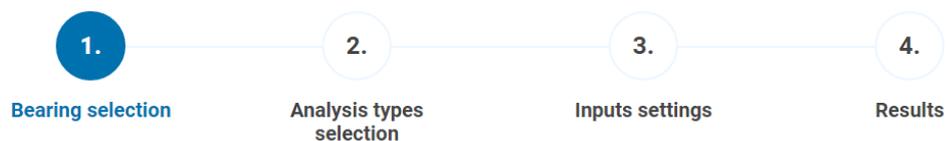**Analysis Module Manual**

Its intuitive interface consists of four simple steps.

1. Bearing selection
2. Selection of analysis types
3. Inputs settings
4. Results

Analysis module

In the first step (Bearing selection) it is possible to find the bearing using filter elements such as

- Bearing type (thrust ball, spherical roller, etc.)
- Search engine for bearing designation

Bearing designation

2222

- Installation dimensions
    - d (inner diameter of the bearing)
    - D (outer diameter of the bearing)
    - B (bearing width)

Dimensions can be filtered by simply entering a number or its range (eg 20-25).
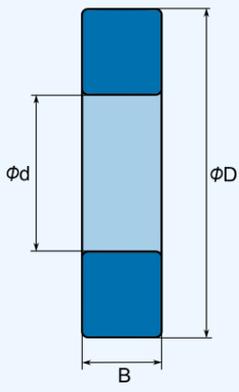
Bearing designation

| Independent | ⌄ |

Bearing designation

| E.g. 619/9 |

d	D	B
80	-150	20-25

Enter exact dimension or its range, e.g. 20, −40, 15−, 20−40

	Basic load rating [kN]		Main dimensions [mm]		
Designation	Dynamic (C)	Static (C₀)	Outer Diameter (D)	Inner Diameter (d)	Width (B)
6016	47.5	39.8	125	80	22
6016-Z	47.5	39.8	125	80	22
6016-RS	47.5	39.8	125	80	22
6016N	47.5	39.8	125	80	22
NU1016	66.8	76.4	125	80	22

1 - 5 z 5

Once you have selected a bearing, you can select any number of analysis types in the second step. The analysis module calculates them all. For all bearings, it is possible to calculate the durability meeting ISO 281, static safety according to ISO 76 or the minimum load under which the bearing should not operate. The calculation module is constantly under development and more and more types of analyses are gradually being added.

1.	2.	3.	4.
Bearing selection	Analysis types selection	Inputs settings	Results
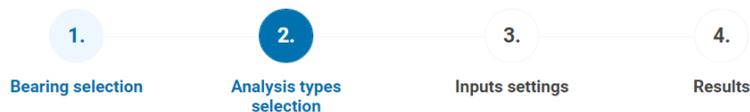
Selected bearing:

| 6016 |

Bearing designation:

| Single row radial ball bearing |

☐ Basic rating life (ISO 281)

☑ Modified rating life (ISO 281)

☑ Static safety factor (ISO 76)

☐ Operating clearance

☐ Minimal load

← Back   **Continue to inputs selection**

Step 3 - inputs settings

Whatever bearing and type of analysis you choose to calculate, the analysis module knows which inputs to require. They are waiting for you in the third step.

Load spectrum

You can load your bearing stably. However, if your application is characterized by a variable load, this is not a problem for the analysis module. Find out the histogram of the load states and enter it, including the rates, in the load table. Enter the rate in the "Weight of state" column. What units you choose (whether percentage, rate from 0 to 1 or the number of hours of bearing operation) is entirely up to you.

Bearing external loads

Load state ID id	Weight of state w	Revolution speed n [min^-1]	Inner ring temperature Tir [°C]	Outer ring temperature Tor [°C]	Radial force in Y direction FRY [kN]	Radial force in Z direction FRZ [kN]	Axial force FA [kN]	
1	25	1000	60	55	4.1	2.3	1.1	✕
2	25	3000	70	65	-3.6	-3.1	1.1	✕
3	50	2000	60	55	5.2	2.1	0	✕

Add a load state +

For a certain type of calculations, it is necessary to enter some additional inputs. Many of them are preset according to the most frequently used values. However, the calculation module allows you to specify your own parameters in this way, such as the various lubricants used or the increased reliability of the calculated durability.

Other inputs

Radial clearance

CN

Reliability [%]

99.95

Lubrication type

Oil with filter

Lubricaton specification method

Viscosity at 40°C for VI = 95

Viscosity at 40 °C [mm^2/s]

110

Lubricant cleanliness

|B12 = 200

☐ Contains effective EP additives

In the last (fourth) step you can see the results. And not only see. You can download the report in PDF and save your analysis to your computer.

Metric   🇬🇧 EN

Selected bearing:

6016

Bearing designation:

Single row radial ball bearing

Selected analysis types

☑ Modified rating life (ISO 281)

☑ Static safety factor (ISO 76)

Results

Basic rating life according to ISO 281	L10	747.07	10^6 rev.
Basic rating life according to ISO 281 in hours	L10h	6215	h
Modified rating life according to ISO 281	L0.05m	2872.89	10^6 rev.
Modified rating life according to ISO 281 in hours	L0.05mh	23901	h
Static safety factor according to ISO 76	S0	7.1	-

[← Back] [↻ New analysis]   [Download the report in PDF]

Do you like our analysis module? Do you have suggestions for improvement? Please let us know!