



# Applied Physics, Inc.

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## Nano Particle Technology

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# CleanRoom Fogger™



- **Pharmaceutical USP 797 & Semiconductor Applications**
- **Polypropylene Enclosure: No Fingerprints as with SS, Easy to Clean**
- **Create Fog with Di Water or Distilled WFI Water**
- **Video Airflow Patterns, Air Migration and Turbulence**
- **Use in Pharmaceutical Barrier Isolators, Glove Boxes & ISO 5 areas**
- **Visualize Clean Room Pressure / Turbulence Issues**
- **6cfm of Fog for 60 Minutes Operation, Refill and Continue Fogging**
- **Fill Level Indicator and Water Drain**
- **Top Holding Handle Provides Convenient Carry of Fogger**
- **NEW Fog Curtain Wand Option to create Fog Wall and more**
- **NEW 5M, Power On/Off, Cable & Switch for Remote Control**
- **Corrugated, White Fog Hose, 30" ~ 72" extended, 2.35" ID, 2.6" OD**
- **Low Water Sensors for Transducer Protection**

The **CleanRoom Fogger™** is a DI Water Fogger using 3 Liters of DI Water or WFI water. It is designed for low cost, easy to use, visualization of airflow and turbulence with on/off fog control in Pharmaceutical ISO 5, ISO 7 and ISO 9 areas, barrier isolators, Semiconductor clean rooms and around equipment. Fog visibility distance is based on airflow velocity and humidity around the fog.

DI Water Foggers produce a 65-70 degree, visible vapor composed of microscopic DI water droplets (fog) at 7-10µm droplet size. The fog is as clean as the DI Water or WFI Water used. 16 Meg Ohm DI water is typical Di Water used, or you can use Distilled WFI Pharma water. The fogger cost is kept low for budget requirements. Ultrasonic transducers convert liquid directly to droplets. Low water sensors protect the transducers during operation. Also provided is a visible fill level indicator so the operator fills water to proper level for 60 minute operation. The CleanRoom Fogger enclosure is produced with a polypropylene material to provide a quick, easy wipe down of the fogger after use, while preventing fingerprints as encountered on instruments using SS enclosures. A handle is provided on top to provide easy carry of the fogger. The fogger is used in bench top or Cart/Trolley operation.

A standard power supply is provided at 110VAC, or 220VAC is available. A flexible, corrugated, white fog hose can be oriented in any direction for fog directional output as a fog stream. The Optional **Fog Curtain Wand** can be plugged into the Fog hose to create a fog wall or fog curtain while reducing output pressure and fog velocity. The Optional **5 meter Remote On/Off Power Cable** is used to place the fogger in a closed clean room or barrier isolator and operate the fogger remotely from the other side of the wall. The **Rolling Carry Case** is useful for parts storage as well as transport. For operator convenience the Operating Instructions, Application Notes and Specs are labeled on the side of the fogger enclosure for paperless operation. [Video Link of the Fogger](#) for **Semiconductor or Pharmaceutical** use.



**CleanRoom Fogger™ with Optional 5M Remote Power On/Off, Cable/Switch 110/220VAC, Bench Top/Cart Operation**



**Optional Fog Curtain Wand to create a Curtain Fog to Visualize Airflow / Turbulence**



**Optional Rolling Carrying Case used to protect fogger parts during storage and transport.**



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### *Instruction Label Attached to the Side of Fogger Enclosure*

## CleanRoom Fogger™ Operation

- 1) Place CleanRoom Fogger on a flat, level bench, table or rolling cart.
- 2) Fill with DiH<sub>2</sub>O Water to the **FILL LEVEL** on the left hand panel of this fogger.
- 3) Connect the Power Supply to wall outlet 115VAC, optional 220VAC.
- 4) Connect the Power Supply to the fogger DC INPUT.
- 5) Attach the white Fogger Hose to the fog outlet on top of fogger.
- 6) Remove the black hose cap & direct fog tube in the direction to fog.
- 6a) Connect Optional Fog Curtain Tube to Hose to create a Fog Wall to visualize airflow and turbulence.
- 7) Turn power on for a steady fog of about 1 hour of continuous use to visualize airflow and turbulence.
- 8) Power can be turned ON/OFF as desired. Low water level detected to automatically shut transducers off.
- 9) Refill water to continue fogging or drain water by opening the drain plug on front panel, lower right.  
Be careful not to unscrew the drain plug as water may leak past a loose drain plug during operation.
- 10) After draining water, leave the fan on to dry the water chamber; then turn power off.
- 11) Store parts (fogger, hose, power supply) in Optional Rolling Carrier; or store fogger parts on shelf.

## CleanRoom Fogger™ Specifications

- **Operation:** Ultrasonic Cavitation
- **Liquid:** 16M Ohm impedance Deionized (DI) water is used for Class 100 and above. Pharma WFI water optionally specified. 64 Meg Ohm DI Water suggested for Class 1, Class 10 operation. Use of any other liquid other than specified at purchase voids the warranty.
- **Water Capacity:** 1 gallon (3.7 liters)
- **Level Sensor:** This is a safety feature to protect the transducers. When water level approaches the lower level, the CleanRoom Fogger will detect a low water level and turn the transducers off. When water level is low, there may be a chatter sound and the fog density will be reduced prior to shut off. If you wish to continue operation, refill with Di Water to FILL Level and restart.
- **Fog Duration:** 60 minutes continuous usage
- **Fog Hose:** Flexible, corrugated, white hose extends from ~30" (76cm) to ~80" (203cm))
- **Fog Visualization distance:** Typical 4-6 feet, dependant on room humidity and airflow velocity
- **Fog Temperature output:** 41°F-100°F (5°C-40°C), typical 65°F, dependant on Di Water temperature
- **Fog Volume** 4-6cfm
- **Fan Volume:** 33cfm
- **Cable Length:** 10m

## CleanRoom Fogger™ Application Notes

- A) The fog generated by this fogger produces microscopic droplets (~10µm) of DI water.  
***AVOID USING IN IMMEDIATE VICINITY OF ELECTRIC APPLIANCES, WATER SENSITIVE PRODUCTS AND EQUIPMENT.***
- B) To drain the fogger, lift the drain plug lever and remove the plug. Do not drain water by tipping the fogger. Do not drain water through the fog outlet.
- C) The fan will operate with no water in the reservoir with the power switch in the ON position. This will aid in drying when the chamber is drained.
- D) The fogger is intended to be used on a flat surface, on its feet.  
***Tipping the fogger with water in the reservoir will damage the fogger. DO NOT OVERFILL OR TIP FOGGER.***
- E) When draining the fogger, open the drain plug latch at bottom right of front panel; close when all water has been drained. Do not unscrew the drain plug or leave it loose during operation, as water could leak by the drain plug, when left loose during operation. If water leaks by the drain plug during operation, gently rotate the front latch mechanism clockwise while holding rear metal plate to tighten drain plug. Only one, perhaps two turns, are needed.