

# Compressed air & water atomizer **ACA**

- Dry fog producing 2 to 4 $\mu$ m water droplets.
- Low energy consumption.
- Capacity from 13 to 1040lb/h [ 6 to 472kg/h].
- Low compressed air pressure required (87Psi).
- Original patented venturi atomizer.
- Non clogging large orifice.
- Accepts untreated water.
- Maintenance free atomizer.
- Operate at very low temperature .
- High accuracy +/-1%RH.
- High humidity: up to 96%RH.
- Electronic Controller handling 1 or 2 zones or more.
- 3 years warranty\*



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**ACA** dry fog atomizer are supplied with water and compressed air. The **patented** acceleration chamber creates an airflow pattern reaching supersonic speeds (2.4 mach). The airflow sucks in water from a venturi column. The impact between the supersonic flow of air and the water generates shock waves, which produce the micro-droplets. The "solid con" jet of micro droplets forms a uniform "dry fog" which evaporates quickly into the air.

**ACA atomizing** systems does include atomizer for installation into duct or directly in space, an electronic controller able to control up to 2 zones/spaces, RH% and temperature transmitter, and if required low pressure RO (Reverse Osmosis) water pre-treatment.



This atomizer producing a **very fine mist** (2 to 4 $\mu$ m) is the ideal humidification solution for **cold storage** as droplets are not freezing up even at very low temperature such as 32°F [0°C]. The **cooling effect** of adiabatic process using heat transfer from surrounding air is making the ACA a perfect solution for **Data centers** or **pre-cooling** of gas turbine or HVAC dry coolers.

ACA atomizer is robust and can accept untreated water up to 100ppm TDS or RO treated water.

## Typical applications

**Cold storage for fruit & vegetables**, Ripening chamber, humidifying at low temperature



**Wineries**, Tobacco storage, or any other storage of product susceptible to dry-out .



**Green house**, Husbandry, cooling of gas turbine, using cooling effect in space.



**Data center**, server rooms, electronic plant, using cooling effect in duct.



**Textile**, woodworking plant or other dusty area, to reduce the lint and dust in the air.



**Food processing disinfection**, product cleaning or other sanitation application.



## Very fine mist



Due to the very fine mist of water droplets (2 to 4 $\mu$ m) ACA atomizer is suitable for any humidification applications at low temperature and close to saturation (96%RH max.).

Its patented venturi design makes it the most robust atomizer on the market with large non-clogging orifice.

- No need of orifice cleaning,
- Able to accept untreated water ( up to 100ppm TDS ).

## Direct in-room atomizing

ACA atomizer is available for direct in-room installation.

In this configuration the humidifier consists of the following components:

- Atomizing box with 2 or 4 atomizers easy to install on the wall,
- Electronic controller,
- RH% and /or temperature sensors,
- Optional low pressure RO water treatment.



## In-duct atomizing



ACA atomizer is also offered for in-duct installation.

When AHU or duct work is present, or for application such as Data center, in-duct installation will provide the most efficient solution. For such configuration the ACA atomizer will be pre-installed on a ramp at the factory.

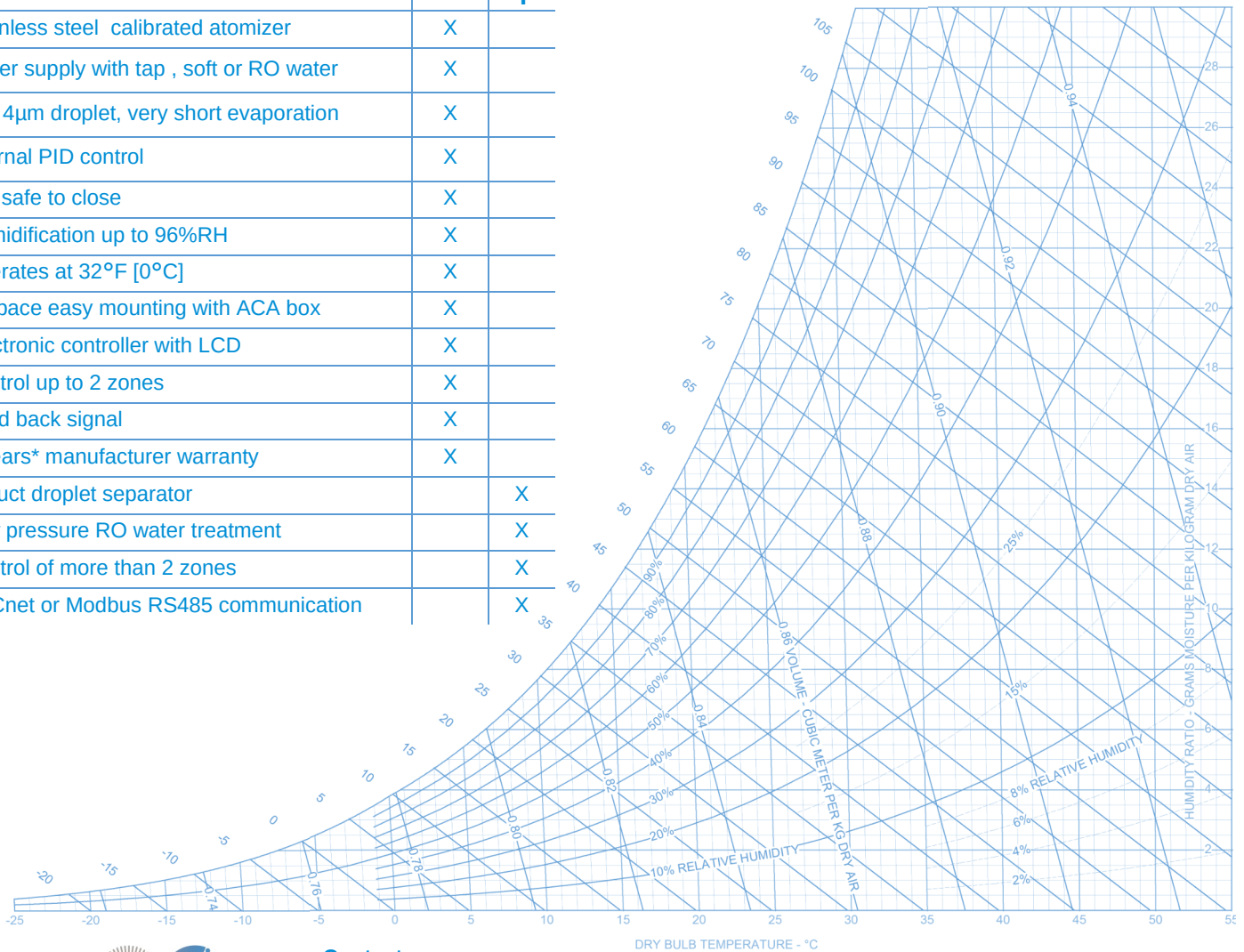
- Atomizing ramp made up to the width of the duct,
- Number and grid configuration of atomizer will depend on the application,
- A wet duct section should be provided,
- Droplet separator available in option, handle one or two AHU conditions.
- Electronic controller can
- Optional low pressure RO water treatment.

# Technical data

Model		ACA-S2	ACA-S4	ACA-Dx
Capacity	(lb/h) [kg/h]	<b>26</b> <b>[12]</b>	<b>53</b> <b>[24]</b>	<b>13 to 1040</b> <b>[6 to 472]</b>
Air pressure	[PSI]	<b>87 to 116</b>	<b>87 to 116</b>	<b>87 to 116</b>
Air consumption	[cfm]	<b>4 @ 87PSI</b>	<b>8 @ 87PSI</b>	<b>8 @ 87PSI</b>
Water pressure	[PSI]	<b>40 to 60</b>	<b>40 to 60</b>	<b>40 to 60</b>
Total Dissolved Solids	[ppm]	<b>100 max</b>	<b>100 max</b>	<b>100 max</b>
Voltage	[Vac]	<b>120</b>	<b>120</b>	<b>120</b>
Power	[W]	<b>15</b>	<b>30</b>	<b>60</b>

## Features

	Std	Opt
Stainless steel calibrated atomizer	X	
Water supply with tap , soft or RO water	X	
2 to 4µm droplet, very short evaporation	X	
Internal PID control	X	
Fail safe to close	X	
Humidification up to 96%RH	X	
Operates at 32°F [0°C]	X	
In space easy mounting with ACA box	X	
Electronic controller with LCD	X	
Control up to 2 zones	X	
Feed back signal	X	
3 years* manufacturer warranty	X	
In duct droplet separator		X
Low pressure RO water treatment		X
Control of more than 2 zones		X
BACnet or Modbus RS485 communication		X



**STEAMOVAP**  
humidity provider

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Condition: (\*) start-up report without default done by authorized steamOvap local representative.