Press release

Exhaust air purification for ship painting

Dürr reduces hazardous air pollutants in the shipbuilding industry

Seoul, South Korea, October 2, 2019 – Dürr’s adsorber system Ecopure® CRC in combination with a Regenerative Thermal Oxidizer (RTO) is a new solution for controlling hazardous air pollutants (HAPs) in the shipbuilding industry. One of the world’s leading shipbuilding companies based in South Korea significantly reduced HAPs released by their painting facility by using Dürr´s Ecopure® RTO system with a zeolite disc concentrator. This is a pioneering device that uses a single cohesive system to purify harmful substances. At KORMARINE 2019 in Busan, South Korea, Dürr shows its extensive portfolio to support shipbuilding companies in meeting new environmental regulations regarding exhaust air purification.

**Compliance with new regulation**

Since the beginning of 2018, a new environmental regulation in South Korea has been mandating shipbuilding companies to treat the exhaust air from paint shops. According to the new rule, 20% of the total paint shop exhausts air flowrate need to be treated in 2019, and by 2022 the target is to combat a full 100%. The installation of the HAPs treatment facility at the shipbuilding company’s painting facility in South Gyeongsang Province took eight months and was successfully completed in December 2018. With the Dürr **Ecopure**® CRC and RTO system, the shipbuilding giant is now able to reduce its HAPs to a concentration of below 100 ppm. This is a decrease of more than 90% of the HAP emissions and is in compliance with the country’s domestic Clean Air Conservation Act.

**Energy saver**

The anti-pollution control system consists of a filtering system for particulate removal, a disc concentrator system for selectively adsorbing and concentrating volatile organic compounds (VOCs), as well as a RTO combustion system that treats the small volume flow of concentrated HAPs. The RTO system provides an energy-saving technology that reduces energy consumption by 95% or more by utilizing recovering heat from a ceramic media mounted inside the RTO. In addition, the consumption of primary energy can be drastically reduced if the calorific value and concentration of the VOCs and HAPs is sufficiently high. The volume flow is 5400 ACMM and the whole building needs ventilation.

**Impactful for other industries**

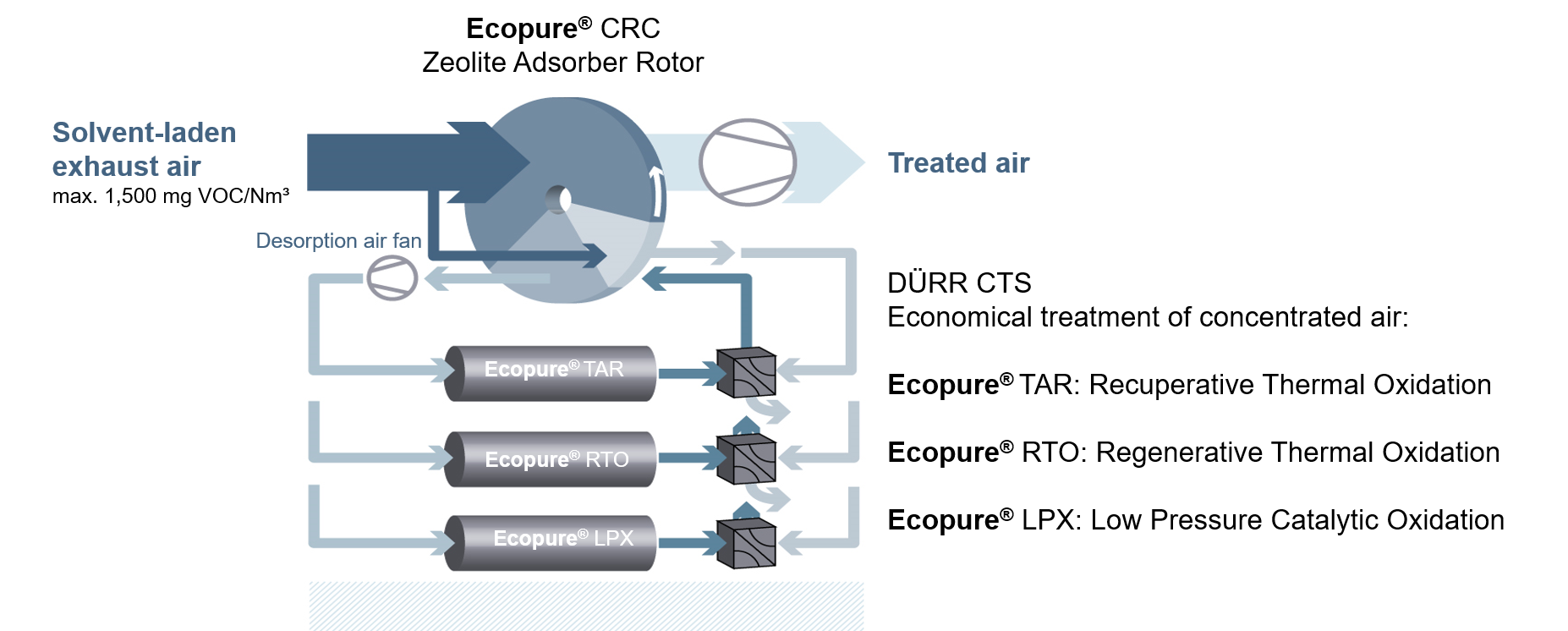
The installation of the integrated system is a first of its kind to be built and operated in South Korea’s shipbuilding industry. The innovative new system uses a single consistent unit while others use two or more to treat the pollutants. The costs for the product are comparable with other solutions. The **Ecopure**® RTO system will favorably impact the shipbuilding industry along with other industries in need of clearing painting booth pollutants like VOCs and HAPs. The shipbuilding giant opted for Dürr appliances due to the group’s market credibility and legacy of similar air purification products. Two further installations for shipbuilding companies in Korea have already been ordered from Dürr in the second and third quarters of 2019. Besides Korea, this abatement system is already enjoying a successful run in China and Dürr will offer its applications to other shipbuilding companies internationally.

Dürr will showcase its complete portfolio in exhaust air purification for the shipbuilding industry as well as the company’s products in paint application at KORMARINE 2019 in Busan, South Korea, from October 22 to 25 at booth number 4Q17.

Pictures



Picture 1: Exemplary installation of an **Ecopure**® RTO plant (type RL), used for controlling hazardous air pollutants



Picture 2: Process diagram of disc concentrator scheme with different options for thermal after-treatment

The Dürr Group has had a direct representation in South Korea since 1995 and currently employs around 190 staff there. Dürr Korea, based in Seoul, offers painting, application, final assembly and energy efficiency technology as well as exhaust-air purification systems. Customers primarily come from the automotive industry but also from the chemical industry as well as general industry. Dürr Korea operates a service antenna in Ulsan and opened a robot training center there. The HOMAG Group produces machinery and equipment for the woodworking industry. It is represented in South Korea through a sales and service company.  
  
The Dürr Group is one of the world's leading mechanical and plant engineering firms with extensive expertise in automation and digitization/Industry 4.0. Its products, systems and services enable highly efficient manufacturing processes in different industries. The Dürr Group supplies sectors like the automotive industry, mechanical engineering, chemical, pharmaceutical and woodworking industries. It generated sales of € 3.87 billion in 2018. In October 2018, the Dürr Group acquired the industrial environmental technology business of US-based company Babcock & Wilcox, comprising the Megtec and Universal brands. Since then, it has over 16,400 employees and 108 business locations in 32 countries. The Group operates in the market with five divisions:

* **Paint and Final Assembly Systems:**

paint shops and final assembly systems for the automotive industry

* **Application Technology:**

robot technologies for the automated application of paint, sealants and adhesives

* **Clean Technology Systems:**

air pollution control, noise abatement systems and battery coating lines

* **Measuring and Process Systems:**

balancing equipment as well as assembly, testing and filling technology

* **Woodworking Machinery and Systems:**

machinery and equipment for the woodworking industry

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