



SONFORD SAMPLERS



The Industry Standard For
Composite Sampling

Sonford Samplers

8287 214th Street West

Lakeville, MN 55044

Phone: 952-469-4832

Fax: 952-469-1252

www.SonfordSamplers.com

info@SonfordSamplers.com

Sonford Samplers, located in Lakeville, Minnesota, was established in the late 1960s. The samplers were originally developed for the Minneapolis-St. Paul Sanitary District Wastewater Treatment Plant, where they are still in use. In 1994, Sonford Samplers was purchased by International Chemtex Corporation. Since that time, Sonford has made numerous improvements to design, production process and especially the control panel. Constant attention is paid to the control panel because we strive to stay on top of technological advances that benefit you, the end user. In 2003 we introduced a new model, the TC-4, to create a more diverse model line and to give the customer a more economical choice for their sampling needs. In the future we look to expand all facets of Sonford Samplers while retaining our outstanding customer service and dynamic company philosophies.



A Sonford Sampler offers many benefits to the end user, including:

- Industry Leading Customer Service
- Unmatched Reliability
- Simplicity In Design
- Accurate and Reliable Composite Sampling
- Largest Selection of Control Options
- Diverse Model Line

THE SAMPLER



The main advantage of a Sonford Sampler is its simplicity. The sampling device is a 30 mL open cup which is large enough to permit sampling all sizes of suspended solids normally found in wastewater flows. The solids in the waste stream do not plug sample tubing and are not dewatered by a peristaltic pump. Since the entire sample is removed when the cup is overturned, solids will not remain in the cup or plug the mechanism. Sample size is consistent regardless of the solids content. As a result, the sample is a precise, true representation of the actual flow.



One of the key features of a Sonford Sampler is the unique design of the flow-through reservoir. The reservoir is engineered for constant turbulence in the sampling area, ensuring that no settling of suspended solids occurs. The result is a true representation of the actual flow. The reservoir and all other wetted components before the drain are constructed of stainless steel for longevity and easy cleaning.



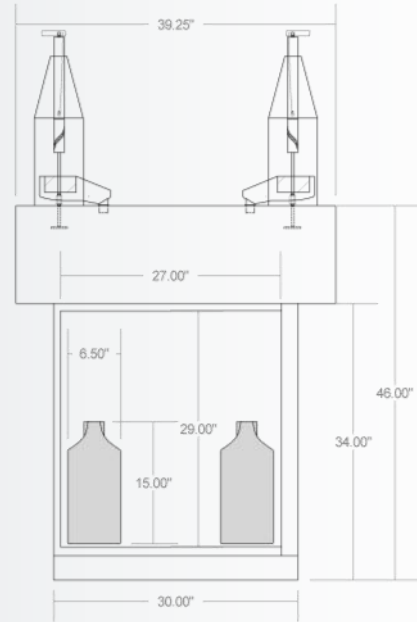
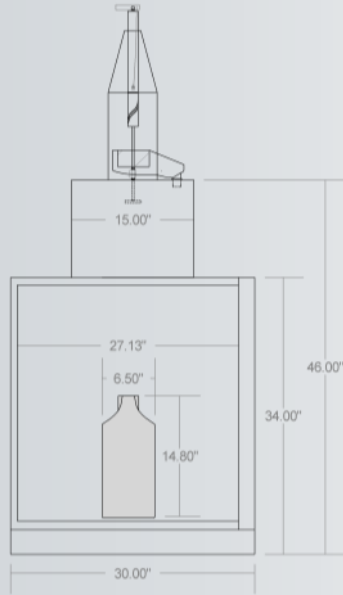
When sampling waste or process water, accuracy and durability are of the utmost importance. The TC-3 line of composite samplers has both. The flow-through reservoir creates turbulence where the sampling event takes place, ensuring a representative sample. The pneumatic arm and 30mL sample cup ensures that accurate and representative samples are taken every time.

The TC-3's rugged stainless steel refrigerator has all of the critical components relocated to the controlled environment of the Touch Screen Control Panel. Any remaining non-stainless or enameled metals, such as copper, are sealed for added protection from corrosive environments.



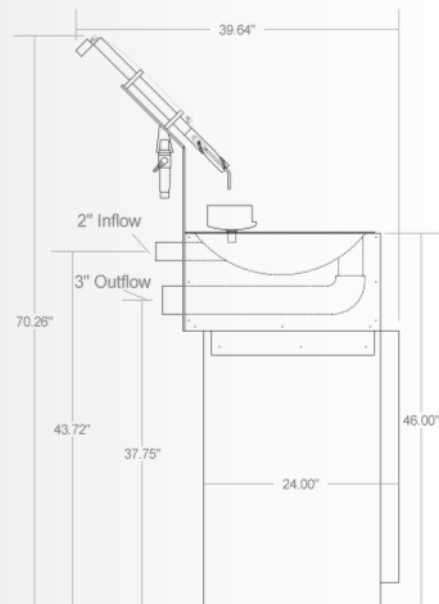
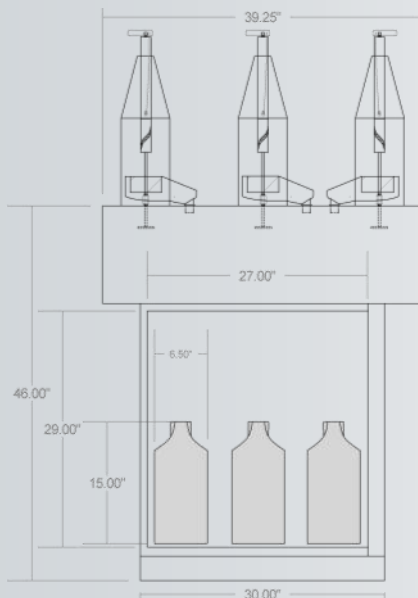
The TC-3 line of composite samplers come in solo, dual or triple configurations to provide the end user with the ease and value of an all in one sampling station.

TC-3



Key Features

- Funnels are easily removed for easy cleaning
- Wetted surfaces made of stainless steel for durability
- Flow-through reservoir ensures representative sample
- Stainless steel refrigerator for maximum duty cycle
- Sampling device is an open cup that ensures capture of suspended solids





Sonford TC-4 series samplers are designed for use in highly corrosive environments where it is cost effective to eliminate possible refrigerator repair costs and use a disposable refrigerator. This is why the TC-4 models use a stainless steel stand and disposable refrigerator in place of traditional refrigeration.

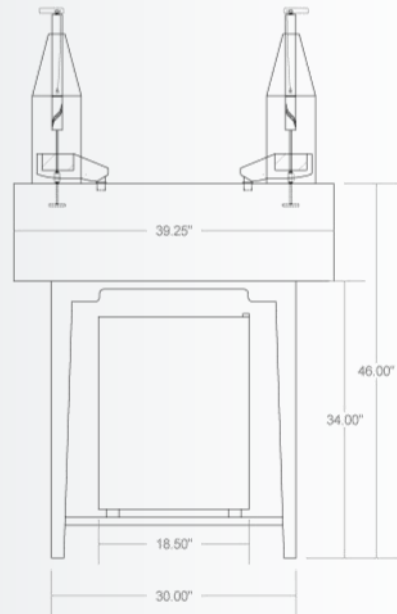
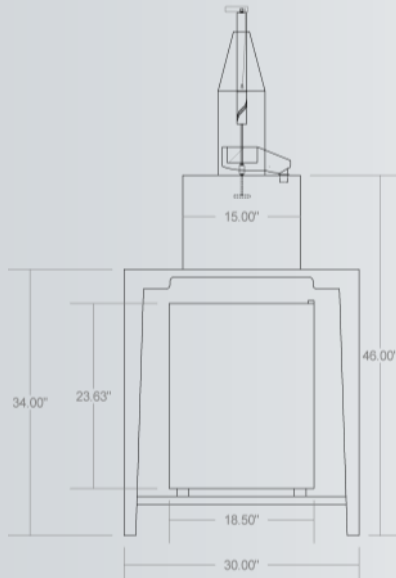
The TC-4 series retains all of the dimensions and sampling mechanisms of the TC-3, allowing it to have the same sampling accuracy and durability. Just like the TC-3, all wetted surfaces are stainless steel. The TC-4 also uses the same pneumatic arm and 30mL sample cup ensures that accurate and representative samples are taken every time. Retaining the dimensions from the TC-3 allows the stainless steel stand from the TC-4 to be retrofitted to TC-3 models.



Advantages Of The TC-4

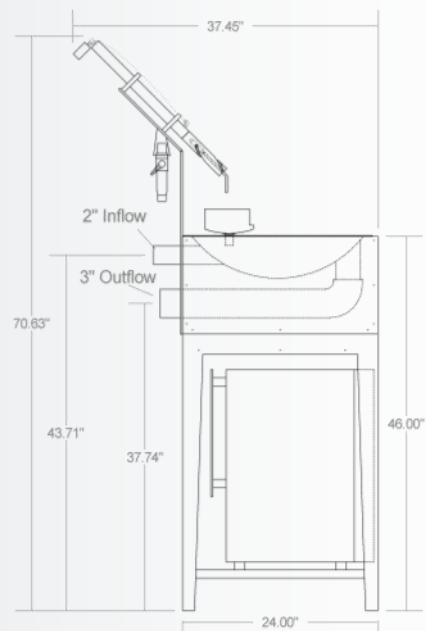
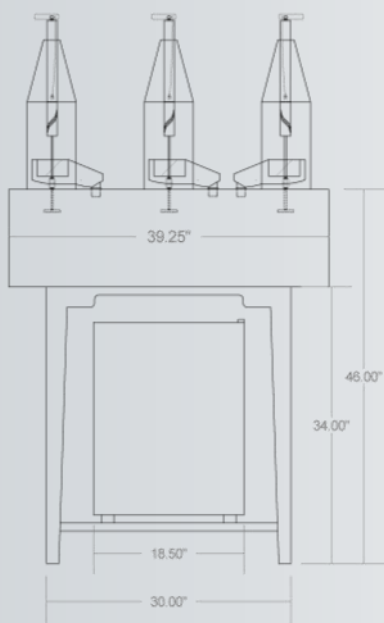
- Elimination of costly refrigerator repair.
- Reduction in weight by 61% when compared to the TC-3 models.
- Ability to choose either OEM or aftermarket refrigerators

TC-4



Key Features & Benefits

- Funnels are easily removed for easy cleaning
- Wetted surfaces made of stainless steel for durability
- Flow-through reservoir ensures representative sample
- Sampling device is an open cup that ensures capture of suspended solids





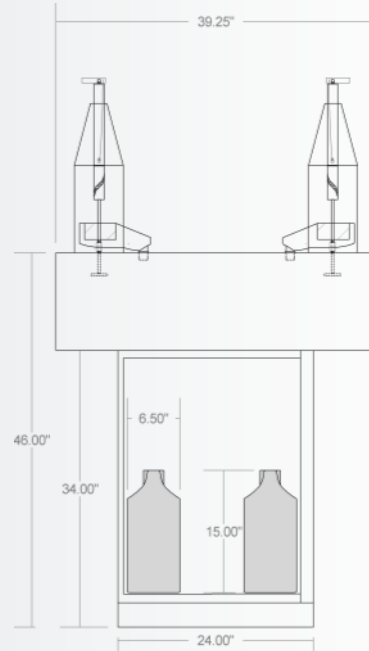
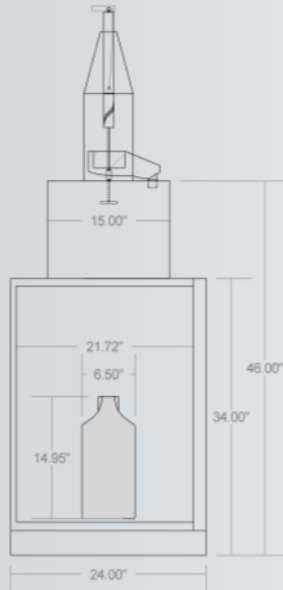
If the atmosphere surrounding the sampler is considered a hazardous location, the TC-3 Explosion Proof series is the right choice. There are only three possible means for ignition with a Sonford Sampler; the refrigerator, solenoid valve and control panel. The TC-3 Explosion Proof series addresses all three areas.

The Refrigerator is an explosion proof model from Marvel Scientific and is suitable for class I division I locations. Coupling this refrigerator with an explosion proof solenoid valve and control panel leads to a composite sampler capable of taking accurate samples in any hazardous location.



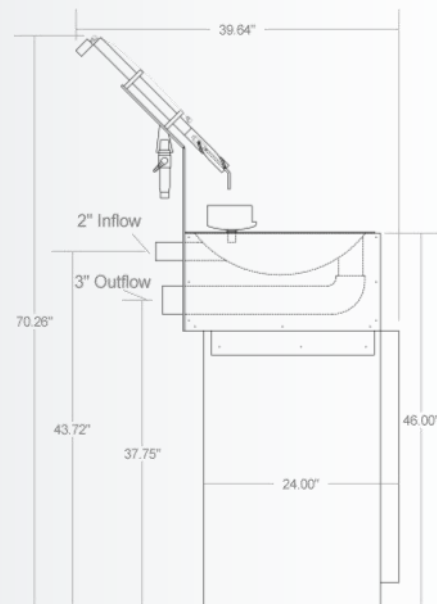
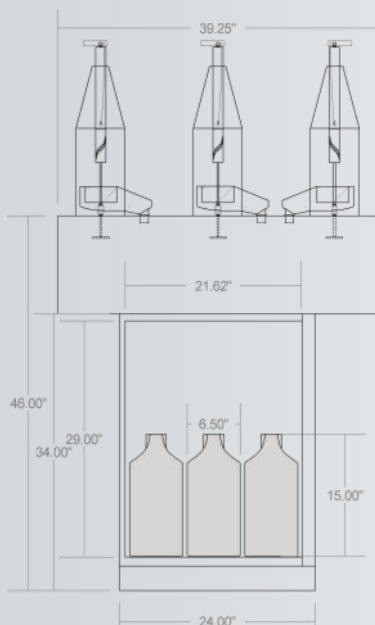
Other than the refrigerator, solenoid valve and control panel, the Explosion Proof samplers utilize the same sampling mechanism as the TC-3 and TC-4. By retaining the use of stainless steel for all wetted surfaces, the same pneumatic arm and 30mL sample cup, the TC-3 Explosion Proof produces accurate and representative sampling every time.

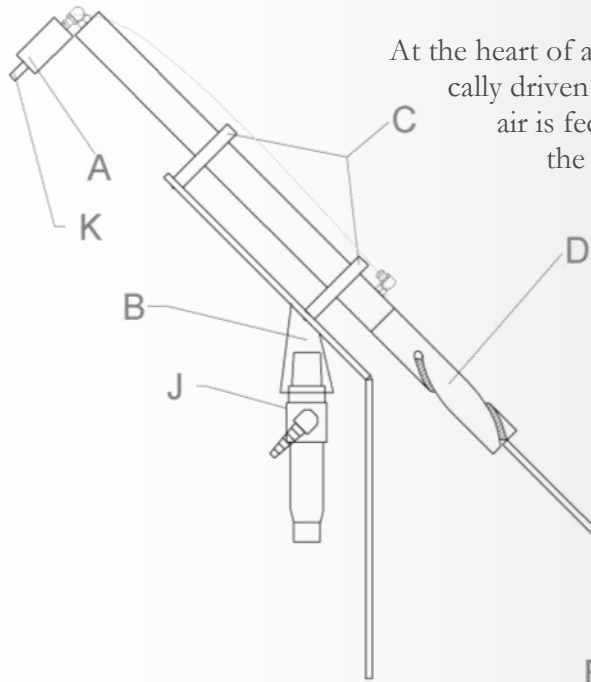
TC-3 DUAL EXPLOSION PROOF



Key Features

- Explosion proof refrigerator approved for Class I Division I Group C & D environments.
- Solenoid valve approved for Class I Division I Group C & D and Class II Division I Group E, F & G environments.
- Explosion proof control panel approved for Class I Division I Groups B, C & D and Class II Division I Groups E, F & G.

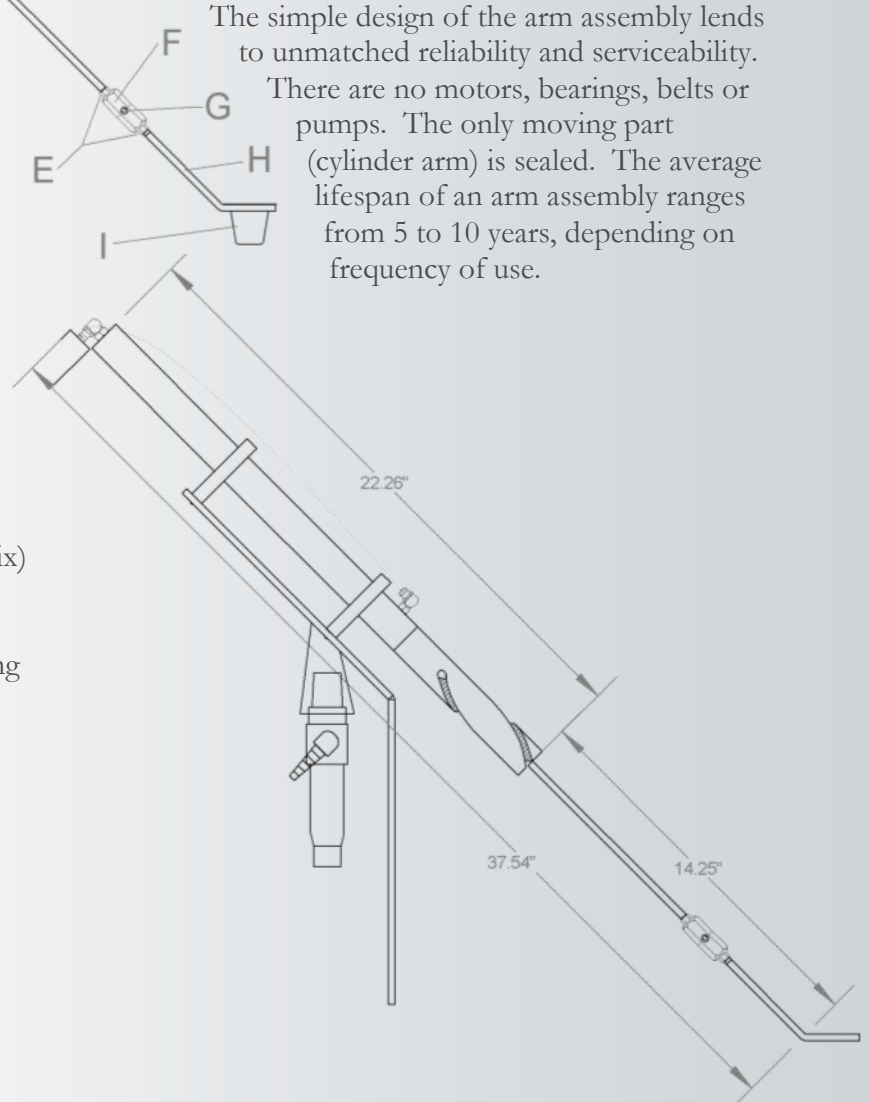




At the heart of all Sonford samplers is the Arm Assembly. This pneumatically driven sample device is simple, durable and reliable. Compressed air is fed to the solenoid valve. When a 115V AC pulse is sent to the solenoid valve, the compressed air drives the sample cup down to take a sample. As the shoulder screws follow the path of the helix, the cup turns right side up. When the 115V AC pulse stops, the cylinder retreats and the shoulder screws again follow the path of the helix, which spins the cup up-side down and empties the contents of the sample cup into the funnel, which is gravity fed to the container inside the refrigerator.

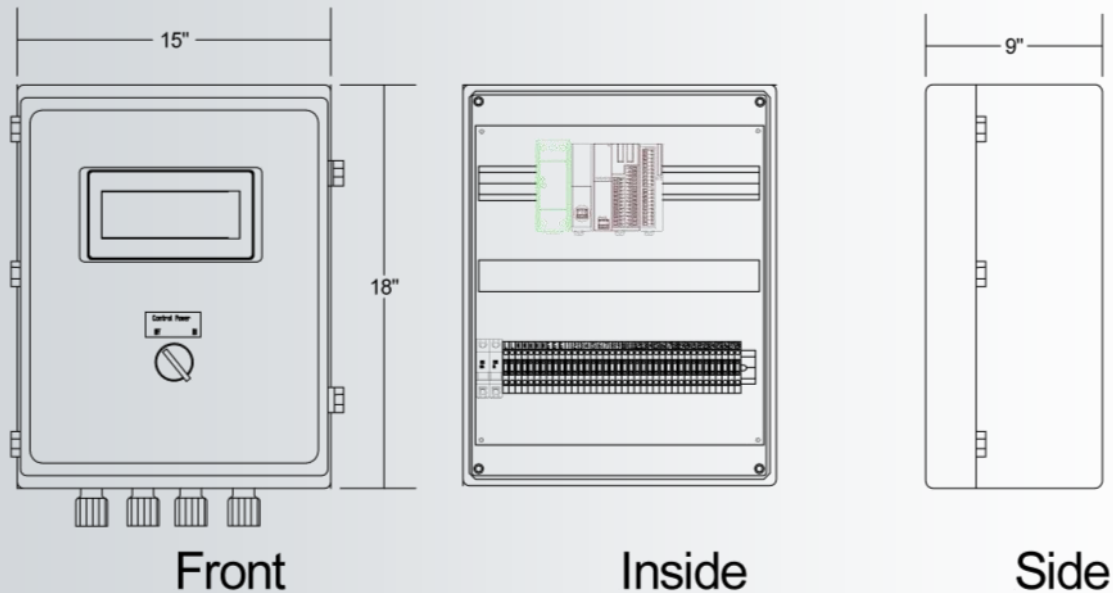
The simple design of the arm assembly lends to unmatched reliability and serviceability.

There are no motors, bearings, belts or pumps. The only moving part (cylinder arm) is sealed. The average lifespan of an arm assembly ranges from 5 to 10 years, depending on frequency of use.



- A. Solenoid Valve
- B. Regulator Bracket
- C. Cylinder Brackets
- D. Helix (the Sleeve is under the helix)
- E. Hex jam Nuts
- F. Coupling Nut
- G. Shoulder Screws with nylon tubing
- H. Cup Holder
- I. 30 mL cup
- J. Air Filter Regulator
- K. Valve Muffler

CONTROL PANEL



Sample Methods

Flow

Time

Sequence

Demand

Remote Demand From Building
Automation System

Communication Methods

Modbus

Ethernet

Webserver

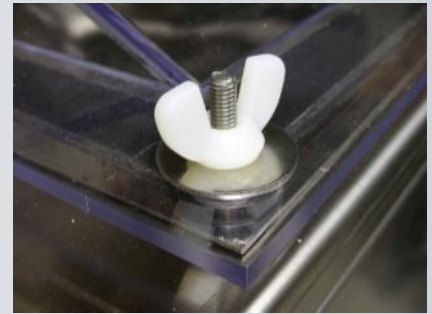
Direct 115 Volt Pulse

The brain behind the Sonford Sampler is the control panel. Utilizing a CPU, touch screen and all possible options to accommodate your sampling needs, this control panel is the easiest and most comprehensive controller to date. The end user can choose sampling methods of flow paced, time based, days per week, or controlling the sampler via a building automation system. For durability, the solid state cold control for the refrigerator on the TC-3 models is located in the protective environment of the control panel.

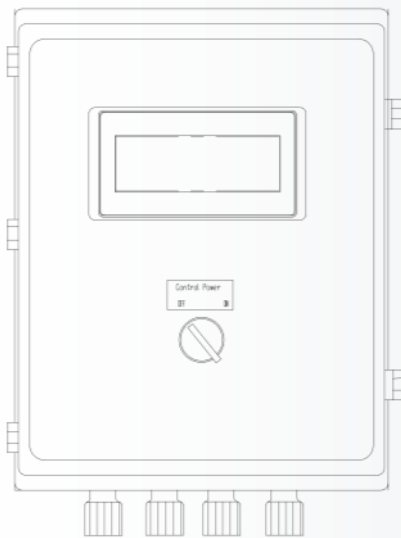
The end user can now connect directly with the Control Panel via Modbus, Ethernet or Webserver. Modbus and Ethernet connections allow the user to view and make changes to all aspects of the sampler from a computer located anywhere on that network. The Webserver option creates a connection with any external location such as an office, home computer or wireless device, allowing the user to monitor and change critical functions such as bottle full alarms, sampling schedule and flow rate.



Sonford Samplers offers a clear polycarbonate shield that attaches to the sampling reservoir to keep material within the confines of the sample area. The Splash Guard has a closed cell PVC gasket to ensure a quality seal around the reservoir. Installation requires replacing 4 of the Stainless Steel screws with supplied Stainless Steel studs and using supplied wing nuts to attach the shield.



If your plant does not have compressed air that can be piped in, Sonford Samplers can supply you with an air compressor. We recommend the Thomas Ultra Air-Pac® model #T-617HDN. It is a portable, oil-less heavy duty air compressor suitable for the demands of a Sonford Sampler.

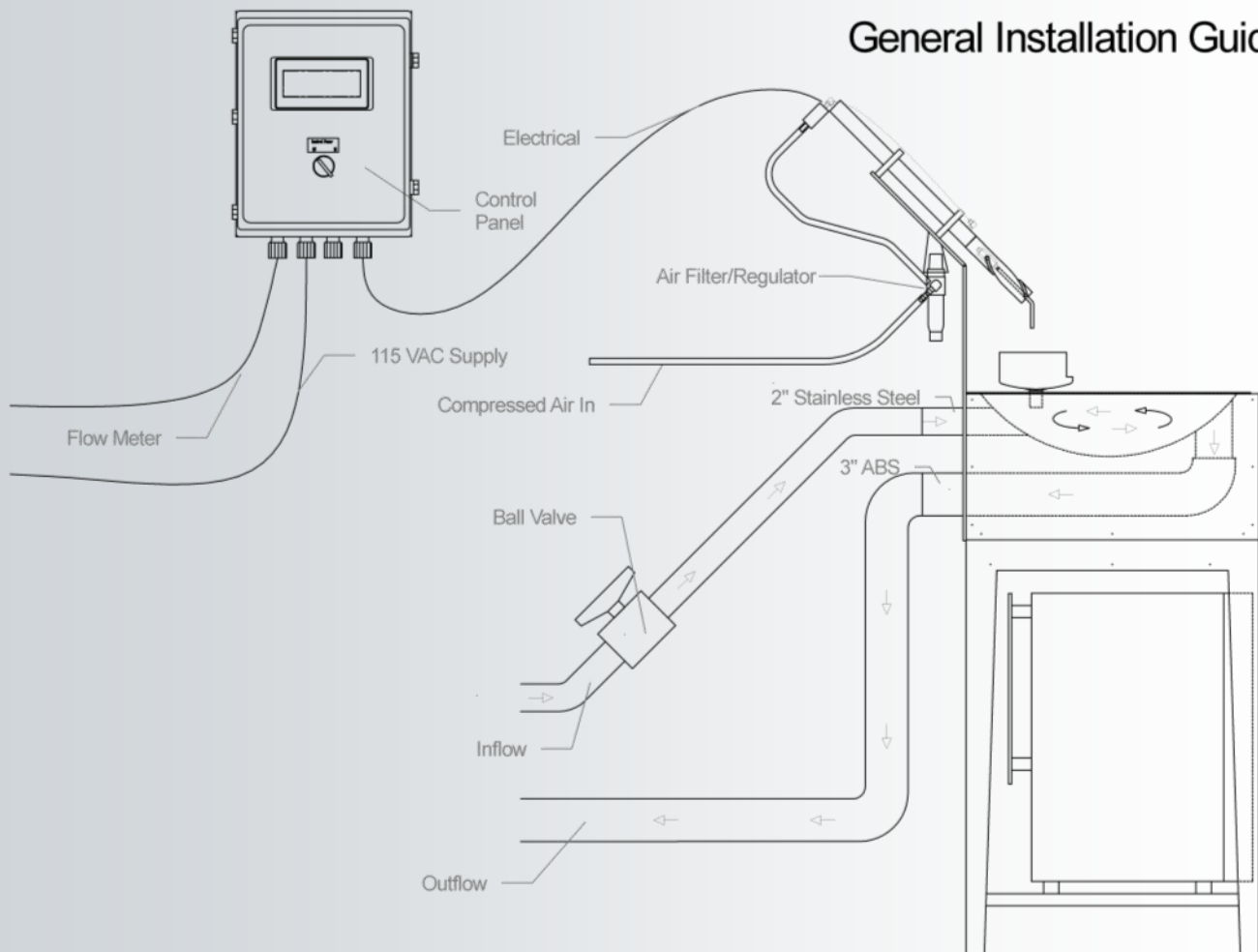


If you need to monitor water characteristics such as pH, Conductivity, ORP, etc., a Sonford Sampler can be outfitted to measure these values. Probes can be fitted to the sampling reservoir and the signals can be analyzed and displayed by the TC Control Panel.

INSTALLATION



General Installation Guide



Installation of a Sonford Sampler requires the plumbing of the sample line to the back of the Sonford Sampler, compressed air to be run to the cylinder arms and an electrical connection to the control panel. Placing the ball valve below the inlet of the reservoir ensures that a smooth, linear flow arrives to the sampling area. Detailed instructions are supplied with every sampler to ensure a trouble free installation. Should any issues arise, our knowledgeable staff is always on hand to lend assistance.



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