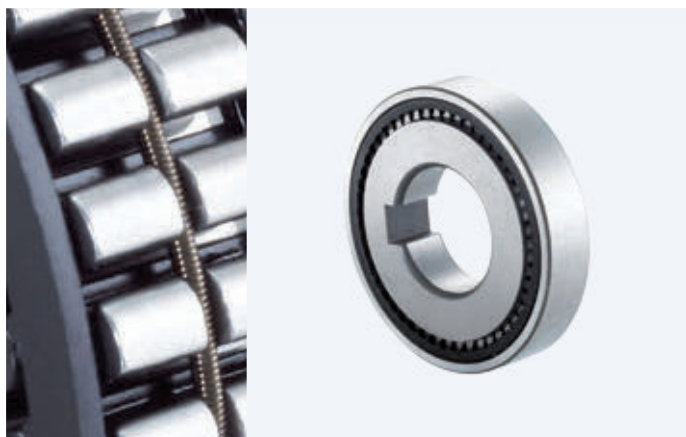


# Freewheel Clutch Insert Element FRN

with rings and keyway (IR)



## Components

### Freewheel clutch insert element\*

FE 400 M (meander spring)  
FE 400 Z (tension spring)

### + Raceways inner ring

Bearing steel, hardened and ground  
Keyway per DIN 6885, Sheet 1  
Tolerance: P9 with back clearance

### outer ring

Press fit

- Ball bearing -

- Roller bearing -

- Lubrication -

- Seal -

\* available with either freewheel clutch insert element FE 400 M (meander spring) or FE 400 Z (tension spring).

## Characteristics

### Width

12 mm

### Operating temperature

max. 140°C

Higher temperatures on request

## Lubrication

### Oil or grease lubrication (Pg. 60–61)

Delivered with corrosion protection.

Operative grease filling on request.

## Installation

### Installation tolerances

Shaft js6 (k5); hub H6

### Constraints

The freewheel clutch insert element requires axial constraints on both sides.

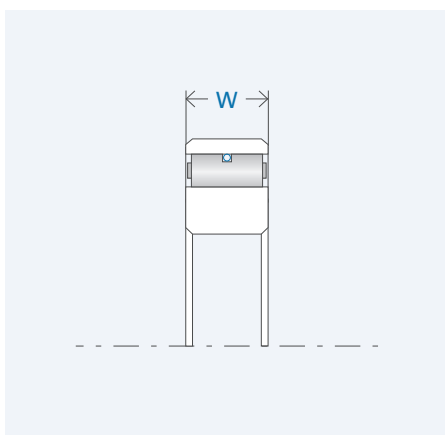
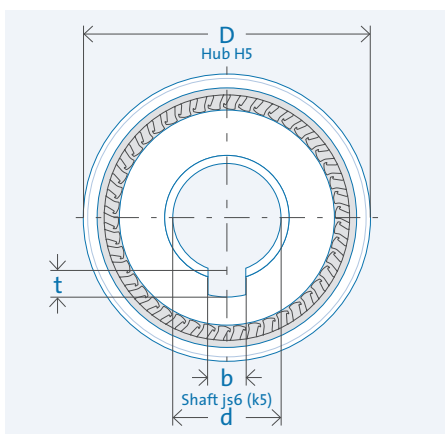
### Mating parts

Hardening and grinding of the mating parts is not necessary. Thoroughly clean (grease free) the mating parts in the vicinity of the freewheel clutch as well as the freewheel clutch's rings before making the press fit.

### Bearing

Freewheel clutch insert elements are not self-centering. External bearing support to define the gap between mating parts (inner and outer rings) is necessary.

## Data



## Drawing legend

- d = inner diameter
- D = outer diameter
- W = width
- T = torque
- n = rotation speed
- b = keyway width
- t = keyway depth

Designation	d [mm]	D [mm]	W [mm]	T <sub>nom</sub> [N]	n <sub>max</sub> [rpm]	Weight [kg]	b [mm]	t [mm]	Item no.
FRN 427 M	10	31	12	92	7,400	0.05	3	1.4	300625
FRN 427 Z	10	31	12	83	7,400	0.05	3	1.4	300626
FRN 432 M	12	36	12	128	5,900	0.07	4	1.8	300628
FRN 432 Z	12	36	12	117	5,900	0.07	4	1.8	300629
FRN 437 M	15	41	12	169	4,800	0.08	5	2.3	300630
FRN 437 Z	15	41	12	154	4,800	0.08	5	2.3	300631
FRN 442 M	20	46	12	212	4,200	0.10	6	2.8	300633
FRN 442 Z	20	46	12	198	4,200	0.10	6	2.8	300634
FRN 453 M	25	58	12	321	3,400	0.17	8	3.3	300636
FRN 453 Z	25	58	12	294	3,400	0.17	8	3.3	300637
FRN 459 M	30	64	12	332	3,000	0.20	8	3.3	300639
FRN 459 Z	30	64	12	353	3,000	0.20	8	3.3	300640
FRN 463 M	35	68	12	427	2,900	0.21	10	3.3	300641
FRN 463 Z	35	68	12	393	2,900	0.21	10	3.3	300642
FRN 470 M	40	75	12	506	2,600	0.25	12	3.3	300644
FRN 470 Z	40	75	12	466	2,600	0.25	12	3.3	300645
FRN 473 M	45	78	12	539	2,500	0.26	14	3.8	300647
FRN 473 Z	45	78	12	496	2,500	0.26	14	3.8	300649

The specified nominal torque is based on sufficient stiffness of mating parts (Pg. 22) and refers to the integrated insert element, not the key way.  
Rotation speed n = insert element's inherent speed (Pg. 57)