MeeFog Systems

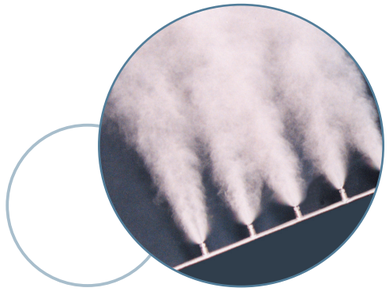
COMMERCIAL HUMIDIFICATION SYSTEMS

MeeFog ™ high pressure fogging system

MeeFog™ humidification systems provide an effective way to improve indoor air quality

Mee Industries has designed and installed thousands of humidification systems for a wide variety of commercial and industrial applications. With more than 50 years of industry experience behind our technology, it is no wonder that Mee Industries is the leading manufacturer of high-pressure fogging systems today.

Mee provides humidification solutions for even the most demanding application or project. Our position as the global leader in high-pressure fog technology means we work closely with HVAC engineers and operators around the world to meet special project requirements, including accelerated delivery schedules, and to provide our customers with highly responsive after-sale support. We take great pride in meeting deadlines, our company-wide success metric is, "successful projects completed on time."



Turn to Mee for Humidification Solutions

MeeFog™ Humidification Systems do not require compressed air or steam, which greatly simplifies the installation. All that is required is small diameter tubing carrying pressurized water. The use of direct pressure requires very few moving parts (with none in the air handler itself). One MeeFog™ pump unit can run multiple air handlers and can also be configured with system redundancy if needed.

"The MeeFog™ System is much lower on maintenance than our legacy steam humidifiers. We don't have any calcification issues, no elements to burn out, no floats to get fouled or bubble indicators. We just have to change the oil, check the belts, change the filters and we are done."

— Eric Patterson, Facilities Manager
Madison Data Center

MeeFog™ Systems can save as much as 95% in energy use compared to other humidification technologies.

Mee Industries helps its customers meet tougher indoor air quality (IAQ) standards more cost-effectively than other humidification methods on the market today.

Whatever your humidification challenge, Mee Industries will work with you to engineer an energy saving solution, and a successful outcome to your project.

Energy Cost Comparison Chart

Electric Steam	$77,352
Steam Boiler	$20,011
MeeFog™ (Includes RO System)	$4,025

Compares annual energy costs assuming 100K cfm, 70F/40%RH space, 20% minimum OA, yearly operation (TMY3 data), $0.0685 per kWh, $.41 per therm.

"The numbers came back very attractive and we purchased it, we also received a $16,000 energy savings rebate from Con Edison so the payback worked out to just under two years."

— General Manager – Plant Operations, Energy and Engineering
Major NYC Cancer Research and Treatment Center

1. Purification

- Removes mineral content
- Removes microbes

2. Pressurization

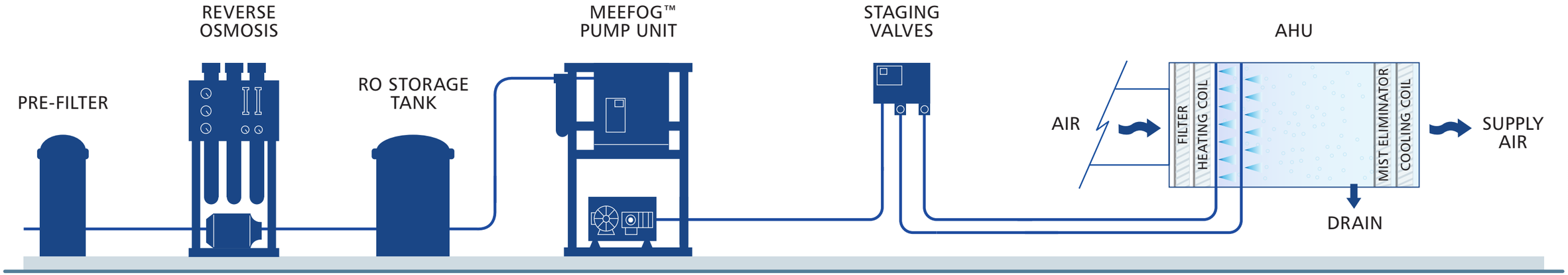
- Maintains pressure at 1000 psi
- Can serve multiple Air Handling Units (AHUs)

3. Staging

- Valves modulate the output of the MeeFog™ System
- Each valve controls a different number of fog nozzles
- PLC in valve panel receives variable humidification demand signal from BMS

4. Atomization

- MeeFog™ nozzles installed in AHU
- Absorption distance 3-6 feet
- Mist Eliminator pads prevent carryover
- Pads easily removed for cleaning



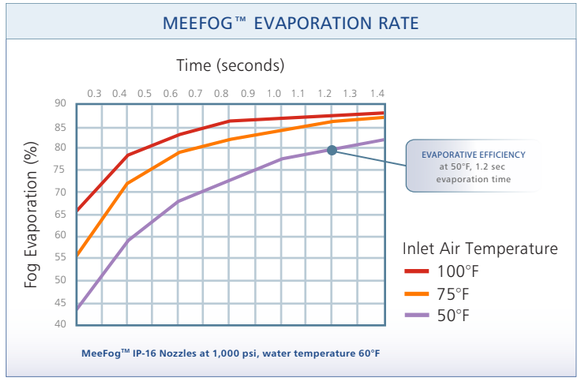
Get the Precise Humidity Control You Need

We know that precise humidity control is an essential feature of any humidity system. The MeeFog™ System modulates output by the use of solenoid staging valves that can achieve exactly that. Based on the humidity demand signal, staging valves open and close to alter the fog output and match the humidity requirement.

Evaporative Efficiency

The spray distance and airflow velocity determine the time available for evaporation. This calculation can be used to properly determine the size of the system, according to your load requirement.

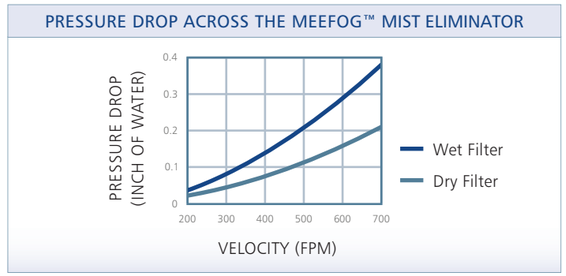
$$\frac{\text{Spray Distance}}{\text{Air Velocity}} = \text{Evaporation}$$



Average evaporation efficiency considering three different initial air temperatures.

"The MeeFog™ System held humidity levels much tighter than we had before with the old system, it was the first winter where I had no complaints about the vivarium humidification levels."

— General Manager – Plant Operations, Energy and Engineering
Major NYC Cancer Research and Treatment Center



The air pressure drop across the mist eliminator is a function of the air velocity and degree of saturation.

Stainless Steel Mee-3

MeeFog™ Pump Unit - a Standardized Component of a Customized System

- Control panel with user interface, alarms and shut-offs for high/low pressure.
- Direct drive pump with high efficiency motor and VFD. All wetted parts are stainless steel.
- All components are mounted on an aluminium frame.

The MeeFog™ pump unit has been designed to perform in the most demanding situations. All components are industrial duty, and the system is designed for 24/7 operation. MeeFog™ Systems feature a Variable Frequency Drive (VFD) that enables a "soft start" of the pump motor and maintains the lowest pump speed possible for energy savings and long pump life.

Model Mee-3 Fog Pump Units

Stainless Steel Pumps, 1000 psi, Direct Drive with VFD

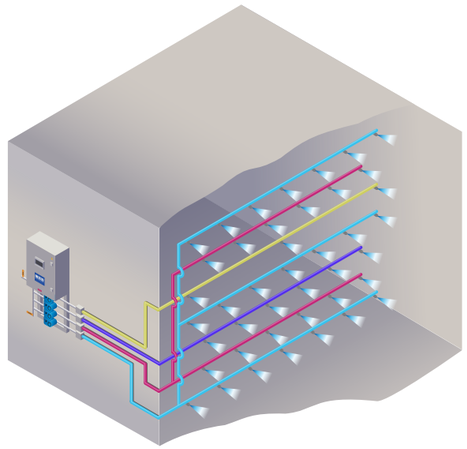
Model Mee-3	Design Flow [1] (gpm)	Max. Flow [2] (60Hz)	Min. Flow [3]	Dimensions (W" x H" x D")	Motor HP	Voltage	Full Load Amps	Weight (lbs)
-SSG050	0.4 gpm	0.5 gpm	0.01 gpm	24 x 51 x 17	1/2 HP	208-230/460V 3-phase or 230V single-phase	2.0-1.8/0.9 1-ph 4.6	180
-SSG080	0.6 gpm	0.8 gpm	0.02 gpm		3/4 HP		2.9-2.6/1.3 1-ph 6.4	180
-SSG110	0.9 gpm	1.1 gpm	0.04 gpm		1 HP		3.9-3.5/1.8 1-ph 7.4	195
-SSG160	1.1 gpm	1.6 gpm	0.06 gpm		1.5 HP		5.0-4.6/2.3 1-ph 9.2	195
-SSC230	1.5 gpm	2.3 gpm	0.05 gpm	30 x 57 x 24	2 HP		6.0-5.7/2.9 1-ph 11.0	230
-SSC420	2.8 gpm	4.2 gpm	0.08 gpm		3 HP	208-230/460V 3-phase	8.9-8.0/4.0	270
-SSG550	3.7 gpm	5.5 gpm	0.11 gpm	36 x 65 x 24	5 HP		14.5-13/6.5	350
-SSC740	4.9 gpm	7.4 gpm	0.15 gpm		7.5 HP	460V 3-phase	9.3	420
-SSC1050	7.0 gpm	10.5 gpm	0.21 gpm		7.5 HP		9.3	430
-SSG1200	8.0 gpm	12.0 gpm	0.24 gpm		10 HP		12.5	460

[1] The recommended design flow for normal operation and extended pump life.
[2] Maximum flow can be used for intermittent operation, but to extend pump life, it is not recommended for continuous use.
[3] Minimum flow which must be output through the fog nozzles to prevent overheating the pump.

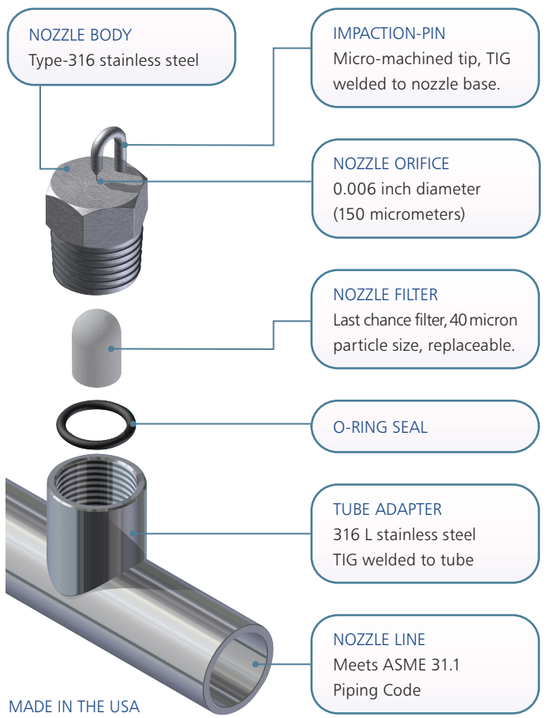
Fog Staging Valves

Staging valves are used to modulate the amount of humidification output of the MeeFog system. Each valve is connected to a different number of fog nozzles. By controlling these valves, many stages of humidification can be achieved. A PLC in the Valve Control Panel receives a humidity demand signal, and stages the valves to achieve the correct output.

Staging Valve Panel



Cross Section of an Air Handling Unit (AHU)



Micro in size. Macro in benefits.

The MeeFog™ nozzle atomizes water into billions of ultra-fine droplets. The nozzle is made using high grade stainless steel, and is the most efficient nozzle in the industry. The average droplet size is one-tenth the diameter of a single strand of human hair. The resulting fog evaporates more rapidly than other fogging systems.

The MeeFog™ Advantage: Experience Based in Science and Innovation

For over 50 years Mee Industries Inc. has been the leader of innovative water fog technology. MeeFog™ Systems are used to humidify and cool industrial, commercial, and agricultural processes and to create dynamic special effects.

Thomas Mee Jr. started his career as a Cornell University research scientist who founded Mee Industries in 1969. The company originally manufactured high-tech, meteorological instruments. The first MeeFog™ Systems were used to study natural cloud phenomena. By the early 1980's, high-pressure water fogging had become the company's main focus. Our active research & development group ensures that we are continually improving our technology.

Today the company is owned and operated by Thomas Mee III and D'Arcy Mee Sloane, who continue their father's tradition of running an innovative and ethical company for the benefit of customers and team members.

The MeeFog™ team looks forward to discussing your project with you.

MeeFog Systems

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CELEBRATING 1969 50 2019 Fifty Years of Fog