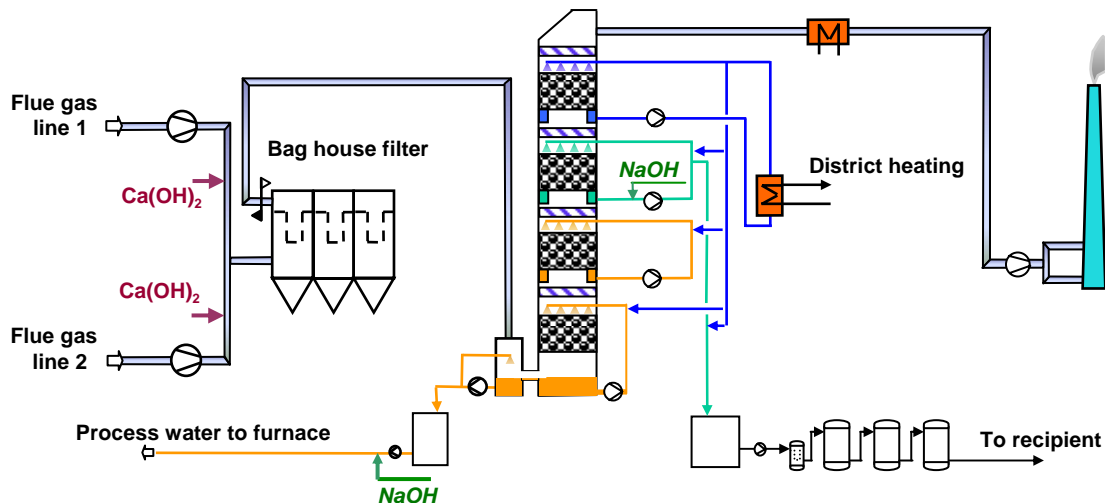


Flue gas treatment with integrated dioxin removal by ADIOX[®]

**The SYSAV Waste to Energy Plant
in Malmö, Sweden**





General:

The contract on upgrading the flue gas treatment plant at SYSAV's incineration lines 1 and 2 was signed on the 15th of November 2004. In December 2005 the installation was handed over to the client, as scheduled. The purpose of the contract was to meet the EC waste incineration directive with regard to emissions of acidic components, ammonia and dioxin. In addition integrated energy recovery takes place by means of flue gas condensation.

Data:

- Capacity, waste: 2 x 12 t/h
- Flue gas flow to scrubber: 51.000 – 183.000 Nm³/h, w.g.
- Energy recovery by condensation: 6 MW
- Gas cleaning requirements:

	Inlet scrubber	Cleaned gas	
- NH ₃	200	< 10	mg/Nm ³ dg@11% O ₂
- HCl	200	< 10	mg/Nm ³ dg@11% O ₂
- SO ₂	600	< 50	mg/Nm ³ dg@11% O ₂
- HF	5	< 1	mg/Nm ³ dg@11% O ₂
- Dust	<10	< 10	mg/Nm ³ dg@11% O ₂
- Dioxin	0,5	< 0,1	ng/Nm ³ dg@11% O ₂



Description:

The incineration lines 1 and 2 at SYSAV were built in 1973. Before the conversion SYSAV operated these lines with a common bag house filter system. Lime was injected prior to the filters for removal of acidic components.

Included in the upgrading contract was design and installation of one common scrubber of the "tower packing type". Exhaust fan systems, flue gas reheating and an effluent water treatment system were also provided.

The various scrubber stages are all equipped with ADIOX[®] tower packing material for dioxin removal.

In the first stages of the scrubber, NH₃ together with HCl are separated. NaOH injected into the third stage will facilitate efficient SO₂-removal. Most of the HF is also separated from the gas.

Finally the flue gases are cooled by a circulating cooling water system (indirect district heating water) enabling a substantial amount of energy to be recovered.



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