



Brand of **NTN** corporation

## Technical data

# 6316

Single row deep groove ball bearings



Deep groove ball bearing, radial contact, pressed steel cage, open

### VISUAL (S)



**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

## PRODUCT DEFINITION

|                                          |          |
|------------------------------------------|----------|
| <b>Brand</b>                             | SNR      |
| <b>d - Internal diameter</b>             | 80 mm    |
| <b>D - External diameter</b>             | 170 mm   |
| <b>B - Bearing/Inner ring width</b>      | 39 mm    |
| <b>d1 - External diameter inner ring</b> | 105,5 mm |
| <b>D1 - Inner diameter outer ring</b>    | 145,4 mm |
| <b>rs - Min fillet radius</b>            | 2,1 mm   |
| <b>Radial clearance class</b>            | CN       |
| <b>Mass</b>                              | 4,32 kg  |

## PRODUCT PERFORMANCE

|                                         |              |
|-----------------------------------------|--------------|
| <b>C - Dynamic load</b>                 | 130000000 mN |
| <b>C0 - Static load</b>                 | 86700000 mN  |
| <b>Cu - Fatigue limit load</b>          | 3550000 mN   |
| <b>f0 - Coefficient</b>                 | 13.3         |
| <b>N ref - Reference thermal speed</b>  | 33000 °/s    |
| <b>N lim - Mechanical Limit Speed</b>   | 39600 °/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>     | 3.086 Hz |
| <b>BPFI - Over rolling frequency on inner (60 rpm)</b>          | 4.914 Hz |
| <b>BSF - Over rolling frequency on rolling element (60 rpm)</b> | 4.146 Hz |
| <b>BRF - Rotational frequency - rolling element (60 rpm)</b>    | 2.073 Hz |



## BEARING FREQUENCIES

FTF - Rotational frequency - cage (60 rpm)

0.386 Hz

## ABUTMENT

da min - Min shoulder diameter IR

91 mm

Da max - Max shoulder diameter OR

159 mm

ra max - Max shaft &amp; housing fillet radius

2 mm

## INDUSTRY CALCUL FACTORS

Equivalent dynamic radial load

$$P = X \cdot Fr + Y \cdot Fa$$

| $\frac{f_0 F_a}{C_0}$ | 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

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

| $X_0$ | $Y_0$ |
|-------|-------|
| 0.6   | 0.5   |

For single or DT bearing arrangement:

If  $P_0 < Fr$ , then use  $P_0 = Fr$ **NTN Europe**

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