

AS950 REFRIGERATED SAMPLERS

Sampling has never been this easy.

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



Applications

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



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.

Resists Corrosion

The Refrigerated Sampler base is designed to endure humid and highly corrosive environments, minimizing damage caused by corrosive gases, rodents, and standing water to guarantee environmental integrity.

Accurate and Consistent Sample Preservation

The custom-designed air-sensing thermostat controls temperature in accordance with USEPA and international guidelines, preserving samples regardless of outside temperatures and conditions.

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.



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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 Refrigerated Sampler

Refrigerator	22 gauge steel (optional stainless steel) with vinyl laminate over-coating
Refrigeration Components and Copper Plumbing	Corrosion protected with conformal coating; all exposed copper tubing is insulated to avoid sweating and condensation
Sample Cooling	1/7 HP, 75 Watt, 400 BTU/hr compressor 120 CFM condenser fan Three-sided wraparound plate type evaporator Rigid foam insulation Air sensing thermostat capable of maintaining sample liquid at 4°C (39°F) in ambient temperature to 49°C (120°F) maximum; accurate to ±0.8°C (1.5°F) Magnetic door seal
Sample Containers	SINGLE BOTTLE: 10 L (2.5 gal) glass or polyethylene, or 21 L (5.5 gal) polyethylene MULTIPLE BOTTLES: Two 10 L (2.5 gal) polyethylene or glass, four 10 L (2.5 gal) polyethylene or glass, eight 2.3 L (0.6 gal) polyethylene or 1.9 L (0.5 gal) glass, twelve 2 L (0.5 gal) polyethylene, twenty-four 1 L (0.3 gal) polyethylene or 350 mL (12 oz.) glass
Temperature	Operating: 0 to 50°C (32 to 122°F) Liquid Crystal Display (LCD): -10 to 70°C (-14 to 158°F) Storage: -40 to 60°C (-40 to 140°F)
Power Requirements	115 Vac, 60 Hz (230 Vac optional) Compressor Current: 1.5 to 2.0 amps running Locked Rotor Current: 12 amps Overload Protection: 5 amp dc line fuse for pump, 1 amp dc line fuse (ac power converter) Compressor: Thermal overload relay opens at 110 °C (230 °F)

AC Power Backup (Pump Controller Only)	Rechargeable 6 amp-hour gel lead acid battery takes over automatically with AC line power failure Integral trickle charger maintains battery as full charge
Dimensions (W x D x H)	61 x 61 x 112 cm (24 x 24 x 44 in.)
Weight	63 kg (140 lb.)
Certifications	CE, UL, CSA

AS950 Controller

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

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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, 1/4-in. or 3/8-in. ID vinyl or 3/8-in. ID PTFE-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 PTFE 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

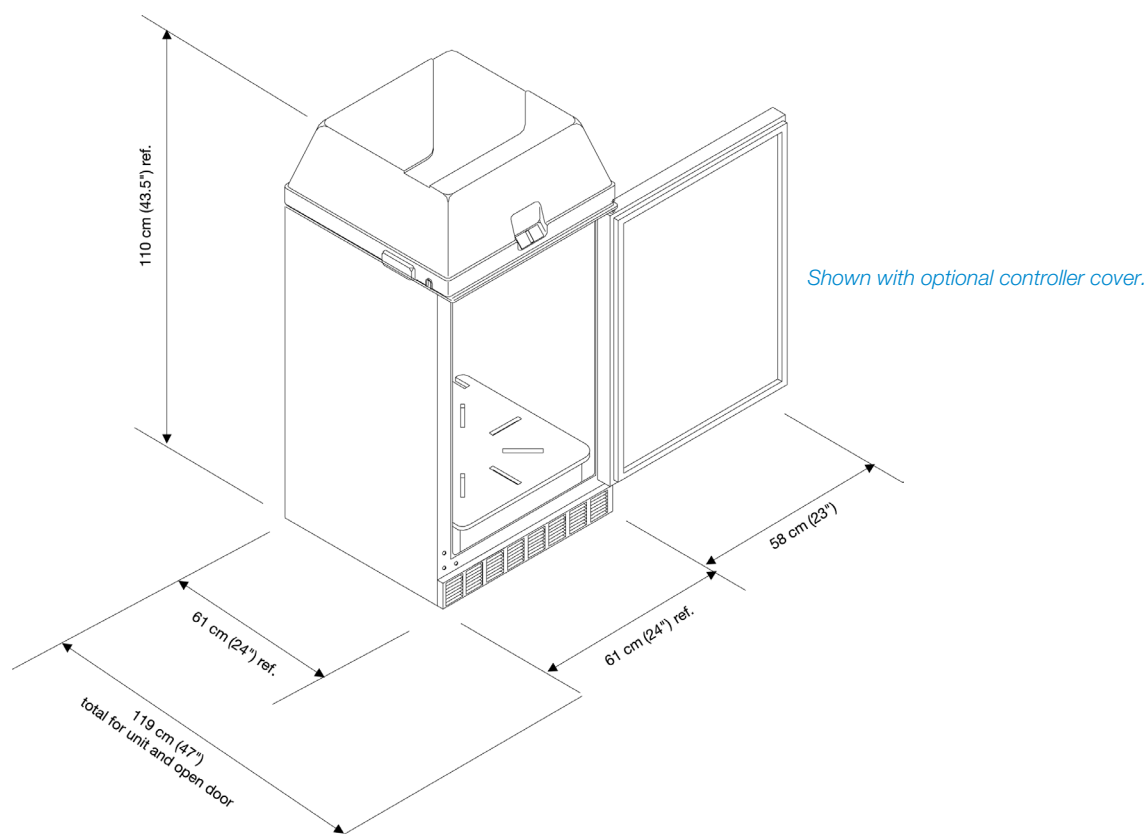
Rinse: Intake line automatically rinsed with source liquid prior to each sample, from 1 to 3 rinses

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 Refrigerated Sampler is designed for indoor use—or for outdoor use with a secondary enclosure. Allow complete drainage of the intake line and prevent cross-contamination between samples. Install the sampler as close to the sample source as site conditions permit to increase pump tube life and optimize overall sampler performance. Install the sampler above the sample source, with the intake tubing sloping downward to the sample. (This sampler is not designed for hazardous locations where combustible environments may exist.)



Ordering Information

AS950 Refrigerated Sampler Bundles

Includes refrigerated base (115V), sample bottle, vinyl intake tubing (25 ft.), and PTFE/stainless steel strainer. To order different combinations, please contact Hach Company.

ASR.CXXX1X21XX Refrigerated Sampler with AS950 controller, vinyl, with 2.5 gal polyethylene bottle, 115 Vac

ASR.CXXX1X11XX Refrigerated Sampler with AS950 controller, vinyl, with 5.5 gal polyethylene bottle, 115 Vac

Bottle Options

Other container options are available. Please contact Hach or a local distributor for details.

- 732** 350-mL Glass Bottles; set of 24, with PTFE-lined caps
- 737** 1-liter Polyethylene Bottles; set of 24, with caps
- 1918** 2.5-gallon Polyethylene Container; with cap
- 6494** 5.5-gallon Polyethylene Container; with cap
- 6559** 2.5-gallon Glass Container; with PTFE-lined cap

Bottle Accessories

- 1511** Bottle Tray for 24 and 8 bottle sets
- 1322** Retainer for (24) 1 Liter Polyethylene and (8) bottle sets
- 1056** Retainer for (24) 350 mL Glass bottle sets
- 3527** Extension Tube for 6559 and 1918 Containers
- 8838** Composite Tube Support for all Composite Containers
- 8847** Full Bottle Shut-off for all Composite Containers
- 8986** Tubing Support Assembly, with tubing insert

Distributors

- 8562** Distributor with Arm for 12 and 24 Bottle Configurations
- 8565** Distributor with Arm for 8 Bottle Configuration
- 8568** Distributor with Arm for 2 and 4 Bottle Configurations

Intake Tubing and Strainers

- 920** Vinyl Tubing; 25 ft., 3/8-in. ID
- 922** PTFE-lined Polyethylene Tubing; 25 ft., 3/8-in. ID (requires Connector Kit Prod. No. 2186)
- 926** Strainer; PTFE/stainless steel
- 2070** Strainer; stainless steel
- 2071** Strainer; for shallow depth applications, 316 stainless steel
- 2186** Connector Kit; for PTFE-lined polyethylene tubing

Pump Tubing

- 4600-15** Pump Tubing; 15 ft.
- 4600-50** Pump Tubing; 50 ft.
- 8957** Pump Tube Insert
- 9501400** 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

- 9494500** IO9001 Module (connects through auxiliary port) Includes 1 relay (high voltage)
- 9494600** 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 alarms.

Accessories

- 6994** Weatherguard fiberglass enclosure 111.12 x 111.12 x 127 cm (43.75 x 43.75 x 50 in)
- 6880** Weatherguard enclosure heater, 120 Vac
- 9504700** USB Cable, A to A
- 8520600** Pressurized sampling relay module

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