



Cools and humidifies air for industrial & commercial processes



# AtomSpray Series

Adiabatic humidification  
and cooling systems  
via pneumatic atomisation





## Features

### adiabatic humidification and cooling

The FISAIR AtomSpray water atomisation equipment is an adiabatic humidification and cooling system that uses compressed air as the fluid to drive water atomisation. A mist-like aerosol is produced by the atomising nozzles, with a mixture of water and pressurised air. This is absorbed easily by the dry air which is cooled and quickly humidifies.



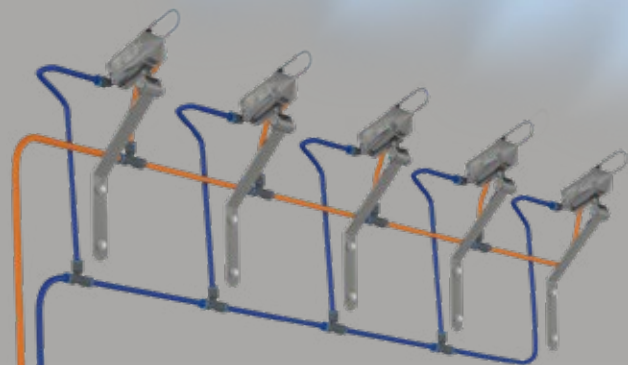
## Spray nozzles

### stainless steel AISI-316

The atomizing nozzles are made of AISI-316 stainless steel whose outstanding interior design avoids the need to treat the water for the spray system beforehand. A complete control system for automatic, reliable and precise operation of the required humidity level is supplied next to the nozzles.

## Operating principle

Compressed air and mains water pass through the filters and regulating valves assembly to the spray nozzles. The two fluids are mixed as they discharge and impact against a rod that micronizes the water by resonance, forming a mist. After this aerosol is emitted, it is absorbed by the air at a minimum distance/contact time. The mains water does not require treatment unless in an area with critical qualities.



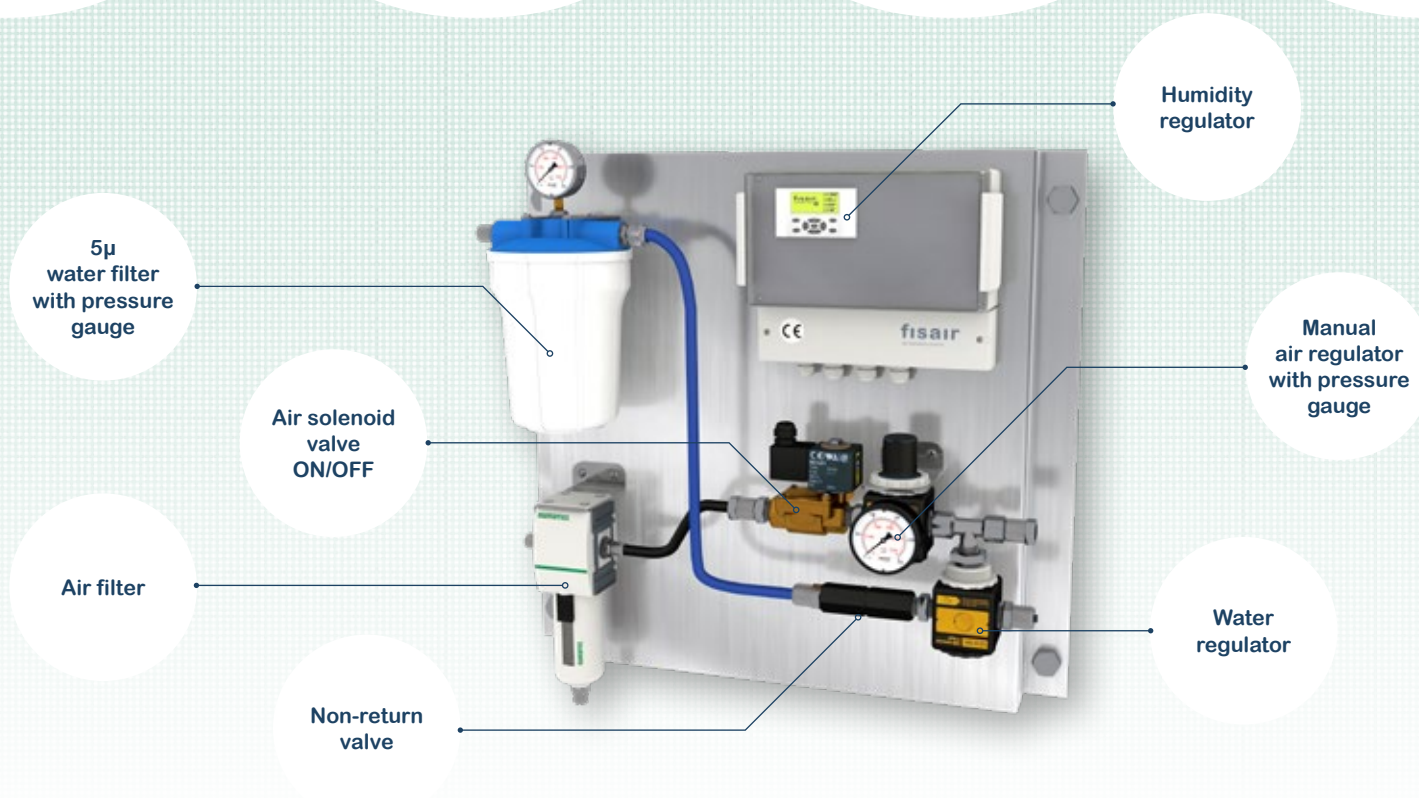
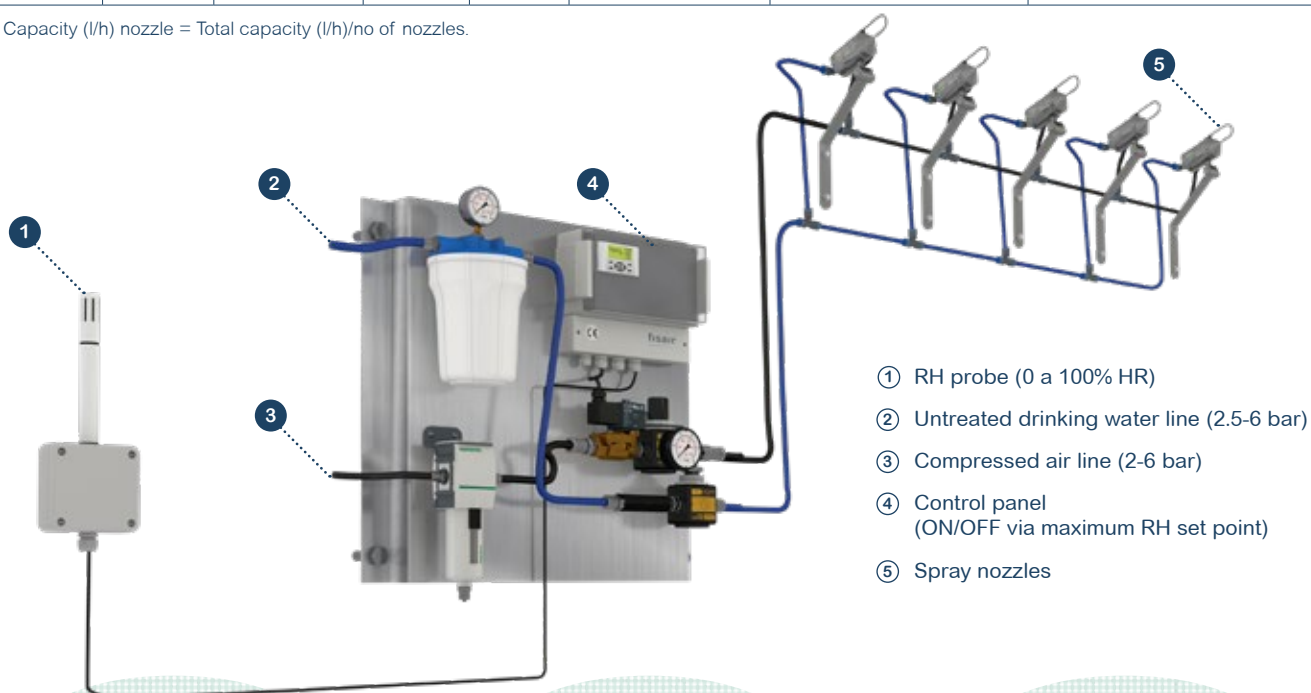
The aerosol is in the form of a mist, which means it, **quickly cools and humidifies the dry air.**

# AtomSpray system - F1

1 zone, ON-OFF

SYSTEM	n° of nozzles	Power connection	Power (W)	Control	Air operating pressure (bar)	Total capacity (l/h) (*)	Air consumption (m³/h)
AS-F1	1 to 8	230VAC/IN/ 50Hz-60Hz or 110VAC/IN/ 50Hz-60Hz	15W	ON/OFF	2-6 bar	min. 2,4 l/h - Max. 128 l/h	min. 2,4 m³/h - Max. 38,4 m³/h

(\*) Capacity (l/h) nozzle = Total capacity (l/h)/no of nozzles.



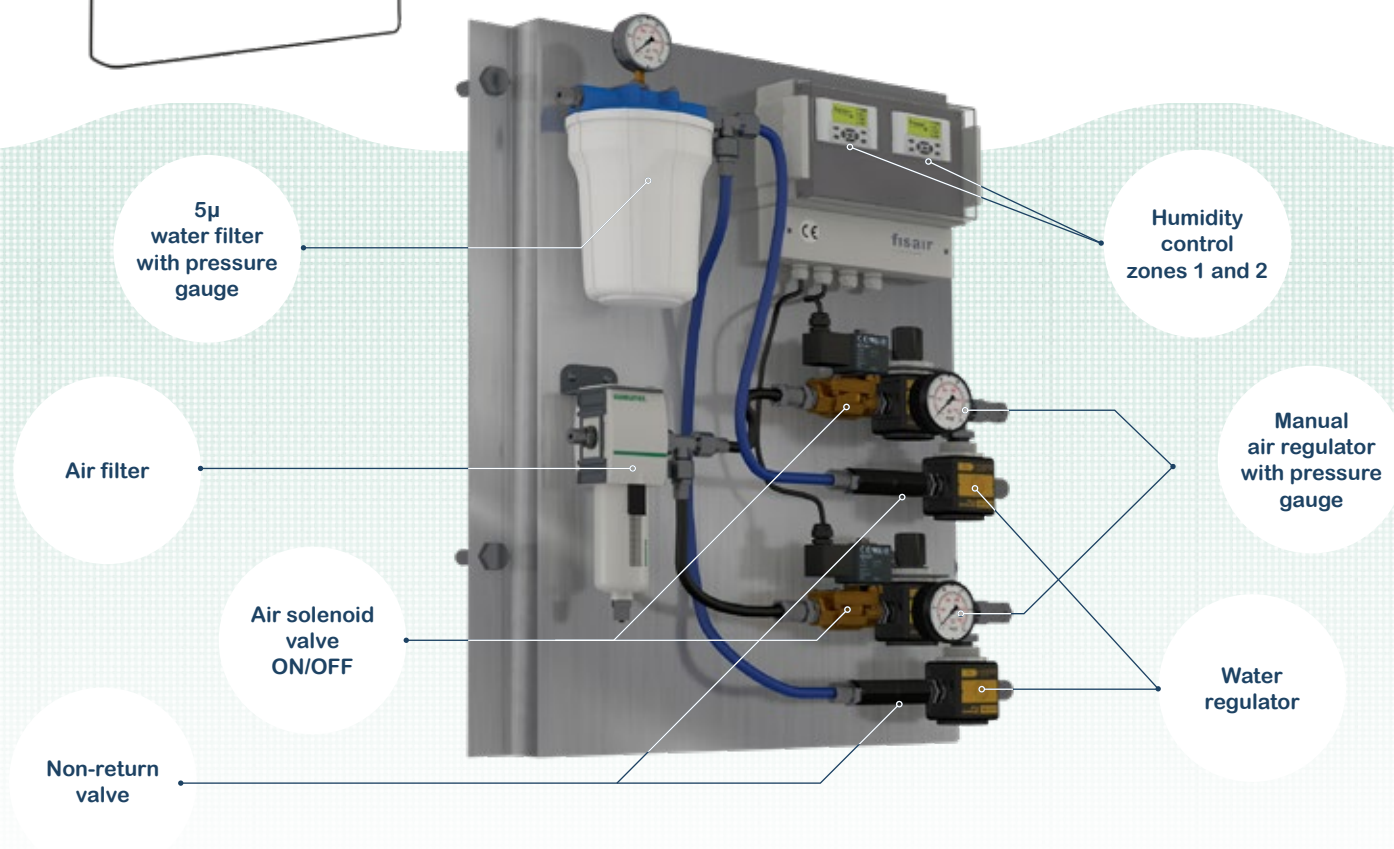
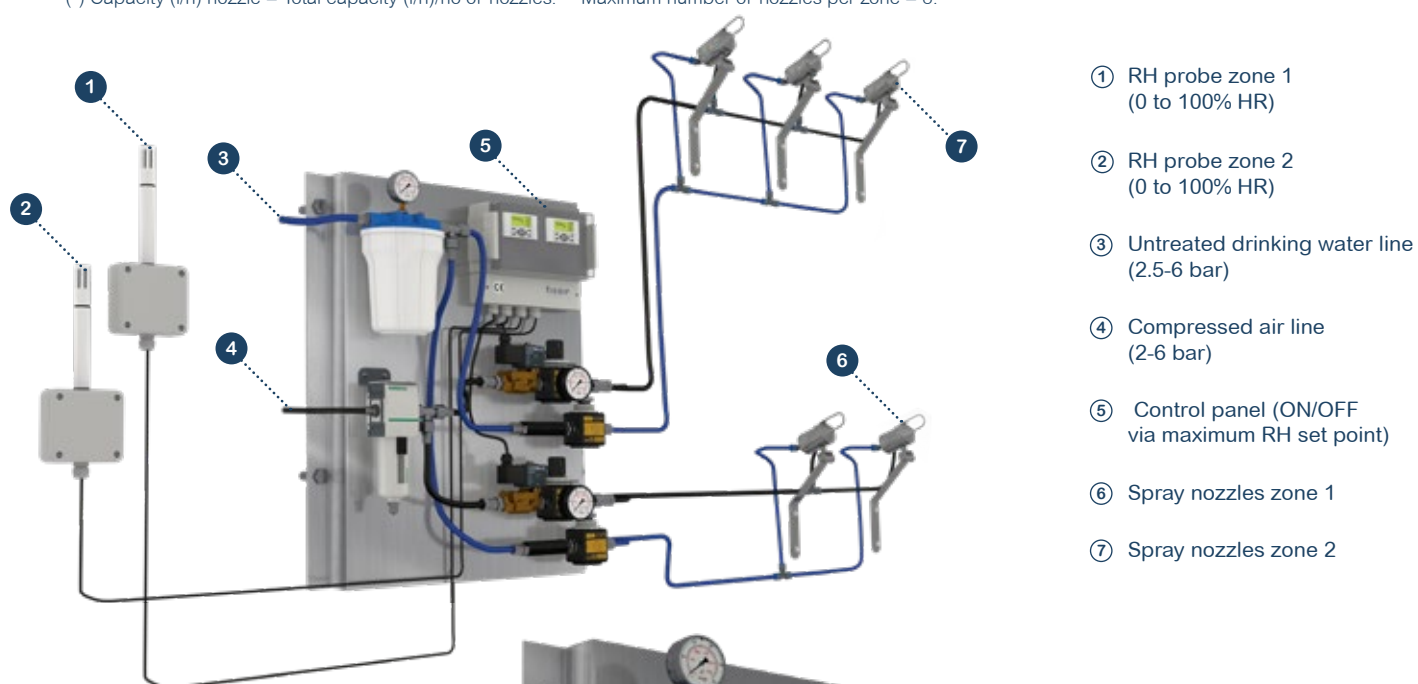


# AtomSpray system - F1

2 zones, ON-OFF

SYSTEM	n° of nozzles	Power connection	Power (W)	Control	Air operating pressure (bar)	Total capacity (l/h) (*)	Air consumption (m³/h)
AS-F1-Z	2 to 16	230VAC/IN/ 50Hz-60Hz or 10VAC/IN/ 50Hz-60Hz	30W	ON/OFF	2-6 bar	min. 4,8 l/h - Max. 256 l/h	min. 4,8 m³/h - Max. 76,8 m³/h

(\*) Capacity (l/h) nozzle = Total capacity (l/h)/no of nozzles. \*\* Maximum number of nozzles per zone = 8.

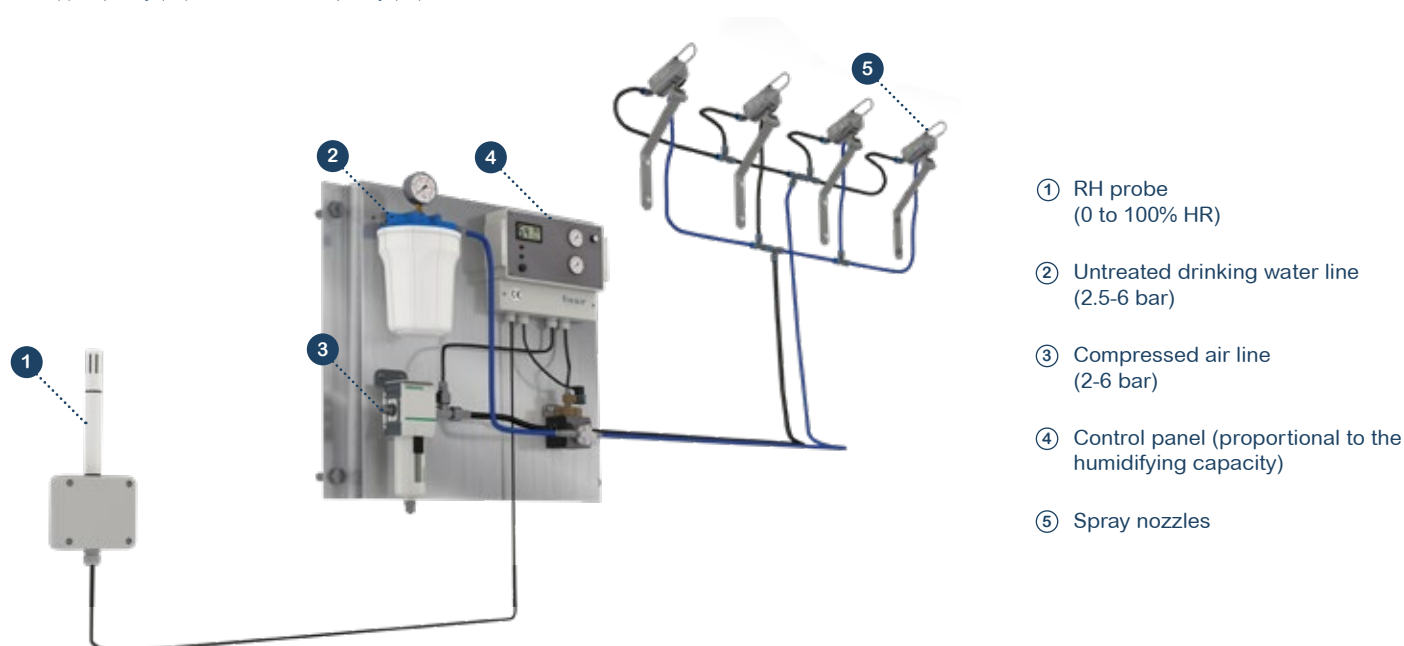


# AtomSpray system - F2

1 zone, Proportional

SYSTEM	n° of nozzles	Power connection	Power (W)	Control	Air operating pressure (bar)	Total capacity (l/h) (*)	Air consumption (m³/h)
AS-F2	1 to 16	230VAC/IN/ 50Hz-60Hz or 110VAC/IN/ 50Hz-60Hz	70W	0...10Vcc or 4...20mA	2-6 bar	min. 2,4 l/h - Max. 256 l/h	min. 2,4 m³/h - Max. 76,8 m³/h

(\*) Capacity (l/h) nozzle = Total capacity (l/h)/no of nozzles.



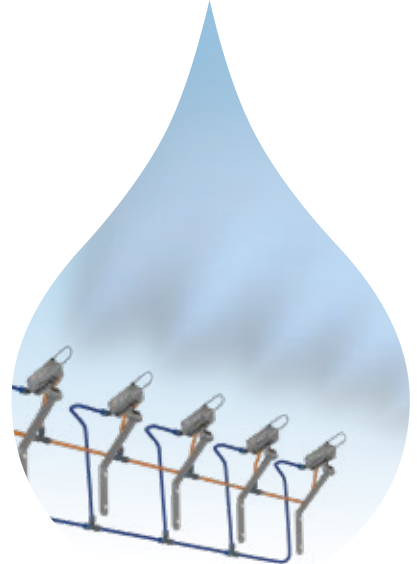


## **Spray system benefits** **high quality and low consumption**

### low water consumption



The AtomSpray system can operate with almost any drinking water supply quality. This **reduces water consumption by up to 55%, compared with other high-pressure humidifiers** that need demineralised or descaled water to prevent the nozzles from clogging.



### minimum energy consumption



AtomSpray consumes approximately **92% less electrical power (not including the power for the compressor), to deliver the same kg/h capacity** as humidifiers using electrodes or electrical heaters.

Also, approximately 630 W of adiabatic cooling are delivered for every kg humidification capacity, which is always welcome in hot environments and in cooling applications.

Optimal nozzle design **reduces compressed air consumption by up to 40%** compared with other systems.

### hygienic



The AtomSpray system does not have water storage trays and **works from a closed water/compressed air circuit, thus minimising the risk of water contamination**. At the end of each season, the system can be purged very simply, so there is no water left in any spray pipe/nozzle.

The **use of inorganic materials** prevents the accumulation of polluting compounds.

**The nozzles are drip-free**, unlike other spray systems on the market.

### low maintenance



The AtomSpray nozzles contain a **self-cleaning mechanism that prevents blockages**. Unlike piston-operated nozzle systems, lubrication of this mechanism is never required.

### easy to install



The AtomSpray system can be installed by any contractor with knowledge of pipe installations. **No special tools for installation are needed** and all pipe components/fittings are standard.

## Accessories AtomSpray system

- Air compressor for different capacity needs.
- AtomSpray fitted in epoxy painted metal box or in hygienic stainless-steel control box.
- UV lamp water treatment system.

## Application examples



Pneumatic Spray System **AtomSpray - F1 (2 zones, ON-OFF)** in paper storage location.



Pneumatic Spray System **AtomSpray - F2 (1 zone, PROPORTIONAL)** in fruit and vegetable refrigeration room.



## AtomSpray Series

Adiabatic cooling and  
and humidification system  
pneumatic atomisation

CBAS-EN-20-0



**fisair**  
air humidity control 

[fisair.com](https://www.fisair.com)

