



Brand of NTN corporation

Technical data

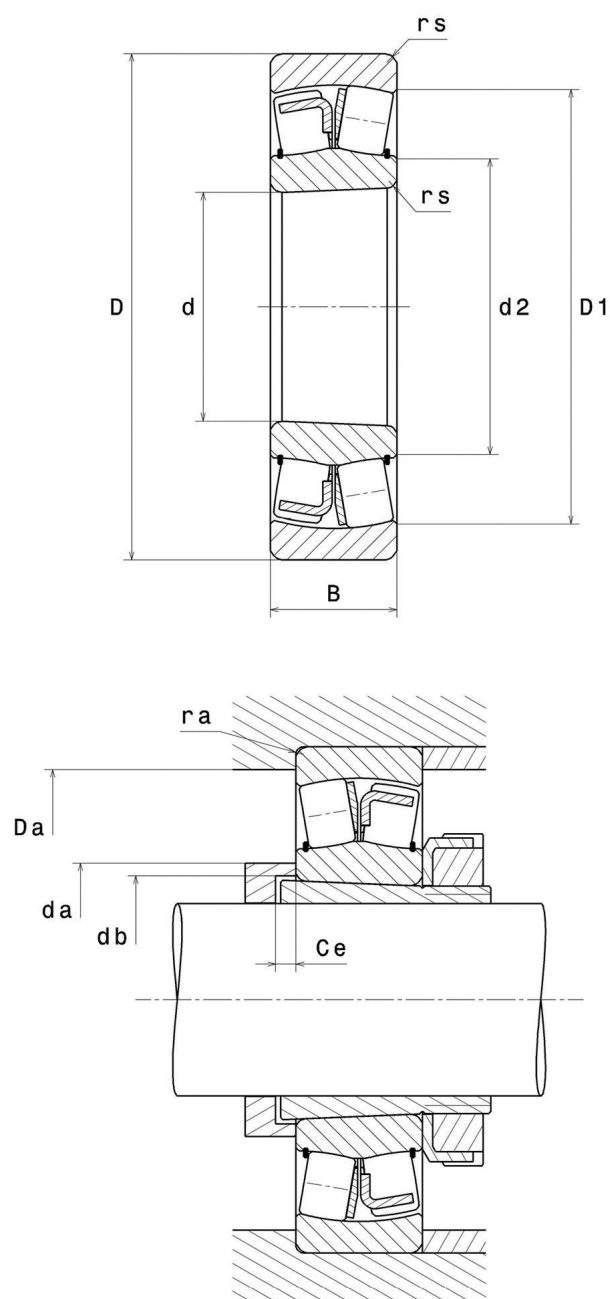
21311VK

Spherical roller bearings



Spherical roller bearing, pressed steel cage, tapered bore 1:12

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

PRODUCT DEFINITION

Brand	SNR
d - Internal diameter	55 mm
D - External diameter	120 mm
B - Bearing/Inner ring width	29 mm
d2 - External diameter inner ring	73,6 mm
D1 - Inner diameter outer ring	102 mm
rs - Min fillet radius	2 mm
Number of lubrication holes	0
b - Groove width	0 mm
k - Hole diameter	0 mm
Associated sleeve reference	H311
Radial clearance class	CN
Mass	1,52 kg

PRODUCT PERFORMANCE

C - Dynamic load	172000000 mN
C0 - Static load	164000000 mN
Cu - Fatigue limit load	20000000 mN
e - Coefficient	0.24
Y0 - Static axial load coefficient	2.76
Y1 - Lower axial load coefficient	2.83
Y2 - Upper axial load coefficient	4.21
N ref - Reference thermal speed	30000 °/s
N lim - Mechanical Limit Speed	41400 °/s



PRODUCT PERFORMANCE

Tmin - Min operating temperature	233,15 °K
Tmax - Max operating temperature	473,15 °K

BEARING FREQUENCIES

BPFO - Over rolling frequency on outer ring (60 rpm)	6.26 Hz
BPFI - Over rolling frequency on inner (60 rpm)	8.74 Hz
BSF - Over rolling frequency on rolling element (60 rpm)	5.81 Hz
BRF - Rotational frequency – rolling element (60 rpm)	2.905 Hz
FTF - Rotational frequency - cage (60 rpm)	0.417 Hz

ABUTMENT

da max - Max shoulder diameter IR	0 mm
da min - Min shoulder diameter IR	66 mm
db - Min diameter for Sleeve	60 mm
Ce - Min length fro Sleeve	6 mm
Da max - Max shoulder diameter OR	109 mm
ra max - Max shaft & housing fillet radius	2 mm



INDUSTRY CALCUL FACTORS

Equivalent dynamic radial load

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

$F_a / F_r \leq e$		$F_a / F_r > e$	
X	Y	X	Y
1	Y1	0.67	Y2

Equivalent static radial load

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

X_0	Y_0
1	Y0

The values for e, Y1, Y2 and Y0 are shown in the above table .



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