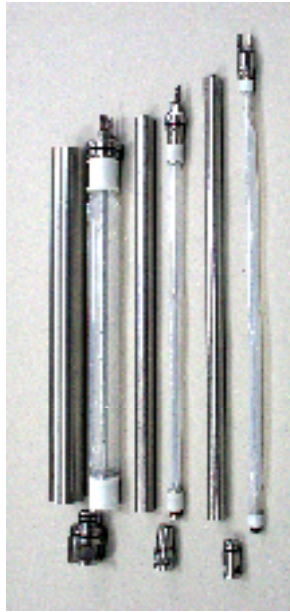




# Geotech Portable Bladder Pumps

## Installation and Operation Manual



Rev. 1 09/22/04 Part # 11150272



# Table of Contents

<b>SYSTEM DESCRIPTION .....</b>	<b>P. 02</b>
FUNCTION AND THEORY .....	P. 02
SYSTEM COMPONENTS .....	P. 02
<b>SYSTEM MAINTENANCE .....</b>	<b>P. 03</b>
BLADDER REMOVAL STEPS .....	P. 03
REASSEMBLY STEPS.....	P. 04
<b>SYSTEM SPECIFICATIONS.....</b>	<b>P. 05</b>
<b>REPLACEMENT PARTS LIST .....</b>	<b>P. 06</b>

# Chapter 1: System Description

## Function and Theory

Geotech's pneumatic Portable Bladder Pumps operate with a unique action, ideal for both, gentle low-flow sampling and high flow rate purging. Timed on/off cycles of compressed air alternately squeeze the flexible bladder to displace water out of the pump to the surface and exhaust allowing the pump to refill. Fluid enters the pump through the fluid inlet check valve at the bottom of the pump body, via hydrostatic pressure (automatically by submergence). The bladder then fills with fluid. Compressed air enters the space between the bladder and the interior of the pump wall housing. The intake check valve closes and the discharge check valve opens. The compressed air squeezes the bladder, pushing the fluid to the surface. The discharge check valve prevents back flow from the discharge tubing. Driven by the GEOCONTROL PRO, this cycle automatically repeats.

Compressed air does not contact the sample! The bladder prevents contact between the pump drive air and the sample.

## System Components

Geotech's Bladder Pumps consists of three parts; The Bladder Cartridge Assembly, the Pump Housing, and the Intake Screen.

## Chapter 2: System Maintenance

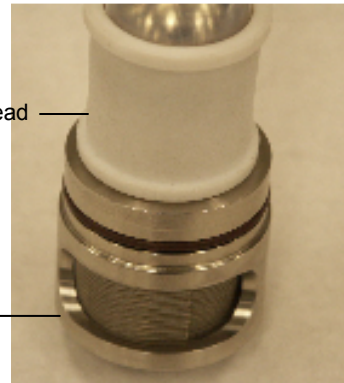
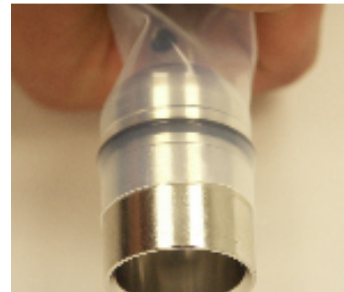
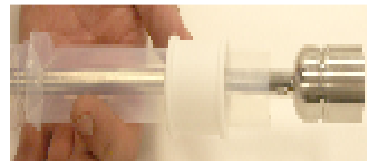
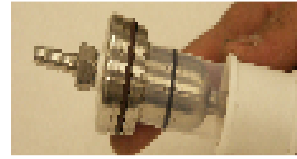
### Bladder Removal Steps:

- 1) Remove the lower Teflon™ compression ring #21150042 by pulling off end of the internal center tube assembly #21150039.
- 2) Pull the lower end of the bladder towards the middle of the center tube assembly and remove O-ring #11150049 from the lower end of the tube.
- 3) Release the upper Teflon™ compression ring #21150042 and slide off the end of the center tube assembly #21150039.
- 4) Slide the bladder #1150049 off of the center tube assembly #21150039, at this point the O-ring #11150049 on the upper end can be replaced.



## Reassembly Steps:

- 1) Install O-ring #11150049 onto upper end of the center tube assembly #21150039.
- 2) Slide bladder #11150042 on to the center tube assembly and over the O-ring #11150049 on the upper end of the center tube assembly. Be careful not to roll the O-ring when sliding the bladder over this end.
- 3) Slide a Teflon™ compression ring #11150042 over the bladder and snap down over bladder and upper end of the center tube.
- 4) With the upper end of the bladder secured by the Teflon™ compression ring slide the second compression ring over the bladder about midway down the assembly.
- 5) Slide the bladder down exposing the lower end of the center tube and install the O-ring #11150049 into the groove on the lower end.
- 6) Slide the bladder back up over the O-ring being careful not to roll the O-ring.
- 7) Now slide the Teflon™ compression ring over the bladder until it seats flush with the bottom of the center tube assembly.



Lower Head —

Lower Cap  
(21150040) —

## Chapter 3: System Specifications

	1.66	.850	.675
Pump Housing	SS, 316	SS, 316	SS, 316
Pump Ends	SS, 316	SS, 316	SS, 316
Bladder Material	Virgin PTFE	Virgin PTFE	Virgin PTFE
Outer Diameter	1.66"	.850"	.675"
Length w/screen	19"	18 5/8"	18 3/4"
Weight	3.0 lbs	1.1 lbs	.83 lbs
Volume/Cycle	160 mL	45 mL	36.4 mL
Min. Well I.D.	2"	1"	.75"
Max. Operating Pressure	100 PSI	100 PSI	100 PSI
Min. Operating Pressure	5 PSI (ash)*	5 PSI (ash)*	5 PSI (ash)*
Maximum Sampling Depth	200'	200'	200'

### Tubing Size

	Air	Discharge
1.66	.17 ID x .25 OD	.25 ID x .375 OD
.850	.17 ID x .25 OD	.17 ID x .25 OD
.675	.17 ID x .25 OD	.17 ID x .25 OD

\*ash = above static head

## Chapter 4: Replacement Parts List

### MODEL 1.66 Portable 81150013

QTY/ASSY	DESCRIPTION	PART #
1	Bladder	11150042
1	Cap, Lower	21150040
1	Screen, Intake	21150044
1	Hose barb, Sample out	11150106
1	Hose barb, Air in	21150019
1	Check ball Upper	17500081
1	Check ball Lower	17500082
2	O-Ring Viton cap/upper lower	11150028
2	O-Ring Viton cap/upper head interface	11150049
2	O-Ring Viton cap/lower head interface	17500103
2	Teflon™ compression Ring, bottom	21150042
1	Shut-off Disc	21150043
1	Internal Snap Ring	11150051

### MODEL .850 Portable 81150014

QTY/ASSY	DESCRIPTION	PART #
1	Bladder	11150120
2	Hose barb, Air-In	17200245
1	Hose barb, Discharge	11150118
2	Check ball, upper/lower	17500079
1	Shut-off Disc	21150049
1	Snap Ring, Internal	11150053
2	O-Ring, cap housing	17500112
1	Inlet Screen	21150050
2	Teflon™ compression Ring	21150048
4	O-Ring, Cartridge	17500111



**MODEL .675 Portable 81150015**

<b>QTY/ASSY</b>	<b>DESCRIPTION</b>	<b>PART #</b>
1	Bladder	11150120
2	Hose barb	17200245
1	Check ball, upper	PPM130001
1	Check ball, lower	17500079
1	Shut-off Disc	21150033
1	Snap Ring	11150182
2	O-Ring, Cartridge, Inner	11150180
2	O-Ring, Cartridge, Outer	17500183
2	O-Ring, cap housing	11150184
1	Inlet Screen	11150109
2	Teflon™ compression Ring	21150052

## **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 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 OR 1-800-275-5325.

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

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

Date: \_\_\_\_\_

## **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 equipment for a fee, which will be applied to the repair order invoice.



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