

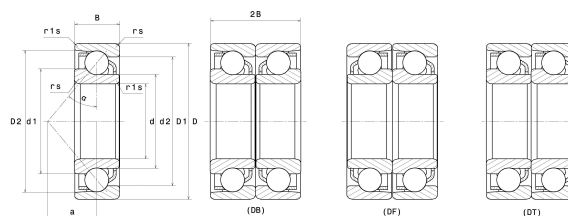
## PDF technical sheet 7200BG



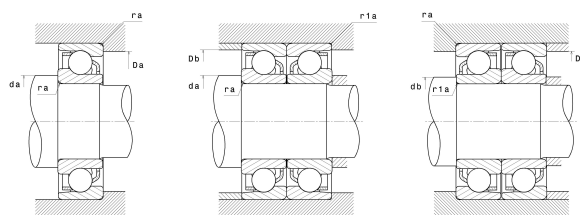
### Single row or matched pairs of angular contact ball bearings

Angular contact ball bearings, pressed steel cage

| Product definition      |          |
|-------------------------|----------|
| d                       | 0.3937 " |
| D                       | 1.1811 " |
| B                       | 0.3543 " |
| a                       | 0.5118 " |
| Contact angle, $\alpha$ | 40 °     |
| rs min                  | 0.0236 " |
| r1s min                 | 0.0118 " |
| Radial clearance class  | CN       |
| Mass                    | 0.10 oz  |
| Brand                   | NTN      |



| Product performance                           |            |
|-----------------------------------------------|------------|
| Dynamic load, C                               | 5 kN       |
| Static load, C0                               | 2.52 kN    |
| Fatigue limit load, Cu                        | 0.11 kN    |
| Nlim (oil)                                    | 32,000 RPM |
| Nlim (grease)                                 | 24,000 RPM |
| Min operating temperature, Tmin               | -40 °C     |
| Max operating temperature, Tmax               | 248 °C     |
| Characteristic cage frequency, FTF            | 0.41 Hz    |
| Characteristic rolling element frequency, BSF | 4.17 Hz    |
| Characteristic outer ring frequency, BPF0     | 4.11 Hz    |
| Characteristic inner ring frequency, BPFI     | 5.89 Hz    |



| Abutment dimensions |          |
|---------------------|----------|
| da min              | 0.5709 " |
| db min              | 0.4921 " |
| Da max              | 1.0039 " |
| Db max              | 1.0827 " |
| r1a max             | 0.0118 " |
| ra max              | 0.0236 " |

## Calculation 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  $P_0 = F_r$