

Insert Element FE 400 Z

with tension spring



Components

Freewheel

- Spring
- Cage
- Sprags

Insert element FE 400 Z

Tension spring (Z)
 Stamped steel / plastic (PA)
 Hardened bearing steel
 Start gap height $h_0 = 4 \text{ mm}$

- | | |
|------------------|---|
| - Thrust rings | - |
| - Ball bearing | - |
| - Roller bearing | - |
| - Lubrication | - |
| - Seal | - |

Characteristics

Installed width

12 mm

Operating temperature

max. 140°C

Higher temperatures on request

Indexing frequency

max. 10 Hz

Lubrication

Oil or grease lubrication (Pg. 60–61)

Delivered with corrosion protection.

Pre-greased on request.

Installation

Installation tolerances

Shaft h5; hub H6

Inner ring/shaft

steel, HRC 60⁺⁴ (HV 700⁺¹⁰⁰); Ehd ≥ 1.3 mm; Rz ≤ 2.5 μm

Outer ring/housing

steel, HRC 60⁺⁴ (HV 700⁺¹⁰⁰); Ehd ≥ 1.3 mm; Rz ≤ 2.5 μm

Constraints

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

Mating parts

Hardening and grinding of the mating parts is necessary.

Chamfered shafts and hubs ease installation (Pg. 58).

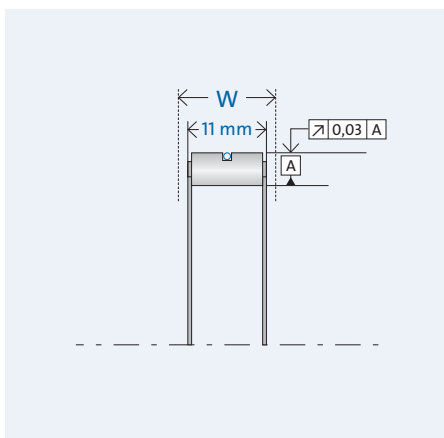
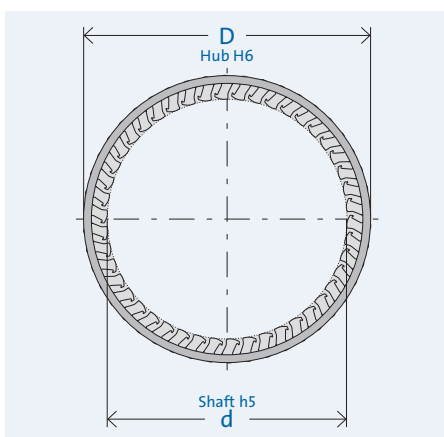
Bearing

Freewheel clutch insert elements are not self-centering.

External bearing support to define the gap between mating parts (shaft and housing) is necessary.



Data



Drawing legend

d = inner diameter
D = outer diameter
W = width
T = torque
n = rotation speed

Designation	d [mm]	D [mm]	B [mm]	T _{nom} [Nm]	n _{max} [rpm]	Weight [kg]	Item no.
FE 412 Z	4	12	12	4	27,000	0.003	300393
FE 416 Z	8	16	12	16	19,200	0.006	300400
FE 420 Z	12	20	12	35	12,500	0.007	306041
FE 422 Z	14	22	12	53	10,100	0.008	300405
FE 423 Z	15	23	12	62	9,200	0.009	300411
FE 425 Z	17	25	12	72	8,100	0.011	300415
FE 427 Z	19	27	12	83	7,400	0.013	300422
FE 428 Z	20	28	12	93	7,500	0.013	300430
FE 430 Z	22	30	12	107	6,300	0.014	300435
FE 432 Z	24	32	12	117	5,900	0.016	300439
FE 433 Z	25	33	12	128	6,000	0.016	300445
FE 435 Z	27	35	12	143	5,100	0.017	300448
FE 437 Z	29	37	12	154	4,800	0.018	300455
FE 438 Z	30	38	12	166	4,900	0.019	300460
FE 442 Z	34	42	12	198	4,400	0.018	300463
FE 443 Z	35	43	12	207	4,300	0.022	300469
FE 448 Z	40	48	12	248	4,200	0.024	300478
FE 453 Z	45	53	12	293	3,400	0.022	300482
FE 455 Z	47	55	12	313	3,300	0.026	300487
FE 458 Z	50	58	12	344	3,100	0.029	300489
FE 459 Z	51	59	12	353	3,000	0.030	300494
FE 463 Z	55	63	12	393	2,900	0.032	300497
FE 468 Z	60	68	12	444	2,700	0.034	300501
FE 470 Z	62	70	12	465	2,600	0.035	300505
FE 473 Z	65	73	12	495	2,500	0.037	300508
FE 478 Z	70	78	12	548	2,600	0.039	300511
FE 488 Z	80	88	12	657	2,100	0.045	300514
FE 508 Z	100	108	12	889	1,700	0.055	300519
FE 528 Z	120	128	12	1,127	1,300	0.066	300522
FE 648 Z	240	248	12	2,673	800	0.131	300524

The specified nominal torque is based on sufficient stiffness of mating parts (Pg. 22).
 Rotation speed n = insert element's inherent speed (Pg. 57)