Working with Abracadabra libraries for Exocad

A guide to digital planning of implant-supported restorations with individual Abracadabra telescopic and magnetic abutments

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Dear dental technician / CAD designer,

For accurate digital planning of the restorative work on Abracadabra abutments, Exocad compatible libraries and this manual were prepared.

Option 1 - Work on an Abracadabra design file

This guide will detail a work process on a design file that will be provided by Abracadabra. We produce this file, where the planned abutments are integrated within the patient's jaw, in the Abracadabra planning center.

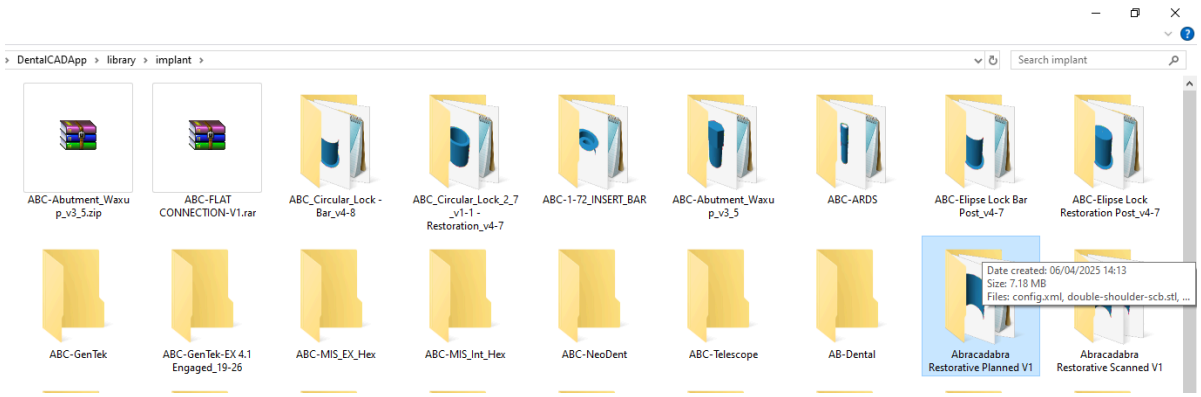
Our Exocad library makes it possible to recognize the planned abutments as scanbodies without the need for an additional scan.

(In addition, there is an option to work on an intraoral scan file - with unique "Abracadabra" scanbodies. This will be detailed at the end of this guide.)

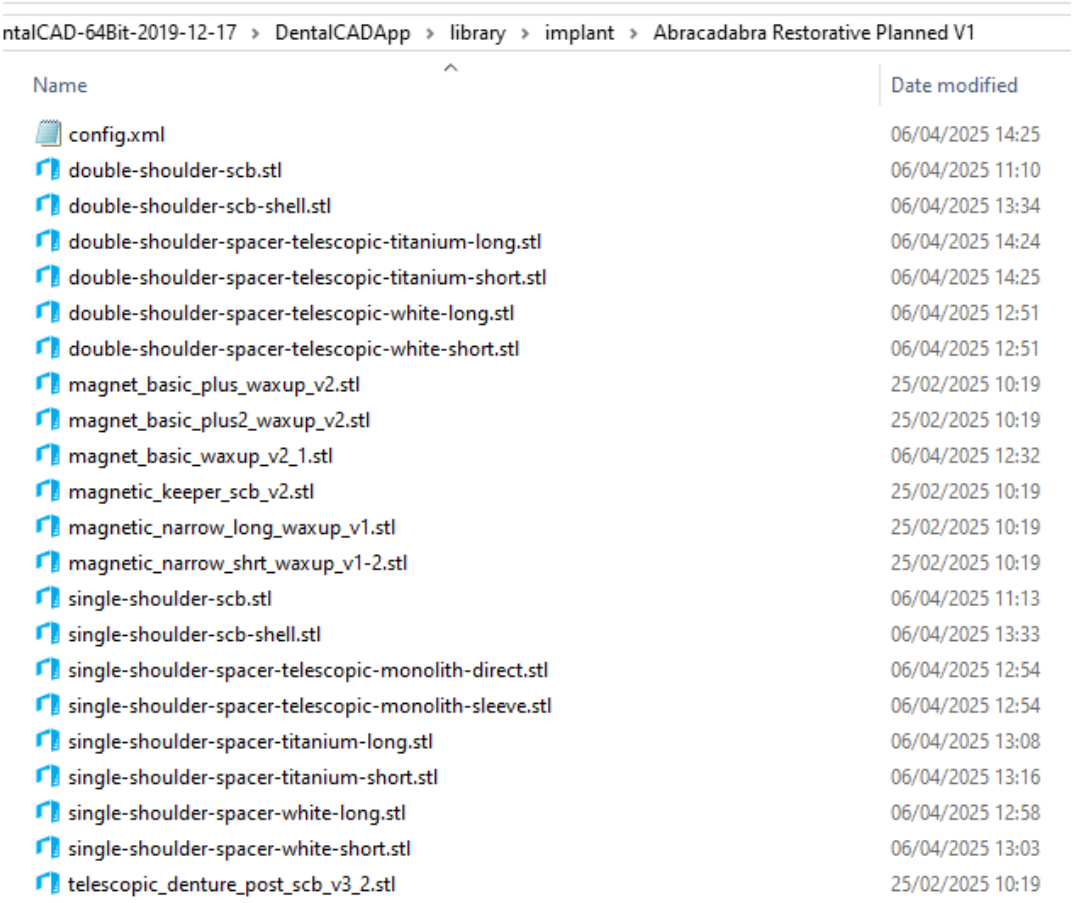
Before the first case

The appropriate library for these cases is **Abracadabra Restorative Planned**. You can download its latest version from the following link:
https://drive.google.com/file/d/19IJ7nVrEP0YEhzdKHYAUjbebjDwD-CAI/view?usp=sharing

Download the library, open the ZIP file and save the included folder in your Exocad folder, next to the implant libraries - **\DentalCADApp\library\implant**

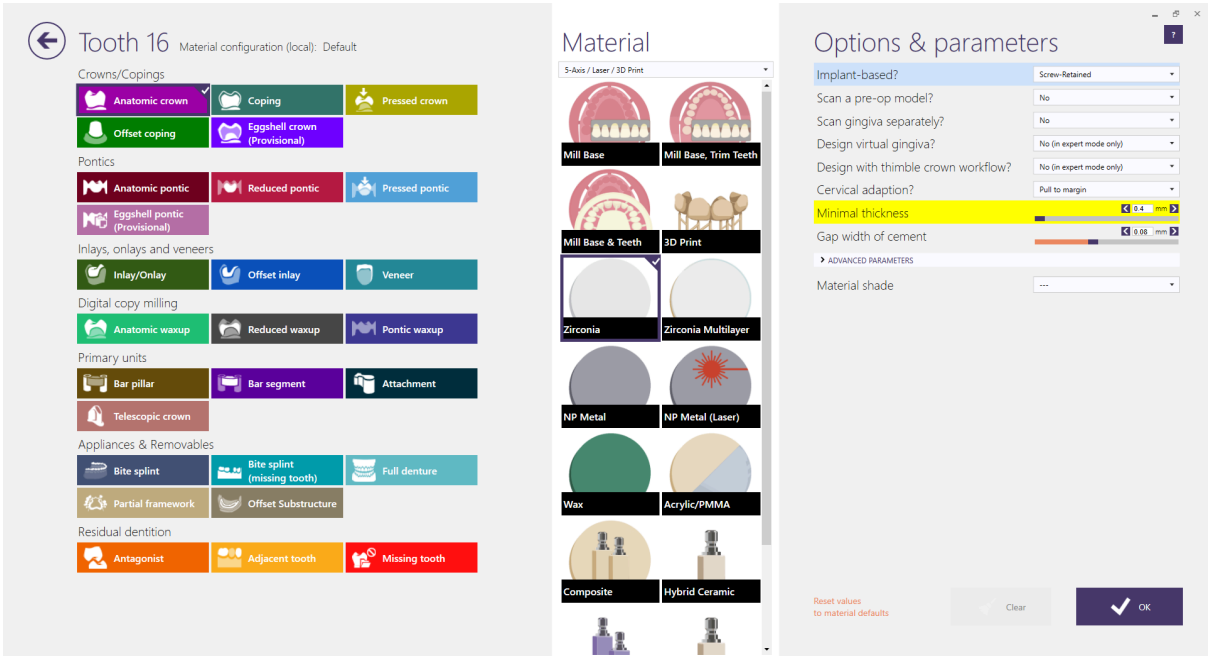


Tip 1: *Make sure that your Implant folder now has a directory called Abracadabra Restorative Planned and in it are STL files and a config file and not another subfolder. If there is a subfolder in the directory containing the files, the files must be moved to the main folder - otherwise Exocad will not be able to read them.*

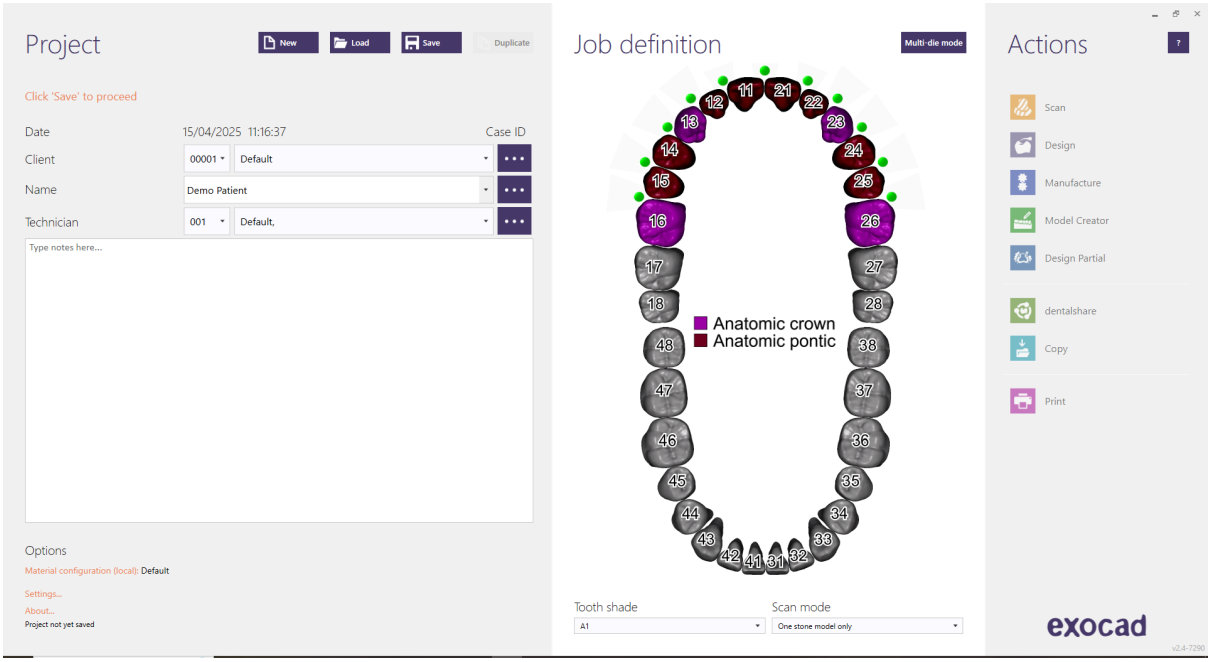


Before planning - defining case parameters in Exocad

First click on the positions of the teeth where the implants are placed. Define these locations as **Anatomic Crown, Implant Based, Screw Retained,** similar to the screenshot.



Then define the rest of the teeth in the work as **Anatomic Pontic**

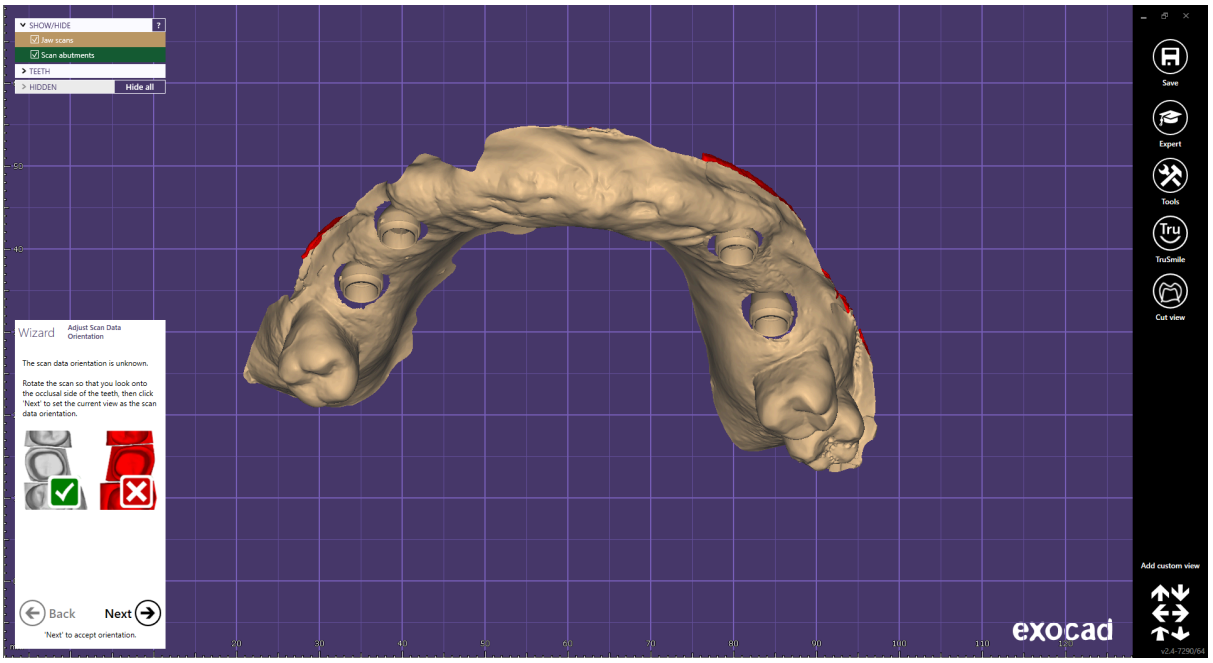


Tip 2: *These settings must be used even if a removable prosthesis is ultimately designed - in this case, check the Design Virtual Gingiva option*

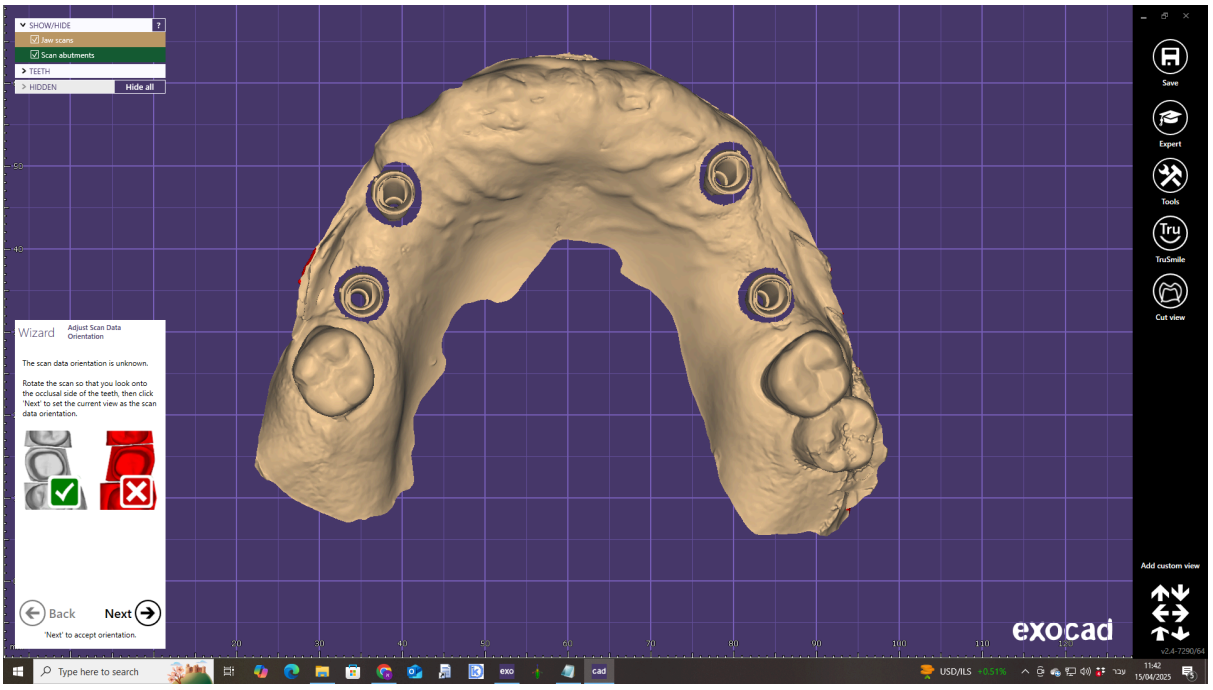
Tip 3: *Alternatively, you can also use Anatomic Waxup (in the implant locations) and Pontic Waxup (in the other locations)*

Now, save the settings and click **Design** on the right.

At this point Exocad will ask you to upload a jaw scan file and a scanbody scan file. **Use the same file sent to you from the Abracadabra design center in both cases.**



Place the jaw in the correct position (facing you) and click Next



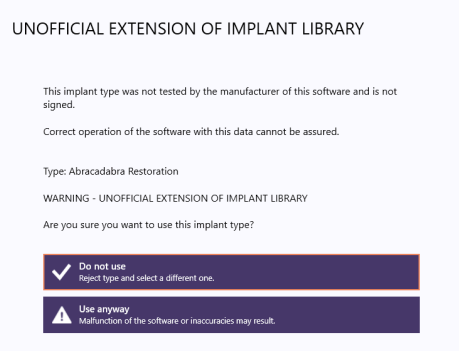
Tip 4: *If the planned jaw is not in the correct orientation in relation to the other scans of the patient, the additional scans can be imported and the jaw position adjusted with the planning of the abutments.*

Identifying the scanbodies and choosing the desired restorative option for the case

At this stage you will move on to identify the scanbodies - in this case, their role is played by the planned abutments of Abracadabra.

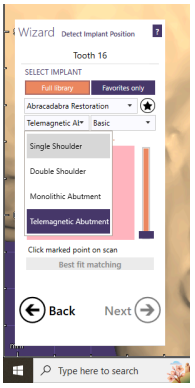
Here you need to know what type of work you are doing:

1. **Restorations on magnetic abutments**
2. **Restorations on telescopic abutments - an abutment with a single shoulder** (mostly will be used for posterior bridges or removable telescopic prostheses)
3. **Restorations on telescopic abutments - an abutment with a double shoulder** (mostly will be used for crowns and bridges)
4. **Restorations on monolithic abutments - a one-piece milled abutment** (Mostly will be used in single crowns and SOS restorations of fractured implants)



Tip 5: *The Abracadabra library is not an official Exocad library. Therefore, when selecting the library, you may encounter a warning message.*

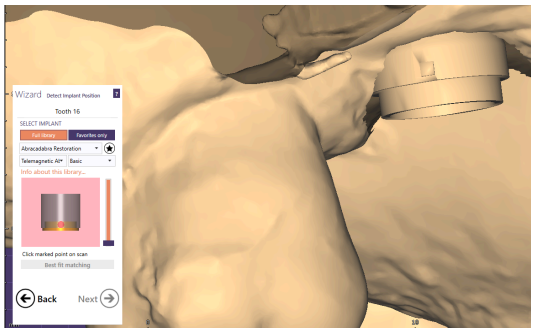
Click on the bottom ***Use Anyway*** *button and proceed with planning.*



Each type of abutment has a representation in the library and the correct type must be selected.

Under each abutment type, there are several restorative options. Please refer to the following table to choose the correct rehabilitation option according to the doctor's prescription.

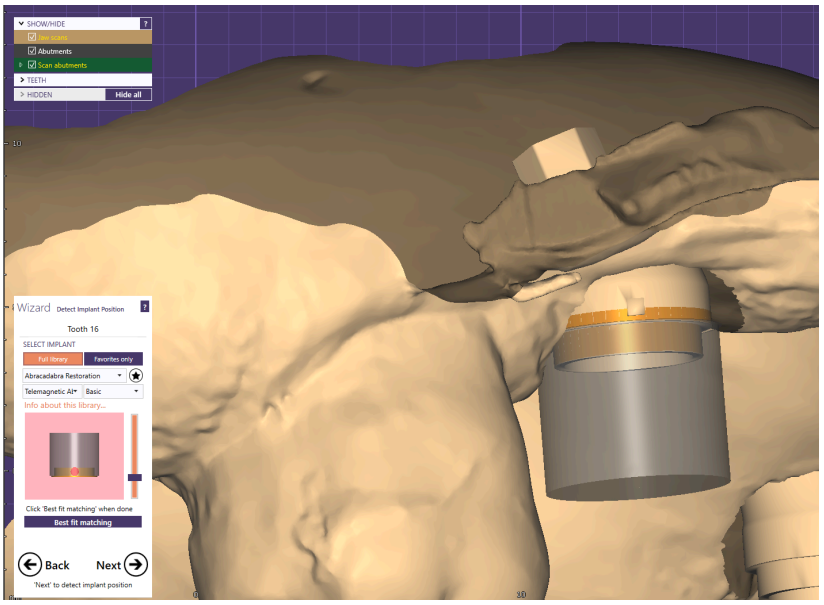
For the purpose of this demonstration, we will use a telescopic-magnetic abutment on which a standard-height magnet housing will be installed in the patient's mouth. In this case, we will select Telemagnetic and then Basic.



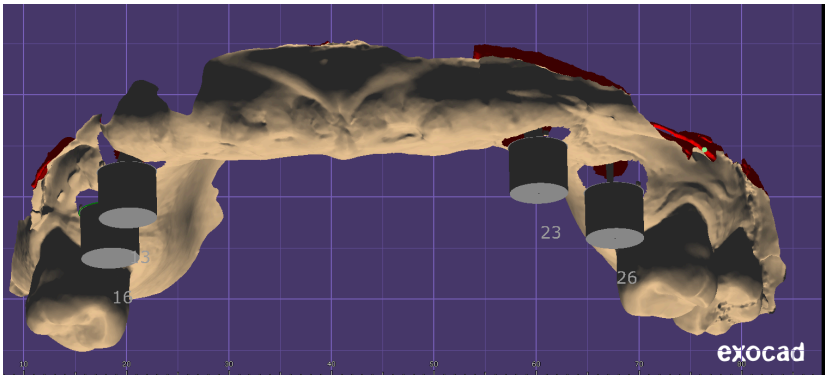
Pay attention to the click point for scanbody placement, and click the corresponding point in the abutment.

Depending on the version of Exocad you have, the scanbody from the library will match itself automatically (in the newer versions) or you will have to click Best Fit Matching (in the old versions). Eventually,

the scanbody will be identified and when you are satisfied with the fit, a spacer of the correct diameter will appear above it, fitting the magnetic housing or the telescopic sleeve that will be embedded in the final restoration.



After all the abutments in the jaw have been identified, you may continue planning the restorative work.



At the end of the design process, a model of the restoration will be created with spacers compatible with the chosen type of Abracadabra restoration.

Option 2 - Scanning the abutments in the patient's mouth using Abracadabra scanbodies

Abracadabra provides the dentist with unique scanbodies, which can be mounted on the abutments in the patient's mouth and scanned in order to verify abutment positions or improve planning accuracy.

These scanning bodies are identical in their external shape and have a round base and hexagonal head. Since Abracadabra abutments are cylindrical and symmetrical, the hexagonal orientation of the scanbody is irrelevant.

In the event that the dentist has chosen to use these scanbodies, he must provide you with details of the type of restoration planned and the type of abutment scanned for each and every implant. This detail can also be obtained from us at Abracadabra by specifying the particular case details.

The library that includes these scan bodies is called **Abracadabra Restorative Scanned** and it can be downloaded from the link:
https://drive.google.com/file/d/19IJ7nVrEP0YEhzdKHYAUjbebjDwD-CAI/view?usp=sharing

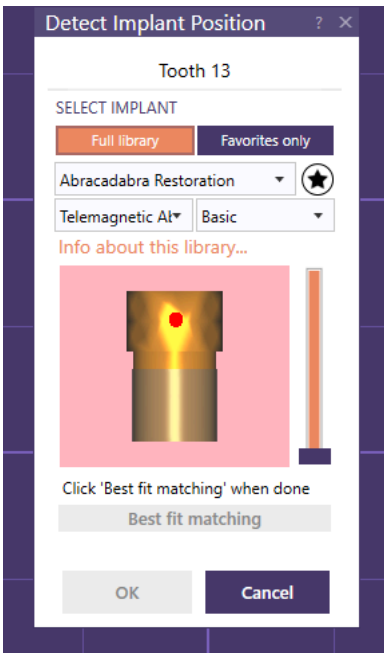
Download the library and install it in the Exocad implant directory on your computer, as described above.

Then, in setting up the work parameters in Exocad, you must follow the above and use the exact same settings (Anatomic Crown, Implant Based, Screw-Retained).

Identify the Abracadabra scanbodies

The main difference comes in the phase of identifying the scanning entities.
Here, the recognition is similar to implant scanbodies -

- You must select the right directory and within it the type of abutment you are planning on.
- The scanbody is recognized by clicking on one of the sides of the hexagon (doesn't matter which one, since the abutment is symmetrical).
- After a successful recognition, a spacer will be placed in place of the scanbody on which the restorative planning can be continued.



Model Name	Purpose	Which abutment it fits?	Post Height	Spacer Diameter	Spacer Height	Spacer Shoulder
Magnet Basic	Magnetic Overdenture	Magnetic	Housing 4.5 mm height	5.7	4.8	0.1
Magnet Basic Plus	Magnetic Overdenture	Magnetic	Housing 5.5 mm height	5.7	5.8	0.1
Magnet Basic Plus2	Magnetic Overdenture	Magnetic	Housing 6.5 mm height	5.7	6.8	0.1
Magnet Narrow Short	Magnetic Overdenture and Provisional Bridge	Magnetic	Narrow Housing 4.5 mm height	Lower 5.7, upper 4.4	4.8	0.1
Magnet Narrow Long	Magnetic Overdenture and Provisional Bridge	Magnetic	Narrow Housing 6.5 mm height	Lower 5.7, upper 4.4	6.8	0.1
Magnet Scan Housing	Magnetic Overdenture	Magnetic	Housing 4.5 mm height	5.7	4.8	0.1
Telescopic Crown and Bridge Long Post	Telescopic Crowns and Bridges	Double Shoulder (5.6mm gingival diameter)	3.5	4.8	5.5	0.4
Telescopic Crown and Bridge Short Post	Telescopic Crowns and Bridges	Double Shoulder (5.6mm gingival diameter)	2.5	4.8	4.5	0.4
Telescopic Denture Post	Telescopic Overdentures	Single Shoulder(5 mm diameter)	3.5	5.7	4	0.1
Telescopic Monolith	Telescopic Crowns and Bridges - Single implant and fractured implant	SOS Monolithic Abutment	3.5	4.7	3.6	0.15
Monolith Direct	Crowns and Bridges - Metal on	SOS Monolithic Abutment + Single	3.5	4.2	3.6	0.12

	Metal (no sleeve)	Shoulder (5mm diameter)				
Telescopic Scanbody 3.5mm Post	Telescopic Crowns and Bridges	Double Shoulder (5.6mm gingival diameter)	3.5	4.8	5.5	0.4
Telescopic Scanbody 2.5mm Post	Telescopic Crowns and Bridges	Double Shoulder (5.6mm gingival diameter)	2.5	4.8	4.5	0.4