

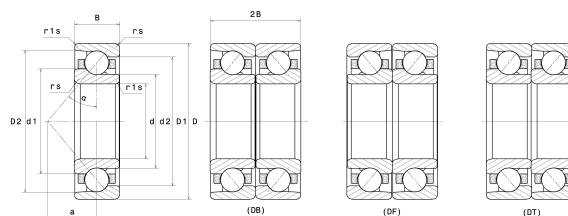
PDF technical sheet 7312BL1G



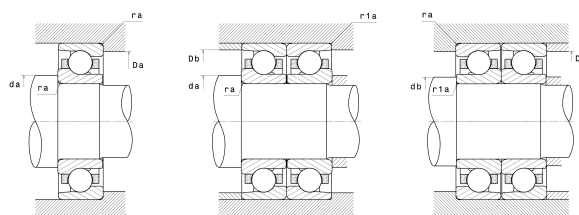
Single row or matched pairs of angular contact ball bearings

Angular contact ball bearing, brass cage inner ring guided

Product definition	
d	2.3622 "
D	5.1181 "
B	1.2205 "
a	2.2047 "
Contact angle, α	40 °
rs min	0.0827 "
r1s min	0.0433 "
Radial clearance class	CN
Mass	6.96 oz
Brand	NTN



Product performance	
Dynamic load, C	84.90 kN
Static load, C0	60.40 kN
Fatigue limit load, Cu	2.75 kN
Nlim (oil)	6,800 RPM
Nlim (grease)	5,100 RPM
Min operating temperature, Tmin	-40 °C
Max operating temperature, Tmax	248 °C
Characteristic cage frequency, FTF	0.41 Hz
Characteristic rolling element frequency, BSF	4.19 Hz
Characteristic outer ring frequency, BPF0	4.53 Hz
Characteristic inner ring frequency, BPFI	6.47 Hz



Abutment dimensions	
da min	2.8346 "
db min	2.6378 "
Da max	4.6457 "
Db max	4.8425 "
r1a max	0.0394 "
ra max	0.0787 "

Calculation factors

Equivalent dynamic radial load

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

	e	Single or DT bearing arrangement				DB or DF arrangement			
		Fa / Fr ≤ e		Fa / Fr > e		Fa / Fr ≤ e		Fa / Fr > e	
		X	Y	X	Y	X	Y	X	Y
30°	0.8	1	0	0.9	0.76	1	0.78	0.63	1.24
40°	1.14			0.35	0.57		0.55	0.57	0.93

Equivalent static radial load

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

a	Single or DT bearing arrangement		DB or DF arrangement	
	X ₀	Y ₀	X ₀	Y ₀
30°	0.5	0.33	1	0.66
40°		0.26		0.52

For single or DT bearing arrangement :

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