

PDF technical sheet

7922UCG/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	150 mm
B	20 mm
d1	123.60 mm
d2	120.50 mm
D1	136.40 mm
D2	142.70 mm
a	27.50 mm
Contact angle, α	15 °
rs min	1.10 mm
r1s min	0.60 mm
f0	16.5
Precision class	P42
Mass	0.87 kg
Brand	NTN



Product performance	
Dynamic load, C	56 kN
Static load, C0	65.50 kN
Nlim (oil)	14,400 Tr/min
Nlim (grease)	9,000 Tr/min
Preload level	GN
Peload value	335 kN
axial rigidity	124.9 N/ μ m
radial rigidity	720 N/ μ m
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.46 Hz
Characteristic rolling element frequency, BSF	10.84 Hz
Characteristic outer ring frequency, BPF0	13.22 Hz
Characteristic inner ring frequency, BPFI	15.78 Hz



Abutment dimensions

da min	117 mm
Da max	143 mm
Db max	145.50 mm
r1a max	0.60 mm
ra max	1 mm
D6	123.90 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

$$Po = Xo \cdot Fr + Yo \cdot Fa$$

Series			Single or DT bearing arrangement		DB or DF arrangement	
			Xo	Yo	Xo	Yo
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 $Po < Fr$, then use $Po = Fr$