Technical datasheet

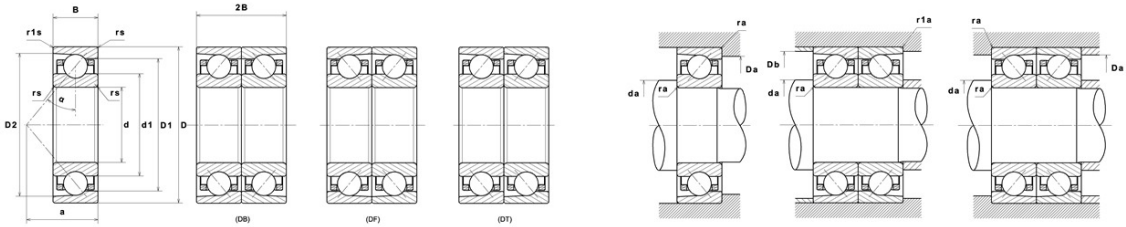
7024HVUJ84

High precision angular contact ball bearings



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

Visual(s)



Product definition

d	120 mm
D	180 mm
B	28 mm
d1	139.4 mm
D1	160.6 mm
D2	168.91 mm
a	49 mm
Contact angle α	25 °
rs min	2 mm
r1s min	1 mm
f0	16.27
Precision class	P4
Mass	2.13 kg
Brand	SNR

Product performance

Dynamic load, C	94.8 kN
Static load, C0	103 kN
Fatigue limit load, Cu	4.75 kN
Nlim (oil)	10,500 rpm
Nlim (grease)	7,000 rpm
Axial displacement K Factor	0.4
Preload level	8
Preload value	2.49 kN
Axial rigidity	504 N/µm
Radial rigidity	1,013 N/µm
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.Fr + Y.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.Fr + Yo.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