



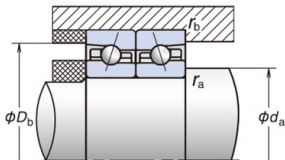
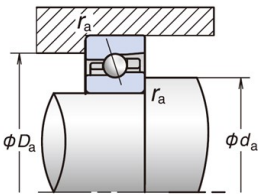
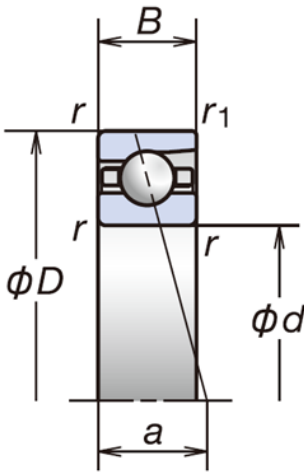
PRODUCT DATASHEET

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50BNR10H

ROBUST Series Ultra High-Speed Angular Contact Ball Bearings



Parts Number

50BNR10HTV1VSUELP3

Boundary Dimensions

	BNR: 18°		Bearing Type
d	50	mm	Bore diameter
D	80	mm	Outside diameter
B	16	mm	Width
BN	3.4	mm	
SN	9.3	mm	
SB	1.4	mm	
r(min.)	1	mm	Chamfer Dimension
r1(min.)	0.6	mm	Chamfer Dimension

Basic Load Ratings

Cr	15.3	kN	Basic Dynamic Load Rating
C0r	9.50	kN	Basic Static Load Rating

Speeds

Grease	27700	min-1	Limiting Speed
Oil (Oil-air)	43100	min-1	Limiting Speed

Dimensions

	18°		Contact Angle
a	18.4	mm	Effective Load Center

Abutment and Fillet Dimensions

da(min.)	56	mm	Diameter of Shaft Abutment
Da(max.)	74	mm	Diameter of Housing Abutment
Db(max.)	75	mm	Diameter of Housing Abutment
ra(max.)	1	mm	Radius of Shaft or Housing Fillet
rb(max.)	0.5	mm	Radius of Shaft or Housing Fillet

Performance

Pa	9.20	kN	Permissible Axial Load
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Calculation factors

f0	10.8		Factor
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Table A		EL	L	M	H
	15°	6.5	6.0	5.0	4.5
	25°	2			
	30°	1.4			

Table B	DBD	DBB
Preload factor	1.36	2
Axial rigidity	1.48	2
Radial rigidity	1.54	2

Calculation of radial rigidity
Multiply axial rigidity by the appropriate factor in Table A.

Calculation of preload and axial rigidity for combined bearings
Multiply by the appropriate factor in Table B. For radial rigidity, multiply the value from Table A with the appropriate factor in Table B.

Preload,Rigidity(DB and DF arrangement)

	Preload	Axial Rigidity	Measured axial clearance
EL	49N	52N/μm	0μm
L	128N	74N/μm	-5μm
M	280N	100N/μm	-12μm

Additional information

1.1	g/brg	Recommended Grease Quantities
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Mass

0.266	kg	Mass(approx.)
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