



Technical data

7010UADG/GNP42

High precision angular contact ball bearings

VISUAL (S)



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PRODUCT DEFINITION

Brand	NTN
d - Internal diameter	50 mm
D - External diameter	80 mm
B - Bearing/Inner ring width	16 mm
d1 - External diameter inner ring	60,3 mm
d2 - External diameter inner ring	58 mm
D1 - Inner diameter outer ring	69,7 mm
D2 - Inner diameter outer ring	74,3 mm
a - Charge load application point	23,2 mm
- Contact angle	25 °
rs - Min fillet radius	1 mm
r1s - Min fillet radius	0,6 mm
Precision class	P42
Mass	0,26 kg

PRODUCT PERFORMANCE

C - Dynamic load	28200000 mN
C0 - Static load	21900000 mN
f0 - Coefficient	15.9
N lim - Oil lubrication limit speed	151200 °/s
N lim - Grease lubrication limit speed	93600 °/s
Preload level	GN
Preload value	255000 mN
Axial rigidity	162 N/μm



NTN Europe

1 rue des Usines · BP 2017 · 74010 Annecy Cedex · France · Tel. +33 (0)4 50 65 30 00
S.A. au capital de 322 639 919 € · RCS ANNECY B 325 821 072 · Id. Fiscale : FR 48 325 821 072
SIRET 325 821 072 00015 · Code APE 2815 Z · Code NACE 28.15

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PRODUCT PERFORMANCE

Radial rigidity	345 N/μm
Tmin - Min operating temperature	253,15 °K
Tmax - Max operating temperature	393,15 °K

ABUTMENT

da min - Min shoulder diameter IR	55,5 mm
Da max - Max shoulder diameter OR	74,5 mm
Db max - Max OR shoulder diameter	75,5 mm
r1a - Max fillet radius	0,6 mm
ra max - Max shaft & housing fillet radius	1 mm



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INDUSTRY CALCUL FACTORS

Equivalent dynamic radial load

$$P = X.F_r + Y.F_a$$

Series			e	Single or DT bearing arrangement				DB or DF arrangement								
				Fa / Fr ≤ e		Fa / Fr > e		Fa / Fr ≤ e		Fa / Fr > e						
				X	Y	X	Y	X	Y	X	Y					
70 (NTN & SNR) 72 (NTN & SNR) 78 (NTN) 79 (NTN) 719 (SNR)	15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39					
		0.357	0.4				1.4		1.57		2.28					
		0.714	0.43				1.3		1.46		2.11					
		1.07	0.46				1.23		1.38		2					
		1.43	0.47				1.19		1.34		1.93					
		2.14	0.5				1.12		1.26		1.82					
		3.57	0.55				1.02		1.14		1.66					
		5.35	0.56						1.12		1.63					
		7.14	0.56				1		1.12		1.63					
	25°		0.68				0.41		0.92	0.67	1.41					
	30°		0.8				0.39		0.78		1.24					

Equivalent static radial load

$$P_0 = X_0.F_r + Y_0.F_a$$

Series		Single or DT bearing arrangement		DB or DF arrangement		
		X ₀	Y ₀	X ₀	Y ₀	
70 (NTN & SNR)	15°	0.5	0.46	1	0.92	
72 (NTN & SNR)			25°		0.38	0.76
78 (NTN)	30°				0.33	0.66
79 (NTN)						
719 (SNR)						

For single or DT bearing arrangement :

If $P_0 < F_r$, then use $P_0 = F_r$



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