



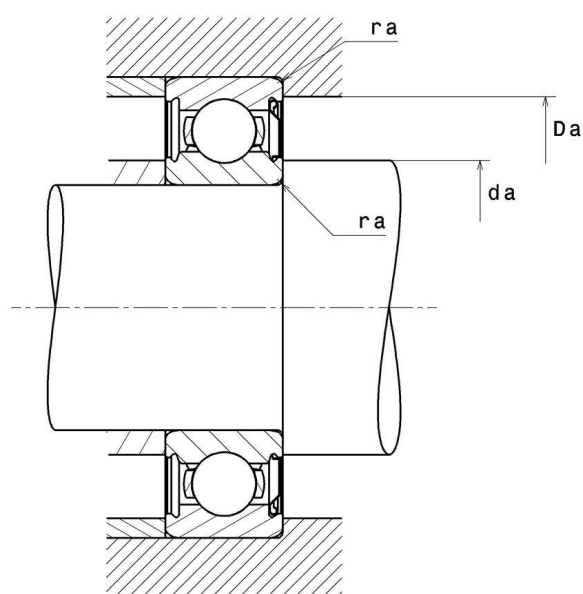
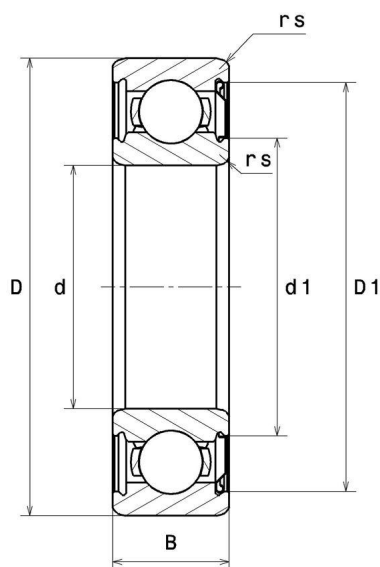
## Technical data

### 6209ZC3

Single row deep groove ball bearings

Deep groove ball bearing, radial contact, pressed steel cage, shield on one side

#### VISUAL (S)



# 6209ZC3

Single row deep groove ball bearings

## PRODUCT DEFINITION

|                                     |          |
|-------------------------------------|----------|
| <b>Brand</b>                        | NTN      |
| <b>d - Internal diameter</b>        | 45 mm    |
| <b>D - External diameter</b>        | 85 mm    |
| <b>B - Bearing/Inner ring width</b> | 19 mm    |
| <b>rs - Min fillet radius</b>       | 1,1 mm   |
| <b>Radial clearance class</b>       | C3       |
| <b>Mass</b>                         | 0,398 kg |

## PRODUCT PERFORMANCE

|                                               |             |
|-----------------------------------------------|-------------|
| <b>C - Dynamic load</b>                       | 36000000 mN |
| <b>C0 - Static load</b>                       | 20400000 mN |
| <b>Cu - Fatigue limit load</b>                | 1600000 mN  |
| <b>f0 - Coefficient</b>                       | 14.1        |
| <b>N lim - Oil lubrication limit speed</b>    | 55200 °/s   |
| <b>N lim - Grease lubrication limit speed</b> | 46800 °/s   |
| <b>Tmin - Min operating temperature</b>       | 233,15 °K   |
| <b>Tmax - Max operating temperature</b>       | 393,15 °K   |

## ABUTMENT

|                                                       |         |
|-------------------------------------------------------|---------|
| <b>da min - Min shoulder diameter IR</b>              | 51,5 mm |
| <b>Da max - Max shoulder diameter OR</b>              | 78,5 mm |
| <b>ra max - Max shaft &amp; housing fillet radius</b> | 1 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

$P_0 = X_0.Fr + Y_0.Fa$

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

For single or DT bearing arrangement :

If  $P_0 < Fr$ , then use  $P_0 = Fr$

