.700	.6870 17.450	1.0000 25.400	2.000 50.80	1.688 42.86	1.250 31.75	.250 6.35
SWJ 10GUU	.6250 15.875	.8750 22.225	1.2500 31.750	2.500 63.50	1.938 49.21	1.625 41.28	.281 7.14
SWJ 12GUU	.7500 19.050	.9370 23.800	1.3750 34.925	2.750 69.85	2.063 52.39	1.750 44.45	.313 7.94
SWJ 16GUU	1.0000 25.400	1.1870 30.150	1.6250 41.275	3.250 82.55	2.813 71.44	2.188 55.56	.375 9.53
SWJ 20GUU	1.2500 31.750	1.5000 38.100	2.0000 50.800	4.000 101.60	3.625 92.08	2.813 71.44	.438 11.11
SWJ 24GUU	1.5000 38.100	1.7500 44.450	2.3750 60.325	4.750 120.65	4.000 101.60	3.250 82.55	.500 12.70
SWJ 32GUU	2.0000 50.800	2.1250 53.975	3.0000 76.200	6.000 152.40	5.000 127.00	4.063 103.19	.625 15.88





					basic load rating		mass	part number
G	M	mounting dimensions			dynamic	static		
		$\pm .01/\pm 0.2$	$\pm .01/\pm 0.2$	S	C	Co	g	
inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	N	N		
1.125 28.58	1.375 34.93	1.688 42.88	1.000 25.40	.156 4.0	510	784	130	<b>SWJ 8GUU</b>
1.437 36.50	1.750 44.45	2.125 53.98	1.125 28.58	.188 4.8	774	1,180	240	<b>SWJ 10GUU</b>
1.563 39.69	1.875 47.63	2.375 60.33	1.250 31.75	.188 4.8	862	1,370	290	<b>SWJ 12GUU</b>
1.938 49.21	2.375 60.33	2.875 73.03	1.750 44.45	.219 5.6	980	1,570	615	<b>SWJ 16GUU</b>
2.500 63.50	3.000 76.20	3.500 88.90	2.000 50.80	.219 5.6	1,570	2,740	1,300	<b>SWJ 20GUU</b>
2.875 73.03	3.500 88.90	4.125 104.78	2.500 63.50	.281 7.2	2,160	4,020	1,900	<b>SWJ 24GUU</b>
3.625 92.08	4.500 114.30	5.250 133.35	3.250 82.55	.406 10.5	3,820	7,940	3,600	<b>SWJ 32GUU</b>

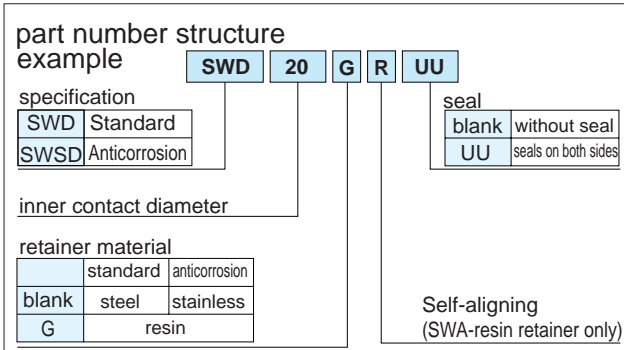
SI UNIT 1N  $\approx$  0.225lbs

1kg  $\approx$  2.205lbs

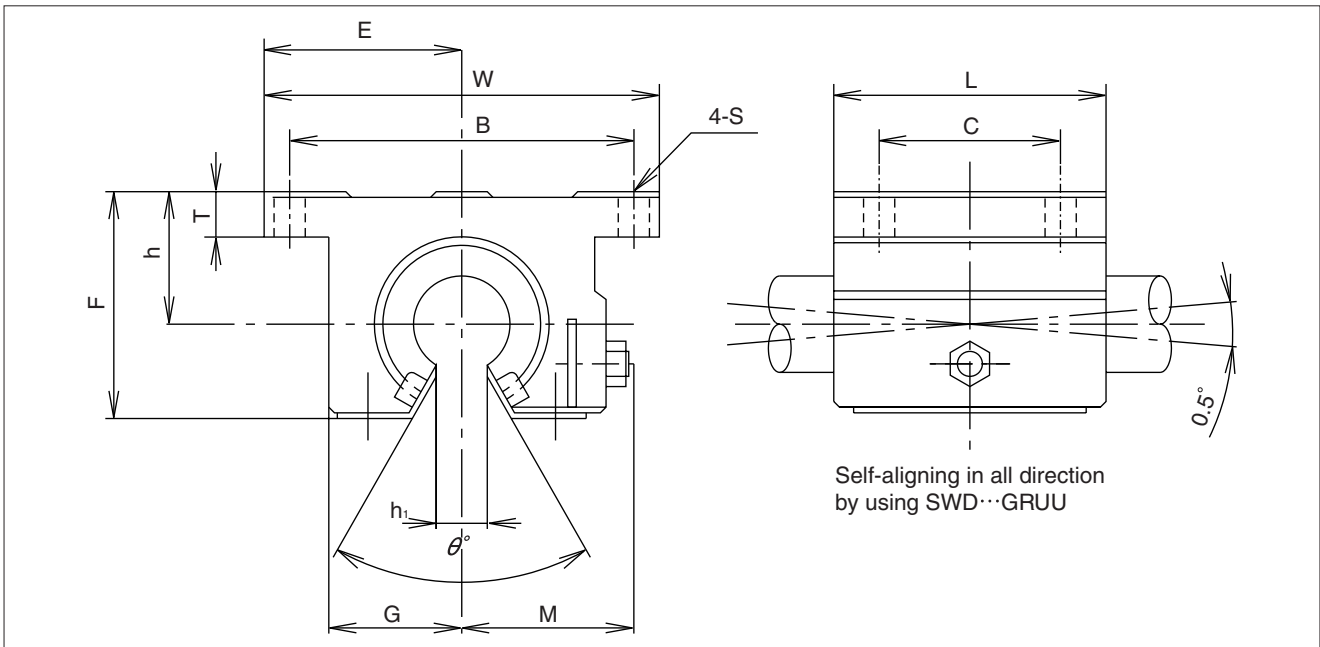
# SWD TYPE

– Open Block Type –

(Inch Series)



part number	major dimensions							
	inner contact diameter	outer dimensions						
		h	E	W	L	F	T	G
inch/mm	$\pm.001/\pm 0.02$ inch/mm	$\pm.001/\pm 0.02$ inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	
<b>SWD 8GUU</b>	.5000 12.700	.6870 17.450	1.0000 25.400	2.000 50.80	1.500 38.10	1.100 27.94	.250 6.35	.688 17.5
<b>SWD 10GUU</b>	.6250 15.875	.8750 22.225	1.2500 31.750	2.500 63.50	1.750 44.45	1.375 34.93	.281 7.14	.875 22.23
<b>SWD 12GUU</b>	.7500 19.050	.9370 23.800	1.3750 34.950	2.750 69.85	1.875 47.63	1.535 39.00	.315 8.00	.937 23.80
<b>SWD 16GUU</b>	1.0000 25.400	1.1870 30.150	1.6250 41.300	3.250 82.55	2.625 66.68	1.975 50.17	.375 9.53	1.188 30.18
<b>SWD 20GUU</b>	1.2500 31.750	1.5000 38.100	2.0000 50.800	4.000 101.60	3.375 85.73	2.485 63.12	.437 11.10	1.500 38.10
<b>SWD 24GUU</b>	1.5000 38.100	1.7500 44.450	2.3750 60.325	4.750 120.65	3.750 95.25	2.910 73.90	.500 12.70	1.750 44.45
<b>SWD 32GUU</b>	2.0000 50.800	2.1250 53.975	3.0000 76.200	6.000 152.4	4.750 120.65	3.660 92.90	.625 15.88	2.250 57.15



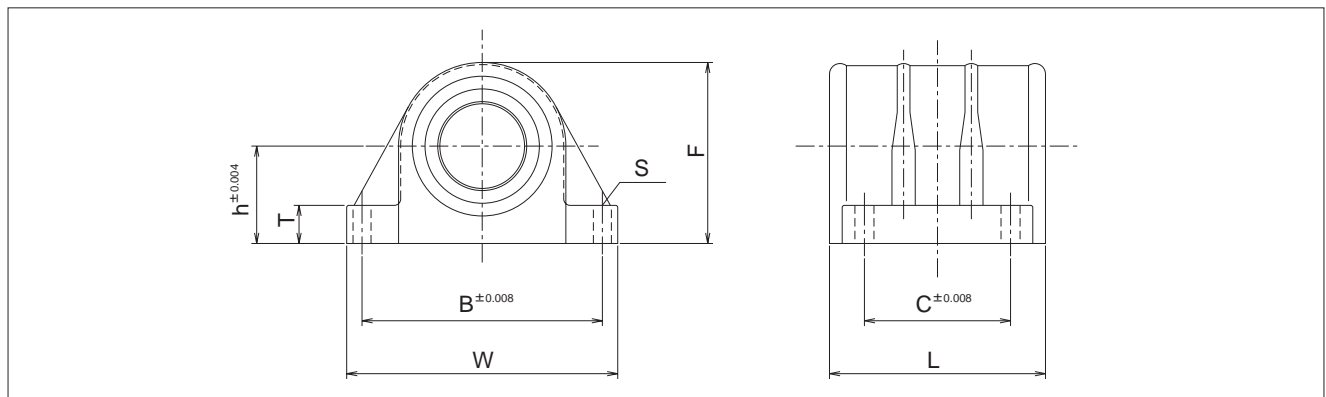
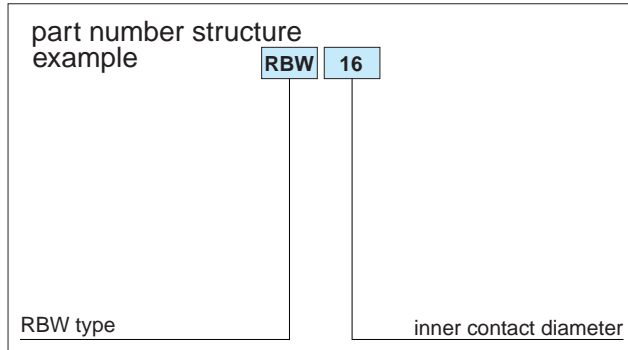
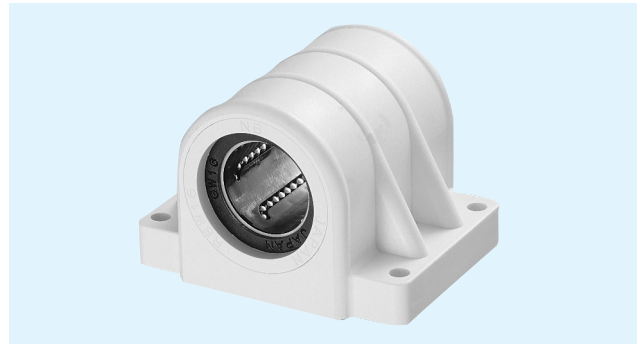
			mounting dimensions			basic load rating		mass	Part number
M	h <sub>1</sub>	θ	B	C	S	dynamic C	static C <sub>0</sub>	g	
inch/mm	inch/mm		±.01/±0.2 inch/mm	±.01/±0.2 inch/mm	inch/mm	N	N		
.98 24.89	.3425 8.70	80°	1.688 42.88	1.000 25.40	.156 4.0	510	784	98	<b>SWD 8GUU</b>
1.15 29.21	.375 9.53	80°	2.125 53.98	1.125 28.58	.188 4.8	774	1,180	185	<b>SWD 10GUU</b>
1.23 31.24	.4375 11.11	60°	2.375 60.33	1.250 31.75	.188 4.8	862	1,370	235	<b>SWD 12GUU</b>
1.48 37.59	.5625 14.29	50°	2.875 73.03	1.750 44.45	.218 5.6	980	1,570	530	<b>SWD 16GUU</b>
1.88 47.75	.625 15.88	50°	3.500 88.90	2.000 50.80	.218 5.6	1,570	2,740	1,080	<b>SWD 20GUU</b>
2.12 53.85	.750 19.05	50°	4.125 104.78	2.500 63.50	.281 7.4	2,160	4,020	1,620	<b>SWD 24GUU</b>
2.70 68.58	1.00 25.40	50°	5.250 133.35	3.250 82.55	.406 10.5	3,820	7,940	3,100	<b>SWD 32GUU</b>

SI UNIT 1N ≅ 0.225lbs  
1kg ≅ 2.205lbs

## RBW TYPE

— Resin Block Type —

(Inch Series / Anti-Corrosive Type)



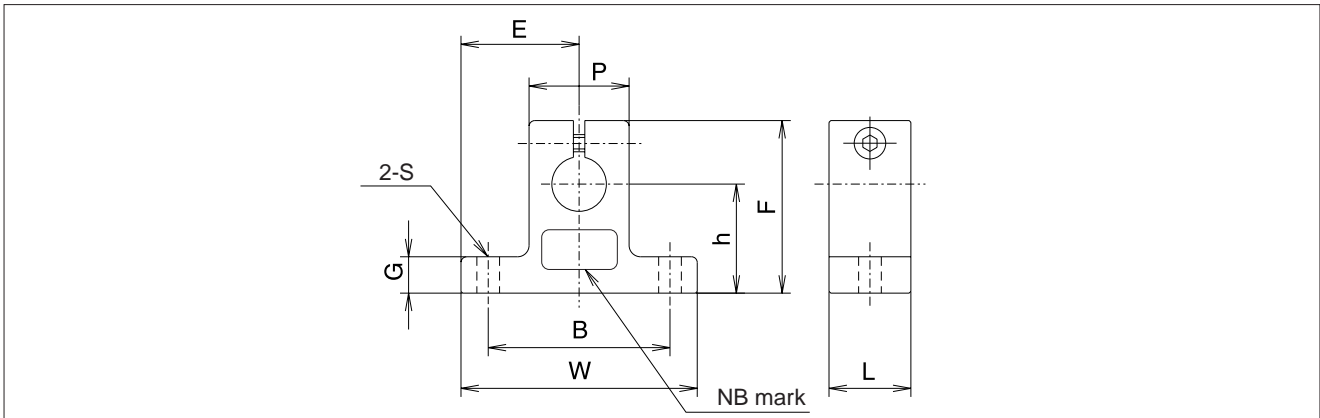
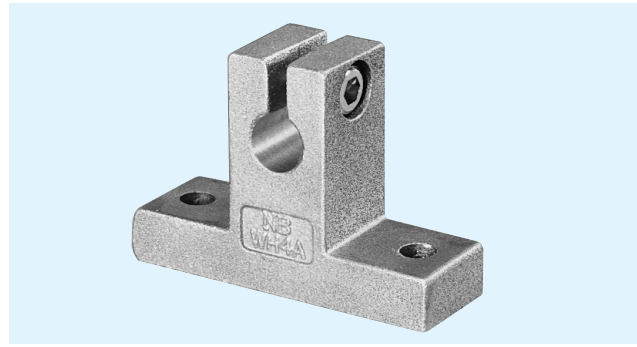
part number	main dimensions										basic load rating		mass
	inner contact dia.		outer dimintions				mounting dimintions				dynamic	static	
		tol.	H	W	L	F	T	B	C	S	C	Co	
	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	N	N	g
<b>RBW 8</b>	0.5000 12.700	0 -0.00040	0.6870 17.450	2.000 50.80	1.5937 40.481	1.2500 31.750	0.3437 8.731	1.688 42.875	1.000 25.400	0.157 4.0	510	784	51
<b>RBW 10</b>	0.6250 15.875	0 -9	0.8750 22.225	2.500 63.50	1.8437 46.831	1.6250 41.275	0.3750 9.525	2.125 53.975	1.125 28.575	0.189 4.8	774	1180	99
<b>RBW 12</b>	0.7500 19.050	0 -0.00040	0.9370 23.800	2.750 69.85	1.9687 50.006	1.7500 44.450	0.4063 10.319	2.375 60.325	1.250 31.750	0.189 4.8	862	1370	129
<b>RBW 16</b>	1.0000 25.400	0 -10	1.1870 30.150	3.250 82.55	2.5937 65.881	2.1870 55.550	0.4687 11.906	2.875 73.025	1.750 44.450	0.220 5.6	980	1570	242

\*RBW type has side-seals as standard.

1N ≙ 0.225lbs  
1kg ≙ 2.205lbs

## WH-A TYPE

— Shaft End Supporter —  
(Inch Series)

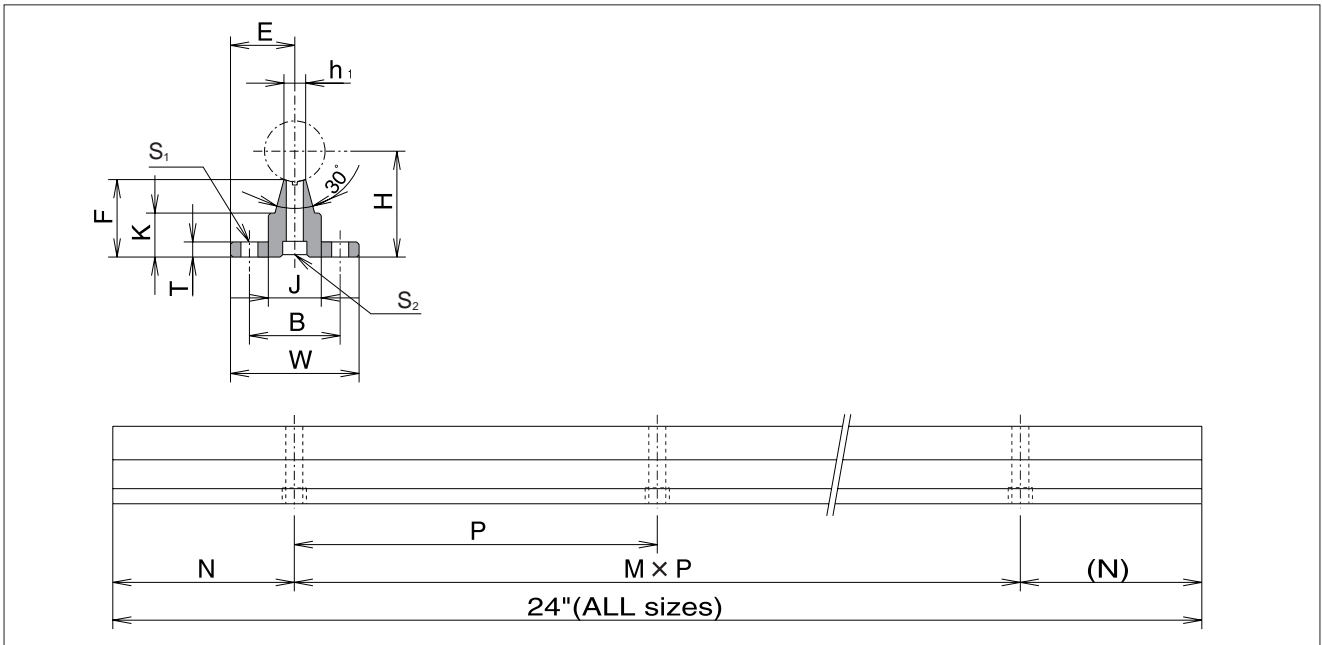
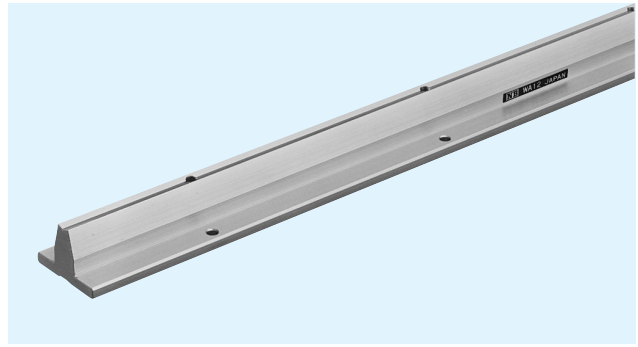


part number	shaft diameter inch/mm	major dimensions inch/mm										mass g
		h	E	W	L	F	G	P	B	S	BOLT	
		$\pm .001$ $\pm 0.02$	$\pm .005$ $\pm 0.1$						$\pm .01$ $\pm 0.2$			
<b>WH 4A</b>	.2500 6.350	.6875 17.463	.7500 19.050	1.500 38.10	.500 12.70	1.063 27.00	.250 6.35	.500 12.70	1.125 28.58	.156 4.0	# 6	15
<b>WH 6A</b>	.3750 9.525	.7500 19.050	.8125 20.637	1.625 41.28	.563 14.30	1.187 30.16	.250 6.35	.688 17.46	1.250 31.75	.156 4.0	# 6	21
<b>WH 8A</b>	.5000 12.700	1.0000 25.400	1.0000 25.400	2.000 50.80	.625 15.88	1.625 41.28	.250 6.35	.875 22.23	1.500 38.10	.188 4.8	# 8	35
<b>WH 10A</b>	.6250 15.875	1.0000 25.400	1.2500 31.750	2.500 63.50	.688 17.46	1.750 44.45	.313 7.94	1.000 25.40	1.875 47.63	.218 5.6	#10	52
<b>WH 12A</b>	.7500 19.050	1.2500 31.750	1.2500 31.750	2.500 63.50	.750 19.05	2.063 52.40	.313 7.94	1.250 31.75	2.000 50.80	.218 5.6	#10	74
<b>WH 16A</b>	1.0000 25.400	1.5000 38.100	1.5315 38.900	3.063 77.80	1.000 25.40	2.500 63.50	.375 9.53	1.500 38.10	2.500 63.50	.281 7.2	1/4	136
<b>WH 20A</b>	1.2500 31.750	1.7500 44.450	1.8750 47.625	3.750 95.25	1.125 28.58	3.000 76.20	.438 11.14	2.000 50.80	3.000 76.20	.346 8.8	5/16	254
<b>WH 24A</b>	1.5000 38.100	2.0000 50.800	2.1875 55.550	4.375 111.13	1.250 31.75	3.437 87.30	.500 12.70	2.250 57.15	3.500 88.90	.346 8.8	5/16	340
<b>WH 32A</b>	2.0000 50.800	2.5000 63.500	2.7500 69.850	5.500 139.70	1.500 38.10	4.375 111.13	.625 15.88	3.000 76.20	4.500 114.30	.406 10.5	3/8	670

1 kg  $\approx$  2.205lbs

# WA TYPE

— Shaft Support Rail —  
(Inch Series)



part number	shaft diameter	major dimensions								mounting dimensions						mass	
		H	E	W	F	T	K	J	h <sub>1</sub>	B	N	M × P	S <sub>1</sub>		S <sub>2</sub>		
		±.001 ±0.02	±.005 ±0.1							±.01 ±0.2			hole	bolt#	hole		bolt#
inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	inch/mm	g
WA 8-24PD	.5000	1.125	.7500	1.500	.903	.188	.466	.500	.255	1.000	2	5 × 4	.169	# 6	.169	# 6	600
	12.700	28.575	19.050	38.10	22.94	4.78	11.84	12.70	6.48	25.40	50.8	5 × 101.6	4.3	# 6	4.3	# 6	
WA10-24PD	.6250	1.125	.8125	1.625	.841	.250	.423	.500	.276	1.125	2	5 × 4	.193	# 8	.193	# 8	680
	15.875	28.575	20.638	41.28	21.36	6.35	10.74	12.70	7.01	28.58	50.8	5 × 101.6	4.9	# 8	4.9	# 8	
WA12-24PD	.7500	1.500	.8750	1.750	1.158	.250	.592	.625	.322	1.250	3	3 × 6	.221	#10	.221	#10	910
	19.050	38.100	22.225	44.45	29.41	6.35	15.04	15.88	8.18	31.75	76.2	3 × 152.4	5.6	#10	5.6	#10	
WA16-24PD	1.0000	1.750	1.0625	2.125	1.280	.250	.727	.875	.359	1.500	3	3 × 6	.281	1/4	.281	1/4	1290
	25.400	44.450	26.988	53.98	32.51	6.35	18.47	22.23	9.12	38.10	76.2	3 × 152.4	7.1	1/4	7.1	1/4	
WA20-24PD	1.2500	2.125	1.2500	2.500	1.537	.313	.799	1.100	.437	1.875	3	3 × 6	.343	5/16	.343	5/16	1810
	31.750	53.975	31.750	63.50	39.04	7.95	20.29	27.94	11.10	47.63	76.2	3 × 152.4	8.7	5/16	8.7	5/16	
WA24-24PD	1.5000	2.500	1.5000	3.000	1.798	.375	.922	1.375	.558	2.250	4	2 × 8	.343	5/16	.406	3/8	2610
	38.100	63.500	38.100	76.20	45.67	9.53	23.42	34.93	14.17	57.15	101.6	2 × 203.2	8.7	5/16	10.3	3/8	
WA32-24PD	2.0000	3.250	1.8750	3.750	2.322	.500	1.450	1.500	.800	2.750	4	2 × 8	.406	3/8	.531	1/2	4380
	50.800	82.550	47.625	95.25	58.98	12.70	36.83	38.10	20.32	69.85	101.6	2 × 203.2	10.3	3/8	13.5	1/2	

All sizes are also available without pre-drilled mounting holes. Specify Part Number as WA ##-## when ordering. Complete shaft-rail assemblies are also available as well as custom drilling and lengths. Please send drawing for quotation on custom configurations. 1kg ≅ 2.205lbs