

# PDF technical sheet

## 4THM516442/HM516410



### Single row tapered roller bearings

Tapered roller bearing, pressed steel cage

| Product definition |          |
|--------------------|----------|
| d                  | 3.0000 " |
| D                  | 5.2500 " |
| B                  | 1.5625 " |
| C                  | 1.2813 " |
| T                  | 1.5625 " |
| d1                 | 4.3504 " |
| a                  | 1.2672 " |
| e                  | 0.4      |
| Y2                 | 1.49     |
| Y0                 | 0.82     |
| Mass               | 8.57 oz  |
| Brand              | NTN      |



| Product performance                           |           |
|-----------------------------------------------|-----------|
| Dynamic load, C                               | 177 kN    |
| Rating life coefficient, A2                   | 1.4       |
| Static load, C0                               | 305 kN    |
| Fatigue limit load, Cu                        | 36.40 kN  |
| Nlim (oil)                                    | 3,500 RPM |
| Nlim (grease)                                 | 2,600 RPM |
| Min operating temperature, Tmin               | -40 °C    |
| Max operating temperature, Tmax               | 248 °C    |
| Characteristic cage frequency, FTF            | 0.45 Hz   |
| Characteristic rolling element frequency, BSF | 10.09 Hz  |
| Characteristic outer ring frequency, BPF0     | 11.31 Hz  |
| Characteristic inner ring frequency, BPFI     | 13.69 Hz  |



| Abutment dimensions |          |
|---------------------|----------|
| ra max              | 0.1378 " |
| r1a max             | 0.1299 " |

## 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                  | 0 | 0.4             | Y2 |

### Equivalent static radial load

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

| $X_0$ | $Y_0$ |
|-------|-------|
| 0.5   | Y0    |

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

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