

Semiwet flue gas cleaning with mercury removal in the MercOx process and ADIOX® for memory effect prevention

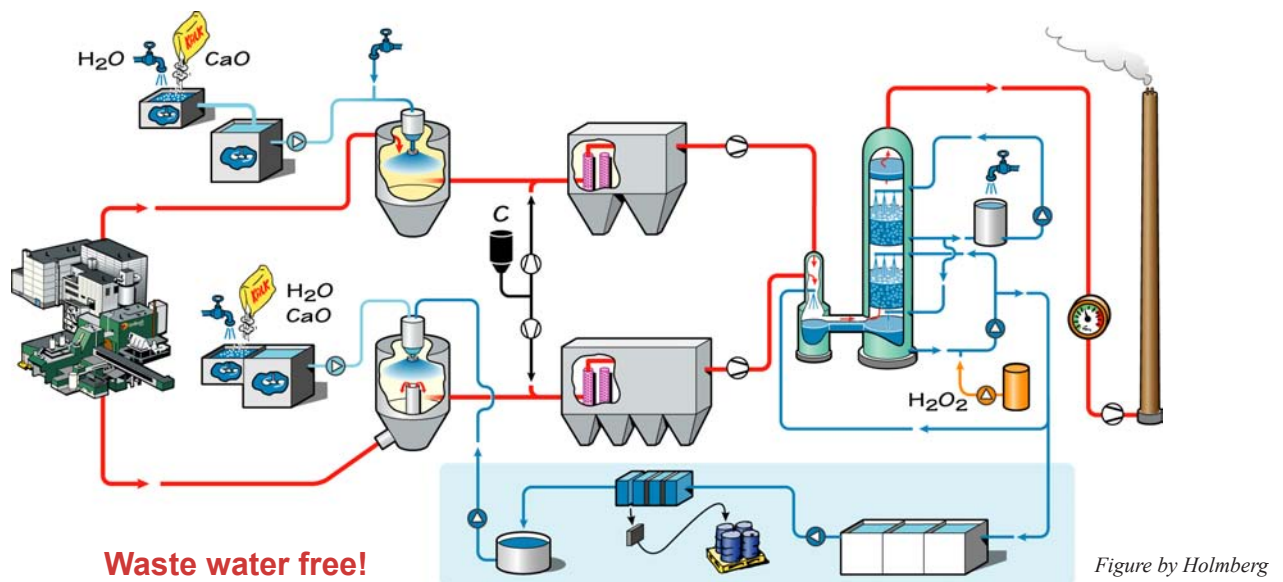


SAKAB incineration plant for hazardous waste, Norrtorp, Sweden

Götaverken Miljö AB has built a flue gas cleaning plant for SAKAB based on a semiwet flue gas treatment system followed by the MercOx and ADIOX® processes.

Mercury (Hg) and dioxin emissions, as well as SO₂ and HCl have been considerably reduced.

This plant has been prepared for future installation of flue gas condensation to recover energy from the flue gas.



MercOx & ADIOX® processes

The SAKAB AB incineration plant for hazardous waste in Norrtoorp (Sweden) was originally equipped with a semidry absorber and an electrostatic filter. A baghouse filter was added in 1990. In year 2000 the flue gas cleaning was upgraded with a MercOx process scrubber plant. The EU legislation on emissions of HCl, SO₂ and HG necessitated an extension of the plant. With this installation, SAKAB is able to manage the peaks that occasionally occur during combustion, whilst optimising mercury reduction. Furthermore, the plant has been prepared for future flue gas condensation to recover energy from the flue gas.

ADIOX® has been installed since 2004 in order to reduce the dioxin memory effect in the scrubber and enhance the overall dioxin removal of the system.

In the MercOx process, mercury (Hg) is separated from the flue gas by injection of the environmentally friendly oxidizing agent, hydrogen peroxide, plus an additive. The ADIOX® tower packings consist of polypropylene with carbon particles. Dioxins are captured in the patented ADIOX® material and can be incinerated after use. The dioxins are then destroyed.

The process has a number of advantages compared to other methods. As a result of the new scrubber plant, SAKAB is able to handle not only mercury peaks but also reduce emissions of sulphur dioxide (SO₂) and hydrochloric acid (HCl).

Semiwet flue gas treatment

In year 2003 Götaverken Miljö commissioned a semiwet flue gas treatment system positioned after SAKAB's new incineration line No 2. The system includes a spray absorber, a fabric filter and a lime slaking system.



MercOx scrubber

Plant data:

- Boilers : Rotary kiln + grate fired furnace
- Capacity: 60 000 + 90 000 m³/h (n, wg)

Flue gas cleaning:

- Plant contractor: Götaverken Miljö AB
- Process: MercOx and ADIOX® Semiwet gas treatment

GÖTAVERKEN MILJÖ AB

Visiting address: Anders Carlssons gata 14
 Postal address: Box 8876, SE-402 72 Göteborg, Sweden
 Tel: +46(0)31-50 19 60 Fax: +46(0)31-22 98 67
 www.gmab.se

- a Babcock & Wilcox Vølund company

