

PDF technical sheet

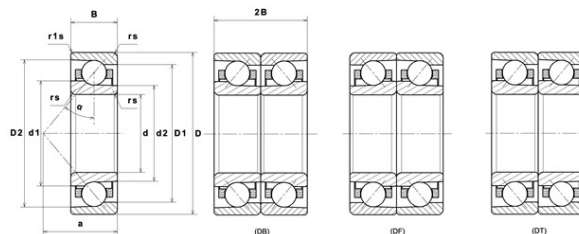
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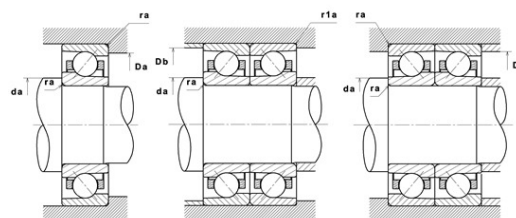
High precision angular contact ball bearings

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

Product definition	
d	70 mm
D	100 mm
B	16 mm
d1	80.30 mm
d2	78 mm
D1	89.70 mm
D2	94.30 mm
a	19.40 mm
Contact angle, α	15 °
rs min	1 mm
r1s min	0.60 mm
f0	16.4
Precision class	P42
Mass	0.34 kg
Brand	NTN



Product performance	
Dynamic load, C	29.70 kN
Static load, C0	30 kN
Nlim (oil)	22,100 Tr/min
Nlim (grease)	13,800 Tr/min
Preload level	GN
Peload value	177 kN
axial rigidity	83.9 N/ μ m
radial rigidity	480 N/ μ m
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.45 Hz
Characteristic rolling element frequency, BSF	9.64 Hz
Characteristic outer ring frequency, BPF0	11.26 Hz
Characteristic inner ring frequency, BPF1	13.74 Hz



Abutment dimensions

da min	75.50 mm
Da max	94.50 mm
Db max	95.50 mm
r1a max	0.60 mm
ra max	1 mm
D6	80.90 mm

Calculation factors

Equivalent dynamic radial load

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

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				0.41		0.92	0.67	1.41
	30°		0.8				0.39		0.78		1.24

Equivalent static radial load

$$P_o = X_o.F_r + Y_o.F_a$$

Series			Single or DT bearing arrangement		DB or DF arrangement	
			X _o	Y _o	X _o	Y _o
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 $P_o < F_r$, then use $P_o = F_r$