



Geotech
PVC Bladder Pumps
18" (91cm) & 36" (46cm)
Installation and Operations Manual



Function and Theory

Geotech's pneumatic 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 Geocontroller II or 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.

Selecting an Air Source

To determine the required capacity of the air source used, use the following chart as reference.

AIR CONSUMPTION PER CYCLE			
	NO PUMP	GEO1.66SS18	GEO1.66SS36
NO TUBING		39in ²	78in ²
.17"ID x.25"OD (100' L)	27in ²	66.25in ²	105in ²
.25"ID x .38"OD (100' L)	59in ²	95in ²	137in ²
AIR CONSUMPTION PER HOUR (6 CYCLES/MIN)			
	GEO1.66SS18	GEO1.66SS36	
.17"ID x.25"OD	25,000 in ³ /hr	45,000 in ³ /hr	
.25"ID x .38"OD	35,000 in ³ /hr	50,000 in ³ /hr	

Pump Specifications

	GEO1.66PVC18	GEO1.66PVC36
Pump Components	PVC	PVC
Bladder Material	Virgin PTFE	Virgin PTFE
O.D.:	1.66"/4.2cm	1.66"/4.2cm
Weight	1.1lb/0.5kg	1.8lb/.82kg
Volume/Cycle	3.5oz./105ml	7oz./207ml
Min. Well I.D.	2"/50mm	2"/50mm
Operating Press.	10-125psi .7-8.6bar	10-125psi 7-8.6 bar
Min. Operating Range	5psi/.34bar	5psi/.34bar
Maximum Depth	250'/76.2M	250'/76.2M
Maximum Operating Temperature	176°F (80C)	176°F (80C)

System Maintenance

As with any pump, scheduled or periodic maintenance should be performed, according to your sampling program and specific site conditions. Generally, the more turbid or sandy your water, the more often you should maintain and clean your pumps. Disassemble the bladder pump per instructions, decontaminate or replace as needed, then reassemble. Inspect all check balls for wear and replace as necessary. Inspect all O-rings for splits or cracks and replace as necessary.

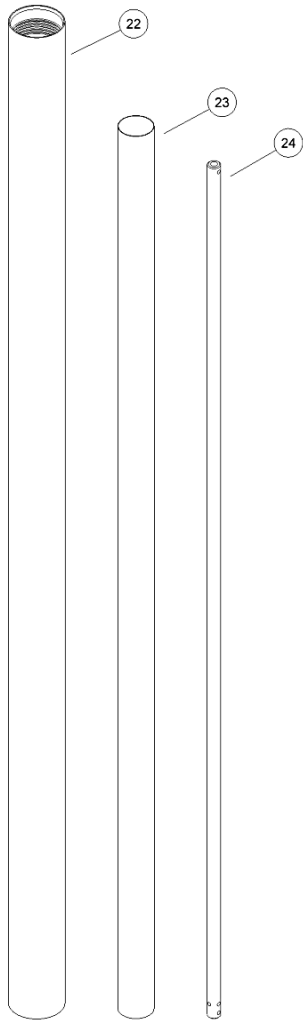
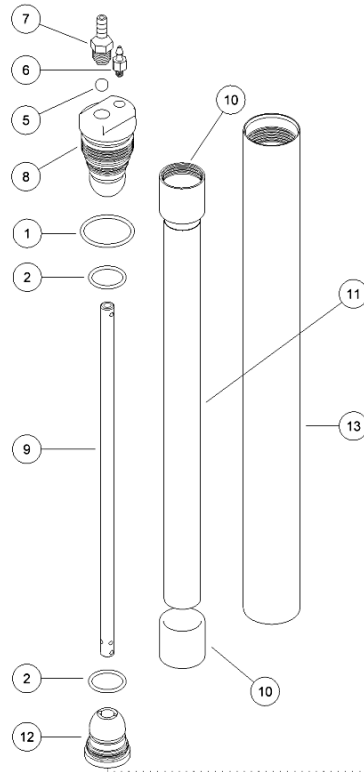
Disassembly and Bladder Replacement

Pull pump from the well, it is not necessary to remove the air and sample lines from the pump. Unscrew the lower cap from the housing, followed by removing the housing from the upper cap. Wrench flat features are present on both upper and lower caps. Unscrew the compression rings from the upper cap and lower head. Spanner wrench holes are located on the lower head to avoid spiral damage to the internal tube. Pull the bladder assembly out from the upper cap. The internal bladder cartridge can now be removed for maintenance or replacement. Please refer to the Components and Assembly diagram located on the inside of this manual for reassembly.

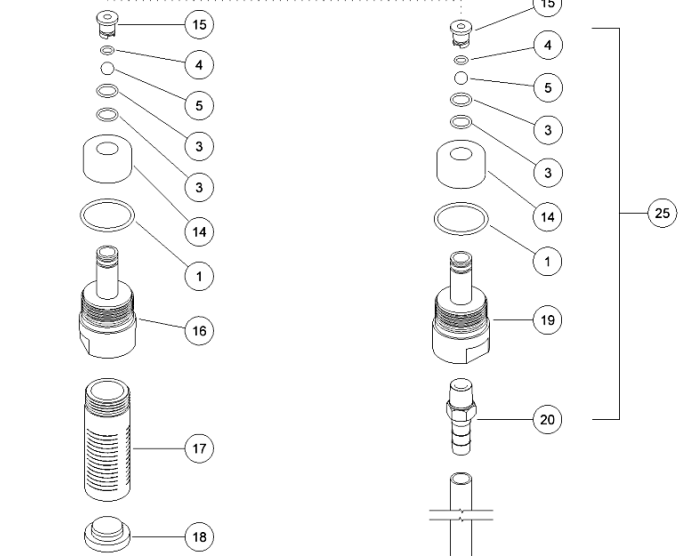
Item	Qty	Description	Part No.
1	2	O-RING,VITON,#125,BROWN	17500120
2	2	O-RING,VITON,2.5MM X 23MM	11150319
3	2	O-RING,VITON,#014,BROWN	17500119
4	1	O-RING,VITON,2mm x 7.5mm,BROWN	16600108
5	2	BALL,VITON ,3/8, PVC BLADDER PUMP 1.66, TOP	17500115
6	1	HOSEBARB,CLEAR PVDF,1/8 NPT TO 5/32 BARB	11150187
7	1	HOSEBARB,POLY,MODIFIED,.25, PVC BLADDER PUMP 1.66	11150134
8	1	UPPER CAP,1.66,PVC,BP,CE	21150122
9	1	TUBE INTRNLSMPL,PVC,1.66BP,18"	11150124
10	2	RING,COMPRESSION,PVC,1.66,BP	21150115
11	1	BLADDER,PTFE,1.66"X18",PVC,CE	21150119
12	1	LOWER,HEAD,PVC,1.66,BP,CE	21150117
13	1	HOUSING,PVC,1.66X18",BP,CE	21150120
14	1	WEIGHT,SS6,INTERNAL,BP,PVC	11150132
15	1	PLUG,BALL RETAINER,1.66 PVC BP, CE	21150116
16	1	CAP,LOWER,PVC,1.66,BP,CE	21150114
17	1	SCREEN,INTAKE,1.66,PVC,BP,CE	21150118
18	1	CAP,SCREEN,INTAKE,1.3,PVC	11150131
19	1	CAP,LOWER,DROP TUBE,1.66,PVC, BP, CE	21150125
20	2	HOSEBARB,PP,1/2X3/8MPT	11150189
21	1	BODY,INTAKE,DROP TUBE,1.66,PVC, BP,CE	21150126
22	1	HOUSING,PVC,36",BP,CE	21150123
23	1	BLADDER,PTFE,1.66"X36",PVC,CE	21150124
24	1	TUBE,INTERNALSAMPLE,BP,36,PVC, 1.66X36	11150125
25	§	ASSY,LOWER CAP,1.66 PVC,DROPTUBE,CE,WITH 1/2" HOSEBARB	51150072
26	§	ASSY,INTAKE,1.66 PVC,DROP TUBE, CE,WITH 1/2" HOSEBARB	51150073
	§	KIT, 1.66, PVC, O-RING SET, CE [ITEMS: #1(2), #2(2),#3(2), #4(1)]	91150018
	1	MANUAL	

§ SOLD SEPERATLY

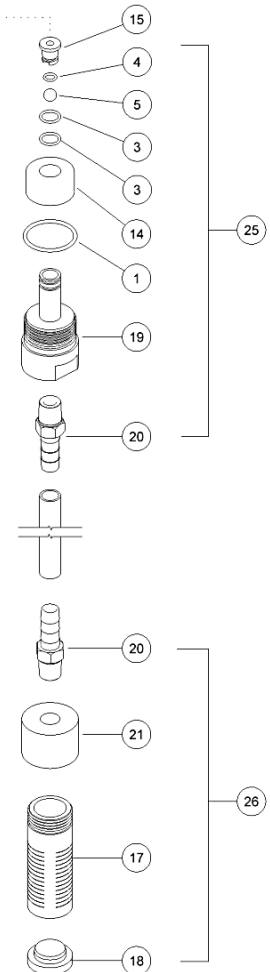
**1.66 PVC BLADDER
PUMP COMPONENTS
AND ASSEMBLY**



36" Pump Option



Pump Assembly



Optional Drop
Tube Assembly

Troubleshooting

Cycling air with no sample

- Adjust the controller charge/exhaust times properly.
- Excessive drawdown may be preventing pump submergence.
- Screen intake needs to be submerged at least 5ft deep.
- Test cords and battery to ensure you have a sufficient power source.
- Clean any debris that may be clogging the intake screen.

Air bubbles present in sample

- Replace any O-Rings and bladder if showing tearing or damage.
- Repair or replace air and discharge lines if damaged or split.

Discharge line draining back into pump

- Remove the discharge hose barb and check ball and clean any debris in the check ball area.

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.

Model Number: _____ Serial Number: _____
Date: _____

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