

## **PRESS RELEASE**

### **Pfeiffer Vacuum Supports Young Research Team at the North Hesse School Student Research Center**

- **Donation helps develop new technologies**
- **Cutting-edge pump technology used in scanning electron microscope**
- **Carbon footprint reduction**

**Asslar, November 04, 2021.** Young researchers from a variety of disciplines are taking advantage of the infrastructure and opportunities offered by the Schülerforschungszentrum Nordhessen (SFN) student research center to develop ideas for new processes and products. Now, Pfeiffer Vacuum is supporting the Student Research Center by donating a backing pump.

As part of a project, students are developing a filter for detached houses to convert CO<sub>2</sub> into O<sub>2</sub>. In this process, exhaust gases from gas or oil heating systems are passed through a flat algae tank which can be fitted to the wall of any house. With the aid of photosynthesis, the CO<sub>2</sub> in the exhaust gases is converted back into oxygen. The team is currently working to develop a stable process. They are assisted in their efforts by a scanning electron microscope which was donated by ZEISS.

An electron microscope is an instrument that makes the smallest structures visible. To operate an instrument of this type, it is necessary to use vacuum pumps, which play a role in the energy balance of the electron microscope. Since it is currently not possible to quantify the energy balance of an electron microscope, the Student Research Center in Kassel has also taken on this task: young people are using a scientific approach to investigate the carbon footprint of an electron microscope.

Dr. Frank Zeismann from the University of Kassel is supervising the experiments: “Immediately after replacing the old pump with the Pfeiffer Vacuum HiScroll, we were impressed by the low noise emissions. The students are planning to observe the power consumption, document it scientifically and by doing so also generate a decision-making aid for the manufacturer.”

Andreas Schopphoff, Head of R&D Market Segment at Pfeiffer Vacuum: “Supporting young scientists is a matter which is very close to Pfeiffer Vacuum’s heart. We are pleased in this way to provide the Student Research Center with the most advanced oil-free backing pump available in order to optimize the carbon footprint of the microscope and therefore make a contribution towards sustainability. This new scroll pump is an ideal complement to the Pfeiffer Vacuum turbopump which is already installed. Large electrical appliances which require vacuum to operate have an enormous energy-saving potential. This potential can be leveraged through the use of modern technology and intelligent control. I am very pleased that young people are helping to achieve this with their commitment.”

**Find more information about the HiScroll backing pump:**  
<https://t1p.de/pfeiffer-vacuum-HiScroll-Pumps>



Caption: State-of-the-art pump technology from Pfeiffer Vacuum in action with the ZEISS scanning electron microscope at the North Hesse Student Research Center

Find high resolution images for download [here](#).

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**About Pfeiffer Vacuum**

Pfeiffer Vacuum (stock exchange symbol PFV, ISIN DE0006916604) is one of the world's leading providers of vacuum solutions. In addition to a full range of hybrid and magnetically levitated turbopumps, the product portfolio comprises backing pumps, leak detectors, measurement and analysis devices, components as well as vacuum chambers and systems. Ever since the invention of the turbopump by Pfeiffer Vacuum, the company has stood for innovative solutions and high-tech products that are used in the Analytics, Industry, Research & Development, Coating and Semiconductor markets. Founded in 1890, Pfeiffer Vacuum is active throughout the world today. The company employs a workforce of some 3,300 people and has more than 20 sales and service companies as well as 10 manufacturing sites worldwide.

For more information, please visit [www.pfeiffer-vacuum.com](http://www.pfeiffer-vacuum.com).

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