

Filtrax™ Sample Filtration System

Sample Conditioning

The Hach Filtrax Sample Filtration System provides high permeate quality with low operating costs. It is unnecessary to purchase and maintain additional pumps. Operation is automatic and self-cleaning is continuous. Depend on the Filtrax system to work reliably—even with a high sludge volume index or floating sludge.



Features and Benefits

Established Technology *In Situ* and Down the Line

The Hach Filtrax Sample Filtration System is specifically designed for efficient wastewater analysis. Samples are extracted directly from the activated sludge aeration basin or final settling tank and solids are removed *in situ*. Separate, high-maintenance submersible pumps become unnecessary. Sample delivery lines and analyzers stay clean. 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.

Simple to Use and Maintain

A built-in air purge system in the Filtrax system prevents adhesion of solids to the filter membranes and greatly 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. The instrument display provides continuous readout of current flow rate through each filter module as well as heater status. Two programmable alarm relays are provided—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.

Operating Principle

All control components are heated and contained in an IP55-rated enclosure, suitable for outdoor installation. The Filtrax system is made of three components.

- **Control unit:** The control unit is internally heated for outdoor installation. Inside are sample pumps, an air compressor for filter membrane cleaning, and the electronic controller. Filters are constantly cleaned by a vigorous stream of air bubbles against the sides of the module. Two small peristaltic pumps alternately draw wastewater sample through the two filter membranes for optimum cleaning of the idle filter.
- **Filtration module holder:** The filtration module holder is made of stainless steel and is designed for submerged installation. It contains two filter modules each equipped with an ultra-filtration (0.15 µm) filter membrane.
- **Sample delivery hoses:** Samples are pulled to the control unit from the filtration module holder with a 15-ft. (5-m) heated suction hose. This hose also contains the air compressor tubing. Samples are then delivered directly to the on-line measuring instrument.

Hach's Family of Nutrient Analyzers

The Hach Filtrax Sample Filtration System is designed to optimize performance of Hach's Amtax™ sc Ammonia Analyzer or Phosphax™ sc Phosphate Analyzer. It also complements Hach's NITRATAX plus sc or NITRATAX clear sc Nitrate Analyzer by supplying solids-free sample to its flow through panel. Rely on the Filtrax system to provide properly conditioned sample to Hach's APA 6000™ Alkalinity, Ammonia, Monochloramine, and Phosphate Analyzers too.

DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage



Be Right™

Specifications*

Sample Flow

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

Sample Temperature

41 to 104°F (5 to 40°C)

Ambient Temperature

-4 to 104°F (-20 to 40°C)

Suction Head Space

9 ft. (3 m) maximum (filter module holder to controller)

Maximum Sample Delivery Head Space

21 ft. (7 m) maximum (control unit to analyzer)

Cable Length

Suction Hose: 5 m (heated)

Sample Delivery Hose: 2 m (heated or unheated),
10 m (heated), 20 m (heated), or 30 m (heated)

Outputs

Programmable Fault Alarm Contact:
Potential free contact (230 V, 3A maximum)

Programmable Warning Contact:
Potential free contact (230 V, 3A maximum)

Service Interface: RS232

Power Supply

115 or 230 Vac $\pm 10\%$ AC, 50/60 Hz

Inspection Requirement

Approximately 1 hour/month

Enclosure Class

IP55 (outdoor installation)

Certification

CE, UL, CSA

Weight (approximate)

Control Unit: 49 lb. (kg)

Module Holder with 5-m Suction Tube: 20 lb. (9 kg)

Sample Tube, 33-ft. (5-m): 11 lb. (5 kg)

Sample Tube, 66-ft. (20-m): 22 lb. (10 kg)

Mounting pipe, 6.6-ft. (2-m): 11 lb. (5 kg)

Dimensions (approximate)

Control Unit: 17 x 21 x 9 in. (430 x 530 x 220 mm)

Module Holder: 4 x 20 x 13 in. (92 x 500 x 340 mm)

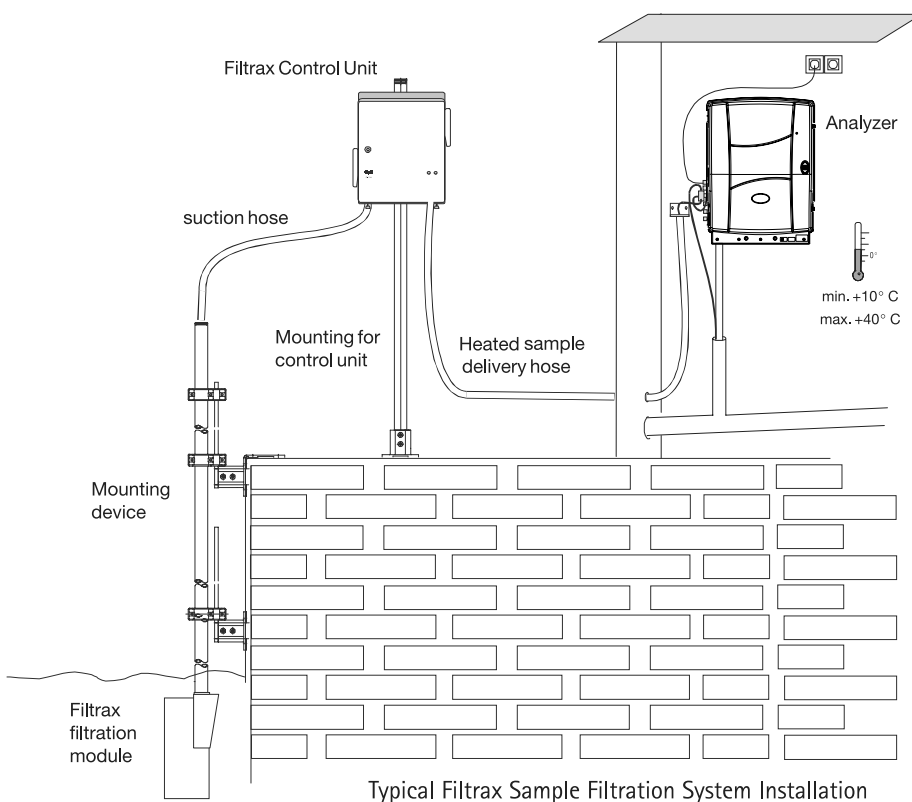
*Specifications subject to change without notice.

Engineering Specifications

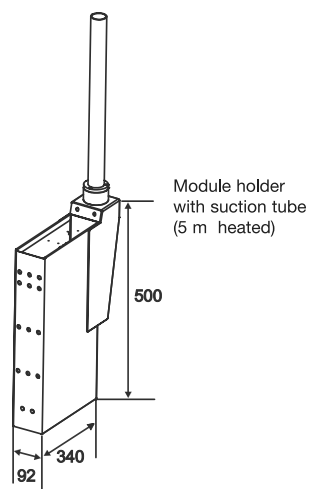
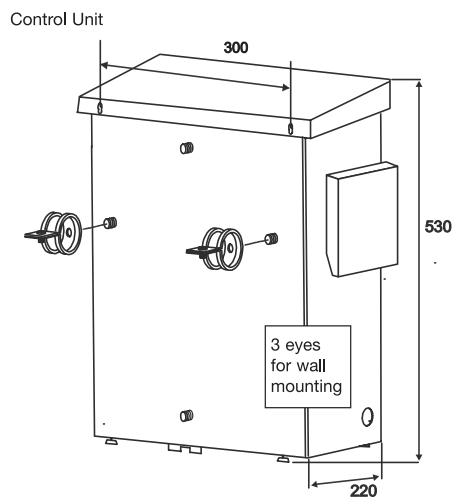
- The sample extraction and filtration system shall consist of three components: filter module holder, control unit, and sample delivery hose.
- The filter module holder shall be immersed at the sampling point.
- The module holder shall contain two filters that are each spanned by a 0.15 μm membrane.
- 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 be pumped up to 30-m (90-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 to 40 °C (-4 to 104 °F).
- The entire filtration system shall be designed to meet UL, CSA, and CE safety standards.

Installation Options

The control unit of the Filtrax system can be mounted on a wall using supplied hardware. Where no wall is available, an optional, free-standing mounting kit for the control unit can be used. An optional basin wall mount kit available for module holder mounting (submerged) in an aeration basin or effluent channel is also available. The control unit and sample suction hose are equipped with standard heating; also available unheated in several lengths.



The Hach Filtrax Sample Filtration System module holder should be installed at least three inches from the bottom of the tank and must have between three and 18 inches of water above it. Mount the control unit on a wall with three #10 mounting screws (supplied). Four pipe bracket locations for vertical or horizontal guardrail mounting are provided. (All measurements at the right are in mm.)



Ordering Information

The Hach Filtrax Sample Filtration System includes: module holder, control unit, sample delivery hose, two filter modules, wall mount installation kit for control unit, maintenance schedule, six pump hose sets, six air filter elements, and manual.

- 5738900** Filtrax System with 2-m Unheated Sample Delivery Hose, 115 Vac
5739000 Filtrax System with 10-m Heated Sample Delivery Hose, 115 Vac
5739100 Filtrax System with 20-m Heated Sample Delivery Hose, 115 Vac
5738901 Filtrax System with 2-m Unheated Sample Delivery Hose, 230 Vac
5739001 Filtrax System with 10 m Heated Sample Delivery Hose, 230 Vac
5739101 Filtrax System with 20 m Heated Sample Delivery Hose, 230 Vac

Accessories

- 4696400** Power Cord, 115 Vac, 6 ft.
4743900 Power Cord, 230 Vac, 6 ft.
LZX414.00.40000 Basin Wall-mounting Kit, for module holder
LZX676 Mounting Kit, for control unit

Replacement Items

- LZX667** Maintenance Kit
LZX677 Filter Module

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