Technical datasheet

7920UCG/GNP42U3G

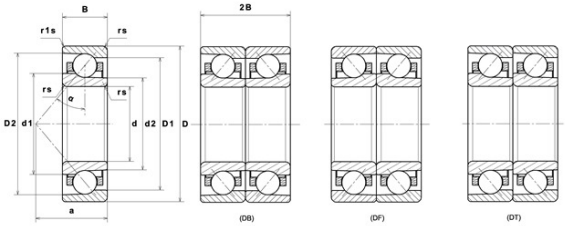
High precision angular contact ball bearings

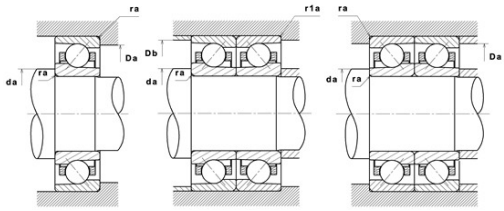


High precision angular contact ball bearing, moulded polyamide cage centred on balls

ULTAGE

Visual(s)





Product definition

d	100 mm
D	140 mm
B	20 mm
d1	113.6 mm
d2	110.5 mm
D1	126.4 mm
D2	132.7 mm
a	26.1 mm
Contact angle α	15 °
rs min	1.1 mm
r1s min	0.6 mm
f0	16.5
Precision class	P42
Mass	0.81 kg
Brand	NTN

Product performance

Dynamic load, C	54.5 kN
Static load, C0	61 kN
Nlim (oil)	15,600 rpm
Nlim (grease)	9,800 rpm
Preload level	GN
Preload value	0.325 kN
Axial rigidity	118.5 N/µm
Radial rigidity	680 N/µm
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.45 Hz
Characteristic rolling element frequency, BSF	9.99 Hz
Characteristic outer ring frequency, BPF0	12.21 Hz
Characteristic inner ring frequency, BPFI	14.79 Hz

Abutment dimensions

da min	107 mm
Da max	133 mm
Db max	135.5 mm
r1a max	0.6 mm
ra max	1 mm
D6	113.9 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