

## PDF technical sheet 7021UCG/GNP42U3G

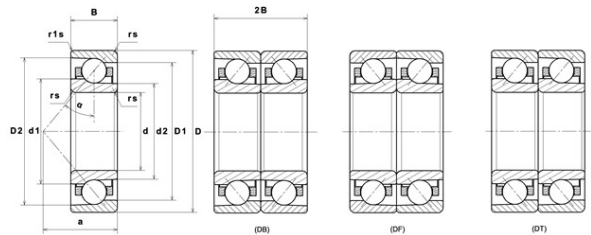


### High precision angular contact ball bearings

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

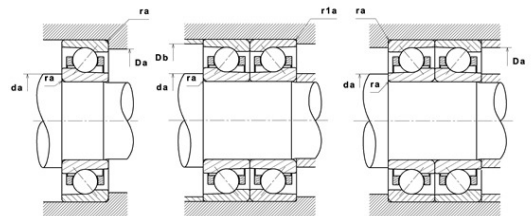
#### Product definition

d	4.1339 "
D	6.2992 "
B	1.0236 "
d1	4.8622 "
d2	4.6929 "
D1	5.5709 "
D2	5.9134 "
a	1.2126 "
Contact angle, $\alpha$	15 °
rs min	0.0787 "
r1s min	0.0394 "
f0	15.9
Precision class	P42
Mass	5.57 oz
Brand	NTN



#### Product performance

Dynamic load, C	91 kN
Static load, C0	93.50 kN
Nlim (oil)	14,100 RPM
Nlim (grease)	8,800 RPM
Preload level	GN
Peload value	550 kN
axial rigidity	134.4 N/ $\mu$ m
radial rigidity	775 N/ $\mu$ m
Min operating temperature, Tmin	-4 °C
Max operating temperature, Tmax	248 °C
Characteristic cage frequency, FTF	0.44 Hz
Characteristic rolling element frequency, BSF	7.83 Hz
Characteristic outer ring frequency, BPF0	9.66 Hz
Characteristic inner ring frequency, BPF1	12.34 Hz



### Abutment dimensions

da min	4.5276 "
Da max	5.9055 "
Db max	6.0827 "
r1a max	0.0394 "
ra max	0.0787 "
D6	4.8583 "

### 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

$$P_0 = X_0 \cdot Fr + Y_0 \cdot Fa$$

Series	e	Single or DT bearing arrangement		DB or DF arrangement	
		X <sub>0</sub>	Y <sub>0</sub>	X <sub>0</sub>	Y <sub>0</sub>
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  $P_0 < Fr$ , then use  $P_0 = Fr$