

PDF technical sheet

7919UCG/GNP42U3G



High precision angular contact ball bearings

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

Product definition	
d	95 mm
D	130 mm
B	18 mm
d1	106.90 mm
d2	104.30 mm
D1	118.10 mm
D2	123.50 mm
a	24.10 mm
Contact angle, α	15 °
rs min	1.10 mm
r1s min	0.60 mm
f0	16.5
Precision class	P42
Mass	0.59 kg
Brand	NTN



Product performance	
Dynamic load, C	42.50 kN
Static load, C0	47.50 kN
Nlim (oil)	16,700 Tr/min
Nlim (grease)	10,400 Tr/min
Preload level	GN
Peloid value	255 kN
axial rigidity	107 N/ μ m
radial rigidity	615 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	10.82 Hz
Characteristic outer ring frequency, BPF0	12.76 Hz
Characteristic inner ring frequency, BPF1	15.24 Hz



Abutment dimensions

da min	102 mm
Da max	123 mm
Db max	125.50 mm
r1a max	0.60 mm
ra max	1 mm
D6	107.40 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				0.41	0.87		0.92	0.67	1.41
	30°		0.8				0.39	0.76		0.78	0.63	1.24

Equivalent static radial load

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

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 $Po < Fr$, then use $Po = Fr$