



Technical data

7009UCG/GNP42

High precision angular contact ball bearings

VISUAL (S)



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PRODUCT DEFINITION

Brand	NTN
d - Internal diameter	45 mm
D - External diameter	75 mm
B - Bearing/Inner ring width	16 mm
d1 - External diameter inner ring	55,3 mm
d2 - External diameter inner ring	53 mm
D1 - Inner diameter outer ring	64,7 mm
D2 - Inner diameter outer ring	69,4 mm
a - Charge load application point	16,1 mm
- Contact angle	15 °
rs - Min fillet radius	1 mm
r1s - Min fillet radius	0,6 mm
Precision class	P42
Mass	0,24 kg

PRODUCT PERFORMANCE

C - Dynamic load	28100000 mN
C0 - Static load	20400000 mN
f0 - Coefficient	15.4
N lim - Oil lubrication limit speed	187200 °/s
N lim - Grease lubrication limit speed	117000 °/s
Preload level	GN
Preload value	147000 mN
Axial rigidity	64.7 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	360 N/μm
Tmin - Min operating temperature	253,15 °K
Tmax - Max operating temperature	393,15 °K

ABUTMENT

da min - Min shoulder diameter IR	50,5 mm
Da max - Max shoulder diameter OR	69,5 mm
Db max - Max OR shoulder diameter	70,5 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	0.87		0.92	0.67	1.41	
	30°		0.8		0.39	0.76		0.78	0.63	1.24	

Equivalent static radial load
 $P_o = X_o.F_r + Y_o.F_a$

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

For single or DT bearing arrangement :
If $P_o < F_r$, then use $P_o = F_r$

