



Brand of NTN corporation

## Technical data

### 22310EF800

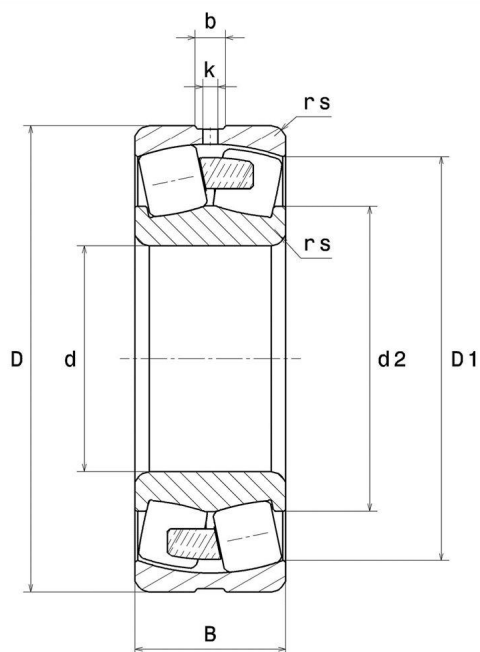
Spherical roller bearings



Spherical roller bearing for vibratory applications, one-piece machined cage, groove and lubrication holes on outer ring, special C4 class clearance

**ULTAGE**

#### 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

|                                   |            |
|-----------------------------------|------------|
| Brand                             | SNR        |
| d - Internal diameter             | 50 mm      |
| D - External diameter             | 110 mm     |
| B - Bearing/Inner ring width      | 40 mm      |
| d2 - External diameter inner ring | 0 mm       |
| D1 - Inner diameter outer ring    | 93,2 mm    |
| rs - Min fillet radius            | 2 mm       |
| Number of lubrication holes       | 3          |
| b - Groove width                  | 7 mm       |
| k - Hole diameter                 | 3,5 mm     |
| Radial clearance class            | C4 Special |
| Mass                              | 1,834 kg   |

PRODUCT PERFORMANCE



## PRODUCT PERFORMANCE

|                                           |              |
|-------------------------------------------|--------------|
| <b>C - Dynamic load</b>                   | 250000000 mN |
| <b>C0 - Static load</b>                   | 232000000 mN |
| <b>Cu - Fatigue limit load</b>            | 28300000 mN  |
| <b>e - Coefficient</b>                    | 0.36         |
| <b>Y0 - Static axial load coefficient</b> | 1.83         |
| <b>Y1 - Lower axial load coefficient</b>  | 1.87         |
| <b>Y2 - Upper axial load coefficient</b>  | 2.79         |
| <b>N ref - Reference thermal speed</b>    | 29400 °/s    |
| <b>N lim - Mechanical Limit Speed</b>     | 36600 °/s    |
| <b>Tmin - Min operating temperature</b>   | 233,15 °K    |
| <b>Tmax - Max operating temperature</b>   | 473,15 °K    |

## BEARING FREQUENCIES

|                                                                 |          |
|-----------------------------------------------------------------|----------|
| <b>BPFO - Over rolling frequency on outer ring (60 rpm)</b>     | 5.662 Hz |
| <b>BPFI - Over rolling frequency on inner (60 rpm)</b>          | 8.338 Hz |
| <b>BSF - Over rolling frequency on rolling element (60 rpm)</b> | 4.901 Hz |
| <b>BRF - Rotational frequency - rolling element (60 rpm)</b>    | 2.451 Hz |
| <b>FTF - Rotational frequency - cage (60 rpm)</b>               | 0.404 Hz |

## ABUTMENT

|                                                       |       |
|-------------------------------------------------------|-------|
| <b>da max - Max shoulder diameter IR</b>              | 0 mm  |
| <b>da min - Min shoulder diameter IR</b>              | 61 mm |
| <b>Da max - Max shoulder diameter OR</b>              | 99 mm |
| <b>ra max - Max shaft &amp; housing fillet radius</b> | 2 mm  |



## INDUSTRY CALCUL FACTORS

### Equivalent dynamic radial load

$$P = X.F_r + Y.F_a$$

| $F_a / F_r \leq e$ |    | $F_a / F_r > e$ |    |
|--------------------|----|-----------------|----|
| X                  | Y  | X               | Y  |
| 1                  | Y1 | 0.67            | Y2 |

### Equivalent static radial load

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

| $X_0$ | $Y_0$ |
|-------|-------|
| 1     | Y0    |

The values for e, Y1, Y2 and Y0 are shown in the above table .

