

PDF technical sheet

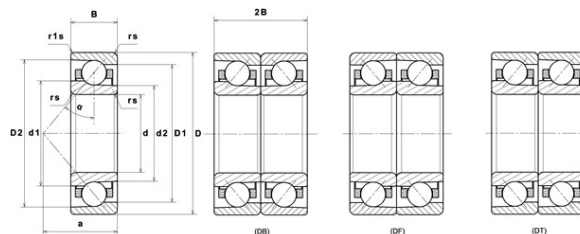
7011UCG/GNP42U3G



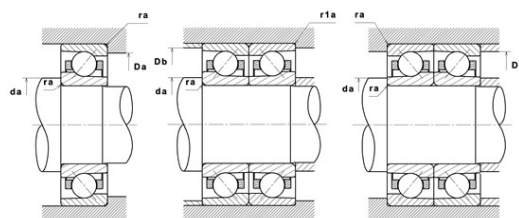
High precision angular contact ball bearings

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

Product definition	
d	55 mm
D	90 mm
B	18 mm
d1	66.90 mm
d2	64.30 mm
D1	78.10 mm
D2	83.60 mm
a	18.80 mm
Contact angle, α	15 °
rs min	1.10 mm
r1s min	0.60 mm
f0	15.5
Precision class	P42
Mass	0.38 kg
Brand	NTN



Product performance	
Dynamic load, C	35.50 kN
Static load, C0	30 kN
Nlim (oil)	25,900 Tr/min
Nlim (grease)	16,200 Tr/min
Preload level	GN
Peload value	216 kN
axial rigidity	77.3 N/ μ m
radial rigidity	435 N/ μ m
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.43 Hz
Characteristic rolling element frequency, BSF	6.90 Hz
Characteristic outer ring frequency, BPF0	8.19 Hz
Characteristic inner ring frequency, BPFI	10.81 Hz



Abutment dimensions

da min	62 mm
Da max	83 mm
Db max	85.50 mm
r1a max	0.60 mm
ra max	1 mm
D6	67.40 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 _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 $P_o = F_r$