



Applied Physics, Inc.

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Nano Particle Technology

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CleanRoom Fogger™, Model CRF-2



- Compliance: Pharma USP 797, ISO 14644-3 for Airflow Visualization & Recovery
 - Compliance: SEMI Standards, Cleanroom Airflow Visualization
 - Polypropylene Enclosure: No Fingerprints as with Stainless Steel, Easy to Clean
 - Create Pure Fog produced with DI Water or Pharmaceutical WFI Water
 - Video Airflow Patterns, Pressure Differences, Air Migration and Turbulence
 - Use in Clean Rooms, Pharmaceutical Barrier Isolators, Glove Boxes, ISO suites
 - Startup of the Fogger is ≈ 30 Seconds. Refill and Restart, Instant On/Off Switch
 - ≈ 9 CFM of Fog per minute for 60 Minutes & 7 - 8 feet Airflow Visibility
 - Fill Level Indicator, Water Drain & Top Hold Handle is Provided
 - * Rolling Carry / Storage Case with Extending Handle
 - * Fog Curtain Wand to reduce output fog pressure & provide a wide visual fog wall
 - * 5M, Power On/Off, Cable & Switch for Remote Control Behind Walls
 - Corrugated, White Fog Hose, 30" ~ 72" extended, 2.35" ID, 2.6" OD
 - Low Water Sensors for Ultrasonic, Transducer Protection
 - Operating Instructions on Side Label, No Paperwork in Cleanroom
- * Optional Accessory

The **Clean Room Fogger (CRF-2)**, is a smoke generator used in smoke studies, converts ≈ 3.5 Liters of DI Water or Pharmaceutical water for injection to fog, 57ml per minute for the highest fog density in ultrasonic foggers produced today, generating a constant volume of pure fog at ≈ 9 CFM of fog for about 60 minutes. The CRF-2 fogger is designed for low cost and ease of use to visualize airflow, patterns and turbulence with on/off fog control. It is used in Pharmaceutical ISO 1-9 suites, in barrier isolators, Semiconductor Clean Rooms and around equipment. Fog visible distance is typically about 8 feet, based on airflow velocity and humidity in the clean room. The fog output is about 68 degree F, providing a visible vapor composed of microscopic DI water droplets (fog) at a nominal 8µm droplet size. The fog is as pure as the DI Water or WFI Water used. 16 Meg Ohm, DI water is the typical water used or WFI, Water for Injection. The CRF-2 fogger uses ultrasonic transducers to convert pure water directly to fog vapor, one of the two highest fog densities available today. 'Low Water' sensors protect the transducers during operation. Also provided is a visible fill level indicator, allowing the operator to fill water to the proper level. The CRF-2 fogger enclosure is produced with a polypropylene material to provide quick, easy wipe down of the fogger after use. It also prevents fingerprints. A Hold Handle is provided on top to provide easy carry of the fogger. The fog vapor evaporates to the same elements of air we breathe, leaves zero contamination behind; thus there is no cleanup required after fog operations.

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 behind a wall. The **Rolling Carry/Storage Case** is useful for parts storage as well as easy fogger transport. For operator convenience the Operating Instructions and Application Notes are labeled on the fogger enclosure for paperless operation. [Video Link of the Fogger](#) for **Semiconductor or Pharmaceutical** use.



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



Optional Fog Curtain Wand to reduce pressure out & create wide Fog Curtain to Visualize Airflow



Optional Rolling Carry/Storage Case to protect fogger parts during storage and transport.



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Fogger Performance Comparisons

Model	Fog Purity	Fog Volume	Fog Density	Fog Duration	Visual Airflow Distance	Liquids Used	Where Used	Standard Power	Other Power
AP35 Ultrapure Fogger	Ultra Pure	≈ 5 cubic meters / minute	≈ 533 ml / minute	≈ 75 minutes	≈ 20 - 30 feet visual airflow	LN2 + DI Water or LN2 + WFI Water	for mid sized clean rooms, sterile rooms and ISO suites	115 VAC	220 VAC, 100VAC
AP100 Ultrapure Fogger	Ultra Pure	≈ 15.5 cubic meters / minute	≈ 1520 ml / minute	≈ 75 minutes	≈ 30 – 40 feet visual airflow	LN2 + DI Water or LN2 + WFI Water	for large clean rooms, sterile rooms and ISO suites	115 VAC	220 VAC, 100VAC
Other Ultrapure Foggers	Ultra Pure	#1: ≈ 1.5 cubic meters / min #2: ≈ 1 cubic meter / min	#1: ≈ 250ml per minute #2: ≈ 125ml per minute	#1: ≈ 45 Minutes #2: ≈ 25 Minutes	#1: ≈ 10 -15 feet visual airflow #2: ≈ 10 feet visual airflow	LN2 + DI Water or LN2 + WFI Water	for mid sized clean rooms, sterile rooms and ISO suites	115 VAC	220 VAC, 100VAC
CRF4 Cleanroom Fogger	Pure	≈ 1.25 cubic meters / minute	≈ 170 ml / minute at max fog volume; and 57 ml / minute at low fog volume	≈ 45 minutes at max fog volume; and ≈ 90 minutes at low fog volume	≈ 10 - 15 feet visual airflow	DI Water or WFI Water	for mid sized clean rooms, sterile rooms and ISO suites, RABs, Barrier Isolators	115 VAC	220 VAC, 100VAC
CRF2 Cleanroom Fogger	Pure	≈ 0.26 cubic meters / minute	≈ 55 ml / minute	≈ 50 minutes	≈ 7 - 8 feet visual airflow	DI Water or WFI Water	for smaller barrier isolators, fume hoods, flow hoods and glove boxes	115 VAC	220 VAC, 100VAC
CO2 Fogger	CO2	≈ 0.20 cubic meters / minute	≈ 20 ml / minute, decreasing over fog duration	≈ 8 – 10 minutes	≈ 6 - 7 feet visual airflow	DI Water or WFI Water	for smaller barrier isolators, fume hoods, flow hoods and glove boxes	115 VAC	220 VAC, 100VAC
Portable Glycol Fogger	Glycol	≈ 0.10 cubic meter / minute	≈ 1.0 ml / minute	≈ 45 minutes	≈ 3 - 4 feet visual airflow	DI Water + 90% Glycol	For industrial clean rooms	115 VAC	220 VAC, 100VAC