

PDF technical sheet

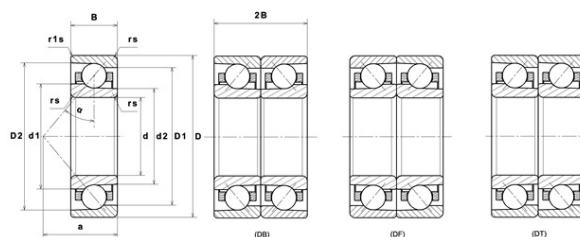
7022UCG/GNP42U3G



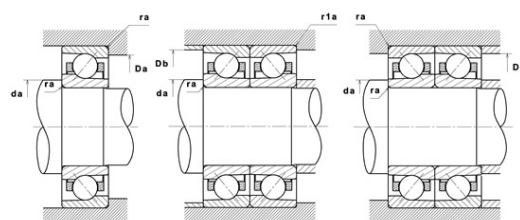
High precision angular contact ball bearings

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

Product definition	
d	110 mm
D	170 mm
B	28 mm
d1	130.20 mm
d2	125.40 mm
D1	149.90 mm
D2	159.40 mm
a	32.90 mm
Contact angle, α	15 °
rs min	2 mm
r1s min	1 mm
f0	15.7
Precision class	P42
Mass	1.98 kg
Brand	NTN



Product performance	
Dynamic load, C	104 kN
Static load, C0	106 kN
Nlim (oil)	13,400 Tr/min
Nlim (grease)	8,400 Tr/min
Preload level	GN
Peload value	630 kN
axial rigidity	140.4 N/ μ m
radial rigidity	810 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	7.55 Hz
Characteristic outer ring frequency, BPF0	9.18 Hz
Characteristic inner ring frequency, BPFI	11.82 Hz



Abutment dimensions

da min	120 mm
Da max	160 mm
Db max	164.50 mm
r1a max	1 mm
ra max	2 mm
D6	129.90 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	1	0	0.41	0.87	1	0.92	0.67	1.41
	30°		0.8								0.78

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 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 $P_o < F_r$, then use $P_o = F_r$