



Brand of NTN corporation

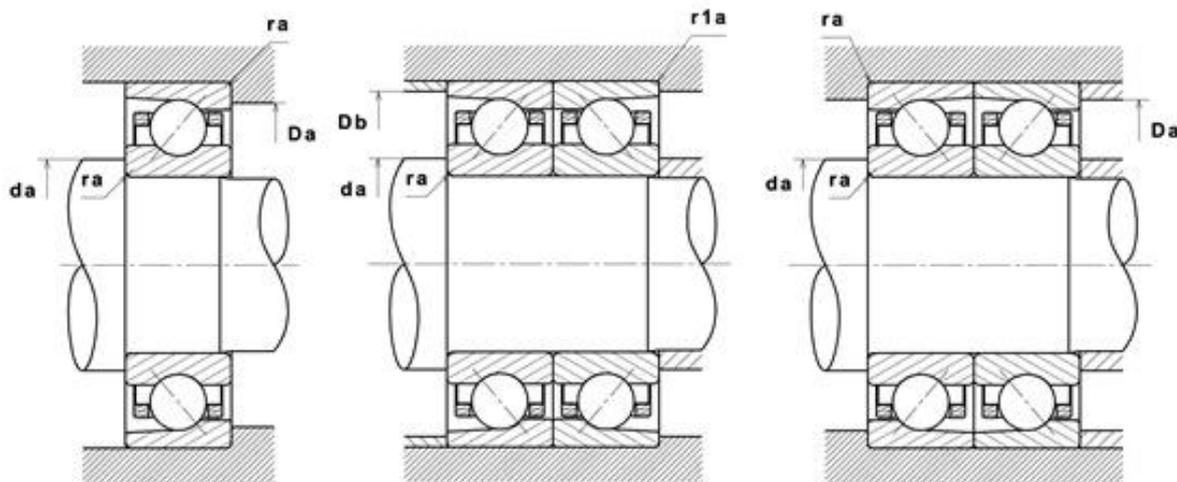
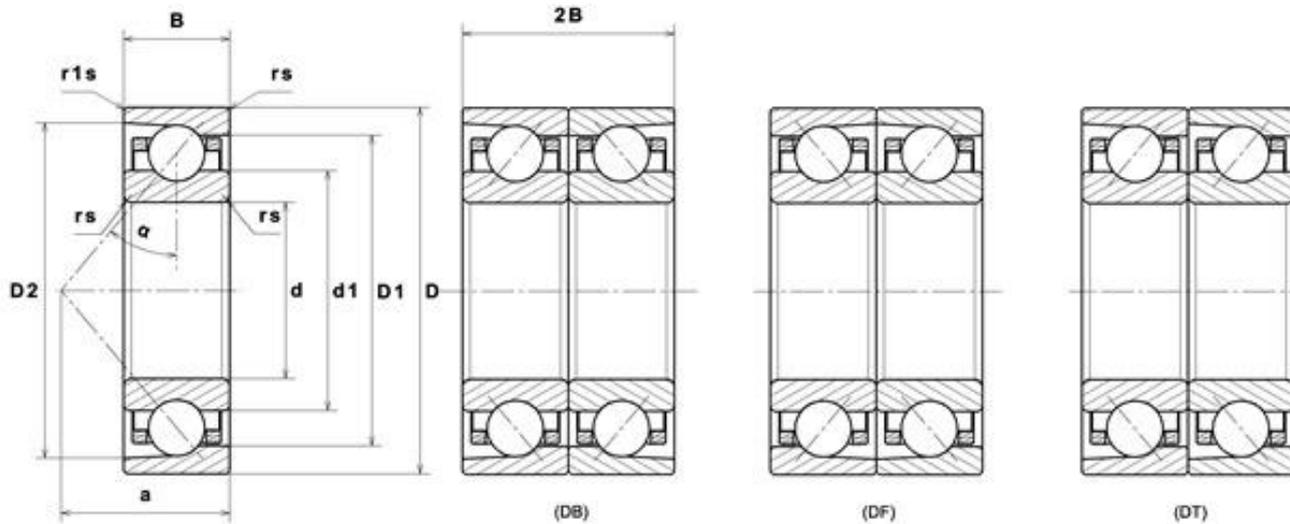
Technical data

7004CVQ21J84

High precision angular contact ball bearings



VISUAL (S)



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 DEFINITION

Brand	SNR
d - Internal diameter	20 mm
D - External diameter	42 mm
B - Bearing/Inner ring width	12 mm
d1 - External diameter inner ring	26,6 mm
D1 - Inner diameter outer ring	35,45 mm
D2 - Inner diameter outer ring	38,58 mm
a - Charge load application point	10 mm
- Contact angle	15 °
rs - Min fillet radius	1 mm
r1s - Min fillet radius	1 mm
Precision class	P4
Mass	0,06 kg

PRODUCT PERFORMANCE

C - Dynamic load	11700000 mN
C0 - Static load	7100000 mN
Cu - Fatigue limit load	320000 mN
f0 - Coefficient	14
Preload level	8
Preload value	180000 mN
Tmin - Min operating temperature	243,15 °K
Tmax - Max operating temperature	393,15 °K



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BEARING FREQUENCIES

BPFO - Over rolling frequency on outer ring (60 rpm)	5.214 Hz
BPFI - Over rolling frequency on inner (60 rpm)	7.786 Hz
BSF - Over rolling frequency on rolling element (60 rpm)	4.691 Hz
BRF - Rotational frequency - rolling element (60 rpm)	2.346 Hz
FTF - Rotational frequency - cage (60 rpm)	0.401 Hz

ABUTMENT

da min - Min shoulder diameter IR	24,5 mm
db min - Min IR shoulder diameter	24,5 mm
Da max - Max shoulder diameter OR	37,5 mm
Db max - Max OR shoulder diameter	37,5 mm
r1a - Max fillet radius	1 mm
ra max - Max shaft & housing fillet radius	1 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	1	0	0.44	1.47	1	0.72	1.65	2.39	
		0.357							1.4		2.28
		0.714							1.3		2.11
		1.07							1.23		2
		1.43							1.19		1.93
		2.14							1.12		1.82
		3.57							1.02		1.66
		5.35							1		1.63
	7.14	0.56	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

$$Po = Xo \cdot Fr + Yo \cdot Fa$$

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 $Po < Fr$, then use $Po = Fr$



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