Knowledge Beyond Measure.

High-Concentration Nanoparticle Emission Tester

Model 3795-HC

Portable and accurate for high concentrations

Originating from the regulatory-compliant Nanoparticle Emission Tester (NPET), the High-Concentration NPET has been designed to measure total solid particle number concentration in emissions directly from the tailpipe. Measurements are derived from sources in-use or in the field. Sources can be, for example internal combustion engines, gasoline- or diesel-powered engines, or biomass power plants. Featuring a robust and user-friendly design, the High-Concentration NPET can be used by researchers, regulatory inspectors, and maintenance personnel alike.

The High-Concentration NPET derives from the basic and unique design of the NPET 3795, which allows you to bring labortory-grade particle counting to your worksite. With similar design to instruments used in certification testing, the built in catalytic stripper removes volatile particles to enable measurements of total solid particle emissions only.

This design is able to handle emission levels well beyond certification levels, including the engine output upstream of the after-treatment system.

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/cm³
- 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

High-Concentration Nanoparticle Emission Tester

Model 3795-HC

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 10^6 particles/cm^3	2,000 to 1 x 10^8 particles/cm^3

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 $C_{40}H_{82}$)
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	Dell Tablet in protective case with Ethernet adapter
MSPRO4	Microsoft Surface Tablet (w/o case or adapter)
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)

Knowledge Beyond Measure.

TSI Incorporated - Visit our website **www.tsi.com** for more information.

USA	Tel: +1 800 874 2811	**India**	Tel: +91 80 67877200
UK	Tel: +44 149 4 459200	**China**	Tel: +86 10 8219 7688
France	Tel: +33 1 41 19 21 99	**Singapore**	Tel: +65 6595 6388
Germany	Tel: +49 241 523030		

P/N 5002128 Rev C Printed in U.S.A.