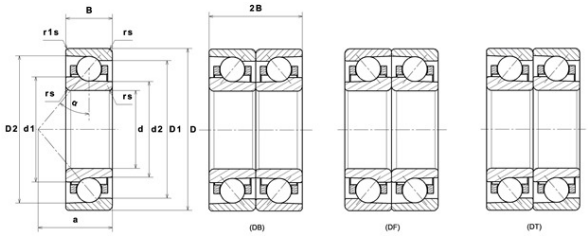
PDF technical sheet
7916UADG/GNP42U3G

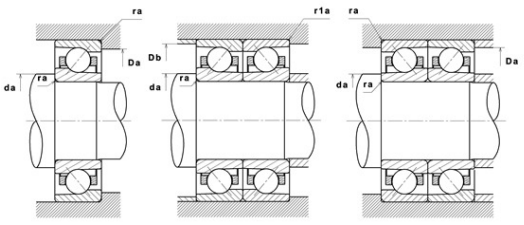
High precision angular contact ball bearings

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

Product definition	
d	80 mm
D	110 mm
B	16 mm
d1	90.80 mm
d2	88.50 mm
D1	100.20 mm
D2	104.70 mm
a	30.40 mm
Contact angle, a	25 °
rs min	1 mm
r1s min	0.60 mm
f0	16.8
Precision class	P42
Mass	0.38 kg
Brand	NTN



Product performance	
Dynamic load, C	28.70 kN
Static load, C0	30.50 kN
Nlim (oil)	17,200 Tr/min
Nlim (grease)	10,600 Tr/min
Preload level	GN
Peload value	284 kN
axial rigidity	203.5 N/μm
radial rigidity	435 N/μm
Min operating temperature, Tmin	−20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.46 Hz
Characteristic rolling element frequency, BSF	10.87 Hz
Characteristic outer ring frequency, BPF0	12.38 Hz
Characteristic inner ring frequency, BPFI	14.62 Hz



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S.A. au capital de 123 599 542 € - RCS ANNECY B 325 821 072 – Id. Fiscale : FR 48 325 821 072 – SIRET 325 821 072 00015 –
Code APE 2815 Z – Code NACE 28.15

Abutment dimensions	
da min	85.50 mm
Da max	104.50 mm
Db max	105.50 mm
r1a max	0.60 mm
ra max	1 mm
D6	91.40 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

$P_0 = X_0.Fr + Y_0.Fa$

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