

# Venturi Scrubber: New Process for Manufacturing Bio-Ethanol



Finest Technology in Service

Körting Hannover AG has produced a Venturi Scrubber Plant which cleans hot steam with condensate at a temperature of 100 °C.

With worldwide escalating energy requirements the future market for Bio-Ethanol is also on the increase. Sustainably produced Bio-Ethanol as a replacement for petrol, provides the answer to future challenges on the power supply sector, particularly for transport.

Compared to fossil energy carriers it is a regenerative fuel gained from renewable raw materials. Climate-damaging CO<sub>2</sub> emissions can so be considerably reduced. A sub-step during Bio-Ethanol production is the removal of cellulose dust from low-pressure steam. To do this, in the closing months of 2011 Körting manufactured a Venturi scrubber including further components such as a separator tank and a swirl droplet separator (DTA) as well as providing the engineering for further plant equipment. In the meantime, this stainless steel plant for applications with rated flows of up to around 125.000 m<sup>3</sup>/h and a pressure consumption of 100 mbar is in full use.

“The special thing about this plant is the use of hot steam with condensate for cleaning at a temperature of 100 °C”, explained Arnd Rötz, engineer.

“To achieve this, gas is fed through the scrubber with the aid of a blower and so accelerated.” Finest droplets generated by shear forces capture the dust particles which cannot follow the gas flow lines anymore due to their mass inertia.

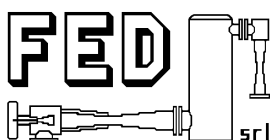


Nozzle mixers are utilized to prevent sedimentation of the separated dusts in the separator tank. The optimal positioning of the mixers was determined by means of a project-related CFD simulation calculation.

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## At a glance

Gas flow	125.000 m <sup>3</sup> /h
Pressure consumption	100 mbar
Separation degree	1 µm



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