Technical datasheet

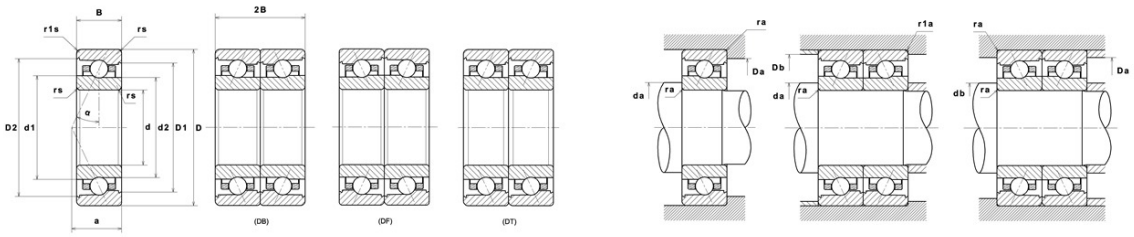
ML7013HVUJ74S

High precision angular contact ball bearings



High precision angular contact ball bearing, high speed series ML, laminated resin cage centred on outer ring

Visual(s)



Product definition

d	65 mm
D	100 mm
B	18 mm
d1	76.9 mm
d2	75.1 mm
D1	89.91 mm
D2	93.11 mm
a	28 mm
Contact angle α	25 °
rs min	1.1 mm
r1s min	1 mm
f0	8.46
Precision class	P4S
Mass	0.44 kg
Brand	SNR

Product performance

Dynamic load, C	16.5 kN
Static load, C0	12.1 kN
Fatigue limit load, Cu	0.69 kN
Nlim (oil)	24,000 rpm
Nlim (grease)	16,500 rpm
Axial displacement K Factor	0.53
Preload level	7
Preload value	0.14 kN
Axial rigidity	138 N/µm
Radial rigidity	303 N/µm
Min operating temperature, Tmin	-30 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.46 Hz
Characteristic rolling element frequency, BSF	10.19 Hz
Characteristic outer ring frequency, BPF0	11.4 Hz
Characteristic inner ring frequency, BPFI	13.6 Hz

Abutment dimensions

da min	72 mm
db min	72 mm
Da max	93 mm
Db max	93 mm
r1a max	1 mm
ra max	1 mm
D6	79.3 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