



Rolling bearings SKF

- i Calculation without errors.
- ii Project information

Input parameters section

1.0 Selection of bearing type, bearing loads

1.1 Calculation units SI Units (N, mm, kW...)

1.2 Bearing type Deep groove ball bearings, single row

1.7 Bearing load

1.8 Rotational speed n [/min]

1.9 Radial load Fr [N]

1.10 Axial load Fa [N]

1.11 Factor of additional dynamic forces

1.12 Required parameters of bearing

1.13 Bearing life Lh [h]

1.14 Static safety factor s0

1.3 Bearing design

1.4 Open design

1.5 Single bearing

1.6 Normal clearance

1.15 Additional dynamic forces

1.16 None

1.17 From geared transmissions

1.18 Ordinary machined gears (deviations of shape and pitch 0.02-0.1m)

1.19 Factor fk

1.20 Electric rotary machines, turbines, turbo-compressors

1.21 Factor fd

1.22 From belt drives

1.23 V-belts

1.24 Factor fb

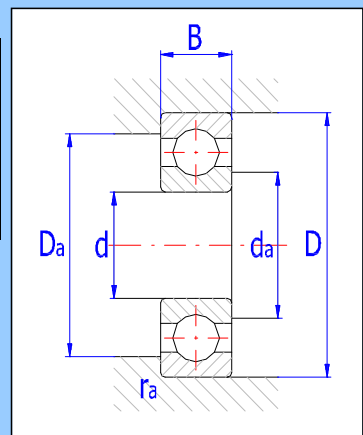
2.0 Selection of bearing size

2.1 Bearing size

ID	d	D	B	C	C0	nr	nmax	Bearing
128	60.0	130.0	31.0	85200	52000	11000	7000	6312 *

2.2 Bearing parameters

2.3 Basic dynamic load rating	C	85200	[N]	d	60
2.4 Equivalent dynamic load	P	6759.5	[N]	D	130
2.5 Basic rating life	L10h	286406	[h]	B	31
2.6 Basic static load rating	C0	52000	[N]	ramax	2
2.7 Equivalent static load	P0	6759.5	[N]	Damax	118
2.8 Static safety factor	s0	7.69		damin	72
2.9 Permissible radial load	F _{rmax}	-	[N]		
2.10 Permissible axial load	F _a max	-	[N]		
2.11 Reference speed	nr	11000	[/min]		
2.12 Limiting speed	nmax	7000	[/min]		
2.13 Power loss	NR	3.71	[W]		
2.14 Bearing mass	g	1.7	[kg]		



3.0 Operating parameters, adjusted bearing life

3.1 Kinematic viscosity of the lubricant

3.2 Rated viscosity v₁ [mm²/s]

3.3 Operating viscosity v [mm²/s]

3.4 Viscosity ratio κ

3.5 Requisite minimum load

3.6 Minimum radial load Frmin [N]

3.7 Calculation of the adjusted rating life

3.8 Fatigue load limit Pu [N]

3.9 Required reliability

3.10 Contamination of the lubricant Typical contamination

3.11 Factor for contamination level η

3.12 Life modification factor a₁/a₂₃

3.13 Adjusted rating life Lmh [h]

Supplements section

4.0 Auxiliary calculations

5.0 Fluctuating bearing load

6.0 Calculation of bearings with angular contact

7.0 Graphical output, CAD systems