



## Technical data

### 7221B

Single row or matched pairs of angular contact ball bearings

Angular contact ball bearings, pressed steel cage

## VISUAL (S)



# 7221B

Single row or matched pairs of angular contact ball bearings

## PRODUCT DEFINITION

|                                   |         |
|-----------------------------------|---------|
| Brand                             | NTN     |
| d - Internal diameter             | 105 mm  |
| D - External diameter             | 190 mm  |
| B - Bearing/Inner ring width      | 36 mm   |
| a - Charge load application point | 80 mm   |
| - Contact angle                   | 40 °    |
| rs - Min fillet radius            | 2,1 mm  |
| r1s - Min fillet radius           | 1,1 mm  |
| Radial clearance class            | CN      |
| Mass                              | 3,87 kg |

## PRODUCT PERFORMANCE

|                                        |              |
|----------------------------------------|--------------|
| C - Dynamic load                       | 157000000 mN |
| C0 - Static load                       | 129000000 mN |
| Cu - Fatigue limit load                | 8050000 mN   |
| N lim - Oil lubrication limit speed    | 25800 °/s    |
| N lim - Grease lubrication limit speed | 19200 °/s    |
| Tmin - Min operating temperature       | 233,15 °K    |
| Tmax - Max operating temperature       | 393,15 °K    |

## ABUTMENT

|                                   |        |
|-----------------------------------|--------|
| da min - Min shoulder diameter IR | 117 mm |
| db min - Min IR shoulder diameter | 112 mm |
| Da max - Max shoulder diameter OR | 178 mm |
| Db max - Max OR shoulder diameter | 183 mm |



**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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## ABUTMENT

|                                                       |      |
|-------------------------------------------------------|------|
| <b>r1a - Max fillet radius</b>                        | 1 mm |
| <b>ra max - Max shaft &amp; housing fillet radius</b> | 2 mm |

## INDUSTRY CALCUL FACTORS

### Equivalent dynamic radial load

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

|     | 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    |
| 30° | 0.8  | 1                                | 0 | 0.9         | 0.76 | 1                    | 0.78 | 0.63        | 1.24 |
| 40° | 1.14 |                                  |   | 0.35        | 0.57 |                      | 0.55 | 0.57        | 0.93 |

### Equivalent static radial load

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

| a   | 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> |
| 30° | 0.5                              | 0.33           | 1                    | 0.66           |
| 40° |                                  | 0.26           |                      | 0.52           |

For single or DT bearing arrangement :

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



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