

PQ200 Ambient Fine Particulate Sampler



- First EPA PM_{2.5} sampler designated (Designation No. RFPS-0498-116)
- First sampler approved by EPA for use as a portable audit sampler (Designation No. RFPS-0498-116)
- First sampler approved by EPA as Equivalent using the VSCC (Designation No. EQPM-0202-142)
- Modified design approved for PM₁₀ sampling (Designation No. RFPS-1298-125)
- Only designated reference sampler capable of a 24 hour run on internal batteries
- Manufactured in ISO 9001 registered facility Ordered by EPA under contract for reference samplers
- Only designated reference sampler with solar power augmentation
- Convertible to designated PM₁₀ reference sampler

Applications

- PM_{2.5} sampling to U.S. EPA specifications
- Useful for daily, intermediate, or audit sampling
- Meets or exceeds specifications for Federal Reference Method (FRM) per 40 CFR Part 50, Appendix L
- Easily reconfigurable for PM₁₀ or TSP

Features

- Single channel design for maximum reliability and portability
- Friendly operator interface and easy data collection and downloading
- Includes built-in 12-volt DC battery power system charger (U.L. approved)
- Advanced flow control system
- Download software included

BGI Incorporated produces the PQ200 Ambient PM_{2.5} Federal Reference Method (FRM) and FRM "Portable Audit" Sampling Systems. The PQ200 is designed to meet exacting criteria for collecting 24-hour samples of ambient "Fine Particulate," according to the U.S. National Ambient Air Quality Standards (NAAQS), published July 18, 1997.

BGI has developed the Very Sharp Cut Cyclone (VSCC) which replaces the WINS impactor and allows 30 days between cleaning intervals. Further details may be viewed on an individual page. Existing PQ200 samplers may be converted.

PM_{2.5} (particles less than 2.5 micrometers in aerodynamic diameter) is collected on 47 mm PTFE membrane media at a volumetric sample rate of 16.67 Lpm after being size discriminated through two U.S. EPA designed inertial separators. Ambient temperature and barometric pressure measurements are made at actual sample conditions. A microprocessor and sophisticated volumetric flow control system are integrated to maintain precise sampling parameters while sampling data are continuously logged into the processor memory. Five minute actual ambient temperature and pressure conditions with volumetric sample flow rate, filter temperature, and pressure are recorded. Measured values and identification of flags indicating any anomalies are recovered by the operator by downloading a sample summary to a laptop or handheld computer. EPA's audit program makes exclusive use of the PQ200A version of the sampler. This item is available to all authorities and individuals who wish to sample or audit under EPA stringent guidelines.



Datatrans

The BGI Datatrans Data Communicator eliminates the need to carry a notebook computer to a field site, also eliminating the need for the field technician to be computer literate. With a mere press of a button, the Datatrans will collect up to 20 PQ100 and/or PQ200 runs from a sampler network.

The progress of the download is apparent from the light-emitting diodes. The field technician knows when the download begins, sees a flashing yellow light while the download occurs, and knows when the download is finished. Data capture is therefore completely assured. Upon return to base, data may be loaded into whatever computer is running the PQ100 or PQ200 software.



Additional features

- No expensive notebook computer necessary
- Download information from either the PQ100 or PQ200
- Store up to 20 PQ100 and PQ200 runs
- Each downloaded run is automatically "stamped" with the instrument's serial number
- Low cost

Solar Panel

The BGI Solar Panel accessory for the PQ200 will extend its operational time range from 24 hours to an indefinite period, depending upon the amount of ambient sunlight available in the region of use. As a practical matter the panel with the reconnected ballast battery will provide a minimum of 10-14 days of operation with only minimum ambient light. When interval sampling

on three or six day cycles is contemplated operations far from a source of power are achievable.

PQ200 Specifications

Size and Weight

Enclosure	48 lbs (21.8 kg)
w/o Battery	40 lbs (18.2 kg)
Dimensions	16 x 19 x 18 in (411 x 48 x 47 cm)

Height of inlet above ground

6.57 ft (2 m)

EPA Design-Specified Hardware

EPA Omni-directional Ambient Particle Inlet
Inlet Sample Transport Tube
EPA PM2.5 "Well Impactor Ninety Six"
47 mm Filter Holder Assembly

Ordering Information

PQVSCC120	EQPM Ambient Fine Particulate Sampler, PM2.5, Complete, 120 Volt version
PQVSCC240	EQPM Ambient Fine Particulate Sampler, PM2.5, Complete, 240 Volt version
PQ200120	FRM Ambient Fine Particulate Sampler, PM2.5, Complete, 120 Volt version
PQ200240	FRM Ambient Fine Particulate Sampler, PM2.5, Complete, 240 Volt version
PQAUDIT	EPA FRM Audit version of PQ200
VPW12	Spare stage complete with carrying case
61652100	Type A/E Glass Fiber Filters, 37 mm, 100/pkg
R2PJ047	Teflo, 2 micrometer, 46.2 mm, 50/pkg (for PM2.5 sampling)
F212	Filter cassette, 46.2 mm
8141	Dual cassette
F214	Cassette Transport Carrier (nickel-plated aluminum)
8142	Dual cassette carrier
F215	Filter cassette with F214 Transport Carrier
2054	Shortened lower impactor housing
DE1	Dust excluder accessory for filter cassette
L30	Flow rate measurement adapter
RD006	Gum rubber leak test membrane, packet of six
KT006	Gum rubber leak test membrane mounted in standard filter cassette, with five replacements
SSI2.5	PM10/2.5 Inlet
A17	12 in. long down tube
X008	Inlet "O" ring kit (2 sets)
X009	Filter Ass'y "O" ring kit (1 set-8 "O" rings)
X010	Extension tube "O" ring kit (2 sets of 2 "O" rings)
X011	WINS Cup "O" rings, pkg. of 6
X012	WINS "O" rings, pkg. of 6
SSI2.5C	Kit for converting PM10 inlet to PM2.5/10 (flat plate to louvered design)
WE10	Kit for converting PM2.5 sampler to PM10 (WINS Eliminator)
DC201	"Datatrans" Data Communicator for downloading PQ200 in field
PQ104	External or internal battery, 12 volts
EBC1	External battery cable for Marine battery
SP22	Solar panel, rigid, 32 watt, with cable -- to connect to battery (external) and stand
7524	3 mL transfer pipets, pkg. 10
CF2	Filter cassette for Type 2 EPA leak check (47 mm filter cassette with filter, membrane, carry container)
VPW30	Dow 704 silicone oil, 30 mL
VPW100	Dow 704 silicone oil, 100 mL
CO1	Cassette opener
X017	Pump Diaphragms
X014	Pump rebuild kit: valves, diaphragms, and "O" rings
X015	Advanced pump rebuild kit: valves, diaphragms, "O" rings and bearing
X016	Total pump rebuild kit: Valves, diaphragms, "O" rings, bearing and motor
A1689	Fan filter
CB1	Clock battery
TC8	Tetralube
PQMOTOR	Motor for PQ Pump
PQ2 BattPCA	Battery PCB
PUMP	Pump Maintenance Manual (v.3 -- free download)