



Brand of NTN corporation

Technical data

6209.ZZC3

Single row deep groove ball bearings



Deep groove ball bearing, radial contact, pressed steel cage, shields on both sides

VISUAL (S)



NTN Europe

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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

6209.ZZC3

Single row deep groove ball bearings

PRODUCT DEFINITION

Brand	SNR
d - Internal diameter	45 mm
D - External diameter	85 mm
B - Bearing/Inner ring width	19 mm
d1 - External diameter inner ring	56,3 mm
D1 - Inner diameter outer ring	75,9 mm
rs - Min fillet radius	1,1 mm
Radial clearance class	C3
Mass	0,42 kg

PRODUCT PERFORMANCE

C - Dynamic load	34500000 mN
C0 - Static load	20500000 mN
Cu - Fatigue limit load	930000 mN
f0 - Coefficient	14.1
N ref - Reference thermal speed	52200 °/s
N lim - Mechanical Limit Speed	60000 °/s
Tmin - Min operating temperature	243,15 °K
Tmax - Max operating temperature	393,15 °K

BEARING FREQUENCIES

BPFO - Over rolling frequency on outer ring (60 rpm)	3.634 Hz
BPFI - Over rolling frequency on inner (60 rpm)	5.366 Hz
BSF - Over rolling frequency on rolling element (60 rpm)	5.004 Hz
BRF - Rotational frequency - rolling element (60 rpm)	2.502 Hz



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BEARING FREQUENCIES

FTF - Rotational frequency - cage (60 rpm)

0.404 Hz

ABUTMENT

da min - Min shoulder diameter IR

51,5 mm

Da max - Max shoulder diameter OR

78,5 mm

ra max - Max shaft & housing fillet radius

1 mm

INDUSTRY CALCUL FACTORS

Equivalent dynamic radial load

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

$\frac{f_0 F_a}{C_0}$	e	Fa / Fr ≤ e		Fa / Fr > e	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.3
0.345	0.22				1.99
0.689	0.26				1.71
1.03	0.28				1.55
1.38	0.3				1.45
2.07	0.34				1.31
3.45	0.38				1.15
5.17	0.42				1.04
6.89	0.44				1

Equivalent static radial load

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

X_0	Y_0
0.6	0.5

For single or DT bearing arrangement:

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

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