SM TYPE

– Standard Type –

This type is a metric dimension series widely used in Japan and other countries.

part number structure example

SMS | 25 | G | UU | - | P

specification

SM	standard
SMS	anticorrosion

inner contact diameter

retainer material

blank	steel
G	resin

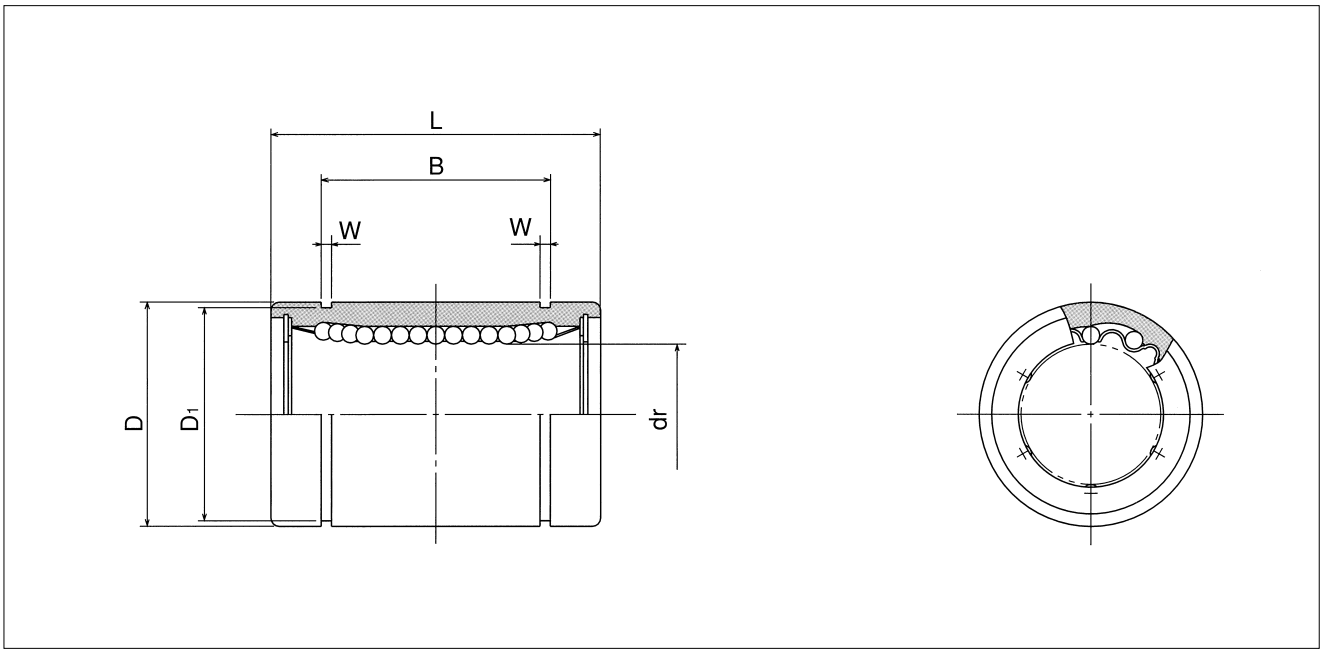
accuracy grade

blank	high
P	precision

seal

blank	without seal
U	seal on one side
UU	seals on both sides

part number				number of ball circuits	dr			D		
standard		anticorrosion				tolerance μm				
steel retainer	resin retainer	stainless retainer	resin retainer		mm	precision	high	mm	tolerance μm
SM 3	**SM 3G**	**SMS 3**	**SMS 3G**	4	3	0 −5	0 −8	7	0 −9
SM 4	**SM 4G**	**SMS 4**	**SMS 4G**	4	4			8	
SM 5	**SM 5G**	**SMS 5**	**SMS 5G**	4	5			10	
SM 6	**SM 6G**	**SMS 6**	**SMS 6G**	4	6	0 −6	0 −9	12	0 −11
SM 8s	**SM8sG**	**SMS8s**	**SMS8sG**	4	8			15	
SM 8	**SM 8G**	**SMS 8**	**SMS 8G**	4	8			15	
SM 10	**SM10G**	**SMS10**	**SMS10G**	4	10			19	0 −13
SM 12	**SM12G**	**SMS12**	**SMS12G**	4	12			21	
SM 13	**SM13G**	**SMS13**	**SMS13G**	4	13			23	
SM 16	**SM16G**	**SMS16**	**SMS16G**	4	16			28	
SM 20	**SM20G**	**SMS20**	**SMS20G**	5	20	0 −7	0 −10	32	0 −16
SM 25	**SM25G**	**SMS25**	**SMS25G**	6	25			40	
SM 30	**SM30G**	**SMS30**	**SMS30G**	6	30			45	
SM 35	**SM35G**	**SMS35**	**SMS35G**	6	35	0 −8	0 −12	52	0 −19
SM 40	**SM40G**	**SMS40**	**SMS40G**	6	40			60	
SM 50	**SM50G**	**SMS50**	**SMS50G**	6	50			80	
SM 60	**SM60G**	**SMS60**	**SMS60G**	6	60	0 −9	0 −15	90	0 −22
SM 80	**SM80G**	–	–	6	80			120	
SM100	–	–	–	6	100	0 −10	0 −20	150	0 −25
SM120	–	–	–	8	120			180	
SM150	–	–	–	8	150	0/−13	0/−25	210	0/−29



major dimensions						eccentricity		radial clearance (maximum)	basic load rating		mass	shaft diameter
L		B		W	D1				dynamic	static		
mm	tolerance mm	mm	tolerance mm	mm	mm	precision μm	high μm	μm	C N	Co N	g	mm
10	0 −0.12	–	–	–	–	4	8	− 3	69	105	1.4	3
12		–	–	–	–				88	127	2.0	4
15		10.2	0 −0.2	1.1	9.6				167	206	4.0	5
19	0 −0.2	13.5		1.1	11.5	8	12		206	265	8.5	6
17		11.5		1.1	14.3				176	216	11	8
24		17.5		1.1	14.3				274	392	17	8
29		22		1.3	18			− 4	372	549	36	10
30		23		1.3	20				510	784	42	12
32		23		1.3	22				510	784	49	13
37		26.5		1.6	27			− 6	774	1,180	76	16
42		30.5		1.6	30.5	10	15		882	1,370	100	20
59	0 −0.3	41	0 −0.3	1.85	38				980	1,570	240	25
64		44.5		1.85	43			− 8	1,570	2,740	270	30
70		49.5		2.1	49	12	20		1,670	3,140	425	35
80		60.5		2.1	57			−10	2,160	4,020	654	40
100		74		2.6	76.5			−13	3,820	7,940	1,700	50
110		85		3.15	86.5	17	25		4,700	10,000	2,000	60
140	0 −0.4	105.5	0 −0.4	4.15	116			−20	7,350	16,000	4,520	80
175		125.5		4.15	145	20	30		14,100	34,800	8,600	100
200		158.6		4.15	175			−25	16,400	40,000	15,000	120
240		170.6		5.15	204	25	40		21,100	54,300	20,250	150

1N≒0.102kgf

SM-AJ TYPE

– Clearance-Adjustable Type –

This type is a metric dimension series widely used in Japan and other countries.

part number structure example

SMS	25	G	UU	-	AJ

specification

SM	standard
SMS	anticorrosion

inner contact diameter

retainer material

blank	steel
G	resin

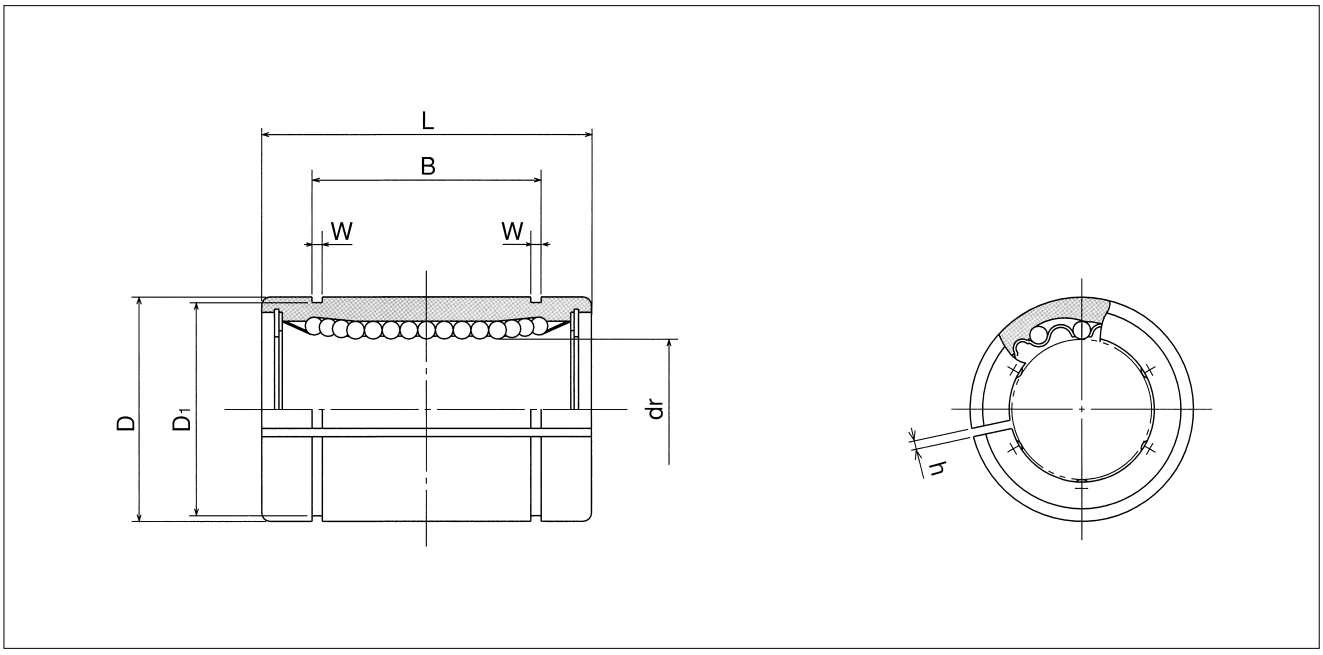
seal

blank	without seal
U	seal on one side
UU	seals on both sides

clearance-adjustable

part number				number of ball circuits	dr		D	
standard		anticorrosion						
steel retainer	resin retainer	stainless retainer	resin retainer		mm	tolerance* μm	mm	tolerance* μm
–	**SM 6G-AJ**	–	**SMS 6G-AJ**	4	6	0 −9	12	0 −11
–	**SM8sG-AJ**	–	**SMS8sG-AJ**	4	8		15	
–	**SM 8G-AJ**	–	**SMS 8G-AJ**	4	8		15	
–	**SM10G-AJ**	–	**SMS10G-AJ**	4	10		19	0 −13
SM 12-AJ	**SM12G-AJ**	**SMS12-AJ**	**SMS12G-AJ**	4	12		21	
SM 13-AJ	**SM13G-AJ**	**SMS13-AJ**	**SMS13G-AJ**	4	13		23	
SM 16-AJ	**SM16G-AJ**	**SMS16-AJ**	**SMS16G-AJ**	4	16		28	
SM 20-AJ	**SM20G-AJ**	**SMS20-AJ**	**SMS20G-AJ**	5	20	0 −10	32	0 −16
SM 25-AJ	**SM25G-AJ**	**SMS25-AJ**	**SMS25G-AJ**	6	25		40	
SM 30-AJ	**SM30G-AJ**	**SMS30-AJ**	**SMS30G-AJ**	6	30		45	
SM 35-AJ	**SM35G-AJ**	**SMS35-AJ**	**SMS35G-AJ**	6	35	0 −12	52	0 −19
SM 40-AJ	**SM40G-AJ**	**SMS40-AJ**	**SMS40G-AJ**	6	40		60	
SM 50-AJ	**SM50G-AJ**	**SMS50-AJ**	**SMS50G-AJ**	6	50		80	
SM 60-AJ	**SM60G-AJ**	**SMS60-AJ**	**SMS60G-AJ**	6	60	0 −15	90	0 −22
SM 80-AJ	**SM80G-AJ**	–	–	6	80		120	
SM100-AJ	–	–	–	6	100	0 −20	150	0 −25
SM120-AJ	–	–	–	8	120		180	
SM150-AJ	–	–	–	8	150	0/−25	210	0/−29

* Accuracy is measured prior to machining clearance slot.



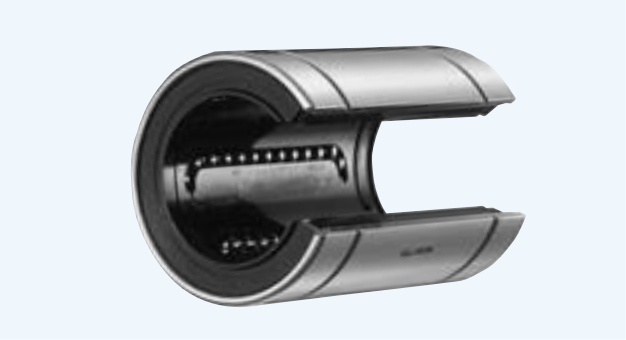
major dimensions							eccentricity*	basic load rating		mass	shaft diameter
L	tolerance	B	tolerance	W	D_1	h		dynamic C	static Co		
mm	mm	mm	mm	mm	mm	mm	μm	N	N	g	mm
19		13.5		1.1	11.5	1		206	265	7.5	6
17		11.5		1.1	14.3	1		176	216	10	8
24		17.5		1.1	14.3	1		274	392	14.7	8
29	0	22	0	1.3	18	1	12	372	549	29	10
30	−0.2	23	−0.2	1.3	20	1.5		510	784	41	12
32		23		1.3	22	1.5		510	784	48	13
37		26.5		1.6	27	1.5		774	1,180	75	16
42		30.5		1.6	30.5	1.5		882	1,370	98	20
59		41		1.85	38	2	15	980	1,570	237	25
64		44.5		1.85	43	2.5		1,570	2,740	262	30
70	0	49.5	0	2.1	49	2.5		1,670	3,140	420	35
80	−0.3	60.5	−0.3	2.1	57	3	20	2,160	4,020	640	40
100		74		2.6	76.5	3		3,820	7,940	1,680	50
110		85		3.15	86.5	3	25	4,700	10,000	1,980	60
140		105.5		4.15	116	3		7,350	16,000	4,400	80
175	0	125.5	0	4.15	145	3	30	14,100	34,800	8,540	100
200	−0.4	158.6	−0.4	4.15	175	3		16,400	40,000	14,900	120
240		170.6		5.15	204	3	40	21,100	54,300	20,150	150

1N≒0.102kgf

SM-OP TYPE

– Open Type –

This type is a metric dimension series widely used in Japan and other countries.



part number structure example

SMS | 25 | G | UU | - | OP

specification

SM	standard
SMS	anticorrosion

inner contact diameter

retainer material

blank	steel
G	resin

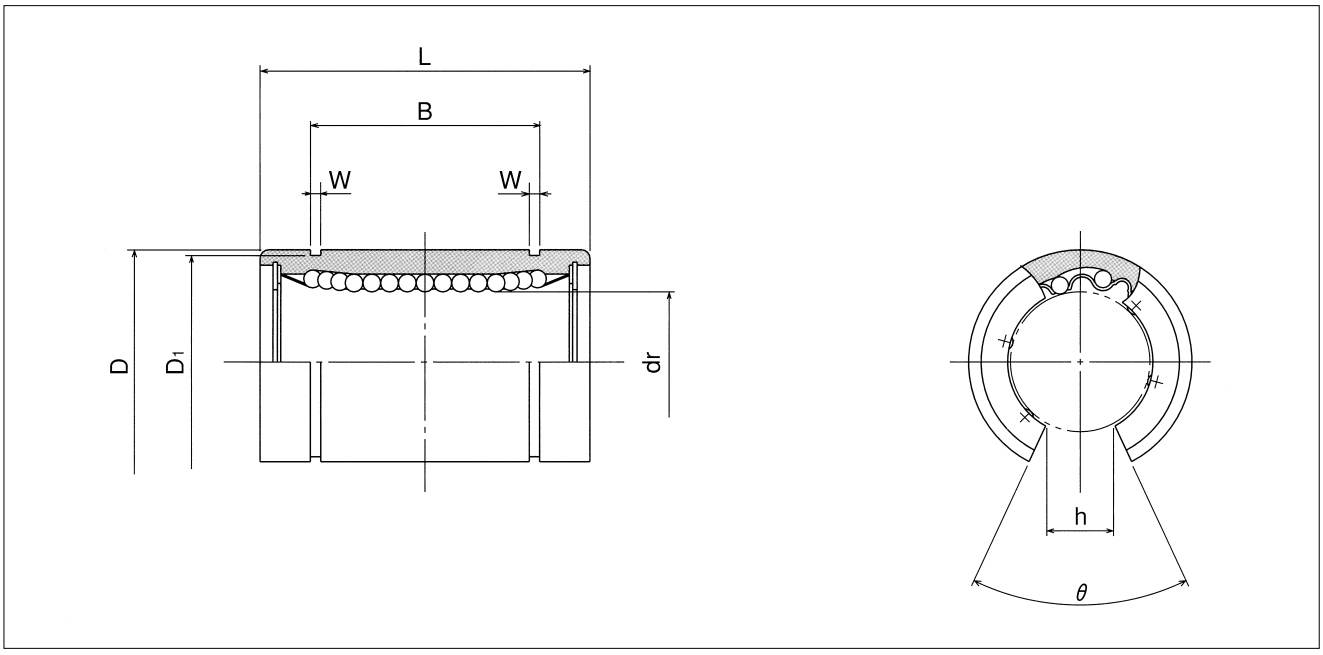
seal

blank	without seal
U	seal on one side
UU	seals on both sides

open type

part number				number of ball circuits	dr		D	
standard		anticorrosion						
steel retainer	resin retainer	stainless retainer	resin retainer		mm	tolerance* μm	mm	tolerance* μm
–	**SM10G-OP**	–	**SMS10G-OP**	3	10	0 −9	19	0 −13
SM 12-OP	**SM12G-OP**	**SMS12-OP**	**SMS12G-OP**	3	12		21	
SM 13-OP	**SM13G-OP**	**SMS13-OP**	**SMS13G-OP**	3	13		23	
SM 16-OP	**SM16G-OP**	**SMS16-OP**	**SMS16G-OP**	3	16		28	
SM 20-OP	**SM20G-OP**	**SMS20-OP**	**SMS20G-OP**	4	20	0 −10	32	0 −16
SM 25-OP	**SM25G-OP**	**SMS25-OP**	**SMS25G-OP**	5	25		40	
SM 30-OP	**SM30G-OP**	**SMS30-OP**	**SMS30G-OP**	5	30		45	
SM 35-OP	**SM35G-OP**	**SMS35-OP**	**SMS35G-OP**	5	35	0 −12	52	0 −19
SM 40-OP	**SM40G-OP**	**SMS40-OP**	**SMS40G-OP**	5	40		60	
SM 50-OP	**SM50G-OP**	**SMS50-OP**	**SMS50G-OP**	5	50		80	
SM 60-OP	**SM60G-OP**	**SMS60-OP**	**SMS60G-OP**	5	60	0 −15	90	0 −22
SM 80-OP	**SM80G-OP**	–	–	5	80		120	
SM100-OP	–	–	–	5	100	0 −20	150	0 −25
SM120-OP	–	–	–	6	120		180	
SM150-OP	–	–	–	6	150	0/−25	210	0/−29

* Accuracy is measured prior to machining open slot.

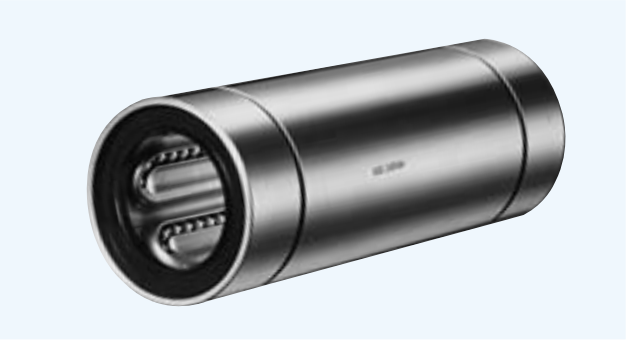


major dimensions								eccentricity*	basic load rating		mass	shaft diameter
L	tolerance	B	tolerance	W	D_1	h	θ		dynamic C	static Co		
mm	mm	mm	mm	mm	mm	mm		μm	N	N	g	mm
29	0 −0.2	22	0 −0.2	1.3	18	6.8	80°	12	372	549	23	10
30		23		1.3	20	8	80°		510	784	32	12
32		23		1.3	22	9	80°		510	784	37	13
37		26.5		1.6	27	11	80°		774	1,180	58	16
42		30.5		1.6	30.5	11	60°	15	882	1,370	79	20
59	0 −0.3	41	0 −0.3	1.85	38	12	50°		980	1,570	203	25
64		44.5		1.85	43	15	50°		1,570	2,740	228	30
70		49.5		2.1	49	17	50°	20	1,670	3,140	355	35
80		60.5		2.1	57	20	50°		2,160	4,020	546	40
100		74		2.6	76.5	25	50°		3,820	7,940	1,420	50
110		85		3.15	86.5	30	50°	25	4,700	10,000	1,650	60
140	0 −0.4	105.5	0 −0.4	4.15	116	40	50°		7,350	16,000	3,750	80
175		125.5		4.15	145	50	50°	30	14,100	34,800	7,200	100
200		158.6		4.15	175	85	80°		16,400	40,000	11,600	120
240		170.6		5.15	204	105	80°	40	21,100	54,300	15,700	150

1N≒0.102kgf

SM-W TYPE

− Double-Wide Type −



This type is a metric dimension series widely used in Japan and other countries.

part number structure example

SMS | **25** | **G** | **W** | **UU**

specification

SM	standard
SMS	anticorrosion

inner contact diameter

retainer material

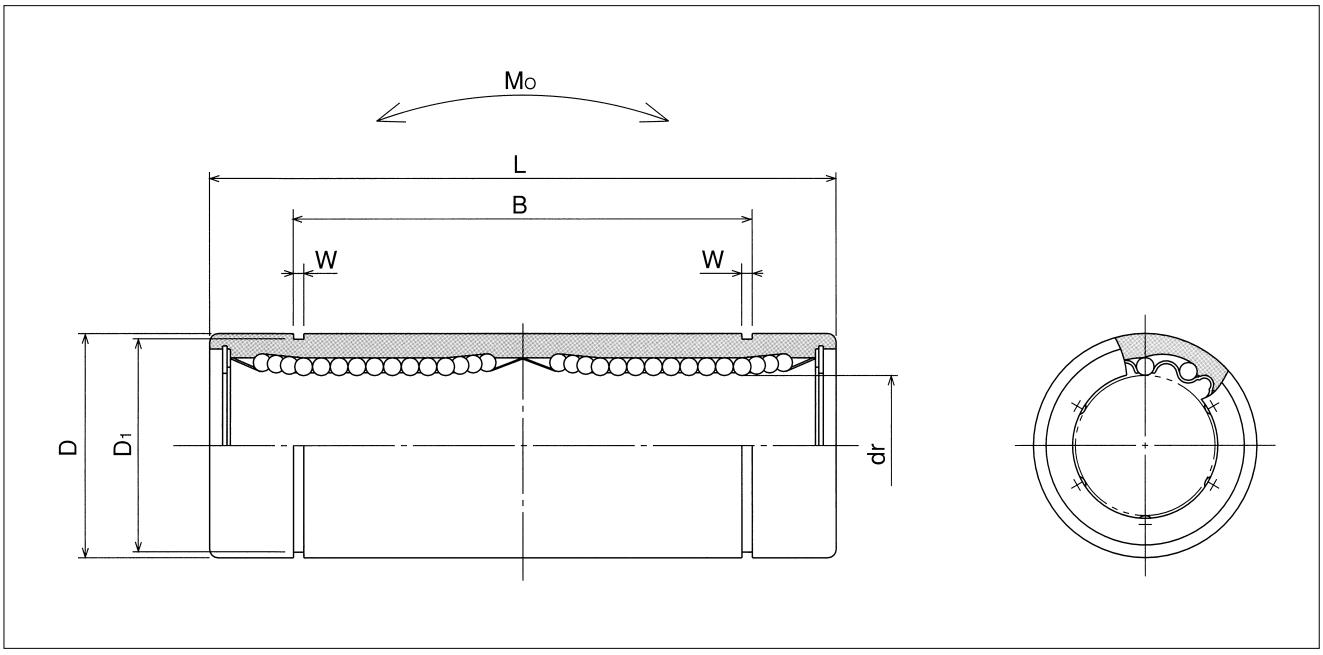
blank	steel
G	resin

seal

blank	without seal
UU	seals on both sides

double-wide type

part number				number of ball circuits	dr		D	
standard		anticorrosion						
steel retainer	resin retainer	stainless retainer	resin retainer		mm	tolerance μm	mm	tolerance μm
SM 5W	**SM 5GW**	**SMS 5W**	**SMS 5GW**	4	5	0 −10	10	0/−11
SM 6W	**SM 6GW**	**SMS 6W**	**SMS 6GW**	4	6		12	0 −13
SM 8W	**SM 8GW**	**SMS 8W**	**SMS 8GW**	4	8		15	
SM10W	**SM10GW**	**SMS10W**	**SMS10GW**	4	10		19	0 −16
SM12W	**SM12GW**	**SMS12W**	**SMS12GW**	4	12		21	
SM13W	**SM13GW**	**SMS13W**	**SMS13GW**	4	13		23	
SM16W	**SM16GW**	**SMS16W**	**SMS16GW**	4	16		28	
SM20W	**SM20GW**	**SMS20W**	**SMS20GW**	5	20	0 −12	32	0 −19
SM25W	**SM25GW**	**SMS25W**	**SMS25GW**	6	25		40	
SM30W	**SM30GW**	**SMS30W**	**SMS30GW**	6	30		45	
SM35W	**SM35GW**	**SMS35W**	**SMS35GW**	6	35	0 −15	52	0 −22
SM40W	**SM40GW**	**SMS40W**	**SMS40GW**	6	40		60	
SM50W	**SM50GW**	**SMS50W**	**SMS50GW**	6	50		80	
SM60W	**SM60GW**	**SMS60W**	**SMS60GW**	6	60	0/−20	90	0/−25



major dimensions						eccentricity	basic load rating		allowable static moment	mass	shaft diameter
L	tolerance	B	tolerance	W	D1		dynamic C	static Co	Mo		
mm	mm	mm	mm	mm	mm	μm	N	N	N・m	g	mm
28		20.4		1.1	9.6	10	265	412	1.38	11	5
35		27		1.1	11.5		323	530	2.18	16	6
45		35		1.1	14.3		431	784	4.31	31	8
55	0	44	0	1.3	18	15	588	1,100	7.24	62	10
57	−0.3	46	−0.3	1.3	20		813	1,570	10.9	80	12
61		46		1.3	22		813	1,570	11.6	90	13
70		53		1.6	27		1,230	2,350	19.7	145	16
80		61		1.6	30.5	20	1,400	2,740	26.8	180	20
112		82		1.85	38		1,560	3,140	43.4	440	25
123		89		1.85	43		2,490	5,490	82.8	480	30
135	0	99	0	2.1	49		2,650	6,270	110	795	35
151	−0.4	121	−0.4	2.1	57	25	3,430	8,040	147	1,170	40
192		148		2.6	76.5		6,080	15,900	397	3,100	50
209		170		3.15	86.5	30	7,550	20,000	530	3,500	60

1N≒0.102kgf　1N・m≒0.102kgf・m