

Internal Freewheels FDN

for press fit on the outer ring
with sprags, available in three types

Morskate®



86-1

Features

Internal Freewheels FDN are sprag freewheels with anti-friction bearing dimensions.

The freewheels FDN are used as:

- ▶ Backstops
- ▶ Overrunning Clutches
- ▶ Indexing Freewheels

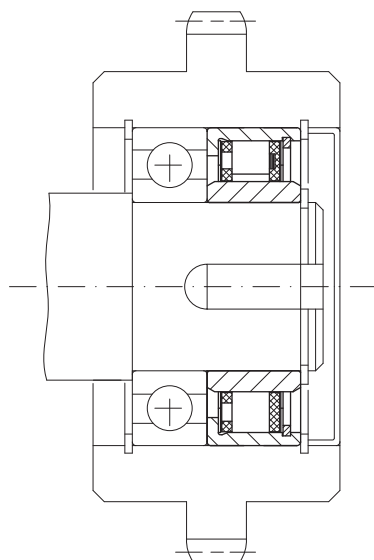
The standard type and the type with P-grinding for increased service life and indexing accuracy do not have bearing support. In the case of the standard type, every second sprag has been replaced by a cylindrical roller; this freewheel can accept radial forces.

Nominal torques up to 2 400 Nm. The torque is transmitted on the outer ring by press fit.

Bores up to 80 mm. Many standard bores are available.

Application example

Internal Freewheel FDN 40 CFR in standard type with bearing support as an overrunning clutch on the shaft end of the main drive of a textile machine. The gear wheel is linked to an auxiliary drive. In normal operation (freewheeling operation) the inner ring overruns and the gear wheel with the pressed-in outer ring is at a standstill. During set-up, the machine is driven by the slowly running auxiliary drive via the gear wheel and the freewheel that is working in driving operation.



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Any questions? Please contact us.

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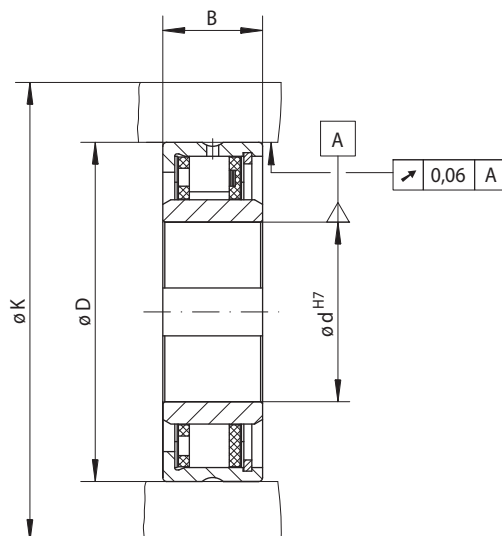
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Indexing Freewheel Overrunning Clutch Backstop	Standard type For universal use	Standard type with bearing support For universal use	Type with P-grinding For extended service life and indexing accuracy	Dimensions

Freewheel Size	Type	Nominal torque M_N Nm	Max. speed		Type	Nominal torque M_N Nm	Max. speed		Load rating of bearing support		Type	Nominal torque M_N Nm	Bore d		B mm	D mm	K mm	Weight kg
			Inner ring freewheels/ overruns min^{-1}	Outer ring freewheels/ overruns min^{-1}			Inner ring freewheels/ overruns min^{-1}	Outer ring freewheels/ overruns min^{-1}	dynamic C N	static C_0 N			Standard mm	max. mm				
FDN 15	CFH	16	3875	3925	CFR	8	3875	3925	7800	4200	CFP	7	8	8	20	37	50	0,1
FDN 20	CFH	28	3375	3450	CFR	14	3375	3450	8300	4200	CFP	12	12	12	20	42	55	0,1
FDN 25	CFH	48	2900	3050	CFR	24	2900	3050	10700	5600	CFP	21	15	15	20	47	60	0,1
FDN 30	CFH	75	2525	2675	CFR	36	2525	2675	12900	7000	CFP	32	20*	20*	20	52	65	0,2
FDN 40	CFH	160	1900	2150	CFR	71	1900	2150	15000	8400	CFP	71	25	28*	22	62	80	0,2
FDN 50	CFH	260	1475	1775	CFR	120	1475	1775	18400	11300	CFP	120	30	35	22	72	95	0,4
FDN 65	CFH	430	1200	1550	CFR	200	1200	1550	21400	14100	CFP	210	40	50*	25	90	120	0,7
FDN 80	CFH	650	950	1350	CFR	300	950	1350	23800	17800	CFP	320	50	60	25	110	140	1,2
FDN 105	CFH	2400	800	1175	CFR	1100	800	1175	48600	45000	CFP	1200	60	80	35	130	165	3,2

The maximum transmissible torque is 2 times the specified nominal torque. See page 14 for determination of selection torque.

The maximum speed values listed above apply to installation conditions as they are given for Complete Freewheels. If the actual installation conditions are known, higher speeds may be permitted under certain circumstances.

Keyway according to DIN 6885, page 1 • Tolerance of keyway width JS10.

* Keyway according to DIN 6885, page 3 • Tolerance of keyway width JS10.

Mounting

Internal freewheels FDN in standard type and type with P-grinding are without bearing support. Concentric alignment of inner and outer ring must be provided by the customer. The permissible run out (T.I.R.) must be observed.

The torque is transmitted on the outer ring by press fit. In order to transmit the torques specified in the table, the outer ring must be accommodated in a housing with an external diameter K. The housing is made of steel or grey cast iron in minimum quality GG-20. When using other housing materials or smaller external diameters, we urge you to contact us regarding the transmissible torque.

The tolerance of the housing bore D must be ISO P6 and the tolerance of the shaft must be ISO h6 or j6.

The permissible operating temperature of the freewheel is -40°C to 80°C.

Lubrication

An oil lubrication of the specified quality must be provided.

Example for ordering

Freewheel size FDN 30, type with P-grinding with 20 mm bore:

- FDN 30 CFP, d = 20 mm