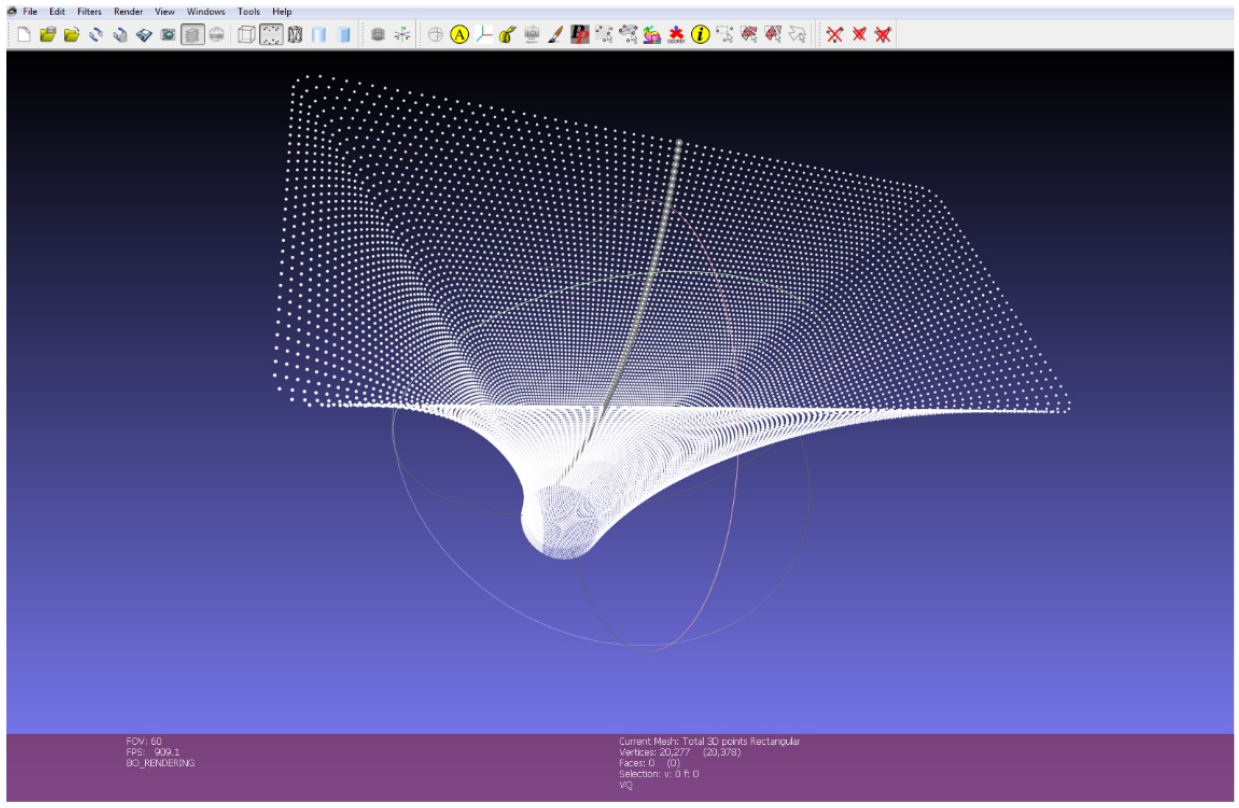
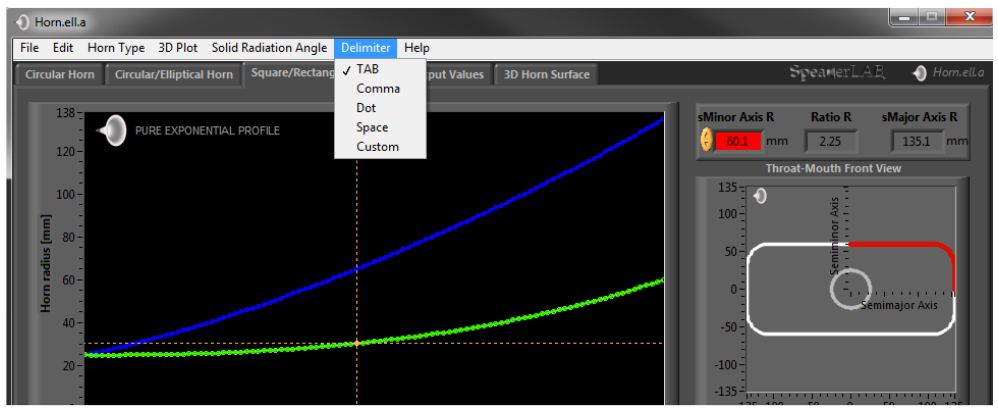
The following procedure describes how to open files generated with *SpeakerLAB Horn.ell.a* or *Phase Plug Support* in *MeshLab,* in order to visualize saved x,y,z points.

Download and install the free tool *MeshLab* (https://www.meshlab.net) then open the 3D horn with file extension *.asc*:

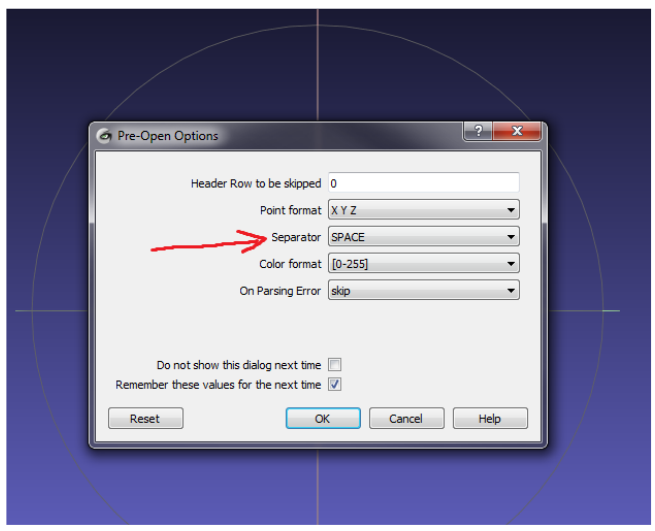


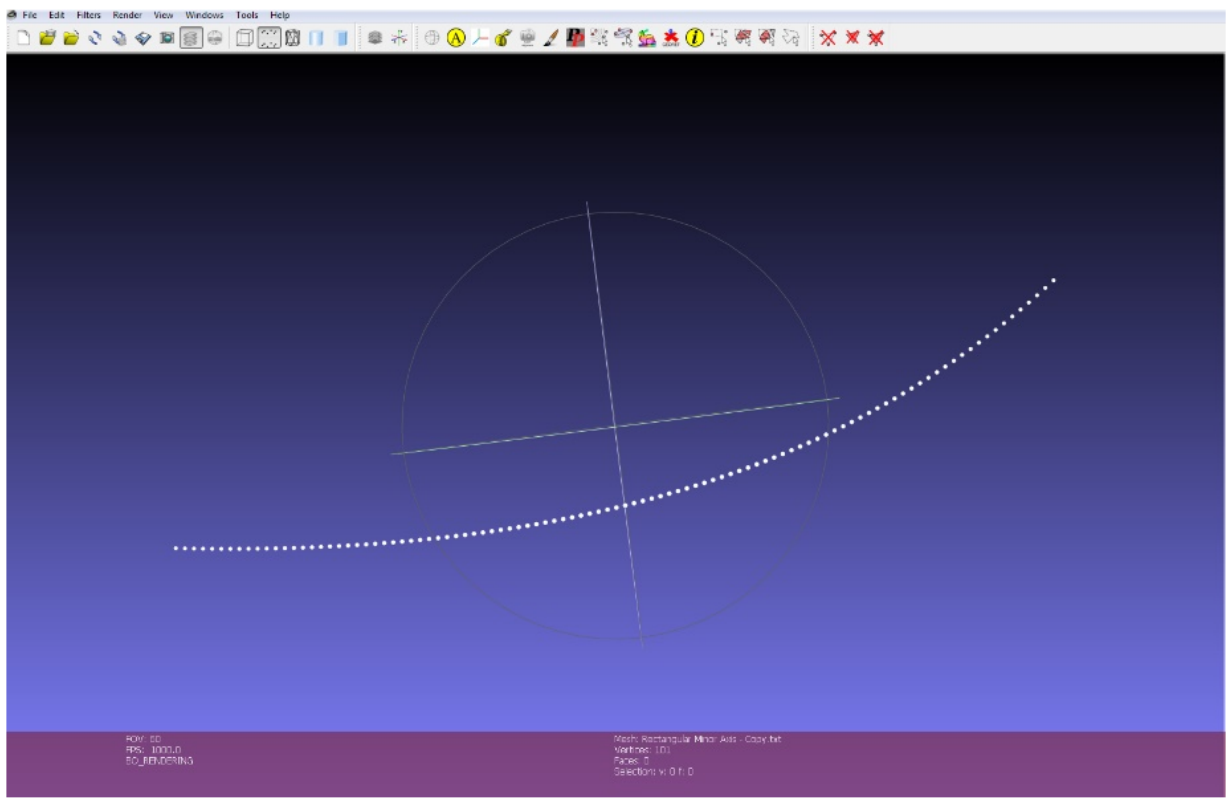
To open 2D horn profiles with file extension **.horn** in *MeshLab*:

1) change file extension from *.horn* to *.txt*
2) Select the same **Delimiter** used in *Horn.ell.a* or *PPS*



in *MeshLab* selects **Space** for both **TAB** or **Space** delimiters used in *Horn.ell.a* or *PPS*:

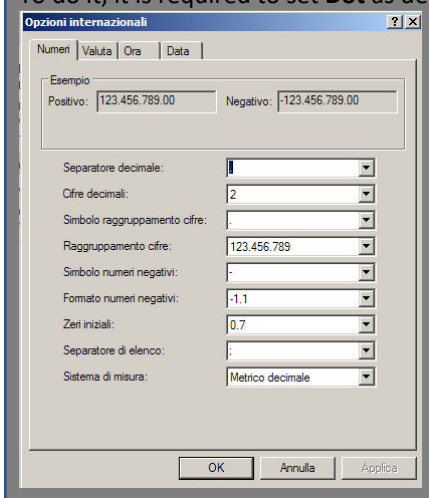




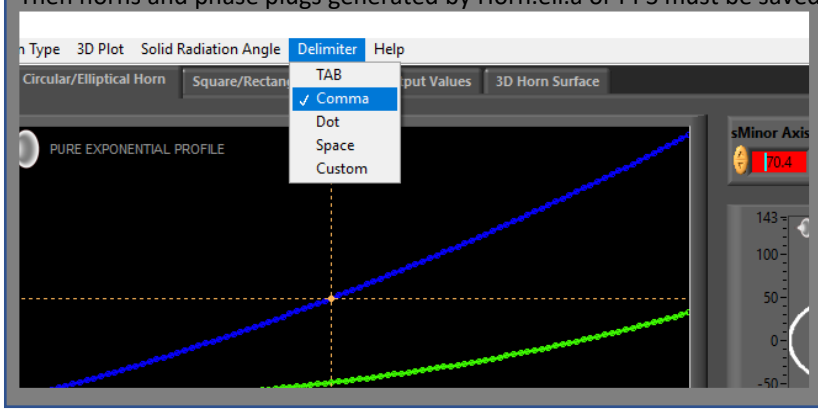
The following procedure describes how to import in *AutoCAD* files generated with *SpeakerLAB Horn.ell.a* or *Phase Plug Support*. Using "import-SpeakerLAB.lsp" tool it permits to open 3D (x,y,z) files in *AutoCAD*, creating polylines interpolation among x,y,z points.

First of all, to work with **AutoCAD** using this method, the file formatting must be:
…
1.30,6.37,0.00
2.33,6.46,0.00
…

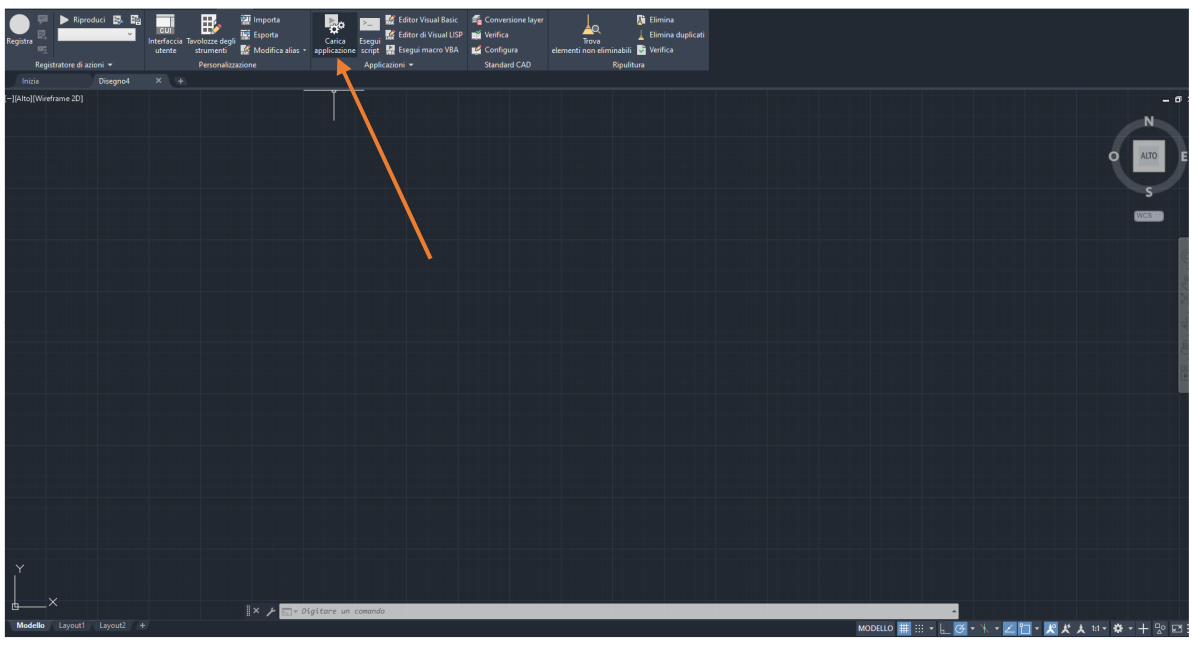
To do it, it is required to set **Dot** as decimal separator in your International Settings: "**.**"



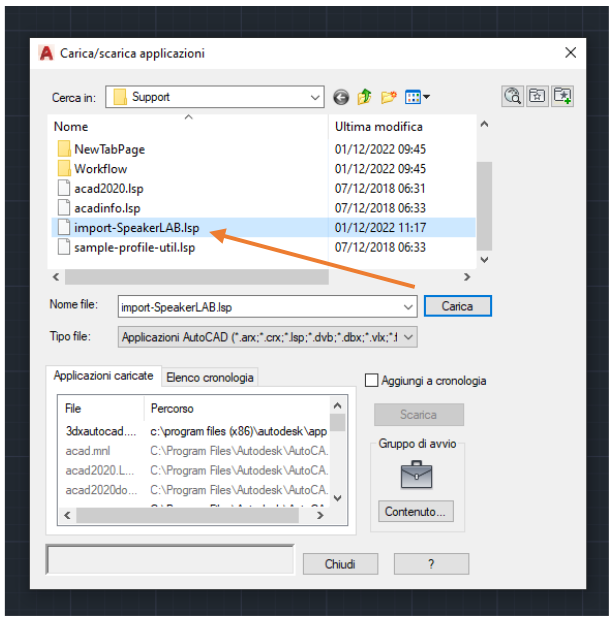
Then horns and phase plugs generated by Horn.ell.a or PPS must be saved using **Comma** as delimiter:



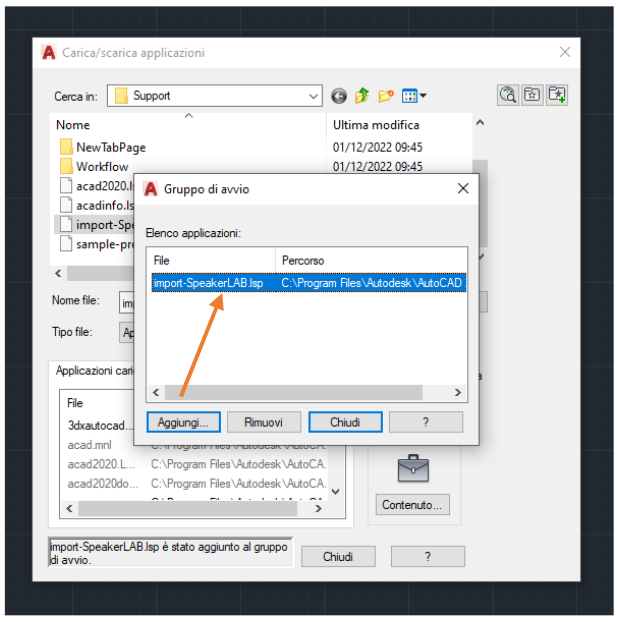
1. Download "**import-SpeakerLAB.zip**" at link **www.speakerlab.it/download/import-SpeakerLAB.zip**
2. Unzip it and copy " **import-SpeakerLAB.lsp**" inside AutoCAD **Support** folder: …Program file\AutoCAD 20xx\Support
3. open **AutoCAD**
4. open "**Instruments**" or "**Manage**" (it depends on software version)
5. **Load Application**…



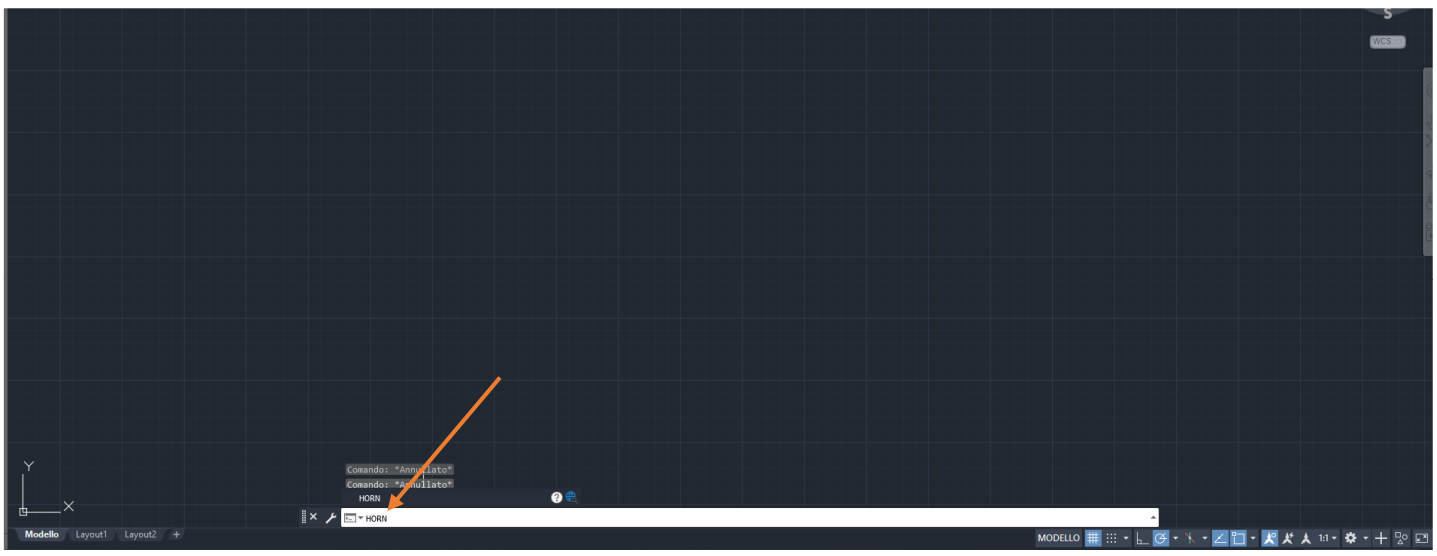
6. In "**Support**" folder load "**import-SpeakerLAB.lsp**"



7. You can add it also to the **starting group**:



8. Now you are ready to import SpeakerLAB files. In the command line type "**horn**" and press **enter** to start:



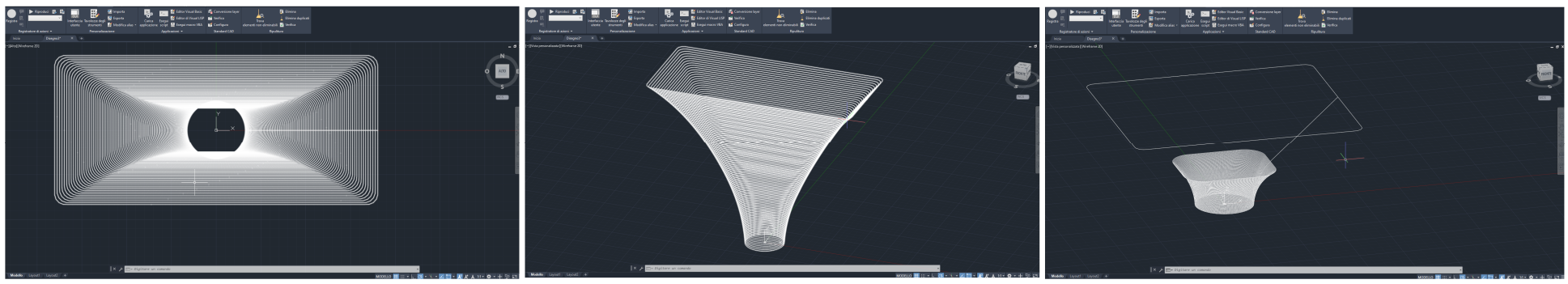
9. Importing one of the *.asc* files inside your database

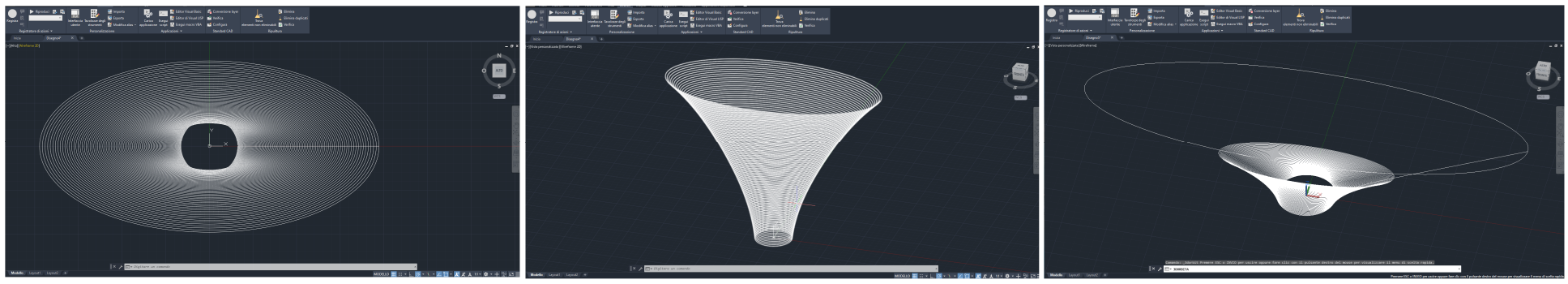
   …\SpeakerLAB\Horn.ell.a\Horn db

   …\SpeakerLAB\Phase Plug Support\Phase Plug db

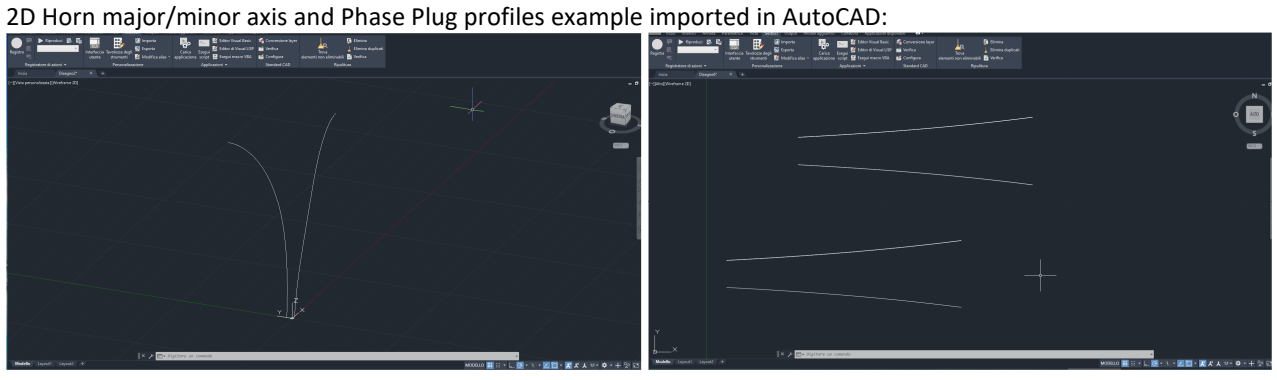
Note: it works with *.asc* files, if you want to import *.horn* or *.txt* files it is necessary to modify file extensions in *.asc*.

SpeakerLAB 3D Horns and waveguides examples imported in AutoCAD:





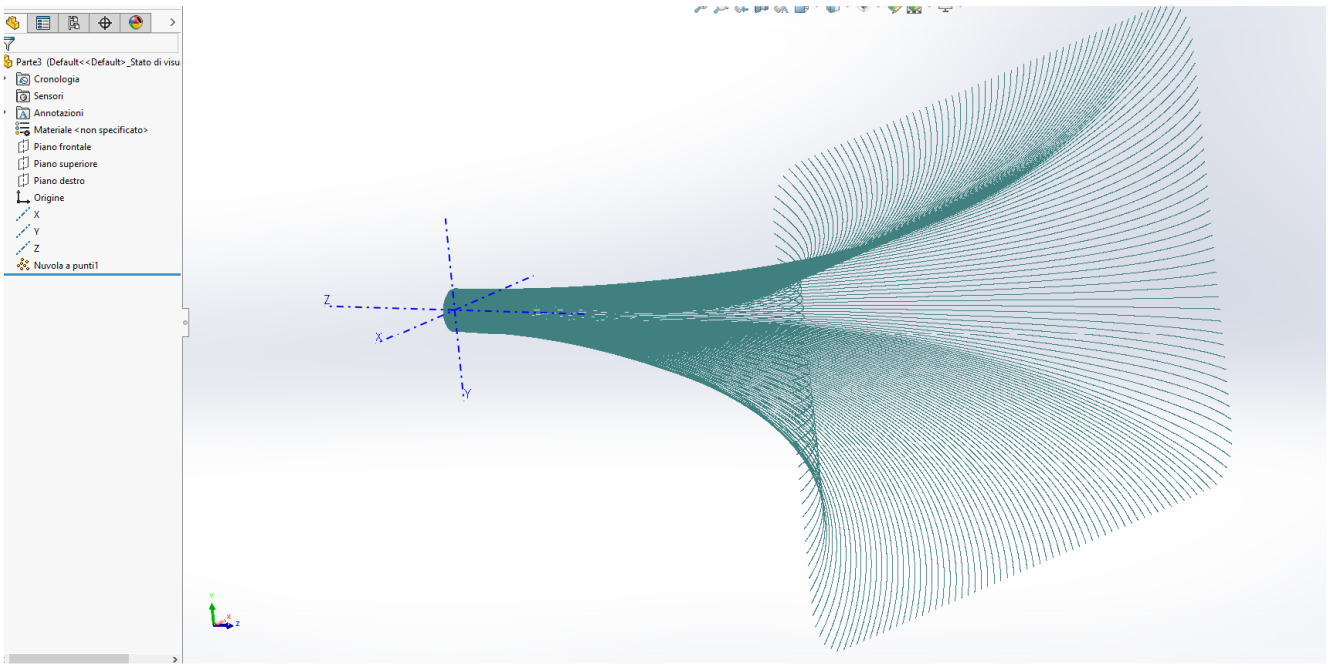
2D Horn major/minor axis and Phase Plug profiles example imported in AutoCAD:



Note: files with a very high number of saved points (or other unknown cases) the 3D polylines reconstruction could not visualize the model properly, depending also on graphic card and CPU.

The procedure describes how to import in *SOLIDWORKS* files generated with *SpeakerLAB Horn.ell.a* or *Phase Plug Support*:

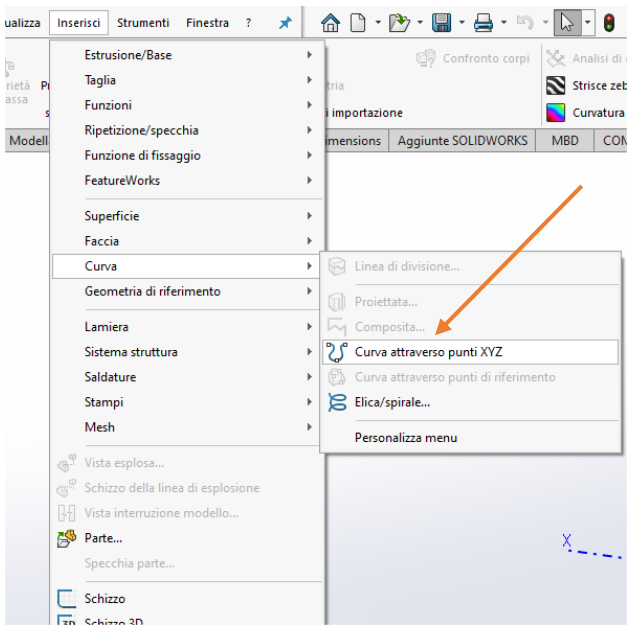
1) Add **ScanTo3D** tool
2) Drag-&-drop the horn *.asc* file directly in ***SOLIDWORKS***



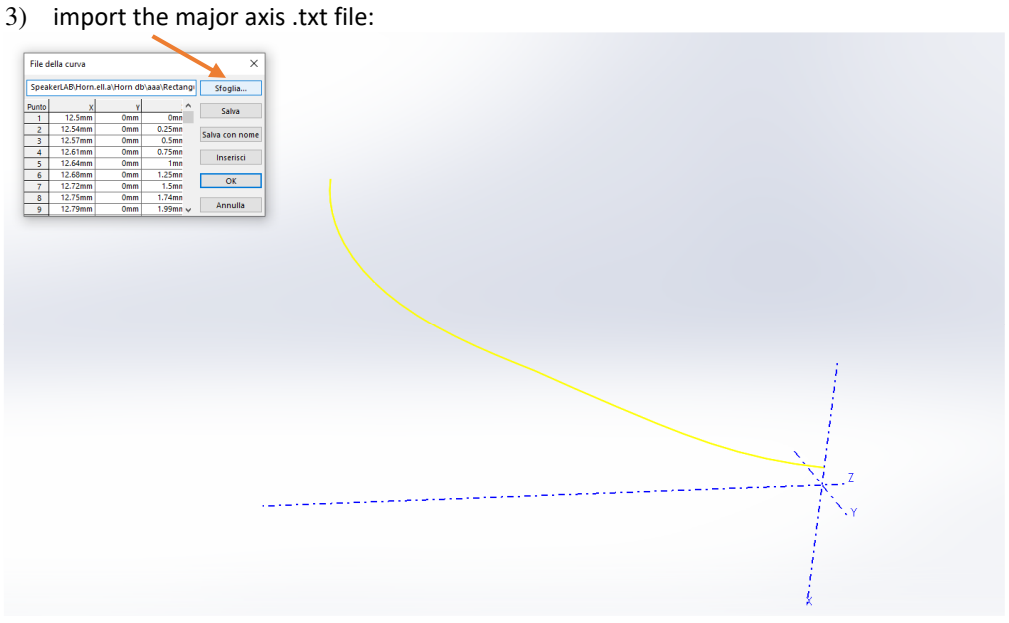
Change all files extensions to .asc and drag-&-drop it directly in ***SOLIDWORKS***

Without the **ScanTo3D** tool you must work with 2D profiles:

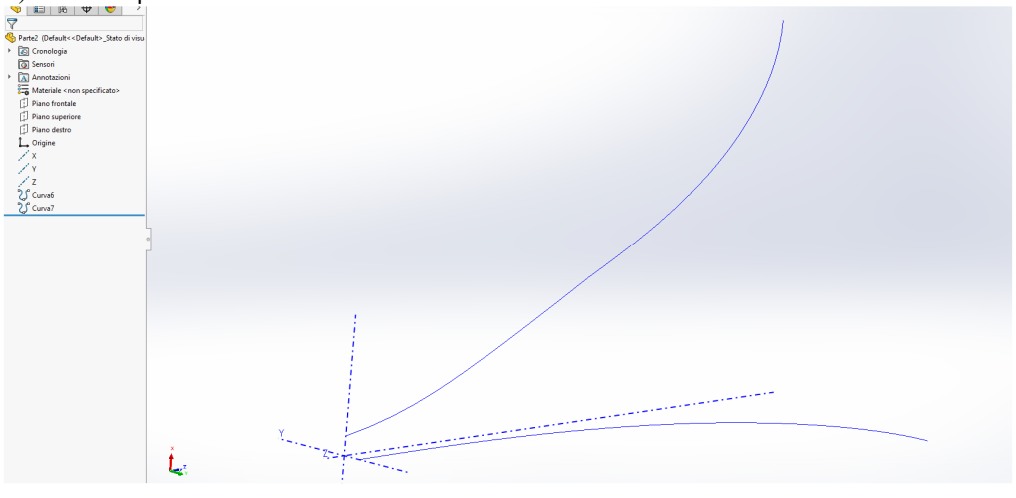
1) Change all *.horn* files extensions to *.txt*
2) Insert a XYZ curve:



3) import the major axis .txt file:



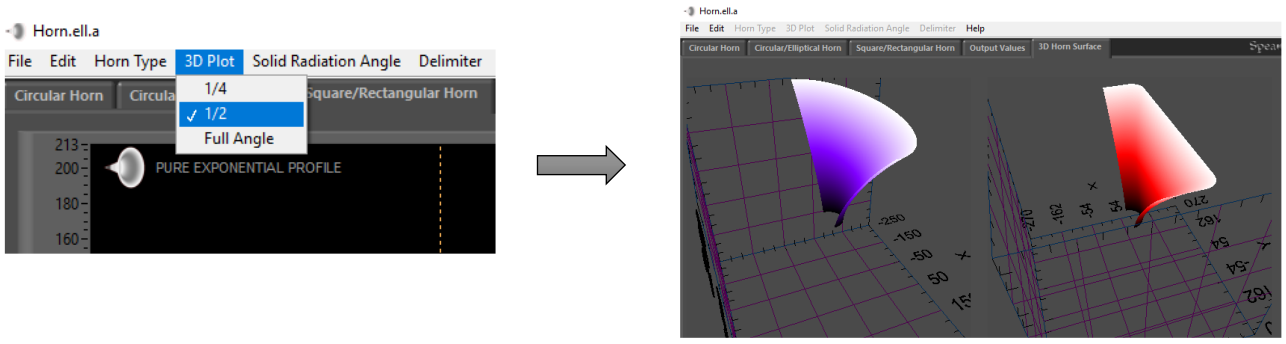
4) then import the minor axis .txt file:



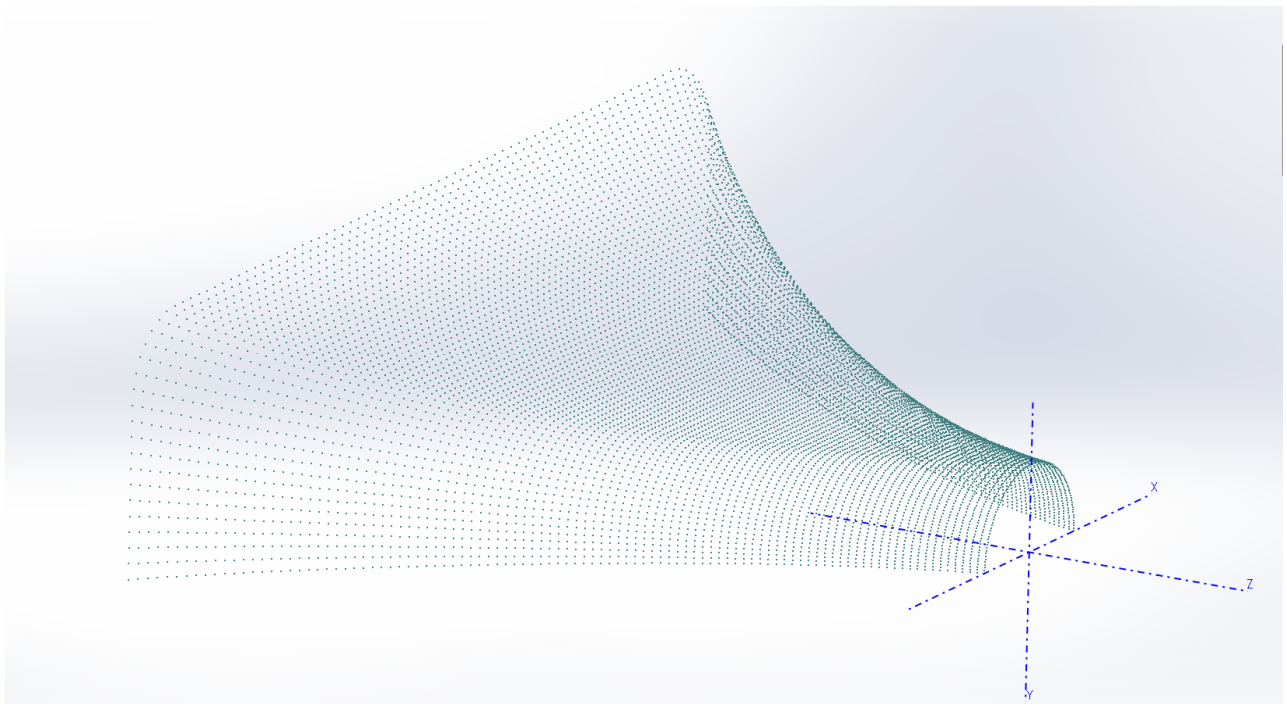
General notes:

If you have some problem to work with a 3D .asc file in your CAD, it is suggested to follow also these alternative ways to simplify 3D cloud points reconstruction:

1) Instead, a Full Angle, try to save and work with ¼ or ½ 3D Plots:



It permits to reduce cloud points in your CAD, without losing horn shape precision:



2) at least it is always possible to work with 2D profiles, minor and major axis, to design a 3D horn.

This document doesn't track software updates, so consider all described methods as a guideline, the procedures are an example and can change in any moment accordingly with software updates.