Rolling bearings SKF

i	Calculation without errors.
ii	Project information

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 ▼

1.3	**Bearing design**	
1.4	Open design	▼
1.5	Single bearing	▼
1.6	Normal clearance	▼

1.7 Bearing load

1.8	Rotational speed	n	479.8	[/min]
1.9	Radial load	Fr	4278.9	[N]
1.10	Axial load	Fa	0.0	[N]
1.11	Factor of additional dynamic forces		1.7	

1.12 Required parameters of bearing

1.13	Bearing life	Lh	20000	[h]
1.14	Static safety factor	s0	2.00	

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	1.1 - 1.3	1.20 ☑
1.20	Electric rotary machines, turbines, turbo-compressors ▼			
1.21	Factor	fd	1 - 1.2	1.10 ☑
1.22	◉ **From belt drives**			
1.23	V-belts ▼			
1.24	Factor	fb	1.9 - 2.5	1.70 ☐

2.0 ☑ Selection of bearing size

2.1 Bearing size

▲	ID	d	D	B	C	C0	nr	nmax	Bearing
▼	114	50.0	110.0	27.0	65000	38000	13000	8500	6310 *

2.2 Bearing parameters

2.3	Basic dynamic load rating	C	65000	[N]	d	50
2.4	Equivalent dynamic load	P	7274.2	[N]	D	110
2.5	Basic rating life	L10h	24782	[h]	B	27
2.6	Basic static load rating	C0	38000	[N]	ramax	2
2.7	Equivalent static load	P0	7274.2	[N]	Damax	101
2.8	Static safety factor	s0	5.22		damin	59
2.9	Permissible radial load	Frmax	-	[N]		
2.10	Permissible axial load	Famax	-	[N]		
2.11	Reference speed	nr	13000	[/min]		
2.12	Limiting speed	nmax	8500	[/min]		
2.13	Power loss	NR	13.71	[W]		
2.14	Bearing mass	g	1.05	[kg]		
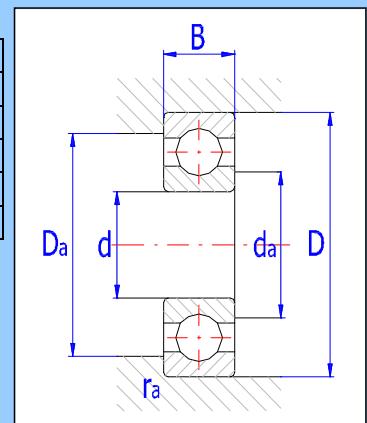
3.0 ☐ Operating parameters, adjusted bearing life

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