

PDF technical sheet 71914HVUJ74



High precision angular contact ball bearings

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

Product definition	
d	70 mm
D	100 mm
B	16 mm
d1	80.10 mm
D1	89.90 mm
D2	93.49 mm
a	28 mm
Contact angle, α	25 °
rs min	1 mm
r1s min	0.30 mm
f0	16.764
Precision class	P4
Mass	0.34 kg
Brand	SNR



Product performance	
Dynamic load, C	22.40 kN
Static load, C0	23 kN
Fatigue limit load, Cu	1.32 kN
Nlim (oil)	19,000 Tr/min
Nlim (grease)	12,500 Tr/min
Axial displacement K Factor	0.5
Preload level	7
Peloid value	200 kN
axial rigidity	164 N/ μ m
radial rigidity	351 N/ μ m
Min operating temperature, Tmin	-30 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.46 Hz
Characteristic rolling element frequency, BSF	10.63 Hz
Characteristic outer ring frequency, BPF0	10.98 Hz
Characteristic inner ring frequency, BPFI	13.02 Hz



Abutment dimensions

da min	75.50 mm
db min	75.50 mm
Da max	94.50 mm
Db max	94.50 mm
r1a max	0.30 mm
ra max	1 mm
D6	82.60 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		1.41
	30°		0.8				0.39		0.76		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 $P_0 = Fr$