

PDF technical sheet 7024HVUJ84



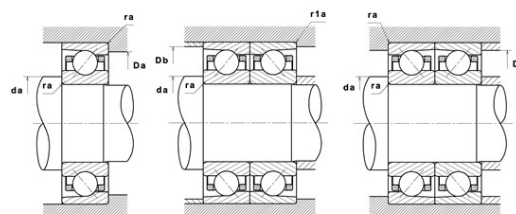
High precision angular contact ball bearings

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

Product definition	
d	120 mm
D	180 mm
B	28 mm
d1	139.40 mm
D1	160.60 mm
D2	168.91 mm
a	49 mm
Contact angle, α	25 °
rs min	2 mm
r1s min	1 mm
f0	16.268
Precision class	P4
Mass	2.13 kg
Brand	SNR



Product performance	
Dynamic load, C	94.80 kN
Static load, C0	103 kN
Fatigue limit load, Cu	4.75 kN
Nlim (oil)	10,500 Tr/min
Nlim (grease)	7,000 Tr/min
Axial displacement K Factor	0.4
Preload level	8
Peload value	2,490 kN
axial rigidity	504 N/ μ m
radial rigidity	1,013 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	8.49 Hz
Characteristic outer ring frequency, BPF0	10.29 Hz
Characteristic inner ring frequency, BPFI	12.71 Hz



Abutment dimensions

da min	130 mm
db min	130 mm
Da max	170 mm
Db max	170 mm
r1a max	1 mm
ra max	2 mm
D6	145 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	0.76		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 $Po = Fr$