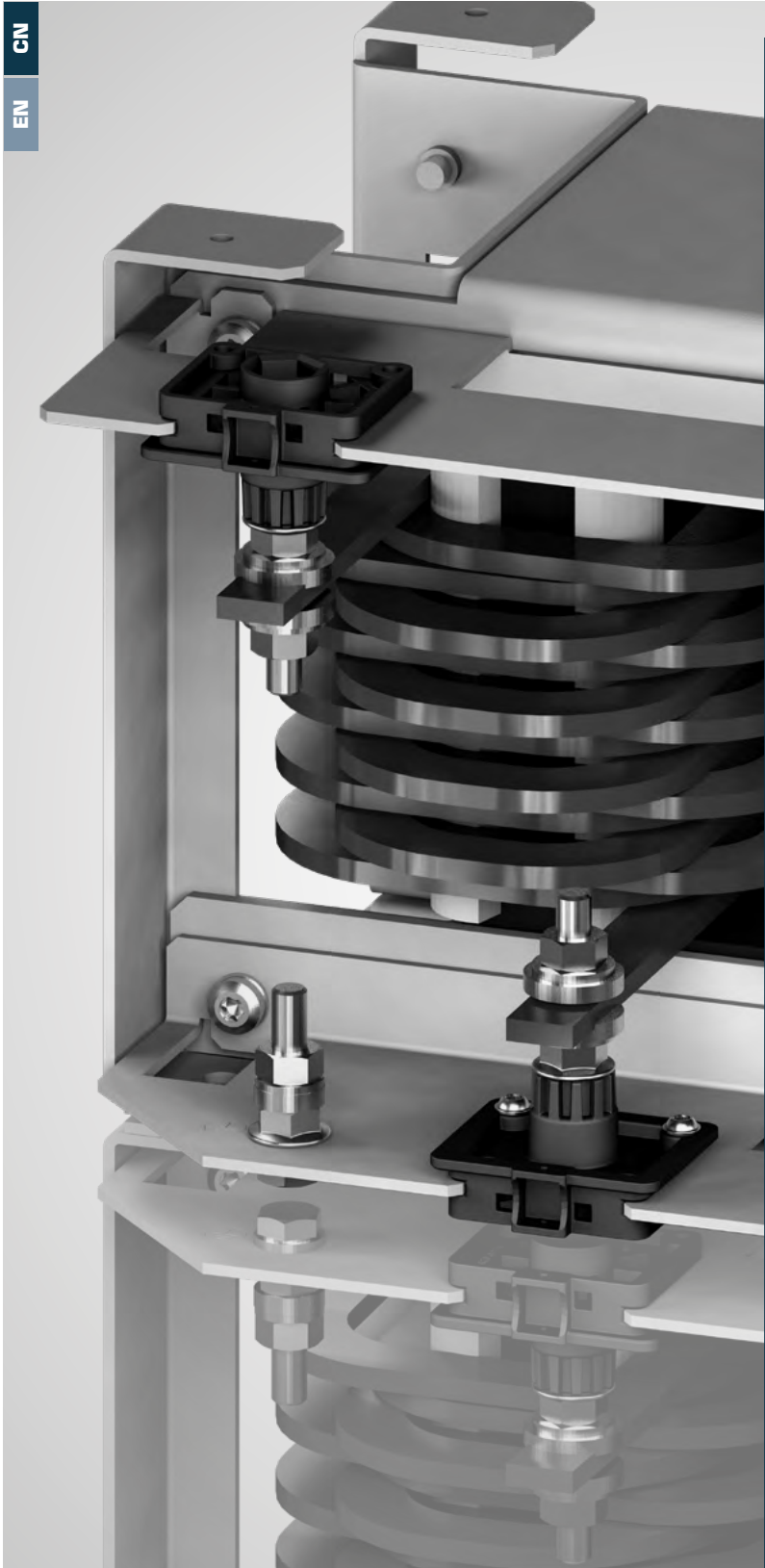


CN

EN

版本 1
Edition 1



电感用于
INDUCTANCES FOR
中频范围
MEDIUM
FREQUENCY
RANGES

BLOCK 定制产品

BLOCK custom-made products

MADE BY BLOCK    

BLOCK 
perfecting power

跨学科融合 推动电感产品市场的成熟型产品进程

INTERDISCIPLINARY APPROACH TO MARKET-READY INDUCTORS

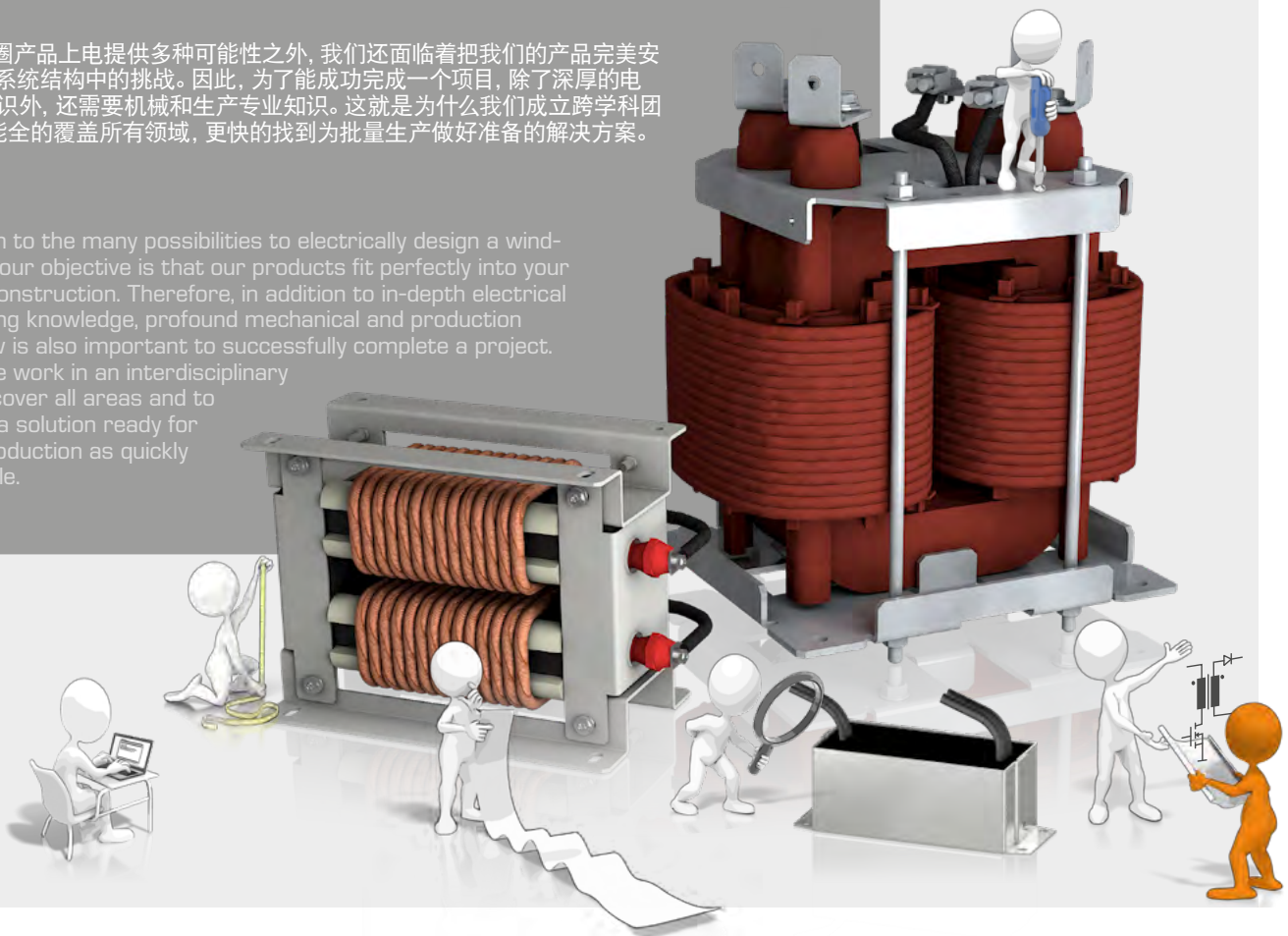
中高频电感和变压器在代表了一个动态的发展领域。近年来，新材料和新技术使不断创新成为可能。由于拥有一支强大的跨学科专家团队，BLOCK现在计划在早期阶段就参与客户的开发过程，从而在开发新部件时可持续地缩短上市时间。仿真软件在这一过程中提供了很大的优势。

Inductors and transformers for the medium frequency range represent a dynamic field for development. New materials and technologies have enabled innovative steps on a continuous basis over recent years. With a strong interdisciplinary team of experts, BLOCK now plans to get involved in its customers' development process at an earlier stage and thus sustainably reduce the time to market when developing new components. Simulation software offers a significant advantage in this process.



除了为线圈产品上电提供多种可能性之外，我们还面临着把我们的产品完美安装在它的系统结构中的挑战。因此，为了能成功完成一个项目，除了深厚的电气工程知识外，还需要机械和生产专业知识。这就是为什么我们成立跨学科团队，尽可能全的覆盖所有领域，更快的找到为批量生产做好准备的解决方案。

In addition to the many possibilities to electrically design a winding good, our objective is that our products fit perfectly into your system construction. Therefore, in addition to in-depth electrical engineering knowledge, profound mechanical and production know-how is also important to successfully complete a project. Hence, we work in an interdisciplinary team to cover all areas and to arrive at a solution ready for series production as quickly as possible.

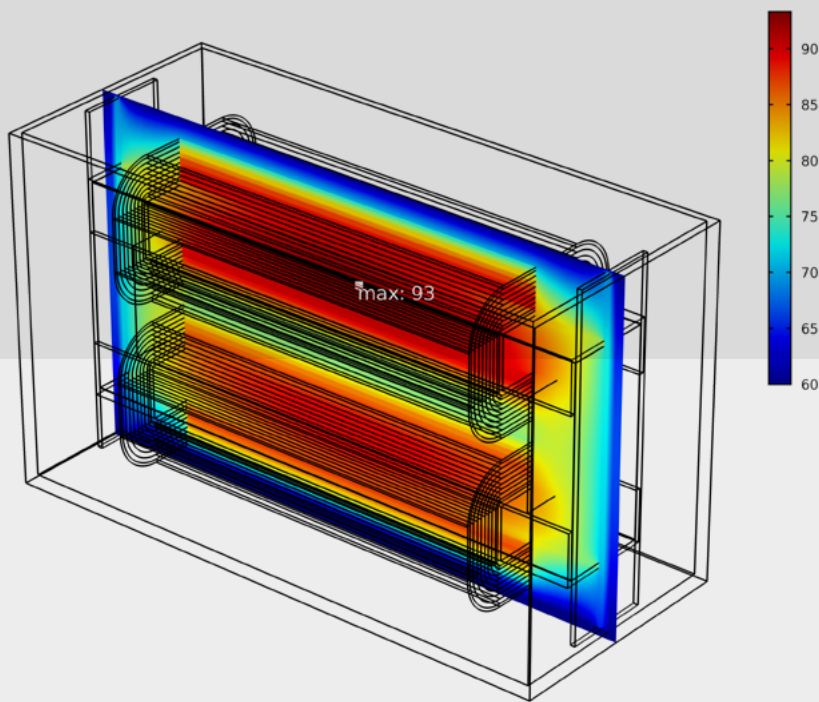


计算机模拟 在变压器和电感产品上

COMPUTER BASED SIMULATION FOR TRANSFORMERS AND INDUCTANCES

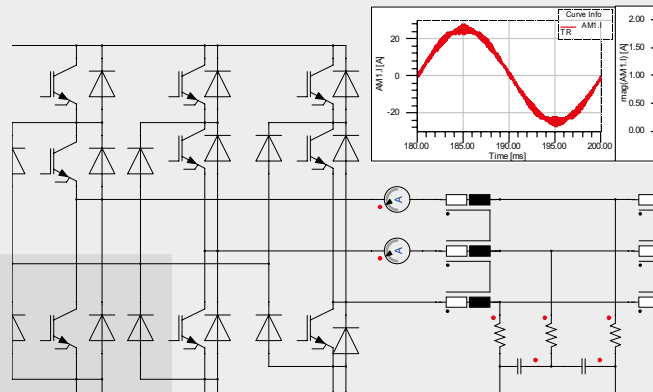
对于BLOCK的绕组产品，计算和模拟，如有限元模拟(FEM)能够提前检查其热性能。这为开发大型线圈产品领域的新解决方案提供了决定性的优势。因此，无需新的、昂贵的原型就可以检验必要的优化步骤的有效性。对于BLOCK客户，这意味着更快、更经济的实现他们的项目。

In the case of BLOCK winding goods, calculations and simulations, such as finite element simulations (FEM), enable the examination of their thermal behavior in advance. This provides a decisive advantage in the development of new solutions in the area of large winding goods. The effectiveness of necessary optimizing steps may as a result be examined without new, expensive prototypes. For BLOCK customers, this means a quicker and more cost-effective implementation of their project.



Ansys Simplorer 模拟软件 能够对客户系统进行建模，以模拟我们产品在实际应用中的电气行为。所使用的型号仅在BLOCK有售。

Ansys Simplorer simulation software enables customer systems to be modeled in order to simulate the electrical behavior of our products in actual applications. The models used are only available at BLOCK.

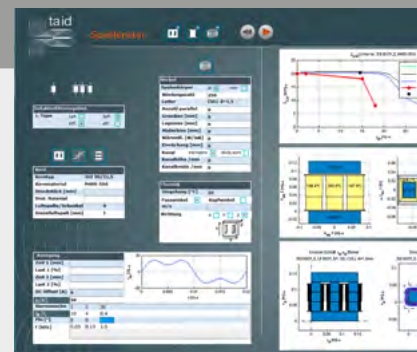


COMSOL Multiphysics 是一种用来模拟物理过程的软件程序。该程序是基于所谓的有限元方法(FEM)。在COMSOL的辅助下，我们能计算特殊发展过程、某些现象、电、磁、热、流动和静态模拟。

COMSOL Multiphysics is a software program designed to simulate physical processes. The program is based on the so-called finite element method (FEM). COMSOL allows us to calculate special developments, certain phenomenons, electrical, magnetic, thermal, flow and static simulations.

taid 是BLOCK所有的计算系统，可以对感应线圈产品进行磁、电、热解析计算和量纲计算。根据这些专业知识，BLOCK开发了计算算法，让我们的客户受益于我们独特的理论专业知识和先进的技术知识。

taid is BLOCK's proprietary calculation system and enables inductive coiled products to be magnetically, electrically and thermo-analytically calculated and dimensioned. The calculation algorithms were developed by BLOCK with this in mind, allowing our customers to benefit from our unique theoretical expertise and technologically advanced knowledge.



散热板的装配 在变压器和电感产品上

HEAT SINK MOUNTING FOR TRANSFORMERS AND INDUCTANCES

在半导体上安装散热板是最普遍最好的散热形式。您可以直接把我们的带有散热体的变压器和电抗器用在现有的系统中，以达到最高的功率密度。特别是在中间功率10-50千瓦的范围内，这种制冷方式是最具有优势的。我们根据经验、仿真和样本来优化解决方案的性能，以适合您的应用和要求。紧凑的设计和直接的散热是装有散热体的绕线产品的显著优点。

Heat sink mounting is the best and most common way of cooling semiconductors. With our transformers and reactors for heat sink mounting you can use your existing system to achieve the highest power densities even with winding goods. Especially in the medium power range between 10-50kW this kind of cooling is very convenient. Tailored to your application and requirements, we optimize the performance of our solution based on experience, simulations and samples. Compact design and direct heat dissipation are the advantages of winding products with heat sink mounting.



应用例子1: 农业机械紧凑控制
Application example 1: Compact controllers for agricultural machinery



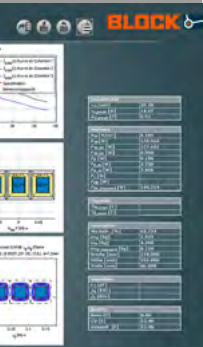
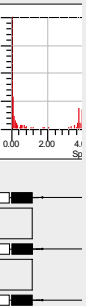
应用例子2: 氢气生产中的电解
Application example 2: Electrolyzers for the production of hydrogen



应用例子3: 光伏系统和储能系统
Application example 3: Photovoltaic plants and storage systems



应用例子4: 轮船的岸电连接
Application example 4: Shore power connection of ships



空气冷却 在变压器和电感产品上

AIR COOLING FOR TRANSFORMERS AND INDUCTANCES

与其他相比空气冷却是最简单的散热方式。在不增加额外通风装置的前提下，仅通过我们优化后的结构优势就能达到极高的功率密度。特别是对于500千瓦功率范围内的大型变压器和电抗器来讲，空气冷却也是最经济实惠的方式。假如需要一个更高效紧凑的解决方案，那么可以通过增加通风装置来大大提高功率密度。最小的重量和简单的制冷方式是带有空气制冷装置的线圈产品的优势所在。

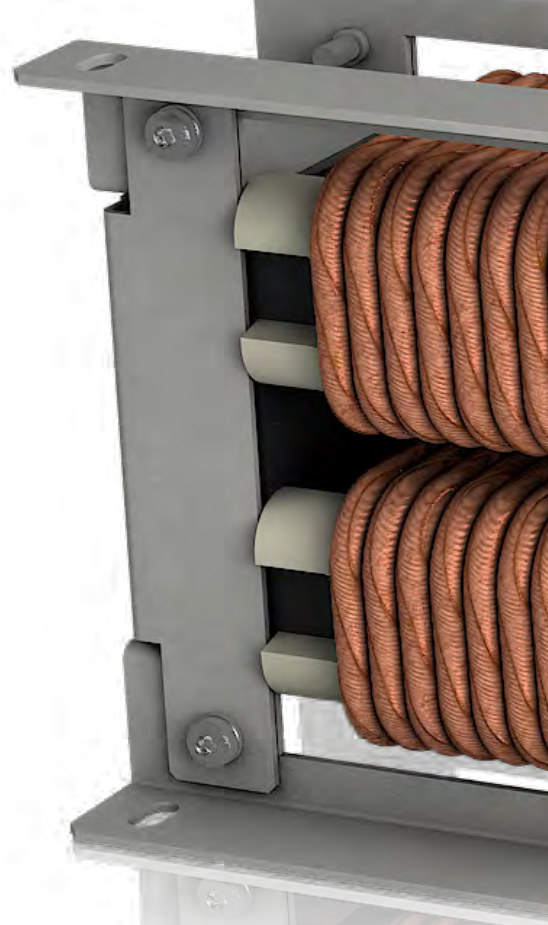
Air cooling, on the other hand, is the easiest way to dissipate heat. Even without additional fans, our optimized designs allow high power densities to be achieved. Especially for large transformers and reactors in the power range up to 500kV, air cooling is the most economical option. However, if a more compact solution is required, the power density can be significantly increased by an additional fan. Lowest weight and simple cooling are the advantages of winding goods with air cooling.

开放式的结构和极好的保护

带有铁氧体、粉末晶核和纳米晶核的变压器和电感产品可以在高频领域表现出绝佳的性能。全绝缘的高频绞线融合在开放式结构中，完善了整个设计。同时为在极端环境条件下的使用提供了最安全的保护。在轨道交通技术领域，我们的产品可以在水下使用及通过高压测试，最重要的是我们的产品寿命可达30年。

OPEN DESIGN AND WELL PROTECTED

Transformers and inductances with ferrite, powder or nanocrystalline cores offer optimum performance at high frequencies. An open design with a fully insulated high frequency litz wire completes the design and provides reliable protection even under the toughest environmental conditions. In railway technology for example, our products are HV-tested after water dipping and offer a 30-year service life.

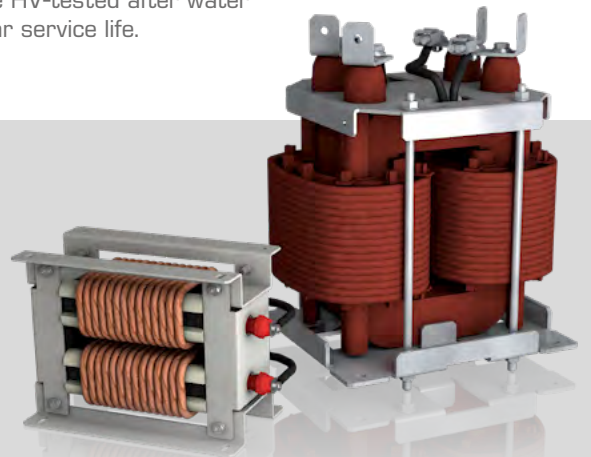
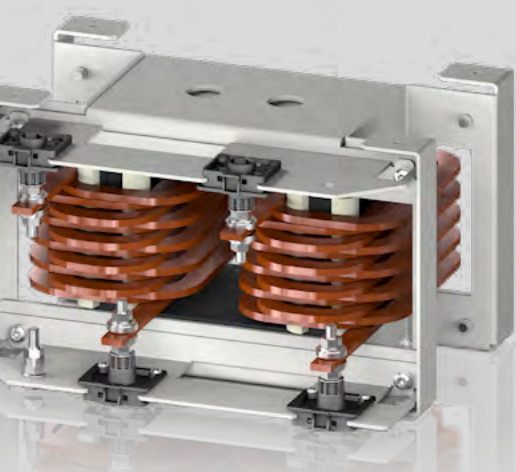


正确的材料组合

THE RIGHT COMBINATION OF MATERIALS

如果DC元器件在您的实际应用中增多，那么您也许会对我们的未来绕线技术产生兴趣。根据不同的需求，较高的饱和稳定性、稳频电感、较小的功率损耗、极高的功率密度，更或者是高短时功率，都可以通过不同的绕线方式和不同的铁芯种类进行组合进而实现。在不同的材料选择和方案概念的帮助下，我们可以为您的实际应用提供最佳的解决方案。

If, for example, the DC component in your application increases, our Future Winding technology may also be of interest. Depending on the requirements, whether high saturation resistance, frequency-stable inductance, low power dissipation, high power density or high short-term power, any type of winding can be combined with any type of core. With our wide selection of materials and solution concepts, we always offer you the optimal solution for your application.



全球化的公司 A GLOBAL COMPANY



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