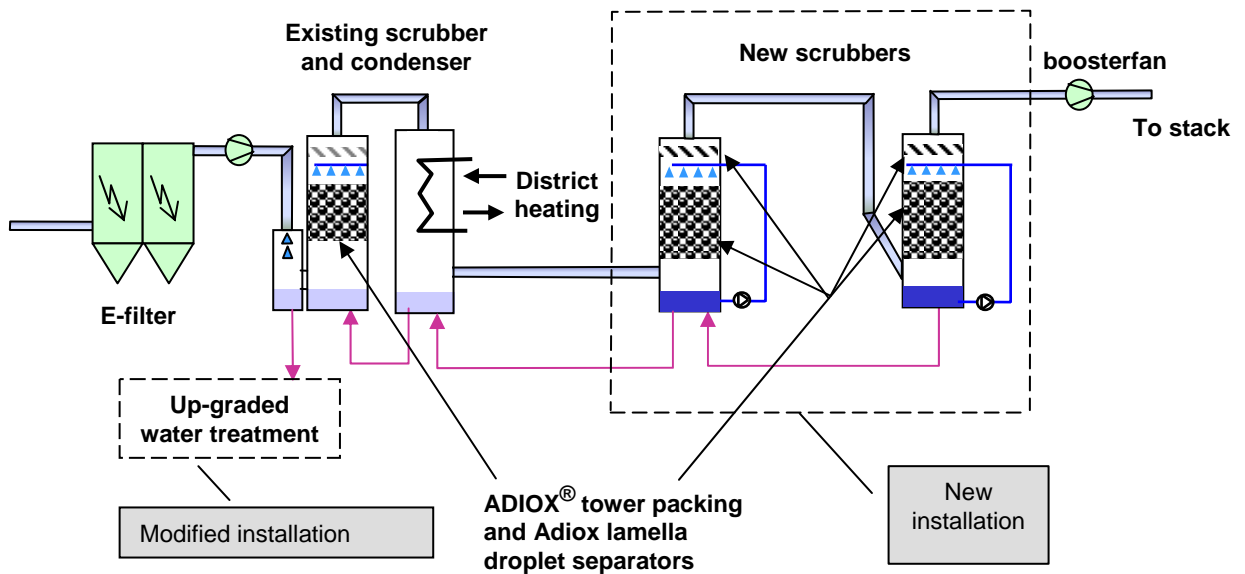


Dioxin removal by ADIOX[®] and water treatment system up-grading

**Bodens Energi
WTE Plant, Sweden**





General aims:

The municipal waste incinerator at Bodens Energi AB was obliged to meet the flue gas and water effluent emission requirements as stipulated in the EC waste incineration directive prior to the 28th of December 2005. In 2004 the water treatment system was modified and in 2005 the flue gas treatment system was extended. With regard to the gas treatment, the main purpose was to reduce the emissions of dioxin to values well below 0,1 ng TEQ/Nm³ by applying the ADIOX[®] technology.

Description:

Prior to the modification the 24 MW_{th} waste incineration boiler was equipped with an electrostatic precipitator, a wet tower packing scrubber, a plate type of flue gas condenser and a combustion air humidifier. The up-grading took place in two main steps. Firstly, the old tower packing in the existing scrubber was replaced by a new packing in ADIOX[®] material. The purpose was to make a quick cost efficient improvement of the dioxin removal capability. Simultaneously, the water treatment system was also modified in order to reduce emissions of heavy metals and suspended solids.

In the second phase of the up-grading, the humidifier was removed and replaced by a two stage scrubbing system. The scrubbers are equipped with ADIOX[®] tower packing material as well as ADIOX[®] lamella droplet separators in order to ensure that the requested dioxin emission limit is met.

The system is designed to reduce the dioxin concentration from maximum 3 ng TEQ/Nm³ at the outlet of the electrostatic precipitator to well below 0,1 ng TEQ/Nm³ in the stack after the flue gas condensation system.