Technical datasheet

7901UCG/GNP42U3G

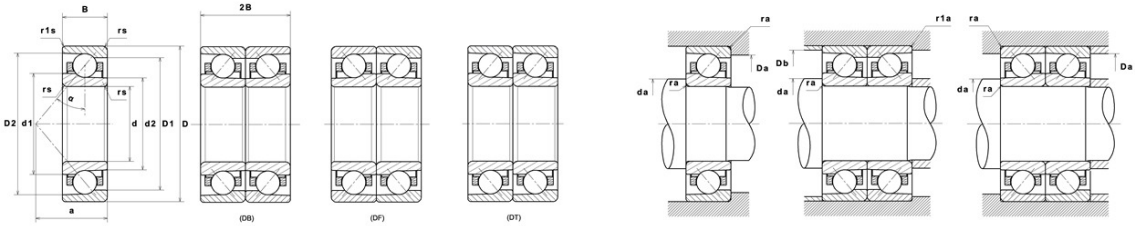
High precision angular contact ball bearings



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

ULTAGE

Visual(s)



Product definition

d	12 mm
D	24 mm
B	6 mm
d1	16.3 mm
d2	15.5 mm
D1	19.7 mm
D2	21.4 mm
a	5.4 mm
Contact angle α	15 °
rs min	0.3 mm
r1s min	0.15 mm
f0	14.7
Precision class	P42
Mass	0.01 kg
Brand	NTN

Product performance

Dynamic load, C	3.35 kN
Static load, C0	1.86 kN
Nlim (oil)	104,100 rpm
Nlim (grease)	65,100 rpm
Preload level	GN
Preload value	0.02 kN
Axial rigidity	20 N/µm
Radial rigidity	106.1 N/µm
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.42 Hz
Characteristic rolling element frequency, BSF	5.51 Hz
Characteristic outer ring frequency, BPF0	5.39 Hz
Characteristic inner ring frequency, BPFI	7.61 Hz

Abutment dimensions

da min	14.5 mm
Da max	21.5 mm
Db max	22.8 mm
r1a max	0.15 mm
ra max	0.3 mm
D6	16.6 mm

Calculation factors

Equivalent dynamic radial load

P = X.Fr + Y.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.Fr + Yo.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