Press release

Dürr replaces exhaust air purification system at MEWA’s Bottrop site

Efficient air pollution control for industrial laundry

Bietigheim-Bissingen, 28.04.2021 – MEWA, one of Europe’s leading service provider for textiles, launders an enormous amount of reusable textiles every day, from work clothing for a wide range of industries to heavily soiled cleaning cloths for workshops and industrial settings. The vastly fluctuating solvent concentrations in the exhaust air, sometimes reaching high levels, represent a particular challenge. In order to purify these concentrations to an even greener standard than required by law at the Bottrop site, MEWA asked Dürr to replace the existing regenerative thermal oxidizer (RTO) and extend the exhaust air purification capacity. The only caveats were that operation had to continue and the project needed to be completed in an extremely tight timeline.

MEWA is a highly specialized company that offers work clothing and cleaning cloth rental services at 45 locations in 21 countries. It covers almost the entire value chain, including manufacturing, collection, delivery, laundry and care. Whereas a family of four produces around a metric ton of dirty laundry each year, every day MEWA receives 350 metric tons of textiles for industrial laundering and drying ahead of reuse.

Industrial cleaning cloths with different soiling levels

Every day 2.7 million users from industry and trade use MEWA cloths to clean machines, tools, and components, dirtying them with solvents, oils, and greases. These substances must first be removed from the cloths during the laundering process, and then removed from the waste water and the exhaust air. “Unlike a conventional production process in which the input materials and the amounts of each are known, here the contamination varies greatly depending on how soiled the cleaning cloths are,” explains Dietmar Decker, Manager Surface Treatment in Dürr’s Clean Technology Systems division. The volatile solvents that leak from the exhaust air produced by washing machines and dryers can therefore include a very high concentration of pollutants. For that reason, MEWA conducted its own risk analysis and implements very high safety standards in order to eliminate the risk of explosions.

State-of-the-art environmental technology

Just like waste water treatment, exhaust air treatment is also subject to statutory provisions. “Active environmental protection is part of our company philosophy. That is why we don’t just purify the exhaust air from the actual core sources of washing machines and dryers, but also diffuse sources and, in some cases, even the ambient air. We use state-of-the-art environmental technologies for this,” says Rudolf Asmuth, Managing Director Production & Logistics at MEWA’s Bottrop site. The first air pollution control system was installed by MEWA in Jena in 1994. It was followed by many others in Germany and Europe. The textile service provider has always relied on the expertise of Dürr or KBA-CleanAir, which was acquired by Dürr in 2016, as a system partner, including in Bottrop.

Spotlight on carbon footprint

As part of the modernization of the production facilities at the site in North Rhine-Westphalia, Dürr replaced the existing air pollution control system with a new regenerative thermal oxidizer. This new system boosts the capacity from 30,000 m3 of exhaust air per hour to 45,000 m3 per hour. “The Dürr Oxi.X RA RTO is particularly suitable for large quantities of solvent-laden exhaust air. It allows us to reliably reduce the harmful emissions entering the environment from the laundry to less than 20 mg/m3,” says Dietmar Decker. The MEWA Group’s experience with this sustainable technology over the last 25 years has been very positive, both operationally and in terms of overall costs. On top of this, the Oxi.X RA RTO is extremely efficient in its energy use. “The system is almost 80% autothermal. In other words, it operates exclusively using the energy from the oxidized organic substances with no additional primary energy. This is a big factor in our site’s good carbon footprint,” explains Rudolf Asmuth.

Good cooperation yields fast implementation

From a technical point of view, the only option was to install the new system in the old system’s place. Dürr managed everything, including dismantling and proper disposal of the old system, necessary alterations, installing the mechanical and electrical components for the new system, and handing over the operational system. At the same time, the production engineering used in the laundry was retrofitted. “Organizing the removal of the old machine and system components and the installation of the new ones using large cranes in the limited space was a planning and logistical masterstroke. Thanks to the efficient cooperation, we were able to get everything done well within the tight time window of six weeks, and complete the project successfully with a few days to spare,” reports Rudolf Asmuth happily.

Dürr air pollution control systems are used in a variety of industries and production facilities, with the broad product portfolio offering different technologies depending on the type, concentration and quantity of pollutants. Dürr examines its customers’ needs on a case-by-case basis, and also provides support services after installation. “The 25-year partnership with numerous installations and ongoing service work for the various systems at MEWA tells us all we need to know about the quality of our products and services,” affirms Dietmar Decker. “We look forward to helping MEWA make their air pollution control systems sustainable in the future also.”

**Pictures**

The following pictures are available for download [here](https://www.durr.com/en/media/news/news-detail/view/efficient-air-pollution-control-for-industrial-laundry-80610).



**Picture 1:** Laundry for workwear and cleaning cloths at MEWA's Bottrop site.

Source: MEWA Textil-Service AG & Co. Management OHG



**Picture 2:** 45.000 m3/h of exhaust air are cleaned at MEWA's Bottrop site using a Dürr Oxi**.X** RA RTO system



**Picture 3:** Dürr’s Oxi**.X** RA reduces harmful emissions entering the environment from the laundry to less than 20 mg/m3

The Dürr Group is one of the world's leading mechanical and plant engineering firms with extensive expertise in automation and digitalization/Industry 4.0. Its products, systems and services enable highly efficient and resource-saving manufacturing processes in different industries. The Dürr Group supplies sectors like the automotive industry, mechanical engineering, chemical, pharmaceutical, medical technology and woodworking industries. It generated sales of € 3.32 billion in 2020. The company has more than 17,000 employees and 120 business locations in 33 countries. Since February 2021, the majority-owned automation specialist Teamtechnik has also been part of the Group. The Dürr Group operates in the market with the brands Dürr, Schenck and HOMAG and with five divisions:

* **Paint and Final Assembly Systems:** paint shops as well as final assembly, testing and filling technology for the automotive industry, assembly and test systems for medical devices
* **Application Technology:** robot technologies for the automated application of paint, sealants and adhesives
* **Clean Technology Systems:** air pollution control, noise abatement systems and coating systems for battery electrodes
* **Measuring and Process Systems:** balancing equipment and diagnostic technology
* **Woodworking Machinery and Systems:** machinery and equipment for the woodworking industry

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