The Ingetecsa Venturi Gas Washer is used for dust separation, chemical reaction or destruction of unwanted compounds as well as for condensation of fumes.

Highly efficient gas washer recommended for dust separation. Our special design differentiates saturation and condensation areas, creating a cyclonic effect during mist elimination. Due to the concentric layout of the nozzle and shell, Ingetecsa Venturi Gas Washers are particularly compact.
Working principle:
This equipment is a Venturi nozzle with specific speed interface pressure. Saturation takes place in the first section, which is followed by the acceleration section. The washing water is injected in the “Venturi throat”, the narrowest part. Due to extreme relative speeds between solid particles and droplets, particles larger than 2 microns are surrounded by the water. The resulting depression forces gas over its natural saturation point and the washing water evaporates partially. While the gas pressure rises again, in the expansion section, surplus humidity is condensed using sub-micron particles as nuclei. As a drop grows around the particle, its mass multiplies. By installing a centrifuge drop collector together with an additional demister sub-micron particles can be separated.

Most distinctive features:

An atmospheric saturator (diagram point 1) is fitted to the Ingetecsa Venturi Washer; where the gas to be treated is already brought to dew point. The water flow can be adapted to the process requirements. The saturator clearly distinguishes our system from others, increasing the efficiency of the Venturi nozzle.

The Venturi throat (diagram point 2) holds the main water injection nozzles. A proper diffusion of the injected water improves evaporation and increases reaction speeds when volatile components have to be fixed. Therefore, we have paid special attention to the development of the throat, to allow e.g. easy replacement of the injection nozzles: As any mechanical elements, the spray nozzles are wear parts.

The Venturi tube (diagram point 3) ends in a tank containing the recovered washing waters. The particles to be separated impact on the water and are retained. The purified gases ascend through a vane system concentric to Venturi tube. These vanes, in combination with the eccentric suction, generate a cyclonic movement, boosting droplet separation on the outer casting of the washer. In addition, this compact design by Ingetecsa reduces the equipment’s plant footprint.

Multiple adjustable parameters ensure operation under almost any process conditions. Efficient, robust and compact design.

Typical applications:
The Venturi gas washer is particularly suitable for separation of very fine and low density powders, in combination with chemical treatment and/or very humid gases.

Food Industry
Starches

Chemical Industry

FREQUENT COMBINATIONS:
Cyclones, Flash, Spiral Flash, Fluidised Bed, etc.