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Press release

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# Schwing Technologies to showcase environmentally friendly thermal vacuum cleaning technology at Equiplast 2021

**German cleaning systems remove recyclates from filters**

Plastics recycling and the circular economy are the central topics of this year's Equiplast in Barcelona. As a specialist for thermal cleaning systems, Schwing Technologies will be exhibiting at the Spanish trade fair from September 14th to 17th, 2021. At the Comercial Douma booth, hall 3 D70, Virgilio Perez Guembe, Head of Sales at the German machine manufacturer, will discuss the special advantages of thermal vacuum cleaning technology. A typical application for the VACUCLEAN system is the cleaning of plastics from machine parts and tooling. In the plastics and recycling industry, these include laser filters, filter candles, granulating nozzles and discs, as well as die plates and extruder screws. With Schwing's environmentally friendly, energy-efficient and effective systems, all plastics and recyclates are removed quickly, safely and cost-effectively.

## Application example: Removal of recycled PET from filters

Recycled PET (rPET) is increasingly being used to produce fruit and vegetable trays – circular packaging is the buzzword here. Metal filters used in the production processes of large manufacturing plants have to be changed daily, partially replaced each shift, and the rPET residues must be removed from machine parts. "Our packaging customers use our particularly gentle and environmentally friendly vacuum pyrolysis technology to clean these filters," explains Virgilio Perez Guembe, thermal cleaning expert from Schwing Technologies. Unlike lengthy manual procedures, this fully automated process only takes about eight to ten hours. "Our VACUCLEAN systems clean quickly and in a single operation, which saves not only time but manpower as well," emphasizes Perez Guembe, pointing out that users also benefit from optimized digital networkability of the systems.

## Short cleaning times for Spanish packaging manufacturer

Examples of these applications are approximately 85 by 35 cm metal filters, which are used in the manufacturing process of fruit and vegetable trays. The producer, a Spanish packaging manufacturer, works with rPET. The company cleans its filters daily, using vacuum pyrolysis technology and Schwing’s special expertise in cleaning. Technical factors such as the cleaning time, vacuum atmosphere, exact temperature curve and maximum temperature of the entire process were specifically tailored to the filter systems and this user’s rPET. “To accelerate the cleaning process even further, we also made a loading basket for our customers that was specially adapted to the dimensions of their filters," reports Schwing’s expert.

**Environmentally friendly cleaning process in the vacuum pyrolysis system**
Cleaning takes place in an electrically heated vacuum cleaning chamber, where the temperature is measured directly at the filter. Perez Guembe describes the environmentally friendly cleaning process as follows: "So that a large part of the rPET can initially melt and flow out, the system heats up slowly and is gentle on the materials. The actual pyrolysis process that decomposes the rest of the polymer only starts at around 440 degrees Celsius." Remaining carbon is removed by a subsequent oxidation phase at around 450 degrees Celsius. All of this happens fully automatically and leaves almost no residue. If necessary, the last inorganic residues are removed manually with compressed air.

**Digital integration of the VACUCLEAN cleaning system**
To digitally optimize the fully automatic cleaning process, the Schwing development team has improved the thermal vacuum pyrolysis system with several new components. In addition to a new touchscreen panel with network connection, the digital components include an internal data connection for data logging and digital system documentation in the Schwing cloud. Further technical innovations include fully electronic flow measurement for catalyst supply air, a process signal lamp, and a revised fault reporting concept. "All of these measures significantly reduce cleaning times, which is particularly important for our customers in the plastics and recycling industry," says Perez Guembe.

Further information: https://www.thermal-cleaning.com/en/cleaning-systems-and-accessories/vacuum-pyrolysis-systems.html

Keywords: Equiplast, plastics recycling, circular economy, thermal cleaning, vacuum pyrolysis, vacuum pyrolysis technology, VACUCLEAN, PET removal, recycled PET, rPET, circular packaging, packaging industry, food packaging

**About Schwing Technologies**
Schwing Technologies has been operating for over 50 years and is the worldwide technological leader for high-temperature systems for thermal cleaning, thermo-chemical finishing and heat treatment of metal parts and tools. Managing directors are Ewald Schwing, Thomas Schwing and Alfred Schillert. The owner-managed company designs, manufactures, and operates systems at its headquarters in Neukirchen-Vluyn in Germany's Lower Rhine region. Built upon the achievements of German engineering, the medium-sized business is one of the world's best-known specialists in the removal of plastics. Among Schwing's approximately 3,000 international clients are companies from the plastics and fiber industries, as well as from the chemicals and automobile sectors. For every cleaning need, the company with its approximately 100 employees offers the most economically, ecologically and qualitatively best technology and cleaning solution. Schwing is also a reliable service partner for contract cleaning by processing more than 250,000 tools and parts each year to the highest environmental and qualitative standards. Founded in 1969, the company celebrates its 50th anniversary in 2019 and opened Schwing Technologies North America Inc., a new sales company in the USA, in that year.

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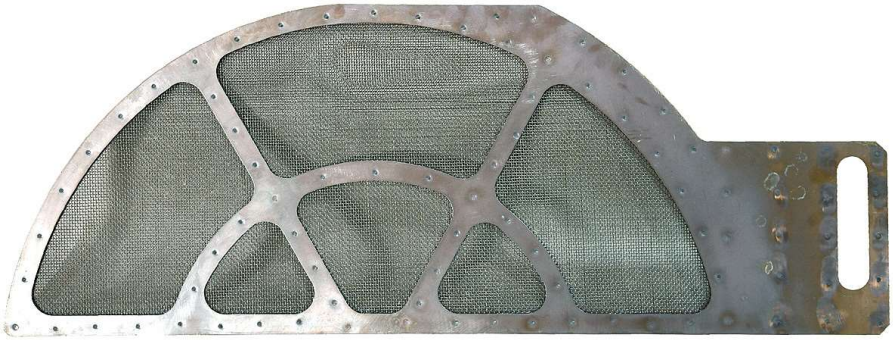
## Photos


The VACUCLEAN thermal vacuum cleaning system from Schwing Technologies cleans filters in the plastics and recycling industries within approximately eight to ten hours in a fully automated cleaning process
Photo credit: SCHWING Technologies
Download: https://drive.google.com/file/d/1QXIfzLCwCujSbVTuh90dlow2KX65xF4C/view?usp=sharing

With rPET contaminated metal filter before cleaning
Photo credit: SCHWING Technologies
Download: https://drive.google.com/file/d/1wPF1cVvjJQ16lkPYzniPq7oeqYOSzF2O/view?usp=sharing



Metal filter in cleaned condition
Photo credit: SCHWING Technologies
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