

PDF technical sheet

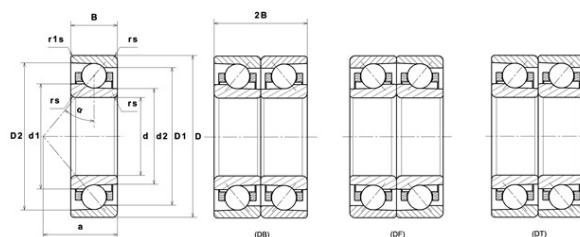
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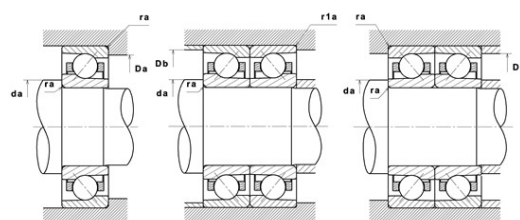
High precision angular contact ball bearings

High precision angular contact ball bearing, moulded polyamide cage centred on balls

Product definition	
d	70 mm
D	110 mm
B	20 mm
d1	83.60 mm
d2	80.50 mm
D1	96.40 mm
D2	102.70 mm
a	22.10 mm
Contact angle, α	15 °
rs min	1.10 mm
r1s min	0.60 mm
f0	15.7
Precision class	P42
Mass	0.61 kg
Brand	NTN



Product performance	
Dynamic load, C	48.50 kN
Static load, C0	45 kN
Nlim (oil)	20,800 Tr/min
Nlim (grease)	13,000 Tr/min
Preload level	GN
Peload value	294 kN
axial rigidity	95.4 N/ μ m
radial rigidity	545 N/ μ m
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.44 Hz
Characteristic rolling element frequency, BSF	7.44 Hz
Characteristic outer ring frequency, BPF0	9.16 Hz
Characteristic inner ring frequency, BPF1	11.84 Hz



Abutment dimensions

da min	77 mm
Da max	103 mm
Db max	105.50 mm
r1a max	0.60 mm
ra max	1 mm
D6	83.90 mm

Calculation factors

Equivalent dynamic radial load

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

Series			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
70 (NTN & SNR) 72 (NTN & SNR) 78 (NTN) 79 (NTN) 719 (SNR)	15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
		0.357	0.4				1.4		1.57		2.28
		0.714	0.43				1.3		1.46		2.11
		1.07	0.46				1.23		1.38		2
		1.43	0.47				1.19		1.34		1.93
		2.14	0.5				1.12		1.26		1.82
		3.57	0.55				1.02		1.14		1.66
		5.35	0.56						1.12		1.63
		7.14	0.56				1		1.12		1.63
	25°		0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
	30°		0.8								0.78

Equivalent static radial load

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

Series			Single or DT bearing arrangement		DB or DF arrangement	
			X ₀	Y ₀	X ₀	Y ₀
70 (NTN & SNR) 72 (NTN & SNR) 78 (NTN) 79 (NTN) 719 (SNR)	15°		0.5	0.46	1	0.92
	25°			0.38		0.76
	30°			0.33		0.66

For single or DT bearing arrangement :

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