

RINGSPANN	Installations and Operating Instructions for ZZ series freewheels	E 08.697 e			
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IMPORTANT

Please read these instructions carefully before installing and operating the product. Your particular attention is drawn to the notes on safety.

These installation and operating instructions are valid on condition that the product meets the selection criteria for its proper use. Selection and design of the product is not the subject of these installation and operating instructions.

Disregarding or misinterpreting these installation and operating instructions invalidates any product liability or guarantee by RINGSPANN; the same applies if the product is taken apart or changed.

These installation and operating instructions should be kept in a safe place and should accompany the product if it is passed on to others – either on its own or as part of a machine – to make it accessible to the user.

SAFETY NOTICE

- Installation and operation of this product should only be carried out by skilled personnel.
- Repairs may only be carried out by the manufacturer or accredited RINGSPANN agents.
- If a malfunction is indicated, the product or the machine into which it is installed, should be stopped immediately and either RINGSPANN or an accredited RINGSPANN agent should be informed.
- Switch off the power supply before commencing work on electrical components.
- Rotating machine elements must be protected by the purchaser to prevent accidental contact.
- Supplies abroad are subject to the safety laws prevailing in those countries.



RINGSPANN GmbH

Schaberweg 30-34
61348 Bad Homburg
Germany

Telephone +49 6172 275-0
Telefax +49 6172 275-275

www.ringspann.com
mailbox@ringspann.com

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1. Freewheel type ZZ ...

1.1 Characteristics

ZZ type freewheels have an integrated deep groove ball bearing with dimensions identical to 62 series deep groove ball bearings (exceptions: ZZ 8 and ZZ 40) and also have the same characteristics as these, so additional bearing support is not necessary. The freewheels are protected with cover plates and offer protection against low-grade contamination with a particle size greater than 0,3 mm.

1.2 Fitting

1.2.1 Preparation for fitting

Only remove the freewheels just before assembly and only fit them in a clean, dry environment. Test the no-load direction of rotation. The torque is transmitted at the inner and the outer ring by press fit. Make sure that the shaft tolerance is n6 and that the housing tolerance is N6.

1.2.2 Fitting

Fitting and dismantling according to the same guidelines as for ball bearings.

Press the inner and the outer ring in at the same time; in doing so, there must be an undercut in the tool to protect the plastic cage. Make sure that the plastic cage when fitted does not come into any axial contact with any connecting parts. Ensure that the freewheel parts are not locked! Test for easy running no-load and protect the freewheel from dirt.

1.3 Maintenance and lubrication

Storage time in dry areas 1 year maximum. The freewheels are normally supplied filled with grease for normal operating conditions. They are therefore maintenance-free. However, the freewheels may also be connected to oil lubrication supplied by the customer. This is recommended in particular for relatively high speeds. The permissible operating temperature may be -40°C to $+80^{\circ}\text{C}$.

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2. Type ZZ ... P type freewheel

2.1 Characteristics

ZZ ... P series freewheels have an integrated deep groove ball bearing with outer dimensions identical to those of 62 series deep groove ball bearings (exception: ZZ 40 P) and also have the same bearing characteristics, so additional bearing support is not necessary. The freewheels are protected with cover plates and offer protection against low-grade contamination with a particle size greater than 0.3 mm.

2.2 Fitting

2.2.1 Preparation for fitting

Only remove the freewheels just before fitting and only fit them in a clean, dry environment.

Test the no-load direction of rotation.

The torque is transmitted at the inner ring by keyway connection and by press fit at the outer ring. Make sure that the shaft tolerance is k6 and that the housing tolerance is N6.

2.2.2 Fitting

Fitting and dismantling in accordance with the same guidelines as for ball bearings.

Place the key in the corresponding keyway; it must not sit so tightly in the groove of the inner ring such that the inner ring is deformed.

Press the inner and the outer ring at the same time, whereby there must be an undercut in the tool to protect the plastic cage.

Make sure that when the plastic cage is fitted that it does not come into axial contact with any connected parts.

Make sure that the freewheel parts are not locked!

Check that the freewheel runs easily and protect it from dirt.

2.3 Servicing and lubrication

Storage time in dry areas 1 year max.

The freewheels are supplied filled with grease for normal operating conditions. They are therefore maintenance-free. However, the freewheels may be connected to oil lubrication supplied by the customer. This is recommended in particular for relatively high speeds.

The permissible operating temperature may be -40°C to $+100^{\circ}\text{C}$, and $+120^{\circ}\text{C}$ for short periods.

3. Type ZZ ... PP type freewheel

3.1 Characteristics

ZZ ... PP series freewheels have an integrated deep groove ball bearing and their outer dimensions are identical with 62 series deep groove ball bearings (exception: ZZ 40 PP). The freewheels are protected with cover plates and offer protection against low-grade contamination with a particle size greater than 0.3 mm. The freewheels also have the same bearing characteristics as the 62 Series bearing so additional bearing support is not necessary.

3.2 Fitting

3.2.1 Preparation for fitting

Only remove the freewheels just before fitting and only fit them in a clean, dry environment. Check the no-load direction of rotation.

The torque is transmitted at the inner and the outer ring by keyway connection. Make sure that the shaft tolerance is h6 and that the housing tolerance is H6.

3.2.2 Fitting

Fitting and dismantling in accordance with the same guidelines as for ball bearings.

Place the key in the shaft keyway.

The dimensions of the keyway in the outer ring are shown in the following table.

The keys must not fit so tightly in the grooves that the inner or outer ring are deformed.

Dimensions of the keyway in the outer ring:

Size	Keyway width JS9 [mm]	Keyway depth in the outer ring [mm]
15	2	0.6
17	2	1.0
20	3	1.5
25	6	2.0
30	6	2.0
35	8	2.5
40	10	3.0

Press in the inner and the outer ring at the same time, whereby there must be an undercut in the tool to protect the plastic cage.

Make sure that the plastic cage when fitted does not come into axial contact with any connected parts.

Make sure that the freewheel parts are not locked!

Check that the freewheel runs easily and protect it against dirt.

3.3 Maintenance and lubrication

Max. storage time in dry areas 1 year.

The freewheels are supplied filled with grease for normal operating conditions. They are therefore maintenance-free. However, the freewheels may be connected to oil lubrication supplied by the customer. This is recommended particularly for relatively high speeds.

The permissible operating temperature may be -40°C to $+100^{\circ}\text{C}$, and $+120^{\circ}\text{C}$ for short periods.

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4. Type ZZ ... 2RS type freewheel

4.1 Characteristics

ZZ ... 2RS series freewheels have an integrated deep groove ball bearing with diameters identical to 62 series deep groove ball bearings.

2 RS seals protect the freewheel from spray water and medium-level contamination, which means that the width of the freewheels is greater than 62 series deep groove ball bearings.

4.2 Assembly

4.2.1 Preparation for fitting

Remove the freewheels only just before assembly and fit it in a clean, dry environment.

Test the no-load direction of rotation.

The torque is transmitted at the inner and the outer ring by press fit.

Make sure that the shaft tolerance is n6 and that the housing tolerance is N6.

4.2.2 Fitting

Fitting and dismantling according to the same guidelines as for ball bearings.

Press the inner and the outer ring in at the same time; in doing so, there must be an undercut in the tool to protect the plastic cage.

Make sure that the plastic cage when fitted does not come into any axial contact with any connecting parts.

Ensure that the freewheel parts are not locked!

Test for easy running no-load and protect the freewheel from dirt.

4.3 Servicing and lubrication

Max. storage time in dry areas 1 year.

The freewheels are supplied filled with grease for normal operating conditions.

They are therefore maintenance-free.

The permissible operating temperature may be -40°C to $+100^{\circ}\text{C}$ and $+120^{\circ}\text{C}$ for short periods.

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5. Type ZZ ... P2RS type freewheel

5.1 Characteristics

ZZ ... P2RS series freewheels have an integrated deep groove ball bearing with identical diameters to those of 62 series deep groove ball bearings. 2 RS seals protect the freewheel from spray water and medium-level contamination, which means that the width of the freewheels is greater than that of 62 series deep groove ball bearings.

5.2 Fitting

5.2.1 Preparation for fitting

Only remove the freewheels just before fitting and only fit them in a clean, dry environment. Check the no-load direction of rotation.

The torque is transmitted at the inner ring by keyway connection and by press fit at the outer ring. Make sure that the shaft tolerance is k6 and that the housing tolerance is N6.

5.2.2 Fitting

Fitting and dismantling in accordance with the same guidelines as for ball bearings.

Place the key in the corresponding shaft keyway; it must not sit too tightly in the groove of the inner ring such that the innerring is deformed.

Press the inner and the outer ring, at the same time in doing so there must be an undercut in the tool to protect the plastic cage.

Make sure that the plastic cage when fitted does not come into axial contact with any connected parts.

Make sure that the freewheels are not locked!

Check that the freewheel runs easily.

5.3 Maintenance and lubrication

Storage time in dry areas 1 year maximum.

The freewheels are normally supplied filled with grease for normal operating conditions. They are therefore maintenance-free. However, the freewheels may also be connected to oil lubrication supplied by the customer. This is recommended in particular for relatively high speeds.

The permissible operating temperature may be -40°C to $+80^{\circ}\text{C}$.