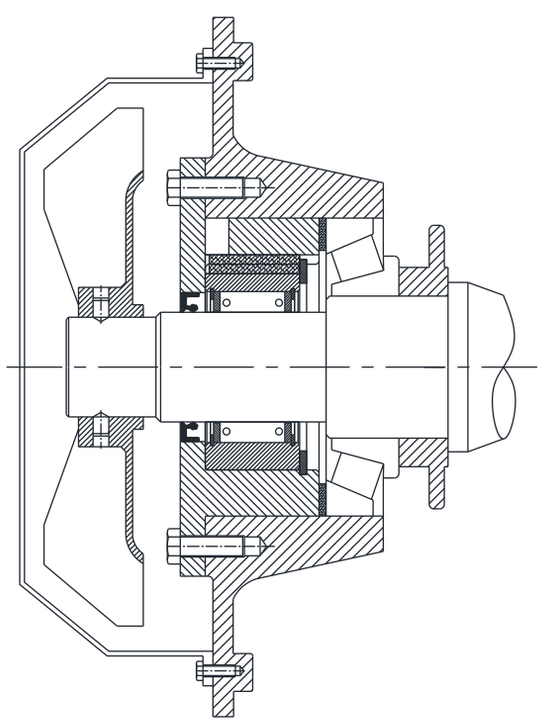
Freewheel One way clutch / Backstop Clutch
NDF Model

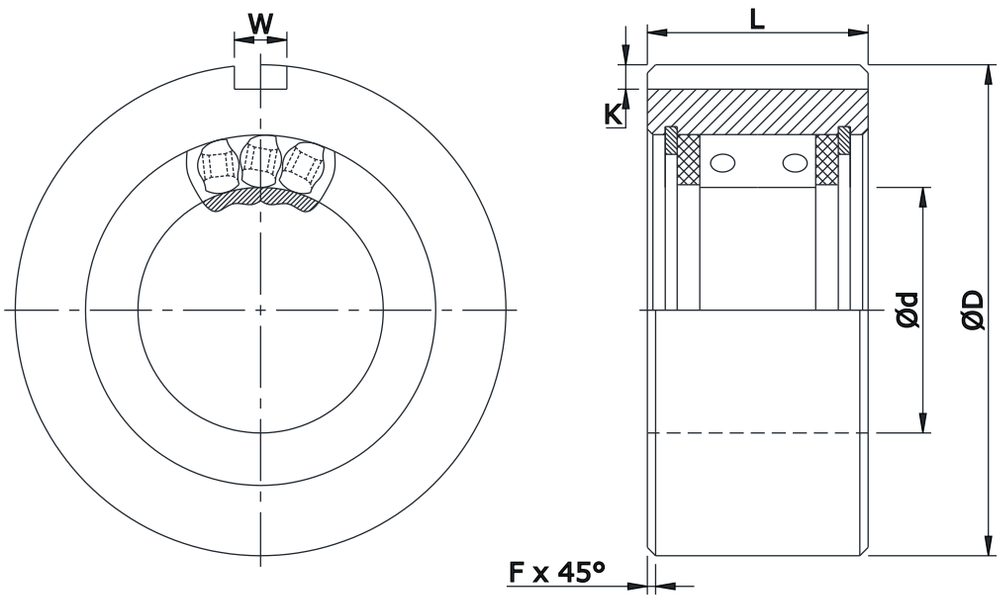
❖ Features:

- NDF Series Clutches are direct mounting Sprag clutches specially designed for backstop application where Compact space (dimensions) are required. This Clutches are directly mounted on Shaft.
- This type is particularly suitable for use in equipment (gear units) where good concentricity between Shaft & Housing is required.
- Requires Oil Lubrication.
- For using this type of Clutch, Shaft must be carburized: To an Effective depth of 1.2/1.5 mm grinding.
- Hardened to 60 HRC & Surface finish (Ra) 0.3 to 0.5 micron, Taper not to exceed 8 micron per inch (25.4 mm).
- Concentricity: Shaft to be supported in bearings such that Shaft & Housing are concentric within 0.05 mm TIR.
- Bore range: up to 101.6 mm.
- Transmitting torque: 3417 Nm.

◆ Mounting Example:



NDF



Model	Max Shaft Dia d mm (in)	Min Shaft Dia d mm (in)	Torque Capacity (Tn) Nm	Max. Overrunning Speed of Shaft RPM	D (max) mm (in)	D (min) mm (in)	L (max) mm (in)	L (min) mm (in)	W x K mm (in)	F x 45 (in)	Weight Kg lbs
NDF 16	16.510 (0.650)	16.485 (0.6495)	51 (38)	2400	39.992 (1.575)	39.967 (1.574)	25.654 (1.010)	25.146 (0.990)	6.35 x 3.175 (0.250 x 0.125)	(0.03)	0.18 (0.40)
NDF 18	18.753 (0.7383)	18.740 (0.7378)	68 (50)	2400	46.965 (1.849)	46.939 (1.848)	22.479 (0.885)	21.971 (0.865)	6.35 x 3.175 (0.250 x 0.125)	(0.03)	0.23 (0.51)
NDF 24	24.653 (0.9706)	24.628 (0.9696)	203 (150)	1800	61.963 (2.4395)	61.938 (2.4385)	28.829 (1.135)	28.321 (1.115)	6.35 x 3.175 (0.250 x 0.125)	(0.03)	0.48 (1.06)
NDF 28	28.791 (1.1335)	28.766 (1.1325)	158 (117)	1800	61.963 (2.4395)	61.938 (2.4385)	25.654 (1.010)	25.146 (0.990)	6.35 x 3.175 (0.250 x 0.125)	(0.03)	0.37 (0.81)
NDF 28H	28.791 (1.1335)	28.766 (1.1325)	339 (250)	1800	71.963 (2.8332)	71.938 (2.8322)	32.004 (1.260)	31.496 (1.240)	6.35 x 3.175 (0.250 x 0.125)	(0.03)	0.73 (1.61)
NDF 31	31.750 (1.250)	31.725 (1.249)	143 (105)	1800	67.132 (2.643)	67.107 (2.642)	28.194 (1.110)	27.686 (1.090)	6.35 x 3.175 (0.250 x 0.125)	(0.062)	0.43 (0.95)
NDF 32	32.931 (1.2965)	32.906 (1.2955)	452 (333)	1800	79.972 (3.1485)	79.934 (3.147)	35.179 (1.385)	34.671 (1.365)	9.525 x 4.75 (0.375 x 0.187)	(0.03)	0.92 (2.02)
NDF 35	35.001 (1.378)	34.976 (1.377)	678 (500)	1800	79.985 (3.149)	79.959 (3.148)	41.529 (1.635)	41.021 (1.615)	9.525 x 4.75 (0.375 x 0.187)	(0.03)	1.18 (2.60)
NDF 38	38.100 (1.500)	38.075 (1.499)	314 (232)	1800	84.099 (3.311)	84.074 (3.310)	32.004 (1.260)	31.496 (1.240)	9.525 x 4.75 (0.375 x 0.187)	(0.094)	0.85 (1.87)
NDF 39	39.141 (1.541)	39.116 (1.540)	904 (667)	1800	89.967 (3.542)	89.941 (3.541)	41.529 (1.635)	41.021 (1.615)	9.525 x 4.75 (0.375 x 0.187)	(0.03)	1.37 (3.01)
NDF 44	44.450 (1.750)	44.425 (1.749)	427 (315)	1500	93.243 (3.671)	93.218 (3.670)	32.004 (1.260)	31.496 (1.240)	9.525 x 4.75 (0.375 x 0.187)	(0.094)	1.05 (2.31)

Notes :

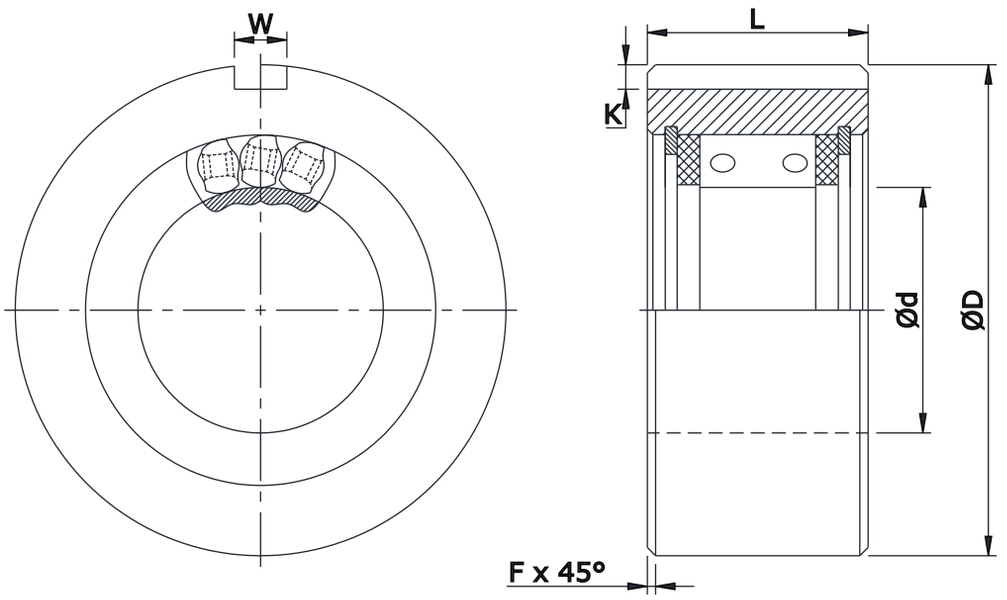
1) Function : Backstopping
2) Tmax = 2 x Tn.
3) Oil / Grease filled, ready to fit.
4) Other sizes on request.
5) Shaft dia. is to be controlled within h6/j6

Ordering Example :

- When ordering please specify bore dia.
- **NDF 30 - 31.75**

Dimensions/Design subject to modifications without any prior intimation.

NDF



Model	Max Shaft Dia d mm (in)	Min Shaft Dia d mm (in)	Torque Capacity (Tn) Nm	Max. Overrunning Speed of Shaft RPM	D (max) mm (in)	D (min) mm (in)	L (max) mm (in)	L (min) mm (in)	W x K mm (in)	F x 45 (in)	Weight Kg lbs
NDF 50	50.800 (2.000)	50.775 (1.999)	601 (443)	1400	112.547 (4.431)	112.522 (4.430)	35.179 (1.385)	34.671 (1.365)	12.7 x 6.35 (0.500 x 0.250)	(0.094)	1.87 (4.11)
NDF 51	51.961 (2.0457)	51.935 (2.0447)	1582 (1167)	1200	120.650 (4.750)	120.625 (4.749)	44.700 (1.760)	44.200 (1.740)	12.7 x 6.35 (0.500 x 0.250)	(0.03)	2.81 (6.18)
NDF 57	57.150 (2.250)	57.125 (2.249)	739 (545)	1200	122.453 (4.821)	122.428 (4.820)	35.179 (1.385)	34.671 (1.365)	12.7 x 6.35 (0.500 x 0.250)	(0.094)	2.18 (4.80)
NDF 63	63.500 (2.500)	63.47 (2.499)	832 (614)	1000	111.15 (4.376)	111.13 (4.375)	44.700 (1.760)	44.200 (1.740)	12.7 x 6.35 (0.500 x 0.250)	(0.094)	1.87 (4.11)
NDF 69	69.850 (2.750)	69.82 (2.749)	966 (712)	1000	124.74 (4.911)	124.71 (4.910)	46.230 (1.820)	45.720 (1.800)	12.7 x 6.35 (0.500 x 0.250)	(0.025)	1.90 (4.18)
NDF 76	76.200 (3.000)	76.175 (2.999)	1092 (805)	900	132.105 (5.201)	132.080 (5.200)	46.228 (1.820)	45.720 (1.800)	12.7 x 6.35 (0.500 x 0.250)	(0.025)	2.55 (5.61)
NDF 82	82.550 (3.250)	82.525 (3.249)	1677 (1237)	850	146.710 (5.776)	146.685 (5.775)	51.054 (2.010)	50.546 (1.990)	12.7 x 6.35 (0.500 x 0.250)	(0.025)	3.80 (8.40)
NDF 88	88.900 (3.500)	88.875 (3.499)	2262 (1668)	800	166.675 (6.562)	166.649 (6.561)	51.054 (2.010)	50.546 (1.990)	15.875 x 7.925 (0.625 x 0.312)	(0.025)	5.30 (11.70)
NDF 95	95.250 (3.750)	95.225 (3.749)	3086 (2276)	750	172.237 (6.781)	172.212 (6.780)	60.579 (2.385)	60.071 (2.365)	15.875 x 7.925 (0.625 x 0.312)	(0.025)	6.52 (14.30)
NDF 101	101.600 (4.000)	101.575 (3.999)	3417 (2520)	750	181.889 (7.161)	181.864 (7.160)	60.579 (2.385)	60.071 (2.365)	15.875 x 7.925 (0.625 x 0.312)	(0.025)	7.26 (16)

Notes :

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Ordering Example :

- When ordering please specify bore dia.
- **NDF 50 - 50.8**

Dimensions/Design subject to modifications without any prior intimation.