

HIGH PERFORMANCE WET SCRUBBERS FOR GAS CLEANING

The construction and building industry produces a broad range of products for insulation and sound absorption, e.g. insulation boards for all kinds of residential or trade buildings. MikroPul Wet Scrubbers are used for the separation of fibres, dust and water droplets from gases which arise during the production processes of these high performance insulants in kiln, cooling and forming areas. They have proven performance in 3 new production lines, where MikroPul Cologne supplied venturi scrubbers, droplet separators, support frames, water tanks, pumps and controls.

MikroPul Venturi Scrubbers offer maximum scrubber efficiencies at lowest maintenance expenses. They are used for the cleaning of (e.g. humid, sticky or ignitable) process off gases with particle sizes below 5µm. Applications include calcining furnaces, driers, metal recycling shredders or minerals processing and others. The design of the MikroPul Venturi Scrubber consists of a "wet approach" venturi followed by a liquid entrainment separator. Dust laden gases enter the venturi and instantly make contact with the tangentially introduced scrubbing liquid. At the venturi throat, gases and liquid streams collide and the liquid breaks down into droplets which trap dust particles. This gas/liquid mixture passes through a flooded elbow, and then enters the entrainment separator through a tangential inlet. Centrifugal action removes the heavy wetted particles from the gas stream. The dust/liquid mixture is discharged from the separator bottom drain and the cleaned gas leaves through the top of the separator.

Special feature for this application is a limited installation height due to the facilities situation. The Venturi Scrubbers were – instead of the conventional vertical design - equipped with a horizontal venturi throat which is adjustable. This allows continuous operation without clogging. The high raw gas shares of fibers otherwise would easily plug up the plant. By adjusting the throat geometry manually or by actuator, the scrubbing can be ideally adapted to the required separation efficiency and/or different gas amounts. Furthermore, it offers lowest pressure drop, entire liquid dispersion and wear-free operation. MikroPul high performance Wet Scrubbers SVS-H achieve separation efficiencies between 95 and 99% (depending on operation modes), relating to a 1µm particle size.

The plant is designed for temperatures up to 100°C at operating gas volumes between 10.000 and 100.000 m³/h. A platform at the venturi throat level ensures easy access. The programmable control offers fully automatic to manual operation modes for liquid circulation, pumps, sewage water, overflow, fault reports and plant stop.



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