

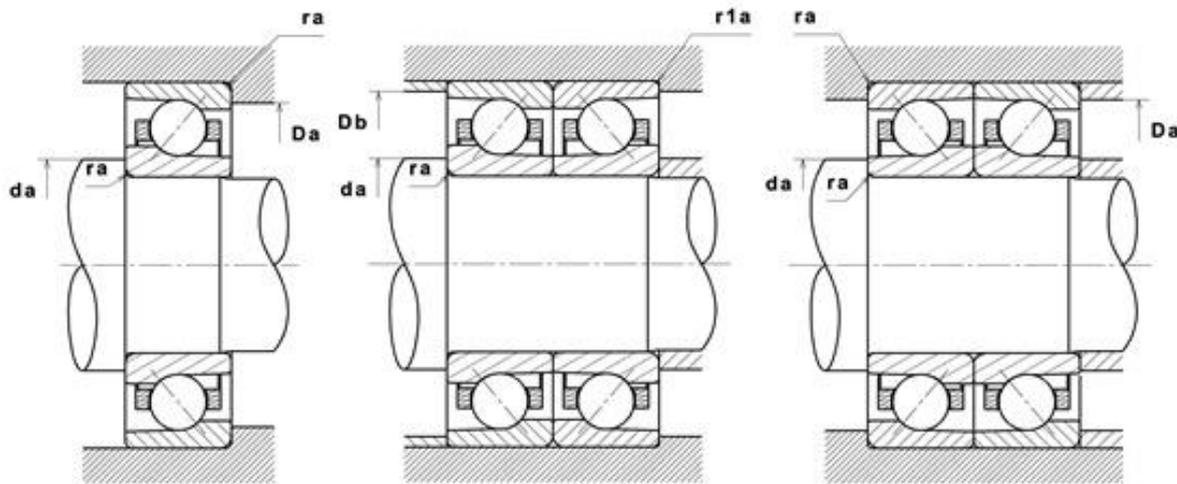
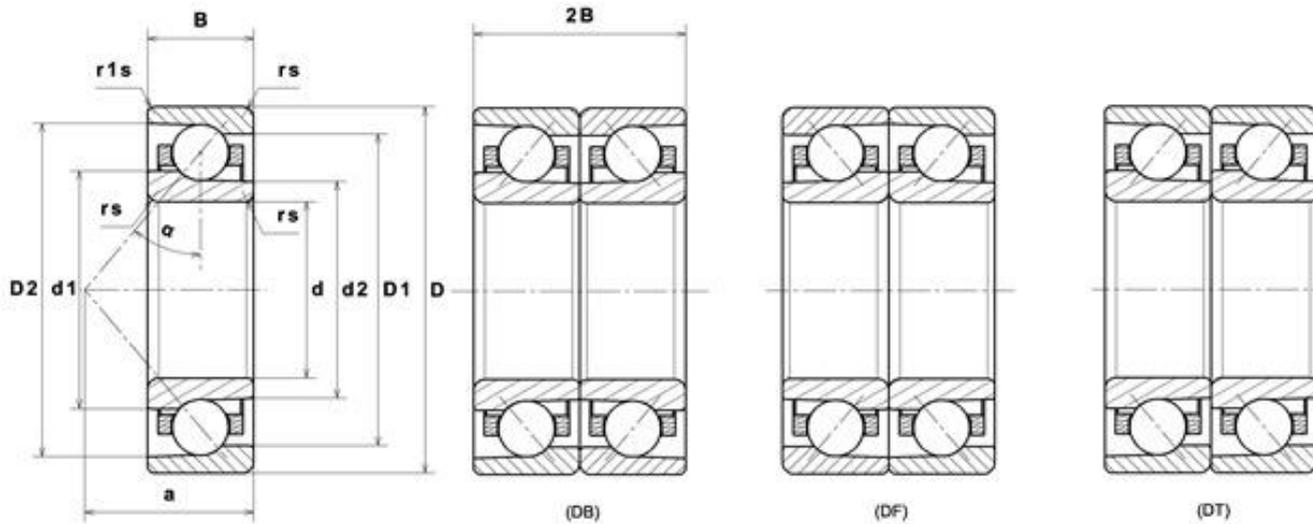


Technical data

7909UADG/GNP42

High precision angular contact ball bearings

VISUAL (S)



7909UADG/GNP42

High precision angular contact ball bearings

PRODUCT DEFINITION

Brand	NTN
d - Internal diameter	45 mm
D - External diameter	68 mm
B - Bearing/Inner ring width	12 mm
d1 - External diameter inner ring	52,7 mm
d2 - External diameter inner ring	50,8 mm
D1 - Inner diameter outer ring	60,4 mm
D2 - Inner diameter outer ring	64 mm
a - Charge load application point	19,2 mm
- Contact angle	25 °
rs - Min fillet radius	0,6 mm
r1s - Min fillet radius	0,3 mm
Precision class	P42
Mass	0,12 kg

PRODUCT PERFORMANCE

C - Dynamic load	18800000 mN
C0 - Static load	14100000 mN
f0 - Coefficient	16.1
N lim - Oil lubrication limit speed	174000 °/s
N lim - Grease lubrication limit speed	108000 °/s
Preload level	GN
Preload value	167000 mN
Axial rigidity	127.3 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	269,5 N/ μ m
Tmin - Min operating temperature	253,15 °K
Tmax - Max operating temperature	393,15 °K

ABUTMENT

da min - Min shoulder diameter IR	49,5 mm
Da max - Max shoulder diameter OR	63,5 mm
Db max - Max OR shoulder diameter	65,5 mm
r1a - Max fillet radius	0,3 mm
ra max - Max shaft & housing fillet radius	0,6 mm



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INDUSTRY CALCUL FACTORS

Equivalent dynamic radial load

$$P = X \cdot Fr + Y \cdot Fa$$

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	0.72	1.65	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			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

$$P_0 = X_0 \cdot Fr + Y_0 \cdot Fa$$

Series		Single or DT bearing arrangement		DB or DF arrangement	
		X ₀	Y ₀	X ₀	Y ₀
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 $P_0 < Fr$, then use $P_0 = Fr$



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