

# AS950 PORTABLE SAMPLERS

## Applications

- Wastewater
- Collections
- Industrial Pretreatment
- Environmental Monitoring
- Stormwater



## Sampling has never been this easy.

The AS950 Portable Sampler makes programming, data transfer and operation more intuitive and virtually error-free.

### Easiest and Most Intuitive Operation

The large full color display and intuitive programming give you access to all your programmable criteria on a single screen - eliminating scrolling through menus and supporting error-free operation.

### Most Convenient Data Transfer and Programming Available

The AS950 is the only sampler that utilizes a USB drive to upload and download data and copy programs from one sampler to another.

### Confidence in Your Sampling Process

The program status screen instantly communicates alarms, missed samples and program progress for quick and easy troubleshooting.

### Field Convertible for Compact or Discrete Sampling

Weighing only 28 pounds (12.7 kg), the AS950 Portable Sampler is designed for accuracy and convenience. Quickly switch between composite and discrete sampling in the field. Configurable for single- or multiple-bottle applications, it is specifically designed for use in 18-inch manholes.

### Easy Maintenance at Low Cost

Spring-mounted rollers provide long tubing life keeping maintenance costs low. The desiccant and pump tubing can easily be accessed; the replacement is possible without any tools. The rugged see-through pump cover is made for a quick visual inspection.



Be Right™

## Specifications\*

### Sampling Features

#### Dual Programs

Up to 2 sample programs can be run sequentially, in parallel, or according to day of week scheduling; enabling a single sampler to function like multiple samplers

#### Sampling Modes

Pacing:

Time Weighted, Flow Weighted, Time Table, Flow Table, Event

Distribution:

Single bottle composite, multi-bottle composite, multi-bottle discrete, bottles per sample, samples per bottle or a combination of bottles per sample and samples per bottle

#### Run Modes

Continuous or non-continuous

#### Status Screen

Communicates what program is running, if there are any missed samples, when the next sample will be taken, how many samples remain, number of logged channels, time of last measurement, memory available, number of active channels, if alarms were triggered, when alarms were triggered, active sensors and cabinet temperature

#### Alarms

Configurable alarms that show on status screen and are recorded in diagnostics alarm logs. Alarms can be set for system diagnostics and logging such as program end, sample complete, missed samples and full bottle. Channel alarms are setpoint alarms for the recorded measurements (channels), such as pH, level and power supply voltage.

#### Manual Sample

Initiates a sample collection independent of program in progress

#### Automatic Shutdown

Multiple Bottle Mode: After complete revolution of distributor arm (unless Continuous Mode is selected)

Composite Mode: After preset number of samples have been delivered to composite container, from 1 to 999 samples, or upon full container.

#### Sample Volume

Programmable in 10-mL (0.34 oz) increments from 10 to 10,000 mL (3.38 oz to 2.6 gal)

#### Interval Between Samples

Selectable in single increments from 1 to 9,999 flow pulses (momentary contact closure 25 ms or 5 to 12 Vdc pulse; 4-20 mA interface optional), or 1 to 9,999 minutes in one minute increments

#### Set Point Sample Trigger

When equipped with flow sensor or pH/temperature sensor or peripheral monitoring options, sampling can be triggered upon an upset condition when field selectable limits are exceeded

#### Datalogging

##### SAMPLE HISTORY

Stores up to 4000 entries for sample time stamp, bottle number and sample status (success, bottle full, rinse error, user abort, distributor error, pump fault, purge fail, sample timeout, power fail and low main battery)

##### MEASUREMENTS

Stores up to 325,000 entries for selected measurement channels in accordance with the selected logging interval

##### EVENT LOG

Stores up to 2000 entries. Records Power On, Power Fail, Firmware Updated, Pump Fault, Distributor Arm Error, Low Memory Battery, Low Main Battery, User On, User Off, Program Started, Program Resumed, Program Halted, Program Completed, Grab Sample, Tube Change Required, sensor communication errors, cooling failed, heating failed, thermal error corrected

#### Diagnostics

View event and alarm logs as well as maintenance diagnostics

*\*Subject to change without notice.*

## Specifications\*

### AS950 Portable Sampler

<b>Sampler Housing</b>	Impact resistant ABS plastic, 3-section construction Double-walled base with 1 in. (2.54 cm) insulation, direct ice contact with bottles
<b>Temperature</b>	Operating: 0 to 49 °C (32 to 120°F) Liquid Crystal Display (LCD): -10 to 70°C (-14 to 158°F) Storage: -40 to 60°C (-40 to 140°F)
<b>Power Requirements</b>	12 Vdc supplied by optional a/c power converter or battery. Average current with pump running: 2.25 amps dc
<b>AC Power Backup (Pump Controller Only)</b>	Rechargeable 6 amp-hour gel lead acid battery takes over automatically with AC line power failure. Integral trickle charger maintains battery as full charge (factory installed option)
<b>Solar Power Panel/Backup</b>	12 Vdc regulated supply voltage, 5 watts minimum; optional 12 Vdc lead-acid or gel-electrolyte battery backup
<b>Dimensions</b>	Standard Base: 50.5 cm x 69.4 cm (19.9 x 27.3 in.) Compact Base: 44.1 x 61 cm (17.4 x 24 in.) Composite Base: 50.28 x 79.75 cm (19.8 x 31.4 in.)
<b>Weight</b>	Standard: 15 kg (35.6 lb.) with (24) 1-L polyethylene bottles; 14.8 kg (32.6 lb.) with 10 L (2.5gal) polyethylene bottle Compact Base: 12.2 kg (27 lb.) with (24) 575-mL polyethylene bottles; 12.9 kg (28.3 lb.) with 10 L (2.5-gal) polyethylene bottle Composite Base: 15 kg (36 lb.) with (1) 21 L (5.5 gal) polyethylene bottle

### AS950 Controller

<b>Housing</b>	PC/ABS blend, NEMA 4X, 6, IP68, corrosion and ice resistant
<b>Graphics Display</b>	1/4 VGA, Color; self-prompting/menu-driven program
<b>User Interface</b>	Membrane switch keypad with 2 multiple function soft keys
<b>Program Languages</b>	Chinese, English, French, German, Italian, Spanish, Portuguese
<b>Program Lock</b>	Access code protection prevents tampering
<b>Memory</b>	Sample history: 4000 records; Data log: 325,000 records; Event log: 2000 records
<b>Communications</b>	USB and optional RS485 (Modbus)
<b>AUX port inputs</b>	One 0/4-20 mA input for flow pacing
<b>Certifications</b>	CE, UL

### Sample Containers

#### Standard Base Capacity

(24) 1 L (0.26 gal) polyethylene or  
(24) 350-mL (11.83 oz) glass bottles

(8) 2.3 L (0.6 gal) polyethylene or  
(8) 1.9 L (0.5 gal) glass bottles

(4) 3.8 L (1 gal) polyethylene or  
(4) 3.8 L (1 gal) glass bottles

(2) 3.8 L (1 gal) polyethylene or  
(2) 3.8 L (1 gal) glass bottles

(1) 21 L (5.5 gal) polyethylene composite bottle or  
(1) 15 L (4 gal) polyethylene composite bottle or  
(1) 20 L (5.25 gal) polyethylene or  
(1) 10 L (2.5 gal) polyethylene or  
(1) 10 L (2.5 gal) glass

#### Compact Base Capacity

(24) 575 mL (19.44 oz) polyethylene bottles  
(8) 950 mL (32.12 oz) glass bottles  
(1) 10 L (2.5 gal) polyethylene bottle  
(1) 10 L (2.5 gal) glass bottle

#### Composite Base

(1) 21 L (5.5 gal) polyethylene bottle

#### Ice Capacity

Compact Base: 3.9 kg (8.5 lb.) with (24) 575 mL PE bottles  
Standard Base: 14.5 kg (32 lb.) with (24) 350 mL glass bottles

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## Specifications\*

### Sample Pump and Strainer

#### Sample Pump

High-speed peristaltic, dual roller, with 0.95 ID x 0.16 OD cm (3/8 ID x 5/8 in. OD) pump tube

#### Pump Body

IP37, polycarbonate cover

#### Vertical Lift

8.5 m (28 ft) using 8.8 m (29 ft) maximum of 3/8-in vinyl intake tube at sea level at 20 to 25 °C (68 to 77 °F)

#### Tubing

Pump tubing:

9.5 mm ID x 15.9 OD mm (3/8-in ID x 5/8-in. OD) silicone

Intake tubing: 1.0 to 4.75 m (3.0 to 15.5 ft) minimum length, ¼-in. or 3/8-in. ID vinyl or 3/8-in. ID Teflon®-lined polyethylene with protective outer cover (black or clear)

#### Sample Volume Repeatability (typical)

±5% of 200 mL sample volume with: 4.6 m (15 ft) vertical lift, 4.9 m (16 ft) of 3/8- in vinyl intake tube, single bottle, full bottle shut-off at room temperature and 1524 m (5000 ft) elevation

#### Sample Volume Accuracy (typical)

±5% of 200 mL sample volume with: 4.6 m (15 ft) vertical lift, 4.9 m (16 ft) of 3/8- in. vinyl intake tube, single bottle, full bottle shut-off at room temperature and 1524 m (5000 ft) elevation

#### Transfer Velocity (typical)

0.9 m/s (2.9 ft/s) with: 4.6 m (15 ft) vertical lift, 4.9 m (16 ft) of 3/8-in. vinyl intake tubing, 21 °C (70 °F) and 1524 m (5000 ft) elevation

#### Pump Flow Rate

4.8 L/min (1.25 gpm) at 1 m (3 ft) vertical lift with 3/8-in intake tube typical

#### Internal Clock

±1 second per day at 25 °C (77 °F)

#### Intake

Strainers: Choice of Teflon® and 316 stainless steel construction, or all 316 stainless steel in standard size, high velocity, and low profile for shallow depth applications

Purge: Air purged automatically before and after each sample; duration automatically compensates for varying intake line lengths

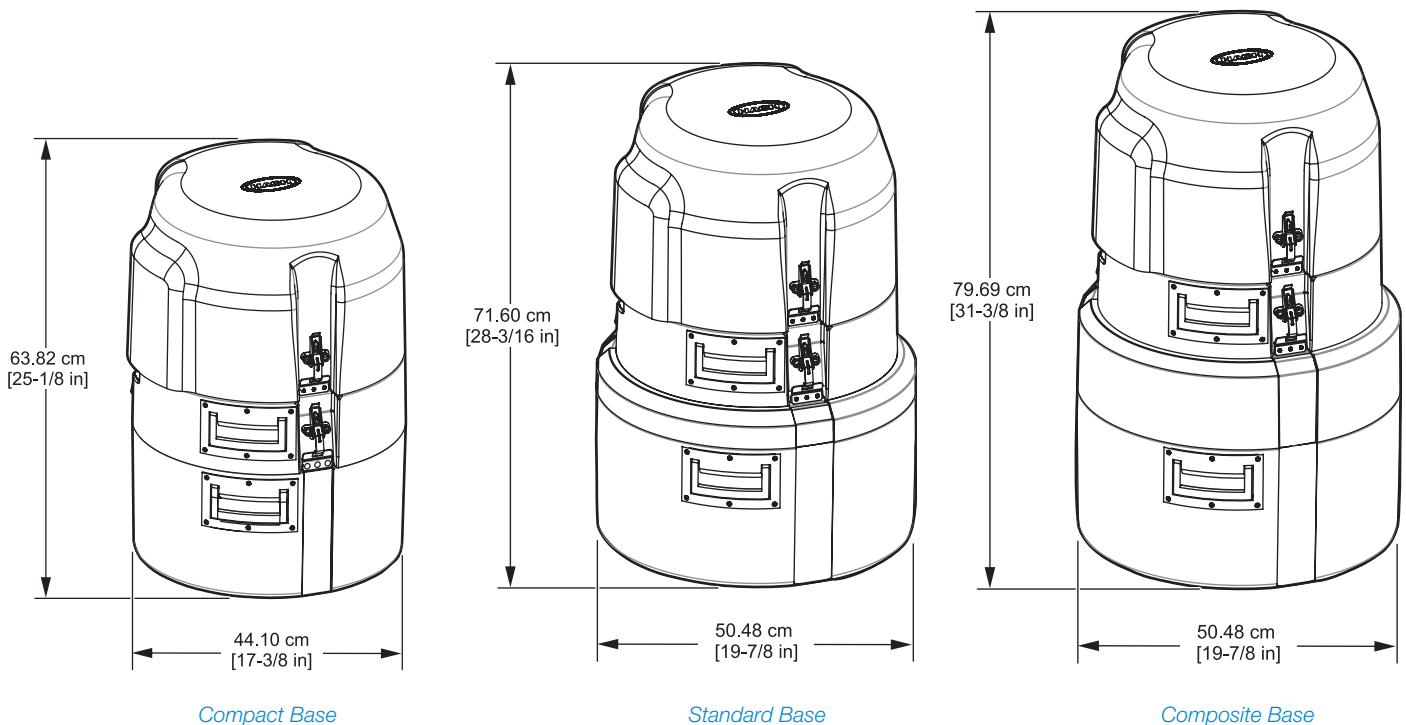
Rinse: Intake line automatically rinsed with source liquid prior to each sample, from 1 to 3 rinses

Retries or Fault: Sample collection cycle automatically repeated from 1 to 3 times if sample not obtained on initial attempt

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## Dimensions

The AS950 Portable Sampler is designed for indoor or outdoor use. No secondary enclosure is required when operated within the specified temperature range. The sampler consists of three main sections—the top cover, the center control system, and the bottle/base section held together by stainless steel latches which serve as the connection point for the optional suspension harness. The lockable top cover protects the controller from extreme weather and unauthorized use.



## Ordering Information

### AS950 Portable Sampler Bundles

Includes portable base, 12V battery, sample bottle(s), vinyl intake tubing (25 ft.), and Teflon/stainless steel strainer. To order different combinations, please contact Hach Company.

#### ASP.CXXXC121XX

Portable Compact Sampler with AS950 controller, (1) 2.5 gal polyethylene bottle

#### ASP.CXXXC161XX

Portable Compact Sampler with AS950 controller, (24) 575 mL polyethylene bottles and distributor arm

#### ASP.CXXXS121XX

Portable Standard Sampler with AS950 controller, (1) 2.5 gal polyethylene bottle

#### ASP.CXXXS141XX

Portable Standard Sampler with AS950 controller, (24) 1 L polyethylene bottles and distributor arm

### Controller and Base Options

<b>8975</b>	Compact Insulated Base
<b>8976</b>	Standard Insulated Base
<b>8561</b>	Composite Insulated Base

### Bottle Options

<b>6559</b>	2.5 Gallon Glass, with Teflon-lined cap
<b>1918</b>	2.5 Gallon Polyethylene, with cap
<b>6494</b>	5.5 Gallon Polyethylene, with cap
<b>2214</b>	Set of (2) 1 Gallon Glass, with Teflon lined caps
<b>2215</b>	Set of (2) 1 Gallon Polyethylene, with caps
<b>2216</b>	Set of (4) 1 Gallon Glass, with Teflon lined caps
<b>2217</b>	Set of (4) 1 Gallon Polyethylene, with caps
<b>2348</b>	Set of (8) 950 mL Glass, with Teflon lined caps
<b>1369</b>	Set of (24) 575 mL Polyethylene, with caps
<b>737</b>	Set of (24) 1 Liter Polyethylene, with caps

### Bottle Accessories

<b>2620</b>	Retainer for (12) 950 mL Glass Bottles
<b>2189</b>	Retainer for (24) 350 mL Glass Bottles
<b>1422</b>	Retainer for (8) Glass, (8) Poly, (24) 575 mL Poly, and (24) 1 Liter Poly Bottles
<b>2347</b>	Retainer for (8) 950 mL Glass Bottles
<b>2190</b>	Retainer for 1 Gallon Glass and 1 Gallon Polyethylene Bottles
<b>1502</b>	Container Support
<b>8996</b>	Retainer/Full Container Shut-off

### Distributors

<b>8582</b>	Distributor with Arm for 24 Bottle, Standard Base and 12 Bottle Compact Base
<b>8580</b>	Distributor with Arm for 24 Bottle Compact Base
<b>8584</b>	Distributor with Arm for 2, 4 and 8 Bottle Standard Base and 8 Bottle Compact Base

### Intake Tubing and Strainers

<b>920</b>	25 ft. Vinyl Intake Tubing, 3/8-in ID
<b>922</b>	25 ft. Teflon Lined Polyethylene Tubing, 3/8-in. ID (requires Prod. No. 2186 Connection Kit)
<b>926</b>	Strainer; Teflon/Stainless Steel
<b>2070</b>	Strainer, 316 stainless steel
<b>2071</b>	Strainer, for shallow depth applications, 316 stainless steel
<b>2186</b>	Connector Kit, for Teflon lined polyethylene tubing
<b>4652</b>	Strainer, high velocity and shallow depth

### Pump Tubing

<b>4600-15</b>	Pump Tubing, 15 ft.
<b>4600-50</b>	Pump Tubing, 50 ft.
<b>8964</b>	Pump Tube Insert
<b>9501400</b>	Pump tube insert, non-contact liquid detect

### Factory Installed Options (contact sales representative)

#### Two Sensor Ports

Accepts Hach digital Differential pH, Hach digital AV9000 analyzer with submerged area velocity flow and/or Hach digital US9000 ultrasonic level sensors

#### Rain/RS485 Port

Accepts Hach Rain Gauge (not included) or can be used as RS485 communications

#### Non-Contact Liquid Detect

Sample volume accuracy for applications that require complete tubing replacement

### Inputs/Outputs

<b>9494500</b>	IO9001 Module (connects through auxiliary port) single relay (high voltage)
<b>9494600</b>	IO9004 Module (connects through auxiliary port) includes multiple 0/4–20 mA outputs and inputs for recorded measurements and to receive measurements from external instruments, four low voltage, contact closure, and four relays controlled by alarm events

### Accessories

<b>1355</b>	Suspension Harness (suspends the sampler)
<b>9542</b>	Manhole Support Bracket/Spanner, 18 to 28 in.
<b>9557</b>	Manhole Support Bracket/Spanner, 28 to 48 in.
<b>5713000</b>	Manhole Support Bracket, 18 to 27 in.
<b>6987</b>	Weatherguard Fiberglass Enclosure, 89 x 89 x 86 cm (35 x 35 x 34 in.)
<b>6992</b>	Weatherguard Fiberglass Enclosure, 91 x 66 x 135 cm (36 x 26 x 53 in.)
<b>8713200</b>	Solar Module, with 10 W panel and 12 Vdc regulator
<b>8713300</b>	Solar Module, with 20 W panel and 12 Vdc regulator
<b>8713400</b>	Solar Module, with 30 W panel and 12 Vdc regulator
<b>8713500</b>	Solar Module, with 40 W panel and 12 Vdc regulator
<b>8713600</b>	Solar Module, with 50 W panel and 12 Vdc regulator
<b>8754400</b>	Battery, 12 volt, Lead Acid
<b>8753500</b>	US Charger, 115V, Lead Acid
<b>8754500</b>	US Power Supply, 100-120V, US plug
<b>9504700</b>	USB Cable, A to A

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Printed in U.S.A.

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Be Right™