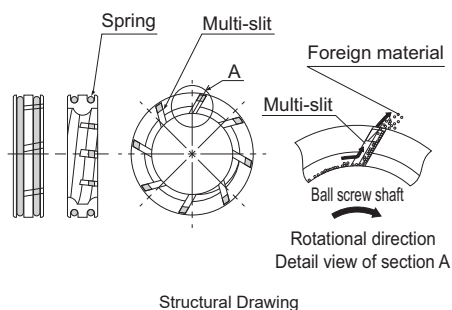
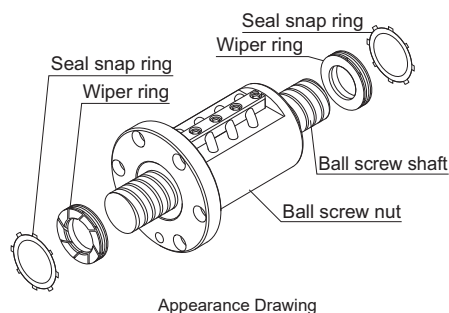


# Wiper Ring W

● For the supported models and the ball screw nut dimension with Wiper ring W attached, see [A15-344](#) to [A15-352](#).

With the wiper ring W, special resin with high wear resistance and low dust generation removes foreign material and prevents foreign material from entering the ball screw nut while elastically contacting the circumference of the ball screw shaft and the screw thread.

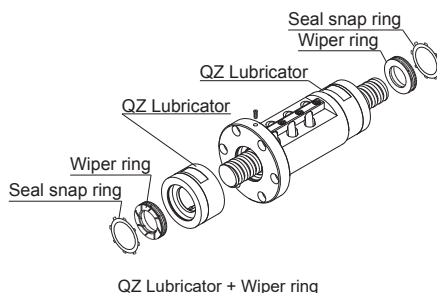


## [Features]

- A total of eight slits on the circumference remove foreign materials in succession, and prevent entrance of foreign material.
- Contacts the ball screw shaft to reduce the flowing out of grease.
- Contacts the ball screw shaft at a constant pressure level using a spring, thus to minimize the heat generation.
- Since the material is highly resistant to the wear and the chemicals, its performance will not easily be deteriorated even if it is used over a long period.

Can be attached together with QZ Lubricator.

For the applicable models and the ball screw nut dimensions after wiper ring W is attached, see [A15-344](#).



## Model number coding

**BIF2505V-5 QZ WW G0 +1000L C5**

With QZ  
Lubricator

With wiper ring W

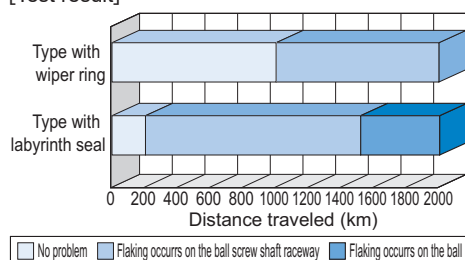
(\*) See [A15-344](#).

# ● Test in an environment exposed to contaminated environment

[Test conditions]

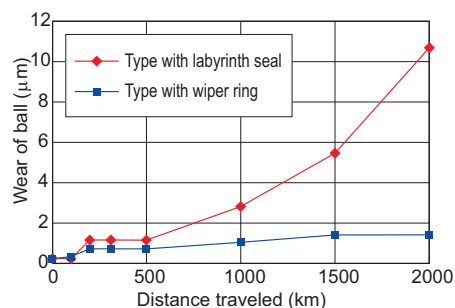
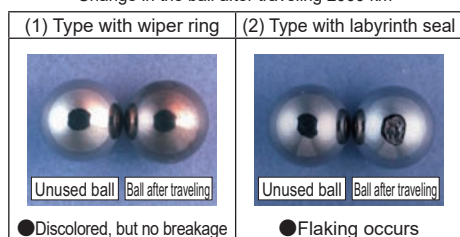
Item	Description
Model No.	BIF3210V-5G0+1500LC5
Maximum rotational speed	1000 min <sup>-1</sup>
Maximum speed	10 m/min
Maximum circumferential speed	1.8 m/s
Time constant	60 ms
Dowel	1 s
Stroke	900 mm
Load (through internal load)	1.31 kN
Grease	THK AFG Grease 8 cm <sup>3</sup> (Initial lubrication to the ball screw nut only.)
Foundry dust	FCD400 average particle diameter: 250 μm
Volume of foreign material per shaft	5 g/h

[Test result]



- Type with wiper ring  
Slight flaking occurred in the ball screw shaft at travel distance of 1,000 km.
- Type with labyrinth seal  
Flaking occurred throughout the circumference of the screw shaft raceway at travel distance of 200 km.  
Flaking occurred on the balls after traveling 1,500 km.

Change in the ball after traveling 2000 km



- Type with wiper ring  
Wear of balls at a travel distance of 2,000 km: 1.4 μm.
- Type with labyrinth seal  
Starts to be worn rapidly after 500 km, and the ball wear amount at the travel distance of 2,000 km: 11 μm.

## Options

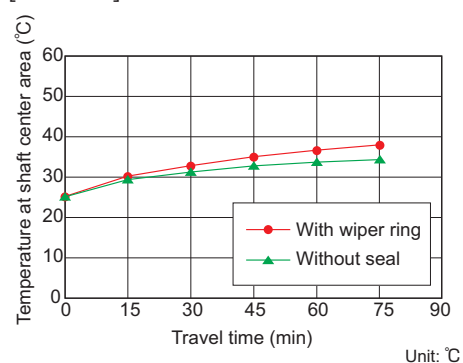
Canvas seal CC

## ● Heat Generation Test

[Test conditions]

Item	Description
Model No.	BLK3232-3.6G0+1426LC5
Maximum rotational speed	1000 min <sup>-1</sup>
Maximum speed	32 m/min
Maximum circumferential speed	1.7 m/s
Time constant	100 ms
Stroke	1000 mm
Load (through internal load)	0.98 kN
Grease	THK AFG Grease 5 cm <sup>3</sup> (contained in the ball screw nut)

[Test result]



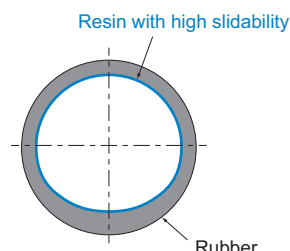
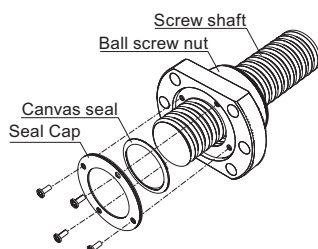
Item	With wiper ring	Without seal
Heat generation temperature	37.1	34.5
Temperature rise	12.2	8.9

Ball Screw (Options)

## Canvas seal CC

● See **A15-353** for compatible models and ball screw nut dimensions after canvas seal installation.

Canvas seals are made from resin with high slidability and superior wear resistance. They prevent foreign material from entering the nut through elastic contact with the outer diameter of the ball screw shaft and the groove.



## [Features]

- The seal is in contact with the ball screw shaft, so it prevents the intrusion of foreign material and reduces the discharge of grease.
- The rubber base and high slidability resin used on the part that slides along the shaft minimizes heat generation despite the seal coming in contact with the shaft.

## Model number coding

**SDA2505V-3 CC G0 +1000L C5**

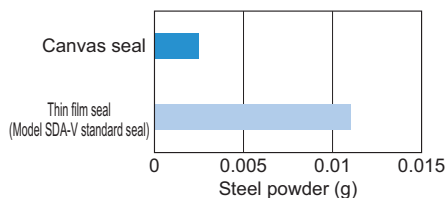
With canvas seal

## ● Foreign material test

[Test conditions]

Item	Description
Test pieces	Precision Ball Screw $\phi$ 40
Maximum rotational speed	100 min <sup>-1</sup>
Maximum speed	3 m/min
Stroke	800 mm
Load (through internal load)	2.25 kN
Grease	THK AFJ Grease 12 cm <sup>3</sup> (contained in the ball screw nut)
Applied test material	Steel powder and grease mixture Powder-to-grease ratio = 1:2
Test material amount	0.1 g
Run time	1 h

[Test result]

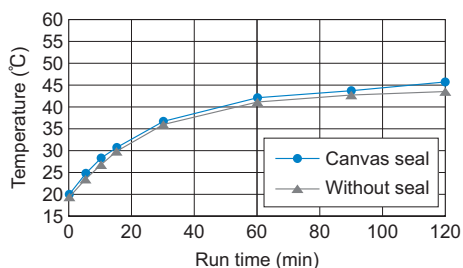


## ● Heat generation test

[Test conditions]

Item	Description
Test pieces	Precision Ball Screw $\phi$ 40
Maximum rotational speed	2500 min <sup>-1</sup>
Maximum speed	75 m/min
Stroke	800 mm
Load (through internal load)	2.25 kN
Grease	THK AFJ Grease 12 cm <sup>3</sup> (contained in the ball screw nut)

[Test result]



Unit: °C

Item	With canvas seal	Without seal
Heat generation temperature	45.8	43.6
Temperature rise	25.7	24.1

## ● Grease sealing test

[Test conditions]

Item	Description
Test pieces	Precision Ball Screw $\phi$ 40
Maximum rotational speed	100 min <sup>-1</sup>
Maximum speed	3 m/min
Stroke	800 mm
Load (through internal load)	2.25 kN
Grease	THK AFJ Grease 12 cm <sup>3</sup> (contained in the ball screw nut)
Run time	1 h

[Test result]

