Junray | Precision Redefined

Aerosol Photometer ZR-6012

Introduction

In a world where precision, reliability, and compliance are non-negotiable, the Junray ZR-6012 Aerosol Photometer stands at the forefront of testing innovation. Engineered with cutting-edge sensing technology and intelligent data processing, the ZR-6012 delivers rapid, highly accurate aerosol measurements that professionals can trust in the most demanding environments. Whether validating HEPA filter integrity or ensuring cleanroom performance, this advanced instrument combines exceptional sensitivity with intuitive operation, empowering your team to achieve uncompromising standards with confidence and efficiency.

Features

- 0.0001 to 700 ug/l (700mg/m^3) ultra-wide measurement range
- Highly accurate results with precision flow control (±2.5%)
- Fully 21 CFR Part 11 compliant
- Multi-level user management and built-in audit trail
- Large 5-inch color touch screen display
- Built-in lithium-ion battery for complete portability
- Audible, visual and tactile alarms, avoid missing leaks
- 100,000 group internal data logging & easy data exporting
- Built-in thermal printer with auto-print functionality
- Advanced self-check & diagnostics built-in
- Compact, lightweight, portable, rugged & easy to use
- HEPA filtered exhaust & many other key features

Applications

- Cleanroom HEPA filter testing
- Bio safety cabinet & fume hood testing
- Pharmaceutical manufacturing facilities
- Electronics and semiconductor production
- HEPA filter and filter materials production
- Isolator and other controlled environments
- Aerosol research & education
- Testing negative air pressure units (NPU's)
- DOP testing H class vacuum cleaners

Reference standards

- ISO 14644-3:2021
- EU GMP
- EN 12469:2000
- NSF/ANSI 49-2024
- IEST RP-CC034
- AS 1807:2021
- IEC 60335-2-69:2021
- JJF 1800-2020 & others

Packing List

ZR-6012 aerosol photometer
Carrying case
Power cord
Conductive silicone rubber tubing
Handheld filter scanning probe
Calibration certificate
Other accessories

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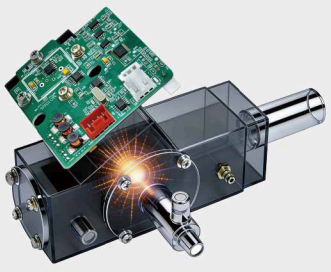
Benefits

Data security, traceability and completeness

- Supports three level user management with authority control. The built-in audit trail capability provides complete data security and traceability.
- Users can enter the filter name and filter number, automatically recorded, convenient for tracing tested filter.
- Adjustable time constant helps avoid false alarms.
- Adjustable printing interval, with all data time and date stamped and saved automatically.
- Latest generation features, data logging & printing, operator name and filter number saving, leak percentage with time stamping, total scan time maximum leakage, pass / fail results & more.

Powerful and intelligent

- Highly accurate sensor technology developed by Junray
- Powerful software with field-based firmware updating available
- Precision flow control with impressive ±2.5% flow rate accuracy
- Capable of measurements up to 700ug/L (700mg/m³)



Rugged design and easy to maintain

- Built-in HEPA filters for the intake and exhaust, protects the sensor from unwanted pollutants
- Auto self-check on start-up and error detection reporting
- Auto self-cleaning & built-in auto zero capability
- Firmware can be upgraded via USB-A port in the field

Friendly for in-situ application

Compact carrying case with universal wheels, easy to transport.

Built-in rechargeable lithium-ion battery provides up to 4 hours sampling.
Built-in thermal printer can save and print traceable data in real time.

The synchronized photometer and filter scanning probe ensures easycontrol when scanning filters with all the information at your fingertips.

May be operated both vertically and horizontally to suit different industry applications.

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Calibration

Leading the world in aerosol photometer calibration
The ultimate measurement tools from Junray

In 2020, China released the **Calibration Specification for Aerosol Photometers** (JJF 1800-2020). All aerosol photometer-related products must now be calibrated in accordance with this specification.


JJF

METROLOGY SPECIFICATION OF THE PEOPLE'S REPUBLIC OF CHINA

JJF 1800-2020

Calibration Specification for Aerosol Photometers

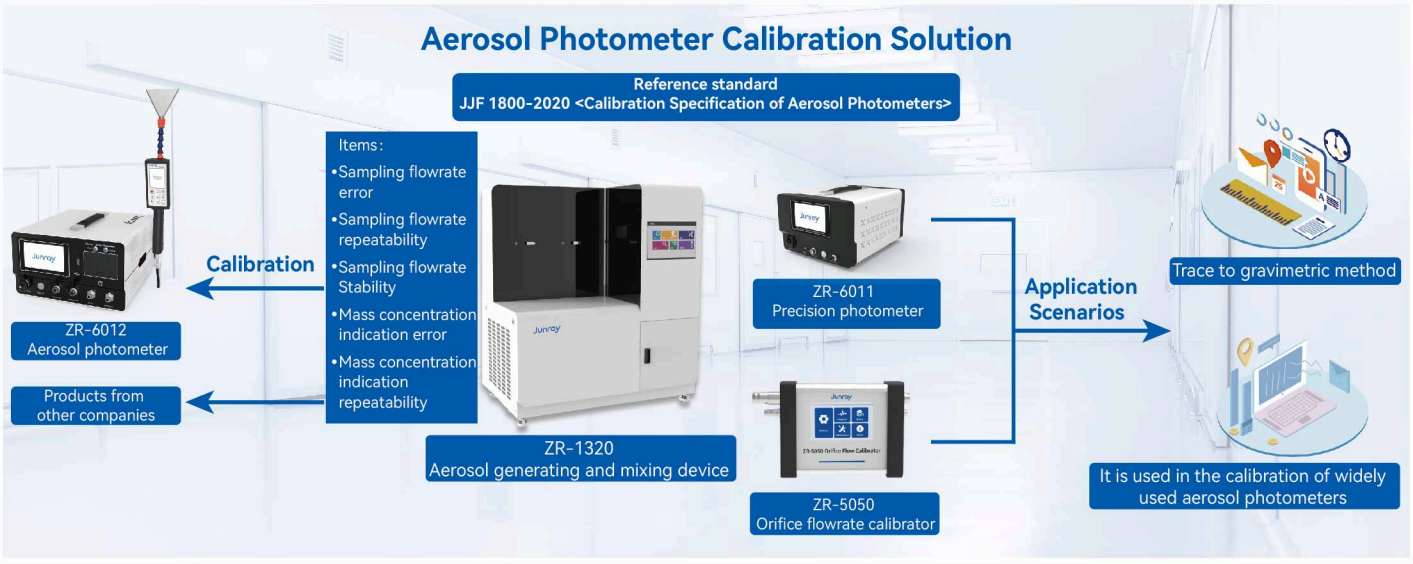
气溶胶光度计定性测试

Issued on: January 17, 2020 Implemented on: April 17, 2020

Issued by: State Administration for Market Regulation

- Sample flow error
- Sample flow repeatability
- Sample flow stability
- Mass concentration indication error

To meet the demand from global calibration laboratories and metrology institutes, Junray developed a highly specialized calibration system to ensure full compliance with this new standard. All measurement values are precise and traceable.



For many years, Junray has continued to expand their global photometer sales & calibration network. Today, Junray has more than 22 calibration laboratories established throughout the world. These ISO 17025 accredited laboratories are all factory trained and certified by Junray and are capable of issuing ILAC calibration certificates on behalf of Junray.

Service

With vast experience designing and manufacturing state-of-the-art measurement instruments over many years, Junray has extensive industry, product and application knowledge. Our global calibration and distribution network is the finest of its type in the world and is finely tuned to support the wide range of measurement technologies our company manufacturers.

As an ISO 9001 quality accredited manufacturer, we are intimately familiar with every component inside our measurement instruments and we are fully committed to provide the best customer support and turnaround times in the event our customers ever need us.

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Specifications

Parameters	Range
Sampling flow	28.3L/min，±2.5%
Range	0.0001- 700 μg/L (700mg/m³)
Leakage rate range	0.0001% - 100%
Precision	1% of the value in the range of 0.01% to 100%
Repeatability (Leak Percentage)[1]	0.5% of the value in the range of 0.01% to 100%
Repeatability (Concentration)[2]	(0.01~1) μg/L: ≤5%, (10~100) μg/L: ≤3%
Zero	Automatically establish zero point before each test and self-clean after each test
Data storage capability	100,000 groups
Data output	Built-in thermal printer, USB-A port
Alarm	Beep, flashing, display, probe vibration
Aerosol agent	PAO, DOP and other aerosol types
Environmental sensor	Temperature, humidity, atmospheric pressure
Exhaust	HEPA filtered
Noise	＜65dB(A)
Battery	4 hours working
Power	AC110-240V，50/60Hz
Power consumption	＜150W
Dimension	(L300×W330×H184)mm
Weight	8.9 kg (host), 15kg (with all accessories)
Working conditions	10 to 35 deg C (5% to 100% RH (non-condensing)
Storage conditions	-10 to 40 deg C (5% to 85% RH (non-condensing)

1. The parameter is obtained from tests conducted by Junray laboratory, representing the comprehensive performance of the equipment.
2. The parameter is in accordance with *JJF 1800 <Calibration Specification of Aerosol Photometers>*

Optional Aerosol Generators

ZR-1300A Aerosol Generator

Built-in compressor, sufficient aerosol output, plug-and-play operation.

ZR-1302 Aerosol Generator

Additional nozzles provide increased aerosol output, no mains power supply needed, requires external compressor.