

## PDF technical sheet 22309EMKW33C2



### Double row spherical roller bearings

Spherical roller bearing, one-piece machined cage, groove and lubrication holes on outer ring, tapered bore 1:12

| Product definition          |          |
|-----------------------------|----------|
| d                           | 1.7717 " |
| D                           | 3.9370 " |
| B                           | 1.4173 " |
| d2                          | 2.2835 " |
| D1                          | 3.3780 " |
| rs min                      | 0.0591 " |
| Number of lubrication holes | 3        |
| b                           | 0.2520 " |
| k                           | 0.1181 " |
| Associated sleeve reference | H2309    |
| e                           | 0.36     |
| Y1                          | 1.9      |
| Y2                          | 2.83     |
| Y0                          | 1.86     |
| Radial clearance class      | C2       |
| Mass                        | 4.76 oz  |
| Brand                       | SNR      |



| Product performance                           |           |
|-----------------------------------------------|-----------|
| Dynamic load, C                               | 206 kN    |
| Static load, C0                               | 187 kN    |
| Fatigue limit load, Cu                        | 17.20 kN  |
| Nref                                          | 5,300 RPM |
| Nlim                                          | 6,700 RPM |
| Min operating temperature, Tmin               | -40 °C    |
| Max operating temperature, Tmax               | 392 °C    |
| Characteristic cage frequency, FTF            | 0.40 Hz   |
| Characteristic rolling element frequency, BSF | 4.85 Hz   |
| Characteristic outer ring frequency, BPF0     | 5.65 Hz   |
| Characteristic inner ring frequency, BPF1     | 8.35 Hz   |



### Abutment dimensions

|        |          |
|--------|----------|
| da min | 2.1260 " |
| db min | 1.9685 " |
| Ce min | 0.1969 " |
| Da max | 3.5827 " |
| ra max | 0.0591 " |

### Calculation 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 .