Press release

Dürr installs candle filter system in North America for the first time

Sustainable glass manufacturing: Arglass adopts 2-in-1 process for exhaust air purification

Southfield, August 28, 2024 – Glass manufacturers are increasingly prioritizing sustainability and environmental compatibility. Dürr has been commissioned to equip the new melting furnace of glass container manufacturer Arglass with a special exhaust air purification system that simultaneously controls particulate matter and sulfur oxides. However, the environmental technology expert, Dürr, also offers solutions capable of filtering three pollutants at once.

Arglass has invested over $230 million to build a second furnace at its Valdosta, Georgia, USA campus. This new facility, powered by a hybrid gas, electric, and oxy-fuel furnace, is capable of melting 495 metric tons of glass per day, supplemented by an additional five megawatts from a solar power installation. Arglass chairman and CEO, José de Diego Arozamena, stated, “Glass remains the most sustainable, recyclable, and healthy packaging material, recognized as ‘generally safe’ by the FDA. I am incredibly proud to lead the industry towards new sustainability heights. The special exhaust air purification system from Dürr that we opted for contributes significantly to environmental protection and sustainability.”

**The Arglass solution: candle filter system for sustainable process**

The high melting temperatures required for glass production result in significant pollutant emissions. The contaminated exhaust air from the furnace is routed to Dürr’s candle filter system, a 2-in-1 technology that combines two individual processes for exhaust air purification. This system precipitates particulate matter (PM) and absorbs sulfur oxides (SOx) using candle filters made of ceramic fibers, which can withstand temperatures up to 900°C. After the purification process, the exhaust gas exits the candle filter through the inside of the ceramic wall and flows up into the outlet pipe of the air pollution control system. This system ensures that the exhaust air meets all required clean gas standards. Dürr successfully convinced Arglass to adopt this environmentally friendly technology, as it aligns with the company's sustainability goals in glass manufacturing. This exhaust air purification technology is being used for the first time in the U.S. glass production market.

**Eliminating NOx: The 3-in-1 catalytic candle filter system**

Some glass manufacturing processes also produce nitrogen oxides (NOx). For these cases, Dürr offers a 3-in-1 exhaust air purification technology. The catalytic candle filter system controls particulate matter, sulfur, and nitrogen oxides emissions simultaneously and effectively removes 90% of pollutants from the exhaust air.Recent advancements in high thermal shock-resistant candle filter technology have broadened its applications in industrial processes requiring hot-gas filtration (HGF) at temperatures above 250°C, where traditional fabric filter systems are ineffective.

**Maintenance on the fly for Dürr exhaust air purification systems**

By integrating individual exhaust air purification processes into the candle filter system, the system becomes compact, and maintenance costs are reduced. The modular design allows for maintenance during continued operation, as each filter module can be individually isolated while the exhaust air is redirected through other modules. Unlike conventional systems, the operation of the glass melting furnace is not affected by planned maintenance work, ensuring uninterrupted production. Additionally, Dürr provides comprehensive on-site support for Arglass, with full-time technical staff and a dedicated engineering and service team for the plant’s lifecycle support.

**Pictures**



Figure 1: The catalytic filter element concept is a technology that combines the removal of sulfur, nitrogen oxides, and dust using catalytic candle filters (CCFs).



Figure 2: Dürr installs candle filter in North America for emissions control.

**About Dürr**

The Dürr Group is one of the world's leading mechanical and plant engineering firms with particular expertise in the technology fields of automation, digitalization, and energy efficiency. Its products, systems, and services enable highly efficient and sustainable manufacturing processes – mainly in the automotive industry and for producers of furniture and timber houses, but also in sectors such as the chemical and pharmaceutical industries, medical devices, electrical engineering, and battery production. In 2023, the company generated sales of €4.6 billion. The Dürr Group has around 20,000 employees and 141 business locations in 33 countries, and it operates in the market with five divisions:

* **Paint and Final Assembly Systems:** paint shops as well as final assembly, testing, and filling technology for the automotive industry
* **Application Technology:** robots and products for the automated application of paint, sealants, and adhesives
* **Clean Technology Systems:** air pollution control, coating systems for battery electrodes, and noise abatement systems
* **Industrial Automation Systems:** automated assembly and test systems for automotive components, medical devices, and consumer goods as well as balancing technology
* **Woodworking Machinery and Systems:** machinery and equipment for the woodworking industry

Contact

Dürr Systems AG

Carina Lachnit

Marketing

Phone: +49 7142 78-4899

E-mail: carina.lachnit@durr.com

www.durr.com