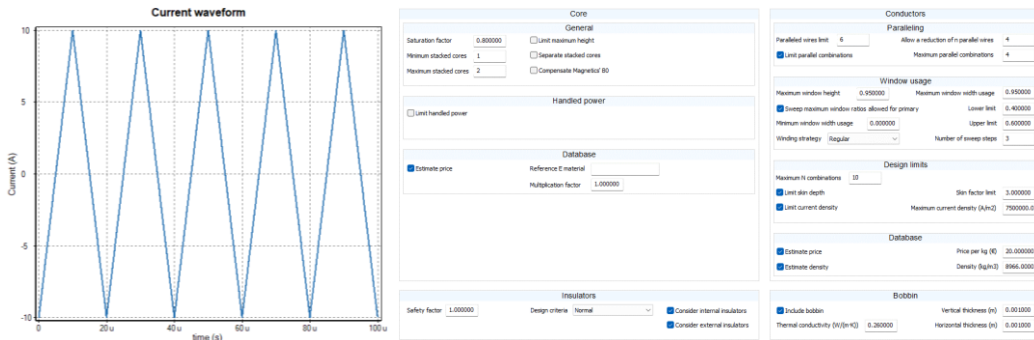


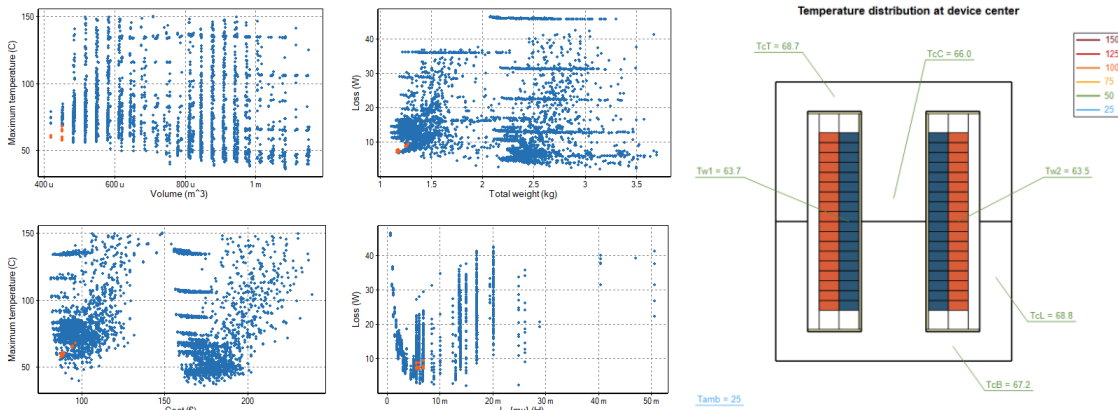
A single magnetic design tool for experts and newcomers

Speed up your magnetic design in 3 steps

1 Enter the minimum required data or manually adjust every parameter

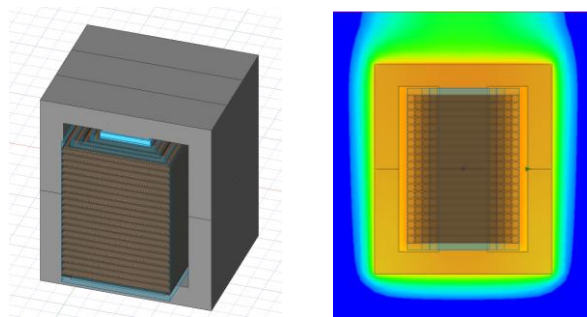


2 Select the device that best suits your needs



3 Get detailed results and automatically export to FEA tools

Parameter	Units	Value
Magnetizing inductance referred to primary	mH	9.34
Primary leakage inductance	nH	458
Secondary leakage inductance	nH	577
Secondary leakage inductance (referred to primary)	nH	577
Effective current at primary side	A	5.77
Current density at primary side	A/mm ²	0.463
Effective current at secondary side	A	5.77
Current density at secondary side	A/mm ²	0.463
Primary winding DC resistance	mΩ	7.54
Secondary winding DC resistance	mΩ	9.5
Primary winding loss	mW	285
Secondary winding loss	mW	359
B peak	mT	35.9
Core loss	W	1.02
Primary winding weight	kg	0.807
Secondary winding weight	kg	1.02
Core weight	kg	3.02
Total weight	kg	4.85



Versatile

A single design tool for experts and newcomers



Adaptable

Multi-objective optimization

In-depth

Not a black-box design. Provides full information of the device

Precise

Automatic 3D and 2D model generation for FEA tools

Scalable

From low to high power magnetics in a single tool



For every user

If you are an expert magnetic designer: tweak every design parameter to fit your needs.

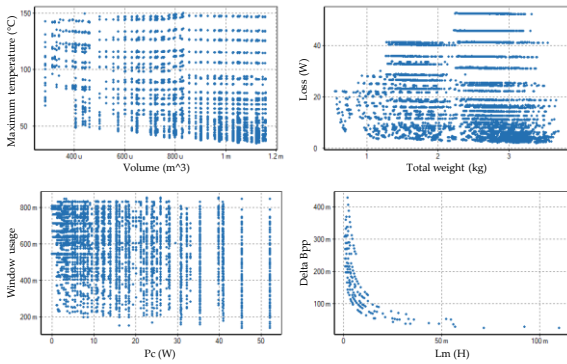
If you are new to magnetic design or are in a hurry: Let the tool decide everything for you!

The screenshot displays a comprehensive parameter configuration interface. It is organized into several sections:

- Core:** Includes options for General (Saturation factor, Maximum height, Stacked cores, Composite Hysteresis), Handled power, and Database (Reference material, Multiplication factor).
- Conductors:** Features Paralleling (Parallel wires limit, Max induction of parallel wires), Window usage (Maximum window height, Maximum window width usage, Sweep maximum window usage, Maximum window width usage, Winding strategy), and Design limits (Maximum turns, Layer slot depth, Litz current density).
- Database:** Contains Estimate price and Estimate density.
- Insulators:** Includes Design online (Normal) and options to consider internal or external insulators.
- Bricks:** Lists parameters like Vertical thickness, Horizontal thickness, Thermal conductivity, Price per kg, and Density.

Powerful intuitive interface

The tool allows the selection of up to 8 figures of merit at the same time to achieve the device with the best performance for any application.

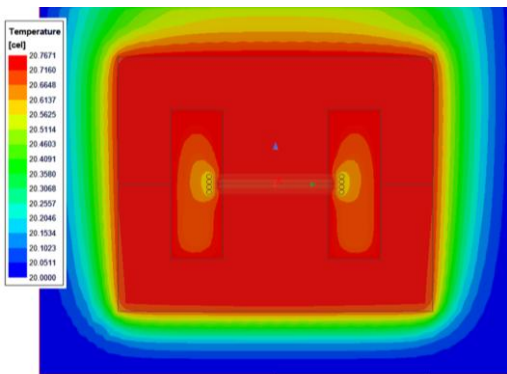


You can achieve the smallest, the lightest, the cheapest or the most efficient device or any trade-off between any figure of merit. Select the device that best fits your needs!

Temperature distribution

The temperature distribution in core, windings and insulation is included in the model, to ensure the selected device will be able to work within imposed limits. Natural and forced convection are available.

The temperature can also be verified in Ansys-Icepak thanks to the automatic export options.



State-of-the-art models

The use of state-of-the-art models for inductance, losses and temperature allows a fast and accurate comparison of every design possibility.

Accurately design thousands of devices before performing a FEM simulation of the desired one.

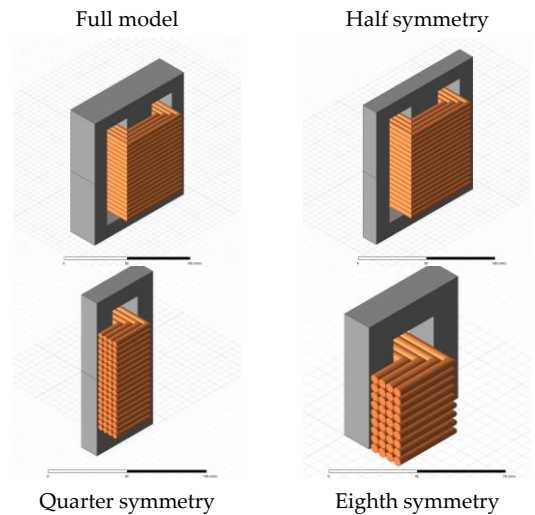
The screenshot shows the configuration for loss and inductance models:

- Loss models:** A dropdown menu for Core loss is set to 'IGSE'. Other options include SE, SE (harmonics), MSE, GSE, IGSE, and WcSE. Solid wire loss is set to 'GSE' and Litz wire loss is set to 'WcSE'. There is a checkbox for 'Precise B per'.
- Inductance model:** A checkbox for 'Consider mu_a' is checked.

Optimized accurate simulations

The 3D model accurately represents real wires, allowing a realistic simulation of electric and magnetic fields and temperature distribution.

Symmetries are considered to save simulation time and resources while maintaining a high accuracy.



Report

Automatically generate a high-resolution PDF report with everything you need: performance indicators, materials to buy, manufacturing parameters, inputs used, etc.

You can even configure what to include and personalize it with your own logos and comments.

The report screenshot is divided into two main sections:

- MANUFACTURING PARAMETERS:** A table listing manufacturing parameters and their values.

Parameter	Units	Value
Core geometry	mm	100x100x20
Core material	---	40%
Stacked cores	mm	0
Wind-up gap	mm	0
Winding core thickness	mm	0
Winding insulation	mm	0
Primary winding thickness	mm	100x100x1
Secondary winding thickness	mm	100x100x1
Electrically isolated wires per core in primary	---	1
Electrically isolated wires per core in secondary	---	1
Primary slot	mm	1
Secondary slot	mm	1
- PERFORMANCE:** A section for performance value indicators, accompanied by a 3D model of the transformer with various components highlighted in different colors.



Power Smart Control SL

Avda. Gregorio Peces Barba, 1
28919 Leganes (Madrid), Spain



sales@powersmartcontrol.com

