

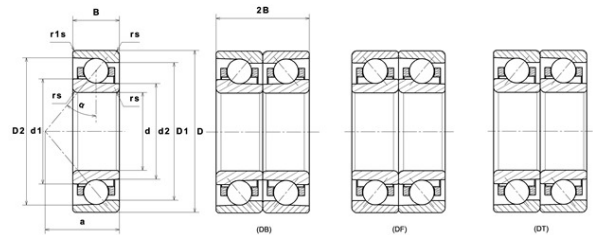
# PDF technical sheet 7913UCG/GNP42U3G



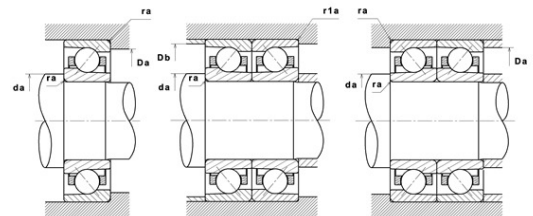
## High precision angular contact ball bearings

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

Product definition	
d	2.5591 "
D	3.5433 "
B	0.5118 "
d1	2.9016 "
d2	2.8268 "
D1	3.2047 "
D2	3.3504 "
a	0.6654 "
Contact angle, $\alpha$	15 °
rs min	0.0394 "
r1s min	0.0236 "
f0	16.5
Precision class	P42
Mass	0.74 oz
Brand	NTN



Product performance	
Dynamic load, C	20.80 kN
Static load, C0	21.20 kN
Nlim (oil)	24,200 RPM
Nlim (grease)	15,100 RPM
Preload level	GN
Peload value	127 kN
axial rigidity	72.6 N/ $\mu$ m
radial rigidity	410 N/ $\mu$ m
Min operating temperature, Tmin	-4 °C
Max operating temperature, Tmax	248 °C
Characteristic cage frequency, FTF	0.46 Hz
Characteristic rolling element frequency, BSF	10.76 Hz
Characteristic outer ring frequency, BPF0	11.84 Hz
Characteristic inner ring frequency, BPF1	14.16 Hz



### Abutment dimensions

da min	2.7756 "
Da max	3.3268 "
Db max	3.3661 "
r1a max	0.0236 "
ra max	0.0394 "
D6	2.9173 "

### Calculation factors

#### Equivalent dynamic radial load

$$P = X \cdot Fr + Y \cdot Fa$$

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	0.72	2.39
		0.357	0.4				1.4			2.28
		0.714	0.43				1.3			2.11
		1.07	0.46				1.23			2
		1.43	0.47				1.19			1.93
		2.14	0.5				1.12			1.82
		3.57	0.55				1.02			1.66
		5.35	0.56							1.63
	7.14	0.56	1	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

$$Po = Xo \cdot Fr + Yo \cdot Fa$$

Series	e	Single or DT bearing arrangement		DB or DF arrangement	
		Xo	Yo	Xo	Yo
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  $Po = Fr$