

STOPPERS / SPRINGS FOR BALL BEARING GUIDE



Printed in Red

ANTI-RISE RINGS FOR BALL CAGE



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The quantity discount rate is also applicable to alteration cost. All price & lead time are to be quoted.

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RoHS **STM** (Movable stopper)

* To be determined by the ball cage length.

M S45C:SPC-1 (stopper cap)
S Fe₃O₄ (Black oxide)

RoHS **STK** (Fixed stopper)

* To be determined by the ball cage length.

M S45C
S Fe₃O₄ (Black oxide)
A ①CB ②Spring washer

PD Post.dia.	D	M×P	B	t	D ₁	D ₂	② A Spring washer	CatalogNo. Type	L Ball cage length	U/Price Q'ty : 1~9
20	24	10×1.5	5	1.6	19	14	Conform to JIS B1251-1984 Nominal 8	STM (Movable stopper)	20	50
22	21				22				50 60	
25	24				25				60 75	
28	27				28				60 75	
32	37	16×1.5	8	2.0	31	20	STK (Fixed stopper)	32	75 90	
38	37				38			75 90		
45	44				45			90 110		
50	49				50			90 110		
60	66				59			60	90 110	

L Ball retainer length	STM S	STM l	STK l	①CB
50	0~19	31	15	8~30
60	0~23	35	20	8~35
75	0~30	42	25	8~40
90	0~37	49	30	8~45
110	0~47	59	35	8~50

Order **CatalogNo.** **STM** - **L** **STK32** - **90** Delivery **Printed in Red** **SGP Stock** **Printed in Blue** **3** Days

Quantity discount rate

Quantity	1~9	10~19	20~49	50~100
Rate	-	5%	10%	15%

RoHS **SWP** **SWPL** (Long type)

M SWP-B

PD Post.dia.	D	D ₁ +1 ₀	d	P
20	22.5	20.5	1.0	14
22	24.5	22.5	1.0	14
25	27.9	25.5	1.2	14
28	31.3	28.5	1.4	16
32	35.7	32.5	1.6	16
38	42.5	38.5	2.0	18
45	50.1	45.5	2.3	20
50	55.7	50.5	2.6	20
60	66.9	60.5	3.2	20

Order **CatalogNo.** **SWP** - **FL** **SWP32** - **100** Delivery **Printed in Red** **SGP Stock** **Printed in Blue** **SWP** **3** Days **SWPL** (Long type) **5** Days **Express** **Express** **P.i**

Quantity discount rate

Quantity	1~9	10~29	30~99	100~200
Rate	-	5%	10%	15%

CatalogNo. Type	PD	FL 10mm increments	U/Price Q'ty : 1~9
SWP	20	40~90*	Quotation
		100~140	
	22	40~90	
		100~140	
	25	40~90	
		100~150	
	28	50~90	
		100~150	
	32	70~140	
		150~190	
38	80~140		
	150~190		
45	80~140		
	150~190		
50	80~140		
	150~190		
60	80~140		
	150~190		

Stock only available for SWP20~70

CatalogNo. Type	PD	FL 10mm increments	U/Price Q'ty : 1~9
SWPL (Long type)	20	150~190	Quotation
		200~240	
	22	150~190	
		200~240	
	25	160~200	
		210~260	
	28	160~200	
		210~260	
	32	200~220	
		230~260	
38	200~240		
	250~300		
45	200~240		
	250~300		
50	200~240		
	250~300		
60	200~240		
	250~300		

Quantity discount rate

Quantity	1~9	10~29	30~99	100~200
Rate	-	5%	10%	15%

RoHS **RWB** (For ball cage)

M POM (Polyacetal resin) White

Inner diameter d	Outside diameter d ₁	Catalog No. Type	PD	U/Price Q'ty : 1~9
20	35	RWB (For ball cage)	20	Quotation
22	35		22	
25	40		25	
28	45		28	
32	50		32	
38	60		38	
45	70		45	
50	75		50	
60	85		60	

Order **CatalogNo.** **RWB 25** **Printed in Red** **Printed in Blue** **SGP Stock** **3** Days **For area out of Singapore please refer to P.i.**

Quantity discount rate

Quantity	1~9	10~19	20~29	30~50
Rate	-	5%	10%	15%

Features To prevent ball cage rise by upward force of spring, and extend a lifetime of guide post and bushing.

Fig.1 Cage lifting and movable stopper damage

The spring's upward force becomes larger near the bottom dead point and the cage slips.

Cage lifting occurs.

Fig.2 Effect of the Anti-rise rings for preventing retainer lifting

Serious rise of ball cage would impose loads to movable stopper at the top dead center and cause fatigue breakage of stopper, or upper die may be irremovable at the time of maintenance.

The ring for preventing cage lifting separates the spring from the cage at bottom dead center, preventing slippage caused by the upward force of the spring.