

## IHS®Ds: the technological evolution continues... or better doubles!

**ITMA 2023** edition has been a great success for AERIS S.R.L. with its brand Mazziniici Textile Division meeting perfectly one of the exhibition purposes in terms of showing the innovations that help all operators in the field to transform and grow their business with a view to better sustainable productivity and respect for the environment.



The innovative IHS humidification system has been industrialized on a large scale throughout the global market, thanks to the high performances obtained in terms of **reduction of energy and water consumption**.

The results confirmed during these four years have encouraged and stimulated us to innovate further, by supporting IHS® technology with its complementary evolution: the IHS®Ds (Dual Stage) induction humidification system; result of a careful analysis of the fluid dynamics and physical principles that regulate the phenomenon of adiabatic evaporation and consequent cooling effect.

Combining the micro-spray technology with the evaporative effect, IHS®Ds guarantees an accurate level of humidity control, currently achievable only with steam injection, but with an energy consumption much lower than any other adiabatic system present on the market.

The IHS®Ds saturator uses a **double humidification stage** to achieve a level of performance currently unique in the aeraulic sector:

1. **1ST STAGE.** Inductive saturation with turbulent motion thanks to a series of high-pressure atomization nozzles installed on horizontal manifolds; the nebulization ramps are interconnected to shut-off valves granting several humidification steps, each one working in a modular way between 40 and 140bar, according to the system requirements. In this section each nozzle, creates a swirling motion of the air in its surrounding area and an inductive effect capable of mixing all the nebulized water with the process air. In less than one meter, the water content in the processed air is close to saturation.

2. **2nd STAGE.** Evaporative Humidification.

The saturated air, with microparticles of unabsorbed water still in suspension, impacts on the post-humidification PADs, wetting them. In this section, the air passing through the humidified alveoli accelerates the evaporative phenomenon by absorbing what is still present in the liquid phase and reaching a saturation level close to 100%. The PAD, made by thermo-forming flocked flat sheets with cross-section alveolar air passages, has been designed to increase the contact time and surface area of the air-water mixture, favoring the natural evaporation of the water.



IHS@Ds generates humidity in a proportional-modulating way and, depending on the dimensions, reaches up to 15 humidification steps; on each one of them the modulation of the water spray pressure is added. The “Step” control capability ensures a tolerance of +1% RH in the air delivery flow.

**IHS@Ds is the innovative system for the adiabatic saturation** of process and conditioning air compliant with the stringent **VDI 6022** standard and therefore applicable in any industrial sector, including the hygiene and healthcare ones.