

WATER INJECTION SYSTEM

Our Water Injection System (WIS) improves the stoichiometric ratio and therefore the efficiency of your flue gas treatment (FGT) system. It is a gas conditioning solution that injects water to lower the gas's temperature and increase its humidity, reducing the amount of reagent required. Our WIS features special nozzles that convert the water into such a fine mist that it's more like a fog. This offers multiple advantages for an effective and efficient air pollution control system.

WHY CHOOSE OUR WATER INJECTION SYSTEM?

High evaporation rates

Our special nozzles help achieve the highest evaporation rates on the market.

Homogenous temperature distribution

Our hundreds of installed nozzles garner an even temperature throughout the entirety of the treated gas, ensuring more effective air pollution control.

Allows for a compact layout

Our WIS has an impressively short evaporation time, meaning less duct space is required.

Reduced energy consumption

Our WIS operates with lower pressure losses than other such systems, offering reduced energy consumption.

Suitable for retrofits

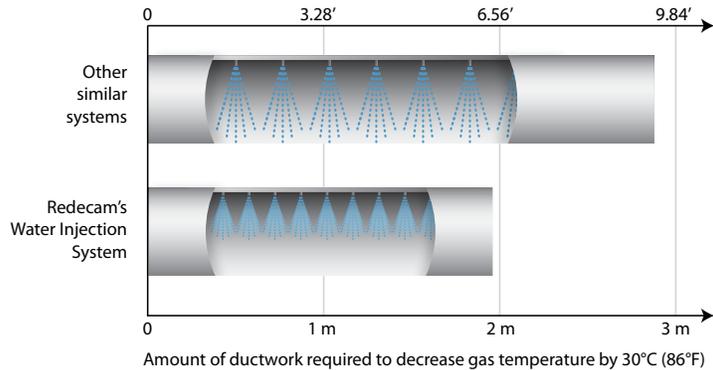
We can add our WIS to an existing system without major layout changes. Indeed retrofits and upgrades are among our specialties.



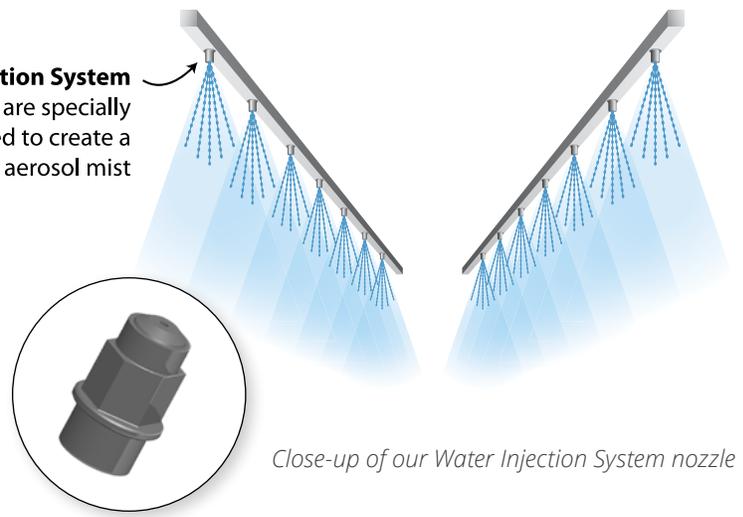
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OUR EXTRA-FINE MIST

Our special nozzles help our Water Injection System offer an evaporation rate beyond compare: a mere 0.5% or less humidity reaches the bag filter (baghouse). Our WIS also evaporates water more quickly than other such systems: we can reduce the gas temperature by an impressive 30°C (86°F) in less than 2 meters (6.6 ft). A rapid evaporation requires less duct space and our system can therefore allow for a highly compact layout.



Water Injection System nozzles are specially designed to create a fine aerosol mist

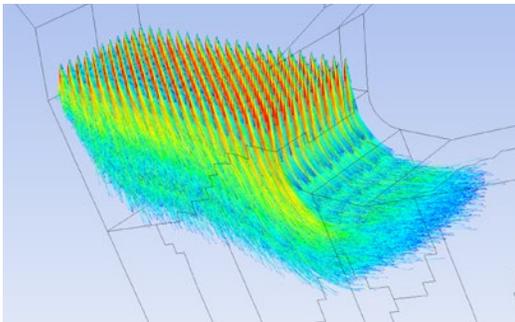


Close-up of our Water Injection System nozzle

We can also ensure no unwanted dust deposits in your ducts. As the mist is so fine, it does not act as a dust pre-separator. Instead, the pollutants are carried off to the next stage of the air pollution control process without landing on your ducts. This also means the system will avoid mud clogs. Finally, our WIS does not require compressed air – the mist is that fine – translating into lower OPEX than other conditioning systems.

CUSTOMIZING OUR WATER INJECTION SYSTEM TO REACH YOUR CONDITIONING TARGETS

Our experts will study your process parameters and system targets to design and manufacture the optimal Water Injection System for your needs. Among other considerations, they will study the temperature drop and humidity required for an optimal reaction. For example, in a system with a desulfurization process, we may need to maximize the quantity of water injected as desulfurization is highly dependent on the relative humidity of the flue gas (the higher the humidity, the higher the desulfurization efficiency). Of course they will also study the gas composition, the existing duct layout and the best injection points, among other things, to surpass your conditioning targets.



MODELLING

Our engineers use Ansys's well-respected Fluent software to accurately design and study every solution for each customer. The Fluent program allows us to engineer and analyze the system's broad physical capabilities, optimize the fluid dynamics and study the efficiency of pollutants removal. In certain circumstances, when a computerized simulation is not sufficient, we undertake a physical simulation on a 1:7 scale. All physical models are made and tested in Redecam's workshop.

We, at Redecam, offer a comprehensive portfolio of air filtration, flue gas treatment (FGT), gas conditioning and transportation, handling & storage products. Please contact us to see how we can take care of all your APC needs.



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