

PDF technical sheet

7018UCG/GNP42U3G

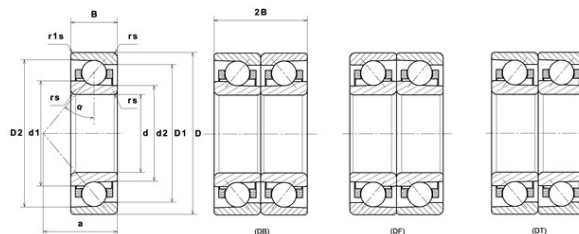


High precision angular contact ball bearings

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

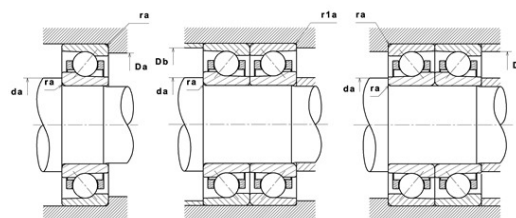
Product definition

d	90 mm
D	140 mm
B	24 mm
d1	106.90 mm
d2	103 mm
D1	123.20 mm
D2	131.10 mm
a	27.50 mm
Contact angle, α	15 °
rs min	1.50 mm
r1s min	1 mm
f0	15.7
Precision class	P42
Mass	1.17 kg
Brand	NTN



Product performance

Dynamic load, C	74 kN
Static load, C0	72.50 kN
Nlim (oil)	16,300 Tr/min
Nlim (grease)	10,200 Tr/min
Preload level	GN
Peload value	440 kN
axial rigidity	117.4 N/ μ m
radial rigidity	675 N/ μ m
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.44 Hz
Characteristic rolling element frequency, BSF	7.51 Hz
Characteristic outer ring frequency, BPF0	9.17 Hz
Characteristic inner ring frequency, BPFI	11.83 Hz



Abutment dimensions

da min	98.50 mm
Da max	131.50 mm
Db max	134.50 mm
r1a max	1 mm
ra max	1.50 mm
D6	106.90 mm

Calculation factors

Equivalent dynamic radial load

$$P = X.F_r + Y.F_a$$

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		0.92	0.67	1.41
	30°		0.8				0.39		0.78		1.24

Equivalent static radial load

$$P_o = X_o.F_r + Y_o.F_a$$

Series			Single or DT bearing arrangement		DB or DF arrangement	
			X _o	Y _o	X _o	Y _o
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 $P_o < F_r$, then use $P_o = F_r$