

PDF technical sheet

7912UCG/GNP42U3G



High precision angular contact ball bearings

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

Product definition	
d	60 mm
D	85 mm
B	13 mm
d1	68.70 mm
d2	66.80 mm
D1	76.40 mm
D2	80.10 mm
a	16.30 mm
Contact angle, α	15 °
rs min	1 mm
r1s min	0.60 mm
f0	16.5
Precision class	P42
Mass	0.19 kg
Brand	NTN



Product performance	
Dynamic load, C	20.50 kN
Static load, C0	20.30 kN
Nlim (oil)	25,900 Tr/min
Nlim (grease)	16,200 Tr/min
Preload level	GN
Peload value	127 kN
axial rigidity	71.1 N/ μ m
radial rigidity	400 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	10.06 Hz
Characteristic outer ring frequency, BPF0	11.31 Hz
Characteristic inner ring frequency, BPFI	13.69 Hz



Abutment dimensions

da min	65.50 mm
Da max	79.50 mm
Db max	80.50 mm
r1a max	0.60 mm
ra max	1 mm
D6	69.10 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 $P_o = F_r$