







Refrigerated



Portable Refrigerated

Teledyne Isco Samplers

Teledyne Isco Samplers set the stage for the being the first in many categories. Our advances include the first non-contacting liquid detector, first outdoor refrigerated sampler, and first sampler with interchangeable modules for measuring flow and parameters. Through listening to our customers, continuous innovation and improvement, and emphasis on quality and reliability, Teledyne Isco continues to lead the way with samplers for every application:

- Industrial pretreatment compliance monitoring.
- · Storm water runoff monitoring.
- CSO (combined sewer overflow) monitoring.
- Regulatory compliance monitoring.
- · Water quality research.
- Specialized applications such as hazardous locations and monitoring for radio nuclides.



Sampler Selection Guide

Sampler Model											
Applications	Portable							Refrigerated Portable Refrigerated			
	GLS	3700	3710	3700C	3710C	6712	6712C	5800	6712FR	Avalanche®	Glacier®
WWTP	Х	Х	Х	Х	Х	Х	Х	Х	Х		
Collection Systems	Х	Х	Х	Х	Х	Х	Х			Х	Х
Water Quality Monitoring											
Storm water						Х	Х		Х	Х	
TMDL						Х	Х		Х	Х	
Watershed						Х	Х		Х	Х	
Resource Water						Х	Х		Х	Х	
River Monitoring						Х	Х		Х	Χ	
Sampler Accessories											
Flow-through chamber	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
AQ700						Х	Х		Х	Х	
674 Rain Gauge						Х	Х		Х	Х	
700 Modules						Х	Х		Х	Х	
Pressurized Line Sampling						Х	Х		Х	Х	
1640 Liquid Level Actuator	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Locking Harness		Х	Х	Х	Х	Х	Х			Χ	Х
Suction Line & Strainer	Х	Х	Х	Х	Х	Х	Х	Х	х	Х	Х
Street Level Tools											
Suspension Harness	Х	Х	Х	Х	Х	Х	Х				
ProHanger™	Х	Х	Х	Х	Х	Х	Х				
Street Level Installation Tool						Х	Х		Х	Х	
Data Handling											
Flowlink® Software						Х	Х		Х	Х	
6712Ci Cellular						Х	Х		Х	Х	
581 RTD						Х	Х		Х	Х	
Land Line Modem						Χ	Х		Х	Х	
2102 Wireless Module						Х	Х		х	Х	
2105 Interface Module	Х	Х	Х	Х	Х	Х	Х	Х	х	Х	Х
Power Products											
Batteries	Х	Х	Х	Х	Х	Х	Х				
Solar Chargers	Χ	Х	Х	Х	Х	Χ	Х			Х	Х

5800 Sampler

The 5800 Refrigerated Sampler is Teledyne Isco's answer to the rigorous demands of water monitoring. With user-friendly controls and workplace-savvy features, the 5800 is the only choice for stationary sampling in both municipal and industrial wastewater applications.

All Weather and Corrosion Protection

The 5800's UV protection ensures product longevity and reliability, while the tough double-wall LLDPE construction is designed to withstand the harshest outdoor environments without requiring a protective enclosure.

The insulated refrigerator with high efficiency 1/6 HP compressor keeps samples cool in hot, humid conditions and the interior heaters keeps samples from freezing in cold conditions.

Modular Design for Easy Servicing

- Control Panel
- Pump Assembly
- Distributor Assembly
- Refrigeration Assembly
- Power Supply Assembly

Standard Features

- Composite and sequential sampling
- -20° to 120° F operating temperature range
- Four digital alarm outputs
- 4-20 mA flow meter input



- Weight: (dry) 184 lbs. (83.5 kg)
- Dimensions: (H x W x D) 52 x 28 x 33 in (132 x 72 x 84 cm)
- Operating Temperature: 32° to 120° F (0° to 49° C)
- Controller Rating: NEMA 4X, 6 IP67

GLS Composite Sampler

Teledyne Isco's smallest sampler. The GLS composite sampler delivers full-size sampling capability and goes where standard samplers won't. Its tapered design slips easily in and out of small or offset manholes. Isco's patented* LD-90 Liquid Presence Detector, and our pump revolution counting system assure accurate, repeatable volumes.

- Compact 16.5- inch diameter
- Less than 25 lbs., empty weight
- Uniform time interval sampling
- Flow-paced sampling with or without time delay
- Fold-away handle



• Dimensions: (H x D) 26.5 x 16.5 in (67.3 x 41.9 cm)

• Operating Temperature: 32° to 120 °F (0° to 49 °C)

• Controller Rating: NEMA 4X, 6 IP67



Just program a sampling routine and store it as the default. Then, when in the field, call up the program with 2 simple keystrokes and hit the green "GO" button. The GLS begins its pre-set routine simplifying deployment.

It's that easy!







*Patent 5,125,801 4

Get accurate, repeatable sample volumes every time with our patented* LD-90 Liquid Presence Detector and pump revolution counting system. The LD-90 automatically compensates for head height change and automatic suction line rinsing eliminates cross contamination of samples. It's non-contacting, and unaffected by conductivity, viscosity, temperature, or liquid composition.

3700 - Sequential/Composite

Our 3700 Samplers collect sequential or composite samples based on time or flow rate.

A built-in multiplexing feature expands sampling versatility. It allows multiple samples to be placed in individual bottles, or samples to be placed into multiple bottles after each sampling interval. Several multiplexing modes allow you to quickly set up an ideal routine for your application.

Environmentally-sealed Controller

All 3700 controller components are protected by a tough NEMA 4X, 6 (IP 67) enclosure, for submersible, water- and dust-tight, corrosion-resistant operation.

Dependable Distributor

A Geneva-drive distributor locks the distributor arm into exact position above the bottles, assuring accurate delivery.

Superior Sample Preservation

The 3700 portable sampler series features thick foam insulation (R-11) and a large ice capacity to keep your samples chilled longer.





3700 Full Size - Sequential/Composite Sampler

Our full-featured 3700 Sampler collects sequential or composite samples based on time or flow rate. The full-size 3700 sampler is ideal for general purpose sampling and offers features for most applications.

This sampler is also offered with a jumbo base to allow for larger single bottle sampling volumes.





- Weight: (dry) 37 lbs. (16.8 kg)
- Dimensions: (H x D) 25.25 x 19.88 in (64.1 x 50.5 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating NEMA 4X, 6 IP67

3700C Compact - Sequential/Composite Sampler

The 3700C is ideal for moving from one site to another. Its small size and weight allows for easy installation into 18-inch/0.46 meter diameter manholes without disassembly or awkward maneuvering.

Our unique bottle carrier for sequential sampling makes bottle changing quick and easy.





- Weight: (dry) 25 lbs. (11.3 kg)
- Dimensions: (H x D) 27.75 x 17.75 in (70.5 x 45 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating: NEMA 4X, 6 IP67

3710 Full Size - Composite-only Sampler

Isco's economical 3710 Sampler provides composite sampling only, delivering savings where sequential sampling isn't needed.





- Weight: (dry) 32 lbs. (16.8 kg)
- Dimensions: (H x D) 28.75 x 19.25 in (73.3 x 48.9 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating NEMA 4X, 6 IP67

3710C Compact - Composite-only Sampler

The 3710C is ideal for use in small, cramped spaces where a full-size sampler won't fit. This sampler will pass through small or offset manholes without disassembly or awkward maneuvering.





- Weight: (dry) 32 lbs. (11.3 kg)
- Dimensions: (H x D) 27.75 x 17.75 in (70.5 x 45 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating: NEMA 4X, 6 IP67

Since their introduction, Teledyne Isco's 6700 Series Samplers have set the industry standard for performance, reliability, advanced features, and ease of use.

6712 Samplers offer "plug and play" sampling and data logging, compatible with a variety of equipment and allowing you to get the most from your sampling budget.

Superior Sample Delivery With Our High-performance Peristaltic Pump

The 6712 pump delivers samples at U.S. EPA-recommended 2.0 f/s (0.61 m/s), even at head heights of 25 ft (7.6 m). At a 3 ft. head, line velocity is 3.1 f/s (0.94 m/s).

Our pump revolution counter assures consistent sample volumes, even when battery power is low, and is used to notify you when pump tubing should be replaced. An exclusive safety interlock automatically disconnects power when you change tubing.

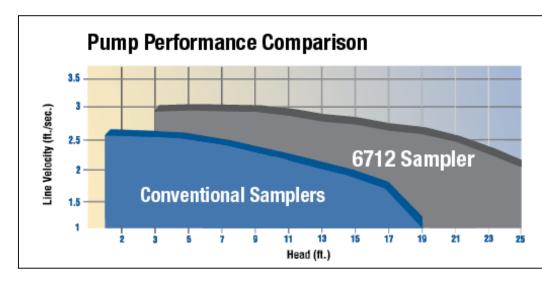
LD-90 Liquid Detector

This patented* non-contacting detector ensures that sample volumes are precise and repeatable – regardless of head height variation. Upon liquid detection, sample volume is metered by our pump revolution counter. Any volume deficits due to air slugs are accurately compensated for.

*Patent # 5,125,801



- Expand your monitoring capabilities with plug-in modules for flow, pH, and other parameters.
- Get accurate, repeatable samples with Isco's exclusive delivery system.
- Benefit from multi-parameter capabilities and data logging.



The 6712 pump is not as affected by varying head heights as other samplers. From one sample to the next, the 6712 pump eliminates variability in sample content due to inconsistent sample velocities.



Versatile Programming

Teledyne Isco 6712 Standard and Enhanced program modes allow quick efficient setup for virtually any application:

- Storm water monitoring
- CSO and SSO monitoring
- Regulatory compliance
- · Enforcement monitoring
- Data logging

And with the 6712, on-line programming help is just a keystroke away.

Standard Program Mode

Quickly select the desired parameters and sampling sequence from the simple step-by-step menu.

Choose:

- · When to start
- Sample distribution
- Volume to collect
- Time- or flow-pacing

In continuous sampling mode, just replace filled bottles with empty ones.

Enhanced Program Mode

Easily enter complex programs for unique applications. Actuate via Isco plug-in modules, rain gauges, or Isco AQ700 multiparameter sondes. Store up to 5 different sampling programs.

Available routines include:

- Pause and resume for intermittent discharge flow monitoring
- Sampler pacing by time, non-uniform time, flow, or external event
- Flow-weighted sample collection
- Two-part programming to enable and sample in two different modes

Integrated Water Monitoring

Teledyne Isco 6712 Samplers feature "Plug-and-Play" connection for Isco AQ700 sondes and other SDI-12 sensors. Use inputs from up to ten separate sensors for flexibility in logging data and triggering sample collection.

Data Logging

The 6712 functions as a data logger while connected to various Teledyne Isco measurement devices, SDI-12 sensors, or thru the 780 smart module. Data can be retrieved using Isco Flowlink software for data analysis.

Get integrated measurement and reporting capabilities for:

- TMDL monitoring
- Storm water runoff
- Rivers, lakes, and estuaries
- Non-point source pollution
- Combined sewer overflow
- Wastewater influent/effluent
- Industrial enforcement monitoring

Get the advantages of "Smart Monitoring" with these 6712 capabilities.



6712FR Stationary Refrigerated Sampler

You get proven protection from exposure to hostile environments – indoors or out. The exterior is custom molded from polyester resin fiberglass. UV-resistant gel coat provides a smooth finish for easy cleaning and protection from the sun.

An automatically controlled, built-in heater, prevents sample freezing down to -24° F (-31° C) and provides frost-free operation. A solid-state thermostat and three temperature sensors monitor interior and ambient air as well as the evaporator plate for absolute temperature control. Optional temperature logging displays real-time temperature and stores periodic readings for later retrieval. Thick, foamed-in-place insulation guarantees properly preserved samples. The rugged stainless steel framework and refrigeration components are protected by polyester tubing, phenolic paint, or polyester powder coating. An optional controller heater can be added to insure uninterrupted operation down to -20°F (-29° C).



- Weight: (dry) 160 lbs. (73 kg)
- Dimensions: (H x W x D) 49.3 x 26 x 26 in (125 x 66 x 66 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating: NEMA 4X, 6 IP67

6712 Full Size - Portable Sampler

The 6712 Sampler offers the most versatility for most sampling applications. Twelve bottle configurations facilitate all types of monitoring.

The 6712 holds up to 30 pounds (13.5 kg) of ice in its fully insulated base.

Note: Also available with jumbo base for use with 5- and 5.5- gallon bottles.





- Weight: (without bottles, battery or ice) 32 lbs. (15 kg)
- Dimensions: (H x D) 27.0 x 19.96 in (68.6 x 50.7 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating: NEMA 4X, 6 IP67

6712C Portable Compact Sampler

The 6712C is ideal when you require advanced capabilities in a smaller sampler. Its tapered design allows it to easily maneuver through small or offset manholes.

This compact sampler also uses our convenient bottle carrier system – which provides faster and easier bottle exchange. Simply remove the carrier from the base, and replace it with another. It is also a safe and convenient way to transport your samples to the lab.







Optional Bottle Carrier

- Weight: (without bottles, bottle carrier, battery, or ice) 31 lbs. (14 kg)
- Dimensions: (H x D) 27.6 x 17.75 in (70.1 x 45.1 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating: NEMA 4X, 6 IP67

700 Series Plug-in Modules



701 pH and Temperature Module

Accurate pH and temperature monitoring in a single module. Activate your 6712 Sampler at user-selected pH or temperature ranges and save by collecting and analyzing only samples outside normal parameters.



720 Submerged Probe Flow Module

A differential pressure transducer provides accurate measurement where wind, steam, foam, turbulence, or air temperature fluctuations exist – even if the probe gets covered with silt or sand.



750 Area Velocity Flow Module

Get accurate measurement where weirs and flumes aren't practical – or where submerged, full-pipe, surcharged, and reverse flow conditions may occur.

No need to estimate channel slope or roughness. Sensor uses patented*

Doppler technology to directly measure average flow velocity.



Plug-in Modules

700 Series Modules let you add flow measurement, pH, or intelligent analog input to your 6712 Sampler.

6712 Sampler logs the data for later retrieval or view parameter data on the display. Data includes summaries, flow rate, level, pH, and temperature, along with sampling status. Parameters can be used to trigger sampling programs or sample pacing.



730 Bubbler Flow Module

Unaffected by changing stream conditions, the 730 delivers accurate level measurement despite temperature fluctuations and exposure to harsh chemicals.



780 Analog Input Module

Add intelligent interpretation of any 4-20 mA signal. Characterize analog signals as flow rate or percentage of full scale. Pace or trigger your 6712 Sampler, and store data for retrieval and analysis.

*Patent # 5,371,686 average flow velocity. 12

Portable Refrigerated Samplers

Glacier® Composite Sampler

The compact size, light weight, and mobility of a portable without the need for ice.

Its power-saving cooling system is set to standby until the first sample is drawn. Glacier will wait patiently for days – or weeks – to collect event-triggered samples, then preserve them until a convenient pick-up time.



Glacier shown with mobility cart option.

You can expect 48 hours or more of refrigeration time from a 12-Volt deep-cycle battery.



- Weight: (dry, less battery)* 60 lbs. (28 kg)
- Dimensions: (H x W x L) 25 x 15 x 24 in (63 x 38 x 60 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating: NEMA 4X, 6 IP67

Avalanche® Multi-bottle Sampler

The Avalanche is based on Isco's industry-leading 6712 controller, so in addition to its power-saving standby feature, you can set and run a variety of sampling programs.

Samples are accurately preserved at 4° C, even under the most difficult conditions.

The cooling compartment accepts configurations ranging from a single 5- or 2.5-



Avalanche shown with mobility cart option.

gallon bottle to four 1- gallon, or fourteen 950- mL containers.



- Weight: (dry, less battery)* 76 lbs. (35 kg)
- Dimensions: (H x W x L) 30.5 x 14 x 24 in (78 x 36 x 60 cm)
- Operating Temperature: 32° to 120 °F (0° to 49 °C)
- Controller Rating: NEMA 4X, 6 IP67

Multi-Parameter Sondes



AO700 Series Multi-Parameter Sondes

The AQ700 Sonde from Teledyne Isco comprises up to six different sensors in a single sonde, for a total of ten possible measured parameters. Depending on your monitoring requirements, the AQ700 can operate with any of the following Teledyne Isco instruments:

- 6712 Series Samplers
- Avalanche® Portable Refrigerated Sampler
- Signature® Flow Meter
- 2105 Interface Module

All AQ700 data stored by the sampler or logger is ready for retrieval, reporting, and graphing using Teledyne Isco Flowlink® software.

Monitoring Applications

- Storm water runoff
- Aquifers
- · Aqua culture
- Surface water
- Watershed /TMDL

Parameters Measured:

- Temperature
- Optical Dissolved Oxygen (DO)
- Conductivity
- Salinity
- Total Dissolved Solids (TDS)
- pH
- Oxidation Reduction Potential (ORP)
- Depth
- Turbidity
- % Saturation



Data Management

Data Retrieval and Reporting

The 6712's large memory allows you to capture a large amount of sampling and parameter data that can be retrieved by various methods. You can retrieve your program settings for spot checking and chain-of-custody documentation.

Telephone Modem

This modem lets you initiate sampling routines or change programs, have the sampler call you for user-programmable alarm conditions, and retrieve data (using Flowlink software).

6712Ci Cellular Modem Capability

Teledyne Isco offers cellular communication for 6712 and Avalanche Samplers located in remote or difficult-to-access areas. This 6712Ci cellular modem allow samplers to transmit text message alarms to a text-enabled phone or pager, and to communicate with an internet-enabled PC for remote data retrieval and control.

Specific contact times can be programmed allowing energy saving features to power down the system during the "off" times, without affecting alarm notification ability.



581 Rapid Transfer Device

A durable alternative to exposing vulnerable laptops in the field is our pocket-sized RTD. Simply plug it into the port on a 6712 Sampler – or other Isco instruments - and level, rainfall, water quality, and sampling data are quickly transferred to the device.

Its flexible memory has storage for over 900,000 bytes of data – typically enough to retrieve data from 2 samplers.



Wireless Data Retrieval

Teledyne Isco's 2102 Wireless Module can be interfaced with 6712 Samplers to allow "drive-up" data retrieval from inside your vehicle. A single worker can quickly and safely perform tasks that might otherwise require a hazardous entry crew of three or more.



Data Management

Flowlink Data Management Software

The industry's premier data handling software provides a wide variety of advanced capabilities that add convenience and value to Isco 6712 and Avalanche Samplers – as well as your entire water monitoring program.

- Make better use of work crews
- Develop more informed budgets
- Verify sewer rehab activities

Flowlink lets you generate informative graphs and tables that can be displayed with a single mouse-click. Any graph can quickly be converted to a table – or vice-versa.

Embed Flowlink graphs and tables into Microsoft Word®, Excel®, and PowerPoint®. Import and incorporate data from other sources, and export to an ASCII spreadsheet file for analysis with programs such as Microsoft Excel.

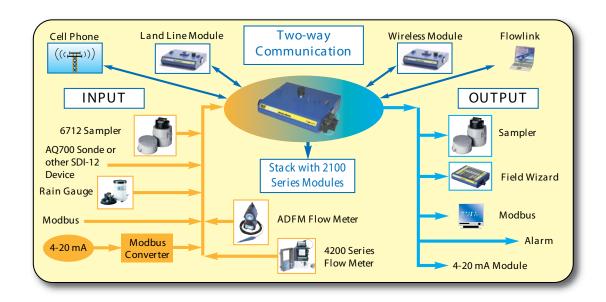
Flowlink 5 Step 1909 Flow Day Weather Flow Day Weather

2105 Interface Module

The 2105 Interface Module records data from Isco Rain Gauges, Isco AQ700 sondes and other SDI-12 devices, Isco Flow Meters, and devices with Modbus and analog outputs. The 2105 can also take ASCII inputs from Isco 6712 automatic samplers and 4200 Series Flow Meters.

The 2105 monitors recorded data and takes intelligent actions, such as sampler enabling and pacing, as well as alarm generation based on user-specified conditions. Recorded data can be output via Modbus and/or 4-20 mA.

The 2105 offers remote communication for CDMA, and GSM cell phones (other communication devices require an additional module.) It provides a powerful, yet easy, solution for environmental studies that require interfacing of multiple instruments and common communication platforms.



Sample Containers

Plastic containers with cap

- 1- liter wedge-shaped, 1- liter round
- 500- mL wedge-shaped
- 2- liter wedge-shaped
- 1- gallon/3.8- liter round
- 2- gallon/7.5- liter rectangular
- 2.5- gallon/9.5- liter round
- 4- gallon/15- liter round
- 5.5- gallon/20- liter round

Glass containers with cap

- 350- mL round
- 950- mL round
- 1.8- liter round
- 2.5- gallon/9.5- liter round
- 5- gallon/19- liter round



ProPak® Single-use Disposable Sample Bags

These convenient bags bring a new dimension of productivity to water and wastewater sampling. The patented* Isco ProPak Sample Bag reduces sampling costs by eliminating the expense of washing and storing conventional bottles, while at the same time eliminating worries about contamination from previous samples.

The 1000 ml ProPak bags install quickly inside lightweight, reusable holders. Our 2- gallon (7.5 L) ProPak bags, for composite sampling, fit inside a durable 2.5- gallon (9.5 L) vented bottle. An O-ring holds the bag in place until the screw-on cap is installed.



*Patent #5,996,427



Power Products (Batteries and Solar Charges)

Lead-acid Batteries

Our economical lead-acid batteries are maintenance-free, and designed to hold a charge for extended periods.

Nickel/Cadmium Batteries

Your best choice for continuous use applications. Unlike lead-acid batteries, nickel cadmium batteries withstand the abuse of over-charging and can be left totally discharged without being damaged.

High-capacity Power Packs

Convert nominal 120 or 240V AC to 12V DC. A built-in battery charger quickly and efficiently charges the battery while powering your equipment.

Battery-backed Power Packs

Whenever AC power is interrupted, these power packs supply power from a built-in nickel cadmium battery.

Solar Chargers

Ideal for use in remote applications. Isco offers several sizes, and can provide mounting and connecting hardware for most any installation.

Model 948 45-Amp/ hour battery (includes carrying case and connect cable).



Model 946 sealed battery (6.5 Amp/ hour)



Model 913 (shown) 120V AC, 50/60 Hz input. Model 923 is identical, except 240V AC.







924 Battery-backed Power Pack (shown). 240V AC, 50/60 Hz input. Model 914 is identical, except 120V AC.



Accessories

Flow-through Sample Chamber

This patented device allows you to do your sampling right in your lab. By installing transfer lines from monitoring points within your plant, you can collect all your samples in a central, sheltered location.

- Use with any Isco sampler and bottle configuration
- High flow rate—up to 150 GPM
- Attachable parameter probe ports





674 Rain Gauge

When connected to a Teledyne Isco 6712 or Avalanche Sampler, rainfall information can be logged into memory for later retrieval and/or used to trigger sampling. A must-have for storm water monitoring and CSO or I&I studies.

Suction Lines

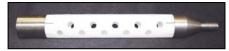
Three types of suction line materials are available.

- Clear vinyl, 3/8- and 1/4- inch
- Black vinyl, 3/8- inch only
- PTFE-lined polyethylene, 3/8- inch only



Strainers

Three styles of strainers are available.



Polypropylene - for general purpose sampling, 3/8- inch ID only.



Non-metallic - for sampling in corrosive flows, 3/8- inch ID only.



Stainless Steel - for low-flow applications, 1/4- and 3/8- inch ID tubing.

Accessories

1640 Liquid Level Actuator

This device initiates a sampling routine when liquid reaches a predetermined height. Two modes, toggle and latched, allow the sampler to disable when the liquid level drops or continue the routine despite the liquid level.



Street Level Installation Tool

Eliminate the risks associated with manhole entry. Ideal for quick, safe, and economical installation of the sensors used with our 700 modules.

The set includes mounting rings and a multi-section pole, allowing sensor installation in 6-, 8-, 10-, 12-, and 15 inch diameter pipe into manholes up to 15 feet deep. Spring tension holds the mounting ring (with sensor attached) to the pipe wall. For removal, simply pull the strap and the mounting ring collapses.



Suspension Harness

Stainless steel cables attach to the sampler and has a connection ring on top for suspension in manholes.

ProHanger™

Use this sturdy tool to safely suspend a sampler or other instruments inside a manhole. It fits openings from 17- to 24-inch in diameter.

Adjustment is simple and quick. Construction is 100% stainless steel for maximum resistance to harsh environments.



Picture above shows Suspension Harness and ProHanger.

Locking Harness

Secure your sampler to discourage vandalism or theft. Available for portable samplers. Set includes locking cables and padlock.



