

PDF technical sheet

231/500BL1K

Double row spherical roller bearings

Spherical roller bearing, with central rib on inner ring, 2-part machined cage centred on inner ring, groove and lubrication holes on outer ring, tapered bore 1:12

Product definition	
d	19.6850 "
D	32.6772 "
B	10.3937 "
d2	23.8976 "
D1	28.4646 "
rs min	0.2953 "
Number of lubrication holes	8
b	1.2992 "
k	0.7874 "
Associated sleeve reference	H31/500
e	0.32
Y1	2.12
Y2	3.16
Y0	2.08
Radial clearance class	CN
Brand	NTN

Product performance	
Dynamic load, C	6,950 kN
Static load, C0	13,700 kN
Fatigue limit load, Cu	999 kN
Nref	350 RPM
Nlim	620 RPM
Min operating temperature, Tmin	-40 °C
Max operating temperature, Tmax	248 °C
Characteristic cage frequency, FTF	0.44 Hz
Characteristic rolling element frequency, BSF	8.07 Hz
Characteristic outer ring frequency, BPF0	9.69 Hz
Characteristic inner ring frequency, BPFI	12.32 Hz

Abutment dimensions

da min	20.9449 "
db min	20.7480 "
Ce min	0.7087 "
Da max	31.4173 "
ra max	0.2362 "

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 .