

Applied Physics, Inc.

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Nano Particle Technology

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CO2 Fogger and Smoke Generator







The CO2 Fogger is used to visualize airflow, turbulence and velocity patterns in clean rooms and especially in areas that need airflow visualization but no power is available in the room. The fog is produced using a 1 lb. block of dry ice placed in a DI water (or WFI water) reservoir which has been heated. The CO2 Fogger and Smoke Generator is NOT an "On Demand" fogger, but is a continuous use fogger. Once the fog process has started, it will continue to produce fog, about 6 CFM at first with the proper amount of CO2 ice used. As the CO2 ice is consumed, the fog volume decreases to 0 CFM, as the ice surface area decreases during evaporation, for an average of 3 CFM fog in use. **During operation, the power supply is unplugged, allowing the CO2 fogger to be carried into the clean area to visualize airflow and turbulence.** The <u>Optional CO2 Fog Wand</u> is designed to allow the user to select the type of fog dispersed from the wand, e.g., jet fog (left photo) or curtain fog (right photo). Simply sliding the end of the wand will select the desired fog pattern. Also available is the carry/storage case and Dry Ice Maker.



Optional CO2 Fogger Case, (left)

Optional CO2 Dry Ice Maker, (right)



Optional CO2 Fog Wand, (right)





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CO2 Fogger Features

- The CO2 Fogger, commonly called a Smoke Generator, is designed to visualize airflow and turbulence in power isolated areas and clean rooms.
- The optional CO2 Fog Wand allows three different fog patterns to be generated: curtain fog, cloud fog and jet fog. No other fogger has this feature.
- Compact at less than one cubic foot in size.
- Portable and easily carried into the tightest spaces to perform airflow visualization tests.
- Can be used in the Class 10 Class 10,000 spaces. 64MOhm Water allows use in Class 1 environments.

CO2 Fogger Applications

- Cleanroom laminar flow tests
- Airflow balancing and visualization
- Wet bench exhaust optimization
- · Chemical process equipment ventilation tests
- Personnel safety exhaust verification
- Pressure balancing between rooms and spaces
- Leak detection in ducts

CO2 Fogger Specifications

Dimensions
12 ¼" W x 11 ¾" H x 11 ½" D (311 x 298 x 292)

Weight Including Water: 24 lbs, 10.9 Kg

Water Capacity (DI Water or WFI Water): 1.0 L

Fog Life About 6-8 Minutes Continuous Use

Fog Distance 3 Feet Distance

Fog Volume 3 CFM Average

Power Supply
Input 120VAC or select 220VAC, 100VAC, 50/60 Hz (PS not used in clean room)

CO2 Questions

- CO2 vapor in normal (lack of high heat) conditions is stable, inert and non-toxic
- Average atmosphere including clean rooms contains ~3.3% CO2
- CO2 fog is a vapor, not particulate, and no residue is in the fog
- CO2 ice is produced in the dry ice block maker can be purchased as pure as 0.98%
- CO2 Fogger is not a Disinfectant Fogger and no disinfectant can be added to the DI Water or WFI Water