Technical datasheet

7020UCG/GNP42U3G

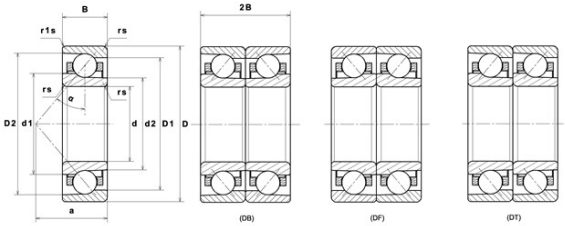
High precision angular contact ball bearings

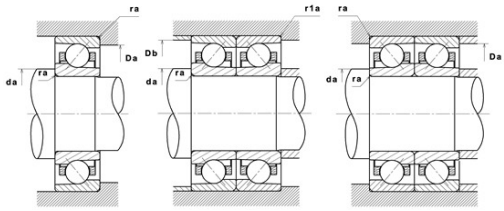


High precision angular contact ball bearing, moulded polyamide cage centred on balls

ULTAGE

Visual(s)





Product definition

d	100 mm
D	150 mm
B	24 mm
d1	116.9 mm
d2	113 mm
D1	133.2 mm
D2	141.1 mm
a	28.8 mm
Contact angle α	15 °
rs min	1.5 mm
r1s min	1 mm
f0	16
Precision class	P42
Mass	1.27 kg
Brand	NTN

Product performance

Dynamic load, C	77.5 kN
Static load, C0	81 kN
Nlim (oil)	15,000 rpm
Nlim (grease)	9,400 rpm
Preload level	GN
Preload value	0.46 kN
Axial rigidity	126.1 N/µm
Radial rigidity	730 N/µm
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.44 Hz
Characteristic rolling element frequency, BSF	8.18 Hz
Characteristic outer ring frequency, BPF0	10.16 Hz
Characteristic inner ring frequency, BPFI	12.84 Hz

Abutment dimensions

da min	108.5 mm
Da max	141.5 mm
Db max	144.5 mm
r1a max	1 mm
ra max	1.5 mm
D6	116.9 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