

PDF technical sheet

10R71920CVUJ84



High precision angular contact ball bearings

High precision angular contact ball bearing, laminated resin cage centred on outer ring

Product definition	
d	100 mm
D	140 mm
B	20 mm
d1	112.80 mm
D1	127.20 mm
D2	133.36 mm
a	26 mm
Contact angle, α	15 °
rs min	0.60 mm
r1s min	0.60 mm
f0	16.498
Precision class	P4
Mass	0.80 kg
Brand	SNR



Product performance	
Dynamic load, C	51 kN
Static load, C0	56.50 kN
Fatigue limit load, Cu	2.75 kN
Nlim (oil)	14,500 Tr/min
Nlim (grease)	9,600 Tr/min
Axial displacement K Factor	0.93
Preload level	8
Peloid value	790 kN
axial rigidity	160 N/ μ m
radial rigidity	822 N/ μ m
Min operating temperature, Tmin	-30 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.45 Hz
Characteristic rolling element frequency, BSF	9.99 Hz
Characteristic outer ring frequency, BPF0	11.30 Hz
Characteristic inner ring frequency, BPF1	13.70 Hz



Abutment dimensions

da min	104.50 mm
db min	104.50 mm
Da max	135.50 mm
Db max	135.50 mm
r1a max	0.60 mm
ra max	0.60 mm
D6	116.50 mm

Calculation factors

Equivalent dynamic radial load

$$P = X \cdot Fr + Y \cdot Fa$$

Series			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
70 (NTN & SNR) 72 (NTN & SNR) 78 (NTN) 79 (NTN) 719 (SNR)	15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
		0.357	0.4				1.4		1.57		2.28
		0.714	0.43				1.3		1.46		2.11
		1.07	0.46				1.23		1.38		2
		1.43	0.47				1.19		1.34		1.93
		2.14	0.5				1.12		1.26		1.82
		3.57	0.55				1.02		1.14		1.66
		5.35	0.56						1.12		1.63
		7.14	0.56				1		1.12		1.63
	25°		0.68			0.41	0.87		0.92	0.67	1.41
	30°		0.8				0.39		0.78		1.24

Equivalent static radial load

$$P_0 = X_0 \cdot Fr + Y_0 \cdot Fa$$

Series			Single or DT bearing arrangement		DB or DF arrangement	
			X ₀	Y ₀	X ₀	Y ₀
70 (NTN & SNR) 72 (NTN & SNR) 78 (NTN) 79 (NTN) 719 (SNR)	15°		0.5	0.46	1	0.92
	25°			0.38		0.76
	30°			0.33		0.66

For single or DT bearing arrangement :

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