

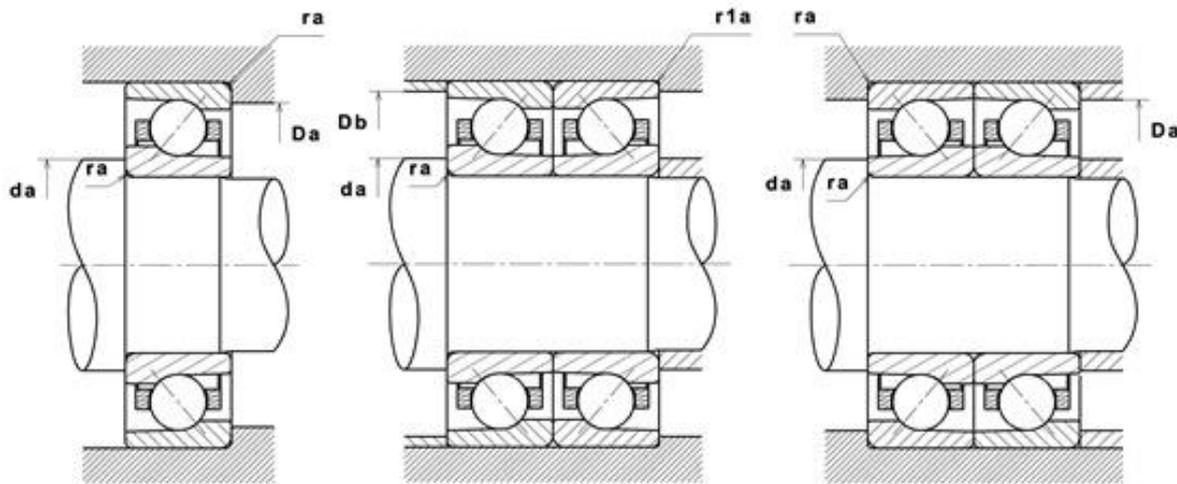
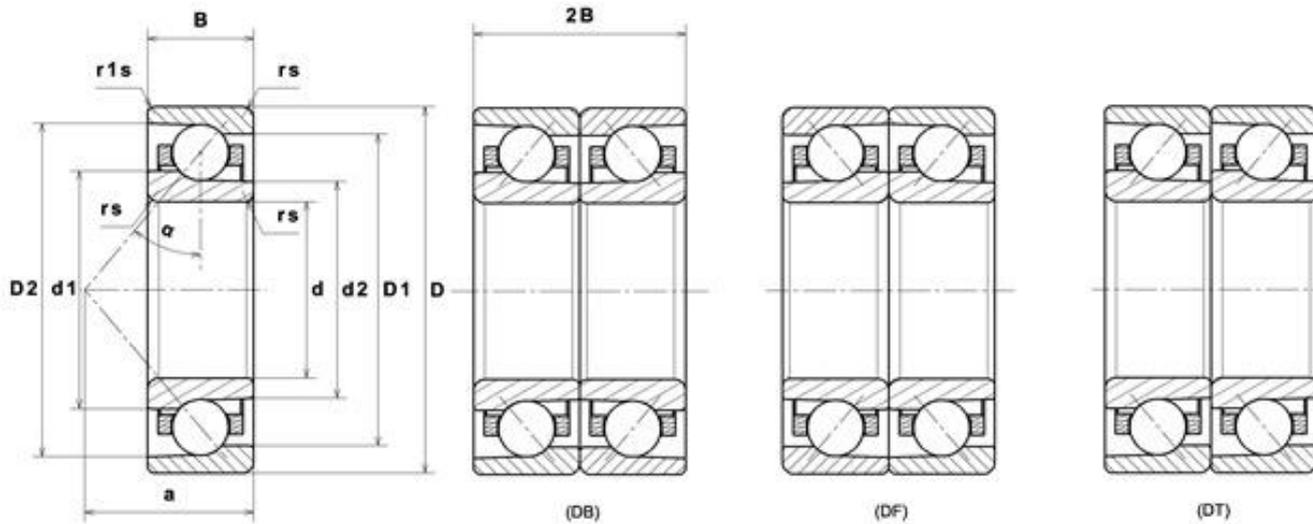


## Technical data

### 7013UADG/GNP42

High precision angular contact ball bearings

#### VISUAL (S)



# 7013UADG/GNP42

High precision angular contact ball bearings

## PRODUCT DEFINITION

<b>Brand</b>	NTN
<b>d - Internal diameter</b>	65 mm
<b>D - External diameter</b>	100 mm
<b>B - Bearing/Inner ring width</b>	18 mm
<b>d1 - External diameter inner ring</b>	76,9 mm
<b>d2 - External diameter inner ring</b>	74,3 mm
<b>D1 - Inner diameter outer ring</b>	88,1 mm
<b>D2 - Inner diameter outer ring</b>	93,5 mm
<b>a - Charge load application point</b>	28,3 mm
<b>- Contact angle</b>	25 °
<b>rs - Min fillet radius</b>	1,1 mm
<b>r1s - Min fillet radius</b>	0,6 mm
<b>Precision class</b>	P42
<b>Mass</b>	0,44 kg

## PRODUCT PERFORMANCE

<b>C - Dynamic load</b>	40000000 mN
<b>C0 - Static load</b>	34000000 mN
<b>f0 - Coefficient</b>	16.1
<b>N lim - Oil lubrication limit speed</b>	119400 °/s
<b>N lim - Grease lubrication limit speed</b>	73800 °/s
<b>Preload level</b>	GN
<b>Preload value</b>	365000 mN
<b>Axial rigidity</b>	204.5 N/μm



**NTN Europe**

1 rue des Usines · BP 2017 · 74010 Annecy Cedex · France · Tel. +33 (0)4 50 65 30 00  
S.A. au capital de 322 639 919 € · 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

# 7013UADG/GNP42

High precision angular contact ball bearings

## PRODUCT PERFORMANCE

<b>Radial rigidity</b>	435 N/ $\mu$ m
<b>Tmin - Min operating temperature</b>	253,15 °K
<b>Tmax - Max operating temperature</b>	393,15 °K

## ABUTMENT

<b>da min - Min shoulder diameter IR</b>	72 mm
<b>Da max - Max shoulder diameter OR</b>	93 mm
<b>Db max - Max OR shoulder diameter</b>	95,5 mm
<b>r1a - Max fillet radius</b>	0,6 mm
<b>ra max - Max shaft &amp; housing fillet radius</b>	1 mm



**NTN Europe**

1 rue des Usines · BP 2017 · 74010 Annecy Cedex · France · Tel. +33 (0)4 50 65 30 00  
S.A. au capital de 322 639 919 € · 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

# 7013UADG/GNP42

## High precision angular contact ball bearings

### INDUSTRY CALCUL 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	1.65	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

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

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  $Po < Fr$ , then use  $Po = Fr$



**NTN Europe**

1 rue des Usines · BP 2017 · 74010 Annecy Cedex · France · Tel. +33 (0)4 50 65 30 00  
S.A. au capital de 322 639 919 € · 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