

Case story

**Flue Gas Cleaning system, based upon dry absorption
for Hazardous Waste Incineration**

Kualiti Alam - Malaysia



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KUALITI ALAM – HAZARDOUS WASTE INSTALLATION OF FLUE GAS CLEANING SYSTEM – DRY ABSORPTION AND FILCON BAG FILTER

Introduction:

As Kualiti Alam is collecting, handling and incinerating Hazardous Waste in Malaysia, they decided to increase their capacity for the Incineration of the Solid Waste, with an additional line. The Plant is based upon a Rotary Kiln Technology and yearly amount of Hazardous Waste is approximately 23.000 ton.



Purpose / Requirement:

Installation of a Flue Gas Cleaning system based upon Bag Filter for dust removal and Wet Cleaning system for removal of Acid components (SO_x / HF / HCl).

Emission demands:

The new installation should fulfil all emissions according to the EU-Directive: EU 2000/76/EC
The below table shows the Inlet Flue Gas data and the required Emissions:

Raw Gas Data 询价数据			Emission Demands
Item	Unit	Data	排放要求
Flue Gas Volume	Nm ³ /h	41,500	
Dust	mg/Nm ³	1,990	10
HCl	mg/Nm ³	4,900	10
SO _x	mg/Nm ³	1,500	50
HF	mg/Nm ³	N/A	1
Hg	mg/Nm ³	1.5	0.05
Cd + T1	mg/Nm ³	3	0.05
Heavy Metals	mg/Nm ³	80	0.5
PCDD/F	ng/Nm ³	<2	0.1

Solution:

To save investment and operational cost for Kualiti Alam, Filcon installed a 100% dry absorption system, based upon the following main components:

Installation of a bag filter system on the existing foundation, consisting of 2 bag filters with extraction screws and ash transport system, 80 m³ Hydrated Lime (Ca(OH)₂) and Activated Carbon silo, incl. pneumatic injection systems, as well as flue gas ducts and integration of the control in a main control system. Furthermore construction of a necessary service and maintenance platforms around the units was included.

Carrying out:

Essential parts, was delivered from Denmark and all main components, incl. steel constructions where manufactured locally, as well as the insulation and installation, was carried out by local suppliers, according to the Mechanical and electrical Supervision by Filcon staff.

The Main Supplier (Seong Hennng) was recommended by Kualiti Alam and all Quality was checked and approved by Filcon ApS.



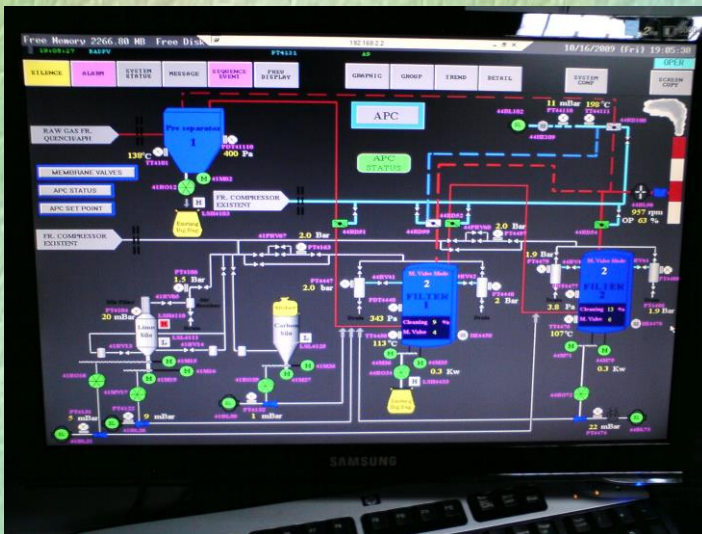
The complete installation and commissioning proceeded according to schedule with participation of project managers, operators and programmers, in a close cooperation between Kualiti Alam and Filcon ApS.





Conclusion:

The installation process was, in spite of the change in the Flue Gas Cleaning principle (from wet to dry), carried out satisfactory, as well as the commissioning proceeded without problems. The objective of higher operational temperatures is achieved, and the emission is far below the limit values.



See the case story on WeChat:

