



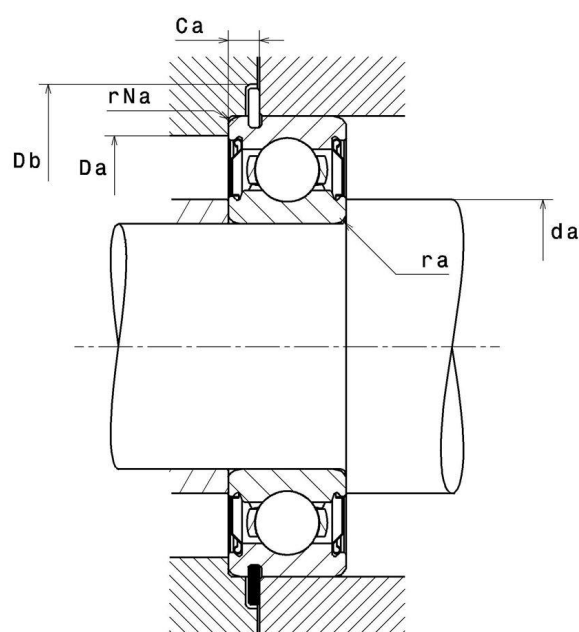
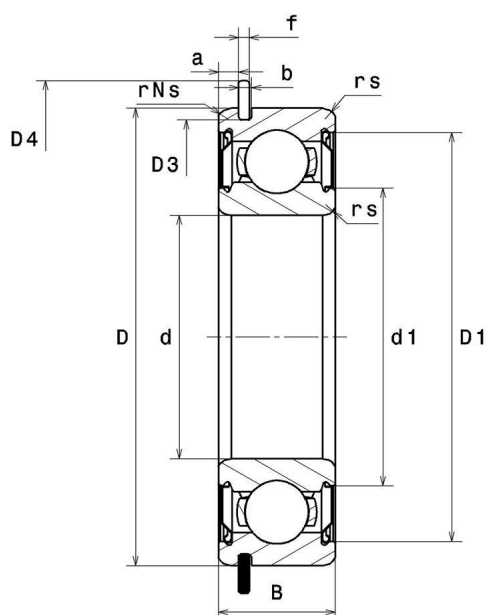
Technical data

6311ZZNR/2AS

Single row deep groove ball bearings

Deep groove ball bearing, radial contact, pressed steel cage, snap ring & groove on outer diameter, shields on both sides

VISUAL (S)



6311ZZNR/2AS

Single row deep groove ball bearings

PRODUCT DEFINITION	
Brand	NTN
d - Internal diameter	55 mm
D - External diameter	120 mm
B - Bearing/Inner ring width	29 mm
a min - Min position Groove	3,86 mm
a max - Max position groove	4,06 mm
rs - Min fillet radius	2 mm
rNs - Min fillet radius	0,5 mm
D3 - Max bottom groove diameter	115,21 mm
b min - Min groove width	3,1 mm
b max - Max groove width	3,4 mm
r0 max - Max bottom groove radius	0,6 mm
D4 max - Max outer diameter of assembled stop ring	129,7 mm
f - Stop ring thickness	2,82 mm
Snap ring reference	R120
Radial clearance class	CN
Mass	1,37 kg

PRODUCT PERFORMANCE	
C - Dynamic load	79500000 mN
C0 - Static load	45000000 mN
Cu - Fatigue limit load	3500000 mN
f0 - Coefficient	13.2
N lim - Grease lubrication limit speed	34800 °/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 PERFORMANCE

Tmin - Min operating temperature	248,15 °K
Tmax - Max operating temperature	393,15 °K

ABUTMENT

da min - Min shoulder diameter IR	64 mm
Da max - Max shoulder diameter OR	111 mm
ra max - Max shaft & housing fillet radius	2 mm
rNa max - Max fillet radius on segment side	0,5 mm
Ca min - Mini segment position	6,58 mm
Ca max - Max segment position	6,88 mm
Db min - Min stop ring position diameter	131,5 mm



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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 $P_0 = F_r$

