

Your Solution to Waste Incineration and Gas Treatment

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Servithen, an engineering company that acts in the thermal and environmental fields, has been created in 1986. Initially focalised in the audit, expertise and revamping of existing installations, Servithen has extended its services in the furniture of complete lines of waste incineration together with gas treatment and purification units, which include: furnaces, venturi scrubbers, cooling tower, neutralisation towers, wet electrostatic precipitator, and dry gas treatment equipments

Presentation

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- furnaces
- venturi scrubbers
- cooling tower
- neutralisation towers
- wet electrostatic precipitator
- dry gas treatment equipments

Services

Servithen is able to realise the audit/expertise of a given installation and hence to suggest the most appropriated technology to solve an environmental problem such as the reduction of pollutant content in a flue gas prior to its evacuation in the atmosphere.

Servithen offers the following services:

- Audit and expertise of thermal industrial installations
- Consulting
- Engineering studies for revamping of existing units
- Engineering studies for new units
- Assistance to work contractors
- Assistance to prime contractors

Servithen is involved in:

- Household and industrial wastes incineration processes
- Sludge incineration processes
- Thermal treatment of gaseous and liquid residues



- Heat recovery processes
- Gas treatment and purification prior to rejection in the atmosphere
- Activation of charcoal and regeneration of activated carbon

Process

Incineration

Servithen has developed a strong partnership with CMI/NESA a world known designer of multiple hearth furnaces and post combustion chambers, very suitable for waste incineration and particularly for sludge thermal treatment as well as with ECFERAL for hospital waste treatment.

To optimise the process, tests can be carried out in a pilot plant consisting of several types of furnaces.

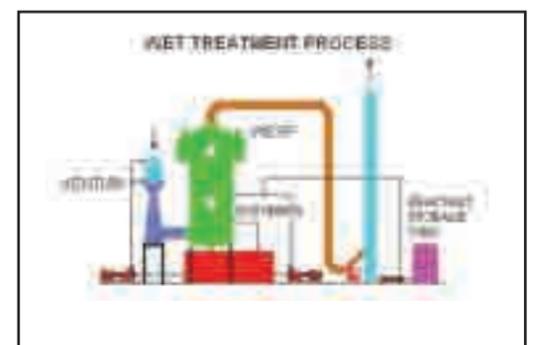
Gas treatment

According to the characteristics of the gases and the needs or requirements of the contractors, Servithen studies, designs and realises complete gas treatment and purification lines either on a wet, dry or combined way systems.

The dry way system consists mainly of:

- a contact vessel or reactor in which a solid alkaline reactant (calcium hydroxide or sodium bicarbonate) is injected to neutralise acid gases such as SO₂, HCl and HF,
- a bag filter in which the reaction products, the inactive reactant and the mineral dust are stopped at the surface of the filter medium to form a précoating layer that reacts itself as natural filter,
- a storage and transport section of the alkaline reactant
- a Selective Catalytic Reduction (SCR) unit to reduce NO_x content in the flue gas.

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The wet way system consists mainly of:

- a quencher to cool the gases up to their saturation temperature
- a venturi scrubber for primary removal of dust
- a scrubbing tray-tower for acid gas neutralisation
- a wet electrostatic precipitator (WESP) for final removal of residual dust

Servithen studies, designs and realises complete gas treatment and purification lines either on a wet, dry or combined way systems.

Such gas treatment line can be completed if required by a Selective Non Catalytic Reduction (SNCR) unit, designed to reduce NO_x content by injection of urea or ammonia at high temperature, in the post combustion chamber.

In response to lay out restriction, Servithen has developed particular equipment that is able to perform neutralisation and dedusting of the flue gas within the same device. It is composed of a single casing in which the bottom part, consisting of perforated plates or trays, is designed to carry out not only the neutralisation of acid gases but also heavy metal removal, and the upper part, consisting of an ionising section with a defined number of electrodes, designed to reduce not only the dust content but also the water droplets.

