MAGNETISiM

Defining Round: Tools

GUI Overview

TAB MENU

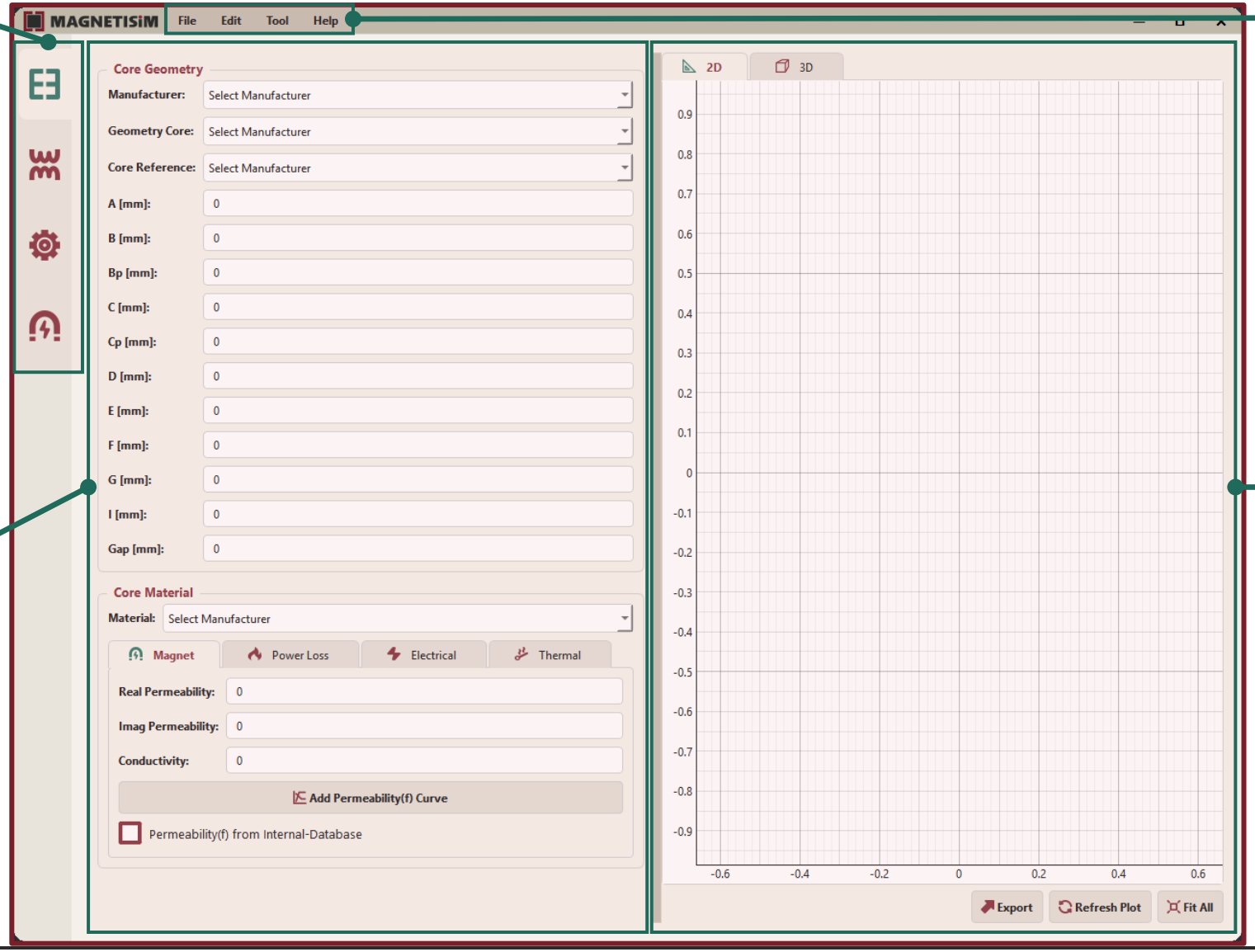
Core Geometry Tab (Ctrl+1)

Winding Geometry Tab (Ctrl+2)

Sim Config Tab (Ctrl+3)

Magnet Tab (Ctrl+4)

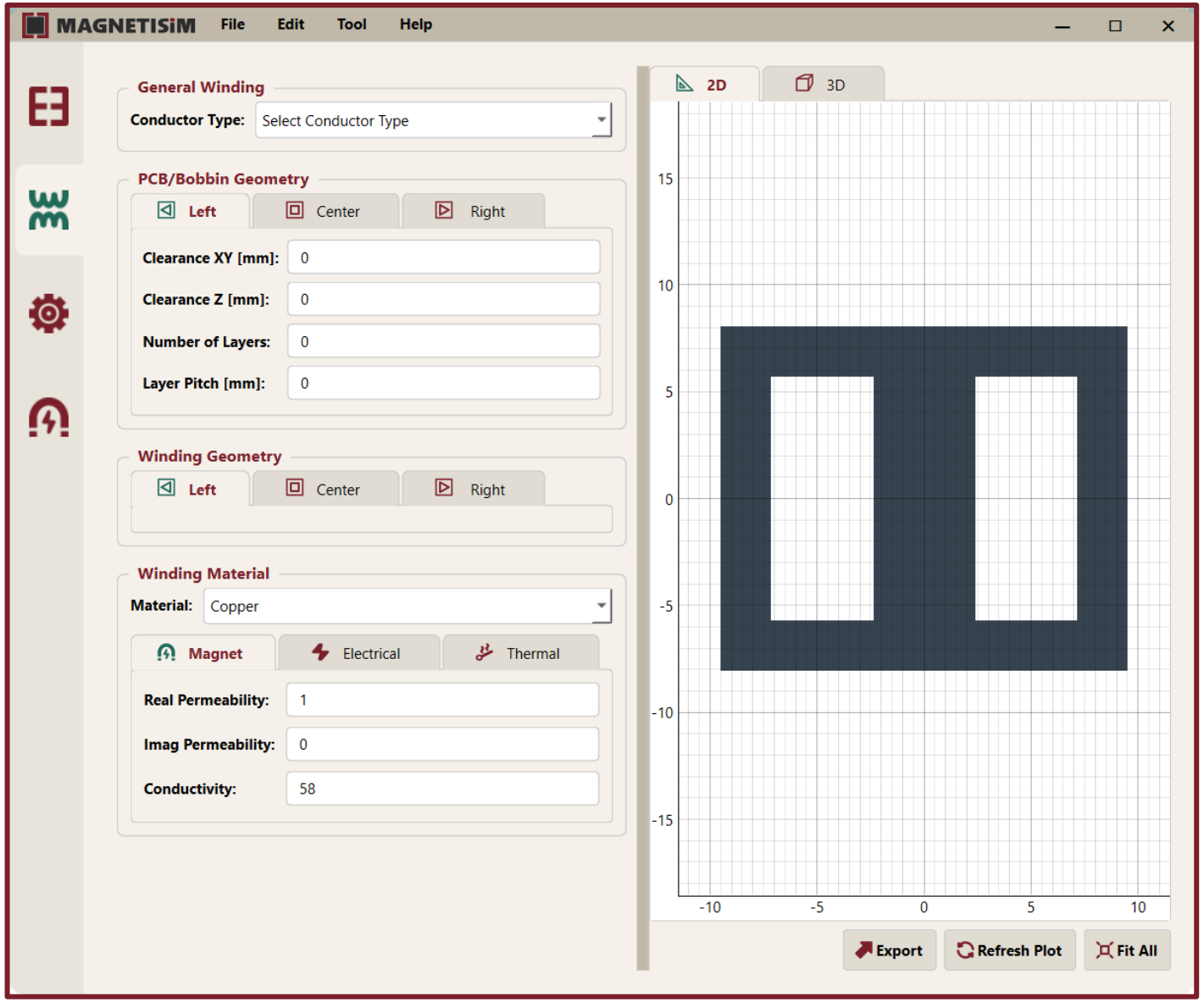
INPUT FRAME



BAR TOOL

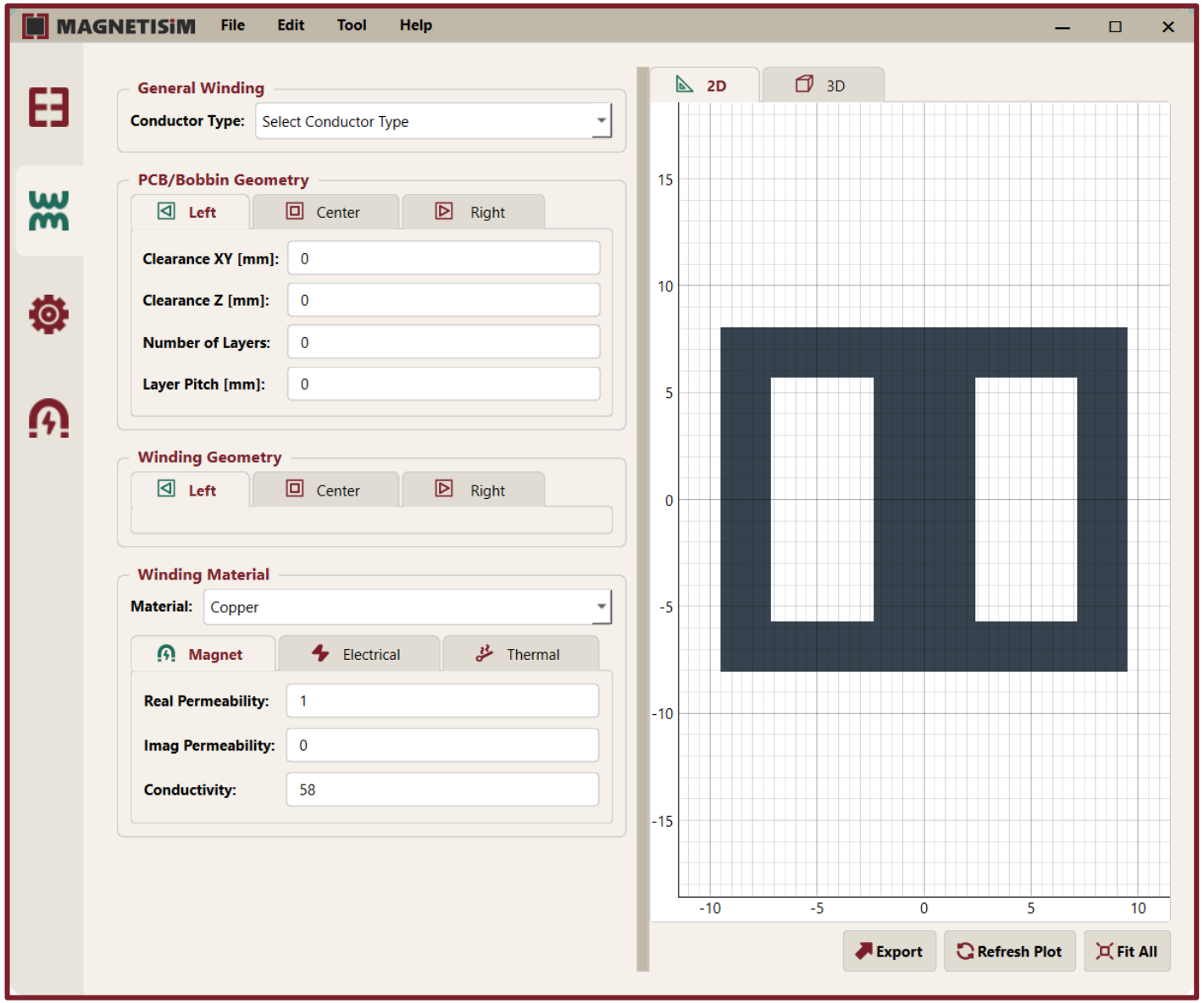
MODELER WINDOW

Winding Geometry Selection – PCB



Before configuring the winding details, make sure your core geometry is properly selected and visualized in the modeler window.

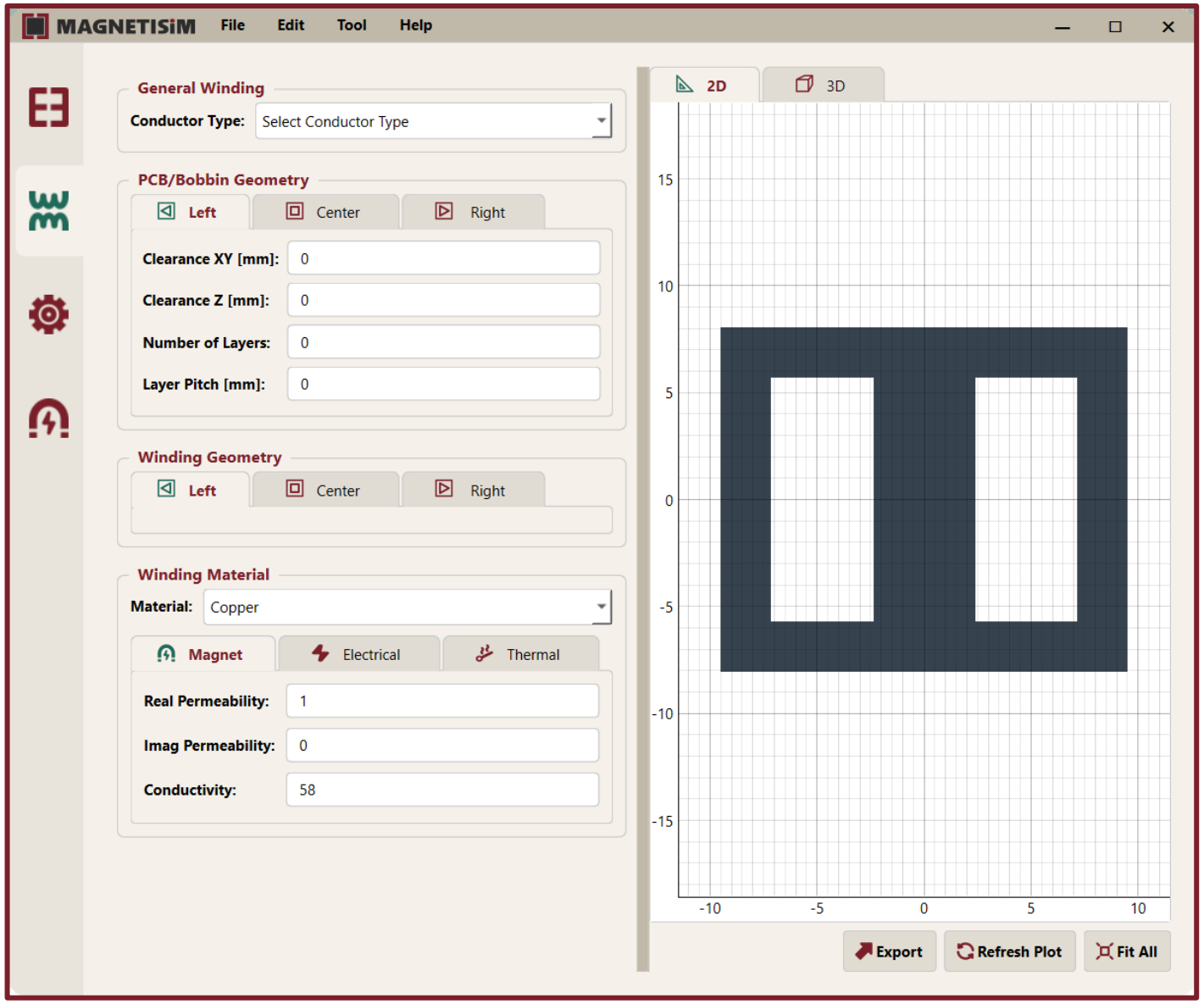
PCB/Bobbin Geometry



Once in the **Winding Geometry tab**, the first step is to configure the overall boundaries of your board in the **PCB/Bobbin Geometry section**.

- **Clearance XY** - This sets the horizontal safety margin or distance between the PCB traces and the core walls.
- **Clearance Z** - This defines the vertical safety distance.
- **Number of Layers** - Here you specify the total number of conductive copper layers your PCB design will have.
- **Layer Pitch** - This dictates the vertical separation between each of those PCB layers.

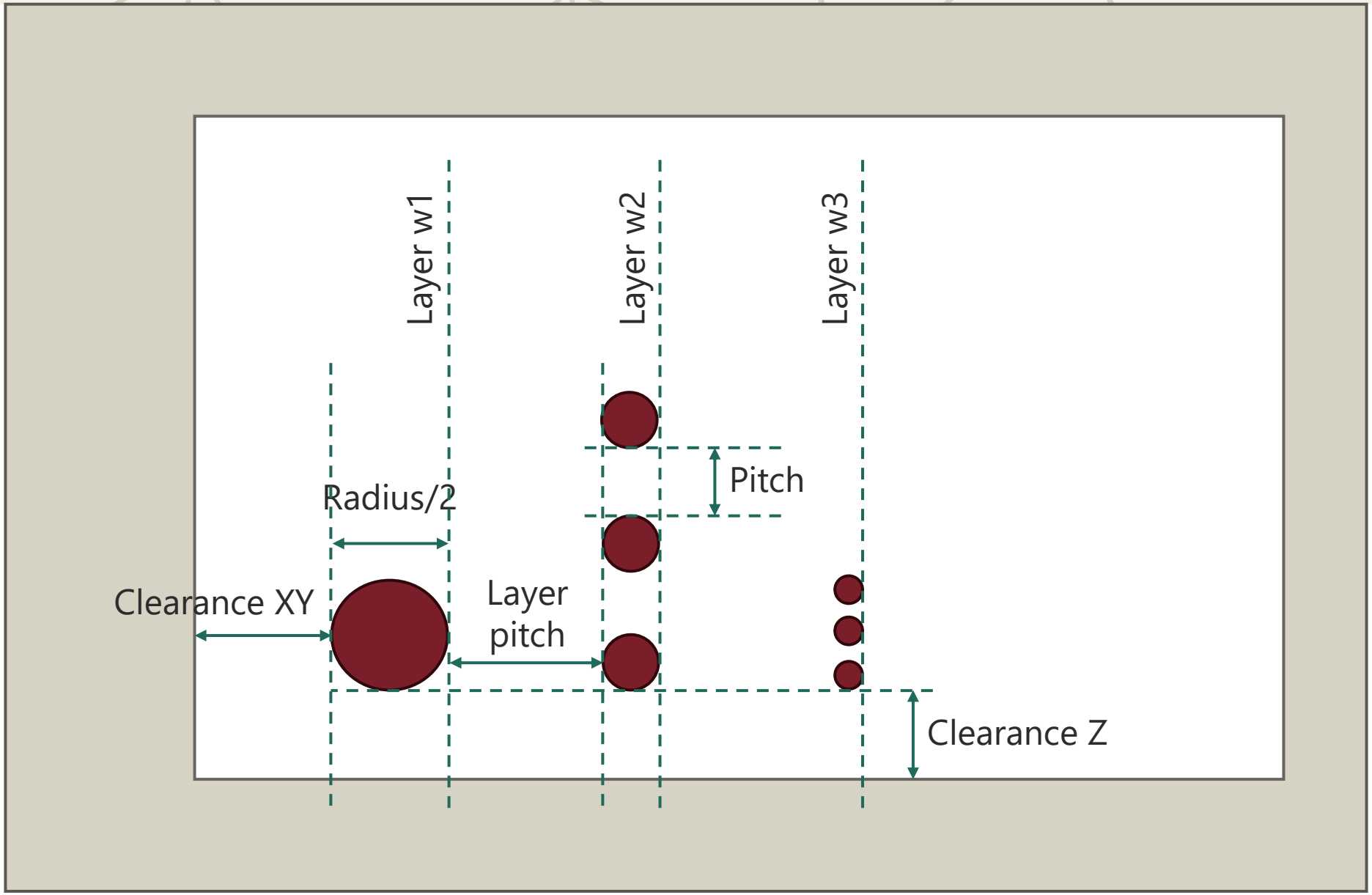
Winding Geometry



After defining the board structure, move to the **Winding Geometry section** to specify the physical dimensions of the tracks.

- **Distribution** - Distribution of the turns (Vertical or Horizontal).
- **Nturns** - The number of turns per layers.
- **Copper Radius** - The horizontal width of the copper trace.
- **Pitch** - The spacing between adjacent turns on the exact same layer.

Round Distribution parameters



Example

PCB/Bobbin Geometry

Left | Center | Right

Clearance XY [mm]:	1
Clearance Z [mm]:	1
Number of Layers:	3
Layer Pitch [mm]:	0.3

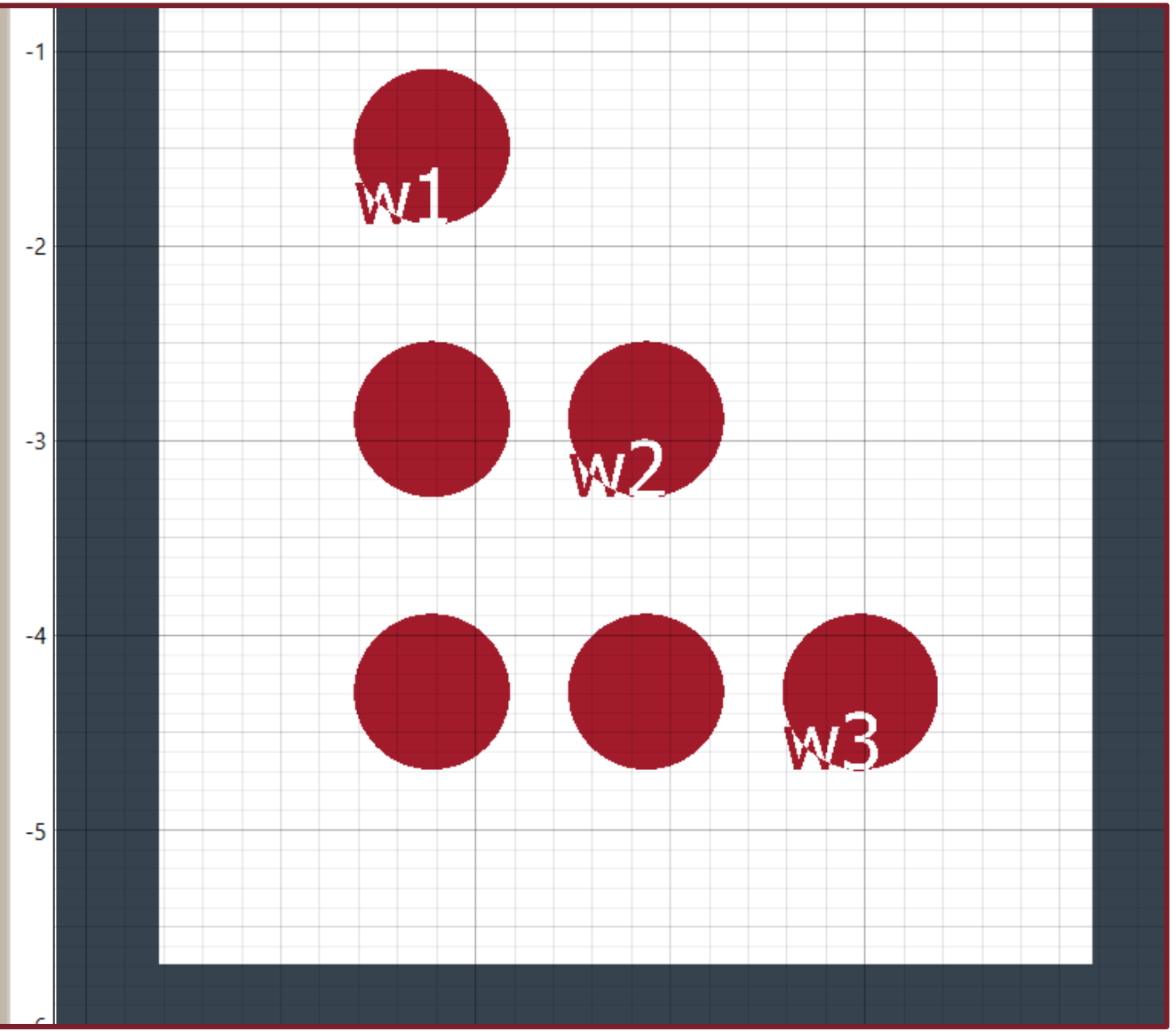
Winding Geometry

Left | Center | Right

Distribution:	V
Nturns:	3,2,1
Copper Radius [mm]:	0.4
Pitch [mm]:	0.6

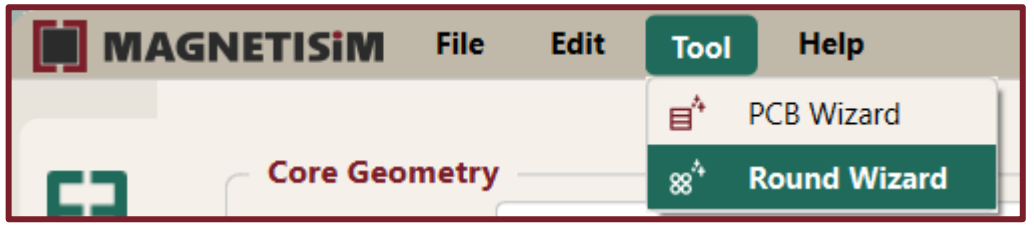
Winding Material

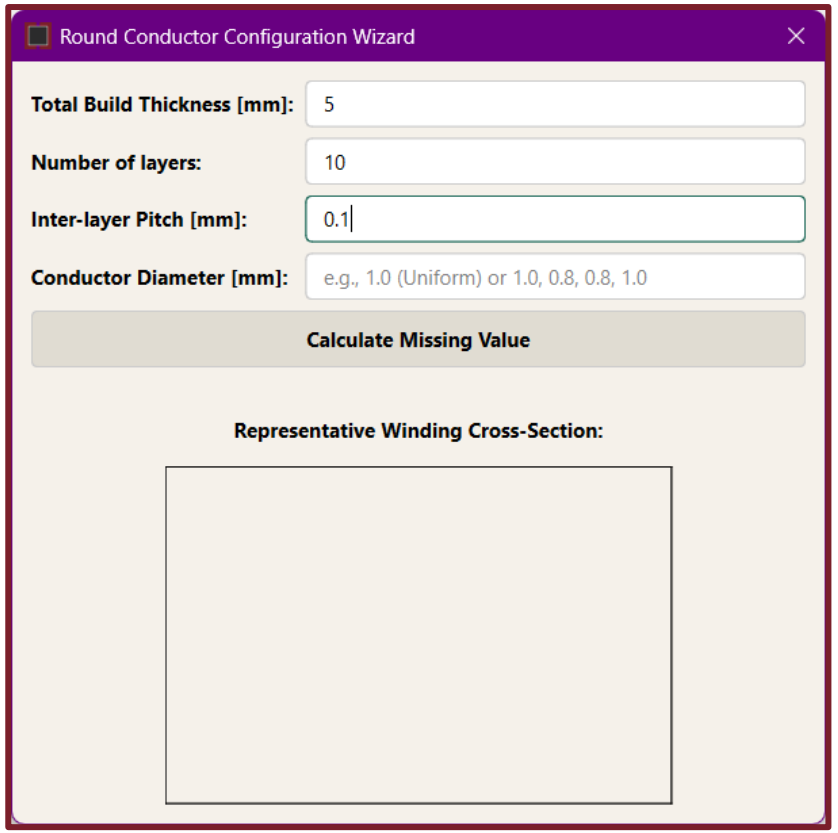
Material: Copper

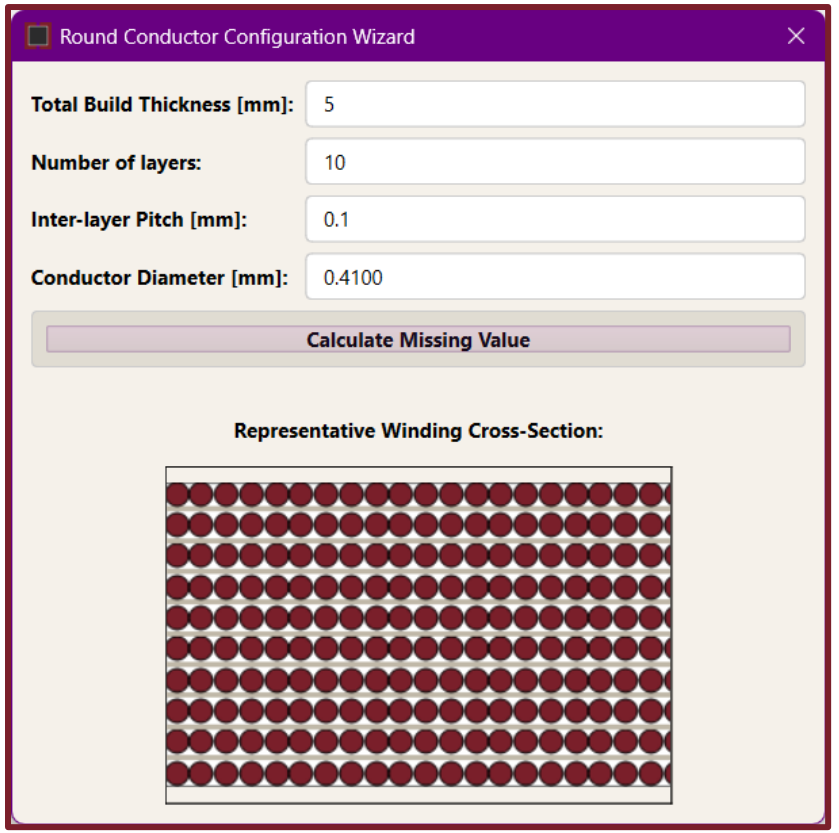


Round Wizard

If your design uses conventional round wires instead of PCB traces, the **Round Wizard** is also available in the **Tool menu**. Here you define parameters like the **Total Build Thickness**, **Number of layers**, **Pitch**, and the **Conductor Diameter**. Again, by clicking "**Calculate Missing Value**", the system does the spatial calculations for you and displays a Representative Winding Cross-Section diagram, showing the exact distribution and packing of the round copper wires







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