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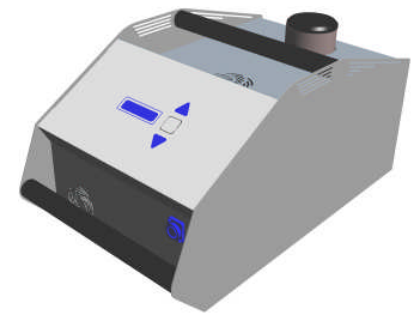
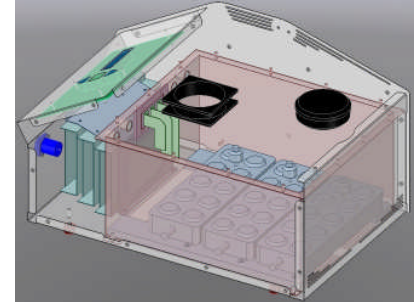
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Nano Particle Technology

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CleanRoom Fogger™, Model CRF4

- NEW – 30 piezo ultrasonic devices producing ≈ 1.25 cubic meters pure fog / minute
- NEW– Highly visible fog with 165ml / minute fog density and 10-15 feet visible airflows
- Compliant to Pharmaceutical USP 797 Insitu Airflow Analysis
- Compliant to Semiconductor Cleanroom Guidelines
- Compliant to ISO 14644-3, B.7 - Airflow Test and Visualization
- Compliant to ISO 14644-3, B12 Airflow Recovery, 0.5 μ m Polystyrene Latex spheres
- De-ionized Water or Water for Injection (WFI) to produce a pure fog
- Video the Airflow Patterns, Pressure Differences, Air Migration and Turbulence
- Use in Pharmaceutical Sterile Rooms, Barrier Isolators and ISO 1 - 9 suites
- Startup of the Fogger is < 30 seconds, Refill and Restart, Instant On/Off
- 45 minute operation provides ≈ 56 cubic meters to visualize airflow turbulence
- NEW – Onboard Remote Control using Wireless Remote Key FOB
- NEW – Touch Pad Display provides 1-100% airflow control and water level feedback
- NEW – Display provides ultrasonic transducer On/Off control to adjust fog volume
- NEW – Simple, “Lift and Pour” water drainage
- CRF4 offers as much fog as some Liquid Nitrogen Foggers, but at half the cost
- * Optional Rolling Carry / Storage Case with Extending Handle
- * Optional Fog Curtain Wand converts stream fog to a wide visual fog wall
- * Optional 5 Meter x 80mm ID, Transparent Fog Hose
- Low Water Sensor for Ultrasonic, Transducer Protection
- Operating Instructions on Side Label, No Paperwork in Cleanroom



The **Clean Room Fogger (CRF4)**, often referred to as a smoke generator or DI water Fogger, holding 5 Liters of DI Water or WFI water (pharmaceutical water for injection) during a typical 45 minute fog cycle. Water is converted to fog at about 150ml / minute, producing ≈ 1.25 cubic meters of fog / minute and 10-15 visible airflow distance to visualize airflow in pharmaceutical ISO suites, sterile rooms, barrier isolators, compound pharmacies and semiconductor clean rooms. The CRF4 fogger is designed to provide much more fog volume visualize airflow, patterns and turbulence with on/off fog control. Fog visible distance is typically 10-15 feet, based on airflow velocity and humidity in the clean room. The fog output is about 68 degree F, providing a visible fog vapor composed of microscopic DI water droplets (fog) at a nominal 5 μ m droplet size. 16 Meg Ohm, pure DI water is the typical water used to produce the pure fog. Distilled water or Water for Injection (WFI) can also be used. The fogger cost is much lower than ultrapure foggers, but offers as much fog as the lower volume LN2 foggers. The CRF4 fogger uses 3 ultrasonic transducers converting over 165ml water to fog per minute, providing the highest fog density, and the very best visible airflow of any ultrasonic fogger produced in the world. A Low Water sensor protects the transducers during operation. The display provides water fill level, and the touch pad control allows airflow volume to be adjusted, as well as fog volume produced. The CRF4 fogger enclosure is stainless steel to provide a sturdy external design; while providing water cooling for the internal ultrasonic transducers, and also provides quick, easy wipe down of the fogger after use. Two Handle Holds are provided to lift the fogger and or to help the user when draining water, at completion of fog task.

A standard power supply is provided at 110VAC, or 220VAC is selectable. A flexible, transparent, 5 Meter fog hose is provided, and there are optional accessories available such as **Fog Curtain Wand**, plugged into the Fog hose to create a wide fog curtain pattern, while reducing output pressure and fog velocity. A **5Wireless Remote Control** is available to place the fogger in a closed clean room or sterile room to operate the fogger remotely from the other side of the wall. The **Rolling Carry/Storage Case** is useful for parts storage as well as transport. **Semiconductor Cleanroom or Pharmaceutical ISO Suite, Sterile Room or Medical Room** use.



Wireless Remote



Fog Curtain Wand



Rolling Carry Case w/ Foam Insert

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Fogger Alternatives: Comparisons for Airflow Visualization Requirements

Model	Fog Volume	Fog Density ml / Min	Visual Airflow Distance	Cost	Cost Per Cubic Meter of Fog over 5 years
CRF4	1.25 cubic meters fog per minute	165 ml / minute	10-15 feet	\$14K-\$16K USD	\$ 6.22/Cubic Meter Produced, average
AP35	5 cubic meters fog per minute	533 ml / minute	20-30 feet	\$23K-\$28K USD	\$ 1.53/Cubic Meter Produced, average

CRF4 Product Dimensions: 22.5" Depth x 12.8" Width x 11.56" Height, with Carry Handle

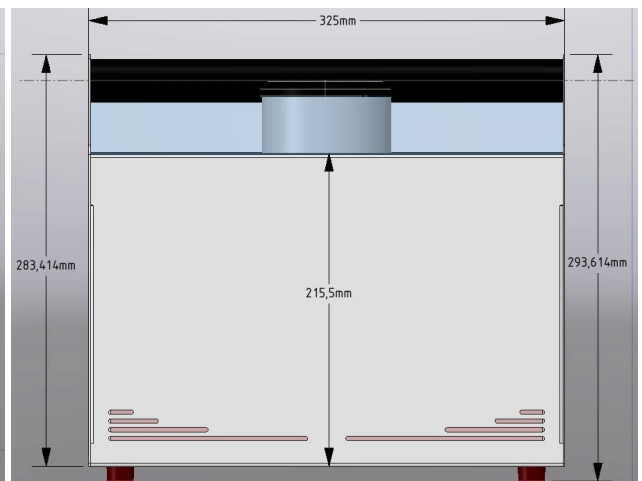
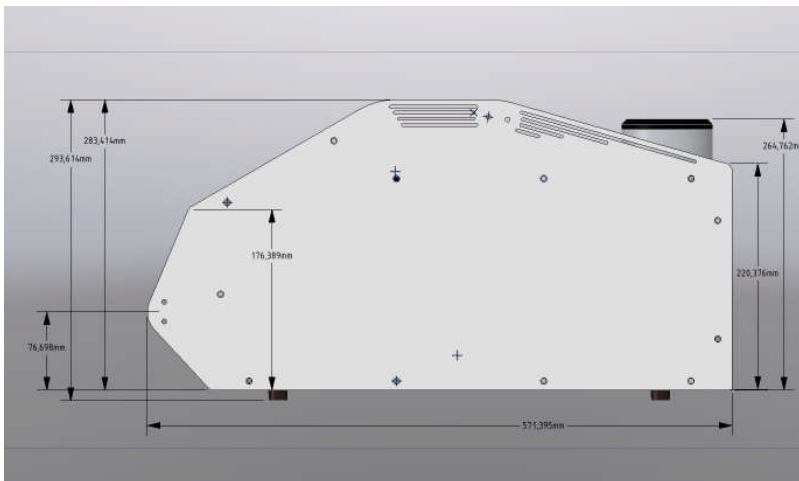
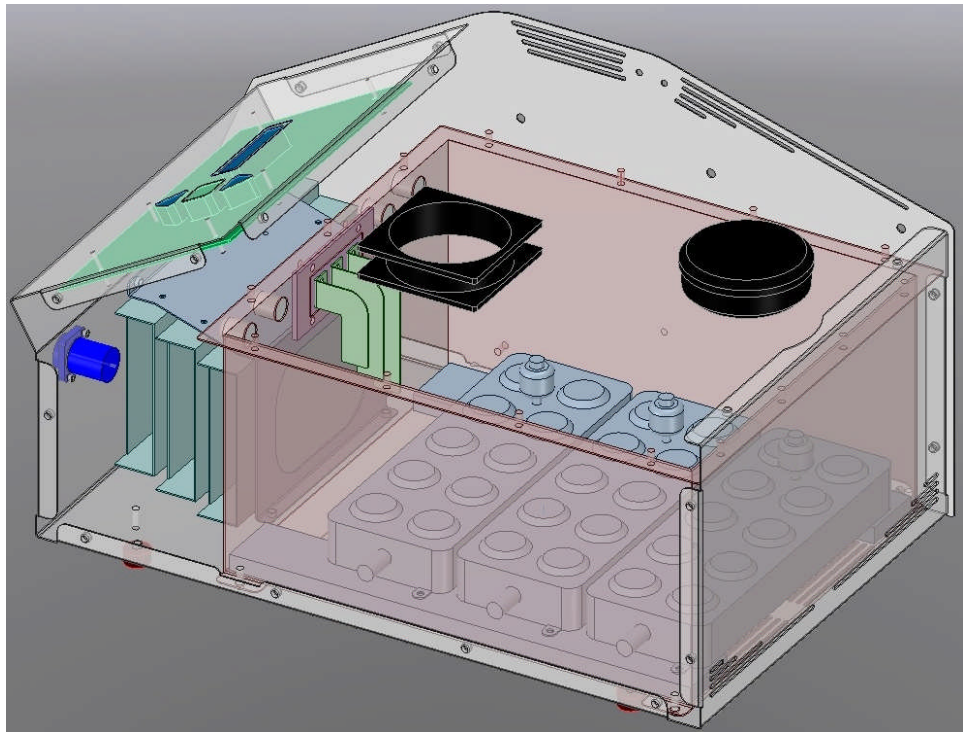
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