

PDF technical sheet 71940CVUJ74A



High precision angular contact ball bearings

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

Product definition	
d	7.8740 "
D	11.0236 "
B	1.4961 "
d1	8.8858 "
D1	10.0128 "
D2	10.4954 "
a	2.0079 "
Contact angle, α	15 °
rs min	0.0827 "
r1s min	0.0394 "
f0	16.498
Precision class	P4
Mass	21.73 oz
Brand	SNR



Product performance	
Dynamic load, C	189 kN
Static load, C0	244 kN
Fatigue limit load, Cu	8.30 kN
Nlim (oil)	7,300 RPM
Nlim (grease)	4,800 RPM
Axial displacement K Factor	0.69
Preload level	7
Peload value	1,650 kN
axial rigidity	262 N/ μ m
radial rigidity	1,460 N/ μ m
Min operating temperature, Tmin	-22 °C
Max operating temperature, Tmax	248 °C
Characteristic cage frequency, FTF	0.45 Hz
Characteristic rolling element frequency, BSF	9.99 Hz
Characteristic outer ring frequency, BPF0	12.21 Hz
Characteristic inner ring frequency, BPF1	14.79 Hz



Abutment dimensions

da min	8.3465 "
db min	8.3465 "
Da max	10.5512 "
Db max	10.5512 "
r1a max	0.0394 "
ra max	0.0787 "
D6	9.1339 "

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 $Po = Fr$