

P R E C I S I O N   I N S T R U M E N T



GTI PRECISION INSTRUMENT (SHENYANG) CO., LTD.

# Aerosol Photometer 3990



## Aerosol Photometer 3990

GTI Aerosol Photometer 3990 is a technologically advanced and scientifically designed optical scatter linear digital aerosol photometer. It is a test instrument that must be used to test the integrity or leakage of high efficiency filters. (It is an essential tool that is used for HEPA filters leakage testing.) The structure is compact and convenient for carrying, and the operation and the setting can be completed by each friendly interface of the 5.6inch colorful touch display screen. The test data is more stable due to the aerosol noise suppression function. With built-in thermal printer and long-term thermal printing paper, the test data can be printed in real time.

### Key Features & Benefits



Synchronous display and operation of scanning probe and host, equipped with long cables and sampling tube (air pipe)



With aerosol noise suppression function and more stable test data.



Advanced technology, scientific design, compact structure and convenient for carrying

### Applications

- High Efficiency Filter Verification
- Pharmaceutical industry and electronic industry
- Bio-safety cabinet and clean bench
- Nuclear energy and fuel
- Medical operating room and cleanroom
- Food processing and scientific experiment

| Model                | 3990   |
|----------------------|--|
| Data Display Range   | 0.0001~100.0%  |
| Dynamic Range        | 0.0001µg/L~600µg/L   |
| Accuracy             | 1% of Readings (0.01~100%)   |
| Repeatability        | 0.5% of Readings (0.01~100%)   |
| Flow Control         | 28.3L/min (1cfm) ±10%  |
| Auto Zero            | Create Zero Point  |
| Alarm                | Audible, visual and vibration alarms when exceeding limits   |
| Reporting            | Continuity, summary, monitoring  |
| Printer              | Built-in Thermal Printer   |
| ID Code              | One-dimensional code scanning, automatic classification and traceable  |
| Output               | USB  |
| Aerosol Type         | PAO, DOP, and etc.   |
| Standards Compliance | NSF49, IEST, ISO14644, EN61010-1: 2010, EN61326--1:2006  |
| Power                | AC100 – 240V 50/60Hz   |
| Dimensions           | (300 x 155 x 370) mm   |
| Weight               | 10.7kgs (Host)   |
| What's included      | Host, Scanning probe, Sampling tube, Operation Manual, Packing List, Certificate Report, Power Cable, Carrying Case. |

### Innovative User Interface of Color Touch Screen and in Chinese-English

5.6inch color touch screen, rich options, reasonable design, easy to control. With testing, setup, zero-point reconstruction, about and other interfaces. The setup part includes the Reagent, Noise Suppression, Alarm Mode and Date & Time and etc.



### Multifunctional Scanning Probe

The scanning probe is connected with the host through a 4m cable. Even when it is far away from the host, various options can be set. The 1.8inch colorful display screen displays synchronously with the host. The scanning probe has the function of one-dimension code scanning, and the data can be automatic classified and traceable.



### Data Reporting

The built-in thermal printer is available to report the real-time test data with long-lasting thermal printing papers; The test data by USB, connected with our computer, can be transmitted and stored and made statistical analysis.



### Carrying Case

The GTI 3990 is equipped with a carrying protective box, which is convenient for transportation and movement. The internal scientific design, reasonable placement of related components, and durable protection of the GTI 3990.



# Aerosol Generator 3990-03



## Aerosol Generator 3990-03







3990-03 is a Laskin-Nozzle aerosol generator with built-in compressor and no need for other air supply. Durable, portable and reliable. After the aerosol (PAO, etc.) solution is injected, the power supply is turned on and the pressure is adjusted to 20 psi (0.14 MPa), and the flow rate is 50-2000 cfm (85-3400 m<sup>3</sup>/h), polydisperse suspended particles with a concentration of 10-100 µg/L can be generated by adjusting Laskin-Nozzle.

### Anti-condensation nozzle connector

3990-03 is widely used in filter unit systems with a flow rate not greater than 2000cfm (3400m<sup>3</sup>/h), such as biosafety cabinets, laminar flow hoods, negative pressure filtration units, filtration modules or removable cleaning units.



### Key Features & Benefits

-  Built-in compressor, no other air supply, power-on
-  The concentration of suspended particles is 10-100µg/L, which can be adjusted to meet different test requirements.
-  Adjustable flow range of 50-2000cfm to meet the needs of different applications
-  Various aerosol solutions optionally (PAO, DOP, Ondina EL, etc.)
-  Stainless steel shell, pressure-resistant design, no deformation due to excessive pressure
-  Large-capacity cavity to ensure long-term dust loading

| Model                | 3990-03   |
|----------------------|---|
| Flow Range           | 50-2000cfm (85-3400m <sup>3</sup> /h)                                 |
| Concentration Range  | 100µg/L@Flow 200cfm<br>10µg/L@Flow 2000cfm                            |
| Aerosol Solution     | PAO, DOP, polydispersion (cold)                                       |
| Air Source           | Built-in compressor   |
| Method of Occurrence | 2 or 6 Laskin-Nozzle  |
| Power Supply         | AC100-240V 50/60Hz  |
| Dimensions           | (380 x 270 x 260) mm  |
| Weight               | 18.5kgs   |
| Configuration        | Main machine, Anti-condensation Nozzle Connector and Operating Manual |
| Optional             | Portable Carrying Box   |

# PAO-4 Reagent



## PAO-4 Reagent

PAO (poly alpha olefin) is prepared by polymerization of olefin to form alpha olefin, which is further polymerized and hydrogenated. It has good viscosity-temperature property and low-temperature fluidity. PAO-4 will condense into droplets under certain conditions. The median diameter of PAO-4 is about 0.18um. In general, the leakage detection of high efficiency filter usually uses Photometer to detect the aerosol concentration upstream and downstream of the filter after PAO-4 generates aerosol of sufficient concentration upstream of the filter to determine whether the filter leaks.

| Model                  | PAO-10L /20L |
|------------------------|--------------|
| Aerosol Specifications | PAO-4        |
| Boiling Point          | 754°F        |
| Proportion             | 0.819@60°F   |
| Water Solubility       | Insoluble    |
| Capacity               | 10L/20L      |