



poultry  
cold storage  
printing plants  
painting processes  
furniture manufacturing  
textile plants  
woodworking



# AirFog<sup>®</sup>

Atomizing  
Nozzle  
Humidifiers

Designed for Manufacturers,  
Processors, and Distributors  
of Humidity Sensitive Products  
and for air handling systems



# AirFog<sup>®</sup> *operating advantages*

- ▶ Suitable for all kinds of commercial and industrial applications, in addition to air handling systems for total building applications
- ▶ Adaptable for small or large areas
- ▶ Evaporative cooling
- ▶ Energy efficient
- ▶ Infinitely adjustable
- ▶ Maintains preset humidity levels
- ▶ Minimal maintenance required.
- ▶ High quality 316 Stainless Steel construction for optimum performance and reliability
- ▶ Suitable for DI or RO water



## AFD

Ultrasonic Nozzle Systems for HVAC Applications

**AFD NOZZLE** combines flows of compressed air and pressurized water in the body of the unit and ejects the mixture at high velocity against the resonator cup, which fractures the water into fog like droplets. The AFD nozzle has very low air consumption and the system includes a vertical and horizontal flexible mounting rail system simplifying installation and adding flexibility to it. Adjusting the air pressure via a control panel varies nozzle output.



- ▶ Low air consumption (0.10 scfm/lb)
- ▶ Simple and easy installation
- ▶ Pressurized water with compressed air system
- ▶ Ideal for use in air handler
- ▶ Water particle size 0.5 to 3 microns

airfognozzles



## Mini

### Packaged Wall Mount System

The **MINI** is a compact self-contained unit ready for wall mounting in a specific area or room. It includes an attractive housing with one or two AFE nozzles, vacuum and control valve, cleaning cycle relay and switch. Each nozzle has a humidification delivery capacity of up to 14 lbs/hour.



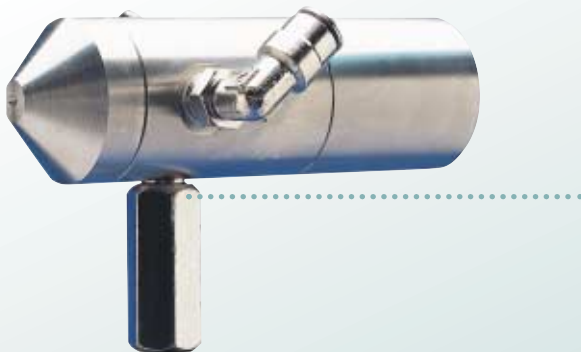
## Octo

### Packaged Ceiling Mount System

The **OCTO** is a high output, pre-assembled module designed for large capacity projects. It consists of a painted metal housing using four, six, or eight AFE nozzles, designed for ceiling suspended installation. The eight nozzles together can produce up to 120 lbs/hour of vapor. The modular OCTO system can have a series of units operating from a single AIRFOG control panel when a large area needs to be serviced.

# AFE

## Atomizing Nozzle Systems for Space Applications



## engineeredsystems

**AFE NOZZLES** use compressed air to create a vacuum over the water orifice and draw the water into the airflow as it exits the nozzle. This action mixes the air and water into a fine mist which can be adjusted by regulating the velocity of the air. A spring operated plunger activates a cleaning needle which cleans the water orifice and seals the water inside the nozzle to prevent dripping whenever the humidifier cycles off. Because this is a low pressure system, water will not leak from the nozzle if the compressor becomes inoperative. When the cycle is resumed, the pressurized air forces the seal open allowing water to exit the orifice and be atomized by the air.

- ▶ Vacuum system automatically stops water flow if air pressure drops
- ▶ Vacuum ensures equal output to each nozzle.
- ▶ Programmable timer for self-cleaning.
- ▶ Can be mounted on walls, columns or from ceilings.
- ▶ Water particle 3 to 10 microns.
- ▶ High quality 316 stainless steel components.

# HP HVAC Series

High-Pressure Nozzle Systems for air-handling units or duct applications

Features the lowest operating costs compared to any other humidification technology

Four easy to select modules:



..... The **PUMP MODULE** supplies high-pressure water to the patented nozzles eliminating the need for an expensive compressed air system. Reverse Osmosis water is brought into the pump system at 25-75 PSIG and exits the nozzles at 1000 PSIG. The pump is frequency drive controlled (VFD optional) and is capable of delivering up to 5600 lbs/hr. The variable frequency drive allows for multiple zone control, and because the pump is run at a low speed with greater efficiency there is less wear and tear and maintenance!



..... The patented **MICROCOOL® NOZZLE** delivers 10-40 micron droplets through a 0.008" orifice. The nozzle and impeller are constructed of 316 stainless steel for a long trouble-free life. A Viton o-ring seal allows for easy installation and removal without tools. All Microcool® nozzles have a built in check valve to prevent dripping after shut down.



..... The unique **SOFT CHARGE VALVE ASSEMBLY** allows you to obtain up to six stages of output through the nozzles. The valve **CONTROLLER** receives a control signal from the building management system, and depending on humidity requirements will activate a combination of on/off valves to maintain a greater turndown ratio.



..... The unique installation pattern of our **MIST ELIMINATOR** allows us to reduce duct static pressure by as much as 25% over standard installations.

# The importance of providing, and maintaining, correct interior humidity levels in the workplace is now universally acknowledged.

Too much humidity can be as counter-productive as too little and the humidification system must be appropriate for each individual application.

NORTEC engineers design and refine superior humidification systems to suit a broad range of conditions, requirements and budgets, and the company has grown to be the world leader in its industry.

NORTEC AIRFOG atomizing nozzle systems combine quality construction with simple operation to provide reliability and high performance at a cost-effective price. AIRFOG systems have been in worldwide use now for over twenty years.

AIRFOG nozzles are available in either packaged or job-engineered systems using subsonic or ultrasonic designs. They can be integrated into a variety of configurations to meet the requirements of virtually any application. All AIRFOG atomizing nozzles are machined from 316 stainless steel. The stainless steel construction allows use of clean, aggressive DI (deionized) or RO (reverse osmosis) water in areas where mineral fallout may create a problem.

For small capacity projects, or an entire facility, AIRFOG has the engineered system to meet all customer requirements.

# AirFog®



*AIRFOG products  
are manufactured  
in one of NORTEC's  
ISO 9001-2000  
registered facilities.*



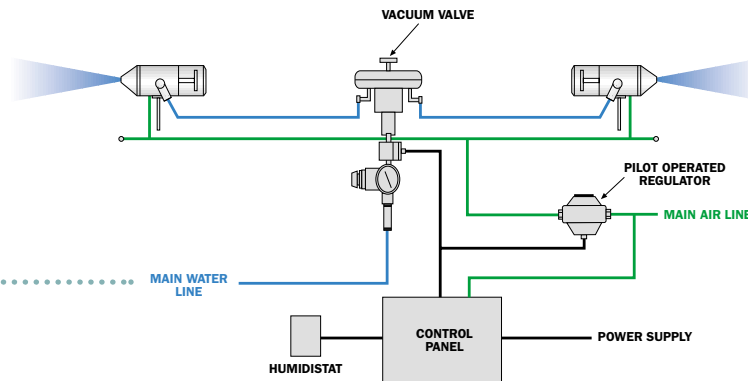


SPECIFICATION	AFE	AFD	MINI	OCTO	HP HVAC
Water particle - micron	3-10	0.5-3	3-10	3-10	10-40
Output lbs/hr (kg/hr)	15 (6.4)*	25 (11.4)*	28 (12.7)**	120 (54.5)***	6500 (2948)
Compressed air consumption/nozzle cfm (l/m)	1.8 (51)	2.5(71)	1.8 (51)	1.8 (51)	N/A
Air pressure max psig (kPa)	90 (620)	90 (620)	90 (620)	90 (620)	N/A
Air pressure working min./max. psig (kPa)	0-70 (0-483)	0-65 (0-448)	0-70 (0-483)	0-70 (0-483)	N/A
Inlet Water pressure max. psig (kPa)	25 (172)	65 (450)	25 (172)	25 (172)	75 (517)
Nozzle construction	316 SS	316 SS	316 SS	316 SS	316 SS
Power	24 vac	24 vac	24 vac	24 vac	120V to 575V
Adjustable cleaning timer	yes	N/A	yes	yes	N/A
Low pressure vacuum valve	yes	no	yes	yes	N/A
<b>OPTIONS</b>					
On/off humidistat	yes	yes	yes	yes	yes
Modulation control	yes	yes	no	yes	yes

For details on these and other humidifiers, please consult your NORTEC representative.

\* Capacity per nozzle \*\* w/ 2 nozzles \*\*\* w/ 8 nozzles

## Typical layout of an AFE System



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