

The Quantum Leap of De-magnetization

The Maurer Magnetic AG (company of shareholders), a Swiss high-tech enterprise with 15 employees and more than 40 years of specialized know-how, has developed an innovative process for the demagnetization of the alternating field, which may well revolutionize the industry.

With the first cut of the spade, the magnetizing specialist from the Zurich Oberland has laid the foundation stone for the new technology and service centre. The minimum-energy annex nearly doubles the area of the existing company premises. The extension has become necessary because of the process jointly developed with Professor Dr. Urs Meyer from the Institut für Produktionsautomation der Eidg. Technischen Hochschule Zürich ETH (Institute for production automation of the Swiss School of Engineering in Zurich, which puts the demagnetization of the alternating field on a new level. The project was initiated in the year 2001 by the screen worries of a multinational company in the Far East.

Japanese Troubles

The concern was confronted with demagnetization problems when producing TV screens, which none of its technology partners was able to solve efficiently. Maurer Magnetic AG filled the gap and, together with the ETH Zurich, developed a multi-stage system, which solved the Japanese problems. This was the starting point for the revolutionary Maurer-degaussing-process. The quality of the technology applied, e.g., the residual magnetism of small earth fields, are part of the achievements realized. To reach such values, the intensity, the number and the precision in the course of the decreasing pole reversal, as well as the frequency, are decisive, all of which are employed for the first time and simultaneously during the demagnetizing process. Encouraged by these results, Albert Maurer, the executive manager, together with a team of engineers, has developed a complete series of demagnetizing machines in the course of the last few years. An extensive range of patents for processes, realization, as well as application, from all over the world, has resulted from these research activities.

The first phase has now been consolidated by the start of the serial production of the Maurer Magnetic demagnetizing devices.

FMT[®] und CFT[®]

For the processing of the required high magnetic field, two different technologies are employed. The «Field Multiplier Technology»[®] (FMT[®]) is employed as a multiplier. The incoming energy from the process performance unit is operated by means of a resonant circuit and thus produces high magnetic fields, which are mostly employed in the HLE ultra-high performance systems of specially customized coils. On the other hand, the newly developed and exclusive «Constant Field Technology»[®] (CFT[®]) keeps the magnetic field constantly high, independent of the filling ratio of the coil, without the normally occurring breakdown of the magnetic field. In the additional pulsed mode operation, the performance is highly enhanced for a short period of time. This innovation enables rapid processing periods which are decisive for the productivity. The higher the changing field, the better the parts are demagnetized. Thus, Maurer Magnetic covers all the requirements of demagnetizing; from the classic hand and plate demagnetizing up to the high-tech solution based on FMT or CFT[®], which can be fully integrated in automated processes. This means that the best and the most cost-effective solution for customers can be individually configured from the modular range of products. For this purpose, performance elements from 50 up to 300 kA intensity of current are individually combined with the required coil elements. Because of the advantages of the Maurer-Degaussing-Technology, the actual customizing of the element which has to be demagnetized is not necessary any longer. This flexibility enables customers to make future-oriented investments with a high stability of their value.

Capacity for research and development

The technology and service center, which will be ready to move in in March 2009, has been designed for all aspects concerning demagnetizing in research, development and training. Maurer Magnetic keeps abreast of the ever-increasing demand by out-sourcing its production to carefully chosen local partners. This approach provides sufficient flexibility for new developments and individual customer requirements, such as, for example, the offering of demagnetizing as a service. Guarantees, such as the processes employed and the qualified know-how, are the decisive aspects of this service, independent of whether the

demagnetizing of individual prototypes or mass manufactured products are required. The entire process is minutely protocolled and certified by Maurer Magnetic.

Some of the most important Maurer-Degaussing-users are well-known names from the industrial sector and the automobile industry. However, productivity, minimum consumption of energy, process security, as well as the highest quality, are a combination of impressive and highly valued trump cards. With its technology and service center, Maurer Magnetic consolidates its consequently pursued work of the past years, makes an investment for the future and creates new job opportunities for qualified engineers.

(Picture: Maurer performing the first cut of the spade 2008)

(Caption: The Maurer family at the successful first cut of the spade (with VR-President Dr. U. Meyer (left)))

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