

Above the clouds:

The dream of electric flying

Press contact:

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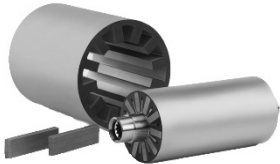
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Hanau - Demands for lower kerosene consumption, lower pollutant emissions and reduced noise pollution are increasing in aviation and are driving the development of full-electric and hybrid-powered aircraft. The related demand for light yet powerful engines brings the high-performance materials of VACUUMSCHMELZE (VAC) into play. Not only numerous start-ups, but also renowned companies are pushing development forward. VAC will be happy to advise on this on the occasion of CWIEME 2018 in Berlin.

While the Swiss start-up Evolaris has already launched an all-electric aircraft using VAC materials, industry leaders are working on hybrid solutions for commercially used long-haul aircraft. With these, a kerosene driven turbine, which operates at any time at constant speed in the optimum power range, feeds a generator. This in turn drives the all-electric main drive. This is estimated to result in kerosene savings of more than ten percent.



Rotor-stator-system with rare-earth permanent magnets

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For both technical concepts, the highest possible induction with low losses is decisive. Stators made of the cobalt-iron alloy VACOFLUX[®] 48 are therefore the first choice. They allow a 50 % higher induction compared to systems with electrical steel. The patented VACSTACK[®] technology allows the tightest tolerances to be kept and the low sheet thickness of only 50 µm allows 98 % packing density and the lowest eddy current losses to be produced. Rotor systems with rare-earth permanent magnets made of VACOMAX[®] 262 HRP make it possible to maximize torque and acceleration in the smallest and most reliable size even at high application temperatures of up to 250 °C.

"At this year's CWIEME Berlin we will present the latest developments and products on the main topics of electric drives, especially for aviation and automotive applications. We are delighted to have the opportunity to discuss individual solutions with interested parties on site," says Norman Lemm, Head of Marketing at VAC.

VACUUMSCHMELZE GmbH & Co. KG

VACUUMSCHMELZE (VAC), based in Hanau, has 4300 employees worldwide, 1,450 of whom are in Hanau. The company 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 approx. 380 million euros in over 50 countries and is holder of around 800 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, installation technology, 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.

For more information, visit www.vacuumschmelze.com

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