

PDF technical sheet 71944HVUJ74



High precision angular contact ball bearings

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

Product definition	
d	8.6614 "
D	11.8110 "
B	1.4961 "
d1	9.7126 "
D1	10.7609 "
D2	11.2205 "
a	3.1496 "
Contact angle, α	25 °
rs min	0.0827 "
r1s min	0.0394 "
f0	16.945
Precision class	P4
Mass	23.88 oz
Brand	SNR



Product performance	
Dynamic load, C	167 kN
Static load, C0	235 kN
Fatigue limit load, Cu	8.20 kN
Nlim (oil)	6,200 RPM
Nlim (grease)	4,000 RPM
Axial displacement K Factor	0.3
Preload level	7
Peload value	2,650 kN
axial rigidity	660 N/ μ m
radial rigidity	1,391 N/ μ m
Min operating temperature, Tmin	-22 °C
Max operating temperature, Tmax	248 °C
Characteristic cage frequency, FTF	0.46 Hz
Characteristic rolling element frequency, BSF	11.63 Hz
Characteristic outer ring frequency, BPF0	14.30 Hz
Characteristic inner ring frequency, BPF1	16.70 Hz



Abutment dimensions

da min	9.1339 "
db min	9.1339 "
Da max	11.3386 "
Db max	11.3386 "
r1a max	0.0394 "
ra max	0.0787 "
D6	9.9213 "

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	0.76		0.78	0.63	1.24

Equivalent static radial load

$$Po = Xo \cdot Fr + Yo \cdot Fa$$

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 $Po < Fr$, then use $Po = Fr$