

Internal Freewheels FDN

for press fit on the outer ring
with sprags



Application as

- ▶ Backstop
- ▶ Overrunning Clutch
- ▶ Indexing Freewheel

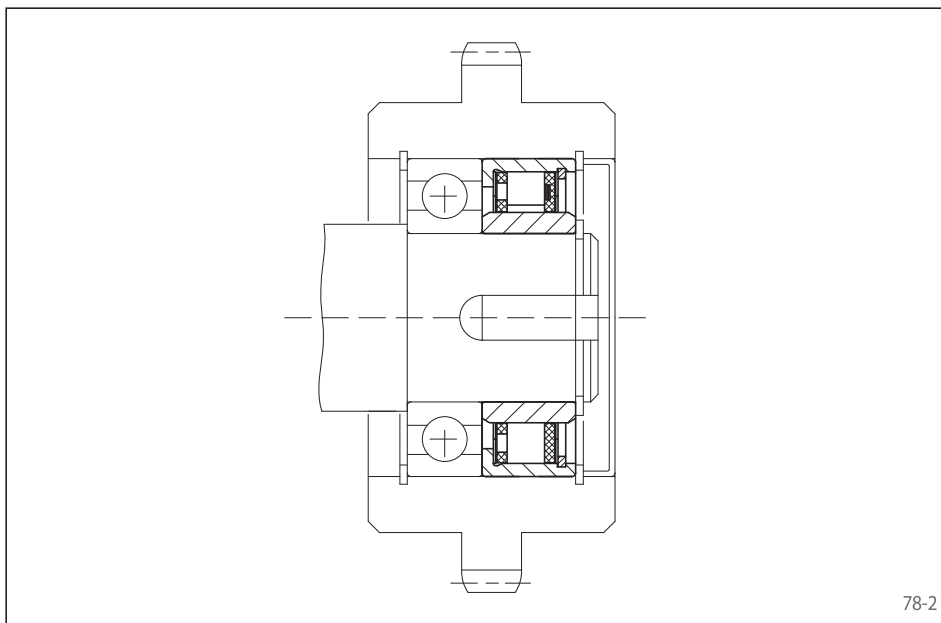
Features

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

The standard type does 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 In the case of the standard type, every second sprag has been replaced by a cylindrical roller; this freewheel can accept radial forces.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.

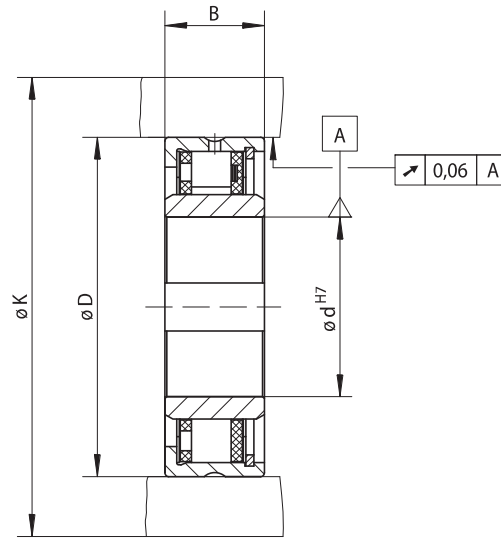
Bores up to 80 mm. A multitude of standardized bore diameters are available with short delivery times.



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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	Standard type For universal use	Standard type with bearing support For universal use	Dimensions
Indexing Freewheel			
Overrunning Clutch			
Backstop			

Freewheel Size	Type	Nominal torque M_N Nm	Max. speed		Type	Nominal torque M_N Nm	Max. speed		Load rating of bearing support		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	3 875	3 925	CFR	8	3 875	3 925	7 800	4 200	8	8	20	37	50	0,1
FDN 20	CFH	28	3 375	3 450	CFR	14	3 375	3 450	8 300	4 200	12	12	20	42	55	0,1
FDN 25	CFH	48	2 900	3 050	CFR	24	2 900	3 050	10 700	5 600	15	15	20	47	60	0,1
FDN 30	CFH	75	2 525	2 675	CFR	36	2 525	2 675	12 900	7 000	20*	20*	20	52	65	0,2
FDN 40	CFH	160	1 900	2 150	CFR	71	1 900	2 150	15 000	8 400	25	28*	22	62	80	0,2
FDN 50	CFH	260	1 475	1 775	CFR	120	1 475	1 775	18 400	11 300	35	35	22	72	95	0,4
FDN 65	CFH	430	1 200	1 550	CFR	200	1 200	1 550	21 400	14 100	50	50*	25	90	120	0,7
FDN 80	CFH	650	950	1 350	CFR	300	950	1 350	23 800	17 800	60	60	25	110	140	1,2
FDN 105	CFH	2 400	800	1 175	CFR	1 100	800	1 175	48 600	45 000	75	80	35	130	165	3,2

■ Freewheels with bore diameters highlighted blue in the table are available with short delivery times.

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 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, standard type with 20 mm bore:

- FDN 30 CFH, d = 20 mm