



Brand of NTN corporation

## Technical data

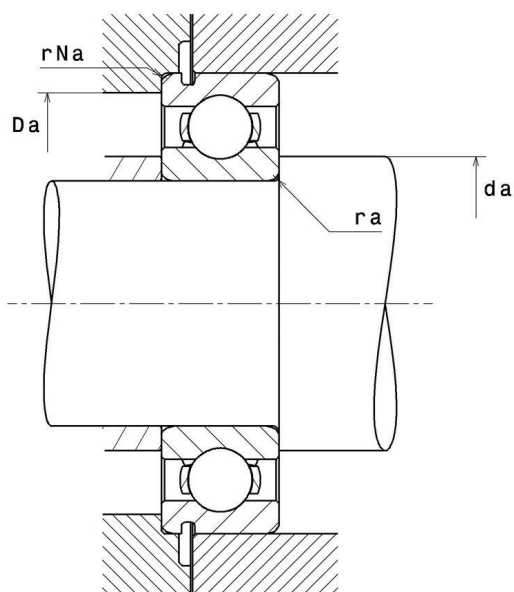
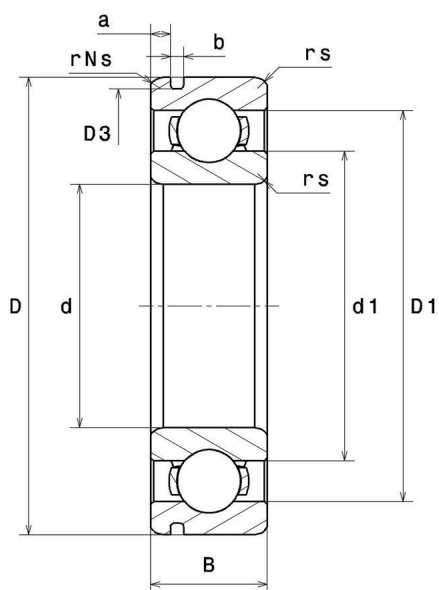
### 6205N

Single row deep groove ball bearings



Deep groove ball bearing, radial contact, pressed steel cage, snap ring groove on outer diameter, open

#### VISUAL (S)



**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

# 6205N

Single row deep groove ball bearings

## PRODUCT DEFINITION

|                                          |          |
|------------------------------------------|----------|
| <b>Brand</b>                             | SNR      |
| <b>d - Internal diameter</b>             | 25 mm    |
| <b>D - External diameter</b>             | 52 mm    |
| <b>B - Bearing/Inner ring width</b>      | 15 mm    |
| <b>d1 - External diameter inner ring</b> | 31,8 mm  |
| <b>D1 - Inner diameter outer ring</b>    | 49,2 mm  |
| <b>a min - Min position Groove</b>       | 2,31 mm  |
| <b>a max - Max position groove</b>       | 2,46 mm  |
| <b>rs - Min fillet radius</b>            | 1 mm     |
| <b>rNs - Min fillet radius</b>           | 0,5 mm   |
| <b>D3 - Max bottom groove diameter</b>   | 49,73 mm |
| <b>b min - Min groove width</b>          | 1,35 mm  |
| <b>b max - Max groove width</b>          | 1,65 mm  |
| <b>r0 max - Max bottom groove radius</b> | 0,4 mm   |
| <b>Radial clearance class</b>            | CN       |

## PRODUCT PERFORMANCE

|                                               |             |
|-----------------------------------------------|-------------|
| <b>C - Dynamic load</b>                       | 13800000 mN |
| <b>C0 - Static load</b>                       | 7900000 mN  |
| <b>Cu - Fatigue limit load</b>                | 450000 mN   |
| <b>f0 - Coefficient</b>                       | 13.9        |
| <b>N lim - Oil lubrication limit speed</b>    | 90000 °/s   |
| <b>N lim - Grease lubrication limit speed</b> | 72000 °/s   |
| <b>N ref - Reference thermal speed</b>        | 84000 °/s   |



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## PRODUCT PERFORMANCE

|                                         |            |
|-----------------------------------------|------------|
| <b>N lim - Mechanical Limit Speed</b>   | 132000 %/s |
| <b>Tmin - Min operating temperature</b> | 233,15 °K  |
| <b>Tmax - Max operating temperature</b> | 393,15 °K  |

## BEARING FREQUENCIES

|                                                                 |          |
|-----------------------------------------------------------------|----------|
| <b>BPFO - Over rolling frequency on outer ring (60 rpm)</b>     | 3.585 Hz |
| <b>BPFI - Over rolling frequency on inner (60 rpm)</b>          | 5.415 Hz |
| <b>BSF - Over rolling frequency on rolling element (60 rpm)</b> | 4.715 Hz |
| <b>FTF - Rotational frequency - cage (60 rpm)</b>               | 0.398 Hz |

## ABUTMENT

|                                                       |         |
|-------------------------------------------------------|---------|
| <b>da min - Min shoulder diameter IR</b>              | 30 mm   |
| <b>Da max - Max shoulder diameter OR</b>              | 47 mm   |
| <b>ra max - Max shaft &amp; housing fillet radius</b> | 1 mm    |
| <b>rNa max - Max fillet radius on segment side</b>    | 0,5 mm  |
| <b>Db min - Min stop ring position diameter</b>       | 58,5 mm |



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INDUSTRY CALCUL FACTORS

Equivalent dynamic radial load

$P = X.Fr + Y.Fa$

| $\frac{f_0 F_a}{C_0}$ | e    | Fa / Fr ≤ e |   | Fa / Fr > e |      |
|-----------------------|------|-------------|---|-------------|------|
|                       |      | X           | Y | X           | Y    |
| 0.172                 | 0.19 | 1           | 0 | 0.56        | 2.3  |
| 0.345                 | 0.22 |             |   |             | 1.99 |
| 0.689                 | 0.26 |             |   |             | 1.71 |
| 1.03                  | 0.28 |             |   |             | 1.55 |
| 1.38                  | 0.3  |             |   |             | 1.45 |
| 2.07                  | 0.34 |             |   |             | 1.31 |
| 3.45                  | 0.38 |             |   |             | 1.15 |
| 5.17                  | 0.42 |             |   |             | 1.04 |
| 6.89                  | 0.44 |             |   |             | 1    |

Equivalent static radial load

$P_0 = X_0.Fr + Y_0.Fa$

| X <sub>0</sub> | Y <sub>0</sub> |
|----------------|----------------|
| 0.6            | 0.5            |

For single or DT bearing arrangement :

If P<sub>0</sub> <Fr, then use P<sub>0</sub> = Fr