



## EXHAUST AIR TREATMENT USING ADSORPTION ECONOMICAL AND EFFECTIVE PROCESSES

EISENMANN OFFERS THE ADSORPTION WHEEL (ADW) FOR THE TREATMENT OF LARGE EXHAUST AIR STREAMS WITH LOW ORGANIC LOAD.

The adsorption process is characterised by significantly lower operating costs compared to thermal exhaust air treatment systems.

In contrast to thermal methods, during the adsorption process there is no chemical transformation of pollutants and no significant increase in temperature. Adsorption uses the property of certain solids (such as activated carbon, zeolite) to capture gases or vapours on their surface.

The adsorbed pollutants are then expelled with a desorption air flow. It is up to 40 times more concentrated and, accordingly, with a much smaller volume. As a result, it can be treated much more cost-effectively.

The Eisenmann adsorption wheel consists of chambers which are concentrically arranged around a shaft. Depending on the application, they contain activated charcoal or zeolite as adsorption material. The exhaust air is directed over the adsorption material. Desorption takes place in a separate section of the rotating adsorption wheel. Hot air is passed across the adsorption material in a countercurrent, and, as a result, the pollutants that were adsorbed are expelled again.

The desorption flow of the adsorption wheel can, for example, be fed to an RTO, a TO, a steam boiler or a CHP plant.

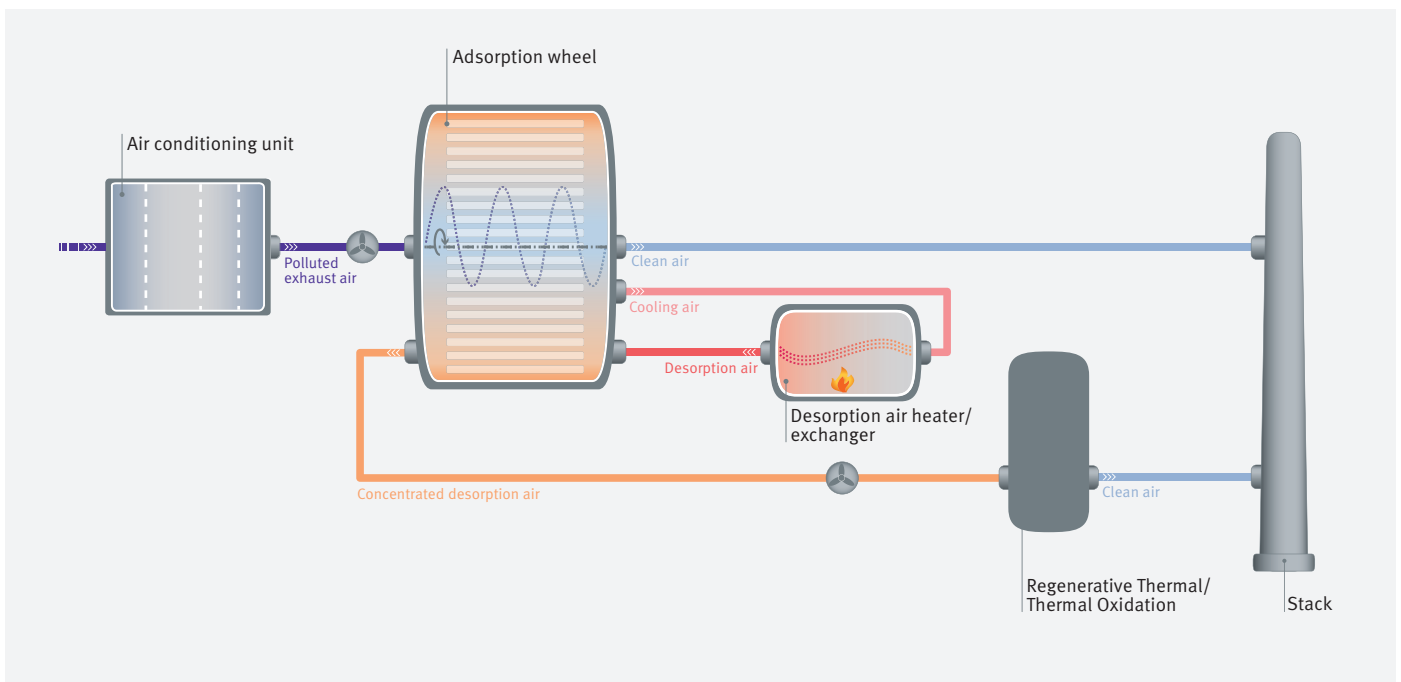
### Advantages at a glance

- Processing of very large exhaust air volumes of up to 200,000 Nm<sup>3</sup>/h per unit
- Very high solvent concentration up to 1: 40
- Use of primary energy sources such as natural gas is minimised through the high concentration
- Concentration peaks are buffered due to the high adsorption capacity of the adsorption filling



*Exhaust air treatment by adsorption.*

## EXHAUST AIR TREATMENT USING ADSORPTION ECONOMICAL AND EFFECTIVE PROCESSES



Adsorption wheel with RTO/TO.

**EISENMANN**

[www.eisenmann.com](http://www.eisenmann.com)

Eisenmann Anlagenbau GmbH & Co. KG, Tübinger Str. 81, 71032 Böblingen, Germany, Phone: +49 7031 78-0, Fax: +49 7031 78-1000

2016 © Eisenmann Anlagenbau GmbH & Co. KG | 04-2016 | 01

All rights reserved. All text, images, photos and graphics are subject to copyright and other intellectual property laws. Content may only be used with the express permission of Eisenmann Anlagenbau GmbH & Co. KG. All content, including, without limitation, specifications, descriptions and illustrations, are subject to error and change, in particular with regard to ongoing development of our products in line with technological progress. Changes to content will not be proactively communicated. Technical specifications may vary from country to country.