4 Design and Construction of Hold Back NXN *(NMTG's Versatile Product)*

The Hold Back Device is designed with Centrifugal Lift off Sprag - CLS where the shaft overruns at high speed *(drive speed 1440 rpm).* This Hold Back has each CLS fitted with preloaded Torsion Spring that are supported between Cage Plates (Guide Plates) and finally firmly mounted on Inner Race.

The driving torque is transmitted to Outer Race through CLS. It is basically a friction dependent device i.e. only works in presence of friction between contact surfaces of Sprags with relative races. The friction creates a wedging effect with loaded element to transmit torsion load while maintaining Strut Angle. During transmission of torsion torque deflection of contacts occur which is adequately controlled by preload of Torsion Spring.

When the Lift-off Speed is reached the CLS get automatically disengaged completely and rotate contact free, means this situation creates clearance between upper tip of the Sprag and contact surface of Outer Race *(see figure.2)* eliminating total friction or absolute no friction and wear at contact surfaces which impart long life to Hold Back.

When the speed of Inner Race decrease to such an extent that the effect of the centrifugal force on the Sprag is less than that of the preloaded Torsion Spring force, at that time the Sprag again rest on the Outer Race contact surface and the Free Wheel are ready to lock position *(see figure-1)*

Fig.1

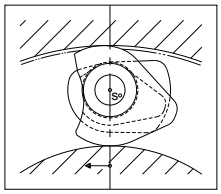
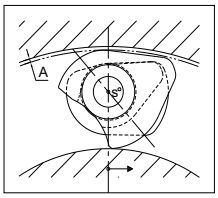


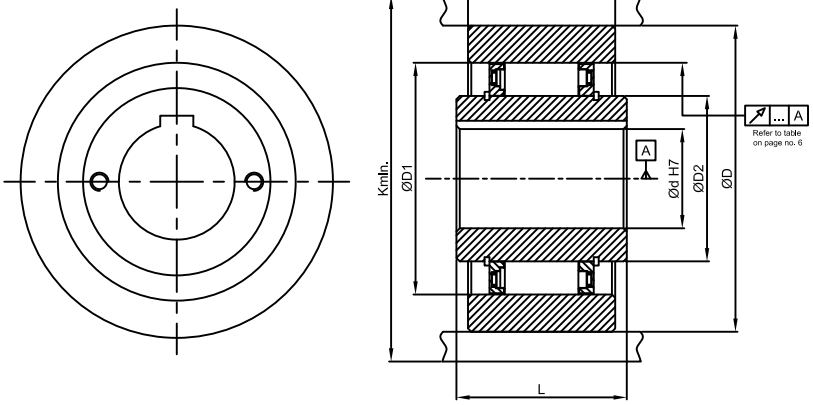
Fig. 2

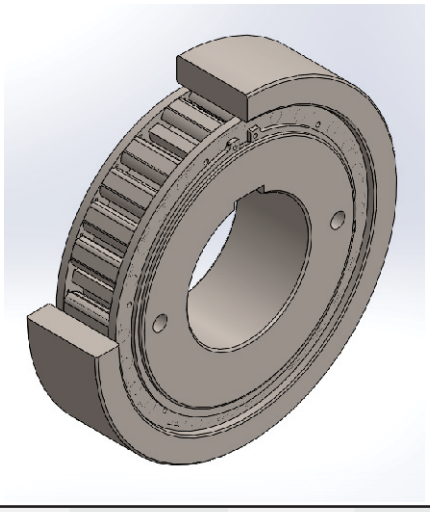


5 Performance criteria

NMTG Code No	↗ 0.0 A Torque Nm	↗ 0.1 A Nm	↗ 0.2 A Nm	↗ 0.3 A Nm	↗ 0.4 A Nm	↗ 0.5 A Nm	Lift off speed Rpm	Max. speed Rpm
NXN31	110	110	105	100	-	-	890	5000
NXN31H	110	110	105	100	-	-	890	5000
NXN38	180	170	160	150	-	-	860	5000
NXN46	460	450	440	430	-	-	820	5000
NXN51	560	550	540	530	-	-	750	5000
NXN56	660	650	640	630	-	-	730	5000
NXN61	520	500	480	460	-	-	750	5000
NXN61H	520	500	480	460	-	-	750	5000
NXN66	950	930	910	890	-	-	700	5000
NXN66H	950	930	910	890	-	-	700	5000
NXN76	1200	1170	1140	1110	-	-	670	5000
NXN76H	1200	1170	1140	1110	-	-	670	5000
NXN86	1600	1550	1500	1450	-	-	630	5000
NXN86H	1600	1550	1500	1450	-	-	630	5000
NXN101	2100	2050	2000	1950	-	-	610	5000
NXN101H	2100	2050	2000	1950	-	-	610	5000
NXN85	2500	2500	2450	2450	2450	2450	430	6000
NXN85H	2500	2500	2450	2450	2450	2450	430	6000
NXN100	3700	3600	3600	3500	3500	3500	400	4500
NXN105	5200	5200	5100	5000	5000	5000	380	4500
NXN120	7700	7600	7500	7300	7300	7300	320	4000
NXN140	10100	10000	9800	9600	9500	9500	320	3000
NXN170	20500	20500	20 000	19 500	19 000	19 000	250	2700

6 Product Specifications- NXN





NMTG Code No	dH7 mm	D mm	L mm	W mm	D1 mm	D2 mm	K min. mm	Weight kg
NXN31	20*	60 P6	24	25	55	31	85	0.3
NXN31H	20*	62 P6	24	25	55	31	85	0.4
NXN38	25*	70 P6	24	25	62	38	90	0.4
NXN46	30	80 P6	35	35	70	46	95	0.8
NXN51	36	85 P6	35	35	75	51	105	0.8
NXN56	40	90 P6	35	35	80	56	110	0.9
NXN61	45*	95 P6	25	26	85	61	120	0.8
NXN61H	45*	106 H7	25	25	85	61	120	1.2
NXN66	48	100 P6	35	30	90	66	132	1.1
NXN66H	48	110 P6	35	40	90	66	132	1.8
NXN76	60*	115 P6	35	40	100	76	140	1.7
NXN76H	60*	120 J6	35	32	100	76	140	1.8
NXN86	70	125 P6	40	40	110	86	150	2.3
NXN86H	70	130 P6	40	40	110	86	150	2.6
NXN101	80*	140 P6	50	45	125	101	175	3.1
NXN101H	80*	150 P6	50	45	125	101	175	3.6
NXN85	65	140 P6	60	45	125	85	175	3.2
NXN85H	65	150 P6	60	45	125	85	175	4.2
NXN100	80*	160 P6	60	50	140	100	190	5.1
NXN105	85	165 P6	62	62	145	105	195	5.8
NXN120	95	198 H6	70	70	160	120	210	8.6
NXN140	110	215 J6	70	69	180	140	245	14
NXN170	130	258 H6	80	80	210	170	290	21

Note: (1) * sizes are with Key Way to DIN 6885 - P3.
(2) Max. Speed of Inner Race is the Overrunning Speed of Hold Back.
(3) On request, only mounting / fitting dimensions can be made to suit customer's specific requirements.
(4) Other sizes can be supplied on demand.

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