



Brand of **NTN** corporation

Technical data

22220EAW33ZZ

Spherical roller bearings



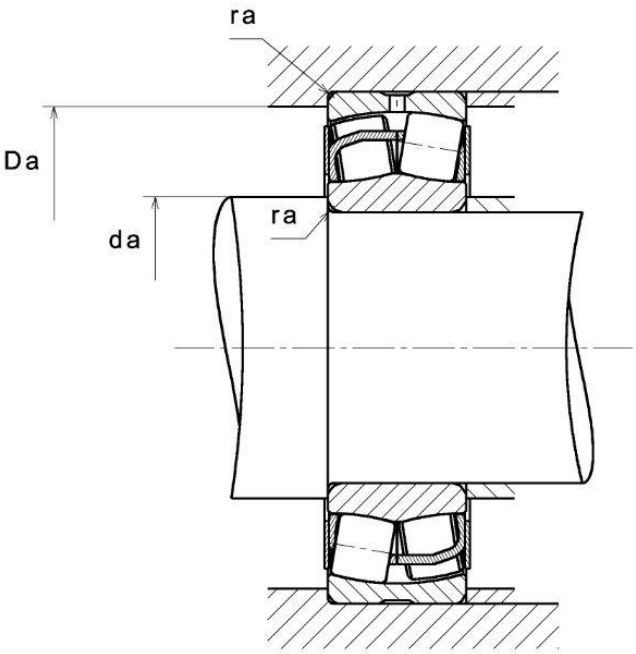
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VISUAL (S)



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	100 mm
D - External diameter	180 mm
B - Bearing/Inner ring width	46 mm
d2 - External diameter inner ring	118,2 mm
D1 - Inner diameter outer ring	160,8 mm
rs - Min fillet radius	2,1 mm
Number of lubrication holes	3
b - Groove width	11 mm
k - Hole diameter	5 mm
Radial clearance class	CN
Mass	4,989 kg

PRODUCT PERFORMANCE



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C - Dynamic load	472000000 mN
C0 - Static load	495000000 mN
Cu - Fatigue limit load	54300000 mN
e - Coefficient	0.24
Y0 - Static axial load coefficient	2.78
Y1 - Lower axial load coefficient	2.84
Y2 - Upper axial load coefficient	4.23
N ref - Reference thermal speed	21600 °/s
N lim - Mechanical Limit Speed	27600 °/s
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)	7.608 Hz
BPFI - Over rolling frequency on inner (60 rpm)	10.392 Hz
BSF - Over rolling frequency on rolling element (60 rpm)	6.233 Hz
BRF - Rotational frequency - rolling element (60 rpm)	3.117 Hz
FTF - Rotational frequency - cage (60 rpm)	0.423 Hz

ABUTMENT

da max - Max shoulder diameter IR	118,2 mm
da min - Min shoulder diameter IR	112 mm
db - Min diameter for Sleeve	0 mm
Da max - Max shoulder diameter OR	168 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 .

