Filtrax™ Sample Filtration System

New technology yields advantages, in situ and down the line

Hach's new Filtrax™ sample pre-treatment system is specially designed for efficient wastewater analysis. It extracts sample directly from the activated sludge aeration basin or final settling tank, removing solids in situ and eliminating the need for a separate, high-maintenance submersible pump. Sample supplied to downstream on-line measuring instruments is solids-free. Sample delivery lines stay cleaner. Analyzers stay cleaner.

And the Filtrax Filtration System stays cleaner, too. Sample extraction automatically alternates between two, continuously cleaned filter elements to allow optimum cleaning of the idle filter. Sample pre-treatment and delivery is continuous and efficient, even with a high sludge volume index or floating sludge. No other wastewater filtration system provides this unique - and proven - technology.

An operator's best friend

The Filtrax system is not only highly reliable and effective, it also is easy to use and maintain. A built-in air-purge system prevents adhesion of solids to the filter membranes and considerably reduces maintenance cost and time. All tubing is completely accessible and easy to replace.

Moving parts never come into contact with the sample. Self-diagnostics provide operators with three levels of error messages if components require attention.

Operators control all Filtrax system functions with menu-driven software. Display provides continuous readout of current flow rate through each filter module, as well as heater status. The system is supplied with two programmable alarm relays. One relay can be used to alert operators to inspect the Filtrax system when flow decreases, and a second programmable relay can shut down the unit if flow decreases further.

The Hach Filtrax™ Sample Filtration System

- High permeate quality
- Low operating costs
- No additional pumps to purchase and maintain
- Automatic, continuous cleaning
- Works reliably, even with a high sludge volume index or floating sludge.

HACH®

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Operating Principle

The Filtrax system consists of three components: a control unit, a filtration module holder, and a sample delivery hose. The stainless steel module holder, designed for submerged installation, contains two filter modules each housing an ultra-filtration (0.15µ) filter membrane. The control unit, internally heated for outdoor installation, houses sample pumps, an air compressor for filter membrane cleaning, and controller.

Filters are constantly cleaned by a vigorous stream of air bubbles against the sides of the module. Two small peristaltic pumps in the control unit alternately draw wastewater sample through the filter membranes to allow optimum cleaning of the idle filter. From the module holder, sample is pulled to the control unit via a 15-ft (5-m) heated suction hose. This hose also houses air compressor tubing. From the control unit, sample is pumped via delivery hose to the on-line measuring unit.

This design makes the Filtrax system extremely robust. With all control components heated and contained in an IP55-rated enclosure, it is suited for outdoor installation in the most demanding applications.

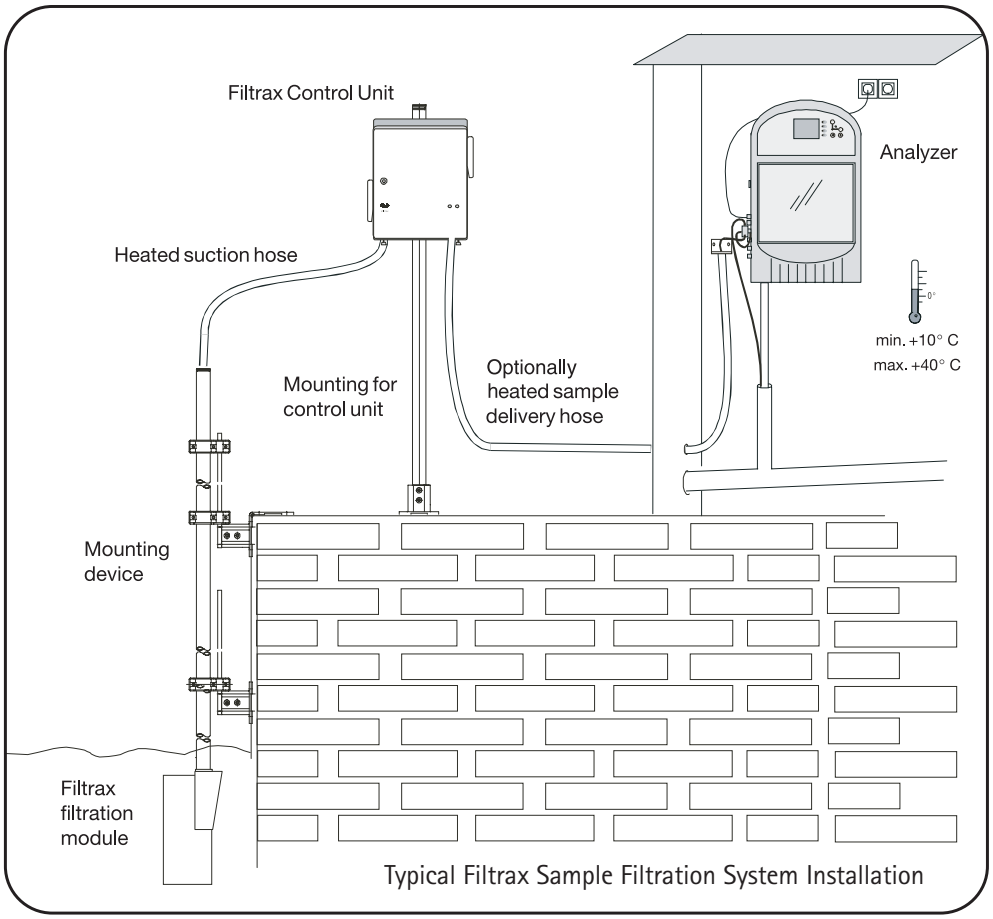
Hach's family of nutrient analyzers

The Filtrax System is designed to optimize performance of Hach's Amtax™ compact Ammonia Analyzer or Phosphax™ compact Phosphate Analyzer. It also complements Hach's OptiQuant™ UV Nitrate Analyzer by supplying solids-free sample to its bypass panel. Rely on the Filtrax system to provide properly conditioned sample to APA 6000™ Alkalinity, Ammonia, Monochloramine, and Phosphate Analyzers, too.

Together, these units provide a complete and affordable wastewater nutrient monitoring solution field-proven for municipal and industrial wastewater treatment control applications.

Installation options

Hach makes an optional basin wall mount kit available for module holder mounting (submerged) in an aeration basin or effluent channel. The Filtrax control unit can be mounted on a wall or handrail using supplied hardware; where no wall or handrail is available, operators can use an optional, free-standing mounting kit for the control unit. The control unit and sample suction hose come with standard heating. The sample delivery hose to connect the control unit to one or more analyzers is available in heated and unheated versions, and in several different lengths.



Typical Filtrax Sample Filtration System Installation

Filtrax Sample Filtration System Specifications*

Sample Flow
Approx. 900 mL/h for up to three process instruments

Sample Temperature
41° F to 104° F (5 °C to 40 °C)

Ambient Temperature
-4° F to 104° F (-20 °C to 40 °C)

Maximum suction head
(filter module holder to controller)
9 ft. (3 m)

Maximum sample delivery head
(control unit to analyzer)
21 ft. (7 m)

Cable Length
Suction Hose: *5 m (heated)*
Sample Delivery Hose: *2 m (unheated), 10 m (heated) or 20 m (heated)*

Outputs
Programmable Fault Alarm Contact: *Potential free contact (230 V, max. 3A)*
Programmable Warning Contact: *Potential free contact (230 V, max. 3A)*
Service-Interface: *RS232*

Power Supply
115 VAC or 230 VAC ± 10% AC, 50/60 Hz

Inspection Requirement
Approx. one hour/month

Enclosure Class
IP55 (outdoor installation)

Certification
CE, UL, CSA

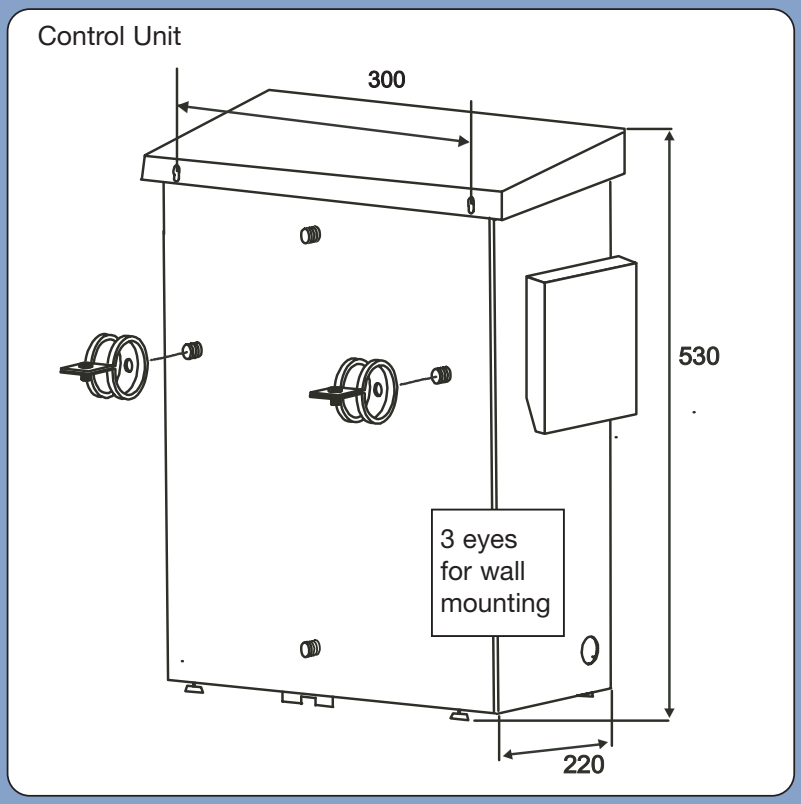
Weight (approx.)
Control Unit: *49lbs (kg)*
Module Holder with 5-m Suction Tube: *20lbs (9kg)*
Sample Tube, 33 ft (5 m): *11lbs (5kg)*
Sample Tube, 66 ft (20 m): *22lbs (10kg)*
Mounting pipe, 6.6 ft (2 m): *11lbs (5kg)*

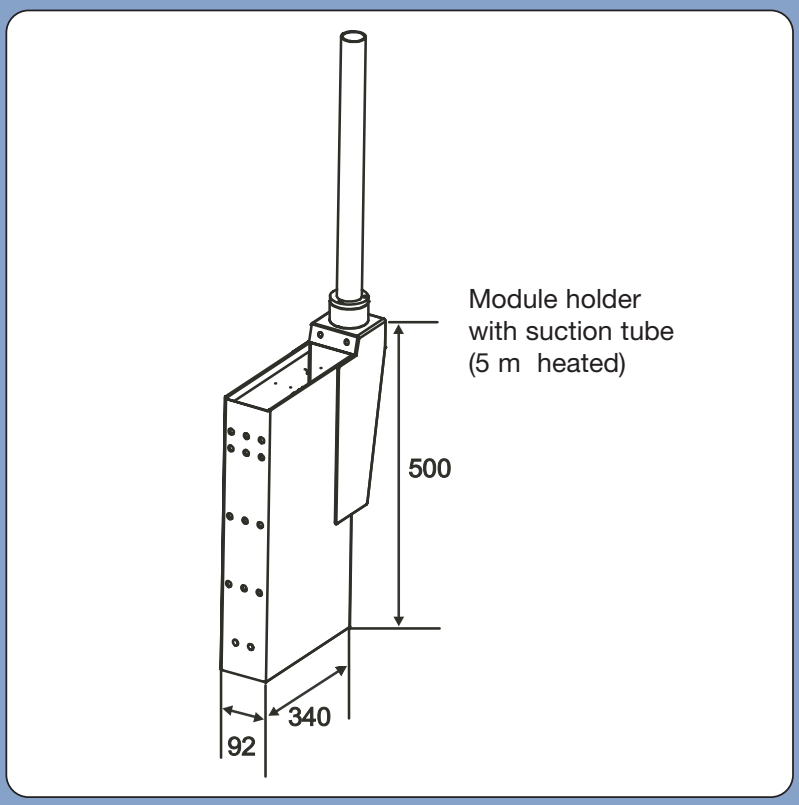
Dimensions (approx.)
Control Unit: *17" x 21" x 9" (430 mm x 530 mm x 220 mm)*
Module Holder: *4" x 20" x 13" (92 mm x 500 mm x 340 mm)*

** Subject to change without notice.*

Installation

The Filtrax system module holder should be installed at least three inches from the bottom of the tank and must have at least three inches, but no more than 18 inches, of water above it. Mount the control unit on a hand or guardrail, or on a wall with three, #10 mounting screws (supplied). Four pipe bracket locations for vertical or horizontal guardrail mounting. (All measurements in mm.)





How to Order

The Filtrax Sample Filtration System is shipped with module holder, control unit, sample delivery hose, two (2) Filter Modules, Installation Kit, Maintenance Schedule, six (6) Pump Hose Sets, six (6) Air Filter Elements and a manual.

Call Hach today to order the Filtrax Sample Filtration System for your application.

Catalog #	Filtrax System Model
57389-00	Filtrax system, 2 m unheated sample delivery hose, 115 VAC
57390-00	Filtrax system, 10 m heated sample delivery hose, 115 VAC
57391-00	Filtrax system, 20 m heated sample delivery hose, 115 VAC
57389-01	Filtrax system, 2 m unheated sample delivery hose, 230 VAC
57390-01	Filtrax system, 10 m heated sample delivery hose, 230 VAC
57391-01	Filtrax system, 20 m heated sample delivery hose, 230 VAC

Accessories

46964-00	Power cord, 115 VAC, 6 ft.
47439-00	Power cord, 230 VAC, 6 ft.
LZX414.54.00000	Basin wall mounting kit for module holder
LZX-676	Mounting kit for control unit

Replacement Items

LZX-667	Maintenance kit
LZX-677	Filter Module

To order, call 800.227.4224, place your order on-line at www.hach.com, or e-mail orders@hach.com. For a quote, fill out the quotation form on our web site at www.hach.com and we'll get you the information you need, usually within 24 hours.

For current price information, technical support and ordering assistance, contact the Hach office or distributor serving your area.

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Typical Proposal Specification

The sample extraction and filtration system shall consist of three components: a filter module holder, a control unit, and a sample delivery hose. The filter module holder shall be immersed at the sampling point. The module holder shall contain two filters that are each spanned by a 0.15µ membrane. An air-purge system underneath the two immersed filter modules shall provide a continuous air supply to automatically clean the filter elements by preventing adhesion of solids to the filter membranes.

The sample shall be drawn through the immersed membranes, via two tube-metering pumps, which are housed within the control unit. The control unit must be an IP55 rated, heated enclosure designed for outdoor installation. Operating with no wetted parts, the metering pumps shall draw the sample alternately from the two filter modules into the control unit via a 5 m (15 ft.) heated suction hose. The sample shall then be pumped up to 20 m (60 ft.) from the control unit to the process-measuring unit. The system shall deliver a sample at a rate of up to 900 mL/h for up to three process instruments.

The sample filtration system shall provide two programmable, potential free contacts (115 or 230 VAC, max. 3A) to monitor the flow rate across the filter media. The system power requirements shall be 100 to 230 VAC, 50/60 Hz. The system's ambient temperature range shall be from -20 °C to 40 °C (-4° F to 104° F). The entire filtration system shall be designed to meet UL, CSA, and CE safety standards.

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