Technical data

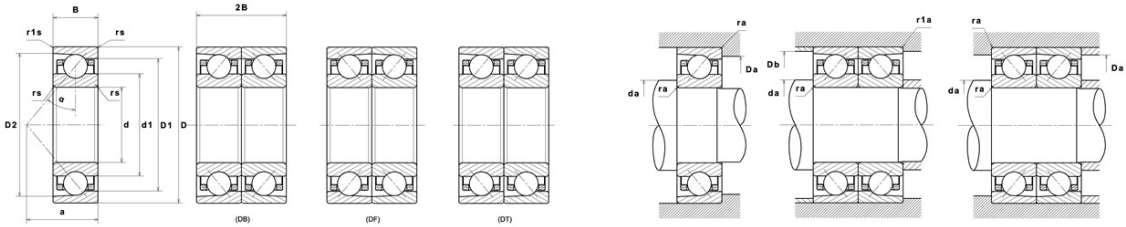
7009.HV.U.J74

High precision angular contact ball bearings



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

Visual(s)



Product definition

d	45 mm
D	75 mm
B	16 mm
d1	54.7 mm
D1	65 mm
D2	69.52 mm
a	22 mm
Contact angle α	25 °
rs min	1 mm
r1s min	0.6 mm
f0	15.61
Precision class	P4
Mass	0.24 kg
Brand	SNR

Product performance

Dynamic load, C	24 kN
Static load, C0	19.4 kN
Fatigue limit load, Cu	1.11 kN
Nlim (oil)	27,000 Tr/min
Nlim (grease)	17,500 Tr/min
Axial displacement K Factor	0.58
Preload level	7
Preload value	0.21 kN
Axial rigidity	145 N/µm
Radial rigidity	308 N/µm
Min operating temperature, Tmin	-30 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.43 Hz
Characteristic rolling element frequency, BSF	6.75 Hz
Characteristic outer ring frequency, BPF0	7.81 Hz
Characteristic inner ring frequency, BPFI	10.19 Hz

Abutment dimensions

da min	50.5 mm
db min	50.5 mm
Da max	69.5 mm
Db max	69.5 mm
r1a max	0.6 mm
ra max	1 mm
D6	57.6 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