

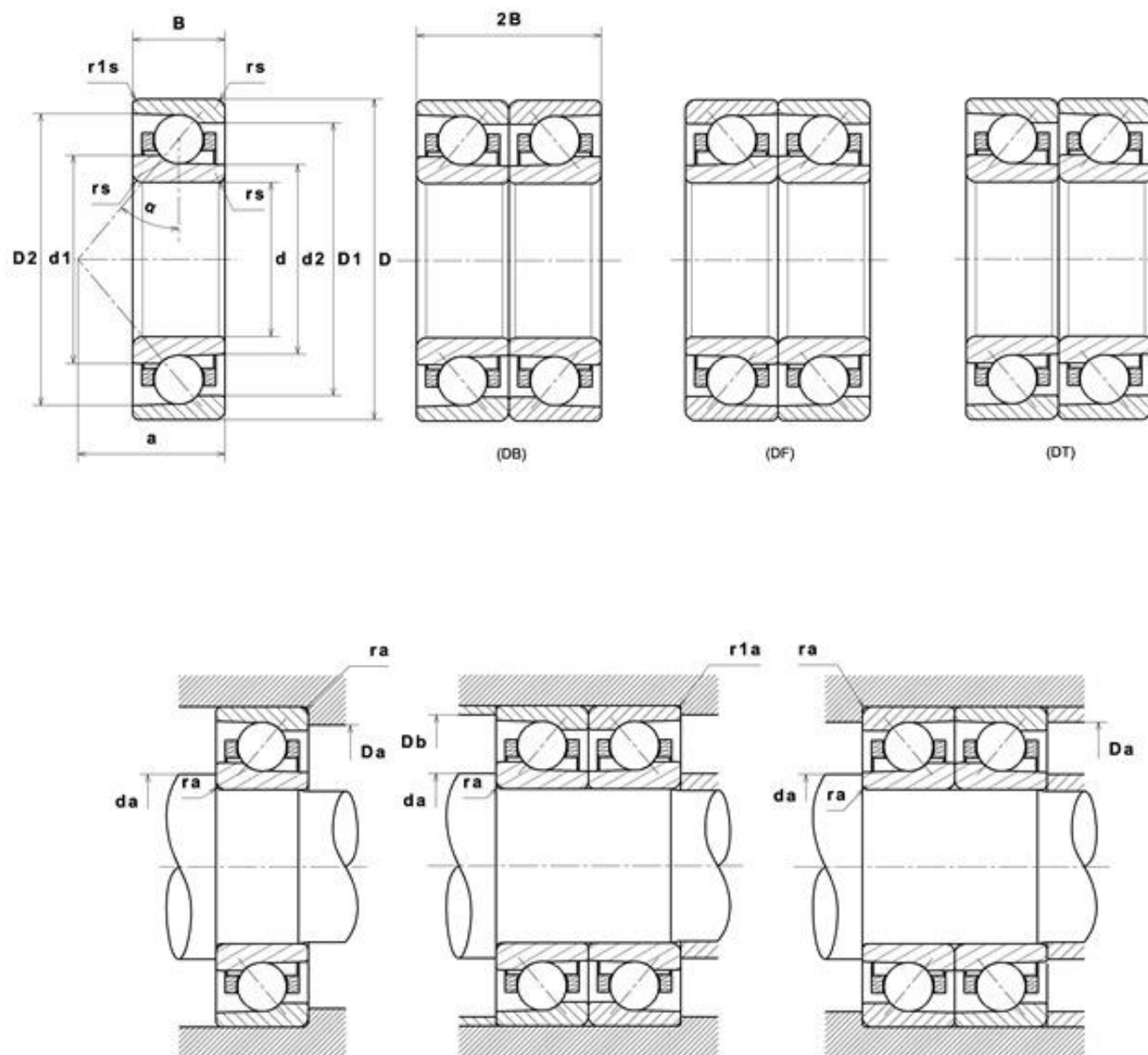


## Technical data

### 7007UCG/GNP42

High precision angular contact ball bearings

#### VISUAL (S)



# 7007UCG/GNP42

High precision angular contact ball bearings

## PRODUCT DEFINITION

|                                          |         |
|------------------------------------------|---------|
| <b>Brand</b>                             | NTN     |
| <b>d - Internal diameter</b>             | 35 mm   |
| <b>D - External diameter</b>             | 62 mm   |
| <b>B - Bearing/Inner ring width</b>      | 14 mm   |
| <b>d1 - External diameter inner ring</b> | 44,2 mm |
| <b>d2 - External diameter inner ring</b> | 42,2 mm |
| <b>D1 - Inner diameter outer ring</b>    | 52,8 mm |
| <b>D2 - Inner diameter outer ring</b>    | 57 mm   |
| <b>a - Charge load application point</b> | 13,5 mm |
| <b>- Contact angle</b>                   | 15 °    |
| <b>rs - Min fillet radius</b>            | 1 mm    |
| <b>r1s - Min fillet radius</b>           | 0,6 mm  |
| <b>Precision class</b>                   | P42     |
| <b>Mass</b>                              | 0,15 kg |

## PRODUCT PERFORMANCE

|                                               |             |
|-----------------------------------------------|-------------|
| <b>C - Dynamic load</b>                       | 22100000 mN |
| <b>C0 - Static load</b>                       | 14600000 mN |
| <b>f0 - Coefficient</b>                       | 15          |
| <b>N lim - Oil lubrication limit speed</b>    | 232200 °/s  |
| <b>N lim - Grease lubrication limit speed</b> | 145200 °/s  |
| <b>Preload level</b>                          | GN          |
| <b>Preload value</b>                          | 118000 mN   |
| <b>Axial rigidity</b>                         | 54.4 N/μm   |



**NTN Europe**

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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

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High precision angular contact ball bearings

## PRODUCT PERFORMANCE

|                                         |            |
|-----------------------------------------|------------|
| <b>Radial rigidity</b>                  | 300.2 N/μm |
| <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>              | 40,5 mm |
| <b>Da max - Max shoulder diameter OR</b>              | 56,5 mm |
| <b>Db max - Max OR shoulder diameter</b>              | 57,5 mm |
| <b>r1a - Max fillet radius</b>                        | 0,6 mm  |
| <b>ra max - Max shaft &amp; housing fillet radius</b> | 1 mm    |



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## High precision angular contact ball bearings

### INDUSTRY CALCUL 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)<br>72 (NTN & SNR)<br>78 (NTN)<br>79 (NTN)<br>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

$$P_0 = X_0.F_r + Y_0.F_a$$

| Series                                                                |     |  | 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)<br>72 (NTN & SNR)<br>78 (NTN)<br>79 (NTN)<br>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  $P_0 < F_r$ , then use  $P_0 = F_r$



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