

## PRIMER PROBLEMA

**Bearing types - Left**

Deep groove ball bearing

☒ Right bearing same as left bearing:

Dimensions Left

d 8

B 7

D 22

d 8

B 7

D 22

Right dimensions same as left dimensions

**Bearing types - Right**

Deep groove ball bearing

[Excluded bearings and combinations](#)

Principal dimensions			Basic load ratings		Designation
d (mm)	D (mm)	B (mm)	C (kN)	C <sub>0</sub> (kN)	
8	22	7	1...	0...	☆ W 608-2Z

☒ Press "Next" to start calculation

Principal dimensions			Basic load ratings		Designation
d (mm)	D (mm)	B (mm)	C (kN)	C <sub>0</sub> (kN)	
8	22	7	1...	0...	☆ W 608-2Z

☒ Press "Next" to start calculation

### Bearing supporting the axial load ③

☐ Left
 ☐ Right
 ☒ None (axial load ignored)

### Shaft orientation

☒ Horizontal
 ☐ Vertical

### CO<sub>2</sub> estimation settings [\(Edit settings\)](#)

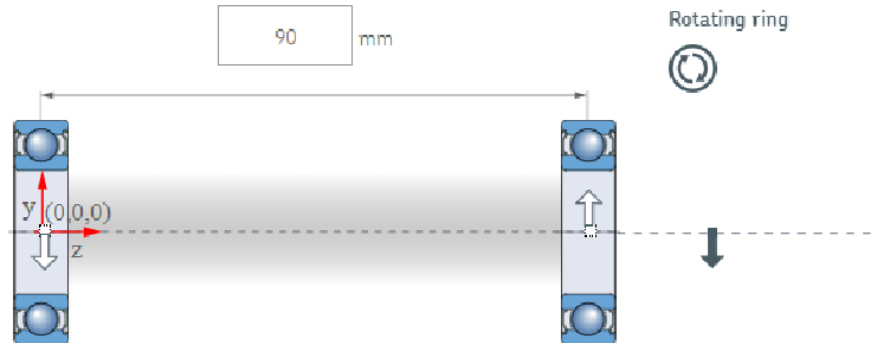
Geographical location - European Union

Period of interest [years] - 1

Time operational [%] - 100%

### Bearing distance

mm



Load case

Coordinates system  
[Cart.\(x,y\)](#) | [Polar.\(r,θ\)](#)

x | r  
mm

y | θ  
mm / deg

z  
mm

Fx | Fr  
kN

Fy | Fθ

Fz

Speed  
  
r/min

Temperature ⓘ ⓘ  

Left    Right

°C

Inner ring  
50

Outer ring  
50

Right bearing temperature same as left ☒

+ Add load case

Calculate



Lubrication & contamination



Radial clearance during operation

[Edit default settings](#)

Left	<div>Grease MT47 High cleanliness</div>	Normal
Right	<div>Grease MT47 High cleanliness</div>	Normal



Viscosity

κ : Left: 2.66 Right: 2.66

SKF		Operating viscosity			Lubrication condition
Designation		Actual	Rated	Rated at 40°C	Viscosity ratio
		ν (mm <sup>2</sup> /s)	ν <sub>1</sub> (mm <sup>2</sup> /s)	ν <sub>ref</sub> (mm <sup>2</sup> /s)	κ
Left	☆ ■ 608-2Z	41.7	15.6	22.8	2.66
Right	☆ ■ 608-2Z	41.7	15.6	22.8	2.66



Bearing loads

C/P : Left: 44.36 Right: 8.06

SKF®		Equivalent dynamic load	Load ratio	Reaction forces	
Designation				Radial	Axial
		P (kN)	C/P	Fr (kN)	Fa (kN)
Left	☆ ■ 608-2Z	0.08	44.36	0.0778	0
Right	☆ ■ 608-2Z	0.43	8.06	0.428	0

SKF®		Bearing rating life		SKF life modification factor	Contamination factor
Designation		Basic	SKF		
		L <sub>10h</sub> (h)	L <sub>10mh</sub> (h)	a <sub>skf</sub>	η <sub>c</sub>
Left	☆ ■ 608-2Z	> 2x10^5	> 2x10^5	50	0.53
Right	☆ ■ 608-2Z	2180	9360	4.29	0.53

## SEGUNDO PROBLEMA

$$P[N] = 1.2 * 6100Kg * 0,0081m * \left(2 * \pi * \frac{756}{60}\right)^2 = 371618 N$$

**Bearing types - Left**

Spherical roller bearing ▼

☒ Right bearing same as left bearing:

Dimensions Left

d	140
B	102
D	300

Dimensions Right

d	140
B	102
D	300

Right dimensions same as left dimensions

**Bearing types - Right**

Spherical roller bearing ▼

[Excluded bearings and combinations](#)

Q 22328 CC/W33 22328

Principal dimensions		Basic load ratings		Designation
d (mm)	D (mm)	B (mm)	C (kN)	Co (kN)
140	300	102	100	22328 CC/W33

✓ Press "Next" to start calculation [Find distributor](#) ☆ 22328 CC/W33

Q 22328 CC/W33 22328

Principal dimensions		Basic load ratings		Designation
d (mm)	D (mm)	B (mm)	C (kN)	Co (kN)
140	300	102	100	22328 CC/W33

✓ Press "Next" to start calculation [Find distributor](#) ☆ 22328 CC/W33

### Bearing supporting the axial load ⓘ

☐ Left
 ☐ Right
 ☒ None (axial load ignored)

### Shaft orientation

☒ Horizontal
 ☐ Vertical

### CO<sub>2</sub> estimation settings [\(Edit settings\)](#)

Geographical location - European Union

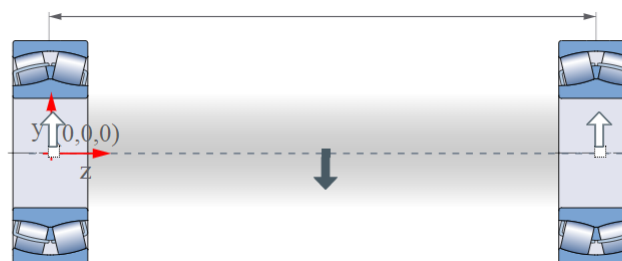
Period of interest [years] - 1

Time operational [%] - 100%

### Bearing distance

3000 mm

### Rotating ring



Load case

Coordinates system

Cart (x,y) | Polar (r,θ)

Coordinates

x | r

mm

y | θ

mm | deg

z

mm

Forces

Fx | Fr

kN

Fy | Fθ

Fz

Speed

r/min

Temperature

Left

Right

°C

F1	<input checked="" type="radio"/> (x,y) <input type="radio"/> (r,θ)	0	0	1500	0	-371.618	0	756	Inner ring	80	
									Outer ring	80	

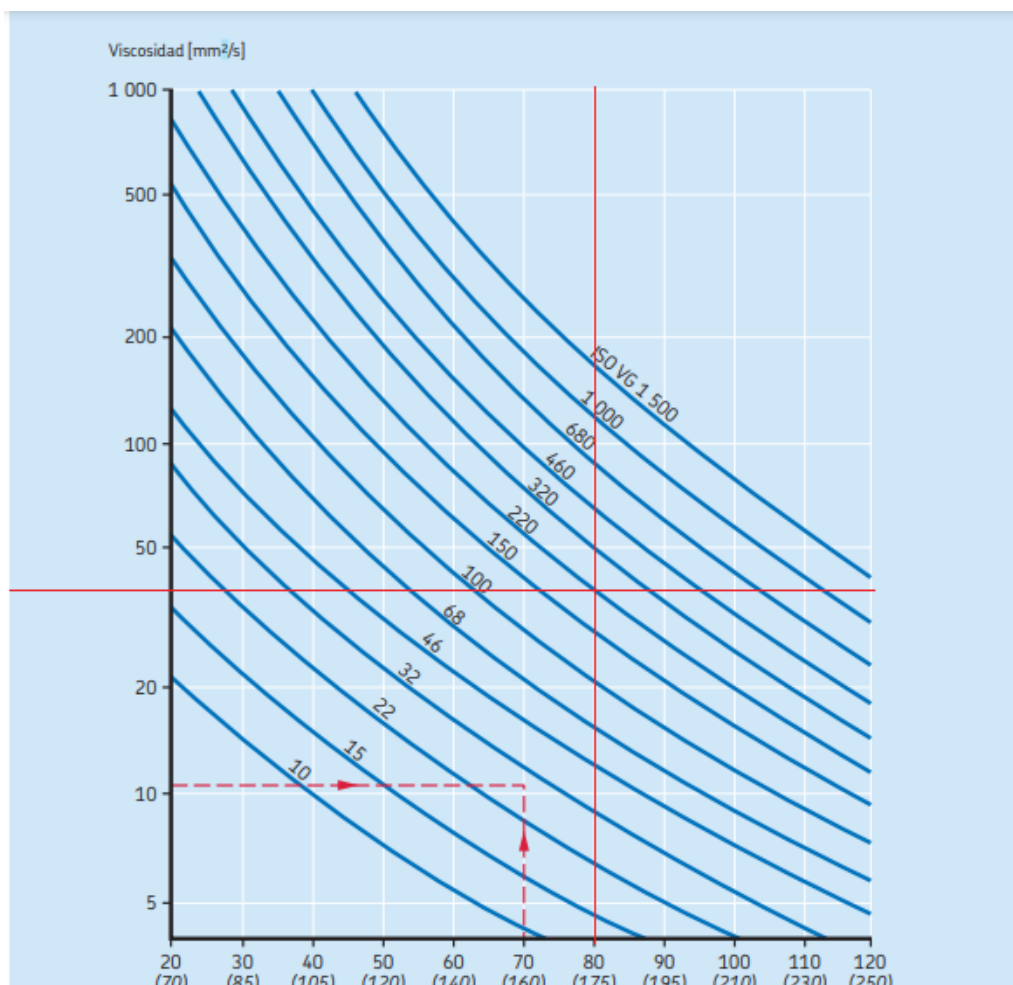
+ Add force

Right bearing temperature same as left ☒

Edit default settings


Left		Grease	ISOVG220	Slight-typical contamination
Right		Grease	ISOVG220	Slight-typical contamination

		Operating viscosity			Lubrication condition
Designation		Actual	Rated	Rated at 40°C	Viscosity ratio
		v (mm^2/s)	v <sub>1</sub> (mm^2/s)	v <sub>ref</sub> (mm^2/s)	K
Left	☆ ■ 22328 CC/W33	35.8	9.72	39	3.69
Right	☆ ■ 22328 CC/W33	35.8	9.72	39	3.69



**SKF**

	Equivalent dynamic load	Load ratio	Reaction forces	
Designation			Radial	Axial
	P (kN)	C/P	Fr (kN)	Fa (kN)
Left ☆ ■ 22328 CC/W33	185.81	7.3	186	0
Right ☆ ■ 22328 CC/W33	185.81	7.3	186	0

		Bearing rating life		SKF life modification factor	Contamination factor
Designation		Basic	SKF		
		$L_{10h}$ (h)	$L_{10mh}$ (h)	$a_{skf}$	$\eta_c$
Left	☆ ■ 22328 CC/W33	16600	118000	7.13	0.58
Right	☆ ■ 22328 CC/W33	16600	118000	7.13	0.58