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Nano Particle Technology

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Ultrapure Fogger, AP35

The AP35, Ultrapure Fogger produces a high volume of ultrapure fog to visualize airflow turbulence and conduct 3D video evaluations in clean rooms, sterile rooms, ISO suites and medical rooms. The AP35 provides about 5 cubic meters of ultrapure fog per minute with 533 ml / minute fog density for up to 75 minutes to visualize airflow for 20 to 30 feet; surpassing all other ultrapure foggers with 2X more fog volume, 2X more fog density and 2X more visual airflow distance - for about the same cost as other ultrapure foggers.

Patterns of air flow, turbulence and velocity can be viewed with a non-contaminating fog; thus no clean up is required. The AP35 ultrapure fog generator is used in Semiconductor and Pharmaceutical companies to visualize airflow patterns, turbulence, find dead zones, see direction and visualize velocity. The ultrapure fogger provides a very dense fog by generating vapor fog droplets at 2-3 micron diameter, permitting the fog to travel much further in the air stream. As the fog evaporates, it reverts back to the same air we breathe. The exit temperature of the fog is about 78 F degrees with a very low exit pressure, ensuring a neutrally buoyant fog entering the airflow. The high purity fog floats into the airflow, rather than dropping as with ultrasonic foggers. Included is 1) Remote Control Wireless FOB; 2) 5 M x 88mm, Fog Hose. The ultrapure fogger rolls easily across a floor with wheel casters. A front storage parts drawer is provided to hold small accessories. 9 optional accessories are available.



AP35, Optional Fog Wands

AP35 Advantages:

Very High Fog Density
Highest Fog Volume
Low Fog Exit Pressure
Ultrapure Fog, SS Enclosure
Neutrally Buoyant Fog
Video Capabilities
Fog Curtain Wand
Y Adaptor and T Adaptor
Fog Illumination

Provides 533 ml / minute fog density with 20-30 feet visible airflow for about 75 minutes about 5 Cubic Meters per minute, <u>Adjustable Fog volume output</u>, <u>Adjustable Airflow Velocity</u>

Minimal fog entry pressure is created

No cleanup required, no contamination, fog evaporates back to air we breathe

Fog floats into airflow without dropping

Video of the airflow turbulence is very easy with dense fog Optional Fog Curtain Wand to spread out the fog visibility

Optional Y Adaptor for two fog inputs, Optional T Adaptor to provide extra wide fog curtain

Optional LED Light Contrast, Fog Illuminator, to contrast airflow visualization

Fog purity is achieved by bringing DI water to a high temperature creating an ultrapure water vapor. The DI water vapor is then combined with LN2, liquid nitrogen, which boils at room temperature. The two vapors combine to form a highly dense, ultrapure fog to

visualize airflow, patterns and turbulence in clean rooms, ISO suites and sterile rooms. The fog generated is the highest volume, highest density, highest purity to visualize airflow and turbulence. The fog is neutrally buoyant, thus when entering the airflow, the fog travels with the airflow. The AP35, Cleanroom Ultrapure Fogger fog leaves no contamination behind; requiring no cleanup of any kind after fog operations. The very high fog density increases the airflow visualization distance. The AP35 is CE Mark, meets guidelines for ISO 14644-3 ANNEX B7 and USP 797 Insitu Airflow Analysis.

Visualize airflow patterns around equipment, tools, hallways, door entries and personnel. Balance airflow pressure on two sides of a closed clean room or ISO suite. Locate standing vortices that can transport particle contamination into critical work areas and sterile rooms. Visually track air flow direction and velocity, as well as 3D airflow modeling to ensure air flow balance between clean rooms, ISO suites and sterile rooms. Detect unwanted air infiltration into a clean room to verify process environments are operating properly. The AP35 Ultrapure Fogger produces a very dense, ultrapure fog, providing superb visual & video observations for the very best ultrapure fogger available today. Please review optional accessories below.



Dense Fog To Visualize Airflow



Rolling Carry Storage



Y Adaptor (Requires 2 Hoses)



T Adaptor (Requires (2 Fog Wands)



LED Fog Contrast Light



5 Meter Fog Hose



250mm or 500mm Nozzles



1.3 M and 2 M Fog Wands



Remote Wireless Control



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Fogger Performance Comparisons

Model	Fog Purity	Fog Volume	Fog Density	Fog Duration	Visual Airflow Distance	Liquids Used	Cost	Cost with Typical Accessories	Power
AP35 Ultrapure Fogger	Ultra Pure	≈ 5 cubic meters / minute for mid sized clean rooms, sterile rooms and ISO suites	533 ml / minute	75 minutes	20-30 feet visual airflow	LN2 + DI Water or WFI Water	\$23000.00 includes 5 Meter x 80mm wide Fog Hose, Remote Wireless Control	Up to \$26875 USD with accessories	115 VAC or 220 VAC
AP100 Ultrapure Fogger	Ultra Pure	≈ 15.5 cubic meters / minute for large clean rooms, sterile rooms and ISO suites	1520 ml / minute	75 minutes	30 – 40 feet visual airflow	LN2 + DI Water or WFI Water	Request Quote	Request Quote	220 VAC
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 WFI Water	#1: \$21000 #2 \$16000	unknown	115 VAC or 220 VAC
CRF4 Cleanroom Fogger	Pure	≈ 1.25 cubic meters / minute for small clean rooms, sterile rooms and ISO suites	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	\$14000.00 includes 5 Meter x 80mm wide Fog Hose	Up to \$16125 USD with accessories	115 VAC or 220 VAC
CRF2 Cleanroom Fogger	Pure	≈ 0.26 cubic meters / minute for barrier isolators, fume hoods and glove boxes	55 ml / minute	50 minutes	7-8 feet visual airflow	DI Water or WFI Water	\$5825.00 includes Fog Hose, Power Cable, Power Supply	Up to \$7850 USD with accessories	115 VAC or 220 VAC
CO2 Fogger	CO2	≈ 0.20 cubic meters / minute for barrier isolators, fume hoods and glove boxes	20 ml / minute, decreasing over fog duration	8 – 10 minutes	6-7 feet visual airflow	DI Water or WFI Water	\$6800.00	Up to \$8800 USD Carry Case, Fog Wand, Ice Maker	115 VAC or 220 VAC
Portable Glycol Fogger	Glycol	≈ 0.10 cubic meter / min. for industrial clean rooms to search for leaks and balance	1.0 ml / minute	45 minutes	3-4 feet visual airflow	DI Water + 90% Glycol	\$3900.00		Rechargeable Battery