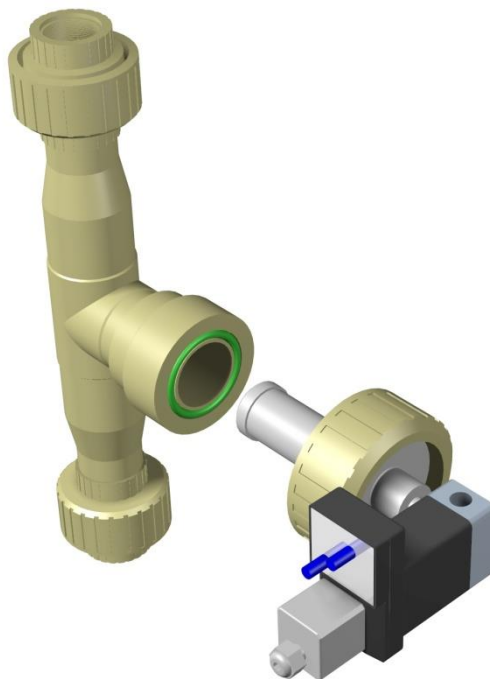




ELECTRO-CHEMICAL DEVICES

CA-6 Self Cleaning Filtration Unit

Instruction Manual



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Preface

Thank You for purchasing products from Electro-Chemical Devices, Inc. ECD provides you with the finest liquid analytical instrumentation available. If this is your first purchase from ECD, please read this manual before installing and commissioning your new equipment.

If there are any questions concerning this equipment, please contact your local ECD representative, or the factory directly at:

Electro-Chemical Devices, Inc.
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Anaheim, CA 92807 USA
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WARRANTY

Electro-Chemical Devices, Inc. (ECD) warrants all products it manufactures to be free from defect in materials and factory workmanship, and agrees to repair or replace any product that fails to perform, as specified, within one (1) year after date of shipment. This warranty shall not apply to any product that has been:

1. Subjected to misuse, negligence or accident;
2. Connected, installed, adjusted or otherwise used not in accordance with the instructions furnished by ECD;
3. Repaired, modified or altered by persons not authorized by ECD, resulting in injury to the performance, stability or reliability of the product.

This warranty is in lieu of any other warranty, expressed or implied. ECD reserves the right to make changes in the design or construction of its products at any time, without prior notification, and without incurring any obligation to make any changes in previously delivered products.

Seller's sole liabilities and the buyer's sole remedies under this agreement shall be limited to a refund in the purchase price, or at ECD's discretion, to the repair or replacement of any product that proves, upon ECD's examination, to be defective, when returned to the factory, transportation prepaid by the buyer, within one (1) year of the product's original shipment date. Seller shall not be liable for damages consequential or incidental to defects in any product, for failure of delivery in whole or in part, for injuries resulting from its use, or for any other cause.

This warranty and the writing attached constitute the full understanding of seller and the buyer, and no terms, conditions, understanding, or agreement purporting to modify or vary the terms hereof shall be binding unless hereafter made in writing and signed by an authorized official of Electro-Chemical Devices, Inc.

This warranty does not cover pH, ORP or Specific Ion measurement, reference or combination electrodes or electrode cartridges that have been commissioned in service.

IMPORTANT SERVICE INFORMATION

Use only factory authorized components for repair. Tampering or unauthorized substitution of components may adversely affect the operation of this product and may void the warranty.

If service or repair is required, please obtain the serial number(s) or sales order number of the product(s) in question and contact ECD's Service Department at:

+1-800-729-1333 (USA/Canada) or +1-949-336-6060
or email Service@ecd.com

A Return Material Authorization (RMA) number must be obtained from the service department before returning any material to ECD. All material returned to ECD shall be shipped prepaid to the factory.

UNPACKING THE INSTRUMENT

Your Electro-Chemical Devices instrument has been carefully packaged to protect it from damage during shipment and dry storage. Upon receipt please follow the procedure outlined below.

1. Before unpacking, inspect the condition of the shipping container to verify proper handling by the carrier. If damage is noted, save the shipping container as proof of mishandling for the carrier.
2. Check the contents of the shipping container with the items and quantities shown on the packing list. Immediately report any discrepancies to ECD.
3. Save the original packing material until you are satisfied with the contents. In the event the product(s) must be returned to ECD, the packing material will allow you to properly ship it to ECD.
4. Familiarize yourself with the instrument before installation, and follow proper installation and wiring procedures.



DANGER ELECTRIC SHOCK RISK

**SOLENOID VALVE AND TIMER OPERATE AT 220 VAC or
optional 110 VAC**

1.0 INTRODUCTION

1.1 System Description

The SF100 Self Cleaning Filter Unit is designed to protect the CA-6 Colorimetric Analyzer from fouling due to particles in the sample stream. Air pressure is used to clean the filter element. Timers periodically actuate a solenoid that sends pressurized air back through the filter element, blowing any material off of the filter and back into the sample line. Both the period and the duration of the Blow Back Cycle are user selectable.

The Filter Unit should be plumbed into an area of high velocity to maximize the time between cleaning cycles. Higher velocities seem to minimize sedimentation on and fouling of the filter element.



1.2 Specifications

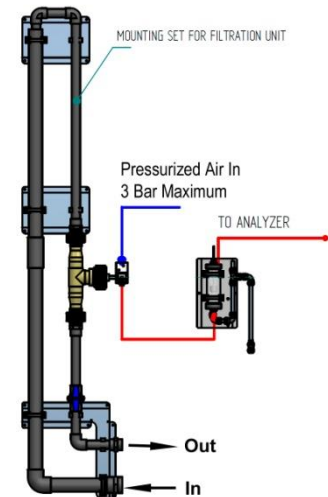
Filter Mesh:	100 micron Standard (50-1000 micron upon request)
Materials of Construction:	Body-Polypropylene Filter- INOS AISI 316 Stainless Steel Solenoid Valve- INOS AISI 316 Stainless Steel and BUNA
Temperature Range:	35°-131°F (2°- 55°C)
Sample Line Pressure:	Minimum 5 psig and Maximum 35 psig (0.3-2.5 bar)
Sample Flow Rate:	Minimum 25 gallons/hour (0.1m ³ /hour)
Air Pressure:	At least 20% above sample line pressure, 45 psig max (3 bar)
Filtered Sample Flow Rate:	0.1 to 2.0 liters/minute, depending on line pressure
Flow Cell Connection:	1" FNPT/Pipe Union Connection
Filter Connection (Air):	6 mm Tube
Filter Connection (Sample Out):	¼" Tube
Power Supply:	220 VAC (110 VAC optional) Consumption 20VA
Protection Rating:	IP65
Cleaning Interval:	1-45 minutes (user selectable)
Blowback Interval:	1-30 seconds (user selectable)
Weight:	2.2 pounds (1kg)

2.0 INSTALLATION

2.1 Unpacking and Inspection

Your Electro-Chemical Devices instrument has been carefully packaged to protect it from damage during shipment and dry storage. Upon receipt please follow the procedure outlined below.

1. Before unpacking, inspect the condition of the shipping container to verify proper handling by the carrier. If damage is noted, save the shipping container as proof of mishandling for the carrier.
2. Check the contents of the shipping container with the items and quantities shown on the packing list. Immediately report any discrepancies to ECD.
3. Save the original packing material until you are satisfied with the contents. In the event the product(s) must be returned to ECD, the packing material will allow you to properly ship it back to ECD.
4. Familiarize yourself with the instrument before installation, and follow proper installation and wiring procedures.



2.2 Location Selection

The SF100 self cleaning filter unit is suitable for indoor or outdoor installation. It should be mounted as close as possible to the CA-6 analyzer to minimize lag time in the measurement. A typical installation should be within 2 feet of the analyzer.

The Filter assembly should be mounted vertically at near the same height as the CA-6 analyzer's sample entry port. Leave 8"-10" of clearance around the SF100 for easy access for any required maintenance.

2.3 Electrical Connection

Electrical wiring should only be conducted by qualified personnel. The electrical connection must comply with your Local and National electrical codes.

Remove the DIN 43650 connector from the Timer/Solenoid assembly and connect the power cable to the terminals inside the connector, Line, Line and Ground. Tighten the cable gland to provide a water tight seal and replace the connector on the filter assembly.

2.4 Pressurized Air Connection

The SF100 uses a 6 mm flexible tubing Quick Connect fitting for the air supply connection. The air supply should be filtered and oil free to minimized sample contamination. A pressure regulator should be installed for easy adjustment of the required blow back pressure, 7-10 psi above the water sample line pressure.

The solenoid valve periodically actuates allowing compressed air to flow through the N.C. path of the valve in the opposite direction of the filtered sample flow. The air flushes all particles from the filter.

2.5 Liquid Connections

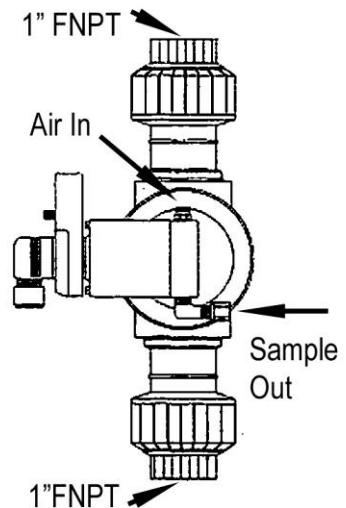
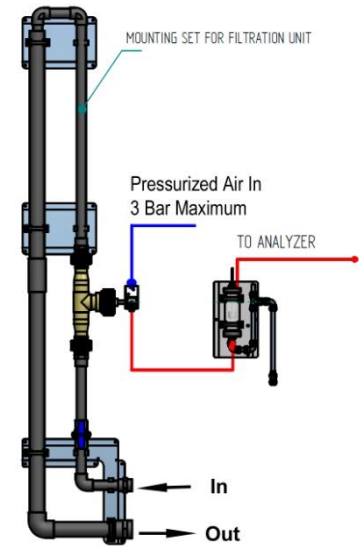
The SF100 Self Cleaning Filter Unit is designed for vertical mounting with sample flow moving from the bottom to the top of the assembly. This allows the air bubbles generated in the cleaning cycle to easily purge from the system.

The 1" FNPT process connections are pipe union mounted to the Flow Assembly. Allow 8-10" around the fitting for easy access during maintenance. A sample shut off valve is recommended below the flow assembly to facilitate maintenance. The filter assembly should be mounted at a similar height to the CA-6 Analyzer Fast Loop Reservoir sample port.

The optional SF100 Mounting Kit (PN 1000006) is available containing Schedule 80 PVC pre-cut piping, fittings, ball valve and the mounting brackets as shown in the drawing. The overall assembly is 7.5' high with 1" FNPT input and 1 1/2" FNPT outfall.

Sample pressure should be no higher than 35 psi. The sample pressure will dictate the flow rate through the filter. Care should be taken since a high sample line pressure may lead to a high flow rate by the Filter Assembly generating a venturi effect thereby negating the line pressure.

The sample out fitting is a 1/4" tube fitting. Flexible or hard tubing can be used. The outlet should be run to a Fast Loop Reservoir which provides an atmospheric sample point for the CA-6 Analyzer.



3.0 OPERATION

The SF100 Self Cleaning Filter Assembly uses the sample line pressure to filter the sample, when the filter becomes clogged air pressure is forced back through the filter blowing all particulates back into the process stream. The SF100 timer has two adjustment screws and a manual test button.

The Left Screw adjusts the Blow Back time, 1-30 seconds.

The Right Screw adjusts the period of the cleaning cycles, 1-45 minutes

The Test Button manually starts a blow back cycle.

4.0 PARTS AND ACCESSORIES

Part#	Description
1000270-1	Fast Loop Reservoir
1000006	SF100 Mounting Kit
9290015	316 SS sintered Filter Replacement