

PDF technical sheet

7901UADG/GLP42U3G



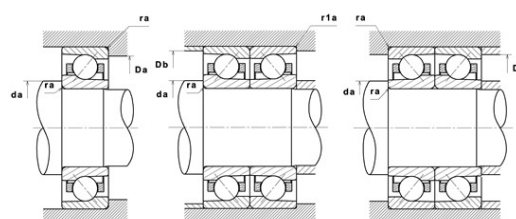
High precision angular contact ball bearings

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

Product definition	
d	12 mm
D	24 mm
B	6 mm
d1	16.30 mm
d2	15.50 mm
D1	19.70 mm
D2	21.40 mm
a	7.20 mm
Contact angle, α	25 °
rs min	0.30 mm
r1s min	0.15 mm
f0	14.9
Precision class	P42
Mass	0.01 kg
Brand	NTN



Product performance	
Dynamic load, C	3.20 kN
Static load, C0	1.77 kN
Nlim (oil)	91,100 Tr/min
Nlim (grease)	56,400 Tr/min
Preload level	GL
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.42 Hz
Characteristic rolling element frequency, BSF	5.53 Hz
Characteristic outer ring frequency, BPF0	5.46 Hz
Characteristic inner ring frequency, BPFI	7.54 Hz



Abutment dimensions	
da min	14.50 mm
Da max	21.50 mm
Db max	22.80 mm
r1a max	0.15 mm
ra max	0.30 mm
D6	16.60 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				0.76		0.78		1.24

Equivalent static radial load

$$P_0 = X_0 \cdot Fr + Y_0 \cdot Fa$$

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 $P_0 < Fr$, then use $P_0 = Fr$