Press Information

Ideal for EMC applications:

VACUUMSCHMELZE presents cores and chokes of nanocrystalline VITROPERM® at the 2012 PCIM in Nuremberg

Press contact:

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Hanau / Frankfurt – VACUUMSCHMELZE GmbH & Co. KG (Hanau) will again attend this year's PCIM, the leading international trade show for power electronics, intelligent motion and power quality. The company can be found at Stand 307 in Hall 11 with a full portfolio of products from its Cores and Components division. A focus this year will be toroidal tape-wound cores and common mode chokes using the nanocrystalline material VITROPERM® for EMC applications.

Common mode chokes from VAC are built around toroidal tape-wound cores of the magnetic nanocrystalline material VITROPERM, which features a wide permeability range from 5,000 to over 150,000 and high saturation flux density of 1.2 T. In most cases, the volume of nanocrystalline chokes can be significantly reduced in comparison to conventional ferrite chokes - typically by a factor of three. Despite high flux densities, VAC chokes typically use a low number of turns and large copper cross-section, thereby reducing copper losses and further improving system efficiency. Nanocrystalline common mode chokes display a broadband attenuation characteristic, determined in the low-frequency range by the high level of material permeability and at higher frequencies by the low winding capacitance. In many cases, this broadband attenuation enables EMI filtering to be simplified or the number of passive components reduced by the omission of additional filter stages.

The new range of **UL1446 nanocrystalline common mode chokes** has been extended to include upright 2-phase chokes for rated currents of 12 to 30 A and DC voltages up to 1000 V. Other new additions are upright three-phase chokes with extra-compact footprint, requiring only around half the board space of low-profile chokes. All chokes of this type are designed to comply with the requirements of EN50178 and are ideally suited to grid operation and high DC voltages up to 1000 V. They are therefore the product of choice for EMC filters on the grid

side of solar inverters, power supplies and on the line to the solar panels. The new chokes enable extremely compact and high-performance EMC filters with excellent long-term stability and high temperature consistency to be designed, improving reliability and significantly enhancing efficiency. VAC now offers a CMC Sample Kit for customers' in-house tests. The kit contains a selection of 24 common mode chokes from the new UL1446 series comprising dual-winding chokes for single-phase applications and three and four-winding chokes for three-phase applications.

In the area of **nanocrystalline toroidal tape-wound cores**, the Core Sample Kit has been expanded to include VITROPERM® cores with external diameter up to 45 mm. The kit is suitable for the development of common mode chokes for rated current up to approx. 80 A and output of up to approx. 20 kW. The wide range of permeability levels µ for each core size provides developers with the maximum flexibility in laboratory testing. The new kit is available from VAC distributors.

VACUUMSCHMELZE GmbH & Co. KG

VACUUMSCHMELZE (VAC) with 1,500 employees in Hanau, designs, produces and markets advanced materials, particularly with magnetic, but also with other physical qualities as well as related products. In 1914, the first vacuum furnace laid the foundation for today's VACUUMSCHMELZE. Industrial vacuum melting techniques for alloys have been in operation since 1923.

VAC Group today achieves annual sales of more than 450 million Euros in over 40 countries and is holder of more than 750 patents. The company is among the world's most highly innovative developers of advanced industrial materials.

VAC's range of products comprises a broad array of advanced semi-finished materials and parts, inductive components for electronics, magnets and magnet systems for use in a wide variety of fields and industries spanning watch-making and medical technology, renewable energies, shipbuilding, automotive and aviation. VAC's custom solutions are developed in close collaboration with the customer, reflecting the company's expertise in materials, applications and state-of-the-art production technology.

Find out more at www.vacuumschmelze.com