



# High-Concentration Nanoparticle Emission Tester

**Model 3795-HC**



## Accurate high-concentration solid particle counting in real-world emissions

Building on the proven, regulatory-compliant Nanoparticle Emission Tester (NPET 3795), the High-Concentration NPET is designed to measure total solid particle number concentrations directly from the tailpipe — whether in the field or during in-use testing.

The instrument supports a wide range of emission sources, including internal combustion engines, gasoline- and diesel-powered vehicles, and biomass power plants. Its robust, user-friendly design makes it ideal for use by researchers, regulatory inspectors, and maintenance personnel.

Equipped with a built-in catalytic stripper that removes volatile particles, the High-Concentration NPET enables accurate measurement of solid particle emissions only. Based on the same unique design principles as certification-grade instruments, it delivers laboratory-quality particle counting in real-world environments — and is capable of handling emission levels beyond certification limits, such as those upstream of after-treatment systems, upstream and downstream of Diesel or Gasoline Particle Filters, cold start emissions or biomass combustion emissions.

## Features and Benefits

- Direct measurement of particle number concentration using proven Condensation Particle Counter (CPC) technology
- Sampling probe with integrated dilution to measure concentration up to 100,000,000 particles/cm<sup>3</sup>
- Selectable measurement modes:
  - Real-time data logging for research
  - User-defined protocols for reporting test cycle results

## Applications

- In-use diesel machinery compliance certification
- Exhaust after treatment inspection and maintenance programs
- Diesel Particulate Filter (DPF) retrofit programs
- Gasoline Particle Filter (GPF) characterization
- Fleet emissions profiling
- DPF/GPF regeneration studies
- Cold start emission measurements
- Combustion emissions research (biomass, wood burning)



## Specifications

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### Differences Between the NPET Models

	3795	3795-HC
Application	Standard tailpipe measurements or certification according to Swiss Regulation for non-road mobile machinery SR 941.242	High concentrations such as upstream of DPF/GPF, cold start or biomass burning
Concentration Range	1,000 to 5 x 10 <sup>6</sup> particles/cm <sup>3</sup>	2,000 to 1 x 10 <sup>8</sup> particles/cm <sup>3</sup>

### Specifications

Particle Size Range	<50% at 23 nm >50% at 41 nm Solid particles from 23 nm to 1 µm
Concentration Accuracy	± 10%
Response Time	2.5 +/- 0.5 seconds
Sampling Flow	0.7 L/min (nominal)
Working Fluid	99.5%+ reagent-grade isopropyl alcohol; one charge lasts up to 4 hours
Catalytic Stripper	Removes >99% of volatile particles (equivalent 30 nm Count Median Diameter (CMD), Polydisperse C <sub>40</sub> H <sub>82</sub> )
Environmental Operating Conditions	-10 °C to 40 °C 75 kPa to 106 kPa
Power Requirement	100 to 240 VAC, 50/60 Hz, 100 W nominal, 200 W peak
Communications	Ethernet, 8-wire RJ-45 jack, 10/100 BASE-T, TCP/IP
Dimensions (H x W x D)	10.2" x 13" x 22.4" (26 cm x 33 cm x 57 cm)
Weight	13.1 kg (28.9 lbs.)

### Optional Accessories

3795-TAB	10.5" Windows® tablet with Ethernet dongle and drop resistant case
3795100	Hose and probe assembly for 3795
3795-HCPROBE	Hose and probe assembly for 3795-HC
803120	Pre-soaked alcohol wicks (50 ea.)
801624	Replacement wick assembly to load wicks into NPET
8016	30 mL isopropyl alcohol bottles (16)



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