

# Geotech 2.4 Liter Barrel Filter

Installation and Operation Manual





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## DOCUMENTATION CONVENTIONS

This uses the following conventions to present information:



**WARNING**

An exclamation point icon indicates a **WARNING** of a situation or condition that could lead to personal injury or death. You should not proceed until you read and thoroughly understand the **WARNING** message.



**CAUTION**

A raised hand icon indicates **CAUTION** information that relates to a situation or condition that could lead to equipment malfunction or damage. You should not proceed until you read and thoroughly understand the **CAUTION** message.



**NOTE**

A note icon indicates **NOTE** information. Notes provide additional or supplementary information about an activity or concept.

## Section 1: System Installation/Assembly

A fully assembled Geotech Barrel Filter unit comes with three tripod legs to hold the unit off the surface so the sample container can be fitted underneath it.

To prepare your unit for use: Rest the unit on the three aluminum stand-off legs so the bottom of the unit can be removed. Remove bottom of unit to set up or change the membrane filter.



Always release air pressure from the unit before disassembly.

Unscrew the three swing-a-way nuts, loosening only enough to slide the bolt assembly off the acrylic plate. Take bottom plate and set it aside. With the unit still upside down, fill the cylinder with a measured amount of water to be filtered.



It is suggested that the amount to be filtered not exceed .5 gallons (2 liters) for best performance.

Carefully pour directly into the cylinder. Do not pour around lip where the o-ring and filter paper rest. Reassemble the unit in the order that follows (see also Figure 5-1).

1. O-ring
2. Pre-filter (if used)
3. Membrane filter
4. Filter support screen

The polycarbonate pop-out center will stay in the bottom plate. Replace the bottom plate of unit carefully so as not to disturb centering of screen, filters, and o-ring. Once the unit is aligned, slide the swing-a-way bolt assemblies into place and tighten. Make sure that care is taken in tightening bolts evenly by tightening each assembly a little in turn until all the swing-a-way bolt assemblies are “finger tight” only.

## Section 2: System Operation

Connect a pressure bulb, air pump or nitrogen bottle (with a regulator not to exceed 30 psi/2 bar) to the unit and slowly increase the pressure.



Although each unit has been pressure tested to 60 psi (4 bar) personal safety demands that actual operating pressure **NEVER EXCEEDS 30 psi (2 bar)**.

Ordinarily, samples will filter quickly at much lower than the maximum pressure of 30 psi (2 bar). It will seldom be necessary to apply pressure in excess of 20 psi (1.4 bar). If a filter becomes clogged with residue and filtration rate slows to a trickle, release the pressure and replace the clogged filter with a new filter membrane. Do not increase pressure when slower filtration rates are due to clogged membranes.

### **Section 3: System Maintenance**

Acrylic is a moderately soft plastic material and is easily scratched. Therefore, reasonable care should be used in handling and cleaning the filter unit. Abrasive cleaners should not be used and all sediment residues should be removed immediately by flushing and thoroughly rinsing. Organic solvents which attack the plastic must be avoided. Mild detergent solutions or dilute mineral acids may be used without damage to the filter unit. With proper treatment, the unit will give long and satisfactory service.

1. Discard the first 5.1 – 6.8 oz. (150 - 200 mL) of filtrate passing through each fresh filter.
2. The air valve in the pressure hose serves as a check valve, a pressure relief valve and as a convenient means of connecting the pump to the filter unit. Whatever means is used to apply pressure to the filter unit, a check valve is required to maintain pressure and a relief valve is a great convenience in lowering the pressure within the unit before disassembly.

#### Section 4: System Specifications

Membrane Filter Size	4.0" (102 mm) diameter (only)
Pre-filter Size	3.54" (90 mm) diameter
Barrel Body	Polycarbonate
Filter Holder Plates	Acrylic
Barrel Body Top Plate	Acrylic
"L" Retaining Pins	Nylon
Disbursement Disc	Polycarbonate
O-ring	F.D.A. approved silicone
Filter Support Screen	Polyester mesh with vinyl border
Quick Disconnect Assembly	Acetal-delrin
Top Plate Plug	Polypropylene
Inlet/Outlet Fittings	Polypropylene
Pressure Relief Valve	Brass
Tubing	Medical grade silicone
Capacity	Up to .6 gallons (2.4 liters) (.5 gal./2 liters recommended)
Inlet/Outlet Fittings	3/8" NPT by 3/8" hose barb
Maximum Pressure	30 psi max. (7-15 psi recommended)

## Section 5: Replacement Parts List

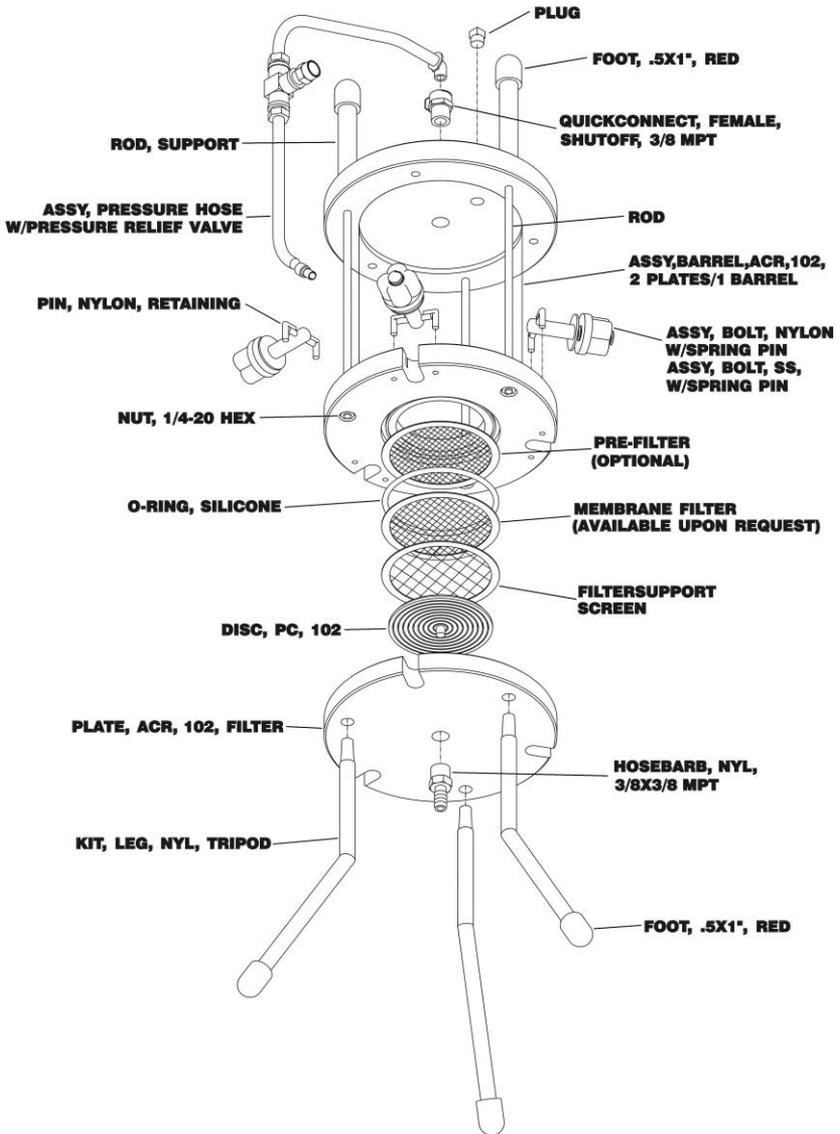


Figure 5-1 – Break out of Barrel Filter

<b>Parts Description</b>	<b>Parts List</b>
HOSEBARB,NYL,3/8X3/8MPT	17200038
SCREEN,DAC,102,SUPPORT,FH	13150016
ASSY,BOLT,NYL,WITH PIN	53150017
ASSY,BOLT,SS,W/SPRING PIN	53150015
ASSY,BARREL,ACR,102,BFH BODY ONLY	53150014
ROD,BFH	23150031
QCK CNCT,DEL,FEMALE X 3/8MPT BFH,SHUTOFF	17500005
FOOT,.5X1",SBS,RED	13150010
PLUG,PE,1/4MPT,SQ HD,RED	17200050
KIT,LEG,NYL,TRIPOD,PK OF 3	57500005
PLATE,ACR,102,FILTER,BFH	23150005
DISC,PC,102,DISBURSEMENT,FH	13150006
O-RING,SIL,102MM,FH	17500014
NUT,SS8,1/4-20,HEX	17200043
KIT,L-PINS,NYLON,RETAINING,FH PK OF 12	83150011
ASSY,PRESSURE HOSE,FH W/PRESSURE RELIEF VALVE	53150005
ROD,SUPPORT,BFH	23150030

### **Accessories**

PUMP,HAND,METAL,W/5FT TUBING	87500002
PUMP,HAND,PLASTIC,W/5FT TUBING	87500001

### **Filters and Pre-filters**

FILTER,CA,.45UM,102MM CELLULOSE ACETATE,PK OF 100	83100003
FILTER,CN,.45UM,102MM CELLULOSE NITRATE,PK OF 100	83100016
PREFILTER,GLASS FIBER,102MM TYPE 28,PK OF 100,2.0UM	83100024
MANUAL,ACR,BARREL FILTER	23150034

## NOTES

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## The Warranty

For a period of one (1) year from date of first sale, product is warranted to be free from defects in materials and workmanship. Geotech agrees to repair or replace, at Geotech's option, the portion proving defective, or at our option to refund the purchase price thereof. Geotech will have no warranty obligation if the product is subjected to abnormal operating conditions, accident, abuse, misuse, unauthorized modification, alteration, repair, or replacement of wear parts. User assumes all other risk, if any, including the risk of injury, loss, or damage, direct or consequential, arising out of the use, misuse, or inability to use this product. User agrees to use, maintain and install product in accordance with recommendations and instructions. User is responsible for transportation charges connected to the repair or replacement of product under this warranty.

## Equipment Return Policy

A Return Material Authorization number (RMA #) is required prior to return of any equipment to our facilities, please call our 800 number for appropriate location. An RMA # will be issued upon receipt of your request to return equipment, which should include reasons for the return. Your return shipment to us must have this RMA # clearly marked on the outside of the package. Proof of date of purchase is required for processing of all warranty requests.

This policy applies to both equipment sales and repair orders.

FOR A RETURN MATERIAL AUTHORIZATION, PLEASE CALL OUR  
SERVICE DEPARTMENT AT 1-800-833-7958.

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

## Equipment Decontamination

Prior to return, all equipment must be thoroughly cleaned and decontaminated. Please make note on RMA form, the use of equipment, contaminants equipment was exposed to, and decontamination solutions/methods used. Geotech reserves the right to refuse any equipment not properly decontaminated. Geotech may also choose to decontaminate the equipment for a fee, which will be applied to the repair order invoice.



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