

PDF technical sheet 6416C3



Single row deep groove ball bearings

Deep groove ball bearing, radial contact, pressed steel cage, open

Product definition

d	80 mm
D	200 mm
B	48 mm
rs min	3 mm
Radial clearance class	C3
Mass	6.76 kg
Brand	NTN



Product performance

Dynamic load, C	164 kN
Static load, C0	125 kN
Fatigue limit load, Cu	4.75 kN
f0	12.3
Nlim (oil)	4,200 Tr/min
Nlim (grease)	3,600 Tr/min
Min operating temperature, Tmin	-60 °C
Characteristic cage frequency, FTF	0.37 Hz
Characteristic rolling element frequency, BSF	3.46 Hz
Characteristic outer ring frequency, BPF0	2.56 Hz
Characteristic inner ring frequency, BPF1	4.44 Hz



Abutment dimensions

da min	93 mm
Da max	187 mm
ra max	2.50 mm

Calculation factors

Equivalent dynamic radial load

$$P = X \cdot Fr + Y \cdot Fa$$

$\frac{f_0 F_a}{C_0}$	e	$F_a / Fr \leq e$		$F_a / Fr > e$	
		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

$$P_0 = X_0 \cdot Fr + Y_0 \cdot Fa$$

X_0	Y_0
0.6	0.5

For single or DT bearing arrangement:

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