Technical datasheet

7024UADG/GNP42U3G

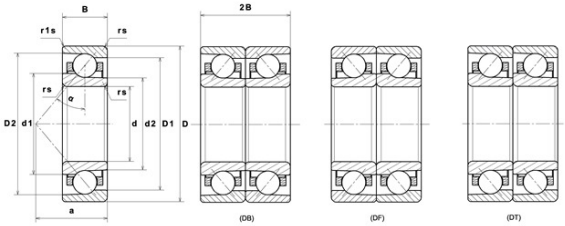
High precision angular contact ball bearings

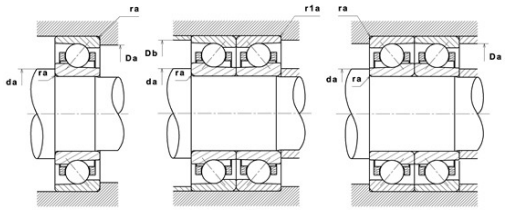


High precision angular contact ball bearing, moulded polyamide cage centred on balls

ULTAGE

Visual(s)





Product definition

d	120 mm
D	180 mm
B	28 mm
d1	140.2 mm
d2	135.4 mm
D1	159.9 mm
D2	169.3 mm
a	49.2 mm
Contact angle α	25 °
rs min	2 mm
r1s min	1 mm
f0	16.2
Precision class	P42
Mass	2.11 kg
Brand	NTN

Product performance

Dynamic load, C	101 kN
Static load, C0	107 kN
Nlim (oil)	10,900 rpm
Nlim (grease)	6,800 rpm
Preload level	GN
Preload value	1.01 kN
Axial rigidity	345 N/µm
Radial rigidity	740 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	8.12 Hz
Characteristic outer ring frequency, BPF0	9.79 Hz
Characteristic inner ring frequency, BPFI	12.21 Hz

Abutment dimensions

da min	130 mm
Da max	170 mm
Db max	174.5 mm
r1a max	1 mm
ra max	2 mm
D6	139.9 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