

ABBA

Ball Caged Linear Guide

2.1 Characteristics

- 1 Interchangeable design
- 2 Equivalent loading, long service life
- 3 Good lubricity, long-term free of oil and maintenance
- Equipped with ball cage, lower noise and smoother running

2.2 Construction





BC series is equipped with **ABBA** 's latest developed Ball cage, which lowers the noise, and enables high speed running, longer life time, and outstanding accuracy.



Standard

Ball Caged

Miniature

Cam Roller

Round Shaft

Ball Screw

Support Unit

Ball Screw

Linear Guide

2.3 **Feature**

New (with ball cage)



New (with ball cage)

C2



C1

Feature 1

Steel ball chafes against each other in drawing A, so its friction is two times larger in drawing B, so that the life time in B is longer than in A.



Feature 3 It shows in drawing B that due to the ball cage, steel balls are loaded equivalently so that their service life could be longer.

Self-lubricated Linear Bearing



А

As demonstrated above, the included angle in drawing A(C) is larger than the one in drawing B(C') with ball cage. Therefore,oil membrance adheres easily in the structure of BC

2.4 Product overview



standard height

Slim-line block, extended length, extended height



2.5 Ordering key of System

B C S <u>5 5 - A 0 C 2 Z 1 - 1 0 8 0 0 N D 0 - A 0 S W 2</u>	Standard
55	ğ
Block type A0 Flanged block(Standard length, Standard height) LA Flanged block(Extended length, Standard height) R0 Slim-line block(Standard length, Extended height) LR Slim-line block(Extended length, Extended height)	Ball Cage
End Cap Type C Standard End Cap	iature
Number of blocks per rail 1~9 1~9 blocks per rail A~W >9 blocks per rail (10=A, 11=B, 12=C)	Min
Preload class ¹⁾ ZF Clearance, Preload=0 Z0 No preload, Preload=0 Z1 Light preload, Preload=0~0.02C	Cam Roller
Rail length	aft
Accuracy class ¹) N Normal H High P Precision	Round Sh
Rail hole	
D0 Standard hole(Standard hole distance, the distance of the first and last attachment holes is produced equidistantly.) F0 Standard hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) D4 Blind hole(Standard hole distance, the distance of the first and last attachment holes is produced equidistantly.) F4 Blind hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) DX Special machining, customized according to drawing number	all Screw
Join rail track	ä
A Yes (Refer to drawing for detail) 0 No	
Rail treatment 2) 0 Standard (anti-rust oil)	Jnit
Sealing S Standard front seal (only end seal) 1 Standard front seal + Scraper plate	upport L
No. of parallel rails 00 Single rail W2~W9 Parallel rails (W2 : 2 rails, W3 : 3 rails)	S

1) Refer to following table for limitation

System									
Accuracy	Р	Н	Ν						
	-	-	ZF						
	Z0	Z0	Z0						
Preload	Z1	Z1	Z1						
	Z2	Z2	Z2						
	Z3	Z3	Z3						

2) Block surface treatment

A. Standard: Anti-rust oil

B. Non-Standard:See drawing

Nipple/set screw quantity per block
 A. Size 20/25/30/35/45/55 : 45°nipple(1pc)+ screw(1 pc)

Other components

Self-Iubricated Linear Bearing

Ball Screw

Linear Guide

2.6 Ordering key of Rail

	BCR <u>5</u> 5 - <u>10800</u> <u>ND0</u> -	<u>A</u>
Size		
55		
Rail le	gth	
00080	99999 mm(1 mm steps)	
Accu	cy class	
N	Normal	
Rail h	e	
Rail h	e	
Rail h D0 F0	e	
Rail h D0 F0 D4	e	
Rail h D0 F0 D4 F4	e	
Rail h D0 F0 D4 F4 DX	Standard hole(Standard hole distance, the distance of the first and last attachment holes is produced equidistantly.) Standard hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) Blind hole(Standard hole distance, the distance of the first and last attachment holes is produced equidistantly.) Blind hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) Special machining, customized according to drawing number	
Rail h D0 F0 D4 F4 DX Rail h	Standard hole(Standard hole distance, the distance of the first and last attachment holes is produced equidistantly.) Standard hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) Blind hole(Standard hole distance, the distance of the first and last attachment holes is produced equidistantly.) Blind hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) Special machining, customized according to drawing number	
Rail h D0 F0 D4 F4 DX Rail h A	 Standard hole(Standard hole distance, the distance of the first and last attachment holes is produced equidistantly.) Standard hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) Blind hole(Standard hole distance, the distance of the first and last attachment holes is produced equidistantly.) Blind hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) Blind hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) Blind hole(Standard hole distance, the distance of the first and last attachment holes is not produced equidistantly.) Special machining, customized according to drawing number 	
Rail h D0 F0 D4 F4 DX Rail h A 0	e	
Rail h D0 F0 D4 F4 DX Rail h A 0 Rail t	e	



2.7 / Ordering key of Block

		E	зс	с	5	5	- <u>A</u>	0	z	1 -	N	0	s		Standard	
Size															ð	
55															Cage	
Block	type														Ball	
A0	Flanged block(Standard length, Standard height)															0
LA	Flanged block(Extended length, Standard height)														Ire	<u>פ</u>
R0	Slim-line block(Standard length, Extended height)														iatu	, Di
LR	Slim-line block(Extended length, Extended height)														Min	
Preloa	d class —															ne
ZF	Clearance, Preload=0														llei	
Z0	No preload, Preload=0														Ro	
Z1	Light preload, Preload=0~0.02CC														am	
Accura	acy class														0	
Ν	Normal														naft	
Block	treatment														d St	
0	Standard (anti-rust oil)														uno	
Sealin	q														Ŕ	
S	Standard front seal (only end seal)													(
1	Standard front seal + Scraper plate														Me	
1) Nip	nle/set screw quantity per block														Scre	
A. S	Size 20/25/30/35/45/55 : 45°nipple(1pc)+ screw(1 pc)														all	≥
	······································														Ξ	đ

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Ball Screw

Support Unit

Self-Iubricated Linear Bearing

Other components

2.8 Dimension of Linear Guide

2.8.1

BCC-A0/LA





Model No		Asse (n	embly າm)	'	Block (mm)							Rail (mm)				
	н	w	W2	Е	L	BXJ	MQx≬	L1	Oil hole	T1	(N)	W1	H1	F	dxDxh	
BCC55A0	70	140	13.5	127	181	116,05	M14v21	131	M8v1	20	16	50	20	120	16,22,201	
BCC55LA	10	140	43.5	12.7	223	110295	IVI 14XZ I	173		20	0	53	30	120	10723720-1	





Model No	Ref. c (mn	data n)	Basic lo (K	ad rating gf)	Sta	atic mome (Kgf*m)	ent	We	ight	
	Lmax	G	С	C ₀	Мх	My	Mz	Block (Kg)	Rail (Kg/m)	
BCC55A0	4000	4000 00		12800	446	355	355	5.4	14.5	
BCC55LA	4000	30	9300	17100	580	580 600 600		7.1	14.5	

Standard

Ball Screw

Support Unit

Self-Iubricated Linear Bearing

2.8.2 BCC-R0/LR





Model No		Asse (n	embly າm)	′	Block (mm)							Rail (mm)				
	Н	w	W2	E	L	BxJ	MQx≬	L1	Oil hole	T1	(N)	W1	H1	F	dxDxh	
BCC55R0	80	100	23.5	127	181	75x75	M12x19	M10v10	131	Mov1	20	10	50	20	120	16,22,200.1
BCC55LR			23.5	12.7	223	75x95		173	IVIOXI	30	10	53	38	120	10X23X20.1	





Model No	Ref. c (mn	lata n)	Basic loa (K	ad rating gf)	Sta	atic mome (Kgf*m)	ent	Weight			
meder rec.	Lmax	G	С	Co	Мx	Му	Mz	Block (Kg)	Rail (Kg/m)		
BCC55R0	4000	20	7600	12800	446	355	355	5.2	14.5		
BCC55LR	4000 30		9300	17100	580	600	600	6.7	14.5		

Standard

Miniature Ball Caged

Ball Screw

Support Unit

Self-Iubricated Linear Bearing